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Work Assessment Report

Rocky Island Lake Property

2018 Diamond Drilling Program

Claims 309874, 329398, 329397,114249, 131266, 269437, 131267, 329399 and 316601

Sault Ste. Marie Mining Division,

Mines and Minerals Ontario

NTS 41O / 03, Meen Township.

Table of Contents

SUMMARY

In 2018, between February 14th and March 4th 2018, four diamond drill holes for a total of 1,297 m were completed to test a potential kimberlite target. A total 19 days were required to complete the program. The diamond drilling was completed by Jacob & Samuel Drilling Ltd. of Val Caron Ontario. The drill program was supervised in the field by Mr. Robert Peever.

The work was performed for Stornoway Diamond Corp.

The drilling was completed by a skid mounted portable drill that could be transported along major and secondary road by tractor trailer and positioned off road by a floatation track bulldozer and temporary cleared trails. . The drill sites were cleared and accessed along temporary trails.

The drilling program targeted an airborne geophysical magnetic low feature that could represent a kimberlite body. The four drill hole and targeted geophysical anomaly took place on mining claims 309874 and 316601. The mining claims are locate in Meen Township in the Sault Ste. Marie mining division. More specifically, in Ontario's provincial grid system, these claims represent unit cells 41O03A198 (claim 309874) and 41O03A178 (claim 316601). The claims are 100% owned by Robert Peever.

The diamond drilling successfully intersected a kimberlite body …. There is not enough drilling data to confidently or accurately estimate or model the actual dimensions or geometry of the kimberlite body. Sample result from the kimberlite drill core submitted did not return indications of significant diamond concentration. No further exploration on this kimberlite is recommended at this time.

Location data are in universal transverse Mercator (UTM) coordinates referenced to the NAD83 zone 17 north datum, unless otherwise stated.

INTRODUCTION

Four NQ diameter diamond drill holes for a total of 1,297 m were completed to test a possible kimberlite target between February 14th and March 4th 2014. This technical report provides the details of the diamond drilling to fulfil the assessment work reporting requirements under the provisions of the Mining Act and Ontario Regulation 65/18.

All location data in this report, including Figures, are in universal transverse Mercator (UTM) coordinates referenced to the NAD83 zone 17 north datum, unless otherwise stated.

PROPERTY DESCRIPTION AND LOCATION

The diamond drill holes were complete on mineral claims 309874 and 316601, which are located in the Sault Ste. Marie Mining Division of Ontario and within the boundaries of Meen township (Figure 1). The claims are of standard cell unit size for mining claims in this area of Ontario Table 1 provides tenure details of the current mining claim cell units.

Table 1: Dispositions

Claim Number	Issue Date	Anniversary Date	Claim Area (ha)
309874	2018-04-10	2019-11-10	21.938
316601	2018-04-10	2019-11-10	21.9415

More specifically, in Ontario’s provincial grid system, these claims represent unit cells 41O03A198 (claim 309874) and 41O03A178 (claim 316601). Note that the cell unit claims were derived from an original or Legacy claim (SSM 4286468) that was subsequently converted to 9 cell unit claim, including claims 309874 and 316601.

ACCESS

The nearest major population centre to the claims is Sudbury. The main road access to the property is via highway 129 and then eastward along a easterly forestry service road. Drill site access roads were pushed south from the forestry access road to establish the drill sites.

HISTORY

Mineral claims 309874 and 316601were derived from the legacy claim SSM 4286468 in April 05, 2018. Legacy claim was staked in the name of Robert Peever %100

EXPLORATION PLAN PERMIT

The diamond drilling was completed under exploration permit number PR17-11234, which is effective from January 22 2018 to January 21 2021.

2018 DIAMOND DRILLING PROGRAM

The drilling program targeted an airborne geophysical magnetic low feature that could represent a kimberlite body. …Successful intersection of a kimberlite would be followed by preliminary or early stage sampling and analysis of the drill core that might indicate that the kimberlite was diamondiferous.

Four diamond drill holes for 1,297 m were completed between February 14th 2018 and March 4th, 2018

GEOLOGY

All bedrock in the Chapleau area is Precambrian in age except lamprophyre dikes which may be Mesozoic. Parts of three structural subprovinces of the Superior Province (Stockwell 1970, p.46) lie within the map-area: the Wawa Subprovince, the Abitibi Subprovince and the Kapuskasing Structural Zone. The Wawa and Abitibi Subprovinces include extensive metavolcanic-metasedimentary belts, surrounded by granitic rocks. The Kapuskasing Structural Zone con- sists of high grade (granulite facies and upper almandine-amphibolite facies) metasediments and scattered occurrences of mafic intrusive rocks. In the southern part of this subprovince there is a relatively large body of Archean base ment-type (Windley *et al.* 1973) anorthosite. The generalized geology of the Chapleau area is shown in Figure 2 (Chart A, back pocket), and the corresponding aeromagnetic expression in Figure 3 (Chart A, back pocket).

In the Abitibi Subprovince the western end of the largest assemblage of metavolcanics and metasediments in the Canadian Shield extends westward into the map-area from Quebec and is abruptly terminated against rocks of the Kapuskasing Structural Zone by a fault zone. The assemblage has been subdivided by Goodwin and Ridler (1970, p. 13) into several 'volcanic complexes', each characterized by a mafic to felsic volcanic sequence and associated sedimentary and intrusive rocks. Those complexes lying in part within the map-area are: theSwayze volcanic complex1 , the Deloro volcanic complex1 and the Kamiskotia volcanic complex. The Swayze volcanic complex consists of an east-trending belt of metavolcanics and metasediments 16 miles (26 km) wide at the eastern edge

of the area. It extends westward from the eastern boundary of the region 46 miles (74 km) to the Mountbatten-Crockett Townships area, where it is terminated by a north-trending fault zone. The complex consists, from the margins inwards, of mafic metavolcanics succeeded by metasediments termed the Ridout Series by Rickaby (1934, p.7), up to *4Vz* miles (7.2 km) wide. Scattered along the length of the complex are several centres of Early Precambrian felsic volcanism and related shallow-water shelf and continental-rise volcanogenic sedimentation, i.e. the Benton-Marion Townships centre, the Denyes-Swayze Townships centre and the Raney Township centre.

The Swayze volcanic complex is succeeded to the north by the Deloro volcanic complex, which underlies the Horwood Lake and Reeves-Penhorwood Townships areas. Structural trends in the Deloro complex have been extensively modified by compression accompanying the intrusion of adjacent granitic rocks, but in general vary from east in the Reeves-Kenogaming area to northeast in the Horwood Lake area. The Deloro complex consists dominantly of mafic metavolcanics with only minor metasediments and is distinguished from the Swayze complex by different types of felsic metavolcanics and a greater abundance of mafic and ultramafic rocks. Minor pyroclastic and extrusive felsic metavolcanics are found in the vicinity of Keith Township (Prest 1950) but the most abundant felsic igneous rocks in the Groundhog Lake area are subvolcanic (Breaks 1973,p.37). Mafic and ultramafic rocks, perhaps representing relatively high-level intrusions are abundant in this complex (Milne 1972). The Deloro volcanic complex is a maximum of 8 miles (13 km) wide where it enters the region along the eastern boundary in Kenogaming and Sewell Townships. It extends westward for about 24 miles (39 km), where it is terminated by fault zones and granitic intrusions, both possibly related to the Kapuskasing Structural Zone.The western tip of the Kamiskotia volcanic complex, represented by the largely mafic metavolcanics of the Belford-Strachan Townships area (Bennett 1969), is about 16 miles (26 km) north-south by 12 miles (19 km) east-west.

In the Wawa Subprovince the eastern tip of the Michipicoten metavolcanicmetasedimentary belt (Goodwin 1968, p.77) is exposed in Rennie, Stover, Brackin, Leeson, Lang, and Marsh1 Townships. A prominent Early Precambrian felsic volcanic complex, characterized by extensive fine-grained pyroclastic rocks, is centred on Rennie Township (Riley 1971, p.29). Extrusive felsic volcanic rocks occur in Stover and Rennie Townships (Bruce 1942), where the structural trends

vary from west to north. The eastern extension of the Kabinakagami Lake metavolcanic-metasedimentary belt, forming part of the Wawa Subprovince, is represented mainly by mafic metavolcanics. This belt is 3 to 4 miles (5 to 6 km) wide and enters the region in Walls Township and continues southeastward, interrupted by northtrending faults, for a distance of 32 miles (51 km) to Coderre Township (May nard 1929; Map 2351, back pocket). The Saganash Lake belt extends south for about 9 miles (14 km) from the north boundary of the map-area. The major rock types are mafic metavolcanics, iron formation, and post-tectonic dioritic rocks. The remainder of the Wawa Subprovince consists of granitic and migmatitic rocks. The granitic rocks of the map-area in general form large, compositionally distinct, composite batholiths of quartz monzonitic to granodioritic composition. These batholiths are surrounded by, and appear to intrude, migmatitic zones which border the batholiths. In general, it can be tentatively suggested that several ages of granitic rocks exist: (1) the leucosome or light coloured component of the migmatitic rocks, which could be, in part, coeval with the rocks of granitic batholiths, and form roof zones over the batholiths; (2) the main granitic batholiths themselves; (3) small granitic plutons associated with the metavolcanicmetasedimentary belts; (4) syenitic and granitic stocks spatially associated with the Kapuskasing Structural Zone, i.e. Halcrow Township (Donovan 1968, p.24, 25) and in the Borden Lake area where granite has been found to possibly post date metasediments in the Kapuskasing Structure. The Kapuskasing Structural Zone or Subprovince is a structurally discor dant zone, bounded by abrupt changes in lithology and metamorphic grade indicative of faults. The structural discordance is characterized by the ubiquitous occurrence of mylonitization and recrystallization of, in particular, granitic rocks adjacent to the zone. The southwestern end of the Zone may not be fault bounded; it is marked by recrystallized granitic rocks extending southwestwards for an unknown distance (S.B. Lumbers2 1971, personal communication). The Zone consists of several discrete fault-bounded blocks of metasediments and metamorphosed intrusive and volcanic rocks trending northeast and having shallow northwest dips. Emplacement of the Zone through an upfaulting mechanism appears to postdate the Kenoran orogeny because structural trends in metavolcanic-metasedimentary belts and in the granitic rocks are truncated. The geological relationships of various Early to Middle Precambrian diabase dike swarms indicate emplacement of the Structural Zone at its present crustal level at between 1,690 93 m.y. 1 and 2,147 68 m.y. (Rb-Sr radiometric ages from Gates 1971, p. 36; discussed in the section on "Diabase Dikes", "Set 4"). Further detailon the approximate age of uplift is provided by a K-Ar age of 2,519 m.y. on hornblende from the Shawmere anorthosite complex (Watkinson *et al.* 1972). Toward the southern edge of the Kapuskasing Structural Zone is a highly metamorphosed basement-type anorthosite body with an approximate area of 450 square miles (1200 km2). Primary pyroxenes are scarce in the anorthosite;the mafic minerals are common hornblende, pargasite, and garnet. Tonalitic, granodioritic, and gabbroic phases, with all intermediate rock types, are present, with anorthosite or gabbroic anorthosite constituting about 80 per cent of the complex. According to the classification proposed by Windley (1973) this calcium-rich, iron-poor complex would be a basement-type anorthosite. Indirectevidence indicates that the anorthosite may have intruded the rocks of the Kapuskasing Structural Zone and that this event occurred before uplift of the Zone. Three or more carbonatite-alkalic complexes, an alkali-calcic mafic to intermediate stock (the Shenango intrusive complex) and myriad lamprophyre dikes are spatially associated with the Kapuskasing Structural Zone. Magmatism took place through the time interval 1,103 m.y. (age of Seabrook Lake carbonatite-al kalic complex, Gittens *et al.* 1967, p.653) to Late Jurassic or Early Cretaceous (Wanless *etal* 1973, p.61).

1 'Although the Swayze and Deloro volcanic complexes are considered to represent separate episodes of volcanism, the parts within the map-area form contiguous lithologic units and are referred
to collectively as the Swayze-Deloro metavolcanic-metasedimentary belt.

1 formerly Township 44

2 Formerly Geologist, Precambrian Geology Section, Geological Branch, Ontario Division of

Mines, Toro

TABLE 1–CLASSIFICATION OF PLUTONIC ROCKS USED BY THE ONTARIO DIVISION OF MINES (AFTER AYRES 1972).

<table>
<tr><th rowspan="2"></th><th rowspan="2">RATIO
POTASSIC FELDSPAR / TOTAL FELDSPAR</th><th colspan="4">COMPOSITION OF PLAGIOCLASE</th></tr>
<tr><th>An_{0-10}</th><th>An_{10-30}</th><th>An_{30-50}</th><th>An_{50-100}</th></tr>
<tr><td rowspan="4">QUARTZ > 10%</td><td>$> \frac{2}{3}$</td><td colspan="3">GRANITE</td><td>?</td></tr>
<tr><td>$\frac{1}{3} - \frac{2}{3}$</td><td>ALBITE QUARTZ MONZONITE</td><td>(OLIGOCLASE) QUARTZ MONZONITE</td><td>ANDESINE QUARTZ MONZONITE</td><td>?</td></tr>
<tr><td>$\frac{1}{8} - \frac{1}{3}$</td><td>ALBITE GRANODIORITE</td><td>(OLIGOCLASE) GRANODIORITE</td><td rowspan="2">QUARTZ DIORITE</td><td rowspan="2">QUARTZ GABBRO</td></tr>
<tr><td>$< \frac{1}{8}$</td><td>ALBITE TRONDHJEMITE</td><td>(OLIGOCLASE) TRONDHJEMITE</td></tr>
<tr><td rowspan="4">QUARTZ < 10%</td><td>$> \frac{2}{3}$</td><td colspan="3">SYENITE</td><td>?</td></tr>
<tr><td>$\frac{1}{3} - \frac{2}{3}$</td><td>ALBITE MONZONITE</td><td>(OLIGOCLASE) MONZONITE</td><td>ANDESINE MONZONITE</td><td>CALCIC MONZONITE</td></tr>
<tr><td>$\frac{1}{8} - \frac{1}{3}$</td><td rowspan="2">ALBITE SYENODIORITE</td><td rowspan="2">(OLIGOCLASE) SYENODIORITE</td><td rowspan="2">DIORITE</td><td rowspan="2">GABBRO</td></tr>
<tr><td>$< \frac{1}{8}$</td></tr>
</table>

TABLE 2 | TABLE OF LITHOLOGIC UNITS FOR THE CHAPLEAU AREA

CENOZOIC
PLEISTOCENE AND RECENT
Till, sand, gravel, boulders, clay

UNCONFORMITY

MESOZOIC
?LATE JURASSIC TO EARLY CRETACEOUS
Lamprophyre dikes

INTRUSIVE CONTACT

PRECAMBRIAN
LATE PRECAMBRIAN
MAFIC TO INTERMEDIATE INTRUSIVE ROCKS[1]
Hornblende syenite, syenodiorite and diorite, hornblende monzonite, porphyritic hornblende diorite, quartz diorite, and gabbro, mafic hornfels

CARBONATITE-ALKALIC COMPLEXES[1]
Alkalic syenite, pulaskite, brecciated alkalic syenite, fenitized rocks, massive mafic nepheline syenite (malignite), massive to foliated nepheline syenite, sovite (calcite-rich igneous rocks), magnetite-apatite rock, urtites, ijolites, melteigites (nepheline-pyroxene rocks)

INTRUSIVE CONTACT

EARLY TO MIDDLE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS
Diabase, quartz diabase, granophyre

INTRUSIVE CONTACT

EARLY PRECAMBRIAN
SHAWMERE ANORTHOSITE COMPLEX
Anorthosite to gabbroic anorthosite, anorthositic gabbro and gabbro, brecciated anorthositic to gabbroic rocks, gneissic to flaser-textured tonalite and monzonite

INTRUSIVE CONTACT

KAPUSKASING STRUCTURAL ZONE ROCKS
Metamorphosed mafic to intermediate intrusive rocks, melanocratic granulite, pelitic and psammitic granulites, metasedimentary and metavolcanic gneiss (upper amphibolite facies), arkosic metasediments

FAULT CONTACT

FELSIC IGNEOUS AND METAMORPHIC ROCKS

Felsic Intrusive and Hybrid Rocks

Massive to gneissic, biotite and hornblende trondhjemite, granodiorite, quartz monzonite, and minor quartz diorite, syenitic rocks, pegmatite, aplite, augen gneiss, granodiorite to diorite (in part hybrid rocks), porphyritic 'granitic' rocks

INTRUSIVE OR GRADATIONAL CONTACT

Migmatitic Rocks

Migmatite with metavolcanic paleosome of quartz-feldspar-hornblende gneiss, migmatite with metasedimentary paleosome of biotite-quartz-feldspar gneiss

INTRUSIVE CONTACT

MAFIC TO ULTRAMAFIC INTRUSIVE ROCKS

Diorite, gabbro, ultramafic rocks and their serpentinized equivalents

INTRUSIVE CONTACT

METASEDIMENTS[2]

Greywacke, arkose, quartzite, conglomerate, argillaceous fine-grained metasediments, biotite-quartz-feldspar schist and gneiss, migmatized metasediments, iron formation

METAVOLCANICS[2]

Felsic to Intermediate Metavolcanics

Rhyolite to dacite flows and fragmental rocks, tuff, lapilli-tuff, agglomerate, breccia, porphyritic flows, quartz-feldspar porphyry, iron formation

Mafic to Intermediate Metavolcanics

Basalt to andesite flows and porphyritic flows, pillow lava, mafic pyroclastic rocks, layered amphibolite, diorite, gabbro, migmatized mafic metavolcanics, iron formation

Notes:

1 Relative ages unknown, radiometric ages equivalent; these units appear to be spatially associated with the Kapuskasing Structural Zone.

2 Age relationships among mafic metavolcanics, felsic metavolcanics and metasediments are variable.

Model

The exploration model to locate diamondiferous kimberlite fields or clusters in areas where kimberlite has yet to be discovered is to first identify cratonic regions where diamonds would be stable within the mantle and, consequently, could be brought to the surface by a kimberlite emplacement event. Diamonds form, grow and reside or remain stable in high temperature-high pressure regimes at depths greater than 150 kilometers and temperatures in the range of 600°-1300°C, i.e. the "diamond window". The most likely locality for these temperature and pressure conditions to exist is in the mantle root zones of old (Archean and Proterozoic), stable, cold (low geothermal gradient) cratonic blocks. Prime examples of prospective stable cratons with mantle roots are the Slave Craton in the Northwest Territories, Canada, and the Kaapvaal Craton in South Africa. The Superior Province of the Canadian Shield is the largest Archean cratonic province in North America, having an exposed area of 1.6 million square kilometers and it plays host to recently discovered diamondiferous kimberlites in Ontario. As a result, the Superior Province is considered to be highly prospective for diamonds.

Diamonds are xenocrysts brought to the surface by deep-seated alkali ultramafic and ultrabasic volcanic rocks, such as kimberlite, olivine lamproite and some ultramafic lamprophyre. The diamonds are incorporated in their host rocks through the disaggregation of diamond bearing mantle derived peridotite (harzburgite, less commonly lherzolite, rarely dunite) and eclogite, entrained in the kimberlite during ascent to the surface. Therefore, for kimberlite to be diamondiferous, it must originate at or below the zone or zones of diamond-bearing material residing in the mantle root zone suitable for diamond preservation, i.e., within the stability field for diamond. Kimberlite that fails to entrain diamondiferous mantle material or originates above the diamond stability field will be completely barren of diamond, as is the case for 70% of all known kimberlite occurrences.

