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CANADIAN MALARTIC CORPORATION

2015 Skead-MacGregor Drill Program

Kirkland Lake Project

Report Prepared by Canadian Malartic Geologist:

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2/11/2016

KIRKLAND LAKE PROJECT

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Introduction

The Canadian Malartic Corporation (CMC) conducted an exploratory diamond drill program on the Skead-MacGregor claims (Figure 1) during the period of November 18, 2015 to December 16, 2015. The drill program included five diamond drill holes which totaled 1474.5m and were concentrated on the west side of the Skead-MacGregor claims package (Figure 2). Four holes were drilled within Gauthier Township while one hole was drilled in McElroy Township. The drilling, logging and sampling was supervised by CMC geologist Christopher A.L. Clarke.

Property Description and Access

The Skead-MacGregor property is situated mainly within Gauthier Township with the south and east edges of the group extending into McElroy, Hearst and McVittie Townships (Figure 1). The property is adjacent to, and partially infills the southeast portion of the Canadian Malartic claims, consisting of strings of claims straddling Highway 66, the Fork Lake Road and stretching from Mousseau Lake to the southeast corner of Gauthier Township.

The Skead-MacGregor property includes 6 patents, 17 leases and 65 staked claims which are listed in Table 1 and displayed in Figure 2. The Skead-MacGregor property can be accessed via Hwy 66, along the Ontario Northland Railway right of way, hydro line right of ways, the Fork Lake Rd and numerous access or logging roads running off of Hwy 66 and the Fork Lake Rd.

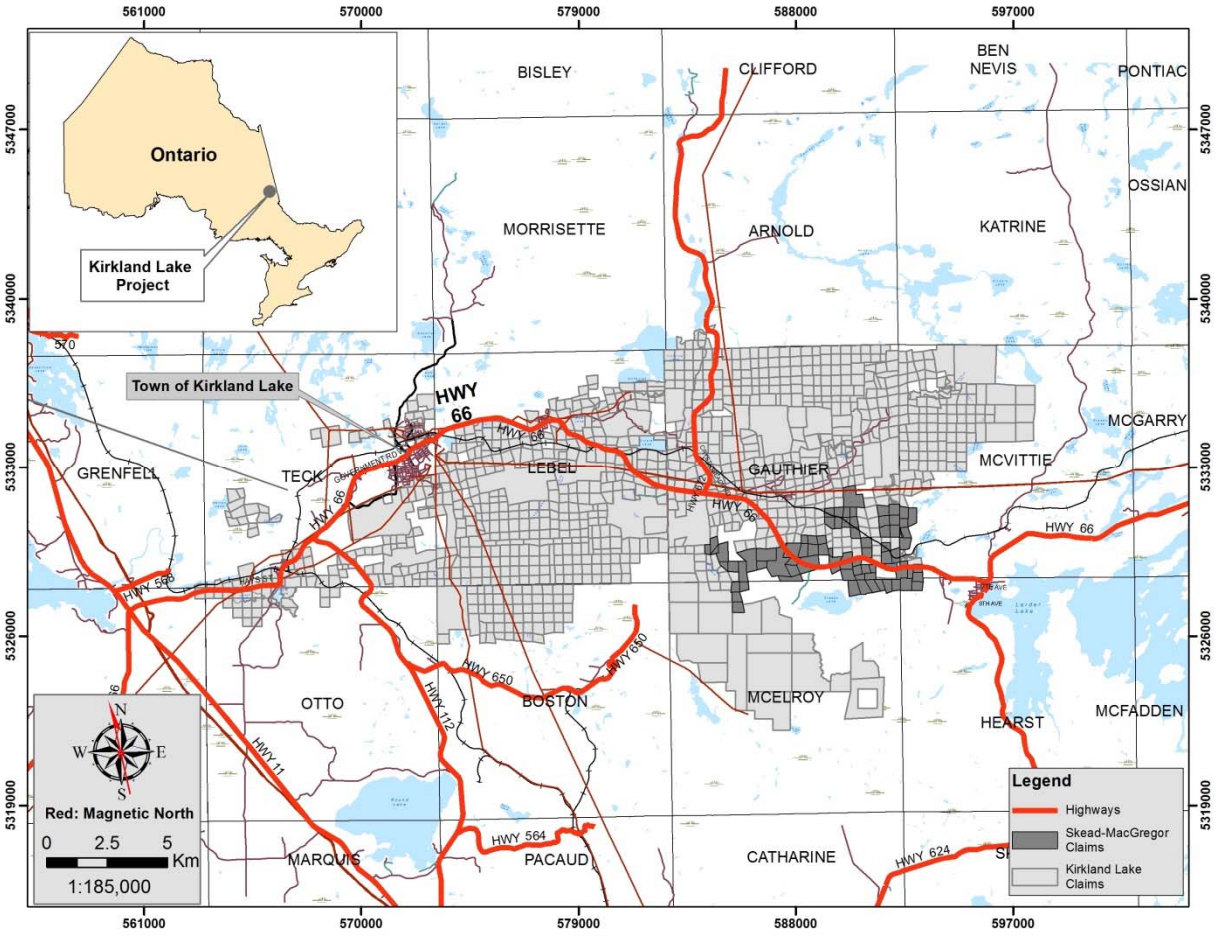

Figure 1: Location map of the Skead-MacGregor Option relative to the Canadian Malartic Kirkland Lake project.

Table 1: List of claims in the Skead MacGregor Option

Claim_Number_ID	Township	Tenure_Type	Claim_Rights
23463	Hearst	Patent	MRO
29621	Gauthier	Patent	MRO
39943	Gauthier	Patent	MRO
39944	Gauthier	Patent	MRO
19280	McVittie	Patent	MRO & SRO
23462	McVittie	Patent	MRO
1046094	Gauthier	Staked	MRO
1046095	Gauthier	Staked	MRO
1167284	Gauthier	Staked	MRO
1180405	Gauthier	Staked	MRO
1180406	Gauthier	Staked	MRO
1180408	Gauthier	Staked	MRO
1180409	Gauthier	Staked	MRO
1180411	Gauthier	Staked	MRO
1191274	Gauthier	Staked	MRO
1191278	Gauthier	Staked	MRO
1191279	Gauthier	Staked	MRO
1192182	Gauthier	Staked	MRO
1202539	Gauthier	Staked	MRO
1202540	Gauthier	Staked	MRO
1202543	Gauthier	Staked	MRO
1203499	Gauthier	Staked	MRO
1205549	Gauthier	Staked	MRO
1206419	Gauthier	Staked	MRO
1206420	Gauthier	Staked	MRO
1218208	Gauthier	Staked	MRO
1218210	Gauthier	Staked	MRO
1218211	Gauthier	Staked	MRO
1225162	Gauthier	Staked	MRO
3003111	Gauthier	Staked	MRO
3004547	Gauthier	Staked	MRO
3004548	Gauthier	Staked	MRO
4211847	Gauthier	Staked	MRO
4211958	Gauthier	Staked	MRO
667832	Gauthier	Staked	MRO
736730	Gauthier	Staked	MRO
736731	Gauthier	Staked	MRO
736732	Gauthier	Staked	MRO
736729	Gauthier	Staked	MRO
760496	Gauthier	Staked	MRO
800064	Gauthier	Staked	MRO
821928	Gauthier	Staked	MRO
893730	Gauthier	Staked	MRO
893731	Gauthier	Staked	MRO
981875	Gauthier	Staked	MRO
981993	Gauthier	Staked	MRO
892020	Hearst	Staked	MRO
917318	Hearst	Staked	MRO
1206417	McElroy	Staked	MRO
1222247	McElroy	Staked	MRO
1222579	McElroy	Staked	MRO
1222581	McElroy	Staked	MRO
979566	McElroy	Staked	MRO
980319	McElroy	Staked	MRO
980385	McElroy	Staked	MRO
980386	McElroy	Staked	MRO
980387	McElroy	Staked	MRO
980388	McElroy	Staked	MRO
1014694	McVittie	Staked	MRO
1045614	McVittie	Staked	MRO
1096947	McVittie	Staked	MRO
1167292	McVittie	Staked	MRO
1242863	McVittie	Staked	MRO
1248874	McVittie	Staked	MRO
3006481	McVittie	Staked	MRO
3008981	McVittie	Staked	MRO
3008982	McVittie	Staked	MRO
3008983	McVittie	Staked	MRO
667833	McVittie	Staked	MRO
821910	McVittie	Staked	MRO
859823	McVittie	Staked	MRO
400241	Gauthier	Leased	MRO
400242	Gauthier	Leased	MRO
400243	Gauthier	Leased	MRO
400437	Gauthier	Leased	MRO & SRO
400438	Gauthier	Leased	MRO
400439	Gauthier	Leased	MRO
420862	Gauthier	Leased	MRO & SRO
420863	Gauthier	Leased	MRO & SRO
420864	Gauthier	Leased	MRO & SRO
420865	Gauthier	Leased	MRO & SRO
420866	Gauthier	Leased	MRO & SRO
420867	Gauthier	Leased	MRO & SRO
420868	Gauthier	Leased	MRO & SRO
440520	Gauthier	Leased	MRO
544731	Gauthier	Leased	MRO & SRO
544732	Gauthier	Leased	MRO
544733	Gauthier	Leased	MRO
1226891	Gauthier	Staked	MRO
3010060	Gauthier	Staked	MRO
4202030	Gauthier	Staked	MRO

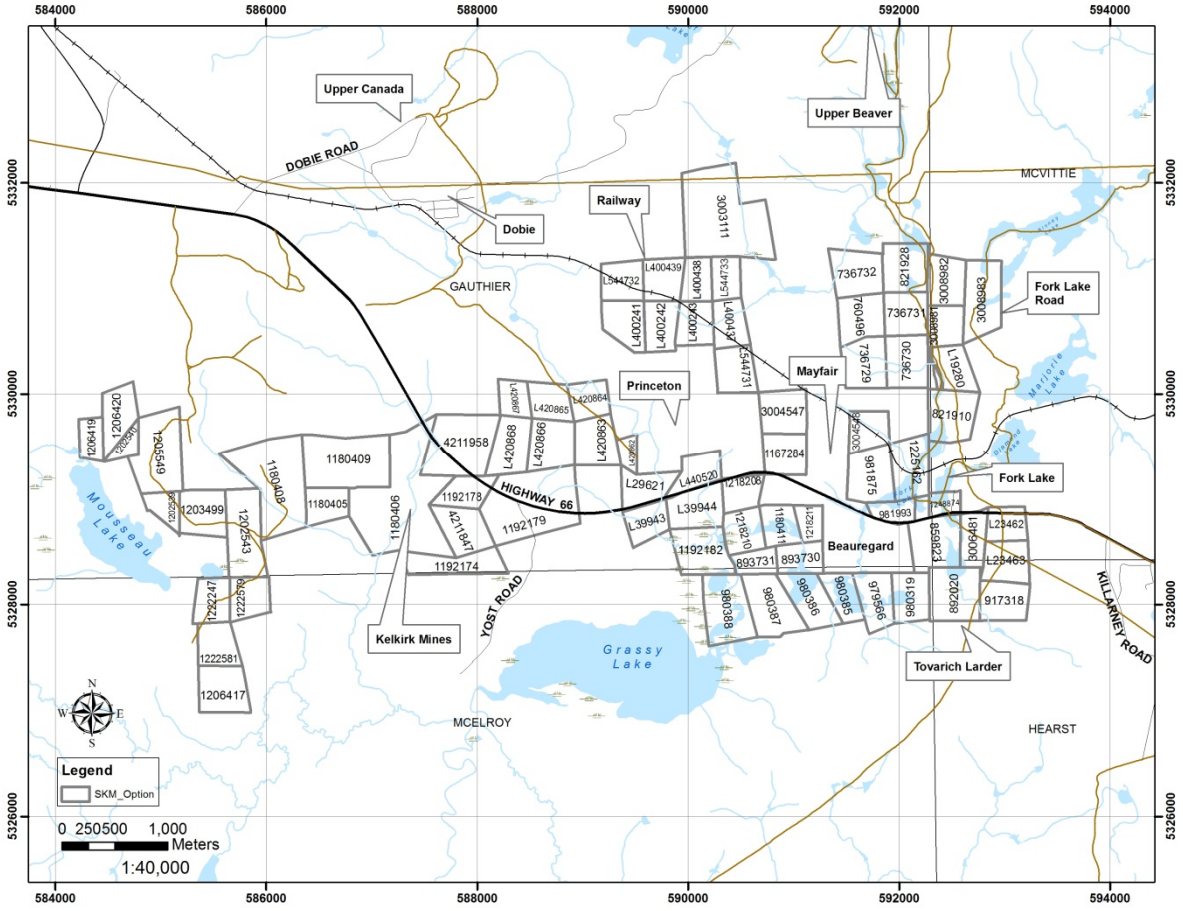

Figure 2: Location map showing the disposition of Skead-MacGregor claims in relation to historic properties and infrastructure using a NAD 83 UTM zone 17N grid.

History

The Skead-MacGregor property is a contiguous amalgamation of various former, non-contiguous and non-temporally contiguous exploration projects and isolated claims representing a patchwork agglomeration of claims along the LLCDZ. The eastern portion of the property more recently was part of the Sudbury Contact Mines diamond exploration project in the 1980's through 1990's. The area around Fork Lake in the 1960's was part of the Solomino exploration project. The middle portion of the property was host to the Kelkirk Mines project in the 1960's. The western portion of the Skead-MacGregor does not appear to have been part of a specific project but appears to have been included in the Lower Canada claims block in the mid-twentieth century. The claims within the Skead-MacGregor property have primarily been the target of gold and diamond exploration. Highlights of reported work, which can be found at the Kirkland Lake district Ontario Geological Survey Office is summarized below:

1941-1950: Gauthier, McVittie, McElroy and Hearst Townships are mapped by J.E. Thomson for the OGS

1938-1960: Kelkirk Mines Ltd: work included trenching and stripping of outcrops, several geophysical surveys (VLF and magnetic) and drilling (KL_1351, KL_5361). Seventeen drill holes were reported and the recorded lithologies were a mixture of basalt flows, diorite porphyry and syenite dikes (KL_1351).

1962-1963: Solomino Gold Mines Ltd: A magnetometer survey was conducted in 1962 (KL_2542). The geophysical anomaly revealed in the magnetometer survey was drilled, the drilling yielded a 1 foot sample interval of 0.01 oz. Au in *'argillite greywacke'* (KL_2542).

1976: The McCullough, E.W. - Lowe, D. showing (claim 319197): blasting and trenching which was followed by a visit from a geologist (F.R. Ploeger) who filed a report (KL_1807). The report notes that an aplite dike was exposed which was mineralized with cubes and patches of pyrite and yielded assay values of up to 0.29 oz. Au/Ton.

1984-2014: Robert Allan MacGregor AKA Skead Holdings Ltd: Primary option holder of the Skead-MacGregor option and a prolific assessment filer. Forty-three assessment reports have been filed just for claims in the SKM option held by CMC by Bob MacGregor over a thirty year period. From 1984-1989 the filed assessment work for the option was various VLF and magnetometer surveys. Then in 1989 going to 1998 the property was optioned to Sudbury Contact Mines for diamond exploration; drilling and additional geophysical surveys were conducted during this time. Since 1998, the assessment reports primarily outline resampled drill-core from various options held by Robert MacGregor.

1989-1998: Sudbury Contact Mines ltd.: Sudbury Contact Mines optioned Robert MacGregor's claims from 1989 to 1998. The Sudbury Contact Mines (SCM) property extended beyond the current CMC Skead-MacGregor option, into the Upper Beaver Mine claims and further south into areas around Grassy Lake. The primary exploration target for SCM was ultramafic units relating to diamondiferous deposits. Sudbury Contact mines performed a variety of ground based VLF, magnetometer and gravity surveys as well as an airborne survey; they also had an annual reverse circulation and diamond drill program along the Misema River, Diamond Lake and Fork Lake. While the drill programs returned some interesting values, they were mostly outside the SKM option (but most are owned outright by CMC now). Along the shores of Fork Lake a Sudbury Contact Mines DDH, FL84-1, reported elevated values of Au in the 30-100ppb range (KL_1700). The DDH, FL84-1 was drilled due north and potentially could have been in the vicinity of the LLCDZ.

1993: Fork Lake Project: Two drill holes were completed on claim L1186422 near the Fork Lake by Yost Drilling and logged by Steve Carmichael on behalf of Carl Forbes (claim holder). The drilling returned trace to nil Au assay results (KL_3293).

1995: Carmichael and Whelan: Two claims (1200321 & 1200812) just east of Mousseau Lake (overlap with the current SKM claim of 1222247. The area was explored for diamonds in 1969 by Diamond Geophysics (no report could be found on the 1969 work). A magnetometer survey was conducted identifying a kimberlite target (KL_3664).

1996: Novawest Resources Inc.: Fork Lake project drill hole SIH96-1 (claims 1186423 and 1186422) returned a 3 ft. sample running 0.137 oz./ton in green carbonate rock with disseminated pyrite (KL_4448).

1998-1999: Queenston Mining Inc.: Princeton Project: IP and magnetometer surveys were also completed across SKM claims L400241-42-43, L400437-38-39 & L544731-32-33 adjacent to the ground held by Queenston Mining at the Princeton pit (KL_4569). Drill holes PR98-03-07 crossed/drilled onto the above SKM claims as well. The report, KL_4569, details Queenston drill holes intersecting North break mineralization with nil-trace mineralization.

2000: Michael Tremblay: prospecting on claims 1227145, 1227147 & 1227148 (now part of the SKM) in the southeast corner of Gauthier Township. The prospector noted two areas of intense alteration and pyrite mineralization (KL_4832).

2002-2004: Hilda Egg: Moose Crossing property: Prospecting report for claim 550014 (current SKM claim: 1192182). The report described a magnetic anomaly 200m in diameter on the property which was assumed to be a syenite intrusion but there were no outcrops or boulders on the property (KL_5105). From 2003 to 2004 an MMI soil sampling program was conducted and recorded an Au-Ag anomaly on strike with a historic Kelkirk drill hole (Az. 30 Dip -45 Depth 170m Loc. 0+50W – 4+70S) which reported 0.19 opt Au (KL_5218 and KL_5361).

2003-2004: Discover Abitibi Initiative: An airborne geophysical survey of the Kirkland Lake – Larder Lake area was conducted using a high resolution MIDAS magnetic gradient survey method.

2004-2005: Brigadier Gold: A soil gas hydrocarbon (SGH^{SM}) sampling survey was conducted on the Diamond Lake option which was optioned from Skead Holdings Inc. (Robert MacGregor) and identified several anomalies (KL_5450). A follow-up magnetometer survey was conducted in 2005 (KL_5507).

2011-2013: Queenston Mining Inc.: acquired Skead-MacGregor option. An airborne geophysics survey was conducted by Larder Geophysics on the Railway claims of the SKM option (KL_6643 & KL_6645).

2013-2014: Osisko Mining Ltd: No work performed.

2014-2016: Canadian Malartic Corporation: Drill program initiated on November 19, 2015 with drilling completed December 18, 2015:

Regional Geology

In terms of regional disposition, the Skead-MacGregor property is part of the southern Abitibi Greenstone belt within the Kirkland Lake Gold Camp. The Abitibi Greenstone Belt is a northeast-southwest trending, Archean-age intracratonic tectonic unit within the southern Superior Province of the Canadian Shield and is acknowledged for its world-class gold deposits. The Kirkland Lake Gold Camp is situated on the south limb of the regional Blake River synclinorium. The northern and southern limbs of the synclinorium are truncated respectively by the east-trending, Destor-Porcupine and the Cadillac-Larder Lake breaks.

The majority of the historical gold production in the Abitibi Greenstone Belt is spatially associated with these two regional structures. The current geological classifications (Ayer et al, 2005) subdivide the Timmins – Kirkland Lake segment of the Abitibi Greenstone Belt into 11 supracrustal assemblages as:

Timiskaming (youngest)	Sediments and alkalic volcanics + iron formation
Porcupine	Sediments and calc-alkalic volcanics + iron formation
Upper Blake River	Calc-alkalic and tholeiitic volcanics
Lower Blake River	Tholeiitic volcanics
Upper Tisdale	Calc-alkalic volcanics
Lower Tisdale	Komatiitic, tholeiitic and calc-alkalic volcanics + Iron formation
Upper Kidd-Munro	Komatiitic, tholeiitic volcanics + iron formation
Lower Kidd-Munro	Calc-alkalic volcanics
Stoughton-Roquemaure	Komatiitic, tholeiitic and calc-alkalic volcanics
Deloro	Tholeiitic and calc-alkalic volcanics + iron formation
Pacaud (oldest)	Komatiitic, tholeiitic and calc-alkalic volcanics

Intrusive rocks are subdivided into three broad categories: synvolcanic, syntectonic and post tectonic intrusions (Ayer et al., 2005). Synvolcanic intrusives are tied, via geochronology, to the eleven supracrustal assemblages noted above. They are not well represented in the Kirkland Lake area with the felsic to intermediate Round Lake batholith to the southwest being the best example (Figure 3). Synvolcanic mafic to ultramafic intrusions and post tectonic intrusions are similarly not well represented in the Kirkland Lake area. More important in the project area, are the syntectonic intrusives, particularly the late syntectonic members. Ayer (2005) indicates that the late syntectonic intrusives are “broadly coeval with the Timiskaming assemblage”, relatively small, and occur in close proximity to the regional structures. Larger intrusions of this type include the Otto Stock, Lebel Stock and Murdoch Creek Stock. They tend to be alkalic, ranging from syenite to mafic syenite in composition. The syenite stocks often have contaminated margins and variably altered to metamorphosed contact aureoles.

The Kirkland Lake Gold Camp is essentially defined by a 5 km corridor around the Cadillac-Larder Lake Break (Figure 3). This major, east-trending, south-dipping, regional structure has juxtaposed Tisdale assemblage mafic to ultramafic rocks against much younger alkalic rocks and sediments of the Timiskaming assemblage. Thus the Blake River and Porcupine assemblages are absent in the immediate area of the break.

Canadian Malartic Corporation’s large land package is assembled along the Cadillac-Larder Lake Break across three townships as the primary target area. The claims are underlain by both Timiskaming and Tisdale assemblage rocks and related intrusives with a number of gold occurrences including the past producing Upper Canada, McBean, Sylvanite, Crescent and Golden Gate mines. The Upper Canada and Sylvanite deposits occur within the Timiskaming assemblage, while the McBean open pit, Crescent and Golden Gate deposits are in Tisdale assemblage rocks.

The past producing Upper Beaver deposit is disconnected from the LLCDZ and occurs within Upper Tisdale and Lower Blake River assemblage volcanics with associated sediments and felsic intrusives in northeastern Gauthier Township.

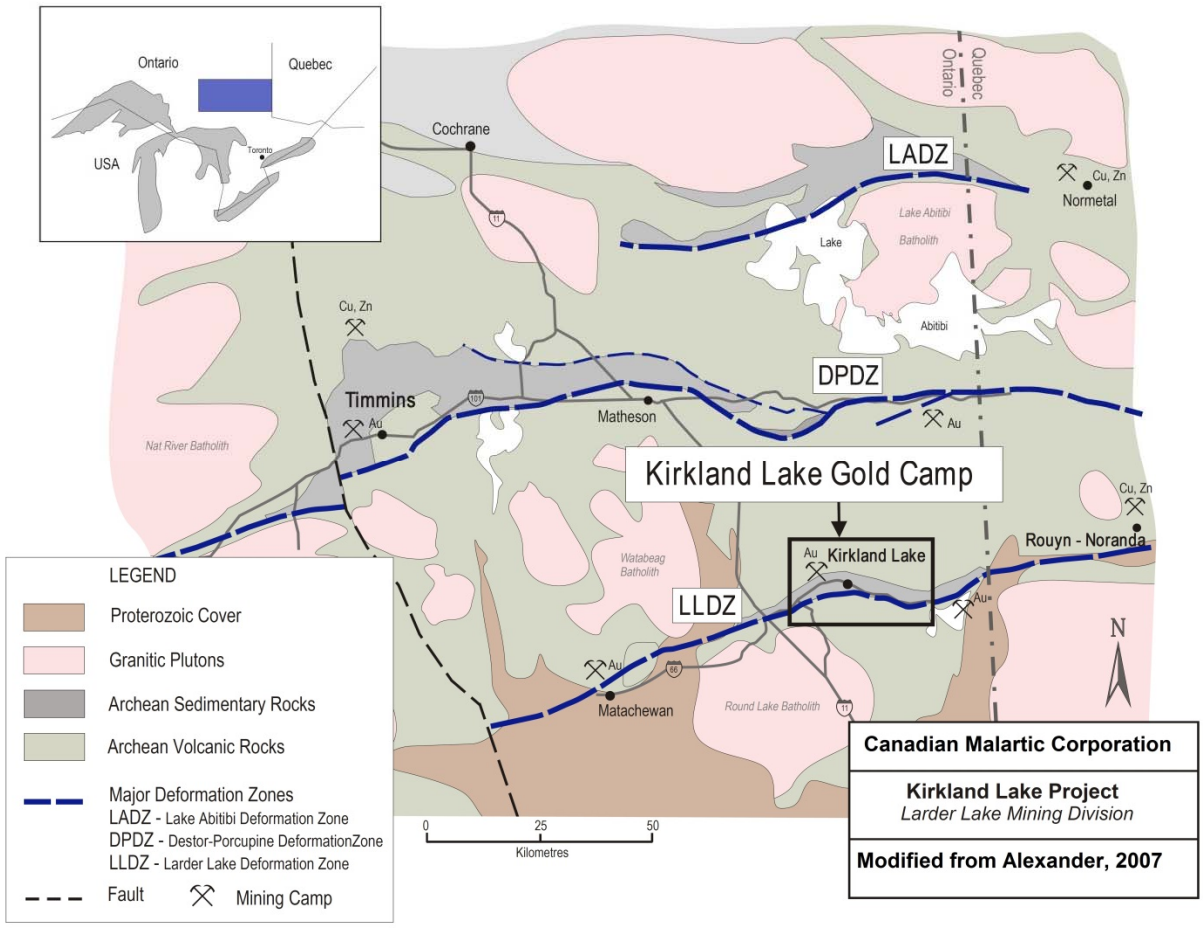

Figure 3: Regional Geology of the Kirkland Lake Gold Camp and Abitibi Greenstone Belt. Modified from Alexander, 2007.

Property Geology

The Skead-MacGregor option encompasses a diverse geological package which straddles the LLCDZ. The LLCDZ is on the property near Fork Lake and Diamond Lake and extends northwest through the Mayfair, Princeton and Anoki & McBean properties (Figure 2 & Figure 4). North of the LLCDZ the property covers Temiskaming lithologies while to the south of the LLCDZ the property covers lower Tisdale lithologies.

The Temiskaming aged units are primarily to the north of the LLCDZ. Temiskaming units nearest the LLCDZ are comprised of moderate to strongly schistose sediments that are variably altered with ankerite, sericite and fuchsite. Fine quartz and quartz-ankerite veinlets, sweats and larger boudinaged veins are found occasionally with up to 1% pyrite in the adjacent wall rocks. Moving north from the LLCDZ the Temiskaming assemblage is composed of silts, wackes, conglomerates and tuffaceous rocks.

To the extreme north of the property along the Misema River a unit of Temiskaming aged trachyte is present.

The LLCDZ and the lithological assemblage south of the LLCDZ are part of the lower Tisdale Group. In the property, the lower Tisdale is primarily tholeiitic mafic volcanic flows with localized komatiitic, intermediate to felsic calc-alkaline volcanic rocks and iron formation.

Larger stocks to plugs of felsic intrusives are most common in the southern portion of the property; limiting correlation within the host Tisdale assemblage rocks (Alexander, 2007). Felsic intrusives range from granite to feldspar porphyry, in addition to local syenite dikes. The granitic dikes to plugs are locally highly altered to bleached and are more typically logged as aplite especially in the southeastern portion of the property.

Dikes of late-stage, Matachewan diabase are present on the property, but are rare.

Thick glaciofluvial sediments of the Munro Esker cover most of the western and south-central claims of the property, severely obscuring outcrop.

