BRITISH COLUMBIA

Ministry of Energy & Mines
Energy & Minerals Division
Geological Survey Branch

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]	TOTAL COST
KEMESS PROPERTY : KEMESS EAST DIAMOND DRILL PROGRAM	$3,958,511

AUTHOR(S) BARNES, W. ; KONST R, LUCAS, K. KAY, B SIGNATURE(S)

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) MX-13-69 YEAR OF WORK 2007

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S) 4191255, JANUARY 21, 2008

PROPERTY NAME KEMESS

CLAIM NAME(S) (on which work was done) 243440, 241960, 310078, 243066, 304706, 304707, 515683

COMMODITIES SOUGHT Au, Cu

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN 093, 094-

MINING DIVISION OMINECA NTS 094D/15, 094E/02

LATITUDE 57 ° 03 ' 39 " LONGITUDE 126 ° 43 ' 27 " (at centre of work)

OWNER(S)

1) NORTHGATE MINERALS CORPORATION 2)

MAILING ADDRESS

406 - 815 HORNBY STREET
VANCOUVER, BC V6Z 2E6

OPERATOR(S) [who paid for the work]

1) NORTHGATE MINERALS CORPORATION 2)

MAILING ADDRESS

AS ABOVE

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

JURASSIC HAZELTON GROUP TODOGGONE FORMATION
TRIASSIC TAKLA GROUP, JURASSIC BLACK LAKE INTRUSIVES
MONZONITE ANDESITE

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS

27675, 28213, 29049

(OVER)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization	14.4 KM	241960, 243440 243066	173,092
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core	16,016.6 METRES, 25, NQ	241960, 243440, 515683	3,511,689
Non-core			
RELATED TECHNICAL			
Sampling/assaying	7662 CORE SAMPLES	241960, 243440, 515683	253,200
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)	20.53 KM	241960, 243440	20,530
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST	3,958,511

BC Geological Survey
Assessment Report
29848

ASSESSMENT REPORT:
2007 EXPLORATION PROGRAM

KEMESS PROPERTY:
KEMESS EAST DIAMOND DRILL PROGRAM

CLAIMS:
243440, 241960, 310078, 243066, 304706, 304707, 515683

OMINECA MINING DIVISION
BRITISH COLUMBIA

CENTERED ON:
LATITUDE 57° 03’ North
LONGITUDE 126° 43’ West

NTS 094D/15 and 094E/02

Owned and Operated By:

Northgate Minerals Corporation
815 Hornby Street, Suite 406
Vancouver, British Columbia
V6Z 2E6, Canada

W. Barnes, GIT
R. Konst, B.Sc.
K. Lucas, P.Geo
B. Kay, P.Geo.

January 2008

1.0 Executive Summary

This report outlines exploration work completed on the Kemess property in the Kemess East area from April 7, 2007 to October 22, 2007. The Kemess property is located in the Toodoggone mining camp, to the north of the McConnell Ranges, approximately 430 kilometers northwest of Prince George. The work described in this report was completed on claims 243440, 241960, 310078, 243066, 304706, 304707, and 515683. Expenditures allowable for assessment credit are $3,958,511.

Exploration during 2007 encompassed two main focuses. A combination skid and helicopter supported drill program was completed from May 1 to September 30, 2007. The drill program comprised a total of 16,016.6m of NQ diameter diamond drilling in 25 drill holes in Kemess East and one 420m NQ diameter diamond drill hole in the NOR 1 claims. A total of 8,424 prepared samples and 337 quality control samples were submitted for analysis, of which 7,662 samples were from holes drilled outside the KN Mining Lease reported here in. The Kemess East exploration drill program focused on determining the east extent of the already definedKemess North deposit and testing geophysical results. The targeted Kemess East area is bounded by north northwest trending structures that have offset the deposit to the south east. Two main zones of mineralization were discovered, the Altus and Ora Zones. The Altus Zone is the eastern most zone within Kemess East and is near surface mineralization within the Takla volcanics. Notable Altus Zone intersections are: KH-07 -03 returning 84.2m of 0.16g/tAu, 0.22%Cu, KH-07-05 returning 128.2m of 0.23g/tAu, 0.33%Cu and KH-07-07 returning 179.0m of 0.25g/tAu, 0.27%Cu. The Ora Zone seems to be a down dropped block next to the Altus Zone more closely related to the eastern edge of the Kemess North deposit. The Ora Zone is hosted within mineralized Black Lake quartz monzonite. Significant intersections of Au-Cu porphyry style mineralization were intercepted in several holes. Notable Ora Zone intersections are: KH-07-04 returning 457.3m of 0.3g/tAu, 0.39%Cu, KH-07-10 returning 356.0m of 0.32g/tAu, 0.35%Cu and KH-07-24 returning 152.9m of 0.62g/tAu, 0.53%Cu. The Altus zone is still open to the north and the Ora Zone is still open to the west, north and at depth. Future exploration should focus on definition drilling the Altus Zone into resource/reserve status, as well as completing more diamond drill holes within the Ora Zone to delineate the size and grade of possible deposit.

The single drill hole (NR-07-01) on the NOR 1 claim tested a large, second-order intensity, chargeability anomaly on line 12300N which was hoped to be the source of mineralization encountered in Hole NR-05-03. This 2005 hole returned sporadic base metal (Cu, Pb, Zn) values near the bottom of the hole. While texturally suggestive of local skarn mineralization, it was theorized that this intercept may lead to a porphyry target.

The second focus was geophysical field work conducted over the Kemess North region and Kemess East region. A total of 23km of geophysical work was completed on the Kemess property, 14.4km of which was within the Kemess East. The work consisted of a Titan 24 geophysical survey and was completed in September 2007. The survey was conducted to follow-up on the geophysical anomaly discovered in 2006 and positive drill

results within 2006 and early 2007. The geophysical survey was conducted with 5 closely spaced lines to create a 3-D geophysical model of the anomalous area, resolve structure and gauge the size of the possible deposit. Results were positive and noted a large anomalous body running from Kemess East to Kemess North. These results have created a large target area for further drill delineation.

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2.0 Introduction

The Kemess Property is located in the mountains of north-central British Columbia, 430 kilometres northwest of Prince George, British Columbia at 57° 02' north longitude and 126° 47' west latitude. The property comprises four mining leases, and 59 claims, which together cover nearly 33,610 hectares. The Kemess South deposit currently supplies mill-feed to a 52,000 tonnes per day mill. In 2001, Northgate announced the discovery of a significant deposit at Kemess North.

The Kemess Property is owned and operated by Northgate Minerals Corporation. Infrastructure consists of an office and maintenance building, a 400-person camp, a mill building, access and service roads and an airstrip. Most supplies are trucked into the property via all-season road access from Mackenzie, British Columbia, while power is available directly from BC Hydro over a 380km power line.

Kemess occurs at the southern end of the Toodoggone Mining camp, which describes a collection of occurrences and deposits found in Mesozoic volcanic rocks of the eastern Stikine Arch. Large-scale structures are present in the area, with a major terrain boundary present just 25km east of the project area. The area is known for its Cu-Au porphyry deposits and low sulphidation epithermal Au-Ag vein deposits. Potential also exists for mesothermal vein deposits, skarn deposits, volcanic-associated massive sulphide deposits and red-bed Cu deposits.

The 2007 exploration season included two main programs; exploration diamond drilling in the Kemess East area and geophysical work. The exploration season extended from April 7 - October 22, 2007. The Kemess East drill program was undertaken in order to delineate the eastern extent of the Kemess North mineralizing system. This area has not been a focus within previous exploration programs on the Kemess Property, and thus is poorly understood. The program comprises a total of 16,016.6m of NQ diameter core diamond drilling in 25 drill holes. A total of 8,424 prepared samples and 337 quality control samples were submitted to ASL Chemex's North Vancouver laboratory for ICP analysis, and copper and gold fire assays, of which 7,662 samples are from 25 holes drilled outside the KN Mining Leas reported here in.

3.0 Location and Access

The Kemess Property is located in the mountainous area east of the Spatsizi Plateau and west of the Swannell Ranges near Thutade Lake, approximately 250 kilometres north of Smithers and 430 kilometres northwest of Prince George at 57°02' north latitude and 126°47' west longitude. The property, shown in **Figure 1**, spans the boundary between the 94E and 94D NTS sheets and lies within the Omineca Mining Division.

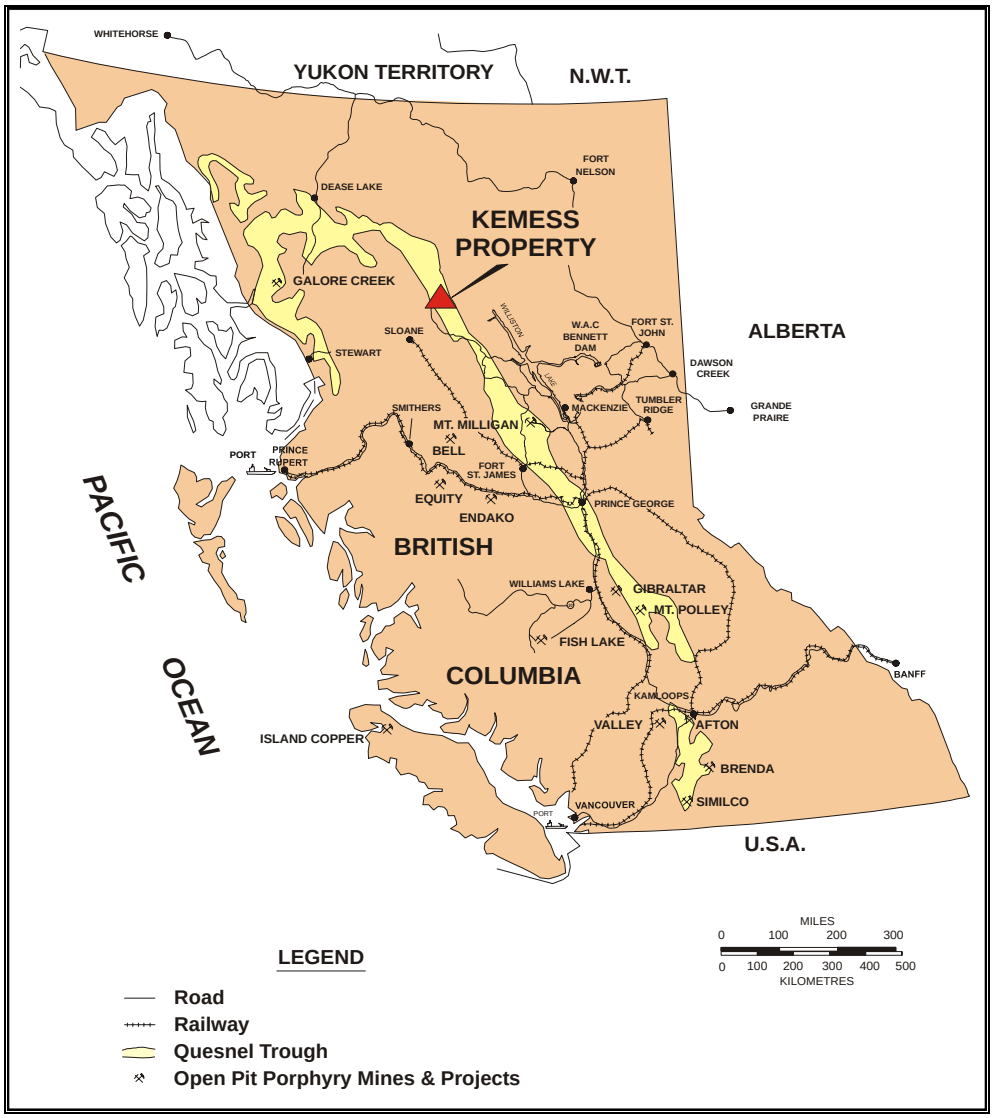

Figure 1 – Kemess property location map. North to top of page.

Access to the project is provided by both air and road, with regularly scheduled year-round flights from Vancouver, Smithers, and Prince George to Kemess. All season road access is available from the town of Mackenzie or Ft. St. James via the Omineca Resources access road.

The area is characterized by broad, open, drift and moraine covered valleys, yielding to sub-alpine plateaus and rugged incised peaks and cirques. Elevations range from 1,200m to 2,000m, with the tree line occurring at 1,500m. The Kemess area climate is generally moderate, although snow can occur during any month. Temperatures range from -40^{o}C to 30 ^{o}C and average annual precipitation amounts to 890mm.

The 2007 Kemess East Drill Program occurred above the tree line. The drill holes were located in the east half of the property, in the eastern-most of four east-west trending

cirques, which open to the north forming a common southern headwall. Access for the program was by drill road and helicopter in the summer months, and by helicopter and snowcat/snowmachine roads and during the winter months.

4.0 Claim Data

The Kemess property is comprised of four mining leases (354991, 410732, 410741, and 524240) and 59 surrounding and contiguous mineral claims, which together cover 33,609 hectares. All property mineral tenures are held by Northgate Minerals Corporation. The property falls under the jurisdiction of the Omineca Mining Division of British Columbia located on NTS map sheets 094D and 094E. **Table 1** outlines the relevant claim information for the property as listed with Ministry of Energy, Mines and Petroleum Resources as of February 15, 2008. **Figure 2** shows a summary map of the claims relative to the local infrastructure and **Figure 3** details the claims and mining leases comprising the Kemess Property. The report covers the work was performed on mineral tenures 241960, 243440, 310078, 243066, 304706, 304707, and 515683 between April 1, 2007 and September 30, 2007 under BC Ministry of Energy, Mines and Petroleum Resources mine permit MX-13-69.

The work expenditures totaled $3,958,511. On January 21, 2008 under event number 4191255, assessment work totaling $227,054.07 was applied to the claims listed in **Table 1.** The excess portion can be applied to Northgate's PAC once this submission had been approved for tenure credit.

In October 2004, Kemess Mines Ltd., now Northgate Minerals Corporation entered into an option agreement with David L. Cooke to earn 100% interest in the NOR 1 (242993) mineral claim. In June 2005, the NOR 1 claim was converted to cell claim (515683). The area of the optioned property is defined by the NOR 1 legacy claim, held at the time of the agreement. As of Oct. 15, 2007, all requirements under this option agreement have been met. The claim is now owned 100% by Northgate Minerals Corporation and subject to a royalty of 2% of net smelter returns held by David L. Cooke.

Northgate Minerals Corporation

Kemess Property, BC - Tenure Summary

Mineral Tenures	Tenures	Hectares	Acres
A. Mining Leases	**4**	**3,483.33**	**8,607.31**
B. Mineral Claims	**59**	**30,126.22**	**74,441.89**
	63	**33,609.55**	**83,049.20**

A. Mining Leases

Tenure No.	Tenure Type	District Lot	Title Holder	Map No.	Good To Date	Area (ha.)
354991	Mining Lease	L.7198, L.7199, L.7200, L.7201, L.7204, L.7207	NGX*	094E007	2008/Sep/15	862.33
410732	Mining Lease	L.7032, L.7328	NGX	094E007	2008/Sep/29	950
410741	Mining Lease	L.7329	NGX	094E007	2008/Sep/29	106
524240	Mining Lease	L.7342	NGX	094E	2008/Dec/22	1,565
4 Leases						**3,483.33**

B. Legacy and Cell Mineral Claims

Tenure No.	Tenure Type	Claim Name	Title Holder	Map No.	Good To Date	Area (Ha.)
241014	Mineral Claim	SEM #1	NGX*	094E007	2018/Dec/14	400
241959	Mineral Claim	NEK 3	NGX	094E007	2018/Dec/14	500
241960	Mineral Claim	NEW KEMESS 3	NGX	094E007	2018/Dec/14	375
242573	Mineral Claim	DU 2	NGX	094E007	2018/Dec/14	500
242574	Mineral Claim	NEK 4	NGX	094E007	2018/Dec/14	350
243063	Mineral Claim	CAN 1	NGX	094E007	2018/Dec/14	500
243064	Mineral Claim	DUNC 1	NGX	094E007	2018/Dec/14	100
243065	Mineral Claim	DUNC 2	NGX	094E007	2018/Dec/14	100
243066	Mineral Claim	DUNC 3	NGX	094E007	2018/Dec/14	150
243067	Mineral Claim	CREEK	NGX	094E007	2018/Dec/14	300
243440	Mineral Claim	ALISON 1	NGX	094E007	2018/Dec/14	500
304706	Mineral Claim	GOZ 1	NGX	094E007	2018/Dec/14	25
304707	Mineral Claim	GOZ 2	NGX	094E007	2018/Dec/14	25
310076	Mineral Claim	DUN 1	NGX	094E007	2018/Dec/14	225
310077	Mineral Claim	DUN 2	NGX	094E007	2018/Dec/14	225
310078	Mineral Claim	DUN 3	NGX	094E007	2018/Dec/14	225
343149	Mineral Claim	ATTY 7	NGX	094E017	2018/Dec/14	500
343150	Mineral Claim	ATTY 8	NGX	094E007	2018/Dec/14	500
355408	Mineral Claim	MILL CREEK 4	NGX	094E007	2018/Dec/14	25
401957	Mineral Claim	UN 1	NGX	094E007	2018/Dec/14	50
403629	Mineral Claim	BEAR 6	NGX	094D097	2018/Dec/14	500
403631	Mineral Claim	BEAR 8	NGX	094D097	2018/Dec/14	500
403633	Mineral Claim	BEAR 12	NGX	094D097	2018/Dec/14	500
403635	Mineral Claim	BEAR 16	NGX	094D097	2018/Dec/14	375
405949	Mineral Claim	LAT 1	NGX	094E007	2018/Dec/14	25
414229	Mineral Claim	DUNC 4	NGX	094E007	2018/Dec/14	25

414230	Mineral Claim	DUNC 5	NGX	094E007	2018/Dec/14	25
414231	Mineral Claim	UN 2	NGX	094E007	2018/Dec/14	25
414232	Mineral Claim	UN 3	NGX	094E007	2018/Dec/14	25
506817	MCX	TLK 1	NGX	094D	2018/Feb/11	423.346
506822	MCX	TLK 2	NGX	094D	2018/Feb/11	423.244
506824	MCX	TLK 3	NGX	094D	2018/Feb/11	387.724
506825	MCX	TLK 4	NGX	094E	2018/Feb/11	281.83
515677	MCX		NGX	094E	2018/Dec/14	1,108.035
515678	MCX		NGX	094E	2018/Dec/14	1,443.31
515683	MCX		NGX	094E	2018/Dec/11	669.335
515686	MCX		NGX	094D	2018/Dec/14	1,427.856
515693	MCX		NGX	094D	2018/Dec/14	1534.1
515694	MCX		NGX	094E	2018/Dec/14	1,353.164
516786	MCX		NGX	094E	2018/Dec/14	1,391.637
516814	MCX		NGX	094D	2018/Dec/14	863.906
516817	MCX		NGX	094D	2018/Dec/14	440.555
516848	MCX		NGX	094E	2018/Dec/14	105.661
516854	MCX		NGX	094E	2018/Dec/14	1,197.161
516860	MCX		NGX	094D	2018/Dec/14	1,075.379
543635	MCX		NGX	094E	2018/Dec/14	897.5519
543638	MCX		NGX	094E	2018/Dec/14	861.6243
543646	MCX		NGX	094E	2018/Dec/14	439.5708
543648	MCX		NGX	094E	2018/Dec/14	105.5009
543654	MCX		NGX	094E	2018/Dec/14	175.891
543659	MCX		NGX	094E	2018/Dec/14	421.784
543660	MCX		NGX	094E	2018/Dec/14	351.4827
544419	MCX		NGX	094E	2018/Dec/14	70.3507
551537	MCX		NGX	094E	2018/Feb/09	105.4387
571954	MCX		NGX	094D	2018/Dec/14	1,340.8477
571956	MCX		NGX	094D	2018/Dec/14	988.4348
571957	MCX		NGX	094D	2018/Dec/14	988.868
571958	MCX		NGX	094D	2018/Dec/14	847.3708
571959	MCX		NGX	094D	2018/Dec/14	830.261
59 Claims		** NGX – Northgate Minerals Corporation*				**30,126.22**

Table 1: Mineral claim information for the Kemess property as listed with B.C. Ministry of Energy, Mines and Petroleum Resources as of February 15, 2008. Good to dates indicated above are subject to Government approval of assessment report filed under Event No. 4191255.

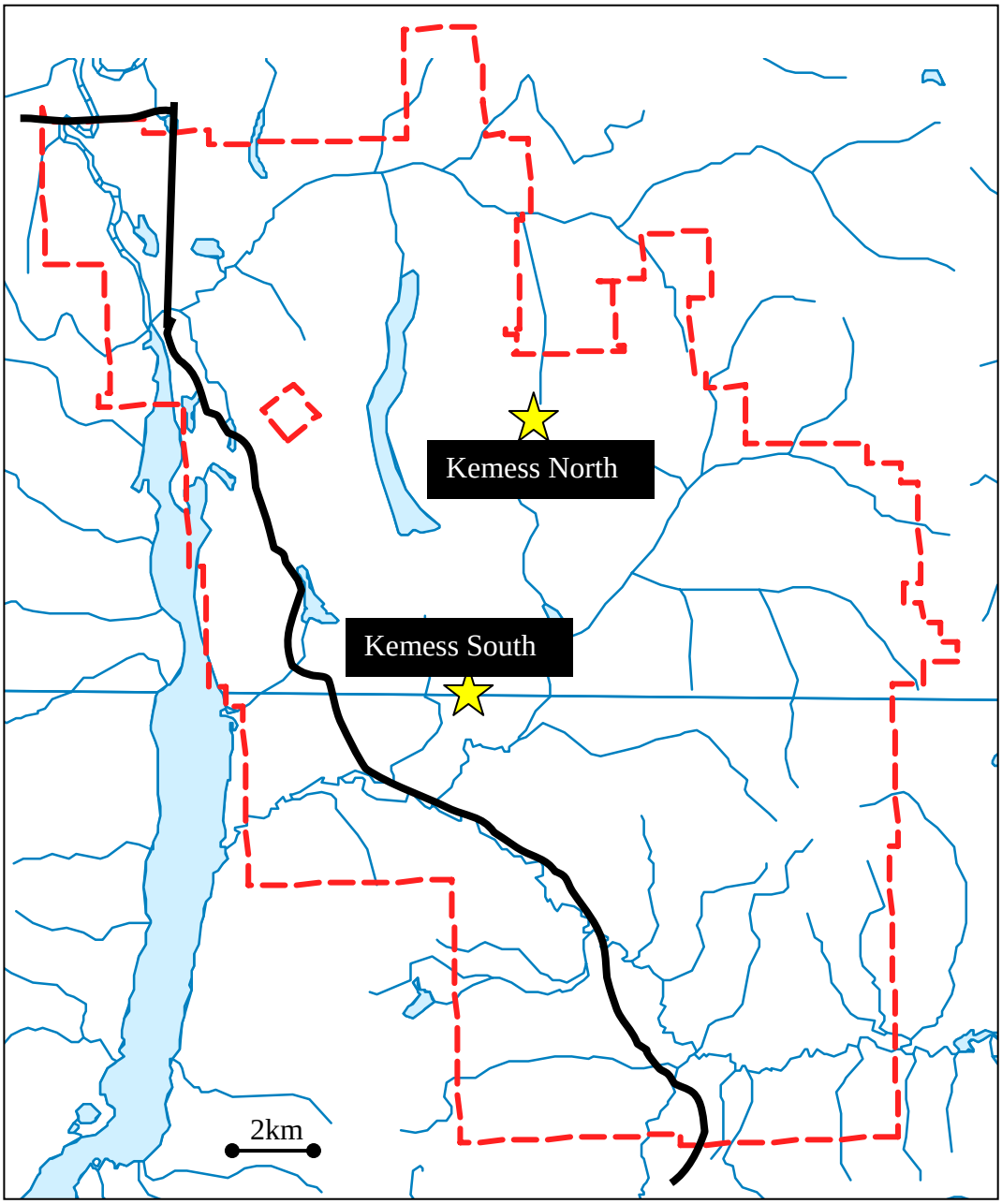

Figure 2 – General claim outline with Omineca access road and deposits. North to top of page.

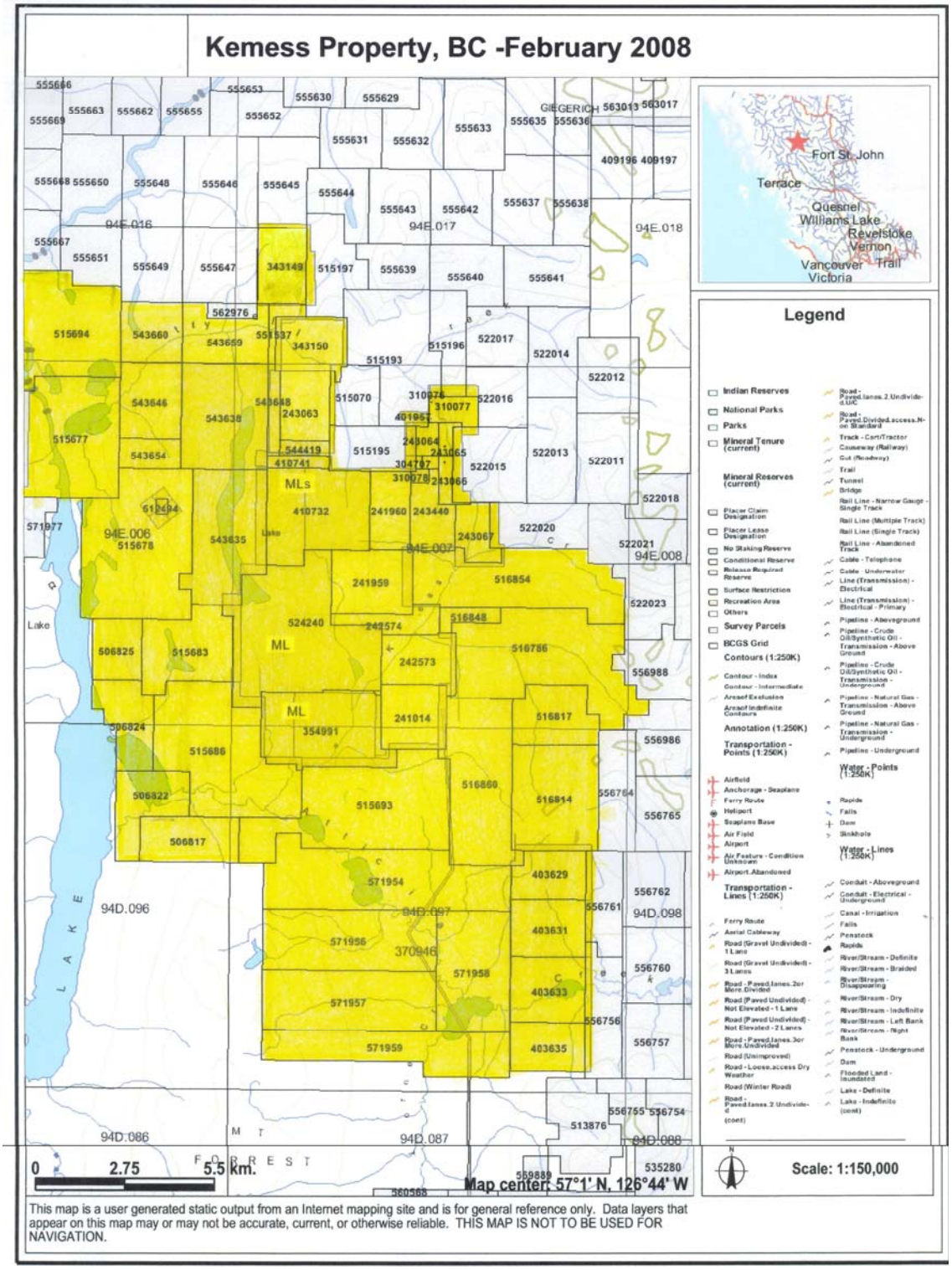

Figure 3 – Detailed Kemess Claim Map. Yellow Outlines Northgate Tenures

5.0 District Exploration and Mining History

The earliest reports of exploration activity in the area date back to the discovery of placer gold at the mouth of McConnell Creek in 1889. There was a brief staking rush in 1907 and prospecting remained active in the area through the early 1920's resulting in a placer discovery at McClair Creek. Cominco Ltd. was active in the area in the 1930's exploring for base metals. During this period, Emile Bronlund discovered and staked several skarn showings; the Cairn showing is a nearby occurrence from this era that is located on Duncan Ridge, 4kms west of Kemess North.

In 1966 Kennecott focused on the area searching for Cu-porphyry systems using stream geochemical techniques and prospecting; this work resulted in claim staking and field work on several prospects including Kemess North, Pine, Fin, Chapelle (aka Baker), Shasta and Lawyers. The latter three deposits are gold-silver epithermal vein systems that eventually produced during the early 1980's. Exploration in the Kemess East area follows that of Kemess North, as summarized in **Table 2.**

Period	Company	Work Completed
1966-1971	Kenneco Exploration Ltd.	Regional stream and soil geochemistry, staked 100 two post mineral claims; completed soil silt and rock geochemical surveys, mapping at 1:9600 scale and completed 232m of x-ray core drilling in 8 holes.
1975-1976	Getty Mines Ltd. and Shell Oil	Optioned property from Kennco and completed 1:4800 scale mapping, ortho-mapping, re-staking, geochemical surveying and 2,065m of diamond drilling in 13 holes (75-18 to 76-30). Option dropped in 1977.
1986-1992	ElCondor Resources Ltd.	Optioned the property from Kennco and commenced sustained exploration that resulted in the discovery at Kemess South. Over a 6-year period at Kemess North, El Condor collected 1,025 rock samples and 5,402 geochemical samples; completed 76.85km of ground EM, 14.1km of ground magnetic surveying, 161.4km of IP, and drilled 14,328m of core in 69 holes. Additional work included 167km of line cutting, 54.5km of roads, and 475m of cat trenching. An inferred resource of 157Mt @ 0.37g/t Au and 0.1 8%Cu resulted at Kemess North.
2000-2003	Northgate Exploration	2000 – 4,104.45m of diamond drilling in 12 holes identified a new, higher grade, porphyry zone located east of El Condor's discovery. This work increased the inferred resource at Kemess North to 360 Mt at 0.299g/t Au and 0.154% Cu 2001 – 8,220.48m of diamond drilling in 16 holes which increased Inferred resources to 442Mt @ 0.40g/t Au and 0.23% Cu 2002 – 27,068m of diamond drilling in 47 holes. Mid-2003 pre-feasibility study shows in-pit resource of 369Mt @ 0.34g/t Au and 0 18% Cu. 2003 - 7449.41m of diamond drilling in 19 holes of infill and geotechnical work. Revised reserve: 414 million tonnes grading 0.31g/t gold and 0.16% copper

2004-2007	Northgate Minerals Corporation	2004 – 4,198.0m of diamond drilling in 15 holes in the Nugget and Hilda areas, and for waste characterization in the Kemess North deposit. The Nugget Zone intercepts were significant enough to carry a 9.4 million tonne pittable resource grading 0.36g/t Au and 0.07% Cu. 2005 – Exploratory diamond drill hole KN-05-24 to the east of the defined Kemess North deposit intersected the Kemess North Offset, opening potential for continuing mineralization along strike to the east. 2006 - Kemess East drill program (3,812.3m) is the follow up to the Kemess North Offset discovery that occurred towards the end of the 2005 Exploration program. 2007 – 16,016.6m of diamond drilling in 25 holes as follow up to the Kemess North Offset exploration. Discovered the Altus and Ora Zones within Kemess East.

Table 2 – Summary of Exploration Work in the Kemess East Area

6.0 Regional Geology

Mesozoic arc-related volcanic rocks that comprise the eastern margin of the Intermontane Belt underlie the district over an area measuring 100 by 40kms. The oldest rocks in the belt are Permian Asitka Group, which are disconformably overlain by upper Triassic Takla Group, which are in turn unconformably overlain by lower-middle Jurassic Hazelton Group; overlapping all these assemblages to the west are upper Cretaceous Sustut Group sediments. The lithologic units comprising the stratigraphic succession are described in **Table 3** below. Regional geology is depicted in **Figure 4**.

Age	Lithostratigraphic Unit	Description
Cretaceous	Sustut Group	Sustut rocks grade from Brothers Peak Formation conglomerate, sandstone, mudstone with minor tuffaceous units down to the basal Tango Creek Formation polymictic conglomerate, sandstone, mudstone with minor lignite seams.
L-M Jurassic	Hazelton Group	Uppermost unit, Smithers Formation is dominated by greywacke, lithic sandstone, siltstone, tuffaceous shale, volcanic breccia, conglomerate and limestone. Below lies the Nilkitkwa Formation, which is mainly shale, greywacke, andesitic-rhyolitic tuff with minor limestone. In the Kemess area the quartz phyric volcaniclastic rocks of the Toodoggone Formation are believed to be correlative to the Nilkitkwa. The basal assemblage, Telkwa Formation comprises basaltic to rhyolitic pyroclastic and flow rocks.
U. Triassic	Takla Group	Highest units are Moosevale Formation augite porphyry, breccia, sandstone and mudstone. Central assemblage is Savage Mtn. Formation comprised of flows and pyroclastic augite porphyritic volcanic rocks. Base of the exposed sequence is Dewar Formation argillite, limestone and siltstone.
Mid Pennsylvanian - Permian	Asitka Group	Uppermost units are dominated by limestone and tuff, which give way to a middle assemblage of basaltic flows and rhyolite. The lowermost units are basalt, argillite,chert and limestone.

Table 3 – Regional Stratigraphy after Cope, 1992.

Intrusive rocks are prevalent in the area and have been categorized as late Triassic Alaskan-type ultramafics such as pyroxene diorite, hornblende gabbro and pyroxenite. Economically more significant are the early Jurassic intrusives of the Black Lake suite, which are granodiorite, hornblende diorite, pyroxene quartz-diorite, quartz-monzonite and quartz monzodiorite. Age dates of important plutonic masses are shown in **Table 4.**

UTM (E)	UTM (N)	Pluton	U-Pb (zircon)	Notes
639009	6327545	Atty	205.1+/-0.7(z)	Sample from Northgate; pluton adjacent to Cu-Au mineralization on Atty property; intrusion probable sinistral offset of ca 194.5 granodiorite (96LDi25.1)
635100	6324100	Sovereign	202.7+1.9/-1.6(z)	Porphyritic quartz monzonite (Reference Mortensen et.al., 1995; CIM Special Vol. 46, pg154-156.)
635900	6319900	Maple Leaf	199.6 +/- 0.6(z)	Hosts The Kemess South Cu-Au Deposit
636500	6326300	Kemess North Monzonite	202 +/-?(z)	Hosts The Kemess North Cu-Au Deposit
636408	6326349	Kemess North Syenite	198.3+/-0.8(z)	Corresponds with Northgate DDH KN02-03, 508-514m; post-mineral dike cutting porphyry Cu-Au mineralization
633790	6327180	Duncan Lake	197.3 +1.7/-0.9(z)	East shore Duncan Lake
634445	6321726	Kemess Centre	196.3+1.3/-2.9(z)	Sample from drill core DDH KC03-01 346 to 352m
631152	6325806	Cairn	190.3+0.6/-1.8(z)	Sample from Northgate; pluton on Duncan Ridge, spatially associated with Cu-Magnetite skarn

Table 4 - Pluton Age Dates (Diakow 2001- 2004).

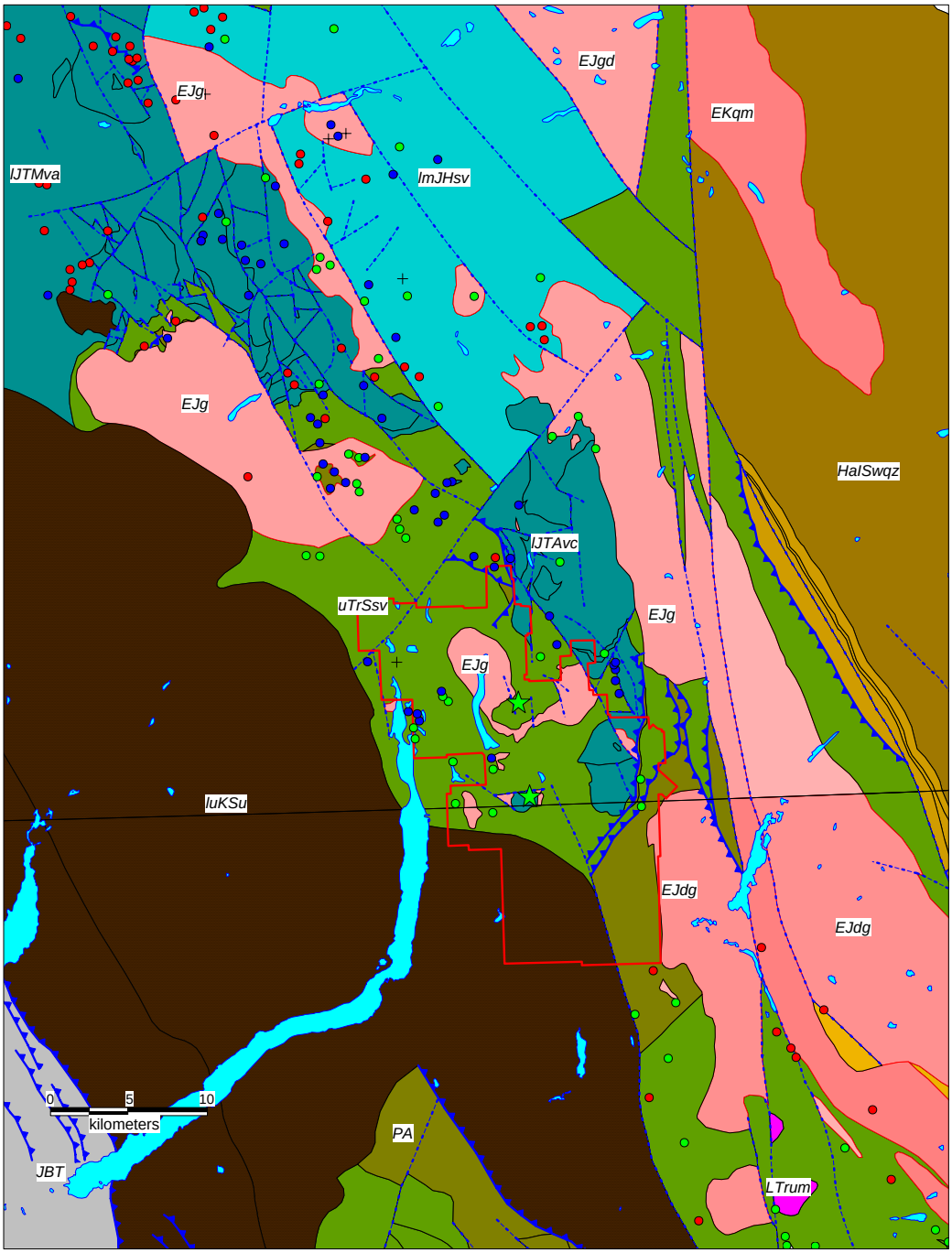

Figure 4 - Regional geology of the Kemess Area, north to top of page. Minfile Occurrences plotted by colour showing principal commodities as follows: gold – red, silver – blue, and copper – green. Geologic units as follows: PA – Late Pennsylvanian - Permian Asitka Group, LTum – Late Triassic Ultra mafic intrusions, uTrSsv – Upper Triassic Takla Group, lJT – Lower Jurassic Hazleton Group, luKSu – Upper Cretaceous Sustut Group, EJ – Early Jurassic Black Lake Intrusives.

7.0 Structural Setting

Generally, the regional volcanic Mesozoic assemblages are upright shallowly dipping flat-lying sequences crosscut by high angle north to northwest trending faults. Significant structures are the Finlay-Ingenika and Moosevale fault systems, which bound the eastern margin of the belt. These structures are dextral strike-slip features that are related to the terrain bounding faults between the Intermontane and Omineca belts.

Local to the Kemess area are the Duncan and Saunders Faults, which are north-northwest normal block fault structures. Thrust faulting is present in the district and is interpreted as Eocene or younger; displacement believed to be towards the northeast and effects rocks from the Takla up to Sustut sediments.

The district represents the results of three superimposed volcanic arc building stages that began in the upper Paleozoic. Marine volcanic and sedimentary successions dominated until the lower-middle Jurassic, when continental, quartz- normative volcanism began with the deposition of the Hazelton Group-Toodoggone Formation sequences. The plutonic rocks of the Black Lake suite are coeval with the Toodoggone sequence and are likely co-magmatic. Block faulting has juxtaposed and exposed panels of varying depth from the magmatic and volcanic systems. The structures and intrusives likely had a strong influence on the eventual positioning of volcanic centers.

8.0 Property Geology

8.1 Introduction

Kemess East is mainly underlain by andesitic to basaltic volcanics of the Upper Triassic Takla Group, with the exception of the eastern regions, which are underlain by fragmental tuffs of the lower Jurassic Toodoggone Formation. Early Jurassic stocks, dykes, and possible sills of quartz monzonite to quartz diorite composition have intruded the Takla succession. Structurally, the area is transected by steeply dipping north to northwest trending dextral/normal oblique-slip faults. Porphyry style Cu-Au mineralization is controlled by the Black Lake quartz monzonite of the Ora Zone. The Altus zone may represent a remobilization and deposition of minerals from the Black Lake quartz monzonite into the Takla volcanics. Remobilization within the Altus Zone area is due to the younger, cross-cutting Sovereign intrusive and/or the Saunders Fault. Structurally controlled Au-Cu mineralization occurs to a lesser extent in the lowermost Jurassic Toodoggone formation rocks. Alteration ranges from fresh to weak propylitic and potassic. **Figure 5** shows Kemess property geology.

A new marker named “The Wall” unit has been seen within the fragmental tuffs of the lower Jurassic Toodoggone Formation that will aid in defining future geologic interpretation and exploration programs within the Kemess East area. During the 2007 exploration program, it was noted that a certain unit with similar geological characteristics within the basal Toodoggone formation was seen within a few drill holes.

The top of the unit is roughly 200m from the Hazleton/Takla contact. Matrix is fine-grained dacite with fine disseminated magnetite and rare (1-2%) quartz eyes, diagnostic of the Hazleton group. Thickness of the Wall marker unit varies, but grades into a fragmental unit with an increase in fragment content towards the Hazelton/Takla contact. Fragments are of various lithologies. Alteration consists of moderate to strong pervasive silica, patchy epidote and pink zeolite/carbonate stringers and stockworks. Stringer/stockwork density increases downhole. The unit is mineralized with minor disseminated and veined pyrite (0.01-1%) and trace disseminated chalcopyrite, making it distinct from other Hazleton units. Patchy welded textures are seen throughout, but are more common near the upper contact. The unit has a strong magnetic susceptibility with readings between 60-100, due to disseminated magnetite in the matrix. Strongest magnetic susceptibility readings are at the start of the unit within the welded sections. The rest of the Hazelton unit has magnetic susceptibility readings from 1-90. The unit is similar to Diakow's unit H3, but the presence of the mineralization, especially disseminated chalcopyrite, make it different.

