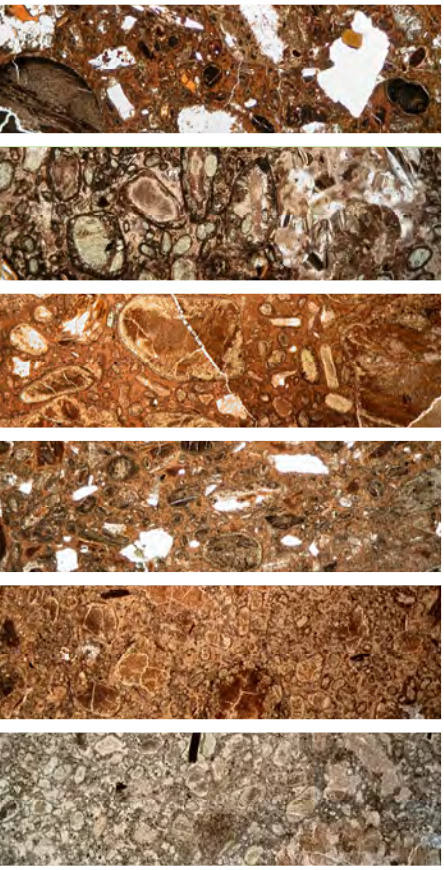
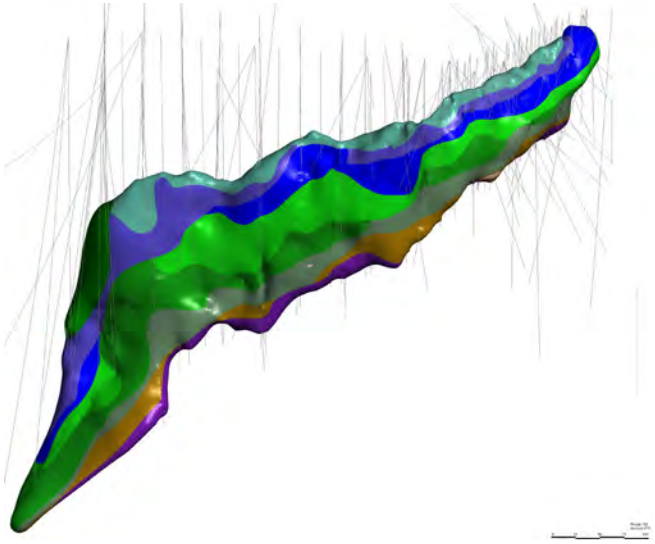
12TH INTERNATIONAL KIMBERLITE CONFERENCE

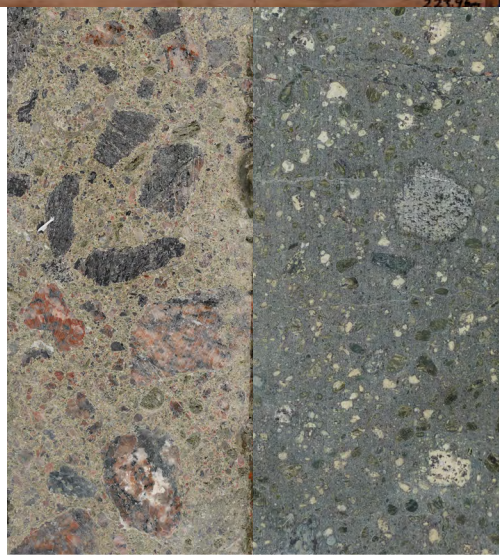
30 YEARS OF DIAMONDS IN CANADA

8–12 July 2024 • Yellowknife

12 IKC FIELD TRIP GUIDE







Kennady North Project, Gahcho Kué Mine and Renard Mine Drill Core

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12TH INTERNATIONAL KIMBERLITE CONFERENCE
YELLOWKNIFE, NORTHWEST TERRITORIES, CANADA
8 – 12 JULY 2024

FIELD TRIP 07 GUIDEBOOK

Kimberley-Type Pyroclastic Kimberlites:
Examples from Gahcho Kué Diamond Mine,
Kennady North Project Property,
and Renard Diamond Project

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Second in line, yet equally as deserving for recognition, is Aurora Geosciences Ltd. Without the efforts of multiple people within the company and support of the management team, the set up and display of the kimberlite core would not have occurred. In addition, neither would this Field Trip Guidebook.

Third mention goes to the 12IKC Committee – it's directors, officers, representatives, employees, instructors, guides, agents and sponsors. It may not be a far-fetched notion that finding a kimberlite may be less difficult than pulling together this truly unique conference in a similarly unique location.

INTRODUCTION

This field guide will review three Canadian diamond projects, two within the Northwest Territories (NT) and one in the province of Quebec (QC). These projects are:

1) Gahcho Kué Mine
2) Kennady North Project
3) Renard Diamond Project

The information presented is taken from various documents and reports from the public domain and, in very few cases, material ascertained with the permission from the owner-operator.

Gahcho Kué Mine

Modified from Makarenko and Pilotto, (2022) Technical Report NI 43-101.

The Gahcho Kué (GK) Mine is a joint venture (GKJV) of the De Beers Group (De Beers) and Mountain Province Diamonds (MPD), with ownerships of 51% and 49%, respectively. The property is located in Canada's Northwest Territories (NT), 280 km east-northeast of Yellowknife. The GK Mine property comprises 5 mineral leases totalling 5,216 ha.

The GK Mine is mainly a fly-in / fly-out operation. While it has access by winter road during February and March, access is mainly by air via Yellowknife, NT, the closest full-service community, and Calgary, Alberta. The GK Mine has a year-round operational commercial airstrip, full camp accommodations and administrative complex capable of housing 300+ employees.

Figure 1. Aerial photograph of the GK Mine site (2017).

Kennady North Project

Modified from Revering and Hetman, (2023) Updated Technical Report NI 43-101.

The Kennady North Project (KNP) is an advanced diamond exploration project located 290 km east-northeast of Yellowknife, Northwest Territories, Canada with a camp (Kelvin Camp) located 8 km northeast of the GK Mine. The project is 100% owned by Kennady Diamonds Inc. ("KDI"), a private wholly-owned subsidiary of MPD. The KNP property comprises 99 mineral claims and 30 mineral leases, totaling 113,437 hectares and covering an area roughly 45 km long by 50 km wide. The property surrounds the GK Mine.

The KNP can be accessed year-round via ski- or float-equipped aircraft and, like it's neighbor (GK Mine), has access by winter road. The KNP has a license agreement to use the GK Mine airstrip, as needed. The KNP has a 75-man camp serviceable year-round.

Figure 2. Aerial photograph of the KNP Property Kelvin Camp (2023).

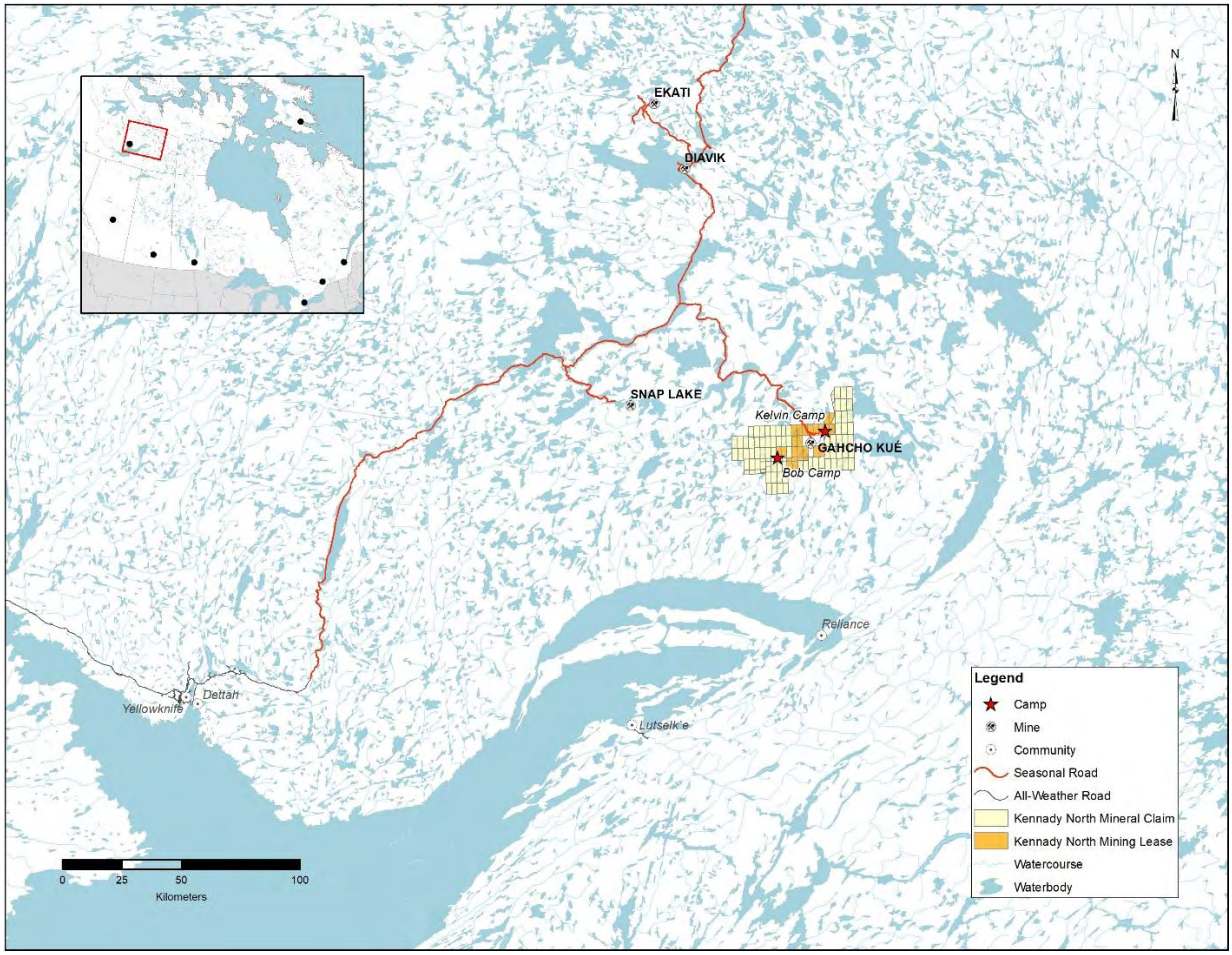

Figure 3. Plan map showing the regional location of the GK Mine and KNP tenure in the Northwest Territories. Inset map to regional location in Canada (black dots represent capital cities).

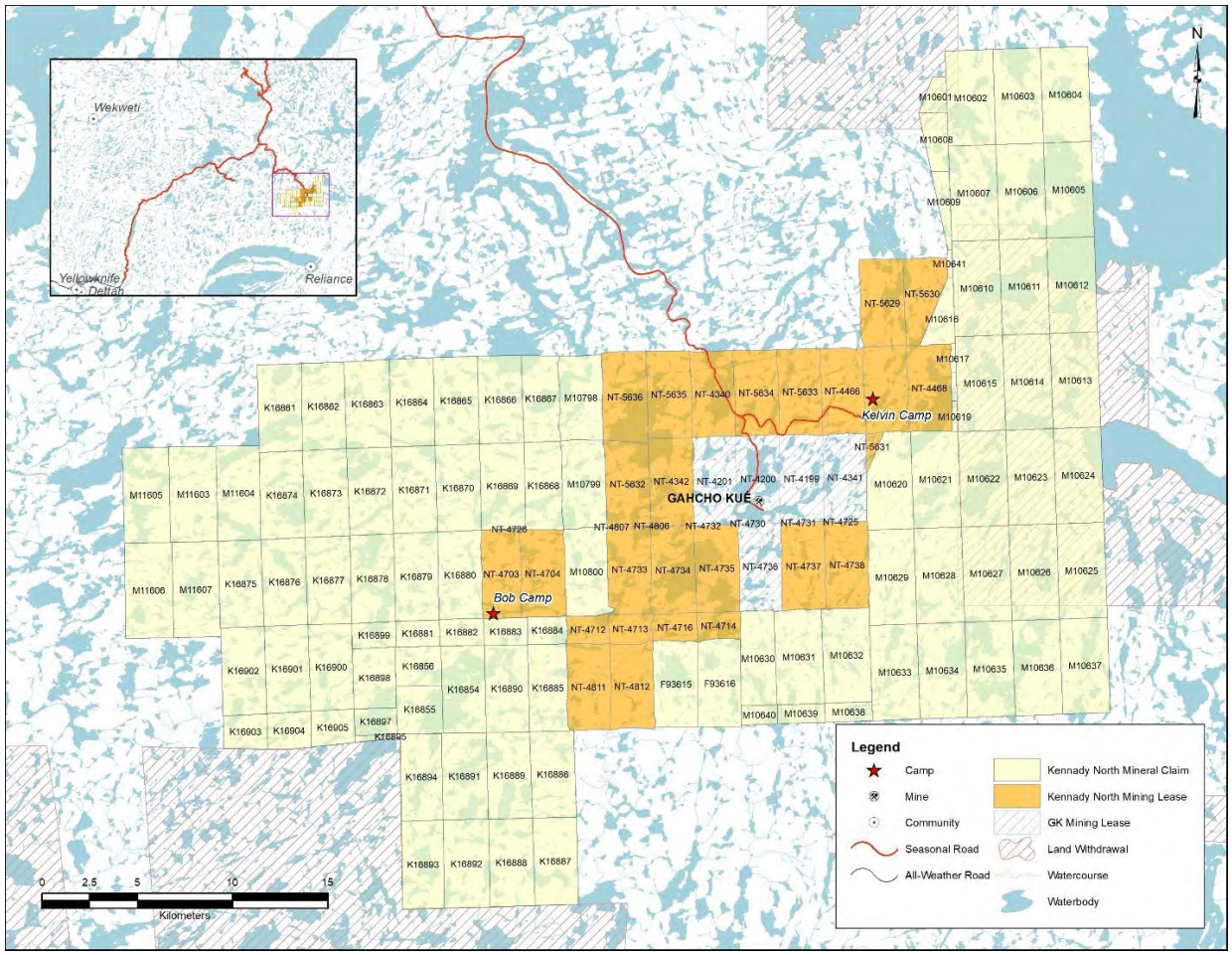

Figure 4. Plan map showing the tenure of the KNP property (all active mineral claims and leases) as they surround the GK Mine site.

Renard Diamond Project

Modified from Godin et al, (2016) Technical Report NI 43-101.

The Renard Diamond Project is in north-central QC. Specifically, the project is in the James Bay region, approximately 70 km north of the Otish Mountains and some 360 km north-northeast from the mining town of Chibougameau, QC. Stornoway Diamond Corporation (Stornoway), a company listed on the TSX, holds 100% interest in the Renard Diamond Project through its wholly-owned subsidiary, Stornoway Diamonds (Canada) Inc./ Les Diamants Stornoway (Canada) Inc. (SDCI).

The Renard Diamond Project is situated on the Foxtrot Property that covers a total area of 33,826 ha with SDCI as the registered holder of a 100% interest. The property comprises 650 claims (33,630 ha) in four blocks (one large contiguous landholding of 630 claims plus three smaller blocks), mining lease BM 1021 (144 ha) and surface lease number 1303 10 000 (200 ha). SDCI currently holds 100% property interest in the Foxtrot Property, subject to a direct royalty on future diamond production of 2% in favour of DIAQUEM.

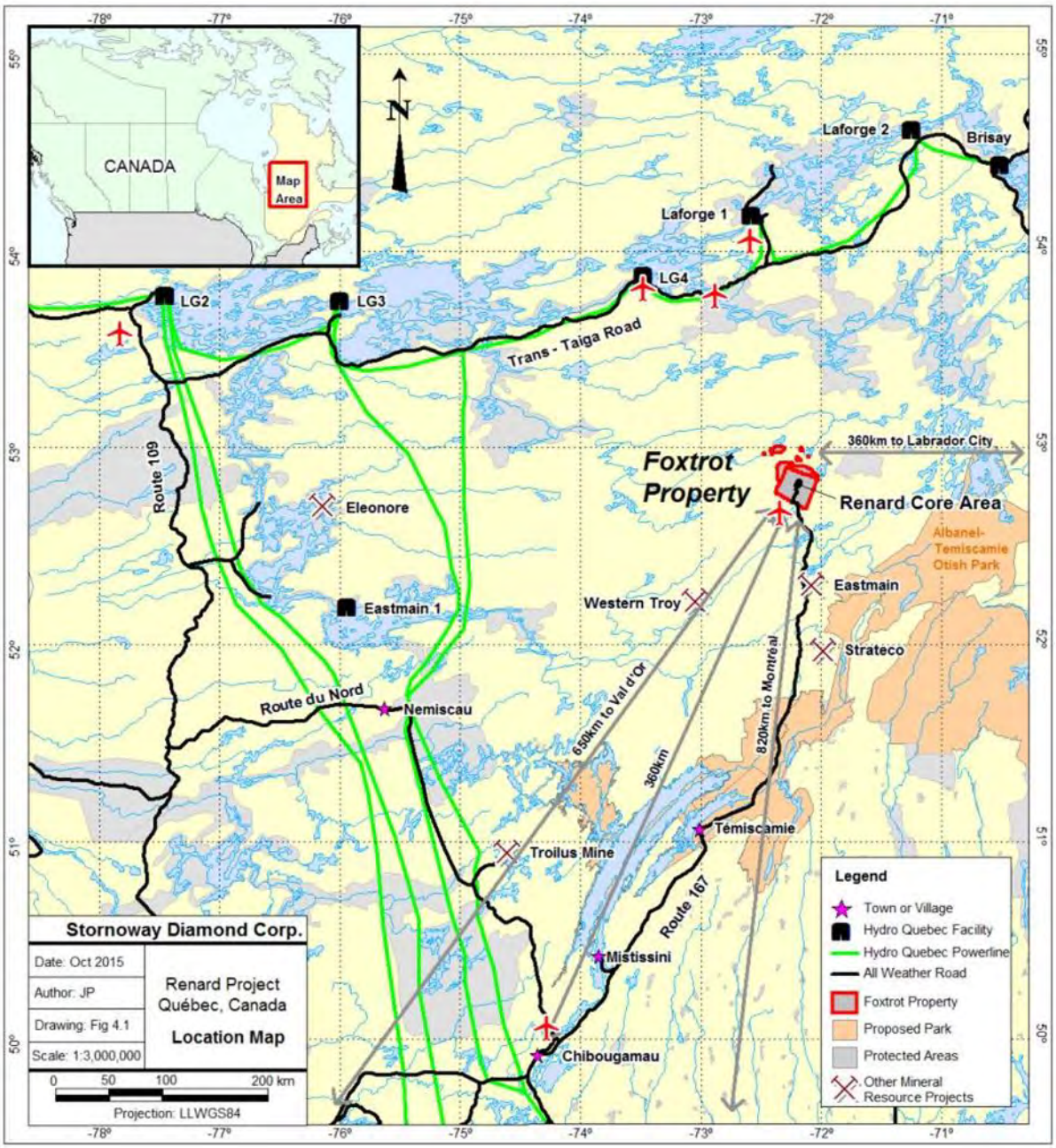

Figure 5. Property location map of the Renard Diamond Project site (also known as the Foxtrot Property).

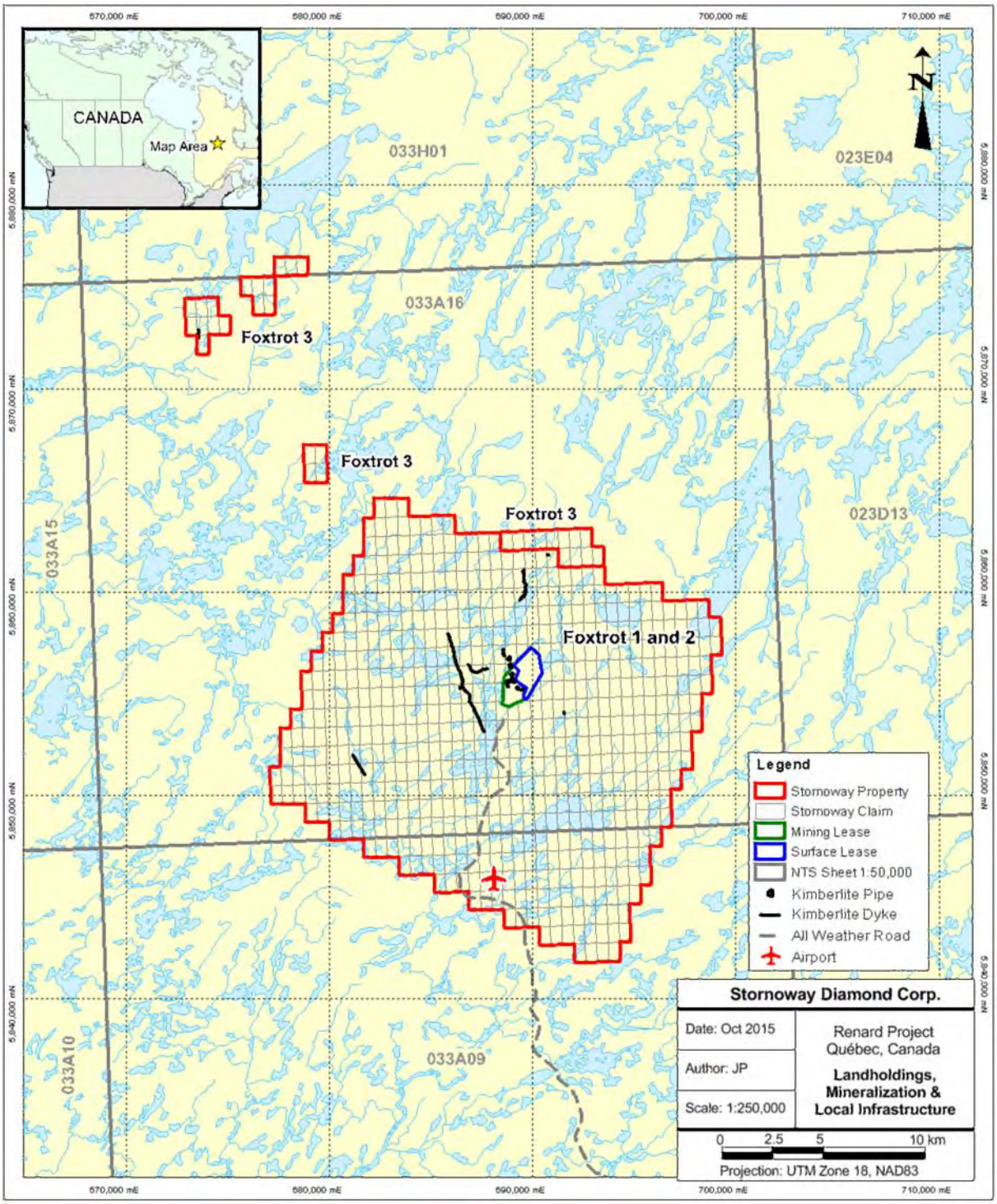

Figure 6. Map of SDCI's land holdings, mineralization and local infrastructure.

The Renard Diamond Project site is accessible by an all-weather gravel road. Provincial highway 167 affords paved access to the city of Chibougamau and the village of Mistissini and links these communities to the provincial road network. A 105-km, all-weather gravel road proceeds north from the junction of Mistissini to Témiscamie. From Témiscamie, the extension of Road 167 and the Renard mining road, which were completed in fall 2014, provide access to the Renard Project. The length of the road between Chibougamau and the Renard Project is 420 km.

This project is also accessible by air beginning in September 2014. The completion of the Clarence & Abel Swallow Airport established a1,497m long year-round gravel landing strip with associated instrumentation, maintenance facilities and a passenger terminal. With this airstrip, charter flights were able to transport workers to the Renard Project. The airport accommodated Dash-8 aircraft and there are regular flights to from St-Hubert and Chapais-Chibougamau.

Starting in March 2015, a mine accommodation complex was fully operational. This accommodation complex had 370 rooms, cafeteria, fitness room, recreation room, locker room, training room, reception services and security offices.

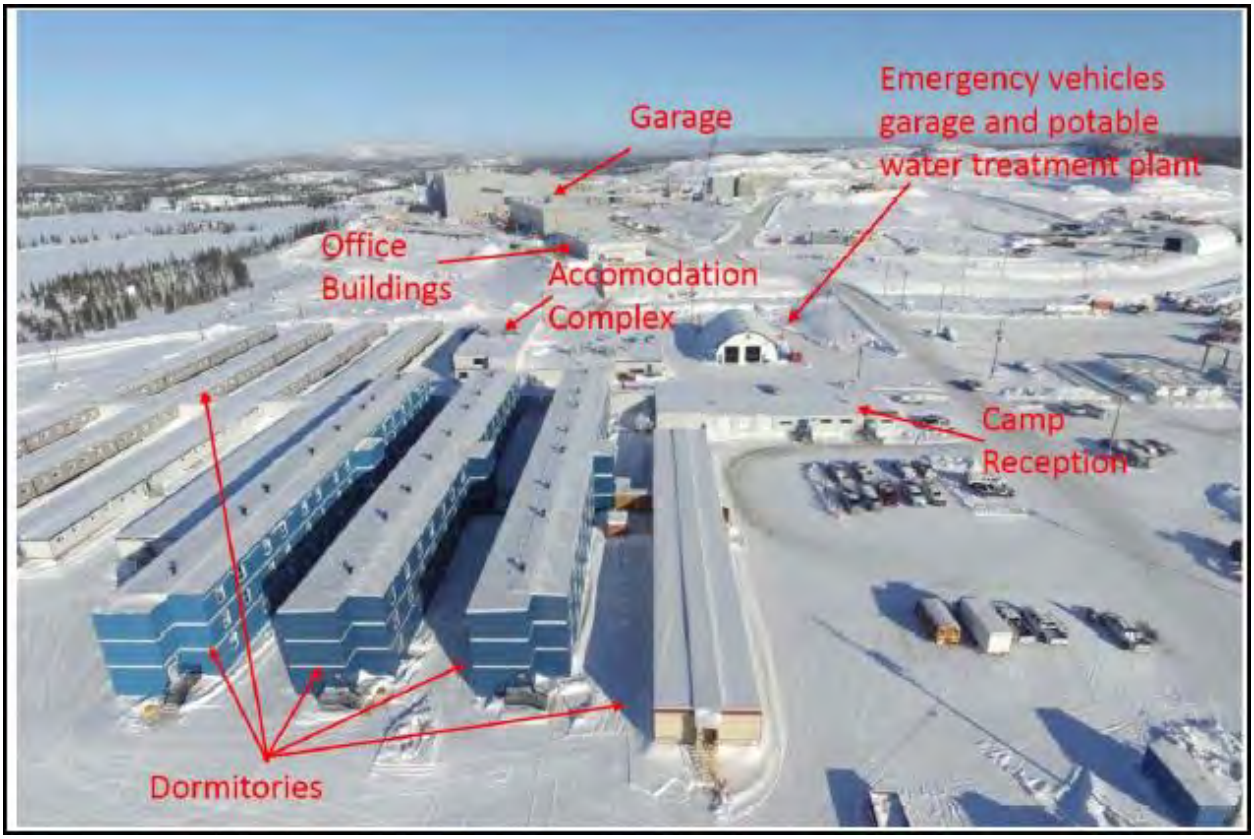

Figure 7. Aerial photograph of the Renard Diamond Project mine site (2016).

EXPLORATION HISTORY

GK Mine

Exploration in the Kennady Lake area was initiated in late 1990. This early exploration covered both the KNP property and GK Mine property. As such, the early exploration history listed below is common to both projects.

Table 1. Early Exploration Activities in the Kennady Lake Area (Makarenko and Pilotto, 2022)

YEAR	DESCRIPTION OF ACTIVITIES
1990	Exploration for diamonds in the Kennady Lake area begins.
1992	AK Property, which encompasses the GK Mine and KNP area is staked by Inukshuk Capital Corp. No exploration work is conducted by Inukshuk - rather the AK Property is optioned to Mountain Province Mining Inc. (now MPD) and partners Camphor Ventures Inc. (Camphor) and a Glenmore Highlands Inc. subsidiary.
1992-1996	On behalf of Mountain Province Mining Inc., Canamera Geological Ltd. conducts exploration activities on the AK Property. • 1992 – 1994: 993 reconnaissance till samples collected • 1993: 10,073 km DIGHEM survey completed (airborne magnetics (MAG) and frequency domain electromagnetics (EM)) in the summer. Further DIGHEM surveys completed in the fall for follow up (1,610 km) • 1995: Five airborne MAG/VLF/EM helicopter surveys completed (9,941 km) • 1995 – 1996: 1,842 sediment samples collected
1997	MPD is formed by amalgamation of Mountain Province Mining and the Glenmore Highlands subsidiary (444965 BC Ltd.). Letter Agreement between Monopros Ltd. (now De Beers), MPD & Glenmore Highlands subsidiary could see Monopros Ltd. earn a 51% interest in the project. A low-level DIGHEM survey over the AK Property was initiated. Sediment sampling program was completed collecting 2,281 samples.

Exploration as it relates solely to the GK Mine and its kimberlites is summarized below.

Table 2. Exploration History Specific to the GK Mine Site

YEAR	DESCRIPTION OF ACTIVITIES
1995	5034 kimberlite is discovered (GK kimberlite cluster).
1997	Hearne, Tuzo and Tesla kimberlite pipes are discovered (GK kimberlite cluster).
1998	Mini bulk sampling of 5034, Hearne, Tuzo and Telsa by De Beers. Preliminary scoping study by MRDI (now AMEC Foster Wheeler).
1999	Bulk sampling by large diameter drilling of Hearne, Tuzo and Telsa by De Beers.
2000	De Beers conducts Desktop Study.
2001	Further resource drilling of 5034, Hearne and Tuzo by De Beers.
2002	Joint Venture agreement entered between MPD (44.1%), De Beers (51%) and Camphor (4.9%).
2003	Technical Study (pre-feasibility) commences.
2004 - 2005	Further hydrological, geotechnical design and resource drilling. Engineering and environmental baseline studies completed.
2005	Completion of the C$25 M Technical Study. Commencement of the $38.5M (CAD) Advanced Exploration Program and filing applications for construction and operating permits.
2006	MPD acquires controlling interest in Camphor Ventures. Independent valuation of GK diamonds completed. Tuzo and 5034 North Lobe delineation and geotechnical drilling completed.
2007	MPD acquires 100% of Camphor, increasing their interest in GK to 49%. Core drilling program completed at Tuzo to upgrade the Tuzo. The infill drilling program at the 5034 kimberlite, and 5034 North Lobe bulk sampling program, is completed.
2008	Tuzo bulk sampling program was completed with a 25.14 ct gem-quality diamond recovered from the Tuzo drill program. Updated independent valuation completed with actual price per carat of bulk sample diamonds recovered is increased by 63% to $135 per carat.
2009	Updated mineral resource statement completed. Revised and restated joint venture agreement concluded between MPD and De Beers (GKJV).

YEAR	DESCRIPTION OF ACTIVITIES
2010	Feasibility Study completed and updated Environmental Impact Statement (EIS) under preparation for filing in December.
2011	The environmental impact review process commences. Updated independent diamond valuation completed ($185/carat). Feasibility study and decision to build approved by GKJV. Tuzo Deep resource drilling commences. Airborne gravity gradiometry survey is flown (3,950 km)
2012	GKJV approves initial C$32 M capital budget for early mobilization. Updated independent valuation completed ($186 per carat). Public hearings under environmental impact review concluded.
2013	Environmental impact review public record closes following which Mackenzie Valley Environmental Impact Review Board recommends the project. October 22nd – Ministerial approval received for the GK Project. November 29th – Pioneer Land Use Permit Issued.
2014	Winter Road was constructed to site, and 634 truckloads of material were delivered. Revised and updated GK 2014 Feasibility Study Report completed. Class A Land Use Permit and Type A Water Licence issued for the construction and operation of the mine.
2015	Structural steel erection and mechanical assembly commence for major facilities and airstrip expansion for 737 aircraft.
2016	March 23rd – First ore exposure 5034 Pit. June 20th – First ore through the processing plant. September 20th – Official opening of GK Mine.
2017	March 2nd – GK Mine announces commercial production.

KNP Property

The exploration history of the area surrounding the GK Mine, namely the KNP Property, under the management of KDI is summarized below.

Table 3. Exploration History Specific to the KNP Property

YEAR	EVENT / ACTIVITY
1995	Doyle Property is staked by Gerle Gold Ltd. (GGL) and optioned to Monopros Ltd who earns 60% interest by December 1997.
1996	Doyle kimberlite is discovered on the Doyle Property (now part of the KNP). MZ kimberlite is discovered on the AK Property (now part of the KNP).
1997-2004	Exploration on the KNP consisted of sampling of glacial drift and outcrop for kimberlite indicator minerals (KIMs), geological mapping, EM airborne and ground geophysical surveys, diamond drilling and small diameter RC drilling, and microdiamond/macrodiamond sampling, processing and analysis.
1998	Sediment sampling (1,653 samples) and diamond drilling were conducted. Detailed ground EM surveys were conducted between Kelvin Lake and Kennady Lake.
1999	Faraday 1 and Faraday sheets at F1-3 are discovered by drilling a coincident geophysical and geochemical anomaly.
2000	Kelvin kimberlite and Kelvin sheet kimberlites are discovered by drilling.
2001	Minor kimberlite (F2 sheet) is intersected 600 m southwest of the F1 discovery holes. De Beers drills at MZ Lake and discovers an extensive kimberlite sheet complex of near-surface, sub-parallel kimberlite sills returning varying amounts of microdiamonds.
2002	GKJV is formed with De Beers as operator of the GKJV ground and conducts all exploration activities.
2003	Ground gravity and magnetic surveys are conducted along the 'Kelvin-Faraday Corridor' (KFC) to test for new pipes, feeder dykes and extensions of known kimberlites.
2002-2003	Exploration diamond drilling program - 5 NQ holes at Kelvin (564 m) and 3 NQ holes at Faraday (330 m). Faraday 2, Faraday 3 and Hobbes kimberlites are discovered.
2004	De Beers returns 24 of the Doyle Property claims to GGL including the Doyle kimberlite. The GKJV moves towards making the GK kimberlite cluster at Kennady Lake the focus of their efforts.
2005	GGL conducts bulk sample on the Doyle kimberlite.
2007	Camphor's interest in the AK Property is acquired by MPD.
2009	A revised and restated Joint Venture agreement for the GKJV is concluded between MPD and De Beers Canada.
2011	HeliFalcon Airborne Gravity Gradiometry survey conducted by Fugro; 70 geophysical targets and 29 high priority targets were selected.

YEAR	EVENT / ACTIVITY
2012	KDI is created as a spin-off of MPD. The portfolio includes areas relinquished by the GKJV and KDI has 100% ownership of the KNP .
2012 - 2023	RC till sampling programs (899 samples), ground sampling programs (987 samples) and variable types of ground geophysical programs. • Ground gravity = 81,576 stations • OhmMapper = 3,448 km • ARRT = 854 km • Ground magnetics = 2,607 km • Ground horizontal loop EM = 256 km • Bathymetry measurements = 155 lakes • Ground penetrating radar surveys = 258 km Multiple programs of drilling: • Diamond drilling (NQ) = 69,258 m • Diamond drilling (HQ and HQ3) = 40,610 m • Bulk sampling 11" RC = 1,665 tonnes

Renard Diamond Property

Prior to 1996, regional exploration around the Foxtrot Property had been undertaken, for gold and base metals, by several parties using prospecting and geochemical techniques. These activities were limited in scope due to the location of the current property between two Archean volcanic belts, an area considered to be non-prospective for traditional gold and base metal targets. While both BHP Billiton and De Beers have conducted regional diamond exploration programs in the general area, those results are not publicly available. The history in this area, as it relates to the development of the Renard Diamond Property, is as follows:

Table 4. Exploration History Specific to the Renard Diamond Project

YEAR	EVENT / ACTIVITY
1996	Diamond exploration commenced in the area following formation of a 50:50 joint venture (JV) between Ashton Mining Canada Inc. (Ashton) and SOQUEM (SOQUEM).
1996 – 1999	Small amounts of regional sampling were completed (13 samples) within what became known as the Foxtrot Property.
2000	Grant of Mineral Exploration Licences PEM 1555 and 1556 to the JV was the first large-scale acquisition in the area. Heavy mineral sampling program completed with 48 samples taken (1 sample with anomalous results). 1,419 kms of airborne geophysical surveys.
2001	6 diamond drillholes completed (554 m). Heavy mineral sampling program completed with 252 samples taken. 5 ground magnetic grids completed (38.4 km).

YEAR	EVENT / ACTIVITY
	Discovery of Renard 1 and Renard 2 kimberlites.
2002	33 diamond drillholes completed (4,688 m). Heavy mineral sampling program completed with 785 samples taken. 900 kms of airborne geophysical surveys. 21 ground magnetic surveys (140.5 km) and 14 ground electromagnetic surveys were completed (20.9 km). Discovery of Renard 3, Renard 4, Renard 5*, Renard 6*, Renard 7 and Renard 8 kimberlites. * Later determined to be one kimberlite and renamed Renard 65.
2003	71 diamond drillholes completed (12,642 m). Heavy mineral sampling program completed with 914 samples taken. 8,900 kms of airborne geophysical surveys. 52 ground magnetic surveys (452.3 km) and 10 ground electromagnetic surveys were completed (19.4 km). Discovery of Renard 9 and Renard 10 kimberlites. Discovery of the Lynx kimberlitic dyke (4.2 km).
2004	104 diamond drillholes completed (17,699 m) and 23 reverse circulation (RC) holes completed (4,157 m). Heavy mineral sampling program completed with 2,000 samples taken. 4,778 kms of airborne geophysical surveys. 58 ground magnetic surveys (505.4 km) and 33 ground electromagnetic surveys were completed (67.7 km).
2005	137 diamond drillholes completed (25,914 m) . Heavy mineral sampling program completed with 1,412 samples taken. 19,491 kms of airborne geophysical surveys. 25 ground magnetic surveys (215.2 km) and 41 ground electromagnetic surveys were completed (84.2 km). Discovery of the Hibou kimberlitic dyke (850 m) and North Anomaly kimberlitic dyke.
2006	90 diamond drillholes (11,343 m) and 5 RC holes (805 m) were completed. Heavy mineral sampling program completed with 1,203 samples taken. 29 ground magnetic surveys (308 km) and 51 ground electromagnetic surveys were completed (81.6 km). Discovery of the Southeast Anomaly and G04-296 kimberlitic dyke. Bulk sample testing the Renard 2, Renard 3, Renard 4, Renard 65 and Renard 9 kimberlites.
2007	95 diamond drillholes (12,243 m) and 8 RC holes (1,189 m) were completed. Heavy mineral sampling program completed with 959 samples taken. 52 ground magnetic surveys (441.5 km) and 43 ground electromagnetic surveys were completed (41.9 km).
2008	16 diamond drillholes completed (2,160 m) .

YEAR	EVENT / ACTIVITY
	Heavy mineral sampling program completed with 554 samples taken. 1,969 kms of airborne geophysical surveys. 32 ground magnetic surveys (385 km) and 12 ground electromagnetic surveys were completed (11.8 km). An economic assessment study, jointly undertaken by Agnico-Eagle Mines Limited. (Agnico-Eagle) and AMEC Americas Limited (AMEC), was completed and formed the 2008 NI 43-101 Technical Report on the Preliminary Assessment of the Renard Project, authored by Scott Wilson Roscoe Postle Associates Inc. (SWRPA).
2009	29 diamond drillholes completed (16,506 m) . The December 12, 2008 NI 43-101 Technical Report was revised.
2010	12 diamond drillholes completed (5,209 m) . Golder Associates Ltd (Golder) completed an updated NI 43-101 Mineral Resource estimate (Farrow, 2010) during the previous year but released it on January 27, 2010. A Preliminary Assessment of the Project was completed on March 22, 2010. This study comprised aconceptual mine plan, capital and operating cost estimates, and cash flow model prepared by SWRPA; adiamond processing plant design, with capital and operating cost estimates, prepared by AMEC; and social,environmental and permitting aspects contributed by Stantec.
2011	GeoStrat Consulting Services Inc., (GeoStrat) was retained to provide an independent Mineral Resource estimate update. This estimate represented the third reporting of Mineral Resources but, despite 7,654 m of additional core drilling and 3.6 tonnes of sampling since the last disclosure, the Indicated Resource remained relatively unchanged. The increase in Inferred Resource was primarily due to the upgrade of a portion of the Renard 65 kimberlite from a potential mineral deposit (PMD) to an Inferred Resource. The subsequent National Instrument 43-101technical report was filed on February 3, 2011. Stornoway completed a Feasibility Study – effective date December 29, 2011.
2012	Stornoway enlarged an existing surface trench at the Renard 65 pipe and collected/processed approximately 5,080 tonnes of kimberlite, returning 962.8 cts of diamonds. The largest diamond was a 9.78-carat white octahedral gem.
2013	March 27, 2013 – an updated feasibility study (i.e., 2013 Optimization Study) was filed. July 2013 - GeoStrat completed an update on the Renard Mineral Resource Estimate, which incorporated results from the processing of the Renard 65 bulk sample, recent geotechnical and hydrogeological drilling that intersected the ore bodies, and a refined method for calculating country rock dilution within each kimberlite. Stornoway announced that a $10 million exploration program would be undertaken, (primarily of deep directional drilling at Renard 2, as well as work on other pipes and dykes).

YEAR	EVENT / ACTIVITY
2014	38 diamond drillholes completed (12,036 m). July 8, 2014 - Stornoway announced the closing of a comprehensive $946 million funding package for the construction of the Renard Diamond Project through a combination of senior and subordinated debt facilities, equity issuances, equipment financing facility, and the forward sale of diamonds. July 10, 2014 - mine construction activities commenced with a groundbreaking ceremony.
2015	Mining activities commenced in the Renard 2 & 3 open pit with the removal of overburden and the pre-stripping of wasterock.
2016	October 19, 2016 - Renard Diamond Project mine officially opened.
2019	Stornoway files for creditor protection under the *Companies' Creditors Arrangement Act*.

GEOLOGY

Regional Geology

Properties in the Northwest Territories

The KNP Property and the GK Mine site both lie in the southeastern portion of the Slave craton, a well-exposed small to medium-sized Archean craton that straddles the NT–Nunavut border in northwestern Canada. It dips below Proterozoic rocks to the east and west, and below Paleozoic cover to the north and southwest. The northwest-striking Bathurst Fault coincides with a broad zone of Proterozoic supracrustal rocks and separates the Bathurst Block in the northeast from the main Slave craton (Stubley, 2015).

Reviews of the Slave craton by Bleeker and Hall (2007), Helmstaedt (2009), and Helmstaedt and Pehrsson (2012) address many aspects of the crustal geology and its mineral deposits. The fundamental architecture of the craton is a Mesoarchean nucleus, termed the Central Slave Basement Complex (CSBC) or Central Slave Superterrane (CSST), with juvenile Neoarchean crust accreted to its east and southwest margins. Timing of the principal accretion is commonly assumed to be ca. 2650 – 2630 Ma, although Bennett et al. (2005) suggest at least some of the cratonic amalgamation occurred during the principal pan-Slave D2 tectonic event at ca. 2.6 Ga. The D2 event is associated with extensive shortening/thickening of the crust, widespread granitoid emplacement, and the peak of regional metamorphism.

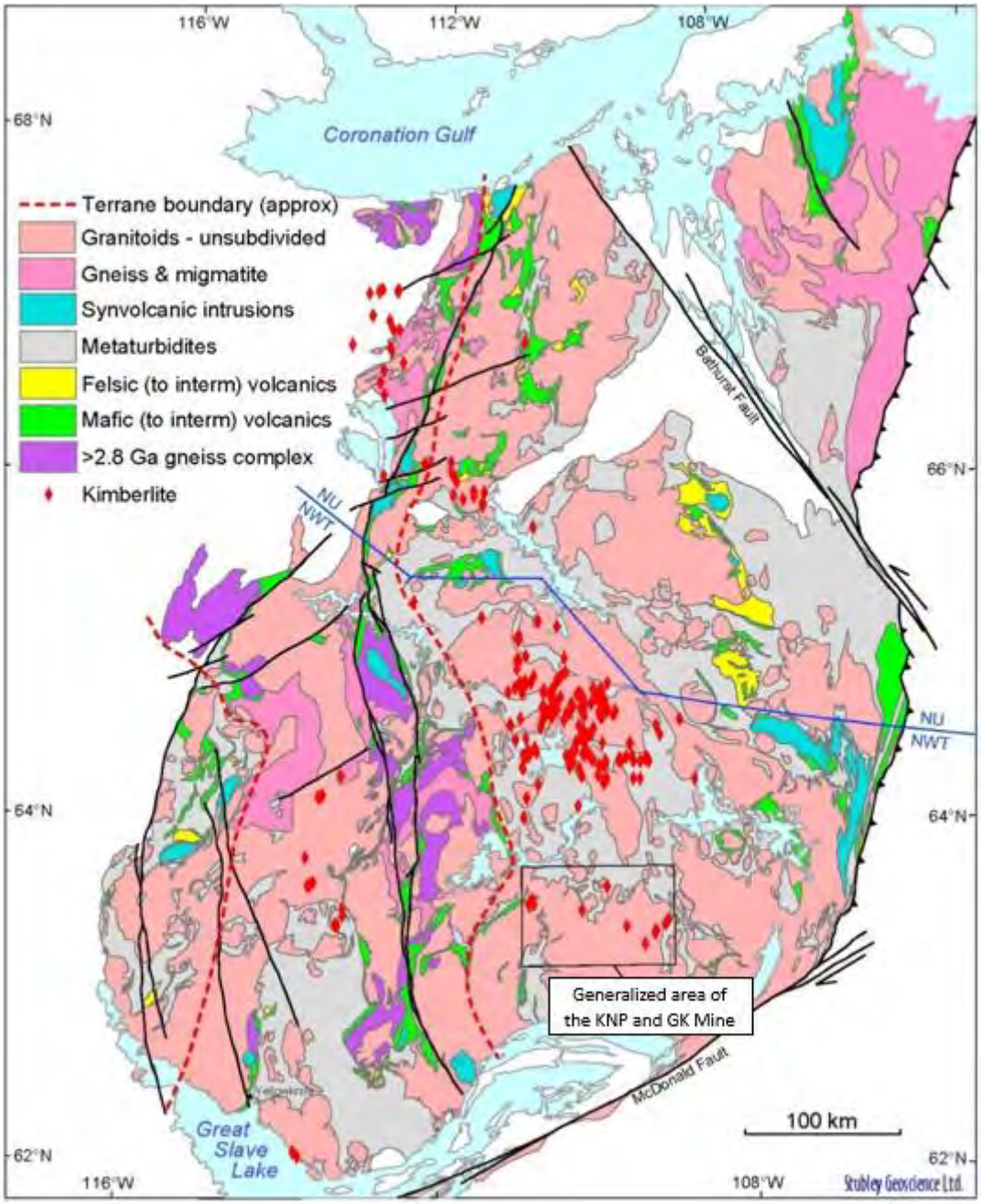

Figure 8. Map of the regional geology in the Northwest Territories depicting the main rock types, structural features and location of known kimberlites from Stubley (2005).

The crust of the Slave is believed to have amalgamated during a 2.69 Ga collision event between analogous island-arc terranes (Hackett River) to the east and a basement complex (the CSBC) along an N-S suture (Bleeker et al., 1999). Rocks of the Acasta Gneiss in the CSBC are the oldest recorded in situ on Earth (Bowring et al., 1989).

The Slave craton has been intruded by several mafic dyke swarms. The earliest intrusions have been ascribed to an Early Proterozoic age and typically consist of diabase dykes. These constitute the Malley (2.23 Ga), MacKay (2.21 Ga) and Lac de Gras (2.03 Ga) dyke swarms (LeCheminant et al., 1996). These dyke swarms are limited in extent and are postulated to indicate evidence for continental breakup during the Early Proterozoic (Fahrig, 1987). The Mackenzie Dyke Swarm intrudes the entire Slave craton along a NW trend and is thought to be contemporaneous with flood basalt eruptions of the Coppermine River Group and associated with the Muskox Intrusive Complex. This dyke swarm has been assigned a Proterozoic age of 1270 Ma (LeCheminant and Heaman, 1989). Finally, the Late Proterozoic Gunbarrel and Franklin dyke swarms intrude portions of the Slave. The Gunbarrel event has analogues in the Wyoming Craton and may signal the formation of a western rift margin in North America at approximately 780 Ma, as they extend from the western Slave, through the Mackenzie Mountains and into the Wyoming Craton (LeCheminant and Heaman, 1994). The gabbroic Franklin dykes and sills of 723 Ma are related to the eruption of the Natkusiak flood basalts on Victoria Island above a hot mantle plume (Rainbird, 1993).

Property in Quebec

The Renard Diamond Project area is located within the eastern portion of the Superior Craton (Superior Structural Province). The Superior Province forms the Archean core of the Canadian Shield, and is an amalgamation of small continental fragments of Meso-Archean age and Neo-Archean oceanic plates, with a complex history of aggregation between 2.72 Ga and 2.68 Ga. Since about 2.6 Ga, the Province has been tectonically stable (Percival, 2007).

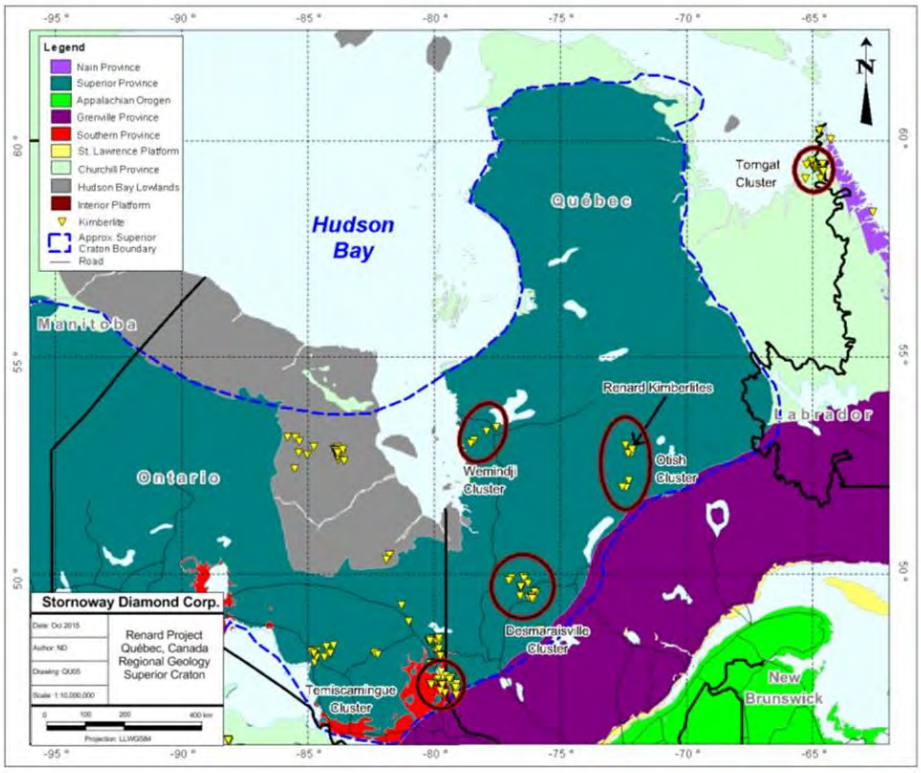

Figure 9. Regional geology map for the Renard Diamond Property.

The Superior Province is surrounded by provinces of Paleo-Proterozoic age on the west, north and east (Churchill Province), and Meso-Proterozoic age (Grenville Province) on the southeast. The margins of the Superior Province were affected during Paleo-Proterozoic and Meso-Proterozoic tectonism. Proterozoic and younger activity is limited to rifting of the margins (Mid-Continent Rift System), emplacement of numerous mafic dyke swarms, compressional reactivation and large-scale rotation at ca. 1.9 Ga, and failed rifting at ca. 1.1 Ga (Percival, 2007).

There are five known episodes of kimberlitic volcanism in Québec (Moorhead et al., 2003) – each is summarized below:

1) **Témiscamingue:** six diatreme facies pipes intruding the Pontiac Subprovince. Two age dates, 125 Ma (Rb–Sr) and 142 Ma (U–Pb) have been obtained. Kimberlites are hosted in the northwest-trending Témiscaming structural zone.

2) **Desmaraisville:** five HK and numerous dykes located in the central portion of the Abitibi Subprovince. Age date of 1104 Ma (Rb–Sr from phlogopite). Hosted in the Waswanipi–Saguenay Tectonic Zone; pipes are near northeast-trending Proterozoic dykes.

3) **Otish:** at least 12 pipes intruding the northeast portion of Opatica and Opinaca Subprovinces. Age dates range from 550.0 +/- 3.5 Ma at Beaver Lake to 640.5 +/- 28 Ma at Renard. The kimberlite field is associated with the southern end of the Mistassini-Lemoyne structural zone, and near-northwest, and northeast-trending Proterozoic diabase dykes.

4) **Wemindji:** kimberlitic sills intruding Archean-age gneisses of La Grande Subprovince, located at the western end of the Wemindji–Caniapiscau structural zone where it intersects the northeasterly projection of the Kapuskasing zone.

5) **Torngat:** diamond-bearing dykes recognized in the Paleo-Proterozoic Rae Province near the Archean Nain Craton. These dykes were classified as carbonatized ultramafic lamprophyres and dated at 550 Ma.

The Renard Cluster is part of the Otish kimberlitic volcanic event.

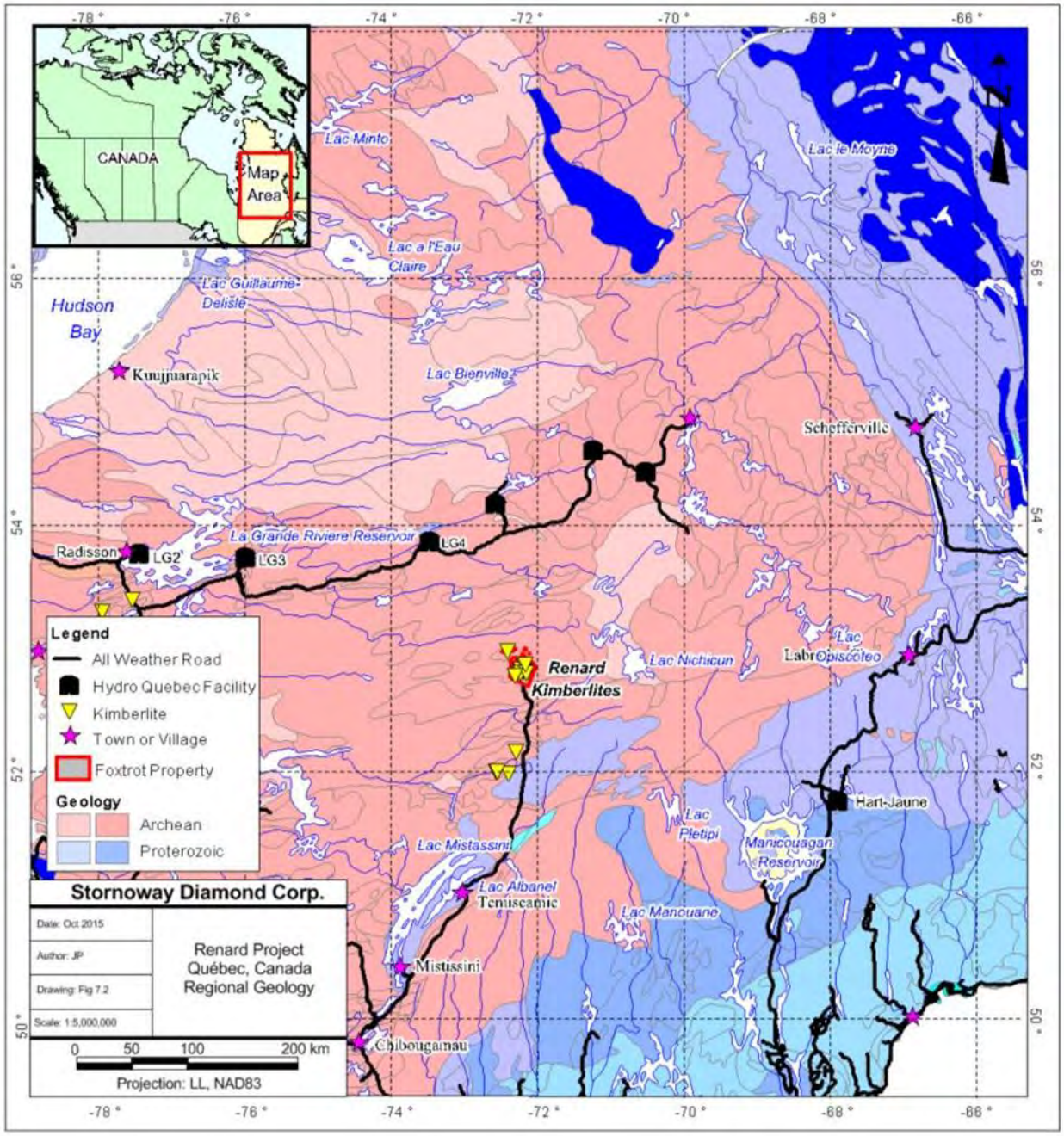

Figure 10. Property scale geology map of the Renard Diamond Property.

Property Geological Setting

GK Mine Site

The GK Mine area consists of basement lithologies that include granite, granitic gneiss, minor granodiorite, and diorite that have undergone regional amphibolite-facies metamorphism retrograded to greenschist facies (Baker, 1998). The most common rock type, granite, varies from a medium-coarse-grained, equigranular facies to highly foliated granitic gneiss.

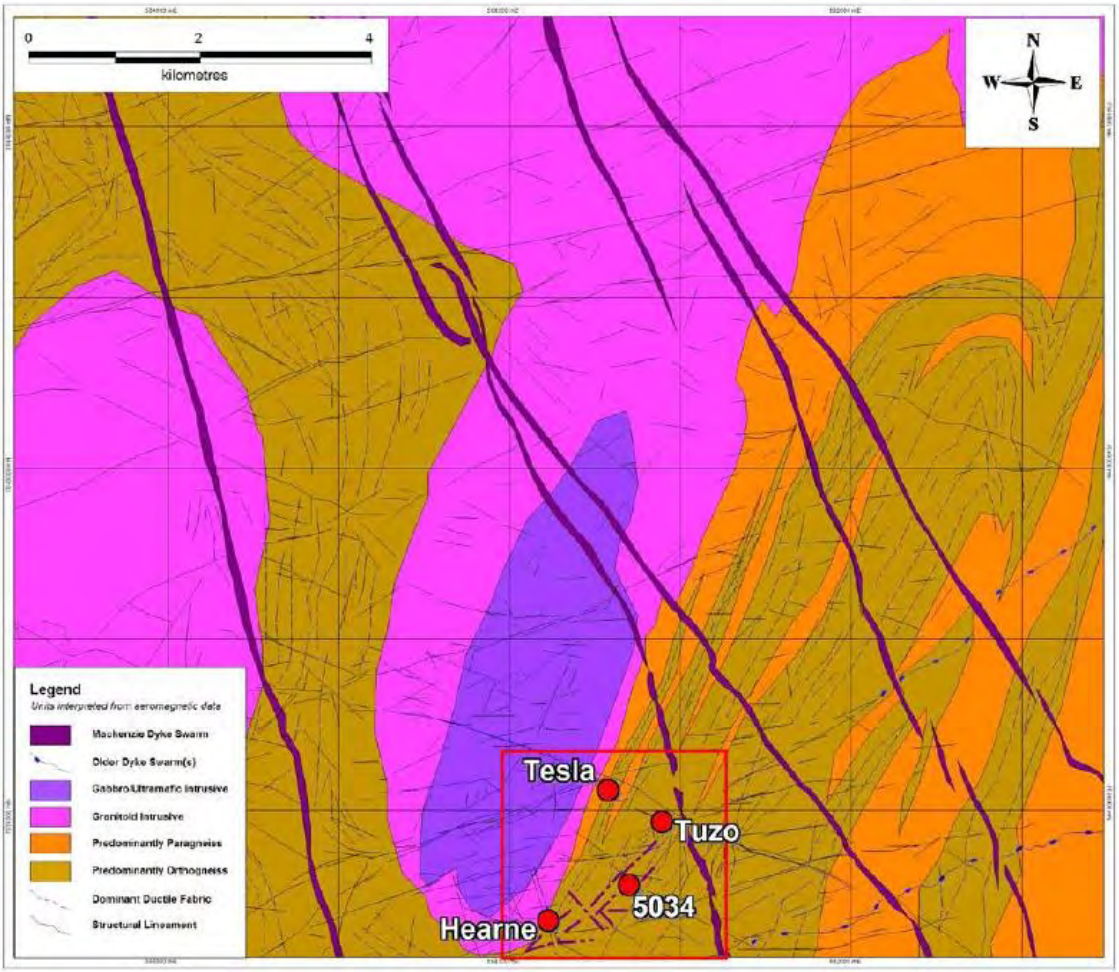

Figure 11. Litho-structural interpretation of the GK Mine area (taken from NI 43-101 Technical Report, March 2022).