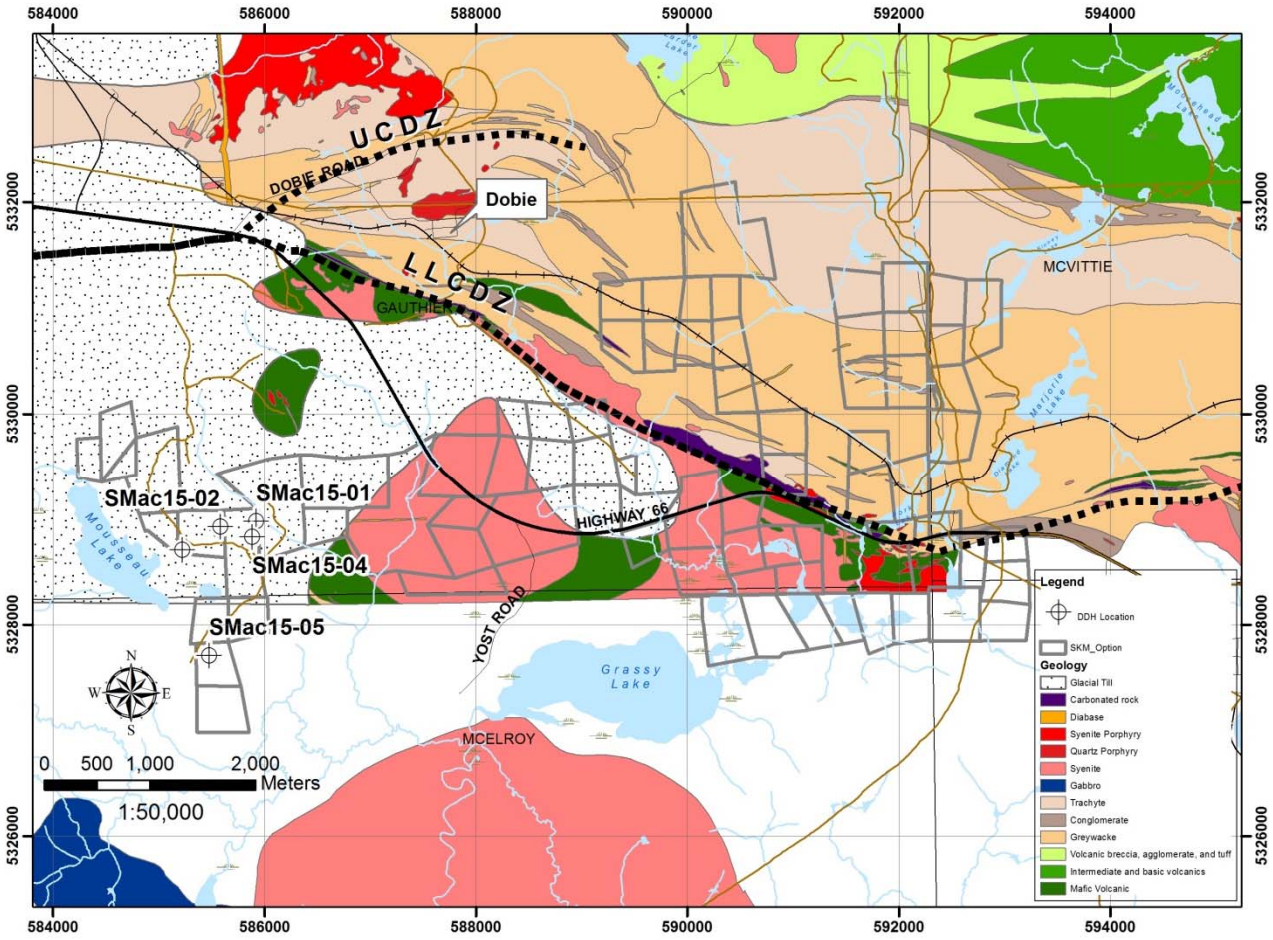

Figure 4: Property Geological map showcasing the Larder-Lake Cadillac Fault (LLCDZ) and Upper Canada Deformation Zone (UCDZ). The Beige coloured lithologies are part of the Temiskaming group while the dark green units south of the LLCDZ are part of the lower Tisdale group.

KIRKLAND LAKE PROJECT

2015 Drill Program

On November 19, 2015, a drill program was initiated on the Skead- MacGregor claims. The drill program included five drill holes totalling 1474.5m, concentrated on the west side of the Skead-MacGregor claims package near the west boundary of Gauthier Township (Figure 5). The drill contractor was Spektra Drilling Canada. The holes and collar data are presented in Table 2; the drill logs are presented in Appendix 1, scaled sections and plans are presented in Appendix 2 and assay certificates in Appendix 3.

The first fence of four holes (SMac15_01-04) drilled on claims: 1202543 & 1203499 were designed to intersect several relatively thin magnetic highs which appeared as splays in plan view. The drill-holes were oriented at an azimuth of 35 degrees oriented to magnetic north. The magnetic splays were hypothesised lenses of banded iron formation that appear to have been folded and the magnetic signature destroyed by alteration. The first four holes also formed a fence along strike of reported quartz veining associated with a porphyry dike from which visible gold was noted in a drill hole which assayed 2.08 opt over a core length of 5'. A fifth hole was planned to evaluate the southwestern end of the Skead-MacGregor option which was within a large magnetic low that represented a possible extension of the south branch of the interpreted LLCDZ. This hole, SMac15_05, was also drilled at an azimuth of 35 degrees. Drill hole locations are displayed in Figure 5.

Table 2: List of Skead-MacGregor drill holes and their orientation attributes. During the drill program, the contractor labelled the core boxes as SM15_XX instead of SMac15_XX, as a result, for inventory purposes the SM15_XX moniker was used, but for reporting, the correct designation of SMac was utilized.

Drill ID	NAD 83 UTM Zone 17N		Azimuth	Dip	Length (m)
	Easting (m)	Northing (m)			
SM15_01	585880.0	5328965.0	35	-50	400.5
SM15_02	585522.0	5328836.0	35	-50	300
SM15_03	585221.0	5328711.0	35	-50	300
SM15_04	585882.2	5328830.4	35	-50	258
SM15_05	585476.0	5327709.2	35	-50	216

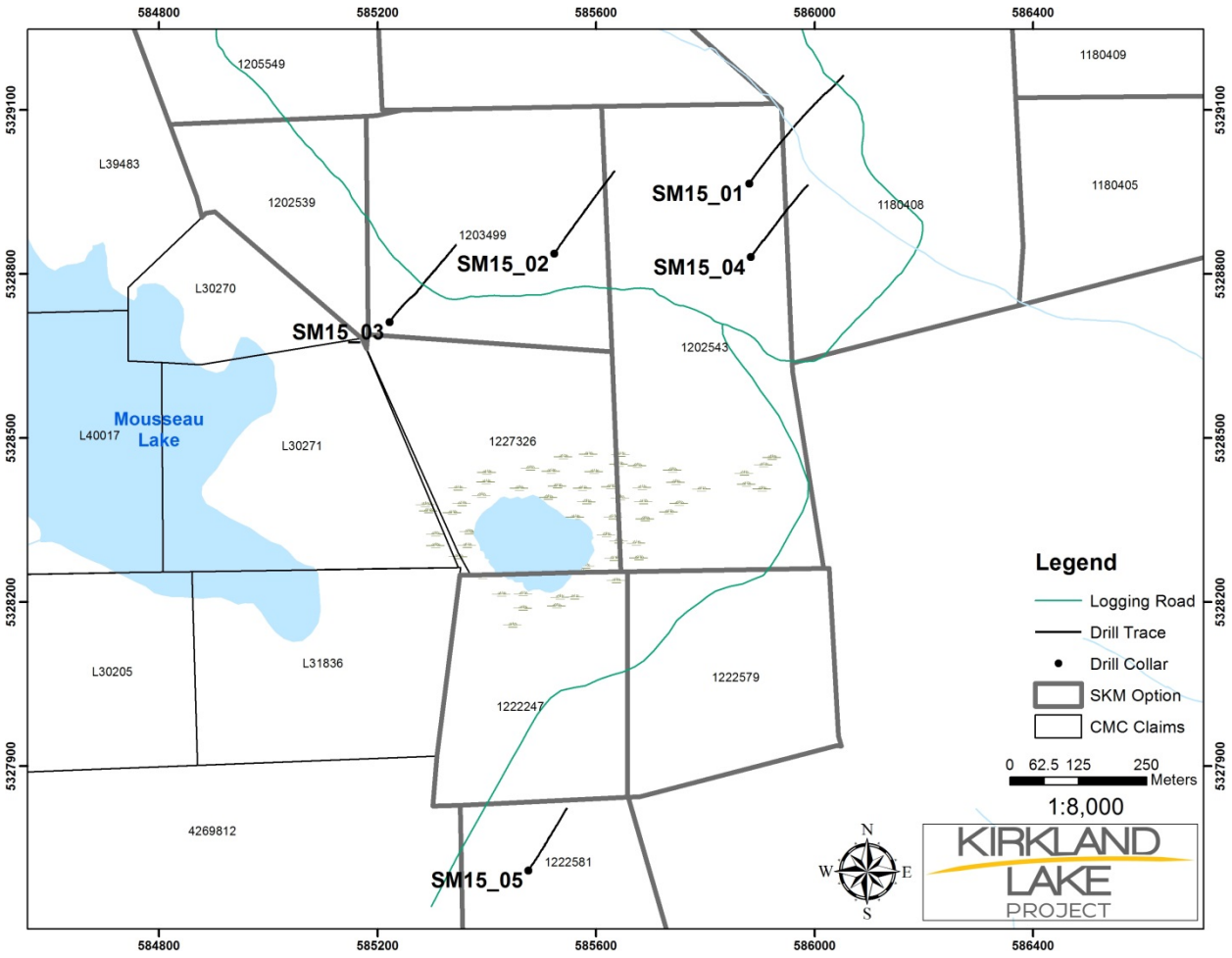

Figure 5: Plan view of the Skead-MacGregor drill collars and associated drill traces adjusted with Reflex Multi-shot results.

Core Logging, Sampling and Assaying Procedures

After being recovered from the tube, the drill core was placed in wooden boxes by the drill crew. The wooden boxes were then wrapped shut with plastic wrap and delivered to the CMC Dobie facility by the drill contractor (Spektra Drilling Canada).

The core was then logged and sampled by a CMC geologist as summarized below:

The core was first measured to check that the driller's metre blocks were correct and conformed to the shift reports. The core boxes were then marked with their respective starting and ending meterage. The core was logged in detail using, Geotic, a core logging computer program. Special attention was given to alteration, mineralization and structures within the core.

Drill holes were sampled top to bottom with the exception of diabase intervals and areas deemed barren. Sample intervals were 1.5m long except in areas where prospective lithological contacts were present. The samples were then cut in half lengthwise by CMC technicians using a diamond core saw. Half of the cut core was then placed in plastic sample bags with their respective assay lab sample tags.

The remaining half of the cut core was then returned to its respective core box with a corresponding assay lab tag stapled into the box corresponding to the sample tag interval. A sample blank and standard (lab standard CM-24) was inserted at every twenty-fifth sample and a sample duplicate was taken at every twentieth sample. The bagged samples were then bundled and placed in plastic fibre (rice) bags; the rice bags were then placed into wooden crates and shipped to ALS Minerals' processing facility in Sudbury with an associated work order and inventory. The remaining core in the core boxes were then inventoried with metal tags inscribed with their intervals, identifier and loaded onto pallets or core-racks depending on available space.

The CMC samples were sent to ALS Minerals where they underwent a fire assay. All samples were assayed by geochemical methods using atomic absorption spectrometry for Au ppb (1AT). Samples assaying equal of greater than 1g/t Au were re-assayed with a gravimetric finish using a second pulp from the reject. Sample pulps and rejects were returned to the CMC Dobie facility once ALS had completed their analysis. The pulps and rejects were inventoried and then stored in wooden crates.

2015 Drill Results

Hole SMac15_01, which was collared in mafic flows, intersected a mafic intrusive, syenite porphyry dike, and lens of iron formation before entering a 100m wide diabase dike and exiting into a syenite porphyry dike. It then passed through a series of lamprophyre dikes cutting a package of mafic volcanic flows and narrow interflow magnetite iron formation lenses before entering a feldspar porphyry intrusive in which the hole was stopped at 403.6m. Drill hole SMac15_01 hosted noticeable pyrite mineralization along and within the syenite porphyry dike and within the lens of iron formation. Assays for these intervals returned no values above detection limit. The upper and lower contacts of the diabase dike returned some of the highest results of the hole (0.008g/t over 4.5m and 0.01g/t over 4.5m). Local minor mud/gouge slips were observed throughout the hole but there was a strong low-angle ductile fault zone from 311.5-317.6m in a lamprophyre unit.

Hole SMac15_02 intersected a series of mafic pillowed flows, often exhibiting magnetite rich selvedges with local interflow cherty sediments; all intruded by a series of narrow lamprophyre dikes. Overall the hole returned no significant assay results. Two high-angle, 8cm thick faults infilled with grey clay were observed in the hole at 232.64-232.75m and 242.85-243.11m.

Drill-hole Smac15_03 intersected similar geology as observed in SMac15_02 with massive and pillowed mafic volcanic flows with cherty inter-flow sediment horizons, which were intruded by lamprophyre dikes. Overall the hole returned no significant assay results. Several thin late stage faults were intersected within the drill hole.

Drill-hole SMac15_04 was drilled to test the down dip extension of the porphyry dike and interflow magnetite iron formation intersected in the first hole. The hole encountered a package of pillowed to massive mafic flows with local cherty interflow sedimentary horizons and a shear zone at 58.00-58.56m (oriented at 70dtca), but no porphyry dike or iron formation. The drill hole ended in diabase suggesting that the dike strikes north south and is probably of Matachewan affinity.

Drill-hole SMac15_05 intersected an unaltered, leucocratic, and bimodal feldspar porphyry which was not encountered in the previous holes. Overall the hole returned no significant assay results. A weak, low-angle ductile deformation zone and fault gouge was intersected at 163-163.33m.

A location map displaying the drill holes completed in 2015 on the Skead-MacGregor Option in relation to regional geology and infrastructure is presented in Figure 6 and the cross sections in Figure 7 & Figure 8.

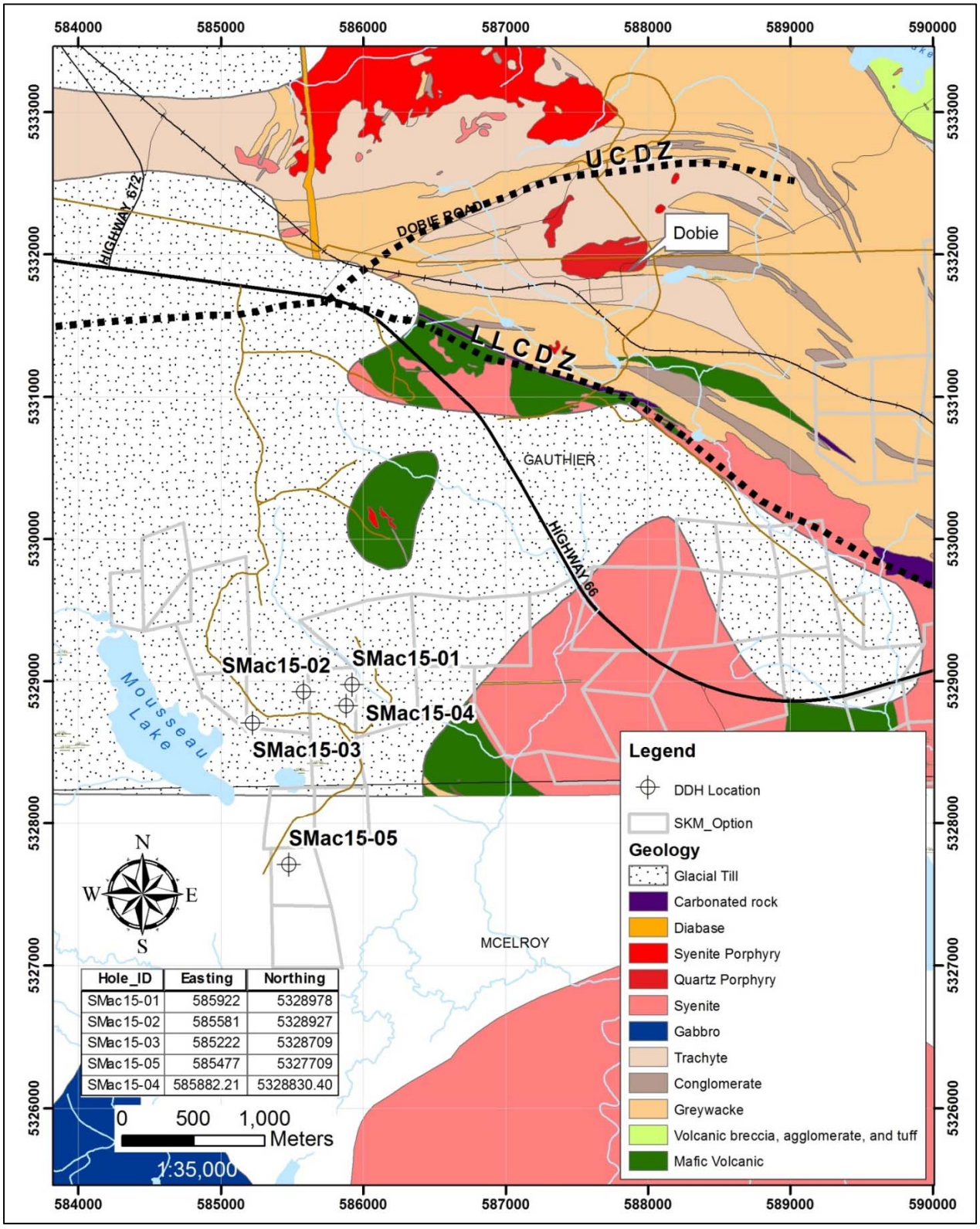

Figure 6: Location map of the drill holes completed in 2015 on the Skead-MacGregor Option in relation to regional geology and infrastructure. The drill holes were situated on a thick overburden of sand which is part of the esker to the west. SMac15_04 was situated on a hill which collared into rock after 1m of drilling. The Larder Lake Cadillac Break (LLCDZ) and Upper Canada Deformation Zone (UCDZ) are to the north of the drill-holes.

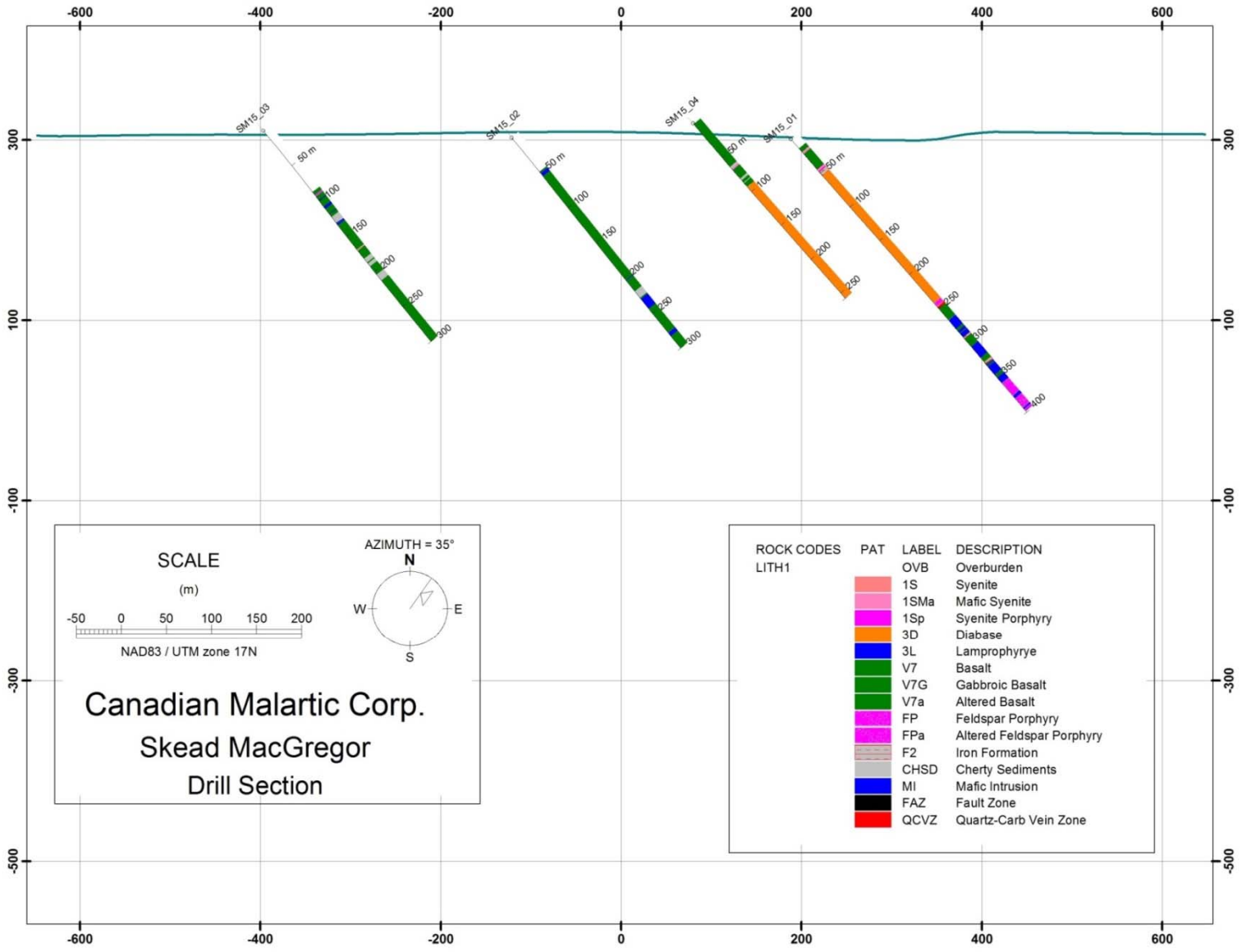

Figure 7: A cross-section oriented at an azimuth of 35° and looking northwest showing drill holes SMac15_01 to SMac15_04.

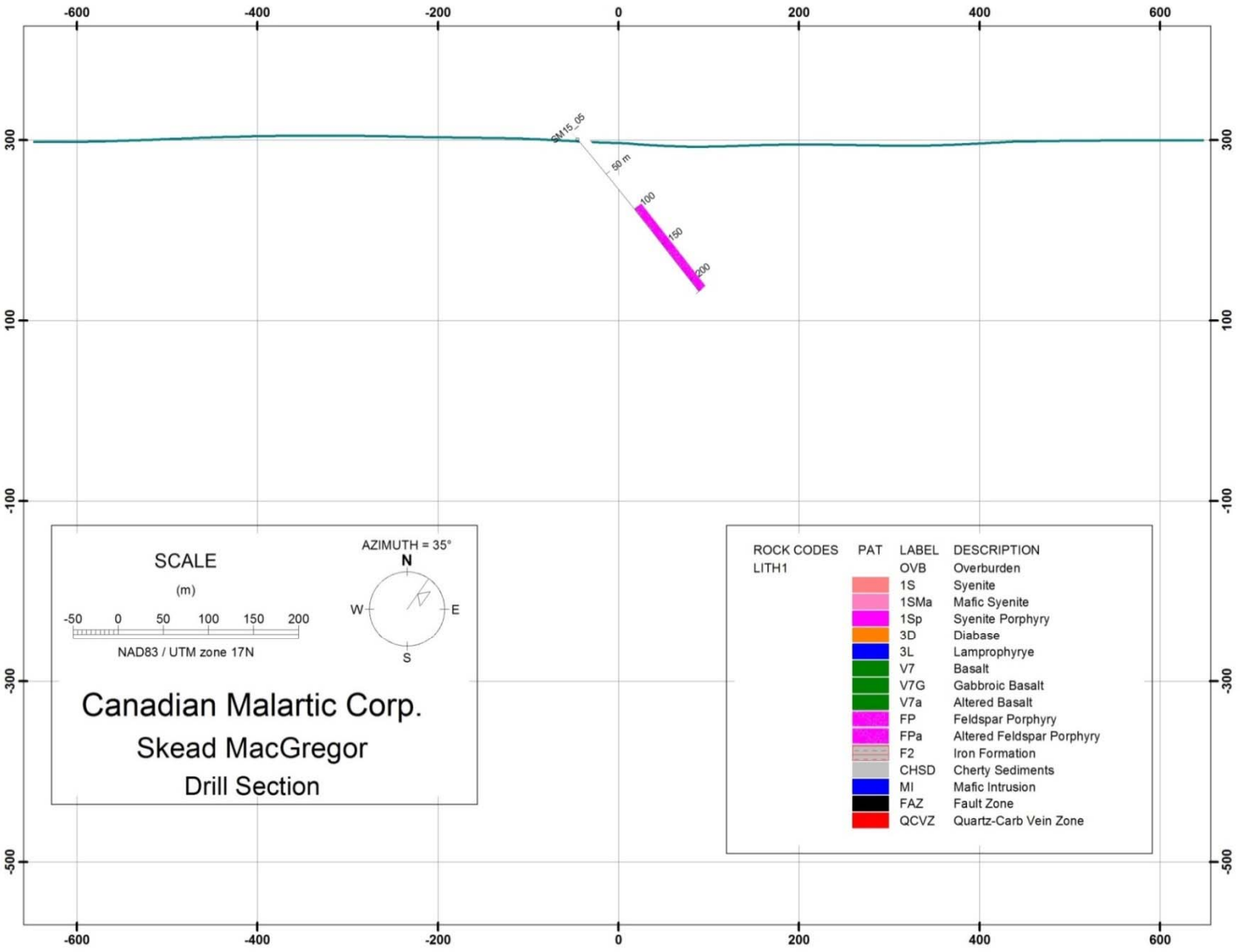

Figure 8: A cross-section oriented at an azimuth of 35° and looking northwest showing drill holes SMac15_05.

Conclusions

The Canadian Malartic Corporation (CMC) conducted an exploratory diamond drill program on the Skead-MacGregor claims during the period of November 19, 2015 to December 15, 2015. The drill program included five diamond drill holes which totaled 1474.5m and were concentrated on the west side of the Skead-MacGregor claims package. Four holes were drilled within Gauthier Township while one hole was drilled in McElroy Township.

The diamond drill program intersected abundant mafic volcanic flows cross-cut with variably thick lamprophyre dikes and rare syenite dikes. A prominent north-south striking diabase dike and an extensive feldspar porphyry unit were also intersected during drilling.

While some holes intersected pyrite mineralization the drill program failed to return any significant assay values. No additional work is recommended in this area of the claim group at this time.

Respectfully Submitted,

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References

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Drill Log Abbreviations

Grain Size & Type

mg, med	*medium grain, medium*
cs, cse, cg	*coarse, coarse grained*
fg	*fine grain*
aph	*aphanitic*
diss, d, dissem	*disseminated*
fd	*finely disseminated*
frag's	*fragments*
homo	*homogenous*

Colour

dk grn, lt grn	*dark green, light green*
brn	*brown*
gy, gyish	*grey, grayish*
wy	*white*
pk	*pink*

Intensity

wk, wy	*weak, weakly*
mod	*moderate*
strng	*strong*
v	*very*
conc	*concentrated*
inc	*increase*
min	*minimal*
locy	*locally*

Alteration

altn	*alteration*
alt'd	*altered*
per	*pervasive*
carb'd, cbd	*carbonitized*
hem'd	*hematized*
chl'd, chl'c	*chloritized, chloritic*
ser'd	*sericitized*
bl'd	*bleached*
sil'd, sil'n, sil	*silicified, silification, silica*

Minerals

chl	*chlorite*
ser	*sericite*
ank	*ankerite*
epi	*epidote*
carb	*carbonate*
hem	*hematite*
spec hem	*specular hematite*
qtz, q	*quartz*
cpy	*chalcopyrite*
py	*pyrite*

mo *molybdenum*
mag *magnetite*
gf *graphite*
Kspar *potassium feldspar*
plagio *plagioclase feldspar*
tour *tourmaline*

Mineral Description
pheno, pheno's *phenocryst*
eu *euhedral*

Veining, Fractures Structure
stry *stringers*
frac's, fract *fractures*
bx *breccia*
b.c *broken core*
myl *mylonite*
vn, v *vein*
RQD *rock quality designation*
flt *fault*
shr *shear*
fol'd, fol'n *foliated, foliation*
slicks *slickenside*

Misc
ovb *overburden*
cas *casing*
ct *contact*
prec *preceeding*
imm *immediate*
shrp *sharp*
TCA, CA *to core axis*
cm *centimeter*
m *metre*
xeno's *xenoliths*

Canadian Malartic Corporation - Kirkland Lake Project

DDH: SM15_01

		Claims title:	1202543	Section:	
		Township:	McElroy	Level:	
		Range:		Work place:	Dobie
Contractor:	Spektra	Lot:			
Author:	Christopher Clarke	Start date:	19/11/2015	Description date:	20/11/2015
		End date:	23/11/2015		

Collar

Azimuth: 35.0°
Dip: -50.00°
Length: 400.50

UTM-Nad83

East	585880.424
North	5328965.601
Elevation	302.521

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
UNKNOWN	0.10	35.0°	-50.0°	No
Multishot	12.00	304.4°	-49.3°	Yes
Multishot	15.00	34.7°	-49.3°	No
Multishot	18.00	34.6°	-49.2°	No
Multishot	21.00	34.7°	-49.2°	No
Multishot	24.00	35.4°	-49.1°	No
ReflexEZS	27.00	35.0°	-49.0°	No
Multishot	30.00	35.1°	-49.0°	No

Type	Depth	Azimuth	Dip	Invalid
Multishot	33.00	37.6°	-49.1°	No
Multishot	36.00	36.0°	-49.0°	No
Multishot	39.00	39.6°	-50.6°	No
Multishot	42.00	36.9°	-49.9°	No
Multishot	45.00	36.4°	-48.9°	No
Multishot	48.00	31.5°	-48.9°	No
Multishot	51.00	41.2°	-48.8°	No
.....	.....	.....	.....	.....