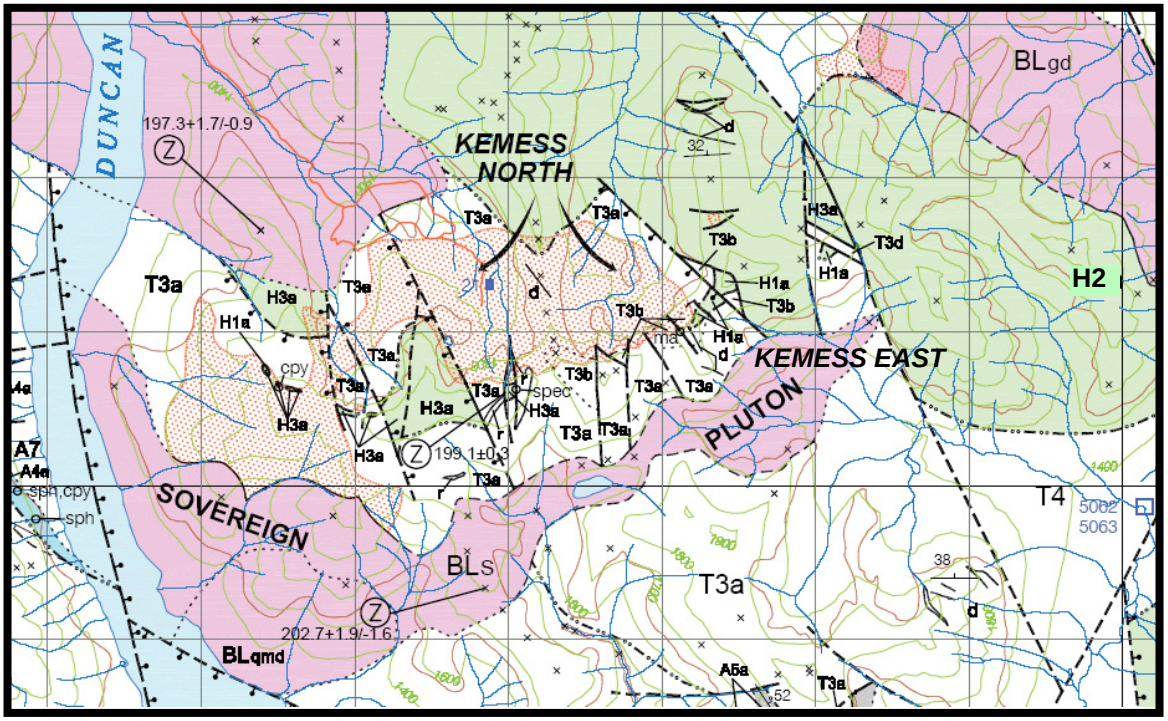

Figure 5 – Property geology after Diakow, 2001. North to top of page, grid is 1km x 1km; A5, A7 – Asitka Group; T3, T4 – Takla Group; H1, H2, H3 – Hazelton Group; BL – Black Lake Intrusives. Lithologies as coded discussed below.

8.2 Lithology

Andesitic Volcanics (Takla Group -T3)

The property is predominantly underlain by a thick (>1,000m) succession of andesitic flows and volcanic breccias. Takla volcanics host a significant portion of the Au-Cu

mineralization in the Kemess North deposit. Within the Kemess East area, the upper Altus Zone Takla volcanics host a significant zone of the Au-Cu mineralization. The Ora zone Takla volcanics contain anomalous Au-Cu except when close to the contact with the Black Lake quartz monzonite. The andesite and basalt flows exhibit textures ranging from fine-grained and massive, to porphyritic with medium-grained and mostly phyric, subhedral augite phenocrysts. Less common are phenocrysts of plagioclase. The fine-grained matrix is mostly comprised of plagioclase, quartz, and chlorite. The plagioclase is usually sericitized. Less common intersections of auto-brecciated flows occur as coarse sub-rounded andesitic clasts within both phyric and finer-grained flows. On surface, exposed in the North Kemess cirque headwalls and some upper intersections of drill intercepts is a bladed feldspar porphyritic unit. It exhibits a very well developed porphyritic texture with bladed laths of plagioclase up to 1.5cm long within a finer-grained dark gray matrix. Its texture suggests a hypabyssal origin or possibly an extrusive dome type emplacement.

Dacitic Polylithic Fragmental (Hazelton Group – H1: Toodoggone Formation)

Sub-rounded angular coarse fragments of Takla Group basalts (unit T3) including bladed feldspar porphyry and andesite, monzonite, and rare quartz-feldspar porphyry or chert occur within a siliceous, dacitic matrix. Lithic proportion to matrix is inconsistent ranging from 1-30% volumetrically, with clast size varying from lapilli to blocks. The matrix is fine-grained, dark gray and comprised of 10-30% medium-grained feldspar and 5% diagnostic quartz phenocrysts. Magnetite is common as an accessory mineral occurring as very fine-grained disseminations as are distinctive zeolite-calcite veinlets. Propylitic (epidote-calcite-pyrite) alteration is dominant within the fragmental.

Fragmental Tuffs with Volcaniclastic-Epiclastic Interbeds (Hazelton Group – H2: Toodoggone Formation)

Thick, medium grained, monotonous sequences of fragmental tuffacious material. Medium grained with pink-orange colouration. Matrix is siliceous, and supports sparse (1-5%) but widespread fragments of Takla Group basalts (unit T3) and pink granitoid material. Rare quartz eyes (1-2%), diagnostic of the Hazelton Group, are present throughout the unit as well as fine, dispersed magnetite. Alteration dominated by silicification and hematite staining, with weak epidote overprinting. Zeolite-calcite veinlets, representative of a regional event are common. Volcaniclastic-epiclastic sections of siltstone, sandstone, mudstone and fine grained tuffs break up the unit and act as marker horizons. These sections are planar bedded and often show internal grading.

Dacitic Tuffs – (Hazelton Group – H3: Toodoggone Formation)

Very widespread unit in Kemess North and East, with abundant variation in composition. Overall, the unit is a fine to medium grained dacitic tuff with grey-green colouration. Matrix is fine grained, silicifed (dacitic), with varying amounts of late epidote. May contain some or all of: quartz eyes up to 0.5mm, 1-3mm white feldspar grains, black elongated lapilli of varying sizes (0.3-2.0cm) with a welded texture and occasional

broken fragments of Takla Group basalts (unit T3), and less commonly, chert and granitoid. Zeolite-calcite veinlets representative of a regional event are widespread.

Quartz Monzonite / Quartz Diorite (Black Lake Intrusive Suite)

Intermediate intrusive units comprised of subhedral phenocrysts of 50% plagioclase and 40% quartz set in a groundmass of quartz-feldspar chlorite +/- biotite with accessory minerals including; magnetite, apatite, carbonate, rutile, ilmenite, sphene. The main quartz monzonite mass in Kemess North hosts the bulk of the Au-Cu mineralization. The intrusive body in the Kemess East area is the Sovereign Pluton dated at 202.7 +1.9/-1.6 Ma. Unlike the Kemess North quartz-monzonite, the Sovereign does not host any of the mineralization in Kemess East, although Cu-Au mineralization does occur along its edges.

During the 2007 exploration program similar Kemess North style quartz monzonite was discovered at depth and was termed the Ora Zone and within the western section of the Altus Zone. This Kemess North style quartz monzonite cuts another monzonite intrusive body striking to the north within Kemess East. The Sovereign cuts through the Ora quartz monzonite within Kemess East with a breccia zone separating the two units. The breccia zone contains mostly clasts of Sovereign and minor Kemess North style quartz monzonite. Dikes composed of similar breccia to that seen in the contact of the Black Lake Monzonite and Sovereign are present throughout the Takla and Hazelton units. These breccia dikes appear to strike 340 almost perpendicular to the contact of the Sovereign.

Another Black Lake Intrusive unit was intersected during the 2007 exploration drilling program. This monzonite appears to be older than the Ora quartz monzonite and has been termed “Irris”. The monzonite unit was mainly seen in the area north of the Altus zone within drill holes KH-07-06, -07, -11 and –17. The unit appears to be the primary intrusive pulse with the mineralized Ora quartz monzonite intruding the same magma conduit and then the Sovereign cross-cut the Ora. Presumably, the intrusion of the mineralized quartz monzonite obliterated most of the geological characteristics of the older monzonite unit. The unit’s characteristics are masked by the intense phyllic (sericite, clay, and chlorite) alteration throughout the unit. Quartz/fluorite veins are common with 4-6% pyrite throughout the unit. Trace to minor chalcopyrite (0.01-0.5%) is disseminated within the matrix and rarely present in veins.

Central to this interpreted cross-cutting relationship is a re-evaluation of the Soveriegn intrusion. The age date obtained by the BC Geological Survey (presented in Table 4) was collected 5km to the west of the current study area, at the type location for the Soveriegn intrusion. The intrusive termed “Sovereign” in this report is not the same as the type location, though visually indistinguishable (Diakow, pers. comm.). It is therefore reasonable to interpret that in Kemess East the Sovereign is younger than the Ora and Kemess North intrusives, as evidenced by cross-cutting relationships seen in drill core.

To remain consistent with earlier work the field-term monzodiorite and quartz monzonite has been retained, however previous petrographic work showed that the mineralized granitoid underlying the Kemess North deposit is more correctly classified as a quartz diorite due to the paucity (< 5% to absent) of alkali feldspars.

Post-Mineral Dykes

Post-mineral dykes, including feldspar porphyry and minor mafic varieties cross cut Takla volcanics. The feldspar porphyry dykes also cross cut the Jurassic-Toodoggone fragmental unit. The feldspar dykes commonly exhibit pervasive dark pink hematite within the matrix and as staining of the medium grained feldspar phenocrysts. Due to the pink colour of the feldspars, these dykes take the field term syenite and are generally barren and unaltered. The relationship of the feldspar dykes with the larger quartz diorite stocks is not clear, however they appear temporally late in the sequence of events.

Mafic dykes are generally thin at < 1 to 4 metres wide, dark green, commonly amygdaloidal, and barren of sulphides and veining. Observations from regional mapping suggest they are related to the volcanic strata interbedded within Sustut Group sedimentary rocks and are interpreted as Cretaceous.

Also found on the property, crosscutting Takla volcanics but not encountered crosscutting porphyry mineralization, are megacrystic quartz rhyolite porphyry dykes. These dykes have conspicuous quartz phenocryst up to 2 centimeters in an off white to pale green groundmass.

8.3 Structure

Due to the lack of bedding and/or marker horizons, the inclination of the massive thick succession of Takla volcanics is difficult to ascertain but probably reflects the regional trend of flat lying Mesozoic assemblages. The oldest structures in the immediate area are east-west trending features that are exposed in the Takla group rocks of the cirque headwalls. These are the only observed features that do not also occur in the Hazelton group rocks within the deposit area. These structures are large, and are exposed over a kilometer of strike length. They appear to be pre-mineralization as no distinct structure appears within the Kemess North intrusive in cross-section that corresponds to the mapped surface exposure.

The oldest features that affect both the Takla and Hazelton groups are large northeast faults that transect Kemess East, but the degree to which they affect the property is poorly understood. Abundant northwest structures dissect the cirque headwalls, but these features are small and closely spaced. This orientation occurs on a much larger scale in regional Hazelton rocks that have been emplaced into the immediate area. Evidence suggests that the small scale features in the headwalls are the consequence of a larger regional event.

The Kemess North deposit is bounded at depth by a low angle reverse fault. This feature is inferred to be an artifact of a large south dipping, ENE trending thrust fault. It does not surface in either Kemess North or Kemess East, but has been intersected at depth in several locations by diamond drilling. This feature places the older Takla rocks on top of the younger Hazelton, and is a controlling factor in the placement of the Kemess North intrusive. A second thrust feature of a similar orientation comes to surface in the south-eastern reaches of the Kemess claim group.

Kemess North is bounded at its northern extent by a near vertical normal fault. This structure is thought to be the southern boundary of an east-west trending drop down block. The north boundary of this block has not been intersected in drilling in the immediate area of Kemess North, but both boundaries of the block are present in Kemess East. This structure drops a block of Hazelton down into the older Takla volcanics, and offsets the thrust fault that bounds Kemess North at depth.

The east-west trending drop down block is offset by two separate, younger events. The first being the NNW dextral-oblique slip faults described below. The second is a sinistral NE structure transecting Kemess East that also separates the two newly discovered Au-Cu rich zones within Kemess East. This structure has distinct boundaries and offsets the Sovereign pluton at depth.

At least four related, NNW, steeply west dipping, dextral oblique-slip faults have been inferred from surface mapping and drilling. These structures transect the Kemess North and East areas, and are responsible for the offset of the Kemess North deposit and possibly have a control on the separation of the new Kemess East zones. Younger features with a similar orientation show evidence of being a controlling factor in the mineralization at the new Molehill showing discovered in the summer of 2006.

The youngest controlling structure in the area is a large north-northwest trending, normal, east side down structure present along the eastern margin of Kemess East, placing unmineralized Toodoggone Formation tuffs against mineralized Takla Group Basalts. Strike slip movement occurs along this feature, but the distance is great and extends out of the immediate area. This structure also creates the eastern boundary of the mineralization in Kemess East.

8.4 Alteration, Veining and Mineralization

In the Kemess North area alteration and mineralization are associated with, and zoned both vertically and laterally from the quartz diorite / quartz monzonite intrusive intersected at depth. The highest-grade Au-Cu zones occur focused on the quartz monzonite – Takla volcanic contact associated with quartz-magnetite veining and overprinting pyrite-chalcopyrite veining. The zone comprises 50-60% fine-grained quartz, 20-30% magnetite, 5-10% pyrite, 1% chalcopyrite, with accessory hematite and anhydrite occurring over widths of < 10 to 150 metres. This zone occurs mostly within

the quartz monzonite stock and to a lesser extent within the andesite adjacent to the intrusive stock.

Grading outwards from the quartz monzonite into the Takla volcanics, silicification decreases gradually to fine-grained assemblages of chlorite-biotite- sericite. This pattern is a broad generalization and there are areas of either potassic (biotitic) or propylitic (chloritic) alteration that occurs sporadically. Sericitization, commonly from the destruction of matrix and phenocryst plagioclase, is pervasive in the Takla volcanic rocks. Based on the 2007 exploration program no alteration zone was dominant within the Takla volcanic rocks. As with Kemess North when grading from the quartz monzonite into the Takla volcanics, silicification decreased gradually to fine-grained assemblages of chlorite-biotite-sericite. The alteration then graded into small sections of sericitization and then into the propylitic zone. Accompanying sericitization are assemblages of quartz-anhydrite-ankerite-magnetite veinlets with disseminated pyrite-chalcopyrite mineralization. Present over the entire area in all rock units except the late mafic dykes are barren pinkish zeolite-carbonate veins, which post-date and crosscut the above vein types and rock units. Late stage alteration overprinting is present throughout the units with in Kemess East due to various structural activities like the NNW trending faults.

Evidence indicates that the bulk of the mineralization in the Kemess East area is a distal part of the Kemess North system, with grading outwards model of mineralization and alteration as described above. Towards the eastern edge of the known mineralization, the Altus zone is associated with the Sovereign Pluton-Takla volcanic contact, which appears to have similar mineralizing patterns to those in the Kemess North system, but is of a younger age. It is possible that this represents a second phase of mineralization, but is more likely to be the result of a remobilizing event driven by the later intrusion of the Sovereign Pluton. The discovery of the Molehill Ag-Cu showing within the Sovereign Pluton indicates the potential for yet another, younger, structurally controlled mineralizing system.

At depth within Kemess East is Ora, a strongly mineralized quartz monzonite similar to, but at higher grades than Kemess North. This quartz monzonite may be the fault-offset eastern extent of the Kemess North mineralized intrusion. The mineralization is mainly contained within the quartz monzonite with only strong alteration and anomalous mineralization passing into the Takla above the Black Lake. Minor mineralization is seen within the brecciated contact between the Sovereign and Black Lake quartz monzonite in holes KH-07-06 and 07. Minor mineralization is also seen within the dikes composed of similar material as the breccia zone between the Black Lake quartz monzonite and the Sovereign. Mineralization within this zone is mostly contained within fragments and/or within the matrix due to mineralization being leached out of some fragments.

Overall, sulphide mineralization throughout the Kemess North area consists of 2-3% pyrite, with lesser amounts of chalcopyrite and traces of molybdenite. Pyrite occurs as disseminations, fracture fillings, and veins up to a few centimeters wide generally associated with quartz-anhydrite-magnetite veins and zones of quartz-magnetite

replacement. The mode of occurrence of chalcopyrite is similar except that veinlets are less common and significant disseminations occur in zones of stronger quartz-magnetite stockwork and quartz-magnetite replacements. Hole KH-07-24 contains unusual clots of chalcopyrite to 5cm diameter.

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9.0 Exploration Work

9.1 Drilling

The Kemess East exploration drill program totaled 15,596.6m in 24 drill holes and the NOR 1 drill program totaled 420.0m in 1 drill hole, and was carried out from May 1 to September 30, 2007 (**Figures 6** and **7**). Drilling was completed by Hy-Tech Diamond Drilling of Smithers B.C. The drill program was accessed by both pre-existing drill road, excavated trail and helicopter support.

The 2007 drill program focused on determining the eastern extent of the offset Kemess North deposit. Other targets in the area were the geophysical anomalies determined from the Titan 24 survey carried out early in the 2006/7 programs. In 2006 drill hole KH-06-03 intersected 226.0m grading 0.18g/t Au and 0.21% Cu in similar potassic altered Takla andesites as Kemess North. Locating the position of the major controlling structures at depth was also taken into consideration when planning drill hole targets.

The single drill hole (NR-07-01) on the NOR 1 claim tested a large, second-order intensity, chargeability anomaly on line 12300N which was hoped to be the source of mineralization encountered in Hole NR-05-03. This 2005 hole returned sporadic base metal (Cu, Pb, and Zn) indications near the bottom of the hole. While texturally suggestive of local skarn mineralization, it was theorized that this intercept my lead to a porphyry target.

All drill hole collar locations were surveyed by hand held GPS. Holes KH-07-01 through 11, 14-19, 21-26 and NR-07-01 were surveyed with a Flex IT downhole survey instrument at 10 foot (3.3m) intervals. The validity of the survey data was determined based on magnetic variation measurements provided by the Flex It tool.

Hole_ID	UTM E	UTM N	Elevation (m)	Azimuth	Dip	Depth
KH-07-01	637915	6326373	1820.00	0	-90	351.0
KH-07-01A	637915	6326374	1820.00	0	-90	980.0
KH-07-02	637706	6326237	1820.00	0	-90	1120.5
KH-07-03	638113	6326430	1830.00	340	-65	726.0
KH-07-04	637706	6326237	1820.00	340	-70	1344.0
KH-07-05	638113	6326430	1829.00	0	-90	417.0
KH-07-06	638080	6326800	1780.00	0	-90	770.0

KH-07-07	638080	6326800	1780.00	180	-70	663.2
KH-07-08	638044	6326244	1744.00	0	-90	135.0
KH-07-09	637852	6326164	1734.00	0	-90	366.0
KH-07-10	637847	6326145	1720.00	340	-70	1314.0
KH-07-11	638080	6326800	1780.00	360	-70	798.5
KH-07-14	638033	6326380	1840.00	340	-90	297.0
KH-07-15	637960	6327220	1650.00	180	-90	447.0
KH-07-16	638030	6326370	1820.00	310	-55	365.0
KH-07-17	637960	6327220	1650.00	180	-65	723.0
KH-07-18	638116	6326410	1820.00	310	-60	732.4
KH-07-19	638218	6326611	1800.00	180	-90	318.0
KH-07-21	638218	6326611	1800.00	180	-55	435.0
KH-07-22	638180	6326480	1825.00	80	-90	342.0
KH-07-23	638180	6326480	1825.00	45	-55	345.0
KH-07-24	637625	6326718	1750.00	0	-90	1348.0
KH-07-25	637935	6326880	1705.00	360	-80	857.0
KH-07-26	637820	6326660	1760.00	340	-85	402.0
NR-07-01	632292	6322600	1463.00	0	-90	420.0

Table 5 – 2007 Kemess East and NOR 1 Drill Collar Location and Orientation Data

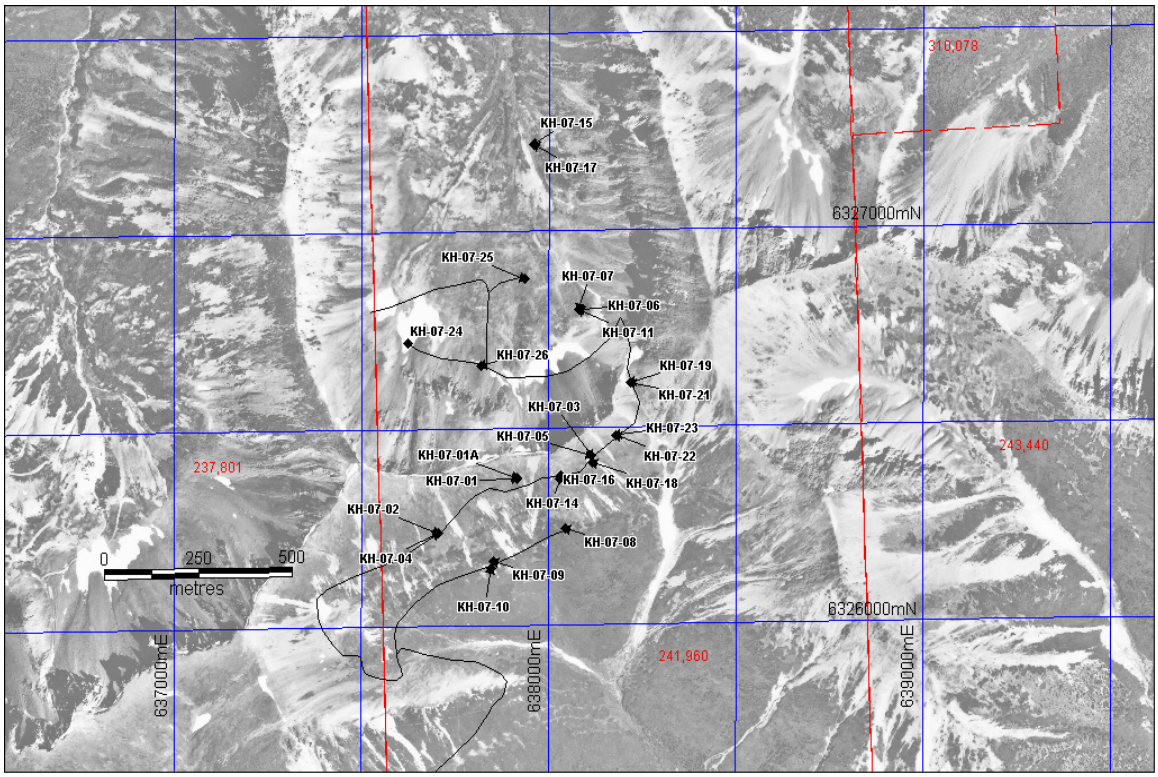

Figure 6 – Location of 2007 Kemess East Drill Holes. Claims lines and numbers are marked in red. North is to the top of the page.

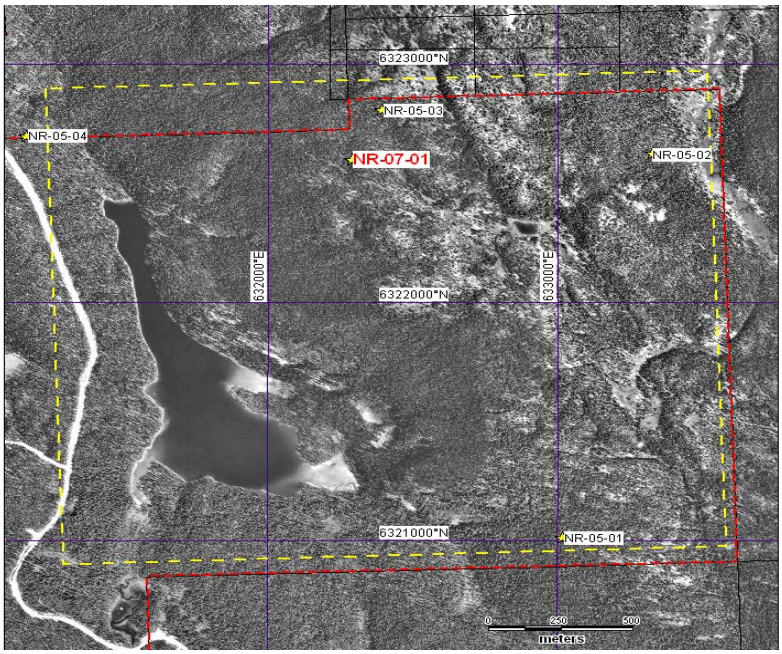

Figure 7 - Location of hole NR-07-01. Yellow dashed line shows border of original Legacy Claim before cell conversion moves boundary (red dashed line). North to top of page.

9.2 Drill Core Processing

Contiguous core samples were logged by geologists, then split or sawn, and crushed and pulverized on site. Half core is retained at site in core racks. A total of 8,424 prepared samples and 337 quality control samples were submitted for analysis, of which 7,662 prepared samples came from 25 holes reported here in.

All drill holes were logged for geologic and geotechnical properties. All drill core was digitally photographed and the magnetic susceptibility of each sample was measured. Sample intervals were determined by a geologist and ranged from 0.3 to 2.0 meters for all sizes of core. Sample intervals do not cross lithologic boundaries.

An on-site sample preparation laboratory was established to complete the primary crushing (80% minus 10-mesh) of cut or split diamond drill core. When time and machinery permitted, the samples were further pulverized to better than 85% minus 150-mesh (-75 microns). Operation of the sample preparation laboratory and the quality control procedures were implemented under the supervision of Bill Smith, Chief Assayer at Kemess Mine.

The prepared samples, weighing approximately 250 grams, were submitted to ALS Chemex's North Vancouver laboratory during the 2007 program. Quality control samples (blanks, duplicates, and standards) were inserted into the sample stream at regular intervals such that 1 in 25 samples were submitted for quality control purposes. A total of 337 quality control samples were submitted during the 2007 program. Of the 337, 82 were duplicate samples, 155 were standards, and 100 were blanks. This amounted to 4% of the entire population of samples submitted to ALS Chemex.

At ALS Chemex the samples were pulverized where required, and submitted for 34 element analysis, by aqua-regia acid digestion and ICP-AES. This process quantitatively dissolves base metals for the majority of geological materials. Major rock forming elements and more resistive metals are only partially dissolved. Copper assay was done by triple acid digestion, HCl - HNO3 - HBr, 2 gram, digestion in Teflon beakers, with an atomic absorption finish. Samples were also submitted to a one assay-tonne gold fire assay, 30 gram nominal sample weight fire assay fusion by lead flux with Ag collector, with an atomic absorption finish.

9.3 Drilling Results

Diamond drilling in Kemess East increased the geologic understanding of the area, as well as proving the potential for continuing mineralization to the east of the Kemess North deposit. Two new zones of mineralization were discovered in 2007. The Altus Zone is a near surface mineralized zone hosted within the Takla volcanics and the Ora Zone is a deeper underground potential zone hosted within the Black Lake quartz monzonite (**Figure 8**). The Wall marker horizon has been discovered within the lower Hazelton Group Tuff. A greater comprehension of the structural setting of Kemess East now exists, including the position of several large NNW trending structures that control the boundaries of the mineralization.

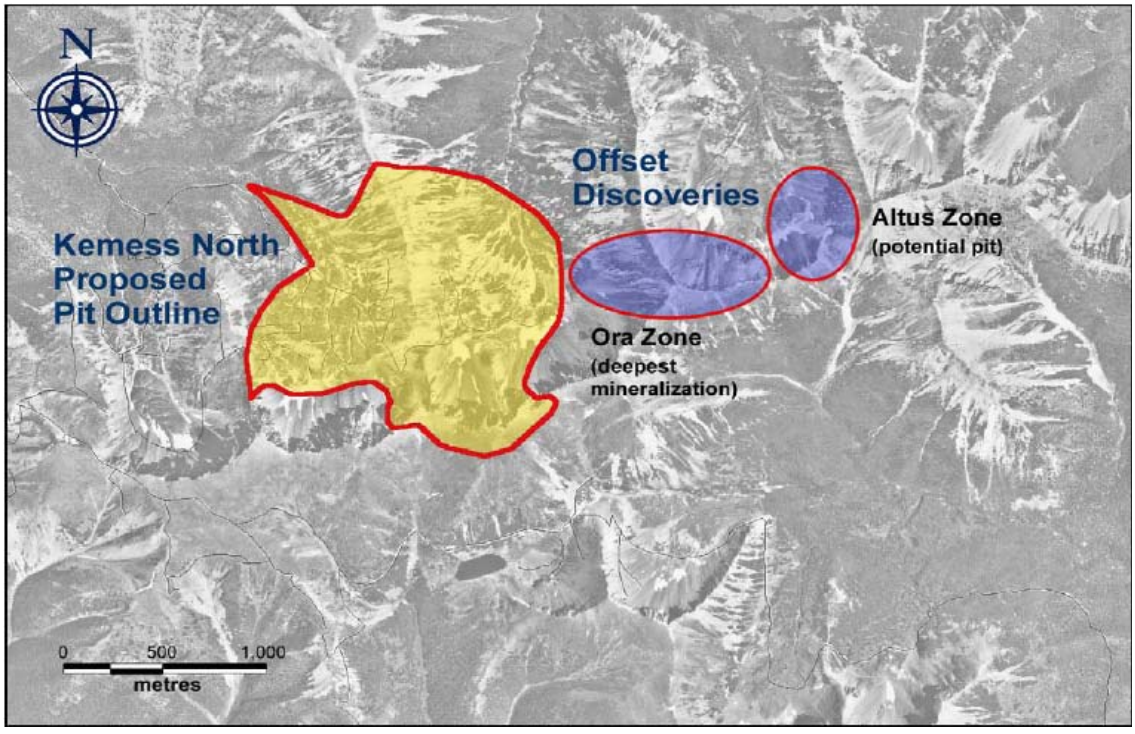

Figure 8 - Location of the Altus and Ora zones in relation to the Kemess North proposed pit.

The Wall marker unit within the lower Hazelton will aid in future geological modeling and future exploration programs on Kemess East, as discussed earlier in the Property Geology section of this report. This unit was encountered in holes KH-07-04, 24, and 26. Upon realizing this possible marker unit discovery further analysis of drill core from 2006 revealed drill holes KH-06-01, -04 intersected the same unit. The unit will aid in defining drill progress as it approaches the Hazelton – Takla contact and thus from the mineralized Black Lake quartz monzonite. The unit is only seen within the Ora Zone block as it has a thicker Hazelton unit above. Further drilling will help define the extent of this unit and its orientation.

Altus Zone

The Altus zone is a near surface mineralized zone within the Takla volcanics. The Altus Zone was first discovered in the 2006 exploration program in hole KH-06-03 which intersected 226.0m grading 0.18g/t Au and 0.21% Cu. In the 2007 exploration program further drilling and geophysical work discovered a small gold and copper rich zone within the Takla volcanics.

Cu-Au porphyry-style mineralization was encountered in holes KH-07-03, -05, -06, –07, -14, -16, -17, -18, -19, -20, -21, -22, -23, and -25 with significant material occurring in KH-07-03, -05, -06, -07, -21, -22 and -25. All significant results are outlined in **Table 6**. Detailed and summary diamond drill logs, as well as complete geotechnical information are in **Appendix 1**. Cross sections of all Kemess East holes are in **Appendix 2**.

Hole ID	From (m)	To (m)	Core Length (m)	Gold (g/t)	Copper (%)
KH-07-03	272.2	356.4	84.2	0.16	0.22
KH-07-05	130.0	258.2	128.2	0.23	0.33
KH-07-06	596.0	648.4	52.4	0.19	0.32
KH-07-07	382.0	561.0	179.0	0.25	0.27
KH-07-21	127.2	255.5	128.3	0.12	0.17
KH-07-22	155.0	323.0	168.0	0.13	0.21
KH-07-25	728.0	798.0	70.0	0.31	0.35

Table 6 – Significant drill hole intersections within the Altus Zone.

Ora Zone

The Ora Zone is located on the western side of Altus Zone at much greater depths. The Ora Zone was first discovered with the geophysical work conducted in 2006 and 2007 showing as a deep anomalous zone. The 2007 drilling confirmed the presence of a mineralized zone. Most of the gold, copper and molybdenum mineralization is host within the Black Lake quartz monzonite. Very little mineralization crosses over into the Takla volcanics despite strong alteration present. The Ora Zone contains larger intersections and better grades than the Altus Zone. The Ora Zone is open to the North, West, and at depth.

Cu-Au porphyry-style mineralization was encountered in holes KH-07-01A, -02, -04, -09, -10, -24 and -26 with significant material occurring in KH-07-04, -10, -24. All significant results are outlined in Table 7. Detailed and summary diamond drill logs, as well as complete geotechnical information are in **Appendix 1**. Cross sections of all Kemess East holes are in **Appendix 2**.

Hole ID	From (m)	To (m)	Core Length (m)	Gold (g/t)	Copper (%)
KH-07-04	839.0	1296.3	457.3	0.37	0.39
Including	1193.0	1289.0	96.0	0.57	0.40
KH-07-10	838.0	1194.0	356.0	0.32	0.35
Including	1126.0	1145.4	19.4	0.56	0.51
KH-07-24	1235.0	1348.0	152.9	0.62	0.53
Including	1295.0	1303.0	8.0	0.99	0.76

Table 7 – Significant drill hole intersections within the Ora Zone.

9.4 QAQC Program

The following is a summary of the complete QAQC program outlined in **Appendix 4**.

A total of 337 sample preparation and analytical quality control samples were submitted, at a frequency of 1 in 25, along with 8,424 prepared mainstream samples, to ALS Chemex and Assayers Canada during the Kemess Property 2007 Drilling program. This amounted to 4% of the entire population of samples submitted to the labs, including 100 blanks, 155 standards, and 82 reject duplicates. Of the 8,424 prepared mainstream samples, 7,662 samples came from 25 holes reported here in.

Evaluation of the 100 gold and copper analyses of blanks indicates that no significant or systematic contamination or laboratory error occurred during the course of the 2007 program.

Results for 142 of the 155 quality control standards, analyzed throughout the program, reported within industry accepted +/- 3 standard deviation error limits. Eleven of the thirteen failed standards performed acceptably on their second run. The original assays were corrected and new certificates were issued for the batches of associated samples. The two remaining standard failures were reproduced on the second run and therefore deemed to be due to normal variation in the standard reference material.

Based on the performance of the standards over the entire course of the program, and laboratory investigations of outliers, all mainstream gold and copper assay results associated with these standards are considered accurate.

Evaluation of 82 reject duplicate matched-pair analyses indicates that, for the vast majority of samples, results are very precise at grades of interest. The precision levels are comparable to or better than results of the 2002 through 2005 programs. Very good

levels of precision, 4% precision for gold and 1.5% for copper, are demonstrated at grades of 0.4g/t and 0.2% respectively.

Evaluation of the quality control results indicates that the preparatory work performed by Northgate/Kemess staff and the analytical work performed by ALS Chemex and Assayers Canada provided sound and accurate gold and copper results for the Kemess Property 2007 Drilling program. Therefore gold and copper results from this program are suitable for use in any subsequent resource/reserve estimation for Kemess Property Copper-Gold deposits.

9.5 Geophysical Work

23 km of geophysical work, on seven different lines, was carried out over the Kemess East area and the Kemess North deposit. A single 2.4km geophysical line was completed east of the Kemess South mine. **Figure 9** shows the locations of each geophysics line and station within Kemess North, East and South. Each line consists of a 2.4km array with 13,100m cross-line potential electrodes extending at right angles to the survey line. Lines J-N also added a 500m current extension to the north for better depth resolution near the end of the line. Only 14.4km of this work was completed in the Kemess East area and is recorded for assessment credit. The geophysical work was conducted by Quantec Geoscientists Ltd. in August and September 2007 and consisted of a Titan 24 survey, measuring resistivity (DC), chargeability (IP) to depths up to 750m and magnetotelluric resistivity (MP) to depths up to 1.5km. The intent was to gather deep subsurface information to help resolve the structural setting, to define potential drill targets and the size of the anomaly discovered in the 2006 geophysical work. Results were positive, indicating there is deep anomaly connecting Kemess East with the east end of the Kemess North deposit. Full details and results of the survey are included in **Appendix 5.**

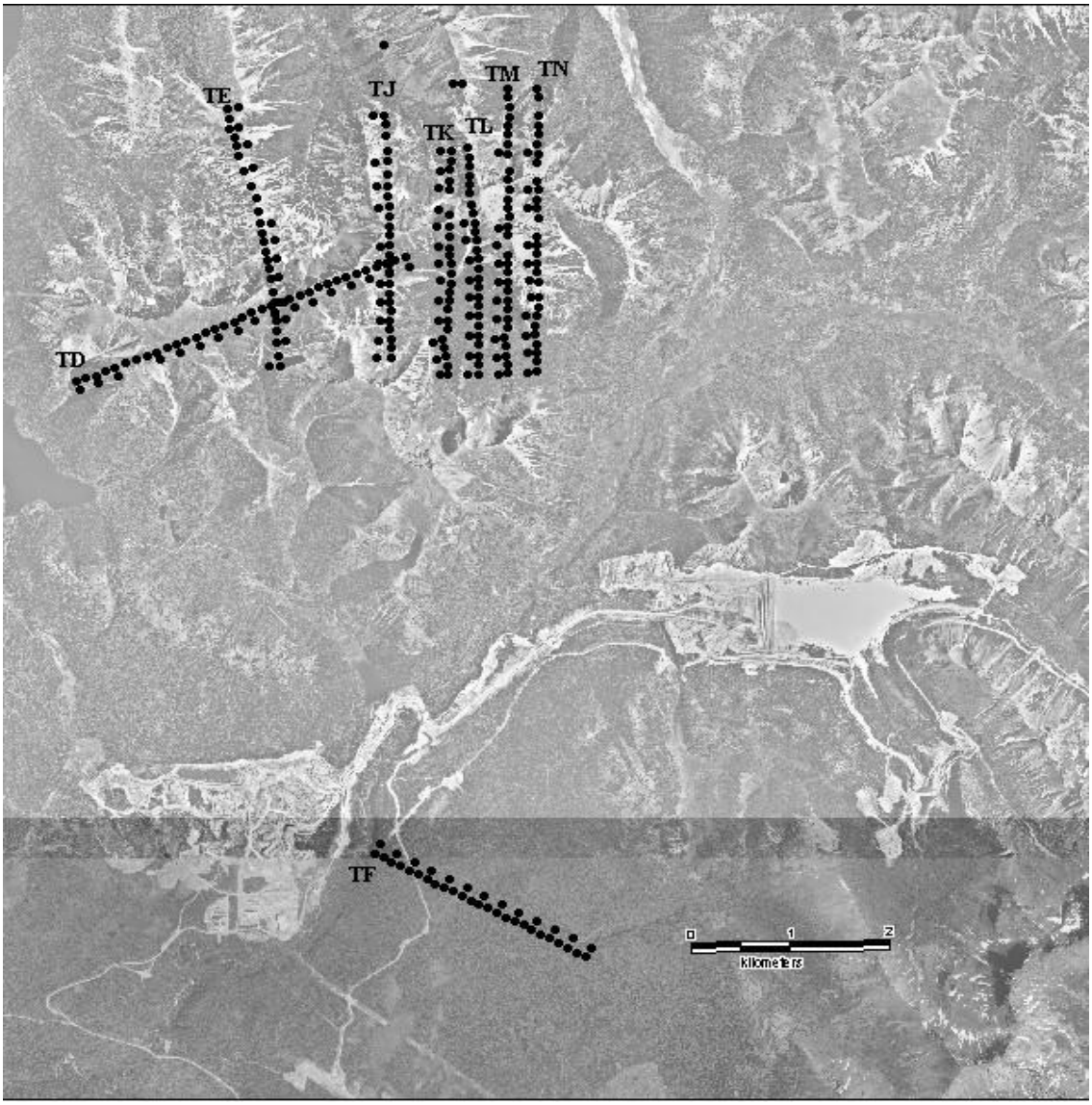

Figure 9 – Location of the 2007 geophysical survey lines. North is to the top of the page.

10.0 Conclusions and Recommendations

The 2007 Kemess East exploration drill program was successful in demonstrating potential for mineralization to the east of the Kemess North deposit. Two new zones of Cu-Au porphyry-style mineralization were discovered in the Kemess East area.

The Altus Zone is a near surface Cu-Au porphyry mineralized zone hosted within the Takla andesites. The Altus zone contains grades similar to that of the Kemess North Deposit and is open to the north and at depth. The zone appears to be dipping to the NNW and is truncated by the unmineralized Sovereign to the south and by the Saunders Fault to the East. Past the Saunders Fault is younger unmineralized Hazelton Tuffs. To

the north is the bounding structure encountered in Kemess North and Kemess East. Crossing the structure to the north encounters unmineralized Hazelton Tuff. To the West the Altus zone is truncated by the DBF fault, which is one of the predominant normal faults oriented to the NNW. More information is needed to fully understand what is happening just north of the Altus Zone. Black Lake quartz monzonite was intersected within KH-07-17 within the Altus Zone area before it is truncated by the Saunders Fault. The Black Lake quartz monzonite was similar in alteration and mineralization to the Black Lake quartz monzonite within Kemess North and the newly discovered Ora Zone.

In 2008 definition drilling of the Altus Zone should be done with the focus of converting the zone into resource/reserve status. Drilling around and deepening hole KH-07-17 should be conducted in order to define the size of the Altus zone and locate mineralized quartz monzonite as encountered in hole KH-07-17.

The Ora Zone appears to be related to the Altus Zone except on the Ora Block has been down dropped due to structural activity. Drilling within this zone has produced some of the highest grade x thickness intercepts ever in the district. Grades are vectoring towards the north boundary structure, so higher grades may yet be intercepted. The DBF truncates the Ora Zone to the east. Towards the west it appears the depth of intersection within hole KH-07-24 appears to line up with KN-05-24 within Kemess North. Between the two drill holes is an anomalous area from the geophysics done as part of the 2007 exploration program. Within the Ora Zone is another NNW structure present causing two blocks to be shown. One block contains holes KH-07-04 and KH-07-10 and the other block contains KH-07-24. The block to the west containing hole KH-07-24 is roughly down dropped 250m from the other. The structure is assumed to be of similar orientation to the DBF separating the Altus Zone from the Ora Zone. The orientation would be striking NNW with a steep dip. Further drilling is needed to get the true orientation of the fault within the Ora Zone

Drilling within the Ora Zone should be done with wedges setup off three parent holes. This could define the zone on 50m sections. Scissor holes and oriented core would be required for geotechnical investigation.

The Ora Zone may connect with the base of the Kemess North deposit as noted by a large geophysical anomaly between the two. Further evidence of a possible link between the two zones are from the past diamond drilling in Kemess North. KN-05-24 intersected mineralized quartz monzonite at roughly the same level as KH-07-24. The geological unit looked very similar and the associated Cu-Au grades were also quite similar. This could add another 500m to the strike length to the Ora Zone and with the additional Kemess North deep intersections, could create a very large Cu-Au porphyry deposit that is open to the north and at depth. This large deposit would outline a large zone of possible underground mine material. The 2008 drilling program should focus on doing deep drill holes as well re-entering a few drill holes that ended in mineralization or did not reach mineralization. Possible wedging off certain previously holes would be advantageous.

The geophysical work was aimed at gathering deep subsurface information to help define the previously discovered geophysical anomalies in 2006 and aid defining future drill hole planning. In addition, the geophysical work resolved structures and suggested potential for more undiscovered mineralized areas in Kemess East. Results were positive, indicating a deep anomaly on the boundary between Kemess North and Kemess East, and a significant untested anomaly at the far east edge of the property, near the Hilda showing. Other shallow anomalies along the southern edge of Kemess North from the Nugget to Kemess East were seen along the Sovereign contact. These shallow anomalies indicate potential for other shallow zones of mineralization like the Altus Zone because of their similar geophysical signatures.

Compilation of structural, stratigraphic, and geophysical data for the Kemess East area should continue. The 2008 exploration drill program should see the deepening of drill holes KH-07-11, -17, -24, -25, and -26 as well as additional follow up drilling targeting the definition and delineation of the Altus and Ora Zones. Additional drilling of other geophysical anomalies discovered from the 2007 geophysical program should be conducted. Additional groundwork, including two Titan geophysical surveys south of Kemess East to test for the southern Sovereign contact may be required to better assess the remainder of the Kemess East area. Further groundwork including mapping within the Kemess East are along the exploration road cut should be conducted to further understand structural offsets.