Because diamond is extremely rare in kimberlite (<1 ppm), exploration for primary diamond deposits is conducted using remote sensing (geophysics) and/or sampling for the kimberlitic indicator minerals disbursed by erosion of the kimberlite by fluvial, glacial, and marine wave action. Typical kimberlitic indicator minerals are pyrope garnet, eclogitic garnet, picroilmenite, picrochromite, chrome diopside (clinopyroxene), orthopyroxene and forsterite (magnesium-rich olivine). These minerals are part of the heavy mineral suite with greater than 2.9 specific gravity and can be recognized visually by their distinctive color, cleavage, luster, fracture pattern and/or grain morphology and by their unique chemistries determined by electron microprobe.

Once a regional area is selected as being prospective for diamonds, a broad-brush regional sampling program to detect the presence of kimberlitic heavy minerals is initiated. The sampling program is designed not so much to locate individual kimberlite occurrences, but to prove the existence of one or more kimberlite clusters that could make up a kimberlite field. Kimberlite clusters commonly occur within a diameter of roughly 40 kilometers and each cluster can contain 1 to 40 or 50 kimberlites. The likelihood of identifying a presence of the kimberlite cluster or field is far higher than locating a single kimberlite occurrence. Consequently, initial exploration sampling can be widely spaced, and cover more territory with fewer samples. The first indications of a potential kimberlite cluster will prompt more detailed sampling and/or geophysical surveying to locate the individual kimberlite bodies and then to establish their diamond content.

RECOMMENDATIONS

;-further exploration.

Summary Table of Drill Holes

Hole Number	Collar Location Nad 83 Zone 17	azimuth	dip	DDH length[m]	# of samples collected	# of samples assayed	* wedge #
M18-1	347022 5212454	200	-45	265	6	6	
M18-2	347016 5212079	340	-45	374	3	3	
M18-3	347115 5212235	290	-45	350	6	6	
m18-4	347022 5212454	225	-45	350	5	5	

*No wedges were required during this [shallow] exploration phase.

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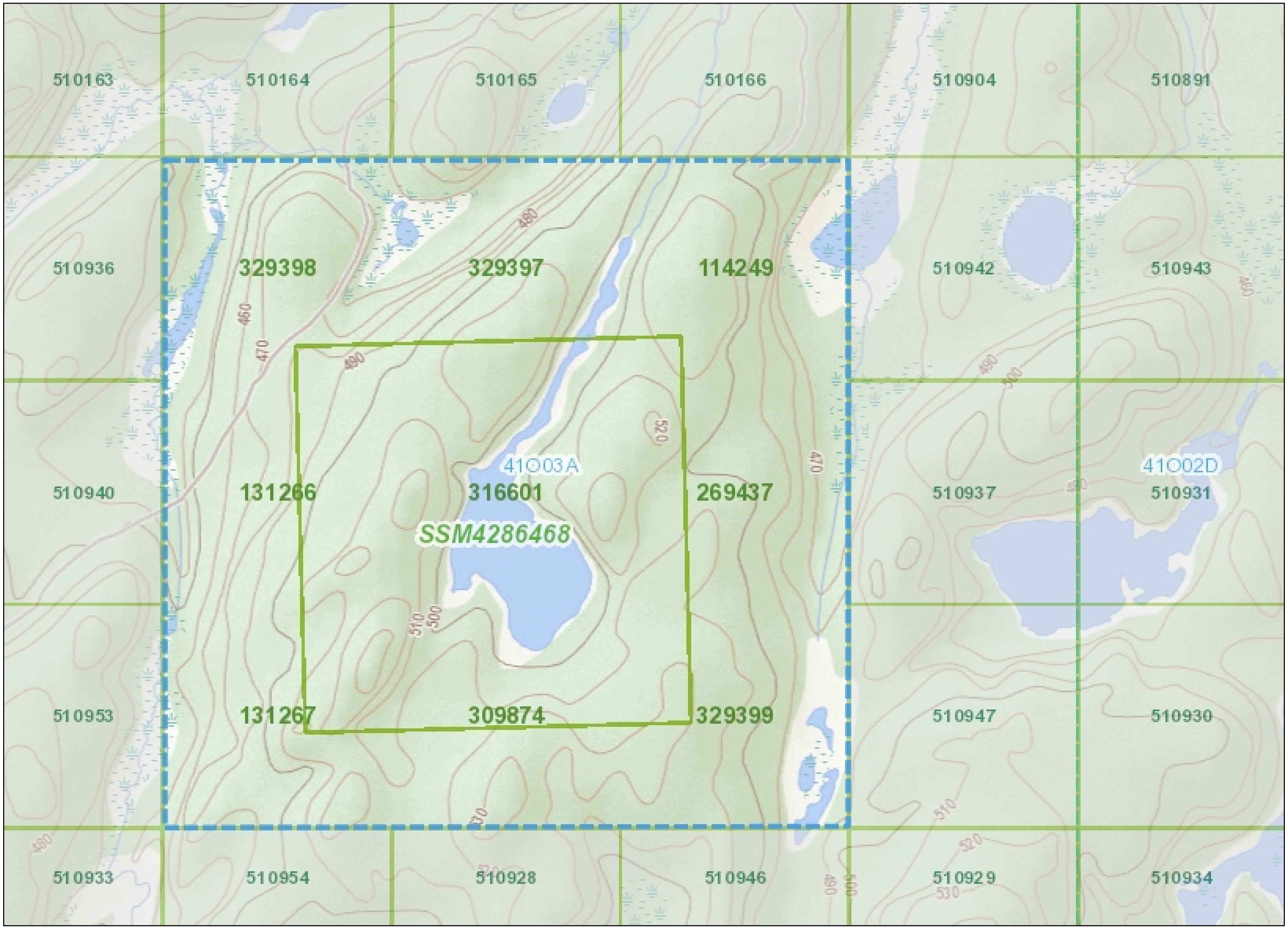
MLAS Map Viewer

MLAS Map

Notes:



Legend

Provincial Grid Cell
- Available
- Pending
- Unavailable

Mining Claim
- Mining Claim
- Boundary Claim

Alienation
- Withdrawal
- Notice

ENDM Administrative Boundaries
- ENDM Townships and Areas
- Geographic Lot Fabric
- UTM Grid 1K
- UTM Grid 10K
- Mining Division
- Mineral Exploration and Development Region
- CLUPA Protected Area - Far North
- Resident Geologist District
- Federal Land Other
- Native Reserves
- AMIS Sites
- AMIS Features
- Drill Hole
- Mineral Occurrences

MLAS Mining History
- Withdrawal - History
- Notice - History
- Mining Claim - History
- Mining Land Tenure - History
- Legacy Claim

Provincial Grid
- Provincial Grid 250K
- Provincial Grid 50K
- Provincial Grid Group

Land Tenure
- Surface Rights
- Mining Rights
- Mining and Surface Rights
- Order-in-Council

Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Energy, Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Energy, Northern Development and Mines web site.

0 0.62 km

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Projection: Web Mercator

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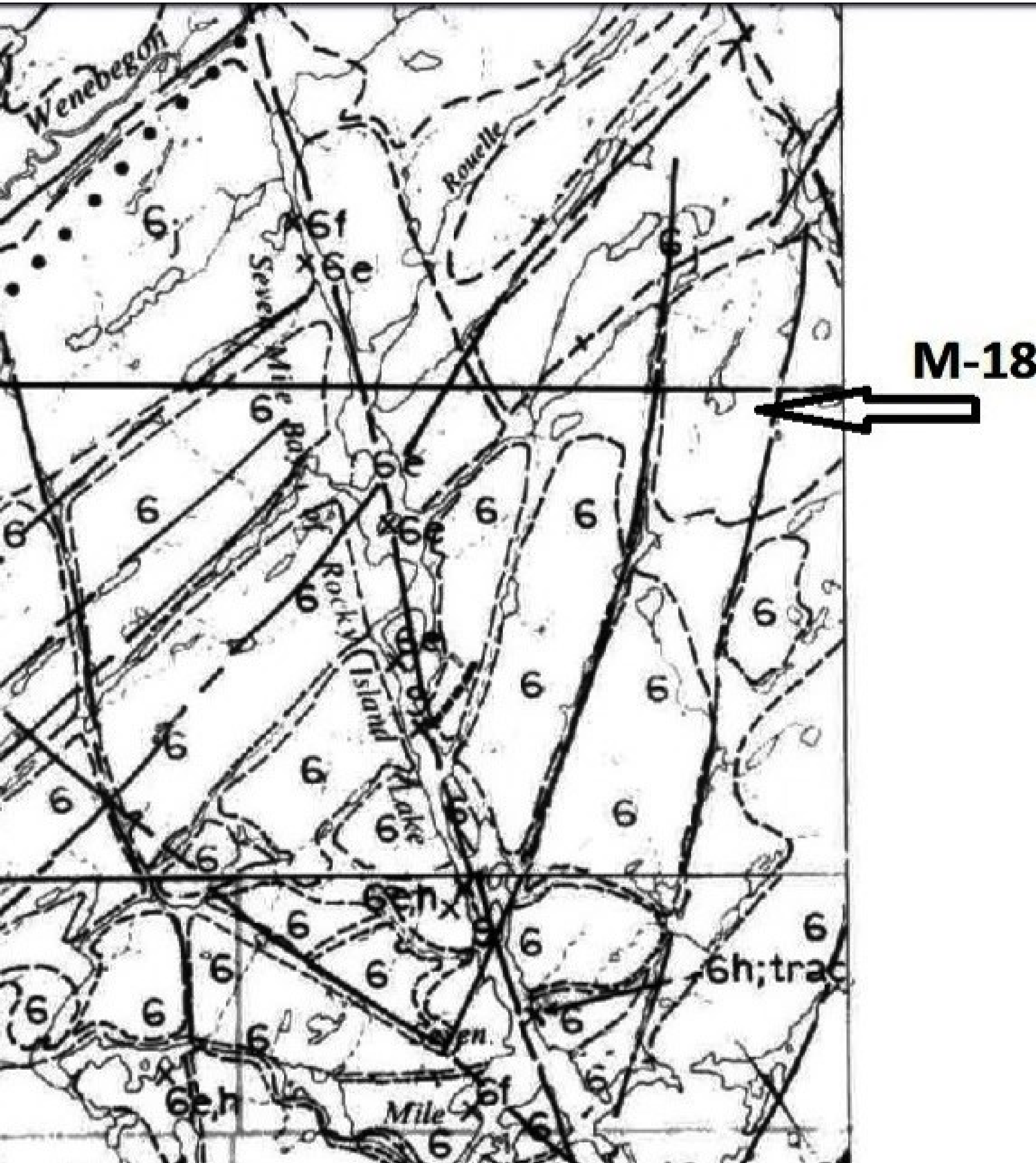

M-18
Wenebegon
Rouelle
Rocky Island Lake
Mile
6f
6e
6j
6e,h
6e,f
6h;trac

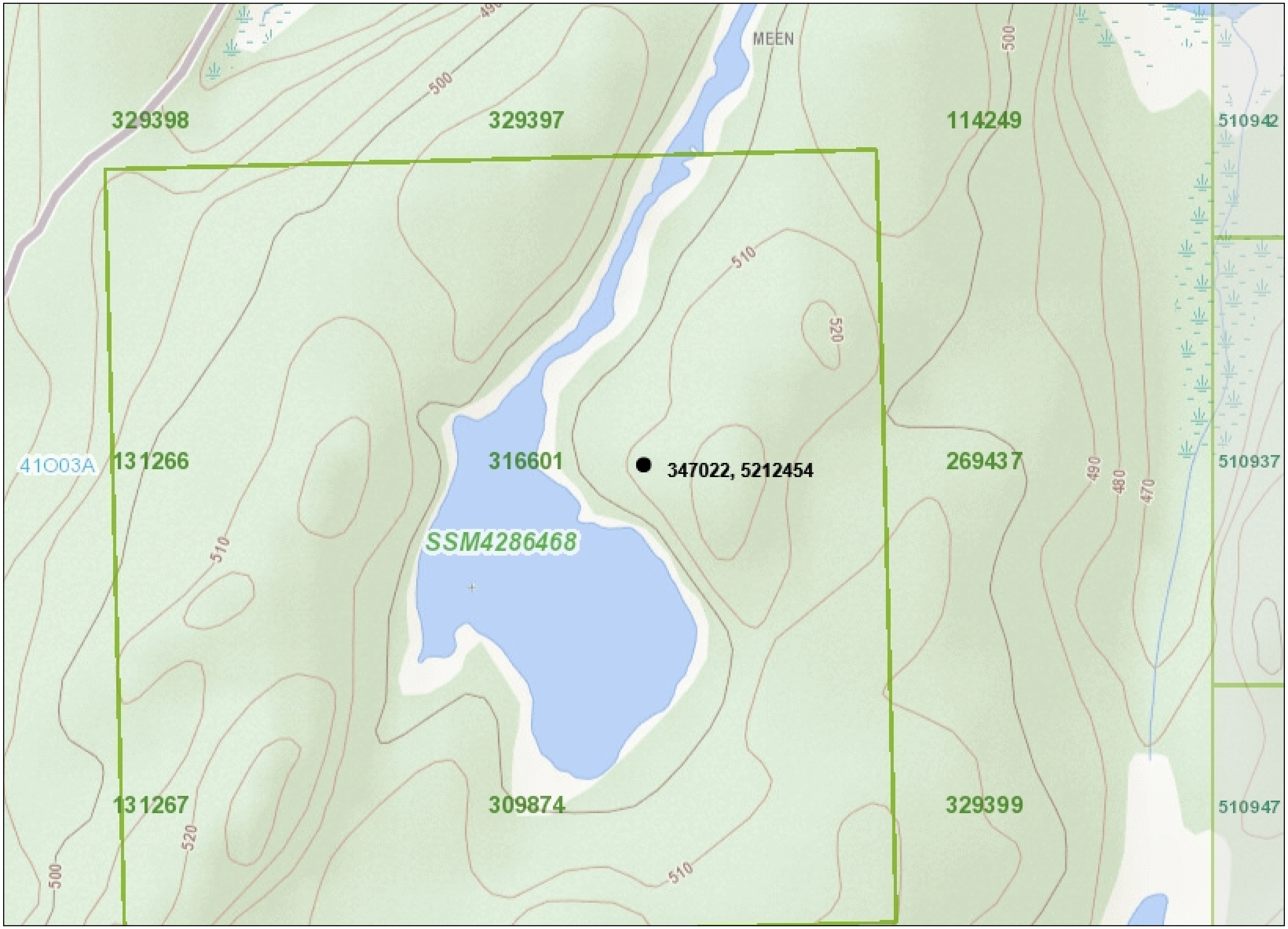
Ontario

MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES

MLAS Map Viewer

MLAS Map

Notes:



Legend

Provincial Grid Cell
- Available
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- Unavailable

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- Mining Claim
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MLAS Mining History
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- Mining Land Tenure - History
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- Provincial Grid 50K
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0 0.31 km

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Stornoway Diamond Corp.
Drill Hole Petrology Log for M18-1

HOLE-ID **M18-1**

Anomaly		*Start Date*	15-Feb-18	*Supervisor*	R. Peever
Easting	347022	*End Date*	18-Feb-18	*Logged Date*	27-Feb-18
Northing	5212454	*Contractor*	Jacob & Samuel	*Geologist*	M. Gaudet
Elevation	501	*Core Size*	NQ	*Survey Info*	HH-GPS
UTM Zone	NAD83_17	*Length (m)*	265		
Dip	-45	*Azimuth*	200		
Purpose					
Comments					

Interval (m)	*Lithology*	*Dilution*	*Dilution %*	*Model Map Unit*	*olvm size*	*olvm %*
103.35 to 104.88	**GR**		**100**			
104.88 to 109.2	**VK**	**BB**	**60**		**f-m**	**5**

103.35 to 104.88 — White-grey to salmon pink/red equigranular granite/granodiorite. Magnetite is locally U abundant (~30%) where no pink /red material is present and is otherwise nearly absent where the rock is pink/red in colour. See photo @ 103.66-103.82m. The pink/red colour may be the alteration of magnetite to hematite.

104.88 to 109.2 — **-~-~- 30**

Dark grey-green-black xenolith-rich volcaniclastic rock. Crx are white-grey-pink GR microxenoliths (~30%) and occasional large 12-30cm macroxenoliths (~30%). The microxenoliths are very angular and react strongly to HCI, whereas xenoliths >3cm are more angular SA-A and do not react to HCI. The microxenoliths are present in both within the mafic clasts and the matrix interstitial to the mafic clasts. There are no fresh olivines to be found anywhere in the rocks but there are occasional (~3-5%) f-m sized clasts in the mafic clasts that could be pseudomorphed anhedral ovlm's; They are cloudy but translucent aqua-green colour with a planar fabric, though they don't swell w/water like serpentine and chlorite. Not convinced they are olivines but that will need to be determined w/petrograhic descriptions. There are also no fresh olv's to observe anywhere, though there are ~20% ultrafine crystals or clasts in the mafic clasts, these have anhedral but somewhat elongate shapes. They are pale aqua-green in colour but look like a cloudy quartz more so than serpentine or chlorite. Not clear on what these are but similar to what was described above, need to confirm w/TS. Mafic clasts are the most abundant and diagnostic feature of these rocks. They range in size from 1mm-3cm, account for~30% of the rock overall (60% CRx) and are tightly packed (clast-supported texture) Larger clasts seem to have pale beige rims and dark grey cores and smaller clasts (<1cm) tend to be throughout. The clasts are generally spherical to elongate and subround and are most often in contact with one another. They are very visually distinct against the matrix. Clasts contain microxenoliths, possible olivines pseudomorphed by serp/CHI and common black oxides (1-5mm in size). These oxides could be ilmenites as they are large and often have anhedral and generally round shapes, but similar grains can be found in some of the larger xenoliths so these may just be magnetite grains from the crustal xenoliths overall there is ~3% of these grains in any sample which would be a lot of ilmenite from mantle xenoliths. I'm a bit skeptical about that. The groundmass of the clasts is free of carbonates and has occasional lath-like minerals that may be phlogopites. Cannot discern mineralogy further at this point due to grain-size. * Cr-diopside xenocryts are quite common ~2-8mm in size ~<1% but almost always present in any sample. The matrix of the rock is aqua blue-green in colour, cloudy and glassy (must be ultra-fine grained) and contains occasional lithic fragments. Overall it's a very clean-looking matrix and contrasts very sharply with the mafic clasts. *There seems to be another type of lithic clast present that does not appear to be kimberlite. It's dark-grey, fine grained but equigranular and has ~7% larger 3-4mm anhedral shapes that are zoned with white carbonate cores and darker rims; they look like amygdules. Pretty certain this is a crustal lithic.

109.2 to 118.45 VK B 30 f-m 2

~ ~ ~ This interval is essentially the same as the above interval with the exception that the large 20-30cm macroxenoliths are no longer present. CRx dilution has therefore reduced to ~30% including microxeno's. If only considering clasts > 1cm it's closer to 15%. * The matrix in this interval overall has a much higher microxenolith content than above; From 110.60-111.87m the matrix is absolutely loaded with pink xenocrysts giving the matrix a distinct pink colour. * From 110.27-110.61m there is a large dark-grey lithic clast. It contains ~3% f(m) pseudomorphed anhedral grains that may have been olivine, and ~25-30% 0.5-1mm grains with olivine morphology and a dark-green colour. The groundmass to these crystals though is unusual; its dominated by granular white crystals and bluish-green material, no visible micas and NO CARBONATE. I want to call this an HK autolith but there are just too many unusual features to be an HK; though the olivine content is similar to the rock its hosted in so it most likely is an autolith. *up to 10% black oxides in the mafic clasts again same size as xenoliths. * mafic clasts are not always spherical they can have more amoeboidal shapes or maybe these shapes result from sintering of more spherical molten clasts. * Rep sample 44711 collected @ 109.76-110.00m (24m).