Number of samples:	153
Number of QAQC samples:	29
Total sampled length:	386.70

Core size: NQ Cemented: Yes Stored: No

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
0.00	13.80	OVB **Overburden** Overburden						
13.80	19.00	V7 **Basalt** The drill collars into basalt An aphanitic basalt with a massive matrix. The unit is dark grey/black colour. The unit matrix is weakly chlorite altered and does not react to HCl or KFC. The unit is 3-4% microfractured in a brittle lattice pattern oriented at 40-50dtca. The microfractures are infilled with a mixture of pistachio epidote-calcite (95:5) which also partially alters the surrounding basalt in wispy haloes which can be up to 5cm thick. The unit is moderately magnetic. There are rare trace amounts of pyrite in the unit. The pyrite is <1mm in grain size and diseminated within the epidote fracture-fill.	13.80	15.00	S139793	1.20	0.0025	0.10
13.80	19.00	Cl; Ep **Chlorite; Epidote** weak chl matrix alteration with epidote alteration wisps						
13.80	19.00	Py00.1 **Pyrite 0.1%** There are rare trace amounts of pyrite in the unit. The pyrite is <1mm in grain size and diseminated within the epidote fracture-fill.						
			15.00	16.50	S139794	1.50	0.0025	0.10
			16.50	18.00	S139795	1.50	0.0025	0.10
			18.00	19.00	S139796	1.00	0.0025	0.10
19.00	21.72	1SMa **Mafic Syenite** Upper contact is sharp = 80dtca A fine-medium grained mafic syenite dyke. The syenite is a grey-pink colour. The unit matrix is equigranular with noticeable 10-15% abundant 2mm hornblende grains which are not aligned to each other. The unit also hosts <1% mafic	19.00	20.00	S139797	1.00	0.0025	

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		xenoliths 4-6mm in size. The unit matrix is weakly hem altered and does not react to HCl or KFC; there are also <1% abundant, 3-5mm round epidote alteration patches scattered through the unit. Epidote alteration also bleeds in along the upper and lower contacts of the dyke. The unit is non-magnetic. There are no visible sulphides.						
19.00	21.72	He; Ep Hematite; Epidote The unit matrix is weakly hem altered and does not react to HCl or KFC; there are also <1% abundant, 3-5mm round epidote alteration patches scattered through the unit. Epidote alteration also bleeds in along the upper and lower contacts of the dyke						
			20.00	21.00	S139798	1.00	0.0025	
			21.00	21.75	S139799	0.75	0.0025	
21.72	22.45	V7 Basalt Upper contact is high angle and defined by intense epidote alteration 2cm thick and oriented at 75dtca An aphanitic basalt with a massive matrix. The unit is dark grey/black colour. The unit matrix is weakly chlorite altered and does not react to HCl or KFC. The unit is 3-4% microfractured in a brittle lattice pattern oriented at 40-50dtca. The microfractures are infilled with a mixture of pistachio epidote-calcite (95:5) which also partially alters the surrounding basalt in wispy haloes which can be up to 5cm thick. The unit is moderately magnetic. There are rare trace amounts of pyrite in the unit. The pyrite is <1mm in grain size and diseminated within the epidote fracture-fill.						
21.72	22.45	Cl; Ep Chlorite; Epidote weak chl matrix alteration with epidote alteration wisps						
21.72	22.45	Py00.1 Pyrite 0.1%						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		There are rare trace amounts of pyrite in the unit. The pyrite is <1mm in grain size and diseminated within the epidote fracture-fill.	21.75	22.50	S139802	0.75	0.0025	0.10
22.45	28.00	V7G; V7a Gabbroic Basalt; Altered Basalt Upper contact is lost in BBC (angular breaks; 1 cm sized chunks) A strongly altered gabbroic textured basalt. The unit matrix basalt is medium grained and has a semi gabbroic texture. The unit matrix is 90% epidote altered into a pale pistachio green colour. The epidote alteration generates vuggy pore spaces, especially near the top of the unit. red hem alteration coats joints/fractures as well. The unit reacts very weakly to HCl and does not react to KFC. The unit is non-magnetic. There are trace amounts of <1mm pyrite diseminated within the epidote alteration. 22.45-24m: Highly porous epidote altered gabbroic basalt. The epidote drastically decreases the competency of the core and the interval is BBC.						
22.45	28.00	Ep; Ca; He Epidote; Calcite; Hematite strong epidote and weak calcite alteration plus hem alt'n along jointing/fractures						
22.45	28.00	Py00.1 Pyrite 0.1% There are trace amounts of <1mm pyrite diseminated within the epidote alteration.						
			22.50	24.00	S139803	1.50	0.0025	0.10
			24.00	25.50	S139804	1.50	0.0025	0.10
			25.50	27.00	S139805	1.50	0.0025	0.10
			27.00	28.50	S139806	1.50	0.0025	0.10
28.00	34.84	V7G Gabbroic Basalt						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Upper contact is defined by the weakening of epidote alteration = 35dtca A medium grained gabbroic basalt. The unit matrix basalt is medium grained and has a semi gabbroic texture. The unit is dark grey/black colour. The unit matrix is weakly chlorite altered and does not react to HCl or KFC. The unit is 3-4% microfractured in a brittle lattice pattern oriented at 40-50dtca. The microfractures are infilled with a mixture of pistachio epidote-calcite (95:5) which also partially alters the surrounding basalt in wispy haloes which can be up to 5cm thick. There are <1% abundant pink-cream coloured albite veinlets oriented at 80-90dtca and 2-4mm thick. The unit has a weak-moderate patchy magnetism. There are trace amounts of <1mm pyrite diseminated within the epidote alteration.						
28.00	44.58	Cl; Ep Chlorite; Epidote weak chl matrix alteration with epidote alteration wisps						
28.00	44.58	Py00.1 Pyrite 0.1% There are rare trace amounts of pyrite in the unit. The pyrite is <1mm in grain size and diseminated within the epidote fracture-fill.						
			28.50	30.00	S139807	1.50	0.0025	0.10
			30.00	31.50	S139808	1.50	0.0025	0.10
			31.50	33.00	S139809	1.50	0.0025	0.10
			33.00	34.50	S139811	1.50	0.0025	0.10
			34.50	36.00	S139812	1.50	0.0025	0.10
34.84	44.58	V7 Basalt Upper contact is cryptic and hidden in a 10cm corelength zone of intense epidote alteration An aphanitic basalt with a massive matrix. The unit is dark grey/black colour. The unit is dark grey/black colour. The unit						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		matrix is weakly chlorite altered and does not react to HCl or KFC. The unit is 3-4% microfractured in a brittle lattice pattern oriented at 40-50dtca. The microfractures are infilled with a mixture of pistachio epidote-calcite (95:5) which also partially alters the surrounding basalt in wispy haloes which can be up to 5cm thick. There are <1% abundant pink-cream coloured albite veinlets oriented at 80-90dtca and 2-4mm thick. The unit has a weak-moderate patchy magnetism. There are trace amounts of <1mm pyrite diseminated within the epidote alteration. 43.8-44.58m: The unit evelops a weak fabric oriented at 65dtca. The unit matrix also increases in grain size to fine grained from aphanitic. 44.58-44.68m: Flt oriented at 70dtca and 4cm thick. The fault is infilled with grey chl clay/gravel. This is the contact.						
34.84	41.68	FLT Fault 70° 44.58-44.68m: Flt oriented at 70dtca and 4cm thick. The fault is infilled with grey chl clay/gravel						
			36.00	37.50	S139813	1.50	0.0025	0.10
			37.50	39.00	S139814	1.50	0.0025	0.10
			39.00	40.50	S139815	1.50	0.0025	0.10
			40.50	42.00	S139816	1.50	0.0025	0.10
			42.00	43.50	S139817	1.50	0.0025	0.10
			43.50	44.68	S139818	1.18	0.0025	0.10
44.58	44.68	FAZ Fault Zone 70° 44.58-44.68m: Flt oriented at 70dtca and 4cm thick. The fault is infilled with grey chl clay/gravel. This is the contact between the basalt and mafic syenite dyke.						
44.68	47.05	1SMa Mafic Syenite Upper contact is sharp = 70dtca and defined by a fault. A fine-medium grained mafic syenite dyke. The syenite is a	44.68	46.00	S139819	1.32	0.0025	

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
grey-pink colour. The unit matrix is equigranular with noticeable 10% abundant 2mm hornblende grains which are aligned to each other in a fabric oriented at 65dtca. The unit also hosts <1% mafic xenoliths 4-6mm in size. The unit matrix is weakly hem altered and does not react to HCl or KFC; there are also <1% abundant, 3-5mm round epidote alteration patches/wisps scattered through the unit. The unit is moderately-magnetic. There are no visible sulphides.						
44.68 47.05 He; Ep						
Hematite; Epidote						
weak hem and rare patchy epidote alteration						
	46.00	47.00	S139820	1.00	0.0025	1.00
	47.00	48.08	S139821	1.08	0.0025	2.00
47.05 48.08 1Sp						
Syenite Porphyry						
Upper contact is sharp = 80dtca						
A plag dominated syenite porphyry. The unit matrix is fine-medium grained and a pink colour. The groundmass is fine grained with 20-25% abundant 1-3mm altered/rounded/embayed milky-white plagioclase grains diseminated within the matrix. The unit is weak-moderately hem-potassic-SiO2 altered a uniform red colour. The unit is very hard to scratch with steel. The unit hosts 1% abundant pinch-swell gashes of exsolution translucent quartz oriented at 30dtca. There are 1-2% abundant fine <1mm pyrite disemianted within the unit matrix and the quartz gashes. The unit is non-magnetic.						
47.05 48.08 He; K; Si						
Hematite; Potassic; Silica						
The unit is weak-moderately hem-potassic-SiO2 altered a uniform red colour.						
47.05 48.08 Py01.5						
Pyrite 1.5%						
There are 1-2% abundant fine <1mm pyrite disemianted						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		within the unit matrix and the quartz gashes.						
48.08	53.55	F2; V7p; V7; Variolitic Sulphide Iron Formation; pillowed basalt; Basalt; VAR Upper contact is sharp = 55dtca An aphanitic basalt with pseudo variolitic/pillow/hyalo textures (This could be the Iron formation target). The matrix is dark grey and aphanitic with splayed/lobate flow banding which in areas resembles poorly formed pillow margins. The banding is oriented at roughly 60-80dtca. There are also 1-2% abundant alteration spots which resemble varioles or infilled vesicles. The spots host a mixture of epidote-calcite-hem-albite. There are also <1% abundant hyaloclastic bleaching in the matrix, again suggestive of a pillow/flowtop. The unit matrix is weakly chlorite altered with minor sericite bleaching and a faint pink hem alt'n. The unit hosts 1-2% abundant epidote alteration wisps/veins oriented at 80dtca and 0.5-2cm thick. Along the pillow/flow margins are 1-10mm thick splayed bands of magnetite; the mgt is 2-10% abundant. The unit hosts 1-7% pyrite which is <1-2mm in grain size and anhedral to euhedral. The pyrite increases in abundance in and around the mgt veining but is alos present within the epidote and basalt matrix. The unit matrix is strongly magnetic. 48.08-49.5m: This interval is where the mgt-py banding is at its peak i.e 10% mgt and 7% py. 48.16-48.33m: Qtz-mgt-py-cc (90-8-1-1) vein oriented at 60dtca and 11cm thick. A smokey quartz vein with cuspate/splayed microfractures infilled with <1-2mm thick mgt fracture-fill. The pyrite forms <1mm grains disemianted within the mgt and qtz. fine hairline microfractures react to HCl (calcite). 54.49-52.59m: calcite-pyrite-chlorite (45-45-10%) vein oriented irregularly and up to 10cm thick. A blobby patch of calcite with 1-2mm grey grains with 1-3mm subhedral blocky	48.08	49.50	S139822	1.42	0.0025	7.00

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		pyrite grains overprinting it. The calcite intersties are infilled with black chlorite in places. A pink hem alteration rind partially surrounds the vein. 53m: The basalt gradationally becomes less flow banded and begins to resemble a more massive aphanitic basalt. Consequently the degree of mineralization also decreases.						
48.08	53.55	Cl; Se; He; Ep **Chlorite; Sericite; Hematite; Epidote** The unit matrix is weakly chlorite altered with minor sericite bleaching and a faint pink hem alt'n. Epidote alteration wisps.						
48.08	53.55	Vn;;;;60°;Py01; **vein (5 mm - 10 cm) 60° Pyrite 1%** 48.16-48.33m: Qtz-mgt-py-cc (90-8-1-1) vein oriented at 60dtca and 11cm thick. A smokey quartz vein with cuspate/splayed microfractures infilled with <1-2mm thick mgt fracture-fill. The pyrite forms <1mm grains disemianted within the mgt and qtz. fine hairline microfractures react to HCl (calcite).						
48.80	49.05	Py07; Mg10 **Pyrite 7%; Magnetite 10%** 48.08-49.5m: This interval is where the mgt-py banding is at its peak i.e 10% mgt and 7% py. Along the pillow/flow margins are 1-10mm thick splayed bands of magnetite; the mgt is 2-10% abundant. The unit hosts 1-7% pyrite which is <1-2mm in grain size and anhedral to euhedral. The pyrite increases in abundance in and around the mgt veining but is alos present within the epidote and basalt matrix.						
49.05	53.55	Py03; Mg05 **Pyrite 3%; Magnetite 5%** Along the pillow/flow margins are 1-10mm thick splayed bands of magnetite; the mgt is 2-10% abundant. The unit hosts 1-7% pyrite which is <1-2mm in grain size and						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		anhedral to euhedral. The pyrite increases in abundance in and around the mgt veining but is alos present within the epidote and basalt matrix.						
			49.50	51.00	S139823	1.50	0.0025	6.00
			51.00	52.50	S139824	1.50	0.0025	5.00
			52.50	54.00	S139827	1.50	0.0025	1.00
53.55	242.00	3D Diabase Upper contact is sharp = 40dtca A medium grained diabase. The unit is grey in colour. The matrix is massive, barren and unremarkable. There are serpentine fractures oriented at 20dtca at 3m intervals. The unit is weakly ankerite altered. The unit is moderately magnetic. There are no visible sulphides. 166.62-166.85m: Flt oriented at 20dtca and 20cm thick. A semi-planar, shaprly contacting fault possible dyke. The fault is infilled with red fine grained indurate clay which can be gouged with steel. There are inclusios of wallrock material and plag grains and hornblende (Kimberlite??). 102-129m: The unit becomes talcy along breaks/joints 137.14-137.28m: chl-py (90-10%) vein oriented at 20dtca and 5cm thick. The vein is composed of black aphanitic chlorite. There are 1-2mm ovoid diseminations of pyrite. 162-168m: Epidote alteration spots (5% abundant) 186m: Block Error: block reads 189m. This error persists through the hole 195m: Began moving blocks to account for block error						
53.55	162.00	Ank Ankerite weak ank alt'n						
			54.00	55.50	S139828	1.50	0.016	0.00
			55.50	57.00	S139829	1.50	0.011	0.00
			57.00	58.50	S139830	1.50	0.01	0.00

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			58.50	238.50	Not_sampled	180.00		
162.00	168.00	Ank; Ep Ankerite; Epidote weak ankerite with epidote alt'n spots						
166.62	166.85	FLT Fault 20° 166.62-166.85m: Flt oriented at 20dtca and 20cm thick. A semi-planar, shaprly contacting fault possible dyke. The fault is infilled with red fine grained indurate clay which can be gouged with steel. There are inclusios of wallrock material and plag grains and hornblende (Kimberlite??).						
168.00	242.00	Ank Ankerite weak ankerite						
			238.50	240.00	S139831	1.50	0.009	
			240.00	241.00	S139832	1.00	0.009	
			241.00	242.00	S139833	1.00	0.012	
242.00	247.07	FP Feldspar Porphyry Upper contact is sharp with some assimilation = 35dtca A feldspar porphyry dyke similar in appearance the the FPs unit at UB. The groundmass is fine grained. The porphyryitic grains are 15-20% abundant and are 90% milky, rounded , subhedral, 3-5mm plag grains with the remaining 10% of grains being black 1-3mm, rounded amphibole grains. Some (3%) of the plag grains are altered a red colour. The matrix is a pinkish grey colour. There are 1% abundant 1-2mm thick, planar calcite +/- very minor epidote brittle fracture fill veinlets cross-cutting the unit oriented at 25dtca. The unit is weakly hem-kspar-SiO2 altered. The unit is non-magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.	242.00	243.00	S139834	1.00	0.0025	0.10
242.00	247.07	He; K; Si Hematite; Potassic; Silica						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		The unit is weakly hem-kspar-SiO2 altered.						
242.00	247.07	Py00.1						
		Pyrite 0.1%						
		There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			243.00	244.50	S139836	1.50	0.0025	0.10
			244.50	246.00	S139837	1.50	0.0025	0.10
			246.00	247.00	S139838	1.00	0.0025	0.10
			247.00	248.00	S139839	1.00	0.0025	
247.07	247.75	3D						
		Diabase						
		Upper contact is sharp = 55dtca						
		A sliver of diabase. A medium grained diabase. The unit is grey in colour. The matrix has a weak fabric oriented at 45dtca. The unit is weakly chlorite-ep altered a greenish colour; the plag groundmass grains are red coloured (weak hem). The unit is non-magnetic. There are no visible sulphides.						
247.07	247.75	Cl; Ep; He						
		Chlorite; Epidote; Hematite						
		The unit is weakly chlorite-ep altered a greenish colour; the plag groundmass grains are red coloured (weak hem).						
247.75	248.85	QCVZ; FP						
		Quartz Carbonate Vein Zone; Feldspar Porphyry						
		Upper contact is sharp = 45dtca; The contact is between diabase and feldspar porphyry.						
		A Quartz-carbonate vein which hosts inclusions of the prior feldspar dyke and whose upper contact is with a finger of feldspar porphyry in contact with diabase. The feldspar dyke inclusions are 1-10cm in size and composed similarly as described in the prior unit; dyke inclusions make-up 10% of the interval. The remainder of the interval is composed of massive milky quartz +/- calcite. The quartz is conchoidally microfractured (<1-4mm thick). The more thick portions of the						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
fracturing host the dyke inclusions while the more thin fractures host greenish-grey chlorite clay. The interval is non-magnetic. The quartz does not display any alteration while the dyke inclusions have weak-mod ser bleaching overprinting their original alteration (weak hem-kspar-SiO2). The quartz hosts trace amounts of <1mm pyrite. The pyrite is diseminated within the microfractures and within the dykew inclusions.						
247.75 248.85 Se; He; K; Si Sericite; Hematite; Potassic; Silica The quartz does not display any alteration while the dyke inclusions have weak-mod ser bleaching overprinting their original alteration (weak hem-kspar-SiO2).						
247.75 248.85 Py00.1 Pyrite 0.1% The quartz hosts trace amounts of <1mm pyrite. The pyrite is diseminated within the microfractures and within the dykew inclusions.						
	248.00	249.00	S139840	1.00	0.0025	0.10
248.85 250.06 QCVZ; V7a; 1F; V4 Quartz Carbonate Vein Zone; Altered Basalt; Felsite; Trachyte Upper contact is not contiguous in terms of lithology. The quartz vein continues into a different unit and begins to host altered basalt/felsite inclusions. A Quartz-carbonate vein which hosts inclusions of a cryptic altered basalt/trachyte/felsite. The basaltic inclusions are 1-10cm in size; the inclusions make-up <10% of the interval. The basaltic inclusions are greenish-grey, fine-medium grained with aligned grains of hornblende and a cryptic groundmass which could be felsite or a different phase of porphyry dyke. The remainder of the interval is composed of massive milky quartz +/- calcite. The quartz is conchoidally microfractured (<1-4mm thick). The more thick portions of the						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		fracturing host the basaltic inclusions while the more thin fractures host greenish-grey chlorite clay. The interval is non-magnetic. The quartz does not display any alteration while the basaltic inclusions have weak chlorite alteration. The quartz hosts trace amounts of <1mm pyrite. The pyrite is diseminated within the microfractures and within the dykew inclusions.	249.00	250.10	S139841	1.10	0.0025	0.10
250.06	267.08	V7a; 1F; V4 **Altered Basalt; Felsite; Trachyte** Upper contact is sharp = 35dtca A fine grained cryptic volcanic unit. The flow features and grain size are suggestive of a basalt but there are also aligned mafic grains (biotite/plag) which give a trachytic appearance and in areas the groundmass is very similar to the feldspar dyke minus the prophyry. The unit is fine grained with a weak-moderate fabric oriented at 0-60dtca (folding?) which fades in and out of prominance. In areas where the fabric is strong, 1-2mm, elogate hornblende can be observed. There are 5% interflow fragmental intervals 3-8cm thick and oriented at 30-40dtca. Breaks in the core tend to be low angle (0-30dtca) and coated in a semi soapstone feeling talc coating. The unit is a dark grey colour. The unit is moderately to strongly chlorite and strongly calcite altered; there is a greenish tinge which most likely is due to chl but could be minor epidote. Quartz-carb veining is 1-3% abundant and is of a similar style to the overlying QCVZ with massive quartz microfractured infilled with calcite-chlorite the veininig is oriented at 30-50dtca with splays and embayments. The unit hosts trace up to 30% pyrite. The pyrite is <1-4mm in size and anhedral to euhedral. the pyrite is diseminated within chlorite along the quartz-carb veins and the unit matrix. The unit is weakly magnetic. 255.14-255.23m: Flt: oriented at 25dtca and 5mm thick. The						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		fault is infilled with chl clay-gravel and is slightly undulose in shape. 257.75-261.23m: Lost Core: Shift report stakes that core became stuck in tube and was lost on recovery. There are some fragments left which are milled into 1-3cm diameter pebbles composed of quartz veins and host rock. Pyrite mineralization is high. 261.23-262.4m: The interval hosts 25-30% diseminated pyrite which is 1-3mm in size and euhedral. The host rock is also vuggy. 262.8-263.6m: Qtz-carb vein oriented at 45dtca. It is similar to all the other Qtz veins in this unit 263.6-266.08m: Interval has a moderate shear fabric oriented at 10-20dtca (listric curve); many areas easily break and are coated in chl jointing/clay 266-267.08m: fabric weaks and is now oriented at 45dtca						
250.06	267.08	Ca; Cl Calcite; Chlorite The unit is moderately to strongly chlorite and strongly calcite altered; there is a greenish tinge which most likely is due to chl but could be minor epidote.						
250.06	261.23	Py01 Pyrite 1% The unit hosts trace up to 30% pyrite. The pyrite is <1-4mm in size and anhedral to euhedral. the pyrite is diseminated within chlorite along the quartz-carb veins and the unit matrix. The unit is weakly magnetic.						
			250.10	251.00	S139842	0.90	0.0025	0.10
			251.00	252.00	S139843	1.00	0.0025	0.10
			252.00	253.50	S139844	1.50	0.0025	0.10
			253.50	255.00	S139845	1.50	0.0025	0.10
			255.00	256.50	S139846	1.50	0.0025	0.10
255.14	255.23	FLT Fault 25°						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		255.14-255.23m: Flt: oriented at 25dtca and 5mm thick. The fault is infilled with chl clay-gravel and is slightly undulose in shape.						
			256.50	257.75	S139847	1.25	0.0025	10.00
			257.75	261.23	Lost_Cor...	3.48		
261.23	262.40	Py27 Pyrite 27% 261.23-262.4m: The interval hosts 25-30% diseminated pyrite which is 1-3mm in size and euhedral. The host rock is also vuggy.	261.23	262.85	S139848	1.62	0.0025	30.00
262.40	267.08	Py01 Pyrite 1% The unit hosts trace up to 30% pyrite. The pyrite is <1-4mm in size and anhedral to euhedral. the pyrite is diseminated within chlorite along the quartz-carb veins and the unit matrix. The unit is weakly magnetic.						
			262.85	264.00	S139849	1.15	0.0025	10.00
			264.00	265.50	S139852	1.50	0.0025	0.50
			265.50	267.00	S139853	1.50	0.0025	0.50
			267.00	268.50	S139854	1.50	0.0025	0.50
267.08	279.78	3L Lamprophyre Upper contact is sharp = 30dtca A fine-medium grained lamprophyre. The unit is dark grey, massive and there is no observable fabric. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite. The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration). The unit is weakly magnetic. There are 0.5% amounts of pyrite within the unit. The pyrite is						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		diseminated within the unit matrix as 1-2mm euhedral grains.						
267.08	279.78	Cl; Ca; Ank Chlorite; Calcite; Ankerite The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration).						
267.08	279.78	Py00.5 Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
			268.50	270.00	S139855	1.50	0.0025	0.50
			270.00	271.50	S139856	1.50	0.0025	0.50
			271.50	273.00	S139857	1.50	0.0025	0.50
			273.00	274.50	S139858	1.50	0.0025	0.50
			274.50	276.00	S139859	1.50	0.0025	0.50
			276.00	277.50	S139861	1.50	0.0025	0.50
			277.50	279.00	S139862	1.50	0.0025	0.50
			279.00	280.00	S139863	1.00	0.0025	0.10
279.78	282.85	V7 Basalt Upper contact is sharp = 70dtca An aphanitic-fine grained mafic volcanic. The unit has weak flow/flow top breccia features oriented at 70dtca. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
279.78	282.85	Cl; Ca Chlorite; Calcite						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
279.78	282.85	Py00.1 Pyrite 0.1% There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			280.00	281.00	S139864	1.00	0.0025	0.10
			281.00	282.00	S139865	1.00	0.0025	0.10
			282.00	283.00	S139866	1.00	0.0025	0.10
282.85	285.77	3L Lamprophyre Upper contact is sharp = 10dtca A fine-medium grained lamprophyre. The unit is dark grey, massive and there is no observable fabric. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite. The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration). The unit is weakly magnetic. There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
282.85	285.77	Cl; Ca; Ank Chlorite; Calcite; Ankerite The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration).						
282.85	285.77	Py00.5						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
			283.00	284.00	S139867	1.00	0.0025	0.10
			284.00	285.00	S139868	1.00	0.0025	0.50
			285.00	286.50	S139869	1.50	0.0025	0.25
285.77	286.85	V7						
		Basalt Upper contact is sharp = 20dtca An aphanitic-fine grained mafic volcanic. The unit has weak flow/flow top breccia features oriented at 70dtca. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
285.77	286.85	Cl; Ca; Ep Chlorite; Calcite; Epidote There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
285.77	286.85	Py00.1 Pyrite 0.1% There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			286.50	288.00	S139870	1.50	0.0025	0.30
286.85	292.00	3L						
		Lamprophyre Upper contact is sharp = 70 A fine-medium grained lamprophyre. The unit is dark grey, massive and there is no observable fabric. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite. The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration). The unit is weakly magnetic. There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
286.85	292.00	Cl; Ca; Ank Chlorite; Calcite; Ankerite The unit is weakly calcite-chlorite altered. There are strange ovoid-shperical spts on the core which are 1% abundant. The spots when observed under a handlens show a similar matrix to the surrounding lithology but they are sharply defined. The spots a lighter grey colour than the rest of the unit and can be easily scratched with steel and react to KFC weakly (mod chl, weak ank alteration).						
286.85	292.00	Py00.5 Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
			288.00	289.50	S139871	1.50	0.0025	0.30
			289.50	291.00	S139872	1.50	0.0025	0.30
			291.00	291.90	S139873	0.90	0.0025	0.30
			291.90	293.00	S139874	1.10	0.0025	5.00
292.00	294.20	F2 Sulphide Iron Formation Upper contact is sharp = 40dtca A very fine grained sedimentary iron formation. The matrix is a dark grey/black colour. The unit is composed of 1-3cm thick bands with variable soft-sediment deformation; the banding is oriented at 60dtca. The unit is weakly chl-ank-cc altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands. There are 1% abundant wispy grey calcite veinlets oriented at 20 and						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		50dtca. which cross-cut the banding. The unit is patchy-strongly magnetic. Magnetite bands are 5% abundant and parallel to the sediment bands and form 1-10mm thick aphanitic bands. The unit hosts 4-5% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands. 292.31-292.4m: Qtz-mgt-py-cc (95-2-2-1%) vein oriented at 60dtca and 5cm thick. The Qtz is parallel to the banding and massive with a fine lattice of hairline microfractures infilled with milky cc. The py and mgt form along the vein margins and in some (1%) larger fractures in the qtz. the py nucleates within the mgt as <1-2mm anhedral grains.						
292.00	294.20	Cl; Ank; Ca; Mgt; Se Chlorite; Ankerite; Calcite; Magnetite; Sericite The unit is weakly chl-ank-cc altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands.						
292.00	294.20	Py04.5 Pyrite 4.5% The unit hosts 4-5% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands.						
			293.00	294.20	S139877	1.20	0.0025	5.00
294.20	306.00	V7 Basalt Upper contact is sharp = 60dtca An aphanitic-fine grained mafic volcanic. The unit has weak flow/flow top breccia + pillow selvedge features oriented at 40-50dtca. The unit is a grey colour. There is a uniform weak chl-ank-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix. 303-306m: The unit matrix becomes more massive.	294.20	295.50	S139878	1.30	0.0025	0.10