KNP Property

The KNP consists of granodiorite intrusions, high-grade gneisses, and migmatites, along with metamorphosed volcanic and sedimentary supracrustal rocks, typical of many greenstone belts in the Slave Geological Province (SGP). Limited outcrop indicates that the bedrock consists mainly of biotite granitoids, and granitic gneisses that have undergone regional amphibolite facies

metamorphism retrograded to greenschist facies. Granitoids range from mildly deformed, medium- to coarse-grained intrusions, to highly foliated granitic gneiss. Granite pegmatite dykes intrude all the Archean rocks. Two mafic dyke swarms have been identified in the KNP area. The oldest are east-northeast trending dykes considered part of the Early Proterozoic Malley dyke swarm (2.23 Ga). There are also dykes from the Mackenzie dyke swarm (1270 Ma; LeCheminant et al., 1996) that trend north-northwest.

The emplacement of kimberlite bodies in the area is believed to have occurred during the Cambrian Period. Age dating for two samples of groundmass phlogopite (87Rb-87Sr geochronology) obtained from the Kelvin kimberlite have returned dates of 531 ± 8 Ma and 546 ± 8 Ma (Bezzola et al., 2017). These dates are comparable to kimberlites in the GK cluster which are approximately 540 Ma (Middle Cambrian) in age. Erosional processes, since emplacement, have had the effect of stripping the kimberlites down to their root zones, preserving only the hypabyssal and diatreme facies (Barnett et al., 2018).

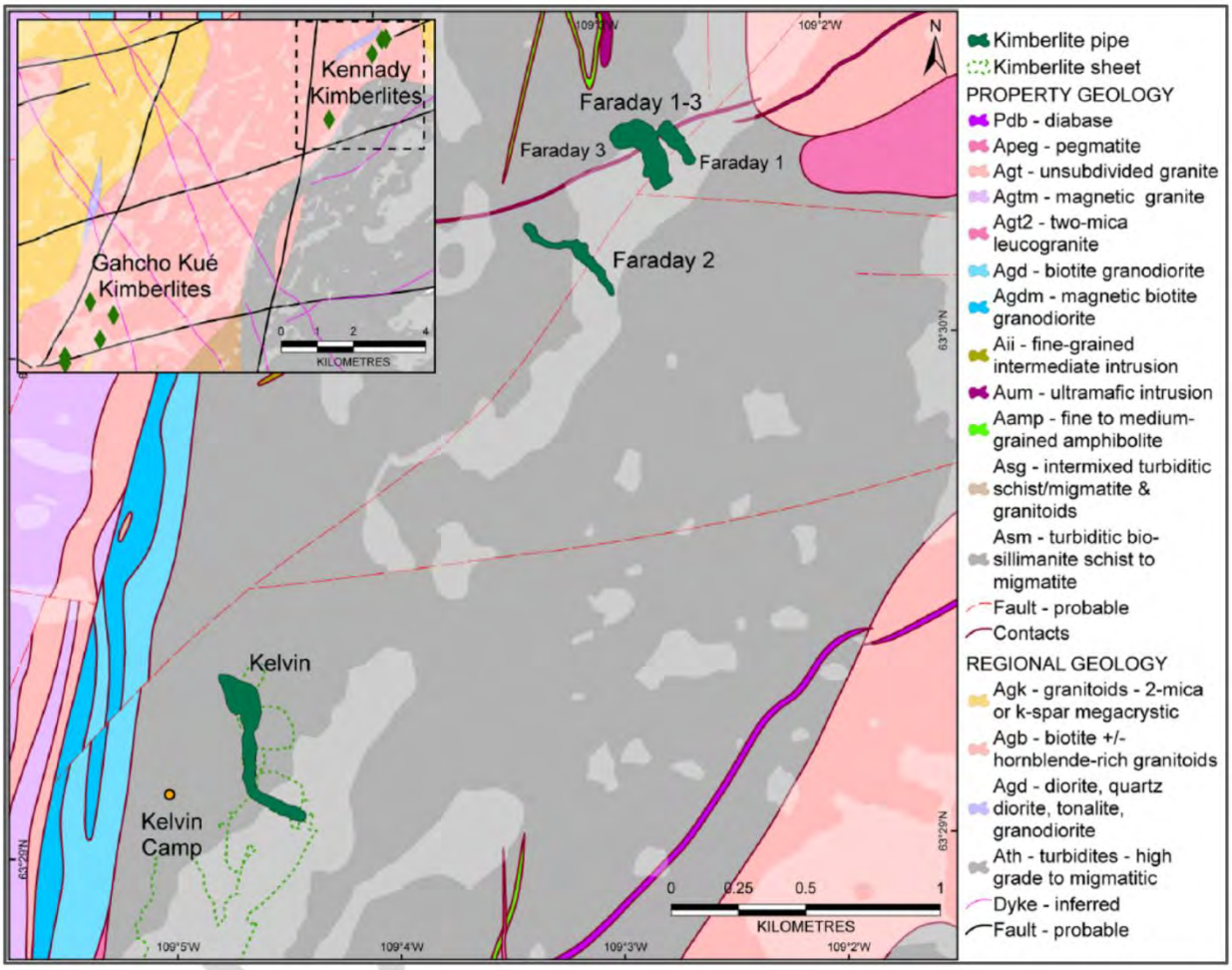

Figure 12. Simplified geology map of the Kelvin-Faraday Corridor by Stubley, M. (2015) with inset map showing the regional geology by Stubley, M. (2005) and locations of the KNP and GK kimberlites (pale pink/grey = lakes).

Renard Diamond Property

The Renard Diamond Project area is located on the southeastern portion of the Superior Structural Province, bordered by Proterozoic rocks of the Labrador Trough in the east and the Grenville Province in the south. This portion of the Superior Craton corresponds to the Opinaca subprovince and is sometimes referred to as the "Ungava Craton". Metagreywacke, derived migmatite and granite characterize the Opinaca subprovince. Polydeformed schists occur at the belt margins, whereas the interior portions are metamorphosed to amphibolite and granulite facies (Percival, 2007).

Proterozoic rocks of the Labrador Fold Belt in the east, the Cape Smith Fold Belt in the north and the Grenville Province in the south surround the Project area. Northern portions of the Project area consist of north-northwest trending, plutonic and gneissic terranes. Based on metamorphic grade, mineralogy, lithology and aeromagnetic observations, the terranes appear to vary in width from 70 km to 150 km (Percival et al., 1994).

The Foxtrot Property is situated between the La Grande greenstone (volcanic) belt to the north and the Eastmain greenstone (volcanic) belt to the south. Granite-gneiss and retrograde granulite gneiss are the predominant lithologies, with lesser amounts of granite and granodiorite. Contained within the gneiss are relict metasedimentary and metavolcanic rock assemblages along with associated mafic and ultramafic intrusive rocks. The Otish Mountain and Mistassini groups of Proterozoic, clastic, metasedimentary rocks overlie the Archean lithologies, marginal to the Grenville Province. Mafic and ultramafic intrusive rocks of variable affinities are more common in the southeast than in the southwest (O'Connor and Lépine, 2006).

Granite–gneiss and retrograde granulite gneisses of sedimentary origin are the predominant lithologies in the Property area; however, lesser granite and granodiorite may also be present. The gneisses may contain relict metasedimentary and metavolcanic rock assemblages, as well as associated mafic and ultramafic intrusive rocks. Minor linear belts of supracrustal metavolcanic rocks occur throughout the area, generally trending east-west or west-northwest. Northwest-trending, Proterozoic Mistassini Swarm diabase and gabbro dykes, up to 30 m wide, crosscut all lithologies. Isolated outliers of Proterozoic clastic metasedimentary rocks are present in the area (O'Connor and Lépine, 2006).

Metamorphic grade within the Foxtrot area is primarily amphibolite facies with local granulite facies reported near Lac Minto (Percival et al., 1994). Higher-grade lithologies in the north are interpreted as supracrustal relicts dating to 3.1 Ga. Granite and granite gneiss are dated at 2.7 Ga and local felsic and intermediate intrusive rocks are dated at 2.5 Ga.

Glacial overburden within the Foxtrot Property can be up to 34 m thick but is on average 10 m thick around the Renard Cluster. Glacial deposits consist of till, eskers, moraine and post-glacial sediments, and their orientation reflects ice transport from the north-northeast.

Surficial Geology

Northwest Territories

The KNP and GK Mine area has been glaciated repeatedly during the Pleistocene epoch. Most recently, the Laurentide ice sheet covered the area and began to recede about 18,000 years before the present. The Kennady Lake area was ice-free between 9,000-9,500 years ago. (Dyke and Prest, 1987). Glacial drift forms a thin veneer through most of the area and consists of unstratified till blankets with glaciofluvial outwash deposits.

During the last glaciation, the property area was largely affected by westward-flowing ice controlled by the Keewatin Ice Divide (Aylesworth and Shilts, 1989). During deglaciation, the ice-flow direction shifted locally to the northwest and southwest, likely because of topographic influences (Sacco, 2018a). As the ice margin neared, and then retreated east of the property, significant modification and remobilization of surficial sediments occurred due to glaciofluvial, and glaciolacustrine meltwater processes. The glaciofluvial processes were dominantly subglacial. Time-transgressive subglacial corridors, where the existing till was reworked, occur throughout the property (Sacco, 2018a). Proglacial meltwater formed glacial lakes in topographic lows where the ice margin, or detached ice blocks, impeded drainage. Fine-grained material was deposited in lakes that persisted for extended periods, and wave action along the glacial lake shorelines reworked pre-existing sediments. Glaciofluvial, and glaciolacustrine sediments were then reincorporated into the subglacial sediment load, where ice recoupled to the surface after subglacial meltwater corridors were abandoned, or where ice re-advanced over glacial lake basins or glaciofluvial deposits. The reincorporation of material is hypothesized to have produced a second till facies identified in the area (Sacco, 2018b). The second till facies is distinguishable from the typical subglacial till based on differences in the orthophoto imagery such as lighter colour, fewer frost boils, and more common ice-wedge polygons or streamlining. These differences likely indicate a different composition from tills derived primarily from bedrock sources. This second till facies may be correlative to the “moderately reworked tills” defined by Knight (2017).

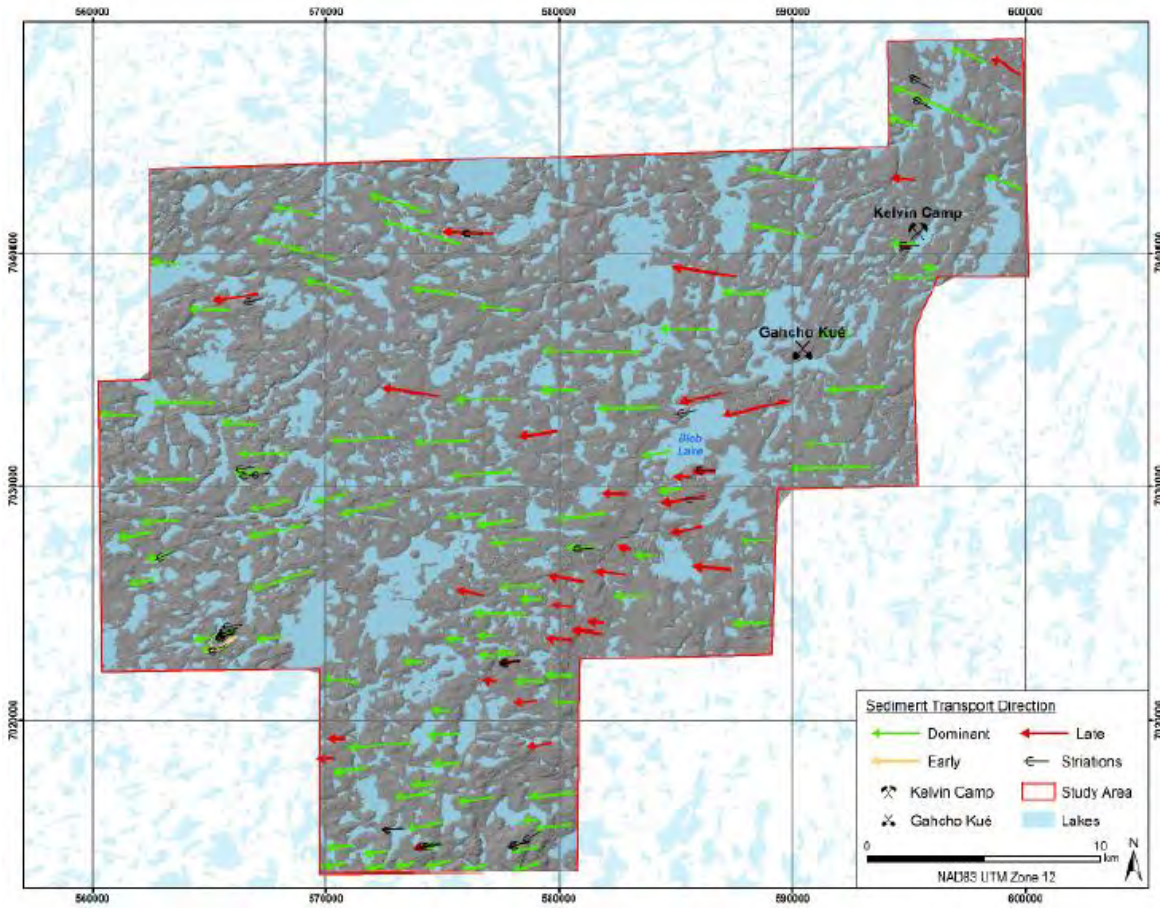

Figure 13. Generalized sediment transport directions based on ice flow indicators on the KNP and GK Mine property.

After deglaciation, periglacial processes continued to modify the landscape. Landforms were homogenized by downslope creep (solifluction), and vertical mixing (cryoturbation) of sediment, obscuring the evidence of glacial lake extents. Cryoturbation in the active layer mixed stratigraphically overlying sediments, and large organic complexes developed in poorly drained topographic lows.

The glacial till on the property is predominantly basal or lodgement till associated with the base of the ice sheets, therefore kimberlite indicator mineral (KIM) dispersal distances are minimal (Sacco, 2018a). Sand and reworked glacial till deposits (outwash) are significant. There are some eskers in the area, as well as proglacial sediments consisting of glaciofluvial and glaciolacustrine deposits.

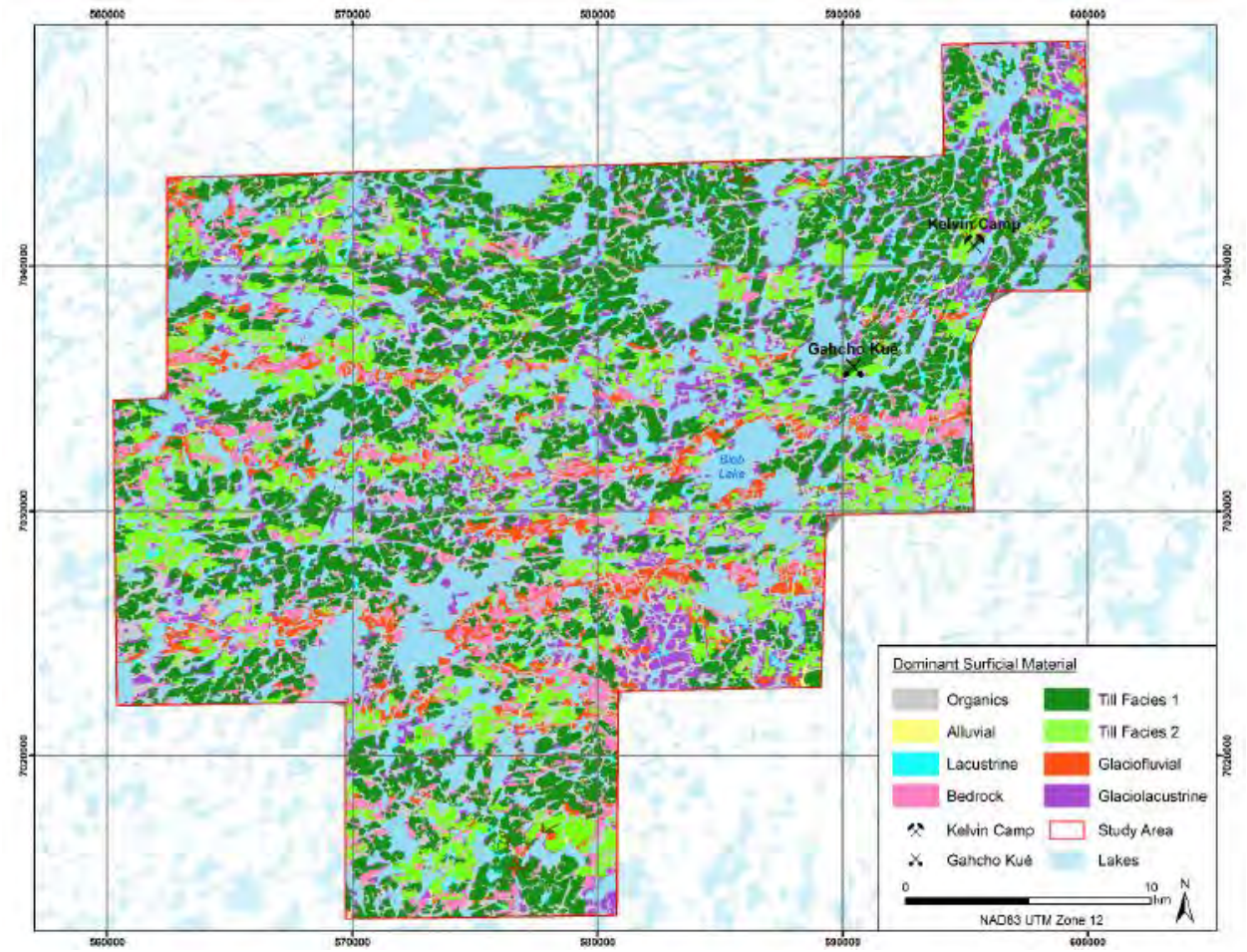

Figure 14. Simplified surficial geology of the KNP and GK Mine area.

Table 5. Table of Terms Used and Found in the Simplified Surficial Geology Map of the KNP and GK Mine Area

Surficial Material	Description
Organics	Composed of live and decaying plant material in bogs, marshes, fens and swamps. These deposits most commonly occuroverlying fine-grained glaciolacustrine deposits, and in association with the margins of modern streams and lakes but can develop in any poorly drained depressions.
Alluvial	Deposited by water in modern drainage systems; generally, occurs as plains between lakes. Most alluvial deposits in the study area are composed of cobbles and boulders, which are typically a lag created when streams flow over till.
Lacustrine	Lacustrine material identifies modern beaches. Material is typically composed of boulders and sand derived from till.
Glaciofluvial	Material transported by meltwater composed dominantly of sand and gravel. Hummocky deposits and veneers overbedrock where subglacial meltwater has scoured the area are typically poorly sorted. Eskers and esker complexes are composed predominantly of sand and pebble gravels

Surficial Material	Description
Glaciolacustrine	Typically composed of sand and silt were deposited in offshore environments. Shoreline environments are coarser. May be mixed with underlying till, where it occurs, resulting in a silty diamict that is difficult to differentiate from till.
Till Facies 1	Till facies 1 is predominantly derived bedrock sources. Typically, a compact diamict supported by a silty to sandy matrix with clast sizes ranging from pebble to boulder. Commonly develops frost boils at surface.
Till Facies 2	Interpreted to be a result of glacial readvance over glaciofluvial or glaciolacustrine material. These sediments are likely a combination of subglacial till and various amounts of reincorporated glaciofluvial or glaciolacustrine sediments. Commonly occur adjacent to subglacial meltwater corridors and down-ice from glacial lakes. Thicker deposits may exhibit ice-wedge polygons. The implications for exploration are unknown; however, hummocky deposits are typically associated with meltwater corridors and may be less appropriate for till sampling as they likely have a high glaciofluvial content.
Bedrock	Dominantly granitic or metasedimentary lithologies. Exposures occur most commonly where meltwater has eroded overlying material, and to a lesser extent where glacial scour exceeded sediment deposition. Where unmodified by deglacial processes, bedrock is generally associated with till veneers that infill hollows. Where meltwater processes occur, bedrock is generally associated with heavily reworked till or glaciofluvial veneers

Quebec

Work completed on the surficial geology for the Renard Diamond Project, as it is reported and found in the public domain, is not as robust as that for the foregoing properties. As stated in the 2016 Technical Report:

> *Quaternary glacial cover in the area was controlled by the New Québec Ice Divide. From the divide, ice flowed north and northeast toward Ungava Bay and west to southwest toward Hudson Bay. Glacial lineaments are well-developed and widespread. Eskers and hummocky to discontinuous, unmoulded, ground moraine deposits are also common.*

KIMBERLITE DESCRIPTIONS

GK Mine Kimberlites

The main GK kimberlite cluster comprises five kimberlite bodies:

1. 5034
2. Hearne
3. Tuzo
4. Wilson
5. Tesla

Most of 5034, Hearne, Tuzo, Wilson and Tesla occur under Kennady Lake, which has an average depth of 8 m. All the GK kimberlites are overlain by varying thicknesses of glacial boulder outwash and lake sediments (averaging 10 m thick), and have a combined water and sediment cover as much as 25 m thick. Age dating has occurred on most of the kimberlites - the 5034 kimberlite was Rb–Sr isotopically dated (phlogopite) as Middle Cambrian (542.2±2.6 Ma: Hetman et al. 2004). Ages for the Tuzo, Tesla and Hearne kimberlites, based on Ar40–Ar39 dating on phlogopite, are 542±6, 531±6 and 534±11 Ma, respectively.

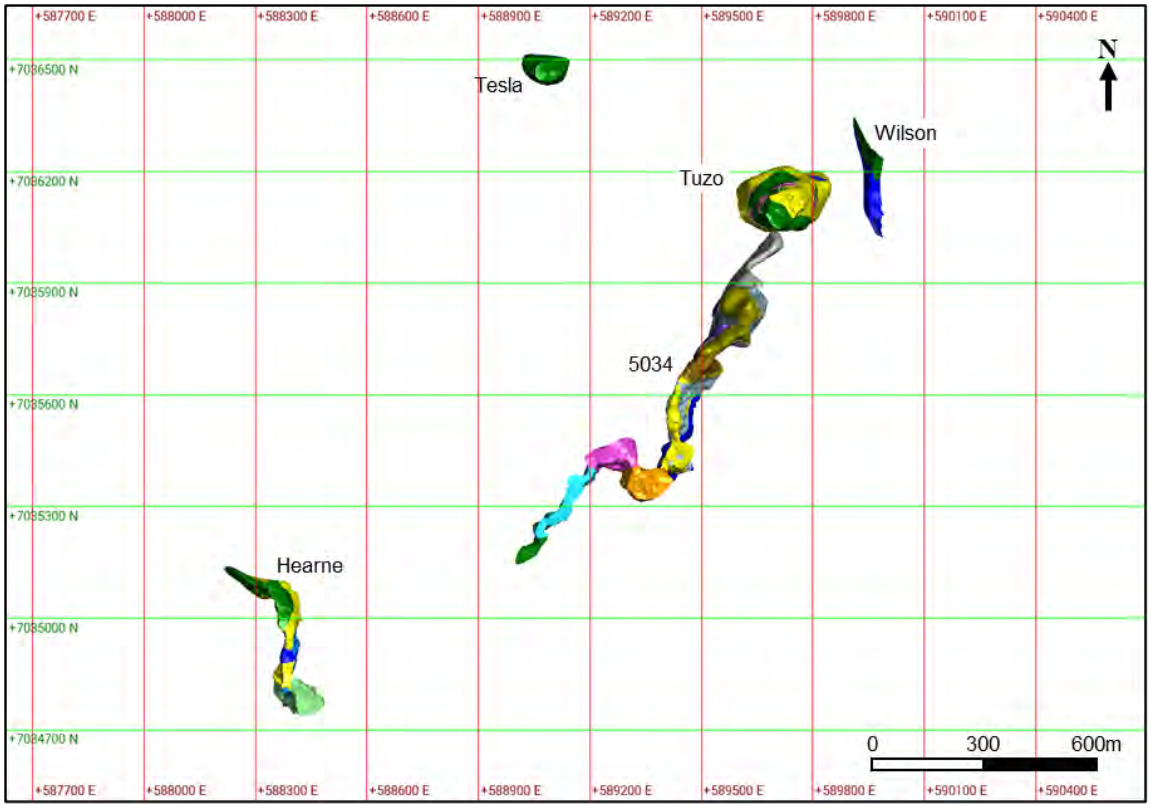

Figure 15. Plan view of the five kimberlites in the GK cluster.

Drill information indicates that Tuzo and 5034 are located on an inclined feeder dyke system, the GK dyke, which dips roughly 25° NNE. A vertical feeder dyke, as it is common for most maar-diatreme volcanoes, was not identified. Hearne is located on another feeder dyke system which dips to the north. The feeder dyke systems were repeatedly active during emplacement, resulting in a complex facies architecture of the kimberlite bodies rising from the feeder dykes.

Hearne, 5034, Tuzo and Tesla are steep-sided pipe-like bodies and very irregular in shape, with certain parts not having reached the present-day land surface. Wilson differs in having a more tabular morphology. The kimberlite bodies are infilled by a variety of texturally distinct phases of kimberlite in which the textures vary from hypabyssal kimberlite (HK) to diatreme facies tuffisitic kimberlite (TK). TK displays many diagnostic features including abundant unaltered country rock xenoliths, pelletal lapilli, serpentinized olivine and a matrix composed of microlitic phlogopite and serpentine without carbonate. HK contains common fresh olivine set in a groundmass composed of monticellite, phlogopite, perovskite, serpentine and carbonate. Several texturally hybrid kimberlite rocks display a textural gradation from TK to HK, which is characterized by a decrease in the proportion of pelletal lapilli and country rock xenoliths and an increase in groundmass crystallinity, proportion of fresh olivine and the degree of xenolith digestion (Hetman et al., 2004).

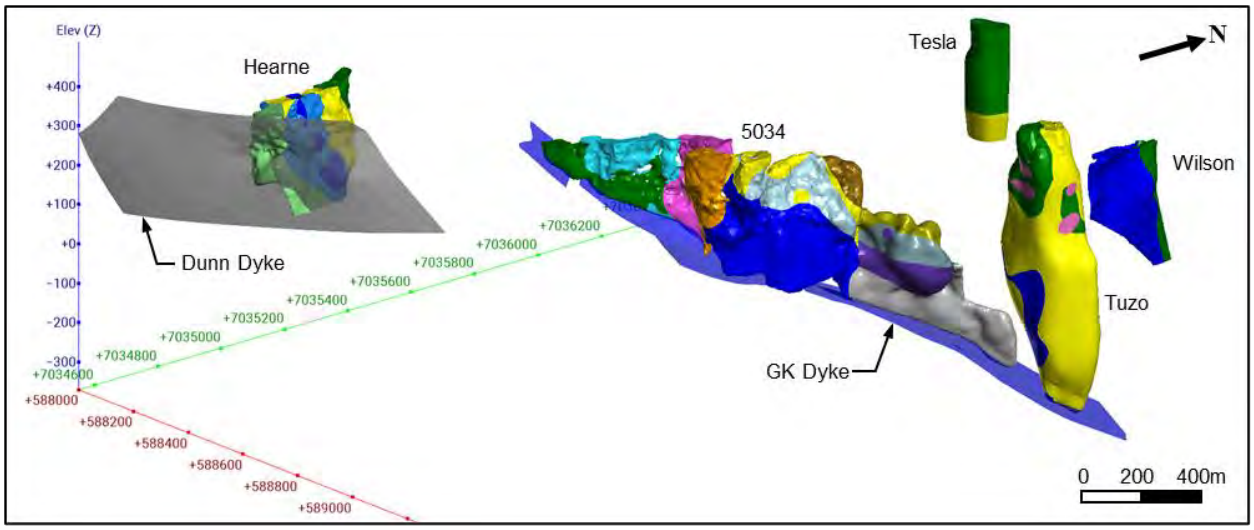

Figure 16. Inclined view of the five kimberlites in the GK cluster.

The TK at GK Mine displays many diagnostic features including abundant unaltered country rock xenoliths, 'pelletal lapilli' (a distinct variety of magmaclast; Webb and Hetman 2021), serpentinized olivine and a matrix composed of microlitic phlogopite and serpentine without carbonate. The HK contains common fresh olivine set in a groundmass composed of monticellite, phlogopite, perovskite, serpentine and carbonate. The textural transition from TK to HK is characterized by a decrease in the proportion of 'pelletal lapilli' and country rock xenoliths and an increase in groundmass crystallinity, proportion of fresh olivine and the degree of xenolith digestion (Hetman et al., 2004; Hetman, 2008).

Texturally there are four main kimberlite types recognized at GK Mine– two end-member kimberlite types and two transitional kimberlite types:

Tuffisitic Kimberlite (TK)
TK is olive green to light brown in colour. These rocks are relatively soft and can swell on contact with water due to the presence of hygroscopic clay minerals. The TK has clast- to matrix-supported volcaniclastic textures with variable and generally high (> 15 to > 75%) country rock dilution.

Transitional Tuffisitic Kimberlite (TKt)
Rocks classified as transitional TKt are broadly like TK but are more competent and darker in colour. The TKt rocks have a uniform olivine distribution but the interstitial matrix is inhomogeneous and dominated by volcaniclastic textures.

Transitional Hypabyssal Kimberlite (HKt)
Rocks classified as transitional HKt are broadly similar to HK but are characterized by inhomogeneous textures dominated by a coherent groundmass with less common patches of volcaniclastic-looking kimberlite. These rocks are dark in colour and competent.

Hypabyssal Kimberlite (HK)
HK is mainly fresh, competent, black to dark green, and characterized by a uniform macrocrystic coherent texture. The rocks are composed of two generations of olivine: anhedral, typically medium-grained (2-4mm), often fresh, olivine macrocrysts, and smaller (< 1 mm) subhedral to euhedral olivine microcrysts. The well-crystallized groundmass consists of monticellite, phlogopite, spinel, primary carbonate, serpentine, and perovskite. Mantle xenocrysts, other than olivine macrocrysts, include rare garnet and clinopyroxene.

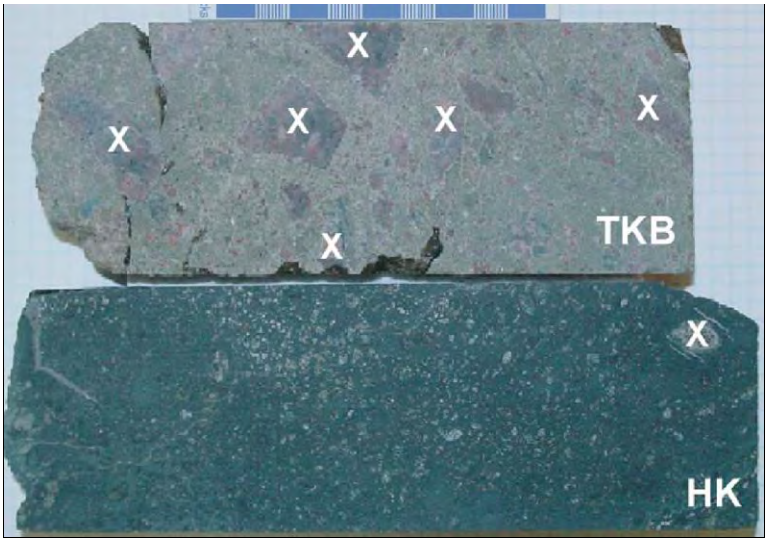

Figure 17. Polished slabs of the end-member textural kimberlite types, TK and HK (Hetman et al., 2004).

Of the five kimberlites mentioned above, the first four (which are part of the GK Mine plan) will be further described below.

5034 Kimberlite

The 5034 kimberlite is an irregularly shaped, multi-lobe, elongated body with a surface area of approximately 3.4 ha. The lobes, or sub-bodies, are joined at the subcrop to form one continuous body and some separate at depth. They are interpreted to be fed by the north-northeast dipping GK Dyke which occurs at their base (Kurszlaukis et al., 2019).
The four modelled bodies included in the resource are:

1. 5034 Southwest Corridor
2. 5034 West Lobe
3. 5034 Centre Lobe
4. 5034 Northeast Lobe (comprising East Lobe, North Lobe, and Northeast Extension)

The East and North lobes are joined at depth, geologically continuous, and are collectively referred to as the Northeast Lobe, now also including the Northeast Extension or 'NEX' (Kurszlaukis et al., 2019).

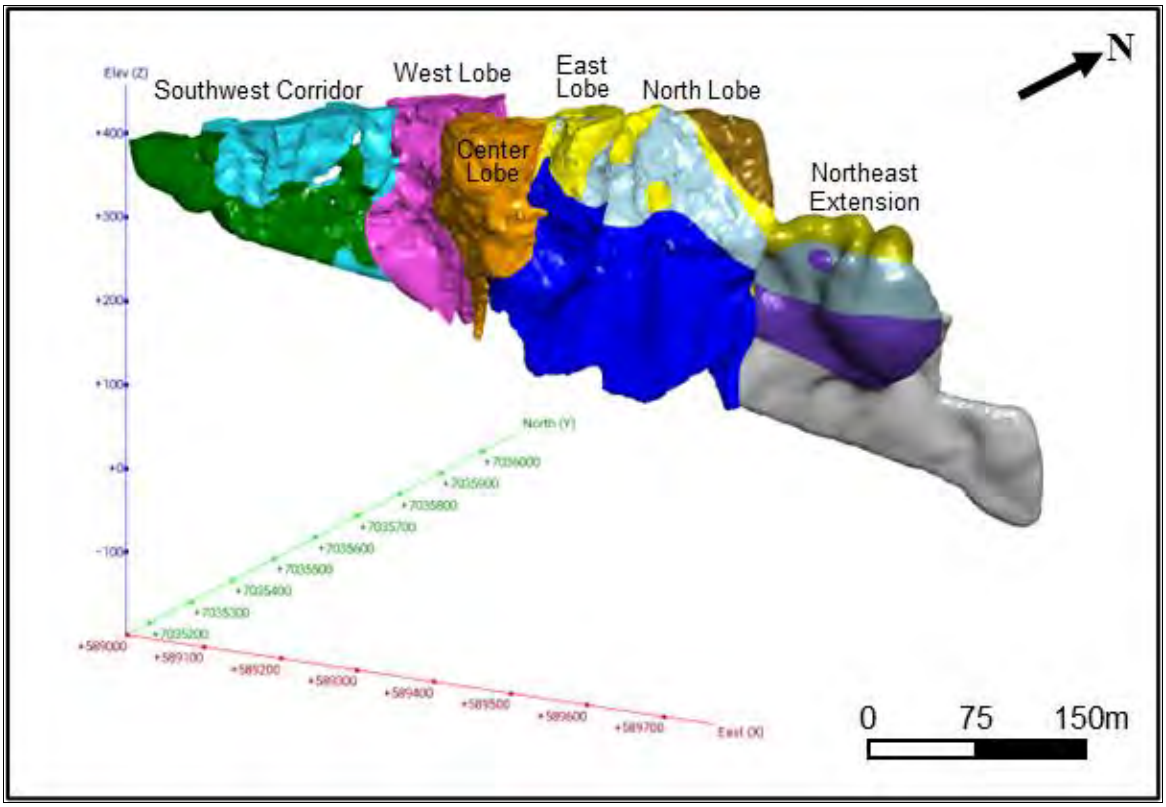

Figure 18. Side view of the 3D geological model of the complex 5034 kimberlite and its lobes.

The Southwest Corridor, West and Centre Lobes, and the East Lobe (of Northeast Lobe) reach the surface under Kennady Lake and are considered the 'main' part of 5034. These sub-bodies are largely joined, however there are minor local areas of separation, producing 'windows' of granite. Their surface dimensions are as follows:

- Southwest Corridor – 330 m x 40 m (1.32 ha)
- West Lobe –125 m x 45 m (0.56 ha)
- Centre Lobe –125 m x 80 m (1 ha)
- East Lobe (of Northeast Lobe) – 85 x 65 m (0.55 ha)

Delineation drilling completed in 2017-2018 revealed the geometry and extent of the Southwest Corridor, which extends southwest from the West Lobe. The base of the model ranges from approximately 300 to 200 masl and plunges towards the northeast. This base was defined by prior drilling and the location of the GK Dyke. The additional drilling information incorporated the former Southwest Corridor and South Pipe into the current Southwest Corridor body.

In the Northeast Lobe, both the North Lobe and Northeast Extension do not reach the surface. The North Lobe occurs under 60 to 90 m of granite cap rock and measures 240 m in length and 20 to 50 m in width, averaging 30 m. Approximately half of this lobe lies below the lakebed and half beneath the main peninsula. The Northeast Extension forms an elongated body extending from the North Lobe and occurs under 200 to 230 m of granite cap rock. It measures approximately 220 m in length and varies from 40 m to 120 m in width. This addition to the Northeast Lobe incorporates the former North Pipe. It was identified from the 2018-2019 delineation drilling campaign north of 5034.

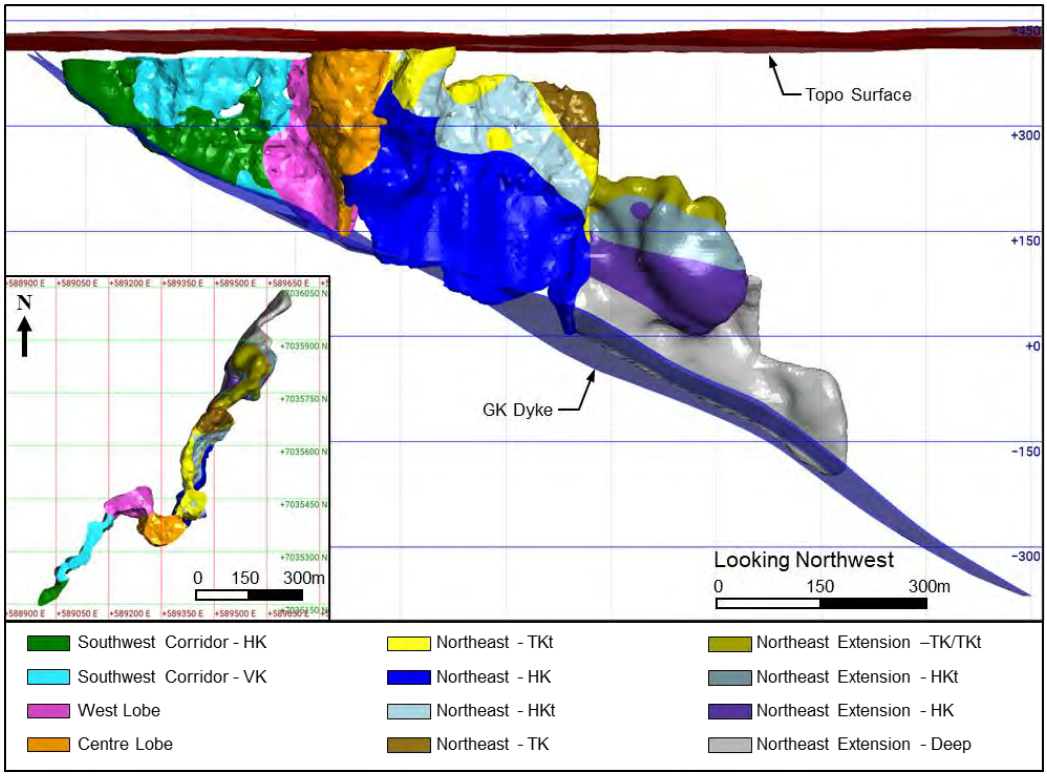

Figure 19. Side and top-down view (inset) of the 5034 kimberlite and its individual kimberlite phases.

An overall systematic arrangement of the different textural rock types was recognized in 5034. The HK units are typically located in deeper levels of the body, followed by transitional textured

kimberlites (HKt and TKt) and the TK units dominate the uppermost portions of the body. TK and TKt are present in the West and Northeast Lobes, including the Northeast Extension. The Centre Lobe is dominated by HK.

A total of 12 internal geological units have been defined at 5034.

Table 6. List of the Internal Geological Units of the 5034 Kimberlite

#	Body / Lobe	Kimberlite Unit	Resource Unit / Domain
1	5034 Southwest Corridor	Southwest Corridor HK (Hypabyssal Kimberlite)	5034 SW Corridor
2	5034 Southwest Corridor	Southwest Corridor VK (Volcaniclastic Kimberlite)	5034 SW Corridor
3	5034 West Lobe	Undifferentiated HK, HKt, TKt	5034 W
4	5034 Centre Lobe	Undifferentiated HK and HKt	5034 C
5	5034 Northeast	NE HK – Northeast Hypabyssal Kimberlite	5034 NE HK
6	5034 Northeast	NE HKt – Northeast Transitional Hypabyssal Kimberlite	NA (depleted)
7	5034 Northeast	NE TKt – Northeast Transitional Tuffisitic Kimberlite	NA (depleted)
8	5034 Northeast	NE TK – Northeast Tuffisitic Kimberlite	NA (depleted)
9	5034 Northeast Ext	NE NEX HK – Northeast Extension Hypabyssal Kimberlite	5034 NE NEX HK
10	5034 Northeast Ext	NE NEX HKt – Northeast Extension Transitional Hypabyssal Kimberlite	5034 NE NEX HKt
11	5034 Northeast Ext	NE NEX TK/TKt – Northeast Extension Tuffisitic Kimberlite to Transitional Tuffisitic Kimberlite	5034 NE NEX TKt
12	5034 Northeast Ext	NEX Deep – Northeast Extension undifferentiated	NA

A combined internal geology model was developed for the Northeast Lobe based on petrography, mineralogy, and whole rock chemistry (Kurzslaukis, 2018). It consists of the four textural kimberlite types in an overall layered arrangement, three of which (HK, HKt, TKt) occur across all areas. These were first described by Hetman et al. (2004) and Kryvoshlyk (2006).

In the North Lobe (of Northeast Lobe), the spatial distribution of the units creates an antiformal structure located approximately in the geographical centre of the lobe. HK and HKt are the volumetrically most significant units and occur in the deeper levels of the lobe. TK and TKt are mainly present in the shallow levels and northern and southern flanks of the body. This internal architecture is consistent at the greater depth of the Northeast Extension (Kurszlaukis et al., 2019). A selected suite of kimberlite samples from the East Lobe and North Lobe shows well-developed petrological similarities, indicating a close genetic relationship of the two sub-lobes (Kryvoshlyk, 2007).

The West Lobe is like the Northeast Lobe in that HK, HKt, and TKt are present, however, these have not been modelled separately and the resource model considers the body as undifferentiated kimberlite. In contrast to the layered internal geology of the other 5034 lobes, the Centre Lobe is composed exclusively of HK (and minor HKt), which could not be subdivided further based on the available petrological or geochemical data (Kryvoshlyk, 2008).

Hearne Kimberlite

The Hearne kimberlite was initially modeled (Scott Smith, 2005) as two separate bodies, Hearne South and Hearne North. Additional drilling in 2018, revealed that these bodies connect as lobes of a single elongate pipe-like body (Fulop and Pell, 2019). Hearne has steep-sided walls and a surface area of approximately 1.5 ha, measuring a maximum of 380 m x 90 m from north to south with its largest width at the south end in the former Hearne South. Average widths are approximately 40 m at the surface. The north lobe narrows to less than 10 m in width, in the centre of the body, at approximately 130 m depth below the lake-surface. The current geological model for the south lobe extends to 185 masl and drilling has proven it does not extend further and its limited depth extent is most likely controlled by a steep north-dipping intrusive sheet feeder system known as Dunn Dyke. Drilling in 2022 delineated an extension of the north lobe towards the northwest, adding several million additional tonnes of kimberlite. The extension plunges similarly to the internal geology and was not identified in the initial exploration or mining of the Hearne pit. The base of the current north lobe model is at 100 masl, however, the model is open at depth and drilling that has more recently occurred indicates the pipe extends further below this level.

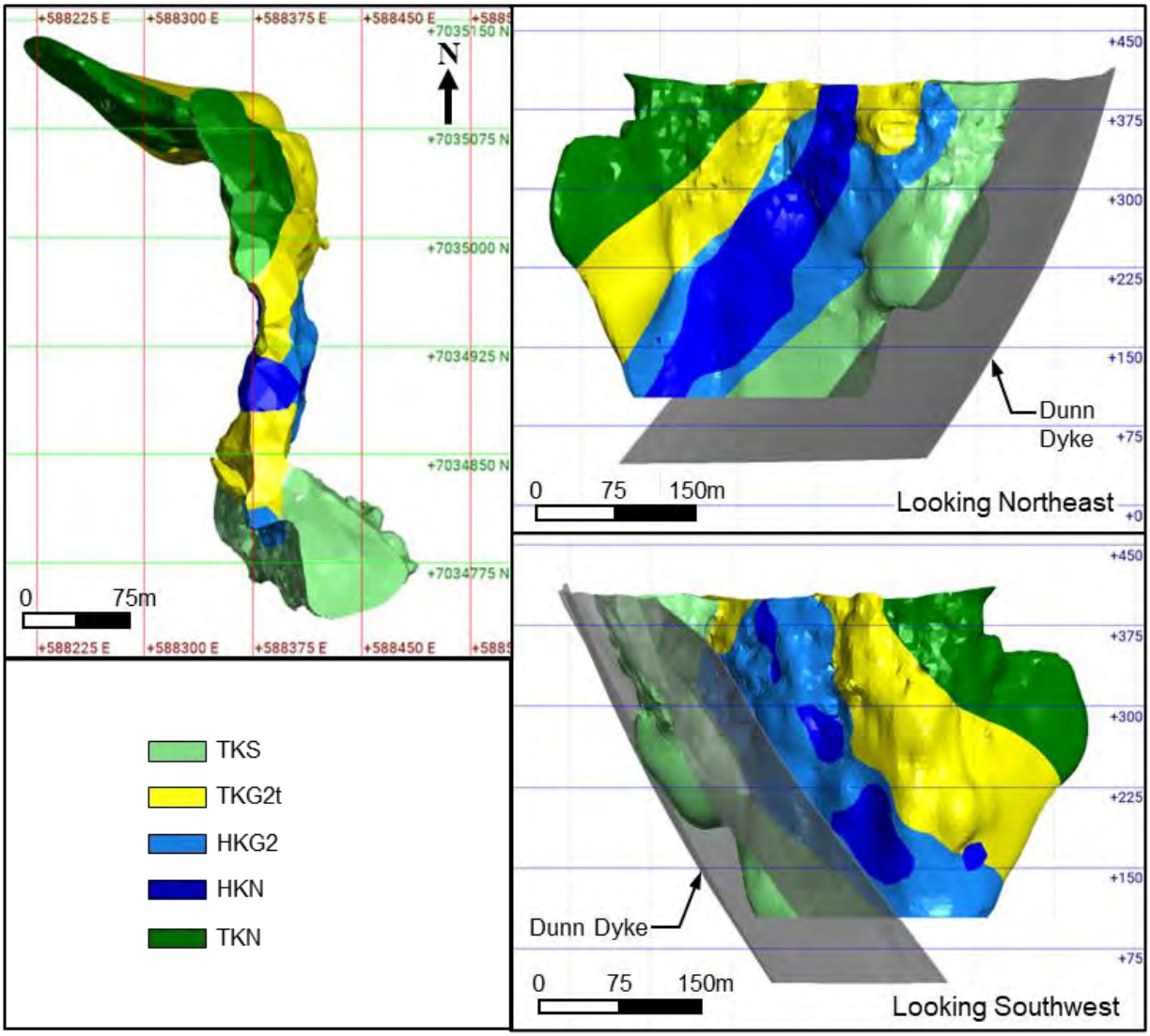

Figure 20. Various view of the 3D geological model of the Hearne kimberlite.

The internal geology of Hearne can be described as a north-dipping 'layer cake' with a central area of HK that is over- and underlain by TK or TKt. The south lobe is comprised dominantly of TK whereas the north lobe consists of approximately equal amounts of HK and TK/TKt.

Five kimberlite units have been modelled in the Hearne pipe, one that occurs primarily in the south lobe (TKS) and four within the north lobe. For mineral resource estimation, the TKN unit is considered separately (as Hearne North) from the other units, which are combined as Hearne Main.

Table 7. List of the Internal Geological Units of the Hearne Kimberlite

#	Body / Lobe	Kimberlite Unit	Resource Unit / Domain
1	Hearne South Lobe	TKS – Tuffisitic Kimberlite South	Hearne Main
2	Hearne North Lobe	TKG2t – Transitional Tuffisitic Kimberlite with More Garnet	Hearne Main
3	Hearne North Lobe	HKG2 – Hypabyssal Kimberlite with More Garnet	Hearne Main
4	Hearne North Lobe	HKN – Hypabyssal Kimberlite North	Hearne Main
5	Hearne North Lobe and NW-Extension	TKN – Tuffisitic Kimberlite North	Hearne North

The TK/TKt units can be geologically distinguished using features such as varying proportions of garnets, magmaclasts, autolith-like bodies, country rock xenoliths, and clay minerals. The names of the different TK units are based primarily on their location within the two pipes. The green-brown, partly altered TK units are easily distinguished from the fresh black HK. The TKG2t and HKG2 are both distinguished by a higher abundance of fresh mantle-derived garnet and are interpreted as textural variants of the same overall phase of kimberlite. For resource estimation, all units excluding TKN are grouped as the Hearne Main domain, and TKN is considered separately as the Hearne North domain.

Tuzo Kimberlite

The Tuzo kimberlite is a steep-sided pipe with an overall surface area of roughly 1.2 ha. It was covered by up to 25 m of water and glacial overburden. The 2007 drill program improved the definition of the pipe shape, which is unusual as it widens with depth from 125 m diameter near the surface to 225 m diameter at 300 m depth. Drilling in 2011-2012 extended the kimberlite to -143 masl and further improved the definition of the pipe shape, showing it narrowing below 400 m depth. The Tuzo Root drilling campaign completed in 2014 extended the model to -275 masl. The base of the current model is at -315 masl.

Tuzo comprises HK, TKt and TKB and contains abundant inclusions of the surrounding granitic country rock ranging from less than a millimeter to tens of meters in size. Country rock breccia with kimberlite matrix (CRB+K) is also present locally in the Tuzo pipe.

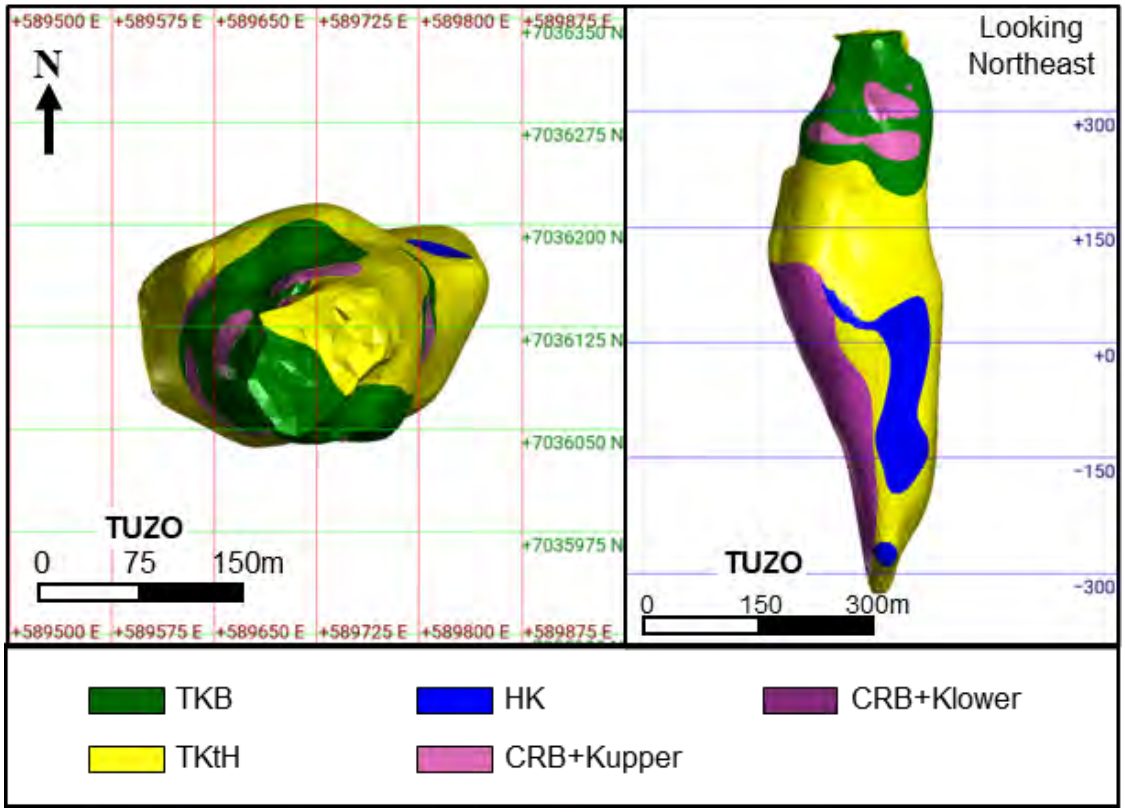

Figure 21. Top down and side view of the 3D geological model of the Tuzo kimberlite.

In 2020, the internal geology of Tuzo was updated by Kurszlaukis and Pell (2020) through a re-examination of all available data, and the application of updated petrographic and groundmass spinel analysis methods. The combined quantitative data sets and consistent relogging of drill core and samples from all depths led to the development of an updated and integrated 3D internal geology and emplacement model. This study redefined the internal model produced by Seghedi and Maicher (2007) to 300 m depth and by Mann (2013) for Tuzo Deep and Tuzo Root. The robust definition of rock types through petrography and groundmass spinel chemistry was supported by diamond data. The resulting 2020 model simplified Tuzo to five major internal domains.

Table 8. List of the Simplified Major Internal Geological Units of the Tuzo Kimberlite

#	Body / Lobe	Kimberlite Unit	Resource Unit / Domain
1	Tuzo	TKB – Tuffisitic Kimberlite Breccia	Tuzo
2	Tuzo	TKtH – Transitional Tuffisitic Kimberlite, High Grade	Tuzo TKtH
3	Tuzo	HK – Hypabyssal Kimberlite	Tuzo
4	Tuzo	CRB+Kupper – Country Rock Breccia with kimberlite matrix (upper)	Tuzo
5	Tuzo	CRB+Klower – Country Rock Breccia with kimberlite matrix (lower)	Tuzo

Kurszlaukis and Pell (2020) reported that groundmass spinel chemistry indicates two different phases of volcaniclastic kimberlites (VK) sourced from two different magma batches:

1. TKtH extends from the surface to the base of the Tuzo body and occupies a large proportion of the lower portion of the pipe. It displays textures from TK-TKt to TKt and typically low internal dilution (<35%) with much higher dilution observed very locally and characterized by highly altered country rock xenoliths.
2. TKB displays a wider range of textures from TK to TKt and typically has higher internal dilution (average of 50%).

Two units of country rock breccia have been identified, CRB+K upper and the more continuous CRB+K lower. These units are characterized by a country rock xenolith population of slightly altered granitic gneiss fragments which vary in size from house-sized blocks to pebble-sized smaller particles. Internal dilution is usually greater than 75%. A single HK unit occurs at depth and displays textures ranging from HK to HKt with variable low internal dilution, less than 15%.

Wilson Kimberlite

Brownfields drilling of geophysical and geological anomalies near the Tuzo kimberlite during late 2018 and 2019 identified the Wilson kimberlite. In contrast to other GK kimberlites, drilling at Wilson shows no connection to Tuzo. Located roughly 200 m east of Tuzo, Wilson lies within the open pit mine plan for the Tuzo pit. It is a roughly north-south trending, north-northwest plunging series of interconnecting kimberlite sheets.

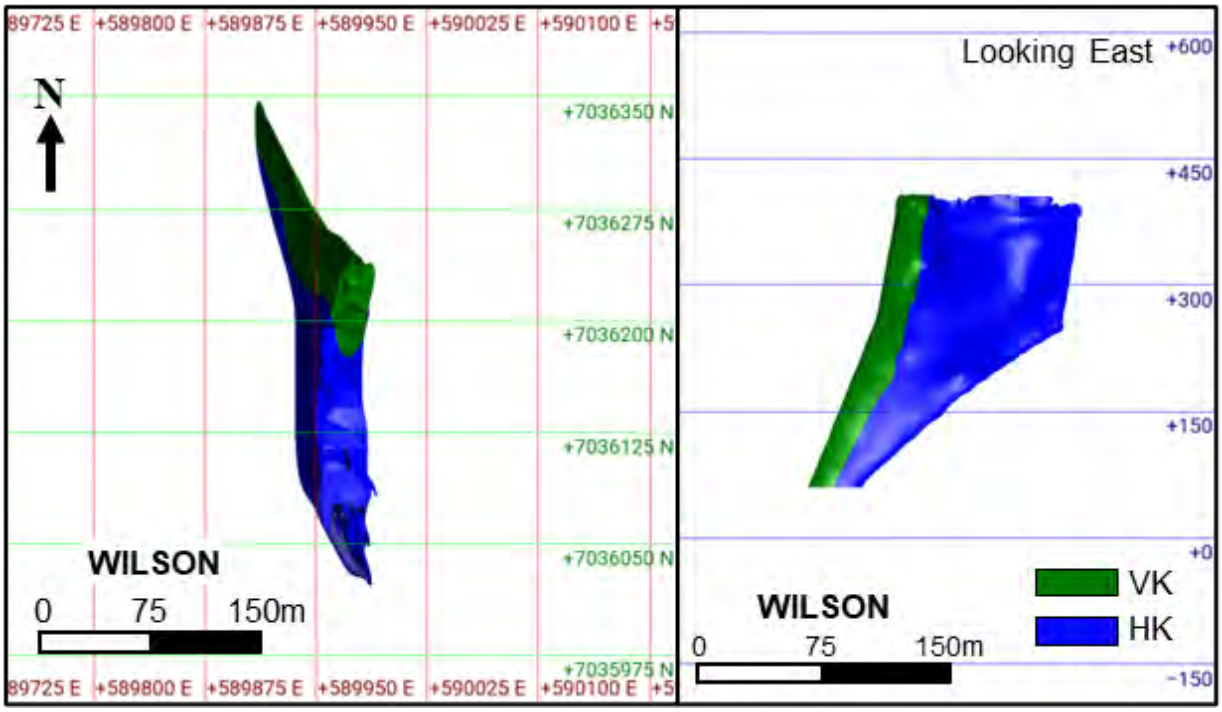

Figure 22. Top down and side view of the 3D geological model of the Wilson kimberlite.

Based on core logging, petrography, and groundmass spinel and whole rock chemistry, Pell and Kurszlaukis (2020) identified two kimberlite units that are included in the classified mineral resource:

1. An HK unit comprises a range of textures from HK to HKt which are similar in terms of groundmass spinel signature, whole rock chemistry, and microdiamond stone density.
2. A heterogeneous and poorly sorted VK unit.

The VK is located mainly in the northern part of the body and the HK/HKt occurs in the south and at depth in the north.

There are also several smaller dykes near Wilson that are interpreted as two sets of kimberlite sheets, one striking north-northeast, roughly parallel to the extension, and a second shallow, north-dipping set. The groundmass spinel chemistry of these dykes indicates that they may be feeders to the main body (Pell and Kurszlaukis, 2020).

KNP Kimberlites

The KNP kimberlite cluster consists of four pipes:

1. Kelvin
2. Faraday 1
3. Faraday 2
4. Faraday 3

Each kimberlite is associated with shallow, west-northwest dipping HK sheet systems, with the largest delineated to date being located to the south of the Kelvin kimberlite. The Faraday 1 and Faraday 3 kimberlites are commonly referred to as Faraday 1-3 or the 'F1-3 complex' due to the close spatial relationship between the bodies and because there are rock types that appear to be shared by these bodies. These kimberlite pipes have complex shapes and inclined plunges ranging from 7° to 41°, which is atypical of the conventional, subvertical kimberlite pipes seen in kimberlite clusters globally.

The geology of the KNP kimberlites is well constrained by significant diamond drilling that has occurred, however, the sheets are still poorly understood. The Kelvin and Faraday kimberlites have been documented to exhibit geological continuity along their length with respect to the distribution of the main pipe infills. Detailed geological logging, petrographic work and diamond grade investigations have identified five individual kimberlite phases at Kelvin, five at Faraday 2, five at Faraday 1 and four at Faraday 3.