Drill hole NR-07-01 was targeted to test soil and IP results, and as follow-up to NR-05-03. Hole NR-07-01 returned interesting but sporadic base metal sulphide mineralization over the length of the hole, which may indicate the distal expression of a porphyry/skarn system. Highest values returned were 587ppm Cu, 852ppm Pb and 2650ppm Zn. If such a porphyry system exists, it does so at a much deeper stratigraphic level than the Talka-hosted Kemess porphyries. Veins hosting sphalerite, galena and chalcopyrite were mainly dipping ~10 degrees to the core axis and possibly related to dike events flanking a porphyry. The mineralized veins have become slightly steeper compared to NR-05-03. Besides anomalous copper, zinc and lead grades, no significant metal assays were returned. Geological information gathered from the single drill hole in 2007 as follow-up to the 2005 exploration year has failed to produce a potentially economic intercept; however the geological features remain positive for skarn and porphyry style mineralization.

11.0 Statement of Costs

Exploration costs for the 2007 Kemess East project totaled $3,958,511 as outlined in **Table 8**. Expenditures were incurred between April 1 and October 31, 2007 with exception of report writing. Details of expenditures including staff payroll and scheduling, analytical shipments, contractors invoicing etc are located in **Appendix 6**.

Payroll & benefits		$198,295
Analysis - external		$211,000
Sample preparation and shipping		$42,200
Helicopter		$499,086
Helicopter - fuel		$73,697
Contractor costs		$561,025
Geologists	$85,505	
Steelhead Excavating Ltd (Road Construction, Snowcat, Reclamation)	$206,297	
Quantec Geoscience Ltd. (Geophysical)	$173,092	
Johnny Line Cutting	$20,530	
Storm Mountain Technical Services (Avalanche Control)	$75,601	
Drilling		$2,084,932
Trucks		$28,230
Diesel		$16,016
Camp cost allocation		$100,224
Flights to/from Kemess		$38,313
NT Air Scheduled	$31,188	
NT Air Special Charter	$5,625	
Sustut Air Special Charter	$1,500	
Rentals		$55,676
Operating supplies		$41,795
Miscellaneous		$2,522
Report Writing		$5,500
Total		**$3,958511**

Table 8 – Outline of expenditures for Kemess East 2006 drill program.

12.0 Statement of Qualifications

I, J. Wade Barnes, of 116-1999 Suffolk Avenue, Port Coquitlam, British Columbia do hereby certify that:

1. I have co-supervised the 2007 exploration program completed on the Kemess East and Kemess North claims, reviewed all the data contained herein and have contributed to the preparation of the report.

2. I graduated in 2001 from Simon Fraser University with a BSc in Earth Sciences.

3. I graduated in 2004 from British Columbia Institute of Technology with honours from the Mining Technology program.

4. I am a Geoscientist-In-Training registered with the Association of Professional Engineers and Geoscientists of British Columbia, member #146576.

5. From 2004 until present I have been continuously employed as a geologist in mineral exploration.

Dated at Port Coquitlam March 15, 2008

J. Wade Barnes

STATEMENT OF QUALIFICATIONS

I, Ronnald A. Konst, of 1691 Broadlands Road, Errington, British Columbia, Canada, do hereby certify that:

1. I have co-supervised the 2007 exploration program completed at Kemess and contributed to the preparation of this report.

2. I have studied Geology at the University British Columbia in Vancouver, British Columbia and have received a Bachelor of Sciences degree in 1984.

3. I have continuously practiced my profession as an exploration geologist since graduation until 1998 in Canada, U.S.A., and Mexico. For the period of 1998 through 2002 I was employed as a Quality Assurance Specialist and Database Analyst in the Information Technologies sector. I resumed practice of my profession as an exploration geologist in 2003. Since then I have been continuously employed as a Geologist in mineral exploration.

Dated at Errington, British Columbia, the 10th day of March 2008.

Ronnald A. Konst, B.Sc.

I, Katie Lucas, of 640 Thornloe Drive, Thunder Bay, Ontario, do herby certify that:

1. I co-supervised the preparation of this report.
2. I received an HBSc. Geology from Lakehead University in 2002.
3. I received a MSc. Geology from Queen's University in 2004.
4. I am a Professional Geoscientist registered with the Association of Professional Geoscientists of Ontario, and have been a member in good standing since February 2008.
5. I have been continuously employed as a geologist in mineral exploration from 2005 until present.

Dated March 15, 2008 at Thunder Bay, Ontario.

Katie Lucas

I, Brian George Kay, of 1983 Dominion Street, Smithers, British Columbia Canada do hereby certify that:

1. I have supervised the 2007 exploration program completed on the Kemess property, reviewed all the data contained herein, and prepared this report.
2. I graduated from Simon Fraser University in December of 2000 with a B.Sc. in Geology.
3. I am a Professional Geoscientist (P.Geo.) registered with the Association of Professional Engineers and Geoscientists of British Columbia, member # 29684, and have been a member of good standing since June 2005.
4. From 2000 until present I have been continuously employed as a geologist in mineral exploration.

Dated at Vancouver B.C. the 14th day of March 2008.

Brian George Kay

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14.0 List of Appendices

Appendix 1 – Diamond Drill Logs/Geotechnical Information
Appendix 2 – Kemess East drill hole cross-sections
Appendix 3 – Assay Certificates
Appendix 4 – 2007 QAQC program
Appendix 5 – 2007 Geophysical Program
Appendix 6 – Expenditure Detail

Appendix 1

Diamond Drill Logs/Geotechnical Information

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	5.0		CASING	
5.0	11.0	H	HETEROLITHIC AGLOMERATE	Slightly mottled texture due to increase in alteration and veining.
11.0	21.0	H	HETEROLITHIC LAPILLI-TUFF	Aglomerate unit seems to carry more pyrite.
21.0	27.0	H	HETEROLITHIC AGLOMERATE	Unit has become like the aglomerate section unit encountered before. Portion of this section is moderately hematite altered with minor epidote alteration. Silica overprint in this section. Gradational contact.
27.0	33.0	H	HETEROLITHIC LAPILLI-TUFF	Unit has become weakly stockworked at a random orientation with zeolite, calcite and minor quartz.
33.0	35.0	H	HETEROLITHIC AGLOMERATE	Gradational contact in and out of an aglomerate unit similar to before.
35.0	51.0	H	HETEROLITHIC LAPILLI-TUFF	Stockworking has decreased.
51.0	61.0	H	HETEROLITHIC AGLOMERATE	Back to a similar aglomerate section encountered before. Unit contains more clasts of other material. Clasts include andesite, BFP, AAP, intrusives, and minor tuffaceous material. Clasts range from about 1cm to block and bomb size. Clasts are subrounded to angular. Matrix is mainly fine to medium grained mostly consisting of feldspars and ~1% 1mm quartz eyes. Phyllic and potassic alteration is present with some clasts. Alteration ranges from sericite and epidote with minor chlorite and a trace of hematite. Epidote alteration within veins and disseminated. Pyrite is disseminated within the matrix and minorly within the veins. Clasts contain pyrite within the veins and disseminated. Minorly magnetic. 2-4% veining containing calcite and zeolite oriented 30-60 deg to the core axis. Minor stockworking present oriented the same.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
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		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
61.0	73.0	H	ANDESITE FLOW	Entered a large block of andesite flow with feldspar pheoncysts in a fine grained matrix with some brecciated sections. Feldspar phenocrysts are 9-11% 2-10mm in size. Some of the feldspar phenocrysts are altered to epidote and sericite. Epidote, chlorite and minor sericte, quartz and hematite are present within the matrix. Large feldspar porphyry flow starts at 61.8 m and ends at 73.5 m. Contacts are undulating. H4 according to Diakow's map.
73.0	103.0	H	HETEROLITHIC AGLOMERATE	Block of feldspar porphyry ends at 73.5 m. Back into the aglomerate encountered before the feldspar porphyry block.
103.0	105.0	H	HETEROLITHIC LAPILLI-TUFF	Unit has changed into a more tuffaceous unit with rare clasts similar to before. Less pyrite and propylitic alteration are present. Spotty sercite and chlorite alteration with rare epidote and hematite alteration around rare volcanic clasts
105.0	107.0	H	HETEROLITHIC AGLOMERATE	From 106.0 to 107.2 is an aglomerate section like the ones encountered before. Moderate propylitic alteration is within the aglomerate section with an increase in pyrite as well. From 107.2-108.4 m is a large BFP block with 7-9% feldspar crystals with weak propylitic alteration. Within the tuffaceous unit there is a slight fabric to the crystals of 40 deg to the core axis.
107.0	113.0	H	HETEROLITHIC LAPILLI-TUFF	After 108.4 m the section jumps in and out of a tuffaceouse and aglomerate unit sericite and chlorite alteration. Aglomerate and tuffaceouse units are similar to before. Clasts of volcanic, intrusive material are present. Aglomerate sections are present noted by the propylitic alteration and pyrite increase.
113.0	121.0	H	HETEROLITHIC AGLOMERATE	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
121.0	135.0	H	DACITE FLOW	At 121.5 unit changes into an aphanitic dark grey ash flow with some flow banding. 1-2% sparse feldspar phenocrysts 1-4 mm in size with some altered to epidote and sericite. Possible amygdules present as circular shapes filled with calcite and epidote. Propylitic alteration is dominant within the matrix with epidote, chlorite and sericite. Pyrite is present within veins of calcite and zeolite. A carbonate overprint is present in patches. 1-2% veining within the block oriented 40-60 deg to the core axis. Alignment of feldspar crystals at 35-40 deg to the core axis.
135.0	157.0	H	HETEROLITHIC AGLOMERATE	At 135.9 m the ash flow unit ends and the unit becomes similar to the aglomerate encountered above.
157.0	159.0	H	HETEROLITHIC LAPILLI-TUFF	Magnetite seems to have decreased to a trace.
159.0	161.0	H	HETEROLITHIC AGLOMERATE	
161.0	169.0	H	HETEROLITHIC LAPILLI-TUFF	2-3% veining now present composed of calcite and zeolite and oriented 45-60 deg to the core axis.
169.0	171.0	H	HETEROLITHIC AGLOMERATE	Calcite vein with minor zeolite oriented at 10 deg to the core axis from 169.3-169.4 m.
171.0	183.0	H	HETEROLITHIC LAPILLI-TUFF	
183.0	189.0	H	HETEROLITHIC AGLOMERATE	
189.0	199.0	H	HETEROLITHIC LAPILLI-TUFF	Sphalerite seen with hematite within a vein.
199.0	201.0	H	HETEROLITHIC AGLOMERATE	
201.0	213.0	H	RHYOLITE CLAST BEARING AGLOMERATE	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
213.0	249.7	H	HETEROLITHIC AGLOMERATE	QFP/rhyolite clasts are no longer visible. Trace of chalcopyrite is now showing within the veins.
249.7	250.7	H	CALCITE	Shear zone noted by calcite, minor quartz and clay. Upper contact is 15 deg to the core axis and the lower contact is 20 deg to the core axis.
250.7	256.0	T	ANDESITE VOLCANIC BRECCIA	Strongly potassic altered andesite unit. Andesite unit changes from a homogeneous breccia fragmental unit to a more massive flow with minor in-situ brecciation. Some AAP sections are present. Alteration is predominately potassic with strong chlorite and sericite with biotite in sections. Some Takla fragments within the breccia sections are QSP altered. The matrix of the breccia sections are composed of remnant Takla material (andesite). Magnetite present within veins and increases down the hole. 4-6% veining oriented 15-30 deg to the core axis and 65-80 deg to the core axis. Veining is composed of calcite, quartz, anhydrite, minor zeolite and wollastinite (noted by hardness and radial pattern). Pyrite is present within veins and disseminated within the unit and fragments. Trace of chalcopyrite present within the veins and disseminted. Trace of epidote and hematite still present within the veins, but decreases to not present down the hole. A chlorite halo surrounds some of the veins and increases down the hole.
256.0	258.0	T	ANDESITE FLOW	
258.0	266.0	T	ANDESITE VOLCANIC BRECCIA	
266.0	272.0	T	ANDESITE FLOW	
272.0	276.0	T	ANDESITIC AUGITE PORPHYRY FLOW	5-7%, 1-4 mm augite phenocrysts present within this interval with some altered to chlorite.
276.0	278.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
278.4	281.8	B	MONZONITE DYKE	Strong phyllicaly altered monzonite dike. Phyllic alteration has obliterted most of the charateristics of the rock. Most of the feldspar crystals have been altered to sericite and chlorite. Quartz is still present with most of the mafic minerals altered to chlorite and sericite. 1-3% veins filled with anhydrite, quartz, zeolite, calcite and wollastinite. Vein orientation is 40-50 deg to the core axis. Upper contact is 50 deg to the core axis and the lower contact is brecciated. Minor pyrite mineralization is present within the veins and disseminated within the matrix.
281.8	292.0	T	ANDESITE FLOW	Back into a similar potassic altered andesite encoutered above. 1-3% augite phenocrysts present about 1-3 mm in size some altered to chlorite and biotite. Some minor fragmental sections near the beginning. In-situ brecciated sections present. Fragmental and brecciated sections are chiefly comprised of Takla clasts with the matrix made up of Takla material. Mineralization present is similar with pyrite and chalcopyrite disseminated and within veins. Massive magnetite present within some veins. 4-6% veining composed of quartz, anhydrite and minor amounts of calcite, zeolite and wollastinite. Vein orientation is 40-50 deg to the core axis and 10-20 deg to the core axis.
292.0	300.0	T	ANDESITE VOLCANIC BRECCIA	
300.0	304.0	T	ANDESITE FLOW	
304.0	310.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit now contains 20-30% augite phenocrysts 2-7mm in size and subhedral to euhedral in shape. Some augite phenocrysts have altered to chlorite, sericite and minor biotite. Matrix is aphanitic and altered to chlorite, sericite and minor quartz and biotite. 4-6% veining composed of quartz, anhydrite and minor mounts of calcite, zeolite and wollastinite. Vein orientation is 20-30 deg to the core axis. Pyrite and chalcopyrite mineralization present within the veins and disseminated within the matrix.
310.0	312.0	T	ANDESITE FLOW	Back into the similar potassic andesite flow encountered before the AAP section.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Carl Edmunds

Drilled: 11/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
312.0	314.0	T	ANDESITE BRECCIA	Vuggy veins.
314.0	351.0	T	ANDESITE FLOW	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-01A							
	UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**	**Geologist:** Wade Barnes
	UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0	
			Elevation:	1820	**Dip:**	-90	**Drilled:** 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.0		CASING	
6.0	14.0	H	HETEROLITHIC AGLOMERATE	Volcanoclastic unit, with minor veining and rare faulting. Unit is composed of beds of aglomerate units that grade upwards to finer sequence. Some beds are just aglomerates and some are fine to coarse grained ash. Weak sericitic alteration with lesser chlorite alteration of feldspar and mafic minerals within the matrix and clasts. In spots silica and chlorite alteration increases slightly. Spotty epidote and hematite alteration within the clasts and matrix (minorly within veins). Epidote nd chlorite alteration increase down the hole with a slight increase of hematite. Composed of 70-80% clasts ranging from rounded to angular, 5mm to 40cm. Clasts are composed of BFP, andesite, basalt, tuffaceous fragments and intrusive material. Matrix is fine grained, tuffaceous with local magnetite and quartz eyes. 1-2% quartz eyes 1-2mm in size nd decrease and unable to be seen down the hole. Magnetite also present within clasts and matrix. Colour varies from grey, dark grey, green and pink. 2-4% veining at 20-40 deg to core axis and 1-2% veining near parallel to the core axis to 10 deg. Veining is composed of calcite, zeolite with lesser amounts of quartz. Trace to 1% pyrite is present in sections. The pyrite is disseminated within the matrix and within clasts.
14.0	22.0	H	HETEROLITHIC LAPILLI-TUFF	Bedding contact at 13.8 m into a more fine-coarse grained tuffaceous section with welded material at 40 deg to the core axis. Rare clasts of BFP, andesite, intrusives and tuffaceous material present. Clasts are subrounded and some are welded.
22.0	24.0	H	HETEROLITHIC AGLOMERATE	Three bedding contacts within this interval. One contact is between an aglomerate unit and small tuffaceous unit at 22.8 m and the orientation of the contact is 45 deg to the core axis. At 22.9 m is another contact between a tuffaceous unit and an aglomerate unit at an angle of 45 deg to the core axis. At 23.2m is another contact separating and aglomerate unit from a tuffaceous unit at an angle of 55 deg to the core axis. The interval ends in a Lapilli Tuff unit.
24.0	32.0	H	HETEROLITHIC LAPILLI-TUFF	

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Northgate Minerals Corp.

KH-07-01A

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
32.0	36.0	H	HETEROLITHIC AGLOMERATE	Weak propylitic alteration present with an increase in epidote, chlorite, and hematite. Unit has a gradational contact into an aglomerate section.
36.0	38.0	H	HETEROLITHIC LAPILLI-TUFF	Welded fragments at an angle of 50 deg to the core axis. Near the end of the interval the tuffaceous unit transitions into an aglomerate section. Contact is broken.
38.0	42.0	H	HETEROLITHIC AGLOMERATE	
42.0	48.0	H	HETEROLITHIC LAPILLI-TUFF	
48.0	56.0	H	HETEROLITHIC AGLOMERATE	At 149.2 m unit transitions into an aglomerate unit at a bedding angle of 50 deg to the core axis. Epidote, chlorite, and hematite alteration have increased.
56.0	58.0	H	HETEROLITHIC LAPILLI-TUFF	
58.0	61.6	H	HETEROLITHIC AGLOMERATE	
61.6	76.0	H	ANDESITE FLOW	Entered a large section of andesite flow with feldspar phenocrysts in a fine grained matrix with some brecciated sections. Feldspar phenocrysts are 13-16% 2-10mm in size. Some of the feldspar phenocrysts are altered to epidote and sericite. Epidote, chlorite and minor sericte and hematite are present within the aphnitic matrix. Large feldspar porphyry flow starts at 61.6 m and ends at 76.0 m. Upper contact is 30 deg to the core axis and the lower contact is faulted at 50 deg to the core axis. Long axis of the feldspars are oriented between 35-50 deg to the core axis with some random. 2-3% veining present and composed of calcite and zeolite. Vein orientation is between 40-50 deg to the core axis. No quartz eyes seen. H4 according to Diakow's map.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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KH-07-01A

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UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
76.0	112.5	H	HETEROLITHIC AGLOMERATE	Back into a similar aglomerate unit encountered before. Clasts are angular and subrounded with a fine matrix between them. 2-3% veining composed of calcite and zeolite and oriented 30-60 deg to the core axis. Pyrite present with in clasts and disseminated within the matri. Magnetite present as fine black specks. Magnetite present within clasts. No quartz eyes visible.
112.5	114.3	H	HETEROLITHIC LAPILLI-TUFF	Tuffaceous begins at 112.5m and ends at 114.3 m. Feldspar phenocrysts dominate in a fine ash matrix. Minor quartz phenocrysts also present. Weak silica alteration present with spotty sericite and hematite alteration. ~1% veining filled with zeolite and clacite. Trace of disseminated pyrite present. Upper contact is 70 deg to the core axis and the lower contact is 50 deg to the core axis.
114.3	124.4	H	HETEROLITHIC AGLOMERATE	Back into the similar propylitic altered aglomerate section encountered before.
124.4	135.9	H	DACITE FLOW	Unit has changed into an aphanitic dark grey ash flow with some flow banding. 1-2% sparse feldspar phenocrysts 1-4 mm in size with some altered to epidote and sericite. Possible amygdules/vesicles present as circular shapes filled with calcite and epidote. Propylitic alteration is dominant within the matrix with epidote, chlorite and sericite. Pyrite is present within veins of calcite and zeolite. A carbonate overprint is present in patches. 2-4% veining within the block oriented 30-60 deg to the core axis.Epidote is present with in the veins and halos the veins in places. Alignment of feldspar crystals at 35-40 deg to the core axis. Flowbanding is also 35-40 deg to the core axis.
135.9	142.0	H	HETEROLITHIC AGLOMERATE	Back into the similar type of aglomerate unit encountered before the aphanitic ash flow. No quartz eyes seen and the amount of magnetite has decreased.
142.0	143.6	H	HETEROLITHIC LAPILLI-TUFF	Similar aphanitic grey tuffaceous unit encountered above. Upper and lower contacts are 45 deg to the core axis.
143.6	144.8	H	HETEROLITHIC AGLOMERATE	Similar to the one encountered above.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
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		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
144.8	154.5	H	TUFFACEOUS FLOW	Similar dark grey aphanitic tuffaceous flow with minor amounts of feldspar phenocrysts and vesicles. Long axis of the feldspar oriented 40-50 deg to the core axis. No flow banding is visible.
154.5	177.6	H	HETEROLITHIC AGLOMERATE	The unit has now gone back into a similar aglomerate unit as before. Propylitic alteration is dominant with epidote, chlorite, sericite, minor hematite and pyrite present. Magnetite present as fine black specks. 2-3% veining composed of calcite, zeolite and a trace amount of wollastinite. Vein orientation is 10-20 and 50-60 deg to the core axis. Pyrite mineralization is present disseminated within the matrix and within veins and clasts. No quartz eyes seen.
177.6	200.2	H	HETEROLITHIC LAPILLI-TUFF	The amount of blocky material has decreased to 30-40% with 60-70% lapilli/ash matrix. Fragments are still similar to the aglomerate unit above as well as the matrix. Intense epidote alteration has obliterated most of the characteristics of the rock. Strong sericite and chlorite alteration present. 2-3% veining present and composed of calcite and zeolite. Vein orientation is 30-50 deg to the core axis. No quartz eyes seen, no magnetite seen. Minor pyrite mineralization present within the matrix and clasts.
200.2	207.5	H	RHYOLITE CLAST BEARING AGLOMERATE	QFP clasts are present within a small interval from 200.2m to 207.5m. Clasts are only 1cm to 5cm in size. QFP clasts represent ~7% of the section. Amount of chlorite alteration has increased. Other clasts include other intrusive material, mafic material. Alteration of some clasts has obliterated their characteristics. Matrix is fine grained intermediate in composition. Pyrite mineralization is present disseminated within the matrix, within veins and within clasts. 4-6% veining composed of calcite and zeolite with an orientation of 30-40 deg to the core axis. Trace of magnetite present within the matrix and within the clasts. No quartz eyes seen. Epidote alteration within the matrix and clasts. Upper contact is 35 deg to the core axis and the lower contact is 30 deg to the core axis.
207.5	211.0	H	HETEROLITHIC AGLOMERATE	Unit is similar to the lithic tuff/aglomerate encountered before the unit with the QFP clasts.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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KH-07-01A

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0
		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
211.0	226.1	H	RHYOLITE CLAST BEARING AGLOMERATE	QFP clasts are present within a small interval from 211.0m to 226.1m. Clasts are only 1cm to 7cm in size. QFP clasts represent ~7% of the section. Amount of chlorite alteration has increased. Other clasts include other intrusive material, mafic material. Alteration of some clasts has obliterated their characteristics. Matrix is fine grained intermediate in composition. Pyrite mineralization is present disseminated within the matrix, within veins and within clasts. 4-6% veining composed of calcite and zeolite with an orientation of 50-60 deg to the core axis. Trace of magnetite present within the matrix and within the clasts. No quartz eyes seen. Epidote alteration within the matrix and clasts. Upper contact is brecciated and the lower contact is 35 deg to the core axis.
226.1	238.0	H	HETEROLITHIC AGLOMERATE	Fragmental aglomerate unit with a high amount of mafic (Takla?) fragments that are strongly altered. Chlorite alteration dominates within the clasts with minor amounts of sericite, biotite and quartz. Some of the mafic clasts are potassic altered. Alteration has oblieterated the characteristics of the clasts. Matrix is fine grained and dominated by epidote alteration with chlorite and minor hematite and sericite. 3-5% veining composed of calcite, zeolite and spotty wollastinite. Vein orientation is 35-60 deg to the core axis with some minor veins almost parallel to the core axis. Magnetite present as fine black specks within the matrix and within clasts. No quartz eyes seen. Pyrite mineralization present within veins, disseminated within the matrix and within clasts.
238.0	249.1	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Unit has changed into a more tuffaceous unit with 10-15% clasts of mafic fragments (Takla?). Alteration has obliterated most of the characteristics of the rock. Chlorite and epidote dominated within the matrix with chlorite dominating within the clasts. Sericite alteration is present within the matrix. No visible quartz eyes present. Trace of magnetite present. Pyrite mineralization is disseminated within the matrix and within veins. Veining is similar to the unit above.
249.1	262.0	H	HETEROLITHIC AGLOMERATE	Similar aglomerate unit encountered before the crystal lithic tuff unit. Gradational contact.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
262.0	263.3	H	CALCITE	Shear zone noted by calcite, minor quartz and clay. Upper contact is 20 deg to the core axis and the lower contact is 15 deg to the core axis.
263.3	301.4	T	ANDESITE VOLCANIC BRECCIA	Strongly potassic altered andesite unit. Andesite unit changes from a homogeneous breccia fragmental unit to a more massive flow with minor in-situ brecciation. Some AAP sections are present. Alteration is predominately potassic with strong chlorite and sericite with biotite and quartz in sections. Some Takla fragments within the breccia sections are QSP altered. The matrix of the breccia sections are composed of remnant Takla material (andesite). Magnetite present within veins and increases down the hole. 4-6% veining oriented 30-50 deg to the core axis and 65-80 deg to the core axis. Veining is composed of calcite, quartz, anhydrite, minor zeolite and wollastinite (noted by hardness and radial pattern). Pyrite is present within veins and disseminated within the unit and fragments. Trace of chalcopyrite present within the veins and disseminted. Trace of epidote and hematite still present within the veins, but decreases to not present down the hole. A chlorite halo surrounds some of the veins and increases down the hole. Shear zone from 264.7-264.9 m composed of calcite veining with some zeolite. Ash and clay from ground up host rock present. Shear orientation is 15 deg to the core axis.
301.4	302.1	B	MONZONITE DYKE	Strong phyllicaly altered monzonite dike. Phyllic alteration has obliterated most of the characteristics of the rock. Most of the feldspar crystals have been altered to sericite and chlorite. Quartz is still present with most of the mafic minerals altered to chlorite and sericite. 1-3% veins filled with anhydrite, quartz, zeolite, calcite and wollastinite. Vein orientation is 30-45 deg to the core axis. Upper contact is 45 deg to the core axis and the lower contact is brecciated. Minor pyrite mineralization is present within the veins and disseminated within the matrix.
302.1	309.8	T	ANDESITE FLOW	Back into the similar potassic altered encountered before the mozonite dike.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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	UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**	**Geologist:** Wade Barnes
	UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0	
			Elevation:	1820	**Dip:**	-90	**Drilled:** 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
309.8	315.6	T	MAFIC VOLCANIC	Unit has transitioned into a fragmental epiclastic unit. Clasts are takla (andesite, AAP) and are subrounded. Matrix is composed of fine grained mafic material that is altered to chlorite and sercite. Minor siliceous overprint present. Clasts are altered to chlorite, biotite, quartz and sericite. 2-3% veining composed of calcite mainly and the orientation is 10-20 deg to the core axis. Pyrite mineralization present within the matrix and within clasts. Upper contact is 50 deg to the core axis and lower contact is 40 deg to the core axis.
315.6	321.0	T	ANDESITE VOLCANIC BRECCIA	Back into the similar potassic altered andesite unit encountered before the epiclastic unit.
321.0	327.0	T	ANDESITE FLOW	Amount of anhydrite is increasing down the hole.
327.0	333.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Minor increase in augite phenocrysts to 3-5%. Augite phenocrysts are 2-4 mm in size with some altered to chlorite and containing pyrite.
333.0	339.0	T	ANDESITE FLOW	
339.0	343.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Molybenum present within couple of veins.
343.0	356.6	T	ANDESITE FLOW	
356.6	362.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Similar andesite unit above except the unit contains 10-15% augite phenocrysts 2-5 mm in size.
362.0	366.0	T	ANDESITE FLOW	Unit has transitioned back into a more massive andesite flow. Molybdenum seen within a vein.
366.0	370.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
370.0	372.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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		Elevation:	1820	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
372.0	373.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
373.0	378.7	T	ANDESITE FLOW	
378.7	388.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
388.0	398.0	T	ANDESITE FLOW	
398.0	400.3	T	CALCITE VEIN	Massive calcite, feldspar, zeolite vein with reworked fragments of potassic altered andesite. Pyrite and chalcopyrite are present. Upper contact is 50 deg to the core axis and the lower contact is 45 deg to the core axis.
400.3	408.3	T	ANDESITIC AUGITE PORPHYRY FLOW	Start of an AAP section. 8-12% augite phenocrysts ranging in size from 1-4mm. Altertion, rock type, veining and mineralization are similar before the vein.
408.3	422.2	T	ANDESITE FLOW	Augite phenocrysts have decreased to 2-4%.
422.2	425.0	T	ANDESITE VOLCANIC BRECCIA	Unit is fragmental with clasts of andesite dominating with a fine grained matrix of broken volcanic material. 60-75% clasts angular in shape and 1-6 cm in size. Biotite, chlorite and quartz alteration dominate. Pyrite mineralization is disseminated within the matrix, veins an clasts. Chalcopyrite within some veins. 1-2% veining composed of quartz and oriented 50-60 deg to the core axis. Magnetite present within the clasts.
425.0	455.9	T	ANDESITE FLOW	Back into a similar potassic altered andesite.

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KH-07-01A							
	UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**	**Geologist:** Wade Barnes
	UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0	
			Elevation:	1820	**Dip:**	-90	**Drilled:** 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
455.9	457.0	B	QUARTZ MONZONITE DYKE	Unit contains 75-85% felspars, 10-20% quartz and 5-10% mafic minerals. Quartz phenocrysts present 2-4mm in size with the odd feldspar crystal present. Minor hematite staining of the feldspar grains and within the veins. Upper contact is veined and vuggy with magnetite and epidote present, contact angle is brecciated. Lower contact is 10 deg to the core axis. Pyrite and chalcopyrite are found at the upper contact within the vein. Contact vein is composed of quartz, anhydrite and zeolite.
457.0	473.4	T	HETEROLITHIC VOLCANIC BRECCIA	Unit is fragmental composed of 55-65% clasts with a mafic fine to medium grained matrix. Clasts range in size from 0.5-8 cm. The clasts compose massive andesite, basalt, AAP, BFP and intrusive (monzonite). Takla fragments are mostly potassic altered with few phyllic altered clasts. Monzonite fragments appear unaltered. Pyrite mineralization is present within the matrix, clasts an veins. 4-6% veining composed of calcite, zeolite and anhydrite oriented 15-20 and 40-60 deg to the core axis. Magnetite present within mafic clasts. Chloite, quartz with minor biotite an sericite are the alterations present within the matrix and clasts.
473.4	475.0	B	HETEROLITHIC FAULT ZONE	Shear zone/faults zone noted by clay, chlorite, round and ground up clasts of the andesite unit above and the quartz monzonite unit below. Calcite, zeolite, quartz veining is persistent through the fault in the shear direction. Upper contact and lower contact is 20 deg to the core axis. Trace of disseminated pyrite present.

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Geologist: Wade Barnes

Drilled: 5/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
475.0	490.2	P	HETEROLITHIC INTRUSION BRECCIA	Unit is brecciated quartz monzonite and quartz monzodiorite with phenocrysts of quartz, minor feldspars and altered mafic minerals. Unit contains 75-85% feldspars, 10-20% quartz and 5-10% mafic minerals. Hematite stain is patchy throughout the unit with spotty siliceous patches. Matrix between clasts of the brecci are fine grained and intermediate in composition. 1-2% andesite (Takla?) fragments present Minor amount of augites are altered to biotite and chlorite. Minor amounts of the feldspars are altered to sericite. Magnetite present as fine black specks (~1%). Unit changes to massive down the hole. 7-10% veining composed of calcite, zeolite and quartz oriented 45-65 deg to the core axis. Minor pyrite is disseminated and within veins. Chalcopyrite is present within the quartz monzonite associated with mafic minerals and in quartz veins. Trace of epidote is seen within the veins. Large phenocrysts of hornblende present.
490.2	492.7	P	HETEROLITHIC AGLOMERATE	Small unit that is composed of clasts of quartz monzonite, quartz monzodioite and takla andesites. Clasts are angular and range in size from 0.5-7 cm. Matrix is composed of ground up quartz monzonite and monzodiorite material. Hematite staining is still present along with weak chlorite and sericite alteration. Upper contact is 20 deg to the core axis and the lower contact is 25 deg to the core axis.
492.7	541.1	P	HETEROLITHIC INTRUSION BRECCIA	Back into the brecciated quartz monzodiorite and quartz monzodiorite encountered before.
541.1	980.0	P	QUARTZ MONZODIORITE INTRUSIVE	Unit has now become more massive with no brecciation. Unit is composed of ~70% feldspars, ~20% mafics and ~10% quartz. Large phenocrysts of quartz, feldspar and horblende are present. Magnetite present as coarse crystals. Minor pyrite and trace of chalcopyrite is disseminated within the matrix and present within veins. Unit is hematite staind with patchy siliceous sections.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-02

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0
		Elevation:	1819	**Dip:**	-90

Geologist: Ron Konst

Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	7.5		CASING	Bedrock at 5.5m. No sample first two metres.
7.5	41.5	H	HETEROLITHIC AGLOMERATE	Blocky ash tuff; fragments include BFP clasts, medium grained andesite clasts, vesicular basaltic(?) clasts and altered (sericite) felsic clasts. Matric is fine ash with minor fspar grains. Entire unit is magnetic, well fractured with pink zeolite infilling. Lower contact is very sharp. Badly broken sections at 15, 21.5 and 25.7m.
41.5	61.5	H	DACITE LAPILLISTONE	Titanite bearing unit, with some rare fiamme textures. Unit could be welded. Rare clasts upto 2cms. 2-3% magnetite throughout…..1-2mm diameter grains.
61.5	115.8	H	DACITE TUFF	Uniform, fine to medium grained tuff with rare mafic clasts to 2cm. More felsic than the unit above with no Bladed Feldspar Porphyry fragments, absence of decernable quartz eyes. Alteration and Mineralization: sparse calcite stringers, minor zeolite stringers and weakly chlorite alteration. Increasingly siliceous downhole (primary?).
115.8	152.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Upper contact with Hazelton inot structural, it is sharp but irregular, with no apparent paleo weathering. Unit is distinctly amygduloidal down to 138m. Overall weakly propyllitic with epidote replacement of plagioclase and localized weak hematitic staining. 5-40% 1-2cm feldspar laths in a fine grained, magnetic, green-grey matrix. Feldspars are varied in orientation with some feltings. Base of the unit contains occasionally twinned mega-phenocrysts (up to 4cm). No mineralization otherthan spoardic flecks of pyrite. 2% carbonate-zeolite veining throughout. Lower contact brecciated.
152.0	168.0	T	BLADED FELDSPAR PORPHYRY BRECCIA	20 cm zone of massive magnetite flooding Skarn zone, 8% calcite and zeolite veining. Start of the basal portion of this unit includes fragments of Andesite unit below with some sections of polylithic epiclastics. Skarn magnetite replacement patches to the bottom of unit.
168.0	191.0	T	BASALT VOLCANIC BRECCIA	Massive with local flowbrecciated zones. Unit is overprinted with brittle fracture brecciation with calcite infill to 15%. Similar to unit above with rare plagioclase laths. Upper part of unit brecciated with local pyritic zones.

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Geologist: Ron Konst

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From (m)	To (m)	Group*	Rock Type	Comments
191.0	217.0	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 40º and lower contact 3º to core axis healed shear with chloritic seams and milled pebbles. Minor calcite and zeolite stringers.
217.0	243.4	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Upper contact is irregular, brecciated, and very steep. Unit is mainly massive with local vbx sections. Overall weakly propyllitic with epidote replacement of plagioclase and localized weak hematitic staining. 15-40% 1-3cm feldspar laths in a fine grained, magnetic, green-grey matrix. Feldspars are varied in orientation with some feltings. No mineralization otherthan spoardic flecks of pyrite. 3% carbonate-zeolite veining throughout. Lower contact sharp and sub-planar.
243.4	279.0	T	ANDESITE SANDSTONE	Crystalithic sandstone with occasional pebbles and cobbles. Unit is overprinted with patchy moderate to intense epidote +/- chlorite, and pyritic zones. Calcite stringers and veinlettes to 15%. Sharp upper contact at 80º to core axis.
279.0	280.5	T	CHLORITE VEIN	Chlorite-Calcite-Pyrite vein. Sheared and mylonitic with patches of massive pyrite.
280.5	284.4	T	ANDESITE SANDSTONE	Same as above vein, pyritic, chloritized and shearing.
284.4	296.2	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafics often in clusters of grains, 5% coarse grained hornblende and augite crystals. Rare very fine grained mafic xenoliths. Upper contact 20º and lower contact 8º to core axis with healed chloritic, calcareous shears. Minor calcite and zeolite stringers throughout. Local hematie staining of plagioclase.

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From (m)	To (m)	Group*	Rock Type	Comments
296.2	318.1	T	ANDESITE SANDSTONE	Crystalithic sandstone with occasional pebbles and cobbles, increasingly common down hole. Unit has patchy moderate to intense epidote +/- chlorite, and pyritic alteration in the upper portion. Sericite stringers increasing down hole into QSP alteration at 309m. Zone with sphalerite(0.5%), galena(0.5%), and chalcopyrite(0.1%) in gypsum-quartz-calcite-sercite veins from 316 to 320 stratling lower contact. Sharp steep upper contact. Phyllic alteration increasing down hole to intense at bottom of unit.
318.1	356.2	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Fragmental unit. Intensely altered with some less altered zones with decernable Andesitic Augite Porphyry. Protolith is unidentifiable for the most part. Upper contact at 50 º to core axis with zone of sphalerite(0.3%), galena(0.3%), and chalcopyrite(0.1%) in gypsum-quartz-calcite-sercite veins. Phyllic alteration primarily quartz flooding and sericite psuedomorphs of augite and feldspar with lesser pyrite and chlorite. Base of unit 40º to 60º to core axis chloritic shear.
356.2	371.7	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafics often in clusters of grains, 5% coarse grained augite and rare hornblende crystals. 2% very fine grained mafic xenoliths. Sharp upper contact 45º and sharp, irregular lower contact 50º to core axis. Minor calcite and zeolite stringers throughout.
371.7	410.2	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	5-60% fine to coarse grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesitic Augite Porphyry, locally fragmental. Weakly propylitic alteration as epidote with lesser pyrite and chlorite.
410.2	427.0	T	ANDESITE VOLCANIC BRECCIA	5-10% fine to mediume grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesite, locally fragmental with 1-4 cm Andesitic Augite Porphyry and basalt clasts. Weak propylitic alteration as epidote locally overprints quartz-chlorite-magnetite alteration with rare cpy blebs. Gradational contact.

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From (m)	To (m)	Group*	Rock Type	Comments
427.0	433.0	P	QUARTZ FELDSPAR PORPHYRY DYKE	40-70% coarse grained quartz and feldspar phenocrysts in a grey to light green groundmass. Irregular, steep upper and lower contacts 15º and 25º to core axis. Unit is equivalent to Daikows unit "r" of the Black Lake Intrusive Suite, dated 195.7 +/- 2.5 Ma. Zones of flow aligned phenocrysts. Moderately altered to quartz with lesser chlorite and sericite pseudomorphs, and pyrite (mainly as stringers).
433.0	444.2	T	ANDESITE VOLCANIC BRECCIA	5-10% fine to medium grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesite, locally fragmental with 1-4 cm Andesitic Augite Porphyry and basalt clasts. Weak propylitic alteration as epidote locally overprints quartz-chlorite-magnetite alteration with rare cpy blebs. Gradational contact.
444.2	480.6	P	QUARTZ FELDSPAR PORPHYRY DYKE	40-70% coarse grained quartz and feldspar phenocrysts in a grey to light green groundmass. Irregular, steep upper and lower contacts 15º and 25º to core axis. Unit is equivalent to Daikows unit "r" of the Black Lake Intrusive Suite, dated 195.7 +/- 2.5 Ma. Zones of flow aligned phenocrysts. Moderately altered to quartz with lesser chlorite and sericite pseudomorphs, and pyrite (mainly as stringers). Quartz veins with blebs of chalcopyrite, sphalerite, and galena (460-467m)
480.6	483.1	T	ANDESITE FLOW	Small brecciated AAP unit between two different types of dikes. 10-13% augite phenocrysts 1-3 mm in size and some altered to chlorite and sericite. Chlorite and sercite dominant with no magnetite present. Alteration has obliterated most of the characteristics of the rock. Upper contact is 35 deg to the core axis and the lower contact is 30 deg to the core axis. Pyrite mineralization is present within the matrix and within veins.
483.1	494.7	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (brecciated) and lower contact 45º to core axis healed shear. Minor calcite and zeolite stringers.

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From (m)	To (m)	Group*	Rock Type	Comments
494.7	496.3	T	ANDESITE FLOW	Andesite unit altered to chlorite, sericite and quartz. Unit is intermediate in composition and brecciated. Matrix is made up of fine grained ground up andesite material. Minor veining contains quartz, anhydrite, calcite and hematite. Magnetite present within some fragments and veins.
496.3	520.4	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 45º (sheared) and lower contact 35º to core axis healed shear. Minor calcite and zeolite stringers oriented between 30-50 deg to the core axis. Unit is magnetic with fine magnetite present.
520.4	539.3	T	ANDESITE FLOW	Massive andesite flow with breccia sections. Core is competant at the beginning and becomes blocky and broken down the hole. Chlorite and quartz are the dominant alteration present with patchy sericite. 2-3% stringers present composed of calcite and zeolite oriented 30-40 deg to the core axis. 1-3% augite pheocrysts present (1-3mm). Magnetite is present as small black specks within the matrix. Pyrite and minor chalcopyrite are disseminated and found within veins. Trace of hematite seen within some veins.
539.3	542.3	T	BASALT FLOW	Unit has changed into a fine grained, highly magnetic basalt unit with pyrite disseminated within the matrix and present within some veins. Contact with the andesite unit above is brecciated at 30 deg to the core axis. Chlorite and epidote are present. ~1% randomly oriented calcite filled stringers present.
542.3	548.0	T	ANDESITE FAULT ZONE	Fault zone noted by broken core and gougey sections. Core pieces are mottled and QSP altered andesite sections. Pyrite and chalcopyrite are present with in the QSP fragments. Upper contact is 45 deg to the core axis and the lower contact is 40 deg to the core axis.
548.0	566.0	T	ANDESITE FLOW	Back into the similar massive andesite flow encountered before the fault. Strong phyllic alteration present with QSP pervasive obliterating most of the characteristics of the rock. Pyrite and chalcopyrite present.