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
294.20	306.00	Cl; Ank; Ca; Ep Chlorite; Ankerite; Calcite; Epidote There is a uniform weak chl-ank-cc alteration and weak wispy epidote alteration.						
294.20	306.00	Py00.1 Pyrite 0.1% The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			295.50	297.00	S139879	1.50	0.0025	0.10
			297.00	298.50	S139880	1.50	0.0025	0.10
			298.50	300.00	S139881	1.50	0.0025	0.10
			300.00	301.50	S139882	1.50	0.0025	0.10
			301.50	303.00	S139883	1.50	0.0025	0.10
			303.00	304.50	S139884	1.50	0.0025	0.10
			304.50	306.00	S139886	1.50	0.0025	0.10
306.00	322.00	3L; Shr Lamprophyre; Sheared Upper contact is cryptic and high angle (colour and grain/mineral change over a 3cm window) A fine grained lamprophyre. The unit matrix is a dark grey colour and displays a weak to strong ductile fabric which variably changes orientation from 0-50dtca (like a fold). Biotite can be observed and is 10% abundant and <1-2mm in grain size. Low angle breaks with chl coatings are common. The unit is weakly chl-talc-cc altered; the calcite forms 1-5mm, milky-grey alteration blebs which follow the unit fabric. The unit has a soapy feel but is not as soft as soapstone (you can lather the core with your hand). There are 1% abundant qtz-cc-chl brittle fracture-fill veinlets oriented at 70 and 20dtca and 1-4mm thick. There are 1% abundant 1-2mm thick mgt veinlets oriented at 20dtca. Pyrite is 5% abundant and diseminated within the unit matrix, mgt and qtz-cc veinlets as <1-3mm anhedral to euhedral grains. The unit is weakly magnetic.	306.00	307.50	S139887	1.50	0.0025	0.50

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		306-307m: fabric = 30dtca 307-310.5m: fabric = 50dtca 310.5-318m: fabric = 0-10dtca 318-319m: fabric = 25dtca 319-321.5m: fabric = 50dtca 311.5-317.6m: DZ/FAZ: The interval is strongly deformed in a ductile shear oriented primarily at 0-10dtca and several faults disrupting/bending the ductile deformation. 313.1-313.2m: Flt oriented at 25dtca and 1cm thick. The fault is infilled with a grey-green chl clay 313.82-313.94m: Flt oriented at 30dtca and 0.5cm thick. The fault is infilled with a grey-green chl clay 315.54-317m: Flt oriented at 0-10dtca (undulosed and >5cm thick (extends past core). The fault is infilled with grey clay-gravel and 1-4cm ovoids of grey quartz.						
306.00	322.00	Ca; Cl; Talc **Calcite; Chlorite; Talc** The unit is weakly chl-talc altered; the calcite forms 1-5mm, milky-grey alteration blebs, which follow the fabric, and are weakly to strongly cc altered and.						
306.00	322.00	Py05; Mg01 **Pyrite 5%; Magnetite 1%** There are 1% abundant qtz-cc-chl brittle fracture-fill veinlets oriented at 70 and 20dtca and 1-4mm thick. There are 1% abundant 1-2mm thick mgt veinlets oriented at 20dtca. Pyrite is 5% abundant and diseminated within the unit matrix, mgt and qtz-cc veinlets as <1-3mm anhedral to euhedral grains.						
			307.50	309.00	S139888	1.50	0.0025	0.50
			309.00	310.50	S139889	1.50	0.0025	0.50
			310.50	312.00	S139890	1.50	0.0025	0.50
311.50	317.60	FAZ; DZ **Fault Zone 10°; Deformation Zone** 311.5-317.6m: DZ/FAZ: The interval is strongly deformed						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		in a ductile shear oriented primarily at 0-10dtca and several faults disrupting/bending the ductile deformation. 313.1-313.2m: Flt oriented at 25dtca and 1cm thick. The fault is infilled with a grey-green chl clay 313.82-313.94m: Flt oriented at 30dtca and 0.5cm thick. The fault is infilled with a grey-green chl clay 315.54-317m: Flt oriented at 0-10dtca (undulosed and >5cm thick (extends past core). The fault is infilled with grey clay-gravel and 1-4cm ovoids of grey quartz.						
			312.00	313.50	S139891	1.50	0.0025	0.50
			313.50	315.00	S139892	1.50	0.0025	0.50
			315.00	316.50	S139893	1.50	0.0025	0.50
			316.50	318.00	S139894	1.50	0.0025	0.50
			318.00	319.50	S139895	1.50	0.0025	0.50
			319.50	321.00	S139896	1.50	0.0025	0.50
			321.00	322.00	S139897	1.00	0.0025	0.50
322.00	328.08	V7 **Basalt** Upper contact is sharp = 30dtca A fine grained mafic volcanic. The unit has weak, 1% abundant flow/flow top breccia features oriented at 50dtca. The matrix is mainly massive. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.	322.00	323.00	S139898	1.00	0.0025	0.10
322.00	328.08	Cl; Ca; Ep **Chlorite; Calcite; Epidote** There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
322.00	328.08	Py00.1 **Pyrite 0.1%** The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			323.00	324.00	S139899	1.00	0.0025	0.10

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
	324.00	325.50	S139902	1.50	0.0025	0.10
	325.50	327.00	S139903	1.50	0.0025	0.10
	327.00	328.00	S139904	1.00	0.0025	0.50
	328.00	329.50	S139905	1.50	0.0025	5.00
328.08 330.46 F2 Sulphide Iron Formation Upper contact is sharp = 55dtca A very fine grained sedimentary iron formation. The matrix is a dark grey/black colour. The unit is composed of 1-3cm thick bands with variable soft-sediment deformation; the banding is oriented at 60dtca. The unit is weak-moderate calcite and weakly chl altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands. There are 3% abundant qtz bands/veins in the unit; the qtz bands are 1-5cm thick. There are 1% abundant wispy grey calcite veinlets oriented at 20 and 50dtca. which cross-cut the banding. The unit is strongly magnetic. Magnetite bands are 5% abundant and parallel to the sediment bands and form 1-10mm thick aphanitic bands. The unit hosts 4% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands.						
328.08 330.46 Mgt; Se; Ca; Cl Magnetite; Sericite; Calcite; Chlorite The unit is weak-moderate calcite and weakly chl altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands.						
328.08 330.46 Mg05; Py04 Magnetite 5%; Pyrite 4% Magnetite bands are 5% abundant and parallel to the sediment bands and form 1-10mm thick aphanitic bands. The unit hosts 4% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			329.50	330.50	S139906	1.00	0.0025	5.00
330.46	331.26	V7 Basalt Upper contact is sharp = 60dtca A fine grained mafic volcanic. The unit has weak, 1% abundant flow/flow top breccia features oriented at 50dtca. The matrix is mainly massive. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
330.46	331.26	Cl; Ca; Ep Chlorite; Calcite; Epidote There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
330.46	331.26	Py00.1 Pyrite 0.1% The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			330.50	331.26	S139907	0.76	0.0025	0.00
331.26	332.10	F2 Sulphide Iron Formation Upper contact is sharp = 80dtca A very fine grained sedimentary iron formation. The matrix is a dark grey/black colour. The unit is composed of 1-3cm thick bands with variable soft-sediment deformation; the banding is oriented at 60dtca. The unit is weak-moderate calcite and weakly chl altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands. There are 3% abundant qtz bands/veins in the unit; the qtz bands are 1-5cm thick. There are 1% abundant wispy grey calcite veinlets oriented at 20 and 50dtca. which cross-cut the banding. The unit is strongly magnetic. Magnetite bands are 5% abundant and parallel to the sediment bands and form 1-10mm thick aphanitic bands. The	331.26	332.10	S139908	0.84	0.0025	5.00

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		unit hosts 4% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands.						
331.26	332.10	Mgt; Se; Ca; Cl Magnetite; Sericite; Calcite; Chlorite The unit is weak-moderate calcite and weakly chl altered with strong magnetite banding and moderately strong and 2% abundant beige sericite altered bands.						
331.26	332.10	Mg05; Py04 Magnetite 5%; Pyrite 4% Magnetite bands are 5% abundant and parallel to the sediment bands and form 1-10mm thick aphanitic bands. The unit hosts 4% pyrite. The pyrite is diseminated withi the magnetite as 1-3mm anhedral to euhedral grains which form loose chains oriented parallel to the bands.						
332.10	333.44	3L Lamprophyre Upper contact is sharp = 60dtca A fine-medium grained lamprophyre. The unit is dark grey, massive and there is a weak fabric oriented at 60dtca. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite (the phlogopite appears to be replaced with calcite in places with relict grains). The unit is moderately calcite-chlorite altered. The unit is moderately magnetic. There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.	332.10	333.00	S139909	0.90	0.0025	0.50
332.10	333.44	Ca; Cl Calcite; Chlorite The unit is moderately calcite-chlorite altered.						
332.10	333.44	Py00.5 Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
	333.00	334.50	S139911	1.50	0.0025	0.50
333.44 334.24 V7 **Basalt** Upper contact is sharp = 60dtca A fine grained mafic volcanic. The unit has weak, 1% abundant flow/flow top breccia features oriented at 50dtca. The matrix is mainly massive. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix. 333.44-333.59m: Qtz-cc-chl-py vein oriented at 60dtca. The vein forms a 'bulls-eye' pattern in the core and has a UC oriented at 60dtca and an LC oriented at 150dtca. The qtz is grey and translucent and form 3-5mm round grains which are diseminated in a grey calcite matrix composed of 1-4mm subhedral grains. greenish chl infills the intersties of the calcite. The py forms 2-4mm euhedral grains overprinting the calcite.						
333.44 334.24 Cl; Ca **Chlorite; Calcite** There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
333.44 334.24 Py00.1 **Pyrite 0.1%** There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
333.44 333.59 Vn;;;;60°;Py01; **vein (5 mm - 10 cm) 60° Pyrite 1%** 333.44-333.59m: Qtz-cc-chl-py vein oriented at 60dtca. The vein forms a 'bulls-eye' pattern in the core and has a UC oriented at 60dtca and an LC oriented at 150dtca. The qtz is grey and translucent and form 3-5mm round grains which are diseminated in a grey calcite matrix composed of 1-4mm subhedral grains. greenish chl infills the						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
intersties of the calcite. The py forms 2-4mm euhedral grains overprinting the calcite. 334.24 334.78 3L Lamprophyre Upper contact is sharp = 40 A fine-medium grained lamprophyre. The unit is dark grey, massive and there is a weak fabric oriented at 60dtca. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite (the phlogopite appears to be replaced with calcite in places with relict grains). The unit is moderately calcite-chlorite altered. The unit is moderately magnetic. There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains. 334.24 334.78 Ca; Cl Calcite; Chlorite calcite-chlorite altered 334.24 334.78 Py00.5 Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.	334.50	336.00	S139912	1.50	0.0025	0.50
334.78 335.67 V7 Basalt Upper contact is sharp = 30dtca A fine grained mafic volcanic. The unit has weak, 1% abundant flow/flow top breccia features oriented at 50dtca. The matrix is mainly massive. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is weakly magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix. 334.78 335.67 Cl; Ca; Ep Chlorite; Calcite; Epidote There is a uniform weak chl-cc alteration and weak wispy						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
epidote alteration.						
334.78 335.67 Py00.1						
Pyrite 0.1%						
There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
335.67 347.10 3L						
Lamprophyre						
Upper contact is sharp = 30						
A fine-medium grained lamprophyre. The unit is dark grey, massive and there is a weak fabric oriented at 60dtca. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite (the phlogopite appears to be replaced with calcite in places with relict grains). The unit is moderately calcite-chlorite altered. The unit is moderately magnetic. There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains. 337.28-338.9m: There are 6 vuggy quartz veins in this interval that are roughly evenly spaced against eachother. Each vein is oriented at 30-40dtca and 1-5cm thick. Near the contacts of each vein, diseminated within the wall-rock, are 2-5% abundant amounts of pyrite. The pyrite is euhedral and 2-5mm in size. 342.6-345.6m: The lamprophyre develops a fabric oriented at 50dtca. Grey calcite forms 1-5mm thick replacement bands in the matrix and are oriented at 50dtca. There is an increased amount of pyrite diseminated in this interval which goes up to 5% abundances. The interval is also strongly magnetic.						
335.67 347.10 Ca; Cl						
Calcite; Chlorite						
The unit is moderately calcite-chlorite altered.						
335.67 337.28 Py01						
Pyrite 1%						
There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		grains.						
			336.00	337.00	S139913	1.00	0.0025	0.50
			337.00	338.00	S139914	1.00	0.0025	5.00
337.28	338.90	Py05 Pyrite 5% 337.28-338.9m: There are 6 vuggy quartz veins in this interval that are roughly evenly spaced against eachother. Each vein is oriented at 30-40dtca and 1-5cm thick. Near the contacts of each vein, diseminated within the wall-rock, are 2-5% abundant amounts of pyrite. The pyrite is euhedral and 2-5mm in size.						
			338.00	339.00	S139915	1.00	0.0025	5.00
338.90	342.60	Py01 Pyrite 1% There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
			339.00	340.50	S139916	1.50	0.0025	0.50
			340.50	342.00	S139917	1.50	0.0025	0.50
			342.00	343.50	S139918	1.50	0.0025	5.00
342.60	345.60	Py05 Pyrite 5% 342.6-345.6m: The lamprophyre develops a fabric oriented at 50dtca. Grey calcite forms 1-5mm thick replacement bands in the matrix and are oriented at 50dtca. There is an increased amount of pyrite diseminated in this interval which goes up to 5% abundances. The interval is also strongly magnetic.						
			343.50	345.00	S139919	1.50	0.0025	5.00
			345.00	346.50	S139920	1.50	0.0025	1.00
345.60	347.10	Py01 Pyrite 1% There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		grains.						
			346.50	348.00	S139921	1.50	0.0025	0.50
347.10	351.49	V7 Basalt Upper contact is sharp = 50dtca A fine grained mafic volcanic. The unit has weak flow/flow top breccia features oriented at 30dtca. The unit is a grey colour. There is a uniform weak chl-cc alteration and weak wispy epidote alteration. The unit is moderately magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
347.10	351.49	Cl; Ca; Ep Chlorite; Calcite; Epidote There is a uniform weak chl-cc alteration and weak wispy epidote alteration.						
347.10	351.49	Py00.1 Pyrite 0.1% There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			348.00	349.50	S139922	1.50	0.0025	0.50
			349.50	350.50	S139923	1.00	0.0025	0.50
			350.50	351.50	S139924	1.00	0.0025	0.50
351.49	359.40	3L Lamprophyre Upper contact is cryptic with a moderate angle over 3cm core-length A fine-medium grained lamprophyre. The unit is dark grey, massive and there is a weak fabric oriented at 60dtca. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite (the phlogopite appears to be replaced with calcite in places with relict grains). The unit is moderately calcite-chlorite altered. The unit is moderately magnetic. There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		351.49-352.8m: The lamprophyre develops a wavey fabric oriented at 20-50dtca. Grey calcite forms 1-5mm thick replacement bands in the matrix and are oriented at parallel to the fabric. There is an increased amount of pyrite diseminated in this interval which goes up to 5% abundances. The interval is also strongly magnetic.						
351.49	359.40	Ca; Cl Calcite; Chlorite The unit is moderately calcite-chlorite altered.						
351.49	352.80	Py05 Pyrite 5% 351.49-352.8m: The lamprophyre develops a wavey fabric oriented at 20-50dtca. Grey calcite forms 1-5mm thick replacement bands in the matrix and are oriented at parallel to the fabric. There is an increased amount of pyrite diseminated in this interval which goes up to 5% abundances. The interval is also strongly magnetic.	351.50	353.00	S139927	1.50	0.0025	5.00
352.80	359.40	Py01 Pyrite 1% There are 1% amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.	353.00	354.00	S139928	1.00	0.0025	0.50
			354.00	355.50	S139929	1.50	0.0025	0.50
			355.50	357.00	S139930	1.50	0.0025	0.50
			357.00	358.50	S139931	1.50	0.0025	0.50
			358.50	360.00	S139932	1.50	0.0025	0.50
359.40	378.00	FPa Feldspar Porphyry altered Upper contact is sharp = 35dtca A feldspar porphyry dyke similar in appearance the the FPs unit at UB. The groundmass is fine grained. The porphyryitic grains are 15-20% abundant and are 90% milky, rounded ,						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
subhedral, 3-5mm plag grains with the remaining 10% of grains being black 1-3mm, rounded amphibole grains. Some (3%) of the plag grains are altered a red colour. The matrix is a pinkish grey colour. The unit has a 'crushed' texture and is very vuggy/vesicular. The vuggs are infilled with 5-10mm qtz grains and can form 3-10cm thick veins oriented at 30-40dtca. The quartz is 7% abundant and is a white colour (barite??). Black chlorite fracture-fill is also present in 1% amounts infilling 1mm thick brittle fractures oriented at 10-20dtca. The unit is weakly hem-kspar-SiO2-ser altered. The unit is non-magnetic. There are 1% amounts of <1mm pyrite diseminated within the unit matrix and very rarely within the qtz fracture-fill. 359.8-360.1m: Inclusion of the overlying lamprophyre oriented at 15dtca 366-378m: The unit changes from a bleached pink-orange colour/alteration with qtz veining to a more solid and competent morphology that is dark grey in colour and has a patchy dark cherry red shade (weak hem) and greenish tinge (weak chl) . The interval is weakly magnetic. Pyrite abundances remain relatively the same but the grains are more anhedral and <1-2mm in size. 368.2m: BBC: BBC dominates the core to EOH. It appears to be primarily mechanical in nature						
359.40 366.00 He; K; Si; Se Hematite; Potassic; Silica; Sericite The unit is weakly hem-kspar-SiO2-ser altered.						
359.40 368.20 FAZ Fault Zone 375-375.5m: FAZ/BBC: interval is broken into low angle breaks/chips except for a 30cm interval which looks partially digested and altered into greenish chl on the verge of becoming a clay.						
359.40 366.00 Py01						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Pyrite 1% There are 1% amounts of <1mm pyrite diseminated within the unit matrix and very rarely within the qtz fracture-fill.						
			360.00	361.50	S139933	1.50	0.008	1.00
			361.50	363.00	S139934	1.50	0.012	1.00
			363.00	364.50	S139936	1.50	0.006	1.00
			364.50	366.00	S139937	1.50	0.0025	1.00
366.00	378.00	Cl; He	366.00	367.50	S139938	1.50	0.011	1.00
		Chlorite; Hematite 366-378m: The unit changes from a bleached pink-orange colour/alteration with qtz veining to a more solid and competent morphology that is dark grey in colour and has a patchy dark cherry red shade (weak hem) and greenish tinge (weak chl) . The interval is weakly magnetic.						
366.00	378.30	Py01 Pyrite 1% 366-378.3m: The unit changes from a bleached pink-orange colour/alteration with qtz veining to a more solid and competent morphology that is dark grey in colour and has a patchy dark cherry red shade (weak hem) and greenish tinge (weak chl) . The interval is weakly magnetic. Pyrite abundances remain relatively the same but the grains are more anhedral and <1-2mm in size.						
			367.50	369.00	S139939	1.50	0.0025	1.00
			369.00	370.50	S139940	1.50	0.0025	1.00
			370.50	372.00	S139941	1.50	0.0025	1.00
			372.00	373.50	S139942	1.50	0.0025	1.00
			373.50	375.00	S139943	1.50	0.0025	1.00
			375.00	376.50	S139944	1.50	0.0025	1.00
			376.50	378.00	S139945	1.50	0.0025	1.00
378.00	381.86	3L; FAZ; BBC Lamprophyre; Fault Zone; Broken Blocky Core	378.00	379.50	S139946	1.50	0.0025	0.50

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Upper contact is lost in BBC (1cm chips) A fine-medium grained lamprophyre. The unit is dark grey and massive. There are 10-15% amounts of biotite in the unit and 1% amounts of phlogopite (the phlogopite appears to be replaced with calcite in places with relict grains). The unit is moderately chlorite altered. The unit is weakly magnetic. There are trace amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains. 368.2m: BBC: BBC dominates the core to EOH. It appears to be primarily mechanical in nature 378-379.5m: The interval hosts chlorite clay gouge/gravel in BBC. This interval is also strongly milled by the drill.						
378.00	381.86	Cl Chlorite moderate chlorite alteration						
378.30	381.86	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit. The pyrite is diseminated within the unit matrix as 1-2mm euhedral grains.						
			379.50	381.00	S139947	1.50	0.0025	0.50
			381.00	382.50	S139948	1.50	0.0025	1.00
381.86	395.56	FPa Feldspar Porphyry altered Upper Contact is sharp = 80dtca Continuation of Feldspar porphyry unit: A feldspar porphyry dyke similar in appearance the the FPs unit at UB. The groundmass is fine grained. The porphyryitic grains are 15-20% abundant and are 90% milky, rounded , subhedral, 3-5mm plag grains with the remaining 10% of grains being black 1-3mm, rounded amphibole grains. Some (3%) of the plag grains are altered a red colour. The matrix is a pinkish grey colour. 359.4-366m: The unit has a 'crushed' texture and is very						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
vuggy/vesicular. The vuggs are infilled with 5-10mm qtz grains and can form 3-10cm thick veins oriented at 30-40dtca. The quartz is 7% abundant and is a white colour (barite??). Black chlorite fracture-fill is also present in 1% amounts infilling 1mm thick brittle fractures oriented at 10-20dtca. The unit is weakly hem-kspar-SiO2-ser altered. The unit is non-magnetic. There are 1% amounts of <1-4mm pyrite diseminated within the unit matrix and very rarely within the qtz fracture-fill. 359.8-360.1m: Inclusion of the overlying lamprophyre oriented at 15dtca 366-378.3m: The unit changes from a bleached pink-orange colour/alteration with qtz veining to a more solid and competent morphology that is dark grey in colour and has a patchy dark cherry red shade (weak hem) and greenish tinge (weak chl) . The interval is weakly magnetic. Pyrite abundances remain relatively the same but the grains are more anhedral and <1-2mm in size. There are no-vuggs or crshed textures. 368.2m: BBC: BBC dominates the core to EOH. It appears to be primarily mechanical in nature 381.86-392.5m: The unit regains a pink-orange colouration seen above 366m but it is not as strong. The unit is weakly hem-ser-SiO2 alt'd. The unit hosts 1% 1-4mm sized vuggs (much smaller than the 1-10cm scale void spaces in 359-366m) infilled with qtz-calcite. There are 1-3% ductile fractures oriented at 20-30dtca which are infilled with grey qtz-calcite-chlorite-pyrite. There are <1% abundant black chlorite micrfracture fill veinlets oriented at 10-20dtca, the core preferentially breaks along these veinlets. 392.5-395.56m: The unit becomes mod ser-weak hem-SiO2 alt'd and the porphyry grains are relatively more altered causing them to 'blend' in with the surrounding matrix.						
381.86 392.50 He; Se; Si						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Hematite; Sericite; Silica The unit is weakly hem-ser-SiO2 alt'd.						
381.86	395.56	Py01 Pyrite 1% There are 1% amounts of <1-2mm pyrite diseminated within the unit matrix						
			382.50	384.00	S139949	1.50	0.006	1.00
			384.00	385.50	S139952	1.50	0.0025	1.00
			385.50	387.00	S139953	1.50	0.0025	1.00
			387.00	388.50	S139954	1.50	0.0025	1.00
			388.50	390.00	S139955	1.50	0.0025	1.00
			390.00	391.50	S139956	1.50	0.008	1.00
			391.50	393.00	S139957	1.50	0.008	1.00
392.50	395.56	Se; He; Si Sericite; Hematite; Silica 392.5-395.56m: The unit becomes mod ser-weak hem-SiO2 alt'd and the porphyry grains are relatively more altered causing them to 'blend' in with the surrounding matrix.						
			393.00	394.00	S139958	1.00	0.0025	1.00
			394.00	395.00	S139959	1.00	0.0025	0.50
			395.00	396.00	S139961	1.00	0.0025	0.50
395.56	397.44	MI Mafic Intrusion Upper contact is sharp = 45dtca A fine grained mafic dyke/intruision. The matrix is massive and homogenous. The unit is moderately calcite and weakly hem altered. There are <1% abundant, grey, sub-planar ankerite veinlets oriented at 50dtca. The unit is moderately magnetic. There are trace amounts of 1-4mm euhedral pyrite disemianted within the matrix.						
395.56	397.44	Ca; He Calcite; Hematite The unit is moderately calcite and weakly hem altered.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
395.56	397.44	Py00.1 Pyrite 0.1% There are trace amounts of 1-4mm euhedral pyrite disemianted within the matrix.	396.00	397.50	S139962	1.50	0.0025	0.50
397.44	400.50	FPa Feldspar Porphyry altered Upper contact is sharp = 80dtca Continuation of Feldspar porphyry unit: 397.44-400.5m: The unit is moderately calcite and weakly hem-ser altered. A feldspar porphyry dyke similar in appearance the the FPs unit at UB. The groundmass is fine grained. The porphyryitic grains are 15-20% abundant and are 90% milky, rounded , subhedral, 3-5mm plag grains with the remaining 10% of grains being black 1-3mm, rounded amphibole grains. Some (3%) of the plag grains are altered a red colour. The matrix is a pinkish grey colour. 359.4-366m: The unit has a 'crushed' texture and is very vuggy/vesicular. The vuggs are infilled with 5-10mm qtz grains and can form 3-10cm thick veins oriented at 30-40dtca. The quartz is 7% abundant and is a white colour (barite??). Black chlorite fracture-fill is also present in 1% amounts infilling 1mm thick brittle fractures oriented at 10-20dtca. The unit is weakly hem-kspar-SiO2-ser altered. The unit is non-magnetic. There are 1% amounts of <1-4mm pyrite diseminated within the unit matrix and very rarely within the qtz fracture-fill. 359.8-360.1m: Inclusion of the overlying lamprophyre oriented at 15dtca 366-378.3m: The unit changes from a bleached pink-orange colour/alteration with qtz veining to a more solid and competent morphology that is dark grey in colour and has a patchy dark cherry red shade (weak hem) and greenish tinge (weak chl) . The interval is weakly magnetic. Pyrite						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		abundances remain relatively the same but the grains are more anhedral and <1-2mm in size. There are no-vuggs or crshed textures. 368.2m: BBC: BBC dominates the core to EOH. It appears to be primarily mechanical in nature 381.86-392.5m: The unit regains a pink-orange colouration seen above 366m but it is not as strong. The unit is weakly hem-ser-SiO2 alt'd. The unit hosts 1% 1-4mm sized vuggs (much smaller than the 1-10cm scale void spaces in 359-366m) infilled with qtz-calcite. There are 1-3% ductile fractures oriented at 20-30dtca which are infilled with grey qtz-calcite-chlorite-pyrite. There are <1% abundant black chlorite micrfracture fill veinlets oriented at 10-20dtca, the core preferentially breaks along these veinlets. 392.5-395.56m: The unit becomes mod ser-weak hem-SiO2 alt'd and the porphyry grains are relatively more altered causing them to 'blend' in with the surrounding matrix. 397.44-400.5m: The unit is moderately calcite and weakly hem-ser altered.						
397.44	400.50	Ca; He; Se Calcite; Hematite; Sericite 397.44-400.5m: The unit is moderately calcite and weakly hem-ser altered.						
397.44	400.50	Py01 Pyrite 1% There are 1% amounts of <1-2mm pyrite diseminated within the unit matrix						
			397.50	399.00	S139963	1.50	0.0025	1.00
			399.00	400.50	S139964	1.50	0.0025	1.00

Canadian Malartic Corporation - Kirkland Lake Project

DDH: SM15_02

Claims title: 1203499
Township: Gauthier
Range:
Lot:
Start date: 23/11/2015
End date: 02/12/2015

Section:
Level:
Work place: Dobie
Description date: 25/11/2015

Contractor:
Author: Christopher Clarke

Collar

Azimuth: 35.0°
Dip: -50.00°
Length: 300.00

UTM-Nad83

East	585523.197
North	5328837.381
Elevation	304.249

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Multishot	48.00	-9.400000000000000°	-51.5°	Yes
Multishot	51.00	342.1°	-51.7°	Yes
Multishot	54.00	10.6°	-51.8°	Yes
Multishot	57.00	34.5°	-51.8°	No
Multishot	60.00	37.6°	-51.9°	No
Multishot	63.00	37.7°	-51.9°	No
ReflexEZS	66.00	37.1°	-52.0°	No

Type	Depth	Azimuth	Dip	Invalid
Multishot	69.00	37.3°	-51.9°	No
Multishot	72.00	36.5°	-51.8°	No
Multishot	75.00	37.7°	-51.9°	No
Multishot	78.00	37.1°	-51.7°	No
Multishot	81.00	34.6°	-51.7°	No
Multishot	84.00	36.9°	-51.6°	No
Multishot	87.00	34.0°	-51.6°	No
.....	.....	.....	.....	.....