Three-dimensional (3D) geological models have been generated for the Kelvin kimberlite and sheets, the Faraday 2 kimberlite, and the Faraday 1-3 kimberlite and sheets. Kimberlite descriptions and classifications follow the terminology of Scott Smith et al. (2013). Each model consists of a pipe shell that defines the morphology and extent of the body, and an internal geology model representing the spatial distribution of the kimberlite units infilling the pipe.

There are two additional kimberlites on the KNP property - the MZ Lake and Doyle kimberlites which are complex intrusive HK sheet systems located ~ 20 km to the west and southwest of the KNP cluster, respectively.

Common to all the descriptions of KNP Property kimberlite lithologies is the usage of the following terminology laid out in the foregoing table.

Table 9. Kimberlite Phases and Sub-phase Variation

Kimberlite Phase	Sub-phase Variation	Texture	3D Domain	Sub-phase Discriminator
KIMB1	n/a	KPK	KIMB1	
KIMB2	KIMB2A	KPK-KPKt	KIMB2A	Mostly KPK texture
	KIMB2B	HK-HKt	KIMB2B	Mostly HK texture
KIMB3	KIMB3A	KPK	KIMB3A	Low country rock dilution <40%
	KIMB5	KPK	KIMB3A	Different alteration style and intensity
	KIMB3B	KPK	KIMB3B	Moderate country rock dilution 40-60%
	KIMB3C	KPK	KIMB3C	High country rock dilution >60%
	KIMB6	KPK	KIMB6	High country rock dilution >60%; autoliths
KIMB4	n/a	HK	KIMB4-7*	
KIMB7	n/a	KPK		

- KPK is the acronym for Kimberley-type pyroclastic kimberlite.
- Units logged as KIMB5 and KIMB6 were originally believed to be separate phases but were later confirmed, based on petrography and microdiamond data, to be variations of KIMB3.
- *Due to the complex spatial association of KIMB7 with KIMB4 along the base of the pipe and the smaller volumes of these phases, they have been combined into a single geological domain.
- KIMB8 is interpreted to represent a sheet or irregular intrusion adjacent to the Kelvin pipe.

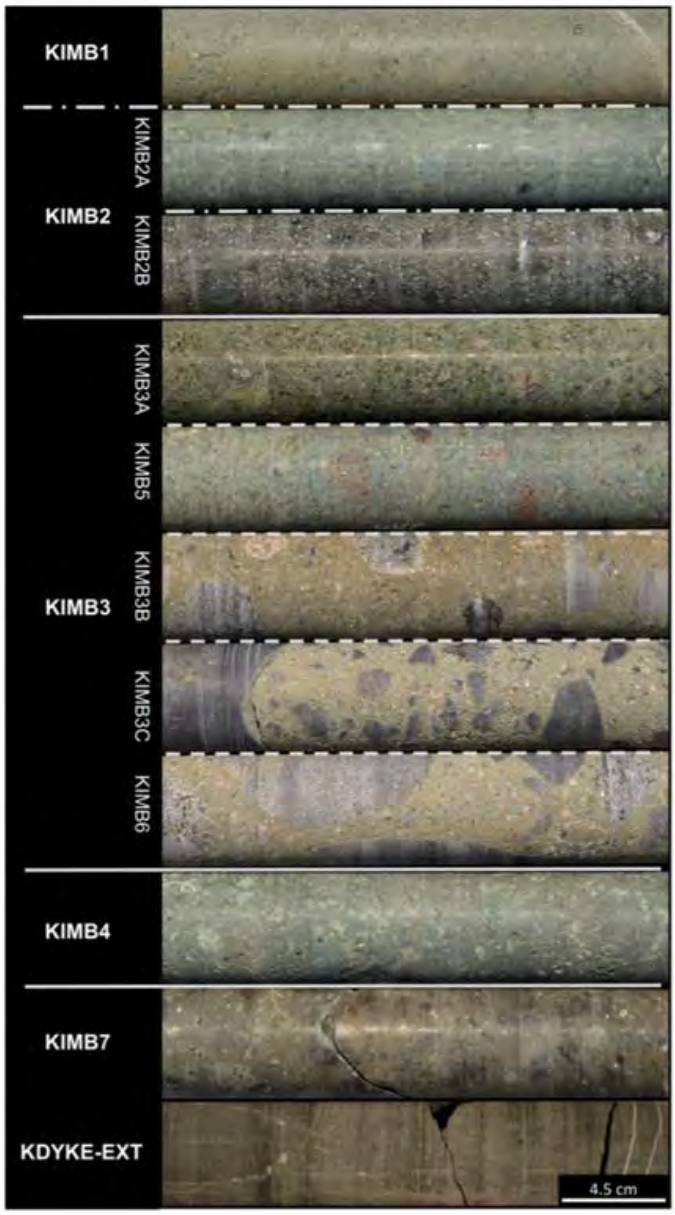

Figure 23. Drillcore photographs from Kelvin kimberlite of the kimberlite rock types. Contacts between the phases and sub-phase variations are gradational (dashes), sharp (solid) and variable (short and long dashes).

In general, the darker rocks (KIMB2B, KIMB4, KDYKE-EXT) are classified as HK, which is characterized by a crystalline groundmass and less country rock dilution compared to the lighter-coloured core, which is classified as VK or more specifically, as Kimberley-type pyroclastic kimberlite (KPK; Scott Smith et al., 2013).

The distinguishing features of the phases and sub-phase variations are summarized in the below table and the following text (Bezzola et al., 2018).

Table 10. Key Distinguishing Macroscopic and Microscopic Features of the Kimberlite Phases and Sub-phase Variations Present in the KNP Kimberlites

Kimberlite phase	Sub-phase variation	Textural classification[a]	Mineralogical classification (primary)[b]	Average[c] total olivine	Average[c] olivine >1 mm	Dominant size of olivine >1 mm	Country rock dilution (%)	Country rock alteration strength	Matrix[d]	Presence of melt-bearing pyroclasts
KIMB1		KPK	PHL (SPN, PER)	30	12	1–4 mm	31	Moderate to strong	Microlitic	Yes
KIMB2	KIMB2A	KPK-KPKt	PHL (SPN, PER)	40	17	1–4 mm	19	Strong	Microlitic	Yes
	KIMB2B	HK-HKt	PHL, +/-MONT (SPN, PER)	45	19	1–8 mm	14	Strong to intense	Crystalline	No
KIMB3	KIMB3A	KPK	PHL (SPN, PER)	32	13	1–4 mm	27	Moderate to strong	Microlitic	Yes
	KIMB5	KPK	PHL (SPN, PER)	34	15	1–4 mm	26	Moderate to strong	Microlitic	Yes
	KIMB3B	KPK	PHL (SPN, PER)	27	12	1–4 mm	41	Fresh to weak	Ashy	Yes
	KIMB3C	KPK	PHL (SPN, PER)	15	8	1–4 mm	72	Fresh to weak	Ashy	Yes
	KIMB6	KPK	PHL (SPN, PER)	22	10	1–4 mm	65	Fresh to weak	Ashy	Yes
KIMB4		HK	PHL (SPN, PER)	40	16	1–8 mm	17	Strong	Crystalline	No
KIMB7		KPK	PHL (SPN)	31	12	1–4 mm	25	Moderate to strong	Microlitic	Yes
KIMB8		HK	PHL, CAR (SPN, PER)	51	24	1–8 mm	2	Strong	Crystalline	No
KYDKE-EXT		HK	PHL, CAR +/-MONT (SPN, PER)	46	17	1–8 mm	12	Strong	Crystalline	No

[a] Kimberlite terminology and classification following Scott Smith et al. (2013)
[b] Abbreviations used under mineralogical classification are as follows: PHL - phlogopite, CAR - carbonate, MONT - monticellite, SPN - spinel, PER, perovskite
[c] Average abundances are calculated from the visual estimates collected during detailed core logging and represent a volume percentage of the whole rock
[d] The term "ashy" refers to a matrix composed of crystal and lithic particles <0.125 mm

KIMB1 is a fine- to medium-grained olivine macrocryst-poor, country rock xenolith-rich KPK that occurs along the upper pipe contact. It is generally massive and homogeneous, green-coloured and moderately altered.

KIMB2 is texturally variable between coherent and volcaniclastic but massive and homogeneous with respect to mineralogy, juvenile components and country rock xenolith distribution. It is dark green to black and contains intensely altered country rock xenoliths.

KIMB2A is fine to medium-grained olivine macrocryst-rich, country rock xenolith-poor KPK to transitional-textured KPKt, and KIMB2B is medium to coarse-grained olivine macrocryst-rich, country rock xenolith-poor HK to transitional-textured HKt.

KIMB3 is predominantly pale green-brown varying to blue-green locally and is classified as fine to medium-grained olivine macrocryst-poor, country rock xenolith-rich to xenolith-dominated KPK. It consists of several sub-phase variations that have different average diamond grades due to variations in the proportion of country rock xenoliths and juvenile components (KIMB3A-KIMB5, KIMB3B, KIMB3C-KIMB6).

KIMB4 is fine to coarse-grained olivine macrocryst-rich, country rock xenolith-rich HK. It is massive and homogeneous, dark green-brown and contains country rock xenoliths completely replaced by serpentine and hematite or fully digested. KIMB4 has a complex, interfingered spatial association with KIMB7 along the base of the pipe.

KIMB7 is fine to medium-grained olivine macrocryst-poor, country rock xenolith-rich KPK. It is massive and homogeneous, medium green-brown altered and contains country rock xenoliths partly to completely replaced by serpentine.

KDYKE-EXT is fine to coarse-grained, dark green to black, olivine macrocryst-rich, country rock-xenolith-poor phlogopite-carbonate ± monticellite HK containing strongly serpentinized country rock xenoliths.

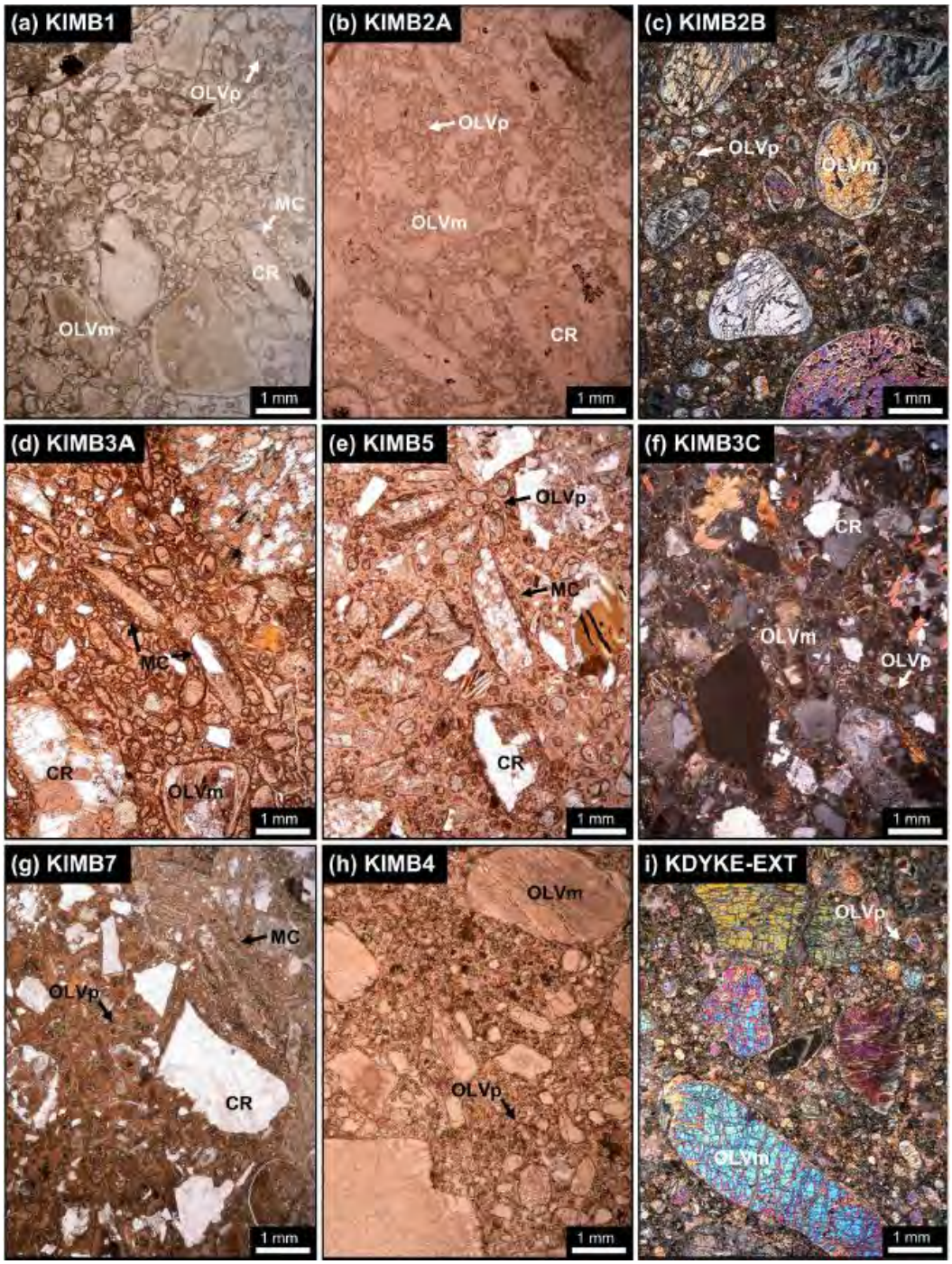

Figure 24. Photomicrographs of the kimberlite phases and selected subphase variations

Kelvin Kimberlite Geology and 3D Model

The known geology of Kelvin is based on detailed logging of ~12,800 m of kimberlite in 178 drill holes and petrographic analysis of 730 representative core samples (thin sections and polished slabs). Extensive sampling of the drill cores for microdiamonds and macrodiamonds was undertaken throughout Kelvin, and well-spaced large-diameter drilling (LDD) for bulk sampling the kimberlite to recover macrodiamonds was completed in 2015/2016. The results of both programs confirmed the internal 'layer cake' architecture of the kimberlite as logged in the core.

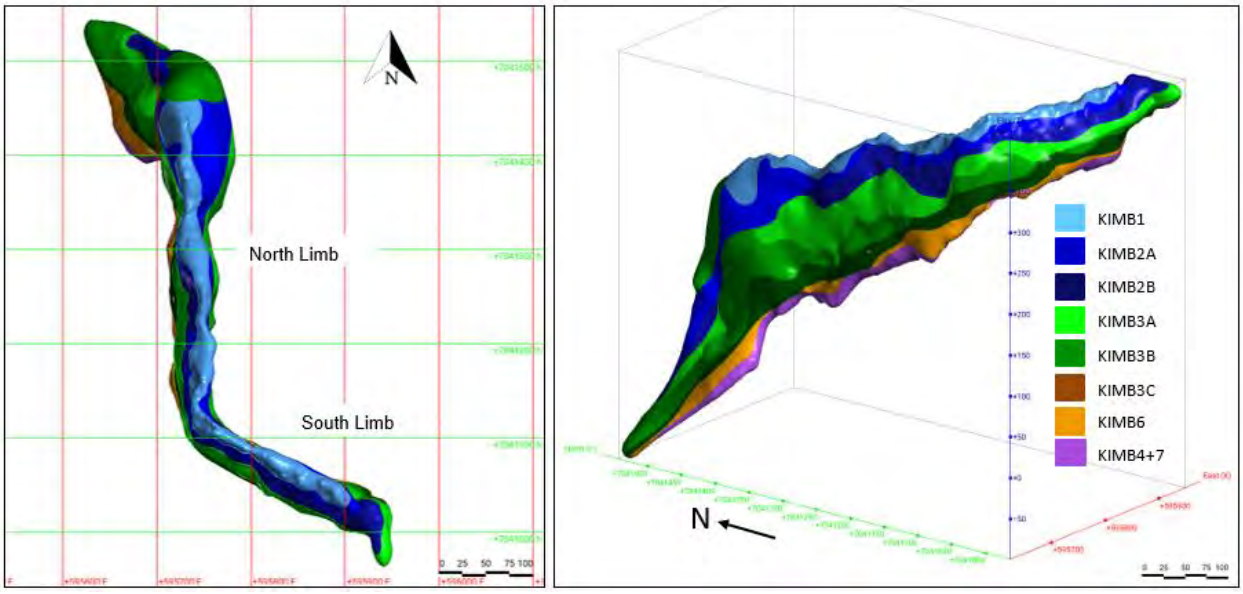

Figure 25. Kelvin 3D geological model showing internal domains.

Extensive core delineation drilling has revealed that Kelvin is an atypical, steep-sided inclined L-shaped pipe-like body with a surface expression of only 0.04 ha. The 'south limb' of the pipe plunges at approximately 15° towards the northwest; the pipe then turns north and the 'north limb' dips at 20° along the upper pipe contact; the current combined strike length of the body is 700 m. The pipe has steep sidewalls, and its vertical thickness gradually increases from 70 to 200 m with depth, while its width ranges from 30 to 70 m, increasing with depth. The model is open at depth and the pipe shape is less well understood at the base of the current model. Marginal breccia (MB) occurs above the long axis of the pipe and is thickest over the south limb near the bend where the pipe turns to the north (Bezzola et al., 2018). The combination of the geometry of Kelvin and its internal 'layer cake' stratigraphy are unconventional relative to other known kimberlite bodies.

Faraday 2 Kimberlite Geology and 3D Model

The geology of Faraday 2 is based on detailed logging of ~2,692 m of kimberlite in 102 drill holes, petrographic analysis of 295 representative samples from 40 diamond drill holes (thin sections and polished slabs) and 93 thin sections from RC chip samples. Extensive sampling of drill core for microdiamonds was undertaken throughout the kimberlite and in 2016/2017 well-spaced LDD bulk sampling of the kimberlite to recover macrodiamonds was completed. The results of both programs

confirmed the internal architecture of the body as logged in the drill core intersections, as was the case for Kelvin.

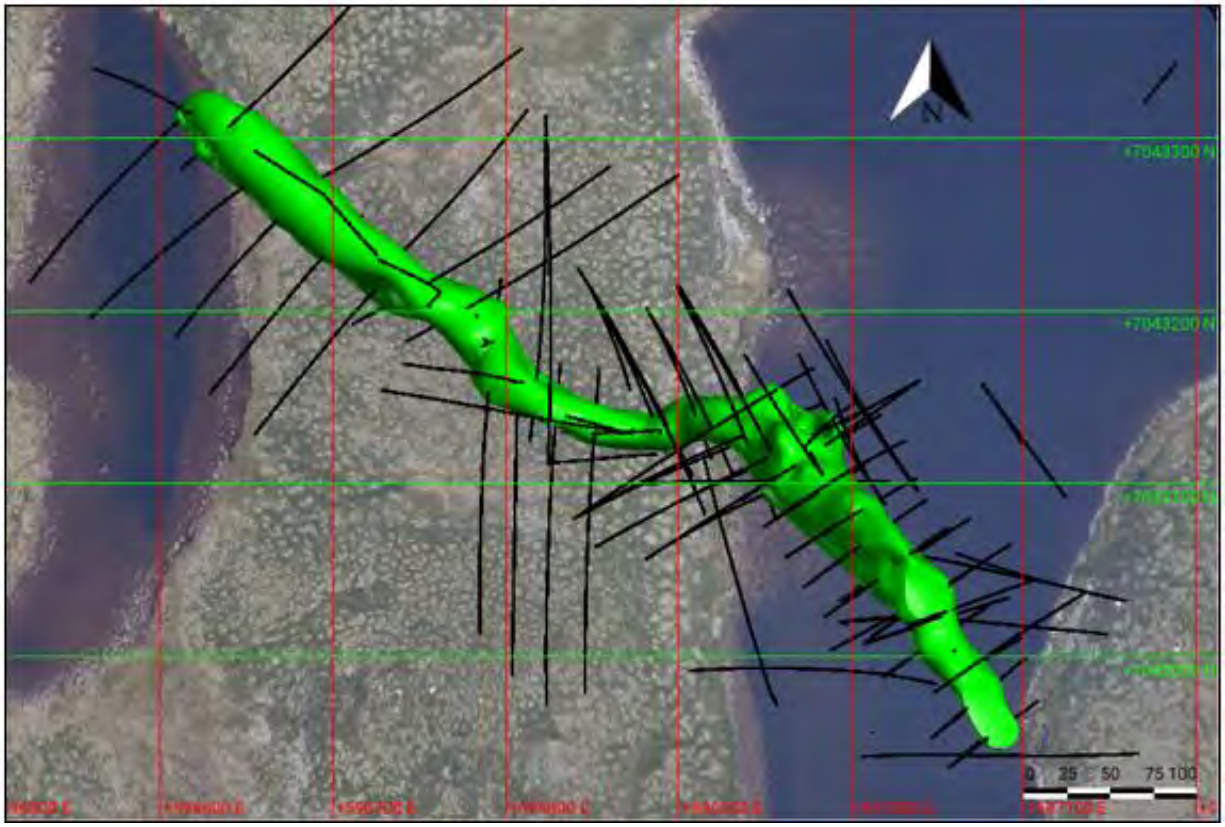

Figure 26. Plan view of Faraday 2 kimberlite with drill hole traces projected onto the topographic surface.

The Faraday 2 pipe displays an irregular, plunging, tube-like morphology like that of the Kelvin pipe. The Faraday 2 pipe steeply plunges below the lake and then abruptly flattens. At depth, a distinct fault causes a minor offset of the kimberlite, and the geology is less well constrained below the fault offset in the 'extension' area. This kimberlite has been delineated over 600 m in length, comes to the surface at the southeast end and remains open to the northwest. It trends northwest, then west, and back to northwest along its trace, varying 20 m - 90 m in width and 20 m -60 m in height. The dip varies along its length from 30° in the southeast to 40° along its westerly trend and shallows to 20° or less when it turns to the northwest. The top of the kimberlite at this point is 200 m below the surface. MB is present discontinuously along the uppermost spine of the pipe.

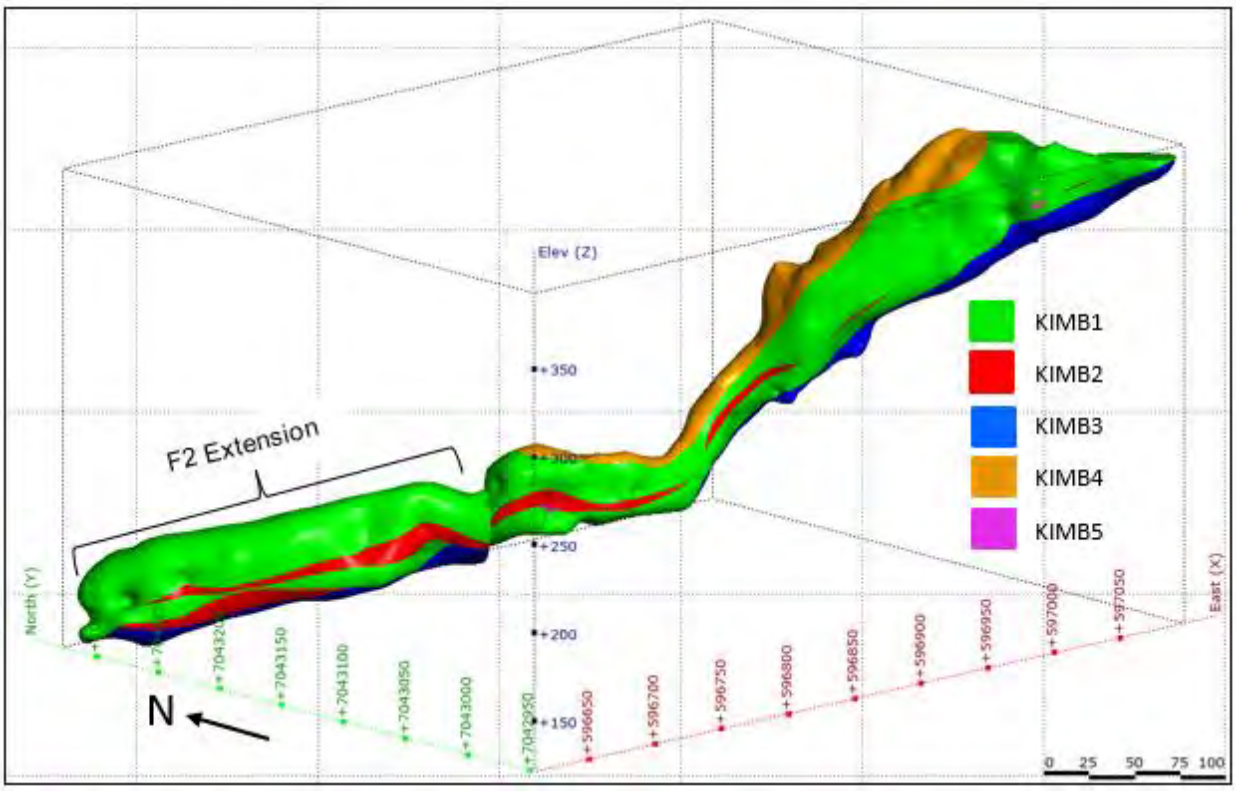

Figure 27. Faraday 2 3D geological model showing internal domains

Faraday 1-3 Kimberlite Geology and 3D Model

The Faraday 1 and Faraday 3 kimberlites are commonly referred to as Faraday 1-3 or the "F1-3 complex" due to the close spatial relationship between the bodies and because there are rock types that appear to be shared by these bodies. The geology of Faraday 1-3 is the least well understood of the currently known pipes in the KNP kimberlite cluster. Most of these bodies lie below the lake.

The geology of Faraday 1 is based on detailed logging of ~960 m of kimberlite in 49 drill holes and petrographic analysis of 150 representative kimberlite samples (thin sections and polished slabs) and 54 country rock and MB thin sections collected from 23 drill holes across the length of the body. The geology of Faraday 3 is based on detailed logging of ~1,384 m of kimberlite in 65 drill holes and petrographic analysis of 163 kimberlite samples from 16 drill holes. Drill core throughout both bodies have been sampled for microdiamonds, and in 2017, a bulk sample was collected by LDD from Faraday 3 with a small sample from Faraday 1.

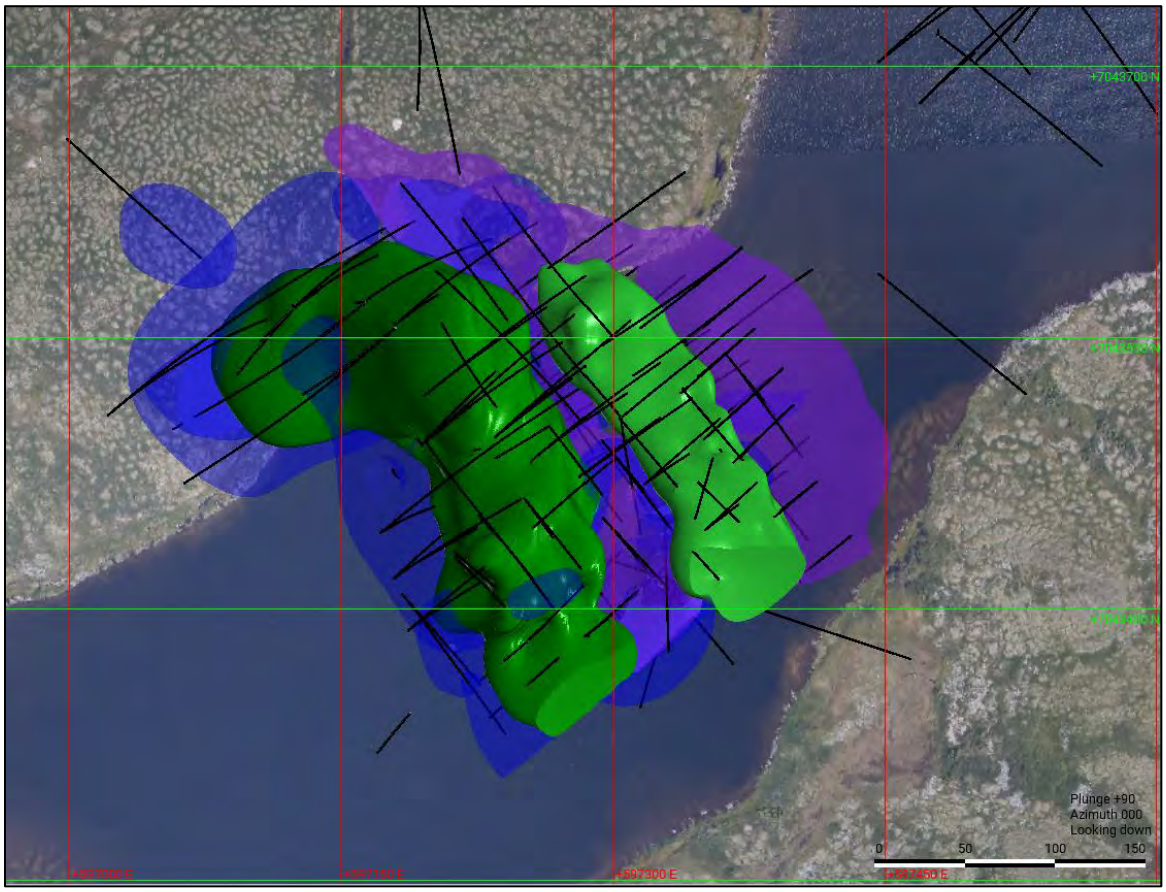

Figure 28. Plan view of Faraday 1 (right) and Faraday 3 (left) kimberlite model and associated HK sheets associated with the drillhole traces projected on the topographic surface.

The Faraday 1 and Faraday 3 pipe shell models incorporate all the HK, pyroclastic and VK units interpreted as pipe infills. Any kimberlite considered to occur external to the pipe has not been modelled within the pipe shell. Faraday 1 and Faraday 3 both consist of plunging, flat (compared to Kelvin), pancake-like bodies that trend towards the northwest. Both pipes are open at depth and additional drilling is required to establish the full extent.

Faraday 3 dips at 30° to the northwest and is flatter and wider than Faraday 2 and Kelvin, ranging in width from 40 m to 150 m and in height from 20 m to 50 m. It extends over ~350 m in length and lies 150 m below ground surface at its northwestern limit. Faraday 1 dips 25° - 30° to the northwest and based on current drilling is smaller than the other kimberlites along the KFC trend, ranging 30 m to 60 m in width and 10 m to 20 m in height over ~200 m.

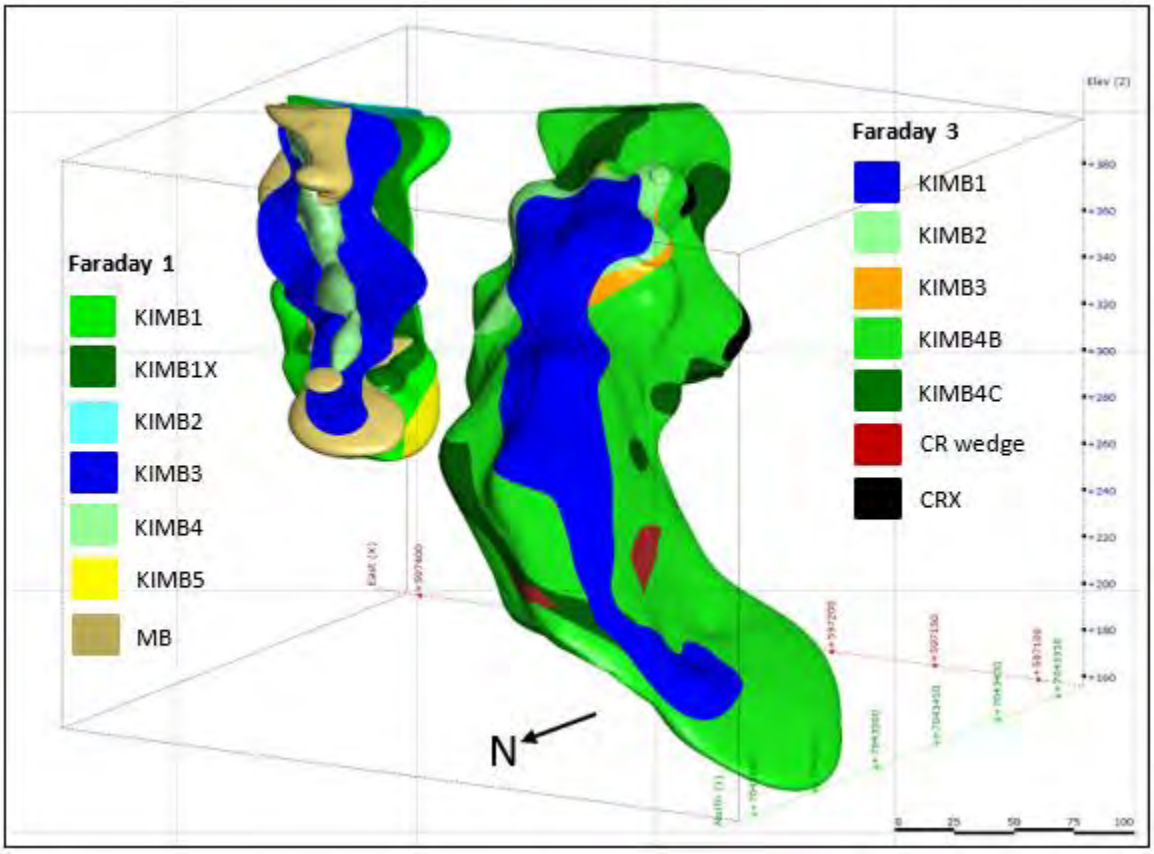

Figure 29. Faraday 1 and Faraday 3 3D geological models showing internal domains.

MB is relatively common at Faraday 1 compared to the other pipes and is also present at Faraday 3. It consists of zones of fractured in-situ country rock and matrix-supported zones with angular shards of country rock. Fractured zones contain carbonate and serpentine veining, and joint surfaces may be vuggy and porous due to chemical alteration. Matrix-supported zones consist of sorted mud- to sand-sized clasts of pulverized country rock surrounding larger angular fragments of gneiss. Juvenile material is typically absent or rarely up to 5% locally. MB is interpreted to represent remnants of the preconditioning processes related to the early pipe formation and localized areas where fluids associated with the kimberlite moved away from the body into the wall rock.

MZ Kimberlite

The MZ Lake kimberlite consists of a stacked, sub-horizontal HK sheet complex located 20 km west of the GK Mine. This kimberlite can be traced along a strike of more than 6 km and dips between 8° and 10° to the northeast.

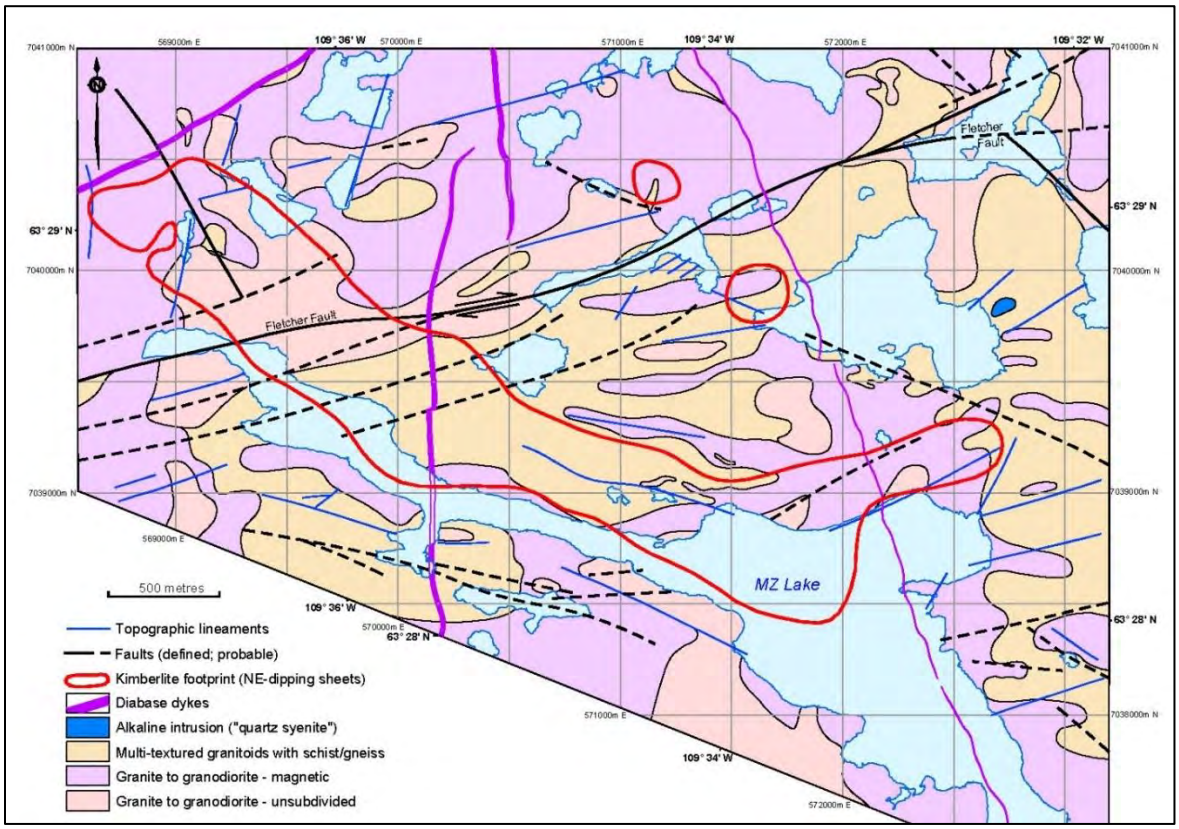

Figure 30. Simplified geology map (modified from Stubley, 2015) of the MZ Lake area showing kimberlite sheet as known pre-2015.

From the number of intersections per drillhole into the MZ kimberlite (that range from 2 m to 21 m), there appears to be a minimum of two and up to 10 stacked sheets at the leading edge (near-surface expression) of the complex. The thicker sheet intersections, in the 2015 drill holes, vary from less than 0.5 m up to 2.61 m in core length, and the thickest intersection in historical drill holes is 3.05 m. There are also a series of multiple kimberlite intersections less than 0.2 m in core length. Drilling to date indicates the MZ Lake kimberlite complex comprises of multiple en-echelon sheets formed by multiple phases of intrusion. Drilling by KDI in 2015 indicates a down-dip extension of the MZ kimberlite of at least 1 km, confirming the historical drilling results.

The kimberlite making up these sheets is not homogeneous. The sheets display differences in the proportion and nature of the mantle xenocrysts (microdiamond, olivine and indicator minerals), the proportions and nature of primary groundmass minerals, as well as the secondary alteration. These features indicate that the MZ Lake sheet complex was formed by numerous phases of kimberlite, possibly up to seven phases (De Beers, 2001), classified as olivine macrocryst-poor to olivine macrocryst-rich, spinel-bearing phlogopite ± monticellite ± carbonate HK. The groundmass phlogopite, spinel and carbonate vary significantly in habit and abundance between phases. The relative abundances of mantle garnet, ilmenite, and spinel vary between the phases (e.g. garnet abundance ranges from less than 10/kg to more than 200/kg). Relative proportions of lherzolitic, harzburgitic and eclogitic or megacrystic garnet are also variable. Kimberlite containing high

proportions of G10 garnets and thus described as high interest is present at MZ Lake (De Beers, 2001).

Doyle Kimberlite

The Doyle kimberlite consists of a shallow-dipping HK sheet (sill) that has been delineated to date over a 2 km northeast strike length. The sill width ranges up to 5.7 m, with an average of 2.0 m (close to true width). The body dips 5° to 20° to the northwest and subcrops (comes to the surface but is covered by overburden) which allowed a 45-tonne mini-bulk sample in 2005. While the bulk sample grade was uneconomic at 0.135 cpt, this sample returned a 1.25 ct off-white industrial stone and a 0.83 ct colourless tetrahexahedral stone of high gem quality. The four holes drilled by KDI in 2015 to intersect the northern extension of the sheet all intersected HK, both single thicker intercepts (0.3 m -1.3 m) and minor much thinner (0.04 m -0.15 m) intercepts. Additional detailed geophysical survey work and drilling are required to improve understanding of the extent and potential of the Doyle kimberlite.

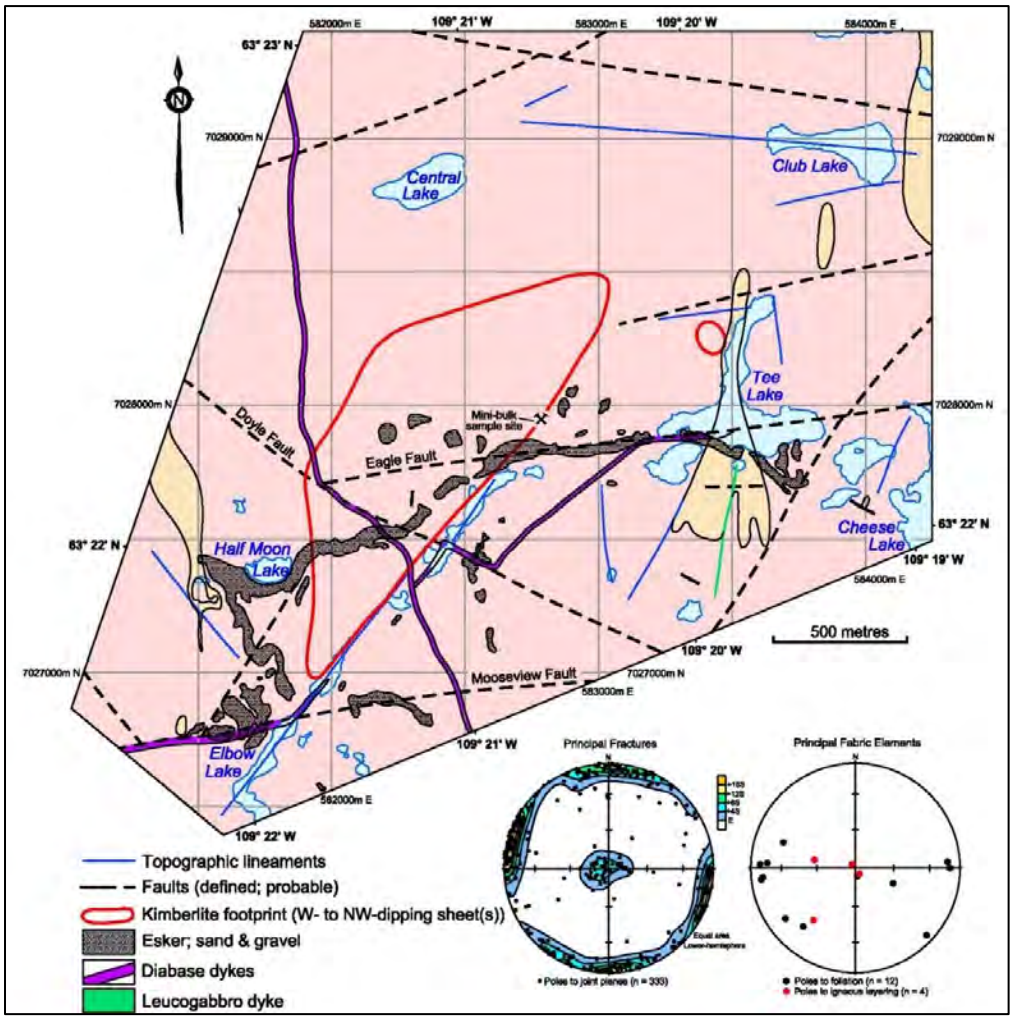

Figure 31. Simplified geology map (modified from Stubley, 2015) of the Doyle Lake area showing kimberlite sheet pre-2015.

Renard Kimberlites

In describing the Renard kimberlites, the authors of the Stornoway 2016 NI 43-101 Technical Report were careful to remark on the fact that kimberlite nomenclature has gone through an evolution the past few decades. At the time of the reports' writing, the terminology used for Renard kimberlite rock type descriptions was in accordance with that used in most scientific literature (Field and Scott Smith, 1999; Hetman et al., 2008; Sparks et al., 2006; Cas et al., 2009; Webb, 2006). As such, the following terms are found in the kimberlite descriptions:

Massive Volcaniclastic Kimberlite (MVK): a general term that refers to kimberlite that has been fragmented (i.e., the magma broken apart because of emplacement processes) and includes kimberlite classified texturally as tuffisitic kimberlite breccia (TKB).

Coherent Kimberlite (CK): a general term that refers to kimberlite that has not been fragmented and includes kimberlite classified texturally as HK. In general, the term coherent kimberlite is used to refer to large, pipe-infilling events of this nature.

Hypabyssal Kimberlite (HK): a more specific historical textural term for CK. Typically used here to describe the detailed texture of a CK rock and commonly used when referring to dykes or irregular intrusions.

Tuffisitic Kimberlite Breccia (TKB): a more specific textural term of an MVK. Characterized by microlitic clinopyroxene in the matrix of the rock.

Transitional Kimberlite: this refers to kimberlite that shows textures of both MVK and CK. A small "t" denotes a transitional textured HK or TK when describing rock-types (e.g., HKt or TKt).

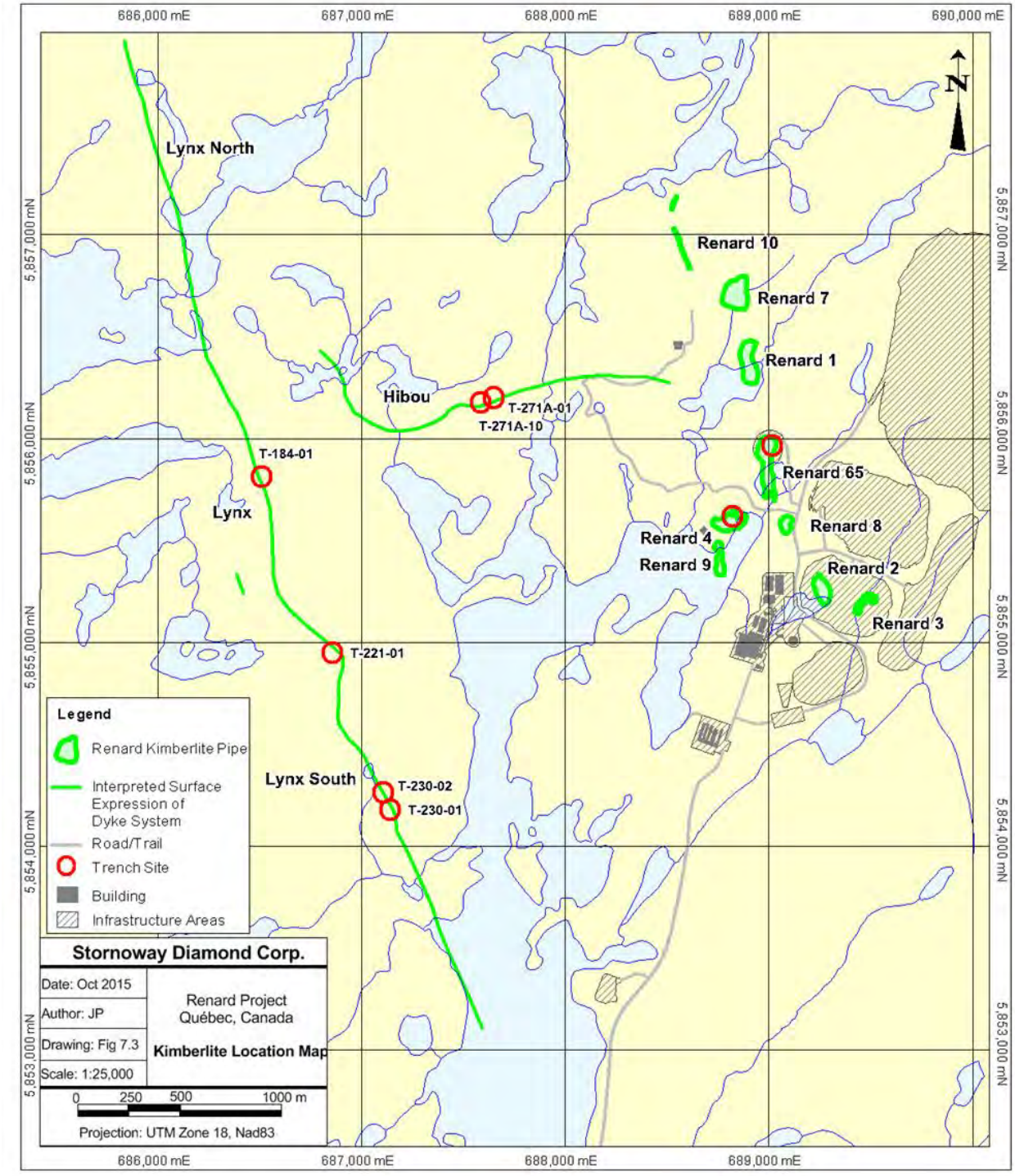

Figure 32. Plan map showing the location of the Renard kimberlites.

The Renard pipe-like bodies are all associated with extensive cracked country rock (CCR) created during the emplacement event and, except for Renard 3 and Renard 8, have a significant marginal country rock breccia (CRB). The CCR consists of both broken and solid country rock with small amounts of HK dykes and veins throughout, and minor zones containing kimberlite-derived constituents. The CRB typically lies between the main kimberlite units and the CCR and is characterized by dominantly broken and pulverized clast-supported country rock, with an overall dilution of 95% or greater. CRB contains up to 5% of kimberlitic components, present as olivine, rare altered magmaclasts and very rare garnet xenocrysts in the breccia matrix. The CRB contains a significant amount of additional diamond-bearing kimberlitic material, in the form of late-stage, cross-cutting HK dykes, and helps to define the pipe shape.

Previous U-Pb dating of groundmass perovskite in HK dykes within Renard 1 indicated an emplacement age of 631.6 +/- 3.5 Ma (Birkett et al., 2004). However more recent data obtained for the main rock types in Renard 2 and Renard 3, using the same method, indicate an emplacement age of 640.5 +/- 2.8 Ma.

Renard 2 Kimberlite and Geological Model

The Renard 2 kimberlite is a mid-sized kimberlite pipe within the Renard Cluster. It is interpreted as a diatreme-zone kimberlite with irregularities in the external shape of the kimberlite near the surface, but an overall smooth and tapering shape when considering the emplacement envelope (including the CRB and CCR). The internal geology of Renard 2 was established using geological logs of both core and reverse circulation drill holes combined with detailed mapping of the underground drift and petrographic and geochemical studies. A detailed description of the geology and emplacement history of Renard 2 is described in Fitzgerald et al. (2009).

Renard 2 consists of two main pipe-infills: an MVK referred to as Kimb2a and a transitional CK referred to as Kimb2b. The two main infills exhibit contrasting primary textures: olivine abundances and populations, country rock xenolith abundances and populations, and diamond contents. The kimberlite is surrounded by extensive marginal CRB and CCR. In addition to these, HK dykes and intrusions (referred to as Kimb2c) of varying thickness are found throughout the body, along the pipe contacts, within the MB and in the cracked country rock (Fitzgerald et al., 2009).

Table 11. Major Geological Unit Descriptions for Renard 2

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
Renard 2	Kimb2a	Blue to blue green	Volcaniclastic kimberlite	TK	high abundance and size of country rock xenoliths (CRx), blue clay matrix
	Kimb2b	Brown	Magmatic > volcaniclastic kimberlite	HK-HKt to TKt	Coarse olivine sizes, lower CRx% and size, abundant perovskite
	Kimb2c	Dark green to black	Magmatic kimberlite	HK	Uniform distribution of crystalline groundmass, low dilution

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
	CRB-2a	White with blue matrix	Volcaniclastic kimberlite	TK	highly diluted Kimb2a characterized by very large, tightly packed country rock xenoliths with minor amounts of blue kimberlite matrix

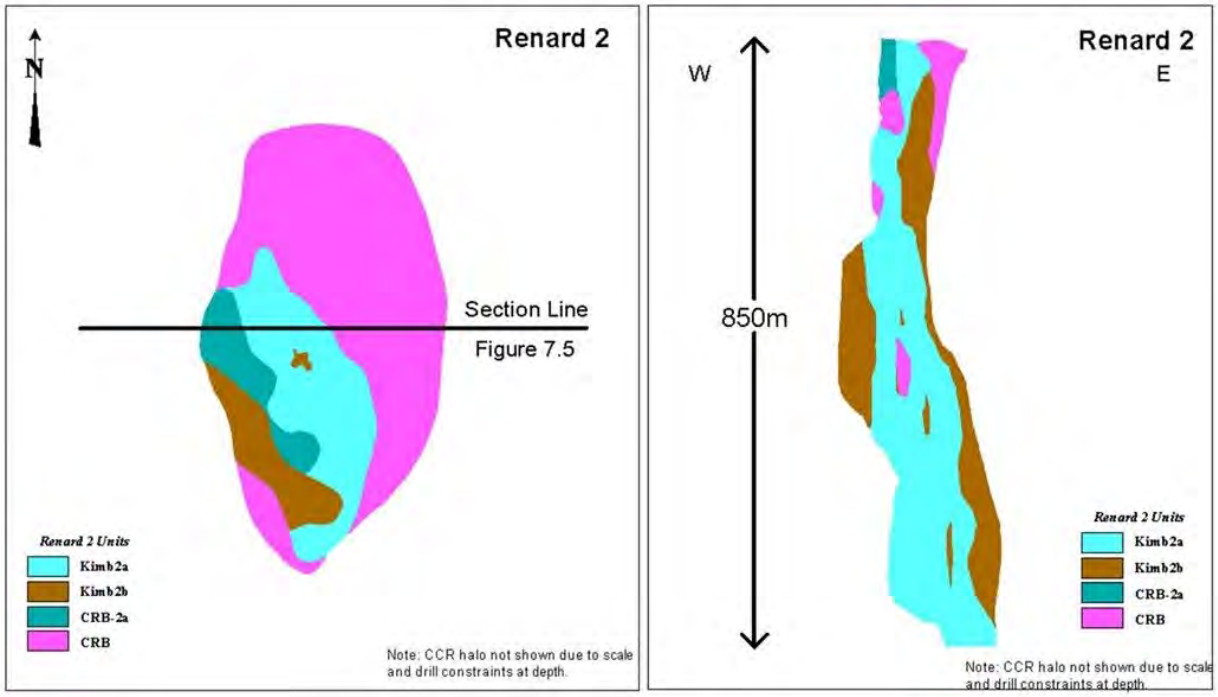

Figure 33. Plan and side view of the kimberlite model for Renard 2.

Renard 3 Kimberlite and Geological Model

The Renard 3 kimberlite is one of the smallest kimberlite pipes within the Renard Cluster. It is interpreted as a steep-sided, deep diatreme to root-zone kimberlite, with an irregular external pipe shape. The geology of this kimberlite has been determined using detailed logging of drill core, mapping of the underground decline walls, and results of petrographic and geochemical studies. A detailed description of the geology and emplacement history of Renard 3 is described in Muntener and Scott Smith (2013).

The current three-dimensional (3D) model of Renard 3 has two possible feeder zones and consists of six kimberlite rock types in order of volumetric significance: Kimb3d, Kimb3g, Kimb3i, Kimb3b, Kimb3h, and Kimb3f. Currently, the Kimb3d and Kimb3g units are modelled together as one 3D solid, based on their comparative mineralogy and abundances of groundmass minerals observed through thin section analysis, as well as similar grade and diamond counts (stones per tonne)

obtained from underground sampling. A small CRB zone exists on the upper, southern portion of the pipe, in association with the Kimb3b phase. More extensive CCR discontinuously surrounds the majority of the kimberlite pipe margin. In addition to the six main kimberlite rock types infilling the pipe, a number of HK dykes and intrusions (Kimb3c) occur throughout the body, along the pipe contacts, within the MB and in the cracked country rock.

Table 12. Major Geological Unit Descriptions for Renard 3

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
Renard 3	Kimb3b	Blue to blue green	Volcaniclastic kimberlite	TK	high abundance and size of CRx, abundant juvenile clasts
	Kimb3c	Dark green to grey / black	Magmatic kimberlite	HK	uniform distribution of crystalline groundmass, low dilution
	Kimb3d	black to dark brown	Magmatic kimberlite	HK – HKt	strongly altered CRx with black to green alteration rims and bleached centres
	Kimb3g	Mottled green – brown to dark brown	Magmatic > volcaniclastic kimberlite	HKt – TKt	texturally complex, like kimb3f but has lower abundance of HK autoliths and mantle nodules
	Kimb3f	Light – dark brown with mottled blue green zones	Volcaniclastic > magmatic kimberlite	TKt – HKt	Higher abundance of HK autoliths and higher% of larger CRx than in 3d,mantle nodules present
	Kimb3h	Black	Magmatic kimberlite	HK	uniform distribution of crystallinegroundmass, 15% - 25% commonly bleached CRx
	Kimb3i	Black	Magmatic kimberlite	TK	uniform distribution of coarse crystalline groundmass, indicator minerals more common

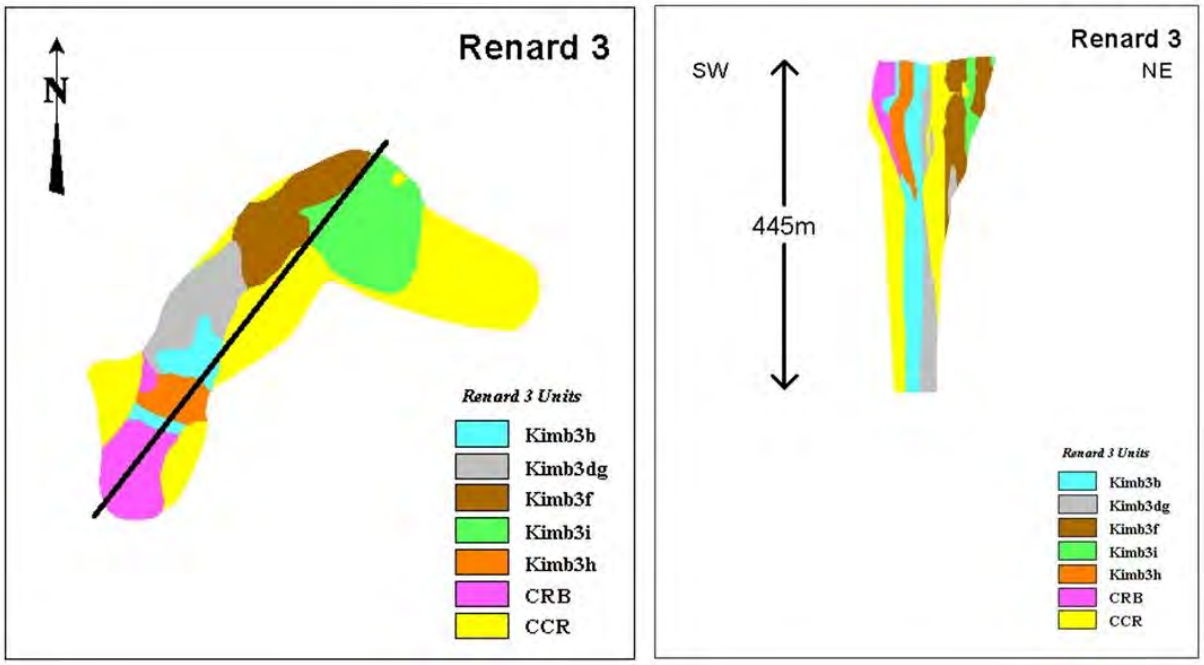

Figure 34. Plan and side view of the kimberlite model for Renard 3.

Renard 4 Kimberlite and Geological Model

The Renard 4 kimberlite is one of the larger kimberlite pipes within the Renard Cluster. It is interpreted as a diatreme-zone kimberlite with a relatively regular external pipe shape. The geology of this kimberlite has been determined using detailed logging of drill core, mapping of the surface trench and petrographic studies.

The Renard 4 pipe contains three kimberlite geological units: a MVK, referred to as Kimb4a, a transitional CK, referred to as Kimb4b, and a texturally variable MVK, referred to as Kimb4d. In the current 3D model there is also a unit referred to as FWR (further work required) on the eastern edge of the body that is currently unclassified kimberlite. It may represent a more highly-diluted Kimb4a or Kimb4d. A significant marginal CRB and CCR surround the main kimberlite. The Renard 4 CCR adjoins at depth with the CCR of Renard 9, along the southern margin of the pipe. In addition to the three main pipe infills, a number of HK dykes and irregular intrusions occur throughout the body, along the pipe contacts, within the MB and in the cracked country rock.