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From (m)	To (m)	Group*	Rock Type	Comments
566.0	570.4	T	ANDESITE VOLCANIC BRECCIA	Small fragmental unit within this section.
570.4	572.8	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (vein) and lower contact is broken. Minor calcite and zeolite veins randomly oriented. Unit is magnetic with fine magnetite present. Weak hematite staining present. Minor pyrite within the veins.
572.8	578.7	P	MONZODIORITE FAULT ZONE	Massive fault zone noted by broken core and ground up wall rock with fault gouge. Fault zone starts off with monzodiroite material and around 578.7 m ground up andesite material is present. From 582.0-582.3 m is a brown unit possibly a block of QFP entrained in the fault zone. The unit ends with a mixture of andesite and monzodiorite material. Upper contact is broken and the lower contact is 10 deg to core axis. Overall the section has about 25% core loss.
578.7	586.0	P	ANDESITE FAULT ZONE	QSP altered andesite clasts.
586.0	591.5	P	MONZODIORITE DYKE	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (vein) and lower contact is broken. Minor calcite and zeolite veins randomly oriented. Unit is magnetic with fine magnetite present. Weak hematite staining present. Minor pyrite within the veins.
591.5	599.0	T	ANDESITE VOLCANIC BRECCIA	QSP altered andesite breccia. Alteration has obliterated most of the charcteristics of the rock. Fragments are angular with some rounded edges. 1-2% calcite and zeolite stringers present and are randomly oriented. No magnetite present. Pyrite and chalcopyrite present within veins and disseminated within the rock.
599.0	615.2	T	ANDESITE FLOW	

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Geologist: Ron Konst

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From (m)	To (m)	Group*	Rock Type	Comments
615.2	621.0	T	ANDESITE FAULT ZONE	Andesite fault zone noted by the abundance of gouge and milled up andesite clasts. Most of the milled up andesite are QSP altered with some chlorite. 1-2% quart and calcite veining present oriented 40-50 deg to the core axis. Upper contact angle is 45 deg to the core axis and the lower contact is 50 deg to the core axis. Pyrite mineralization I present within the matrix and clasts.
621.0	624.0	P	QUARTZ FELDSPAR PORPHYRY FAULT ZONE	Fault zone hs transitioned into a brown QFP unit noted by broken core and fault gouge.
624.0	641.2	P	QUARTZ FELDSPAR PORPHYRY DYKE	Brown QFP intrusion noted by the phenocrysts of plagioclase and quartz. 5-8% quartz phenocrysts 2-5mm in size. 5-8% plagioclase phenocrysts 2-5mm in size. Matrix is prominantly made up of feldspars with minor quartz and mafic minerals. Very weak hemtite alteration present possibly giving the brown colour to the matrix. No mineralization present. 1-3% calcite and zeolite stringers present oriented 60-80 deg to the core axis. Upper contact is faulted at 50 deg to the core axis and the lower contact is 70 deg to the core axis.
641.2	649.1	T	ANDESITE VOLCANIC BRECCIA	Back into a phyllic altered andesite fragmental breccia unit. QSP alteration has obliterated most of the charcteristics of the rock. Andesite fragments are intermediate in composition and are fine grained. Clasts are altered to sericite, quartz and chlorite. Matrix is composed of milled up andesite clasts. Pyrite mineralization is disseminated within the clasts and matrix as well as within some veins. 1-2% calcite veining randomly oriented. No magnetite present.
649.1	651.5	P	QUARTZ FELDSPAR PORPHYRY FAULT ZONE	QFP fault zone noted by fault gouge, milled clasts of QFP, and broken core. Upper contact is 20 deg to the core axis and the lower contact is broken.
651.5	662.9	P	QUARTZ FELDSPAR PORPHYRY DYKE	Back into a similar type of brown QFP dike encoutered above. Both the upper and lower contacts are faulted and broken. Trace of pyrite seen within the matrix.

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From (m)	To (m)	Group*	Rock Type	Comments
662.9	754.3	T	ANDESITE VOLCANIC BRECCIA	Unit is a fragmental andesite breccia with clasts of andesite and QFP. Unit starts off dominated by QFP clasts ranging in size from 1cm to 7cm with slightly rounded edges. The QFP clasts decrease to not being present around 672.0 m. Andesite clasts range in size from 1cm to 5 cm with slightly rounded edges. The QFP clasts are dominantly altered to QSP with chlorite. Andesite clasts are QSP altered with chlorite. The matrix is composed of ground andesite material and is moderately altered with chlorite and sericite. Pyrite mineralization is disseminated within the matrix and clasts and found within veins. 1-3% calcite, zeolite and quartz stringers and veins present oriented ~30 deg to the core axis. No magnetite present.
754.3	789.0	P	QUARTZ FELDSPAR PORPHYRY DYKE	Similar brown QFP intrusion encountered before in the hole noted by the phenocrysts of plagioclase and quartz. 4-6% quartz phenocrysts 1-3mm in size. 5-8% plagioclase phenocrysts 2-5mm in size. Minor sericite alteration the plagioclase phenocrysts and the matrix. Matrix is prominantly made up of feldspars with minor quartz and mafic minerals. Very weak hemtite alteration present possibly giving the brown colour to the matrix. Trace of disseminated pyrite present within the matrix. 3-5% calcite and zeolite stringers present oriented 50-70 deg to the core axis. Upper contact is faulted at 30 deg to the core axis and the lower contact is 50 deg to the core axis.
789.0	795.8	T	ANDESITE VOLCANIC BRECCIA	Potassic altered fragmental andesite. Stong chlorite alteration associated with quartz and sericite alteration. Alteration is targeting clasts as well as the matrix. Unit is made up of subangular clasts of andesite ranging in size from 1 to 4 cm. Matrix is made up of milled and ground up andesite material. 1-2% quartz, calcite, anhydrite and zeolite veins randomly oriented. Pyrite is disseminated within the matrix as well as present within veins and clasts. Trace of chalcopyrite present within some veins.
795.8	798.8	P	QUARTZ FELDSPAR PORPHYRY DYKE	Similar brown quartz feldspar porphyry dike encountered above. 4-6% calcite and zeolite veins/stringers oriented 35-60 deg to the core axis. Some stringers are randomly oriented. Hematite is present within some of the veins/stringers. Upper contact is 60 deg to the core axis and the lower contact is 50 deg to the core axis.

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From (m)	To (m)	Group*	Rock Type	Comments
798.8	799.4	T	ANDESITE VOLCANIC BRECCIA	Similar andesite fragmental encountered before the dike just above. Minor sphalerite present within a portion of a quartz vein fragment.
799.4	839.9	P	QUARTZ FELDSPAR PORPHYRY DYKE	Similar brown quartz feldspar porphyry dike encountered above. 4-6% calcite and zeolite veins/stringers oriented 35-60 deg to the core axis. Some stringers are randomly oriented. Hematite is present within some of the veins/stringers. Upper contact is 40 deg to the core axis and the lower contact (sheared and veined) is 30 deg to the core axis. Trace of pyrite mineralization at the beginning of the unit. Increase in sericite alteration of sericite phenocrysts down the hole. Hematite present within the veins and stringers.
839.9	852.6	T	ANDESITE VOLCANIC BRECCIA	Unit is a strong phyllic altered andesite breccia with most of the rock characteristics obliterated by the alteration. Strong QSP alteration with strong chlorite alteration. Unit contains clasts of andesite, BFP and intrusive material which are phyllic altered along with a matrix composed of milled andesite material. ~1% calcite stringers oriented 30-35 deg to the core axis. Pyrite is disseminated within the matrix and within clasts. ~1% pyrite veins present oriented 30-35 deg to the core axis and contain trace amounts of chalcopyrite.
852.6	878.3	B	MONZONITE INTRUSIVE	Unit contains 75-85% felspars, ~5% quartz and 10-20% mafic minerals. Intrusion is brecciated with clasts of the MNZ in a dark to light grey matrix of ground up intrusion material. Occasional andesite fragments are present. Chlorite, quartz nd sericite alteration dominant obliterating most of the characteristics of the rock. Upper contact is gradational and brecciated. 2-4% quartz, calcite and zeolite veining present oriented 40-60 deg to the core axis. Pyrite is mainly found within veins and minorly disseminated within clasts and the matrix. Magnetite present as fine black specks within the clasts and disseminated within the matrix. Minor hematite present within some veins. A chlorite halo is present arround some veins.

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Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
878.3	899.9	P	MONZODIORITE DYKE	Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite staining of some of the feldspars and within some veins. 2-4% calcite and zeolite veining present and the veining is oriented 25-45 deg to the core axis. Unit is weakly magnetic. Sparse pyrite within some veins. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating around 25 deg to the core axis and the lower contact is 30 deg to the core axis.
899.9	900.7	T	ANDESITE VOLCANIC BRECCIA	Unit appears to be a fragmental andesite flow breccia. Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock. Veining contains calcite and hematite. Pyrite and chalcopyrite present within veins.
900.7	903.8	T	QUARTZ-CARBONATE VEIN	Large quartz vein with minor calcite and chlorite stringers. Upper contact is 40 deg to the core axis and the lower contact is 45 deg to the core axis. Unit contains pyrite, chalcopyrite, molybdenum,sphalerite and galena. Hematite stringers present.
903.8	905.2	T	ANDESITE VOLCANIC BRECCIA	Unit appears to be a fragmental andesite flow breccia. Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock. Veining contains calcite and hematite. Pyrite and chalcopyrite present within veins.
905.2	910.0	P	MONZODIORITE DYKE	Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite staining of some of the feldspars and within some veins. 2-4% calcite and zeolite veining present and the veining is oriented 35-55 deg to the core axis. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is sharp and marked by a vein at around 40 deg to the core axis and the lower contact is 60 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-02

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0
		Elevation:	1819	**Dip:**	-90

Geologist: Ron Konst

Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
910.0	911.0	B	QUARTZ FELDSPAR PORPHYRY DYKE	Unit contains 8-10% quartz 6-8% feldspar phenocrysts 2-7mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong phyllic alteration has obliterated most of the characteristics of the rock. Patchy chlorite alteration present. ~1% zeolite, calcite and hematite veins present oriented 55-60 deg to the core axis. Pyrite is disseminated within the unit. Upper contact is 50 deg to the core axis and the lower contact is undulating at around 10 deg to the core axis.
911.0	913.8	P	MONZODIORITE DYKE	Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm but the phenocrysts decrease in amount down the unit. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite within some veins. 1-2% calcite and zeolite veining present and randomly oriented. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating at 10 deg to the core axis and the lower contact is 60 deg to the core axis. Siliceous overprint present.
913.8	916.3	B	QUARTZ FELDSPAR PORPHYRY DYKE	Unit contains 8-10% quartz 6-8% feldspar phenocrysts 2-7mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong phyllic alteration has obliterated most of the characteristics of the rock. Patchy chlorite alteration present. ~1% zeolite, calcite and hematite veins present oriented 55-60 deg to the core axis. Pyrite is disseminated within the unit. Upper contact is 60 deg to the core axis and the lower contact is undulating at around 30 deg to the core axis. Beginning of the unit is interwoven with the monzodiorite dike above.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-02

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0
		Elevation:	1819	**Dip:**	-90

Geologist: Ron Konst

Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
916.3	918.3	P	MONZODIORITE DYKE	Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm but the phenocrysts decrease in amount down the unit. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite within some veins. 1-2% calcite and zeolite veining present and randomly oriented. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating at 30 deg to the core axis and the lower contact is 30 deg to the core axis. Siliceous overprint present.
918.3	924.0	T	ANDESITE VOLCANIC BRECCIA	Unit starts off as a fargmental breccia and transitions into a more massive andesite flow. Minor in-situ brecciation within the massive sections. Fragmental section is composed of andesite and intrusive clasts (including QFP) within a fine-medium grained matrix of milled up andesite material. Strong chlorite, quartz and biotite alteration present within the andesite and matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present.
924.0	932.5	T	ANDESITE FLOW	Epidote present within some veins.
932.5	936.4	P	MONZODIORITE DYKE	Monzodiorite dike that is moderately altered with chlorite and sericite. Dark green specks are clusters of mafic minerals altered to chlorite. Matrix is mainly made up of altered feldspars. Beginning of the dike is stockworked with calcite, zeolite and quartz. At the end of the unit stockworking decreases and veining is oriented 45-60 deg to the core axis. Upper contact is undulating between 15-40 deg to the core axis and the lower contact is 15 deg to the core axis.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-02

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0
		Elevation:	1819	**Dip:**	-90

Geologist: Ron Konst

Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
936.4	941.8	T	ANDESITE VOLCANIC BRECCIA	Unit starts off as a fargmental breccia and transitions into a more massive andesite flow. Minor in-situ brecciation within the massive sections. Fragmental section is composed of andesite clasts within a fine-medium grained matrix of milled up andesite material. Strong chlorite, quartz and biotite alteration present within the andesite and matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present.
941.8	943.4	B	MONZONITE DYKE	Monzodiorite dike that is moderately altered with chlorite and sericite. Alteration is pervasive throughout obliterating most of the characteristics of the rock. Matrix is mainly made up of altered feldspars. The dike is stockworked with calcite, zeolite and quartz. Stockwork veining is roughly oriented between 40-60 deg to the core axis. Pyrite mineralization is present mainly within the veins and minorly within the matrix. Upper contact is 70 deg to the core axis and the lower contact is 35 deg to the core axis. Minor K-spar within the veins.
943.4	961.0	T	ANDESITE FLOW	Unit is a massive andesite flow with minor in-situ brecciation sections. Strong quartz, biotite, chlorite with weak sericite alteration present within the matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present. Trace of molybdenum within some quartz veins.
961.0	962.0	P	QUARTZ FELDSPAR PORPHYRY DYKE	Unit contains 5-7% quartz, 8-10% feldspar phenocrysts 2-5mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock.Moderate siliceous overprint. ~3% randomly oriented healed fractures filled with calcite and zeolite. Upper contact is 10 deg to the core axis and the lower contact is undulating at around 15 deg to the core axis.
962.0	983.2	T	ANDESITE VOLCANIC BRECCIA	Similar altered andesite encountered before the above QSP dike. More fragmental than before with the odd intrusive clast.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-02

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UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0
		Elevation:	1819	**Dip:**	-90

Geologist: Ron Konst

Drilled: 5/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
983.2	1099.0	P	MONZODIORITE INTRUSIVE	Unit contains 80-90% feldspars (mostly plagioclase), 10-15% mafics (hornblende, augite and biotite) and 1-5% quartz. Some of the feldspar crystals are altered to sericite. Mafic minerals occur in clusters with some altered to chlorite. Hematite staining is present on most of the rock. 2-4% zeolite and calcite veins present and oriented 30-40 deg to the core axis and some parallel to the core axis. Upper contact is 15 deg to the core axis. 2% magnetite present as 1-3mm crystals. Patchy epidote present around some veins. Trace of pyrite seen within a few veins. Rare mafic xenoliths present.
1099.0	1120.5	P	QUARTZ MONZONITE INTRUSIVE	Unit transitions into a more chloritic and siliceous unit with spotty sericite and some anhydrite within the veins. Unit contains phenocrysts of feldspars and quartz. Unit contains 10-20% quartz, 70-80% feldspars and 10-20% mafic minerals. Moderate quartz replacement. Weak hemtite and epidote alteration present. 4-6% calcite and zeolite veining present randomly oriented. Pyrite and trace amount of chlorite is seen within the veins. Unit contact is broken and rubbly. Unit is magnetic.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-03

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	726 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	10.5		OVERBURDEN	
10.5	53.2	T	ANDESITE FLOW	grey/green andesite flow. Massive to plagioclose-phyric (0.5-2 mm euhedral crystals). Potassic alteration (rare magnetite veins, chlorite in groundmass) overprinted by pervasive silicious alteration. Occaisional quartz/calcite +/- hematite veins (vuggy when > 10 mm wide) up to 15 mm wide with phyllic alteration halo that crosscut magnetite veins. Core is 5-7% sulfides; 90% pyrite, occuring as vein infil in quartz/carbonate veins, with chalcopyrite and molybdenite. Pyrite also occurs as disseminated blebs up to 5 mm.
53.2	54.3	P	MONZODIORITE DYKE	Porphyritic monzodiorite dyke. 5-10% hematite stained plagioclase grains (2-4 mm), 2-5 % mafic minerals, fine-grained green/grey matrix. Propylitic alteration (chlorite in matrix, disseminated epidote and minor pyrite), with slight hematitic overprint from quartz/calcite/zeolite veinlets. Diffuse upper contact with andesite, roughly orthogonal to core axis. Sharp undulatory lower contact, also nearly 90 degrees to core axis.
54.3	66.0	T	ANDESITE FLOW	Grey/green andesite. Carries 1-8% phyllic-altered andesite fragments. Potassic-altered, with phyllic alteration patches and pervasive silicious overprinting. Older magnetite veins and younger quartz/calcite +/- zeolite veins. 2-6% sulfides, disseminated pyrite blebs and pyrite infill (rare chalcopyrite) in quartz/calc veins.
66.0	71.0	T	BASALT FLOW	Green/black basalt. 2-10% 0.5-2 mm augite phenocrysts. Prominent stockwork quartz/calcite +/- hematite veining. Potassic alteration (disseminated magnetite and chlorite, plus discrete epidote crystals and veinfill) with local phyllic and pervasive silicious overprint. Upper contact is sharp, undulatory and at a low angle to the core axis. Lower contact is sharp and ~45 degrees to the core axis. A wimpy basalt; probably not too far from the andesite boundary.

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Kemess East 2007 Diamond Drill Log

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KH-07-03

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UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
71.0	87.0	P	INTERMEDIATE FRAGMENTAL INTRUSION BRECCIA	green/pink/grey hard weakly magnetic tuff. 5-20% 1-4 mm hematite-stained plagioclase lapilli. 2-10% epidote crystals. 1-5% fine-grained 1-3 cm mafic clasts. Bottom few metres of unit grades in and out of a heterolithic lapillistone, with only 2-10% plagioclase lapilli and 10-40% 1-10 cm rounded lithic fragments, chiefly fine grained mafic volcanics, and quartz-feldspar porphyry fragments. Prevalent zeolite/carbonate stockwork veining and rare hematite-rich stringers. Alteration is mainly propylitic (disseminated epidote crystals), and pervasive weak hematite staining, with silicic overprint, and minor sericitization as halos around some quartz/carbonate veins.
87.0	89.5	P	HETEROLITHIC INTRUSION BRECCIA	This interval grades whickly into a lapillistone; gone suddenly are the plagioclase lapilli and now there are 1-10 cm rounded lithic clasts. Less hematite staining leaves the core more green.
89.5	97.4	P	INTERMEDIATE FRAGMENTAL INTRUSION BRECCIA	Reversion to lapilli tuff; the transition is quick, but there doesn't seem to be any kind of bedding plane or boundary.
97.4	119.6	T	BLADED FELDSPAR PORPHYRY FLOW	Bladed plagioclase-phyric basalt flow. 20-40% 8-30 mm plagioclase laths. Matrix is fine grained, black to green depending on alteration intensity. Moderate flow alignment of most plagioclase at low angle to core axis. Upper contact is distinct by not sharp at 60 degrees to core axis. Common quartz/carbonate veinlets with minor hematite staining at many angles to core axis. Weak to moderate magnetic response. Moderate to strong propylitic alteration (epidote replacement of plagioclase laths, chlorite in matrix, patchy sericite, disseminated pyrite specs). Pyrite is the only sulfide, disseminated disseminated <0.5 mm crystals.
119.6	125.9	T	ANDESITE FLOW BRECCIA	green to dark grey fragmental andesite flow. 5-15% fragments, mafic volcanics (andesite?) very sall (<15 mm) quartz felspar porphyry fragments. Green aphanitic matrix. Quartz/calcite veining common. Alteration is potassic with local phyllic patches. Weakly magnetic. Discontinuous disseminated pyrite blebs and occaisional pyrite infill of quartz/carbonate veins.

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UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
125.9	129.2	P	QUARTZ MONZODIORITE BRECCIA	Green/grey/pinkk Porphyritic quartz monzodiorite. 5-20% 0.5-4 mm quartz and plagioclase phenocrysts. Quartz phenocrysts are not found near beginning of unit. Alteration is potassic, overprinted by hematite with depth. Promminant quartz/calcite/zeolite veining at various high angles to the core axis. Upper contact is at a high angle to core axis and undulatory. Unit is primarily autobrecciated with minor black mafic fragments.
129.2	130.2	T	ANDESITE FLOW BRECCIA	green to dark grey fragmental andesite flow. Autobrecciated. Green aphanitic matrix. Quartz/calcite veining common. Alteration is potassic with local phyllic patches. Weakly magnetic. Disseminated pyrite blebs and occaisional pyrite infill of quartz/carbonate veins.
130.2	132.3	P	QUARTZ MONZODIORITE BRECCIA	Green/grey/pinkk Porphyritic quartz monzodiorite. 5-20% 0.5-4 mm quartz and plagioclase phenocrysts. Quartz phenocrysts are not found near the end of unit. Alteration is potassic, with local hematite alteration as halos around veins. Promminant quartz/calcite/zeolite veining at various high angles to the core axis. Both upper and lower contacts are a high angles to the core axis; distinct but not sharp. Unit is primarily autobrecciated with minor black mafic fragments, and at least one BFP fragment. Disseminated pyrite blebs and occaisional pyrite infil of qtz/carb veinlets.
132.3	152.0	T	ANDESITE FLOW	Green/grey andesite flow. Unit contains fragmental sections containing 5-30% phyllic-altered (sericite) andesite and minor intrusive fragments; gradual transition between fragmental and massive andesite. Variable magnetism. Common quartz/carbonate +/- (zeolite, chlorite, magnetite) veining. Zeolite and chlorite never coexist in veins, zeolite is more common; might be two events. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-5% disseminated and minor vein infill pyrite.

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		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
152.0	153.3	T	BLADED FELDSPAR PORPHYRY FLOW BRECCIA	dark green bladed feldspar porphyry flow breccia. 20-40% 10-30 mm plagioclase phencrysts, mostly unaltered, some sericitized. Aphanitic green matrix. Strong fabric expressed by the phenocrysts; randomly oriented breccia fragments prevent interpretation of flow direction relative to core axis. Common quartz/carbonate/zeolite veining at various high angles to core axis. Alteration is mainly phyllic (sericite/chlorite/pyrite). 2-5% pyrite as disseminated blebs and minor vein infill.
153.3	162.0	P	QUARTZ FELDSPAR PORPHYRY DYKE	Pink/grey quartz feldspar porphy. 20% 1-2 mm euhedral plagioclase phenocrysts. 8% 2-4 mm euhedral quartz phenocrysts. Phenocryst density is highest in middle of unit; at edges modes are 10% plagioclase and 0% quartz. 1-5 % 1-5 mm mafic minerals. Hematite-stained quartz/calcite veining at various angles to core axis. Alteration is principally hematite; alteration intensity is weakest at edges of unit. Sulfide concentrations are genrally very low.
162.0	163.2	T	ANDESITE FLOW BRECCIA	Green/grey fragmental andesite flow. Fragmental sections contain 5-30% phyllic-altered (sericite) andesite. Variable magnetism. Common quartz/carbonate +/- (zeolite) veining. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-5% disseminated and minor vein infill pyrite.
163.2	165.8	B	QUARTZ FELDSPAR PORPHYRY DYKE	Grey/pink plagioclase-phyric monzodiorite. 10-15% 1-2 mm euhedral plagioclase phenocrysts. 1-5 % 1-5 mm mafic minerals. Hematite-stained quartz/calcite veining at various angles to core axis. Weakly hematite altered. Sulfide concentrations are genrally very low. Looks almost the same as the last interval of the QFP unit above. Upper and lower contacts are undulatory and at high angles to the core axis.
165.8	182.8	T	ANDESITE FLOW BRECCIA	Green/grey andesite flow breccia. Unit contains 10-50% phyllic-altered (sericite) andesite and some sections of massive andesite; gradual transition between fragmental and massive andesite sections. Variable magnetism. Common quartz/carbonate +/- (zeolite, magnetite) veining. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-10% disseminated and occaisional vein infill pyrite.

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		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
182.8	195.1	P	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	pink/grey quartz feldspar porphyrya. 20% 0.5-2 mm euhedral plagioclase crystals and 5-10% 1-5 mm euhedral quartz crystals. 5-10% mafic minerals. Aphanitic hematite-stained matrix. Reasonably strong magnetic response. 5-10% quartz/carbonate veinings at various angles, but usually >45 degrees to core axis. Pervasive hematite alteration gives core a pink hue. Very little sulfide. Visually indistinguishable from the unit of sample number 231443.
195.1	203.5	H	HETEROLITHIC VOLCANIC BRECCIA	pink/grey autobrecciated crystal tuff. Contains 15-20% euhedral plagioclase grains and 1-5 % quartz grains. 5-10% mafic clasts…andesite? 15-30% phyllic-altered QFP fragments. Propylitic alteration, disseminated epidote crystals, and minor epidote replacement of plagioclase. Also hematite stain gives core a pink tinge. 5% quartz/calcite/zeolite veining. Tiny disseminated pyrite specs.
203.5	204.7	H	TUFFACEOUS LAPILLI-TUFF	Pink/grey crystal tuff. 10-20% 0.5-2 mm euhedral plagioclase phenocrysts and 0-5% 2 mm quartz phenocrysts. ~5% 1-3 mm chlorite crystals after augite and hornblende. Two stages of veining; oldest is calcite-rich quartz veins, usually at a low angle to the core axis. Younger (cuts of offsets qtz/calc veins) are ~1 mm zeolite veins. Alteration is patchy hematite, becoming more pervasive with depth.
204.7	239.1	H	HETEROLITHIC LAPILLI-TUFF	Green/grey heterolithic crystal lapilli tuff. Principally 0.5-3 mm plagioclase crystals, but also minor chlorite after augite. Lithic fragments are 5-50% of core volume, dominantly phyllic-altered andesite, but also lapilli tuff and intermediate intrusive porphyry fragments. Calcite/zeolite veining at high angles (60-80 degrees) to core axis; dense stockwork in first part of unit, then vein density decreases at about 232 m. Rare major quartz/calcite veins with phyllic alteration halo. Unit is moderate to strongly propyllitic altered, with phyllic patches and a few large entrained phyllic lithic fragments; first half of unit has very light phyllic overprint (sericite) due to calcite-zeolite veining. Very low sulfide concentrations, only a few disseminated pyrite blebs.

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		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
239.1	239.9	H	TUFFACEOUS LAPILLI-TUFF	Strange crystal lapilli tuff unit. Green aphanitic matrix with 10-15% 0.5-2 mm plagioclase crystals. 5-10% zeolite/carbonate veinlets, 30-60 degrees to core axis. Strong silicious overprint masks previous alteration. Virtually barren of sulfides. Seems very similar to nearby Hazelton unit, but without the heterolithic fragments. There is some chance that it is a mislabeled dyke?…looks very similar to unit in sample interval 231473.
239.9	261.2	H	HETEROLITHIC AGLOMERATE	Green/grey heterolithic aglomerate. 0.5-3 mm plagioclase crystals, but also minor chlorite after augite. Lithic fragments are 5-80% of core volume, dominantly phyllic-altered andesite, but also lapilli tuff and intermediate intrusive porphyry fragments. 0-10% 1-10 mm calcite/zeolite veining at high angles (60-80 degrees) to core axis. Rare major quartz/calcite veins with phyllic alteration halo. Unit is moderate to strongly propyllitic altered, with phyllic patches and a few large entrained phyllic lithic fragments. Very low sulfide concentrations, only a few disseminated pyrite blebs. First interval is dominantly large intensely silicified lithic fragments, very similar to 231492.
261.2	263.2	H	HETEROLITHIC LAPILLI-TUFF	Transitional interval? Fewer lithic fragments.
263.2	264.7	H	TUFFACEOUS LAPILLI-TUFF	Green-grey crystal lapilli tuff. 10-30% 0.5-2 mm euhedral plagioclase crystals (like everywhere else). Green to dark grey aphanitic matrix. Plagioclase grains display weak fabric. Patchy flowbanding; corresponding slight changes in alteration? ~5% 1-5 mm zeolite +/- carbonate veins, 45-75 degrees to core axis. Gradational upper and lower contacts. Moderate propylitic alteration (epidote). Low sulfide content, but increases fractionally downhole. Brief aglomerate section from 263.6 to 263.8 m, contains fragments of phyllic crystal tuffs and silicified lithics and has 2-4% pyrite.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-03

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	726 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
264.7	272.2	H	HETEROLITHIC AGLOMERATE	Green-dark grey aglomerate. Contains 10-50% heterolithic fragments: phyllic altered crystal lapilli tuffs, andesite and strongly silicified lithic fragments. 5-20% euhdral plagiocalse crystals. 5-10% 1-10 mm zeolite +/- carbonate veins at 40-80 degrees to core axis. Moderate to strong propylitic alteration: epidote and chlorite replacement of plagioclase grains and matrix. Gradational upper contact, sharp lower contact at ~ 45 degrees to core axis. Minor disseminated pyrite blebs.
272.2	273.6	T	ANDESITE FLOW	Dark green andesite flow. Generally massive, with minor andesite fragments. Rare fine mafics…chlorite after augite? Alteration is propylitic (epidote, chlorite) overprinting potassic (pyrite, magnetite, biotite). 5% 2-4 mm zeolite +/- carbonate veins at 20-45 degrees to core axis. 2% 0.5-1 mm pyrite blebs. Distinct upper contact, 45 degrees to core axis. Lower contact is less distinct, and is ~70 degrees to core axis.
273.6	274.7	H	HETEROLITHIC AGLOMERATE	Green-dark grey aglomerate. Contains 10-50% heterolithic fragments (decreasing downhole): phyllic altered crystal lapilli tuffs, andesite and strongly silicified lithic fragments. 5-20% euhdral plagiocalse crystals. 5% 1-10 mm zeolite +/- carbonate veins at 40-80 degrees to core axis, one parallel to core axis from 273.8 to 274.3 m. Moderate to strong propylitic alteration: epidote and chlorite replacement of plagioclase grains and matrix. Gradational upper contact, sharp lower contact at ~ 45 degrees to core axis. Minor disseminated pyrite blebs.
274.7	331.0	T	ANDESITE FLOW	Dark green andesite flow. Generally massive, with minor andesite fragmental sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% 1-10 mm veins: quartz/carbonate +/- magnetite and pyrite, rare zeolite, usually at 40-60 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill. Upper unit contact is not very distinct, ~70 degrees to core axis.

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		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
331.0	334.1	B	QUARTZ MONZODIORITE DYKE	Grey quartz monzodiorite dyke. 10-20% medium-grained plagioclase and minor quartz phenocrysts. 5-10% mafic crystals…chlorite after augite? Grey-light green aphanitic matrix. Autobrecciated/fragmental. 5-10% 1-4 mm carbonate/zeolite veins at 10-40 degrees to core axis. Strong phyllic alteration (sericite, pyrite, chlorite) with minor secondary disseminated epidote crystals. Sulfides are 3-5% pyrite, trace chalcopyrite; occuring as disseminated blebs and minor vein infill. Contacts are distinct, undulating and slightly gradational…due to slight transfer of chemistry during emplacement?
334.1	350.9	T	ANDESITE FLOW	Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-10 mm veins: quartz/carbonate +/- magnetite and sulfides, rare zeolite, usually at 40-60 degrees to core axis. Also occaisional 4-12 mm quartz veins with pyrite and minor molybdenite, usually at 60-80 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill. 8 cm thick phyllic-altered brecciated flow boundary at 334.4 m at 60 degrees to core axis.
350.9	352.5	B	QUARTZ MONZODIORITE DYKE	Grey quartz monzodiorite dyke. 10-20% medium-grained plagioclase and minor quartz phenocrysts. 5-10% mafic crystals…chlorite after augite and hornblende? Grey-light green aphanitic matrix. Autobrecciated/fragmental. 5-10% 1-4 mm carbonate/zeolite veins at 10-40 degrees to core axis. 5% 3-8 mm quartz veins; contain sulfides but no molybdenum :(Strong phyllic alteration (sericite, pyrite, chlorite) with minor secondary disseminated epidote crystals. Sulfides are 3-5% pyrite, trace chalcopyrite; occuring as disseminated blebs and minor vein infill. Contacts are distinct, undulating and slightly gradational…due to slight transfer of chemistry during emplacement?
352.5	353.0	T	ANDESITE FLOW	Large xenolith of Takla andesite within a quartz monzodiorite dyke.
353.0	356.4	B	QUARTZ MONZODIORITE DYKE	Continuation of QMZD dyke. Distinct lack of copper sulfides in this interval.

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KH-07-03

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UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-65

Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
356.4	396.6	T	ANDESITE FLOW	Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-10 mm veins: quartz/carbonate +/- magnetite and sulfides, rare zeolite, usually at 40-60 degrees to core axis. Also occaisional 4-12 mm quartz veins with pyrite and minor molybdenite, usually at 60-80 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill.
396.6	411.7	B	MONZODIORITE INTRUSIVE	Grey plagioclase-phyric monzodiorite. 20-75% 0.5-2 mm euhedral plagioclase phenocrysts. 5-10% 1-2 mm chlorite after augite and hornblende. Intermediate aphanitic matrix. 5-15% 1-15 mm zeolite/carbonate/gypsum veins, occaisionally stockworked or vuggy. Moderate to strong phyllic (sericite, pyrite, chlorite) overprinting potassic alteration. 2-8% sulfides, pyrite and lesser chalcopyrite as fine-grained disseminated crystals, also minor vein infil of pyrite, +/- chalcopyrite, rare molybdenite.
411.7	414.9	T	ANDESITE FLOW	Rubbly interval between QMZD dyke and AND fragmental flow.
414.9	418.8	B	QUARTZ MONZODIORITE INTRUSIVE	Grey-green quartz monzodiorite dyke. 20-40% plagioclase and 1-3% quartz phenocrysts. 1-3% andesite xenoliths. Aphanitic green matrix. Weak potassic (quartz, chlorite, trace magnetite) alteration. 5% zeolite/carbonate veins at various angles to core axis, "dominantly" 30-60 degrees.
418.8	431.2	T	ANDESITE FLOW	Dark green andesite fragmental flow. 1-5% 2 mm chlorite after augite crystals. Moderate potassic (chlorite, sericite, magnetite, quartz, rare biotite) alteration, locally overprinted by moderate to strong phyllic (chlorite, sericite). 1-3% quartz veins, hosting minor chalcopyrite and trace molybdenite. 5% zeolite/carbonate/gypsum veins, sometimes stockworked, at 45-60 degrees to core axis.

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Geologist: Brian Kay

Drilled: 6/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
431.2	726.0	P	QUARTZ MONZODIORITE INTRUSIVE	Grey-pink porphyritic quartz monzodiorite intrusion, possibly Sovereign. 10-20% 1-4 mm euhedral feldspar (dominantly plagioclase) and 5% 2-5 mm quartz phenocrysts. 5% 3-10 mm biotite, often replaced by chlorite. 5% mafic minerals, chlorite replaced, hornblende and lesser augite. 5-10% carbonate/zeolite veins, usually at 45-70 degrees to core axis, but occaisionally at various angles and stockworked. Potassic altered (quartz, magnetite, chlorite, rare epidote, patchy sericite) with weak to moderate hematite overprint (gives core pink hue). Dissapointing sulfide mineralization: rare fine pyrite blebs.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-04

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1344 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	340
		Elevation:	1819	**Dip:**	-70

Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.0		CASING	
6.0	41.0	H	HETEROLITHIC AGLOMERATE	Blocky Ash Tuff: fragments include local BFP clasts, medium andesite clasts, and sericite altered felsic clasts; zeolite stringers (fracture infill) in 10% of core range from 15 to 70 TCA; unit is wekly to moderately magnetic; matrix consists of fine ash with minor feldspar; local sections contain trace very fine grained disseminated pyrite minerlization
41.0	49.7	H	DACITE LAPILLISTONE	Welded Dacite: upper contact broken; unit appears to be welded; grain size between 0.5mm and 2mm; minor zeolite stringers at 15 to 45 TCA, minor carbonate stringers at 5 to 25 TCA
49.7	55.1	H	HETEROLITHIC AGLOMERATE	Blocky Ash Tuff: unit contains BFP clasts, small andesite clasts, medium sized fine grained mafic clasts, and minor local chert clasts; matrix consists of fine grained ash and lesser feldspars; zeolite stringers up to 4% range from 5 to 75 TCA
55.1	83.0	H	DACITE LAPILLISTONE	up to 10% heterolithic fragments in dacite matrix; upper contact strong but irregular; minor zeolite stringers throughout unit; dacite matrix fine grained between 0.25mm and 1mm; weak chlorite and sericite alteriton with minor local epidote (propylitic); also minor local hemtitic alteration
83.0	92.4	H	DACITE TUFF	Dacite Tuff: upper contact broken; zeolite-carbonate stringers at 0 to 60 TCA, local sections contain quartz eyes up to 2mm in size; unit contains increases felsic minerals compared to previous unit
92.4	177.0	H	DACITE LAPILLISTONE	Heterolithic fragments in dacite matrix: unit contains large BFP fragments, medium andesite fragments, and small to medium fine grained mafic fragments; matrix is fine grained dacite 0.5mm to 1mm with local zones contining feldspar up to 2mm; local sections contain weak propylitic altertion; zeolite stringers and zeolite-carbonte stringers at 10 to 70 TCA

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Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
177.0	205.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Bladed Feldspar Porphyry: upper contact broken, unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote and local sections of moderate sericite-pyrite alteration; local zeolite and zeolite-carbonate stringers at 25 to 90 TCA
205.0	205.5	T	HETEROLITHIC LAPILLISTONE	local zone of heterolithic ash
205.5	236.6	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	
236.6	240.0	T	HETEROLITHIC LAPILLISTONE	zone of heterolithic ash tuff; composed of all small to medium sized clasts of BFP, andesite and fine grained mafics; zeolite-carbonate stringers at 5 to 55 TCA
240.0	241.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	small zone of bladed feldspar porphyry, possible interfingering between BFP and HTL ash units
241.0	249.6	T	HETEROLITHIC LAPILLISTONE	heterolithic ash tuff: upper contact broken; unit contains large BFP fragments, small to medium andesite fragments, and small mafic fragments; matrix consists of very fine to medium ash frgments; minor propylitic (ep) altertion; zeolite-carbonate stringers at 20 to 80 TCA
249.6	270.2	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Bladed Feldspar Porphyry: upper contact strong at 75 TCA; unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote;zeolite and zeolite-carbonate stringers at 15 to 60 TCA;
270.2	277.9	T	HETEROLITHIC LAPILLISTONE	Heterolithic ash tuff: upper contact strong but irregular; unit composed of small fine grained mafic and andesite clasts, and larger local BFP clasts; matrix consists of very fine to fine grained ash; propylitic alteration consistiing of feldspar altering to epidote and minor sericite alteration; zeolite and zeolite-carbonate stringers at 5 to 70 TCA

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Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
277.9	295.8	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Bladed Feldspar Porphyry: upper contact strong at 45 TCA; unit consists of 15 to 20 % bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting primarily of feldspars altering to epidote; zeolite and zeolite-carbonate stringers at 5 to 75 TCA
295.8	299.2	T	HETEROLITHIC LAPILLISTONE	Heterolithic Ash Tuff: upper contact at 35 TCA; unit consists of large angular fine grained mafic clasts, medium sized andesite clasts, and small feldspar crystals; matrix consists of very fine to fine feldspars and ash fragments; unit is more felsic in composition than previous units; zeolite and zeolite-carbonate stringers at 10 to 75 TCA; local sections rubbly
299.2	313.7	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Bladed Feldspar Porphyry: upper contact at 65 TCA; unit consists of 10 to 15% bladed feldspar crystals in a fine grained matrix; propylitic alteration consisting primarily of feldspars altering to epidote; zeolite and zeolite-carbonate stringers at 5 to 65 TCA
313.7	341.3	P	QUARTZ MONZODIORITE DYKE	Quartz Monzodiorite Dyke: upper contact at 10 TCA; unit consists of 75% plagioclase, 10 to 15%, and 10 to 15% mafics; grain size is fine to medium; unit is weakly propylitic with weak hematitic staining throughout; zeolite and zeolite-carbonate stringers at 5 to 80 TCA; minor sringers carbonate only
341.3	343.5	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Altered Bladed Feldspar Porphyry: upper contact at 42 TCA, unit appears to be strongly altered brecciated feldspar porphyry; massive pyrite minerliztion localy up to 50%; local zone of microcrystaline quartz
343.5	347.0	P	QUARTZ MONZODIORITE DYKE	Quartz Monzodiorite Dyke: upper contact at 30 TCA; unit consists of 75% plagioclase, 10 to 15%, and 10 to 15% mafics; grain size is fine to medium; unit is weakly propylitic with weak hematitic staining throughout; zeolite and zeolite-carbonate stringers at 5 to 80 TCA; minor sringers carbonate only

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Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
347.0	366.7	T	HETEROLITHIC LAPILLI-TUFF	Heterolithic Lapilli-Tuff: upper contact broken; unit consists of 70% fine ash clasts, 15% small to large fine grained mafic clasts, 10% fine to medium feldspar crystals, and 5% large clasts of mixed lithology including andesite and BFP; weak to local propylitic alteration varies throughout unit; zeolite and zeolite-carbonate stringers at 10 to 80 TCA; local sections blocky
366.7	380.3	T	HETEROLITHIC LAPILLISTONE	Heterolithic Ash Tuff: upper contact at 20 TCA; unit consists of small to medium andesite clasts, small to medium fine grained mafic clasts, and medium feldspar clasts altering to epidote; propylitic altertion consisting of feldspar altering to epidote, local sericite amd minor chlorite; matrix consists of very fine to fine grained ash fragments; zeolite and zeolite-carbonate stringers at 5 to 75 TCA
380.3	383.1	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Altered Bladed Feldspar Porphyry: upper contact at 70 TCA; unit is bladed feldspar porphyry with flow brecciated section; unit has strong propylitic altertion with feldspar altering to epidote and sericite chlorite alteration throughout; up to 1% disseminted pyrite throughout; zeolite and zeolite-carbonate stringers and veinlets at 10 to 50 TCA
383.1	419.3	T	HETEROLITHIC LAPILLI-TUFF	Heterolithic Ash Tuff: upper contact broken; unit consists of small to medium andesite and fine grained mafic clasts, minor large BFP clasts and polycrystaline quartz clasts; fewer clasts near top of unit; matrix is composed of very fine to fine grained ash fragments; alteration consists of feldspars altering to epidote, as well as sericite alteration throughout and minor local chlorite; zeolite and zeolite-carbonate stringers at 10 to 60 TCA; top of unit weakly hematite stained
419.3	430.7	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Bladed Feldspr Porphyry: upper contact at 80 TCA; unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote and local sections of moderate sericite-pyrite alteration; zeolite and zeolite-carbonate stringers at 5 to 80 TCA
430.7	453.2	T	ANDESITE VOLCANIC BRECCIA	Silicified Andesite Volcanic Breccia: upper contact at 40 TCA; unit is composed primarily of flow brecciated andesite; unit contains minor clasts of fine grained mafics; unit is strongly to intensely silicified; zeolite and zeolite-carbonte stringers at 5 to 70 TCA

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Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
453.2	454.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	sample contains single large BFP fragment
454.0	468.0	T	ANDESITE VOLCANIC BRECCIA	
468.0	607.0	T	BASALT FLOW	Stockworked Basalt Flow: upper contact at 65 TCA; massive baslt flow crosscut by stockworks of carbonte and carbonate-zeolite veinlets and stringers at 10 to 75 TCA; upper part of unit is weakly propylitic with weak epidote and chlorite altertion; pyrite mineralization disseminated throughout
607.0	609.0	T	BASALT FAULT ZONE	local possible fault zone including fault gouge, rubbly texture may be due to faulting
609.0	651.0	T	BASALT FLOW	stockworked zeolite vein at 20 TCA
651.0	779.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Flow Brecciated Andesite Augite Porphyry: augite clasts up to 2cm in size; matrix is 85% plag, 10% primary quartz; and 5% k-spar; unit is weakly to moderately potassic with local sections of increased sericite; zeolite-anhydrite stringers at 5 to 75 TCA; zeolite-carbonate veinlets at 30 TCA
779.0	813.0	T	ANDESITE VOLCANIC BRECCIA	augite clasts disappear leaving only flow brecciated andesite matrix
813.0	815.0	B	QUARTZ MONZONITE DYKE	Quartz Monzonite Dyke: upper contact broken; 60% K-spar, 30% plagioclase and 10% quartz; base of unit contains fault zone; minor chalcopyrite mineralization in pyrite stringer
815.0	845.0	T	ANDESITE VOLCANIC BRECCIA	flow brecciated andesite returns
845.0	849.0	T	ANDESITE FAULT ZONE	
849.0	868.6	T	ANDESITE VOLCANIC BRECCIA	unit is fragmental below fault zone; alteration changes below fault zone