118.45 to 125.4100 CK 10 f-m 8

~ ~ ~ 1 This contact marks a gradational textural change in the rock over ~1m in core. In this interval the rock is composed entirely of dark-grey groundmass (as described for mafic clasts in above intervals) with a patchy network of a lighter-beige colour (as described for the rims of mafic clasts in above intervals). It's no longer possible to discern individual spherical clasts. The texture is reminiscent of an HKt texture or perhaps many smaller molten clasts that have fused back together (welded texture) The beige colour was observed as thin rims on the mafic clasts in the above intervals, so that could explain the patchy texture. CRx content is lower (~10%) compared to previous intervals and is almost entirely reacted microxenoliths with pink, green and grey-white colours. Though the bleached white microxenoliths w/carbonate rims are absent (were quite common above)

*PET sample collected @ 122.0-122.10m (10cm). #44712.

* There is fresh olivine macrocrysts! Ovlm's are f-m sized and here they are approx. 8% in modal abundance. They are pseudomorphed to a pale beige-grey colour and rarely a partially preserved core is visible. These look like more typical serpentinized olivines, its not the same mineral replacement observed above that but these grains indicate that the above intervals did indeed contain olivine. Olivine phenocrysts are very common ~20% and super-fine grained with subhedral to euhedral shapes. * the matrix described in previous intervals is absent but this must be due to the change in texture regarding the mafic clasts. * the black oxide minerals (either mantle ilm or crustal mag) are still v. common ~3-5%, anhedral, 1-6mm in size. * There are small 3-5cm zones where the core is rubbly accounting for ~5-10% of the interval. It seems to be weakening in response to being wet with water. * From 124.14m to 124.72m there is a large lithic clast exactly as was described @ 110.27m-110.61m. It has sharp contacts with the host rock but they don't appear to be cross-cutting intrusive contacts. The clast contains ~2% f(m) anhedral and serpentinized olvm's and ~25-30% super fine grained euhedral-subhedral olivine phenocrysts pseudomorphed by serpentine. There are ~10% anhedral shapes ~1mm with a bright-green colour. These could be microxenos but there are a lot of them. The groundmass has discernable phlogopites (~5-10%) and many small white/translucent grains (~30%). Many small white/translucent grains (~30%): could be monticellite? All very convincing as an olivine microcryst- poor HK autolith except once again there is no carbonate in the groundmass.

125.4100 to 127.74 HK 5 f-m 2

—— This interval is exactly the same as the large possible autolith clasts described @ 110.27-110.61m and @ 124.14m to 124.72m. This interval contains a clast of the same rock. That is larger than 1m. The upper and lower contacts are sharp but irregular and don't display intrusive cross-cutting features or flow features. Classified as (H) for hypabyssal intrusion. * there are three cones in this interval where the rock becomes lighter-coloured and "spotted" with white to cloudy-pale-green minerals. The core becomes rubbly in these zones and is swelling with water when wet. After drying its breaking apart like sand, very unusual. Zones @ 125.76-125.88m & 126.74-127.12m and one more @ 127.44-127.74m. This isn't common for HK. The nature of the contacts and consistency with large clasts from previous intervals suggests this is a possible autolith of the host pyroclastic rock. Though lower contact is regular/sharp @25 degrees TCA. * Changed interpretation to hypabyssal intrusion. * pet sample collected @ 126.48-126.60m (12cm) . #44713.

127.74 to 143.67 CK 15 f-m 8

HOLE-ID **M18-1**

——

This Interval is exactly the same as 118.45-125.41m.The rock appears to be entirely composed of a dark grey groundmass with a patchy network of a lighter-beige colour. In this interval the patchy texture is more extensive so the darker areas of groundmass from many small islands, though they don't form spherical shapes, they're very irregular. One example of a selvage cored on an olivine macrocryst. Olivine macrocrysts are present @~8% modal with anhedral shapes ranging in size form f-m. They are partially preserved in the larger macrocrysts. Olivine phenocrysts appear to be abundant ~30% sf-grained and fully serpentinized. *The groundmass contains abundant lath-like mica crystals and is carbonate free. * Crustal xenoliths are common ~15% but almost entirely microxenoliths with subangular clast shapes and they're very reacted to pink and green colours. * The core absorbs water very easily and there are a large number of rubble zones in the intervals: 128.00-128.26m, 129.43-130.20m, 133.00-133.90m , 134.57-135.33m, 137.48-137.61m. This interval is a continuation of 118.45-125.41m separated by an intrusion > 1m.

143.67 to 146.5800 VK B 15 f(m) 8

~ ~ ~

This interval is consistent with the intervals 104.88-109.20m and 109.20-118.45m, in which the rock is characterized by visibly distract subspherical magmaclasts in a lighter green interclast matrix. CRx are subangular and strongly reacted to pink and green colors. They account for ~15% of the interval. Pink CRx were far more common in the above interval. Here, white/green crx with thin white rims are far more common. This change is visible @ the contact in drill core. Many of these xenos react to HCI unlike above intervals. All xenoliths are microxenoliths. Just as in the intervals referenced above, olivine is very indistinct. HS go anhedral shapes and its been pseudomorphed by green-grey material so it looks similar to the reacted green CRx. Macros are estimated to be F(m) sized and ~8-10% modal. The green colour of the ICM is very similar to the olivine. Olivine phenocrysts are of SF-grained and approx. 25-30% modal abundance. They are all very stained (along grain rims) to an orange/red hematite colour. The mafic clasts are now going to be called magmaclasts because olivine has been confidentially identified and this rock is likely a kimberlite. The magmaclasts range in size from 2mm-2.5cm and have generally spherical shapes with slightly irregular edges. They contain olivines (now replaced) and reacted xenoliths with v. common black oxide minerals. The black oxides are anhedral ~1mm-1cm in size. The groundmass is cryptocrystalline and no micas can be discerned. All V. similar to the above referenced intervals. However these samples seem to have carbonates not only in the CRX but in the GM too as it reacted quite strongly to HCI at least on the first application. The interclast matrix has a white-green colour and just like the referenced intervals above its mostly homogerears and super fine grained (its not full of CRx or olivine). It contrasts very strongly with the magmaclasts.

146.5800 to 148.3000 CK 5 f-m 18

——

This interval is similar to the "large autolith clasts" described above @ 110.27-110.61m, 124.14-124.72m and 125.41-127.74m. The upper and lower contacts are very sharp but they are irregular. They are similar to the irregular to the irregular shapes of the magmaclasts. This interval almost certainly represents a very large "mafic clast" or magmaclasts as the mineralogy of this interval is the same as the magmaclasts in the above interval. CRX accounts for ~5% of the intervals as small pink and pale green reacted microxenoliths. Uniformly reacted, no coronas. Olvm's are anhedral and partially fresh to serpentinized to a pale grey-beige colour. They are perhaps more fresh than serpentinized. They range in size from f-m and are slightly more abundant here ~18% modal. Olv. P's are subhedral but sf-grained so very difficult to see. They are generally serpentinized and approx. 30% in abundance. The groundmass is homogeneous with visible micas but no carbonate is present. It has a very light colour which would be pretty unusual for an HK or a large coherent magmaclast/autolith. Should make TS to study gm mineralogy to ID parental rock type. Overall very similar to the referenced large autoliths and would continue that interpretation here. You can actually trace the contacts here in core.

148.3000 to 150.4100 VK 10 f(m) 8

——

This interval represents a continuation of 143.67-146.58m separated by what is interpreted to be a large autolith clast in the above interval. The rock is volcaniclastic with large subspherical magmaclasts set in a very fine-grained green homogeneous matrix.

CRX account for ~10% of the interval as angular 0.5mm-2cm microxenoliths strongly reacted to pink and green. Like previous intervals many of these xenoliths have cores made of calcite and pale green outer rims. Olvm's are anhedral ranging in size from f(m) at approximately 8% modal abundance. They are fully serpentinized and have a dark-green colour. There are small ~0.1mm anhedral grains or rather microcrysts that are not phenocrysts. They have irregular subangular shapes like the macrocrysts. These are ~2% in modal abundance (because of their small size). Olv p's are vf-sf grained with subhedral to rarely euhedral crystal shapes. They are serpentinized similar to the olvm's and account for ~20% of the interval. Magmaclasts are abundant ~70% of the rock forming subspherical shapes with slightly irregular outlines. They host all of the olivine and microxenoliths and have a dark-grey groundmass with micas and carbonate. The ICM is a pale-green and white colour, very homogeneous, crystalline but cryptocrystalline (too fine grained to see any crystals). There doesn't seem to be xenoliths or olivines in the ICM, it may represent crystallization of fluid in porous space. * as a general comment, those 1mm-2cm anhedral black metallic and weakly to moderately magnetic oxides are still very common ~12%. * Also less common 1-2cm cr-diopside xenocrysts w/anhedral crystal shapes are still present.

150.4100 to 153.12 CK 15 f-m 15

~ ~ ~ 5

This contact marks another change in texture form the more magmaclastic texture above to this more coherent texture; similar to intervals 118.45m-125.41m, 127.74m-143.67m. Its possible to trace the contact but its very irregular and doesn't show cross-cutting features. CRx account for ~15% of the interval as small 0.5mm-1cm microxenoliths with subangular clast shapes reacted to primarily salmon pink and lesser green colours just as described in the above referenced intervals. Almost no calcite in any of these xenoliths. The calcite cored xenoliths w/thin rims described in the previous interval (and similar intervals to the above) are not found here.
Olvm's are anhedral and often quite angular, perhaps fragmented. They range in size from ~1-4mm so f-m grained and account for ~15% of the interval. They are ~70% serpentinized and 30% fresh. Serpentinized colour is pale grey-green. Olv p's are subhedral and ur-sf grained accounting for ~30% of the interval and fully serpentinized to the same pale grey-green colour as the olvm's. The groundmass is dark-grey and patchy grey-beige in colour and has the appearance either of an incipient magmaclastic texture (Hkt) or more likely a welded pyroclastic texture. It's not completely coherent and in some areas magmaclast shapes are discernable, hence a possible welded texture. This also fits with the repeated gradations between this rock texture and the more pyroclastic textures, and angular fragmented olivines.

153.12 to 155.29 HK 2 m-vc 20

—— 30

This interval almost certainly represents an intrusive dyke, though the groundmass is atypical of an HK. CRX account for ~1-2% of the interval as 1mm bleached white remnant xenoliths. Olvm's are anhedral and range in size from 2mm to ~1.5cm. So overall m-vc size distribution and approx. 20% of the interval. They are mostly fresh and beige-brown where serpentinized. This size appears to be variable over the interval with more f-m sizes near the contacts and more c-vc sizes near the center of the interval. This must represent an intrusive flow zoning feature. Olv. P's are sf-vf grained and subhedral -euhedral, fully serpentinized to the same pale beige-brown colour. They account for ~25% of the interval. The groundmass is vfg and crystalline but not at all typical of HK. H's very granular, no visible mica, and no carb. It would be a good idea to get a TS of this interval and study this groundmass to figure out whether the parental magma is kimberlite. It's very unusual for a kimberlite. *Pet sample collected @ 154.20-154.30m (10cm) #44715. * the last 10cm of this interval before the lower contact is distinct because the rock has ~1-2mm green spots ~30% modally. This is just like interval 125.41-127.74m. I would actually re-interpret that interval to also be an intrusion. It had a sharp upper contact@ 25 degrees TCA but a more irregular lower contact. Both of these intervals represent possible HK intrusions but have anomalous groundmass mineral assemblages.**Core has a rubbly 10cm zone, weakened by water, also very atypical for an HK.

155.29 to 159.0800 CK 15 f-m 15

—— 50

This interval represents a continuation of 150.41m-153.12m separated by the above intrusive interval. There are just a few subtle differences. This interval is less patchy and more coherent in texture. There are more common green xenoliths that contain small amounts of calcite. The groundmass gives a very weak and brief reaction to HCI. Overall this interval is the same as 150.41m-153.12m except for appearing more convincingly coherent (no discernable magmaclasts).

159.0800 to 179.53 VK B 30 f-m 8

~ ~ ~ 10

This contact marks another gradational change in texture back to the more pyroclastic magmaclastic-rich kimberlite described above (ie 148.30m-154.41m). This interval though is very large and consistent over a significant depth (more than 10m). It's therefore easier to describe macroscopic features like ranges in xenolith and magmaclast sizes. CRx account for ~30% of the interval. Approx. 5% of that is clasts from 2cm-10cm with generally subround shapes and salmon-pink colours. The remaining 25% are 0.5mm-2cm xenocrysts and microxenoliths either pink-green in colour or White-green with thin beige rims. The letter have calcite in the white-green cores and react vigorously to HCI. In comparison with above pyroclastic

intervals the dilution in the magmaclasts is roughly the same, but here the 1cm is full of pulverized xenoliths just like @ 109.20-118.45m. Olvm's are anhedral, f-m grained and fully serpentinized to a dark green colour. They are usually quite angular in shape and occur only within magmaclasts. They account for ~8% of the interval. Their angular shapes suggest they have been fragmented. Olv p's are subhedral, sf-vvf grained and fully serpentinized in the same manner as the macros. They account for ~20% of the interval. Magmaclasts dominate the interval ranging in size from 3mm up to 11cm and accounting for ~60% of the rock. The larger mc's (~5-11cm) are always cored by a large 3-8cm xenolith. In many cases the magmaclasts are touching and maybe partially welded. That or the amoeboidal shapes could result from cooling while airborne and result from surface tension processes. The interclast matrix is composed of crypto-crystalline green minerals and is absolutely filled with xenolith fragments giving it a light green and pink colour that contrasts very sharply with the dark-grey magmaclasts. * Rep sample collected @ 172.91-173.02 (11cm) . #44716 * As with previous intervals the 1mm-1cm Black sub-metallic oxides are very common (~3-5%) and CR-diopsides ~2cm are occasionally observed.
**Rare mantle xenolith clasts composed of pyroxenes and olivine but the minerals are all fine grained (explains all the f-sized to lesser m-sized olivine macrocrysts).
**We should make a TS of one to better describe the mantle material sampled by this magma. ** There seem to be relatively common bona-fide autoliths (see close up photo@ 173.32m) Black Hk-like clasts w/f-sized olv and a crystalline groundmass free of carbonate, Very similar to the intrusions described above @ 153.12-155.29m. They look v. distinct from the magmaclasts primarily in that they have no xenoliths and are a bit darker in overall colour. These autoliths are fairly common and account for ~2% of the interval. * Changed interpretation to xenoliths not autoliths after logging M18-02, M18-03 and m18-04.

179.53 to 180.5200 HK 1 f-m(c) 10

—— 25 This interval contains another intrusive Hk-like rock type similar to the above unit @ 153.12-155.29m. CRx account for <1% of the interval as 0.5mm bleached white remnant xenoliths.
Olvm's range in size from f-m (C) have anhedral shapes and are fully serpentinized to a dark green or pale-grey -green colour and account for ~10% of the interval. There is more m (C) olv towards the center of the interval and more f-m olivine towards the contacts. Olvp's are subhedral, sf-vvf grained and account for r~30% of the interval. The groundmass is fine-grained and crystalline but again no visible micas and no carbonate. It's very granular in appearance with abundant small white circular grains. Same as the referenced interval above.

180.5200 to 181.6600 VK B 30 f-m 8

—— 35 This interval is just a continuation of the above interval 159.08m-179.53m separated only by the intrusion @ 179.53-180.52m. No additional features to describe.

181.6600 to 204.6000 VK BB 60 f(m) 5

~ ~ ~ 1 This contact marks a gradational increase in CRx size and abundance that occurs over ~1m and remains higher throughout this interval. There also appears to be a change either in CRx lithologies or perhaps in the degree of reaction of the CRx. Crx account for ~60% of the total interval. 45% of that comes from 2-12cm subangular CRx clasts and the other 15% from subangular microxenoliths in the ICM and to a much lesser extent from inside the mc's. The CRx overall are not only far more abundant in this interval but are much larger on average than in any previous interval. They also are less reacted (except within magmaclasts where they're still pink-green with thin rims and calcite in the cores) with generally more grey or pink-grey colours and crystalline textures. Granitic clasts are no longer dominant. Pale-brown-grey fine-grained crystalline xenoliths are dominant. Not sure what type of rock they are but its full of lath like minerals and is strongly magnetic (diorite?). Olvm's are anhedral to slight angular/irregular in shape and fully serpentinized to a very dark grey-green colour. They range in size from f(m) and account for ~3-5% of the interval. They are observed only within the magmaclasts.Olv.p's are subhedral and fully serpentinized to a dark grey-green accounting for ~8% of the interval. Magmaclasts are common accounting for ~35% of the interval and ranging from 3mm-max 10cm in size. They contain reacted microxenoliths and olivines hosted in a medium-grey groundmass with no discernable micas and no carbonate. These MC's are generally identical to those in the above intervals and also contain common 1-3mm black oxides. The ICM is pale-green and full of CRx fragments giving it a green-pink patchy colour that contrasts sharply with the magmaclasts and CRx . * magmaclasts may be on average a bit larger in this interval as compared with previous intervals. *Rep sample collected @ 194.29-194.42m (13cm) . #44717 I am quite confident this is the same magma as the above interval and the only difference is the higher volume and size of CRx dilution and overall lower degree of reaction of the CRx.

HOLE-ID **M18-1**

204.6000	**to**	**205.87**	**HK**		**1**	**f(m)**	**20**

—— 30 This interval represents another small intrusion exactly as @ 153.12-155.29m and 179.53m - 180.52m. Crx account for ~1% of the interval occurring as 0.5mm bleached white remnant altered clasts. Olvm's are anhedral to somewhat irregular in shape, ranging in size from f(m) and accounting for ~20% of the interval . They are serpentinized to a pale aqua-green colour to a slightly more brownish colour. Olvp's are subhedral and sf-vvf grained and fully serpentinized as the olvm's. They account for ~25% of the interval . The groundmass, as in previous intervals, is vfg and crystalline but does not contain carbonate or discernable micas. There are abundant small white granular minerals. Once again quite atypical for an HK. Though there are some carbonate veins in this interval @ 25 degrees TCA.

205.87	**to**	**228.5**	**VK**	**BB**	**60**	**f(m)**	**5**

—— 25 This interval is just a continuation of the pyroclastic interval above @ 181.66m-204.60m separated only by the above small intrusion. Nothing in particular to note except that in the last 0.5m-1.0m before the lower contact with CR the core has more small ~2mm white material and small veins, in the area the core reacts quite strongly to HCI. These seem to be reacted xenoliths containing calcite that become more abundant in this last bit of the interval but also the groundmass of the Mc's is weakly reacting as well. Therefore this interval becomes more carbonate-rich towards the lower contact. * Rep sample collected @ 214.08-214.22m (14cm) #44718.

228.5	**to**	**230.8500**	**GR**		**100**

—— 25 White to pink granite/granodiorite. There are some rather drastic changes in grain size form 2-3mm to 1cm to 2-3cm every meter or so. This could help to explain the variations in xenoliths within the body.
* rep sample@228.20-228.38m (18cm) # 44719
End of logging @ 230.85m

Petrology Summary

103.35	104.88	GR
104.88	109.2	VK
109.2	118.45	VK
118.45	125.41000	CK
125.41000	127.74	HK
127.74	143.67	CK
143.67	146.58000	VK
146.58000	148.30000	CK
148.30000	150.41000	VK
150.41000	153.12	CK
153.12	155.28999	HK
155.28999	159.08000	CK
159.08000	179.53	VK
179.53	180.52000	HK
180.52000	181.66000	VK
181.66000	204.60001	VK
204.60001	205.87	HK
205.87	228.5	VK
228.5	230.85001	GR

Stornoway Diamond Corp.
Drill Hole Petrology Log for M18-4

HOLE-ID **M18-4**

Anomaly		*Start Date*	27-Feb-18	*Supervisor*	R. Peever
Easting	347022	*End Date*	03-Mar-18	*Logged Date*	16-Mar-18
Northing	5212454	*Contractor*	Jacob & Samuel	*Geologist*	M. Gaudet
Elevation	501	*Core Size*	NQ	*Survey Info*	HH-GPS
UTM Zone	NAD83_17	*Length (m)*	350		
Dip	-45	*Azimuth*	225		
Purpose					
Comments					

Interval (m)	*Lithology*	*Dilution*	*Dilution %*	*Model Map Unit*	*olvm size*	*olvm %*
2 to 216.95	**GR**		**100**			

Pink-white to lesser grey-white granitic or granitic-gneiss country rock; observed in telescopic samples from 2.00-212.00m and then in drill core form 213.86 onward. Just a minor note that the granite in telescopic samples from 2.00m-212.00m has a more typical pink colour from 224.00m onward.