Table 13. Major Geological Unit Descriptions for Renard 4

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
Renard 4	Kimb4a	Blue grey to green / grey	Volcaniclastic kimberlite	TK	high abundance and size of white-pink CRx, common carbonatized olivines
	Kimb4b	Brown	Magmatic > volcaniclastic kimberlite	HK – HKt to TKt	coarse olivine sizes, lower CRx% and size, common mantle nodules,abundant perovskite
	Kimb4c	black to dark green	Magmatic kimberlite	HK (to HKt)	uniform distribution of crystalline groundmass, low dilution
	Kimb4d	Dark blue	Highly variable volcaniclastic > magmatic kimberlite	TK – TKt with HKt – HK zones	dark blue clay matrix, common indicator minerals, higher abundance of HK autoliths and HK dykes

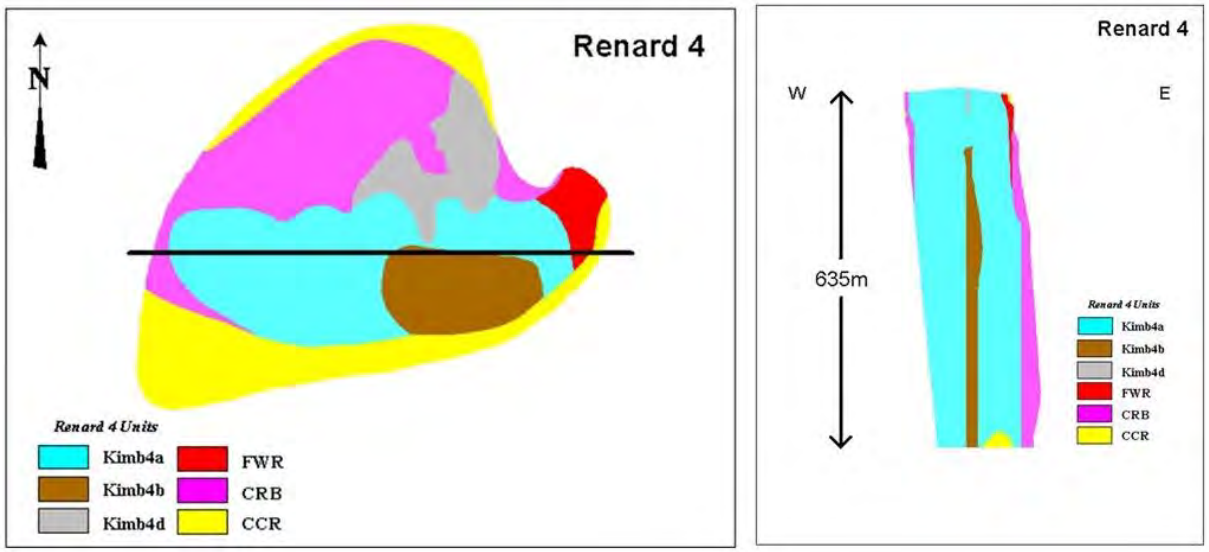

Figure 35. Plan and side view of the kimberlite model for Renard 4.

Renard 9 Kimberlite and Geological Model

The Renard 9 kimberlite is one of the smaller kimberlite pipes within the Renard Cluster. It is interpreted as a lower diatreme to root-zone kimberlite with an irregular external pipe shape that dips to the east with depth. The internal geology of Renard 9 has been established using geological logs of both drill core and reverse circulation drill holes and petrographic studies.

Renard 9 consists of two main pipe-infills: a MVK referred to as Kimb9a and a volumetrically minor (2%) texturally variable CK referred to as Kimb9b. In general, the texture of these kimberlite phases changes from east to west across the body: Kimb9b changes from more HK-like in the east to more TK-like to the west; and the dilution of Kimb9a increases significantly from east to west. An extensive CRB is present on the western side of the body, across both the length and height of the body. The CRB is spatially associated with the Kimb9a unit. Also peripheral to the kimberlite is significant CCR, which joins with that of Renard 4 at depth. In addition to these units, HK dykes and intrusions (referred to as Kimb9c) of varying thickness are found throughout the body, along the pipe contacts, within the MB and in the cracked country rock.

Table 14. Major Geological Unit Descriptions for Renard 9

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
Renard 9	Kimb9a	Greyish green	Volcaniclastic kimberlite	TK	high abundance and size of CRx, abundant juvenile clasts, pyrite replaces olivines
	Kimb9b	Black to brownish black	Magmatic > volcaniclastic kimberlite	HK – HKt (rare TKt)	varies in texture from east (HK) to west (TKt)
	Kimb9c	dark green to grey / black	Magmatic kimberlite	HK	uniform distribution of crystalline groundmass, two types – non-magnetic carbonate rich and magnetic

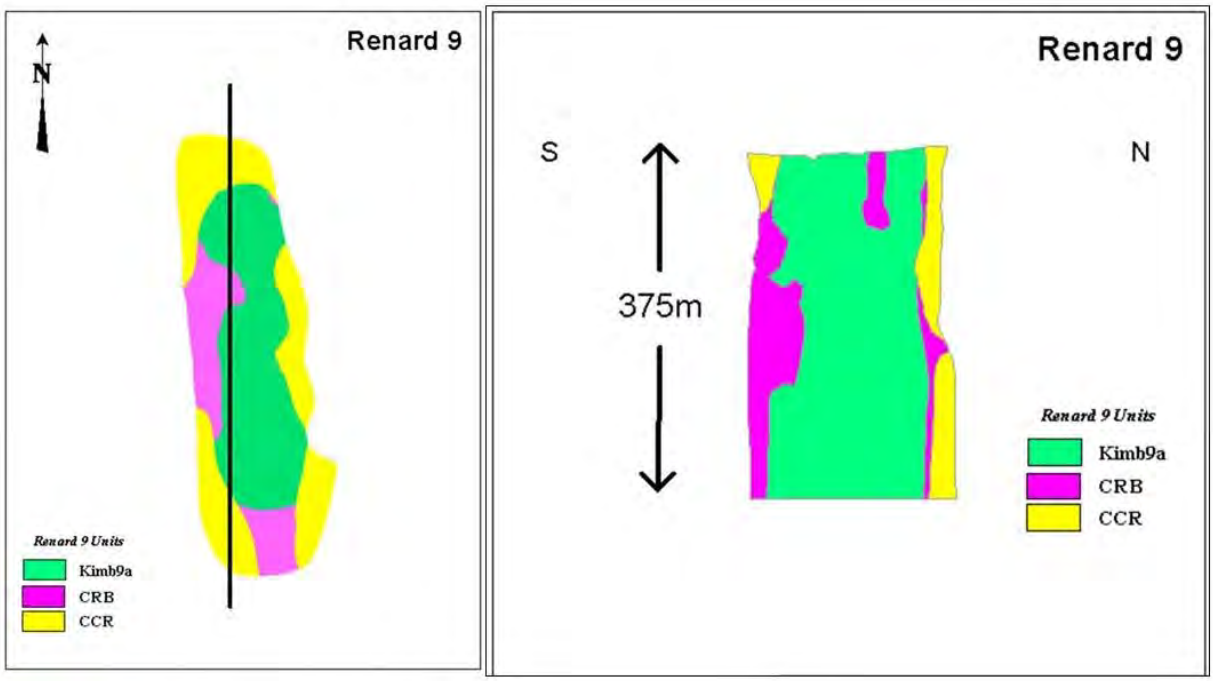

Figure 36. Plan and side view of the kimberlite model for Renard 9.

Renard 65 Kimberlite and Geological Model

The Renard 65 kimberlite is the largest kimberlite in the Renard Cluster by surface area. It is interpreted as a diatreme-zone kimberlite with a slightly irregular shape at surface and dipping gradually to the east. The internal geology of this kimberlite has been determined using geological logs of both core and reverse circulation drill holes, mapping of the surface trench and petrographic studies.

Renard 65 consists of four main pipe-infilling kimberlite units: Kimb65a, Kimb65b, Kimb65d and Kimb65e. Additionally, CRB and CCR surround the main kimberlite pipe infills. In the current geological model, Kimb65e was modelled with Kimb65a as its distribution is discontinuous and small, indicating it is a remnant unit within Kimb65a. Several HK dykes and irregular intrusions (Kimb65c) occur throughout the body as late-stage intrusions, and within the CRB and CCR.

Table 15. Major Geological Unit Descriptions for Renard 65

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
Renard 65	Kimb65a	pale blue-grey to dark grey-green	Volcaniclastic kimberlite	TK - TKt	high abundance and size of CRx, abundant juvenile clasts
	Kimb65b	black to darkbrown	Magmatic kimberlite	HK - HKt	strongly altered CRx dark green to partially

Kimberlite	Major Geological Unit	Dominant Colour	Textural Classification	Textural Classification Codes	Distinguishing Characteristics
					bleached centres, common mantle nodules
	Kimb65c	Dark green to grey / black	Magmatic kimberlite	HK	uniform distribution of crystalline groundmass, low dilution, commonflow banding of olivines
	Kimb65d	light-dark brownwith mottled blue-green zones	Volcaniclastic > magmatic kimberlite	TKt – HKt	dirty brown appearance, creamy green and yellow rimmed CRx,common HK autoliths
	Kimb65e	Dark brown	Magmatic > volcaniclastic kimberlite	HKt	complex magmatic transitional unit in the southern part of the body

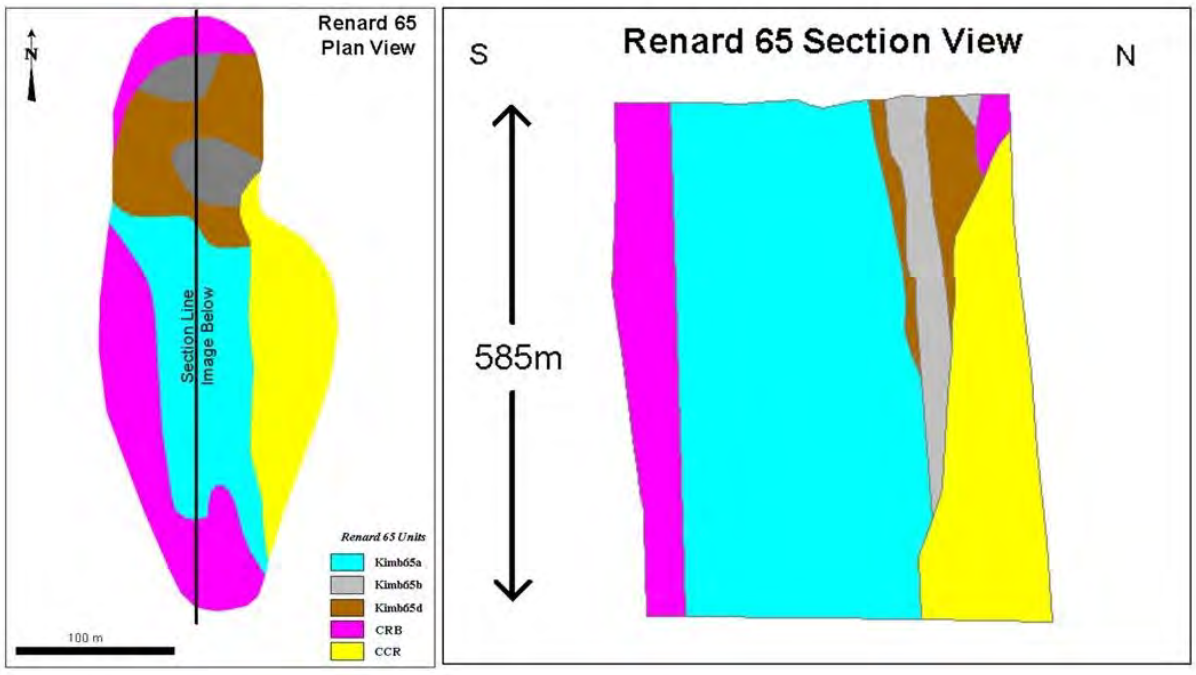

Figure 37. Plan and side view of the kimberlite model for Renard 65.

Lynx and Hibou Kimberlite Dykes

The Lynx dyke consists of CK that can be further classified as HK. Trenching and mapping of Lynx and the logging of 73 drill holes reveals that the dyke comprises semi-continuous thick intersections of kimberlite with many thin (from < 1 cm to 40 cm) discrete sheets adjacent to it. Lynx extends for a minimum of 4.2 km along strike and has a variable dip (10° to 50°) to the east. The dyke may reach cumulative thicknesses of up to 3 m, however the average thickness is 1.8 m. The main kimberlite intersection appears to pinch and swell and, where thin, is strongly altered and replaced by clays. Overall, Lynx displays varying levels of alteration, often showing zonation with portions of the main intersection being highly altered and friable on one half, but massive and relatively unaltered in the other. Fracturing is present throughout the dykes and varies in intensity.

The Hibou dyke is a CK that can be further classified as an HK. Hibou consists of one main kimberlite intersection with thin HK veins and dykes (from 1 cm to 30 cm) adjacent to the main intersection. Trenching and mapping of Hibou and the logging of 41 drill holes reveals that the HK may be up to 3.5 m thick but is on average 2 m thick. The dyke has a westerly strike extent of at least 1,900 m with a shallow dip of approximately 10° to the north. It is open down dip to the north, and along strike in both directions. The HK pinches and swells and, where thin, is strongly altered to clay. Overall Hibou displays varying levels of alteration and/or weathering that are zoned. Fracturing is present throughout the dyke and varies in intensity.

EMPLACEMENT MODEL

GK Mine Kimberlites

The composite geological model of the GK kimberlite pipes (from Hetman et al., 2004) is shown in the figure below. The shape and infill of the individual kimberlite pipes is broadly like that of the kimberlites located in the Kimberley area of South Africa, and to the 630 Ma Renard kimberlites in Quebec (Fitzgerald et al., 2009; Muntener and Scott Smith, 2013; Muntener and Gaudet, 2018). The infills are also like the nearby Kennady North kimberlites (Bezzola et al. 2018), although the pipe shapes are generally more conventional. The dominant infill of all these types of pipes, is KPK (historically termed TK), which is described by Clement (1982), Hetman et al. (2004), Hetman (2008), Scott Smith et al. (2018), and the authors listed above.

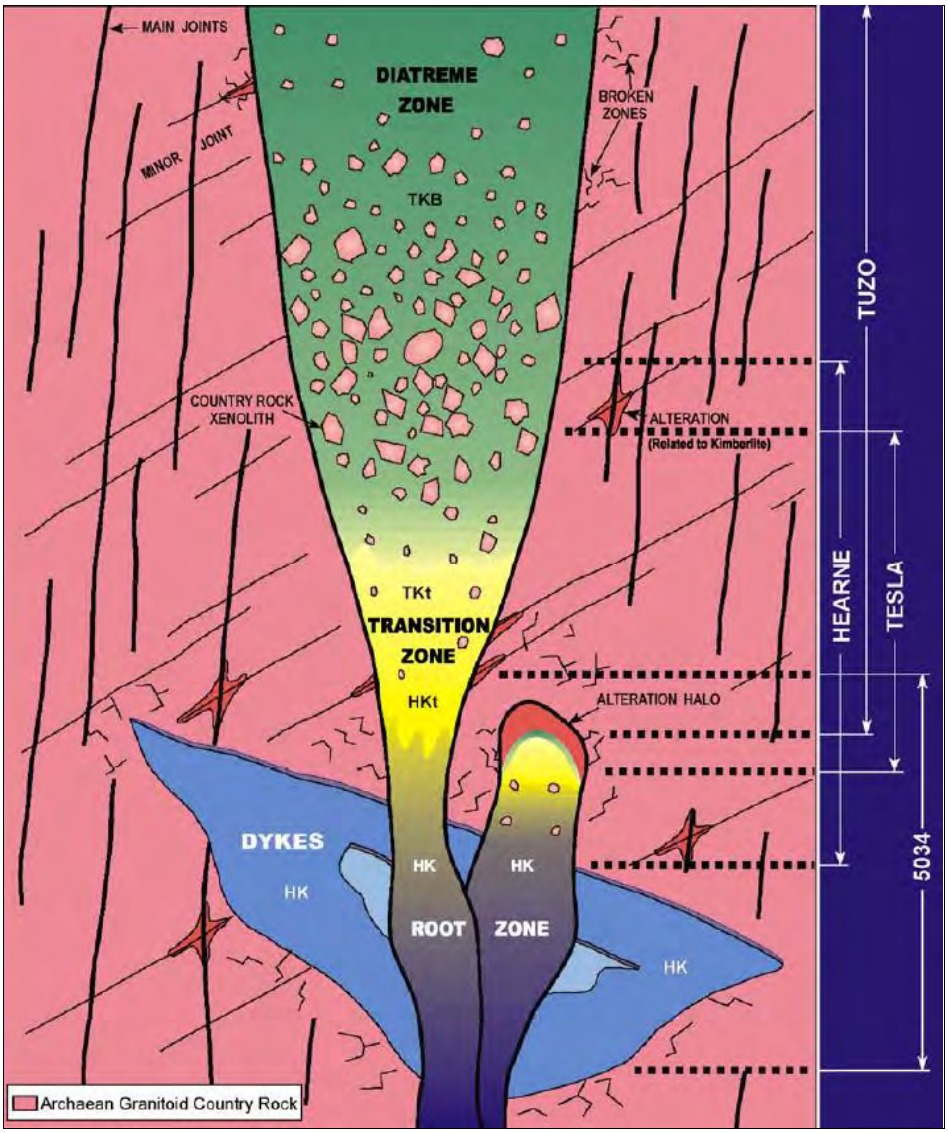

Figure 38. Composite model of kimberlite emplacement for the GK Mine kimberlites.

The GK kimberlites differ considerably from many other Canadian kimberlites that have been mined or developed, such as those found at Fort à la Corne, Attawapiskat, and Lac de Gras (Field and Scott Smith, 1999). The Fort à la Corne pipes are preserved shallow craters with underlying volcanic feeders infilled mainly with pyroclastic kimberlite. The Lac de Gras pipes are steep-sided diatremes infilled with pyroclastic and resedimented VK containing surficial sediments present at the time of emplacement.

Hetman et al. (2004) interpreted the GK pipes to be root-to-diatreme transition zones like those described by Clement (1982) and Clement and Reid (1989). According to Hetman et al. (2004), the variations in pipe morphologies and infill displayed by the GK kimberlites reflect varying depths of

diatreme development related to varying degrees of 'volcanic maturity' and are not a function of different depths of erosion for each of the pipes.

With respect to emplacement, Hetman et al. (2004) stated that the observed gradational TK to HK textures at GK are consistent with the interpretation by Clement (1982) and Clement and Reid (1989). The degassing of an intrusive magma column produces the TK (typically present in the diatreme zone) with the transitional textures (typically between diatreme and root zones) representing a "frozen" degassing front, as discussed by Field and Scott Smith (1999). The impact of silicic country rock xenolith assimilation on the kimberlite magma texture in these kimberlite systems is discussed by Gaudet et al. (2017).

The 5034 kimberlite can be interpreted as a conventional root zone that consists of several elongated lobes located on a northeast-inclined feeder dyke system. The Northeast Extension (NEX) is a 'blind' (does not reach surface) tube-like body connected to the North Lobe, which also lies under granitic cap rock and is connected to the East Lobe. The NEX and North Lobe comprise TKt and the North Lobe also comprises TK under the granite cap rock. The emplacement of VK in blind bodies appears to be related to the inclined feeder dyke system from which 5034 and likely Tuzo emerged and indicates these areas had access to surface at some stage during their emplacement.

It appears that identifying the pre-existing structures and the stress field at the time of emplacement contributes significantly to understanding the emplacement mechanism and the positioning of the kimberlite bodies. The stress field induced on the country rocks adjacent to Tuzo could have been responsible for the emplacement of Wilson, Curie and Tesla, and could possibly guide the local exploration efforts for further kimberlite discoveries.

KNP Property Kimberlites

The Kelvin, Faraday 2 and Faraday 1-3 kimberlites comprise typical HK to KPK rock types and lesser transitional textured kimberlite as described from other KPK systems worldwide (e.g. Clement, 1982; Hetman et al., 2004; Harder et al. 2013; Moss et al., 2013; Muntener and Scott Smith., 2013). However, the Kelvin and Faraday kimberlites are characterized by unconventional, irregular, shallow-plunging pipe geometries, which have yet to be recognized elsewhere in the world. These kimberlites are similar with respect to textures, primary mineralogy, grade and age, but not in external morphology, to the GK kimberlite cluster at Kennady Lake (Hetman et al., 2004).

The emplacement model for the Kelvin and Faraday kimberlites is analogous to the well documented models of formation and emplacement in KPK systems. The same emplacement processes are inferred, except for the development of inclined bodies rather than vertical pipes. Figure 33 shows the schematic geology of an eroded KPK-type pipe in Canada. Inclining this conceptual model at 20° - 30° schematically represents the geology documented at Kelvin and Faraday.

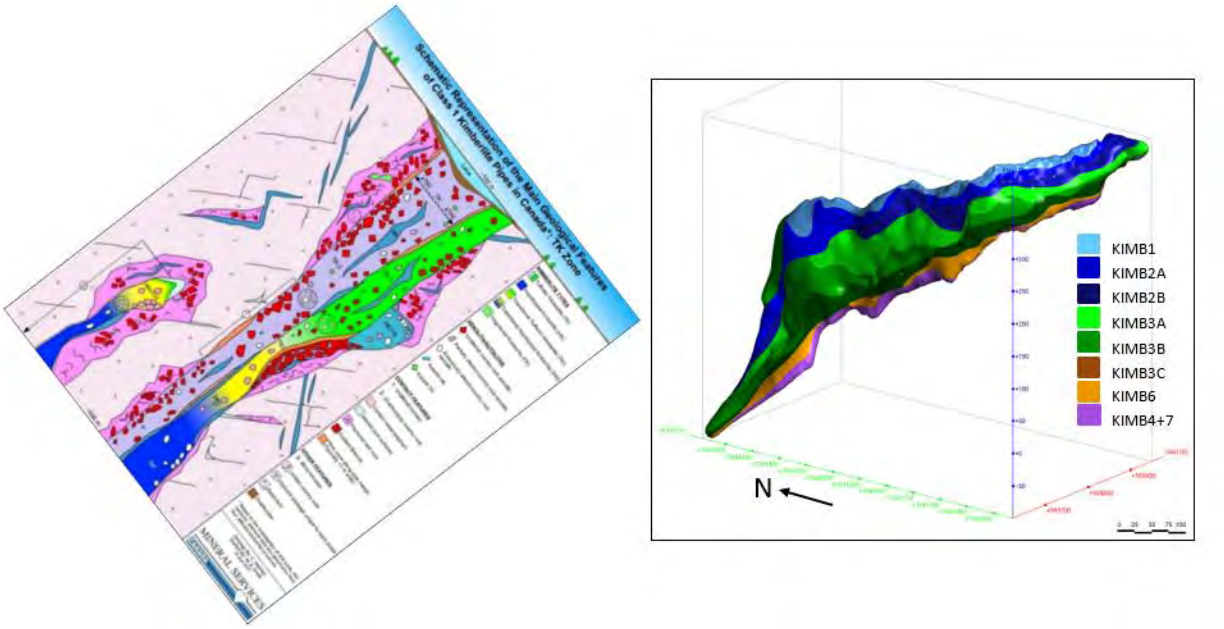

Figure 39. Inclined schematic KPK style kimberlites (as stated as the composite model for GK Mine kimberlites) compared to the 3D geological model of Kelvin (right).

Barnett et al. (2018) note that the detailed exploration of the volcanic systems at Kennady North provides exceptional evidence for subterranean volcanic conduit growth processes, emphasizing the importance of the subterranean intrusive system geometry and local stress tensor in the development of kimberlite bodies. Emplacement into a locally compressive stress regime could change the kimberlite emplacement geometries to that observed at Kennady North.

The variations in pipe morphologies and infill displayed by the GK kimberlites reflect varying depths of diatreme development and are not a result of different levels of erosion for each pipe. This concept of varying 'volcanic maturity' between pipes also applies at the Kennady North kimberlite cluster, where the pipes are thought to be relatively immature. Faraday 1 is the least volcanically mature Kennady North kimberlite pipe based on the small size of the VK-filled portion, the complex spatial relationship between units, high proportion of HK, and comparatively high proportion of emplacement-related MB.

Renard Kimberlites

The Renard kimberlites are interpreted to be steep-sided, pipe-like structures with irregular to elongate shapes in plan view. Surface expressions of the kimberlite vary between 0.3 ha and 3.1 ha although there are larger haloes of broken country rock. The Renard Cluster is mainly composed of diatreme-like kimberlitic breccia lithologies and HK material. No crater material is noted in these kimberlites.

The Lynx, Hibou, North Anomaly, Southeast Anomaly and G04-296 HK dykes are interpreted to be

intrusions of kimberlitic material that did not vent to the earth's surface at the time of emplacement.

The emplacement of Renard 2 is said to be outlined in five main stages that include at least two major pipe excavations and infilling events.

1. Pre-conditioning of the country rock by ascending kimberlite fluids leading to the development of country rock breccia.
    a. During this process, high-pressure fluids rising ahead of the ascending magma act to fracture country rock (Wilson and Head,2007), which may create weak zones from which a pipe may develop. In extreme cases the country rock has been reduced to clasts set in a matrix of sand-sized particles.
    b. The distribution of the country rock breccia in the area of the pipe and the extent of brecciation is irregular, as revealed within the core holes, and is likely related to the position of local joints and faults and the interconnectedness of these structures at the time of emplacement.
    c. The country rock breccia that envelops the diatreme zone, referred to as the marginal breccia, is interpreted to have formed initially prior to breaching of the surface (Clement, 1982; Clement and Reid, 1989; Field and Scott Smith, 1999;Kirkley et al., 2003; Wilson and Head, 2007) and then further developed (during stage ii) as the excavation of the pipe progressed (Sparks et al., 2006, Brown et al., 2009).
    d. Following explosive breaching of the surface, the excavation of the diatreme would have allowed for additional brecciation and rock bursts due to depressurization of the country rock along the pipe margins (Sparks et al., 2006), as well as movement of this material toward the free space of the active diatreme.

2. Breaching of the surface and consequent explosive degassing of kimberlite magma leading to pipe excavation and infilling of the pipe with the Brown CK.
    a. Following explosive breaching of the surface and excavation of the diatreme, the diatreme was first infilled with Brown CK. The lower abundance of country rock xenoliths in this rock compared to the Blue MVK indicates that much of the diatreme had been excavated and the country rock was almost completely removed from the pipe prior to the infilling of the Brown CK.
    b. This indicates that the initial eruption/s involved must have been highly explosive to develop the pipe and remove most of the country rock from the system. The texture of the Brown CK (i.e. absent to rare juvenile clasts and shardy country rock xenoliths) indicates subsequent emplacement by less explosive processes.

3. A second pipe excavation and kimberlite emplacement event resulting in the removal of a significant volume of the Brown CK and infilling of the diatreme by the Blue MVK.
    a. The Blue MVK was the second major rock type to erupt and infill the diatreme. This is evidenced by the sharp sub-vertical contacts between the two, indicating that the Brown CK was lithified when the Blue MVK was emplaced.
    b. The Blue MVK cored out a significant volume of the Brown CK, leaving continuous Brown CK only in the southern portion of the body and as remnant blocks in the upper portion of

the pipe. The high abundance of country rock xenoliths, the mixing of the Blue MVK with marginal breccias, abundant, well-formed juvenile clasts and volcaniclastic texture of the Blue MVK indicate that this rock was being deposited as the pipe was being further excavated and that it was emplaced by more explosive processes than those involved in the formation of the Brown CK.

c. Based on the presence of subtle vertical to sub-vertical fabrics defined by elongated country rock clasts and the lack of a horizontal fabric (i.e. bedding that is more typical of upper diatreme to crater settings), this rock type is interpreted to represent a deep in-vent pyroclastic deposit. In-vent vertical fabrics such as these have been discussed by Ross et al., 2008 and sub-vertical fabrics have also been described by Gernon et al. (this issue) at Venetia, where they are thought to be produced by fluidisation following emplacement.

4. Emplacement of late-stage hypabyssal kimberlite dykes and irregular intrusions.
    a. Following the infilling of the pipe by the Brown CK and subsequently by the Blue MVK, a variety of HK dykes and irregular intrusions were emplaced along zones of weakness, such as geological contacts within the pipe and in the marginal breccia.
    b. Many of the dykes are vertical in orientation. Dyke morphology within the marginal breccia is more complex than within the pipe.
    c. In some cases, mixing between the pulverized country rock material and the HK indicates that the country rock breccia was unconsolidated when the HK intruded. In general, the thin dykes are uncontaminated due to emplacement along pre-existing zones of weakness; however, the larger, more irregular intrusions are characterized by common country rock xenoliths indicating that their emplacement was much more dynamic.

5. Post-emplacement alteration of the kimberlites and erosion.
    a. Erosion of the pipe that included glaciation has removed the extra-crater deposits, the crater and likely much of the upper diatreme zone of the pipe.
    b. No material from the crater has been encountered within the pipe.
    c. In addition to erosion, the main pipe infills have been extensively altered; particularly the Blue MVK. Secondary minerals present include diopside, serpentine, carbonate minerals, mica and clays. The secondary minerals have not only completely pseudo-morphed many of the juvenile and country rock constituents, but they have also masked many of the primary features of the rock, particularly the original character and constituents of interclast matrix.

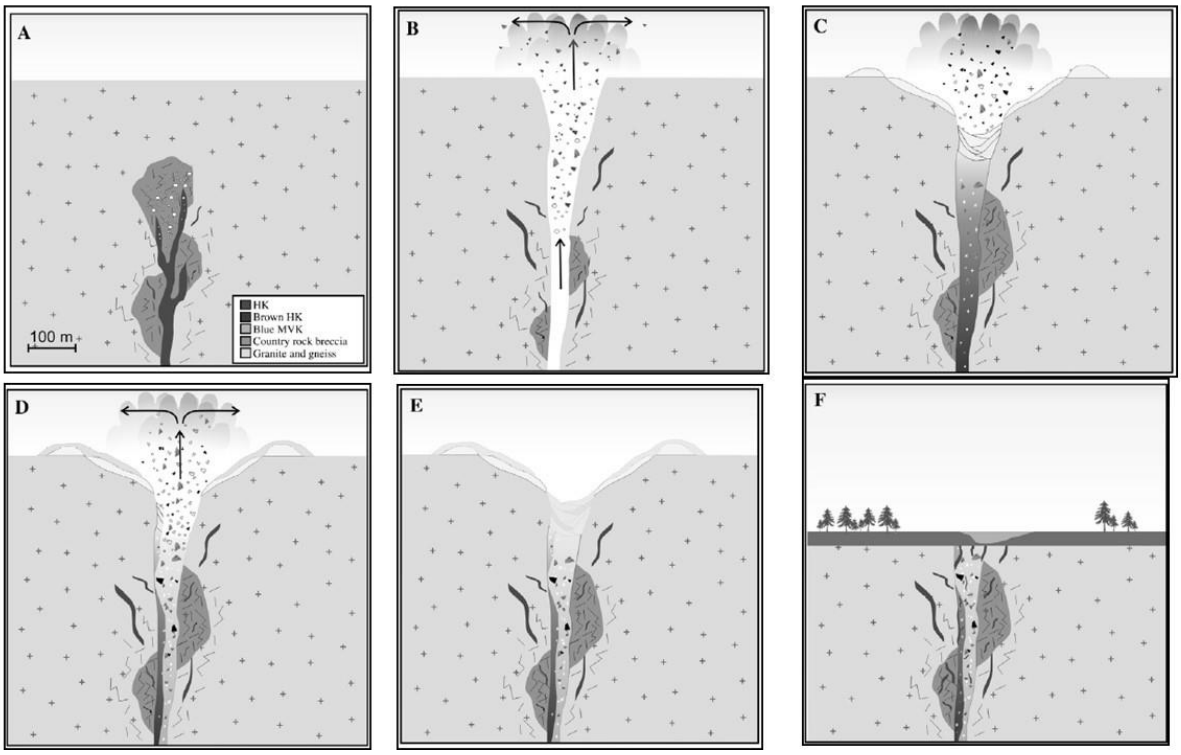

Figure 40. Schematic of the emplacement process for the Renard kimberlites (Fitzgerald et al., 2009).

MINERAL RESOURCE

GK Mine

Table 16. Mineral Resource Estimates for the GK Kimberlites (December 31, 2021)

Deposit	Classification	Tonnes (Mt)	Grade (cpt)	Carats (Mcts)
5034	Indicated	1.1	1.38	1.6
	Inferred	1.3	1.76	2.2
Hearne	Indicated	0.2	1.68	0.4
	Inferred	1.0	1.63	1.6
Tuzo	Indicated	0.5	1.32	0.6
	Inferred	9.6	1.73	16.5
Wilson	Indicated	0.5	0.68	0.4
	Inferred	-	-	-
Summary (In Situ)	**Indicated**	**2.4**	**1.25**	**3.0**
	Inferred	**11.8**	**1.72**	**20.3**
Stockpiles	Indicated	0	0	0
	Inferred	0	0	0
Grand Total Exclusive Resource	**Indicated**	**2.4**	**1.25**	**3.0**
	Inferred	**11.8**	**1.72**	**20.3**

Notes:

(1) Mineral Resources are reported at a bottom cut-off of 1.0 mm.
(2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
(3) Tonnage quoted as dry metric tonnes.
(4) Resources are exclusive of indicated tonnages converted to Probable Reserves.
(5) Resources have been depleted of any material that was processed prior to and including Dec 31, 2021. Q4 2021 depletion is based on forecasted values and may differ slightly from actual values.

KNP Property

Table 17. Mineral Resource Estimates for the KNP Kimberlites (February 28, 2019)

Deposit	Classification	Tonnes (Mt)	Grade (cpt)	Carats (Mcts)
Kelvin	Indicated	8.5	1.60	13.6
Faraday 2	Inferred	2.1	2.63	5.5
Faraday 3	Inferred	1.9	1.04	1.9

Notes:

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability.
(2) Mineral resources are quoted above a +1.0 mm bottom cut-off and have been factored to account for diamond losses within the smaller sieve classes expected within a commercial process plant.

(3) Indicated mineral resources are estimated, based upon quantity, grade or quality, densities, shape and physical characteristics, with sufficient confidence and detail to support mine planning and evaluation of the economic viability of the deposit. Indicate resource classification was provided November 17, 2017 (Vivian and Nowicki).
(4) Average diamond value estimates for Kelvin and Faraday 3 are based upon a valuation model provided by WWW International Diamond Consultants Ltd in July 2017.
(5) Inferred mineral resources are estimated based on limited geological evidence and sampling, sufficient to imply but not verify geological grade and continuity. They have a lower level of confidence than that applied to an Indicated mineral resource and cannot be directly converted into a mineral reserve. The Faraday 2 resource classification is as of February 28, 2019.
(6) Reasonable prospects for economic extraction have been assessed for both open pit and underground mining at a conceptual level and form the basis for mineral resource estimation. A combination of open pit and underground mining methods has been assumed for Faraday 2. Open pit and underground mining operating costs of CDN$84 and CDN$152/t of ore feed, respectively, have been assumed in the analysis. A foreign exchange rate of 1.30 CDN$:US$ was used for this conceptual mining analysis.
(7) Average diamond value estimates for the Faraday 2 update are based on an updated valuation model provided by WWW International Diamond Consultants Ltd in February 2019.
(8) Mineral resources have been estimated with no allowance for mining dilution and mining recovery.

Renard Mine

Table 18. Mineral Resource Estimates for the Renard Kimberlites (September 24, 2015)

Deposit	Classification	Tonnes (Mt)	Grade (cpt)	Carats (Mcts)
Renard 2	Indicated	25.7	0.84	21.6
	Inferred	6.6	0.59	3.9
Renard 3	Indicated	1.8	1.02	1.9
	Inferred	0.5	1.12	0.6
Renard 4	Indicated	7.2	0.61	4.4
	Inferred	4.8	0.52	2.5
Renard 65	Indicated	7.9	0.29	2.3
	Inferred	4.9	0.24	1.2
Renard 9	Inferred	5.7	0.53	3.0
Lynx	Inferred	1.8	1.07	1.9
Hibou	Inferred	0.2	1.44	0.3
Grand Total Exclusive Resource	**Indicated**	**42.6**	**0.71**	**30.2**
	Inferred	**24.5**	**0.55**	**13.3**

Notes:
(1) Effective Date is September 24, 2015
(2) Classified according to CIM Definition Standards.
(3) The Mineral Resources have reasonable prospects of economic extraction.
(4) Totals may not add due to rounding.
(5) The diamond size cut-off was +1 DTC.
(6) Excludes discrete more dilute kimberlite facies not previously incorporated into the July 2013 Resource. Provided to facilitate a more direct comparison with the 2013 Mineral Resource Estimate.

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APPENDIX I: Gahcho Kué Drill Logs

96-AK056

96-AK060

Drill Log 96-AK056

From	To	Code	Rock Type	Descriptor	Description
0	3.7	OVB	Overburden	Description	N/A
3.7	230.73	Gran	Granite	Competence	Competent
(12')	*(757')*			Colour	Orange-Pink Gray
				Mineralogy	Typical biotite granite with pegmatitic areas locally. Rock displays mafic differentiation locally with up to 40% biotite. Granite displays hematite and chlorite alteration along fractures throughout the interval. Near the contact with the kimberlite there is extensive carbonate veining and pyrite mineralization; pyrite generally occurs on dolomite within small vugs in the granite.
				Texture	Medium to coarse grained, inequigranular granite. Weak foliation in areas of mafic differentiation; foliation defined by the prefered orientation of biotite and is oriented at approximately 50 degrees from the core axis. Centimetre scale Z-folding observed in a mafic interval at 98.6m. Core is highly broken up locally. Competent, medium to coarse grained, orange to pink gray granite.
230.73	273.1	TKT-HKt	Kimberlite	Competence	Moderately competent
(757')	*(896')*	*(AKF1)*		Colour	Olive Green - Green
				Description	Moderately competent Facies 4 kimberlite with small crustal xenoliths scattered throughout. The contact area with the overlying granite is gradational. Fractures show no dominant orientation. Missing 5' from 857' - 867' and **3'** from 877' - 887' due to core barrel problems.
				Mineralogy	Highly serpentinized macrocrysts in a serpentine, phlogopite and minor carbonate groundmass. Serpentine and carbonate minerals in veining. Hematite staining on xenoliths as well as minor alteration in groundmass. No garnets observed.
				Texture	Macrocrystic with generally <5% xenoliths, veins throughout, generally chaotically oriented : generally white and <2mm in size. Fractures tend to be serpentine and clay rich. Contact area consists of a brecciated granite with very highly altered kimberlite matrix. (757'10" - 761'6")
				Xenoliths	Small, highly serpentinized crustal xenoliths scattered throughout. Xenoliths are generally <5cm in size and are rounded to subrounded. Many are moderately hematized. Often the xenoliths have highly altered rims with less altered cores. Xenoliths up to 10cm size.
273.1	281.03	HKt	Kimberlite	Competence	Competent
(896')	*(922')*	*(AKF2)*		Colour	Dark Green - Black
				Description	Competent facies 2 kimberlite with black altered macrocrysts and small crustal xenoliths. Appears to be a transition zone between Facies 4 and Facies 2.
				Mineralogy	Highly serpentinized macrocrysts in a serpentine and phlogopite groundmass, minor carbonates, minor serpentine and carbonates in veining. Very minor hematite along fractures.
				Texture	Macrocrysts (black altered) with local thin serpentine and carbonate veins. Xenoliths highly serpentinized to black or dark green: larger xenoliths display less altered cores.
				Xenoliths	Small crustal xenoliths throughout: generally <4cm and rounded to subrounded. Xenoliths are generally black altered, however locally dark green altered.
281.03	348.9	HKt-HK	Kimberlite	Competence	Competent
(922')	*(1145')*	*(AKF3)*		Colour	Green Black - Green
				Description	Competent Facies 3 kimberlite with minor areas of Facies 2. Facies 2 is generally associated with veins. Fractures are dominantly oriented at 60 from the core axis.
				Mineralogy	Weakly to moderately serpentinized olivine macros in a phologpite, serpentine and minor carbonate groundmass, minor facies 2 with black altered xenoliths, no garnets observed.
				Texture	Macrocrystic. Rock displays minor thin carbonate and serpentine veining. Rock is locally more highly serpentinized. Facies 2 is generally associated with large xenotiths and areas of extensive veining.
				Xenoliths	Numerous small white to light green altered xenoliths. Xenoliths are generally <5 cm in size and rounded to subrounded; locally up to 40 cm. No mantle xenoliths observed.
348.9	428.85	Gran	Granite	Competence	Competent
(1145')	*(1407')*			Colour	Pink - Orange
				Description	Competent biotite granite with minor pegmatite and gneissic sections. Rock is highly veined and serpentinized within 10' of the contact with the overlying kimberlite. Serpentine along fractures; rarer with depth and chlorite as well as calcite becoming more common at depth. Some minor broken portions. Breaks are dominantly at 40 tca. Hole was ended in a competent granite.
				Mineralogy	Typical biotite granite with approximately 40% K-spar, 35% quartz, 20% plagioclase and 5% biotite. Minor hematite throughout. Chlorite along fractures. Contact area is highly serpentinized
				Texture	Medium to coarse grained; inequigranular.

Drill Log 96-AK060

From	To	Code	Rock Type	Descriptor	Description
0	3	OVB	Overburden	Description	An assortment of sedimentary, igneous, and metamorphic boulders, cobbles, and pebbles.
3	169	Gran	Granite	Competence	Competent
(10')	*(554')*			Colour	Orange-Pink Gray
				Description	Competent biotite granite with local broken areas. Locally the rock displays poorly developed gneissic banding. Biotite rich mafic band from 51.2 - 51.9m. Vuggy along fractures from 168.2 - 169.0m, minor cross cutting fractures in this zone as well. Fracture zone with extensive serpentine alteration at 108.6m. Fractures are dominantly oriented at 50 degrees from the core axis.
				Mineralogy	Biotite granite with approximately 40% K-spar, 30% quartz, 25% plagioclase and 5% biotite. Up to 30% biotite in local mafic banding. Secondary hematite and chlorite. Iron oxides along fractures to approximately 50m. Minor serpentine alteration along fractures from 70m to end of interval.
				Texture	Medium to coarse grained; inequigranular. Locally pegmatitic. Locally observe poorly developed gneissic banding. Weak foliation at 40 degrees from the core axis in local areas. Hematite and chlorite alteration most prevalent near fractures. Rock is moderately serpentinized within 1m of the kimberllte contact.
169	235	TK-TKt-HKt	Kimberlite	Competence	Moderately Competent
(554')	*(771')*	*(AKF4)*		Colour	Lt-Med Olive Green
				Description	Moderately competent Facies 4 kimberlite with crustal xenoliths scattered throughout. Xenoliths become smaller and more highly serpentinized from 212.4 - 235.0m; xenoliths are black altered rather than hematized in this area. Fractures are dominantly oriented at 50 - 60 degrees from the core axis.
				Mineralogy	Highly serpentinized olivine macrocrysts in a serpentine and minor phlogopite groundmass. Carbonate and serpentine minerals in veining. Hematite staining of almost all xenoliths; minor hermatite in the groundmass and along fractures. No garnets observed.
				Texture	Macrocrystic with anywhere from 5-10% xenolith content. Thin calcite and serpentine veining throughout, more prevalent near the contact. Kimberlite is crumbly and incompetent within 1.5m of the lower granite contact.
				Xenoliths	Highly hematized and serpentinized granitic xenoliths scattered throughout the interval. Generally subrounded to subangular and <5 cm in size. Locally up to 30 cm in size. Locally the xenoliths display highly altered rims and less altered cores. Possible autoliths at 197.4m and 215.2m. Local mafic xenoliths likely sourced from the mafic gneissic banding of the country rock. No mantle xenoliths are observed.
235	329.2	GNSS	Granitic Gneiss	Competence	Broken
(771')	*(1080')*			Colour	Orange-Black Gray
				Description	Competent granitic gneiss with locally abundant broken intervals. Mafic banding often extensively chloritized. Core is highly broken from 311.5 - 316.1m with abundant chlorite alteration along fractures. Very competent from 316.1 - 329.2m with only minor hematite and chlorite alteration. Contact with the kimberlite is highly serpentinized for approximately 1m; contact oriented at 45 degrees from the core axis. Fractures are dominantly oriented at 45 degrees from the core axis.
				Mineralogy	Granite to granitic gneiss with approximately 40% K-spar, 30% quartz, 25% plaglioclase, and 5% biotite. Mafic banding contains up to 25% biotite. Hematite coating throughout felsic portions. Serpentine and chlorite alteration along fractures; chlorite more prevalent near biotite rich mafic banding.
				Texture	Medium to coarse grained; locally pegmatitic. Mafic bands are generally finer grained. Local cross-cutting fractures near the kimberlite contact that are filled with carbonate and serpentine minerals. Weak foliation oriented at 65 - 70 degrees from the core axis. More abundant mafic differentiation from 285.6 - 315.2m.

APPENDIX II: Kennady North Project Drill Logs

KDI-16-028a

KDI-16-033

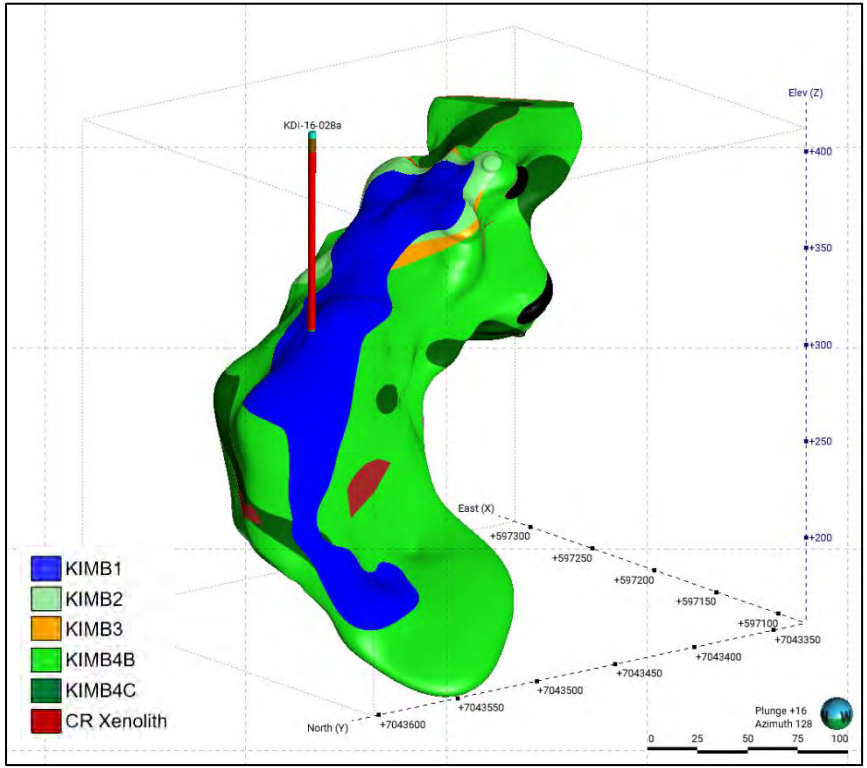
KDI-16-035

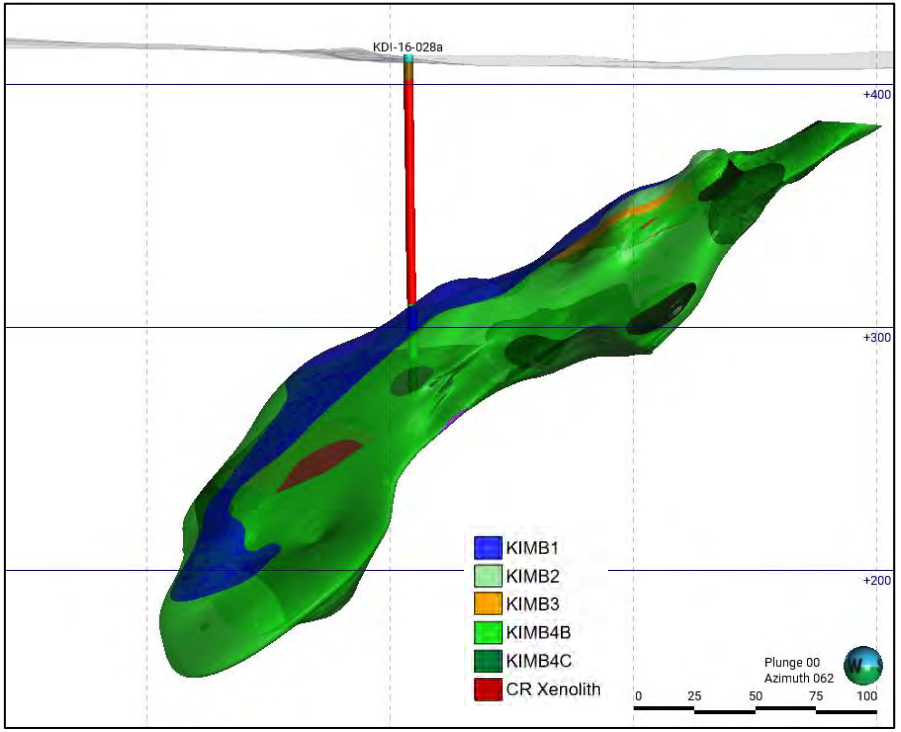
KDI-17-002b

KDI-HQ15-005

KDI-HQ15-014

Faraday 3
KDI-16-028a





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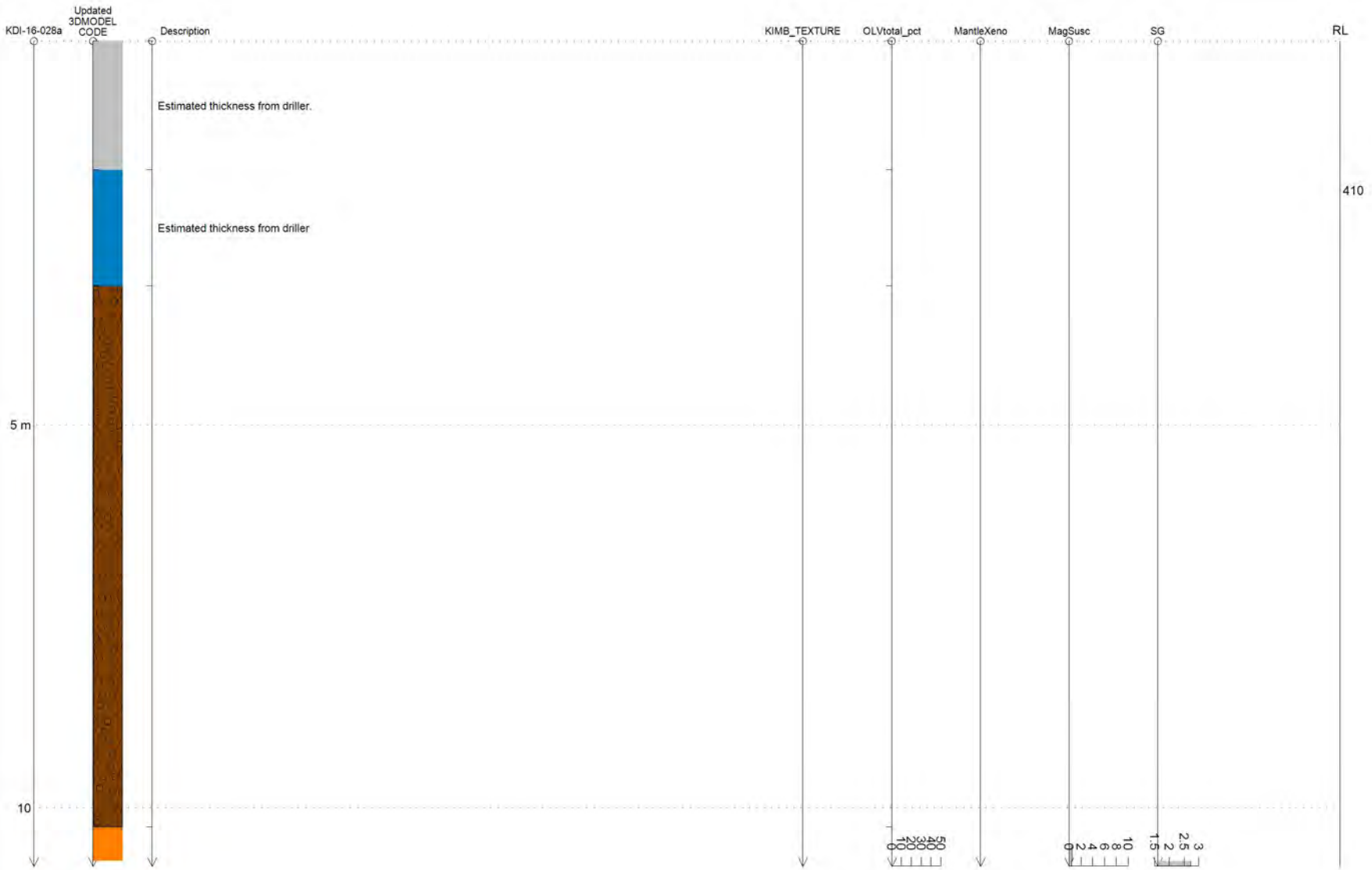
MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0



MOUNTAIN PROVINCE DIAMONDS

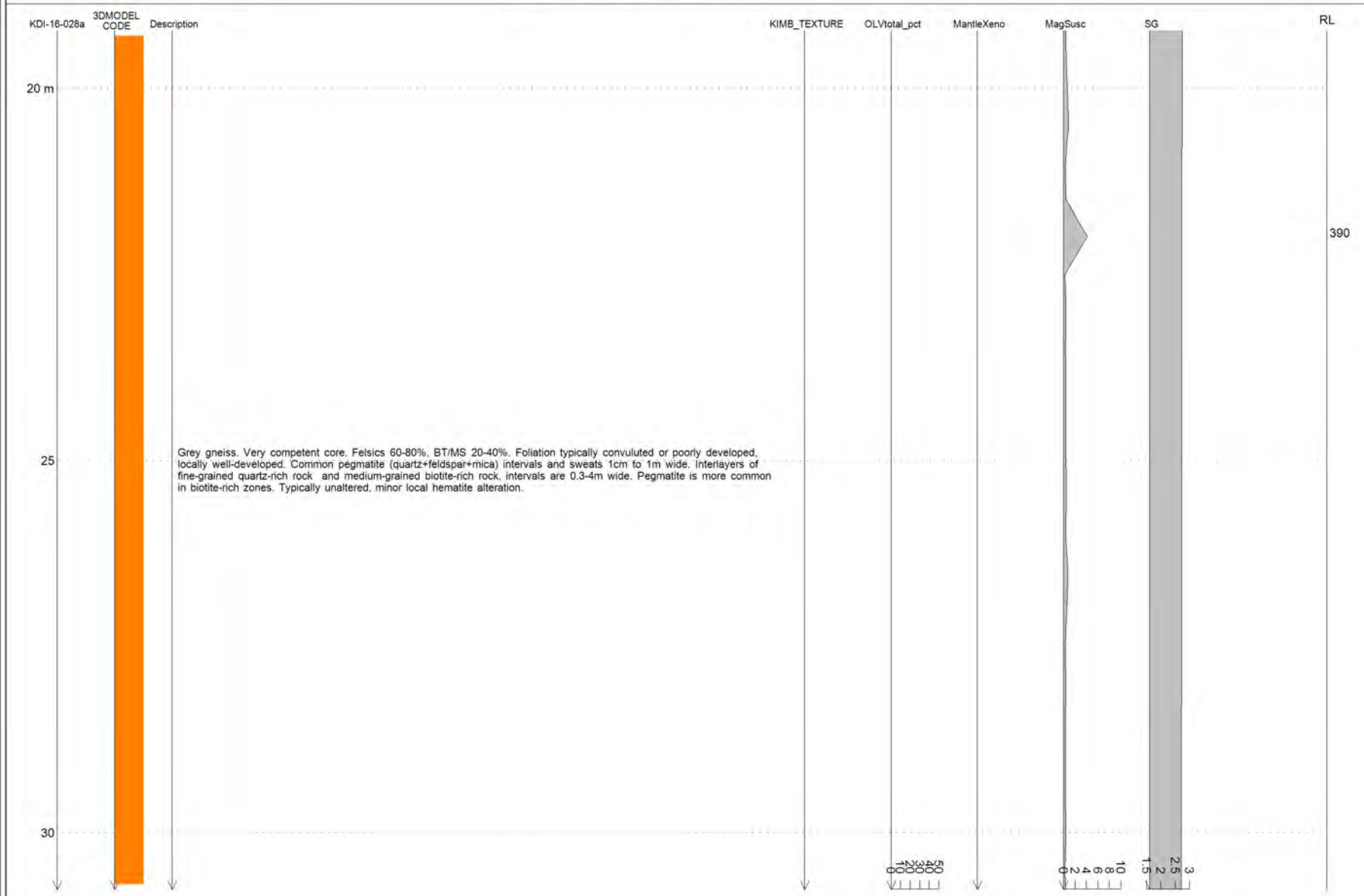
STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
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MOUNTAIN PROVINCE DIAMONDS

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MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
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MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
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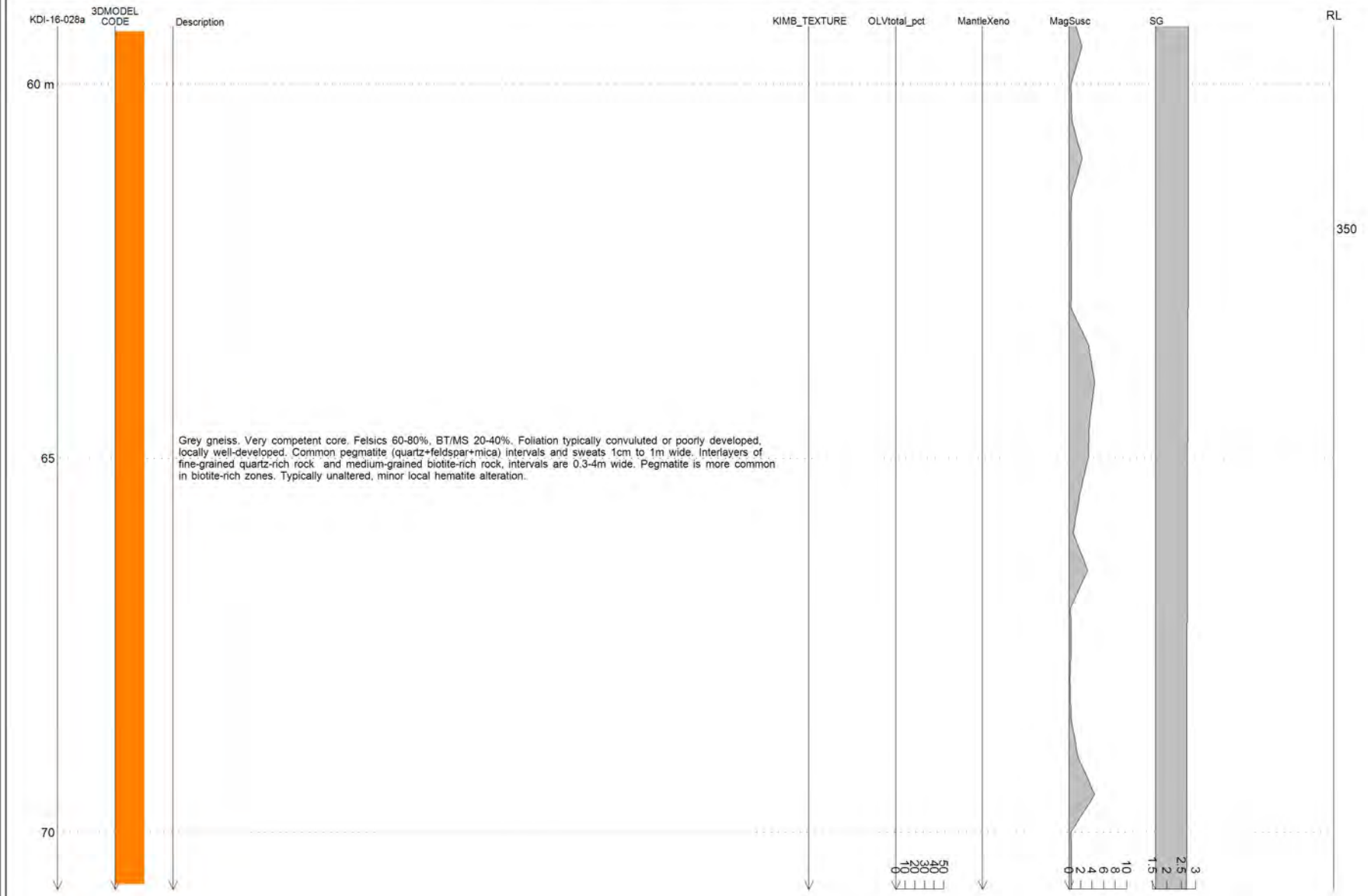