Number of samples: 102
Number of QAQC samples: 20
Total sampled length: 145.00

Core size: NQ
Cemented: Yes
Stored: No

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
0.00	49.00	OVB **Overburden** Overburden						
49.00	51.16	V7; V7p; V7G **Basalt; pillowed basalt; Gabbroic Basalt** The drill collars into a mafic volcanic pile The unit is a typical basaltic unit (looks identical to V7 units at UB). The unit is a grey colour (unaltered). The matrix is primarily aphanitic and massive with variable pillow margins/selvedges but there are gradational 0.3-2m intervals which hosts medium grained gabbroic textures. The unit hosts 1-4% pillow margins/selvedges which are oriented at 30-60dtca and 5-10mm thick with typical play features; the margins are bleached with 1mm ser-chl +/- hem rinds and infilled with either calcite or mgt. The unit hosts 2-4% abundant ep alt'n wisps/patches which are concentrated around pillow margins and brittle fractures. The unit hosts 2-5% calcite +/- quartz fracture fill veinlets/veins; the fracture fill is generally oriented at 0 and 50dtca and 2-15mm thick with <1-3mm grains and wispy textures. The unit is weakly chl-ank +/-ep +/- patchy calcite altered a light grey-green colour. The unit is variably magnetic and gradationally shifts from non to strongly magnetic at variable intervals but overall the strong magnetism is confined to <10cm intervals. The unit hosts 0.5% amounts of pyrite. The pyrite is disemianted within the calcite fracture-fill as <1-3mm anhedral to euhedral grains.						
49.00	51.16	Cl; Ank; Ep; Ca **Chlorite; Ankerite; Epidote; Calcite** The unit is weakly chl-ank +/-ep +/- patchy calcite altered a light grey-green colour.						
49.00	51.16	Py00.5 **Pyrite 0.5%** The unit hosts 0.5% amounts of pyrite. The pyrite is						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
disemianted within the calcite fracture-fill as <1-3mm anhedral to euhedral grains.						
51.16 55.25 3L Lamprophyre Upper contact is sharp = 70dtca A fine-medium grained lamprophyre. The unit matrix has a weak fabric oriented at 40dtca. The unit is relief weathered/degraded, possibly due to meteoric water or alteration. The unit is a dark grey colour in unaltered sections but overall it has a dark grass green colour. The unit hosts 15% biotite mosts of which is weathered out leaving relict shaped voids. There are <1% abundant inclusions of feldspar 5-10mm in size and rounded. The unit is moderately-strongly chl altered and weakly ankerite altered. There are no visible sulphides. The unit is non-magnetic.						
51.16 55.25 Cl; Ank Chlorite; Ankerite The unit is moderately-strongly chl altered and weakly ankerite altered.						
55.25 203.25 V7; V7p; V7G Basalt; pillowed basalt; Gabbroic Basalt Upper contact is sharp = 50 dtca The unit is a typical basaltic unit (looks identical to V7 units at UB). The unit is a grey colour (unaltered). The matrix is primarily aphanitic and massive with variable pillow margins/selvedges but there are gradational 0.3-2m intervals which hosts medium grained gabbroic textures. The unit hosts 1-4% pillow margins/selvedges which are oriented at 30-60dtca and 5-10mm thick with typical play features; the margins are bleached with 1mm ser-chl +/- hem rinds and infilled with either calcite or mgt. The unit hosts 2-4% abundant ep alt'n wisps/patches which are concentrated around pillow margins and brittle fractures. The unit hosts 2-5% calcite +/- quartz fracture fill veinlets/veins; the fracture						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
fill is generally oriented at 0 and 50dtca and 2-15mm thick with <1-3mm grains and wispy textures. The unit is weakly chl-ank +/-ep +/- patchy calcite altered a light grey-green colour. The unit is variably magnetic and gradationally shifts from non to strongly magnetic at variable intervals but overall the strong magnetism is confined to <10cm intervals. The unit hosts 0.5% amounts of pyrite. The pyrite is disemianted within the calcite fracture-fill as <1-3mm anhedral to euhedral grains. 58.64-60.89m: V7G: medium grained gabbroic texture 61.62-61.63m: Mgt-cc-py (90-8-2%) pillow margin oriented at 60dtca (curved) and 1.5cm thick. The margin primarily hosts aphanitic mgt with fine microfractures (perpendicular to margin) infilled with white <<1mm calcite. The pyrite is diseminated within the mgt as <1-2mm anhedral grains. 69.62-69.93m: Ep-cc-py-mgt-qtz (40-25-24-10-1%) vein oriented at 60dtca and ~15cm thick. The vein is composed of 1-2mm anehdral epidote with 1-3cm round patches/lobes of calcite composed of 1mm anhedral grains. One area of calcite has red alt'n within it (hem). Pyrite forms <1mm grains which nucleate as 1-2mm blebs within the intersties of the epidote and calcite. The mgt forms 1-3mm sub-angular bleby patches within the epidote interties, py also nucleates intimately with the mgt. Qtz forms 1-2mm round grains in the calcite. There is also wispy ep-cc alt'n surrounding the vein. 80.51-80.53m: Mgt-cc-py (70-28-2%) pillow margin oriented at 60dtca (curved) and 2.5cm thick. The margin primarily hosts aphanitic mgt with fine microfractures (perpendicular to margin) infilled with white <<1mm calcite. The pyrite is diseminated within the mgt as <1-2mm anhedral grains. 81-81.3m: cc-qtz-mgt-py (40-30-15-15%) fracture-fill pillow margins. An interconnected pillow margin with brittle fracture splays. The pillow margin is 1.5cm thick, undulose and oriented at 30dtca. A series of brittle fractures, 1-4cm and						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
oriented at 0-10dtca splay off of the pillow margin. The fractures and margins are infilled with the same material which is a grey-while mix of calcite-qtz with mgt forming a rind along the pillow margins and the pyrite diseminated within the calcite-qtz and mgt. The cc-qtz forms 1-2mm anhedral grains. The mgt is aphanitc and forms a 1-3mm thick rind. The pyrite forms <1-2mm anhedral grains. 81.9-83m: Interflow contact with qtz-cc fracture-fill banding oriented at 40dtca. The interval hosts 1-10mm thick black chl laminae parallel to the interflow/qtz-cc banding and fine disemiantions of py 84.5-96m: The unit matrix becomes fine-medium grained (~ weak gabbroic texture). epidote alt'n wisps are nil 88.35-89.5m: Lost Core: interval is mechanically milled into 0.5-2cm pebbles 96m: epidote alt'n wisps return and are 5% abundant oriented at 0, 30, 60 and 90dtca 114.6-126m: Ep alteration wisps along pillow margins/selvedges become a moderate mixture of ep-albite (cream-pink)-mgt and are a creamy green colour with reddish highlights. The majority of the margins/wisps are oriented at 0-25dtca but there are <5% which are 40-50dtca. Pyrite mineralization is slightly elevated (just below 1%); the pyrite is relatively more euhedral. 126m: Epidote alt'n wisps return to their original texture berfor 114.6m 146-148.66m: V7G; Gabbroic basalt interval/flow contact 171.13-171.2m: cc-qtz-py (33-33-33%) vein oriented at 50dtca and 4cm thick. The cc-qtz is composed of 2-3mm anhedral grains in a milky-grey mash with 3-5mm sub-angular blebs of pyrite composed of 1-2mm euhedral grains overprinting the qtz-cc.						
55.25 203.25 Cl; Ank; Ep; Ca Chlorite; Ankerite; Epidote; Calcite						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		The unit is weakly chl-ank +/-ep +/- patchy calcite altered a light grey-green colour.						
55.25	114.00	Py00.5 Pyrite 0.5% The unit hosts 0.5% amounts of pyrite. The pyrite is disemianted within the calcite fracture-fill as <1-3mm anhedral to euhedral grains.						
			60.00	61.50	S139965	1.50	0.0025	0.50
			61.50	63.00	S139966	1.50	0.0025	0.50
			63.00	64.50	S139967	1.50	0.0025	0.50
			64.50	66.00	S139968	1.50	0.0025	0.50
			66.00	67.50	S139969	1.50	0.0025	0.50
			67.50	69.00	S139970	1.50	0.0025	0.50
			69.00	70.50	S139971	1.50	0.0025	0.50
			70.50	72.00	S139972	1.50	0.0025	0.50
			72.00	73.50	S139973	1.50	0.0025	0.50
			78.00	79.50	S139974	1.50	0.0025	0.50
			79.50	81.00	S139977	1.50	0.0025	0.50
			81.00	82.00	S139978	1.00	0.0025	0.50
			82.00	83.00	S139979	1.00	0.0025	0.50
			83.00	84.00	S139980	1.00	0.0025	0.50
			84.00	85.00	S139981	1.00	0.0025	0.50
88.35	89.50	LC Lost Core 88.35-89.5m: Lost Core: interval is mechanically milled into 0.5-2cm pebbles						
			111.00	112.50	S139982	1.50	0.0025	0.75
			112.50	114.00	S139983	1.50	0.0025	0.75
114.00	126.00	Py00.75 Pyrite 0.75% 114.6-126m: Ep alteration wisps along pillow margins/selvedges become a moderate mixture of ep-albite (cream-pink)-mgt and are a creamy green colour	114.00	115.50	S139984	1.50	0.0025	0.80

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		with reddish highlights. The majority of the margins/wisps are oriented at 0-25dtca but there are <5% which are 40-50dtca. Pyrite mineralization is slightly elevated (just below 1%); the pyrite is relatively more euhedral.						
			115.50	117.00	S139986	1.50	0.0025	0.80
			117.00	118.50	S139987	1.50	0.0025	0.80
			118.50	120.00	S139988	1.50	0.0025	0.80
			120.00	121.50	S139989	1.50	0.0025	0.80
			121.50	123.00	S139990	1.50	0.0025	0.80
			123.00	124.50	S139991	1.50	0.0025	0.80
			124.50	126.00	S139992	1.50	0.0025	0.80
126.00	203.25	Py00.5 Pyrite 0.5% The unit hosts 0.5% amounts of pyrite. The pyrite is disemianted within the calcite fracture-fill as <1-3mm anhedral to euhedral grains.	126.00	127.50	S139993	1.50	0.0025	0.50
			168.00	169.50	S139994	1.50	0.0025	0.50
			169.50	171.00	S139995	1.50	0.0025	0.50
			171.00	172.50	S139996	1.50	0.0025	0.50
			172.50	174.00	S139997	1.50	0.0025	0.50
			198.00	199.50	S139998	1.50	0.0025	0.50
			199.50	201.00	S139999	1.50	0.0025	0.50
			201.00	202.50	S142002	1.50	0.0025	0.50
			202.50	203.23	S142003	0.73	0.0025	0.50
			203.23	204.34	S142004	1.11	0.0025	0.50
203.25	204.30	3L Lamprophyre Upper contact is sharp = 80dtca A fine-medium grained lamprophyre. The unit matrix has a moderate ductile fabric oriented at 55dtca. The unit is a dark grey colour in unaltered sections. The unit hosts 15% biotite. The unit is moderately-strongly chl altered and The unit hosts 30-50% abundant caclite alteration bands 1-5mm thick which						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
follow the ductile fabric and react strongly to HCl. There are up to 5% abundances of pyrite within the unit. The pyrite forms 1-3mm anhedral grains diseminated within the unit fabric; the pyrite does not appear to follow the fabric. The unit is patchy weakly moderately magnetic.						
203.25 204.30 Cl; Ca Chlorite; Calcite The unit is moderately-strongly chl altered and The unit hosts 30-50% abundant caclite alteration bands 1-5mm thick which follow the ductile fabric and react strongly to HCl.						
203.25 204.30 Py04 Pyrite 4% There are up to 5% abundances of pyrite within the unit. The pyrite forms 1-3mm anhedral grains diseminated within the unit fabric; the pyrite does not appear to follow the fabric.						
204.30 218.90 V7; V7p Basalt; pillowed basalt Upper contact is sharp = 90dtca An aphanitic-fine grained basalt with variable degrees of nil-strong Chert/SiO2 alteration, hyalo texture and pillow margins. Unaltered sections are a dark grey colour. The unit is weakly to strongly silica/chert-Ser altered; the silica-ser alt'n forms 0.4-1mm fuzzy bands (oriented at 60-90dtca) which are a beige-cream colour; in areas outside the bleaching the unit is weakly chl-SiO2 altered with 1% abundant epidote alt'n wisps oriented at 20-30dtca and 1-5mm thick. Initially it appeared as if the SiO2-ser banding was sedimentary in origin but overall this does not appear to be the case. There are 1-2% abundant brittle fractures oriented at 25 and 50dtca and <1-5mm thick. The unit hosts 0.5% abundances of pyrite. The pyrite forms <1-2mm grains which are diseminated within the unit matrix and within brittle						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		microfractures. The unit is non-weakly magnetic.						
204.30	218.90	Si; Se; Cl; Ep Silica; Sericite; Chlorite; Epidote The unit is weakly to strongly silica/chert-Ser altered; the silica-ser alt'n forms 0.4-1mm fuzzy bands (oriented at 60-90dtca) which are a beige-cream colour; in areas outside the bleaching the unit is weakly chl-SiO2 altered with 1% abundant epidote alt'n wisps oriented at 20-30dtca and 1-5mm thick. Initially it appeared as if the SiO2-ser banding was sedimentary in origin but overall this does not appear to be the case						
204.30	218.90	Py00.5 Pyrite 0.5% The unit hosts 0.5% abundances of pyrite. The pyrite forms <1-2mm grains which are diseminated within the unit matrix and within brittle microfractures.						
			204.34	205.50	S142005	1.16	0.0025	0.50
			205.50	207.00	S142006	1.50	0.0025	0.50
			207.00	208.50	S142007	1.50	0.0025	0.50
			208.50	210.00	S142008	1.50	0.0025	0.50
			210.00	211.50	S142009	1.50	0.0025	0.50
			211.50	213.00	S142011	1.50	0.0025	0.50
			213.00	214.50	S142012	1.50	0.0025	0.50
			214.50	216.00	S142013	1.50	0.0025	0.50
			216.00	217.50	S142014	1.50	0.0025	0.50
			217.50	219.00	S142015	1.50	0.0025	0.50
218.90	228.10	CHSD; Bnd; S3a Cherty Sediments; Banded; Wacke Altered Upper contact is sharp = 50dtca A fine grained cherty sediment. The unit is strongly altered with the matrix largely appearing to be equigranular with fine a fine ductile fabric/bedding oriented at 65dtca. The unit hosts 5% abundant brown sericite wisps which are discontinuous and 1-3mm thick. There are <1% abundant unaltered						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		windows in the unit; these windows are dark grey in colour and appear to be volcanogenic in origin (could this just be heavily altered basalt like the previous unit??). The unit is strongly ser-SiO2 altered and is a brownish-beige colour; there are also 2-5% abundant red-pink 2-5cm fuzzy 'bruises' of hem alt'n. The unit does not react to KFC or HCl. There are 4% abundant 1-5mm thick fractures in the unit which are oriented at 15 and 65dtca and infilled with calcite (<1mm grains) with minor amounts of chlorite. The unit is weakly magnetic with <1% abundant patches of strong magnetism. The unit hosts 0.5% amounts of pyrite which are finely diseminated within the unit matrix.						
218.90	228.10	Si; Se; He Silica; Sericite; Hematite The unit is strongly ser-SiO2 altered and is a brownish-beige colour; there are also 2-5% abundant red-pink 2-5cm fuzzy 'bruises' of hem alt'n. The unit does not react to KFC or HCl.						
218.90	228.10	Py00.5 Pyrite 0.5% The unit hosts 0.5% amounts of pyrite which are finely diseminated within the unit matrix.						
			219.00	220.50	S142016	1.50	0.0025	0.50
			220.50	222.00	S142017	1.50	0.0025	0.50
			222.00	223.50	S142018	1.50	0.0025	0.50
			223.50	225.00	S142019	1.50	0.007	0.50
			225.00	226.50	S142020	1.50	0.0025	0.50
			226.50	228.00	S142021	1.50	0.0025	0.50
			228.00	229.50	S142022	1.50	0.0025	0.50
228.10	229.70	V7; V7p Basalt; pillowed basalt Upper contact is sharp = 20dtca A return to the pillowy basalt; this interval lends some credence to the possibility that the overlying cherty sed unit is						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		volcanogenic in origin. An aphanitic-fine grained basalt with variable degrees of weak Chert/SiO2 alteration, hyalo texture and pillow margins. Unaltered sections are a dark grey colour. The unit is weakly SiO2-Ser altered in an fuzzy texture overprinting weak chl-ep-cc alt'n. There are 1-2% abundant brittle fractures oriented at 25 and 50dtca and <1-5mm thick. The unit hosts 0.5% abundances of pyrite. The pyrite forms <1-2mm grains which are diseminated within the unit matrix and within brittle microfractures. The unit is non-weakly magnetic.						
228.10	229.70	Si; Se; Cl; Ep; Ca Silica; Sericite; Chlorite; Epidote; Calcite The unit is weakly SiO2-Ser altered in an fuzzy texture overprinting weak chl-ep-cc alt'n.						
228.10	229.70	Py00.5 Pyrite 0.5% The unit hosts 0.5% abundances of pyrite. The pyrite forms <1-2mm grains which are diseminated within the unit matrix and within brittle microfractures.						
			229.50	231.00	S142023	1.50	0.0025	5.00
229.70	243.50	3L; FAZ Lamprophyre; Fault Zone Upper contact is sharp = 70dtca A fine-medium grained lamprophyre. The unit matrix has a very weak ductile fabric oriented at 55dtca. The unit is a dark grey colour in unaltered sections. The unit hosts 15% biotite. The unit is moderately-strongly chl altered and The unit hosts 30% abundant caclite alteration bands 1-5mm thick which follow the ductile fabric and react strongly to HCl. There are up to 5% abundances of pyrite within the unit. The pyrite forms 1-3mm anhedral grains diseminated within the unit fabric; the pyrite does not appear to follow the fabric. The unit is patchy weakly to moderately magnetic. 232-233.1m: BBC; core is broken into 1-3cm chunks with						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		some milling and clay gouge 232.64-232.75m: Flt: Fault oriented at 60dtca and 8cm thick. The fault is infilled with grey clay with 1% abundant 5mm pebbles. 236-237.1m:FAZ/BBC: The interval is broken into 1-3cm angular chunks with low-angle breaks which ar coated in grey clay/gouge 238.4-240.5m: Inclusion of basaltic/chert material. UC is sharp = 60dtca; LC is sharp = 10dtca 242.85-243.11m: Flt: Fault oriented at 60dtca and 8cm thick. The surrounding wallrock is heavily altered (softened) and can be gouged easily with a finger for 5cm on either side. The fault is infilled with grey clay (8cm).						
229.70	243.50	Cl; Ca Chlorite; Calcite The unit is moderately-strongly chl altered and The unit hosts 30% abundant caclite alteration bands 1-5mm thick which follow the ductile fabric and react strongly to HCl.						
229.70	243.50	Py05 Pyrite 5% There are up to 5% abundances of pyrite within the unit. The pyrite forms 1-3mm anhedral grains diseminated within the unit fabric; the pyrite does not appear to follow the fabric.						
			231.00	232.50	S142024	1.50	0.0025	5.00
			232.50	234.00	S142027	1.50	0.0025	5.00
232.64	232.75	FLT Fault 60° 232.64-232.75m: Flt: Fault oriented at 60dtca and 8cm thick. The fault is infilled with grey clay with 1% abundant 5mm pebbles.						
			234.00	235.50	S142028	1.50	0.0025	5.00
			235.50	237.00	S142029	1.50	0.0025	5.00
236.00	237.10	FAZ						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Fault Zone 236-237.1m:FAZ/BBC: The interval is broken into 1-3cm angular chunks with low-angle breaks which ar coated in grey clay/gouge	237.00	238.50	S142030	1.50	0.0025	5.00
238.40	240.50	V7a; CHRT Altered Basalt; Chert 238.4-240.5m: Inclusion of basaltic/chert material. UC is sharp = 60dtca; LC is sharp = 10dtca	238.50	240.00	S142031	1.50	0.0025	1.00
			240.00	241.50	S142032	1.50	0.0025	5.00
			241.50	242.85	S142033	1.35	0.0025	5.00
242.85	243.11	FLT Fault 60° 242.85-243.11m: Flt: Fault oriented at 60dtca and 8cm thick. The surrounding wallrock is heavily altered (softened) and can be gouged easily with a finger for 5cm on either side. The fault is infilled with grey clay (8cm).	242.85	244.00	S142034	1.15	0.0025	1.00
243.50	265.15	V7G; V7p Gabbroic Basalt; pillowed basalt Upper contact is sharp = 40dtca A medium grained gabbroic basalt with variable aphanitic flowtops/pillow margins. The unit matrix is generally massive and equigranular. Flowtops are 5% abundant and oriented at 30-40dtca. The unit is weakly chl alt'd to a blue-green tinge and does not react to KFC or HCl; there are also 1-2% abundant epidote alt'n wisps oriented at 0-30dtca. There are 2-4% abundant brittle fractures within the unit; 90% of the fractures are infilled with a wispy mix of white cc and green ep. The fractures are 1-10mm thick. The remaining fractures are generally 1-2mm thick and infilled with black chl. The unit is weakly-moderately magnetic. The unit hosts discontinuous 0.5% amounts of pyrite. The pyrite forms <1-1mm anhedral grains which are found within the fractures and primarily in						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		the <2mm thick fractures with chl. 249.4-250.75m: This interval hosts alteration spots similar to what was observed in SM15_01. There are 3-5mm, round spots in the core which appear to be overprinting the unit matrix. The spots are a grey colour and are chl alt'd. The spots are 30% abundant and vary from following a fabric oriented at 30dtca to grading into more choatic orientations.						
243.50	265.15	Cl; Ep Chlorite; Epidote The unit is weakly chl alt'd to a blue-green tinge and does not react to KFC or HCl; there are also 1-2% abundant epidote alt'n wisps oriented at 0-30dtca.						
243.50	265.15	Py00.5 Pyrite 0.5% The unit hosts discontinuous 0.5% amounts of pyrite. The pyrite forms <1-1mm anhedral grains which are found within the fractures and primarily in the <2mm thick fractures with chl.						
			244.00	245.00	S142036	1.00	0.0025	0.50
			245.00	246.00	S142037	1.00	0.0025	0.50
			246.00	247.50	S142038	1.50	0.0025	0.50
			247.50	249.00	S142039	1.50	0.0025	0.50
			249.00	250.50	S142040	1.50	0.0025	0.50
			250.50	252.00	S142041	1.50	0.0025	0.50
			252.00	253.50	S142042	1.50	0.0025	0.50
			253.50	255.00	S142043	1.50	0.0025	0.50
			255.00	256.50	S142044	1.50	0.0025	0.50
			256.50	258.00	S142045	1.50	0.0025	0.50
			258.00	259.50	S142046	1.50	0.0025	0.50
			259.50	261.00	S142047	1.50	0.0025	0.50
			261.00	262.50	S142048	1.50	0.0025	0.50
			262.50	264.00	S142049	1.50	0.0025	0.50
			264.00	265.50	S142052	1.50	0.0025	0.50

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
265.15	278.00	V7; V7p **Basalt; pillowed basalt** Upper contact is sharp = 40dtca An aphanitic-fine grained basalt with regular pillow features. The pillow features are generally oriented at 45dtca with <5% of features oriented at 10 and 90dtca. The unit matrix is massive and equigranular. The unit is weakly chl altered and does not react to KFC or HCl. The unit hosts 2-4% abundant ep-ser alt'n wisps/patches which are concentrated around pillow margins and brittle fractures. The unit hosts 2-5% calcite +/- quartz fracture fill veinlets/veins; the fracture fill is generally oriented at 45dtca and 2-15mm thick with <1-3mm grains and wispy textures. The unit is weakly magnetic. There are 0.5% amounts of pyrite within the unit. The py forms <1-2mm anhedral grains which are diseminated within the unit matrix and within the pillow margins/ep alt'n. 270.26-270.58m: Qtz vein oriented at 35dtca and >10cm thick. The vein is composed of 2-5cm qtz grains. At either end of the vein, in the wallrock, is a 1-4cm corelength interval parallel to the vein in which hosts 1% pyrite. The pyrite is euhedral and 1-2mm in size. 278.1-273.23m: This interval hosts alteration spots similar to what was observed in SM15_01. There are 3-5mm, round spots in the core which appear to be overprinting the unit matrix. The spots are a grey colour and are chl alt'd. The spots are 30% abundant and vary from following a fabric oriented at 30dtca to grading into more choatic orientations.						
265.15	278.00	Cl; Ep; Se **Chlorite; Epidote; Sericite** The unit is weakly chl altered and does not react to KFC or HCl. The unit hosts 2-4% abundant ep-ser alt'n wisps/patches which are concentrated around pillow margins and brittle fractures.						
265.15	278.00	Py00.5						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The py forms <1-2mm anhedral grains which are diseminated within the unit matrix and within the pillow margins/ep alt'n.	265.50	267.00	S142053	1.50	0.0025	0.50
			267.00	268.50	S142054	1.50	0.0025	0.50
			268.50	270.00	S142055	1.50	0.0025	0.50
			270.00	271.50	S142056	1.50	0.0025	0.50
			271.50	273.00	S142057	1.50	0.0025	0.50
			273.00	274.50	S142058	1.50	0.0025	0.50
			274.50	276.00	S142059	1.50	0.0025	0.50
			276.00	277.00	S142061	1.00	0.0025	0.50
			277.00	278.00	S142062	1.00	0.0025	0.50
278.00	282.59	MI; 3L Mafic Intrusion; Lamprophyre Upper contact is sharp = 30dtca A fine-medium grained mafic dyke. The unit matrix has a massive texture. The unit hosts 8-12% hornblende which is 2-4mm in size, euhedral and elongate; there appears to be some biotite as well (5%); could this be lamprophyre(?). The unit is weakly chl alt'd with a faint pink hem patchiness and does not react to KFC or HCl. The unit is weakly magnetic. There are trace amount of 1-2mm euhedral pyrite diseminated within the unit matrix. 278.1-273.23m: This interval hosts alteration spots similar to what was observed in SM15_01. There are 3-5mm, round spots in the core which appear to be overprinting the unit matrix. The spots are a grey colour and are chl alt'd. The spots are 30% abundant and vary from following a fabric oriented at 30dtca to grading into more choatic orientations.	278.00	279.00	S142063	1.00	0.0025	0.10
278.00	282.59	Cl; He Chlorite; Hematite The unit is weakly chl alt'd with a faint pink hem patchiness and does not react to KFC or HCl.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
278.00	282.59	Py00.1 Pyrite 0.1% There are trace amount of 1-2mm euhedral pyrite disemianted within the unit matrix.						
			279.00	280.50	S142064	1.50	0.0025	0.10
			280.50	282.00	S142065	1.50	0.0025	0.10
			282.00	283.50	S142066	1.50	0.0025	0.50
282.59	300.00	V7; V7p Basalt; pillowed basalt Upper contact is sharp = 40dtca An aphanitic-fine grained basalt with regular pillow features. The pillow features are generally oriented at 45dtca with <5% of features oriented at 10 and 90dtca. The unit matrix is massive and equigranular. The unit is weakly chl altered and does not react to KFC or HCl. The unit hosts 2-4% abundant ep-ser-hem alt'n wisps/patches which are concentrated around pillow margins and brittle fractures. The unit hosts 2-5% calcite +/- quartz fracture fill veinlets/veins; the fracture fill is generally oriented at 45dtca and 2-15mm thick with <1-3mm grains and wispy textures. The unit is weakly magnetic. There are 0.5% amounts of pyrite within the unit. The py forms <1-2mm anhedral grains which are diseminated within the unit matrix and within the pillow margins/ep alt'n. 284.23-284.71m: MI/3L Dyke: Oriented at 65dtca. Similar to the above MI dyke. 291.78-292.94m: MI/3L Dyke: Oriented at 30dtca. Similar to the above MI dyke.						
282.59	300.00	Cl; Ep; Se; He Chlorite; Epidote; Sericite; Hematite The unit is weakly chl altered and does not react to KFC or HCl. The unit hosts 2-4% abundant ep-ser-hem alt'n wisps/patches which are concentrated around pillow margins and brittle fractures.						
282.59	300.00	Py00.5						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Pyrite 0.5% There are 0.5% amounts of pyrite within the unit. The py forms <1-2mm anhedral grains which are diseminated within the unit matrix and within the pillow margins/ep alt'n.	283.50	285.00	S142067	1.50	0.0025	0.50
284.23	284.71	MI; 3L Mafic Intrusion; Lamprophyre 284.23-284.71m: MI/3L Dyke: Oriented at 65dtca. Similar to the above MI dyke. A fine-medium grained mafic dyke. The unit matrix has a massive texture. The unit hosts 8-12% hornblende which is 2-4mm in size, euhedral and elongate; there appears to be some biotite as well (5%); could this be lamprophyre(?). The unit is weakly chl alt'd with a faint pink hem patchiness and does not react to KFC or HCl. The unit is weakly magnetic. There are trace amount of 1-2mm euhedral pyrite diseminated within the unit matrix.	285.00	286.50	S142068	1.50	0.0025	0.50
			286.50	288.00	S142069	1.50	0.0025	0.50
			288.00	289.50	S142070	1.50	0.0025	0.50
			289.50	291.00	S142071	1.50	0.0025	0.50
			291.00	291.78	S142072	0.78	0.0025	0.50
291.78	292.94	MI; 3L Mafic Intrusion; Lamprophyre 291.78-292.94m: MI/3L Dyke: Oriented at 30dtca. Similar to the above MI dyke. A fine-medium grained mafic dyke. The unit matrix has a massive texture. The unit hosts 8-12% hornblende which is 2-4mm in size, euhedral and elongate; there appears to be some biotite as well (5%); could this be lamprophyre(?). The unit is weakly chl alt'd with a faint pink hem patchiness and does not react to KFC or HCl. The unit is weakly magnetic. There are trace amount of	291.78	292.95	S142073	1.17	0.0025	0.50

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
1-2mm euhedral pyrite diseminated within the unit matrix.						
	292.95	294.00	S142074	1.05	0.0025	0.10
	294.00	295.50	S142077	1.50	0.0025	0.50
	295.50	297.00	S142078	1.50	0.0025	0.50
	297.00	298.50	S142079	1.50	0.0025	0.50
	298.50	300.00	S142080	1.50	0.0025	0.50

Canadian Malartic Corporation - Kirkland Lake Project

DDH: SM15_03

		Claims title:	1203499	Section:	
		Township:	Gauthier	Level:	
		Range:		Work place:	Dobie
Contractor:	Spektra	Lot:			
Author:	Christopher Clarke	Start date:	01/12/2015	Description date:	05/12/2015
		End date:	05/12/2015		

Collar

Azimuth: 35.0°
Dip: -50.00°
Length: 300.00

UTM-Nad83

East	585221.964
North	5328712.131
Elevation	311.758

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Multishot	87.00	344.3°	-52.1°	Yes
Multishot	90.00	235.7°	-51.9°	Yes
Multishot	93.00	47.0°	-52.0°	No
Multishot	96.00	60.6°	-52.0°	No
Multishot	99.00	47.7°	-52.0°	No
ReflexEZS	102.00	48.4°	-52.0°	No
Multishot	105.00	50.6°	-52.0°	No
Multishot	108.00	48.0°	-52.0°	No

Type	Depth	Azimuth	Dip	Invalid
Multishot	111.00	44.1°	-52.1°	No
Multishot	114.00	44.9°	-52.1°	No
Multishot	117.00	44.2°	-52.1°	No
Multishot	120.00	32.4°	-52.1°	No
Multishot	123.00	34.9°	-52.1°	No
Multishot	126.00	34.2°	-52.0°	No
Multishot	129.00	34.8°	-52.0°	No
.....	.....	.....	.....	.....