216.95 to 218	**VK**		**15**		**f-m(c)**	**15**

—— 15

This marks a sharp contact between CR above and a more volcaniclastic rock type similar to those that have been encountered in the main body. The interval is just over 1m and has sharp, parallel upper and lower contacts.
CRx account for ~15% of the interval overall; approx. 5% larger 2-7cm sub-angular xenolith clasts and approx. 10% smaller 0.5m-1cm angular microxenoliths. The larger clasts are a mix of pink-grey granitic clasts and lesser dark grey ultra-fine grained mafic clasts (non-magnetic). All of the microxenoliths are quartz-feldspar clasts or fragments hosted in magmaclasts or in the interclast matrix. Olivine macrocrysts may account for ~15% of the interval with anhedral shapes and f-m © crystal sizes. These are all entirely pseudomorphed by calcite and exhibit red staining along the margins and across vein-like features in the crystals. No fresh olivine so I can't technically be certain this is olivine but this rock is very similar to the main body unit so its being called olivine by association. Olivine microcrysts may still account for ~10% of the interval with generally anhedral shapes and vf-vf crystal sizes. Its not convincing that these were phenocyrsts and there is not a clear bimodality of macrocrysts and microcrysts, They seem to be all on a single size continuum. They have the same style of replacement as the macrocrysts. Magmaclasts are dark grey and contain microxenoliths and replaced olivine in a super fine grained white and green groundmass. The GM doesn't seem to contain its own carbonate. The MC's range from 5mm-2cm in size and seem to be identical to those of the main pyroclastic units. They also have round but subangular shapes. The 1cm accounts for only ~10% of the interval as the magmaclasts are very abundant and usually touching or just slightly separated. The 1cm fills in the void space between magmaclasts and has a dark green colour and is dominated by microxenoliths and carbonate. * The interval is very interesting because of its pyroclastic texture, and because it occurs only over ~1m with sharp parallel upper and lower contacts (features that would suggest its an intrusion) If this is a true pyroclastic texture though, the CR units below separating this interval from the main body @ 227.08m would have to represent a large block of CR entrained along the margin of the vent. Though typically (as seen in all 4 drill holes) the pyroclastic unit is very heavily micro diluted in the 1cm within the first ~10-50cm of the contact with the wall rock , where as dilution in the 1cm is constant across this interval. Also of note is that the larger clasts seem to be concentrated near the upper and lower contacts. Not sure what to make of this interval, but its interesting.

218 to 219.0200	**GR**		**100**			

—— 15

Sharp upper contact. This interval contains grey-pink equigranular granite gneiss just as described from

HOLE-ID **M18-4**

213.86m -216-95m.
* This may represent part of a large CR block sitting in the main body.

219.0200 to 219.95 CK 5 f-m 5

—— 10 This interval contains a very unusual rock. It has sharp upper and lower contacts and the CR on either side seems to be slightly discoloured within ~5mm of the contact indicate of the thermal alteration. The rock has a light grey-beige Colour and seems to have ~5% f-m sized anhedral grains composed of calcite w/red staining along the rims and in a vein like pattern throughout the crystal; these look just like the "olivines" described in the above unit @ 216.95-218.00m. There are also similar sized grains or clasts with pink-red or aqua-blue colours; There is a huge variations in colours for different clasts. These all have every angular shapes. They are set in some sort of matrix or groundmass that is too fine grained to discern any minerals. Overall if I had no context on where this rock came from I would probably call it a tuff or a lapilli-tuff. There are numerous thin veinlets mineralized with a greenish material so maybe it confusing to look at because its very altered? Its definitely much harder than a tuff, it doesn't scratch much more easily than the granitic rock.
* Close-up photo @ 217.41m
**This interval may represent an earlier intrusion into the possible large CR block (above and below intervals) within the body.

219.95 to 228.29 GR 100

—— 10 Grey Pink equigranular granitic gneiss, just as described @ 213.86m-216.95m. *This may represent part of a large CR block sitting in the main body.

228.29 to 229.7400 VK BB 65 f-m(c) 5

—— 10 This interval consists of a very extensively diluted Pyroclastic unit. Dilution is primarily in the 1cm and is entirely pulverized pink granite Crx dilution in the magmaclasts is typical for this unit. Crx account for ~65% of the interval. Approx. only 5% of that comes from 1cm -max 10cm subangular pink Granite clasts or aphanitic mafic clasts. The rest occurs as 0.5mm-max 1cm small xenoliths/microxenoliths in the 1cm and to a much lesser extent within the magmaclasts. The 1cm is very diluted and tightly packed. The CRx appears to be fresh in the 1cm and fresh to weakly reacted in magmaclasts. Clast are overall angular-subangular. Olv. Macrocrysts are anhedral, F-m(c) and account for~5% of the interval occurring only within magmaclasts. Those have somewhat angular crystal shapes and are completely replaced by secondary minerals (no fresh olivine). The replacement is mostly by white calcite with red staining along veins and around the margins of the crystals. However there seems to be a huge variability in replacement minerals, some are calcite + green Serp-like mineral, some are all green, some are all red. Olv microcrysts are subhedral, vf-vvf sized and account for ~9% of the interval occurring only within magmaclasts. These are entirely replaced by calcite an have red staining around their rims; they are similarly replaced as the macrocrysts. * Note it's a bit of a stretch to be calling these olivine macrocryst and microcrysts. There is no fresh olivine and no euhedral olivine pseudomorph shapes. To call them olivine is to interpret based on sparse occurrences of fresh olvm's in M18-01. Magmaclasts account for ~35% of the interval. These are dark-grey spherical to irregularly shaped, and largely angular clasts ranging in size from ~3mm min to ~8cm max in size. They contain all of the replaced olivines, reacted CRx, set in an ultra fine grained groundmass that may contain some carbonate but is otherwise too fine-grained to distinguish any groundmass minerals. The 1cm in this interval is entirely composed of microxenolith fragments, minor small blocky calcite grains and some very, very minor greenish serp-like material.

229.7400 to 276.4800 VK B 40 f-m(c) 12

~ ~ ~ 50 This contact marks a gradational change in Crx abundance, sizes, and lithology types/proportions. CRx account for ~40% of the interval overall, approx. 15% of which are 0.5mm-1cm microxenoliths, and approx. 25% of which are 1cm-max 12cm clasts. Both the larger clasts and the microxenoliths have generally angular clast shapes. The microxenoliths are entirely granitic (qtz/fsp fragments) while the clasts are mostly mafic clasts w/vfg massive textures and dark grey, reddish-grey and beige grey colours (sometimes zoned with more greenish rims); some have ~round nodules of carbonate cores and greenish minerals in the rims and look like infilled vesicles. The mafic clasts are ~3:1 to the granitic clasts. These mafic clasts never appear to be in the cores of magmaclast, and are very easily liberated from the drill core; They pop out very cleanly with a light top of the hammer. These may have been entrained at a very late, and relatively cool stage of emplacement. Olv macrocrysts are anhedral to angular, f-m (c) in size and are entirely replaced by a green serp-like mineral and lesser calcite. This is similar to the previous interval except the carbonate is not as dominant, so most olv looks green now and not white. They account for ~12% of the interval overall. Red stained rims are common. Olv microcrysts are vf-vvf in size, anhedral to subhedral in shape, and show a similar style of replacement as the macros. The red staining is the most visible feature. There are very rarely grains that have euhedral olivine shapes. They are estimated to account for ~20% of the interval. Magmaclasts are dark-grey in colour and account for ~50% of the interval by modal abundance. They range in size from ~3mm-2cm, up to a maximum of 9cm. They have generally spherical shapes but are quite angular with truncated features occasionally visible. They seem to be crosscut by veins/veinlets of green material consistent with the 1cm mineral. Some Mc's appear altered to an overall pale-green colour. The 1cm accounts for ~10% of the interval on an undiluted basis. It's composed of a super-fined grained fibrous green serp- like mineral and occasional small (<1mm) blocky carbonate crystals. * from 235.33m-235.91m the overall dilution decreases to ~10-15% with reductions in both clasts and microxenoliths. This short interval is identical to the larger 8cm magmaclasts and most likely represents a bomb-sized magmaclast. Though there are individual magmaclasts observed in this short interval so it may also just represent lower dilution leading to a more coherent/welded texture reflecting variable conditions during emplacement. The interval is similar to coherent intervals in M18-02. ***The large 1cm-5cm green cr-diopside nodules described in all other holes are still common here. ***From 246.24m-253.88m the core looks a bit more green in macroscopic view; the 1cm dilution appears to be reduced slightly but all other aspects are consistent. ****@247.90m there is a 4cm xenolith that has fine laminations. Looks to be a weakly metamorphosed sed. Xenolith. See close up photo. Also this will be taken as a rep sample. *****From 251.62m-252.79m, 252.63-254.23m, and 274.92m-275.30m there are short intervals that are either intrusions or extrusive flows. They are vfg with a grey -green colour. They contain ~8% anhedral grains now composed of a serpentine like mineral and ~30% vf-vvf subhedral grains also composed of a green serp-like mineral. These are in an vf groundmass that has a granular texture of white and green minerals, very minor rxn to HCI so limited carbonate . These intervals have some minor flow features like changes in grain size and colour, and parallel carb veins but despite sharp contacts the contacts are very irregular and seem to go around features like xenoliths and magmaclasts rather than across them. Such a contact would be more typical of a xenolith, but could also result from an extrusive flow. See close up photo of contact @ 251.76m . The other interesting thing is that these "intrusions" seem to match a lot of the grey xenoliths though "flow features" aren't really observed in the xenoliths. These definitely are not clear intrusions as in M18-01, so I'm really struggling with what they are exactly. See close up photo @ 272.25m for similarity to xenoliths.

276.4800 to 288.11 **VK** **B** **25** **f-m(c)** **7**

~ ~ ~ 1

This gradational contact marks an overall reduction in CRx clasts and microxenoliths, coarser clasts in particular. CRx account for approx. 25% of the overall interval. This includes ~10% 1cm-8cm clasts and ~15% 0.5mm-1cm microxenoliths. The coarser clasts are significantly less abundant than in the previous interval, and in particular the grey mafic clasts are now a much more minor lithology in comparison to the granitic clasts; this is except for one very large 60cm xenolith. The micro dilution is more or less the same as in the above interval. Olv macrocrysts are anhedral f-m © in size and account for approx. 7% of the interval. These have anhedral to subangular crystal shapes and are entirely replaced, no fresh 01. Replacement seems to be primarily by white calcite with red vein-like staining, This is often overprinted by a green serp-like mineral; In some magmaclasts it's evident that the green replacement affected olivines near the edges of the magmaclasts and much less -so in the center of the magmaclasts. It would therefore seem that this green replacement occurred not only after carbonate replacement but also after magmaclast formation *labelled examples of rep sample*. Olv microcrysts are vf-sf in size with subhedral crystal shapes. They account for ~10% of the interval. They show exactly the same style of replacement as the olivine macrocrysts. They are too small to reliably distinguish crystal shapes using a binocular microscope; they are generally round to oval shaped but no visible euhedral olivine shapes. Magmaclasts are very abundant, accounting for ~60% of the rock by volume; less ~25% dilution and ~15% 1cm. They are dark-grey in colour with generally spherical but subangular shapes. They contain all of the olivine macrocrysts and microcrysts (~3% in any given MC). They range in size from ~3mm up to ~9cm max. The smallest mc's are usually altered and have a more pale beige-green colour. The groundmass is to fine-grained to distinguish any minerals, it looks like a solid grey massive textured material. It reacts v. weakly to HCI but this may be the carbonate from replaced olv. Microcrysts its not very clear. The 1cm is composed of a mixture of a green fibrous serpentine-like mineral (fibrous minerals are visible in the reflections of light) and blocky grains of carbonate ~0.5mm-1mm in size. The 1cm also hosts most of the microxenoliths, its heavily diluted. * from 282.59-282.72m there is a good example of a large magmaclast (see photo).

HOLE-ID **M18-4**

288.11 to 289.7200 CK L 15 f-c(uc) 25

-~-~- 30

This contact marks a gradational change where microxenolith abundances are reduced and the texture of the rock changes to a more welded texture. It looks mostly coherent but there are small patches where the magmaclastic texture is visible. Crx account for ~15% of the interval, of which ~5% are 1cm-4cm subangular clasts (max 7cm) and 10% are small 0.5mm-3mm (max 1cm) microxenoliths. All CRx are granitic. Olv. Macrocrysts are anhedral and in many cases subangular. They range in size from f-c(vc) and account for ~25% of the interval. The F-m grains generally are more angular-subangular while the c-vc crystals are more round-subround as would usually be observed in a kimberlite. The f-m grains are replaced by mixtures of calcite a green serp-like mineral, and red hematite-coloured staining along veins and rims, as typical in most intervals logged in this body. The c-vc crystals don't appear to be replaced by carbonate, they mostly replaced by a pale-green serp like mineral. It seems that these C-vc crystals may actually be nodules composed of F-m grains and minor pyroxenes (~black colour). There are just a lot more of them then would be expected for mantle nodules. Olv microcrysts are vf-sf grained and account for ~20% of the interval. They have generally oval shapes but not euhedral olivine shapes. They are replaced by calcite and a green serp-like mineral. They are often rimmed by a red stain. The groundmass of this rock is too fine grained to discern any minerals. No visible micas. Very good Rxn to HCI but once again this seems to be almost all coming from the Olv. Microcrysts. In some very small ~8cm areas of the core the groundmass forms magmaclasts ~2mm-1cm in size hosted in an 1cm. The 1cm is observed only in small localized patches ~8cm across in drill core, interstitial to the magmaclasts it's composed of a green fibrous serp-like mineral and blocky white crystalline calcite. It's diluted with small microxenolith fragments.

289.7200 to 291.62 CK B 25 f-c(uc) 25

~ ~ ~ 30

This is a very minor sub interval to denote an increase in coarse pink granitic CRx clasts from ~5% in the previous interval to ~15% here. All other features are consistent with the above interval @288.11-289.72m. The core also becomes a bit discoloured green in the last ~10cm of the contact. Also this lower contact with the CR is sharp, but quite irregular, won't be able to measure an orientation.

291.62 to 305.0400 GR 100

——

White pink to occasionally white-grey granitic gneiss country rock. Equigranular to weakly foliated texture.

293.05-293.09m - pale olive green alteration . 294.0m- chloritization (?) along fracture 50 degrees TCA.

305.0400 to 305.6600 CK 8 f-m(c) 15

—— 60

The upper contact is sharp@ roughly 60degrees TCA but is actually quite wavy. The lower contact is much more irregular so no orientation can be measured. This short intrusive interval contains a rock type very similar to that in the main body (interns of components) but it's actually a coherent rock here. CRx account for ~8% of the rock. They range in size from 0.5mm up to ~2cm max and have subround clast shapes. Almost all are of the granitic host rock lithology and don't appear to be very altered or reacted. Olv. Macrocrysts account for ~15% of the interval and have anhedral but mostly subround crystal shapes. They range in size from f-m (c) and have the same exact style of replacement as those in the body. That is they are replaced by calcite with red hematite-like staining along veins and rims. Many of these show partial overprinting by green serp-like mineral., and this often replaces the whole grain. This gives the olvm's a quite variable appearance in drill core with different colours. In some of the "serpentinized" grains the serp colour is very dark while others it's a more pale green.

Olv. Microcrysts are of vf-sf in size and account for ~20% of the interval. They have the same style of replacement as the olv. Macrocrysts, and are easily distinguished by their stained red outlines. They have generally oval shapes but not euhedral shapes but not euhedral shapes. The groundmass is too fine grained to discern the minerals but some very small oxides seem to be visible, no micas. The rock reacts strongly to HCI but this seems to be coming from the olv and not the groundmass. **There are a few small zones near the upper contact that look like fractured and brecciated rock in some sort on fine beige-brown matrix. It seems as though this rock was mechanically broken into fragments along this narrow 2-3cm wide zone (see illustration). This interval is really interesting because it seems to be the same lithology as the main body but with v. low dilution and coherent textures. It could be an off shoot of the main body into the Cr. Some exact Olv. Content replacement. ***this would be a really good place to get thin sections to study groundmass.

305.6600 to 314 GR 100

——

Pink-white equigranular granitic gneiss until end of the core @308.62 and also in two more telescopic

HOLE-ID **M18-4**

samples @ 311.00m & 314.00m.
*Note that there is a 1cm dykelet @ 308.43m-308.44m @ 60 degrees TCA and another @308.57 that doesn't go all the way through the core but seems to have just clipped the surface. It continues until the core ends @308.62m. These are ultramafic, Too fine grained to see minerals. The smaller dyke appears to have a few serp-replaced olvm's . Neither are magnetic.
EOH 314.00

Petrology Summary

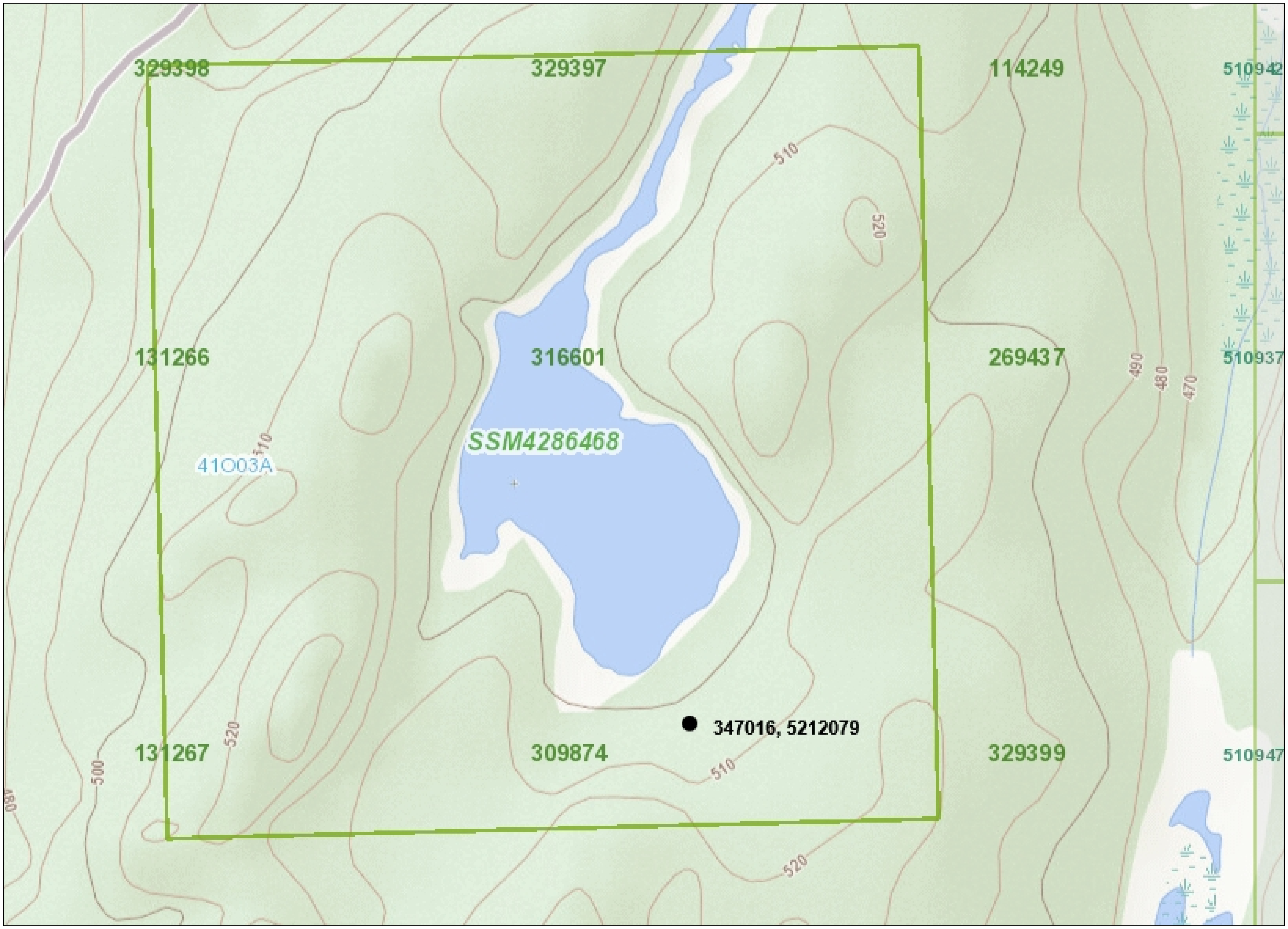
2	216.95	GR
216.95	218	VK
218	219.02000	GR
219.02000	219.95	CK
219.95	228.28999	GR
228.28999	229.74001	VK
229.74001	276.48001	VK
276.48001	288.10999	VK
288.10999	289.72000	CK
289.72000	291.62	CK
291.62	305.04001	GR
305.04001	305.66000	CK
305.66000	314	GR

Ontario

MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES
MLAS Map Viewer

MLAS Map

Notes:



Legend

Provincial Grid Cell
- Available
- Pending
- Unavailable

Mining Claim
- Mining Claim
- Boundary Claim

Alienation
- Withdrawal
- Notice

ENDM Administrative Boundaries
- ENDM Townships and Areas
- Geographic Lot Fabirc
- UTM Grid 1K
- UTM Grid 10K
- Mining Division
- Mineral Exploration and Development Region
- CLUPA Protected Area - Far North
- Resident Geologist District
- Federal Land Other
- Native Reserves
- AMIS Sites
- AMIS Features
- Drill Hole
- Mineral Occurrences

MLAS Mining History
- Withdrawal - History
- Notice - History
- Mining Claim - History
- Mining Land Tenure - History
- Legacy Claim

Provincial Grid
- Provincial Grid 250K
- Provincial Grid 50K
- Provincial Grid Group

Land Tenure
- Surface Rights
- Mining Rights
- Mining and Surface Rights
- Order-in-Council

Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Energy, Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Energy, Northern Development and Mines web site.