MOUNTAIN
PROVINCE DIAMONDS

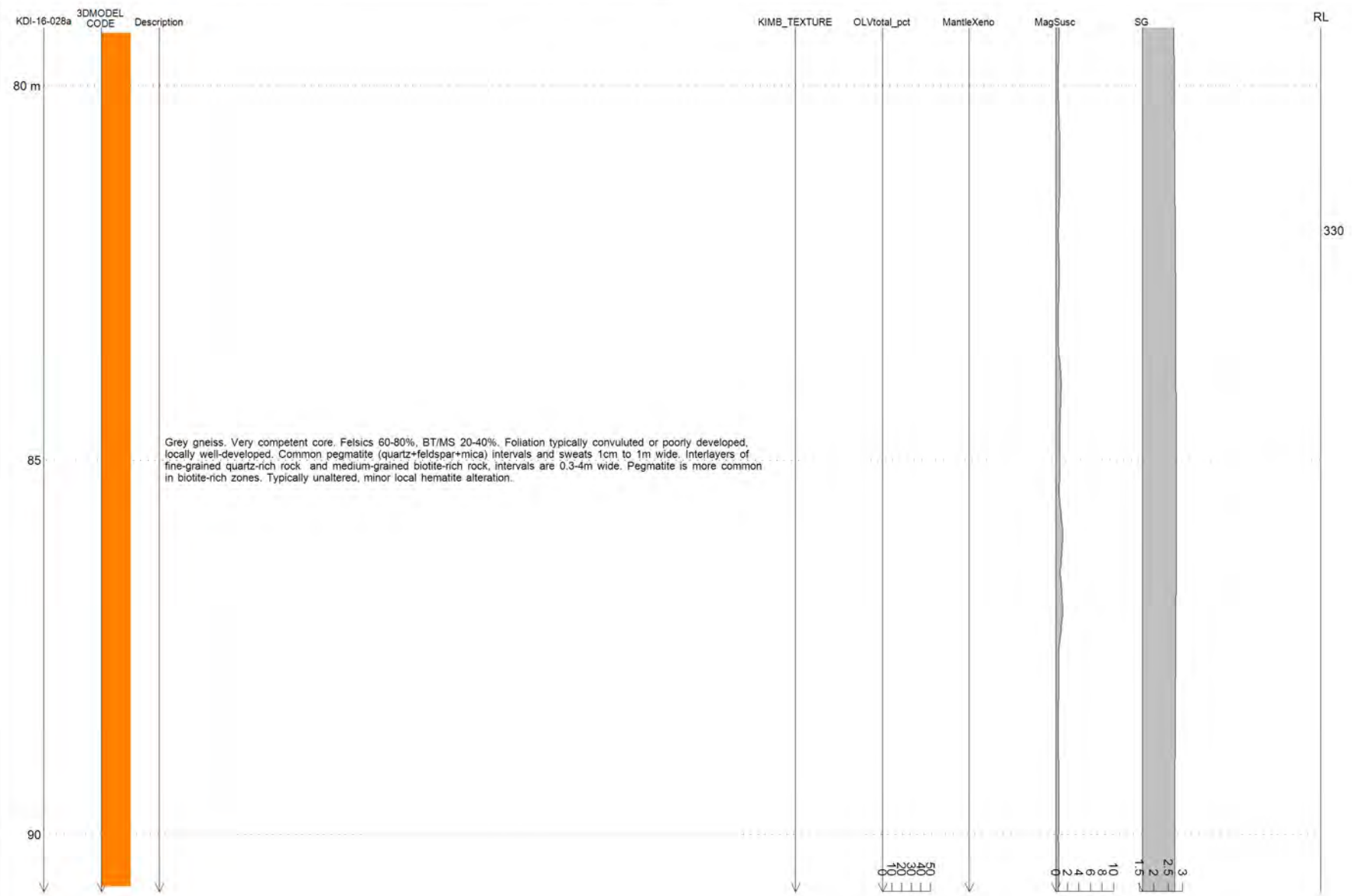
STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
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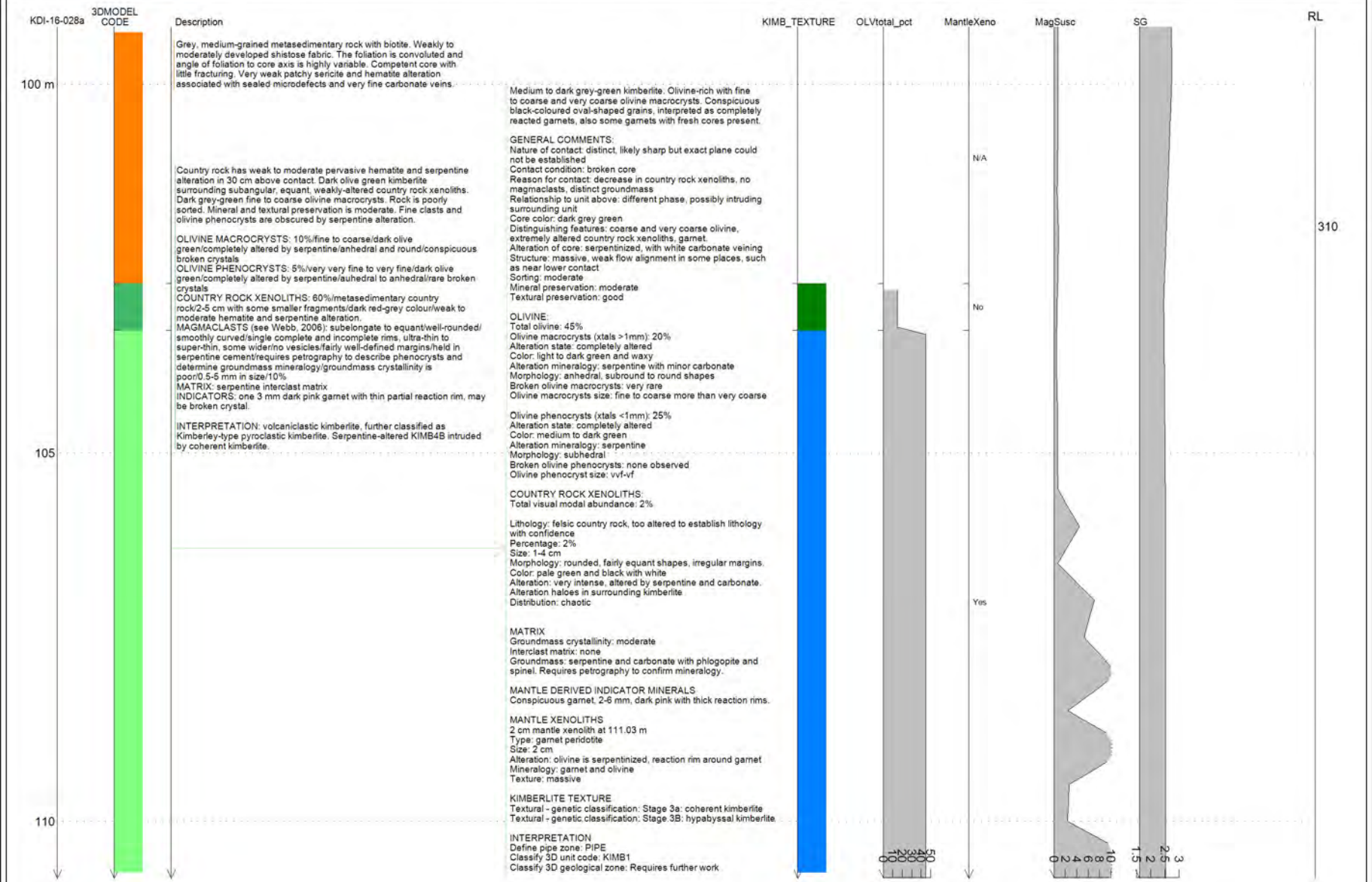
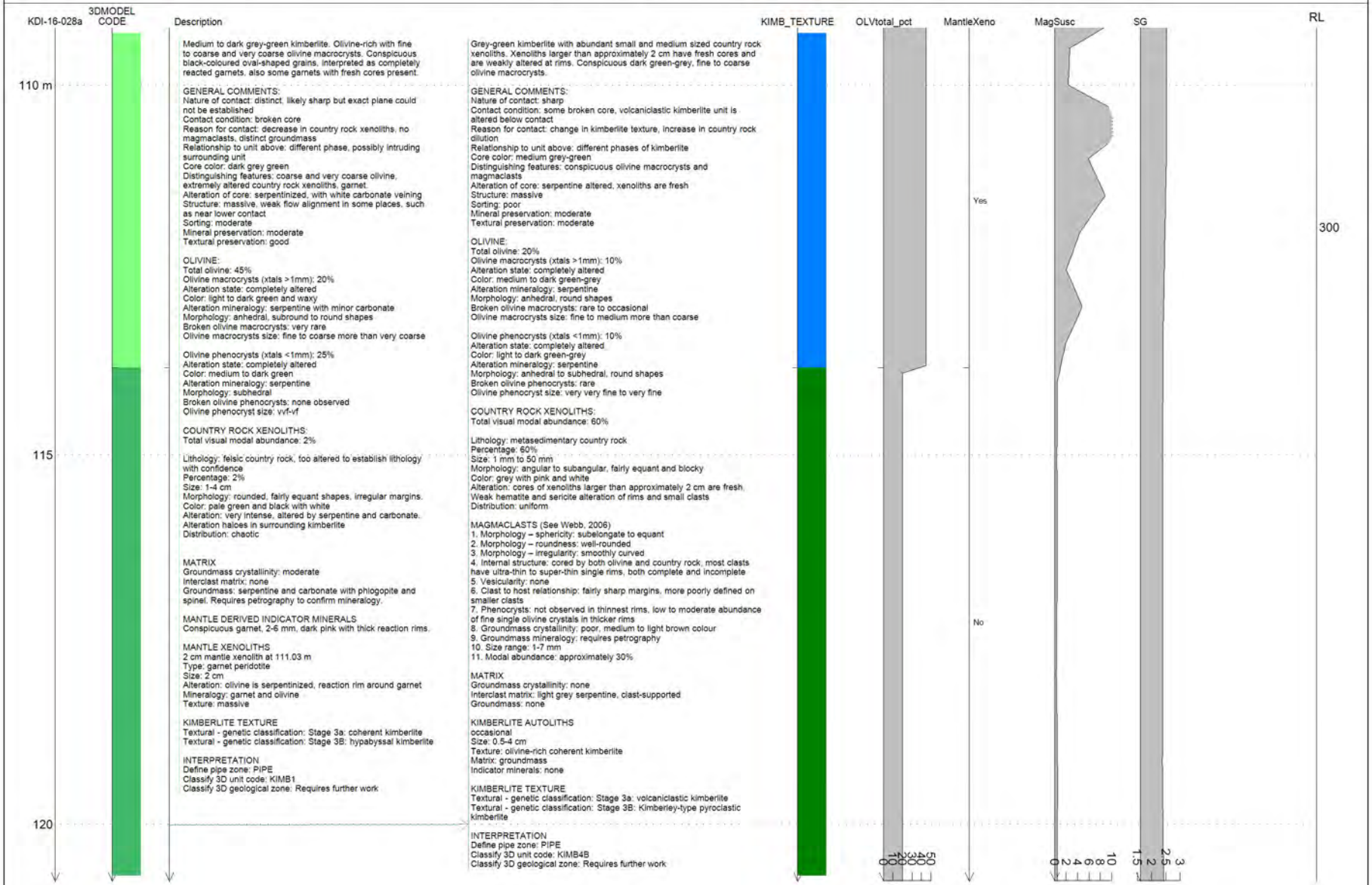


MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0



Medium to dark grey-green kimberlite. Olivine-rich with fine to coarse and very coarse olivine macrocrysts. Conspicuous black-coloured oval-shaped grains, interpreted as completely reacted garnets, also some garnets with fresh cores present.

GENERAL COMMENTS:
Nature of contact: distinct, likely sharp but exact plane could not be established
Contact condition: broken core
Reason for contact: decrease in country rock xenoliths, no magmaclasts, distinct groundmass
Relationship to unit above: different phase, possibly intruding surrounding unit
Core color: dark grey green
Distinguishing features: coarse and very coarse olivine, extremely altered country rock xenoliths, garnet
Alteration of core: serpentinized, with white carbonate veining
Structure: massive, weak flow alignment in some places, such as near lower contact
Sorting: moderate
Mineral preservation: moderate
Textural preservation: good

OLIVINE:
Total olivine: 45%
Olivine macrocrysts (xtals >1mm): 20%
Alteration state: completely altered
Color: light to dark green and waxy
Alteration mineralogy: serpentine with minor carbonate
Morphology: anhedral, subround to round shapes
Broken olivine macrocrysts: very rare
Olivine macrocrysts size: fine to coarse more than very coarse

Olivine phenocrysts (xtals <1mm): 25%
Alteration state: completely altered
Color: medium to dark green
Alteration mineralogy: serpentine
Morphology: subhedral
Broken olivine phenocrysts: none observed
Olivine phenocryst size: vvf-vf

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 2%

Lithology: felsic country rock, too altered to establish lithology with confidence
Percentage: 2%
Size: 1-4 cm
Morphology: rounded, fairly equant shapes, irregular margins.
Color: pale green and black with white
Alteration: very intense, altered by serpentine and carbonate.
Alteration haloes in surrounding kimberlite
Distribution: chaotic

MATRIX
Groundmass crystallinity: moderate
Interclast matrix: none
Groundmass: serpentine and carbonate with phlogopite and spinel. Requires petrography to confirm mineralogy.

MANTLE DERIVED INDICATOR MINERALS
Conspicuous garnet, 2-6 mm, dark pink with thick reaction rims.

MANTLE XENOLITHS
2 cm mantle xenolith at 111.03 m
Type: garnet peridotite
Size: 2 cm
Alteration: olivine is serpentinized, reaction rim around garnet
Mineralogy: garnet and olivine
Texture: massive

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: coherent kimberlite
Textural - genetic classification: Stage 3B: hypabyssal kimberlite

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: KIMB1
Classify 3D geological zone: Requires further work

Grey-green kimberlite with abundant small and medium sized country rock xenoliths. Xenoliths larger than approximately 2 cm have fresh cores and are weakly altered at rims. Conspicuous dark green-grey, fine to coarse olivine macrocrysts.

GENERAL COMMENTS:
Nature of contact: sharp
Contact condition: some broken core, volcaniclastic kimberlite unit is altered below contact
Reason for contact: change in kimberlite texture, increase in country rock dilution
Relationship to unit above: different phases of kimberlite
Core color: medium grey-green
Distinguishing features: conspicuous olivine macrocrysts and magmaclasts
Alteration of core: serpentine altered, xenoliths are fresh
Structure: massive
Sorting: poor
Mineral preservation: moderate
Textural preservation: moderate

OLIVINE:
Total olivine: 20%
Olivine macrocrysts (xtals >1mm): 10%
Alteration state: completely altered
Color: medium to dark green-grey
Alteration mineralogy: serpentine
Morphology: anhedral, round shapes
Broken olivine macrocrysts: rare to occasional
Olivine macrocrysts size: fine to medium more than coarse

Olivine phenocrysts (xtals <1mm): 10%
Alteration state: completely altered
Color: light to dark green-grey
Alteration mineralogy: serpentine
Morphology: anhedral to subhedral, round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 60%

Lithology: metasedimentary country rock
Percentage: 60%
Size: 1 mm to 50 mm
Morphology: angular to subangular, fairly equant and blocky
Color: grey with pink and white
Alteration: cores of xenoliths larger than approximately 2 cm are fresh
Weak hematite and sericite alteration of rims and small clasts
Distribution: uniform

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: subelongate to equant
2. Morphology – roundness: well-rounded
3. Morphology – irregularity: smoothly curved
4. Internal structure: cored by both olivine and country rock; most clasts have ultra-thin to super-thin single rims, both complete and incomplete
5. Vesicularity: none
6. Clast to host relationship: fairly sharp margins, more poorly defined on smaller clasts
7. Phenocrysts: not observed in thinnest rims, low to moderate abundance of fine single olivine crystals in thicker rims
8. Groundmass crystallinity: poor, medium to light brown colour
9. Groundmass mineralogy: requires petrography
10. Size range: 1-7 mm
11. Modal abundance: approximately 30%

MATRIX
Groundmass crystallinity: none
Interclast matrix: light grey serpentine, clast-supported
Groundmass: none

KIMBERLITE AUTOLITHS
occasional
Size: 0.5-4 cm
Texture: olivine-rich coherent kimberlite
Matrix: groundmass
Indicator minerals: none

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: volcaniclastic kimberlite
Textural - genetic classification: Stage 3B: Kimberley-type pyroclastic kimberlite

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: KIMB4B
Classify 3D geological zone: Requires further work

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
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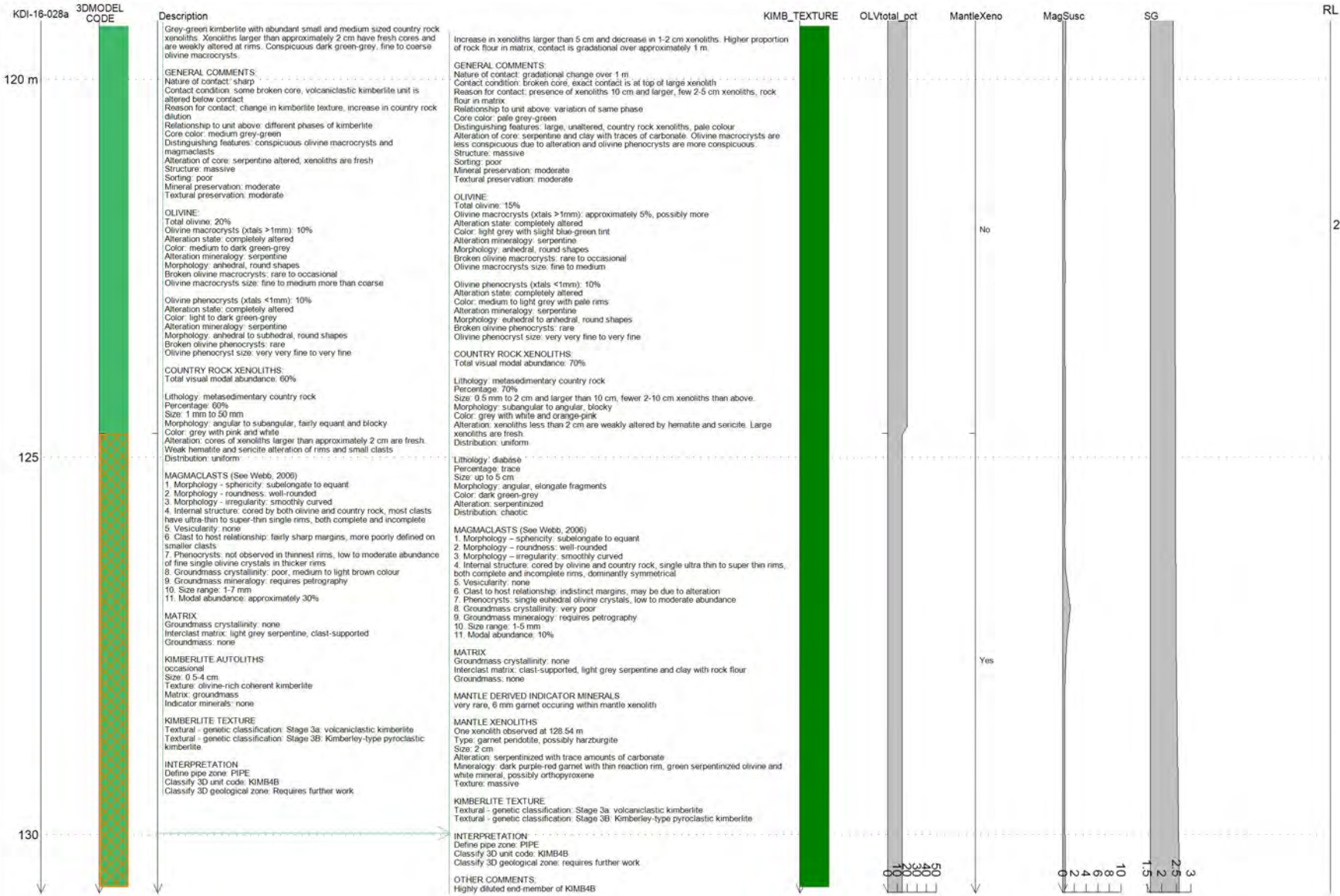


MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0

Increase in country rock dilution, consisting of small, medium and large xenoliths. Gradational increase in xenoliths over 2 m at upper contact.

10 cm granite xenolith at 133.20 m.

GENERAL COMMENTS:
Nature of contact: gradational over 2 m
Contact condition: intact core
Reason for contact: increase in country rock dilution, especially mid-sized xenoliths
Relationship to unit above: variation of same kimberlite phase
Core color: light green-grey
Distinguishing features: abundant unaltered medium and large xenoliths, serpentine interclast matrix
Alteration of core: serpentine and clay alteration of matrix, xenoliths are fresh
Structure: massive
Sorting: poor
Mineral preservation: moderate
Textural preservation: moderate

OLIVINE:
Total olivine: approximately 10%
Olivine macrocrysts (xtals >1mm): 5%
Alteration state: completely altered
Color: medium to dark blue-green and brown
Alteration mineralogy: serpentine
Morphology: anhedral, subround to round shapes
Broken olivine macrocrysts: rare to occasional
Olivine macrocrysts size: fine to medium

Olivine phenocrysts (xtals <1mm): 5%
Alteration state: completely altered
Color: medium to dark blue-green and brown
Alteration mineralogy: serpentine
Morphology: subhedral, round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 70-80%

Lithology: metasedimentary country rock with traces of granite and diabase
Percentage: 70-80%
Size: 0.5 mm to larger than 10 cm
Morphology: angular to subangular, equant blocks
Color: grey with white and pink
Alteration: small xenoliths are weakly altered by sericite and hematite
Distribution: uniform

MAGMACLASTS (See Webb, 2006)
Margins are indistinct and selvedges have grey-olive green colour, otherwise magmaclast characteristic are the same as the previous kimberlite unit.
Modal abundance is approximately 10%

MATRIX
Groundmass crystallinity: none
Interclast matrix: medium grey-olive green serpentine, clast supported
Groundmass: none

MANTLE DERIVED INDICATOR MINERALS
very rare, one 2 mm garnet, dark pink-red with thin reaction rim

MANTLE XENOLITHS
None

KIMBERLITE AUTOLITHS
Rare
Size: 1 cm
Texture: olivine-rich coherent kimberlite
Matrix: highly altered groundmass
Indicator minerals: none

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: volcaniclastic kimberlite
Textural - genetic classification: Stage 3B: Kimberley-type pyroclastic kimberlite

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: requires further work, either KIMB4B or KIMB4C.
Classify 3D geological zone: requires further work

OTHER COMMENTS:
Country rock dilution on edge of boundary between KIMB4B and KIMB4C. Kimberlite interclast matrix and olivine is still present, rock is not just cemented rock flour and larger xenoliths.

MOUNTAIN PROVINCE DIAMONDS

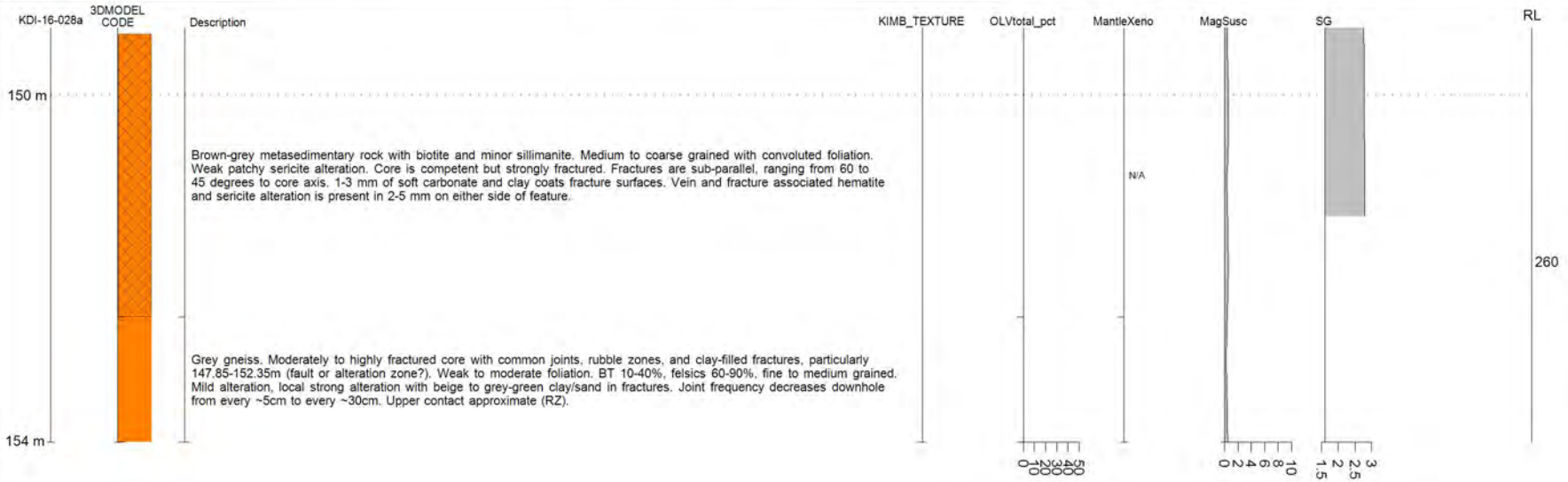
STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0

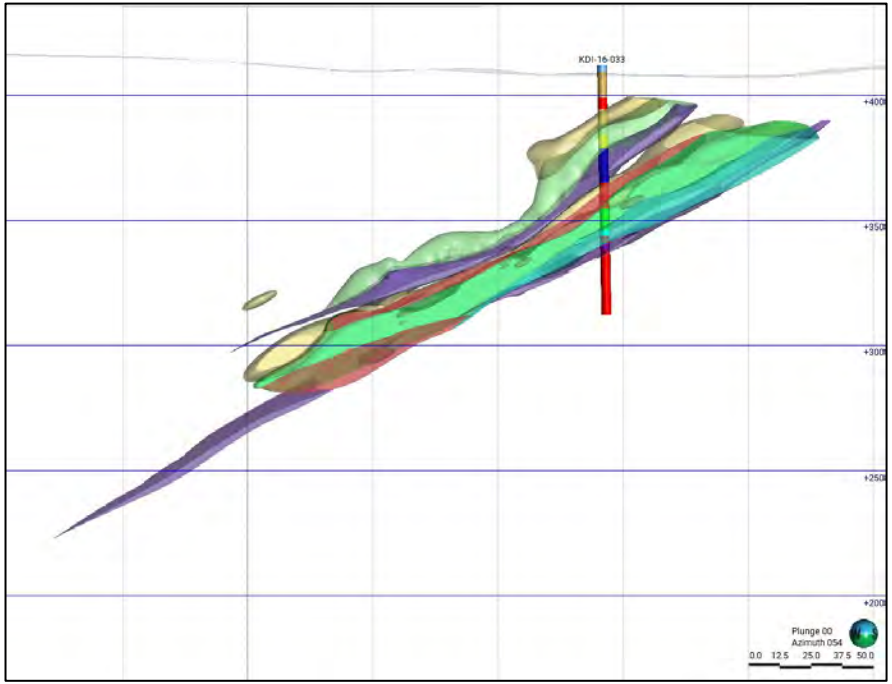
MOUNTAIN PROVINCE DIAMONDS

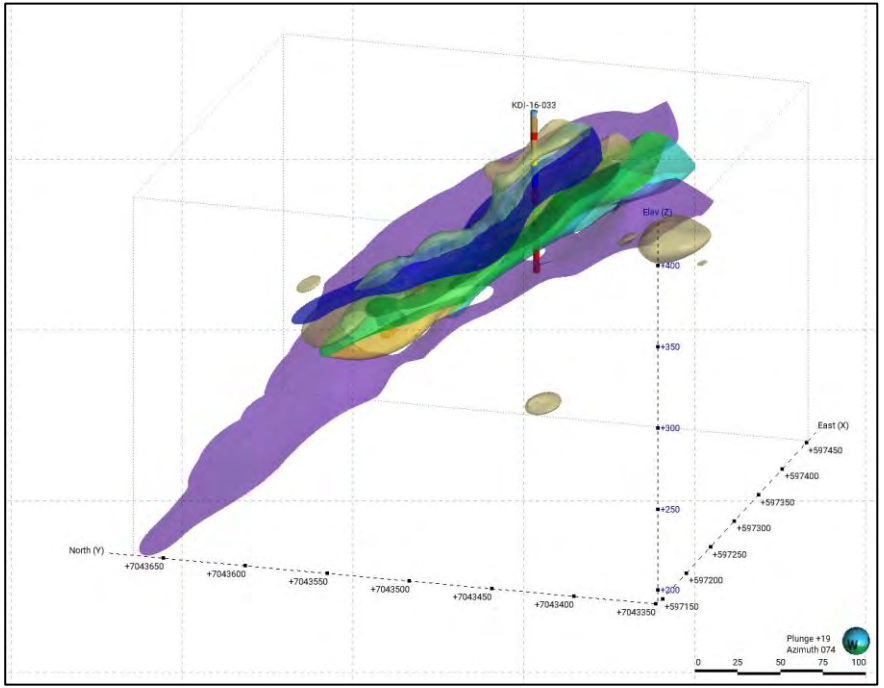
STRIP LOG: KDI-16-028a

Easting	Northing	RL	Azimuth	Dip	Depth
597224.6	7043526.9	412.0	115.3	-89.0	154.0



Faraday 1
KDI-16-033





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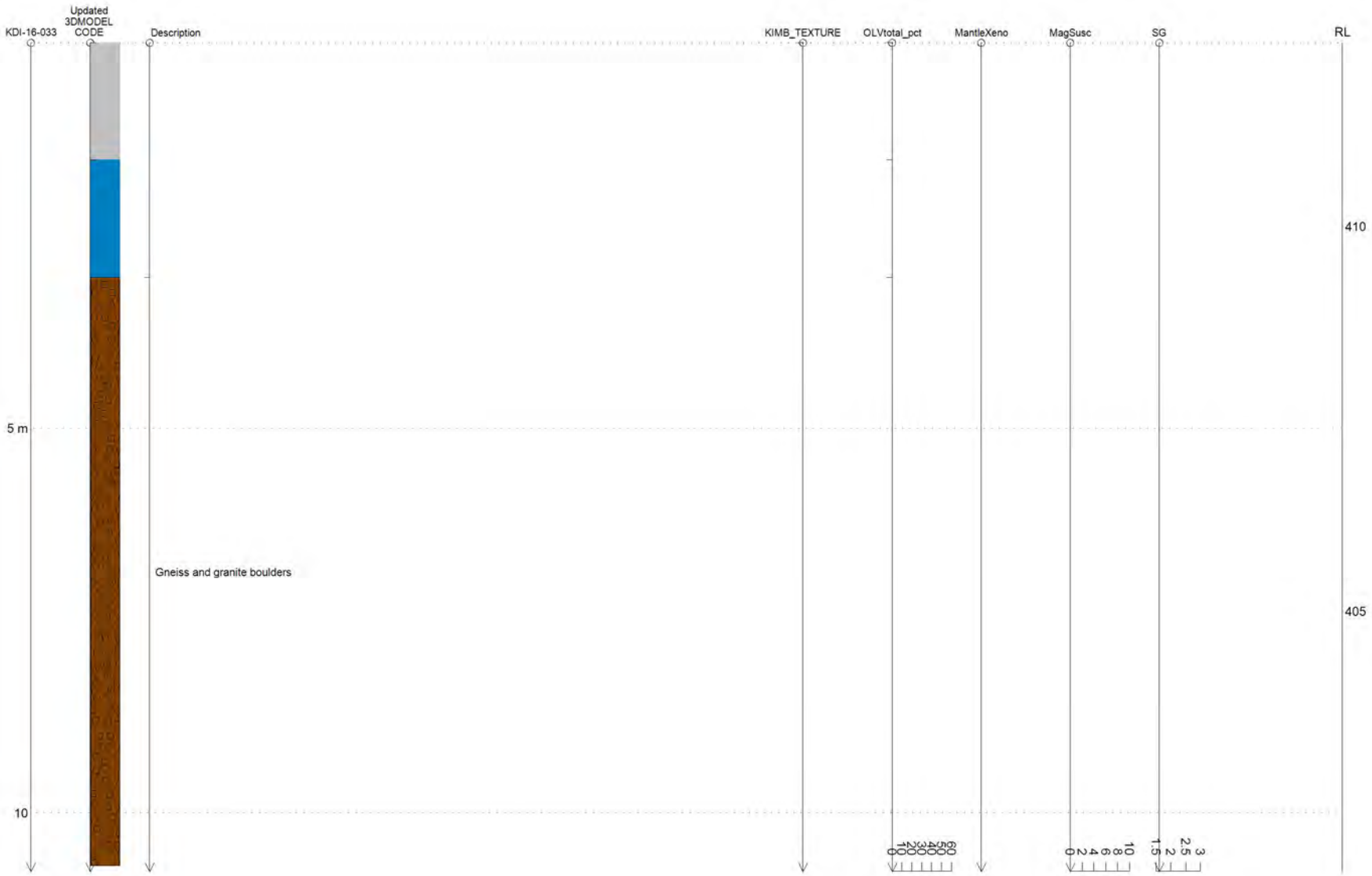
MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
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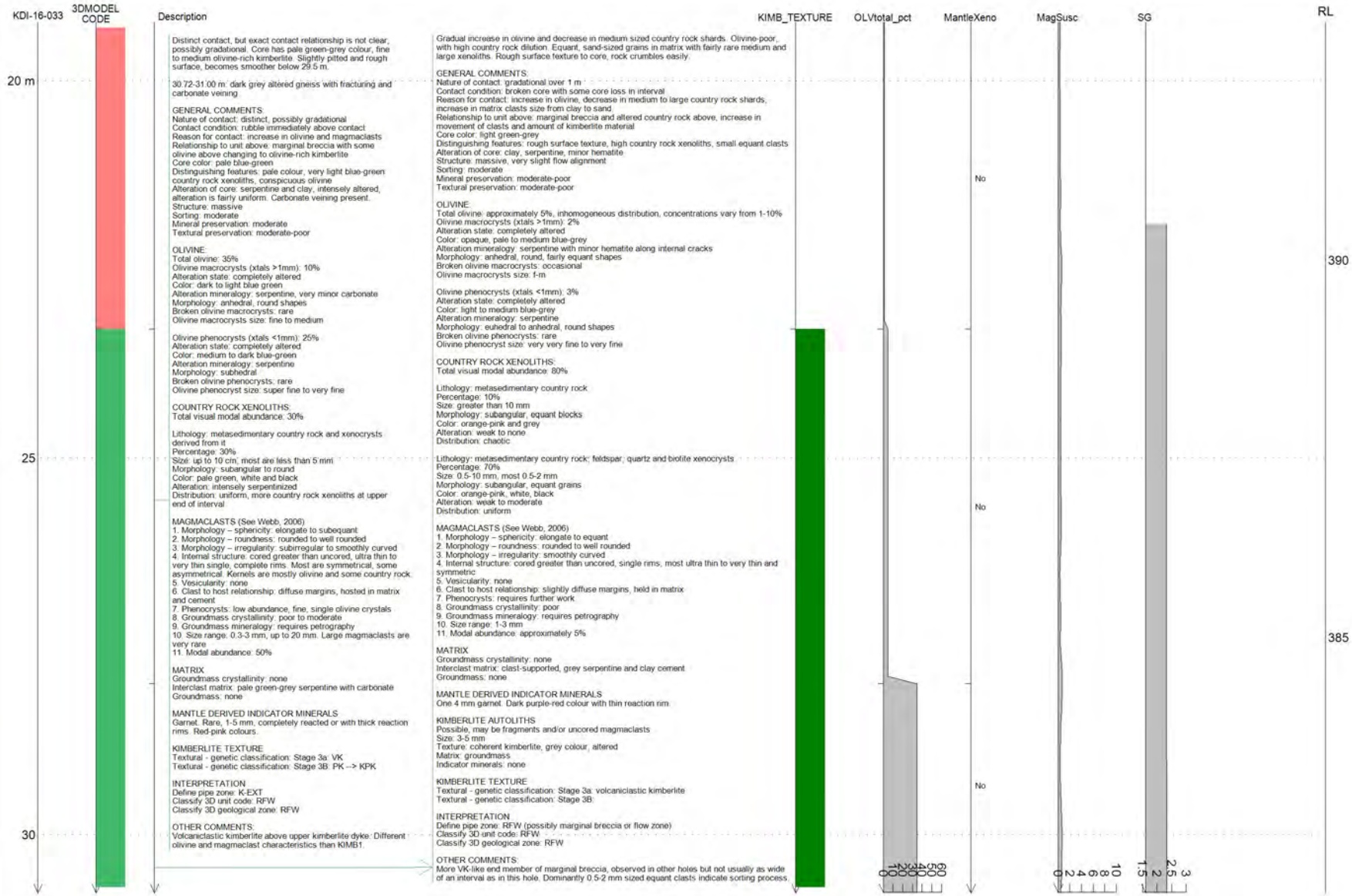

Distinct contact, but exact contact relationship is not clear, possibly gradational. Core has pale green-grey colour, fine to medium olivine-rich kimberlite. Slightly pitted and rough surface, becomes smoother below 29.5 m.

30.72-31.00 m: dark grey altered gneiss with fracturing and carbonate veining.

GENERAL COMMENTS:
Nature of contact: distinct, possibly gradational
Contact condition: rubble immediately above contact
Reason for contact: increase in olivine and magmaclasts
Relationship to unit above: marginal breccia with some olivine above changing to olivine-rich kimberlite
Core color: pale blue-green
Distinguishing features: pale colour, very light blue-green country rock xenoliths, conspicuous olivine
Alteration of core: serpentine and clay, intensely altered, alteration is fairly uniform. Carbonate veining present.
Structure: massive
Sorting: moderate
Mineral preservation: moderate
Textural preservation: moderate-poor

OLIVINE:
Total olivine: 35%
Olivine macrocrysts (xtals >1mm): 10%
Alteration state: completely altered
Color: dark to light blue green
Alteration mineralogy: serpentine, very minor carbonate
Morphology: anhedral, round shapes
Broken olivine macrocrysts: rare
Olivine macrocrysts size: fine to medium

Olivine phenocrysts (xtals <1mm): 25%
Alteration state: completely altered
Color: medium to dark blue-green
Alteration mineralogy: serpentine
Morphology: subhedral
Broken olivine phenocrysts: rare
Olivine phenocryst size: super fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 30%

Lithology: metasedimentary country rock and xenocrysts derived from it
Percentage: 30%
Size: up to 10 cm, most are less than 5 mm
Morphology: subangular to round
Color: pale green, white and black
Alteration: intensely serpentinized
Distribution: uniform, more country rock xenoliths at upper end of interval

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: elongate to subequant
2. Morphology – roundness: rounded to well rounded
3. Morphology – irregularity: subirregular to smoothly curved
4. Internal structure: cored greater than uncored, ultra thin to very thin single, complete rims. Most are symmetrical, some asymmetrical. Kernels are mostly olivine and some country rock.
5. Vesicularity: none
6. Clast to host relationship: diffuse margins, hosted in matrix and cement
7. Phenocrysts: low abundance, fine, single olivine crystals
8. Groundmass crystallinity: poor to moderate
9. Groundmass mineralogy: requires petrography
10. Size range: 0.3-3 mm, up to 20 mm. Large magmaclasts are very rare
11. Modal abundance: 50%

MATRIX
Groundmass crystallinity: none
Interclast matrix: pale green-grey serpentine with carbonate
Groundmass: none

MANTLE DERIVED INDICATOR MINERALS
Garnet. Rare, 1-5 mm, completely reacted or with thick reaction rims. Red-pink colours.

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: VK
Textural - genetic classification: Stage 3B: PK --> KPK

INTERPRETATION
Define pipe zone: K-EXT
Classify 3D unit code: RFW
Classify 3D geological zone: RFW

OTHER COMMENTS:
Volcaniclastic kimberlite above upper kimberlite dyke: Different olivine and magmaclast characteristics than KIMB1.

Gradual increase in olivine and decrease in medium sized country rock shards. Olivine-poor, with high country rock dilution. Equant, sand-sized grains in matrix with fairly rare medium and large xenoliths. Rough surface texture to core, rock crumbles easily.

GENERAL COMMENTS:
Nature of contact: gradational over 1 m
Contact condition: broken core with some core loss in interval
Reason for contact: increase in olivine, decrease in medium to large country rock shards, increase in matrix clasts size from clay to sand.
Relationship to unit above: marginal breccia and altered country rock above, increase in movement of clasts and amount of kimberlite material
Core color: light green-grey
Distinguishing features: rough surface texture, high country rock xenoliths, small equant clasts
Alteration of core: clay, serpentine, minor hematite
Structure: massive, very slight flow alignment
Sorting: moderate
Mineral preservation: moderate-poor
Textural preservation: moderate-poor

OLIVINE:
Total olivine: approximately 5%, inhomogeneous distribution, concentrations vary from 1-10%
Olivine macrocrysts (xtals >1mm): 2%
Alteration state: completely altered
Color: opaque, pale to medium blue-grey
Alteration mineralogy: serpentine with minor hematite along internal cracks
Morphology: anhedral, round, fairly equant shapes
Broken olivine macrocrysts: occasional
Olivine macrocrysts size: f-m

Olivine phenocrysts (xtals <1mm): 3%
Alteration state: completely altered
Color: light to medium blue-grey
Alteration mineralogy: serpentine
Morphology: euhedral to anhedral, round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 80%

Lithology: metasedimentary country rock
Percentage: 10%
Size: greater than 10 mm
Morphology: subangular, equant blocks
Color: orange-pink and grey
Alteration: weak to none
Distribution: chaotic

Lithology: metasedimentary country rock; feldspar, quartz and biotite xenocrysts
Percentage: 70%
Size: 0.5-10 mm, most 0.5-2 mm
Morphology: subangular, equant grains
Color: orange-pink, white, black
Alteration: weak to moderate
Distribution: uniform

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: elongate to equant
2. Morphology – roundness: rounded to well rounded
3. Morphology – irregularity: smoothly curved
4. Internal structure: cored greater than uncored, single rims, most ultra thin to very thin and symmetric
5. Vesicularity: none
6. Clast to host relationship: slightly diffuse margins, held in matrix
7. Phenocrysts: requires further work
8. Groundmass crystallinity: poor
9. Groundmass mineralogy: requires petrography
10. Size range: 1-3 mm
11. Modal abundance: approximately 5%

MATRIX
Groundmass crystallinity: none
Interclast matrix: clast-supported, grey serpentine and clay cement
Groundmass: none

MANTLE DERIVED INDICATOR MINERALS
One 4 mm garnet. Dark purple-red colour with thin reaction rim.

KIMBERLITE AUTOLITHS
Possible, may be fragments and/or uncored magmaclasts
Size: 3-5 mm
Texture: coherent kimberlite, grey colour, altered
Matrix: groundmass
Indicator minerals: none

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: volcaniclastic kimberlite
Textural - genetic classification: Stage 3B:

INTERPRETATION
Define pipe zone: RFW (possibly marginal breccia or flow zone)
Classify 3D unit code: RFW
Classify 3D geological zone: RFW

OTHER COMMENTS:
More VK-like end member of marginal breccia, observed in other holes but not usually as wide of an interval as in this hole. Dominantly 0.5-2 mm sized equant clasts indicate sorting process

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
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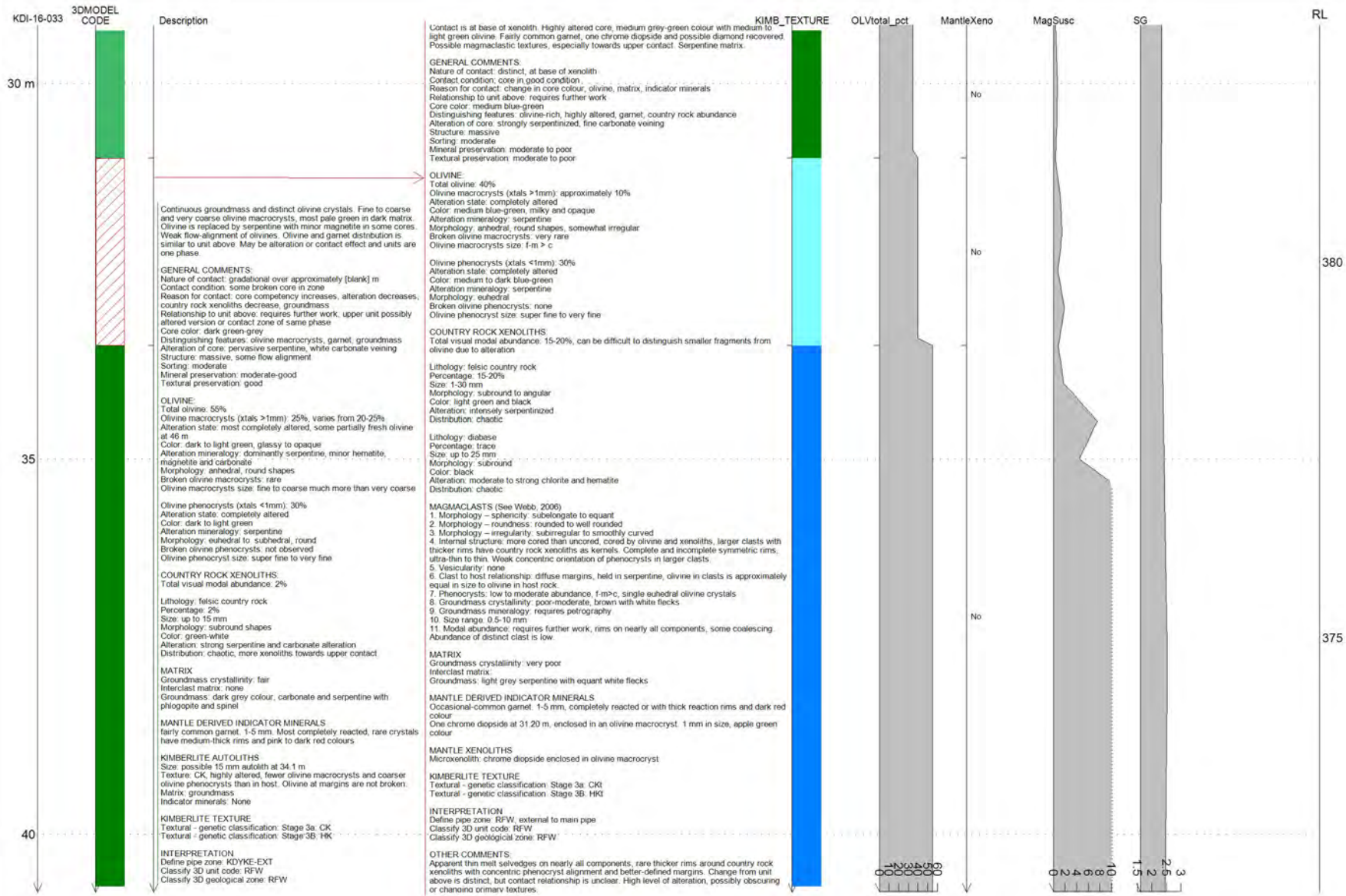

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
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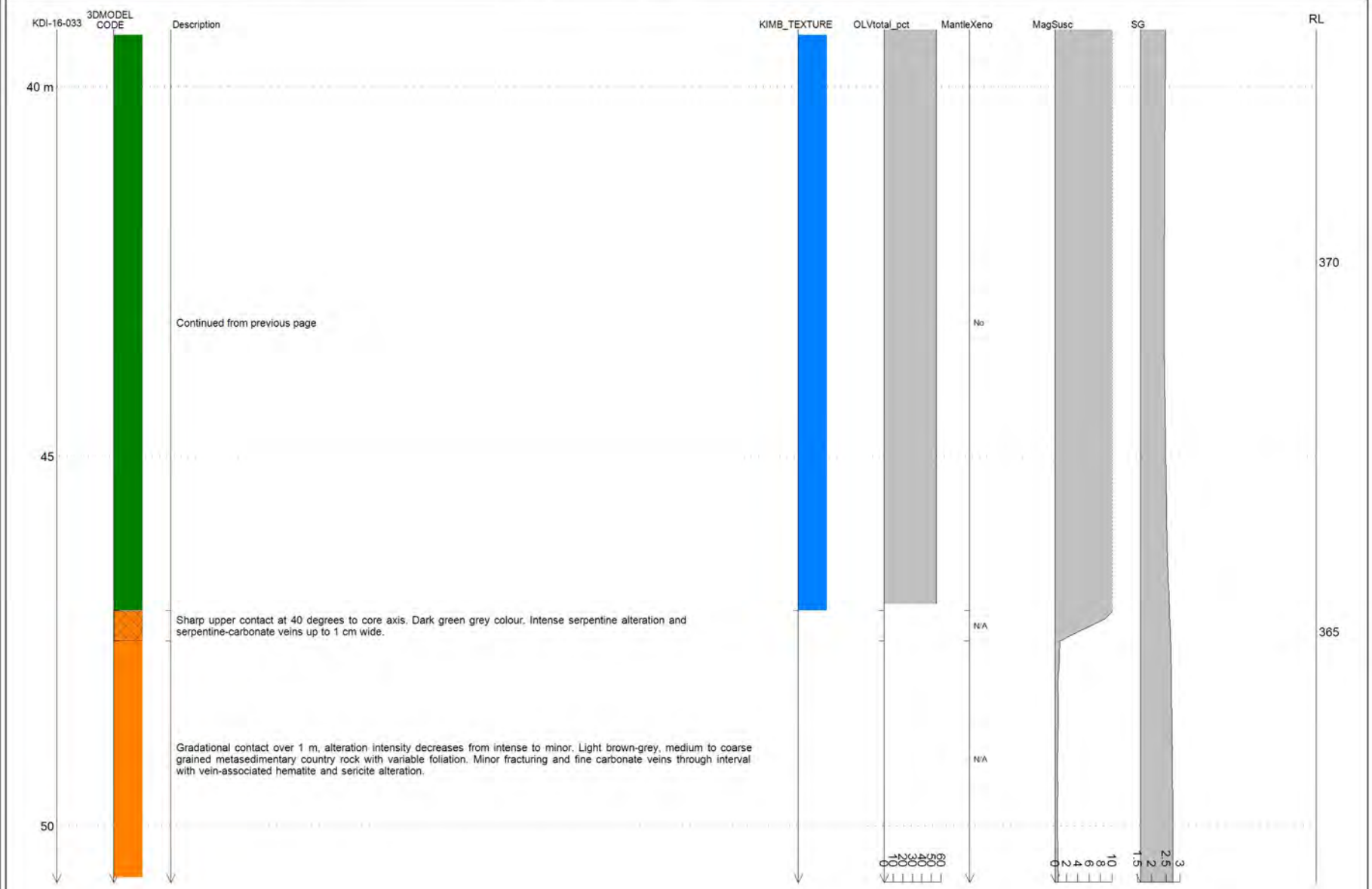

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
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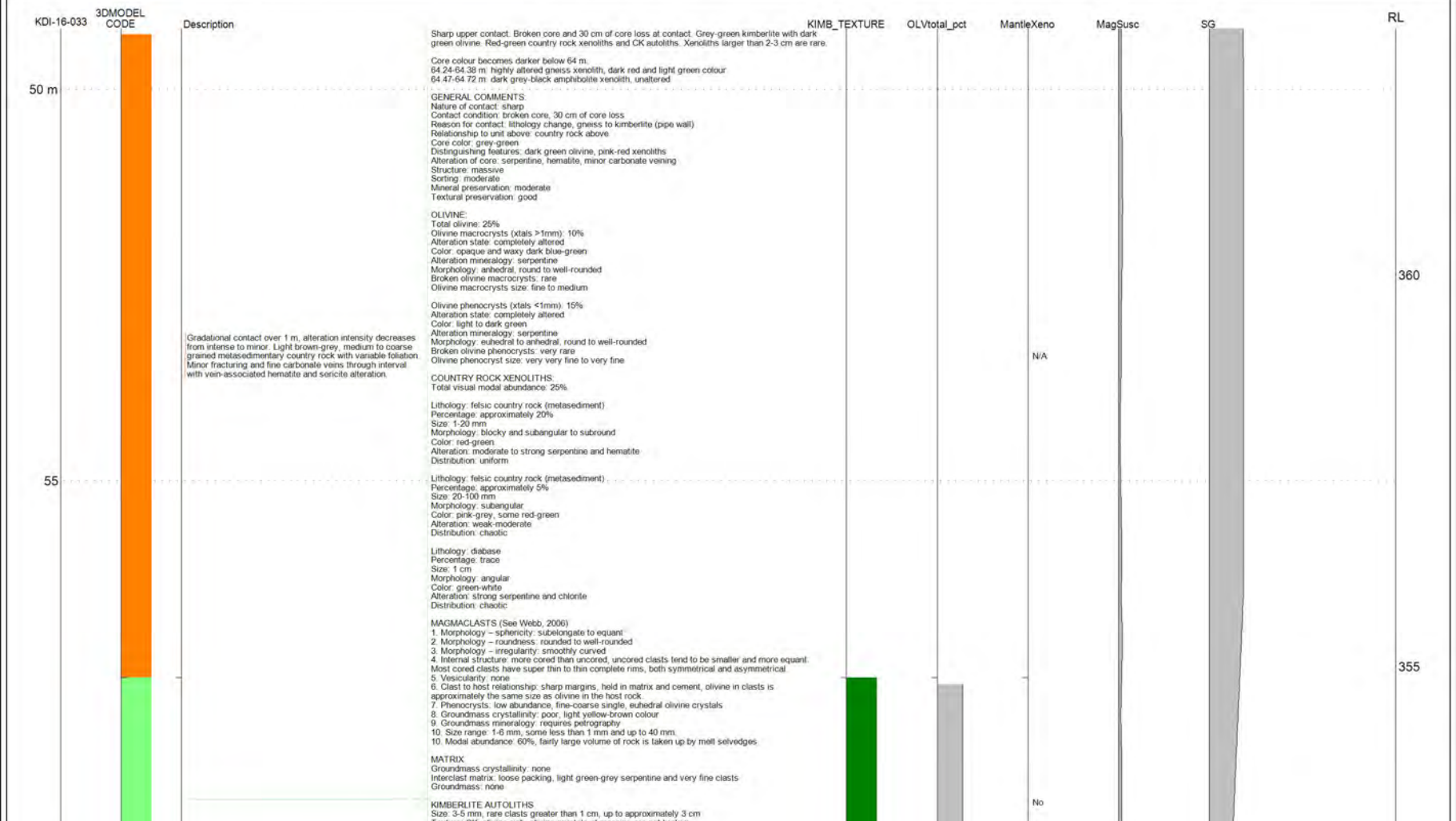
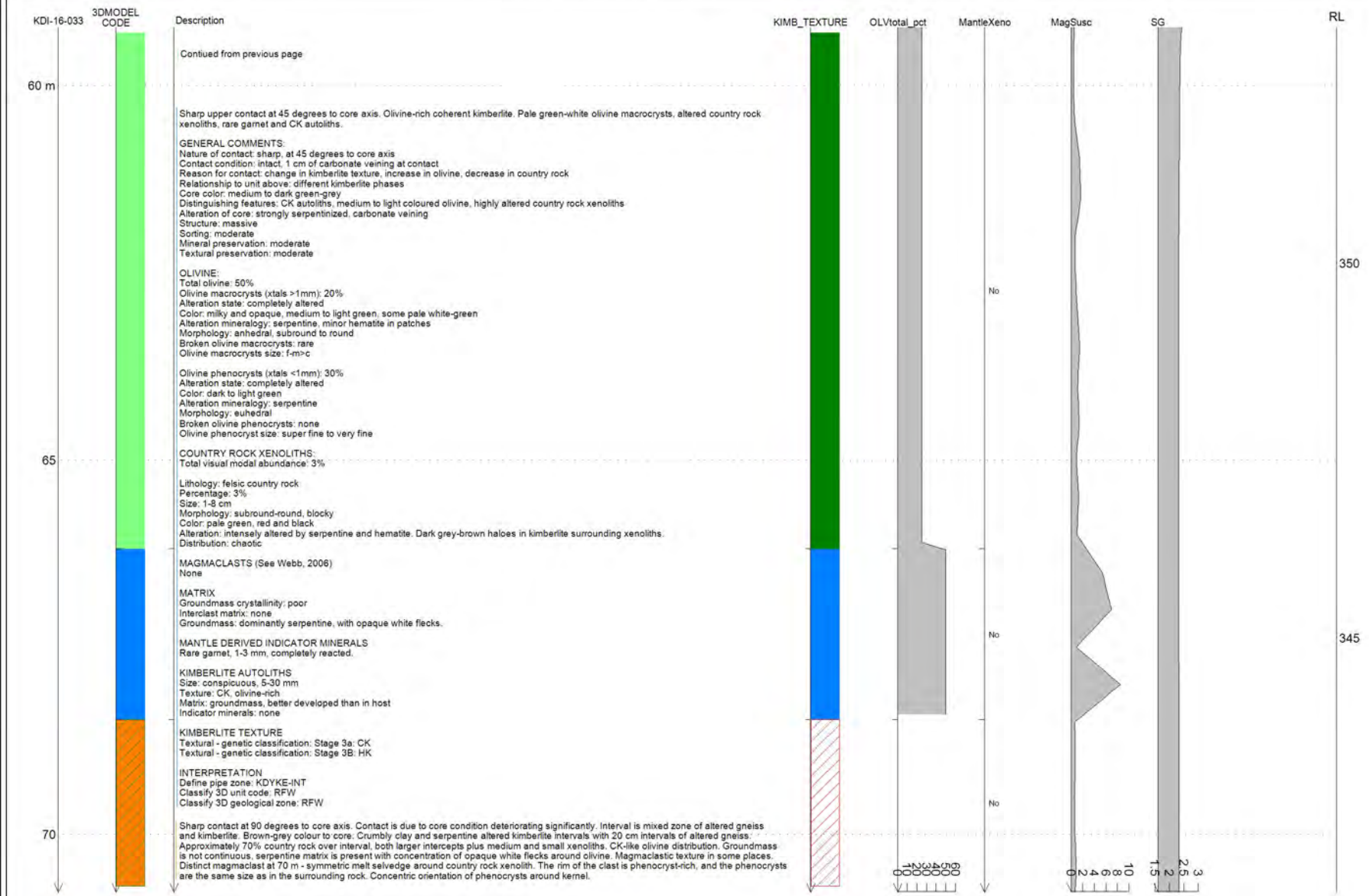


MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0



Contiued from previous page

Sharp upper contact at 45 degrees to core axis. Olivine-rich coherent kimberlite. Pale green-white olivine macrocrysts, altered country rock xenoliths, rare garnet and CK autoliths.

GENERAL COMMENTS:
Nature of contact: sharp, at 45 degrees to core axis
Contact condition: intact, 1 cm of carbonate veining at contact
Reason for contact: change in kimberlite texture, increase in olivine, decrease in country rock
Relationship to unit above: different kimberlite phases
Core color: medium to dark green-grey
Distinguishing features: CK autoliths, medium to light coloured olivine, highly altered country rock xenoliths
Alteration of core: strongly serpentinized, carbonate veining
Structure: massive
Sorting: moderate
Mineral preservation: moderate
Textural preservation: moderate

OLIVINE:
Total olivine: 50%
Olivine macrocrysts (xtals >1mm): 20%
Alteration state: completely altered
Color: milky and opaque, medium to light green, some pale white-green
Alteration mineralogy: serpentine, minor hematite in patches
Morphology: anhedral, subround to round
Broken olivine macrocrysts: rare
Olivine macrocrysts size: f-m>c

Olivine phenocrysts (xtals <1mm): 30%
Alteration state: completely altered
Color: dark to light green
Alteration mineralogy: serpentine
Morphology: euhedral
Broken olivine phenocrysts: none
Olivine phenocryst size: super fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 3%

Lithology: felsic country rock
Percentage: 3%
Size: 1-8 cm
Morphology: subround-round, blocky
Color: pale green, red and black
Alteration: intensely altered by serpentine and hematite. Dark grey-brown haloes in kimberlite surrounding xenoliths.
Distribution: chaotic

MAGMACLASTS (See Webb, 2006)
None

MATRIX
Groundmass crystallinity: poor
Interclast matrix: none
Groundmass: dominantly serpentine, with opaque white flecks.

MANTLE DERIVED INDICATOR MINERALS
Rare garnet, 1-3 mm, completely reacted.