Number of samples:	144
Number of QAQC samples:	27
Total sampled length:	212.53

Core size: NQ Cemented: Yes Stored: No

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
0.00	87.47	OVB Overburden Overburden						
0.10	91.70	Py00.5 Pyrite 0.5% There are 0.5% abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral.						
87.47	91.70	V7a Altered Basalt The drill collars into basalt The unit is aphanitic with a massive matrix. The unit is a dark grey colour in unaltered sections. The unit does not react to HCl or KFC and has a soapy texture when rubbed (lathers) but cannot be scratched with a finger nail; weak talc alt'n. The unit is strongly magnetic. There are 0.5% abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral. 90.87-90.94m: Flt oriented at 45dtca and 5mm thick. The fault is infilled with grey chl clay gouge	87.47	88.50	S142081	1.03	0.0025	0.50
87.47	91.70	Talc Talc weak talc						
			88.50	90.00	S142082	1.50	0.0025	0.50
			90.00	91.50	S142083	1.50	0.0025	0.50
90.87	90.94	FLT Fault 45° 90.87-90.94m: Flt oriented at 45dtca and 5mm thick. The fault is infilled with grey chl clay gouge						
			91.50	93.00	S142084	1.50	0.0025	0.50
91.70	93.68	FP Feldspar Porphyry Upper contact is sharp = 20dtca A feldspar porphyry dyke. The groundmass is fine grained (1mm) with 25-30% abundant euhedral plagioclase						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		porphyrytic grains (2-4mm) diseminated within the unit matrix. The unit is a grey colour. The unit has a very weak chl alt'n. The unit is moderately magnetic. There are no visible sulphides.						
91.70	93.68	Cl Chlorite very weak chl						
			93.00	94.50	S142086	1.50	0.0025	0.50
93.58	93.67	FLT Fault 60° 93.58-93.67m: Flt oriented at 60dtca and at least 5mm thick. Part of the interval is mechanically milled leaving only 5mm thick piece of clay-gravel gouge along one side of the contact						
93.68	99.00	V7 Basalt Upper contact is sharp and defined by a fault. The unit is aphanitic with a massive matrix. The unit is a dark grey colour in unaltered sections. The unit does not react to HCl or KFC and is weakly chl alt'd. There are <1% abundant milkt calcite veinlets within the unit oriented at 30dtca and 1-5mm thick. The unit is strongly magnetic. There are 0.5% abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral. 93.58-93.67m: Flt oriented at 60dtca and at least 5mm thick. Part of the interval is mechanically milled leaving only 5mm thick piece of clay-gravel gouge along one side of the contact						
93.68	99.00	Cl Chlorite weak chl						
93.68	99.00	Py00.5 Pyrite 0.5% There are 0.5% abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			94.50	96.00	S142087	1.50	0.0025	0.50
			96.00	97.50	S142088	1.50	0.0025	0.50
			97.50	99.00	S142089	1.50	0.0025	0.50
			99.00	100.50	S142090	1.50	0.0025	0.50
99.00	100.07	3L						
		Lamprophyre						
		Upper contact is sharp = 45dtca						
		A fine-medium grained lamprophyre dyke. The unit matrix is massive and grey in colour. The unit hosts 15% biotite and traces of phlogopite which are 2-5mm in size and euhedral. The unit is weakly chl altered. There are trace amounts of <1mm pyrite disemianted within the unit. The unit is strongly magnetic.						
99.00	100.07	Cl						
		Chlorite						
		weak chl						
99.00	100.07	Py00.1						
		Pyrite 0.1%						
		There are trace amounts of <1mm pyrite disemianted within the unit.						
100.07	108.06	V7						
		Basalt						
		Upper contact is sharp = 20dtca						
		The unit is aphanitic with a massive matrix. The unit is a dark grey colour in unaltered sections. The unit does not react to HCl or KFC and is weakly chl alt'd. There are <1% abundant milkt calcite veinlets within the unit oriented at 30dtca and 1-5mm thick. The unit is strongly magnetic. There are trace abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral.						
		102.06-102.09m: Flt: A 5mm thick fault gouge with grey clay mixed with gravel and oriented at 60dtca						
		107-107.57m: BBC/FAZ: This interval is pulverized into 1-3cm angular chunks which are coated in a grey clay/gravel gouge.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
100.07	108.06	Cl Chlorite weak chl						
100.07	108.06	Py00.1 Pyrite 0.1% There are trace abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral.						
			100.50	102.00	S142091	1.50	0.0025	0.50
			102.00	103.50	S142092	1.50	0.0025	0.50
102.06	102.09	FLT Fault 60° 102.06-102.09m: Flt: A 5mm thick fault gouge with grey clay mixed with gravel and oriented at 60dtca						
			103.50	105.00	S142093	1.50	0.0025	0.50
			105.00	106.50	S142094	1.50	0.0025	0.50
			106.50	108.00	S142095	1.50	0.0025	0.50
107.00	107.57	FAZ Fault Zone 107-107.57m: BBC/FAZ: This interval is pulverized into 1-3cm angular chunks which are coated in a grey clay/gravel gouge.						
			108.00	109.50	S142096	1.50	0.0025	1.50
108.06	111.27	3L Lamprophyre Upper contact is sharp and gentley undulose = 5dtca A fine-medium grained lamprophyre dyke. The unit matrix is massive and grey in colour. The unit hosts 15% biotite and traces of phlogopite which are 2-5mm in size and euhedral. The unit is weakly-moderately ch and weakly ccl altered. There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit. The unit is moderately magnetic. 110.19-110.22m: Flt oriented at 60dtca and 1cm thick. The fault is composed of black clay/gravel mash.						
108.06	111.27	Cl; Ca						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Chlorite; Calcite weak-moderate chl and weak cc						
108.06	111.27	Py00.5 Pyrite 0.5% There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit.	109.50	111.00	S142097	1.50	0.0025	1.50
110.19	110.22	FLT Fault 60° 110.19-110.22m: Flt oriented at 60dtca and 1cm thick. The fault is composed of black clay/gravel mash.	111.00	112.50	S142098	1.50	0.0025	1.50
111.27	118.29	V7 Basalt Upper Contact is sharp = 30dtca The unit is aphanitic with a massive matrix. The unit is a dark grey colour in unaltered sections. The unit does not react to HCl or KFC and is weakly chl alt'd. There are <1% abundant milkt calcite veinlets within the unit oriented at 30dtca and 1-5mm thick. The unit is moderately magnetic. There are trace abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral.						
111.27	118.29	Cl Chlorite weak chl						
111.27	118.29	Py00.1 Pyrite 0.1% There are trace abundant disemination of pyrite within the unit matrix.	112.50	114.00	S142099	1.50	0.0025	1.00
			114.00	115.50	S142102	1.50	0.0025	0.50
			115.50	117.00	S142103	1.50	0.0025	0.50
			117.00	118.50	S142104	1.50	0.0025	0.50
118.29	119.00	3L						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Lamprophyre Upper contact is sharp = 40dtca A fine-medium grained lamprophyre dyke. The unit matrix is massive and grey in colour. The unit hosts 15% biotite and traces of phlogopite which are 2-5mm in size and euhedral. The unit is weakly-moderately ch and weakly ccl altered. There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit. The unit is moderately magnetic.						
118.29	119.00	Cl; Ca Chlorite; Calcite The unit is weakly-moderately ch and weakly ccl altered.						
118.29	119.00	Py00.5 Pyrite 0.5% There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit.						
			118.50	120.00	S142105	1.50	0.0025	0.50
119.00	122.73	V7 Basalt Upper contact is sharp = 60dtca The unit is aphanitic with a massive matrix. The unit is a dark grey colour in unaltered sections. The unit does not react to HCl or KFC and is weakly chl alt'd. There are <1% abundant milkt calcite veinlets within the unit oriented at 30dtca and 1-5mm thick. The unit is moderately magnetic. There are trace abundant disemination of pyrite within the unit matrix. The pyrite is <1-2mm in size and anhedral..						
119.00	122.73	Cl Chlorite weak chl						
119.00	122.73	Py00.1 Pyrite 0.1% There are trace abundant disemination of pyrite within the unit matrix						
			120.00	121.50	S142106	1.50	0.0025	1.50

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
	121.50	123.00	S142107	1.50	0.0025	1.50
122.73 131.00 CHSD; V7a Cherty Sediments; Altered Basalt Upper contact is sharp = 50dtca A fine grained/aphanitic cryptic chert/silica altered unit which appears to be volcanic in origin. The matrix flucuates between massive textures and fine laminations/bedding oriented at 50-70dtca. The laminations/fabric host 'S' shaped shear sense. The protolith appears to be a mafic volcanic and using a hand lens there is little difference between this unit and the overlying basalt.The unit is moderately SiO2 and weakly hem-mgt-ser alt'd generating a beige-pink-brown fuzzy colour. An overall 'cherty' texture pervades the unit. The unit is moderately to strongly magnetic. There are 1-2% abundant diseminations of <1-2mm anhedral pyrite withi the unit matrix.						
122.73 131.00 Si; He; Mgt; Se Silica; Hematite; Magnetite; Sericite The unit is moderately SiO2 and weakly hem-mgt-ser alt'd generating a beige-pink-brown fuzzy colour. An overall 'cherty' texture pervades the unit.						
122.73 131.00 Py01.5 Pyrite 1.5% There are 1-2% abundant diseminations of <1-2mm anhedral pyrite withi the unit matrix.						
	123.00	124.50	S142108	1.50	0.0025	1.50
	124.50	126.00	S142109	1.50	0.0025	1.50
	126.00	127.50	S142111	1.50	0.0025	1.50
	127.50	129.00	S142112	1.50	0.0025	1.50
	129.00	130.50	S142113	1.50	0.0025	1.00
	130.50	132.00	S142114	1.50	0.0025	0.50
131.00 131.90 3L; Variolitic Lamprophyre; VAR Upper contact is sharp = 60dtca						

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
A fine-medium grained lamprophyre dyke. The unit matrix is massive and grey in colour. The unit hosts 15% biotite and traces of phlogopite which are 2-5mm in size and euhedral. The unit is weakly-moderately chl alt'd. The unit hosts the same cryptic primary/secondary chl alteration spots as seen in previous holes/ certain lamprophyre dykes. There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit. The unit is weakly magnetic.						
131.00 131.90 Cl Chlorite The unit is weakly-moderately chl alt'd. The unit hosts the same cryptic primary/secondary chl alteration spots as seen in previous holes/ certain lamprophyre dykes.						
131.00 131.90 Py00.5 Pyrite 0.5% here are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit.						
131.90 132.86 V7 Basalt Upper contact is sharp = 55dtca A fine grained basalt. The unit is a grey colour with a a weak ductile/flow fabric oriented at 30-40dtca. The unit is weakly chl altered with red hem-kspar alt'n streaks running at 30-40dtca and 2-3mm thick and pinched out (1% abundant). The unit is moderately magnetic. There are 1% abundant disemination of pyrite within the unit. The pyrite is 1-3mm in size and anhedral; the pyrite follows the fabric.						
131.90 132.86 Cl; He; K Chlorite; Hematite; Potassic The unit is weakly chl altered with red hem-kspar alt'n streaks running at 30-40dtca and 2-3mm thick and pinched out (1% abundant).						
131.90 132.86 Py01 Pyrite 1%						

Description				Assay					
				From	To	Sample number	Length	AuBest	Sulphide_pct
			There are 1% abundant disemination of pyrite within the unit. The pyrite is 1-3mm in size and anhedral; the pyrite follows the fabric.	132.00	133.50	S142115	1.50	0.0025	2.00
132.86	134.50	3L							
			Lamprophyre						
			Upper contact is sharp = 35dtca						
			A fine-medium grained lamprophyre dyke. The unit matrix is massive and grey in colour. The unit hosts 15% biotite and traces of phlogopite which are 2-5mm in size and euhedral. The unit is weakly-moderately chl alt'd. The unit hosts the same cryptic primary/secondary chl alteration spots as seen in previous holes/ certain lamprophyre dykes. There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit. The unit is weakly magnetic.						
132.86	134.50	Cl							
			Chlorite						
			The unit is weakly-moderately chl alt'd. The unit hosts the same cryptic primary/secondary chl alteration spots as seen in previous holes/ certain lamprophyre dykes.						
132.86	134.50	Py00.5							
			Pyrite 0.5%						
			There are 0.5 amounts of 1-2mm euhedral to anhedral pyrite diseminated within the unit.						
				133.50	135.00	S142116	1.50	0.0025	0.50
134.50	168.53	V7a; CHSD							
			Altered Basalt; Cherty Sediments						
			Upper Contact is lost in a zone of BBC (BBC: 134.4-136.1m: angular 1-4cm blocks) but looking at the chunks the unit changes around 134.5m						
			An aphanitic to fine grained basalt with interflow sediment horizones as glassy silica alteration. The unit matrix gradationally oscillates betwwen aphanitic and fine grained massive matrices with interflow horizons at 1-3m intervals.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Occasionally (30%), of the interflow horizons host cryptic volcanic protolith sediment horizons with fine lamination bedding oriented at 40-60dtca. The sediments are generally cherty/silica/glassy in appearance and host relatively more alteration than the surrounding flows. The unit is moderately silica altered and weakly chl alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.The unit hosts 1-3% sheeted calcite veinlets oriented at 70-80dtca. The unit is weakly magnetic. The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains. 161-161.47m: The interval is in situ brecciated with 2-4cm rounded clasts of walrock supported in a ep-chl-ser matrix which wraps around the breccia.						
134.50	168.53	Si; Cl; Ep; Se Silica; Chlorite; Epidote; Sericite The unit is moderately silica altered and weakly chl alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.						
134.50	168.53	Py00.1 Pyrite 0.1% The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains.						
			135.00	136.50	S142117	1.50	0.0025	0.10
			136.50	138.00	S142118	1.50	0.0025	0.10
			138.00	139.50	S142119	1.50	0.0025	0.10
			139.50	141.00	S142120	1.50	0.0025	0.10
			141.00	142.50	S142121	1.50	0.0025	0.10
			142.50	144.00	S142122	1.50	0.0025	0.10
			144.00	145.50	S142123	1.50	0.0025	0.10
			145.50	147.00	S142124	1.50	0.0025	0.10
			147.00	148.50	S142127	1.50	0.0025	0.10
			148.50	150.00	S142128	1.50	0.0025	0.10
			150.00	151.50	S142129	1.50	0.0025	0.10

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			151.50	153.00	S142130	1.50	0.0025	0.10
			153.00	154.50	S142131	1.50	0.0025	0.10
			154.50	156.00	S142132	1.50	0.0025	0.10
			156.00	157.50	S142133	1.50	0.0025	0.10
			157.50	159.00	S142134	1.50	0.0025	0.10
			159.00	160.50	S142136	1.50	0.0025	0.10
			160.50	162.00	S142137	1.50	0.0025	0.10
			162.00	163.50	S142138	1.50	0.0025	0.10
			163.50	165.00	S142139	1.50	0.0025	0.10
			165.00	166.50	S142140	1.50	0.0025	0.10
			166.50	167.50	S142141	1.00	0.0025	0.10
			167.50	168.50	S142142	1.00	0.0025	0.10
			168.50	169.50	S142143	1.00	0.0025	1.50
168.53	169.65	1S Syenite Upper contact is sharp = 60dtca A medium grained syenite. The unit matrix is massive with 1-2mm equigranular sized grains which in areas appear to be rounded but for the most part are euhedral. The unit is a pink-grey colour. The unit hosts 1% abundant calcite veinlets oriented at 65dtca. The unit is weakly hem alt'd. The unit is non-magnetic. The unit hosts 1-2% abundant pyrite diseminated within the unit matrix as <1-2mm anhedral grains.						
168.53	169.65	He Hematite weak hem						
168.53	169.65	Py01.5 Pyrite 1.5% The unit hosts 1-2% abundant pyrite diseminated within the unit matrix as <1-2mm anhedral grains.						
			169.50	170.10	S142144	0.60	0.0025	1.50
169.65	170.11	CHSD						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Cherty Sediments Upper contact is sharp and jagged = 40 A very fine grained laminated cherty sediment. The protolith appears to be volcanic. The laminations are oriented at 45dtca. The unit is a dark grey colour. The unit is strongly SiO2 alt'd and has a glassy texture with pink and beige (weak hem-ser) alteration bands oriented at 40dtca and 1-2cm thick (10% abundant). The unit is weakly magnetic. There are very fine <1mm diseminations of pyrite within the unit which ar 1% abundant.						
169.65	170.11	Si; He; Se Silica; Hematite; Sericite The unit is strongly SiO2 alt'd and has a glassy texture with pink and beige (weak hem-ser) alteration bands oriented at 40dtca and 1-2cm thick (10% abundant)						
169.65	170.11	Py01 Pyrite 1% There are very fine <1mm diseminations of pyrite within the unit which ar 1% abundant.	170.10	171.00	S142145	0.90	0.0025	0.10
170.11	181.70	V7a; CHSD Altered Basalt; Cherty Sediments Upper contact is sharp = 40dtca An aphanitic to fine grained basalt with interflow sediment horizones as glassy silica alteration. The unit matrix gradationally oscillates betwwen aphanitic and fine grained massive matrices with interflow horizons at 1-3m intervals. Occasionally (30%), of the interflow horizons host cryptic volcanic protolith sediment horizons with fine lamination bedding oriented at 40-60dtca. The sediments are generally cherty/silica/glassy in appearance and host relatively more alteration than the surrounding flows. The unit is moderately silica altered and weakly chl alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		horizons.The unit hosts 1-3% sheeted calcite veinlets oriented at 70-80dtca. The unit is weakly magnetic. The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains.						
170.11	181.70	Si; Cl; Ep; Se Silica; Chlorite; Epidote; Sericite The unit is moderately silica altered and weakly chl alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.						
170.11	181.70	Py00.1 Pyrite 0.1% The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains.						
			171.00	172.50	S142146	1.50	0.0025	0.10
			172.50	174.00	S142147	1.50	0.0025	0.10
			174.00	175.50	S142148	1.50	0.0025	0.10
			175.50	177.00	S142149	1.50	0.0025	0.10
			177.00	178.50	S142152	1.50	0.0025	0.10
			178.50	180.00	S142153	1.50	0.0025	0.10
			180.00	181.50	S142154	1.50	0.0025	1.50
			181.50	183.00	S142155	1.50	0.0025	2.00
181.70	187.00	CHSD; S3a; FAZ Cherty Sediments; Wacke Altered; Fault Zone Upper contact is sharp = 40dtca; the contact interval is also rubbley/vuggy with moderate degradation (fault zone start?) A very fine grained altered cherty sediment. The unit has agenerally planar laminated bedding oriented at 20dtca but there is also an even dispersion of more massive matrix. the unit is a light grey colour in unaltered sections. The unit is moderately-heavily fractured in an irregular cross-hatched pattern; the fractures are annealed with black chl and quartz and are 1-5mm thick. The thinner (1mm) fractures host chl exclusively. The unit hosts a patchy-fuzzy mixed of moderate beige ser and pink hem-kspar alt'n with a strong uniform SiO2						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		alteration prevading the entire unit. The unit is strongly magnetic. The unit hosts 2% abundant pyrite. The pyrite forms within the chl fractures as <1-3mm anhedral grains.						
181.70	187.00	Si; Se; He Silica; Sericite; Hematite The unit hosts a patchy-fuzzy mixed of moderate beige ser and pink hem-kspar alt'n with a strong uniform SiO2 alteration prevading the entire unit.						
181.70	187.00	Py02 Pyrite 2% The unit hosts 2% abundant pyrite. The pyrite forms within the chl fractures as <1-3mm anhedral grains.						
			183.00	184.50	S142156	1.50	0.0025	2.00
			184.50	186.00	S142157	1.50	0.0025	2.00
			186.00	187.50	S142158	1.50	0.0025	1.50
187.00	188.39	V7 Basalt Upper contact is sharp = 60dtca A fine grained basalt inclusion within the fault zone. The unit has a massive texture. The unit is weakly chl altered. The unit is moderately magnetic. There are no visible sulphides.						
187.00	188.39	Cl Chlorite weak chl						
			187.50	189.00	S142159	1.50	0.0025	0.50
188.39	192.50	CHSD; S3a; FAZ Cherty Sediments; Wacke Altered; Fault Zone Upper contact is sharp and jagged = 30dtca A very fine grained altered cherty sediment. The unit has agenerally planar laminated bedding oriented at 20dtca but there is also an even dispersion of more massive matrix. the unit is a light grey colour in unaltered sections. The unit is moderately-heavily fractured in an irregular cross-hatched pattern; the fractures are annealed with black chl and quartz						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		and are 1-5mm thick. The thinner (1mm) fractures host chl exclusively. The unit hosts a patchy-fuzzy mixed of moderate beige ser and pink hem-kspar alt'n with a strong uniform SiO2 alteration prevading the entire unit. The unit is strongly magnetic. The unit hosts 2% abundant pyrite. The pyrite forms within the chl fractures as <1-3mm anhedral grains. 188.39-189.6m: FAZ: This interval hosts 50% annealed chl infilled fracturing in a dendritic pattern 188.39-188.64m: Flt oriented at 30dta ab\nd 4cm thick. The fault is infilled with black clay-gravel gouge						
188.39	192.50	Si; Se; He Silica; Sericite; Hematite The unit hosts a patchy-fuzzy mixed of moderate beige ser and pink hem-kspar alt'n with a strong uniform SiO2 alteration prevading the entire unit.						
188.39	189.60	FLT Fault 30° 188.39-189.6m: FAZ: This interval hosts 50% annealed chl infilled fracturing in a dendritic pattern 188.39-188.64m: Flt oriented at 30dta ab\nd 4cm thick. The fault is infilled with black clay-gravel gouge						
188.39	192.50	Py02 Pyrite 2% he unit hosts 2% abundant pyrite. The pyrite forms within the chl fractures as <1-3mm anhedral grains.						
			189.00	190.50	S142161	1.50	0.0025	2.00
			190.50	192.00	S142162	1.50	0.0025	2.00
			192.00	193.50	S142163	1.50	0.0025	0.10
192.50	204.00	V7a; CHSD; V7G Altered Basalt; Cherty Sediments; Gabbroic Basalt Upper contact is sharp = 40dtca An aphanitic to fine/medium grained basalt with interflow sediment horizons as glassy silica alteration. The unit matrix gradationally oscillates betwwen aphanitic and fine grained						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		massive matrices with interflow horizons at 1-3m intervals. Occasionally (30%), of the interflow horizons host cryptic volcanic protolith sediment horizons with fine lamination bedding oriented at 40-60dtca. The sediments are generally cherty/silica/glassy in appearance and host relatively more alteration than the surrounding flows. The unit is moderately silica altered and weakly chl-ank alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.The unit hosts 1-3% sheeted calcite veinlets oriented at 70-80dtca. The unit is weakly magnetic. The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains.						
192.50	204.00	Si; Cl; Ank; Ep; Se Silica; Chlorite; Ankerite; Epidote; Sericite The unit is moderately silica altered and weakly chl-ank alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.						
192.50	204.00	Py00.1 Pyrite 0.1% The unit hosts trace amounts of pyrite disseminated within the unit matrix as <1-1mm anhedral grains.						
			193.50	195.00	S142164	1.50	0.0025	0.10
			195.00	196.50	S142165	1.50	0.0025	0.10
			196.50	198.00	S142166	1.50	0.0025	0.10
			198.00	199.50	S142167	1.50	0.0025	0.10
			199.50	201.00	S142168	1.50	0.0025	0.10
			201.00	202.50	S142169	1.50	0.0025	0.10
			202.50	204.00	S142170	1.50	0.0025	0.10
204.00	212.50	CHSD Cherty Sediments Upper contact is sharp = 30dtca A very fine grained laminated cherty sediment. The protolith appears to be volcanic (could this be a heavily altered basalt with ductile deformation?). The laminations are oriented at	204.00	205.50	S142171	1.50	0.0025	0.10

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		45dtca. The unit is a dark grey colour. The unit is strongly SiO2 alt'd and has a glassy texture with pea soup green and beige (weak ep-ser) alteration bands oriented at 40dtca and 1-30cm thick (10% abundant). The unit is weakly magnetic. There are very fine <1mm diseminations of pyrite within the unit which are trace abundant.						
204.00	212.50	Si; Se; Ep Silica; Sericite; Epidote The unit is strongly SiO2 alt'd and has a glassy texture with pea soup green and beige (weak ep-ser) alteration bands oriented at 40dtca and 1-30cm thick (10% abundant).						
204.00	215.50	Py00.1 Pyrite 0.1% There are very fine <1mm diseminations of pyrite within the unit which are trace abundant.						
			205.50	207.00	S142172	1.50	0.0025	0.10
			207.00	208.50	S142173	1.50	0.0025	0.10
			208.50	210.00	S142174	1.50	0.0025	0.10
			210.00	211.50	S142177	1.50	0.0025	0.10
			211.50	213.00	S142178	1.50	0.0025	0.10
212.50	300.00	V7a; CHSD Altered Basalt; Cherty Sediments Upper contact is cryptic and lost in a 1m interval of mechanically pulverized core An aphanitic to fine grained basalt with interflow sediment horizones as glassy silica alteration. The unit matrix gradationally oscillates betwwen aphanitic and fine grained massive matrices with interflow horizons at 1-3m intervals. Occasionally (30%), of the interflow horizons host cryptic volcanic protolith sediment horizons with fine lamination bedding oriented at 40-60dtca. The sediments are generally cherty/silica/glassy in appearance and host relatively more alteration than the surrounding flows. The unit is moderately						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		silica altered and weakly chl-ank alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons. The unit hosts 1-3% sheeted calcite veinlets oriented at 30 and 70-80dtca. The unit is weakly magnetic. The unit hosts 0.5% amounts of pyrite disseminated within the unit matrix and ep-ser alt'n as <1-2mm anhedral grains. 262.67-262.91m: Flt oriented at 30dtca and >10cm thick. The fault is infilled with black clay/gravel. The wallrock is degraded and soft to scratch with steel (as opposed to the rest of the unit which is hard to scratch)						
212.50	300.00	Si; Cl; Ank; Ep; Se Silica; Chlorite; Ankerite; Epidote; Sericite The unit is moderately silica altered and weakly chl-ank alt'd with patchy-wispy ep-ser-SiO2 alt'n forming webs within the unit/flow horizons.						
			213.00	214.50	S142179	1.50	0.0025	0.50
			214.50	216.00	S142180	1.50	0.0025	0.50
215.50	300.00	Py00.5 Pyrite 0.5% The unit hosts 0.5% amounts of pyrite disseminated within the unit matrix and ep-ser alt'n as <1-2mm anhedral grains.						
			216.00	217.50	S142181	1.50	0.0025	0.50
			217.50	219.00	S142182	1.50	0.0025	0.50
			219.00	220.50	S142183	1.50	0.0025	0.50
			220.50	222.00	S142184	1.50	0.0025	0.50
			222.00	223.50	S142186	1.50	0.0025	0.50
			223.50	225.00	S142187	1.50	0.0025	0.50
			225.00	226.50	S142188	1.50	0.0025	0.50
			226.50	228.00	S142189	1.50	0.0025	0.50
			228.00	229.50	S142190	1.50	0.0025	0.50
			229.50	231.00	S142191	1.50	0.0025	
			231.00	232.50	S142192	1.50	0.0025	