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Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
868.6	944.0	B	QUARTZ MONZONITE INTRUSIVE	Quartz Monzonite Intrusive: upper contact strong but irregular; unit is composed of 60% K-spar, 20% Plag, and 20% quartz; unit appears to be potassic (quartz) altered with minor sericite; minor zeolite and anhydrite stringers at 20 to 60 TCA; locl sections blocky to rubbly
944.0	966.4	T	BASALT FLOW	Basalt Flow: upper contact irregular; unit appears to be very fine grained basalt based on colour and texture; chalcopyrite minerlization occurs in stringers with magnetite as well as disseminated in groundmass; zeolite and anhydrite stringers at 10 to 65 TCA, albite?-quartz striingers at 10 to 65 TCA
966.4	969.6	B	QUARTZ MONZONITE INTRUSIVE	Quartz Monzonite Intrusive: upper contact appears sheared at 30 TCA, composition is similar to earlier QMZ unit; unit is locally to weakly silicified; unit shows weak hematite staining; zeolite and anhydrite stringers at 20 to 50 TCA
969.6	973.0	T	ANDESITE VOLCANIC BRECCIA	Flow Brecciated Andesite: upper contact at 23 TCA; unit may be AAP in local sections; unit shows weak potassic-chloritic alteration; chalcopyrite mineraliztion in local stringers only; zeolite and anhydrite stringers at 35 to 65 TCA; local zeolite-quartz-carbonate vein contains minor molybdenite
973.0	986.9	B	QUARTZ MONZONITE INTRUSIVE	Quartz Monzonite Intrusive: upper contact irregular; composition is similar to earlier QMZ units; unit is moderately to strongly potassic-quartz-sericite altered; local weak hematite staining; zeolite and anhydrite stringers at 0 to 85 TCA
986.9	992.0	T	ANDESITE VOLCANIC BRECCIA	andesite unit similar to previously named unit; upper contact at 20 TCA
992.0	999.4	B	QUARTZ MONZONITE INTRUSIVE	quartz monzonite similar to previously named unit; upper contact at 45 TCA; quartz-carbonate-zeolite veins at 45 TCA contain minor molybdenite

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-04

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1344 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	340
		Elevation:	1819	**Dip:**	-70

Geologist: Iain McIlwraith

Drilled: 6/20/2007

From (m)	To (m)	Group*	Rock Type	Comments
999.4	1024.2	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Andesitic Augite Porphyry: upper contact at 55 TCA; matrix is composed of 80% fine grained plagioclase, 10% k-spar and 10% quartz; small augite clasts make up between 5% to 10% of the overall composition; potassic alteration varies from chlorite to biotite with minor local sericite; chalcopyrite mineralization found as blebs in stringers with local sections disseminated in the groundmass; quartz and quartz-albite stringers at 5 to 55 TCA; local magnetite stringers
1024.2	1081.5	B	QUARTZ MONZONITE INTRUSIVE	Quartz Monzonite Intrusive: upper contact at 60 TCA; unit is 50% plag, 40% alkali feldspar, and 10% quartz; potassic alteration varies from weak chlorite to strong chlorite-quartz; chalcopyrite minerlization primarily in stringers; zeolite, quartz, and quartz-zeolite stringers at 5 to 65 TCA
1081.5	1082.6	T	ANDESITE VOLCANIC BRECCIA	local section of flow brecciated andesite
1082.6	1228.5	B	QUARTZ MONZONITE INTRUSIVE	local sections rubbly
1228.5	1229.5	B	QUARTZ VEIN	sample is 70% quartz vein with quartz monzanite; minor zeolite stringers
1229.5	1296.3	B	QUARTZ MONZONITE INTRUSIVE	minor zeolite stringers
1296.3	1344.0	H	HETEROLITHIC AGLOMERATE	Blocky Ash Tuff: upper contact my be sheared or faulted; unit consists of medium to large andesite and fine grained mafic clasts, small to medium quartz clasts, small cherty clasts, and other minor local clasts; matrix consists of less than 15% very fine to fine grained ash; pyrite mineraliztion disseminated throughout, disseminated chalcopyrite minerlization decreases with depth; clasts appear to be phyllic altered throughout; sections of zeolite, carbonate, and zeolite-carbonate stringers and veins are found throughout the unit

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-05

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	417 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	0
		Elevation:	1831	**Dip:**	-90

Geologist: Ron Konst

Drilled: 6/9/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	15.0	T	OVERBURDEN	Talus blocks and rubble of pyritic chloritized andesite.
15.0	64.0	T	ANDESITE VOLCANIC BRECCIA	Monolithic andesite flow breccias with sub-angular clasts to 5cm. Moderate chlorite-quartz alteration with serecitic zones. Disseminated pyrite to 2%. Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.1%. Calcite-zeolite stringer overprint throughout.
64.0	74.0	P	INTERMEDIATE FRAGMENTAL INTRUSION BRECCIA	15-40% 1-4 mm hematite-stained plagioclase lapilli. 2-10% epidote crystals. 1-5% fine-grained 1-3 cm mafic clasts. Grades into a granitoid bearing heterolithic lapillistone below, with only 2-10% plagioclase lapilli and 10-40% 1-10 cm rounded lithic fragments, chiefly fine grained mafic volcanics, and quartz-feldspar porphyry fragments. Irregular, discreate (competant, 2 cm wide zone) intrusive(?) upper contact, shallow angle. Possibly a sill. Prevalent zeolite/carbonate stockwork veining and rare hematite-rich stringers. Alteration is mainly propylitic (disseminated pyrite crystals), and pervasive weak hematite staining, with silicic overprint, and minor sericitization as halos around some quartz/carbonate veins. Irregular patches of magnetite.
74.0	88.0	P	HETEROLITHIC INTRUSION BRECCIA	Granitoid bearing lapillistone with lesser fine grained mafic fragments and large blocks of mineralized Takla similar to Andesite unit above. More fragmental version of the intrusive(?) unit above. Pervasively Hematite stained with clots of epidote. Calcite-zeolite stringers and minor disseminated pyrite throughout.
88.0	90.1	P	HETEROLITHIC FAULT ZONE	clots of chalcopyrite in matrix.
90.1	92.3	T	BLADED FELDSPAR PORPHYRY FLOW	60% Felted megacrystic plagioclase blades to 3 x 0.2cm in an dark green aphanitic gounmass. Pervassive hematite staining of feldspars. Faulted upper contact with an irregular shallow lower contact. Pyrite stringers in breccias matrix.
92.3	118.1	T	ANDESITE FLOW	Monolithic andesite flow with locall Andesitic Augite Porphyry zones. Moderate to strong chlorite-quartz-biotite alteration. Disseminated pyrite to 2%. Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-05

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	417 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	0
		Elevation:	1831	**Dip:**	-90

Geologist: Ron Konst

Drilled: 6/9/2007

From (m)	To (m)	Group*	Rock Type	Comments
118.1	119.8	P	HETEROLITHIC INTRUSION BRECCIA	Granitoid bearing lapillistone with lesser fine grained mafic fragments, typically less than 3cm. Sharp upper contact at 40º to core axis. Pervasively Hematite stained with clots of chalcopyrite in the matrix. Calcite-zeolite stringers and minor disseminated pyrite throughout.
119.8	152.0	T	ANDESITE FLOW	Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.
152.0	153.4	T	QUARTZ VEIN	Extremely fine grained molybdenite (galena?) in quartz vein.
153.4	157.1	T	BLADED FELDSPAR PORPHYRY FLOW	Sparse hematite plagioclase 0.3 x 2 cm laths in a dark green aphanitic groundmass. Magnetite stringers with associated chalcopyrite. Sharp upper contact with quartz vein.
157.1	190.4	T	ANDESITE FLOW	Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.
190.4	192.0	B	QUARTZ MONZONITE DYKE	30-50% fine to coarse grained sericitized plagioclase with pyrite veinlet and trace chalcopyrite along irregular upper contact
192.0	196.6	T	ANDESITE FLOW	
196.6	197.5	T	QUARTZ VEIN	7% very fine grain molybdenum with minor chalcopyrite in irregular steep quartz vein
197.5	198.1	B	QUARTZ MONZONITE DYKE	30-50% fine to coarse grained sericitized plagioclase with pyrite veinlet and trace chalcopyrite along irregular upper contact

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Northgate Minerals Corp.

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		Elevation:	1831	**Dip:**	-90

Geologist: Ron Konst

Drilled: 6/9/2007

From (m)	To (m)	Group*	Rock Type	Comments
198.1	200.0	T	ANDESITE FLOW	Similar to andesite above with chalcopyrite in magnetite stringers
200.0	201.5	B	QUARTZ MONZONITE DYKE	Same as quartz monzonite above
201.5	203.4	T	ANDESITIC AUGITE PORPHYRY FLOW	Similar to andesite above with chalcopyrite in magnetite stringers
203.4	204.0	B	QUARTZ MONZONITE DYKE	Same as quartz monzonite above
204.0	245.1	T	ANDESITE FLOW	Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.
245.1	246.8	T	QUARTZ VEIN	Quarttz-Molybdenite-Chalcopyrite vein stokwork at intrusive contact. Sheared upper contact 70º to core axis
246.8	258.2	B	QUARTZ MONZONITE DYKE	50-70% medium to coarse grained sericitized plagioclase with less than 5% mafics. Sharp upper contact 55º to core axis. Quartz stockworked towards upper contact with trace chalcopyrite. Hematite stained with zeolite calcite stringers throughout.
258.2	417.0	P	QUARTZ MONZODIORITE INTRUSIVE	25% quartz, 60% Feldspar, 15% mafics. 70 cm chill margin; finer grained and more porphyritic than the rest of this unit. Patchy hematite staining and zeolite calcite stringers throughout. Sovereign Pluton.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-06

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	770 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	8.6		CASING	
8.6	16.9	H	OVERBURDEN	Unit is made up of overburden material and core pieces of a tuffaceous Hazelton unit. About 30% lost core. Pyrite and magnetite are present within the tuffaceous aglomerate sections. Hematite staining and alteration present.
16.9	21.5	H	HETEROLITHIC AGLOMERATE	Unit is predominantly made up of clasts of different rocks types. Clasts include andesite, minor granitic fragments, feldspar porphyry basalt (possible BFP), possible QFP and AAP. Clast size ranges from 1cm to 7cm and are angular. Feldspar porphyry fragments contain 1-3mm feldspar phenocrysts. Pyrite mineralization and trace of chalcopyrite mineralization present within some andesite fragments. Some andesite fragments are phyllic and potassic altered. Matrix is made up of material of the clasts and feldspar minerals with minor mafics. Chlorite alteration dominates within the matrix with minor seicite alteration. Spotty hematite staining of some feldspars within the matrix. 2-3% calcite and zeolite veining oriented 15-35 deg to the core axis. 1-2% calcite and zeolite stringers randomly oriented. Minor hematite located within the veins. Minor pyrite and magnetite found within the matrix. ~1%, 1mm quartz eyes present.
21.5	33.6	H	HETEROLITHIC LAPILLI-TUFF	Unit has transitioned into a lapilli tuff with 2-4% clasts of andesite and basalt. Matrix is composed of ~70% feldspars, ~15% quartz, ~15% mafic minerals (augite, hornblende). Some mafic minerals and feldspars are altered to chlorite. Minor sercite alteration of the feldspars. 2-4% calcite and zeolite veining oriented 35-45 deg to the core axis. Spotty hematite within the veins and staining some feldspars within the matrix. Trace pyrite and magnetite are disseminated within the matrix. ~1%, 1mm quartz eyes present.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-06

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
33.6	35.2	H	HETEROLITHIC INTRUSION BRECCIA	Intrusion breccia unit composed of mostly quartz monzonite clasts within a fine ash matrix. Intrusion clasts range in size from 0.5 cm to 5 cm and are subrounded. Minor andesite, basalt and tuffaceous clasts present. Pyrite mineralization present within the andesite clasts. Matrix is intermediate in composition with minor chlorite and sercite alteration present. Minor chlorite and sercite alteration is present within the intrusion clasts. 1-2% calcite and zeolite stringers oriented 40-60 deg to the core axis. Strong magnetite within the matrix. Minor pyrite within the matrix. No quartz eyes visible. Hematite present within the veins. Upper and lower contact is 30 deg to the core axis.
35.2	40.9	H	HETEROLITHIC LAPILLI-TUFF	Unit is a welded lapilli tuff similar to the non-welded lapilli tuff encountered before the intrusion breccias. Unit contains more clasts of andesite and basalt (~10%). Clasts contain pyrite mineralization and rare clasts are phyllic and potassic altered. Welded orientation is ~50 deg to the core axis. Matrix is mostly made up of feldspars(~70%) with minor quartz (~20%) and mafic minerals (~10%) present. Mafic minerals are mostly altered to chlorite with some feldspars altered to chlorite. Minor pyrite and magnetite disseminated throughout. 2-3% calcite and zeolite veining oriented 20-40 deg to the core axis. ~1%, 1-2mm quartz eyes present. Minor hematite present within the veins and staining some feldspars within the matrix.
40.9	45.4	H	HETEROLITHIC INTRUSION BRECCIA	Another intrusion breccia unit similar to above. Intrusion clasts are stained with hematite. Mostly intrusion clasts with minor andesite, basalt and BFP clasts present. Matrix is intermediate in composition and is moderately altered to chlorite with minor sericite. Intrusion clasts are mostly altered to sericite with spotty chlorite. Andesite clasts contain pyrite. Magnetite present within the clasts and matrix. No quartz eyes visible. Pyrite present within the matrix. 2-3% calcite and zeolite veining oriented 35-45 deg to the core axis. Minor hematite present within the veins. Trace of chalcopyrite seen near the contact in a fine ground up section. Some QSP altered clasts present. Epidote present associated with a BFP clast. Upper contact is 30 deg to the core axis. The lower contact is broken.
45.4	46.2	H	HETEROLITHIC LAPILLI-TUFF	Similar lapilli tuff unit as the one encoutered before the intrusion breccias unit.

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KH-07-06

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
46.2	49.5	H	HETEROLITHIC AGLOMERATE	Unit is composed of clasts of andesite, basalt, BFP, AAP and minor granitic clasts. Some andesite clasts are phyllic and potassic altered. Clasts are 0.5-6cm in size and are angular to subrounded. Pyrite mineralization is present within some clasts. Matrix is intermediate in composition with mostly feldspars present and minor quart and mafic minerals. Chlorite alteration dominates the matrix with minor sericite. 1-3% calcite and zeolite veins randomly oriented. Unable to see any quartz eyes.
49.5	64.6	H	HETEROLITHIC LAPILLI-TUFF	Unit is a welded lapilli tuff similar to the one encountered before. Unit contains clasts of andesite and basalt (~5%). Clasts contain pyrite mineralization and rare clasts are phyllic and potassic altered. Welded orientation is ~45 deg to the core axis. Matrix is mostly made up of feldspars(~65%) with minor quartz (~20%) and mafic minerals (~15%) present. Mafic minerals are mostly altered to chlorite with some feldspars altered to chlorite. Minor pyrite and magnetite disseminated throughout. ~1% calcite and zeolite veining oriented 15-20 deg to the core axis and 40-50 deg to the core axis. ~1%, 1-2mm quartz eyes present. Minor hematite present within the veins.
64.6	116.0	H	HETEROLITHIC AGLOMERATE	Unit has gradationally transitioned into an aglomerate. Clasts are mostly andesites and basalts with some feldspar porphyry basalts (1-3 mm feldspar phenocrysts), AAP. Trace of QFP clasts present. More Takla rich clasts than before. Clasts are 1-8cm in size and are angular to subrounded. Matrix is intermediate in compostion and altered mostly to chlorite with minor sericite as well as some clasts. Some clasts are phyllic and potassic altered. Some clasts are maroon from hematite staining. Pyrite is present within some clasts. 2-3% zeolite, calcite and minor quartz veins oriented 50-70 deg to the core axis. Pyrite disseminated within the matrix. <1%, 1mm quartz eyes present.
116.0	120.0	H	HETEROLITHIC VOLCANIC BRECCIA	
120.0	130.0	H	HETEROLITHIC AGLOMERATE	

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-06

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
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Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
130.0	132.0	H	HETEROLITHIC FAULT ZONE	Interval is marked by a series of small shear zones, faults and healed shears. Orientation of the structures is between 25-30 deg to the core axis. Unit is still an aglomerate.
132.0	147.6	H	HETEROLITHIC AGLOMERATE	Back into the similar aglomerate/andesite breccias encountered before the fault zone.
147.6	148.4	H	QUARTZ VEIN	Quartz vein with quartz flooding of some host rock. Zeolite present. Upper contact is 40 deg to the core axis. The lower contact is gradational due to quartz flooding.
148.4	166.0	H	HETEROLITHIC VOLCANIC BRECCIA	Unit brecciated heterolithic unit mostly comprised of andesite and AAP clasts. Spotty sections contain feldspar porphyry clasts and rare intrusive clasts. Clasts are agular and range in size from 1-7cm. Matrix is composed of ground up andesite material amoung other ground up material of other clasts. 2-4% calcite, zeolite and quartz veining randomly oriented. Chlorite and sericite alteration dominate the clasts and matrix. Spotty hematite is present within the matrix and veins. Pyrite mineralization is present within the veins, clasts and matrix. No magnetite seen.
166.0	168.0	H	HETEROLITHIC AGLOMERATE	Aglomerate section continues.
168.0	170.0	H	HETEROLITHIC VOLCANIC BRECCIA	Back into a brecciated volcanic.
170.0	172.0	H	HETEROLITHIC AGLOMERATE	Back into an aglomerate section with mostly AAP clasts.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-06

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
172.0	177.5	H	HETEROLITHIC INTRUSION BRECCIA	Unit contains clasts of quartzmonzonite ranging in size from 1cm to 10cm and are subangular to subrounded in shape. A minor amount of the clasts are andesite and basalt. Matrix is intermediate in composition composed of ground up intrusion and host rock material. Chlorite with lesser sericite alteration dominate the matrix. Quartz monzonite clasts have minor hematite staining and sericite alteration of the feldspars. Magnetite is present within the intrusion clasts. Some of the andesite and basalt clasts are chlorite altered. 3-5% calcite, zeolite and quartz veining oriented 15-25 deg to the core axis with some randomly oriented. Intrusion clasts contain chalcopyrite and pyrite mineralization within quartz veins within the clasts. Pyrite mineralization seen within the matrix and other clasts. Upper contact is brecciated at around 50 deg to the core axis and the lower contact is veined and healed at 40 deg to the core axis.
177.5	185.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Entered an andesite augite porphyry unit. Unit contains 5-10% augite phenocrysts ranging in size from 1mm to 5mm and are subhedral to euhedral in shape. Sections of the andesite contain less than 5% augite phenocrysts, but most of the unit contains 5% or above augite phenocrysts. Some sections are massive while some are brecciated. Small sections contain 3-5% 1-3mm feldspar phenocrysts with some altered to sericite. Andesite is intermediate in composition with chlorite and sericite alteration dominating. Some augite pheoncrysts are altered to chlorite. 2-4% calcite and zeolite veining oriented 40-60 deg to the core axis. Some randomly oriented veins within brecciated sections. Pyrite mineralization is dissemineted within the matrix and present within veins. Spotty epidote associated with augite phenocrysts.
185.0	189.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
189.0	193.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
193.0	195.0	T	ANDESITIC AUGITE PORPHYRY FLOW	

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Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
195.0	197.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
197.0	213.1	T	ANDESITIC AUGITE PORPHYRY FLOW	
213.1	214.3	T	HETEROLITHIC VOLCANIC BRECCIA	Contact zone between the above AAP and BFP below. Zone is heavily stockworked with clasts of AAP and BFP present. Weak epidote, hematite, chlorite and sericite alteration present. Stockwork veining is composed of calcite and zeolite and is randomly oriented. Minor 1-2cm shear zones present (5%) oriented 20 and 60 deg to the core axis. Pyrite mineralization is disseminated within the clasts. Upper and lower contacts are undulating between 50-70 deg to the core axis.
214.3	220.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Unit contains 10-15% feldspar phenocrysts 0.3cm to 2cm in length. Matrix is fine grained and mafic in composition. Weak to moderate propylitic alteration present. Epidote, chlorite, sercite (of feldspar phenocrysts) and chlorite alteration are present. Some feldspar phenocrysts are altered to chlorite and epidote. Alteration increases down the hole. Minor stockwork veining towards the upper contact with the AAP unit and general veining increases down the hole. Veining increases from 3-5% at the start of the unit to 5-7% down the hole. Veins are composed of calcite and zeolite and are oriented 20-60 deg to the core axis with some randomly oriented stringers. Minor hematite present within some veins. Patchy siliceous overprint and flooding present mostly in breccia sections. Pyrite mineralization is disseminated within the matrix and is associated with veins and altered feldspar phenocrysts. Minor sphalerite present dissemnated within the matrix. Spotty hematite staining on some feldspar phenocrysts. 1%, 2-5mm amygdules present filled with calcite, chlorite, pyrite and epidote. Unit contains 1-2%, 1-2mm chlorite specks.
220.0	234.0	T	BLADED FELDSPAR PORPHYRY FLOW	0.1% sphalerite present.
234.0	242.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-06

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	770 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
242.0	304.3	T	BLADED FELDSPAR PORPHYRY FLOW	Rough fabric to the feldspar phenocrysts at about 60 deg to the core axis. Trace of sphalerite present.
304.3	306.2	T	ANDESITIC AUGITE PORPHYRY FLOW	AAP section similar to the AAP before the BFP. 10-13% 1-4mm augite phenocrysts present. Alteration has obliterated most of the characteristics of the rock. Most of the augite phenocrysts are altered to chlorite, sercite and epidote. Minor pyrite is present within the altered augite phenocrysts. Matrix is altered to chlorite, sericite and epidote. Minor pyrite is disseminated within the matrix. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. Upper contact is a brecciated with ground up host rock at 55 deg to the core axis. The lower contact is brecciated and made up of ground up host rock at 40 deg to the core axis.
306.2	324.0	T	BLADED FELDSPAR PORPHYRY FLOW	Similar BFP unit as the one encountered before the AAP unit just above. Unit contains 10-15% feldspar phenocrysts 0.3cm to 2cm in length. Matrix is fine grained and mafic in composition. Weak to moderate propylitic alteration present. Epidote, chlorite, sercite (of feldspar phenocrysts) and chlorite alteration are present. Some feldspar phenocrysts are altered to chlorite and epidote. Veins are composed of calcite and zeolite and are oriented 30-45 deg to the core axis with some randomly oriented stringers. Minor hematite present within some veins. Pyrite mineralization is disseminated within the matrix and is associated with veins and altered feldspar phenocrysts. Spotty hematite staining on some feldspar phenocrysts. Unit contains 1-2%, 1-2mm chlorite specks.
324.0	326.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	
326.0	332.3	T	BLADED FELDSPAR PORPHYRY FLOW	
332.3	332.9	T	BLADED FELDSPAR PORPHYRY FAULT ZONE	Minor shear zone. Upper and lower contact is 30 deg to the core axis. Shear zone contains ground up wall rock, clay, chlorite and pyrite. Calcite veining present within the shear oriented in the same shear direction.

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Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
332.9	539.2	T	BLADED FELDSPAR PORPHYRY FLOW	Back into the similar propylitic altered BFP flow encountered before the shear zone. Veining has decreased to 2-4% composed of calcite, zeolite and quartz and oriented 40-70 deg to the core axis. Local stockworking present and abundant veining within shear zones. 1-2% amygdules present, 2-4mm in size and filled with epidote, chlorite and calcite. Unit contains 1-2%, 1-2mm chlorite specks.
539.2	554.3	T	ANDESITE FLOW	Unit is moderate to strong phyllic altered obliterating most of the characteristics of the rock. Sercite, quartz and chlorite alteration dominate. Intensity level of each varies throughout the unit. Chlorite appears as dark green balck spots within the unit. Unit is intermediate in composition. 1-2% zeolite, calcite and quartz veining oriented 50-75 deg to the core axis. 1-2% randomly oriented zeolite and calcite stringers present. Moderate chill margin surrounding some veins. Pyrite is disseminated within the matrix and located within veins. Most of the pyrite disseminated within the matrix is associated with the chloritic sections.
554.3	556.0	T	BLADED FELDSPAR PORPHYRY FLOW	Small BFP unit with 8-10%, 0.7-1cm feldspar phenocrysts. Phyllic alteration dominates obliterating most of the characteristics of the rock. Quartz, sericte and pyrite dominate with lesser amounts of chlorite. Most of the feldspar phenocrysts have been altered to chlorite. 1-2% quartz and zeolite veins oriented 60-70 deg to the core axis. Pyrite is disseminated and within veins. Upper and lower conacts are brecciated and veined at 55 deg to the core axis. Slight fabric to the feldspar phenocrysts at 55 deg to the core axis.
556.0	563.3	T	ANDESITE FLOW	Back into the similar phyllic altered andesite encountered before the small BFP unit above.
563.3	565.7	T	BLADED FELDSPAR PORPHYRY FLOW	Unit similar to the phyllic altered BFP unit encountered at 554.3 m. Upper and lower conacts are undulating at 60 deg to the core axis. Fabric of the feldspar phenocrysts is 60 deg to the core axis.
565.7	578.5	T	ANDESITE FLOW	Back into the similar phyllic altered andesite encountered before the small BFP unit above.

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
578.5	594.9	P	HETEROLITHIC INTRUSION BRECCIA	Intrusion breccias containing clasts of post mineral monzodiorite, monzonite, and andesite. Clasts are subrounded to rounded and the matrix is made up of ground up material of of the clasts. Hematite staining present on some of the intrusive clasts. Patchy siliceous overprint present. Weak sericite and chlorite alteration present within sections of the matrix and clasts. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor disseminated pyrite with in the matrix. Pyrite is also present in some clasts. Minor chalcopyrite within the veins. Magnetite present within some intrusive clasts. Upper contact is brecciated and broken. The lower contact is gradational due to the alteration..
594.9	598.0	B	MONZONITE DYKE	Strong phyllic altered monzonite. Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspars, ~20% mafics and ~5% quartz. Unit is dominated by sericite and chlorite alteration with minor quartz replacement. 2-4% zeolite, calcite and quartz veining oriented 25-40 deg to the core axis. Pyrite is disseminated within the matrix and present within veins. The upper contact is gradational due to the alteration. Lower contact is undulating around 20 deg to the core axis.
598.0	622.5	T	ANDESITE FLOW	Massive andesite flow dominated by potassic alteration. Alteration has obliterated most of the characteristics of the rock. Unit starts with strong sericite, chlorite and quartz alteration and down the hole the sericite alteration decreases as the chlorite and biotite alteration increase. Minor K-spar alteration is present down the hole. 3-5% quartz and calcite veining oriented 35-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Magnetite present within some veins and increases in amount down the hole. Minor moly bdenum within a quartz vein.
622.5	624.0	B	MONZONITE DYKE	Unit is a strong potassic altered monzonite with sericite and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 7-10% zeolite, quartz and anhydrite veining oriented 40-50 deg to the core axis. Minor chalcopyrite and pyrite is disseminated within the matrix. Minor pyrite and molybdenum within quartz veins. Upper contact is 25 deg to the core axis and the lower contact is 30 deg to the core axis.

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UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0
		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
624.0	630.2	T	BASALT FLOW	Unit is a strong potassic altered basalt. Chlorite, biotite and quartz are the dominant alterations present. Alteration has obliterated most of the characteristics of the rock. 2-4% zeolite, quartz, calcite and minor anhydrite veining oriented 25-60 deg to the core axis. Quartz veins contain pyrite, chalcopyrite, magnetite and a trace of molybdenum. Minor disseminated pyrite and chalcopyrite disseminated within the matrix.
630.2	648.4	B	MONZONITE INTRUSIVE	Unit is a moderate to strong potassic altered monzonite with sericite, quartz and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 6-8% calcite, zeolite and quartz veining oriented 0-50 deg to the core axis. Trace of anhydrite present within the veins. Minor chalcopyrite and pyrite is disseminated within the matrix. Minor pyrite, chalcopyrite and molybdenum within calcite and quartz veins. Upper contact is 30 deg to the core axis. Upper section of the unit is broken and heavily stockworked at the contact angle. Minor K-spar halo around some veins.
648.4	672.2	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains clasts of two types of intrusive: monzonite and monzodiorite. There are more magnetic monzodiorite clasts than monzonite clasts. Minor amounts of darke green andesite clasts. Clasts range in size from 1cm to 7cm. Most of the intrusive clasts are hematite stained with minor sericite alteration of the feldpsar grains. Minor epidote alteration of some mafic minerals within the intrsuive clasts. Matrix is composed of ground up material of the clasts. 2-4% zeolite and calcite veining oriented 20-40 deg to the core axis. 8-12% zeolite and calcite stringers randomly oriented. Minor hematite and epidote present within some veins and stringers. Pyrite is disseminated within the matrix and present within clasts.
672.2	684.1	P	MONZODIORITE INTRUSIVE	Massive hematite stained monzodioite. Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Some feldspar grains are stained with hematite and others are altered to sericite. Mafic minerals include augite and hornblende. Some mafics are altered to chlorite. Minor biotite present. Trace of epidote present in association with mafic minerals. 2-4% clacite and zeolite veins oriented 40-60 deg to the core axis and 1-2% veins oriented parallel to the core axis. Trace of pyrite present.

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KH-07-06

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		Elevation:	1767	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
684.1	684.9	P	HETEROLITHIC FAULT ZONE	Unit is broken up with strong stockworking and quartz flooding. Monzonite fragments are present. Orientation is unable to be determined due to broken nature of the core. Chalcopyrite, pyrite and molybdenum are present.
684.9	702.0	B	MONZONITE INTRUSIVE	Unit is a moderate to strong phyllic altered monzonite with sericite, quartz and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 6-8% calcite, zeolite and quartz veining are randomly oriented. Pyrite is disseminated within the matrix. Minor pyrite, molybdenum and chalcopyrite are within calcite and quartz veins. Upper contact is 30 deg to the core axis. Upper section of the unit is brecciated. Moderate hematite staining present.
702.0	716.0	P	HETEROLITHIC INTRUSION BRECCIA	Unit has become brecciated is is composed of clasts of monzonite, quartz monzodiorite and rare andesite. Clasts size ranges from 0.5cm to 10cm and the clasts are angular to subangular in shape. Some monzonite and quartz monzodiorite clasts have a hematite stain and sericite alteration. Some clasts are chlorite altered. Matrix is made up of ground up clast material. Matrix has a patchy weak hematite stain and altered to chlorite and sericite. 5-7% calcite and zeolite veining oriented 25-50 deg to the core axis. 3-5% calcite and zeolite stringers randomly oriented. Remnant quartz veining within some monzonite clasts. Magnetite present within the matrix and within monzodiorite clasts. Minor pyrite present within the matrix and clasts. Trace of chalcopyrite seen within the matrix.
716.0	730.4	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Feldspar minerals are mostly plagioclase with rare orthoclase. Mafic minerals include hornblende, augite and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende, augite and biotite. Moderate ro strong hematite staining throughout the unit. Moderate sericite alteration of some of the feldspar crystals. Weak chlorite alteration of the mafic minerals. Rare epidote present associated with veins and mafic minerals. 3-5% calcite and zeolite veining oriented 30-50 deg to the core axis. Spotty magnetite present within the matrix. Trace of pyrite disseminated within the matrix and within veins.

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KH-07-06

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Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
730.4	731.6	P	QUARTZ MONZODIORITE FAULT ZONE	Fault zone comprised 25% quartz monzodiorite clasts within a fine dark clay matrix. Upper contact is 30 deg to the core axis and the lower contact is 25 deg to the core axis. 10-13% calcite and zeolite stringers oriented 20-35 deg to the core axis. Some stringers randomly oriented.
731.6	749.0	P	QUARTZ MONZODIORITE INTRUSIVE	Similar hematite stained quartz monzodiorite encountered before the fault. Spotty epidote present associated with stringers and mafic minerals.
749.0	755.0	P	QUARTZ MONZODIORITE INTRUSION BRECCIA	Unit is brecciated and contains clasts of the quartz monzodiorite within a fine grained black clay matrix. Contacts are broken.
755.0	770.0	P	QUARTZ MONZODIORITE INTRUSIVE	Unit becomes a massive quartz monzodiorite again similar to before the breccia sections. Unit is less hemtitic and more siliceous.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-07

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	663.2 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180
		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	17.9		CASING	
17.9	21.0	H	OVERBURDEN	overburden mixed with core fragments; unit is 60% missing core, remainder is Hazlton fragments
21.0	53.8	H	HETEROLITHIC AGLOMERATE	Blocky Ash Tuff: unit is composed of small feldspar porphyry basalt clasts (possible BFP), large brecciated andesite clasts containing smaller fragments in the clast, as well as minor granitic clasts, and possible QFP and AAP clasts; trace pyrite increases with depth; unitis wekly to moderately chlorite ltered with local clasts showing weak phyllic alteration; zeolite and zeolite-carbonate stringers throughout unit; unit not sampled due to proximity to hole KH-07-06
53.8	110.7	T	ANDESITE VOLCANIC BRECCIA	Andesite Flow: upper contact broken; unit has sections of flow breccia; weakly chlorite altered with sections of strong to moderate phyllic alteration; trace pyrite mineralization increases with depth; carbonate stringers and minor zeolite-carbonate stringers; start of interval not sampled due to proximity to hole KH-07-06; unit may be partly Hazelton
110.7	112.3	P	QUARTZ MONZODIORITE DYKE	Quartz Monzodiorite Dyke: upper contact at 55 TCA; unit is 70% plag, 20% alkali feldspars and 10% quartz; plagioclase altering to epidote; trace pyrite mineraliztion only; zeolite stringers with minor quartz and anhydrite present
112.3	152.0	T	ANDESITE VOLCANIC BRECCIA	unit returns to andesite flow
152.0	156.3	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Andesite Augite Porphyry: upper contact at 10 TCA; unit is composed of 5% augite crystals up to 3mm in size and 15% magnetite crystals in an andesite matrix; unit is moderately chlorite altered overprinting propylitic (ep) altertion; pyrite mineralization locally high; zeolite-carbonte stringers throughout unit

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	UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180	
			Elevation:	1767	**Dip:**	-70	**Drilled:** 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
156.3	175.2	H	HETEROLITHIC AGLOMERATE	Blocky Ash Tuff: upper contact broken; unit consists of medium to large granitic fragments, small to medium mafic fragments, small quartz fragments, and small andesite fragments; matrix consists of fine grained ash fragments; matrix is phyllic (sericite with minor quartz) altered with weak hematitic staining in granitic fragments; increased pyrite mineralization in mafic fragments, minor pyrite minerlization in matrix; zeolite-carbonate stringers throughout unit. Appears to correlate with hole 07-18 from ~174-230m and hole 07-14 from ~100-130m and hole 06-03 from ~190-222m.
175.2	220.6	T	ANDESITIC AUGITE PORPHYRY FLOW	Andesite Augite Porphyry: upper contact appears to be a healed fault at 40 TCA; unit consists of 15% augite crystals in fine grained andesite matrix; unit is phyllic altered at top and bottom changing to propylitic alteration in middle; pyrite minerlization decreses in propylitic altered zone; carbonate and minor quartz-carbonate stringers throughout unit
220.6	276.0	T	BLADED FELDSPAR PORPHYRY FLOW	Bladed Felspar Porphyry: upper contact gradational; feldspar phenocrysts up to 3.5cm long present in unit; local sections contain mineralized mafic amygduls; phyllic alteration overprints propylitic alteration throughout unit, alteration intensity varies throughout; pyrite mineralization throughout with local increases; carbonate stringers throughout, minor zeolite-carbonate stringers present
276.0	301.5	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit has changed into massive AAP with 8-10% augite pheoncrysts 1-3mm and some altered to chlorite, sericite and epidote. Unit is intermediate in composition. Alteration has obliterated most of the characteristics of the rock. Sericite, chlorite and epidote alteration of the matrix is moderate to strong with patchy epidote within the veins. Magnetite present s fine black specks. 6-8% calcite and zeolite veining oriented 35-50 deg to the core axis. 1-2% calcite and zeolite stringers randomly oriented. Minor pyrite disseminated within the matrix and veins. Start of the unit is stockworked and slightly sheared at 40 deg to the core axis. Feldspar phenocrysts present (5-7%) 1-3mm long.

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		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
301.5	333.8	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 10-13% feldspar phenocrysts 0.3cm to 1.2cm in size. Some of the feldspar phenocrysts are altered to sericite and chlorite. Matrix is fine grained and composed of mafics and some feldspars. Alteration has obliterated some to most of the charactersitics of rock. 4-6% zeolite and calcite veining oriented 25-50 deg to the core axis. Minor quartz and hematite present within the veins. Sericite and chlorite alteration dominate the matriz. Patchy epidote present within the matrix. Patchy quartz replacement present. Pyrite present within veins and disseminated within the matrix.
333.8	374.1	T	BASALT FLOW	Unit contains 15-20% amygdules filled with epidote, calcite, chlorite and pyrite. 1-2% feldspar phenocrysts with some altered to sericite. Epidote, sericite and chlorite alteration dominate within the matrix. Patchy siliceous overprint present. Matrix is fine grained. 4-6% calcite, zeolite and minor quartz veining oriented 30-50 deg to the core axis. Pyrite is disseminated within the matrix and within veins.
374.1	402.7	T	ANDESITE FLOW	Unit is an andesite flow. Alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and sericite alteration dominate at the start of the unit. Biotite alteration increases down the hole. 2-4% secondary calcite and zeolite veins present randomly oriented. 1-2% primary quartz veins oriented 30-60 deg to the core axis.Magnetite present within the matrix and veins. Pyrite is disseminated within the matrix and present within veins. Contact with the basalt unit is veined at 30 deg to the core axis. Minor chalcopyrite within a quartz vein. Minor disseminated and veined chalcopyrite. Spotty epidote within the matrix present.
402.7	408.6	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 12-17% feldspar phenocrysts 0.3cm to 1.3cm. Some phenocrysts are altered to sericite and minor hematite staining. Fine grained matrix weakly altered to sericite and chlorite. 3-5% zeolite, calcite, anhydrite and quartz veining oriented 30-60 deg to the core axis. Magnetite present within some veins. Pyrite and chalcopyrite disseminated within the matrix and present within the veins. Fabric to the phenocrysts at 45 deg to the core axis. Trace of molybdenum within quartz veins. Upper contact is 50 deg to the core axis and the lower contact is 60 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
408.6	413.4	T	ANDESITE FLOW	Back into the similar potssic altered andesite encoutered before the BFP unit/block. Minor molybdenum present within some quartz veins. Spotty feldpsar phenocrysts present.
413.4	413.8	T	CALCITE VEIN	
413.8	452.2	T	ANDESITE FLOW	Back into similar potassic altered andesite before the calcite vein. Minor molybdenum within a quartz vein.
452.2	457.7	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit is similar to the above except this unit contains 8-12%, 1-5mm augite phenocrysts. Most of the augite phenocrysts are altered to chlorite and minor biotite and sericite. Alteration of the unit has obliterated most of the characteristics of the rock. Chlorite, biotite and quartz are the dominant alteration types. 3-6% quartz, calcite, zeolite and anhydrite veins oriented 30-50 deg to the core axis. Matrix and veins contain magnetite. Pyrite and chalcopyrite is disseminated within the matrix and present within veins.
457.7	460.6	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 15-20% feldspar 0.3cm to 1.2cm. Sericite alteration dominates the alteration with weak hematite alteration. Weak magnetite replacement within some phenocrysts. 4-6% zeolite, quartz, anhydrite and calcite veining oriented 40-60 deg to the core axis. Minor pyrite and chalcopyrite are disseminated within the matrix and present within the veins. Moderate, quartz, sericite and chlorite alteration present. Minor magnetite present within the veins.
460.6	476.0	T	ANDESITE FLOW	Unit is becciated in sections and massive in others. Andesite clasts are magnetic. Matrix within brecciated sections are made of groundup andesite material. Alteration has obliterated most of the characteristics of the rock. Quartz, chlorite, biotite are the dominant alteration types present. 2-4% quartz, calcite and zeolite veining oriented 20-40 deg to the core axis. Pyrite and chalcopyrite present within the matrix, veins and brecciated clasts. Spotty epidote alteration present within the matrix. Minor molybdenum within some veins.

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UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	663.2 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180
		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
476.0	476.9	T	BLADED FELDSPAR PORPHYRY FLOW	Unit is a possible BFP block. Unit contains 12-17% feldspar phenocrysts, 0.3-1.2cm in size. Some of the phenocrysts are altered to sericite and have a hematite stain. 2-3% zeolite veining oriented 40-50 deg to the core axis. Alteration has obliterated most of the characteristics of the rock. Biotite and quartz are the dominant altertion types. Minor pyrite and quartz present within the matrix and veins.
476.9	488.3	T	ANDESITE FLOW	Unit starts off brecciated and becomes massive down the hole. Alteration has obliterated most of the characteristics of the rock. Biotite, quartz and chlorite are the dominant alteration types present. Unit contains 2-3%, 1-3mm augite phenocrysts, some altered to chlorite. Spotty magnetite present within the matrix. 2-4% quartz, anhydrite and calcite veins oriented 20-50 deg to the core axis. Patchy epidote and hematite within the veins. Magnetite within the veins. Pyrite and chalcopyrite is disseminated within the matrix and present within the veins. Minor K-spar alteration halo around some veins. Top of the unit contains BFP clasts.
488.3	499.7	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 12-15%, 1-7mm augite phenocrysts with most of them altered to chlorite. 1-3% quartz and calcite veining oriented 55-75 deg to the core axis. Alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and biotite are the dominant alteration types present. Minor K-spar alteration surrounding some veins and within the matrix. Magnetite present within the matrix and veins. Pyrite and chalcopyrite is disseminated within the matrix and present within the veins. Contact with the overlying andesite is veined at 70 deg to the core axis. Trace of molybdenum within some quartz veins. Patchy epidote within the matrix and veins.
499.7	500.1	B	MONZONITE DYKE	Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~7% quartz and calcite veining oriented 30-40 deg to the core axis. Pyrite and chlcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 30 deg to the core axis and the lower contact is 35 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-07

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	663.2 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180
		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
500.1	504.0	T	ANDESITE FLOW	Unit is similar to the potassic altered andesite encountered before the dike above. Unit contains less augite phenocrysts down to 2-4%. 4-6% healed fractures filled with quartz, calcite and zeolite. 1-2% quartz, calcite and anhydrite veining oriented 30-50 deg to the core axis. Alteration is dominated by quartz, biotite and chlorite. Pyrite and chalcopyrite are disseminted within the matrix and present within the veins and fracture fills. Magnetite present within the veins and matrx.
504.0	504.8	B	MONZONITE DYKE	Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~3% quartz and calcite veining oriented 40-70 deg to the core axis. Pyrite and chlcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 45 deg to the core axis and the lower contact is 40 deg to the core axis. Unit undulates in and out of Takla andesite.
504.8	507.4	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit is similar to the potassic altered andesite encountered before the dike above. Unit contains 5-8% augite phenocrysts 1-5mm in size. 2-3% healed fractures filled with quartz, calcite and zeolite. 2-3% quartz, calcite and anhydrite veining oriented 30-50 deg to the core axis. Alteration is dominated by quartz, biotite and chlorite. Pyrite and chalcopyrite are disseminted within the matrix and present within the veins and fracture fills. Magnetite present within the veins and matrx.
507.4	507.9	B	MONZONITE DYKE	Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~5% quartz, calcite and anhydrite veining oriented 10-60 deg to the core axis. Pyrite and chalcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 35 deg to the core axis and the lower contact is broken.
507.9	514.9	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and biotite are the main alteration types present. 2-4% quartz, calcite and zeolite veining oriented 50-80 deg to the core axis. Magnetite present within veins and the matrix. Pyrite and chalcopyrite are disseminated within the matrix and present within veins. Trace of molybdenum within some of the quartz veins.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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KH-07-07

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		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
514.9	516.6	B	QUARTZ MONZONITE INTRUSIVE	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 45-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the overlying Takla is 45 deg to the core axis.
516.6	517.0	T	ANDESITE FLOW	Possible block of andesite within the quartz monzonite. Andesite is similar to the one encountered before the start of the quartz monzonite. Upper contact is broken and lower contact is 65 deg to the core axis.
517.0	530.0	B	QUARTZ MONZONITE INTRUSIVE	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 45-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the overlying Takla is 65 deg to the core axis.
530.0	546.1	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Unit also contains large pheocrysts of quartz, feldspars and hornblende. Spotty biotite present. Weak sericite alteration of some feldspar phenocrysts. 1-3% calcite and zeolite veining oriented 30-60 deg to the core axis with some parallel to the core axis. Trace of pyrite within some veins and disseminated within the matrix. Contact with the quartz monzonite is 60 deg to the core axis.l
546.1	561.0	B	QUARTZ MONZONITE INTRUSIVE	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 30-40 deg to the core axis with some near perpendicular to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the Sovereign is 30 deg to the core axis.