KIMBERLITE AUTOLITHS
Size: conspicuous, 5-30 mm
Texture: CK, olivine-rich
Matrix: groundmass, better developed than in host
Indicator minerals: none

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: CK
Textural - genetic classification: Stage 3B: HK

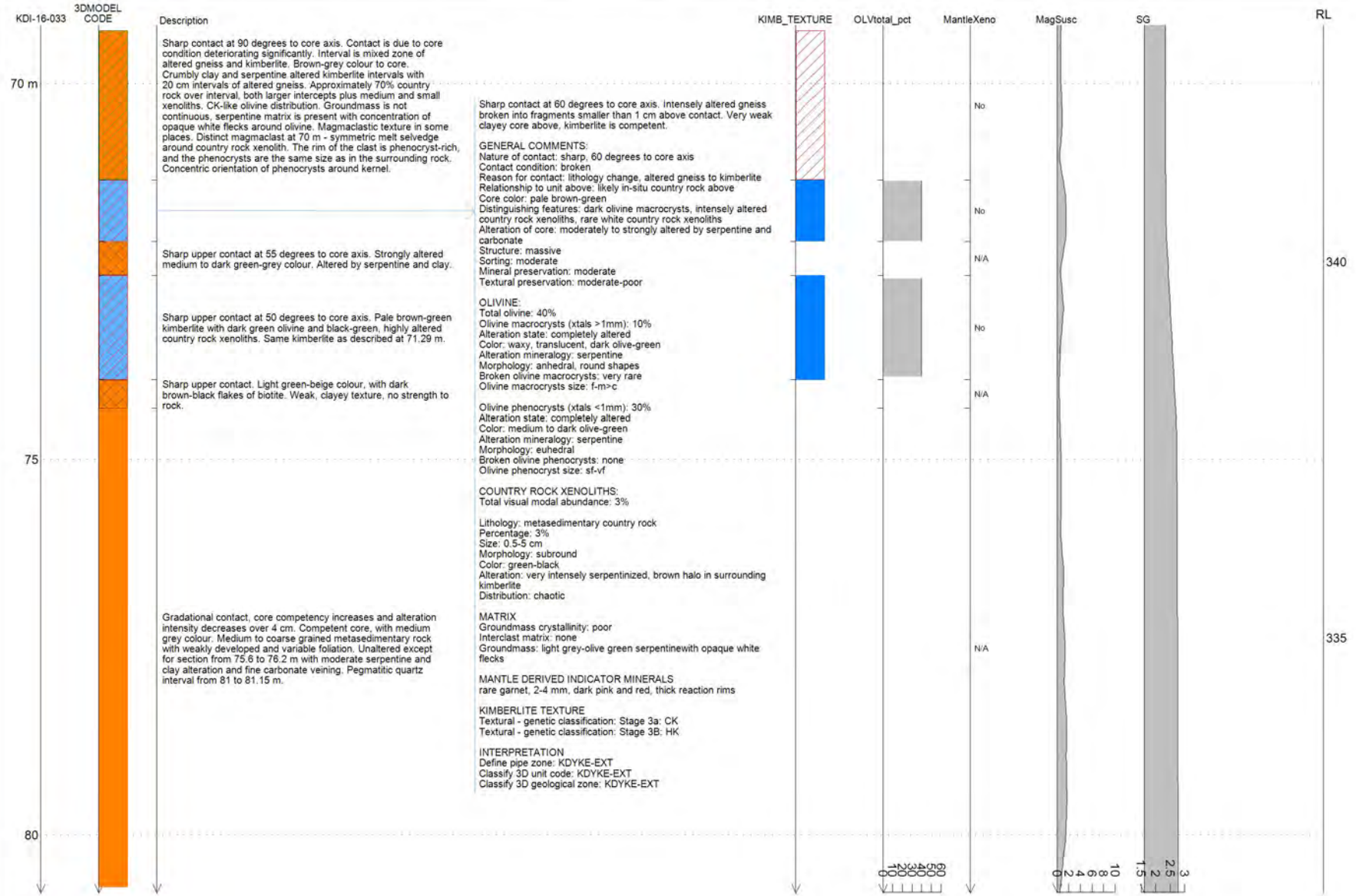
INTERPRETATION
Define pipe zone: KDYKE-INT
Classify 3D unit code: RFW
Classify 3D geological zone: RFW

Sharp contact at 90 degrees to core axis. Contact is due to core condition deteriorating significantly. Interval is mixed zone of altered gneiss and kimberlite. Brown-grey colour to core. Crumbly clay and serpentine altered kimberlite intervals with 20 cm intervals of altered gneiss. Approximately 70% country rock over interval, both larger intercepts plus medium and small xenoliths. CK-like olivine distribution. Groundmass is not continuous, serpentine matrix is present with concentration of opaque white flecks around olivine. Magmaclastic texture in some places. Distinct magmaclast at 70 m - symmetric melt selvedge around country rock xenolith. The rim of the clast is phenocryst-rich, and the phenocrysts are the same size as in the surrounding rock. Concentric orientation of phenocrysts around kernel.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

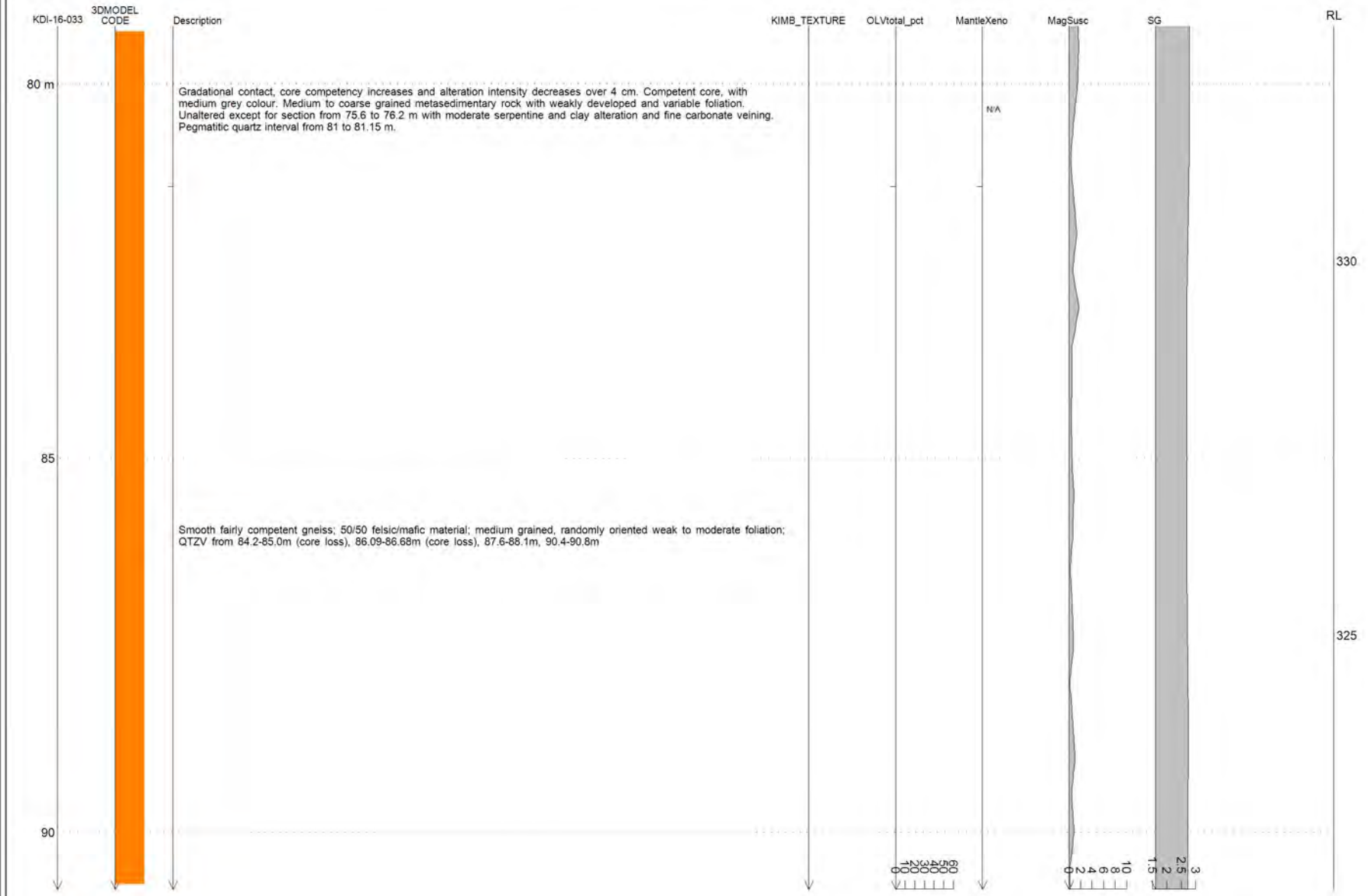
Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0

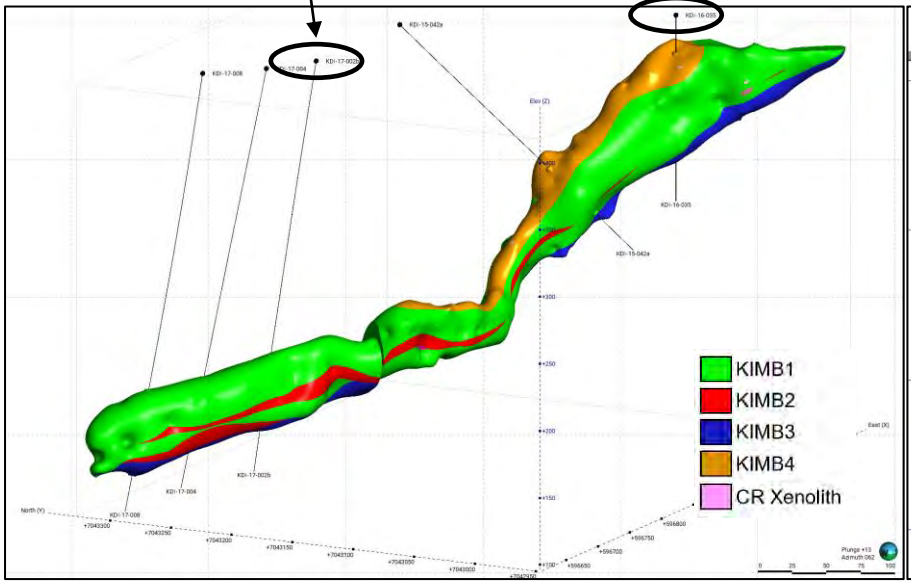


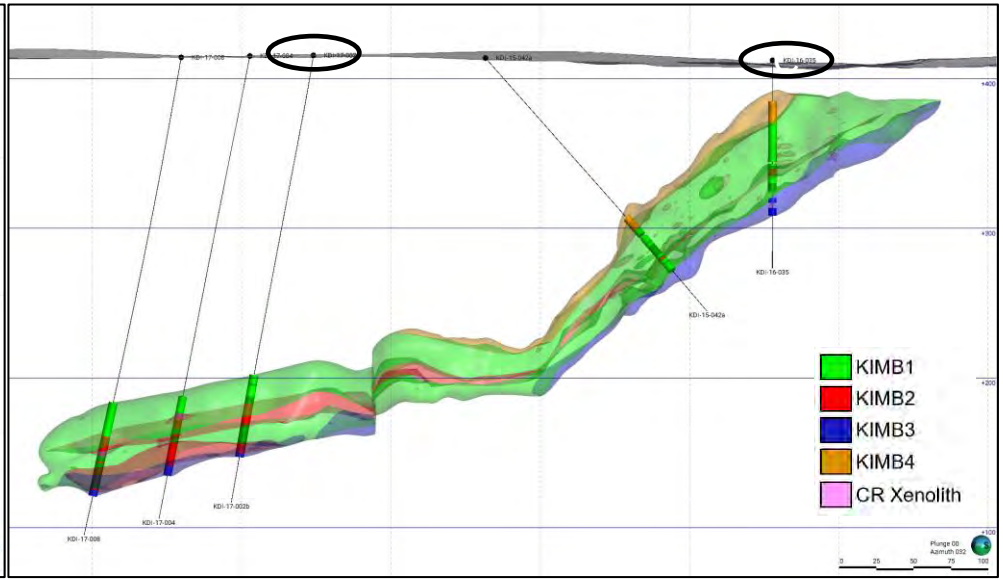
MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-033

Easting	Northing	RL	Azimuth	Dip	Depth
597359.0	7043488.3	412.3	196.3	-89.7	100.0

Faraday 2
KDI-17-002b, KDI-16-035



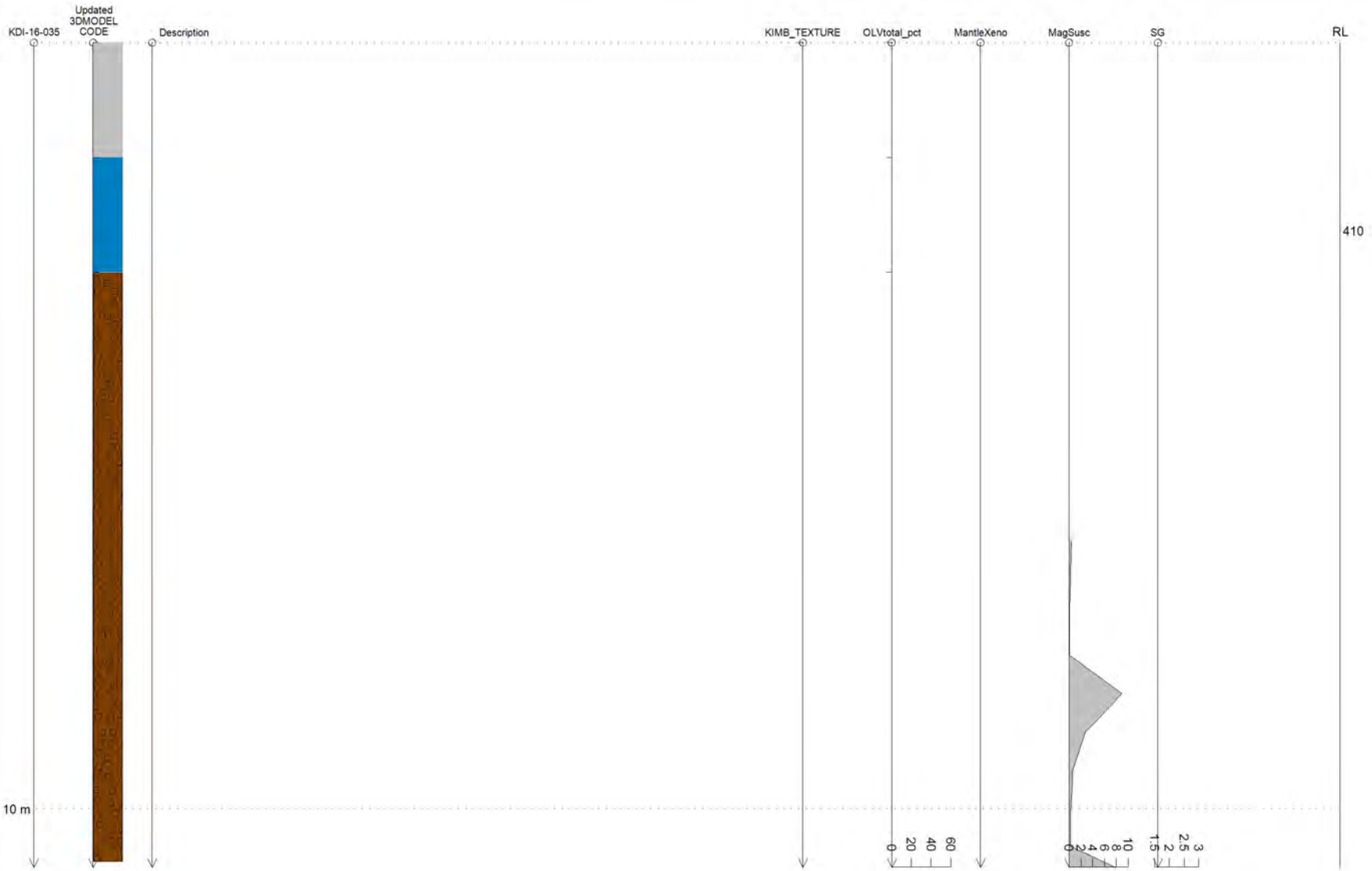


srk consulting

MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

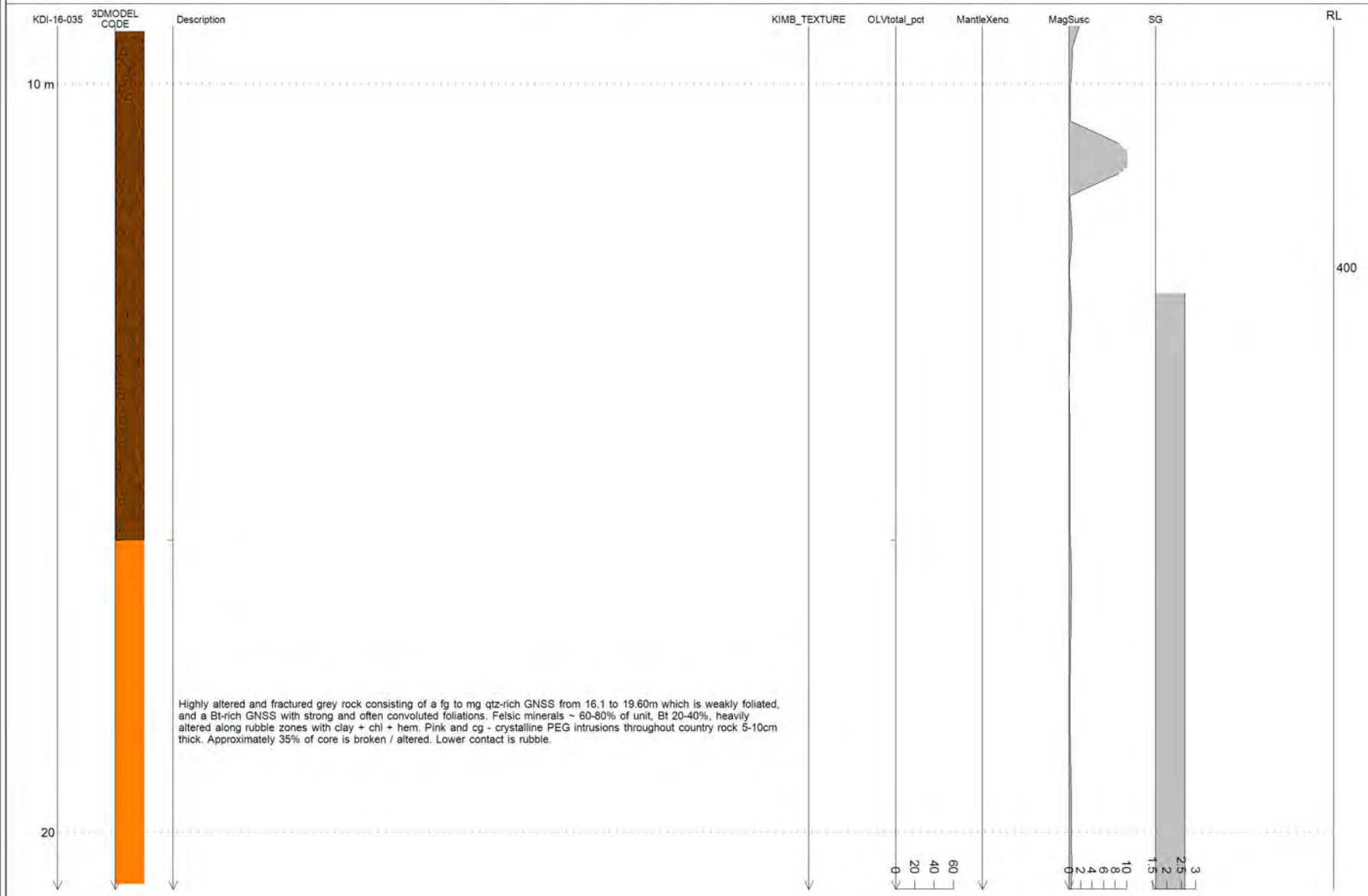
Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



Highly altered and fractured grey rock consisting of a fg to mg qtz-rich GNSS from 16.1 to 19.60m which is weakly foliated, and a Bt-rich GNSS with strong and often convoluted foliations. Felsic minerals ~ 60-80% of unit, Bt 20-40%, heavily altered along rubble zones with clay + chl + hem. Pink and cg - crystalline PEG intrusions throughout country rock 5-10cm thick. Approximately 35% of core is broken / altered. Lower contact is rubble.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0

Highly diluted kimberlite with fresh medium and small xenoliths. Pale grey-green colour and sandy surface texture.

GENERAL COMMENTS:
Nature of contact: sharp
Contact condition: broken core
Reason for contact: lithology change, altered gneiss to kimberlite
Relationship to unit above: pipe wall, marginal breccia and altered gneiss above.
Core color: pale green-grey
Distinguishing features: high proportion of country rock xenoliths, xenoliths are fresh or have minor alteration. Rough surface texture to core.
Alteration of core: Pervasive serpentine, carbonate, and clay alteration
Structure: Massive
Sorting: Poor-moderate
Mineral preservation: moderate
Textural preservation: moderate

OLIVINE:
Total olivine: 10%
Olivine macrocrysts (xtals >1mm): 5%
Alteration state: completely altered
Color: medium green-grey
Alteration mineralogy: serpentine > clay
Morphology: anhedral, round shapes
Broken olivine macrocrysts: present
Olivine macrocrysts size: fine to medium

Olivine phenocrysts (xtals <1mm): approximately 5%
Alteration state: completely altered
Color: medium green-grey
Alteration mineralogy: serpentine > clay
Morphology: subhedral to anhedral, round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 70%

Lithology: metasedimentary country rock and associated xenocrysts, dominantly feldspar and quartz
Percentage: 70%
Size: most 1-50 mm, rare larger clasts
Morphology: angular to subround
Color: grey and white
Alteration: fresh to weak, small xenoliths are weakly altered. Xenoliths larger than 1 cm have fresh cores and weak alteration rims
Distribution: uniform

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: elongate to subequant
2. Morphology – roundness: well rounded
3. Morphology – irregularity: subirregular to smoothly curved
4. Internal structure: cored, with single complete rims. Rims are mostly symmetrical and range from super thin to very thin.
5. Vesicularity: none
6. Clast to host relationship: poorly defined margins
7. Phenocrysts: low abundance, single olivine crystals, elongate
8. Groundmass crystallinity: very poor, grey colour
9. Groundmass mineralogy: requires petrography
10. Size range: 1-4 mm, up to 7 mm
10. Modal abundance: 5% or less

MATRIX
Groundmass crystallinity: none
Interclast matrix: green-grey serpentine and carbonate, clast-supported
Groundmass: none

MANTLE DERIVED INDICATOR MINERALS
One dark pink garnet, 1 mm across, angular and broken with partial reaction rim.

MANTLE XENOLITHS
None observed

KIMBERLITE AUTOLITHS
Possible coherent kimberlite autolith. Less than 5 mm in size, strongly altered with dark green-blue colour.

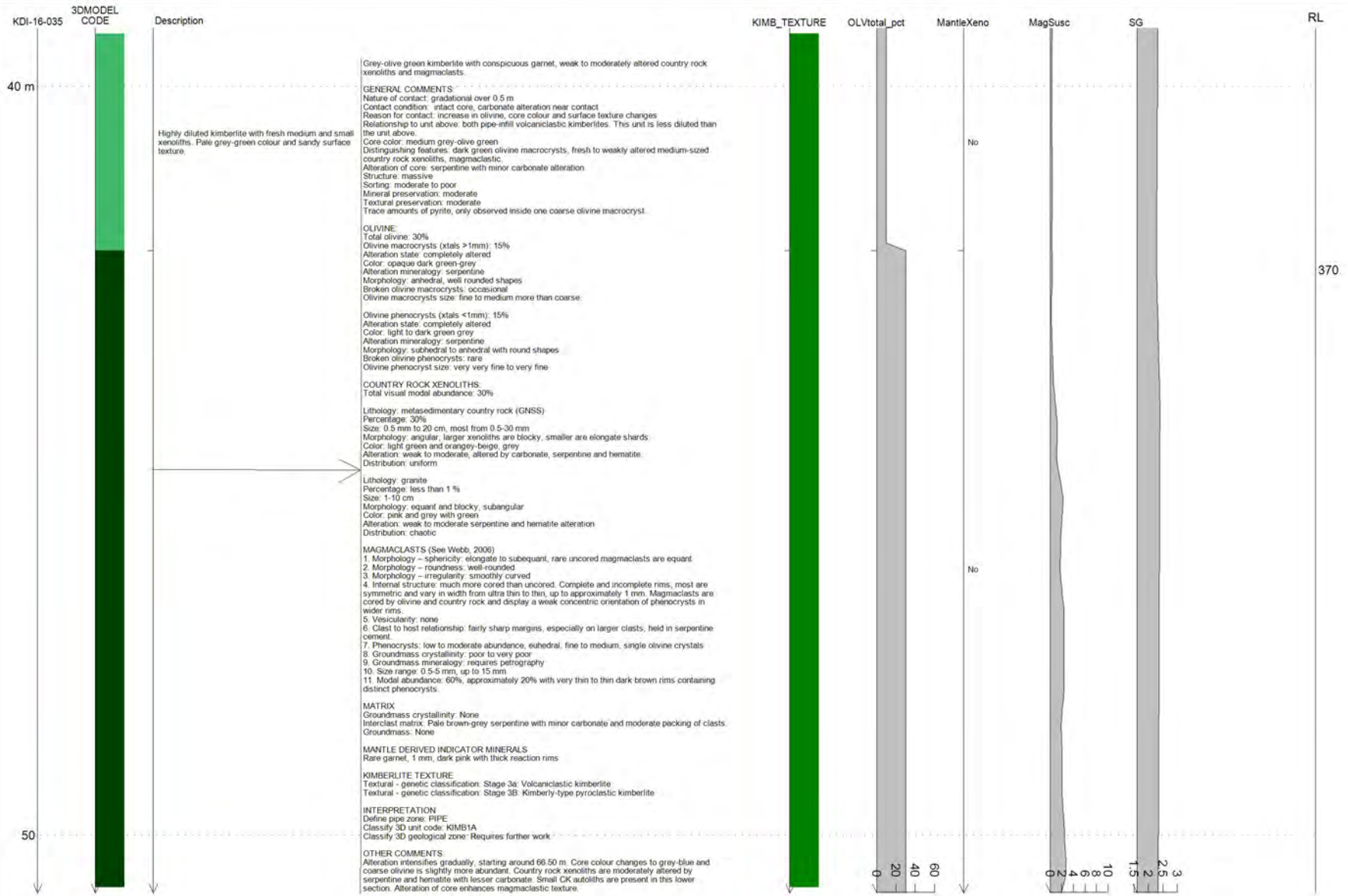
KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: Volcaniclastic kimberlite
Textural - genetic classification: Stage 3B: Requires further work

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: KIMB4
Classify 3D geological zone: Requires further work

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



Highly diluted kimberlite with fresh medium and small xenoliths. Pale grey-green colour and sandy surface texture.

Grey-olive green kimberlite with conspicuous garnet, weak to moderately altered country rock xenoliths and magmaclasts.

GENERAL COMMENTS:
Nature of contact: gradational over 0.5 m
Contact condition: intact core, carbonate alteration near contact
Reason for contact: increase in olivine, core colour and surface texture changes
Relationship to unit above: both pipe-infill volcaniclastic kimberlites. This unit is less diluted than the unit above.
Core color: medium grey-olive green
Distinguishing features: dark green olivine macrocrysts, fresh to weakly altered medium-sized country rock xenoliths, magmaclastic.
Alteration of core: serpentine with minor carbonate alteration
Structure: massive
Sorting: moderate to poor
Mineral preservation: moderate
Textural preservation: moderate
Trace amounts of pyrite, only observed inside one coarse olivine macrocryst.

OLIVINE:
Total olivine: 30%
Olivine macrocrysts (xtals >1mm): 15%
Alteration state: completely altered
Color: opaque dark green-grey
Alteration mineralogy: serpentine
Morphology: anhedral, well rounded shapes
Broken olivine macrocrysts: occasional
Olivine macrocrysts size: fine to medium more than coarse

Olivine phenocrysts (xtals <1mm): 15%
Alteration state: completely altered
Color: light to dark green grey
Alteration mineralogy: serpentine
Morphology: subhedral to anhedral with round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 30%

Lithology: metasedimentary country rock (GNSS)
Percentage: 30%
Size: 0.5 mm to 20 cm, most from 0.5-30 mm
Morphology: angular, larger xenoliths are blocky, smaller are elongate shards
Color: light green and orangey-beige, grey
Alteration: weak to moderate, altered by carbonate, serpentine and hematite.
Distribution: uniform

Lithology: granite
Percentage: less than 1 %
Size: 1-10 cm
Morphology: equant and blocky, subangular
Color: pink and grey with green
Alteration: weak to moderate serpentine and hematite alteration
Distribution: chaotic

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: elongate to subequant, rare uncored magmaclasts are equant
2. Morphology – roundness: well-rounded
3. Morphology – irregularity: smoothly curved
4. Internal structure: much more cored than uncored. Complete and incomplete rims, most are symmetric and vary in width from ultra thin to thin, up to approximately 1 mm. Magmaclasts are cored by olivine and country rock and display a weak concentric orientation of phenocrysts in wider rims.
5. Vesicularity: none
6. Clast to host relationship: fairly sharp margins, especially on larger clasts, held in serpentine cement.
7. Phenocrysts: low to moderate abundance, euhedral, fine to medium, single olivine crystals
8. Groundmass crystallinity: poor to very poor
9. Groundmass mineralogy: requires petrography
10. Size range: 0.5-5 mm, up to 15 mm
11. Modal abundance: 60%, approximately 20% with very thin to thin dark brown rims containing distinct phenocrysts.

MATRIX
Groundmass crystallinity: None
Interclast matrix: Pale brown-grey serpentine with minor carbonate and moderate packing of clasts.
Groundmass: None

MANTLE DERIVED INDICATOR MINERALS
Rare garnet, 1 mm, dark pink with thick reaction rims

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: Volcaniclastic kimberlite
Textural - genetic classification: Stage 3B: Kimberly-type pyroclastic kimberlite

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: KIMB1A
Classify 3D geological zone: Requires further work

OTHER COMMENTS:
Alteration intensifies gradually, starting around 66.50 m. Core colour changes to grey-blue and coarse olivine is slightly more abundant. Country rock xenoliths are moderately altered by serpentine and hematite with lesser carbonate. Small CK autoliths are present in this lower section. Alteration of core enhances magmaclastic texture.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0

Grey-olive green kimberlite with conspicuous garnet, weak to moderately altered country rock xenoliths and magmaclasts.

GENERAL COMMENTS:
Nature of contact: gradational over 0.5 m
Contact condition: infact core, carbonate alteration near contact
Reason for contact: increase in olivine, core colour and surface texture changes.
Relationship to unit above: both pipe-infill volcaniclastic kimberlites. This unit is less diluted than the unit above.
Core color: medium grey-olive green
Distinguishing features: dark green olivine macrocrysts, fresh to weakly altered medium-sized country rock xenoliths, magmaclastic.
Alteration of core: serpentine with minor carbonate alteration.
Structure: massive
Sorting: moderate to poor
Mineral preservation: moderate
Textural preservation: moderate
Trace amounts of pyrite, only observed inside one coarse olivine macrocryst.

OLIVINE:
Total olivine: 30%
Olivine macrocrysts (xtals >1mm): 15%
Alteration state: completely altered
Color: opaque dark green-grey
Alteration mineralogy: serpentine
Morphology: anhedral, well rounded shapes
Broken olivine macrocrysts: occasional
Olivine macrocrysts size: fine to medium more than coarse.

Olivine phenocrysts (xtals <1mm): 15%
Alteration state: completely altered
Color: light to dark green grey
Alteration mineralogy: serpentine
Morphology: subhedral to anhedral with round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 30%

Lithology: metasedimentary country rock (GNSS)
Percentage: 30%
Size: 0.5 mm to 20 cm, most from 0.5-30 mm
Morphology: angular, larger xenoliths are blocky, smaller are elongate shards.
Color: light green and orangey-beige, grey
Alteration: weak to moderate, altered by carbonate, serpentine and hematite.
Distribution: uniform

Lithology: granite
Percentage: less than 1 %
Size: 1-10 cm
Morphology: equant and blocky, subangular
Color: pink and grey with green
Alteration: weak to moderate serpentine and hematite alteration
Distribution: chaotic

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: elongate to subequant, rare uncored magmaclasts are equant.
2. Morphology – roundness: well-rounded
3. Morphology – irregularity: smoothly curved
4. Internal structure: much more cored than uncored. Complete and incomplete rims, most are symmetric and vary in width from ultra thin to thin, up to approximately 1 mm. Magmaclasts are cored by olivine and country rock and display a weak concentric orientation of phenocrysts in wider rims.
5. Vesicularity: none
6. Clast to host relationship: fairly sharp margins, especially on larger clasts, held in serpentine cement.
7. Phenocrysts: low to moderate abundance, euhedral, fine to medium, single olivine crystals
8. Groundmass crystallinity: poor to very poor
9. Groundmass mineralogy: requires petrography
10. Size range: 0.5-5 mm, up to 15 mm
10. Modal abundance: 60%, approximately 20% with very thin to thin dark brown rims containing distinct phenocrysts.

MATRIX
Groundmass crystallinity: None
Interclast matrix: Pale brown-grey serpentine with minor carbonate and moderate packing of clasts.
Groundmass: None

MANTLE DERIVED INDICATOR MINERALS
Rare garnet, 1 mm, dark pink with thick reaction rims

MANTLE XENOLITHS
None observed.

KIMBERLITE AUTOLITHS
Not observed

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: Volcaniclastic kimberlite
Textural - genetic classification: Stage 3B: Kimberly-type pyroclastic kimberlite

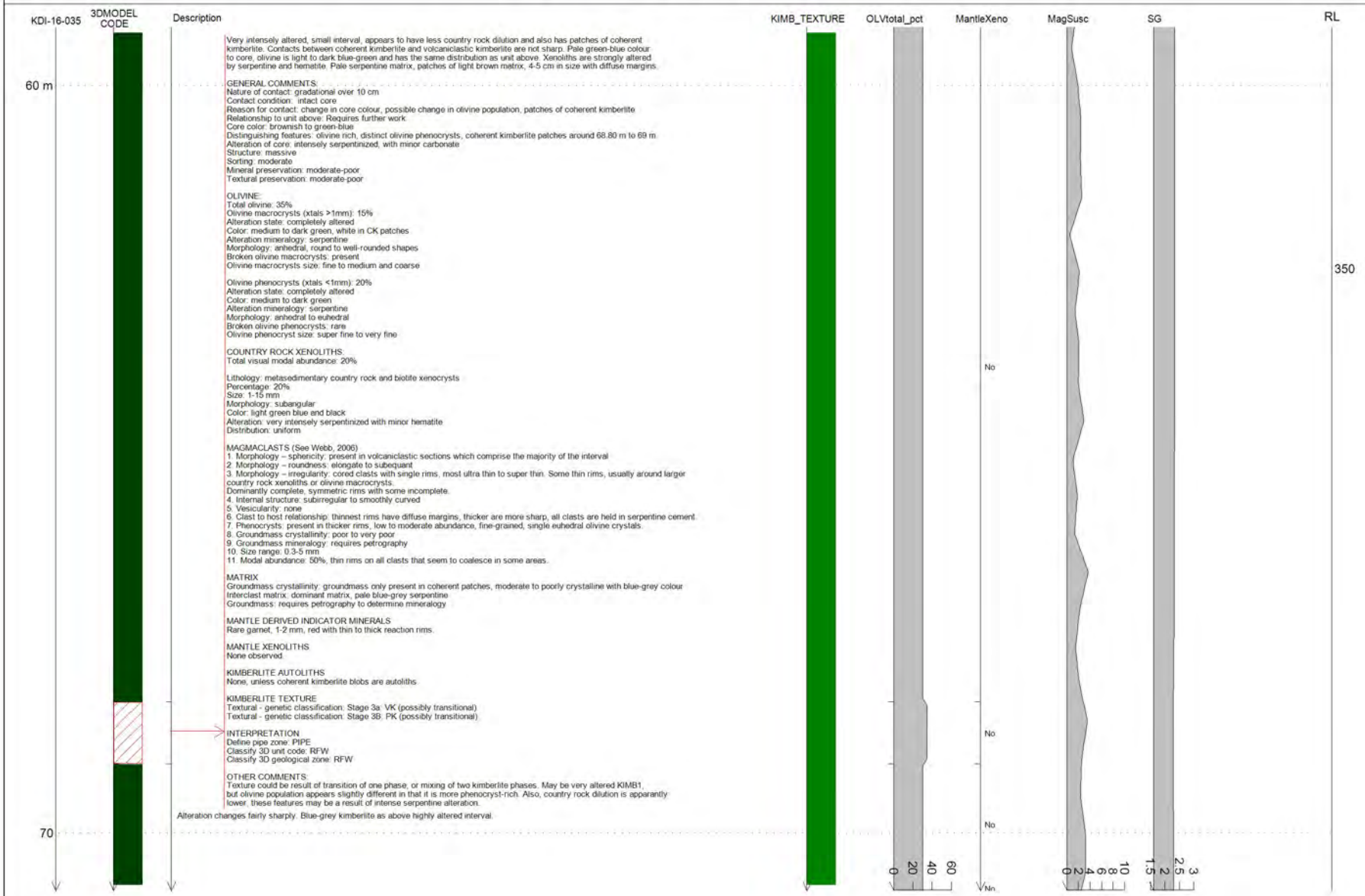
INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: KIMB1A.
Classify 3D geological zone: Requires further work

OTHER COMMENTS
Alteration intensifies gradually, starting around 66.50 m. Core colour changes to grey-blue and coarse olivine is slightly more abundant. Country rock xenoliths are moderately altered by serpentine and hematite with lesser carbonate. Small CK autoliths are present in this lower section. Alteration of core enhances magmaclastic texture.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



Very intensely altered, small interval, appears to have less country rock dilution and also has patches of coherent kimberlite. Contacts between coherent kimberlite and volcaniclastic kimberlite are not sharp. Pale green-blue colour to core, olivine is light to dark blue-green and has the same distribution as unit above. Xenoliths are strongly altered by serpentine and hematite. Pale serpentine matrix, patches of light brown matrix, 4-5 cm in size with diffuse margins.

GENERAL COMMENTS:
Nature of contact: gradational over 10 cm
Contact condition: intact core
Reason for contact: change in core colour, possible change in olivine population, patches of coherent kimberlite
Relationship to unit above: Requires further work
Core color: brownish to green-blue
Distinguishing features: olivine rich, distinct olivine phenocrysts, coherent kimberlite patches around 68.80 m to 69 m
Alteration of core: intensely serpentinized, with minor carbonate
Structure: massive
Sorting: moderate
Mineral preservation: moderate-poor
Textural preservation: moderate-poor

OLIVINE:
Total olivine: 35%
Olivine macrocrysts (xtals >1mm): 15%
Alteration state: completely altered
Color: medium to dark green, white in CK patches
Alteration mineralogy: serpentine
Morphology: anhedral, round to well-rounded shapes
Broken olivine macrocrysts: present
Olivine macrocrysts size: fine to medium and coarse

Olivine phenocrysts (xtals <1mm): 20%
Alteration state: completely altered
Color: medium to dark green
Alteration mineralogy: serpentine
Morphology: anhedral to euhedral
Broken olivine phenocrysts: rare
Olivine phenocryst size: super fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: 20%

Lithology: metasedimentary country rock and biotite xenocrysts
Percentage: 20%
Size: 1-15 mm
Morphology: subangular
Color: light green blue and black
Alteration: very intensely serpentinized with minor hematite
Distribution: uniform

MAGMACLASTS (See Webb, 2006)
1. Morphology – sphericity: present in volcaniclastic sections which comprise the majority of the interval
2. Morphology – roundness: elongate to subequant
3. Morphology – irregularity: cored clasts with single rims, most ultra thin to super thin. Some thin rims, usually around larger country rock xenoliths or olivine macrocrysts.
Dominantly complete, symmetric rims with some incomplete.
4. Internal structure: subirregular to smoothly curved
5. Vesicularity: none
6. Clast to host relationship: thinnest rims have diffuse margins, thicker are more sharp, all clasts are held in serpentine cement.
7. Phenocrysts: present in thicker rims, low to moderate abundance, fine-grained, single euhedral olivine crystals.
8. Groundmass crystallinity: poor to very poor
9. Groundmass mineralogy: requires petrography
10. Size range: 0.3-5 mm
11. Modal abundance: 50%, thin rims on all clasts that seem to coalesce in some areas.

MATRIX
Groundmass crystallinity: groundmass only present in coherent patches, moderate to poorly crystalline with blue-grey colour
Interclast matrix: dominant matrix, pale blue-grey serpentine
Groundmass: requires petrography to determine mineralogy

MANTLE DERIVED INDICATOR MINERALS
Rare garnet, 1-2 mm, red with thin to thick reaction rims.

MANTLE XENOLITHS
None observed.

KIMBERLITE AUTOLITHS
None, unless coherent kimberlite blobs are autoliths

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: VK (possibly transitional)
Textural - genetic classification: Stage 3B: PK (possibly transitional)

INTERPRETATION
Define pipe zone: PIPE
Classify 3D unit code: RFW
Classify 3D geological zone: RFW

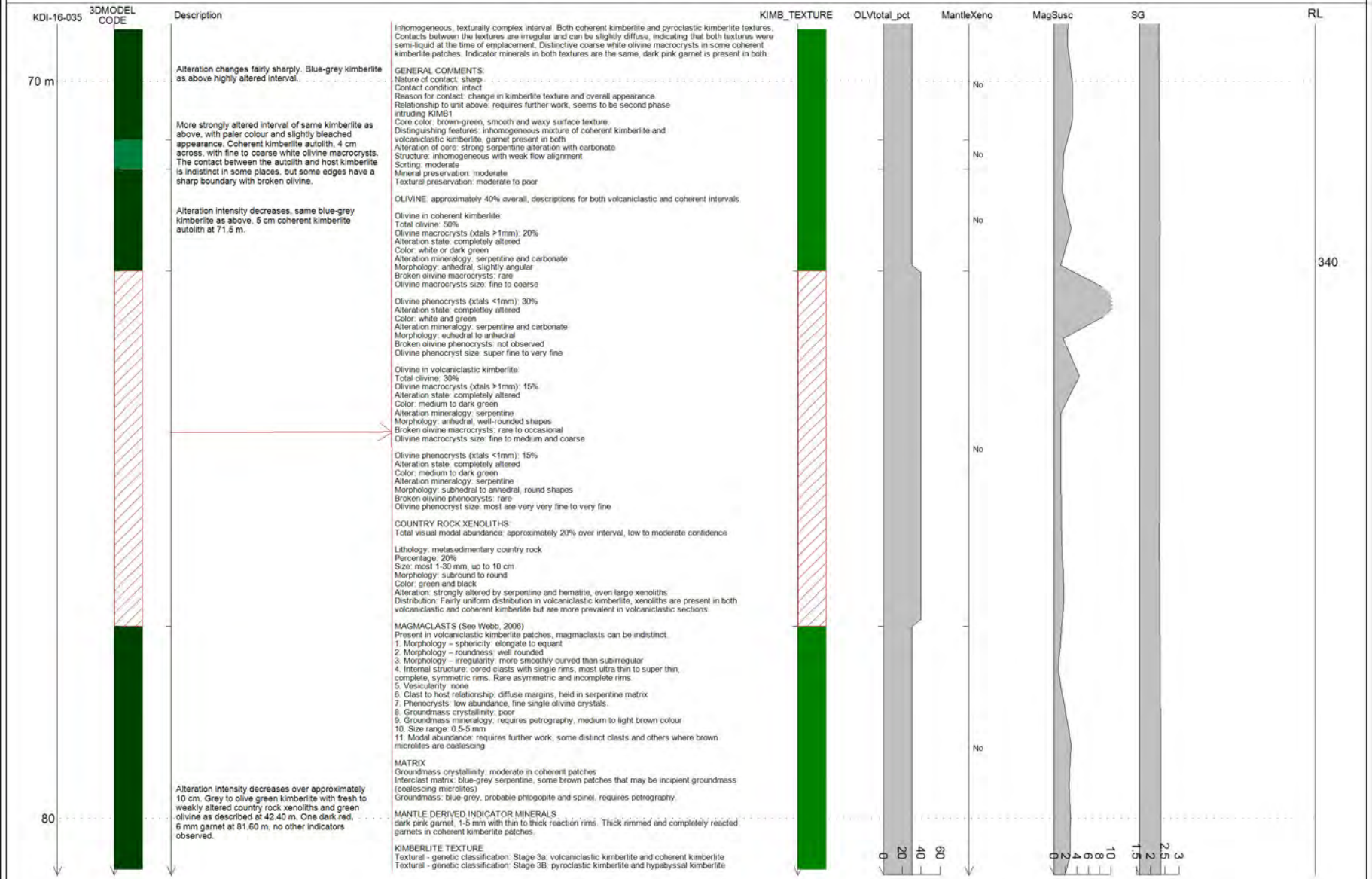
OTHER COMMENTS:
Texture could be result of transition of one phase, or mixing of two kimberlite phases. May be very altered KIMB1, but olivine population appears slightly different in that it is more phenocryst-rich. Also, country rock dilution is apparantly lower. these features may be a result of intense serpentine alteration.

Alteration changes fairly sharply. Blue-grey kimberlite as above highly altered interval.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



Alteration changes fairly sharply. Blue-grey kimberlite as above highly altered interval.

More strongly altered interval of same kimberlite as above, with paler colour and slightly bleached appearance. Coherent kimberlite autolith, 4 cm across, with fine to coarse white olivine macrocrysts. The contact between the autolith and host kimberlite is indistinct in some places, but some edges have a sharp boundary with broken olivine.

Alteration intensity decreases, same blue-grey kimberlite as above, 5 cm coherent kimberlite autolith at 71.5 m.

Alteration intensity decreases over approximately 10 cm. Grey to olive green kimberlite with fresh to weakly altered country rock xenoliths and green olivine as described at 42.40 m. One dark red, 6 mm garnet at 81.60 m, no other indicators observed.

Inhomogeneous, texturally complex interval. Both coherent kimberlite and pyroclastic kimberlite textures. Contacts between the textures are irregular and can be slightly diffuse, indicating that both textures were semi-liquid at the time of emplacement. Distinctive coarse white olivine macrocrysts in some coherent kimberlite patches. Indicator minerals in both textures are the same, dark pink garnet is present in both.

GENERAL COMMENTS:
Nature of contact: sharp
Contact condition: intact
Reason for contact: change in kimberlite texture and overall appearance
Relationship to unit above: requires further work, seems to be second phase intruding KIMB1
Core color: brown-green, smooth and waxy surface texture.
Distinguishing features: inhomogeneous mixture of coherent kimberlite and volcaniclastic kimberlite, garnet present in both
Alteration of core: strong serpentine alteration with carbonate
Structure: inhomogeneous with weak flow alignment
Sorting: moderate
Mineral preservation: moderate
Textural preservation: moderate to poor

OLIVINE: approximately 40% overall, descriptions for both volcaniclastic and coherent intervals

Olivine in coherent kimberlite:
Total olivine: 50%
Olivine macrocrysts (xtals >1mm): 20%
Alteration state: completely altered
Color: white or dark green
Alteration mineralogy: serpentine and carbonate
Morphology: anhedral, slightly angular
Broken olivine macrocrysts: rare
Olivine macrocrysts size: fine to coarse

Olivine phenocrysts (xtals <1mm): 30%
Alteration state: completley altered
Color: white and green
Alteration mineralogy: serpentine and carbonate
Morphology: euhedral to anhedral
Broken olivine phenocrysts: not observed
Olivine phenocryst size: super fine to very fine

Olivine in volcaniclastic kimberlite:
Total olivine: 30%
Olivine macrocrysts (xtals >1mm): 15%
Alteration state: completely altered
Color: medium to dark green
Alteration mineralogy: serpentine
Morphology: anhedral, well-rounded shapes
Broken olivine macrocrysts: rare to occasional
Olivine macrocrysts size: fine to medium and coarse

Olivine phenocrysts (xtals <1mm): 15%
Alteration state: completely altered
Color: medium to dark green
Alteration mineralogy: serpentine
Morphology: subhedral to anhedral, round shapes
Broken olivine phenocrysts: rare
Olivine phenocryst size: most are very very fine to very fine

COUNTRY ROCK XENOLITHS:
Total visual modal abundance: approximately 20% over interval, low to moderate confidence

Lithology: metasedimentary country rock
Percentage: 20%
Size: most 1-30 mm, up to 10 cm
Morphology: subround to round
Color: green and black
Alteration: strongly altered by serpentine and hematite, even large xenoliths
Distribution: Fairly uniform distribution in volcaniclastic kimberlite, xenoliths are present in both volcaniclastic and coherent kimberlite but are more prevalent in volcaniclastic sections.

MAGMACLASTS (See Webb, 2006)
Present in volcaniclastic kimberlite patches, magmaclasts can be indistinct.
1. Morphology – sphericity: elongate to equant
2. Morphology – roundness: well rounded
3. Morphology – irregularity: more smoothly curved than subirregular
4. Internal structure: cored clasts with single rims, most ultra thin to super thin, complete, symmetric rims. Rare asymmetric and incomplete rims
5. Vesicularity: none
6. Clast to host relationship: diffuse margins, held in serpentine matrix
7. Phenocrysts: low abundance, fine single olivine crystals.
8. Groundmass crystallinity: poor
9. Groundmass mineralogy: requires petrography, medium to light brown colour
10. Size range: 0.5-5 mm
11. Modal abundance: requires further work, some distinct clasts and others where brown microlites are coalescing

MATRIX
Groundmass crystallinity: moderate in coherent patches
Interclast matrix: blue-grey serpentine, some brown patches that may be incipient groundmass (coalescing microlites)
Groundmass: blue-grey, probable phlogopite and spinel, requires petrography

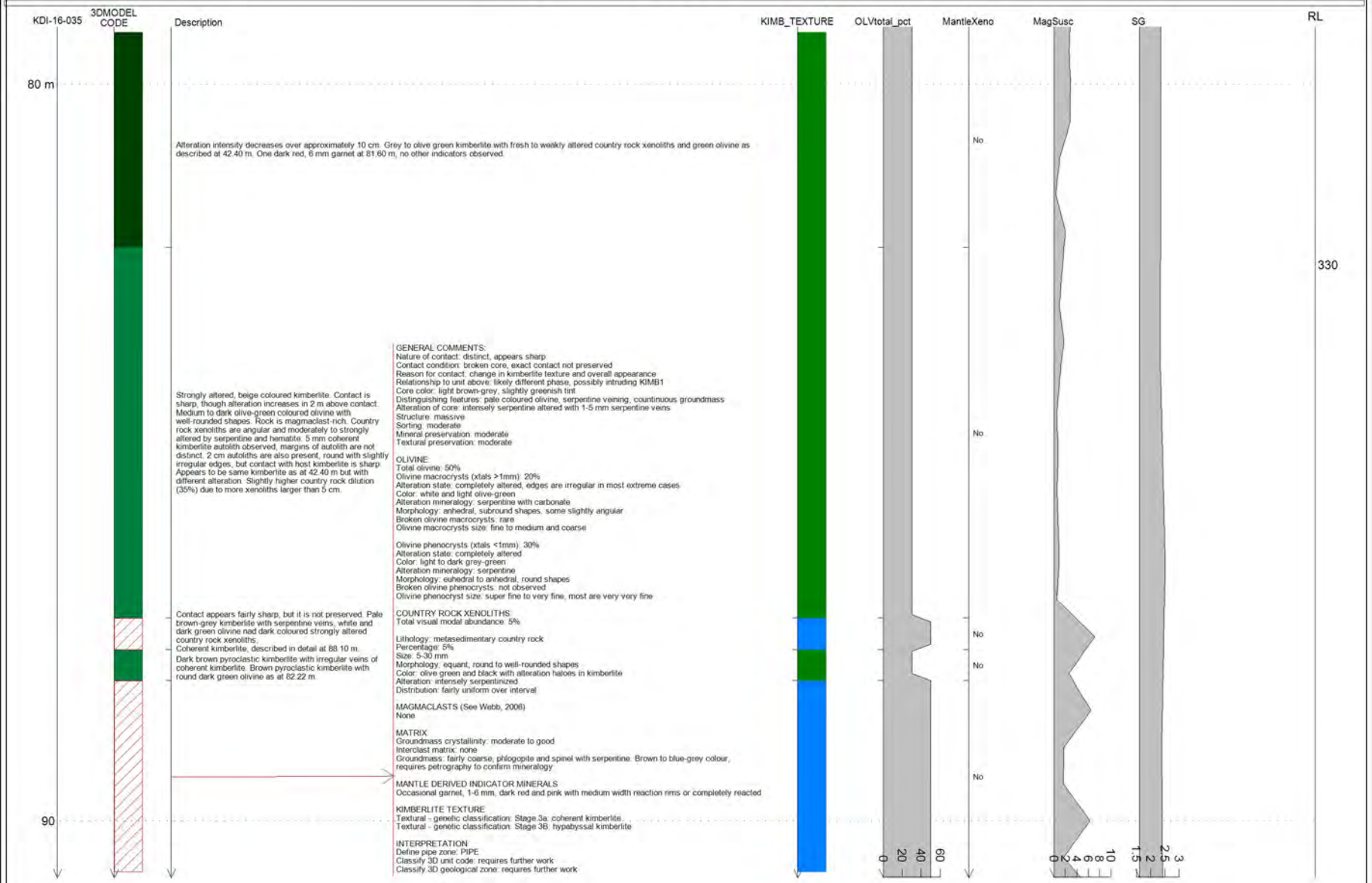
MANTLE DERIVED INDICATOR MINERALS
dark pink garnet, 1-5 mm with thin to thick reaction rims. Thick rimmed and completely reacted garnets in coherent kimberlite patches.

KIMBERLITE TEXTURE
Textural - genetic classification: Stage 3a: volcaniclastic kimberlite and coherent kimberlite
Textural - genetic classification: Stage 3B: pyroclastic kimberlite and hypabyssal kimberlite

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

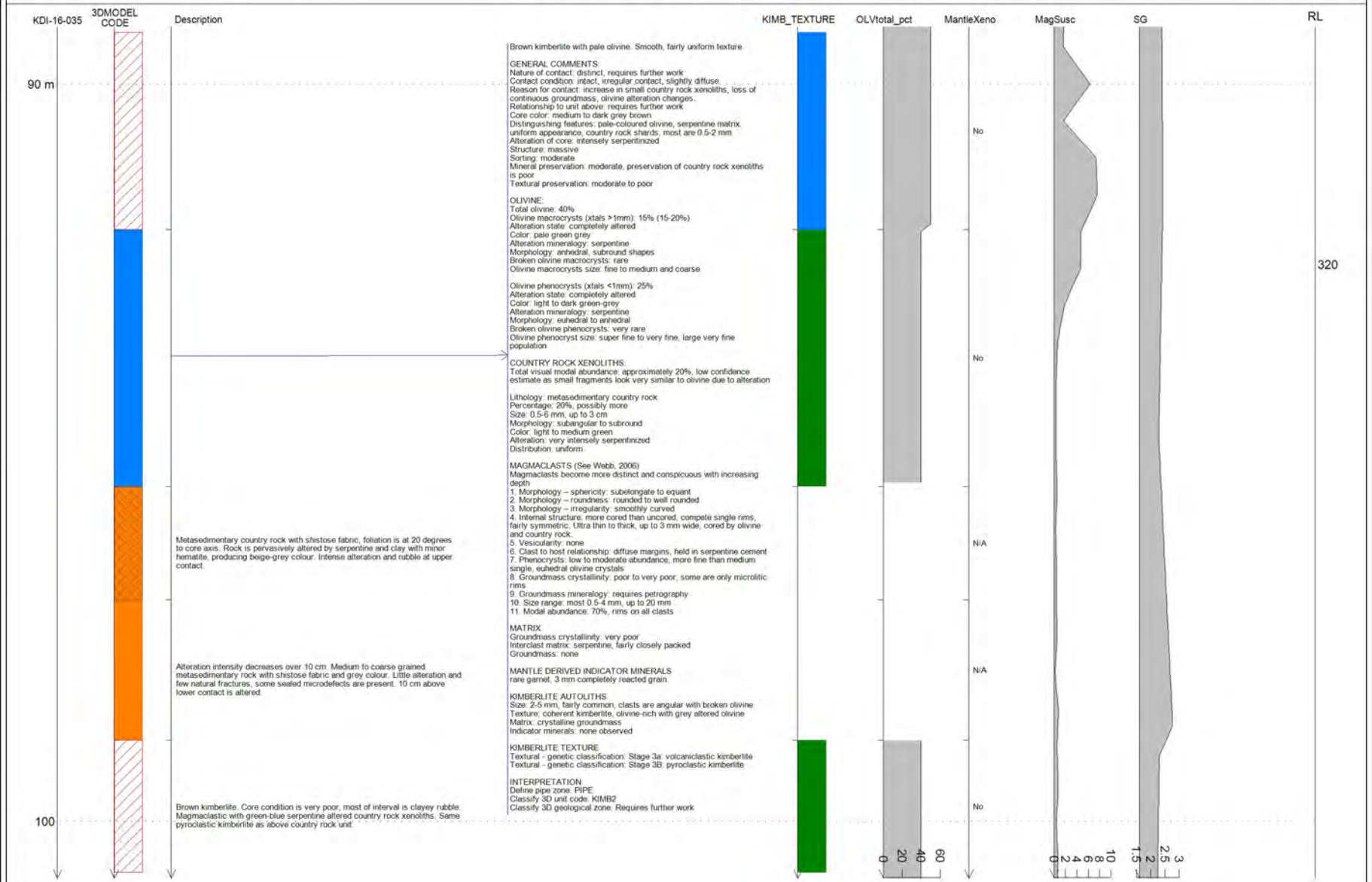
Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



MOUNTAIN
PROVINCE DIAMONDS

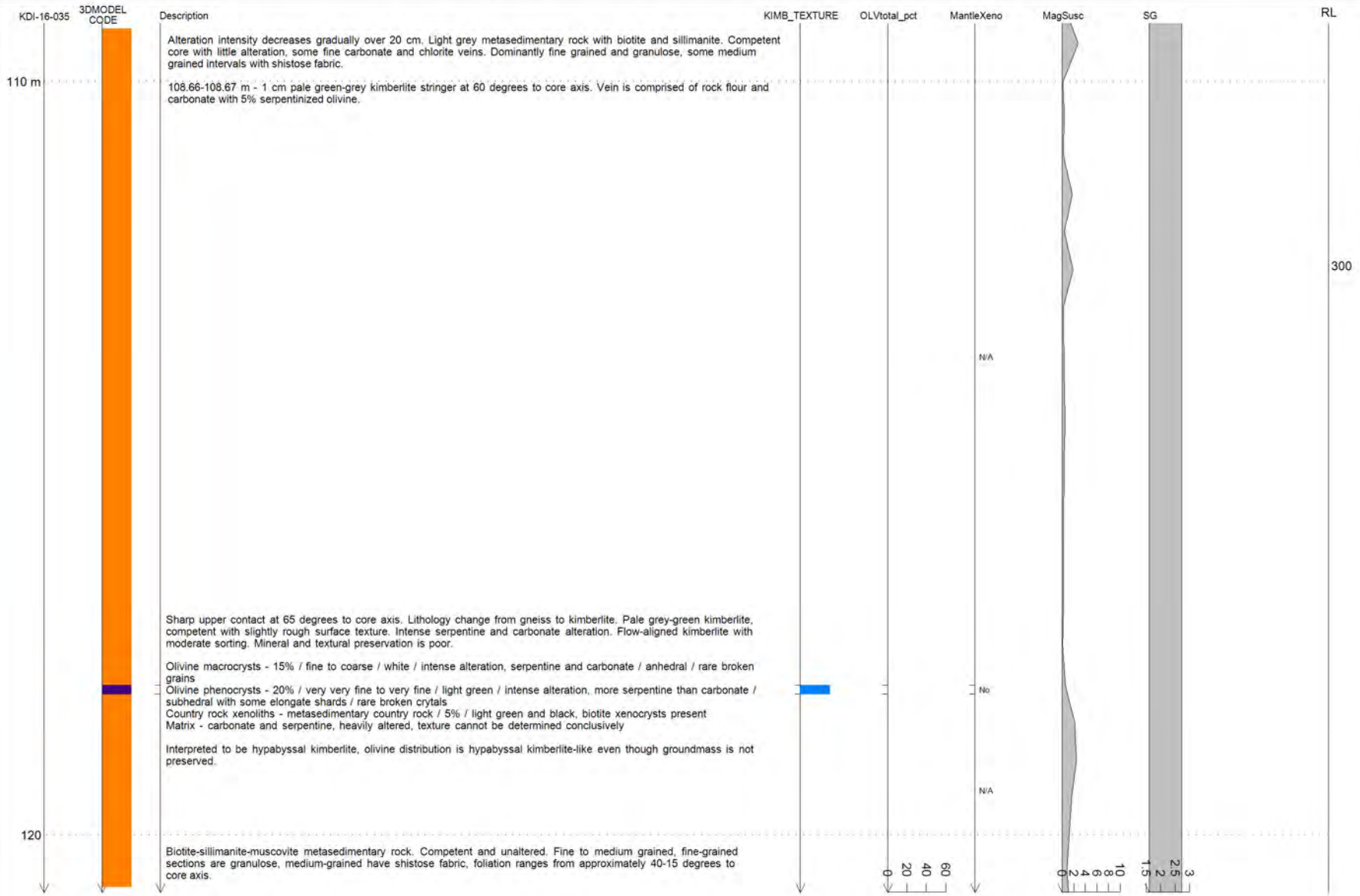
STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



Alteration intensity decreases gradually over 20 cm. Light grey metasedimentary rock with biotite and sillimanite. Competent core with little alteration, some fine carbonate and chlorite veins. Dominantly fine grained and granulose, some medium grained intervals with shistose fabric.