0 0.31 km

Projection: Web Mercator

N

Imagery Copyright Notices: Ontario Ministry of Natural Resources and Forestry; NASA Landsat Program; First Base Solutions Inc.; Aéro-Photo (1961) Inc.; DigitalGlobe Inc.; U.S. Geological Survey.

Stornoway Diamond Corp.
Drill Hole Petrology Log for M18-2

HOLE-ID **M18-2**

Anomaly		*Start Date*	18-Feb-18	*Supervisor*	R. Peever
Easting	347016	*End Date*	23-Feb-18	*Logged Date*	08-Mar-18
Northing	5212079	*Contractor*	Jacob & Samuel	*Geologist*	M. Gaudet
Elevation	506	*Core Size*	NQ	*Survey Info*	HH-GPS
UTM Zone	NAD83_17	*Length (m)*	374		
Dip	-45	*Azimuth*	340		
Purpose					
Comments					

Interval (m)	*Lithology*	*Dilution*	*Dilution %*	*Model Map Unit*	*olvm size*	*olvm %*
291 to 294.4400	**GR**		**100**			

The core provided for this log begins at box #68 at 291.00m, this doesn't represent an upper contact. This interval consists of a pink-white granitic rock that varies in grain size from 2mm-2cm with an equigranular texture (fine-grained to pegmatitic) @ 294.15-294.16m and 294.25-294.32m there are two small mafic intrusions. These are medium to dark grey and have minimal ~1% dilution, and display flow features (wavy flow lineaments). There are minor anhedral serpentinized olivines approx. 3% in modal abundance and f-sized. They may be partly pseudomorphed by calcite as they react vigorously to HCI. There are also ~20% small subhedral to euhedral minerals vvf-grained that appear to be phenocrysts of olivine. Almost all of them are rimmed by hematite staining . The groundmass is ultra-fine and its impossible to see any minerals except for white elongated/tabular crystals occasionally, these may be feldspars. No visibly micas but the groundmass does contain calcite. This is more likely to be kimberlite than the intrusive units described in m18-1 as those did not contain any groundmass calcite.

Interval (m)	*Lithology*	*Dilution*	*Dilution %*	*Model Map Unit*	*olvm size*	*olvm %*
294.4400 to 306.1600	**VK**	**BB**	**65**		**f-m**	**8**

—— 40 This interval contains a pyroclastic rock dominated by coarse xenoliths and magmaclasts in a chaotic matrix heavily diluted by microxenoliths. CRx account for approximately 65% of the interval of that 65%, 45% are clasts ranging in size from 1cm -19cm with low sphericity but subround clast edges. These clast have quite variable lithologies; most are vfg, grey in colour moderately magnetic possibly gabbro when lath-like minerals can be observed; Others are a darker grey and even finer-grained but have visible 1-5mm circular nodules with concentric zones of minerals, these are likely amygdules making this a basalt. Some of these grey clasts have a pinkish discolouration. The pink granitic country rock observed in drill core outside of the body is only a minor constituent of these clasts. The micro xenoliths however (20% of the 65% dilution) are primarily fragments and xenocrysts of pink granite forming small 1-2mm angular clasts that dominate the interclast matrix, and to a lesser extent are also present in the magmaclasts. Olivine may not actually be present in this interval. Within the magmaclasts there are larger ~1.3mm white, pink, red or green clasts with slightly angular shapes that are most likely xenoliths. Then there are very small ~0.1mm elongate shapes that are made of white calcite rimmed by red-pink hematite (see below **) These do not exhibit euhedral olivine shapes. These are either calcite filled vesicles (if this rock is a pyroclastic basalt) or could perhaps be olivine phenos entirely pseudomorphed by calcite (if this rock is kimberlite). They account for ~20% of the magmaclasts, so their abundance could be considered typical of Olvp. Abundances in kimberlite. At the moment though I'm more convinced these are vesicles and the rock is basalt (**) from above estimated ~8% olv. Macros f-m sized. The magmaclasts are a medium to light grey colour with xenoliths/vesicles/possible replaced olivine as described in the above interval, set in an ultra fine grained groundmass with no discernable minerals. The magmaclast react vigorously to HCI but that appears to be the calcite-filled vesicles and not the groundmass itself. The interclast matrix is primarily composed of small 1-2mm microlith fragments in a calcite cement. The calcite has an interstitial texture enclosing the xenoliths. This gives the matrix a very a very white to light-gray colour in macro specimen.

306.1600 to 326 **GR** **100**

—— 30 Sharp lower contact with pink Granitic country rock consistent with that described from 291.00m-294.44m. *Boxes 71 through 75 were not provided for this log but presumably are of the same granitic composition. Missing interval is 308.24m-325.30m.

326 to 333.09 **VK** **B** **35** **f-m** **3**

—— 30 This interval consists of a moderately diluted pyroclastic rock composed of magmaclasts> xenoliths in a fine grained interclast matrix containing microxenoliths dilution is exceptionally high (~70%) but after that in decreases to approx. 30% for the rest of the interval, with larger 1cm-5cm clasts making up 5% and smaller 0.5m-1cm clasts and xenocryst fragments making up the other 30%. Clasts are predominately med grey to less commonly pink with lithologies described from 294.44m-306.16m. Microxenoliths on the other hand are primarily white-pink and green and appear to represent mostly the granitic lithology. Once again olivine cannot be reasonably identified. There are ~3% f-m anhedral to slightly angular clasts in the magmaclasts that are entirely made of calcite with a thin outer pink-red rim of hematite staining. These may represent carbonate pseudomorphed olivine macrocrysts. If not then they are carbonate replacement of xenoliths. They seem to have a bit of a vein-like structure that is reminiscent of vein-like serpentine replacing olivine. There is however no fresh olivine to be observed. The same is true for possible Olivine Microcrysts; The magmaclasts contain 0.1mm round grains of calcite rimmed by hematite staining. These could also be carbonate pseudomorphed olivine, though they don't exhibit clear Euhedral olivine shapes, so if they were olivine they may be more likely vfg Xenocrysts. Magmaclasts account for approx. 60% of the interval and contain ~5% of the microxenoliths. They are dark-grey in colour and range from 2mm-1.5cm in size and have rather angular shapes in the first 50cm of the interval, and more subround shapes throughout the rest of the interval. When angular they have truncated features that prove they formed prior to the emplacement event as they have been fractured and broken and must have been consolidated prior to that emplacement event. The interclast matrix has a pale-green colour (or more pink with micro dilution is exceptionally high- as in the first 50cm of this interval) and contains xenolith fragments and some carbonate, thought not nearly as much as in the above interval 294.44m-306.16m. *from 330.43m-331.24m the proportion of magmaclasts increases from 60% to approx. 80% while overall dilution decreases to approx. 15%. The change is gradational over ~10cm, lasting for less than 1m. The magmaclasts are still subangular and contain the same abundances of microxenoliths as described above, they are just more tightly packed. ** From 331.24 until the end of the interval, magmaclasts are more subround then subangular, with slightly more spherical shapes.

333.09 to 334.87 **CK** **B** **20** **f-m** **15**

—— This contact marks a sharp change in rock texture from pyroclastic to more coherent (perhaps welded). The contact has an irregular trace and does not appear to be cross-cutting. CRx account for ~20% of the interval with clast sizes ranging from 0.5mm-3cm but primarily 0.5mm-3mm. Most of the Crx are pink>>green in colour with angular clast shapes. Olvm's are quite common ~15% ranging in size from 1-6mm (f-M) with anhedral to very angular shapes. These are entirely pseudomorphed, but the replacement products vary in colour from a dark forest green, to a light aqua-green to a more pale grey-blue. In most cases more than one colour is observed in the same grain. There are an additional ~5% f-m sized anhedral grains that are black with a more metallic lustre. These have been described as black oxides in m18-1 but based on how variable the olv replacement is, these could perhaps also be replace olivine. Olv p's are approx. 30% of the interval, approx. 0.1mm in size are approx. 30% of the interval, approx. 0.1mm in size with generally oval shapes but not evidently euhedral shapes. These are a dark grey-green colour and thus similar to the olvm's. The overall texture of this interval is coherent with a med-light grey groundmass. This groundmass does not contain visible micas or carbonate (no rxn to HCI) though there do appear to be very small black grains that may be oxide minerals. It overall doesn't reasonably represent a kimberlitic ground mass assemblage. Despite the overall coherent texture there are small localized areas (~5-10cm) not covering the full surface of the core, where the groundmass becomes mottled from this grey colour to a more pale green colour, resembling the more pyroclastic material in the previous interval. Based on the angularity of both olivine and xenoliths and the small localized patches of more pyroclastic textures, the interval most likely represents a welded or partially welded pyroclastic rock. The upper and lower contacts therefore most likely represent gradational textural changes. From 333.28m-33.64m there appears to be a small intrusion, v weakly magnetic. It has sharp contacts @ ~40 TCA though there are no clear cross-cutting features to show that the rock truly represents an intrusion, it could perhaps be a large xenolith. The rock does seem to have some planar features (layers with coarser or finer grains and a weak alignment fabric) that would imply intrusive flow features. There are no xenoliths in the rock. There are approx. 8% f-m angular olivine macrocrysts pseudomorphed to a dark grey-green colour. There rock also contains ~40% microcrysts approx. 0.1-0.5mm in size; Some of these have angular-subangular shapes while others have more spherical ->oval shapes. Its not clear that these are phenocrysts. They are assumed to be olivine based on their similarity to the macrocrysts but its also possible that these are pyroxenes, though no cleavages are visible. The "groundmass" is composed of white granular to tabular minerals that are not carbonate, perhaps feldspar? This interval is similar to intrusions described in M15-1. * In the last 7cm of the interval there are 4 distinct layers with sharp and fairly regular contacts @ approx. 50 degrees TCA. These appear to be thin flow laminations that support the interpretation of this rock as an extrusive coherent/welded rock.

334.87 to 337.78 VK B 35 f-m(c) 8

—— 40 The upper contact is sharp due to the flow laminations at the end of the previous interval but this contact does not necessarily represent a contact between units, rather a change in rock texture back to the more pyroclastic textures of 294.44m-306.16m and 326.00-333.09m. Crx accounts for approx. 35% of the interval; 5% from larger 1-5cm clasts and 30% from smaller 0.5mm -1cm micro dilution both within magmaclasts and within the ICM. Olvm's account for ~8% of the interval; these have anhedral to subangular shapes and are pseudomorphed by dark green, grey or bright green colours. The bright green colours are similar to the large Cr-diopside macrocrysts described in m-18-01.So those may not be cr-diopside but may actually be olivines. Olivine sizes range from f-m (C). Olvp's account for ~15% of the interval occurring only within magmaclasts. These are ~0.1-0.3mm in size, and have a dark-green-grey colour that is similar to the olivine macrocrysts and may this be similarly pseudomorphed. All olivine pseudomorphs appear to contain calcite. Magmaclasts account for ~70% of the interval while the 1 cm accounts for the other 25% (plus 5% for large CRx); all olivine is contained within magmaclasts and the 1cm. The magmaclasts are dark-grey and have subangular shapes. They are overall rather spherical, but have sharp angular edges and very irregular wavy margins . Some mc's seem to have textures indicating the 1 cm grew over printing the edges of the mc's; these are spherical or crescent shapes impressions into the magmaclasts. No discernable micas or carbonate in the groundmass. The 1cm is a white-green and pink colour, diluted by microxenoliths and containing small localized calcite crystals in what appears to be serpentine-like materials.

337.78 to 339.15 CK B 20 f-m 15

~ ~ ~ 30 This contact marks a gradational change in rock texture back to more coherent/welded textures exactly as described in the above interval 333.09m -339.87m. The description from that interval also applies here, including the small localized patches with more pyroclastic textures. The only other notable feature is the presence of 1-3cm super fine grained xenoliths, ultramafic/mafic in composition with miniscule carbonate veinlets. These are basalt xenoliths. Though they are only approx. 1-2% modal abundance in the interval.

339.15 to 347.3800 VK BB 50 f-m(c) 8

~ ~ ~ 30 This gradational contact marks an overall change in the rock texture back to more pyroclastic textures as described from 294.44-306.16m, 326.00-333.09m, and 334.87-337.78m. The description for 334.87-337.78m is applicable for this interval with the exception that micro dilution is higher overall @ 45% (compared to 30%) and this increase is entirely within the 1cm; dilution in the magmaclasts remains the same. This also means the proportion of magmaclasts to 1cm has changed to 60% magmaclasts and ~30% 1cm (was 75% mc's , 20% 1cm). *One additional interesting feature is a xenolith located @ 341.80m that is consistent with the lithology of the possible "intrusion" at 333.28m-333.64m but here it is clearly a xenolith ~8cm max length and a slightly more greenish discolouration. Either this lithology represents pre emplacement dykes entrained as xenoliths (in which case the above "intrusion" would also be a xenolith) or more likely this lithology occurred as both pre-emplacement intrusions (entrained as xeno's) and post emplacement dykes. ** from 344.33m-345.06m the rock once again becomes more coherent in texture just as described in 333.09m-334.07m; it has not been broken out into a separate interval here because it is <1cm. Interestingly there is another xenolith matching the "intrusion" lithology. It has very irregular sinusoidal contact which is not consistent with an intrusion, and it has what appear to be "inclusions" of the coherent rock type in the clast. This most likely represents an irregularly shaped xenolith moving above and below the surface of the core and not an inclusion. See illustration in original log.

347.3800 to 350.12 CK B 20 f-m 15

-~-~- 1 This contact marks a change in overall xenolith dilution to lower abundances as compared with the previous interval, and a change in texture towards a partially welded texture that is more or less intermediate between the pyroclastic and coherent intervals described above. CRX account for ~20% of the interval, predominantly as micro dilution (0.5mm-3mm) and lesser (~3%) 1-4cm clasts. Xenoliths are primarily white pink granite as well as other more grey clasts of an undetermined lithology. One of these grey clasts contains carbonate and micas in some vfg matrix, also some possible olivines? These appear to be rare in occurrence but they do vaguely resemble kimberlite, it could be worthwhile taking a thin section, though even if it was kimberlite its on uncommon xenolith lithology and that may not be meaningful. There also seems to be common mantle xenoliths, these are 1.5cm-5cm across, green in colour and seem to be composed of serp olv, micas and lesser oxides. Should also collect a TS of these to describe. Ovm's account for ~15% of the interval as 1-4mm (f-m) anhedral and angular crystals, fully pseudomorphed by both calcite and serpentine to give them a white and dark forest green colour. Olvp's account for ~30% of the interval with vf (<0.125mm) grains sizes. They have generally subhedral to anhedral shapes and some appear angular and broken like the macros. More than likely some of these microcrysts are xenocrystic. Some grains though seem to have euhedral shapes. They are pseudomorphed to dark green gray colours, have hematite stained rims, and contain minor calcite, their similarity to the macros is the primary reason for identifying these grains as olivine the magmaclasts in this interval have a more brownish green colour than in previous intervals, so they also seem to be partially welded because its difficult to trace the boundaries of individual clasts, in other areas of the core though its much easier to see the individual clasts. So they must be either welded, overprinted by alteration ,or if this was a kpk we would call this a kpkt texture. My take is this is partial welding giving a patchy coherent to pyroclastic texture. The 1cm is a pale green colour made up of vf-sized minerals and containing minor dilution of microxenoliths. Mc's can be quite small(as low as 2mm in size) and are abundant making the 1cm look like more of a w network of green vein-like material throughout the rock.

350.12 to 355.25 VK B 35 f-m(c) 10

-~-~- 50

This contact primarily marks an increase in dilution and a minor shift in the rock texture back to more distinct pyroclastic textures. CRx account for ~35% of the interval; 5% of which are clasts ranging from 1cm-8cm and the other 30% of which are small 0.5mm-1cm microxenoliths. The dilution is ~25% at the beginning of the interval and gradually increases to ~45% at the end of the interval. All of this increase is in microxenoliths in the 1cm. Almost all of the xenoliths appear to be the pink-white granite lithology. Olvm's account for r~10% of the interval ranging in size from f-m(c). They have anhedral and generally angular crystal shapes and are entirely pseudomorphed by calcite and a dark forest green serpentine-like mineral. Coarse olvm's have been somewhat common in this hole, but so have mantle nodules. Its not clear though if these more c-sized, olivines are actually small mantle nodules composed of multiple grains of serpentine olivine with more m-sized grains. Olvp's account for ~20% o the interval as vf-vvf anhedral to rarely euhedral, fully serpentinized grains, occurring only with magmaclasts. Magmaclasts account for ~70% of the rock, while the 1cm accounts for ~25%, plus another 5% for larger xenoliths . The Mc's range from 2-3mm in size up to~4-5cm.Larger clasts have a more dark grey colour, while smaller clasts are more discoloured to a greenish-grey-beige colour as was described in the previous interval. In this interval It's evident that this discolouration affects the entirety of smaller Mc's and only the rims of larger mc's.This would suggest the Mc's were altered post-formation. The clasts also have subangular shapes and occasional truncated-features to indicate they have been fractured/broken post formation. GM of Mc's has no visible micas and no carbonate. The 1cm has a pale greenish colour made up of vf-sized minerals that cannot be distinguished under binocular microscope. It is heavily diluted by white and pink angular microxenoliths and small 1-2mm magmaclasts.