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		Elevation:	1767	**Dip:**	-70

Geologist: Wade Barnes

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
561.0	565.4	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains clasts of QMZ, QMZD and andesite. Clasts range in size from 0.5cm to 5cm and are subangular in shape. Matrix is made up of groundup material from the clasts. Matrix is weakly altered to chlorite and sericite. Some clasts are hematite stained while some are potassic altered (QMZ, andesite). Matrix and some clasts are magnetic (andesite, QMZD). ~2% calcite, zeolite stringers oriented 40 to 50 deg to the core axis. Patchy siliceous overprint present. Patchy epidote alteration associated with mafic minerals and clasts. Pyrite and chalcopyrite mineralization present within the matrix and within some clasts and in some minor veins. ~1% quartz veins oriented 30 deg to the core axis.
565.4	663.2	P	MONZODIORITE INTRUSIVE	Unit is a magnetic MNZD and contains phenocrysts of hornblende, augite, feldspar and biotite. Unit is composed of 75% feldspars, 20% and 5% quartz. Veining occurs at approx. 40 degrees to core axis. Veins contain traces of calcite, zeolite, quartz and epidote. Primary chloritic and alternating silicified and hematitic alteration occurs throughout unit. Pyrite minerlization is present with epidote veins. 1-2% pyrite is present, and decreases down the hole. Contact lost in rubble.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-08

UTM Northing:	6326240	**Northing:**	15874	**Total Depth:**	135 **m**
UTM Easting:	638044	**Easting:**	12092	**Azimuth:**	0
		Elevation:	1744	**Dip:**	-90

Geologist: Brian Kay

Drilled: 6/22/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	5.0		CASING	This hole was composite sampled: the final 25 cm whole rock of each sample interval was collected for assay, the remainder was not cut.
5.0	135.0	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Feldspar minerals are mostly plagioclase with rare orthoclase. Mafic minerals include hornblende, augite and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende, augite and biotite. Moderate to strong hematite staining throughout the unit. Moderate sericite alteration of some of the feldspar crystals. Weak chlorite alteration of the mafic minerals. Rare epidote present associated with veins and mafic minerals. 3-5% calcite and zeolite veining. Spotty magnetite present.

**Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla*

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-09

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	366 **m**
UTM Easting:	637853	**Easting:**	11898	**Azimuth:**	0
		Elevation:	1734	**Dip:**	-90

Geologist: Brian Kay

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	15.0		OVERBURDEN	Rubble from first casing interval, sampled as overburden. I mean, why the hell not?
15.0	29.7	H	HETEROLITHIC AGLOMERATE	Green grey heterolithic agglomerate. Aphanitic groundmass supporting up to 80% angular to subrounded lithic fragments. Fragments are 1-10 cm, mostly andesite and AAP, rarely QFP. No quartz eyes observed. Lower contact is cryptic due to similar lithology and texture with brecciated andesite. Alteration is principally potassic (chlorite, quartz) with phyllic patches (sericite) associated with veining. Most common vein type is anhydrite/carbonate (phyllic halo), 4-15 mm wide, occurring at 10-60 º to core axis, frequently vuggy. Secondary veining is carbonate, generally 0.5-1 mm wide. Good sulphide mineralization, pyrite (up to 6%) is disseminated as 0.5-2 mm blebs, occaisional chalcopyrite.
29.7	35.7	T	ANDESITE FLOW BRECCIA	dark grey/green andesite. Aphanitic groundmass, with auto-fragmental sections. Occaisional fine to medium mafic grains. Potassic (chlorite-quartz) with vein controlled phyllic (sericite) patches. 4-20 mm anhydrite-carbonate veins occur at 10-70 º to core axis. Lesser 0.5-1.5 mm carbonate (+/-chlorite) veins. Sulfide mineralization is pervasive: pyrite occurs as 1-2 mm disseminated blebs, and as dense infill in 10-20% of carbonate veins. Very minor molybdenite in stronger phyllic-altered patches.
35.7	39.7	T	ANDESITE FLOW	Vuggy anhydrite/carbonate vein at 37.4 m with moderate phyllic (sericite) halo.
39.7	47.7	T	ANDESITE FLOW BRECCIA	
47.7	51.7	T	ANDESITE FLOW	
51.7	63.7	T	ANDESITE FLOW BRECCIA	Carbonate vein with good pyrite infill at 52.4 metres.
63.7	67.7	T	ANDESITE FLOW	carbonate/pyrite veining continues, with phyllic overprint.
67.7	69.7	T	ANDESITE FLOW BRECCIA	

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		Elevation:	1734	**Dip:**	-90

Geologist: Brian Kay

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
69.7	93.7	T	ANDESITE FLOW	Stronger phyllic alteration due to slightly higher vein densities;
93.7	99.7	T	ANDESITE FLOW BRECCIA	phyllic alteration of matrix highlights autobrecciated andesite fragments.
99.7	107.7	T	ANDESITE FLOW	
107.7	119.7	T	ANDESITE FLOW BRECCIA	
119.7	121.7	T	ANDESITE FLOW	
121.7	123.9	T	ANDESITE FLOW BRECCIA	
123.9	138.4	B	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	Grey-white quartz feldspar tonalite porphyry. Medium to coarse grained intrusive; 30-40% 1-3 mm plagioclase crystals, 10-20% quartz crystals in an aphanitic felsic matrix. Upper contact is distinct at 65 º to core axis. Lower contact is undulatory at approximately 70 º to core axis. Weak phyllic (sericite, pyrite, quartz, some feldspars to chlorite) alteration overprinting moderate silica replacement. Some faulting in the 125th metre. Minor carbonate/chlorite veining towards bottom of unit. Disseminated 0.5-3 mm pyrite crystals. 0.5-30 mm patches of fuchsite(?), often in association with pyrite.
138.4	140.4	T	ANDESITE FLOW BRECCIA	Dark green andesite flow. Aphanitic matrix hosts few mafic minerals. Primary potassic alteration (chlorite, quartz, lesser biotite) is overprinted by weak to strong phyllic (sericite, pyrite, quartz) alteration. At least two vein sets, an earlier carbonate(+/-pyrite, chlorite), and latter carbonate(+/- anhydrite/quartz), sometimes vuggy, which crosscuts and sometimes displaces (<5 mm) earlier veins. Pyrite (1-5%) is most common sulfide; rare chalcopyrite in more intense phyllic zones. A large structure crosses unit between 155 and 165 metres; poor recovery of broken core.
140.4	166.0	T	ANDESITE FLOW	

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KH-07-09

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Geologist: Brian Kay

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
166.0	170.0	T	ANDESITE FLOW BRECCIA	First appearance of anhydrite in some veins. Anhydrite bearing veins are vuggy in this interval.
170.0	184.0	T	ANDESITE FLOW	small chalcopyrite bleb in an anhydrite/quartz/carbonate vein at 171.3 m.
184.0	186.0	T	ANDESITE FLOW BRECCIA	
186.0	188.0	T	FLOW BRECCIA	Stronger phyllic alteration around a vuggy carbonate/anhydrite vein
188.0	195.0	T	ANDESITE FLOW BRECCIA	Phyllic alteration wanes towards end of interval.
195.0	205.0	T	ANDESITE FLOW	
205.0	209.0	T	ANDESITE FLOW BRECCIA	
209.0	212.3	P	MONZODIORITE DYKE	Dark grey/green plagioclase-phyric monzodiorite dyke. 10-20% 0.5-3 mm plagioclase phenocrysts in an aphanitic matrx. 2-5% ~1 mm mafic minerals, augite/hornblende. Upper contact is vein-bounded at <10 º to core axis, lower contact is sharp and 20 º to core axis. Alteration is weak to moderate potassic; chlorite, quartz, magnetite (disseminated). No sulfides.
212.3	214.2	T	ANDESITE FLOW	Green andesite flow. Aphanitic intermediate matrix supporting 1-3% 0.5-2 mm mafic crystals. Lower contact is gradational/indistinct. Potassic alteration; dominantly chlorite with minor disseminated magnetite. ~3% anhydrite-carbonate veining, mostly at 30-40 º to core axis. 3-5% sulfides, mostly pyrite as disseminated crystals and minor vein fill. Minor chalcopyrite.
214.2	215.5	T	ANDESITE FLOW BRECCIA	Brown/grey andesite flow breccia. Aphanitic intermediate matrix supporting few small mafic and plagioclase crystals and 40-60% 5-40 mm phyllic-altered angular andesite fragments. Primary moderate potassic (biotite, chlorite) alteration is overprinted by weak phyllic (sericite) alteration. Minor carbonate/quartz veining. 3-5% sulfides; pyrite occurs as disseminated crystals within the matrix, very rarely in andesite fragments.

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KH-07-09

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UTM Easting:	637853	**Easting:**	11898	**Azimuth:**	0
		Elevation:	1734	**Dip:**	-90

Geologist: Brian Kay

Drilled: 6/25/2007

From (m)	To (m)	Group*	Rock Type	Comments
215.5	251.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Green andesite augite porphyry flow. Aphanitic intermediate matrix supports 1-10% 0.5-5 mm augite phenocrysts. Upper contact is undulatory at a high(?) angle to the core axis, lower contact is gradational. Primary alteration is moderate potassic (biotite, chlorite), local overprinting of weak to moderate phyllic (sericite). 1-5% 0.5-20 mm carbonate(+/- chlorite, quartz, pyrite, hematite) veining at 30-60 º to core axis. 1-3% 0.5-10 mm quartz +/- pyrite veins. Good sulfide mineralization; 1-5% pyrite as disseminated blebs and as vein infill. Minor chalcopyrite as blebs associated with carbonate veining.
251.0	291.4	T	ANDESITE FLOW BRECCIA	Dark grey - green andesite breccia flow. Aphanitic matrix supporting 0-5% 0.5-4 mm mafic crystals and 10-60% 3-100 mm (mean ~15 mm) angular andesite fragments. Fragments are generally chloritic or not altered, rarely moderate phyllic. Potassic alteration: chlorite, biotite, minor sericite. 1-2% 1 mm carbonate veins at 30-60 º to core axis. 1% 1-5 mm quartz/carbonate/pyrite veins. Sulfides occur mainly as vain infill, lesser disseminated pyrite. Minor chalcopyrite.
291.4	366.0	P	QUARTZ MONZODIORITE INTRUSIVE	Grey (+/- pink) quartz- and feldspar-phyric quartz monzodiorite intrusion. Likely the Sovereign intrusion; magnetic.. 2-8% 1-4 mm quartz phenocrysts and 5-10% 1-5 mm plagioclase phenocrysts. 1-4% 2-4 mm chlorite after hornblende and biotite. Aphanitic intermediate matrix. Upper contact is faulted (?) at ~ 30 º to core axis. Lower contact is not encountered. Weak potassic alteration (chlorite, +/- calcite, epidote) overprinted by vein-controlled hematite alteration. 5-10% 1-10 mm carbonate-zeolite veining at 30-60 º to core axis, occaisionally stockworked, rarely vuggy when >5 mm. Minor sulfides; rare disseminated pyrite blebs. SOS.

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Northgate Minerals Corp.

KH-07-10

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	1314 **m**
UTM Easting:	637852	**Easting:**	11898	**Azimuth:**	340
		Elevation:	1734	**Dip:**	-70

Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.0		CASING	Casing rubble sampled as overburden. Non-zero RQD, but <50% recovery.
6.0	12.0		OVERBURDEN	Casing rubble sampled as overburden. Non-zero RQD, but <50% recovery.
12.0	19.1	H	HETEROLITHIC AGLOMERATE	Green-grey aglomerate. Strong alteration masks primary features. 60-80% angular to subangular lithic fragments (+90% andesite?) in an aphanitic matrix. Upper contact is not observed, lower contact is involved in a fault zone at ~30 º to core axis. Strong to intense phyllic alteration, increasing towards and within fault zone. 2-4% 1-15 mm (mean 2 mm) calcite (+/- anhydrite, chlorite in larger veins) veins. 1-2% 0.5 mm disseminated pyrite. Trace chalcopyrite.
19.1	34.0	T	ANDESITE FLOW BRECCIA	Green-grey andesite breccia flow. Aphanitic intermediate matrix hosts 5-50% angular to subrounded andesite fragments. Patchy 1-8% 1-2 mm augite crystals. Upper contact is in fault zone, lower contact is gradational with increasingly massive andesite unit. Intense to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- anhydrite, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs.
34.0	80.8	T	ANDESITE FLOW	Green-grey andesite flow. Aphanitic intermediate matrix hosts patchy 1-3% 1-2 mm augite crystals. Occaisional fragmentary sections. Upper contact is gradational with fragmental andesite above, lower content is indistinct with intrusion below. Strong to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- quartz, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs.

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		Elevation:	1734	**Dip:**	-70

Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
80.8	87.1	P	QUARTZ FELDSPAR PORPHYRY DYKE	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact undulatory and ~70 º to core axis. Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 5-40% zeolite-carbonate veins. No sulfide mineralization.
87.1	90.8	T	ANDESITE FLOW	Green-grey andesite flow. Aphanitic intermediate matrix hosts patchy 1-3% 1-2 mm augite crystals. Bound by QFP intrustions, distinct contacts at 70-90 º to core axis. Strong to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- quartz, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs. Trace chalcopyrite. Yay.
90.8	95.1	P	QUARTZ FELDSPAR PORPHYRY DYKE	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact indistinct, maybe 80 º to core axis? Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 5-10% zeolite-carbonate veins, mostly 30-60 º to core axis. No sulfide mineralization. Unit photo.
95.1	173.0	P	QUARTZ MONZODIORITE INTRUSIVE	Pink-grey quartz monzodiorite intrusion. Possibly the Sovereign. 10-15% 1-2 mm feldspar crystals, dominantly plagioclase. 1-5% 1-3 mm quartz crystals. 1-5% 1-4 mm mafic crystals, typically chlorite after hornblende and biotite. Hematite alteration of matrix and feldspars is pervasive, especially in areas of high vein density. Veining is principally calcite-zeolite, 5-15% 1-15 mm at 20-50 and 70-80 º to core axis. Normal dissapointing sulfide mineralization. SOS.

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Northgate Minerals Corp.

KH-07-10

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	1314 **m**
UTM Easting:	637852	**Easting:**	11898	**Azimuth:**	340
		Elevation:	1734	**Dip:**	-70

Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
173.0	186.1	P	QUARTZ FELDSPAR PORPHYRY DYKE	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact sharp with 5 cm chill margin at 80-90 º to core axis. Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 2-8% carbonate-anhydrite (+/- zeolite) veins at 30-60 º to core axis, with stringers subparallel to core axis. Minor sulfide mineralization only observed in areas of intense phyllic alteration (QSP). First interval is affected by Sovereign intrusion: first twenty centimetres are propylitic altered, with some hematite-sulfide bearing carbonate/chlorite veinlets.
186.1	188.1	T	ANDESITE FLOW BRECCIA	Green-grey fragmental andesite flow breccia. 10-50% angular to subrounded lithic fragments (dominantly phyllic altered andesite(?)) in an aphanitic matrix. Weak phyllic alteration overprinting moderate to strong potassic (chlorite, biotite, quartz) alteration. Few carbonate (+/- zeolite, pyrite, hematite, chlorite) veins at 70+ º to core axis. Reasonable sulfide mineralization: 1-4% pyrite mostly as disseminated blebs. Chalcopyrite is trace to imaginary.
188.1	237.1	P	QUARTZ MONZODIORITE INTRUSIVE	Dark green - grey quartz monzodiorite intrusion. 1-4% 0.5-2 mm euhdral quartz phenocrysts. 2-10% 0.5-4 mm euhdral or 2:1 elongate feldspar phenocrysts, dominantly plagioclase. 1-3% 0.5-1 mm mafic crystals. Intermediate aphanitic matrix. Faulted upper and lower contacts, upper is rubble, lower is ~30 º to core axis. Weak to moderate chlorite alteration; plagioclase and remnant magnetization are reasonably unmolested, however matrix has distinct green hue. Common carbonate (+/- zeolite, hematite, chlorite) veins at 30-60 º to core axis. Dissapointing sulfide mineralization: rare pyrite crystals in carbonate veins, no disseminated sulfides.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
237.1	281.0	H	HETEROLITHIC AGLOMERATE	Grey-green heterolithic aglomerate. Contains 30-70% angular to subrounded lithic fragments. Fragments are QFP, andesite and few others. Also contains 5% plagioclase lapilli and mafic crystals(?). Upper contact with QMZD is faulted; fault surface is ~30 º to core axis, possible slickenlines with rake of ~ -50º (unit photo). Strong phyllic (quartz, sericite, pyrite, chlorite) alteration obscures fragment lithologies, primary textures and overprinted alteration styles. Occaisional carbonate (+/- zeolite, hematite, chlorite) veins (1-2 mm), mostly at 60-90 º to core axis. Sulfides are courtesy of phyllic alteration, disseminated 0.5-1 mm pyrite crystals. Rare/trace chalcopyrite. This unit generated several alternate interpretations, due to the intense alteration, before being 'identified' as Hazelton.
281.0	424.4	T	ANDESITE FLOW BRECCIA	Dark green augite-phyric andesite flow breccia. 0-5% 1-3 mm augite phenocrysts (decreasing downhole) in an intermediate autobrecciated (5-20 mm subangular fragments) aphanitic matrix. Upper contact is indistinct, ~70 º to core axis, with evidence of an unconformity; Hazelton unit above contains some AAP fragments. Moderate to strong proplytic alteration: chloritization of matrix, extensive epidote replacement, disseminated pyrite. Unit is cut by at least one fault at ~300 metres. ~5% 1-10 mm carbonate (+/- chlorite, anhydrite) veins at 0-40 º to core axis. Less common quartz (+/- carbonate, sulfides) veins at 60-70 º to core axis. Good sulfide mineralization: 3-6% disseminated and vein fill pyrite, as well as minor chalcopyrite (incrreasing downhole, mostly occuring in 2-5 mm carbonate +/- anhydrite, chlorite veins), and trace (observed once) sphalerite. High vein density at beginning on first interval.
424.4	455.2	P	QUARTZ MONZODIORITE INTRUSIVE	Grey to pink monzodiorite intrusive. 10-15% 0.5-2 mm plagioclase phenocrysts. 5% 1-3 mm mafic crystals. 1-2% 0.5-1 mm quartz Aphanitic intermediate matrix. Upper contact is ~85 º to core axis, lower contact is ~70 º to core axis. Weak to moderate potassic (quartz, chlorite) alteration with patchy weak to moderate hematite overprint. Common carbonate-zeolite veins at 30-60 º to core axis. Secondary carbonate veining event evident as calcite-only veins infilling pre-existing zeolite-carbonate veins. Trace sulfides in intervals adjoining mineralized Takla units, zero sulfides in bulk of unit.

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
455.2	549.9	T	ANDESITE FLOW	Grey to greenish andesite flow. Contains 0-5% 1-4 mm augite grains and patchy 1-2 mm plagioclase grains and possible occaisional andesite fragments. Upper contact is distinct at ~75 º to core axis. Moderate to strong phyllic (sericite, quartz, pyrite, chlroite) overprints moderate potassic (chlorite) alteration, with phyllic alteration broadly waning downhole. Pervasive sericitization gives core a mottled look and obscures primary features. Common 0.5-2 mm carbonate stringers, and 1-5 mm carbonate-pyrite (+/- quartz) veins. 3-6% disseminated and vein-fill pyrite, trace chalcopyrite.
549.9	552.3	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 13-18% feldspar phenocrysts 2-7mm in size. Matrix is very fine grained. Most of the feldspar phenocrysts are altered to sericite with some altered to chlorite. Matrix is moderately altered to quartz and sericite. A strong siliceous overprint is present in patches. 3-5% zeolite and calcite veining oriented 30-50 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and minorly present within some veins.
552.3	556.4	T	ANDESITE VOLCANIC BRECCIA	Unit is brecciated and contains andesite clasts. Clasts vary in size from 0.3cm to 4cm and are subangular to angular in shape. Some of the clasts are altered to chlorite, biotite, quartz and sericite. The matrix is fine grained and made up of ground up andesite fragments. Matrix is mainly sericite and quartz altered. 1-2% quartz, calcite and zeolite veins oriented 35-70 deg to the core axis. Contact with the upper unit is uneven and brecciated. Pyrite is disseminated within the matrix, present within veins and present within clasts.
556.4	558.0	T	ANDESITE FLOW	Unit is a massive andesite intermediate in composition where the alteration has obliterted most of the characteristics of the rock. Unit contains brecciated sections. Minor AAP sections at the beginning of the unit with augite phenocrysts 2-5mm in size. Potassic alteration dominates with chlorite and sericite alteration dominating and minor quartz. 2-4% quartz, anhydrite, calcite and zeolite veining present oriented 20-60 deg to the core axis. Veining slightly increases down the hole. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and present within veins. Spotty chalcopyrite present within the matrix and veins. Contact with the overlying unit is brecciated and gradational.

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
558.0	560.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Section contains 15% augite phenocrysts 3-7mm in size.
560.0	562.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Section contains 6% augite phenocrysts 2-5mm in size.
562.0	576.0	T	ANDESITE VOLCANIC BRECCIA	
576.0	630.0	T	ANDESITE FLOW	
630.0	640.0	T	ANDESITE VOLCANIC BRECCIA	
640.0	662.0	T	ANDESITE FLOW	Stockworked section with calcite, zeolite and minor anhydrite.
662.0	664.0	T	ANDESITE VOLCANIC BRECCIA	
664.0	666.0	T	ANDESITE FLOW	
666.0	700.0	T	ANDESITE VOLCANIC BRECCIA	
700.0	702.0	T	ANDESITE FLOW	
702.0	708.0	T	ANDESITE VOLCANIC BRECCIA	
708.0	712.0	T	ANDESITE FLOW	
712.0	754.0	T	ANDESITE VOLCANIC BRECCIA	

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
754.0	764.6	T	ANDESITE FLOW	
764.6	765.1	T	CALCITE VEIN	50 cm coarse calcite vein. Unit photo.
765.1	765.9	T	ANDESITE FAULT ZONE	Fault zone, rubbly andesite fragments.
765.9	767.9	T	ANDESITE FLOW	Return to andesite unit from above. Dark green andesite flow. Usually massive, rarely fragmental. Potassic altered (chlorite, sericite, lesser biotite), with patchy phyllic (sericite) overprinting proximal to veins. 5-8% 0.5-10 mm quartz-carbonate veins, +/- pyrite, chlorite, zeolite, chalcopyrite. 3-9% sulfides, dominantly pyrite, minor to trace chalcopyrite, rare molbdenite.
767.9	773.7	T	ANDESITE VOLCANIC BRECCIA	increase in andesite fragmentation and stronger (biotite) potassic alteration.
773.7	778.0	B	MONZONITE INTRUSIVE	Grey/light green monzodiorite intrusive. Upper contact is sharp but not distinct at approximately 80 º to core axis. Strong to intense phyllic (sericite, lesser chlorite) alteration. Primary features are obscured by alteration. 2-4% 1 mm zeolite-carbonate veins and 2-5% carbonate-pyrite with trace chalcopyrite veins. Sulfides are vein-hosted and disseminated (0.5-1 mm).
778.0	778.5	B	MONZONITE FAULT ZONE	Short fault zone, rubbly core, intense phyllic (sericite) alteration.
778.5	829.0	T	ANDESITE FLOW	Dark green/grey andesite flow. Uncommon plagioclase and mafic grains in aphanitic matrix. Upper contact is faulted at >45 º to core axis. Strong to intense potassic (chlorite, sericite, +/- biotite) alteration. 2-7% 0.5-5 mm carbonate +/- pyrite, chlorite, zeolite, trace chalcopyrite veins (zeolite and pyrite rarely coexist in veins) at 40-70 º to core axis. 3-7% sulfides as vein fill and minor disseminated grains. Dominantly pyrite, trace to minor chalcopyrite.

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From (m)	To (m)	Group*	Rock Type	Comments
829.0	830.8	B	MONZODIORITE INTRUSIVE	Grey/green monzonite intrusive. 10% 2 mm plagioclase grains, <5% mafic crystals, aphanitic matrix. Strong to intense potassic (chlorite, sericite, biotite) alteration masks primary features. Both upper and lower contacts are indistict at a high angle to the core axis. 3-6% sulfides, mostly pyrite with ~0.4% chalcopyrite. 3% 1-3 mm carbonate/zeolite veins at 60-85 º to core axis.
830.8	911.9	T	ANDESITE FLOW	Dark green/grey andesite flow. Uncommon plagioclase and mafic grains (augite?) in aphanitic matrix. Upper contact is faulted at >45 º to core axis. Strong to intense potassic (chlorite, sericite, +/- biotite) alteration. 2-7% 0.5-5 mm carbonate +/- pyrite, chlorite, zeolite, trace chalcopyrite veins (zeolite and pyrite rarely coexist in veins) at 40-70 º to core axis. 3-7% sulfides as vein fill and disseminated grains. Dominantly pyrite, trace to minor chalcopyrite.
911.9	912.5	B	MONZODIORITE INTRUSIVE	Brecciated transitional unit. Dominantly monzonite fragments <3 cm, with a few larger andesite fragments from the unit above. 1-3% disseminated pyrite grains, trace chalcopyrite, almost entirely in the Takla fragments. Minor veining, carbonate/chlorite. Upper contact is irregular, approximately 60 º to core axis.
912.5	996.3	B	QUARTZ MONZODIORITE INTRUSIVE	Grey quartz monzodiorite intrusion. 5-10% 0.5-4 mm quartz grains, 5-20% 0.5-2 mm plagioclase grains, 1-5% 1-3 mm mafic grains, hornblende and biotite. Moderate to strong phyllic (sericite, chlorite, pyrite, quartz) alteration, obscuring some primary features. 1-5% 8-20 mm quartz (+/-carbonate, pyrite, chalcopyrite, trace molybdenite) veins at 10-50 º to core axis. 1-3% 1-2 mm carbonate-quartz veins at 30-60 º to core axis. 2-6% sulfides, dominantly pyrite, with minor chalcopyrite and trace molybdenite; chalcopyrite (up to 10 mm!) and molybdenite occur most often in quartz veins. Upper contact is distinct (for once) at about 50 º to core axis.
996.3	1005.0	T	ANDESITE FLOW	Green andesite flow. 1-3% 1-2 mm augite grains. Aphaniitc matrix. Moderately phyllic (chlorite, sericite) altered. 3-5% 1-8 mm carbonate-zeolite veins at 40-70 º to core axis. 1-3% 1-10 mm quartz (+/- calcite, pyrite, chalcopyrite, molybdenite) veins at 10-25 º to core axis. 2-4% sulfides as blebs in veins and 0.5-2 mm disseminated grains. Pyrite and chalcopyrite, with trace to minor molybdenite. Upper contact is undulatory at approximately 40 º to core axis.

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
1005.0	1006.0	B	QUARTZ MONZODIORITE INTRUSIVE	Transitional brecciated unit. Fragments of andesite and quartz monzodiorite. Phyllic (sericite, chlorite, pyrite, minor quartz) alteration, stronger proximal to veining. 5% coarse-grained quartz (minor to trace pyrite, chalcopyrite, molybdenite) veins at 45 º to core axis. 2-3% sulfides as blebs in veins and 0.5-1 mm disseminated crystals.
1006.0	1145.4	B	QUARTZ MONZONITE INTRUSIVE	Grey quartz monzodiorite intrusive. 10-20% 1-3 mm plagioclase grains, 5-15% 2-4 mm quartz grains, 5% 1-4 mm mafic minerals, augite, hornblende, biotite (good hexagonal crystals), in a grey aphanitic groundmass. Rare 5-20 mm andesite fragments. Weak to strong phyllic (sericite, chlorite, pyrite, minor quartz) alteration. 5% 2-15 mm quartz (+/- carbonate, zeolite, sulfides) veining at 30-60 º to core axis. <3% 0.5-1 mm carbonate (+/- zeolite, chlorite, pyrite) veining at 30-60 º to core axis. Upper contact is diffuse and undulatory at approximately 50 º to core axis.
1145.4	1145.9	B	QUARTZ MONZONITE VOLCANIC BRECCIA	Unit contains fragments of quartz monzonite within a matrix of ground up quartz monzonite and pyroclastic material. Quartz monzonite fragments range in size from 0.5cm to 4cm and are subangular in shape. Possible quartz eye seen within the matrix. Sericite and chlorite alteration dominate the matrix and fragments with some minor quartz replacement. Pyrite and chalcopyrite are present within the matrix and fragments. Upper and lower contacts are brecciated.
1145.9	1275.7	B	QUARTZ MONZONITE INTRUSIVE	Unit is similar to the unit before the minor fragmental section above. Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Mafic minerals include hornblende and augite. Alteration has obliterated some to most of the characteristics of the rock in sections. Moderate to weak sericite and chlorite alteration of the feldspars and mafic minerals with minor quartz replacement. Minor biotite replacement of some hornblende and augite crystals. 2-4% zeolite, quartz, anhydrite and calcite veining oriented 30-40 deg to the core axis. ~2% massive quartz and anhydrite veins oriented 25-30 deg to the core axis. Magnetite present within the veins. Minor hematite staining of the feldspars and within the veins present. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum present within some veins. Spotty K-spar alteration halo associated with some quartz mineralized veins.

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Geologist: Brian Kay

Drilled: 7/31/2007

From (m)	To (m)	Group*	Rock Type	Comments
1275.7	1296.4	P	HETEROLITHIC INTRUSION BRECCIA	Unit is host to mostly quartz monzonite fragments with the odd hematite stain fragment (Sovereign?). Fragments range in size from 0.3cm to blocks and are subrounded to subangular. Some sections contain large blocks of the quartz monzonite. Quartz monzonite similar to the unit above. Matrix is made up of ground up material of the quartz monzonite. Chlorite alteration dominates the matrix and fragments with lesser sericite alteration patchy quartz flooding present. Spotty hematite staining present associated with some fragments and within and halos of some veins. 2-4% calcite and zeolite veining randomly oriented. Minor pyrite and chalcopyrite mineralization within the fragments, matrix and veins. Spotty magnetite present.
1296.4	1297.7	P	MONZODIORITE DYKE	Unit contains ~75% feldspars, ~20% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase 1-3mm in size and spotty phenocrysts of augite and hornblende. Matrix is fine grained. ~1% calcite and zeolite veining oriented 35-45 deg to the core axis. Magnetite present within the matrix. Upper contact is broken and the lower contact is 70 deg to the core axis.
1297.7	1314.0	B	QUARTZ MONZONITE INTRUSIVE	Unit is similar to the unit before the IBX and dike above. Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Mafic minerals include hornblende and augite. Alteration has obliterated some to most of the characteristics of the rock in sections. Moderat chlorite alteration of the feldspars and mafic minerals with minor quartz replacement. Minor biotite replacement of some hornblende and augite crystals. 1-3% zeolite and calcite veining oriented 25-45 deg to the core axis. ~2% quartz and anhydrite veining oriented 40-60 deg to the core axis. Magnetite present within the veins. Minor hematite staining of the feldspars and within the veins present. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum present within some veins. Spotty K-spar alteration halo associated with some quartz mineralized veins. Beginning of the unit is hematite stained.

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KH-07-11

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360
		Elevation:	1767	**Dip:**	-65

Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	21.0		OVERBURDEN	Casing for 15m, 60% lost core. Driller error on blocks, first block should read 12m not 6m. Add 6m to each block until block coreection at 438m. Block error checked with many rod counts to ensure correct.
21.0	74.0	H	HETEROLITHIC LAPILLI-TUFF	Unit is made up of 40-60% ash, mostly feldspars, and fragments of clasts. Clasts present are andesite, feldspar porphyry, AAP, minor tuffaceous ones and intrusive ones. Clast size ranges from 0.4cm to 4cm ranging with most of them subangular in shape.~1%, 1-2mm quartz eyes present. Unit is magnetic within the matrix and clasts. Moderate to weak sericite alteration present throughout the matrix with spotty chlorite alteration associated with mafic minerals in the matrix and fragments. Minor pryite disseminated within the matrix and within veins and clasts. 3-5% calcite and zeolite veining oriented 0-30 deg to the core axis and 50-60 deg to the core axis. Patchy hematite stains within the veins and feldspar crystals within the matrix.
74.0	75.5	H	TUFFACEOUS CRYSTAL-LITHIC TUFF	Unit is a fine to medium grained crystal lithic tuff. ~1% fragments 0.5-1cm in size and altered to chlorite. Matrix appears to be intermediate in composition. Matrix is altered to chlorite and sericite. ~2% calcite and zeolite veins oriented 30 deg to the core axis with some randomly oriented. Upper and lower contacts are roughly 50 deg to the core axis. Minor pyrite mineralization disseminated within the matrix.
75.5	140.6	H	HETEROLITHIC AGLOMERATE	Unit contains 100% Takla fragments. Fragments include andesite, AAP, BFP, basalt and feldspar porphyry. Some clasts are phyllic and potassic altered. Matrix is made of ground up material from the clasts. 2-4% calcite and zeolite veining randomly oriented. Chlorite alteration dominates the matrix and clasts with lesser amounts of sericite. Spotty hematite is located within veins around some clasts and within patches of the matrix. Epidote present around some clasts and mafic minerals. Pyrite mineralization is disseminated within the matrix, present within veins and within clasts.

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Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
140.6	271.3	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 15-20% augite phenocrysts ranging in size from 2mm to 8mm. Abundance and size of the augite phenocrysts vary throughout the unit. Rare hornblende phenocrysts are present. 6-8% amydules are present at the beginning of the unit. Amygdules are filled with calcite, chlorite and epidote. Augite phenocrysts are altered to chlorite, epidote and calcite. Matrix is altered to chlorite with minor amounts of sercite. Patchy carbonate and epidote alteration present within the matrix. Carbonate alteration becomes pervsive down the hole. Spotty hematite associated with fractures and altered augite phenocrysts. 3-5% calcite, quartz and zeolite veins oriented 30-50 deg to the core axis with some randomly oriented. Magnetite present within the matrix. Minor disseminated pyrite present.
271.3	273.0	T	ANDESITE FAULT ZONE	Healed shear contact between the overlying AAP unit and the underlying massive andesite. Shear direction is between 30-40 deg to the core axis with a rough contact of 20 deg to the core axis. Unit is mostly made up of massive andesite altered to sericite, chlorite, epidote and hematite. Spotty carbonate sections present. Zeolite and calcite veining throughout oriented in the same direction as the shear. Pyrite present as blebs.
273.0	353.0	T	ANDESITE FLOW	Unit is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. 3-5% zeolite and calcite veins oriented 25-40 deg to the core axis. ~1-2% randomly oriented fractures. Spotty quartz and hematite within some veins. Unit is altered to sericite, chlorite, patchy epidote and quartz. Epdiote present within the matrix and veins. Pyrite is disseminated and present within veins.
353.0	357.0	T	ANDESITE VOLCANIC BRECCIA	
357.0	361.0	T	ANDESITE FLOW	
361.0	369.0	T	ANDESITE VOLCANIC BRECCIA	

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Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
369.0	373.4	T	ANDESITE FLOW	Unit has become more fractured and contains minor healed faults filled with zeolite and gypsum. Structures are randomly oriented with some orineted mostly between 20-40 deg to the core axis.
373.4	378.1	T	ANDESITE FAULT ZONE	Andesite fault zone containing several high angle faults between 20-50 deg to the core axis. Dominate orientation of the faulting is 25 deg to the core axis. Fault zones are filled with fragments of andesite and ground up andesite material (gouge) and clay. Minor andesite sections and large clasts are phyllic altered. Spotty epidote present within the andesite. Pyrite is mainly disseminated within the andesite fragments. Massive quartz veining towards the end of the fault zone. 1-2% zeolite and gypsum veining roughly oriented in the same orientation as the faulting within some andesite sections.
378.1	412.0	T	ANDESITE FLOW	Unit is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. 4-5% zeolite and minor calcite veins and 1-2% zeolite and calcite stringers oriented 15-30 deg to the core axis and 50-70 deg to the core axis. Unit is altered to sericite, chlorite, patchy epidote and quartz. Epdiote present within the matrix and veins and decreases down the hole. Pyrite is disseminated and present within veins.
412.0	418.0	T	ANDESITE VOLCANIC BRECCIA	Clay filled vein present. Trace of disseminated sphalerite present.
418.0	452.0	T	ANDESITE FLOW	High degree of clay alteration.
452.0	455.0	T	ANDESITE VOLCANIC BRECCIA	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-11

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360
		Elevation:	1767	**Dip:**	-65

Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
455.0	462.6	B	MONZONITE DYKE	Unit is composed of ~75% feldspars (mostly plagioclase), ~20% mafics (augite and hornblende) and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Moderate to strong sericite alteration of the feldspars and mafic minerals. Minor quartz replacement. Spotty epidote present within the matrix. Minor hematite staining of some veins and some feldspar grains. 2-4% zeolite veins oriented 25-50 deg to the core axis. Minor veined and disseminated pyrite. Trace of chalcopyrite within the veins and disseminated within the matrix associated with pyrite. Upper contact is broken and the lower contact is 55 deg to the core axis.
462.6	466.0	T	ANDESITE VOLCANIC BRECCIA	Andesite unit intermediate in composition. Altertion has obliterated some of the characteristics of the rock. Moderate QSP alteration in proximity to the dike, propylitic alteration (epidote, chlorite, sericite) appears after the QSP alteration. Propylitic alteration possible overprint. 1-3% calcite, zeolite and minor quartz veins oriented 0-10 deg to the core axis and 45-70 deg to the core axis. Minor pyrite disseminted within the matrix and present within the veins.
466.0	481.3	T	ANDESITE FLOW	Trace of sphalerite and chalcopyrite within a quartz vein.
481.3	481.7	B	MONZONITE DYKE	Unit is composed of ~75% feldspars (mostly plagioclase), ~20% mafics (augite and hornblende) and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Moderate to strong sericite alteration of the feldspars and mafic minerals. Minor quartz replacement. Minor hematite staining of some veins and some feldspar grains. 2-4% zeolite veins oriented 30-65 deg to the core axis. Minor veined and disseminated pyrite. Upper contact is brecciated at 20 deg to the core axis and the lower contact is 35 deg to the core axis.
481.7	483.0	T	ANDESITE FLOW	Back into the similar propylitic altered andesite encountered before the monzonite dike. Propylitic alteration possible overprinting phyllic alteration.
483.0	506.0	T	ANDESITE VOLCANIC BRECCIA	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-11

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360
		Elevation:	1767	**Dip:**	-65

Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
506.0	525.0	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Alteration has obliterated most of the characteristics of the rock. Where visible unit contains 2-7mm feldspar phenocrysts with some altered to sercite, chlorite and epidote. Matrix is a basalt. Propyltic alteration (epidote, hematite, chlorite and sericite) dominates the beginning of the unit possibly overprint phyllic alteration. Phyllic alteration dominates down the hole with sericite, quartz and pyrite. 7-10% zeolite and calcite stringers and veins mostly oriented 40-60 deg to the core axis with some randomly oriented. Veining and stringers decrease down the hole. Major stockworking at the beginning of the unit. Pyrite is disseminated within the matrix and present within veins.
525.0	537.0	T	BLADED FELDSPAR PORPHYRY FLOW	
537.0	552.7	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	
552.7	567.7	B	MONZONITE INTRUSIVE	Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Most of the feldspars have been blasted into sericite and some chlorite. The mafic minerals have been chloritized. 1-2% zeolite, quartz and flourite veins oriented 30-50 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within the veins. Spotty magnetite present within some quartz and flourite veins. Contact with the upper unit is veined and brecciated at 15 deg to the core axis.
567.7	570.3	P	HETEROLITHIC INTRUSION BRECCIA	Unit is composed of 15% pink quartz monzodiorite fragments (Sovereign) and rare monzonite fragments (Black Lake). Matrix is made of ground up material of the quartz monzodiorite. Unit is highly fractured with some infill oriented 20-30 deg to the core axis and 65-75 deg to the core axis. Fractures are infilled with zeolite. Spotty disseminated pyrite present. Minor hematite staining of the quartz monzodiorite fragments. Upper contact is 35 deg to the core axis and the lower contact is broken.
570.3	660.0	B	MONZONITE INTRUSIVE	Back into the similar phyllic altered monzonite.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-11

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360
		Elevation:	1767	**Dip:**	-65

Geologist: Wade Barnes

Drilled: 6/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
660.0	660.8	B	MONZONITE FAULT ZONE	Unit is faulted at an orientation ~45 deg to the core axis. Fault zone is mostly made of ground up monzonite material and the Hazelton unit below. Unit is now made up of clay and sericite. Pyrite is disseminated within the matrix. 5-7% zeolite veining oriented the same orientation as the fault zone.
660.8	798.5	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Unit contains ~75% feldspar crystals, ~15% mafic minerals and ~10% quartz. Feldpsars are mostly plagioclase with 70% hematite stained. Mafic minerals include biotite and hornblende. Spotty chlorite altertion present of some mafic minerals and feldspars. Weak sericite alteration of some feldspar grains. 2-4% basalt/andesite fragments present that are magnetic with some having porphyritic texture (AAP) and pyrite mineralization. Magnetite present within the matrix. ~1% 1-2mm sized quartz eyes present. 2-4% zeolite and calcite veining randomly oriented. Hematite is present within the veins. Minor disseminated pyrite.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-14

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	7.5		CASING	
7.5	46.3	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain and weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite, zeolite and quartz veins present oriented 30-45 deg to the core axis with minor near parallel ones. Unit is magnetic. Trace of pyrite present within the matrix. 20cm composite sampling conducted within this hole back from each sample tag.
46.3	46.8	P	QUARTZ MONZODIORITE DYKE	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~1% quartz phenocrysts present ~2mm in size. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented 50-65 deg to the core axis. Upper contact and lower contacts are 50 deg to the core axis.
46.8	50.6	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite nd zeolite quartz veins present oriented 30-55 deg to the core axis with minor near parallel ones. Unit is magnetic. Trace of pyrite present within the matrix.
50.6	52.1	P	QUARTZ MONZODIORITE DYKE	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented 50-60 deg to the core axis. Upper contact and lower contacts are 50 deg to the core axis. Trace of pyrite within the matrix.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-14

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
52.1	57.0	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite and zeolite quartz veins present oriented 70-80 deg to the core axis and 10-25 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.
57.0	57.3	P	QUARTZ MONZODIORITE DYKE	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented ~80 deg to the core axis. Upper contact and lower contacts are 40 deg to the core axis. Trace of pyrite within the matrix.
57.3	84.9	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~4% calcite and zeolite veins present oriented 70-80 deg to the core axis and 15-30 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.
84.9	85.9	H	HETEROLITHIC LAPILLI-TUFF	Unit contains fragments of sovereign and andesite. Matrix is made up of fine to coarse material including busted up fragments, quartz, feldspars and mafic minerals. Sericite and chlorite alteration dominate within the matrix. ~7% calcite and zeolite veining present oriented 40-80 deg to the core axis. 1mm quartz eyes present. Unit is magnetic. Pyrite is disseminated within the matrix. Upper contact is faulted at 30 deg to the core axis and the lower contact is undulating around 15 deg to the core axis.
85.9	86.9	P	MONZODIORITE INTRUSIVE	Unit is similar to the monzodiorite encountered before the heterolithic unit.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-14

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
86.9	89.0	P	QUARTZ MONZODIORITE DYKE	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende and augite phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~4% zeolite and calcite veining oriented 20-40 deg to the core axis and 70-80 deg to the core axis. Upper contact is 45 deg to the core axis and the lower contact is 35 deg to the core axis. Trace of pyrite within the matrix.
89.0	92.5	P	QUARTZ MONZODIORITE INTRUSIVE	
92.5	102.4	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals nd veining. ~5% calcite, zeolite and hematite veins present oriented 10-50 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.
102.4	103.6	H	HETEROLITHIC LAPILLI-TUFF	Unit contains fragments of andesite, monzodiorite, basalt and some bleached fragments. Matrix is composed of ground up fragments, Sericite and chlorite dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~7% zeolite, calcite and hematite veins randomly oriented. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is brecciated and the lower contact is 30 deg to the core axis.
103.6	114.6	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals and veining. ~5% calcite, zeolite and hematite veins present oriented 30-60 deg to the core axis. Minor hematite halo around some veins. Unit is magnetic. Trace of pyrite present within the matrix.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-14

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
114.6	115.9	H	HETEROLITHIC LAPILLI-TUFF	Unit contains fragments of andesite, AAP, monzodiorite, basalt and some bleached fragments. Matrix is composed of ground up fragments, Sericite and chlorite dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~4% zeolite, calcite and hematite veins oriented 30-40 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is brecciated and the lower contact is broken. Rare 1mm quartz eyes present.
115.9	116.5	P	MONZODIORITE INTRUSIVE	Similar hematite stained monzodiorite encountered before the above heterolithic unit.
116.5	118.9	H	HETEROLITHIC LAPILLI-TUFF	Unit contains fragments of andesite, AAP, monzodiorite, basalt, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, Sericite, chlorite and epidote dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~6% zeolite, calcite and hematite veins oriented 15-30 deg to the core axis and 70-85 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is 50 deg to the core axis and the lower contact is undulating roughly at 30 deg to the core axis. Rare 1mm quartz eyes present.
118.9	121.5	P	MONZODIORITE INTRUSIVE	Similar hematite stained monzodiorite encountered before the above heterolithic unit.
121.5	127.3	H	HETEROLITHIC AGLOMERATE	Unit contains fragments of IN, AAP, MNZD, BFP, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, fine grained feldspars, mafic minerals and quartz. Sericite, chlorite and epidote dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~8% zeolite, calcite and hematite veins oriented 20-40 deg to the core axis and 60-80 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact undulating between 20-50 deg to the core axis and the lower contact is undulating roughly at 30 deg to the core axis. Rare 1mm quartz eyes present. May correlate to hole 07-18 from ~170-230m and hole 07-07 from ~156-176m and hole 06-03 from ~190-222m.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-14

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340
		Elevation:	1831	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/5/2007

From (m)	To (m)	Group*	Rock Type	Comments
127.3	129.7	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Unit contains rare fragments. Matrix is composed phenocrysts of feldspars, hornblende, quartz and augite. Matrix is fine grained. Hematite, sericite and chlorite alteration dominate the matrix. ~7% zeolite and calcite veining oriented 0-25 deg to the core axis. Unit is magnetic. 1mm quartz eyes present.
129.7	131.5	H	HETEROLITHIC LAPILLI-TUFF	Unit contains fragments of IN, AAP, MNZD, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, fine grained feldspars, mafic minerals and quartz. Sericite, chlorite and hematite dominate the matrix. Patchy epidote associated with fragments. ~3% zeolite, calcite and hematite veins oriented 25-55 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments.Rare 1mm quartz eyes present.
131.5	297.0	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a moderate to strong hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals and veining. ~5% calcite, zeolite and hematite veins present oriented 35-55 deg to the core axis. Minor hematite halo around some veins. Unit is magnetic. Trace of pyrite present within the matrix.

**Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla*

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-15

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	447 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	12.0		CASING	24m of casing with 12m lost core and 12m overburden.
12.0	24.0	Q	OVERBURDEN	Unit is composed of broken core material of the underlying dacite.
24.0	108.0	H	DACITE LAPILLI-TUFF	Unit is intermediate in composition and contains ~5% fragments. Fragments include andesite, BFP and tuffaceous material. Unit is strongly fractured and stockworked throughout. Strong stockworking and fracturing have cause the unit to be clay altered. Hematite stain is present within some feldspar grains and within some veins and stringers. ~15% calcite, zeolite and quartz veins and stringers present randomly oriented. ~10% randomly oriented fractures present. Unit contains magnetite. Rare quartz eyes present. Trace of disseminated pyrite present. Rare quartz eyes present.
108.0	202.0	H	HETEROLITHIC VOLCANIC BRECCIA	Unit has become more brecciated with a fragmental look. Unit is still intermediate in composition or dacitic. More fragments of andesite, AAP, basalt and rare BFP and granitoid material are more prevalant. Units alteration is patchy dependant on the rock composition and structures. Patchy clay alteration still present around some veins and stringers. Chloritic patches mainly associated with mafic fragments. Siliceous patches present. Spotty hematite staining of some feldspar grains. Hematite also present within some veins and stringers. Spotty epidote present within some veins and fragments. Stockworking still present with ~15% zeolite, quartz and rare calcite veins and stringers randomly oriented. ~10% randomly oriented fractures present. Spotty magnetite present. Minor pyrite is present within the unit and fragments. Contact with the upper unit is gradational.
202.0	238.1	H	HETEROLITHIC FAULT ZONE	Fault zone marked by abundance of clay alteration and milled up fragmental look of the rock. Several discrete little faults occur the entire fault zone ranging in orientation from 10-35 deg to the core angle. Strong calcite and zeolite stockworking throughout. Upper portion of the fault zone is comprised of milled fragments of the propylitic overlying unit and towards the end of the unit there is minor sections including the unit below.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-15

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	447 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
238.1	447.0	H	HETEROLITHIC LAPILLI-TUFF	Unit contains ~75% feldspar crystals, ~15% mafic minerals and ~10% quartz. Feldpsars are mostly plagioclase with 70% hematite stained. Mafic minerals include biotite and hornblende. Spotty chlorite altertion present of some mafic minerals and feldspars. Clay alteration throughout. Weak sericite alteration of some feldspar grains. 2-4% basalt/andesite fragments present that are magnetic with some having porphyritic texture (AAP) and pyrite mineralization. Magnetite present within the matrix. ~1% ,1mm sized quartz eyes present. 2-4% zeolite and calcite veining randomly oriented. Hematite is present within the veins. Minor disseminated pyrite. Similar to the unit encountered in 07-11.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	1.0		CASING	
1.0	19.3	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~75% feldspars, ~15% mafic and ~10% quartz. Feldspar minerals are mostly plagioclase. Mafic minerals include augite, hornblende and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende and augite. Unit is hematite stained with minor sericite alteration of the feldspars. Minor chlorite alteration of the mafic minerals. Spotty epidote associated mafic minerals. Minor lost core at the beginning of the hole. ~2% calcite and zeolite veining oriented 10-30 deg to the core axis. Unit is magnetic and contains a trace of pyrite disseminated within the matrix.
19.3	63.4	P	MONZODIORITE DYKE	Unit contains ~80% feldspars, ~15% mafic and ~5% quartz. Feldspar minerals are mostly plagioclase. Mafic minerals include augite, hornblende and biotite. Unit contains phenocrysts of plagioclase and hornblende. Unit is hematite stained with minor sericite alteration of the feldspars. Minor chlorite alteration of the mafic minerals. Spotty epidote associated mafic minerals. Minor lost core at the beginning of the hole. ~2% calcite and zeolite veining oriented 30-40 deg to the core axis. Unit is magnetic and contains a trace of pyrite disseminated within the matrix. Upper contact is 30 deg to the core axis and the lower contact is 35 deg to the core axis.
63.4	70.2	H	HETEROLITHIC LAPILLI-TUFF	Unit contains ~35% ash material and ~60% fragements of AND, intrusive and BFP. Fragments are subangular to subrounded and 0.3cm to 7cm. Matrix is mostly made up of ground up fragments and feldspar, mafic minerals and quartz. Chlorite and sericite altertion dominate within the matrix. Patchy epidote is present within the matrix and fragments. Unable to spot any quartz eyes. ~5% calcite and zeolite veining randomly oriented. Unit is magnetic and pyrite is present within the matrix and fragments. Contact with the quartz monzodiorite above is gradational and brecciated.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
70.2	74.0	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition. Sections contain 2-4% augite phenocrysts 1-3mm in size with some altered to chlorite. Chlorite and sericite dominate within the matrix with patchy epidote alteration. ~5% calcite and zeolite veining oriented 40-70 deg to the core axis. Spotty epidote and hematite are within some veins. Unit is magnetic. Minor pyrite is disseminated within the matrix.
74.0	86.1	T	ANDESITE FLOW	
86.1	87.1	T	FELDSPAR PORPHYRY FLOW	Unit contains 7-12% feldspar (albite?) phenocrysts 0.5-1.3cm in size. Alteration has obliterated most of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration. ~2% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper and lower contacts are 70 deg to the core axis.
87.1	91.9	T	ANDESITE VOLCANIC BRECCIA	Similar propylitic altered andesite encountered before the FP unit.
91.9	95.4	B	FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar (albite?) phenocrysts 0.2-1.cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration. Patchy epidote is present within the matrix and veins. ~4% zeolite and calcite veining oriented 20-50 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper contact is 40 deg to the core axis and the lower contact 50 deg to the core axis.
95.4	100.6	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contains 5-8% augite phenocrysts, 1-3mm in size with some altered to chlorite or epidote. Matrix is intermediate in composition with chlorite, sericite and epidote alteration within it. ~2% calcite and zeolite veins oriented 40-60 deg to the core axis. Unit is magnetic. Pyrite is present within some veins and disseminated within the matrix. Unit is brecciated.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
100.6	118.1	T	FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar (albite?) phenocrysts 0.3-1cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. ~2% zeolite and calcite veining oriented 10-30 deg to the core axis and 50-65 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper contact is brecciated and gradational and the lower contact is 55 deg to the core axis. Spotty hematite halo around some veins
118.1	119.4	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 5-8% augite phenocrysts, 1-3mm in size with some altered to chlorite or epidote. Matrix is intermediate in composition with chlorite, sericite and epidote alteration within it. ~4% calcite and zeolite veins oriented 20-50 deg to the core axis. Pyrite is present within some veins and disseminated within the matrix.
119.4	143.0	T	FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar (albite?) phenocrysts 3-8mm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. ~4% zeolite and calcite veining oriented 45-65 deg to the core axis and some near parallel to the core axis. Minor pyrite is present within some veins and the matrix. Spotty hematite halo around some veins
143.0	152.2	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition where the alteration has obliterated some of the characteristics of the rock. Spotty sections contain augite phenocrysts with some altered to chlorite. Chlorite, sericite and epidote alteration are present within the matrix. Spotty sections QSP alteration is dominant. ~3% calcite, zeolite and minor quartz veins oriented 30-70 deg to the core axis. Unit is brecciated in patches. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins. Contact with the above unit is brecciated and gradational.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
152.2	152.7	T	FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar (albite?) phenocrysts 0.3-1cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. Minor pyrite is present within some veins and the matrix.
152.7	169.0	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Spotty sections contain augite phenocrysts with some altered to chlorite. Sericite, chlorite, quartz and epidote alteration are present within the matrix. Unit varies between phyllic and propylitic alteration. ~4% zeolite, calcite and minor quartz veins oriented 20-40 deg to the core axis with rare veins near parallel and vertical to the core axis. Unit is brecciated in patches. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.
169.0	173.2	P	HETEROLITHIC INTRUSION BRECCIA	Unit is composed of sovereign fragments and minor andesite fragments. The matrix is mostly made up of ground up and blasted parts of sovereign and andesite material. Some sovereign fragments are hematite stained while most of the andesite fragments are chlorite altered. Matrix is altered to sericite and chlorite. ~3% calcite and zeolite veins oriented 25-40 deg to the core axis. Matrix and fragments are magnetic. Trace of pyrite within some fragments and matrix. Minor andesite breccia zone within the first interval. Upper contact is 50 deg to the core axis and the lower contact is 45 deg to the core axis.
173.2	174.2	T	ANDESITE VOLCANIC BRECCIA	Small andesite unit that is brecciated with subrounded fragments. Matrix is made up of blasted parts of the andesite. Alteration has obliterated most of characteristics of the rock. Strong QSP alteration present.
174.2	176.4	T	HETEROLITHIC INTRUSION BRECCIA	Similar to the IBX layer encountered above.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
176.4	222.1	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition and alteration has obliterated most of the characteristics of the rock. QSP alteration dominates the unit. The unit is brecciated and becomes more fragmental down the hole. ~3% quartz, zeolite and calcite veining oriented 20-50 deg to the core axis. Local quartz flooding present. Pyrite is disseminated within the matrix. Spotty epidote present.
222.1	224.4	T	ANDESITIC AUGITE PORPHYRY FAULT ZONE	Unit is made up of broken core of AAP sections. Gougy clay sections between broken core. Minor core loss. AAP section contains 8-10% augite phenocrysts 2-4mm in size with some altered to chlorite. Intermediate matrix is mostly altered to chlorite with epdiote patches. Pyrite and chalcopyrite are disseminated within the matrix. Unit is magnetic. Rough fault orientation is 60-70 deg to the core axis.
224.4	237.3	H	HETEROLITHIC AGLOMERATE	Possible basal Hazelton or top of the Takla. Unit contains fragments of AND, AAP and rare BFP. Some AND and AAP fragments are phyllic and potassic altered. Fragments range from 0.3-1.2cm and are subrounded to subangular. Matrix is made up of blasted fragments and feldspar, mafic minerals. No quartz eyes seen. Epidote, chlorite and sericite alteration dominate the matrix. ~3% calcite and zeolite veins oriented 10-40 deg to the core axis. Pyrite is present within the matrix and fragments.
237.3	277.0	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Unit is brecciated with subangular to angular clasts. Matrix in between the clasts are filled with ground up host rock or vein material. Epidote, chlorite and minor sericite alteration dominate the rock. Unit contains sections with augite phenocrysts 1-3mm in size with most altered to chlorite. ~4% calcite, zeolite and minor quartz veining oriented 30-60 deg to the core axis. Minor amount of veins are randomly oriented. Unit is magnetic. Pyrite is present within the matrix and minorly within veins.
277.0	288.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Augite phenorysts have increased to 10-15% at 1-3mm in size.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
288.0	290.0	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of intrusive material (Sovereign?) and AND and AAP. The matrix is composed of blasted and ground up portions of the wall rock and intrusive material. Chlorite, sericite and epidote alteration dominate the matrix. ~2% zeolite and calcite veining oriented 40-70 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and within fragments.
290.0	328.0	T	ANDESITE VOLCANIC BRECCIA	Unit contains fragments of andesite and rare AAP with some phyllic and potassic altered. Matrix is made of ground up portions of the fragments. Chlorite, sericite and epidote alteration dominate the matrix. ~2% calcite and zeolite veining oriented 30-50 deg to the core axis. Some fragments are magnetic. Pyrite is disseminated within the matrix and present within some fragments. Trace of chalcopyrite present.
328.0	338.0	T	ANDESITE FLOW	
338.0	340.0	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar phenocrysts 0.4-1.1cm in size with most altered to sericite. Alteration has obliterated most of the characteristics of the rock. Sericite and chlorite alteration with patchy quartz replacement. ~3% zeolite, quartz and calcite veining oriented 20-40 deg to the core axis. Pyrite is disseminated within the matrix and present within the veins. Minor chalcopyrite present within a quartz vein and matrix.
340.0	345.0	T	ANDESITE VOLCANIC BRECCIA	Back into the phyllic altered andesite breccia. Alteration has obliterated most of the characteristics of the rock. Unit is intermediate in compostion with sericite, chlorite and minor quartz alteration present. ~2% zeolite, calcite and quartz veining oriented 20-50 deg to the core axis. Pyrite is present within veins and disseminated within the matrix. Vuggy veins present.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-16

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310
		Elevation:	1831	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/8/2007

From (m)	To (m)	Group*	Rock Type	Comments
345.0	358.0	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 13-18% feldspar phenocrysts 0.3-1.2cm in size with most altered to sericite and chlorite. Alteration has obliterated some of the characteristics of the rock. Sericite and chlorite alteration with patchy quartz replacement. ~4% zeolite, quartz and calcite veining oriented 20-50 deg to the core axis. Pyrite is disseminated within the matrix and present within the veins. Trace of chalcopyrite within the matrix and veins. Unit is magnetic. Patchy epidote and hematite present.
358.0	365.0	T	BASALT FLOW	Alteration has obliterated some of the characteristics of the rock. Chlorite and sericite alteration dominate within the matrix. Unit contains 3-5% feldspar phenocrysts 0.5-1cm in size and some altered to sericite and chlorite. Chlorite and sericite dominate the matrix. Patchy epidote present within the matrix. ~2% zeolite and calcite veining oriented 35-55 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Trace of chalcopyrite within the matrix.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-17

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-65

Geologist: Ron Konst

Drilled: 8/15/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	25.5		CASING	Overburden - Rock and talus recovered from 11 - 25.5m
25.5	149.0	H	DACITE LAPILLI-TUFF	Unit is similar to that cored east of the Saunders Fault. Crystals are dominantly felspar (2 - 5mm laths) at 25% with 2-5% quartz phenos - remainder fine ash? Accidentals lithics up to 2 cms present as fine grained dark grey sub-rounded clasts. There is abundant fracturing infilled by zeolite and minor calcite (~10% over entire section). Initial sampling is 20cms only back up hole from interval base while in Hazelton.
149.0	151.0	H	DACITE TUFF	Two 10cm thick magnetite bearing tuffaceous units at 150.2m and 150.7m. Sample ws completely sawn from 149 to 152m. 20cm sampling resumes below this interval.
151.0	152.7	H	DACITE LAPILLI-TUFF	
152.7	153.0	H	DACITE TUFF	Thinly (mm) laminated weakly magnetic ash tuff, with disrupted base. Possible interflow marker. Sawn sample over specified interval.
153.0	189.0	H	DACITE LAPILLI-TUFF	Lapilli to 5cm sized monomict angular clasts.
189.0	273.2	H	HETEROLITHIC VOLCANIC BRECCIA	Grey-brown heterolithic dacitic volcanic breccia. 10-20% 1-3 mm plagioclase crystals, 1-3% 0.5-2 mm quartz crystals in a fine ash(?) matrix. Breccia fragments are 5-25 mm subangular to subrounded fragments of host tuff, less common andesite, rare felsic clasts. Pervasive weak propylitic (epidote, sericite, minor chlorite) alteration. 5-10% 0.5-5 mm zeolite +/- calcite veins at 30-80 ° to core axis. <1% 0.5 mm pyrite flecks.
273.2	285.5	T	ANDESITE FLOW	Pistacio-green andesite flow. 3-10% (mode ~6%) 1-3 mm augite phenocrysts. Weak fabric. Strong to intense propylitic (epidote) alteration, minor silicious overprint. 5% 1-5 mm carbonate +/- anhydrite veins at 30-60 ° to core axis. Minor hematite patches and hematite in some veins. 0.1-1% very fine grained disseminated pyrite. Upper contact is faulted at ~50-60 ° to core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-17

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-65

Geologist: Ron Konst

Drilled: 8/15/2007

From (m)	To (m)	Group*	Rock Type	Comments
285.5	327.0	T	BLADED FELDSPAR PORPHYRY FLOW	Green bladed feldspar porphyry flow. 15-40% 2-6 mm long blades of plagioclase. Sporadically amydular (quartz and anhydrite filled). Strong to intense propylitic (epidote, chlorite) alteration, epidote and chlorite colour the matrix, epidote replaces 90%+ of plagioclase crystals. Unit has variable texture, some sections are autobrecciated and others are massive flows. 5% 1-8 mm calcite (+/- quartz, anhydrite) veins at 10-20 and 50-80 ° to core axis. 0.1-1% disseminated fine grained pyrite. Upper contact is indistinct at ~75 ° to core axis.
327.0	330.0	T	BLADED FELDSPAR PORPHYRY FAULT ZONE	Fault zone with strong phyllic (sericite) alteration. Core remains reasonably competant: healed fault? Principal fault seems to be at approximately 327.4 m and ~80 ° to core axis.
330.0	384.0	T	ANDESITE FLOW BRECCIA	Green andesite flow breccia. 0-5% 1-2 mm mafic crystals (augite?) and 1-10% 1-3 mm euhedral to slightly bladed plagioclase crystals. Contains frequent 1-30 cm subrounded fragments of a bladed feldspr porphyry. Core is strongly to intensely propyltic (epidote, chlorite, minor calcite) altered. 5% 1-3 mm zeolite-quartz +/- carbonte veins at 30-60 ° to core axis. 0.5-2% disseminated fine grained pyrite. Upper contact is indistinct in fault zone.
384.0	390.0	T	BLADED FELDSPAR PORPHYRY FLOW BRECCIA	Feldspar-phyric fragments dominate core.
390.0	400.0	T	ANDESITE FLOW BRECCIA	very weak phyllic (quartz) overprint.
400.0	555.0	T	ANDESITE FLOW	Green-grey volcanic flow, likely an andesite. 1-15% phenocrysts, mostly epidote-replaced plagioclase and chlorite after augite(?). Weak to moderate phyllic (sericite, +/- quartz, pyrite) alteration overprinting strong propylitic (epidote, chlorite, +/- calcite) alteration. Core has mottled texture from storied alteration history. 5-15% (locally stockworked) 1-10 mm calcite (+/- quartz, sericite, zeolite) veins at 5-45 ° to core axis. 2-4% 0.5-1 mm disseminated pyrite. This unit is likely the continuation of the unit above with phyllic overprint.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-17

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-65

Geologist: Ron Konst

Drilled: 8/15/2007

From (m)	To (m)	Group*	Rock Type	Comments
555.0	638.1	B	MONZONITE INTRUSIVE	Grey monzonite intrusive. 1-5% plagioclase phenocyrsts, 0-8% mafic phenocrysts, 0-1% quartz grains. Massive to mottled texture; moderate to strong phyllic (quartz, sericite, pyrite) alteration. 1-3% 1-10 mm quartz (+/- fluorite, pyrite, trace chalcopyrite) veins at 20-50 ° to core axis. 3-6% sulfides: pyrite in quartz veins and as disseminated grains, trace to minor chalcopyrite in quartz veins. Upper contact is indistinct due to strong alteration, but looks to be close to 90 ° to core axis.
638.1	642.0	P	QUARTZ MONZODIORITE INTRUSIVE	Grey with red stain feldspar-phyric quartz monzodiorite. 5-20% 1-3 mm euhdedral feldspar (95%+ plagioclase) crystals, 3-6% 1-4 mm quartz crystals, 5% 2-5 mm mafic crystals. Weak to moderate hematite alteration: red staining of feldspars and matrix. 5-8% 0.5-5 mm calcite-zeolite +/- clorite veins at 20-70 ° to core axis. Zero to trace sulfides. Upper contact is indistinct at approximately 50 ° to core axis?
642.0	663.1	P	QUARTZ MONZONITE INTRUSIVE	
663.1	665.0	B	MONZONITE INTRUSIVE	Grey monzonite intrusive. Phenocrysts are 5-15% plagioclase, 1-5% quartz and 3-6% mafic grains. Weak to moderate phyllic (quartz, sericite, minor pyrite) alteration. 1% quartz-fluorite +/- chalcopyrite veins. 3-8% 1-3 mm quartz (+/- anhydrite, calcite, zeolite) at 30-80 ° to core axis. 1-3% pyrite, zero to minor chalcopyrite. Upper contact is fragmentary over 15 cm.
665.0	678.3	B	QUARTZ MONZONITE INTRUSIVE	
678.3	688.8	T	ANDESITE FLOW	Grey-green andesite flow. Contains numerous 0.5-10 cm unmineralized QFP fragments. Aphanitic matrix. Phyllic (quartz, chlorite, sericite) alteration. 5-10% quartz-calcite veins at 20-70 ° to core axis, 1-2% quartz veins at 30-50 ° to core axis. 1-4% pyrite, trace to minor chalcopyrite.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-17

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180
		Elevation:	1650	**Dip:**	-65

Geologist: Ron Konst

Drilled: 8/15/2007

From (m)	To (m)	Group*	Rock Type	Comments
688.8	723.0	B	QUARTZ MONZODIORITE INTRUSIVE	Grey monzonite intrusive. Phenocrysts are 5-15% plagioclase, 1-5% quartz and 3-6% mafic grains. Weak to moderate phyllic (quartz, sericite, minor pyrite) alteration. 1% quartz-fluorite +/- chalcopyrite veins. 3-8% 1-3 mm quartz (+/- anhydrite, calcite, zeolite) at 45-80 ° to core axis. 1-3% pyrite, zero to minor chalcopyrite. Upper contact at 80 ° to core axis.

**Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla*

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-18

UTM Northing:	6326430	**Northing:**	16056	**Total Depth:**	732.4 **m**
UTM Easting:	638110	**Easting:**	12164	**Azimuth:**	310
		Elevation:	1830	**Dip:**	-60

Geologist: Ron Konst

Drilled: 8/14/2007

From (m)	To (m)	Group*	Rock Type	Comments
165.3	217.0	H	DACITE TUFF	Massive mostly medium grained felspar and very fine grained magnetite in a green-grey groundmass. Minor epidote replacement and pervasive calcite-zeolite stringers and patchy hematite staining. Base of unit sheared at 2º to core axis. May correlate with hole 7 from ~156-176m and hole from ~100-130m and hole 06-03 from 190-222m.
186.0	199.0	H	HETEROLITHIC FAULT ZONE	Sub-angular to rounded fragments of Andesite, Quartz, and basalt in a fine ground mass. Chloritized with minor disseminated pyrite.
202.6	233.9	P	QUARTZ MONZODIORITE DYKE	RELOGGED. Unit contains ~70% felspars (mostly plagioclase), ~20% mafics and ~10% quartz. 3-4mm plagioclase phenocrysts present. Most of the feldspars are hematite stained. Siliceous overprint present. ~4% zeolite and calcite veining nd stringers oriented 40-70 deg to the core axis. Unit is magnetic.
206.2	723.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Floating boulder of Takla in Hazleton flow. Hematite and epidote present within some quartz veins.
233.9	551.5	T	ANDESITE VOLCANIC BRECCIA	Contact is structural. Takla andesite is blocky fine grained fault breccia. Clacite zeolite veining stockworking. Splashy pale pyrite.
242.0	710.2	T	ANDESITE FLOW	Fine grained massive andesite with rare larger augite phenocrysts. Sourse of fault breccia above. Vuggy calcite veins
268.0	528.0	T	ANDESITE FAULT ZONE	High clay content around fault zone.
477.2	477.5	P	FELDSPAR PORPHYRY DYKE	
484.1	487.4	T	CROWDED FELDSPAR PORPHYRY FLOW	Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.
551.5	732.4	T	BLADED FELDSPAR PORPHYRY FLOW	

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-18

UTM Northing:	6326430	**Northing:**	16056	**Total Depth:**	732.4 **m**
UTM Easting:	638110	**Easting:**	12164	**Azimuth:**	310
		Elevation:	1830	**Dip:**	-60

Geologist: Ron Konst

Drilled: 8/14/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	2.7		CASING	
2.7	12.1		OVERBURDEN	
12.1	51.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contains 7-12% augite phenocrysts 1-3mm in size. Some of the augite phenocrysts are altered to chlorite. Patchy brecciated sections. Matrix is intermediate in composition. Chlorite, sericite and epidote alteration dominate the matrix. Spotty fragments have biotite alteration. 2-4% calcite, zeolite and quartz veins oriented 20-30 deg to the core axis and 60-80 deg to the core axis. Magnetite present within the veins and matrix. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present. Spotty epidote present.
51.0	57.0	T	ANDESITE VOLCANIC BRECCIA	Massive with zones of vbx. Very fine grained felspar crystal in a dark green aphanitic ground mass. Propylitic overprint as epidote psuedomorphs of feldspars. Pyrite in rare quartz veins.
57.0	59.0	T	HETEROLITHIC SEDIMENTS	RELOGGED. Lapilli fragments of basalt and qmz within larger fragments in a grey heterolithic tuffaceus matrix. Possible epiclastic layer inbetween the deposition of the upper andesite and the lower AAP. Debris flow characteristics with rounded fragments and poorly graded.
59.0	67.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	RELOGGED
67.0	73.0	T	HETEROLITHIC FAULT ZONE	Mostly AAP fragments. Rare anglular quartz-pyrite vein fragments in matriX of ground fragments and compitent rock-flour. Sections of hazelton: Lapilli fragments of basalt, qmz, felsite, AAP, and AND fragments to 7 cm in a grey heterolithic tuffaceus matrix. Pervasive calcite-zeolite stringers.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-18

UTM Northing:	6326430	**Northing:**	16056	**Total Depth:**	732.4 **m**
UTM Easting:	638110	**Easting:**	12164	**Azimuth:**	310
		Elevation:	1830	**Dip:**	-60

Geologist: Ron Konst

Drilled: 8/14/2007

From (m)	To (m)	Group*	Rock Type	Comments
73.0	87.0	H	DACITE TUFF	Rare angular lapilli basalt fragments in a massive crystal tuff matrix of medium grained plagioclase in a dark grey-green ground-mass. Calcite-zeolite stringers throughout. Minor propylitic alteration as small amounts of disseminated pyrite and patchy epidote and chlorite alteration.
87.0	90.0	H	DACITE FAULT ZONE	Sheared at 15º to core axis. Hematitic slickensides striated at 90º to core axis.
90.0	118.0	H	DACITE TUFF	Rare angular lapilli basalt fragments in a massive crystal tuff matrix of medium grained plagioclase in a dark grey-green quartz eyes bearing ground-mass. Calcite-zeolite stringers throughout. Minor propylitic alteration as small amounts of patchy chlorite alteration. Local patches of hematite staining.
118.0	123.6	H	DACITE FAULT ZONE	Rare anglular quartz vein and basalt fragments in a pyritic matrix of ground fragments and compitent rock-flour.
123.6	127.2	H	BLADED FELDSPAR PORPHYRY FLOW	RELOGGED. Large BFP block from 123.6-127.2m. 20% megacrystic epidote pseudomorphs after plagioclase in a chloritized groundmass. Zones of vbx. Pyrite veins.
127.2	133.8	H	HETEROLITHIC FAULT ZONE	Felsic and basaltic fragments in a crystallithic groundmass. Local hematite staining and pervasive zeolite-calcite stringers. Hematite fracture coatings.
133.8	143.0	H	HETEROLITHIC LAPILLISTONE	Weakly aligned angular fragments of basalt, AAP, AND, and felsic clasts in a green crystallithic groundmass. Pyritic andesite clast are common.
143.0	145.8	H	HETEROLITHIC FAULT ZONE	Felsic and basaltic fragments in a crystallithic groundmass.
145.8	158.0	T	BLADED FELDSPAR PORPHYRY FLOW	20% megacrystic epidote pseudomorphs after plagioclase in a chloritized groundmass. Zones of vbx.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-18

UTM Northing:	6326430	**Northing:**	16056	**Total Depth:**	732.4 **m**
UTM Easting:	638110	**Easting:**	12164	**Azimuth:**	310
		Elevation:	1830	**Dip:**	-60

Geologist: Ron Konst

Drilled: 8/14/2007

From (m)	To (m)	Group*	Rock Type	Comments
158.0	160.0	T	BLADED FELDSPAR PORPHYRY FAULT ZONE	Gouge and sand at 160m shears and quartz veins at 20º to core axis.
160.0	165.3	T	ANDESITE FLOW	Weakly porphyritic with chloritized and hematized fine grained phenocrysts. Irregular quartz-calcite veining.Lower contact sheared at 40º to core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-19

UTM Northing:	6326610	**Northing:**	16237	**Total Depth:**	318 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1826	**Dip:**	-90

Geologist: Bryn Laidlaw

Drilled: 8/17/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	3.0		CASING	
3.0	15.0	P	OVERBURDEN	Broken monzodiorite material (Sovereign). 70% lost material.
15.0	61.2	P	MONZODIORITE INTRUSIVE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Mafics include hornblende and augite. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals increases down the hole. Spotty epidote alteration of some mafic minerals. ~2-3% calcite and zeolite veining oriented 20-60 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins.
61.2	83.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit is composed of 7-12% augite phenocrysts 1-4mm in size with some altered to chlorite. Matrix is intermediate in composition and altered to chlorite and minor sericite in places. Unit is brecciated in places. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor hematite within some veins. Spotty epidote within the matrix. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor granitoid fragments present.
83.0	90.5	T	ANDESITE FLOW	Minor chalcopyrite disseminated within the matrix. Augite phenocrysts have decreased. The unit is now just a chloritic altered andesite.
90.5	91.9	P	HETEROLITHIC INTRUSION BRECCIA	Unit is composed of granitoid (Sovereign) and minor andesite fragments. Fragments are subangular and range in size from 0.3-8cm. Matrix is composed of ash material and ground up fragmental material. 4-6% zeolite and calcite veining and fractures randomly oriented. Minor hematite staining of the granitoid fragments and veins. Matrix and fragments are magnetic. Upper and lower contacts are 70 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-19							
	UTM Northing:	6326610	**Northing:**	16237	**Total Depth:**	318 **m**	**Geologist:** Bryn Laidlaw
	UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180	
			Elevation:	1826	**Dip:**	-90	**Drilled:** 8/17/2007

From (m)	To (m)	Group*	Rock Type	Comments
91.9	97.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit is composed of 7-12% augite phenocrysts 1-4mm in size with some altered to chlorite. Matrix is intermediate in composition and altered to chlorite and minor sericite in places. Unit is brecciated in places. 3-5% calcite and zeolite veining oriented 35-65 deg to the core axis. Minor hematite within some veins. Spotty epidote within the matrix. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor granitoid fragments present.
97.0	125.0	H	HETEROLITHIC AGLOMERATE	Unit contains ~75% fragments and ~25% matrix. Fragments consist of andesite, basalt, granitoid and tuffaceous material. Fragments range in size from 0.7-6cm and are subangular to subrounded in shape. Matrix in intermediate in composition. Matrix and some fragments are altered to chlorite with minor sericite. Minor epidote alteration present within the matrix and as halos around some fragments and veins. Minor hematite staining of some fragments and present within some veins. 3-5% calcite and zeolite veining oriented 40-60 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is faulted at 20 deg to the core axis. Rare quartz eyes present. May correlate with hole 07-14, 07-18 (170-230m), 07-07 (156-176m), 06-03.
125.0	133.2	P	MONZODIORITE DYKE	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Mafics include hornblende and augite. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals. Spotty epidote alteration of some mafic minerals. ~2-3% calcite and zeolite veining oriented 20-50 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins. Upper and lower contacts are broken.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-19

UTM Northing:	6326610	**Northing:**	16237	**Total Depth:**	318 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1826	**Dip:**	-90

Geologist: Bryn Laidlaw

Drilled: 8/17/2007

From (m)	To (m)	Group*	Rock Type	Comments
133.2	146.4	H	HETEROLITHIC LAPILLI-TUFF	Unit contains ~65% fragments and ~35% matrix. Fragments consist of andesite, basalt, granitoid and tuffaceous material. Fragments range in size from 0.3-5cm and are subangular to subrounded in shape. Matrix in intermediate in composition. Matrix and some fragments are altered to chlorite with minor sericite. Minor hematite staining of some fragments and present within some veins. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Rare quartz eyes present. Trace of chalcopyrite within an andesite fragment.
146.4	208.3	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Mafics include hornblende and augite. Phenocrysts of hornblende and augite present. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals. Spotty epidote alteration of some mafic minerals and as halos around some veins. ~3-4% calcite and zeolite veining oriented 30-70 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins. Upper contact is 30 deg to the core axis.
208.3	210.8	P	HETEROLITHIC INTRUSION BRECCIA	Unit is composed of a dark ash matrix with fragments of Sovereign. Sovereign fragments are hematite stained and are 0.5-4cm in size and are subangular to subrounded in shape. Matrix is altered to chlorite. Patchy epidote within some fragments. Unit is fractured. 5-7% zeolite and calcite veining randomly oriented. Matrix and fragments are magnetic. Shear zone towards the end of the unit separates the IBX unit from a possible AAP unit. Strong amount of pyrite on the questionable AAP unit.
210.8	244.8	P	QUARTZ MONZODIORITE INTRUSIVE	Back into similar Quartz Monzodiorite encountered above.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-19

UTM Northing:	6326610	**Northing:**	16237	**Total Depth:**	318 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1826	**Dip:**	-90

Geologist: Bryn Laidlaw

Drilled: 8/17/2007

From (m)	To (m)	Group*	Rock Type	Comments
244.8	275.0	P	QUARTZ MONZODIORITE INTRUSION BRECCIA	Unit contains fragments of Quartz Monzodiorite and rare mafic rock fragments and remnant quartz vein material with magnetite within it. Fragments 0.3-6cm and are subangular to subrounded. Quartz monzodiorite fragments are hematite stained. Matrix is intermediate in composition and is also composed of ground up host rock. Minor chloritic sections as halos around some veins, shear and fault zones. Spotty chlorite and sericite alteration within the matrix. Patchy epidote alteration of mafic fragments and minerals. 2-3% calcite and zeolite veining oriented 30-60 deg to the core axis. Matrix and fragments are magnetic. Trace of pyrite is disseminated within the matrix and fragments. Most of the pyrite is associated with the chloritic sections. Upper contact is 45 deg to the core axis and the lower contact is 30 deg to the core axis.
275.0	318.0	P	QUARTZ MONZODIORITE INTRUSIVE	Back into the similar hematite stained quartz monzodiorite encoutered before the IBX unit. Trace of chalcopyrite within a quartz vein.

**Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla*

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-21

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1825	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	9.0		CASING	
9.0	96.7	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey hetetrolithic crystal tuff. 0-15% 1-3 mm euhedral plagioclse lapilli. 5-50% 0.5-20 cm subrounded lithic fragments: QFP, AAP and BFP most common. Weak propylitic (chlorite, epidote, patchy hematite) alteration. 1-3% 0.5-4 mm quartz-calcite (+/- zeolite, hematite) veins at 45-80 ° to core axis. 0-2% disseminated pyrite.
96.7	107.8	T	ANDESITIC AUGITE PORPHYRY FLOW	Green-dark grey andesitic augite porphyry flow. Phenocrysts are 5-15% 1-4 mm augite and 5-15% 2-5 mm epidote (after plagioclase?). Moderate to strong propylitic (epidote, chlorite) alteration. 2-10% (mode: 5%) 0.1-10 cm calcite (associated minor epidote) veins at 20-60 ° to core axis. Calcite veining can be locally (<20 cm) dense giving core a brecciated texture. Zero to trace pyrite. Upper contact is undulatory, approximately 80 ° to core axis.
107.8	110.0	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP. Moderate to strong potassic (chlorite, sericite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. One 15 x 2 mm magnetite stringer. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Upper contact is undulatory at approximately 70 ° to core axis.
110.0	113.6	P	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafic: horneblende, augite. Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is faulted at approximately 40 ° to core axis.
113.6	125.5	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 70 ° to core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-21

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1825	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
125.5	127.2	P	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is across a vein at approximately 50 ° to core axis.
127.2	128.7	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 30 ° to core axis.
128.7	130.0	P	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is approximately 70 ° to core axis.
130.0	136.5	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 70 ° to core axis.
136.5	137.9	P	QUARTZ FELDSPAR PORPHYRY INTRUSIVE	Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 5-10 cm quartz vein from 137.6 to 137.8 metres 1% pyrite, zero to trace chalcopyrite. Trace molybdenite in quartz vein. Upper contact is undulatory at approximately 70 ° to core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-21

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1825	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
137.9	142.5	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 55 ° to core axis.
142.5	145.5	P	QUARTZ FELDSPAR PORPHYRY INTRUSION BRECCIA	Grey (becoming salmon-light pink towards end of unit) intrusive breccia. Mainly QFP fragments 1-10 cm, but includes a few Takla volcanic fragments as well. Potassic (clorite, sericite) altered, with a weak to moderate propylitic (epidote, hematite) overprint over second half of unit. 5-10% calcite-zeolite veins at 30-60 ° to core axis, becoming more zeolite rich with minor epidote downhole. 1-2% pyrite with trace chalcopyrite. Upper contact is sharp and undulatory at approximately 40 ° to core axis.
145.5	146.6	H	HETEROLITHIC FAULT ZONE	Whitish grey heterolithic tuff in a fault zone. Intense potassic (chlorite, sericite, magnetite blebs) alteration masks primary features, but QFP, AND, AAP fragments are all discernable. Bounding faults are both approximately 20-30 ° to core axis. ~0.5% pyrite, mostly associated with 1-2 magnetite blebs.
146.6	148.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Dark green andesitic augite porphyry flow breccia. Phenocrysts: 5-10% 1-5 mm euhedral augite, 3-5% 1-4 mm olivine (not correct colour for epidote?). Subangular autobrecciated fragments up to 15 cm. Strong phyllic (chlorite, sericite) alteration. Trace to minor pyrite. Upper contact is faulted at ~25 ° to core axis.
148.0	162.6	H	HETEROLITHIC LAPILLISTONE	Grey-green heterolithic tuff. 5-25% 0.5-5 cm subrounded fragments of AND and QFP, less common BFP. Moderate to strong potassic (chlorite, biotite, sericite) alteration. Brief 1 m sections with phyllic (sericite) overprint. Three intersections (0.3- 1.3 metres) of phyllic altered QFP intrusive. 5% 1-5 mm calcite-anhydrite veins at 10-55 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is lost in rubble, maybe 70-90 ° to core axis? 30 cm interval of propylitic intrusive breccia.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-21

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1825	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
162.6	169.0	T	ANDESITE VOLCANIC BRECCIA	Dark green-grey andesitic volcanic breccia. 1-20 cm subangular andesite fragments. Locally heterolithic: granitoid clasts suggest IBX intercepts. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite +/- anhydrite veins at 10-50 ° to core axis. 2-5% disseminated pyrite, 0-0.5% chalcopyrite.
169.0	173.0	H	HETEROLITHIC CRYSTAL-LITHIC TUFF	grey-light pink heterolithic crystal tuff. 10-25% 1-5 mm feldspar lapilli. 10-25% 1-15 cm lithic fragments: autobreccia, BFP, AND. Strong phyllic (sericite, pyrite, quartz) alteration. 3-5% calcite-zeolite veins at 30-60 ° to core axis. 1-3% pyrite, 0-0.5% chalcopyrite.
173.0	187.2	T	ANDESITE VOLCANIC BRECCIA	Dark green-grey andesitic volcanic breccia. 1-20 cm subangular andesite fragments. Locally heterolithic: granitoid clasts suggest IBX intercepts. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite +/- anhydrite veins at 10-50 ° to core axis. 2-5% disseminated pyrite, 0-0.5% chalcopyrite.
187.2	193.6	P	QUARTZ MONZODIORITE INTRUSION BRECCIA	pink-grey quartz monzodiorite intrusive breccia. Autobrecciated clasts up to 10 cm. Quartz and plagioclase phenocrysts. Moderate potassic (hematite, chlorite) alteration stains feldspars and matrix and gives core pink hue. Calcite +/- zeolite veining at 20-60 ° to core axis. Upper contact is faulted at 75 ° to core axis.
193.6	255.5	T	ANDESITE VOLCANIC BRECCIA	Dark green-grey andesitic volcanic breccia. 1-5% euhedral augite phenocrysts. 1-20 cm subangular andesite fragments. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite (+/- chlorite, magnetite, rare sulfides) veins at 10-50 ° to core axis. 1-5% magnetite, associated with sulfides. 2-5% disseminated pyrite, 0-0.5% chalcopyrite. Upper contact is faulted at 45 ° to core axis.
255.5	261.0	T	ANDESITE INTRUSION BRECCIA	New appearence of post mineral propylitic QMZD fragments, up to 25% of core.
261.0	263.0	T	ANDESITE VOLCANIC BRECCIA	only 1-2% QMZD fragments in this interval
263.0	272.6	T	ANDESITE INTRUSION BRECCIA	QMZD fragments return, 10-25%.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-21

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180
		Elevation:	1825	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/24/2007

From (m)	To (m)	Group*	Rock Type	Comments
272.6	288.2	P	QUARTZ MONZODIORITE INTRUSION BRECCIA	Pink-grey quartz monzodiorite intrusive breccia. Subangular autobrecciated fragments to 10 cm. Phenocrysts: 10-25% 1-4 mm euhedral plagioclase, 1-5% 1-5 mm quartz, 5% 1-6 mm mafics: augite, hornblende, biotite. Patchy hematite staining overprinting weak to moderate propylitic (epidote) alteration. Fragments show more intense hematite staining than matrix. Rare andesite fragments. 1-3% 0.5-4 mm zeolite (+/- chlorite, calcite) veins at 20-70 ° to core axis. Trace pyrite.
288.2	291.4	P	LITHIC LAPILLI-TUFF	Post mineral ash flow. Very fine grained ash with 1-3 mm lapilli and 1-5 cm subangular QMZD fragments. Propylitic (epidote) alteration. 0.5 mm zeolite-calcite veins increase from zero to 5% over length of unit. No sulfides.
291.4	355.0	P	QUARTZ MONZODIORITE INTRUSIVE	Grey to pink quartz monzodiorite intrusion. Bwahaha. Phenocrysts are 10-25% 2-4 mm plagioclase, 2-5% 1-4 mm quartz and 2-4% mafics: augite, hornblende and biotite. Patchy propylitic (epidote) alteration and hematite staining. 2-3% zeolite +/- calcite veining at 30-70 ° to core axis. Zero to trace pyrite.
355.0	356.6	P	LITHIC CRYSTAL-LITHIC TUFF	Short post mineral crystal tuff interval. Sharp upper and gradational (brecciated) lower contacts. Plagioclase lapilli, aphanitic ash matrix.
356.6	370.2	P	QUARTZ MONZODIORITE INTRUSIVE	Sovereign continues.
370.2	371.1	P	LITHIC CRYSTAL-LITHIC TUFF	Short post mineral ash interval. Plagioclase lapilli in an aphanitic ash matrix. Veining is identical to surrounding Sovereign, zeolite-calcite. Gradational (brecciated) upper contact, sharp lower contact at 70 ° to core axis. No visible sulfide mineralization. Don't write home about it.
371.1	435.0	P	QUARTZ MONZODIORITE INTRUSIVE	Sovereign continues again, core is indistinuishable from earlier intrusive interals.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-22

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	342 **m**
UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80
		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.0		CASING	
6.0	47.5	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 8-13% augite phenocrysts 1-6mm in size. Some augite phenocrysts are altered to chlorite, sericite and carbonate. Matrix is intermediate in composition with a weak propylitic alteration to it. Chlorite alteration dominates the matrix with patchy carbonate, epidote and sericite sections. Spotty sections contain feldspar phenocrysts 3-4mm in size. 3-5% calcite and zeolite veining oriented 35-60 deg to the core axis. Patchy stockworked sections. Spotty hematite present within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor lost core at the beginning of the hole.
47.5	59.0	T	ANDESITE FLOW	Unit is intermediate in composition with weak propylitic alteration. Chlorite alteration dominates the matrix with patchy epidote and carbonate sections. Minor sericite sections present. Unit contains patches of feldspar phenocrysts 2-4mm in size. 1-2% augite phenocrysts present. Patchy sections contain amygdules filled with calcite and epidote. 2-4% calcite and zeolite veining oriented 30-50 deg to the core axis. Patchy stockworked sections. Patchy magnetic sections present. Spotty hematite present within some veins. Pyrite is disseminated within the matrix and present within some veins.
59.0	69.9	T	ANDESITE VOLCANIC BRECCIA	Sericite alteration has increased. Epidote and chlorite alteration still present. Epidote alteration appears to be an overprint of phyllic alteration.
69.9	71.6	T	ANDESITE FAULT ZONE	Fault zone marked by fault gouge and several minor faults within the host rock. Upper and lower contact is 40 deg to the core axis. Clay alteration dominates with patchy epidote sections of the host rock. 3-5% calcite veining randomly oriented.