108.66-108.67 m - 1 cm pale green-grey kimberlite stringer at 60 degrees to core axis. Vein is comprised of rock flour and carbonate with 5% serpentinized olivine.

Sharp upper contact at 65 degrees to core axis. Lithology change from gneiss to kimberlite. Pale grey-green kimberlite, competent with slightly rough surface texture. Intense serpentine and carbonate alteration. Flow-aligned kimberlite with moderate sorting. Mineral and textural preservation is poor.

Olivine macrocrysts - 15% / fine to coarse / white / intense alteration, serpentine and carbonate / anhedral / rare broken grains
Olivine phenocrysts - 20% / very very fine to very fine / light green / intense alteration, more serpentine than carbonate / subhedral with some elongate shards / rare broken crytals
Country rock xenoliths - metasedimentary country rock / 5% / light green and black, biotite xenocrysts present
Matrix - carbonate and serpentine, heavily altered, texture cannot be determined conclusively

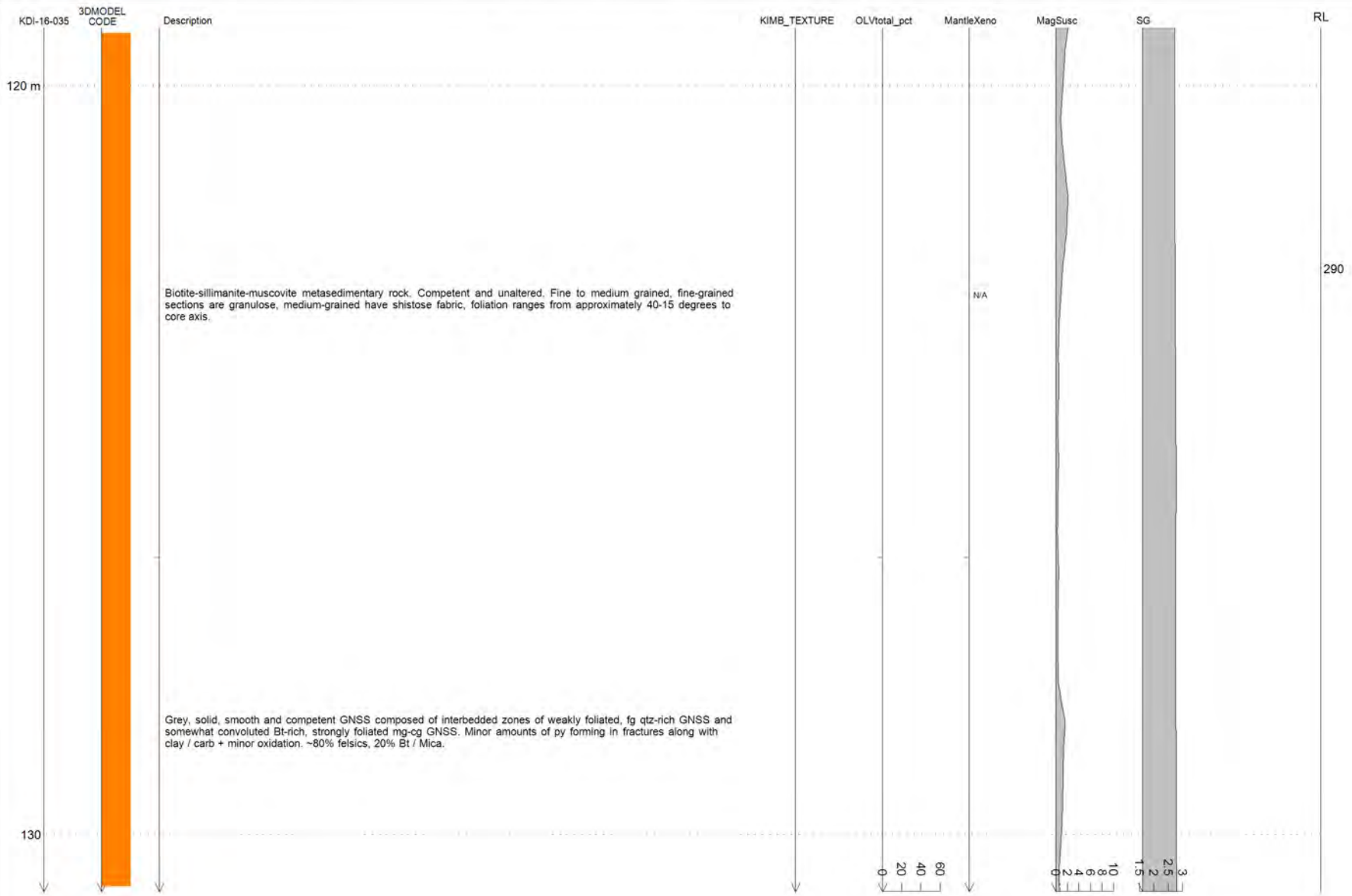
Interpreted to be hypabyssal kimberlite, olivine distribution is hypabyssal kimberlite-like even though groundmass is not preserved.

Biotite-sillimanite-muscovite metasedimentary rock. Competent and unaltered. Fine to medium grained, fine-grained sections are granulose, medium-grained have shistose fabric, foliation ranges from approximately 40-15 degrees to core axis.

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0



MOUNTAIN PROVINCE DIAMONDS

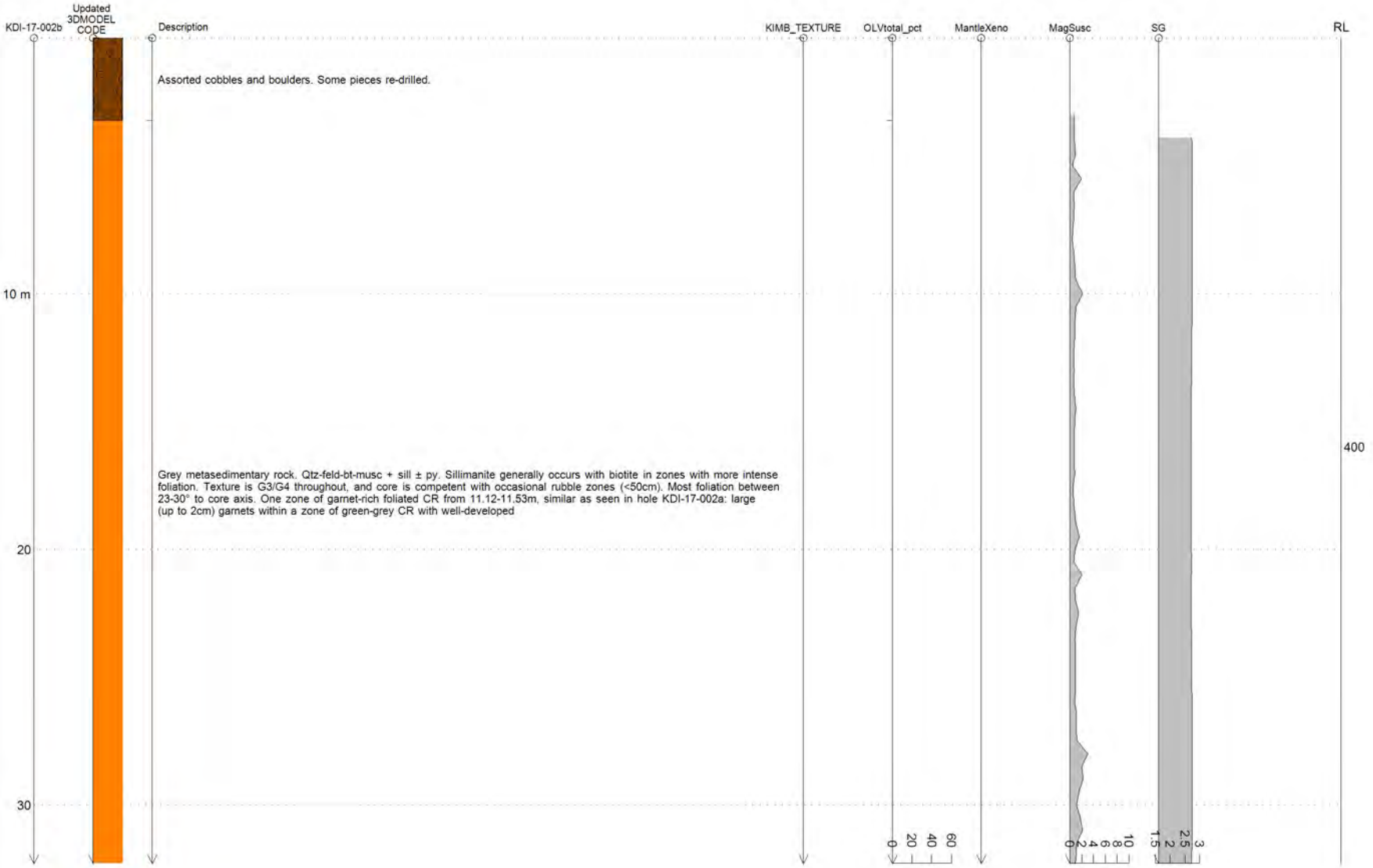
STRIP LOG: KDI-16-035

Easting	Northing	RL	Azimuth	Dip	Depth
597026.1	7043053.1	412.4	103.2	-89.6	139.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

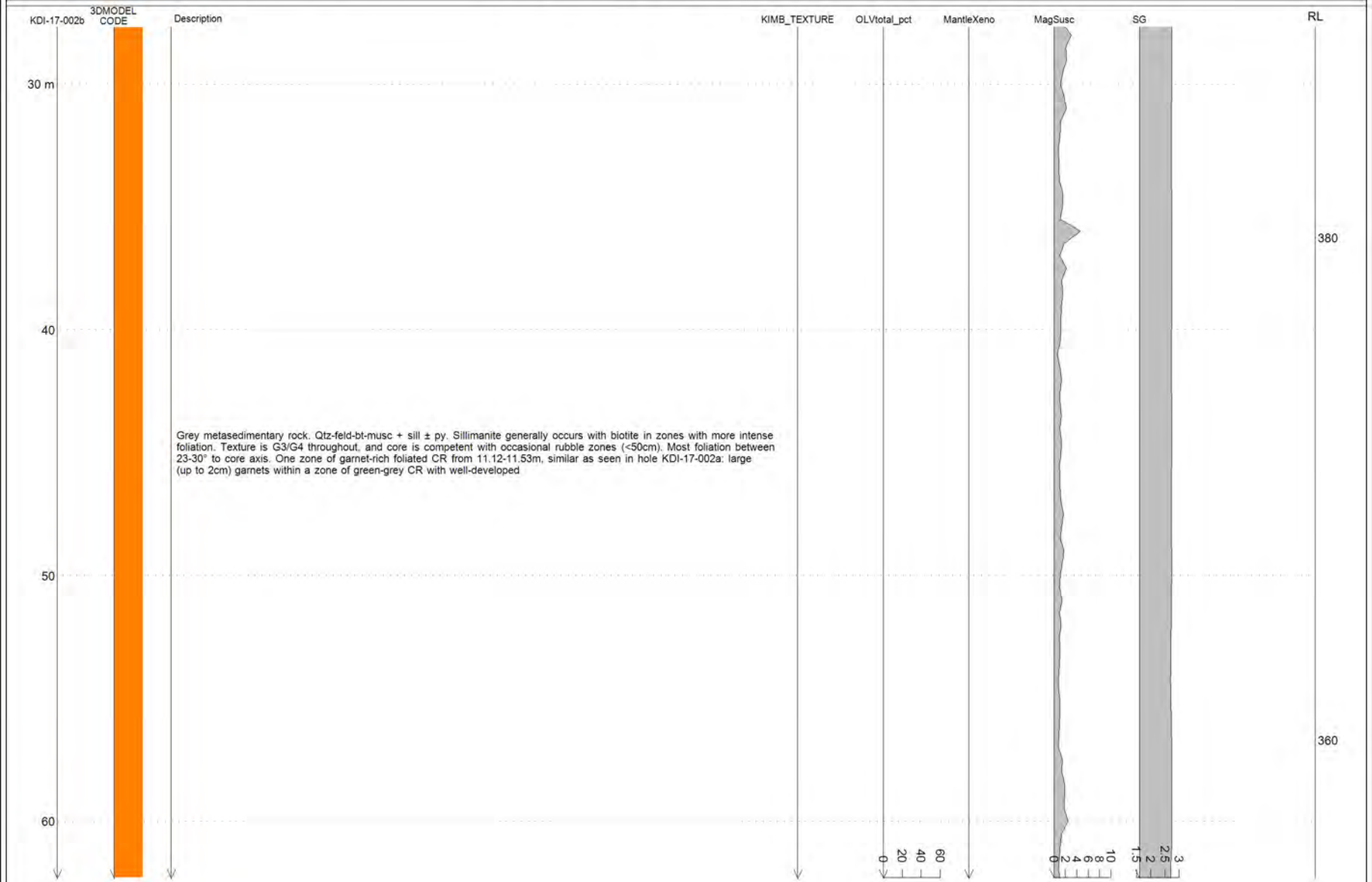
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0

MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

Easting	Northing	RL	Azimuth	Dip	Depth
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MOUNTAIN PROVINCE DIAMONDS

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Easting	Northing	RL	Azimuth	Dip	Depth
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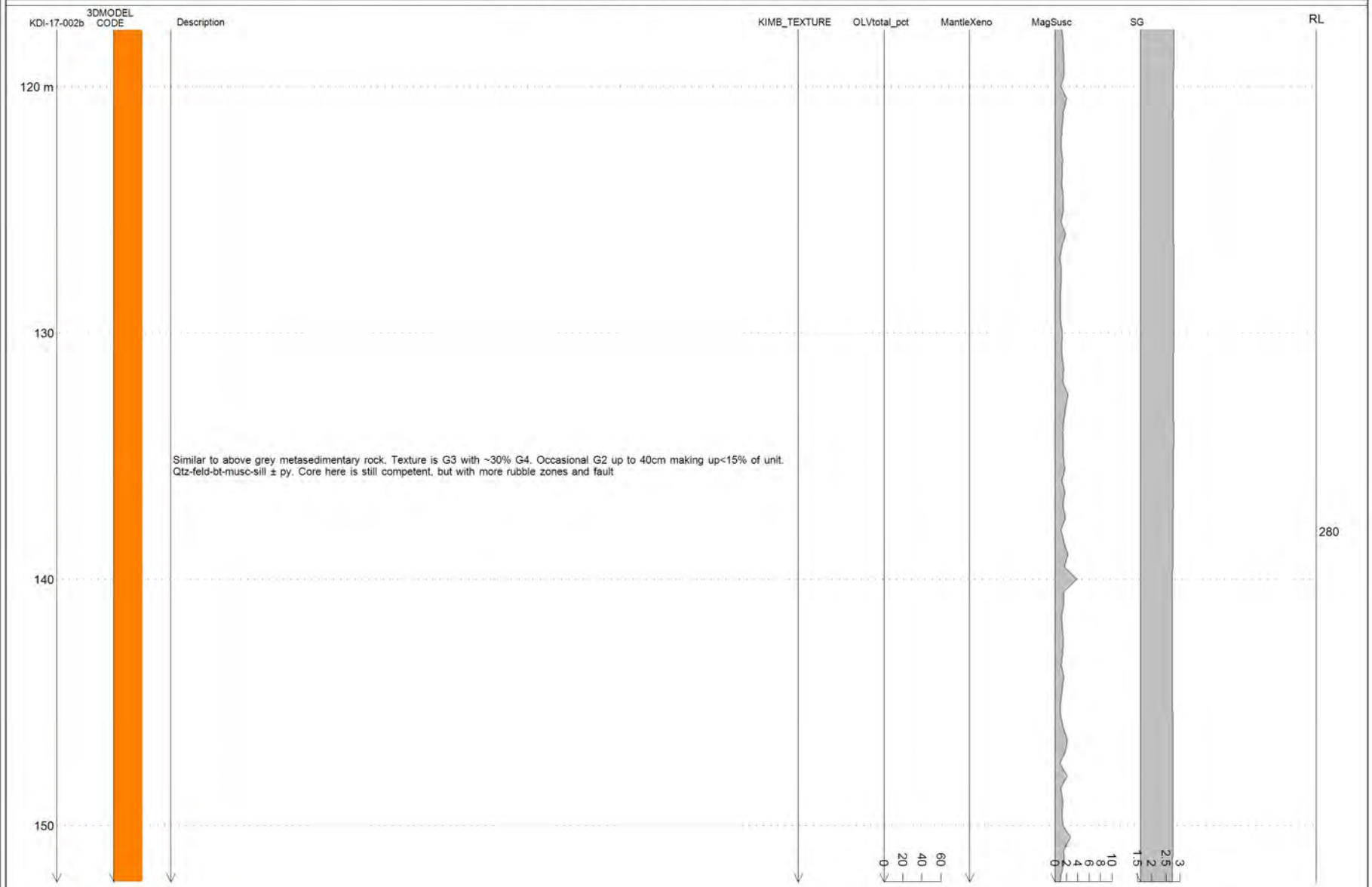

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

Easting	Northing	RL	Azimuth	Dip	Depth
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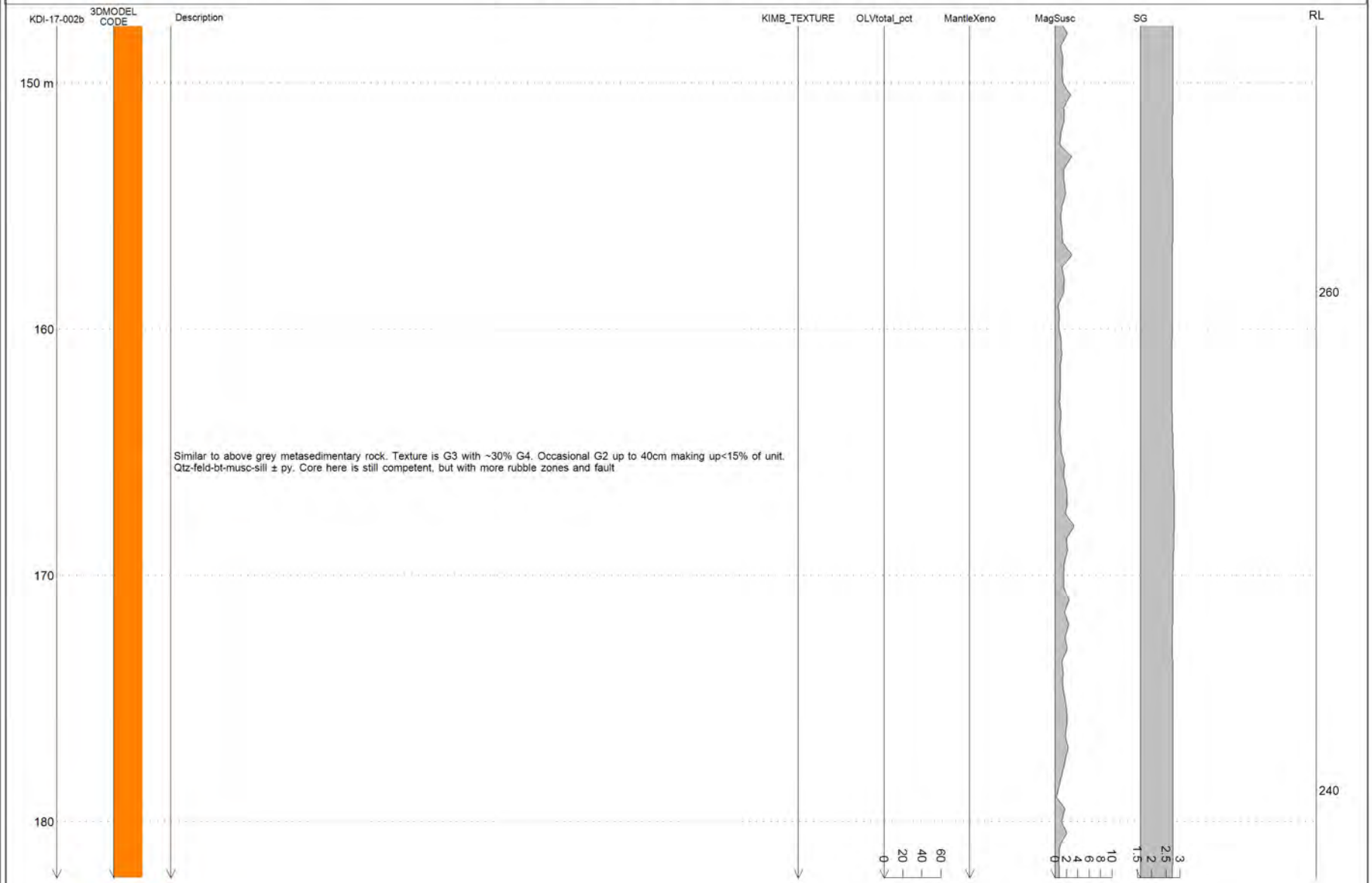
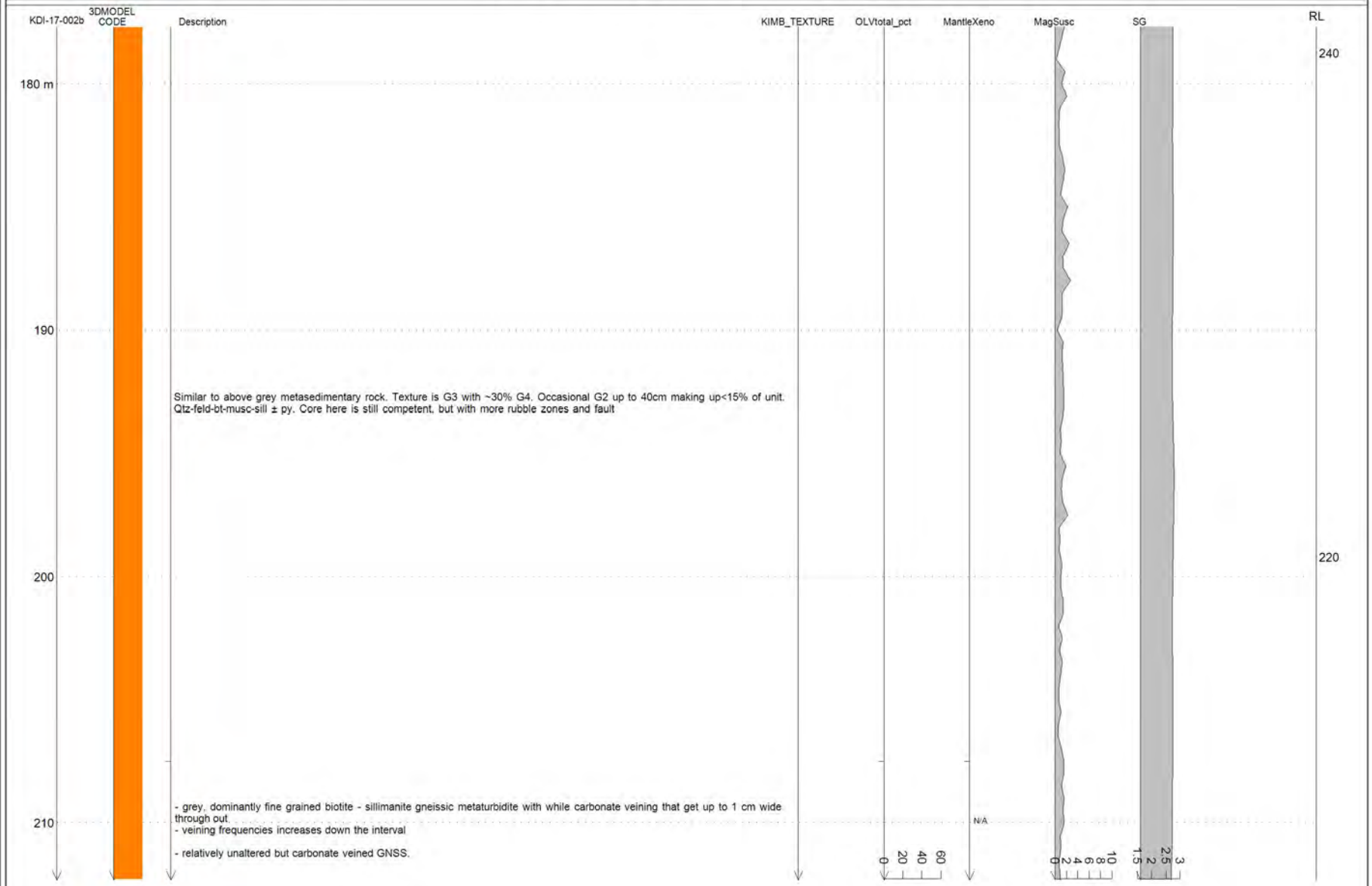


MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

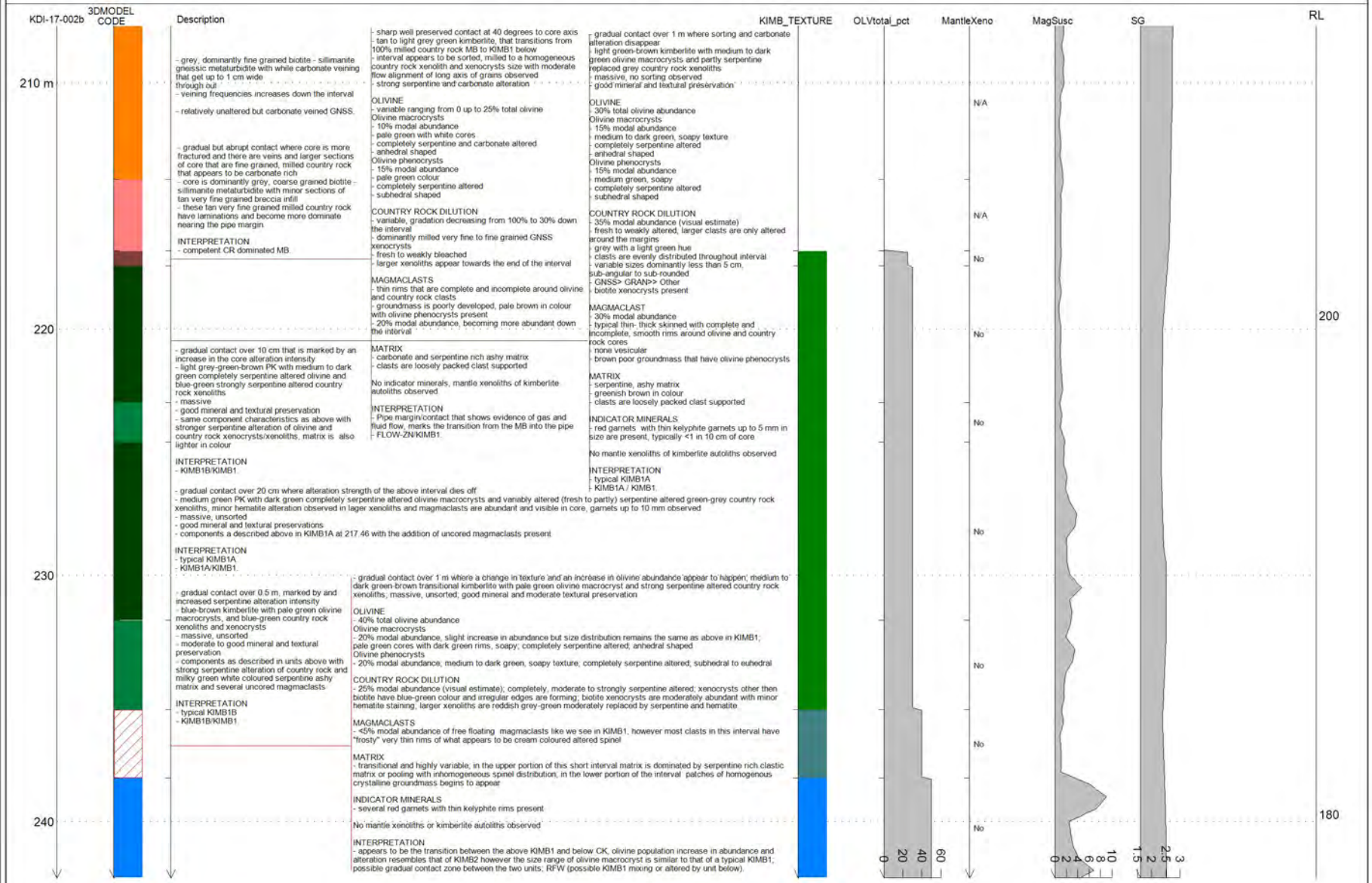
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

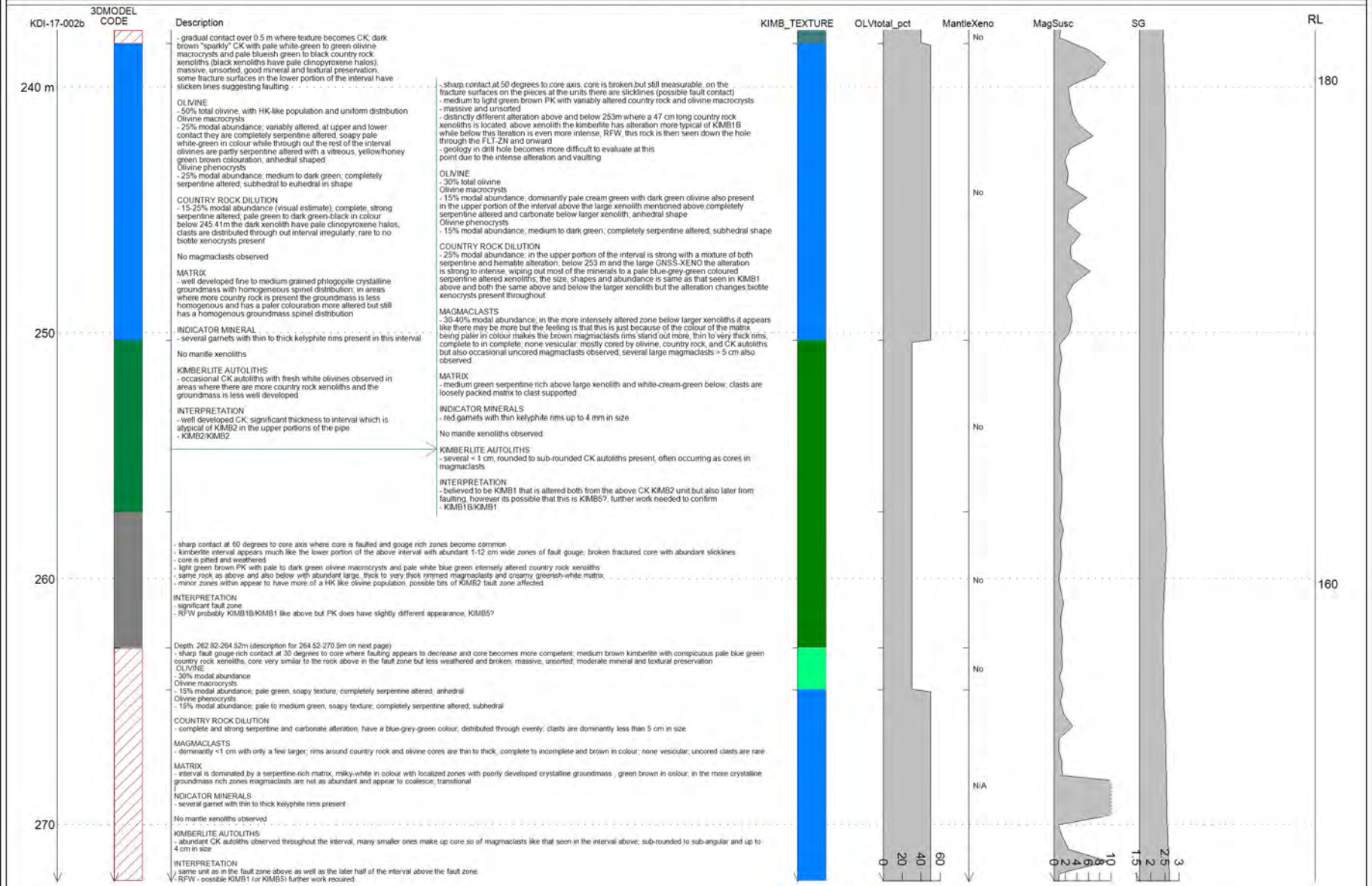
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

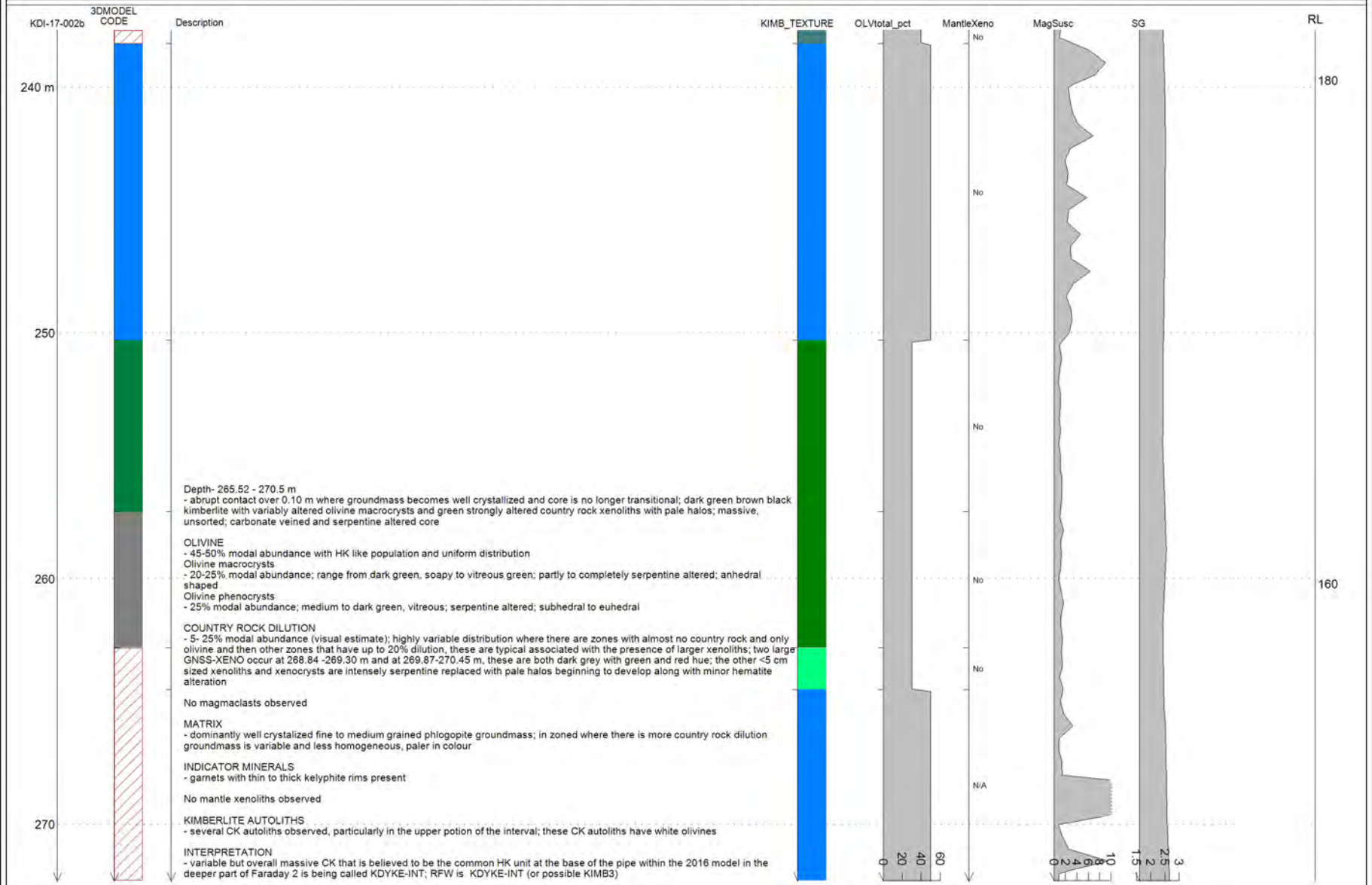
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-17-002b

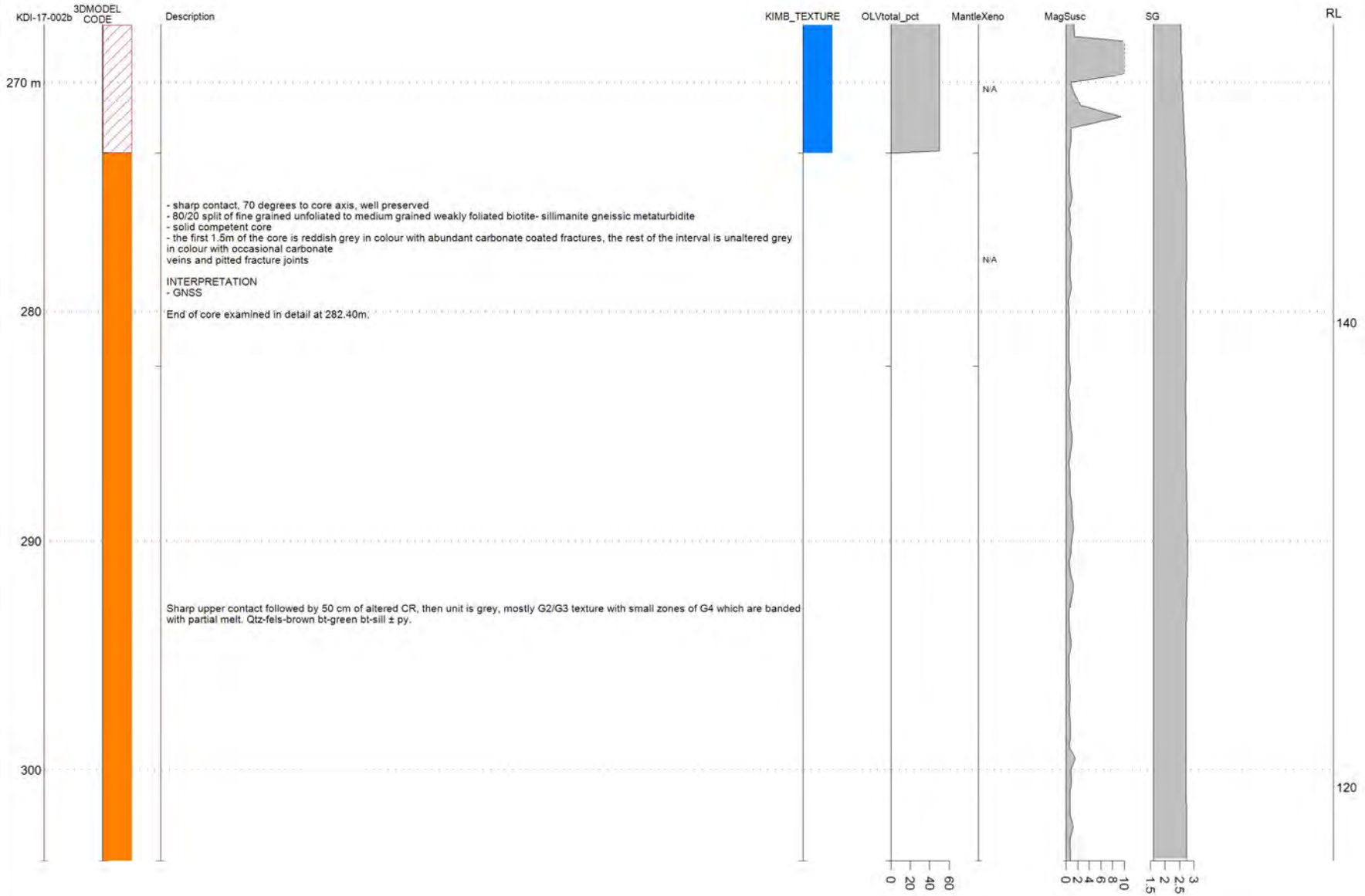
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



MOUNTAIN PROVINCE DIAMONDS

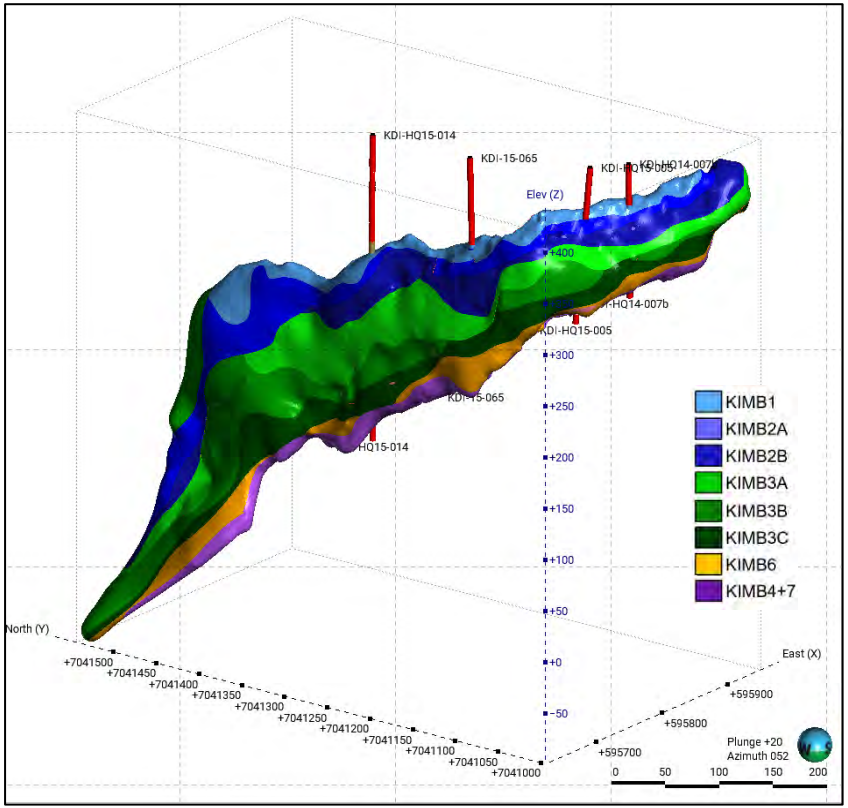
STRIP LOG: KDI-17-002b

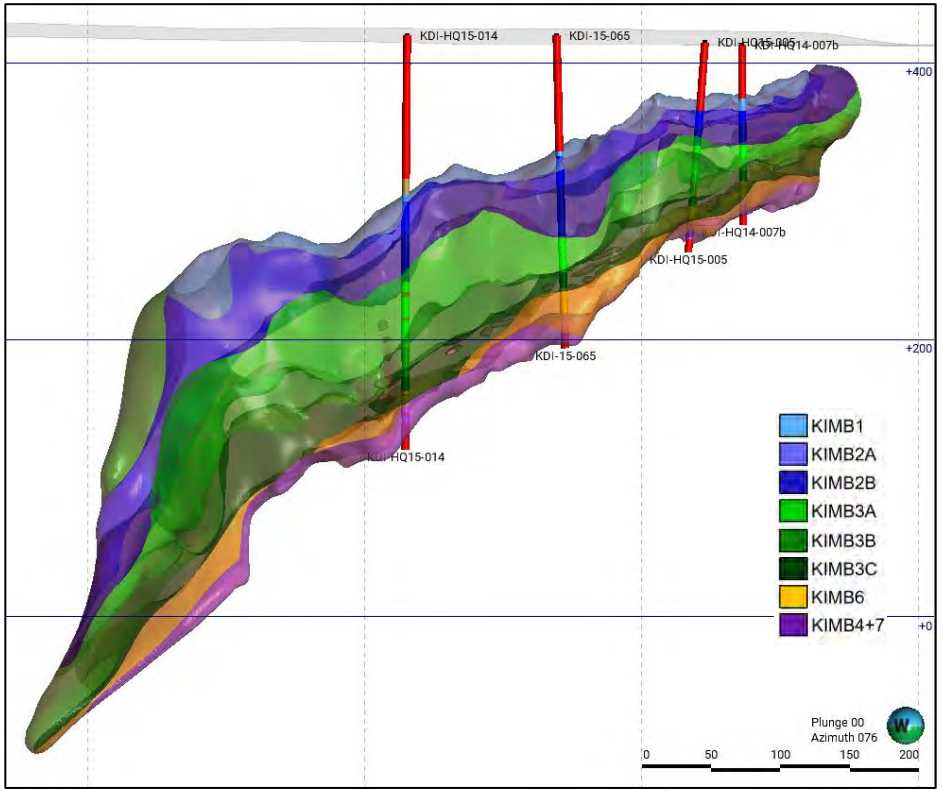
Easting	Northing	RL	Azimuth	Dip	Depth
596762.1	7043210.8	415.7	315.3	-80.8	304.0



Kelvin

KDI-HQ15-005, KDI-HQ15-014, KDI-HQ14-007b, KDI-15-065



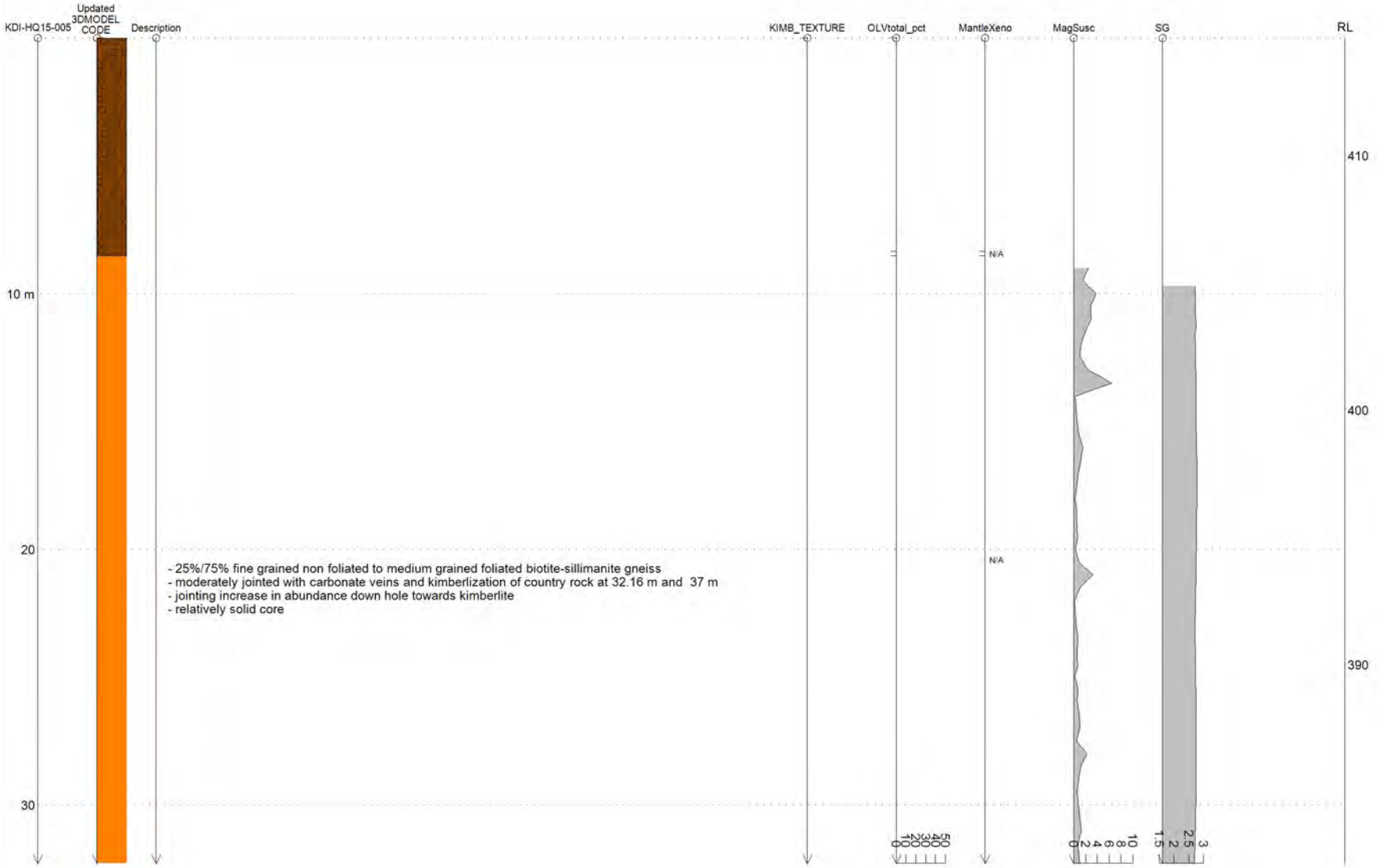


srk consulting

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-005

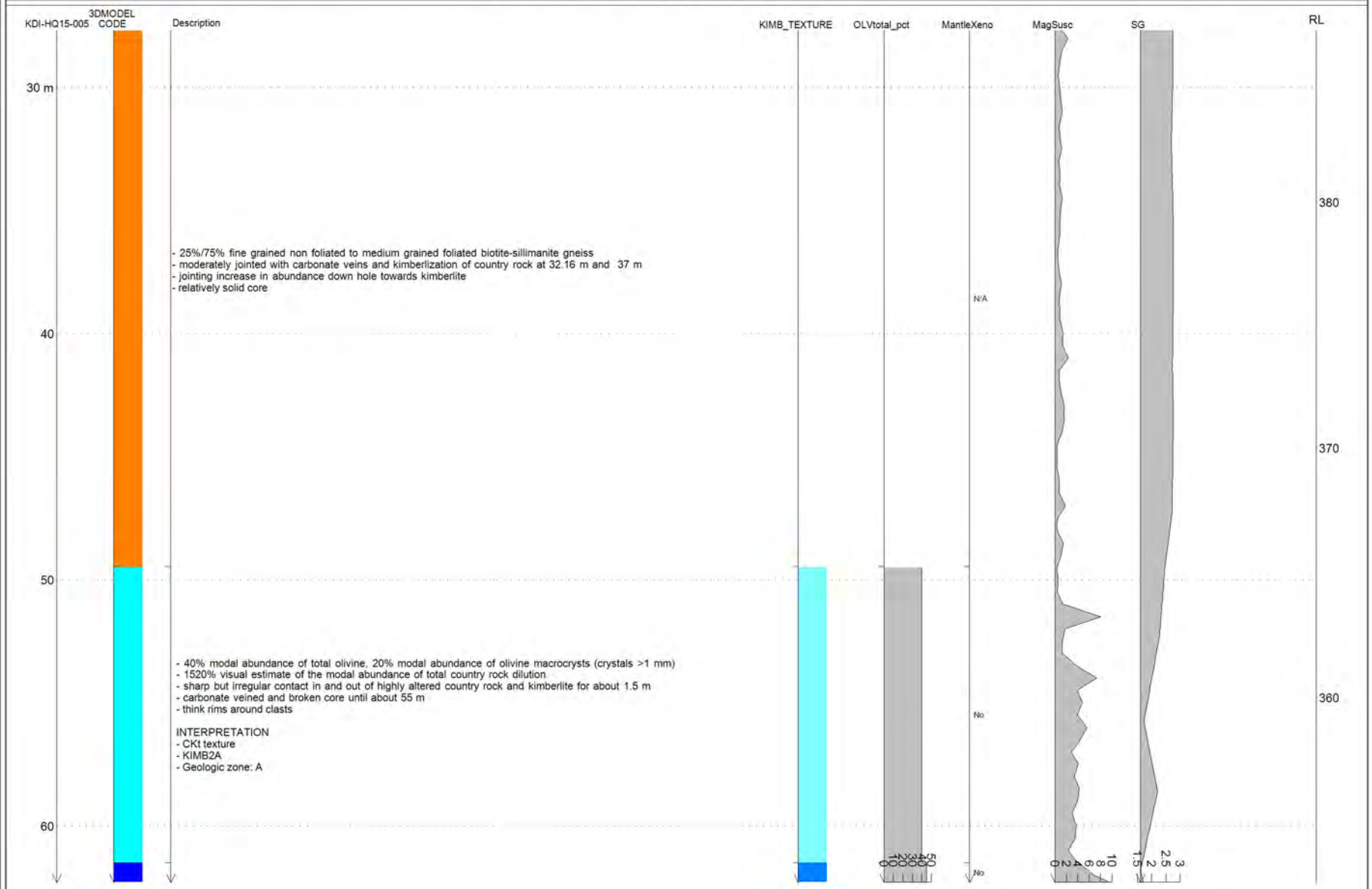
Easting	Northing	RL	Azimuth	Dip	Depth
595800.5	7041079.4	414.5	317.6	-85.5	152.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-005

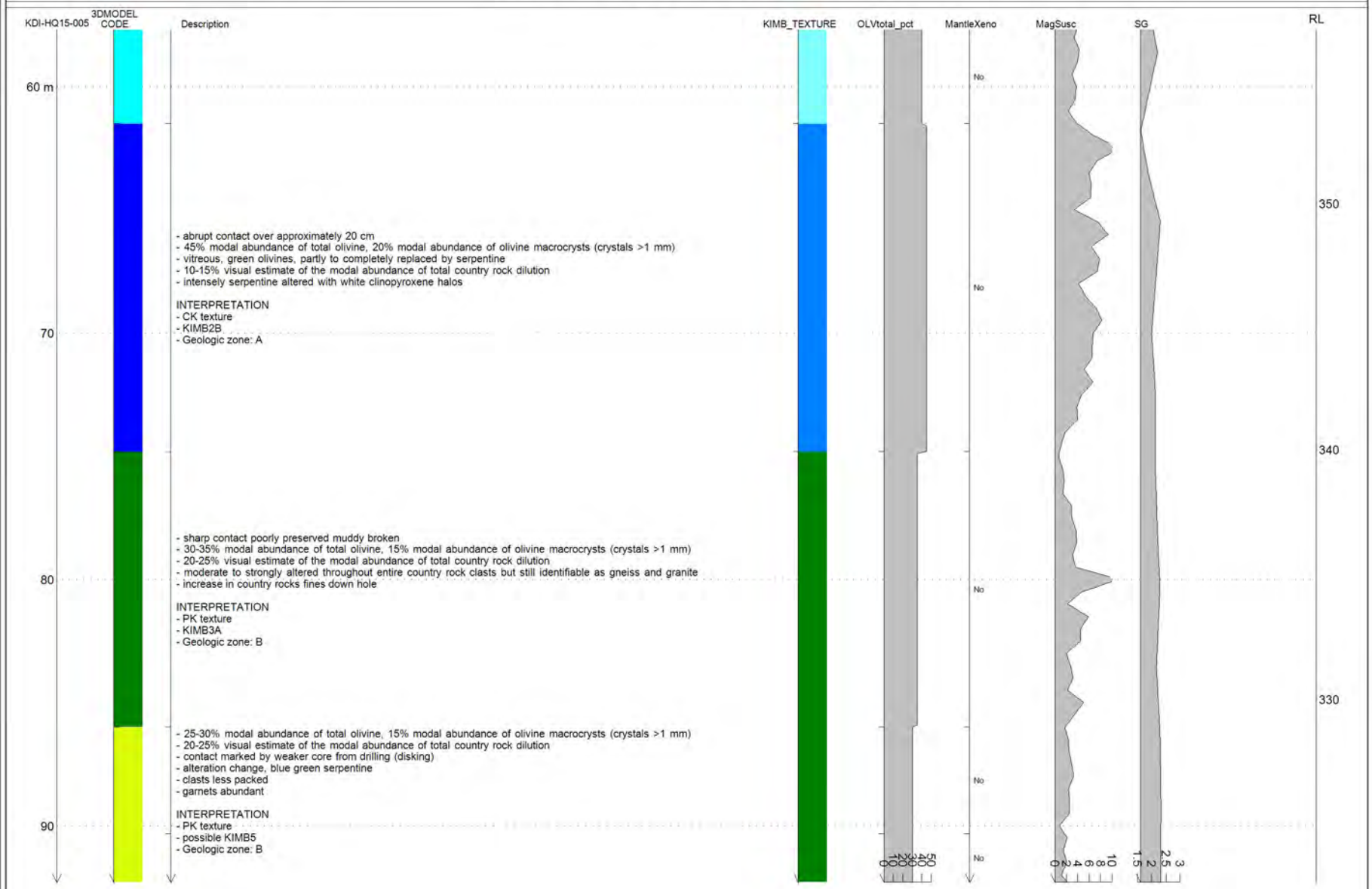
Easting	Northing	RL	Azimuth	Dip	Depth
595800.5	7041079.4	414.5	317.6	-85.5	152.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-005

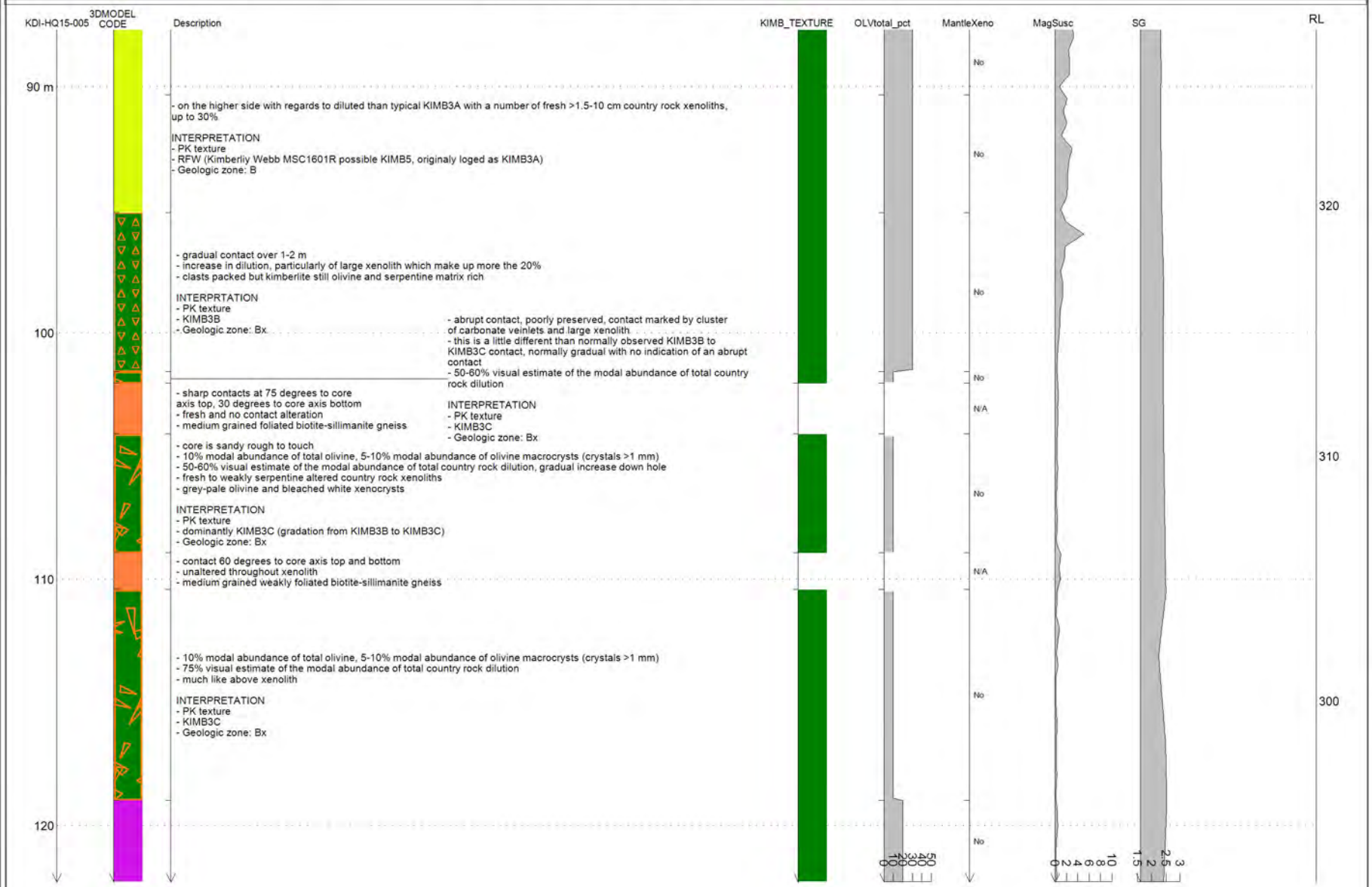
Easting	Northing	RL	Azimuth	Dip	Depth
595800.5	7041079.4	414.5	317.6	-85.5	152.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-005