355.25 to 361.0100 CK B 20 f-m 15

—— 25

the upper contact is sharp @ 25 degrees TCA but does not display cross-cutting intrusive features; it has a slightly wavy contact where clasts are CRx in the above interval appear to make small depressions in the contact. I would interpret this to be an extrusive contact resulting in some change in eruption dynamics. The rock in this interval gradually transitions from more coherent/welded at the top to more pyroclastic/partially welded at the bottom and is more or less identical to interval 347.38m-350.12m. Dilution, olivine content, magmaclast and 1cm textures are all identical to that interval. **there are two large clasts of the dark grey porphyritic olivine-rich rock that was debatably on intrusion @ 333.28-333.64m, and more convincingly a xenolithic component @ 341.80m and the xenolith described between 344.33 and 345.06m. Here @ 357.63-357.71 m and 359.47-359.80m these are very convincingly clasts with wavy and irregular edges and truncated features including veins . So at the moment I'm very certain that in this hole these are all xenoliths; They match the actual intrusions in the adjacent CR @ 294.15-

HOLE-ID **M18-2**

294.16m and 294.25-294.32m which would suggest that these dykes predated the emplacement of this pyroclastic rock and entrained those dykes as large xenolithic clasts. It's just a bit curious that these xenoliths are so large while all of the other xenoliths are fragments and small clasts. Regardless, these are not intrusions that post date the emplacement of the pyroclastic units, whereas, in M-18-01 there are true intrusions that crosscut the pyroclastic unit. At the last 15cm of this interval the Mc's are altered blue and the 1cm becomes very diluted by pink xenolith fragments form the adjacent wall-rock.

361.0100 to 364.34 **GR** **100**

—— 55 The upper contact is very sharp @ 55 degrees TCA and marks a contact between the pyroclastic rock from the above interval and the pink-grey Cr granite of this interval. The granite shows parallel fractures @ 55 degrees TCA within the first 3cm of contact.

End of Log 364.34m

Petrology Summary

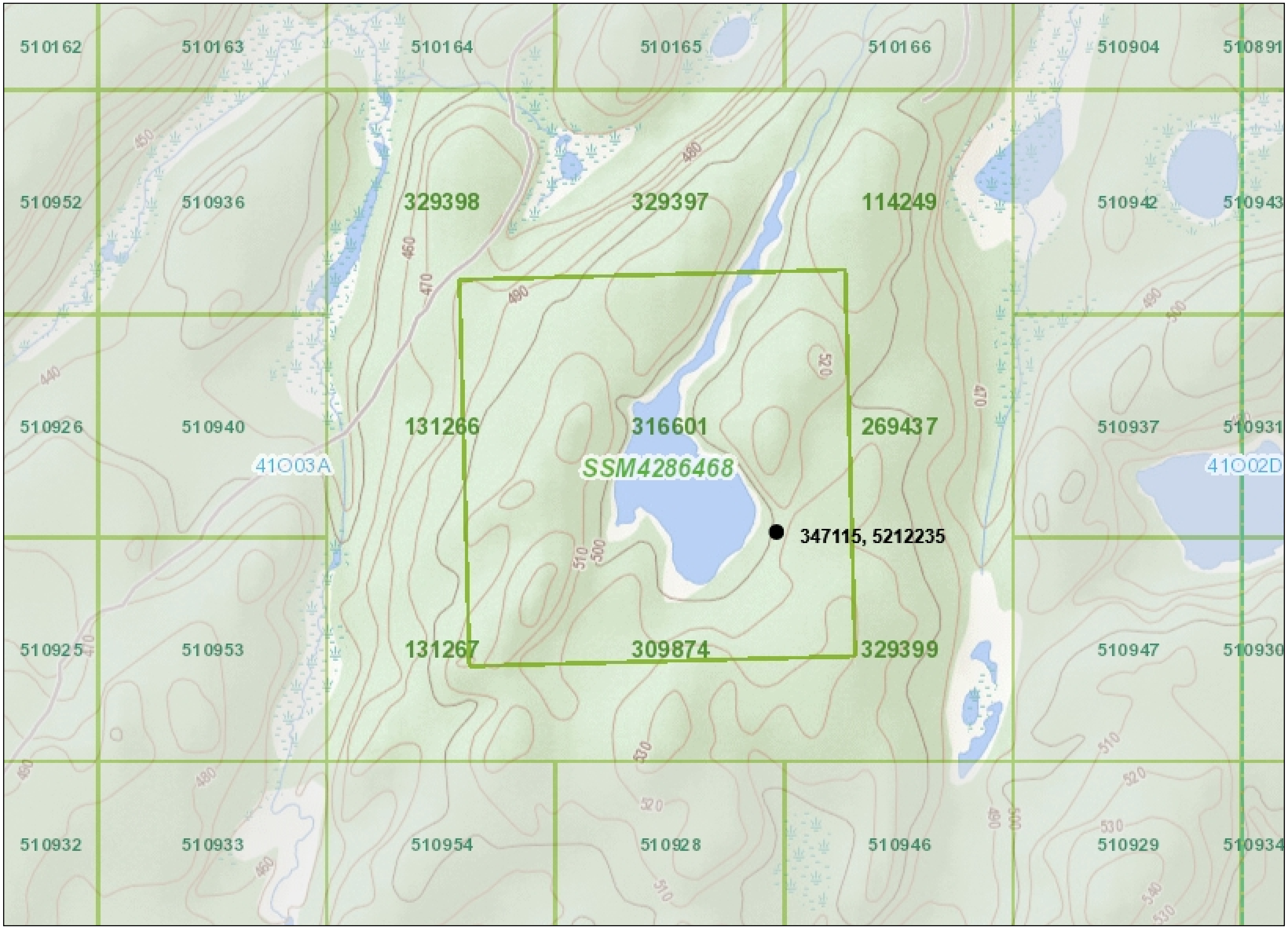
291	294.44000	GR
294.44000	306.16000	VK
306.16000	326	GR
326	333.09	VK
333.09	334.87	CK
334.87	337.78	VK
337.78	339.14999	CK
339.14999	347.38000	VK
347.38000	350.12	CK
350.12	355.25	VK
355.25	361.01001	CK
361.01001	364.34	GR

Ontario

MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES
MLAS Map Viewer

MLAS Map

Notes:



Legend

Provincial Grid Cell
- Available
- Pending
- Unavailable

Mining Claim
- Mining Claim
- Boundary Claim

Alienation
- Withdrawal
- Notice

ENDM Administrative Boundaries
- ENDM Townships and Areas
- Geographic Lot Fabirc
- UTM Grid 1K
- UTM Grid 10K
- Mining Division
- Mineral Exploration and Development Region
- CLUPA Protected Area - Far North
- Resident Geologist District
- Federal Land Other
- Native Reserves
- AMIS Sites
- AMIS Features
- Drill Hole
- Mineral Occurrences

MLAS Mining History
- Withdrawal - History
- Notice - History
- Mining Claim - History
- Mining Land Tenure - History
- Legacy Claim

Provincial Grid
- Provincial Grid 250K
- Provincial Grid 50K
- Provincial Grid Group

Land Tenure
- Surface Rights
- Mining Rights
- Mining and Surface Rights
- Order-in-Council

0 0.63 km

N

Projection: Web Mercator

Stornoway Diamond Corp.
Drill Hole Petrology Log for M18-3

HOLE-ID	**M18-3**				
Anomaly		*Start Date*	23-Feb-18	*Supervisor*	R. Peever
Easting	347115	*End Date*	27-Feb-18	*Logged Date*	14-Mar-18
Northing	5212235	*Contractor*	Jacob & Samuel	*Geologist*	M. Gaudet
Elevation	504	*Core Size*	NQ	*Survey Info*	HH-GPS
UTM Zone	NAD83_17	*Length (m)*	350		
Dip	-45	*Azimuth*	290		
Purpose					
Comments					

Interval (m)	*Lithology*	*Dilution*	*Dilution %*	*Model Map Unit*	*olvm size*	*olvm %*
0 to 236.1000	**GR**		**100**			

——

Telescopic samples form 0m to 233m (10cm intersection of core every ~3m run) are almost of the same white-pink and lesser grey granitic lithology as described for the host rock in the other drill holes M18-01 and M18-02. * Telescopic samples @ 62.00m and 65.00m are both super fine grained aphanitic intrusive rocks with a med-grey colour and moderate magnetic response. These seem to be composed of small ~0.2-0.5mm white lath-like minerals (These can be up to 1mm long and very thin, so perhaps more fibrous /acicular than lath-like) and more fibrous green material. Unclear on what this rock is but its 100% not kimberlite.
**Telescopic samples @ 92m and a 14cm long sample taken @ 120.5m contain an interesting mafic rock that was not encountered as intrusions in M18-01 or M18-02 but is consistent with a relatively rare xenolith type described in M18-02 @ 341.80m . It is med-grey-brown in colour with a porphyritic texture. There are approx. 20% vf-f (0.5mm-2mm) sized anhedral grains with a dark green colour, in some cases these seem to have subhedral to euhedral olivine crystal shapes so these may represent altered olivines. Most are anhedral though so they can't all be phenocrysts. The rock also contains ~30% vvf-f sized mica crystals, these look too dark to be phlogopite but using a scratch pen to liberate them they look much lighter brown-yellow in colour. There are also ~10% f-sized anhedral grains composed of calcite. The groundmass is too fine grained to make out for the most part, though it seems to contain a high abundance of acicular white minerals, some oxides and lesser pyrite, and an interstitial green serp-like mineral; this is perhaps the most interesting kimberlite-like rock we've encountered so far in this body. It may be a lamproite and could be worth while to get a thin-section of.
Drill core then begins @ 235.50m and is of the same pink-white granitic lithology as the telescopics.

236.1000 to 237.92	**VK**	**BB**	**65**		**f-m**	**10**

—— 40

This contact marks a sharp contact between the pink-grey-white granitic country rock and the dark-grey heavily diluted pyroclastic rock in the body. The first ~40cm of the interval is very heavily diluted in the 1cm by CRx-fragments (approx. 80% total dilution) then reduced to approx. 60% total dilution for the rest of the interval. Crx accounts for approx. 65% of the interval occurring as 1-10cm subangular to irregularly shaped med-grey aphanitic rocks that appear to frequently contain Vesicles (1-2mm in size) infilled with primarily carbonate and a lesser dark-green mineral; these are most likely basalt xenoliths. These clasts account for ~8% of the dilution while the rest occurs as 0.5mm-1cm fragments or microxenoliths. These are primarily from the pink granitic lithology and dominate the 1cm, though the magmaclasts also contain a small proportion of these microxenoliths. Olivine macrocrysts account for approx. 10% of the interval. They occur only within magmaclasts and have anhedral crystal shapes ranging in size from f-m and occasionally the lower end of c-sized (~5mm).They are entirely pseudomorphed by calcite and a serpentine-like green mineral giving them a dark grey-green colour that's

difficult to see against the dark groundmass of the magmaclasts. They do however have red outlines presumably from hematite staining which makes them more discernable. Olv microcrysts are vf-sf sized and relatively subhedral (they have oval shapes but not clear euhedral olivine phenocryst shapes). They are entirely pseudomorphed by calcite and have the same hematite-stained rims as the macrocrysts. These account for r~8% of the interval by modal abundance. The magmaclasts have a dark-grey colour that shows rim alteration to more pale-green and light-brown colours(this affects the entirety of smaller ~5mm clasts, and rims tend to be 2-5mm thick on larger magmaclasts. They have generally spherical shapes but very irregular and angular surfaces. The magmaclasts range from 1-2mm in size up to a maximum of 4cm, mostly 2mm-2cm. Most show truncated features at the margins indicating they were brittle when broken. The 1cm is primarily microxenolith fragments and interstitial carbonate with a lesser greenish serpentine-like mineral.
*Overall the rock reacts vigorously to HCI but this seems to be a result of carb in the 1cm and carb replacing olv and to a lesser extent also CRx. There is no clear evidence that the groundmass of the MC's contains carbonate.

237.92 to 247.5500 VK BB 55 f-m 5

~ ~ ~ 50 This gradational contact marks a change in CRx dilution with an increase in coarse xenoliths and a decrease in microxenoliths (in the 1cm) but it is still the same pyroclastic unit. CRx content is overall approx. 55% of the interval; with approx. 20% as larger 1cm to max 30cm and average 1-10cm coarse clasts, and approx. 35% smaller 0.5-5mm microxenoliths. The coarser clasts are very fine grained with either dark-grey, grey-green, or reddish brown colours, most of which resemble the basaltic clasts described in the previous interval (perhaps varying colours partially a result of a alteration effects??) Some of these larger clasts are of the granitic host rock lithology but they are generally a more vibrant reddish pink colour. This has been a consistent feature of this body to have highly variable CRx lithologies that do not, for the most part, correlate with the host rock in drill core (at least with respect to the coarser clasts). The smaller micro dilution are dominantly granitic fragments of the host rock.
*Forgot to mention that the coarse clasts are also quite angular and irregularly shaped. Olv. Macrocrysts are f-m sized, entirely replaced by calcite and vein-like serpentine, and account for approx. 5% of the interval like in the last interval they have distinct hematite, stained outlines. Some olivine macros are quite angular and appear broken. Olivine microcrysts are vf-sf sized and similarly replaced by carb + serp with hematite-stained outlines. Once again though those don't have euhedral crystal shapes and may not be phenocrysts, assuming they ever were olivine at some point before being replaced. These account for an estimated 10% of the interval. Magmaclasts are more altered looking than in the previous interval with pale beige-brown to beige-green colours (not the typical dark grey). They have generally spherical but very irregular and angular shapes and range in size from 2mm up to ~3cm (especially when occurring as a selvage on a crx clast). Once again the groundmass is too fine grained to describe but doesn't seem to contain carbonate. The 1cm is less diluted than the previous interval and is composed of a massive green material, was able to get a better look and this material is fibrous, can see long acicular crystals in the light reflections. There is also still quite a bit of 1cm carbonate, these are ~1mm blocky crystals not to be confused with the white feldspars in the 1cm (xenocrysts). * Those green nodules ~1-5cm in size are common just as they have been throughout M18-01amd M18-0. They have the colour of a cr-poor cr-diopside but also a vein like texture just like serp after olv. I think these may be mantle nodule of cr-diopside + olivine. They account for an impressive ~1-2% of the interval. ** Similarly these black grains 1-4mm in size that have a metallic lustre that I've been calling oxides in M18-01/M18-02 are still fairly common here. I've broken some apart with the scratch pen an they seem to break along nice cleavage surfaces (cleavages can also be observed on those surfaces). So these may in fact be amphiboles which would make more sense if this rock was lamproite *edit*: I've tested more of these and the rest were much harder, no cleavages, gave a dark red-brown streak when scratched, these are definitely oxides.

247.5500 to 298.9 VK BB 60 f-m(c) 15

~ ~ ~ 1 This groundmass contact marks a very minor change where 1cm carbonate is much lower in abundance, and the modal abundance of olv increases (hosted in magmaclasts). CRx accounts for approx. 60% overall for the interval, about 25% for larger 1cm -max 20cm and 35% for smaller 0.5mm-1cm microxenoliths. As with the previous intervals most larger clasts are aphanitic rocks with variable grey, grey-green, or reddish brown colours commonly with calcite filled vesicles. Granitic clasts are not the dominant lithology. Clasts are generally angular and can be quite irregularly shaped (low sphericity) In the microxenolith sizes quartz, plagioclase and feldspar are the most common lithology and have very sharp, , angular shapes. Most of these are hosted in the 1cm. Magmaclasts generally host around 10% modal

(counting only in the mc, not overall for the interval). In one of the rep samples there is a 4cm clast that is greenish-beige in colour and has very finely bedded textures it appears to be a weakly metamorphosed mudstone, it's easily scratched with carbide tipped pen. There is also a very black, easily scratched , cryptocrystalline (ultra fine grained) xenolith @ 276.58-276.64. This also looks like a low grade argillite and has a bit of a greasy lustre. See close-up photo (although there's not much to see….). Interesting implications for emplacement if these are sed xenoliths. Olv Macrocrysts are anhedral, often quite angular, and replaced primarily by a dark forest green or light green serpentine-like mineral and lesser calcite occurring veins. The Crystals are almost always rimmed by thin red hematite staining. They range in size from f-m (c) and account for ~15% of the interval. There are some rare vc grains as well. Interestingly in one of the rep samples there are a few f-sized grains with excellent euhedral olivine shapes, these are in the macrocryst range, most of the finer olv are vf-vvf so perhaps 2 generations of olv growth? Or maybe growth over macrocrysts cores? Note that in the vast majority of the grains the shapes are anhedral angular so this could just be a coincidental angular shape.
Olv. Microcrysts occur only within magmaclasts, account for ~12% of the overall interval (approx. 30% modal within magmaclasts) and have the same style of replacement as the macros. As has been the case for all 3 drill holes so far, most olv. Microcrysts have anhedral though generally oval shapes. Hence calling them microcrysts and not pheoncyrsts. Magmaclasts account for ~35% of the rock and contain microxenoliths and all of the olivine. Some Mc's are larger and form selvages on Crx clasts. The groundmass has no visible micas, and no carbonate, and is otherwise too fine grained to see any minerals. Mc's typically range from 2mm up to 3cm or as high as ~8cm when cored by a Crx clast. As in the previous interval they are altered from a dark grey colour to beige-green or beige-brown, though this alteration seems to drop off and they become mostly dark grey and fresh at around 283.75m. At this location and continuing on until 294.43m not only are the mc's less altered but they become much larger on average reaching max sizes of 7-16cm without Crx cores. Beyond 291.43 the max sizes go back down to ~8cm and the various alteration colours are once again visible. This change gives the core a slightly darker grey colour in this interval but it's nothing too significant to require a new interval. Magmaclasts are generally spherical but have irregular to often angular edges. The 1cm is similar to the previous intervals; it has a greenish colour made of fibrous serp-like minerals, and is heavily diluted by microxenoliths carbonate is present but very minor. *From 257.29-257.59m, 263.50-264.03m (and 296.97-297.72m) there are three mafic units that look to be intrusions but are more likely extrusive. They are med grey-green rocks with ~10% f-sized anhedral green minerals (serpentinized olivine?) in an ultra fine grained groundmass with white blocky minerals and green fibrous minerals. The rock is moderately magnetic. It looks like serpentine and is similar to the "intrusions" described in M18-01. These rocks display flow features such as veining , grain size sorting and grain alignment all parallel to upper and lower contacts which are ~55 degrees TCA. However, these contacts are sharp but slightly irregular and not cross cutting; They seem to flow around things like crustal xenolith. Or the xenoliths seem to protrude into the coherent rock across the contact. This indicates either that 1) the pyroclastic rock was not fully consolidated at the time of the intrusion , or 2) this is an extrusive coherent rock deposited on the surface of the pyroclastic rock and subsequently over lain by more pyroclastic material. To take would be that these are intrusions but the pyroclastic material was not fully consolidated, it just seems more probable. This rock type seems to also occur as smaller 1cm-20cm xenoliths as well but those don't have the intrusive features described here. * The green cr-diopside nodules are still quite common; I have now found some excellent examples where two cleavages @ 90 degrees are very visible, so I can say with confidence these are indeed Cr-diopside or clinopyroxenes a the very least. Examples contained and labelled within rep samples.