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			232.50	234.00	S142193	1.50	0.0025	
			234.00	235.50	S142194	1.50	0.0025	
			235.50	237.00	S142195	1.50	0.0025	
			237.00	238.50	S142196	1.50	0.0025	
			238.50	240.00	S142197	1.50	0.0025	
			240.00	241.50	S142198	1.50	0.0025	
			241.50	243.00	S142199	1.50	0.0025	
			243.00	244.50	S142202	1.50	0.0025	
			244.50	246.00	S142203	1.50	0.0025	
			246.00	247.50	S142204	1.50	0.0025	
			247.50	249.00	S142205	1.50	0.0025	
			249.00	250.50	S142206	1.50	0.0025	
			250.50	252.00	S142207	1.50	0.0025	
			252.00	253.50	S142208	1.50	0.0025	
			253.50	255.00	S142209	1.50	0.0025	
			255.00	256.50	S142211	1.50	0.0025	
			256.50	258.00	S142212	1.50	0.0025	
			258.00	259.50	S142213	1.50	0.0025	
			259.50	261.00	S142214	1.50	0.0025	
			261.00	262.50	S142215	1.50	0.0025	
			262.50	264.00	S142216	1.50	0.0025	
262.67	262.91	FLT Fault 30° 262.67-262.91m: Flt oriented at 30dtca and >10cm thick. The fault is infilled with black clay/gravel. The wallrock is degraded and soft to scratch with steel (as opposed to the rest of the unit which is hard to scratch)						
			264.00	265.50	S142217	1.50	0.0025	
			265.50	267.00	S142218	1.50	0.0025	
			267.00	268.50	S142219	1.50	0.0025	
			268.50	270.00	S142220	1.50	0.0025	
			270.00	271.50	S142221	1.50	0.0025	
			271.50	273.00	S142222	1.50	0.0025	

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
	273.00	274.50	S142223	1.50	0.0025	
	274.50	276.00	S142224	1.50	0.0025	
	276.00	277.50	S142227	1.50	0.0025	
	277.50	279.00	S142228	1.50	0.0025	
	279.00	280.50	S142229	1.50	0.0025	
	280.50	282.00	S142230	1.50	0.0025	
	282.00	283.50	S142231	1.50	0.0025	
	283.50	285.00	S142232	1.50	0.0025	
	285.00	286.50	S142233	1.50	0.0025	
	286.50	288.00	S142234	1.50	0.0025	
	288.00	289.50	S142236	1.50	0.0025	
	289.50	291.00	S142237	1.50	0.0025	
	291.00	292.50	S142238	1.50	0.0025	
	292.50	294.00	S142239	1.50	0.0025	
	294.00	295.50	S142240	1.50	0.0025	
	295.50	297.00	S142241	1.50	0.0025	
	297.00	298.50	S142242	1.50	0.0025	
	298.50	300.00	S142243	1.50	0.0025	

Canadian Malartic Corporation - Kirkland Lake Project

DDH: SM15_04

		Claims title:	1202543	Section:	
		Township:	Gauthier	Level:	
		Range:		Work place:	Dobie
Contractor:	Spektra	Lot:			
Author:	Christopher Clarke	Start date:	06/12/2015	Description date:	07/12/2015
		End date:	08/12/2015		

Collar

Azimuth: 35.0°
Dip: -50.00°
Length: 258.00

UTM-Nad83

East	585882.964
North	5328831.159
Elevation	320.012

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Multishot	9.00	39.5°	-49.3°	No
Multishot	12.00	37.9°	-49.9°	No
ReflexEZS	15.00	36.2°	-49.7°	No
Multishot	18.00	39.4°	-51.1°	No
Multishot	21.00	35.8°	-49.6°	No
Multishot	24.00	35.4°	-49.4°	No
Multishot	27.00	35.5°	-49.4°	No
Multishot	30.00	36.0°	-49.7°	No

Type	Depth	Azimuth	Dip	Invalid
Multishot	33.00	35.7°	-49.3°	No
Multishot	36.00	35.8°	-49.3°	No
Multishot	39.00	35.4°	-49.0°	No
Multishot	42.00	36.5°	-49.2°	No
Multishot	45.00	37.0°	-49.3°	No
Multishot	48.00	37.3°	-49.2°	No
Multishot	51.00	35.1°	-48.0°	No
.....	.....	.....	.....	.....

Number of samples:	68
Number of QAQC samples:	13
Total sampled length:	100.82

Core size: NQ Cemented: Yes Stored: No

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
0.00	1.18	OVB **Overburden** Overburden						
1.18	63.61	V7 **Basalt** The drill collars into mafic volcanic flows Mafic volcanic flows. The unit is massive and aphanitic with periodic fine-medium grained intervals where cooling ocurred more gradually. The unit is a dark grey colour. There are flow margins/contacts which ar oriented at 45-60dtca; these margins are 3% abundant and are preferentially altered with hem-ep-alb-mgt and 1-5cm thick. Overall the unit is weakly chl alt'd and reacts very weakly/patchily to KFC (ank). There are <1% abundant cc+/-ep veinlets within the unit oriented at 30 and 70dtca and 1-2mm thick. The unit hosts trace amounts of <1-2mm pyrite within the unit matrix/flow margins. The unit is non-magnetic except when approaching the lower contact. 55.5-63.61m: The unit becomes moderately-strongly magnetic. Pyrite abundances increase to 1% and average grain size increases to 2mm. The unit also develops a weak fabric oriented at 60dtca. 58-58.56m: SHZ: The interval is broken into 1-4cm thick discs and <1cm sized pebbles. The lithology has a talcy-soapy feel and is shots. The breaks are oriented at 70dtca.	1.18	2.00	S142244	0.82	0.0025	0.10
1.18	55.50	Cl; Ank; Ep; He; Alb **Chlorite; Ankerite; Epidote; Hematite; Albite** There are flow margins/contacts which ar oriented at 45-60dtca; these margins are 3% abundant and are preferentially altered with hem-ep-alb-mgt and 1-5cm thick. Overall the unit is weakly chl alt'd and reacts very weakly/patchily to KFC (ank). There are <1% abundant cc+/-ep veinlets within the unit oriented at 30 and 70dtca and 1-2mm thick.						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
1.18	55.50	Py00.1 Pyrite 0.1% he unit hosts trace amounts of <1-2mm pyrite within the unit matrix/flow margins.						
			2.00	3.00	S142245	1.00	0.0025	0.10
			3.00	4.50	S142246	1.50	0.0025	0.10
			4.50	6.00	S142247	1.50	0.0025	0.10
			6.00	7.50	S142248	1.50	0.0025	0.10
			7.50	9.00	S142249	1.50	0.0025	0.10
			9.00	10.50	S142252	1.50	0.0025	0.10
			10.50	12.00	S142253	1.50	0.0025	0.10
			12.00	13.50	S142254	1.50	0.0025	0.10
			13.50	15.00	S142255	1.50	0.0025	0.10
			15.00	16.50	S142256	1.50	0.0025	0.10
			16.50	18.00	S142257	1.50	0.0025	0.10
			18.00	19.50	S142258	1.50	0.0025	0.10
			19.50	21.00	S142259	1.50	0.0025	0.10
			21.00	22.50	S142261	1.50	0.0025	0.10
			22.50	24.00	S142262	1.50	0.0025	0.10
			24.00	25.50	S142263	1.50	0.0025	0.10
			25.50	27.00	S142264	1.50	0.0025	0.10
			27.00	28.50	S142265	1.50	0.0025	0.10
			28.50	30.00	S142266	1.50	0.0025	0.10
			30.00	31.50	S142267	1.50	0.0025	0.10
			31.50	33.00	S142268	1.50	0.0025	0.10
			33.00	34.50	S142269	1.50	0.0025	0.10
			34.50	36.00	S142270	1.50	0.0025	0.10
			36.00	37.50	S142271	1.50	0.0025	0.10
			37.50	39.00	S142272	1.50	0.0025	0.10
			39.00	40.50	S142273	1.50	0.0025	0.10
			40.50	42.00	S142274	1.50	0.0025	0.10
			42.00	43.50	S142277	1.50	0.0025	0.10
			43.50	45.00	S142278	1.50	0.0025	0.10

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			45.00	46.50	S142279	1.50	0.0025	0.10
			46.50	48.00	S142280	1.50	0.0025	0.10
			48.00	49.50	S142281	1.50	0.0025	0.10
			49.50	51.00	S142282	1.50	0.0025	0.10
			51.00	52.50	S142283	1.50	0.0025	0.10
			52.50	54.00	S142284	1.50	0.0025	0.10
			54.00	55.50	S142286	1.50	0.0025	1.00
55.50	63.61	Py01 Pyrite 1% Pyrite abundances increase to 1% and average grain size increases to 2mm. The pyrite is diseminated within the unit matrix.	55.50	57.00	S142287	1.50	0.0025	1.00
			57.00	58.50	S142288	1.50	0.0025	1.00
58.00	58.56	SZ Shear Zone 70° 58-58.56m: SHZ: The interval is broken into 1-4cm thick discs and <1cm sized pebbles. The lithology has a talcy-soapy feel and is shots. The breaks are oriented at 70dtca.						
			58.50	60.00	S142289	1.50	0.0025	1.00
			60.00	61.50	S142290	1.50	0.0025	1.00
			61.50	63.00	S142291	1.50	0.0025	1.00
			63.00	64.50	S142292	1.50	0.0025	0.10
63.61	65.90	CHSD; V7a Cherty Sediments; Altered Basalt Upper contact is sharp = 70dtca A very fine grained cherty sediment with a possible volcanogenic protolith. The unit has bedding oriented at 70dtca; there appear to be rounded 1-10+cm inclusions of mafic flow matrerial within the unit as well (5% abundant). The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The unit is non-magnetic except for the mafic flow inclusions which are						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
63.61	65.90	Si; Se; He Silica; Sericite; Hematite The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour.						
63.61	65.90	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
			64.50	66.00	S142293	1.50	0.0025	0.10
65.90	68.12	1SMa Mafic Syenite Upper contact is sharp = 75dtca A fine-medium grained mafic syenite dyke. The syenite is a grey-pink colour. The unit matrix is equigranular with noticeable 10-15% abundant 2mm hornblende grains which are not aligned to each other. The unit also hosts <1% mafic xenoliths 4-6mm in size. The unit matrix is weakly hem altered and does not react to HCl or KFC. The unit is non-magnetic. There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
65.90	68.12	He Hematite The unit matrix is weakly hem altered and does not react to HCl or KFC.						
65.90	68.12	Py00.1 Pyrite 0.1% There are trace amounts of <1mm pyrite diseminated within the unit matrix.						
			66.00	67.50	S142294	1.50	0.0025	0.10
			67.50	69.00	S142295	1.50	0.0025	0.10
68.12	80.80	V7a; V7p Altered Basalt; pillowed basalt						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		Upper contact is sharp = 70dtca An aphanitic mafic flow unit with intense alteration intervals and pilow selvedges. The unit is has regular 0.5-3m intervals of strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The intensely altered areas look like intertflow sediments. Outside of these zones with unit matrix is black and overprinted with wispy epidote-ser-cc alteration veinlets/bands (up to 4cm thick) oriented at 60dtca. The unit displays fracturing/flow margins oriented at 60dtca which are either SiO2+/-hem-ser alt'd or ep altered. The unit is moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix. 68.12-69.9m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour 70.44-71.05m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour 72.5-73.73m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour 77.16-77.96m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour						
68.12	69.90	Si; Se; He **Silica; Sericite; Hematite** The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour.						
68.12	69.90	Py00.1 **Pyrite 0.1%** There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.	69.00	70.50	S142296	1.50	0.0025	0.10
69.90	70.44	Ep; Se; Ca **Epidote; Sericite; Calcite** weak-moderate patchy Epidote-sericite-cc alteration banding						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
70.44	71.05	Si; Se; He **Silica; Sericite; Hematite** 70.44-71.05m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour	70.50	72.00	S142297	1.50	0.0025	0.10
71.05	72.50	Ep; Se; Ca **Epidote; Sericite; Calcite** weak-moderate patchy Epidote-sericite-cc alteration banding	72.00	73.50	S142298	1.50	0.0025	0.10
72.50	73.73	Si; Se; He **Silica; Sericite; Hematite** 72.5-73.73m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour	73.50	75.00	S142299	1.50	0.0025	0.10
73.73	77.16	Ep; Se; Ca **Epidote; Sericite; Calcite** weak-moderate patchy Epidote-sericite alteration banding	75.00	76.50	S142302	1.50	0.0025	0.10
			76.50	78.00	S142303	1.50	0.0025	0.10
77.16	77.96	Si; Se; He **Silica; Sericite; Hematite** 77.16-77.96m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour						
77.96	80.80	Ep; Se; Ca **Epidote; Sericite; Calcite** weak-moderate patchy Epidote-sericite-cc alteration banding	78.00	79.50	S142304	1.50	0.0025	0.10
			79.50	81.00	S142305	1.50	0.0025	0.10
80.80	83.33	CHSD; V7a **Cherty Sediments; Altered Basalt** Upper contact is sharp = 50dtca A very fine grained cherty sediment with a possible						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		volcanogenic protolith. The unit has bedding oriented at 70dtca; there appear to be rounded 1-10+cm inclusions of mafic flow matrerial within the unit as well (5% abundant). The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The unit is non-magnetic except for the mafic flow inclusions which are moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
80.80	83.33	Si; Se; He Silica; Sericite; Hematite The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour.						
80.80	83.33	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
			81.00	82.50	S142306	1.50	0.0025	0.10
			82.50	84.00	S142307	1.50	0.0025	0.10
83.33	86.70	V7a; V7p Altered Basalt; pillowed basalt Upper contact is sharp = 30dtca An aphanitic mafic flow unit with intense alteration intervals and pilow selvedges. The unit is has regular 0.5-3m intervals of strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The intensely altered areas look like intertflow sediments. Outside of these zones with unit matrix is black and overprinted with wispy epidote-ser-cc alteration veinlets/bands (up to 4cm thick) oriented at 60dtca. The unit displays fracturing/flow margins oriented at 60dtca which are either SiO2+/-hem-ser alt'd or ep altered. The unit is moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix. 85.2-86.7m: strong SiO2 alteration with weak-moderate ser						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		and weak hem alt'n generating a beige-pink colour						
83.33	85.20	Ep; Se; Ca Epidote; Sericite; Calcite weak-moderate patchy Epidote-sericite-cc alteration banding						
83.33	86.70	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
			84.00	85.50	S142308	1.50	0.0025	0.10
85.20	86.70	Si; Se; He Silica; Sericite; Hematite 85.2-86.7m: strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour						
			85.50	87.00	S142309	1.50	0.0025	0.10
86.70	87.55	CHSD; V7a Cherty Sediments; Altered Basalt Upper contact is sharp = 50dtca A very fine grained cherty sediment with a possible volcanogenic protolith. The unit has bedding oriented at 70dtca; there appear to be rounded 1-10+cm inclusions of mafic flow matrerial within the unit as well (5% abundant). The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The unit is non-magnetic except for the mafic flow inclusions which are moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
86.70	87.55	Si; Se; He Silica; Sericite; Hematite The unit is strongly SiO2 altered with weak-moderate ser and weak hem alt'n generating a beige-pink colour.						
86.70	87.55	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit as						

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		<1-1mm disemination within the unit matrix.						
			87.00	88.50	S142311	1.50	0.0025	0.10
87.55	93.00	V7a; V7p Altered Basalt; pillowed basalt Upper contact is sharp = 50dtca with bleby pillow selveges An aphanitic mafic flow unit with intense alteration intervals and pilow selvedges. The unit is has regular 0.5-3m intervals of strong SiO2 alteration with weak-moderate ser and weak hem alt'n generating a beige-pink colour. The intensely altered areas look like intertflow sediments. Outside of these zones with unit matrix is black and overprinted with wispy epidote-ser-cc alteration veinlets/bands (up to 4cm thick) oriented at 60dtca. The unit displays fracturing/flow margins oriented at 60dtca which are either SiO2+/-hem-ser alt'd or ep altered. The unit is moderately magnetic. There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
87.55	93.00	Ep; Se; Ca Epidote; Sericite; Calcite weak-moderate patchy Epidote-sericite-cc alteration banding						
87.55	93.00	Py00.1 Pyrite 0.1% There are trace amounts of pyrite within the unit as <1-1mm disemination within the unit matrix.						
			88.50	90.00	S142312	1.50	0.0025	0.10
			90.00	91.50	S142313	1.50	0.0025	0.10
			91.50	93.00	S142314	1.50	0.0025	0.10
93.00	258.00	3D Diabase Upper contact is sharp and chilled = 45dtca A medium grained diabase. The unit is grey in colour. The matrix is massive, barren and unremarkable. There are green serpentine/chlorite fractures oriented at 20dtca at 3m	93.00	94.50	S142315	1.50	0.009	

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
		intervals. The unit is weakly ankerite altered. The unit is moderately magnetic. There are no visible sulphides. 145.25-145.5m: Slip: Chlorite clay slip oriented at 25dtca and 1-5mm thick. The slip is gently undulose. 221-223m: The interval is weakly talc altered						
93.00	221.00	Ank **Ankerite** weak ankerite						
			94.50	96.00	S142316	1.50	0.009	
			96.00	97.50	S142317	1.50	0.009	
			97.50	99.00	S142318	1.50	0.019	
			99.00	100.50	S142319	1.50	0.01	
			100.50	102.00	S142320	1.50	0.009	
145.25	145.50	SLP **Slip 25°** 145.25-145.5m: Slip: Chlorite clay slip oriented at 25dtca and 1-5mm thick. The slip is gently undulose.						
221.00	223.00	Talc; Ank **Talc; Ankerite** weak talc-ank						
223.00	258.00	Ank **Ankerite** weak ank						

Canadian Malartic Corporation - Kirkland Lake Project

DDH: SM15_05

		Claims title:	1222581	Section:	
		Township:	McElroy	Level:	
		Range:		Work place:	Dobie
Contractor:	Spektra	Lot:			
Author:	Christopher Clarke	Start date:	08/12/2015	Description date:	16/12/2015
		End date:	15/12/2015		

Collar

Azimuth: 35.0°
Dip: -50.00°
Length: 216.00

UTM-Nad83

East	585475.968
North	5327709.213
Elevation	302.405

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Multishot	102.00	1.1°	-51.7°	Yes
Multishot	105.00	3.8°	-51.7°	Yes
Multishot	108.00	29.7°	-51.7°	No
Multishot	111.00	36.1°	-51.7°	No
ReflexEZS	114.00	33.0°	-52.1°	No
Multishot	117.00	31.6°	-51.8°	No
Multishot	120.00	31.5°	-51.9°	No
Multishot	123.00	31.4°	-52.0°	No

Type	Depth	Azimuth	Dip	Invalid
Multishot	126.00	31.2°	-52.0°	No
Multishot	129.00	31.2°	-52.1°	No
Multishot	132.00	30.7°	-52.1°	No
Multishot	135.00	31.2°	-52.0°	No
Multishot	138.00	31.3°	-52.0°	No
Multishot	141.00	31.0°	-52.0°	No
Multishot	144.00	31.1°	-51.9°	No
.....	.....	.....	.....	.....

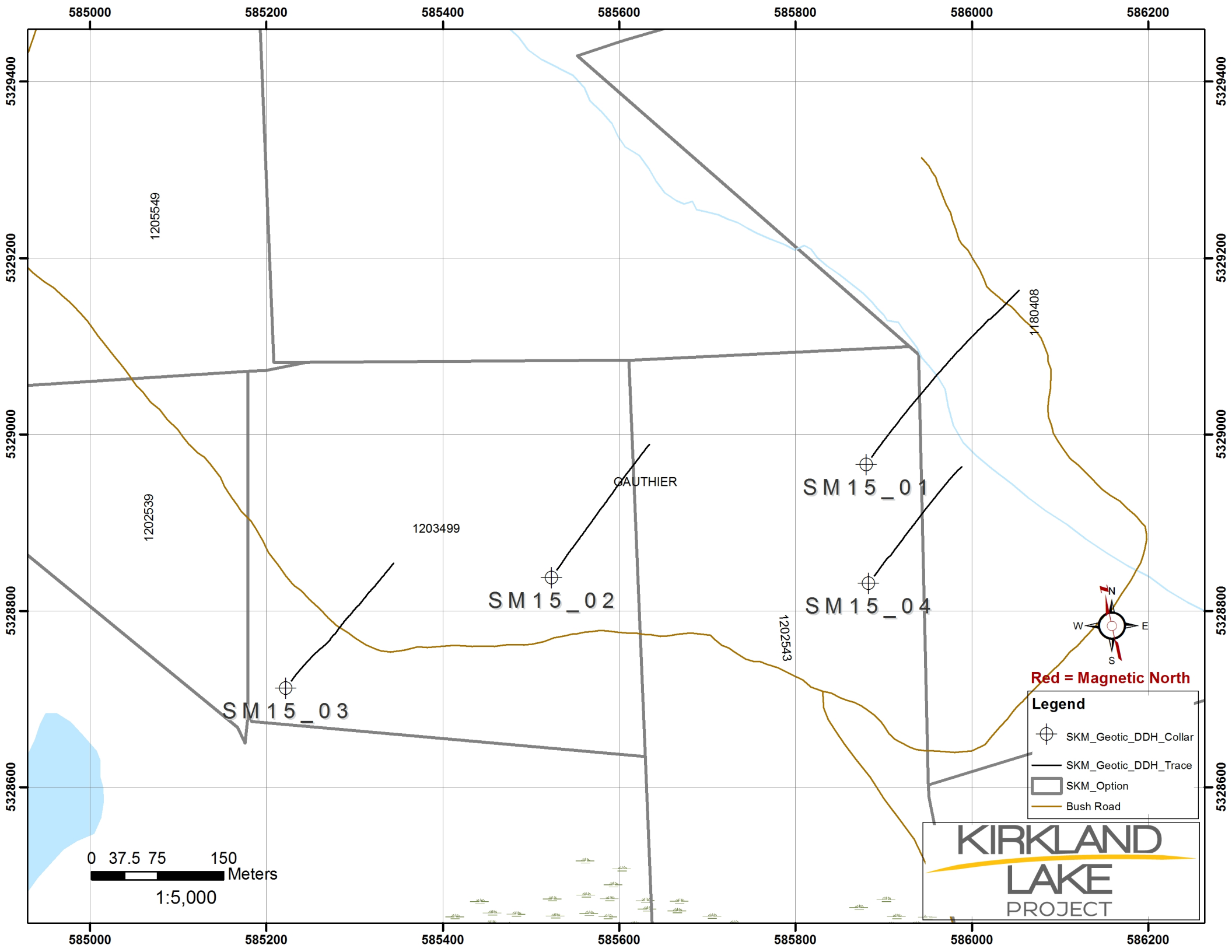
Number of samples:	33
Number of QAQC samples:	7
Total sampled length:	49.00

Core size: NQ Cemented: Yes Stored: No

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
0.00	99.60	OVB **Overburden** Overburden						
99.60	216.00	FP; 3G **Feldspar Porphyry; Gabbro** The drill collars into a feldspar phyric porphyry. The unit is a feldspar porphyry with localized psudeo gabbroic textures. The unit's feldpsar grain size varies from 2-10mm euhedral grains which are zoned and locally bimodal. The feldspar is 60-75% abundant and dominates the matrix/groundmass. The feldspar is white-grey in colour and appear to be mostly plagioclase. Some (1%) intervals dispaly aligned feldspar porphyritic grains. The groundmass is grey and aphanitic. There are 4% abundant mafic xenoliths in the unit. The xenoliths are 1-5cm in szie, rounded with a lobed appearance. The xenoliths are mafic and aphanitic/fine grained with 1mm amphibole. The unit is largely unaltered but there is a weak talc sheen on the core. The unit is non-magnetic with weak patches of magnetism in the first 10m of the unit. There are trace amounts of <1mm, euhedral pyrite diseminated within the unit matrix with rare localized 0.5% abundances. 163-163.33m: DZ/Flt: A ductile deformation zone oriented at 35dtca and 5cm thick. A mud gouge fault borders the lower contact of the deformation and is lost in BBC. 178.65-181.55m: mafic xenolith inclusion. Aphanitic and grey with <2% amphibole grains.						
99.60	216.00	Py00.1 **Pyrite 0.1%** There are trace amounts of <1mm, euhedral pyrite diseminated within the unit matrix with rare localized 0.5% abundances.						
			101.00	102.00	S142321	1.00	0.0025	
			102.00	103.50	S142322	1.50	0.0025	

Description			Assay					
			From	To	Sample number	Length	AuBest	Sulphide_pct
			103.50	105.00	S142323	1.50	0.0025	
			105.00	106.50	S142324	1.50	0.0025	
			106.50	108.00	S142327	1.50	0.0025	
			108.00	109.50	S142328	1.50	0.0025	
			109.50	111.00	S142329	1.50	0.0025	
			111.00	112.50	S142330	1.50	0.0025	
			112.50	114.00	S142331	1.50	0.0025	
			135.00	136.50	S142332	1.50	0.0025	
			136.50	138.00	S142333	1.50	0.0025	
			138.00	139.50	S142334	1.50	0.0025	
			139.50	141.00	S142336	1.50	0.006	
			141.00	142.50	S142337	1.50	0.0025	
			142.50	144.00	S142338	1.50	0.0025	
			159.00	160.50	S142339	1.50	0.0025	
			160.50	162.00	S142340	1.50	0.0025	
			162.00	163.50	S142341	1.50	0.02	
163.00	163.33	DZ; FLT **Deformation Zone 35°; Fault** 163-163.33m: DZ/Flt: A ductile deformation zone oriented at 35dtca and 5cm thick. A mud gouge fault borders the lower contact of the deformation and is lost in BBC.						
			163.50	165.00	S142342	1.50	0.0025	
			165.00	166.50	S142343	1.50	0.0025	
			166.50	168.00	S142344	1.50	0.0025	
			177.00	178.50	S142345	1.50	0.0025	
			178.50	180.00	S142346	1.50	0.0025	
			180.00	181.50	S142347	1.50	0.0025	
			181.50	183.00	S142348	1.50	0.0025	
			204.00	205.50	S142349	1.50	0.0025	
			205.50	207.00	S142352	1.50	0.0025	
			207.00	208.50	S142353	1.50	0.0025	
			208.50	210.00	S142354	1.50	0.0025	
			210.00	211.50	S142355	1.50	0.0025	