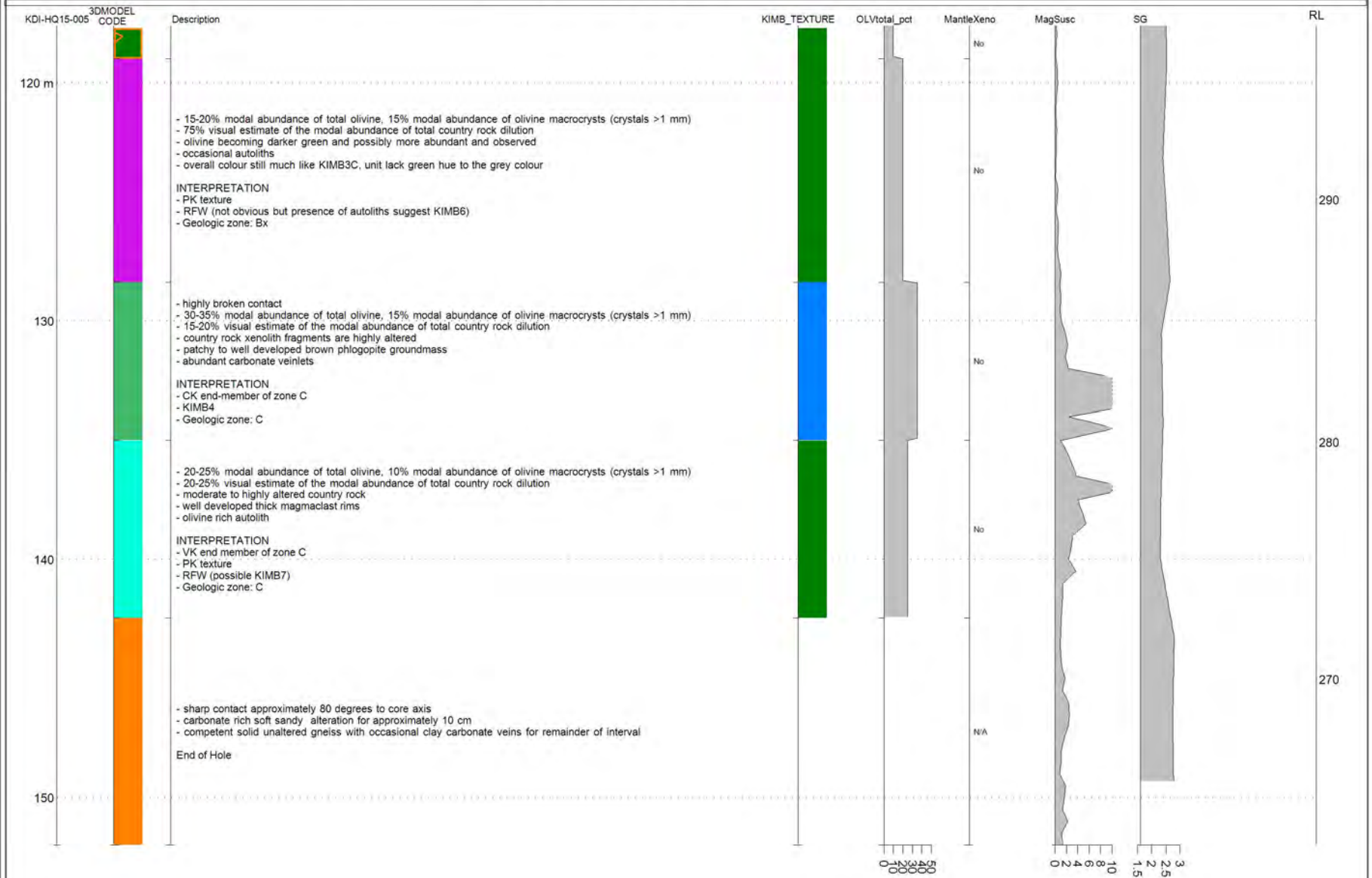
Easting	Northing	RL	Azimuth	Dip	Depth
595800.5	7041079.4	414.5	317.6	-85.5	152.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-005

Easting	Northing	RL	Azimuth	Dip	Depth
595800.5	7041079.4	414.5	317.6	-85.5	152.0



- 15-20% modal abundance of total olivine, 15% modal abundance of olivine macrocrysts (crystals >1 mm)
- 75% visual estimate of the modal abundance of total country rock dilution
- olivine becoming darker green and possibly more abundant and observed
- occasional autoliths
- overall colour still much like KIMB3C, unit lack green hue to the grey colour

INTERPRETATION
- PK texture
- RFW (not obvious but presence of autoliths suggest KIMB6)
- Geologic zone: Bx

- highly broken contact
- 30-35% modal abundance of total olivine, 15% modal abundance of olivine macrocrysts (crystals >1 mm)
- 15-20% visual estimate of the modal abundance of total country rock dilution
- country rock xenolith fragments are highly altered
- patchy to well developed brown phlogopite groundmass
- abundant carbonate veinlets

INTERPRETATION
- CK end-member of zone C
- KIMB4
- Geologic zone: C

- 20-25% modal abundance of total olivine, 10% modal abundance of olivine macrocrysts (crystals >1 mm)
- 20-25% visual estimate of the modal abundance of total country rock dilution
- moderate to highly altered country rock
- well developed thick magmaclast rims
- olivine rich autolith

INTERPRETATION
- VK end member of zone C
- PK texture
- RFW (possible KIMB7)
- Geologic zone: C

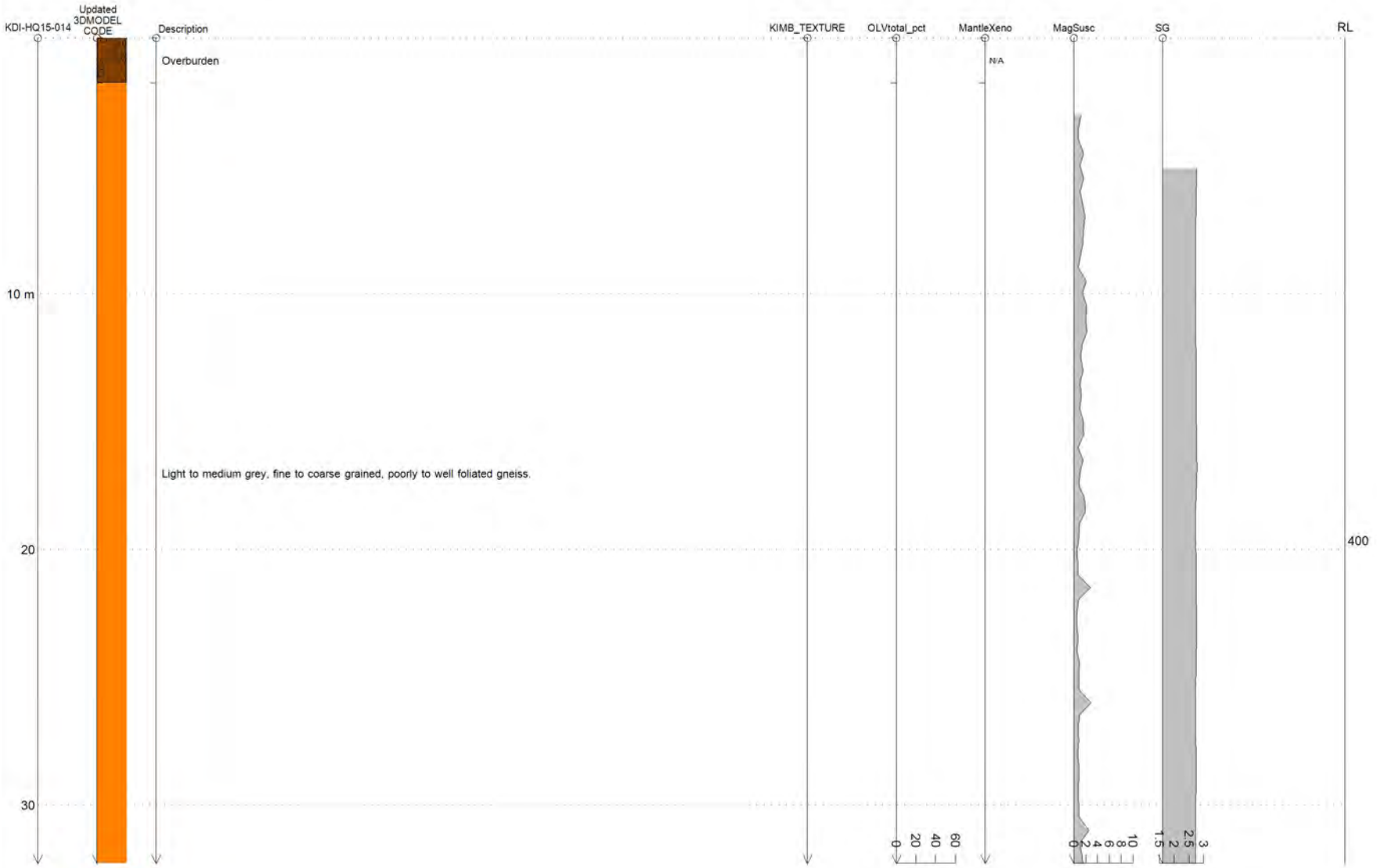
- sharp contact approximately 80 degrees to core axis
- carbonate rich soft sandy alteration for approximately 10 cm
- competent solid unaltered gneiss with occasional clay carbonate veins for remainder of interval

End of Hole

MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0

MOUNTAIN
PROVINCE DIAMONDS

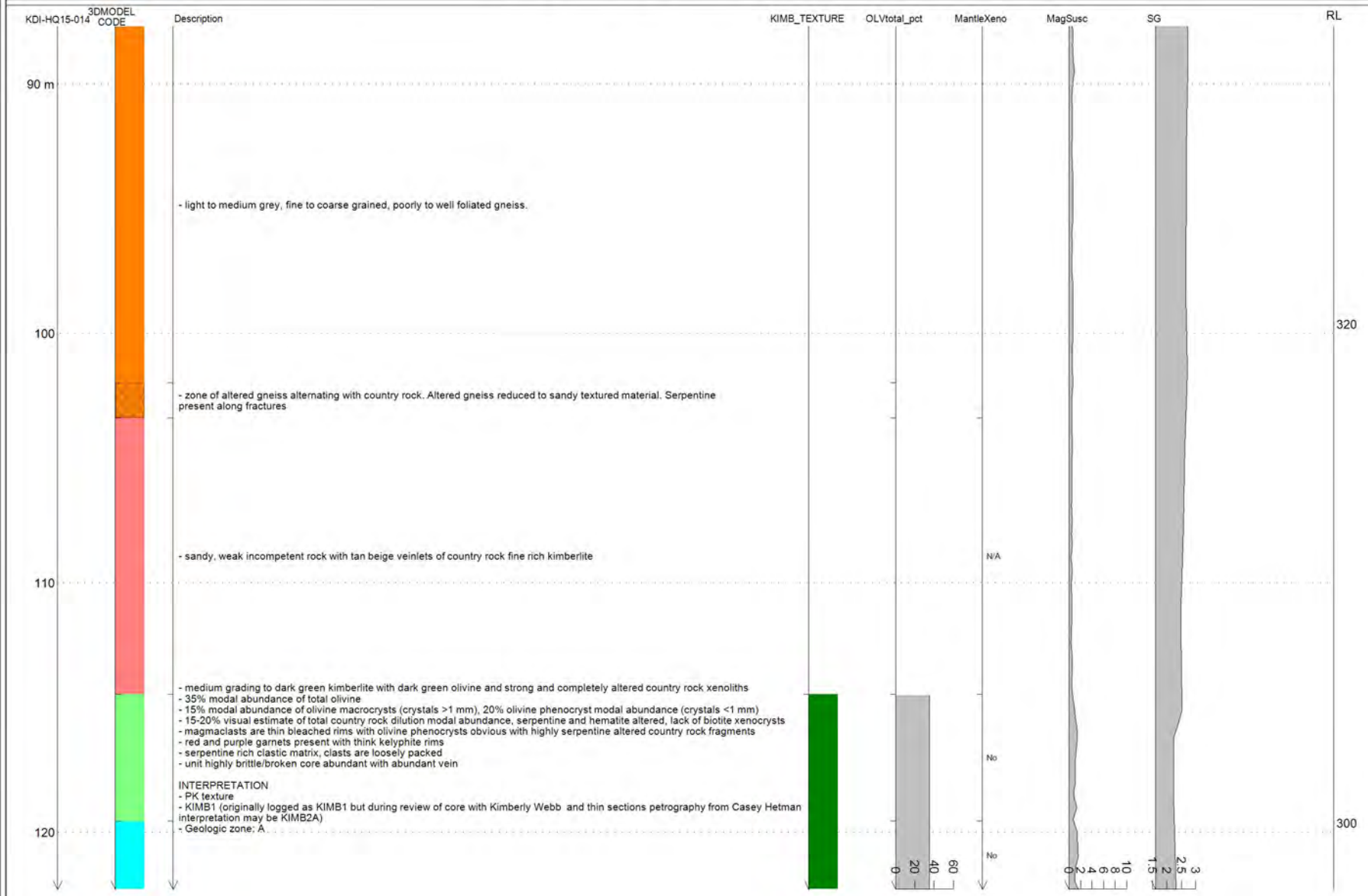
STRIP LOG: KDI-HQ15-014

Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0

MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

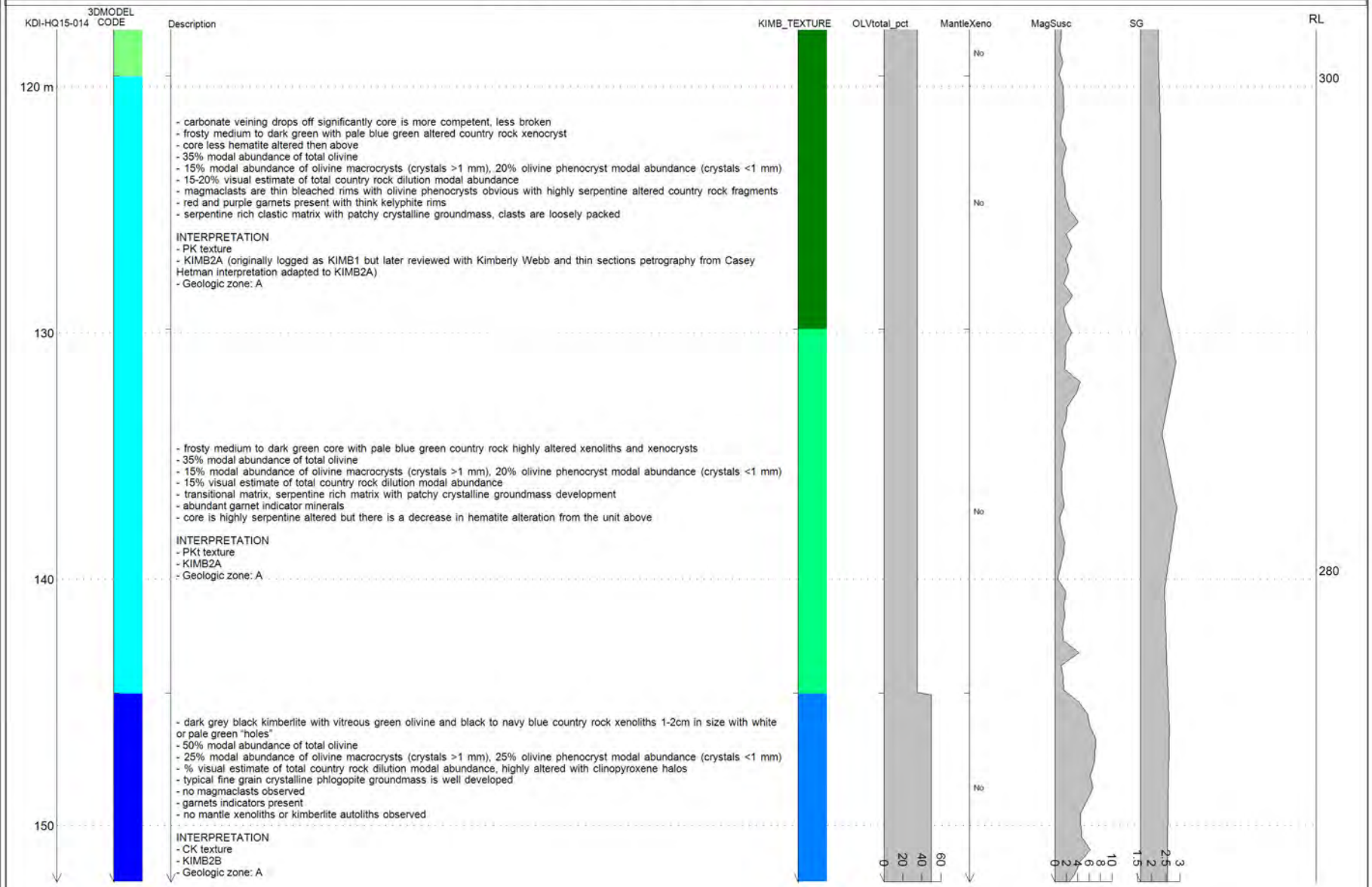
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

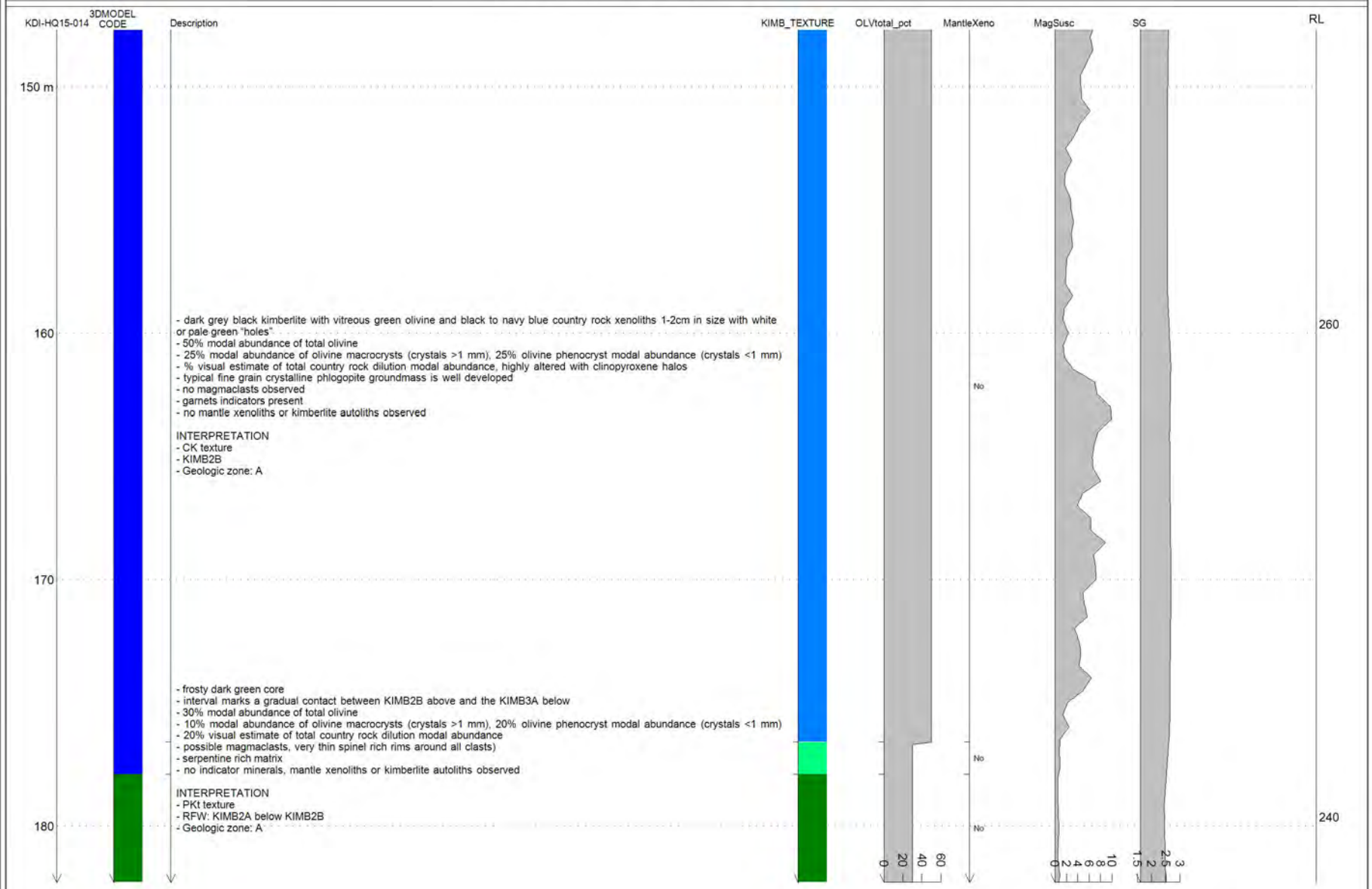
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

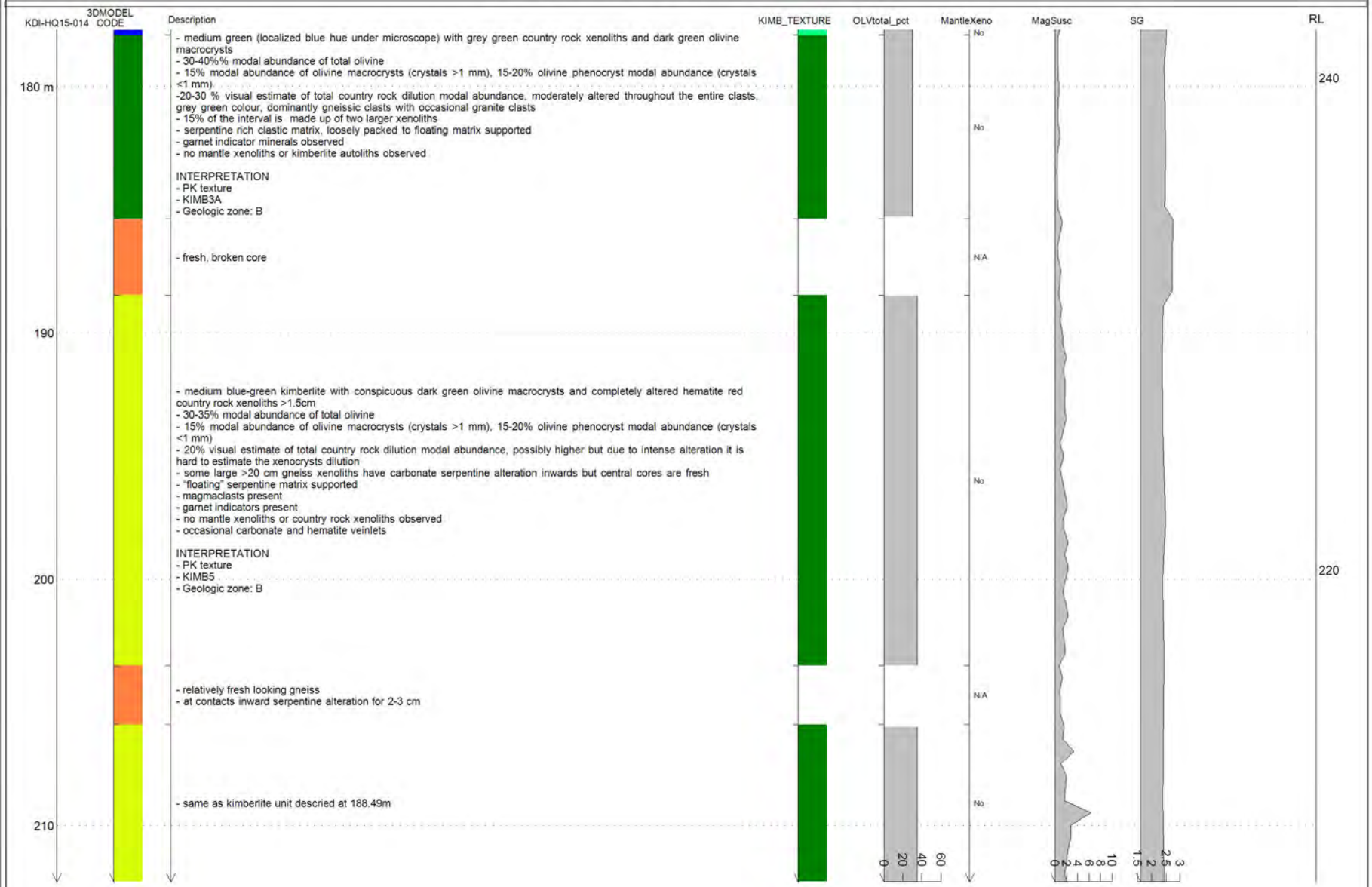
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

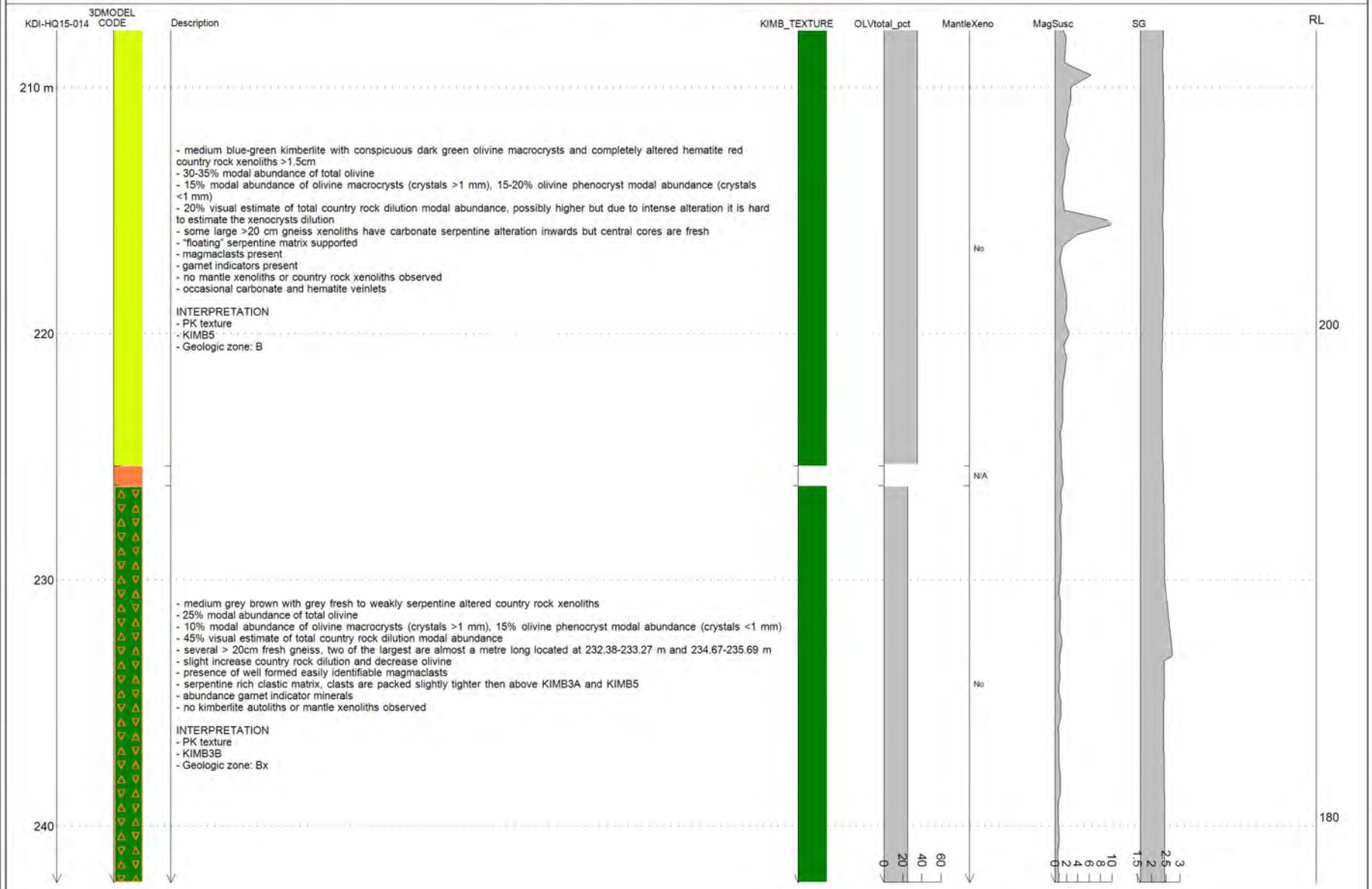
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

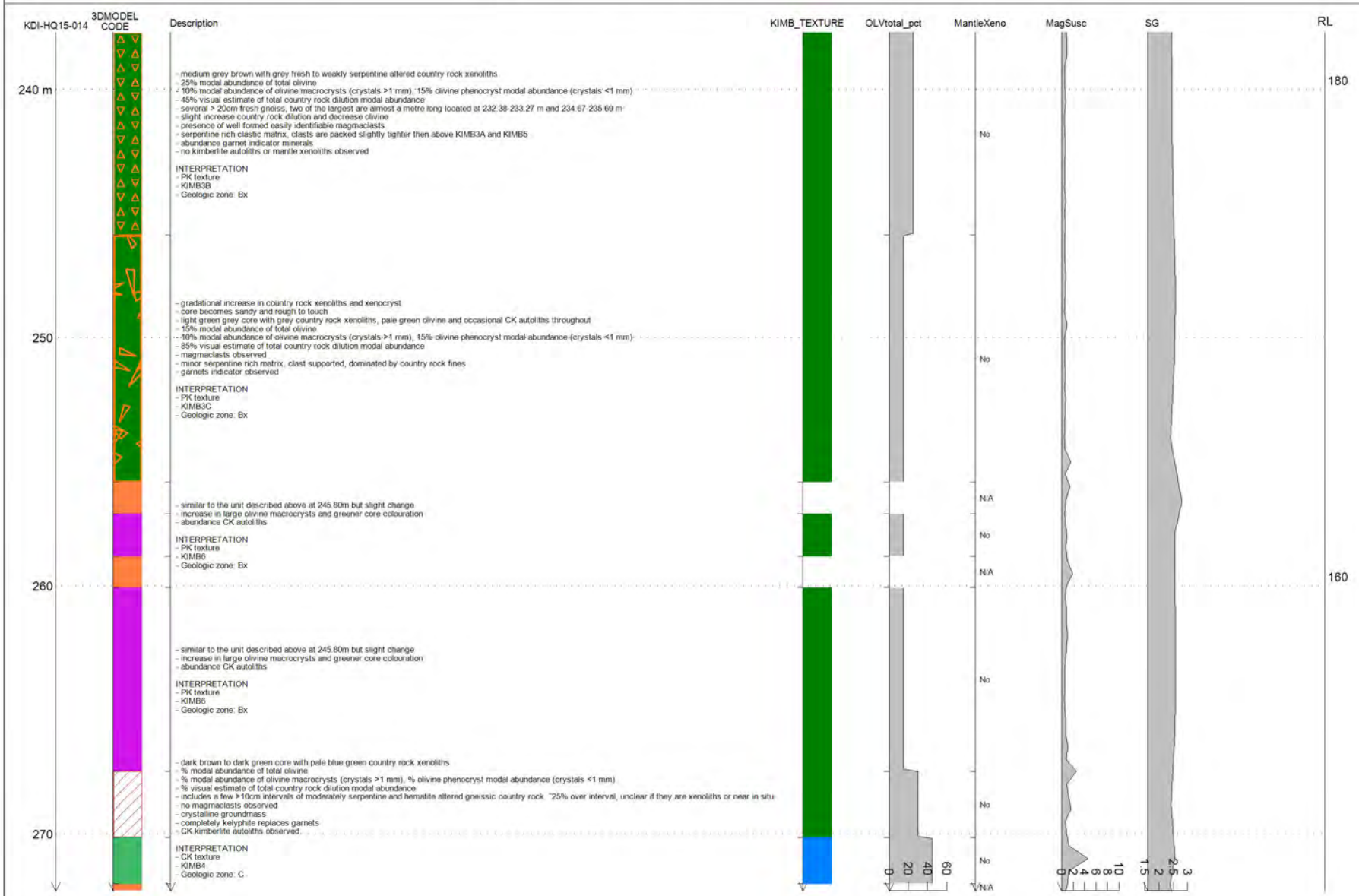
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN
PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

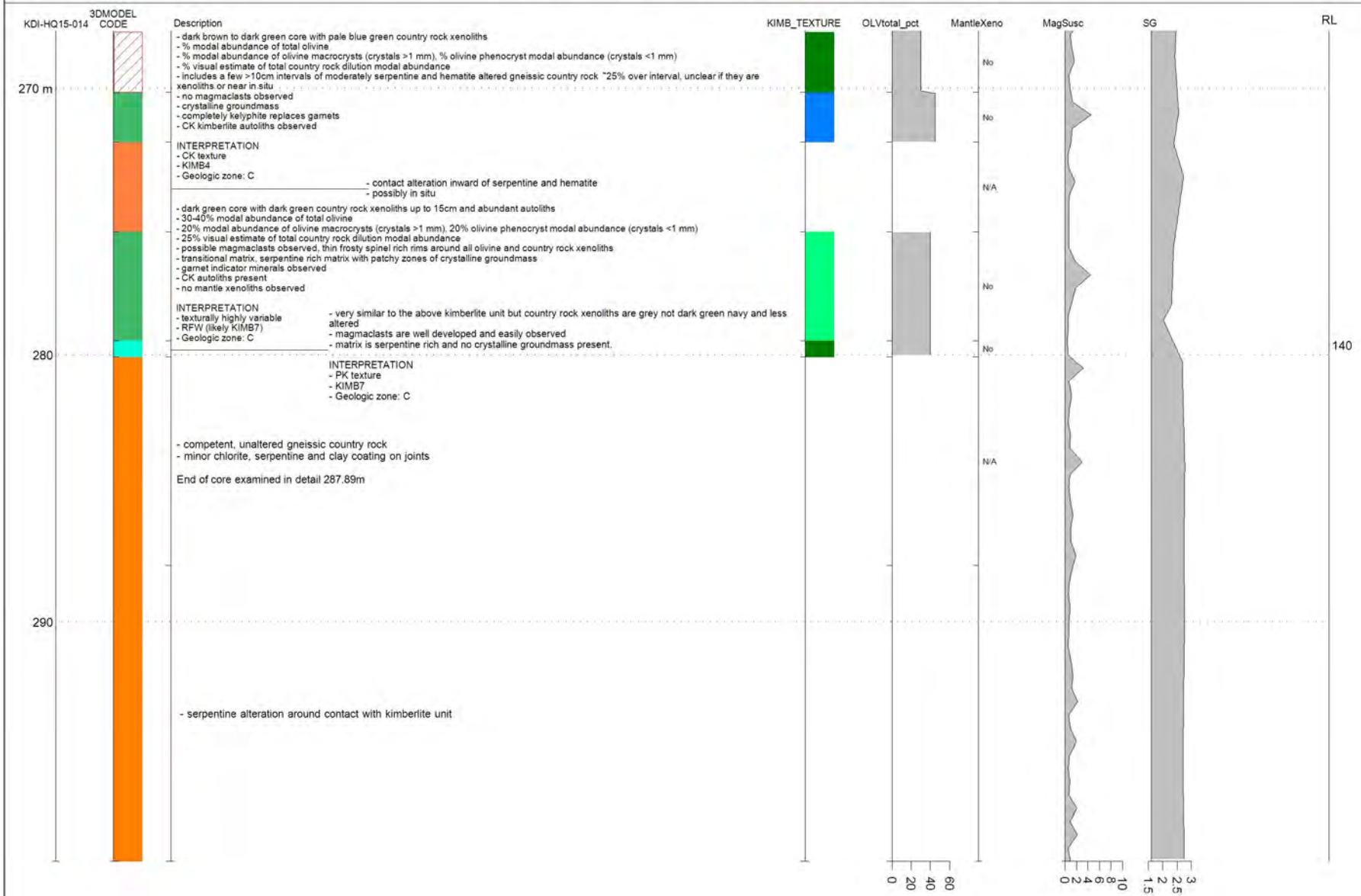
Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



MOUNTAIN PROVINCE DIAMONDS

STRIP LOG: KDI-HQ15-014

Easting	Northing	RL	Azimuth	Dip	Depth
595737.1	7041285.1	419.7	13.3	-89.1	299.0



APPENDIX III: Renard Diamond Project Drill Log

R2-600-220A

HOLE-ID	**R2-600-220A**	**Anomaly:** R2_800L	**Geologist:** A. De Stefano
			Dip: -25.83°
Start Date	July 26, 2022	**Core Size:** NQ	**Azimuth:** 21.55°
End Date	July 30, 2022	**Drill Contractor:** Forages	**Length:** 282m

From	To	Lith	Dilution	Map Unit	Olivine	Description
0	22.42	CR	100%	CR		Grey CR unit, looking unaltered and showing only minor veining locally. The lithology is almostexclusively GR (90%, coarse grained, locally pegmatitic from 17.00 to 17.70m), with minor GN (10%, fine grained, foliated).
22.42	30.69	CCR	100%	CCR		Grey CR unit showing diffused veining, but no significant alteration, except near the bottom contact and around the small HK dyklets that are found in this interval. The lithology is predominantly GR (80%, coarse grained, non pegmatitic), with minor GN (20%, fine grained, foliated). The veins and cracks are oriented between 45- and 60-degrees TCA (and the same goes for the contacts of the small HK dykes that are found at 26.67m and at 26.86m). These two HK dyklets are 6cm and 4cm wide, respectively, and they both have plenty of carbonate in the groundmass.
30.69	31.12	HK	0%	Kimb2c	f-c(vc) / 25%	Dark green and black HK unit, showing typical features of Kimb2c dykes (such as flow textures, diffused carbonate veins and iso-oriented serpentine veinlets in olivine macrocrysts). CRXs are rare and stronglyaltered. Olivine macrocrysts make up 25% of the unit; they are dark green in colour (fully serpentinized) and they range in size from f to c (predominantly c, locally vc). Olivine phenocrysts are also dark green in colour, fullyserpentinized, and they make up 25% of the unit. The groundmass is dominated by carbonate andphlogopite, with common oxides. A brown, interstitial phase is also observed (probably serpentine).
31.12	34.04	CCR	100%	CCR		Grey CCR unit in between two HK dykes. Alteration is confined to the contacts, the rest of the interval being mostly unaltered. Veining and cracking are common and it is oriented at 50-70 degrees TCA. Minor brecciation, without significant clast rotation, is found near the top contact. The lithology in this interval is almost exclusively GR (90%, coarse grained, non pegmatitic),

From	To	Lith	Dilution	Map Unit	Olivine	Description
						with barely any GN (10%, fine grained, foliated).
34.04	35.68	HK	B/5%	Kimb2c	f-c(vc) / 25%	Black and dark green HK unit, showing typical features of Kimb2c dykes (flow textures, diffusedcarbonate veins, iso-oriented serpentine veinlets in olivine macrocrysts). CRXs make up only 5% of the unit:they are strongly altered, subrounded in shape and (seemingly) granitic in terms of lithology. Olivine macrocrysts make up 25% of the unit. They range in size from f to c (predominantly c, locally vc), they are dark greento black in colour, and they are mostly serpentinized (90%). Olivine phenocrysts are also black to dark green incolour, they are fully serpentinized and they make up 25% of the rock. The groundmass is dominated bycarbonate and phlogopite, with common oxides. Interstitial serpentine is found in this unit as well (like inthe one @30.69m), but here it's blueish teal in colour.
35.68	36.52	CCR	100%	CCR		Another short grey CCR block in between two HK dykes, showing diffused veining, local brecciation and alteration (moderate) near the contacts). The lithology is exclusively GR (coarse grained, non pegmatitic), with no GN.
36.52	36.77	HK	B/5%	Kimb2c	20%	Small black HK unit, showing very similar features to the ones described in the unit @34.04m. The main difference is that olivines in this dyke are more brownish than green in colour and the olivine macrocrysts areslightly less abundant (20%). The groundmass contains blue interstitial serpentine in this unit as well.
36.77	43.73	CCR	100%	CCR	-	Grey CCR unit, displaying diffused veining (oriented at 50-70 degrees TCA) and moderate alteration (and minor brecciation) near the contacts. The lithology is predominantly GR (80%, coarse grained, pegmatitic @ 40.80 m to 42.00 m), with minor GN (20% fine grained, foliated).
43.73	45.56	HK	B/10%	Kimb2c	f-c(vc) / 20%	Black to dark brown HK unit, displaying typical features of Kimb2c dykes (flow textures, diffusedcarbonate veins, and iso-oriented serpentine veinlets in olivine macrocrysts. CRXs make up 10% of the unit, they are subrounded to subangular in shape, strongly altered, ranging in size from <0.5 (lots of them) to 10cm, and they seem

From	To	Lith	Dilution	Map Unit	Olivine	Description
						mostly granitic in terms of lithology. Interestingly, many of them show pink feldspar in them whereas none of it is found in the surrounding CR units (so it must come from higher depths).Olivine macrocrysts make up 20% of the unit. They are dark brown to dark green in colour, fully serpentinized,and they range in size from f to c (predominantly c, locally vc). Olivine phenocrysts are also dark brown in colour and fully serpentinized. They make up 25% of the unit. The groundmass is dominated by carbonate and phlogopite, with common oxides and brown interstitial serpentine.
45.56	54.3	CCR	100%	CCR	-	Grey CCR unit showing diffused veining oriented around 60 degrees TCA and moderate alteration (plus minor brecciation) near the top contact with the HK. The lithology is predominantly GR (80%, coarse grained, pegmatitic @49.00-49.50m), with minor GN (20%, fine grained, foliated).
54.3	62.27	CR	100%	CR	-	Grey CR unit, looking unaltered and showing only minor veining locally. The lithology is almostexclusively GR (90%, coarse grained, non pegmatitic), with barely any GN (10%, fine grained, foliated)
62.27	74.8	CCR	100%	CCR	-	Grey CCR unit displaying weak alteration and diffused veining and cracking throughout the interval. The lithology is predominantly GR (80%, coarse grained, locally pegmatitic), with minor GN (20%, finegrained, foliated). There seem to be two main systems of fractures crossing each other: one at 30-45degrees TCA, the other one at 60-70 degrees TCA.
74.8	84.05	CRB	100%	CRB	-	Grey to light pink CRB unit displaying the typical features of this lithology Alteration of the clasts is still weak like in the previous unit. The clasts are predominantly granitic (90% vs. 10% gneissic) and theyrange in size from <0.5cm to 70cm. Their shapes cover the whole spectrum from angular to rounded, buton average they are more on the angular side. The matrix is grey to tan in colour and looks, for the mostpart, non-kimberlitic in origin. It appears to be clay-rich only in certain patches, whereas for the most partit is composed of pulverized CR. No olivine macrocrysts were detected in this unit.

From	To	Lith	Dilution	Map Unit	Olivine	Description
84.05	85.75	CCR	100%	CCR	-	Light pink to grey CCR block in between two intervals of CRB. The rock in this one looks mostly unaltered, but the veining is quite diffused (and oriented at 60 to 75 degrees TCA). The lithology is predominantly light pink, pegmatitic granite (70%), the rest being grey gneiss (30%, fine grained, foliated). The top contact is sharp but irregular (no angle could be measured).
85.75	89.67	CRB	100%	CRB		Grey to light pink CRB unit, continuation of the one described @74.80m. The features are virtuallyidentical. In this one the CR clasts range in size from <0.5cm to 55cm, still looking weakly altered, and their lithology is almost exclusively GR (less than 10% GN). The matrix is still grey in colour and looking non-kimberlitic in origin (pulverized CR). No olivine macrocrysts observed.
89.67	96.51	CCR	100%	CCR	-	Light grey CCR unit, looking mostly unaltered, but with common veining throughout the interval. The veins are oriented at 45-60 degrees TCA. The lithology is almost exclusively GR (90%, coarse grained, locally pegmatitic), with barely any GN (fine grained, foliated).
96.51	101.42	CRB+K	97%	CRB+K	f(m) / 1%	Grey CRB unit looking different from the two described above in that this one clearly has kimberlitic material in it (<5%) in the form of olivine macrocrysts (mostly f in size, locally m, fully serpentinized) and a clay rich matrix, dark grey to black in colour. The CR clasts look like the ones in the previous CRB unit: the size range is from <0.5 to 30cm, the alteration level is weak, and their shapes are angular tosubrounded. The lithology of the clasts is almost exclusively GR, with barely any GN (less than 10%).
101.42	102	HK	B/18%	FKimb2c	f(m) / 5%	Grey HK unit, aphanitic and heavily altered to carbonate. Despite the near absence of real olivine macrocrysts, flow textures are evident. Carbonate veins are also noticeable. This rock seems to consist almost exclusively of olivine phenocrysts held together by a heavily altered carbonate groundmass. The olivine phenocrysts themselves (as well as the few olivine macrocrysts) react to HCl showing they have been heavilyreplaced by carbonate. The dilution is confined near the bottom contact, which is heavily brecciated. The

From	To	Lith	Dilution	Map Unit	Olivine	Description
						clasts look moderately to heavily altered and mostly granitic in terms of lithology.
102	112.81	CRB+K	98%	CRB+K	f / 1%	Grey CRB+K unit looking like the continuation of the one that started @96.51m. The features are almost the same, although in this interval the kimberlitic material seems less abundant. The olivine macrocrysts are rare and only f in size. The dark grey/black matrix is visible only in certain patches. Elsewhere we find thegrey matrix made of pulverized CR that we observed in the units @85.75 and @74.80m. A small, altered HK dyke is found @104.70-104.77m. Its contacts are at 50 degrees TCA.
112.81	116.57	HK/HKt	B/25%	Kimb2b	f-c(vc) / 20%	Dark brown HK/HKt unit displaying typical features of Kimb2b. CRXs make up 25% of the interval They range in size from <0.5 to 10cm, they are subrounded to subangular in shape and strongly tomoderately altered. Their lithology seems to be predominantly gneiss (which is strange considering the composition of the clasts of the CRB above it). Olivine macrocrysts make up 20% of the unit. They are darkbrown to black in colour and fully serpentinized. Their sizes range from f to c (predominantly c, locally vc). Olivine phenocrysts make up 20 of the unit as well. They are dark brown to black in colour and fully serpentinized. The groundmass is rich in carbonate (especially in the more coherent patches), withcommon phlogopite and oxides. Garnet macrocrysts are visible locally.
116.57	117.27	HK	B/5%	Kimb2c	f-c / 25%	Black HK unit, showing typical features of Kimb2c dykes, including flow textures and carbonate veinlets. Dilution is minimal (5%). CRXs are strongly altered and small (max 5cm). Olivine macrocrysts make up 25%of the unit. They range in size from f to c (predominantly c) and they are fully serpentinized (black incolour). Olivine phenocrysts are also fully serpentinized and black (and they also make up 25% of the unit). The groundmass is dominated by carbonate, with common phlogopite and oxides. A nice purple garnet macrocrysts with kelyphitic rim is found @116.92m.
117.27	138.88	HK/HKt	B/30%	Kimb2b	f-c(vc) / 20%	Dark brown to black HK/HKt unit, certainly the continuation of the Kimb2b domain that started @112.81m. The features are still

From	To	Lith	Dilution	Map Unit	Olivine	Description
						mostly the same. In this interval, dilution is slightly higher (30%). CRXs range in size from <0.5cm (lots of them) and 39cm, they are moderate to strongly altered, subrounded to subangular in shape, and predominantly gneissic in terms of lithology. Olivine macrocrysts make up 20% of the unit. They are dark brown to black in colour and fully serpentinized, ranging in size from f to c(predominantly c, locally vc). Olivine phenocrysts make up 18% of the unit. They are also dark brown to black in colour and fully serpentinized. The groundmass is mostly crystalline and carbonate-rich throughout the interval (but especially in the coherent, HK patches). Phlogopite is ubiquitous and so are oxides. Garnet macrocrysts are visible locally.
138.88	140.96	HK	B/17%	Kimb2b	f-c(vc) / 25%	Black HK unit, in textural continuity with the one above it, which suggests this interval is still part of the same Kimb2b domain. Dilution is considerably lower (17%) and the texture is entirely coherent. No flow textures are observed. CRXs range in size from <0.5 to 10cm and they are subrounded to subangular in shape, strongly altered. They seem predominantly gneissic in terms of lithology. Olivine macrocrysts make up 25% of the unit. They range in size from f to c (locally vc) and they are dark brown in colour (fullyserpentinized). Olivine phenocrysts are also dark brown and fully serpentinized (and they make up 25% of theunit). The groundmass is surprisingly carbonate-poor, dominated by phlogopite, with common oxides and interstitial serpentine.
140.96	142.38	HK	B/3%	Kimb2c	f-c / 30%	Black and dark green HK unit, displaying typical features of Kimb2c dykes (including flow textures, carbonate veins, and iso-oriented serpentine veinlets in olivine macrocrysts). Dilution is minimal (3%). CRXs are small (<3cm in size) and strongly altered, subrounded in shape. Olivine macrocrysts make up 30% of this unit. They are dark green in colour and mostly serpentinized (90%). Their size ranges from f to c(predominantly c, locally vc). Olivine phenocrysts are also dark green in colour and mostly serpentinized.They make up 25% of the unit. The groundmass is

From	To	Lith	Dilution	Map Unit	Olivine	Description
						dominated by carbonate and phlogopite, with localoxides and interstitial serpentine. The top contact is sharp but irregular (no angle could be measured).
142.38	145.91	HK/HKt	B/25%	Kimb2b	f-c(vc) / 18%	Dark brown to black HK/HKt unit, continuation of the large Kimb2b domain that started @112.81. The features are very similar to the ones observed in the previous intervals of this domain. CRXs in this one make up 25% of the unit and they are strongly to moderately altered, subrounded to subangular in shape and they range in size from <0.5cm (lots of them) to 23cm. The lithology of CRXs seems more granitic than gneissic in this unit. The groundmass is dominated by phlogopite, with minor carbonate and oxides. The top contact is sharp but irregular (no angle measured)
145.91	149.29	TK/TKt	BB/70%	FKimb2a	f-m(c) /5%	Light green to tan TK/TKt unit showing some typical features of Kimb2a. CRXs make up 70% of the unit. They range in size from <0.5cm (lots of them) and 30cm. Their lithology is predominantly granite and they are weakly to moderately altered. Olivine macrocrysts make up 5% of the unit. They range in sizefrom f to m (only locally c) and they are brown in colour, fully serpentinized. Olivine phenocrysts are rareand only noticeable in the transitional brown patches where some joint magmaclasts are found. Discrete magmaclasts are rare and very altered. The groundmass, in the local transitional patches where some of itis preserved, looked partially crystalline, with some oxides and phlogopite still preserved. The intra-clast matrix is mostly light green and clay rich.
149.29	154.85	HK/HKt	B/35%	Kimb2b	f-c(vc) / 18%	Dark brown HK/HKt unit, most likely the continuation of the large Kimb2b domain that started at 112.81m. The features of this interval are consistent with the ones described above. Dilution is slightly higher at 35%, with CRXs ranging in size from <0.5cm (lots of them) and 33cm. Their lithology seems predominantly gneissic, even though the larger blocks are granite. The alteration of CRXs is moderate to strong. The groundmass is carbonate-poor throughout the interval, even in the more coherent patches. Th predominant phase in

From	To	Lith	Dilution	Map Unit	Olivine	Description
						it is phlogopite, but oxides and interstitial serpentine are also common.
154.85	156.14	CCR_K	100%	CCR+K	-	Grey CCR block inside the Kimb2b domain, looking moderately altered and displaying pervasive veining The lithology is roughly an even split between GR and GN. Some brecciation, without significant clastrotation, is found near the bottom contact, and in some veins and pockets some olivines are visible, which is why I decided to label the unit CCR+K.
156.14	165.43	HK/HKt	B/35%	Kimb2b	f-c(vc) / 18%	Dark brown HK/HKt unit, clearly the continuation of the same Kimb2b domain described above. The features are virtually the same, except for the fact that this interval seems entirely transitional, without any fully coherent patches (hence the lithology code HKt, as opposed to HK/HKt). PET: 60578. Lower sharp contact, planar at 70 degrees TCA.
165.43	169.76	TK/TKt	BB/60%	Kimb2a	f-m / 2%	Blue to medium green in colour TK/TKt unit. CRXs: 60% (up to 25cm wide), angular to subangular, moderately altered. Oli macrocrysts: 2-5%, subrounded to rounded, (1-5 mm wide) completely serpentinized. GM: intra-clast matrix light blue in colour and clay rich, locally phlogopite. From 166 to 169.76m: blocky core. Lower sharp planar contact at 45 dg TCA.
169.76	173	HK/HKt	B/22%	Kimb2b	f-m / 20%	Brownish HK/HKt kimb2b unit. CRX: 20-25%, subangular to angular (up to 20 cm wide), weakly-moderately altered. Oli macrocrysts: 20% (1-5 mm wide) fully serpentinized. Oli phenocrysts: 11% alsoserpentinized. GM: phlogopite abundant, with minor carbonate and oxides. Lower sharp contact at 50 dg TCA
173	178	TK/TKt	BB/70%	Kimb2a	f-m / 2%	Greenish blue TK/TKt kimb2a unit, similar to unit above. CRXs: 70% (up to 75 cm wide), subangular to angular, weakly-moderately altered. Olivine macrocrysts: 2-5% (f-m), serpentinized. Olivine phenocrysts: 2% also serpentinized. At 176.95m: magmaclast / autolith (7 cm wide). GM: intra-clast matrix light blue in colour and clay rich, locally phlogopite. Sharp lower contact at 80 degrees TCA
178	179.14	HK		Kimb2b	f-c / 30%	Black HK dyke separated by 34 cm altered CRx. Olivine macrocrysts: 30%, 1-10mm, fully serpentinized. Oli phenocrysts: 22% also fully serpentinized. GM: calcite

From	To	Lith	Dilution	Map Unit	Olivine	Description
						abundant, locally spinel-rich. PET: 60582. Sharp contact at 50 dg TCA
179.14	184.13	TK/TKt	BB/60%	Kimb2a	f-m / 2%	Blue to medium green in colour TK/TKt unit. CRXs: 60% (up to 40cm wide), angular to subangular,moderately altered. Oli macrocrysts: 2-5%, subrounded to rounded, (1-5 mm wide) completely serpentinized. GM: Occasional magmaclasts are visible, are cored, intra-clast matrix light blue in colour and clay rich, locally phlogopite. PET: 60583. Lower sharp planar contact at 45 dg TCA
184.13	187	HK/HKt	B/22%	Kimb2b	f-c / 20%	Brownish kimb2b HK/HKt. CRX: 20-25%, subangular to angular (up to 15cm wide), weakly-moderately altered with green alteration locally. Olivine macrocrysts: 20% (1-7 mm wide), intensely serpentinized. Oliphenocrysts: 18% also serpentinized. GM calcite-phlogopite. PET: 60584. Lower sharp contact at 85 degrees TCA.
187	193.4	TKt	B/35%	Kimb2a	f-c / 5%	Blue to medium green in colour TKt kimb2a unit, with transitional textures visible. CRXs: 35% (up to 14cm wide), angular to subangular, weakly to moderately altered. Oli macrocrysts: 2-5%, subrounded torounded, (1-10 mm wide) completely serpentinized. Oli phenocrysts: 2% also strongly serpentinized. GM:intra-clast matrix light blue in colour and clay rich, locally phlogopite. From 192.92 to 193.4 m: smallinterval of HKt kimb2b. Lower sharp planar contact at 85 degrees TCA
193.4	196.59	HK		Kimb2c	f-c / 40%	Black and dark green HK kimb2c unit, minor carbonate veins cut unit as fractures filling oriented at 30-40 degrees TCA. CRXs: trace to3% are small (up to 5 cm wide)) are strongly altered, subrounded. Oli macrocrysts: 40% (1-10 mm wide), olive-green in colour and intensely serpentinized. Olivine phenocrysts: 30%, also olive-green in colour and intensely serpentinized. GM: intense carbonate and phlogopite-rich and local spinel. Sharp contact planar at 85 degrees TCA.
196.59	205.1	HK/HKt	B/15%	Kimb2b	f-c / 25%	Black HK/HKt kimb2b unit. CRXs: 15% (up to 20 cm wide), subrounded to subangular, strongly altered. Olivine macrocrysts: 25% (1-10 mm wide), fully serpentinized. Oli phenocrysts: 20% fully serpentinized too. GM:carbonate-rich, dominated by phlogopite. From 203 to 205.10 m: interval

From	To	Lith	Dilution	Map Unit	Olivine	Description
						strongly broken. PET 60587, 60588. Sharp lower contact, planar at 85 degrees TCA
205.1	207.25	CCR	100%	CCR	-	Light gray and white-beige in colour CCR unit, minor carbonates throughout unit as fractures filling, local breccia texture. Lower sharp contact at 45 degrees TCA
207.25	208.85	TKt	B/40%	Kimb2a	f-m / 1%	Blue and light green kimb2a TKt with 40% CRxs (up to 15 cm wide), fragments are subangular to angular, weakly to moderately altered. Olivine macrocrysts: 1-2% (1-5 mm wide), serpentinized. Olivine phenocrysts 1%. IM serpentine-clay. GM non crystalline, non-reactive calcite locally phlogopite. From 207.25 to 207.8m:small interval of HK kimb2b with 3% CRXs (up to 5 cm wide). Lower sharp contact at 60 degrees TCA.
208.85	211.9	CR	100%	CR	-	Light gray and white-beige in colour CR unit with abundant biotite. Lower sharp contact at 45 degrees TCA
211.9	213.62	HK/HKt	17%	Kimb2b	f-vc / 20%	Brownish kim2b, HK/HKt unit. CRX: 17% (up to 5 cm wide) with green alteration around locally, subangular to angular, weakly-moderately altered. Olivine macrocrysts: 20%, subrounded to rounded, (1-12 mm wide). Olivine phenocrysts: 15%. GM: intra-clast matrix, phlogopite-rich and trace clay. Lower sharp contact, planar at 40 degrees TCA.
213.62	215.57	CCR	100%	CCR	-	Light gray, weakly-moderately bleached, fractured locally by minor carbonates veinlets as fractures filling, local breccia texture. Lower sharp contact, planar at 75 degrees TCA
215.57	216.4	HK	B/20%	Kimb2b	f-m / 20%	Brownish kim2b, HK unitt. CRX: 20% (up to 25 cm wide) with green alteration, subangular to angular, weakly-moderately altered. Olivine macrocryst: 20%, subrounded to rounded, fine to medium grained (1-5 mmwide). Olivine phenocrysts: 13%. GM: intra-clast matrix, phlogopite-trace clay. Lower broken at 30 degrees TCA.
216.4	228.89	HK	1%	Kimb2c	f-m / 35%	Dark green and black HK unit kimb2c unit, cut by several carbonate veinlets as hairline and -oriented at 25-35 dg. CRX: trace to 5% (up to 20 cm wide) with green alteration around locally. They are strongly altered. Oli macrocryst: 35% (1-5 mm wide), fully serpentinized. Oli phenocrysts: 25% are also fully serpentinized. GM: intense carbonatation and phlogopite locally spinel.

From	To	Lith	Dilution	Map Unit	Olivine	Description
						Lower sharp contact, planar at 35 degrees TCA
228.89	229.57	HK	5%	FKimb2b	f-c / 20%	Brownish HK Fkimb 2b or maybe dyke??, incompetent rock. CRXS: 5% (up to 3 cm wide). They are subangular to angular and moderately strongly altered. Olivine macrocrysts: 20% (1-10 mm wide). They are fully serpentinized. Oli phenocrysts: 15% also fully serpentinized. GM: moderate carbonate much phlogopite. From228.89 to 229.09m: small interval of TKt kimb 2a. No PET taken. Lower sharp contact at 60 degrees TCA
229.57	231.29	CCR	100%	CCR	-	Light gray CCR unit with local breccia texture and minor carbonates veinlets (mm wide) as fractures filling. Lower gradational contacts
231.29	279	GR/GN		CR	-	Light gray-salmon to red brick in colour 90% granite moderately to strongly bleached alternating with 8%gneiss with abundant biotite and 2% salmon-red brick pegmatite with moderate to strong hematite. From 236.8 to 237m: small interval of CR +K. From 267 to 274.7m: weakly-moderately to strongly hematized. E.O.H@279m

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