298.9 to 316.6700	**VK**	**BB**	**70**		**f-m(c)**	**15**

~ ~ ~ 50

This gradational contact marks an increase in micro dilution, and increase in 1cm carbonate content, and a slight decrease in olivine abundance (though this is mostly just a reflection of more microxenoliths and fewer Crx. The previous interval description (247.55-298.90m) of the components is applicable here with the following exceptions. 1) there is no sub-interval with large 8-16cm magmaclasts 2) magmaclasts in the interval are almost entirely fresh with a dark grey colour 3) Overall CRx content is ~70%, 35% from coarser 1cm-14cm , and 35% from 0.5mm-1cm micro dilution. 4) The 1cm more abundant blocky ~1mm calcite crystals. 5) There is an intrusion @ 314.71m-314.98m with contacts @ 50 degrees TCA. It has all of the same features as the 3 intrusions described in the described in the above interval (247.55-298.90m) including sharp but wavy/irregular contacts. Here though, the upper contact very clearly crosscuts a granitic xenolith, so it is certainly an intrusion, yet it still has irregular wavy contacts that suggest the host pyroclastic unit overall was not fully consolidated at the time of the intrusion. All other petrological features are consistent with the above interval.

316.6700 to 317.52 **GR** **100**

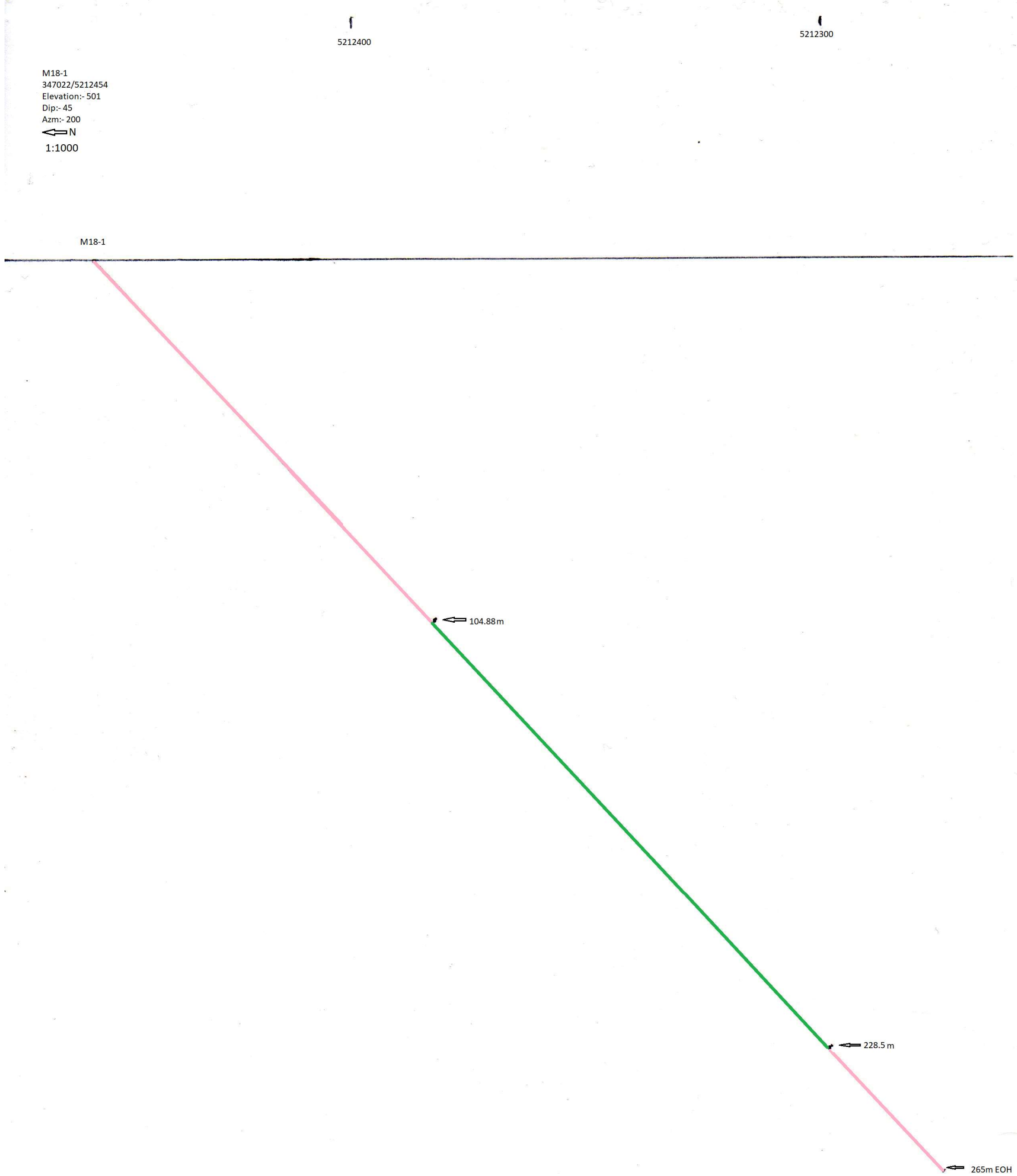
—— 35 This contact marks a sharp contact with pink-white granitic country rock which has an equigranular texture with ~5mm grain size. The core ends @ 317.52m, however a small dyke intersected from 330.00-330.50m was provided in a separate core box. It has sharp contacts @ 40 degrees TCA. The intrusion is med-dark grey in colour with thin carbonate veinlets parallel to the contacts and an evident grain size reduction towards the upper and lower contacts. The rock is composed of ~50%. 1-2mm anhedral grey-green minerals that are inter connected to some degree. Between these are white vf-sf grained minerals that have vaguely olivine-like shapes and red hematite rims, but are fully replaced by calcite. The groundmass from what I can tell is almost entirely carbonate. This suggests this is quite likely lamprophyre intrusion as it is clearly a silica-undersaturated ultramafic rock. I would definitely like to see a thin-section of this rock.

End of Log @ 317.52

Petrology Summary

0	236.10001	GR
236.10001	237.92	VK
237.92	247.55000	VK
247.55000	298.89999	VK
298.89999	316.67001	VK
316.67001	317.51999	GR

reflex M18-3	depth	azm	corection - 8 west	dip	magnetic field	
23-Feb	20m	299.90	292	47	5569	
24-Feb	71m	299.60	292	46.7	5542	
24-Feb	122m	292.70	285	46.3	5680	?
25-Feb	173m	301.00	293	45.2	5545	
25-Feb	224m	303.20	295	43.7	5458	
26-Feb	275m	311.00	303	-42.3	6280	
27-Feb	344m	325.70	318	40.4	5465	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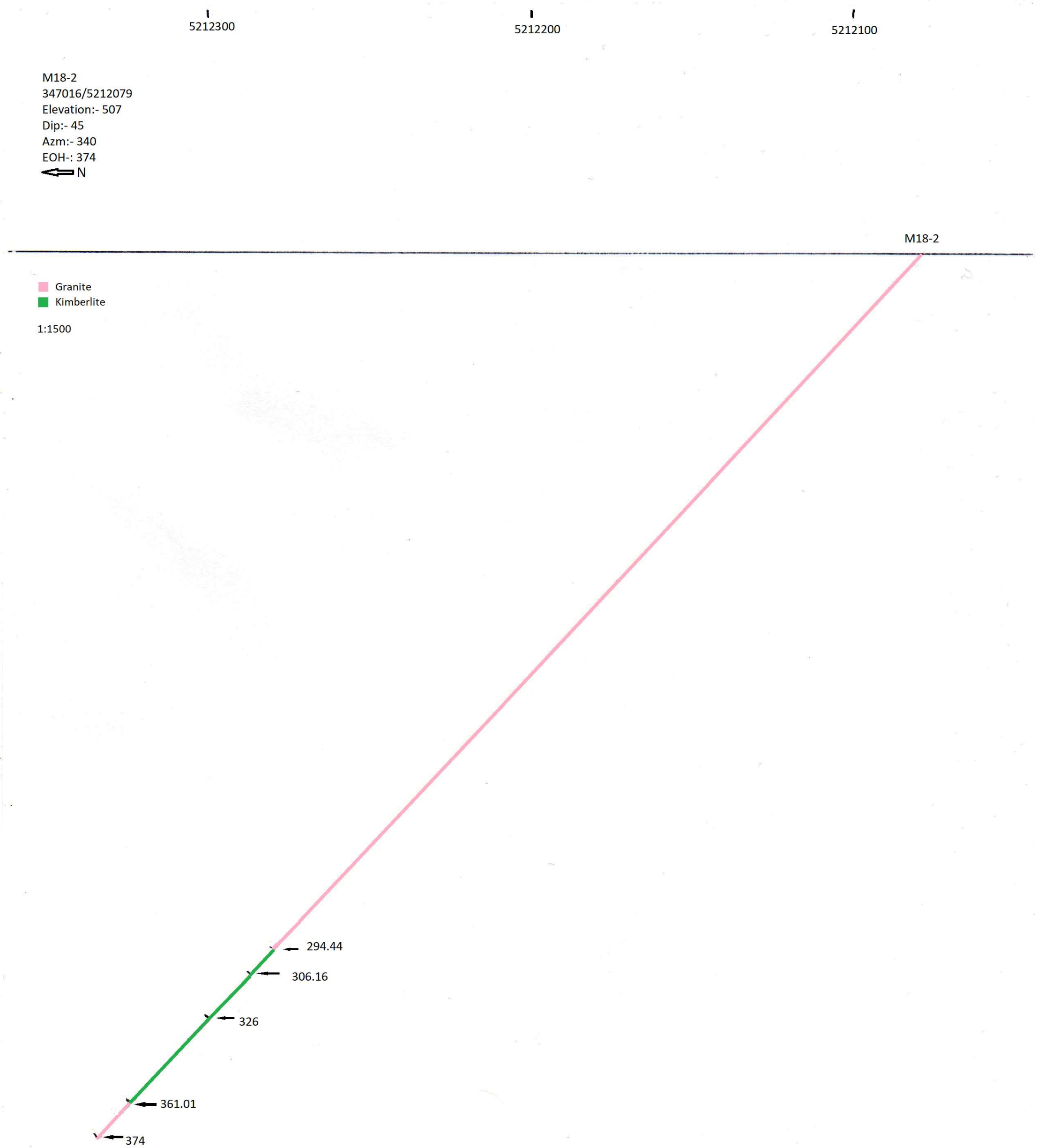
228.5 m
265m EOH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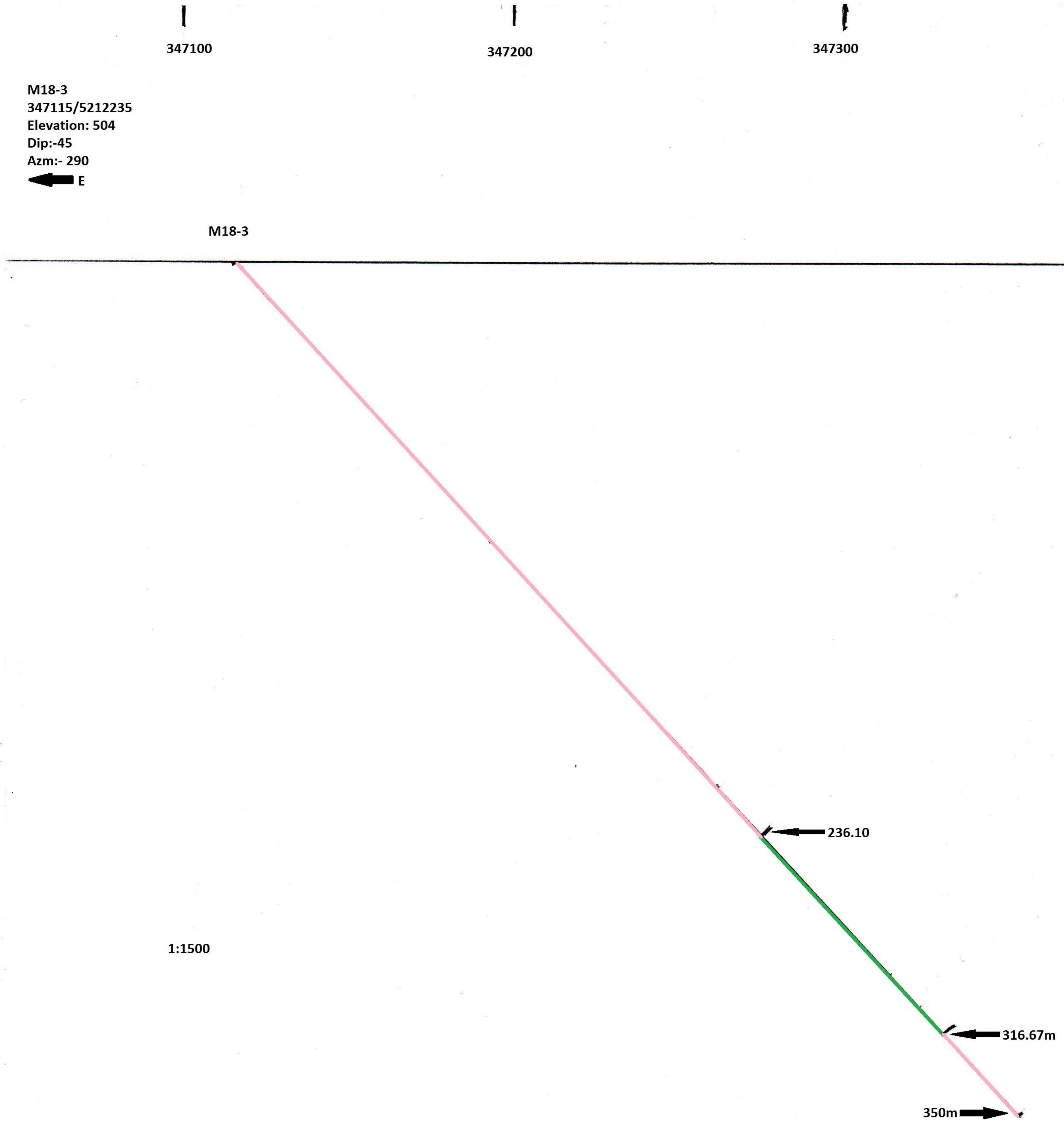

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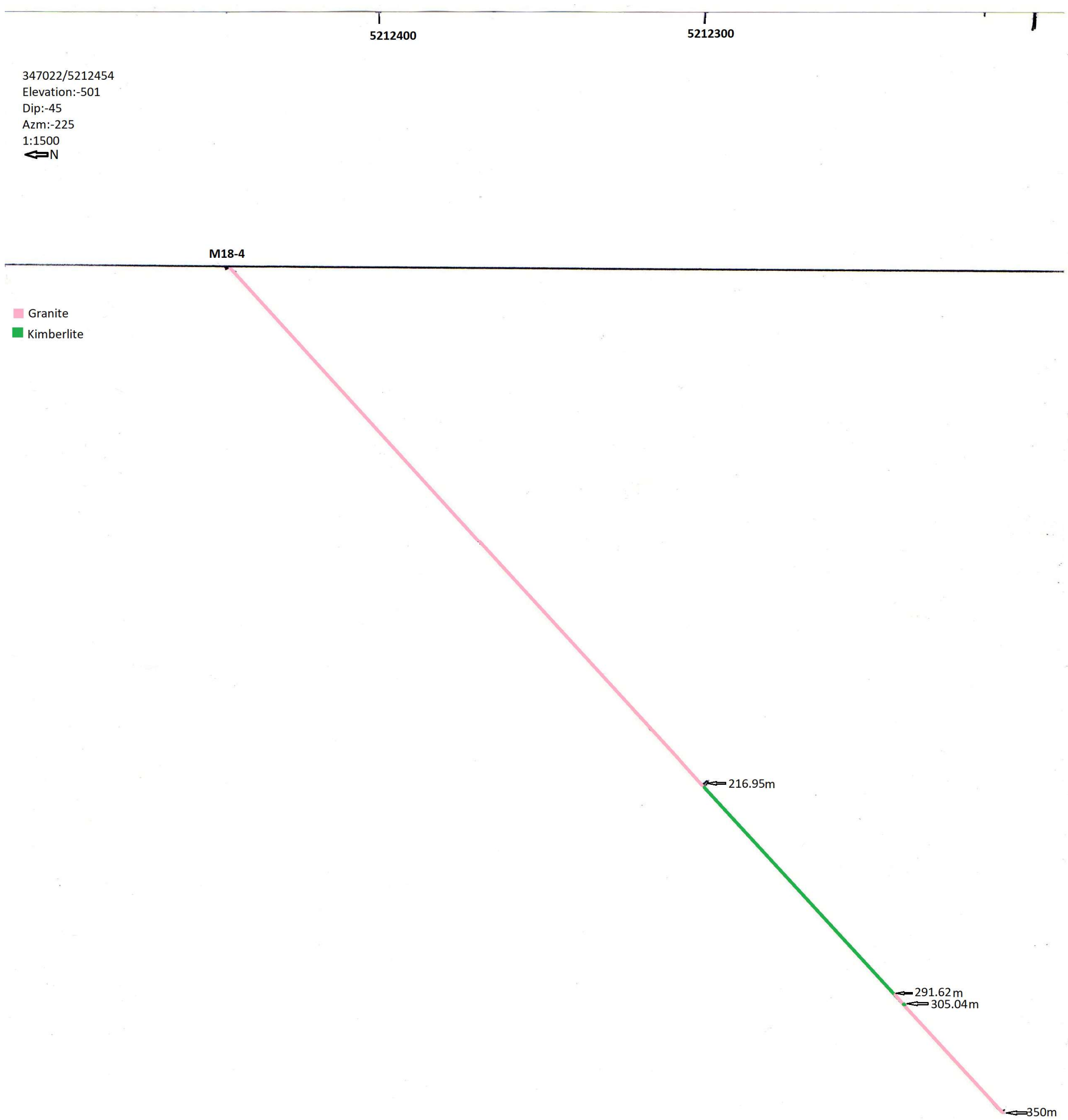
316.67m
350m


5212400
5212300
347022/5212454
Elevation:-501
Dip:-45
Azm:-225
1:1500
N
M18-4
Granite
Kimberlite
216.95m
291.62m
305.04m
350m

Summary Table of Drill Holes

Hole Num	Collar Loca	azimuth	dip	DDH lengt	# of samples collected	# of samples assayed
M18-1	347022 52	200	-45	265	6	6

SampleID	Hole_ID	mFrom	mTo	ample_Typ	Date_Sampled	Year_Sampled	Sample_Weight_Kg	Comments
44750	M18-1	125.41	127.74	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
44750	M18-1	153.12	155.29	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
44750	M18-1	179.53	180.52	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
44750	M18-1	204.6	205.87	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
44751	M18-1	118.45	125.41	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-1	127.74	143.67	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-1	146.58	148.3	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-1	150.41	153.12	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-1	155.29	159.08	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44753	M18-1	104.88	118.45	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44753	M18-1	143.67	146.58	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44753	M18-1	148.3	150.41	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44753	M18-1	159.08	179.53	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44753	M18-1	180.52	204.6	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44753	M18-1	205.87	228.5	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44757	M18-1	125.41	127.74	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.

44757	M18-1	153.12	155.29	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
44757	M18-1	179.53	180.52	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
44757	M18-1	204.6	205.87	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.

44762	M18-1	120.42	121.14	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44762	M18-1	135.81	136.32	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44762	M18-1	146.73	147.45	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44762	M18-1	155.63	156.5	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.

44763	M18-1	112.13	113	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	148.3	148.84	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	164.96	165.84	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	186.53	187.36	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	198.21	199.18	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	209.3	210.43	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
44763	M18-1	216.86	217.37	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.