Description	Assay					
	From	To	Sample number	Length	AuBest	Sulphide_pct
	211.50	213.00	S142356	1.50	0.0025	
	213.00	214.50	S142357	1.50	0.0025	
	214.50	216.00	S142358	1.50	0.0025	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CAUTHIER
1202543
SM15_01
SM15_02
SM15_03
SM15_04
N
W
E
S
Red = Magnetic North
Legend
SKM_Geotic_DDH_Collar
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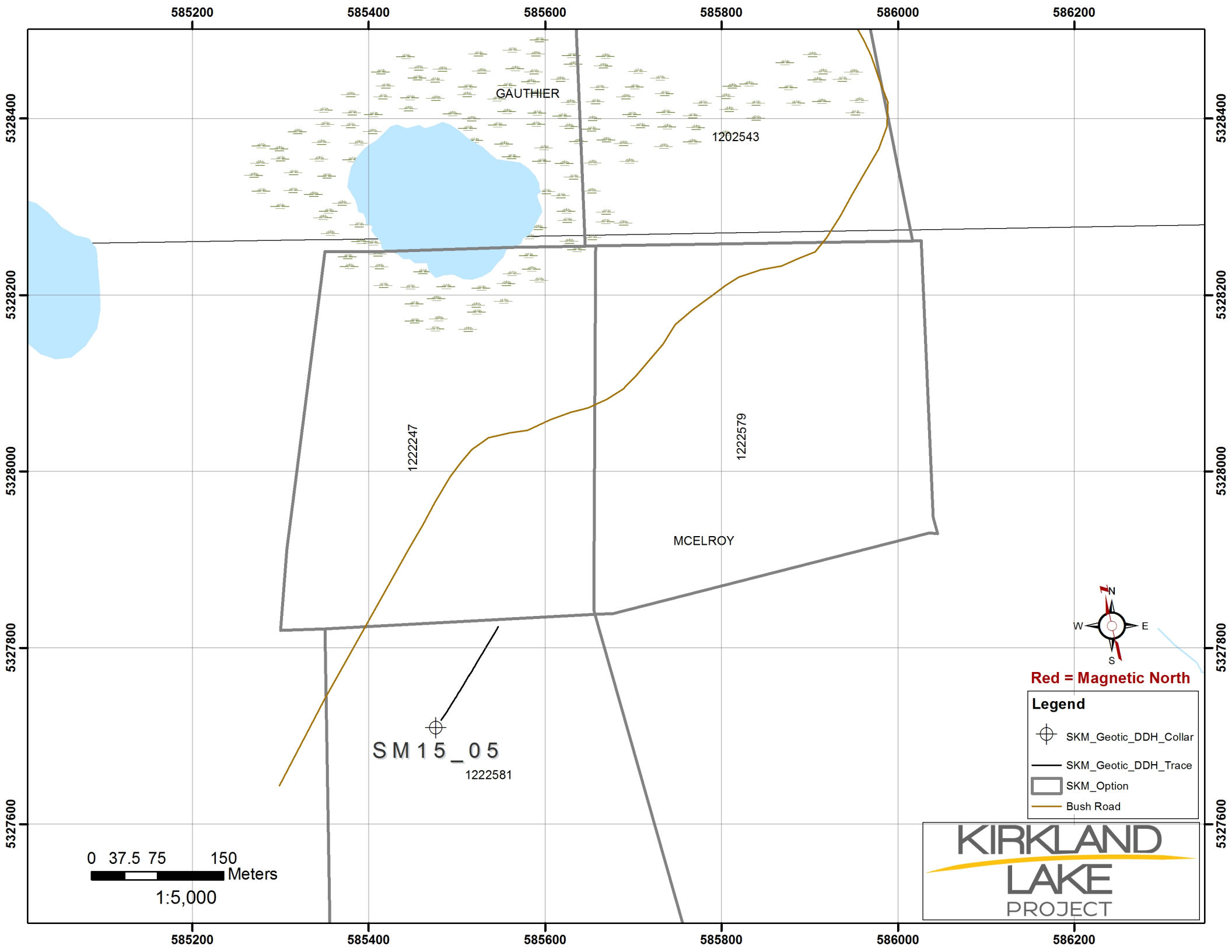
KIRKLAND LAKE PROJECT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SM15_05
1222581
N
W
E
S
Red = Magnetic North
Legend
SKM_Geotic_DDH_Collar
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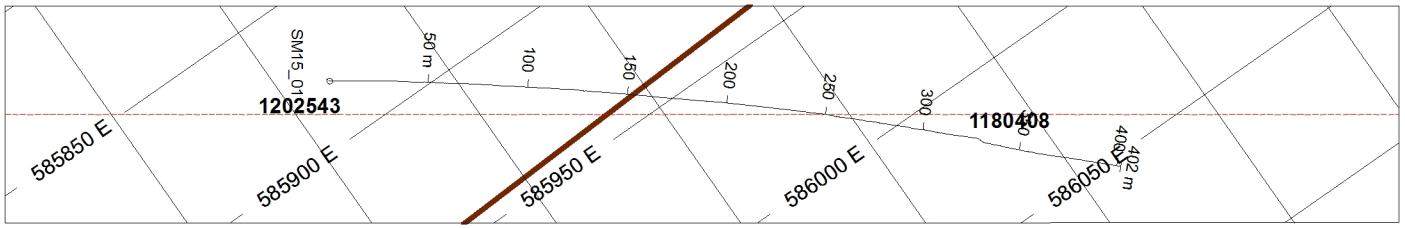

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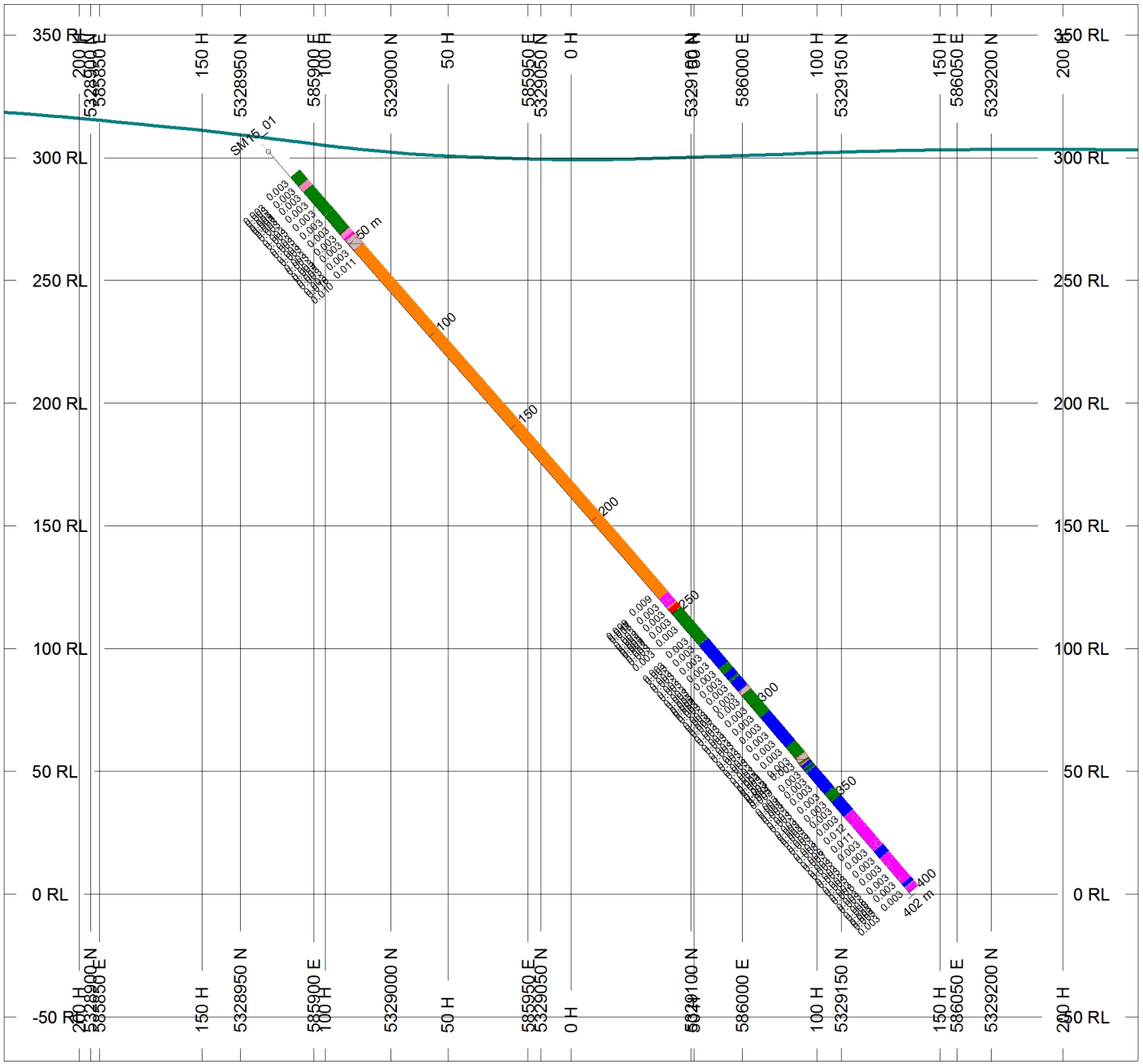

TOPOGRAPHY

KL.GRD

ROCK CODES LITH1	PAT	LABEL	DESCRIPTION
		OVB	Overburden
		1SMa	Mafic Syenite
		1Sp	Syenite Porphyry
		3D	Diabase
		3L	Lamprophyrye
		V7	Basalt
		V7G	Gabbroic Basalt
		V7a	Altered Basalt
		FP	Feldspar Porphyry
		FPa	Altered Feldspar Porphyry
		F2	Iron Formation
		MI	Mafic Intrusion
		FAZ	Fault Zone
		QCVZ	Quartz-Carb Vein Zone

ASSAYS	L/R	TEXT
Au(ppm)	L	-------

SCALE

(m)

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NAD83 / UTM zone 17N

1:2,500

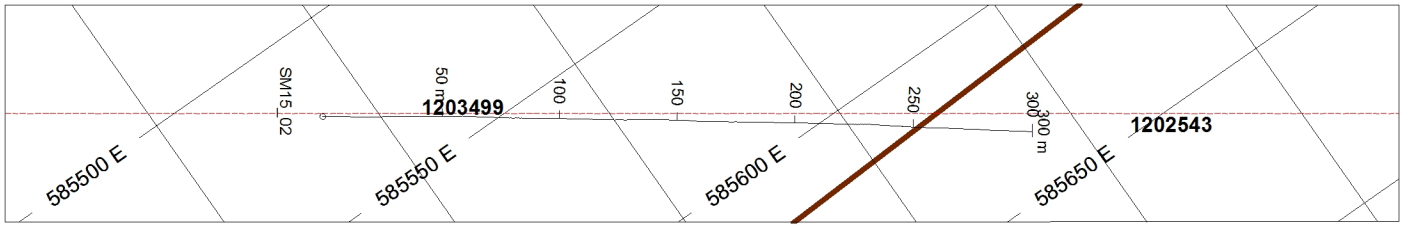
AZIMUTH = 35°

N E S W

Canadian Malartic Corp.

Skead MacGregor

Drill Section



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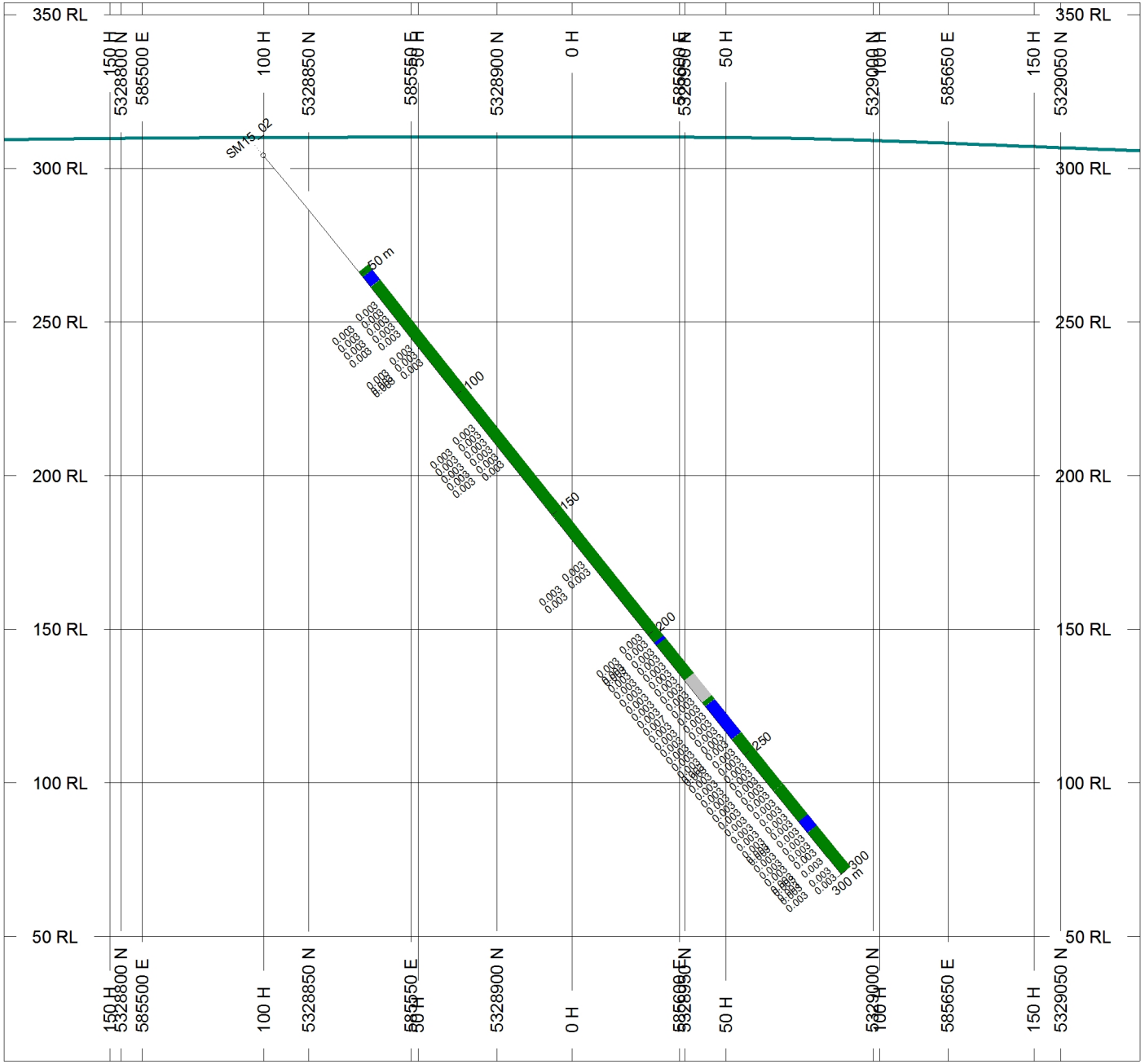

TOPOGRAPHY

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ROCK CODES LITH1	PAT	LABEL	DESCRIPTION
		OVB	Overburden
		3L	Lamprophyrye
		V7	Basalt
		V7G	Gabbroic Basalt
		CHSD	Cherty Sediments
		MI	Mafic Intrusion

ASSAYS	L/R	TEXT
Au(ppm)	L	-------

SCALE

(m)

-20 0 20 40 60

NAD83 / UTM zone 17N

1:2,000

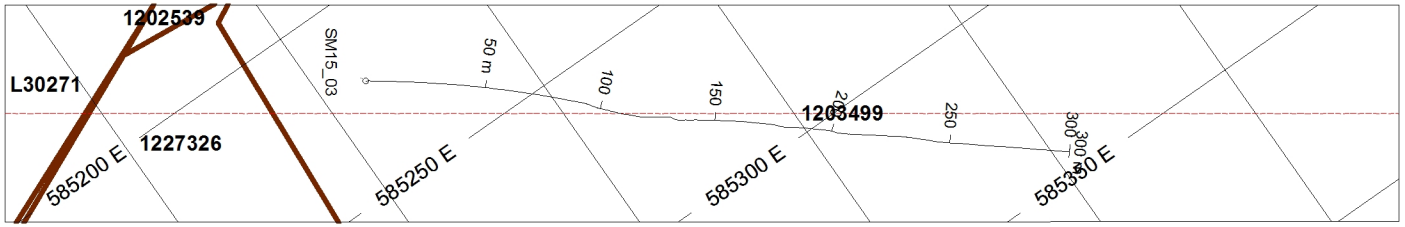
AZIMUTH = 35°

N W E S

Canadian Malartic Corp.

Skead MacGregor

Drill Section



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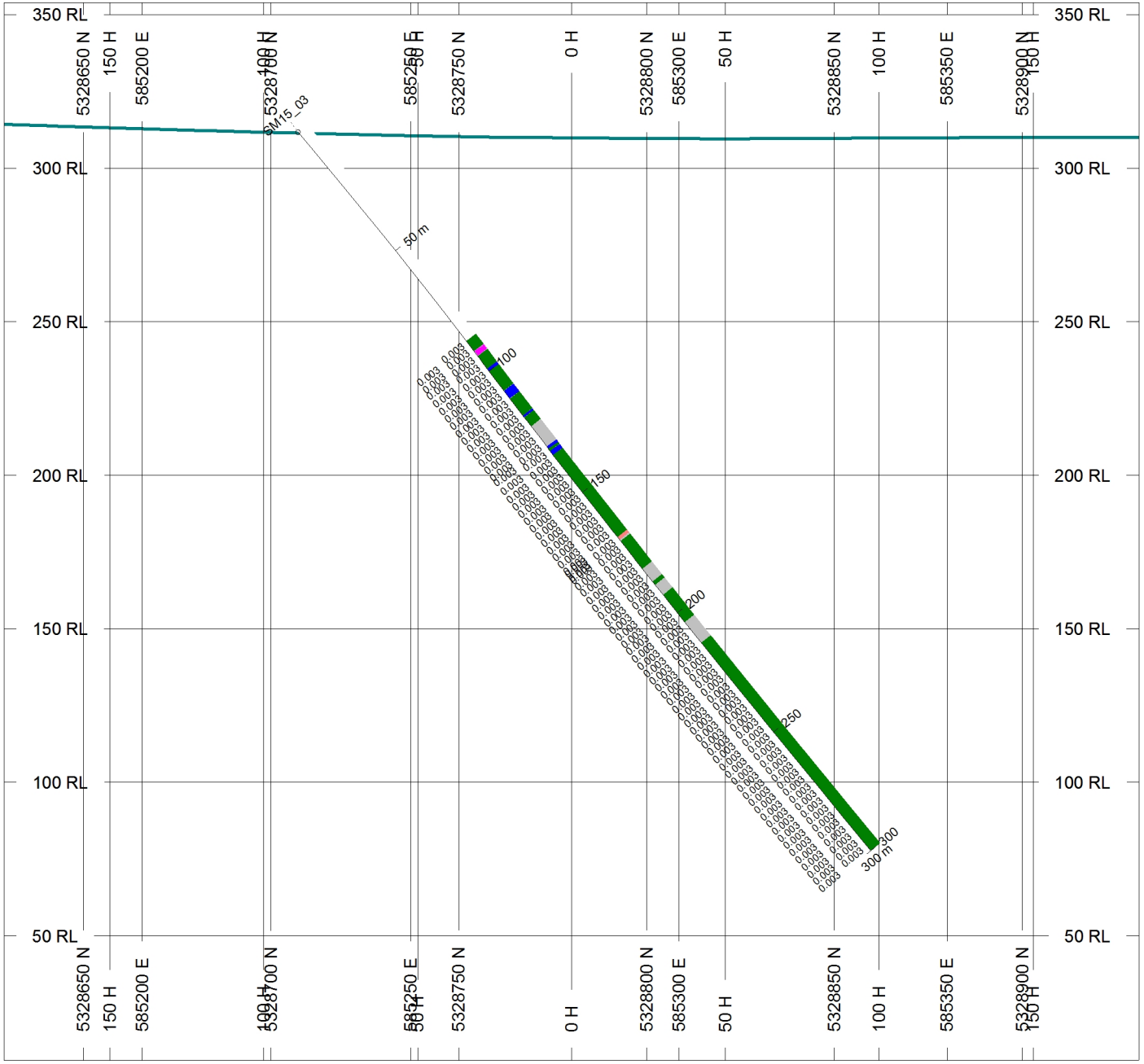

TOPOGRAPHY

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ROCK CODES LITH1	PAT	LABEL	DESCRIPTION
		OVB	Overburden
		1S	Syenite
		3L	Lamprophyrye
		V7	Basalt
		V7a	Altered Basalt
		FP	Feldspar Porphyry
		CHSD	Cherty Sediments

ASSAYS	L/R	TEXT
Au(ppm)	L	-------

SCALE

(m)

-20 0 20 40 60

NAD83 / UTM zone 17N

1:2,000

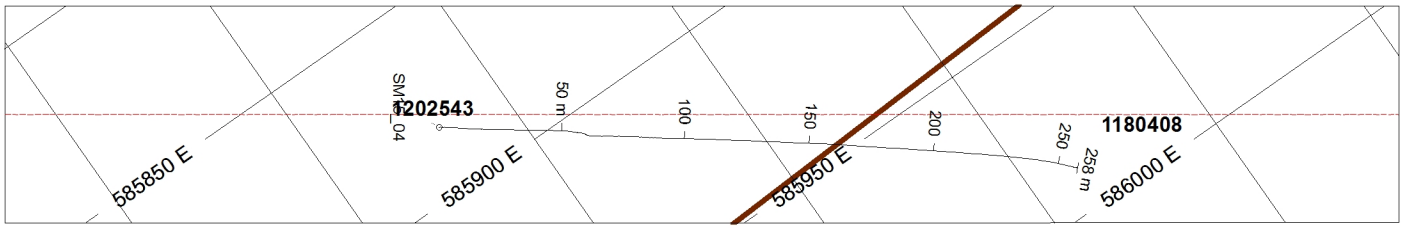
AZIMUTH = 35°

N W E S

Canadian Malartic Corp.

Skead MacGregor

Drill Section



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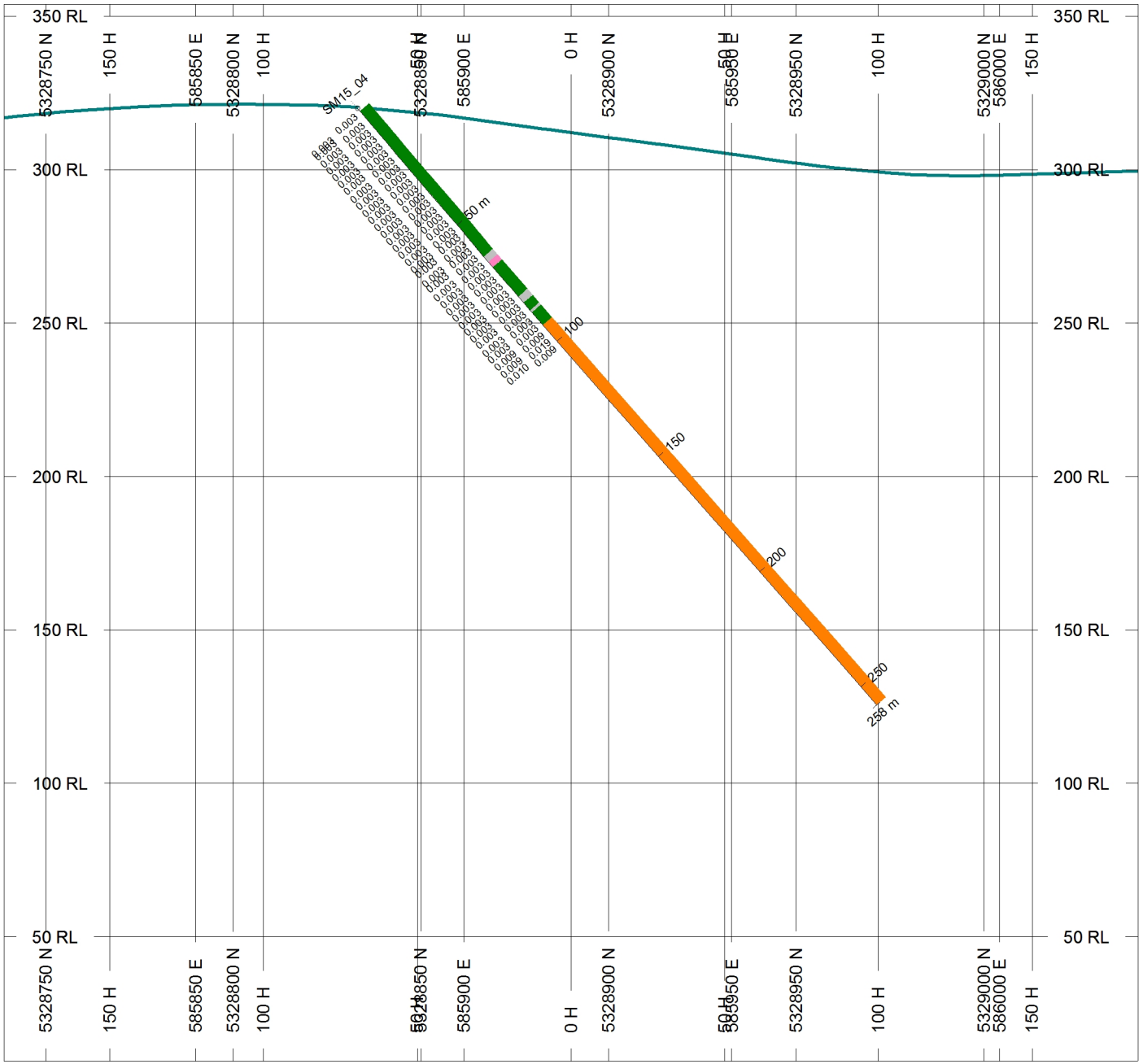

TOPOGRAPHY

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ROCK CODES LITH1	PAT	LABEL	DESCRIPTION
		OVB	Overburden
		1SMa	Mafic Syenite
		3D	Diabase
		V7	Basalt
		V7a	Altered Basalt
		CHSD	Cherty Sediments

ASSAYS	L/R	TEXT
Au(ppm)	L	-------

SCALE

(m)

-20 0 20 40 60

NAD83 / UTM zone 17N

1:2,000

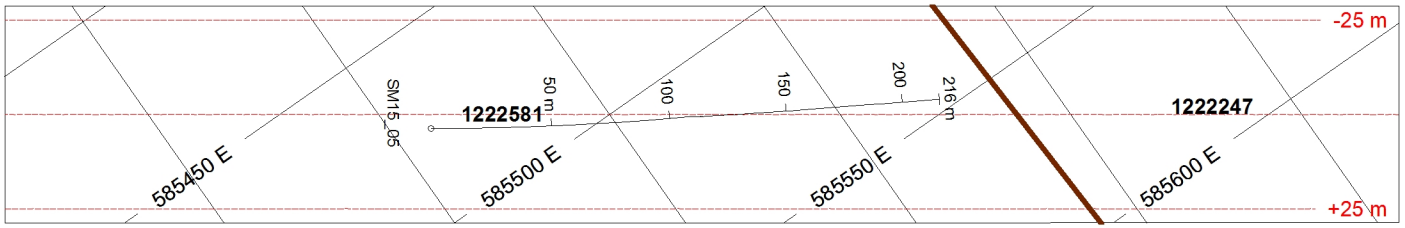
AZIMUTH = 35°

N W E S

Canadian Malartic Corp.

Skead MacGregor

Drill Section



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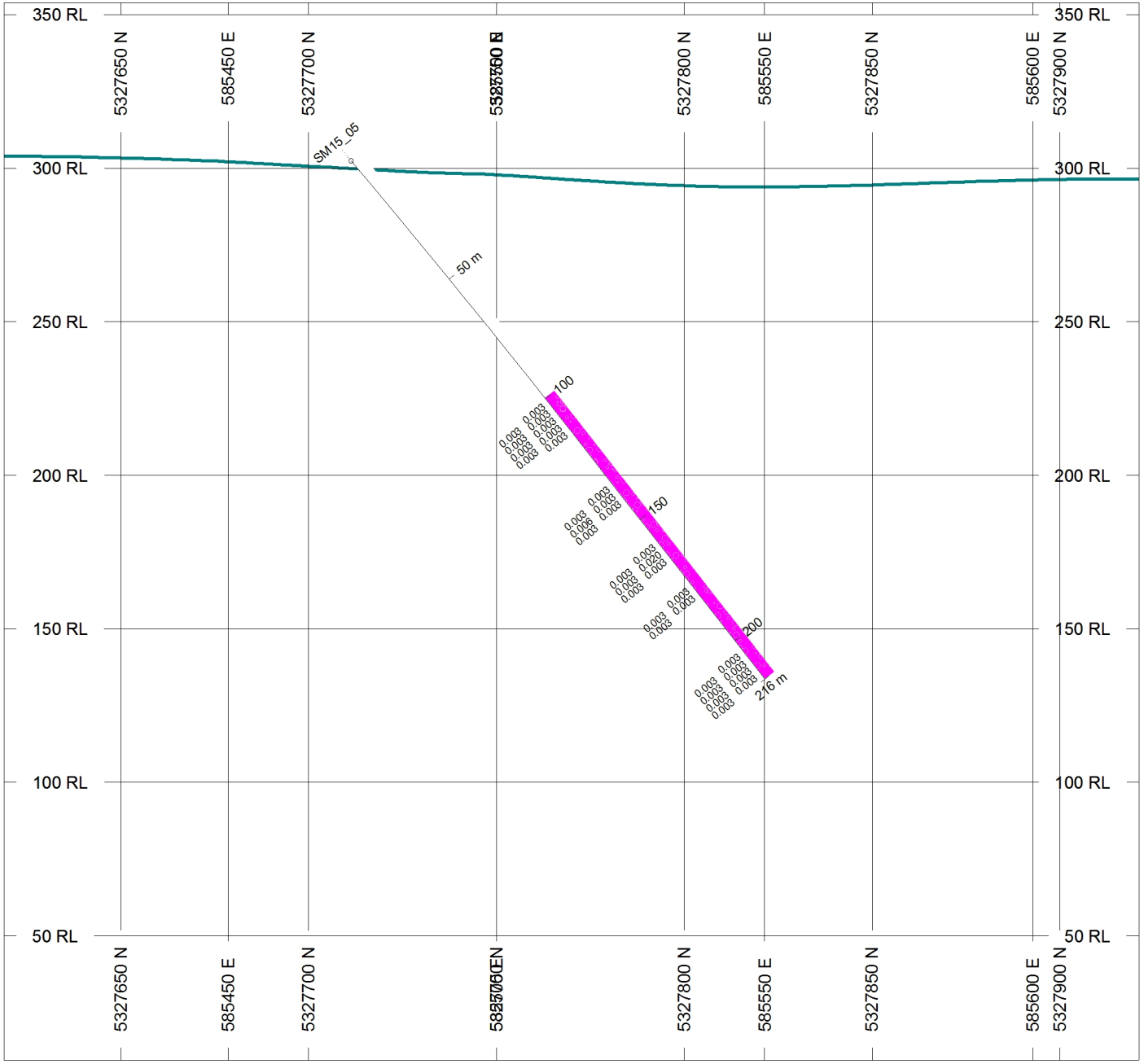

TOPOGRAPHY

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ROCK CODES LITH1	PAT	LABEL	DESCRIPTION
		OVB	Overburden
		FP	Feldspar Porphyry

ASSAYS	L/R	TEXT
Au(ppm)	L	-------

SCALE

(m)

-20 0 20 40 60

NAD83 / UTM zone 17N

AZIMUTH = 35°

N W E S

1:2,000

Canadian Malartic Corp.

Skead MacGregor

Drill Section