44766	M18-1	104.88	228.5	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia

Hole Number	Collar Location Nad 83 Zone 17	azimuth	dip	DDH length[m]	# of samples collected	# of samples assayed
M18-2	347016 5212079	374	-45	374	3	3

SampleID	Hole_ID	mFrom	mTo	Sample_Type	Date_Sampled	Year_Sampled	ple_Weight	Comments
44747	M18-2	75	75.1	CORE	23-Mar-18	2018	0.581	KIM. Possible HK in CR.
44751	M18-2	333.09	334.87	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-2	337.78	339.15	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-2	347.38	350.12	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44751	M18-2	355.25	361.01	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
44762	M18-2	333.81	334.47	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44762	M18-2	347.54	348.37	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44762	M18-2	357.32	358.31	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
44766	M18-2	294.44	361.01	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia

Hole Number	Collar Location Nad 83 Zone 17	azimuth	dip	DDH length[m]	# of samples collected	# of samples assayed
M18-3	347115 5212235	290	-45	350	6	6

SampleID	Hole_ID	mFrom	mTo	Sample_Type	Date_Sampled	Year_Sampled	Sample_Weight_Kg	Comments
44743	M18-3	257.29	257.59	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
44743	M18-3	263.5	264.03	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
44743	M18-3	296.97	297.72	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
44743	M18-3	314.71	314.98	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
44744	M18-3	120.05	120.13	CORE	23-Mar-18	2018	0.6155	KIM. Possible lamphroite that was included with telescopic samples.
44754	M18-3	236.1	316.67	CORE	26-Mar-18	2018	2.2271	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44758	M18-3	251.62	251.79	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	252.63	254.23	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	257.29	257.59	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	263.5	264.03	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	274.92	275.3	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	296.97	297.72	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	314.71	314.98	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44758	M18-3	330	330.4	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44764	M18-3	240.18	241.05	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44764	M18-3	248.42	249.6	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44764	M18-3	261.52	262.42	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44764	M18-3	279	279.97	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44764	M18-3	293.58	294.24	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44764	M18-3	306.09	306.94	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44766	M18-3	236.1	316.67	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia

Hole Number	Collar Location Nad 83 Zone 17	azimuth	dip	DDH length[m]	# of samples collected	# of samples assayed
M18-4	347022 5212454	225	-45	350	5	5

SampleID	Hole_ID	mFrom	mTo	Sample_Type	Date_Sampled	Year_Sampled	ple_Weight	Comments
44755	M18-4	216.95	218	CORE	28-Mar-18	2018	2.1495	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44755	M18-4	218.29	288.11	CORE	28-Mar-18	2018	2.1495	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
44758	M18-4	274.92	275.3	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
44765	M18-4	231.4	232.37	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44765	M18-4	243	243.98	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44765	M18-4	257.42	258.38	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44765	M18-4	269.14	270.22	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44765	M18-4	279.04	280.11	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44765	M18-4	284.97	285.55	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
44766	M18-4	216.95	291.62	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia

DataSet	SampleID	Hole ID	mFrom	mTo	Sample Type	Date Sampled	Year Sampled	Sample Weight Kg	Comments
RIL	44743	M18-3	257.29	257.59	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
RIL	44743	M18-3	263.5	264.03	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
RIL	44743	M18-3	296.97	297.72	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
RIL	44743	M18-3	314.71	314.98	CORE	23-Mar-18	2018	1.9793	KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
RIL	44744	M18-3	120.05	120.13	CORE	23-Mar-18	2018	0.6155	KIM. Possible lamphroite that was included with telescopic samples.
RIL	44747	M18-2	75	75.1	CORE	23-Mar-18	2018	0.581	KIM. Possible HK in CR.
RIL	44750	M18-1	125.41	127.74	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
RIL	44750	M18-1	153.12	155.29	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
RIL	44750	M18-1	179.53	180.52	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
RIL	44750	M18-1	204.6	205.87	CORE	23-Mar-18	2018	2.2584	KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
RIL	44751	M18-1	118.45	125.41	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-1	127.74	143.67	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-1	146.58	148.3	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-1	150.41	153.12	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-1	155.29	159.08	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-2	333.09	334.87	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-2	337.78	339.15	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-2	347.38	350.12	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44751	M18-2	355.25	361.01	CORE	23-Mar-18	2018	2.5335	KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
RIL	44753	M18-1	104.88	118.45	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44753	M18-1	143.67	146.58	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44753	M18-1	148.3	150.41	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44753	M18-1	159.08	179.53	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44753	M18-1	180.52	204.6	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44753	M18-1	205.87	228.5	CORE	26-Mar-18	2018	2.3522	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44754	M18-3	236.1	316.67	CORE	26-Mar-18	2018	2.2271	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44755	M18-4	216.95	218	CORE	28-Mar-18	2018	2.1495	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44755	M18-4	218.29	288.11	CORE	28-Mar-18	2018	2.1495	KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
RIL	44757	M18-1	125.41	127.74	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44757	M18-1	153.12	155.29	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44757	M18-1	179.53	180.52	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44757	M18-1	204.6	205.87	CORE	26-Mar-18	2018	30	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	251.62	251.79	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	252.63	254.23	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	257.29	257.59	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	263.5	264.03	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	274.92	275.3	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	296.97	297.72	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	314.71	314.98	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-3	330	330.4	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44758	M18-4	274.92	275.3	CORE	26-Mar-18	2018	13.7	MIDA. Minus KIM and REP samples, no CrX removed.
RIL	44762	M18-1	120.42	121.14	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-1	135.81	136.32	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-1	146.73	147.45	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-1	155.63	156.5	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-2	333.81	334.47	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-2	347.54	348.37	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44762	M18-2	357.32	358.31	CORE	26-Mar-18	2018	26.5	MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	112.13	113	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	148.3	148.84	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	164.96	165.84	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	186.53	187.36	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	198.21	199.18	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	209.3	210.43	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44763	M18-1	216.86	217.37	CORE	26-Mar-18	2018	26.7	MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	240.18	241.05	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	248.42	249.6	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	261.52	262.42	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	279	279.97	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	293.58	294.24	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44764	M18-3	306.09	306.94	CORE	26-Mar-18	2018	26.4	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	231.4	232.37	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	243	243.98	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	257.42	258.38	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	269.14	270.22	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	279.04	280.11	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44765	M18-4	284.97	285.55	CORE	26-Mar-18	2018	26.8	MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
RIL	44766	M18-1	104.88	228.5	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
RIL	44766	M18-2	294.44	361.01	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
RIL	44766	M18-3	236.1	316.67	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
RIL	44766	M18-4	216.95	291.62	CORE	26-Mar-18	2018	1317	Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia

DataSet	SampleID	Hole_ID	mFrom	mTo	Sample_Type	Date_Sampled	Year_Sampled	Sample_Weight_Kg
RIL	44743	M18-3	257.29	257.59	CORE	23-Mar-18	2018	1.9793
RIL	44743	M18-3	263.5	264.03	CORE	23-Mar-18	2018	1.9793
RIL	44743	M18-3	296.97	297.72	CORE	23-Mar-18	2018	1.9793
RIL	44743	M18-3	314.71	314.98	CORE	23-Mar-18	2018	1.9793
RIL	44744	M18-3	120.05	120.13	CORE	23-Mar-18	2018	0.6155
RIL	44747	M18-2	75	75.1	CORE	23-Mar-18	2018	0.581
RIL	44750	M18-1	125.41	127.74	CORE	23-Mar-18	2018	2.2584
RIL	44750	M18-1	153.12	155.29	CORE	23-Mar-18	2018	2.2584
RIL	44750	M18-1	179.53	180.52	CORE	23-Mar-18	2018	2.2584
RIL	44750	M18-1	204.6	205.87	CORE	23-Mar-18	2018	2.2584
RIL	44751	M18-1	118.45	125.41	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-1	127.74	143.67	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-1	146.58	148.3	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-1	150.41	153.12	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-1	155.29	159.08	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-2	333.09	334.87	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-2	337.78	339.15	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-2	347.38	350.12	CORE	23-Mar-18	2018	2.5335
RIL	44751	M18-2	355.25	361.01	CORE	23-Mar-18	2018	2.5335
RIL	44753	M18-1	104.88	118.45	CORE	26-Mar-18	2018	2.3522
RIL	44753	M18-1	143.67	146.58	CORE	26-Mar-18	2018	2.3522
RIL	44753	M18-1	148.3	150.41	CORE	26-Mar-18	2018	2.3522
RIL	44753	M18-1	159.08	179.53	CORE	26-Mar-18	2018	2.3522
RIL	44753	M18-1	180.52	204.6	CORE	26-Mar-18	2018	2.3522
RIL	44753	M18-1	205.87	228.5	CORE	26-Mar-18	2018	2.3522
RIL	44754	M18-3	236.1	316.67	CORE	26-Mar-18	2018	2.2271
RIL	44755	M18-4	216.95	218	CORE	28-Mar-18	2018	2.1495
RIL	44755	M18-4	218.29	288.11	CORE	28-Mar-18	2018	2.1495
RIL	44757	M18-1	125.41	127.74	CORE	26-Mar-18	2018	30
RIL	44757	M18-1	153.12	155.29	CORE	26-Mar-18	2018	30
RIL	44757	M18-1	179.53	180.52	CORE	26-Mar-18	2018	30
RIL	44757	M18-1	204.6	205.87	CORE	26-Mar-18	2018	30
RIL	44758	M18-3	251.62	251.79	CORE	26-Mar-18	2018	13.7

RIL	44758	M18-3	252.63	254.23	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	257.29	257.59	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	263.5	264.03	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	274.92	275.3	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	296.97	297.72	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	314.71	314.98	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-3	330	330.4	CORE	26-Mar-18	2018	13.7
RIL	44758	M18-4	274.92	275.3	CORE	26-Mar-18	2018	13.7
RIL	44762	M18-1	120.42	121.14	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-1	135.81	136.32	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-1	146.73	147.45	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-1	155.63	156.5	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-2	333.81	334.47	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-2	347.54	348.37	CORE	26-Mar-18	2018	26.5
RIL	44762	M18-2	357.32	358.31	CORE	26-Mar-18	2018	26.5
RIL	44763	M18-1	112.13	113	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	148.3	148.84	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	164.96	165.84	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	186.53	187.36	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	198.21	199.18	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	209.3	210.43	CORE	26-Mar-18	2018	26.7
RIL	44763	M18-1	216.86	217.37	CORE	26-Mar-18	2018	26.7
RIL	44764	M18-3	240.18	241.05	CORE	26-Mar-18	2018	26.4
RIL	44764	M18-3	248.42	249.6	CORE	26-Mar-18	2018	26.4
RIL	44764	M18-3	261.52	262.42	CORE	26-Mar-18	2018	26.4
RIL	44764	M18-3	279	279.97	CORE	26-Mar-18	2018	26.4
RIL	44764	M18-3	293.58	294.24	CORE	26-Mar-18	2018	26.4
RIL	44764	M18-3	306.09	306.94	CORE	26-Mar-18	2018	26.4
RIL	44765	M18-4	231.4	232.37	CORE	26-Mar-18	2018	26.8
RIL	44765	M18-4	243	243.98	CORE	26-Mar-18	2018	26.8
RIL	44765	M18-4	257.42	258.38	CORE	26-Mar-18	2018	26.8
RIL	44765	M18-4	269.14	270.22	CORE	26-Mar-18	2018	26.8
RIL	44765	M18-4	279.04	280.11	CORE	26-Mar-18	2018	26.8
RIL	44765	M18-4	284.97	285.55	CORE	26-Mar-18	2018	26.8

RIL	44766	M18-1	104.88	228.5	CORE	26-Mar-18	2018	1317
RIL	44766	M18-2	294.44	361.01	CORE	26-Mar-18	2018	1317
RIL	44766	M18-3	236.1	316.67	CORE	26-Mar-18	2018	1317
RIL	44766	M18-4	216.95	291.62	CORE	26-Mar-18	2018	1317

Comments
KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
KIM. Sample of selected pieces through intervals. "Possible dyke" in M18-3. No CrX removed.
KIM. Possible lamphroite that was included with telescopic samples.
KIM. Possible HK in CR.
KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
KIM. Sample of selected pieces through intervals. "hypabyssal intrusion" in M18-1. No CrX removed.
KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
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KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Represents all coherent low dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
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KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
KIM. Sample of selected pieces through intervals. Representative of volcaniclastic high dilution intervals. No CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
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MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Coherent low dilution minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
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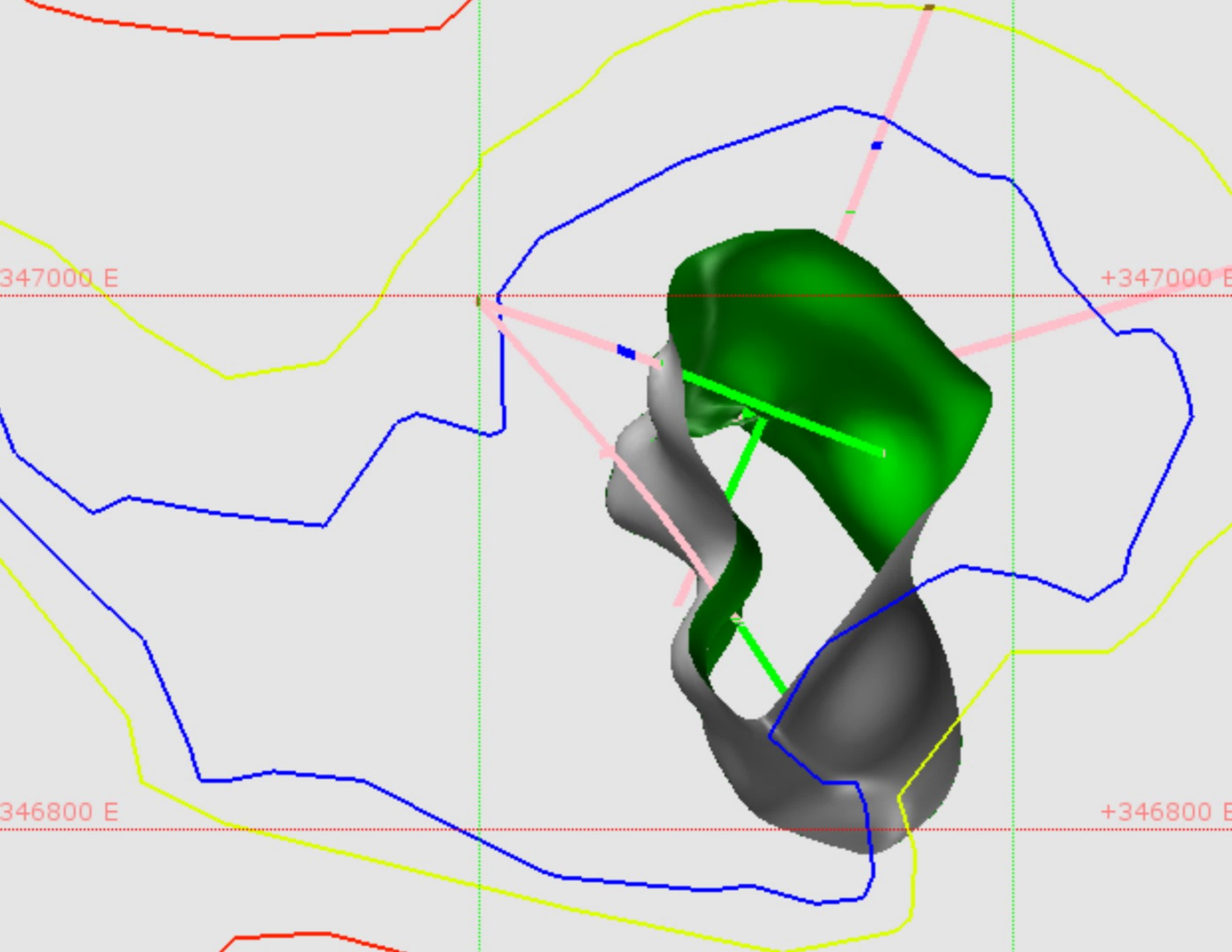
MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.
MIDA. Volcaniclastic high dilution intervals minus KIM and REP samples, no CrX removed.

Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6
Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6
Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6
Mini-bulk. Bulk sample of all remaining drill core from M18-1 to M18-4. 35 kg CRX removed, added to total weight. Security seal AL36295. 20-6

mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia
mm blue desity tracers D05B6NNM6 - loose; 10-6mm lilac density tracers D05LLCNM6 - set in core pieces; 5-brown dia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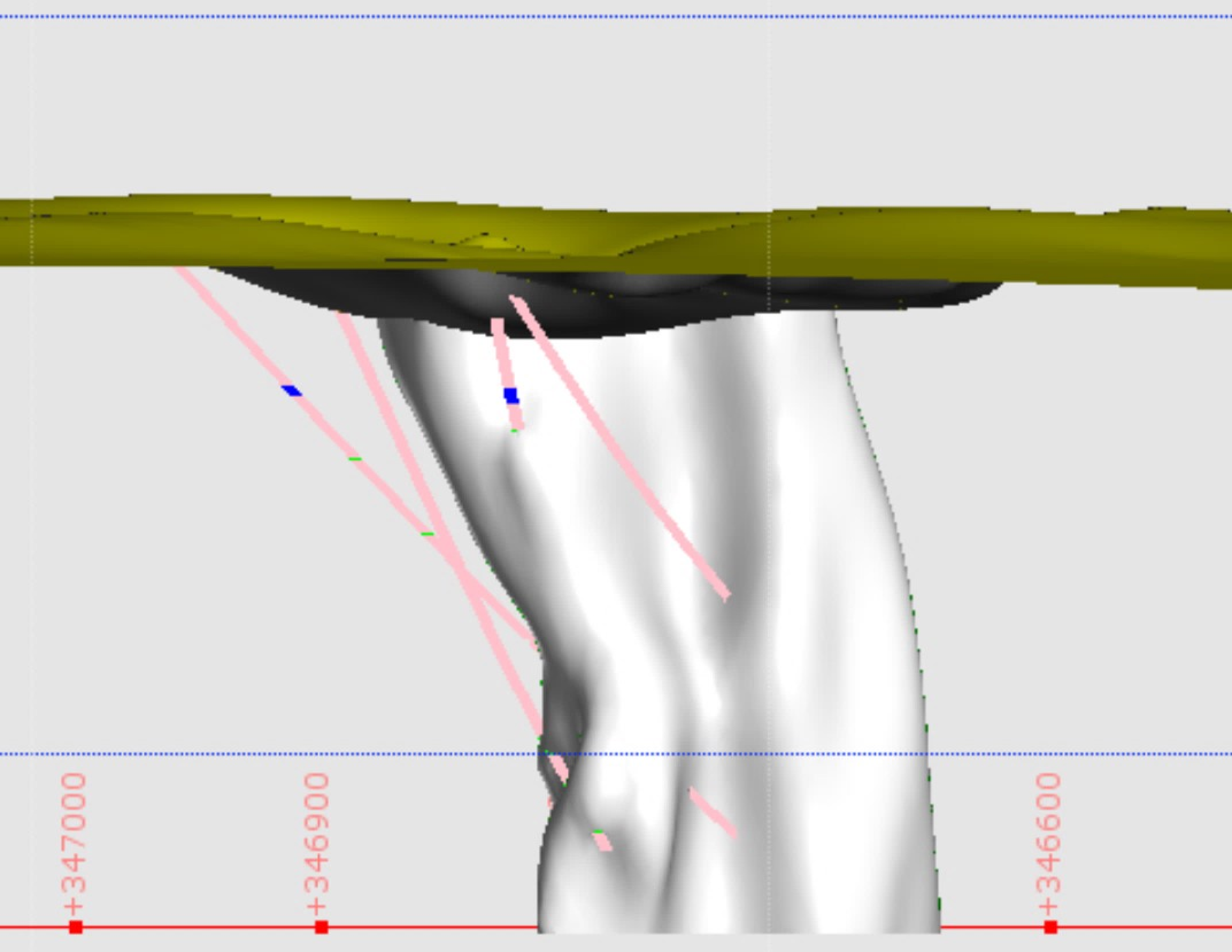

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