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Northgate Minerals Corp.

KH-07-22

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UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80
		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
71.6	81.9	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 7-12% feldspar phenocrysts 3-8mm in size. Some of the feldspar phenocrysts are altered to sericite and epidote. Alteration has obliterated some of the characteristics of the rock. Epidote and sericite alteration dominate the matrix with patchy chlorite. Epidote alteration appears to be an overprint in places. Unit changes from patchy propyltic and phyllic altered rock. 2-4% zeolite, calcite and minor quartz veining oriented 30-50 deg to the core axis. Pyrite is disseminated within the matrix and present within some veins.
81.9	91.0	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Sericite and quartz dominate the alteration within the matrix. Patchy chlorite is present within the matrix. Spotty epidote and hematite overprint is present. 3-5% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor hematite present within some veins. Pyrite is disseminated within the matrix and present within some veins. Spotty sections contain feldspar phenocrysts 2-4mm in size.
91.0	101.0	T	ANDESITE VOLCANIC BRECCIA	
101.0	103.9	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.4-1.3cm. Post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 1-2% randomly oriented zeolite, calcite and hematite veining present. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper and lower contacts are 20 deg to the core axis.
103.9	126.4	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. 3-5% zeolite and calcite veining oriented 30-60 deg to the core axis. Minor magnetite and hematite are present within some veins. Pyrite is disseminated within the matrix and present within some veins.

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Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
126.4	129.3	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-4cm. Post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 2-4% zeolite, calcite and hematite veining oriented 20-40 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper contact is 30 deg to the core axis and the lower contact is 60 deg to the core axis.
129.3	133.0	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. 1-3% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor magnetite and hematite are present within some veins. Pyrite is disseminated within the matrix and present within some veins.
133.0	143.8	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-7cm. Some poost mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 2-3% zeolite, calcite and hematite veining oriented 50-60 deg to the core axis and 5-20 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper contact is 35 deg to the core axis and the lower contact is 60 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
143.8	147.0	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. Spotty biotite alteration is present. Beginning of the unit is brecciated. 2-4% zeolite, calcite and minor quartz veining oriented 30-50 deg to the core axis with some near parallel to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins.
147.0	187.0	T	ANDESITE FLOW	
187.0	191.0	T	ANDESITE VOLCANIC BRECCIA	Minor brecciation.
191.0	197.0	T	ANDESITE FLOW	
197.0	199.0	T	ANDESITE VOLCANIC BRECCIA	
199.0	203.0	T	ANDESITE FLOW	
203.0	219.6	T	ANDESITE VOLCANIC BRECCIA	Trace of molybdenum within a quartz vein.

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		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
219.6	241.4	B	MONZONITE DYKE	Alteration has obliterated most of the characteristics of the rock. Unit contains 70-80% feldspar, 15-25% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende and some augite. Phenocrysts are 2-5mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz and sericite. 3-5% calcite, zeolite, quartz and minor flourite and anhydrite veining oriented 35-60 deg to the core axis and 5-15 deg to the core axis. Minor K-spar halo around some veins. Spotty magnetite present within the matrix and veins. Pyrite is disseminated within the matrix and present within veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 45 deg to the core axis. Minor molybdenum present within some veins.
241.4	247.0	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, biotite, sericite and quartz dominate the alteration within the matrix. 2-4% zeolite, calcite, quartz and minor anhydrite veining oriented 35-70 deg to the core axis with some near parallel to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.
247.0	250.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit now contains ~7% augite phenocrysts 2-5mm in size with some altered to chlorite. Strong molybdenum veining present.

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		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
250.0	258.9	B	MONZONITE DYKE	Alteration has obliterated most of the characteristics of the rock. Unit contains 70-80% feldspar, 15-25% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende and some augite. Phenocrysts are 2-4mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz and sericite. 2-4% calcite, zeolite, quartz and minor anhydrite veining oriented 25-50 deg to the core axis and 5-15 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 35 deg to the core axis. Minor molybdenum present within some veins. Patchy magnetite present within some veins.
258.9	267.0	T	ANDESITE FLOW	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, biotite, sericite and quartz dominate the alteration within the matrix. 3-5% calcite, zeolite, quartz and minor anhydrite and flourite veining oriented 20-50 deg to the core axis with some near parallel and perpendicular to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures. Spotty K-spar halo around some veins.
267.0	282.1	T	ANDESITE VOLCANIC BRECCIA	
282.1	295.3	B	QUARTZ MONZONITE DYKE	Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspar, ~15% mafics and ~10% quartz. Unit contains phenocrysts of plagioclase, quartz, hornblende and augite. Phenocrysts are 2-6mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz, sericite and spotty biotite. 2-4% zeolite, calcite, quartz and minor anhydrite veining oriented 20-40 deg to the core axis and 5-10 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 40 deg to the core axis. Minor molybdenum present within some veins.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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KH-07-22

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	342 **m**
UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80
		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
295.3	296.9	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite and sericite dominate the alteration within the matrix. 5-7% calcite and zeolite veining oriented 30-50 deg to the core axis with some randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.
296.9	300.9	B	MONZONITE DYKE	Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspar, ~20% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase with spotty hornblende and augite. Phenocrysts are 2-6mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to sericite, minor chlorite and spotty biotite. 3-5% zeolite, calcite and quartz veining oriented 30-60 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper contact is 30 deg to the core axis and the lower contact is 45 deg to the core axis.. Minor molybdenum present within some veins.
300.9	305.0	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Unit contains ~3% augite phenocrysts 2-3mm in size altered to chlorite. Chlorite and sericite dominate the alteration within the matrix. 5-7% calcite and zeolite veining oriented 40-60 deg to the core axis with some randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.

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KH-07-22

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UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80
		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
305.0	307.1	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-5cm. Some post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy hematite, sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments and within some veins. 2-3% zeolite, calcite and hematite veining oriented 20-50 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Trace of chalcopyrite within the matrix. Upper and lower contacts are 70 deg to the core axis.
307.1	309.6	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite and sericite dominate the alteration within the matrix with minor biotite. 8-10% calcite and zeolite stockwork veining randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures. End of the unit contains ~4% augite phenocrysts 2-5mm in size with most altered to chlorite.
309.6	315.9	P	MONZODIORITE DYKE	Unit contains ~80% feldspars, ~15% mafic minerals and ~5% quartz. Unit contains phenocrysts of feldspar, hornblende, augite and quartz ranging in size from 2-7mm. Some hornblende and augite phenocrysts are altered to biotite and minor chlorite. Some feldspar phenocrysts and feldspars within the matrix are altered to sericite and hematite stained. 2-4% zeolite and calcite veining are randomly oriented. Hematite and epidote present within some veins. Minor epidote associated with some mafic minerals. Trace of pyrite disseminated within the matrix and present within some veins. Unit is magnetic. Upper contact is 50 deg to the core axis and the lower contact is 65 deg to the core axis. Unit is brecciated in patches.

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KH-07-22

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UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80
		Elevation:	1821	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 8/23/2007

From (m)	To (m)	Group*	Rock Type	Comments
315.9	320.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 15-20% augite phenocrysts 2-5mm in size with some altered to chlorite. Matrix is intermediate in composition and is altered to chlorite and sericite. 2-3% zeolite, calcite and quartz veins oriented 45-80 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and veins. Minor pyrite and a trace of chalcopyrite is disseminated within the matrix and present within some veins. Minor 30cm monzodiorite dike near the start of the interval.
320.0	321.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
321.4	342.0	P	MONZODIORITE INTRUSION BRECCIA	Unit is brecciated and contains mostly fragments of monzodiorite with the rare andesite fragment. Fragments are subangular and range in size from 0.5cm to 15cm. Matrix is made up of mostly busted up monzodiorite material. Monzodiorite fragments contain ~80% feldspars, ~15% mafic minerals and ~5% quartz. Unit contains phenocrysts of feldspar, hornblende, augite and quartz ranging in size from 4-10mm. Some hornblende and augite phenocrysts are altered to biotite and minor chlorite. Some feldspar phenocrysts and feldspars within the matrix are altered to sericite and hematite stained. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis. Hematite and epidote present within some veins. Minor epidote associated with some mafic minerals. Trace of pyrite disseminated within the matrix and present within some veins. Unit is magnetic. Upper contact is undulating and brecciated. Trace of chalcopyrite present within a quartz vein within an andesite fragment.

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KH-07-23

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	345 **m**
UTM Easting:	638189	**Easting:**	12245	**Azimuth:**	45
		Elevation:	1821	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/27/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.0		CASING	
6.0	9.0		OVERBURDEN	
9.0	62.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Dark green andesitic augite porphyry. 5-10% (mode: 6%) 1-8 mm augite phenocrysts in an aphanitic matrix. Potassic (chlorite, lesser sericite) alteration, including strong chloritization of augite crystals. 2-5% 1-35 mm calcite (+/- chlorite, pyrite) veins at 40-80 ° to core axis which occaisionally brecciate andesite when stockworked. 2-3% 2-4 mm discontinuous pyrite veins at 60-90 ° to core axis. 2-5% total sulfides, including disseminated pyrite, usually in proximity to augite crystals. Trace to 0.5% very fine chalcopyrite. Matrix contains carbonate and is altered to chlorite and patchy sericite. Patchy epidote within the matrix.
62.0	65.8	T	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of AND, AAP and granitoid material. Andesite and AAP dominate the fragments. Granitoid fragments contains phenocrysts of feldspars, hornblende and augite (altered to biotite). Fragments are subangular and range in size 0.5-5cm. Fragments are altered to chlorite and sericite. Matrix is intermediate in composition and altered to chlorite with minor sericite. Minor ground up fragment material is within the matrix. ~4% calcite and zeolite veining oriented 30-70 deg to the core axis. Spotty magnetite present within some fragments. Pyrite is disseminated within the matrix, present within veins and present within fragments. Trace of chalcopyrite within and AAP fragment. Upper and lower contacts are 60 deg to the core axis.
65.8	70.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contain 10-15% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 2-3% calcite and zeolite veins oriented 45-70 deg to the core axis. Minor stockworked sections randomly oriented. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.
70.0	79.8	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-23

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	345 **m**
UTM Easting:	638189	**Easting:**	12245	**Azimuth:**	45
		Elevation:	1821	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/27/2007

From (m)	To (m)	Group*	Rock Type	Comments
79.8	81.3	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of AND, AAP, BFP and granitoid material. Andesite and AAP dominate the fragments. Granitoid fragments contains phenocrysts of feldspars, hornblende and augite (altered to biotite). Fragments are subangular and range in size 0.5-10cm. Fragments are altered to chlorite and sericite. Matrix is intermediate in composition and altered to chlorite with minor sericite. Minor ground up fragment material is within the matrix. ~4% calcite, zeolite nd quartz veining oriented 25-40 deg to the core axis. Spotty magnetite present within some fragments. Pyrite is disseminated within the matrix, present within veins and present within fragments. Upper is 70 deg to the core axis and the lower contact is brecciated and gradational. Trace of chalcopyrite within a quartz vein of an andesite fragment.
81.3	84.2	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contain 10-15% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 4-5% calcite and zeolite veins oriented 25-70 deg to the core axis. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.
84.2	86.6	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of andesite, AAP and minor BFP and granitoid fragment. Fragments are subangular and range in size from 0.3-4cm. Fragments range from unaltered to potassic altered. Matrix is intermediate in composition and contains ground up portions of some fragments. Matrix is weakly altered to sericite and chlorite. ~3% zeolite and calcite veins randomly oriented. Spotty hematite and epidote present within and as halos around some veins. Unable to spot any quartz eyes. Minor fragments are magnetic. Pyrite is disseminated within the matrix and present within fragments. Upper contact is bedded at 60 deg to the core axis.
86.6	88.9	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contain 7-12% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 7-8% calcite and zeolite stockwork veins oriented 20-50 deg to the core axis. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-23

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	345 **m**
UTM Easting:	638189	**Easting:**	12245	**Azimuth:**	45
		Elevation:	1821	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/27/2007

From (m)	To (m)	Group*	Rock Type	Comments
88.9	98.4	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains fragments of andesite, AAP and minor BFP and granitoid fragment. Fragments increase in size down the hole as well as granitoid fragments increase in amount down the hole. Fragments are subangular and range in size from 0.3-6cm. Fragments range from unaltered to potassic altered. Matrix is intermediate in composition and contains ground up portions of some fragments. Matrix is weakly altered to sericite and chlorite. ~4% zeolite and calcite veins oriented 20-50 deg to the core axis. Spotty hematite and epidote present within and as halos around some veins and fragments. Unable to spot any quartz eyes. Minor fragments are magnetic. Pyrite is disseminated within the matrix and present within fragments. Trace of chalcopyrite within the matrix and within an andesite fragment. Upper contact is bedded at 60 deg to the core axis and the lower contact is 40 deg to the core axis..
98.4	178.0	P	QUARTZ MONZODIORITE INTRUSIVE	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Unit contains phenocrysts of hornblende and augite 4-10mm in size with some altered to biotite. Most of the feldspar grains are stained with hematite. Unit contains feldspar and minor quartz phenocrysts present 3-5mm in size. Spotty epidote and chlorite present associated with some mafic minerals and some veins. ~3% zeolite and calcite veins oriented 30-70 deg to the core axis. Minor hematite within some veins. Magnetite present within the matrix. Trace of pyrite within some veins. Trace of chalcopyrite within a calcite vein.
178.0	178.8	C	BASALT DYKE	Unit is mafic in composition and magnetic. Minor fragments of the quartz monzodiorite present. ~5% amygdules present 1-3mm in size and filled with calcite, zeolite and hematite. ~3% calclite and zeolite veining oriented 30-40 deg to the core axis. Unit is fractured with them oriented 30-50 deg to the core axis. Upper and lower contacts are 40 deg to the core axis.
178.8	275.3	P	QUARTZ MONZODIORITE INTRUSIVE	Back into the quartz monzodiorite unit encountered before the basalt dike.

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UTM Easting:	638189	**Easting:**	12245	**Azimuth:**	45
		Elevation:	1821	**Dip:**	-55

Geologist: Wade Barnes

Drilled: 8/27/2007

From (m)	To (m)	Group*	Rock Type	Comments
275.3	302.0	P	HETEROLITHIC FAULT ZONE	Saunders Fault separating the post mineral Sovereign from the tuffaceous Hazelton. Unit contains fragments of both units. Fragments have been milled and are subrounded to rounded. Minor fragments have a fabric oriented in the direction of the fault at ~20 deg to the core axis. Matrix is composed of graound up fragments. Matrix is altered to chlorite and clay. Upper contact is 20 deg to the core axis and the lower contact is 20 deg to the core axis.
302.0	345.0	H	DACITE CRYSTAL-LITHIC TUFF	Unit is intermediate in composition and contains ~60 feldspars, ~20% quartz and ~20% mafics. Hematite staining present over some feldspars. Spotty epidote present. Unit has a foliation in patches oriented 20-30 deg to the core axis. Magnetite is present within the matrix. ~1-2%, 1-2mm quartz eyes present. ~1% zeolite and calcite veining oriented 40-65 deg to the core axis. Trace of pyrite is present within the matrix.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-24

UTM Northing:	6326720	**Northing:**	16364	**Total Depth:**	1348 **m**
UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340
		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	18.0	H	OVERBURDEN AGLOMERATE	Casing is 18m. Section is composed of broken Aglomerate and Lapilli Tuff material of the Hazelton unit. About 50-60% core recovery.
18.0	25.3	H	HETEROLITHIC AGLOMERATE	Unit is composed of 15-20% lapilli and ash material and 80-85% fragments. Fragments consist of andesite, granitoid, tuffaceous and feldspar porphyry material material. Fragments are subangular to subrounded in shape and are 0.3-6cm in size. Matrix is intermediate in composition with most of the composition being feldspars. Minor hornblende and augite seen within the matrix. Patchy hematite staining of some fragments and feldspar grains within the matrix. Spotty chlorite and sericite alteration of the matrix and fragments. 2-4% zeolite, calcite and hematite veining oriented 15-45 deg to the core axis. ~1%, <1mm quartz eyes present. Magnetite is present within the matrix and some fragments. Trace of pyrite present within the matrix and fragments. Composite sampling, 3m intervals with the last 1m split.
25.3	36.9	H	HETEROLITHIC LAPILLI-TUFF	Unit is composed of ~65-75% lapilli and ash and ~25-35% fragments. Matrix is intermediate in compostion almost dacitic. Fragments include andesite, feldspar porphyry, tuffaceous and granitoid material. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-8cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.
36.9	61.6	H	HETEROLITHIC AGLOMERATE	Unit contains 20-25% lapilli and ash matrix and 75-80% fragments. Fragments consist of andesite, tuffaceous, feldspar porphyry and granitoid material. Fragments are subangular to subrounded and are 0.4-10cm in size. Matrix is intermediate in composition. Siliceous overprint present. Patchy chlorite alteration of the matrix and fragments present. Spotty sericite alteration within some fragments. Hematite staining within some fragments and within some veins. Possible hematite separating bedded units. 2-3% zeolite and calcite veining oriented 20-60 deg to the core axis. Magnetite is present within the matrix and some fragments. ~1%, <1mm quartz eyes present. Trace of pyrite present.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340
		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
61.6	120.8	H	HETEROLITHIC LAPILLI-TUFF	Unit is composed of ~65-75% lapilli and ash and ~25-35% fragments. Sections contain rare fragments with mostly lapilli and ash while other sections contain 50% fragments. Matrix is intermediate in compostion almost dacitic. Fragments include andesite, tuffaceous, feldspar porphyry and granitoid material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.
120.8	137.9	H	HETEROLITHIC AGLOMERATE	Unit is composed of ~60-70% fragments and ~30-40% lapilli and ash matrix. Matrix is intermediate in compostion. Fragments mostly include andesite and BFP material with minor amounts of tuffaceous, AAP and granitoid material. Some BFP fragments contain amygdules filled with calcite. Patchy chlorite alteration. Spotty sericite alteration within some fragments and matrix. Spotty hematite within some veins and some fragments. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-15cm in size. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis with some near parallel to the core axis. Minor fractures present from near parallel to 40 deg to the core axis. Magnetite is present within the matrix and present within some fragments. Minor pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Trace of chalcopyrite seen within a few fragments of altered andesite.

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Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
137.9	196.4	H	HETEROLITHIC LAPILLI-TUFF	Content of fragments has decreased with an increase in lapilli and ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion, dacitic. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-5cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. ~2% fractures oriented 0-50 deg to the core axis.
196.4	214.1	H	DACITE CRYSTAL-LITHIC TUFF	Unit is intermediate in composition containing ~65% feldspars, ~25% quartz and ~10% mafics. Unit contains patchy siliceous, chlorite and sericite alteration. Spotty hematite staining over some of the feldspar minerals. Hematite also present within some veins. 3-5% zeolite and calcite veining oriented 30-50 deg to the core axis. ~3% fractures orineted 10-70 deg to the core axis. Magnetite present within the matrix. Trace of disseminated pyrite present. ~1%, 1mm quartz eyes present. Rare fragments of tuffaceous and andesite material present.
214.1	241.8	H	HETEROLITHIC LAPILLI-TUFF	Content of fragments has increased with a decrease in ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion, dacitic. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining oriented 25-60 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. ~2% fractures randomly oriented.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
241.8	263.5	H	DACITE CRYSTAL-LITHIC TUFF	Unit is intermediate to almost felsic in composition. Unit has a crowded feldspar look with abundant feldspar minerals. Rare fragments present including tuffaceous and andesite material. 8-10% zeolite and calcite veining oriented 0-40 deg to the core axis. Patchy welded texture. ~4% randomly oriented fractures. Unit contains patchy chlorite and hematite alteration. Hematite is also present within some veins. Unit is magnetic. Trace of disseminated pyrite present. ~1%, <1mm quartz eyes present.
263.5	265.6	H	HETEROLITHIC LAPILLI-TUFF	Content of fragments has increased with a decrease in ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins and matrix. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining randomly oriented with minor stockworked sections. ~3% randomly oriented fractures. Minor lineations of the some lapilli between 50-60 deg to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.
265.6	266.3	C	FELDSPAR PORPHYRY DYKE	Unit contains 15-20% feldspar phenocrysts 2-4mm in size and some altered to chlorite and sericite. The fine grained matrix is mafic in composition and is slightly altered to chlorite and sericite. ~1-2% zeolite and calcite veining oriented 20-50 deg to the core axis. Unit is magnetic. Upper and lower contacts are 75 deg to the core axis.
266.3	296.8	H	HETEROLITHIC LAPILLI-TUFF	Unit is similar to one encountered before the feldspar porphyry dike.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

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Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
296.8	318.0	H	DACITE CRYSTAL-LITHIC TUFF	Unit is intermediate in composition containing ~65% feldspars, ~25% quartz and ~10% mafics. Unit contains patchy siliceous, chlorite , clay and sericite alteration. Spotty hematite staining over some of the feldspar minerals. Hematite also present within some veins and halo around some veins. 3-5% zeolite and calcite veining oriented 25-60 deg to the core axis some near parallel to the core axis. ~3% fractures orineted 10-70 deg to the core axis. Magnetite present within the matrix. Trace of disseminated pyrite present. Rare quartz eyes present. Rare fragments of tuffaceous and andesite material present.
318.0	318.9	C	FELDSPAR PORPHYRY DYKE	Unit contains 7-12% feldspar phenocrysts 2-5mm and some altered to sericite and have a hematite stain. Matrix is fine grained and mafic in composition. Spotty chlorite alteration of the matrix. 2-3% calcite and zeolite veining 15-30 deg to the core axis. ~2% fractures oriented 15-30 deg to the core axis. Unit is magnetic. Upper contact is 60 deg to the core axis and the lower contact is 10 deg to the core axis.
318.9	346.1	H	DACITE CRYSTAL-LITHIC TUFF	Unit is similar to the one encountered before the dike.
346.1	399.0	H	DACITE LAPILLI-TUFF	Unit is composed of ~85-95% lapilli and ash and ~5-15% fragments. Patchy brecciated sections within the unit. Matrix is intermediate in compostion. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins and matrix. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-6cm in size. 2-4% zeolite and calcite veining oriented 25-40 deg to the core axis.. ~2% randomly oriented fractures. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Patchy welded texture throughout.
399.0	408.0	H	DACITE CRYSTAL-LITHIC TUFF	Fabric orientation ranges between 45-65 deg to the core axis.
408.0	452.8	H	DACITE LAPILLI-TUFF	Minor hematite stringers present.

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KH-07-24

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		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
452.8	454.2	P	FELDSPAR PORPHYRY DYKE	Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration. 3-5% calcite and zeolite veins and stringers oriented 20-40 deg to the core axis. ~3% randomly oriented fractures. Unit is weakly magnetic. Upper and lower contacts are 30 deg to the core axis.
454.2	468.0	H	DACITE LAPILLI-TUFF	Unit is composed of ~90-95% lapilli and ash and ~5-10% fragments. Patchy brecciated sections within the unit. Matrix is intermediate in compostion. Fragments include mostly tuffaceous material. Patchy clay, chlorite and siliceous alteration. 3-5% zeolite and calcite veining randomly oriented. ~5% randomly oriented fractures. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Patchy welded texture throughout.
468.0	471.7	H	DACITE FAULT ZONE	The units characteristics have become obliterated due to faulting. Strong hematite alteration is present within the matrix and veins. String clay alteration of the matrix present. Fault orientation is 30 deg to the core axis.
471.7	472.2	P	FELDSPAR PORPHYRY DYKE	Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration and weak hematite stain. 3-5% calcite and zeolite veins and stringers oriented 20-40 deg to the core axis. Minor hematite present within some veins. ~3% randomly oriented fractures. Unit is weakly magnetic. Upper contact is 80 deg to the core axis and the lower contact is 20 deg to the core axis.
472.2	476.9	H	DACITE FAULT ZONE	Similar fault zone material encountered before the dike.
476.9	481.2	P	FELDSPAR PORPHYRY DYKE	Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration and weak hematite stain. 3-5% calcite and zeolite veins and stringers oriented 40-70 deg to the core axis. Minor hematite present within some veins. ~4% randomly oriented fractures. Unit is weakly magnetic. Upper and lower contacts are 30 deg to the core axis.

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		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
481.2	486.3	H	DACITE FAULT ZONE	Similar fault zone unit encoutered before the dike.
486.3	547.7	H	HETEROLITHIC LAPILLI-TUFF	Unit contains 55-65% fragments and 35-45% lapilli and ash matrix. Most of the are tuffaceous material with rare andesite and granitoid fragments. Fragments range in size from 0.4-5cm and are subangular to subrounded in shape. Matrix is intermediate in composition. Patchy siliceous, clay and sericite alteration present. Minor hematite staining of the matrix around some veins. 5-7% calcite and zeolite veining oriented 25-50 deg to the core axis with rare veins near parallel to the core axis. Minor hematite within some veins. Spotty stockworked sections present. ~3% fractures oriented 10-50 deg to the core axis. Trace of pyrite within the matrix. ~1%, <1mm quartz eyes present. Unit is magnetic.
547.7	645.0	H	DACITE LAPILLI-TUFF	Unit is a welded lapilli tuff. Unit is intermediate in composition with patchy chlorite, siliceous and sericite alteration of the matrix. Minor fragments of andesite and tuffaceous material present. 3-5% zeolite and calcite veining oriented 20-60 deg to the core axis. Veining decreases down the hole. Minor hematite within some veins. Clay alteration around some veins. ~3% fractures randomly oriented. Patchy hematite staining within the matrix. Trace of disseminated pyrite present within the matrix. ~1%, <1mm quartz eyes present. Contact with the upper unit is 40 deg to the core axis.
645.0	647.0	H	HETEROLITHIC VOLCANIC BRECCIA	Section contains fragments of altered andesite containing chalcopyrite, bleached fragments and AAP fragments. Fragments are subangular ranging in size from 0.5-6cm. Matrix is a fine ash partially clay altered. ~4% fractures oriented 30-40 deg to the core axis. ~3% zeolite and calcite veins oriented ~30 deg to the core axis. Pyrite is disseminated within the matrix and present within some fragments. Matrix is magnetic. Upper contact is 70 deg to the core axis and the lower contact is 65 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-24

UTM Northing:	6326720	**Northing:**	16364	**Total Depth:**	1348 **m**
UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340
		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
647.0	693.2	H	HETEROLITHIC LAPILLI-TUFF	Fragment content has increased to 35-45%. Matrix is intermediate in composition. Unit contains patchy epidote, clay, quartz and sericite alteration throughout. Minor hematite staining of some fragments, matrix and veins. ~3% zeolite and calcite veining oriented 30-50 deg to the core axis. Fragments include andesite, BFP, BAS (with amygdules or without), and granitoid. Fragments are subangular to subrounded and range in size from 0.5-10cm. ~1%, <1mm quartz eyes present. Sections appear to have aglomerate lith form while most appear to be lithic tuff.
693.2	707.0	T	ANDESITE FLOW	Alteration has obliterated most of the characteristics of the unit. Unit is intermediate in composition where strong QSP and chlorite alteration is present. Similar to the strong QSP unit above except this unit is not fragmental. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis with rare veins parallel and perpendicular to the core axis. Pyrite is mostly disseminated within the matrix with minor amounts within some veins. Minor quartz flooded sections.
707.0	713.0	T	ANDESITE VOLCANIC BRECCIA	Patchy secondary epidote alteration within the matrix.
713.0	719.0	T	ANDESITE FLOW	Vuggy vein present. Patchy epidote alteration within the matri.
719.0	734.9	T	ANDESITE VOLCANIC BRECCIA	Vuggy veins present. Patchy epidote within the matrix.
734.9	737.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 10-15% augite phenocrysts 1-7mm in size with some altered to chlorite and sericite. Augite phenocrysts decrease in size down the hole. Unit also contains sections with 3-4mm size feldspar phenocrysts, some altered to sericite. Matrix is intermediate in composition. Alteration at the beginning of the unit is strong QSP with minor chlorite and down the hole the chlorite alteration increases and the alteration becomes more potassic. Patchy seconadry epidote alteration present. 2-3% calcite, zeolite and minor quartz veining oriented 50-70 deg to the core axis and 10-30 deg to the core axis. Minor randomly oriented fractures present at the start of the unit. Unit is magnetic after the phyllic section. Pyrite and a trace of chalcopyrite are disseminated within the matrix and present within some veins. Minor hematite staining at the start of the unit.

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Northgate Minerals Corp.

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		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
737.0	739.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
739.0	745.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
745.0	775.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Strong epidote overprint present. Minor hematite staining present.
775.0	801.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
801.0	882.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
882.0	898.0	T	ANDESITE FLOW	Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Chlorite and minor sericite and quartz dominate the matrix. Patchy epidote overprint present. Spotty 1-3mm augite phenocrysts present. 2-3% calcite, zeolite and quartz veining oriented 10-40 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Minor pyrite is disseminated within the matrix and present within veins. Spotty hematite present within some veins.
898.0	900.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contains 10-15% augite phenocrysts 2-8mm in size with some altered to chlorite and sericite. 5-8% feldspar phenocrysts present 2-3mm in size with some altered to sericite. Patchy brecciated sections within the unit. Matrix is intermediate in composition and altered chlorite and minor sericite and quartz. 2-3% calcite, zeolite and quartz veining oriented 20-40 deg to the core axis and 60-70 deg to the core axis. Magnetite is present within the matrix. Patchy epidote overprint present. Minor pyrite disseminated within the matrix and within some veins. Upper contact is brecciated. Trace of chalcopyrite disseminated within the matrix.
900.0	904.0	T	ANDESITIC AUGITE PORPHYRY FLOW	

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-24

UTM Northing:	6326720	**Northing:**	16364	**Total Depth:**	1348 **m**
UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340
		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
904.0	906.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
906.0	927.5	T	ANDESITE VOLCANIC BRECCIA	Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Chlorite and minor sericite and quartz dominate the matrix. Patchy epidote overprint present. Spotty 1-3mm augite phenocrysts present. 2-3% calcite, zeolite and quartz veining oriented 10-30 deg to the core axis and 50-70 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Minor pyrite is disseminated within the matrix and present within veins.
927.5	979.0	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 7-10% feldspar phenocrysts 0.5-1.2cm in size with some altered to sericite, chlorite and epidote. Alteration has obliterated most of the characteristics of the rock. Strong QSP alteration throughout with minor chlorite and patchy epidote overprint. 2-3% zeolite, calcite and quartz veining oriented 10-40 deg to the core axis and 65-75 deg to the core axis. Minor randomly oriented fractures. Pyrite is disseminated within the matrix and present within some veins. Contact with the upper unit is faulted at 45 deg to the core axis.
979.0	1001.0	T	ANDESITE FLOW	Unit is intermediate in composition and contains 1-2% augite phenocrysts 2-4mm in size with some altered to chlorite and epidote. Matrix is altered to chlorite and sericite. 2-4% calcite, zeolite and minor quartz and anhydrite veining oriented 20-60 deg to the core axis. Minor epidote and chlorite present within some veins. Unit is magnetic. Pyrite and a trace of chalcopyrite is disseminated within the matrix and present within some veins. Contact with the upper unit is 55 deg to the core axis. Minor randomly oriented fractures that present that decrease down the hole.
1001.0	1016.3	T	ANDESITE VOLCANIC BRECCIA	

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-24

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UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340
		Elevation:	1747	**Dip:**	-90

Geologist: Wade Barnes

Drilled: 9/12/2007

From (m)	To (m)	Group*	Rock Type	Comments
1016.3	1089.0	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 15-20% feldspar phenocrysts 0.2-1.5cm in size with some altered to sericite, chlorite and epidote. Chlorite and sericite alteration dominate the matrix. 2-4% zeolite, calcite and quartz veining oriented 10-40 deg to the core axis and 60-80 deg to the core axis. Minor randomly oriented fractures. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Contact with the upper unit is gradational.
1089.0	1169.8	T	ANDESITE FLOW	Unit contains ~2% feldspar phenocrysts 4-6mm in size with some altered to chlorite and sericite. Fine grained matrix is intermediate in composition. Unit goes in and out between phyllic and potassic alteration. Phyllic altered sections contain strong QSP and chlorite alteration while the potassic sections contain mostly chlorite with minor sericite and quartz. Potassic sections contain patchy magnetite within the matrix. 2-4% zeolite, calcite and quartz veining oriented 30-60 deg to the core axis. Minor randomly oriented fractures. Spotty epidote within some veins. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Upper contact with the above unit is ~65 deg to the core axis.
1169.8	1195.1	T	BLADED FELDSPAR PORPHYRY FLOW	
1195.1	1348.0	B	QUARTZ MONZONITE INTRUSIVE	Unit is composed of ~70% feldspars, ~20% mafics and ~10% quartz. Matrix is fine to medium grained and the alteration has obliterated some of the characteristics of the rock. The beginning of the unit is brecciated and becomes more massive down the hole. Chlorite, sericite and quartz alteration dominate the unit. Patchy biotite alteration present and increases down the hole. 2-4% zeolite, calcite and minor quartz and anhydrite veining oriented 15-50 deg to the core axis. Minor hematite within some veins. Minor magnetite present within the matrix and within some veins. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Minor molybdenum is present within some veins.

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-25

UTM Northing:	6326880	**Northing:**	16514	**Total Depth:**	857 **m**
UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0
		Elevation:	1705	**Dip:**	-80

Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	4.5		CASING	
4.5	21.9	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	
21.9	23.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Unit contains 20-25% augite phenocrysts 2-7mm in size with most altered to carbonate. Matrix is intermediate in composition and hematite altered. 2-4% calcite, zeolite and chlorite veins oriented 50-80 deg to the core axis. Upper contact is 70 deg to the core axis and the lower contact is 40 deg to the core axis. Minor epidote within some of the augite phenocrysts.
23.4	39.3	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Unit contains 10-20% feldspar phenocrysts 2-13mm. Feldspar phenocrysts decrease ina amount but increase in size down the hole. Matrix is mafic in composition and altered to chlorite, carbonate and spotty hematite. Some feldspar phenocrysts are altered to sericite, chlorite and hematite. Spotty epidote within some veins and feldspar phenocrysts. 2-3% calcite and zeolite veins oriented 30-60 deg to the core axis. Pyrite is disseminated within the matrix and veins. Minor chlorite present within some veins. Minor fractures randomly oriented.
39.3	43.0	T	BASALT FLOW	Unit starts off as an amygdular basalt then transitions into an AAP then into a BFP. The amygdules at the beginning of the unit are 2-5mm in size and are filled with calcite, epidote and chlorite. The AAP section contains 15-20% augite phenocrysts altered to calcite, chlorite and carbonate. The augite phenocrysts are 3-6mm in size. The BFP unit contains 15-20% 2-4mm size feldspar phenocrysts with some altered to carbonate, zeolite and epidote. Matrix throughout the unit is altered to hematite, chlorite and patchy carbonate. 1-2% calcite,chlorite and epidote veins oriented 30-40 deg to the core axis. Contact with the upper BFP unit is 50 deg to the core axis.
43.0	47.8	T	BLADED FELDSPAR PORPHYRY FLOW	Unit is now in the BFP section.

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KH-07-25

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UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0
		Elevation:	1705	**Dip:**	-80

Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
47.8	51.2	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 20-25% augite phenocrysts 2-7mm in size with most altered to carbonate and chlorite. 1-2% 2-5mm amygdules present filled with carbonate. Matrix is intermediate in composition and hematite altered. ~1% calcite, zeolite and chlorite veins oriented 40-60 deg to the core axis. Upper contact is 60 deg to the core axis. Minor epidote within some of the augite phenocrysts. Unit is magnetic.
51.2	67.5	T	ANDESITE VOLCANIC BRECCIA	Alteration has obliterated all the characteristics of the rock. Intense hematite alteration present with patchy carbonate sections. Unit appears brecciated with hematitic sections and white carbonate sections. Unit could be a remnant AAP unit.
67.5	85.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 10-15% augite phenocrysts 2-5mm in size with some altered to epidote, chlorite and minor carbonate. Spotty phenocrysts are stained with hematite. Unit also contains 5-7% 3-6mm calcite and chlorite filled amygdules. Matrix is intermediate in composition with chlorite alteration dominating and patchy sections of carbonate. 2-3% calcite, zeolite and hematite veining oriented 20-60 deg to the core axis. Minor randomly oriented fractures present. Unit is magnetic.
85.0	86.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
86.4	98.0	H	HETEROLITHIC LAPILLISTONE	Unit contains ~20% fragments of andesite, AAP and granitoid material. Fragments range in size from 4mm to 6cm and are subrounded to rounded. Minor fragments show phyllic and potassic alteration with pyrite mineralization. Matrix is intermediate in composition and is altered to chlorite in places with lesser amounts of sericite. ~1% 1mm quartz eyes present. 4-6% calcite and zeolite veining oriented 20-60 deg to the core axis with some randomly oriented. Minor hematite present within some veins. Unit is magnetic. Pyrite is disseminated within the matrix. Contact with the upper unit is sheared at 40 deg to the core axis. Patchy stockworked sections present.

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KH-07-25

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Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
98.0	100.0	H	HETEROLITHIC AGLOMERATE	Interval is broken and is composed of very little matrix and mostly large granitoid (Sovereign?) fragments with minor amounts of andesite and AAP fragments possible IBX no real contacts seen.
100.0	106.0	H	HETEROLITHIC LAPILLISTONE	Unit is back to the same lapillistone as before. Hematite staining has decreased with an increase in chlorite alteration within the matrix.
106.0	110.6	H	HETEROLITHIC LAPILLI-TUFF	Fragments have increased to 40% of the rock now.
110.6	122.0	H	DACITE CRYSTAL-LITHIC TUFF	Unit is intermediate in composition ~65% feldspars, ~25% quartz, ~10% mafics. Chlorite and sericite alteration dominate the matrix. Spotty carbonate within the matrix. 1-2% calcite and zeolite veining oriented oriented 20-40 deg to the core axis. Spotty magnetite present. ~1% 1mm quartz eyes present. Pyrite is disseminated within the matrix.
122.0	150.1	H	HETEROLITHIC AGLOMERATE	Unit contains fragments of AND, AAP and BFP. Fragments range in size from 0.5-8cm and are subangular. Most of the fragments have a degree of chlorite and sericite alteration. Matrix is intermediate in composition and is altered to chlorite and sericite. 2-3% calcite and zeolite veining oriented 20-60 deg to the core axis with minor veins near parallel to the core axis. ~1% 1mm quartz eyes present. Pyrite is disseminated within the matrix and fragments.
150.1	152.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Unit contains 7-12% augite phenocrysts 2-5mm in size and some altered to chlorite and carbonate. Matrix is intermediate in composition and altered to chlorite with patches of carbonate. Spotty epidote present within the matrix and around some veins. 3-5% calcite veining oriented 30-70 deg to the core axis. Minor chlorite within some veins. Spotty sericite within the matrix. Unit is magnetic. Trace of pyrite within the matrix. Contact with the upper Hazelton is 70 deg to the core axis.
152.0	154.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

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Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
154.0	160.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Vuggy veins.
160.0	182.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
182.0	192.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
192.0	194.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
194.0	202.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
202.0	296.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Broken rubbly core in the middle of the interval.
296.0	302.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
302.0	305.7	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Sericite alteration is increasing.
305.7	307.0	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 10-15% feldspar phenocrysts 2-5mm in size with some altered to sericite and minor quartz and chlorite. ~1-2% augite phenocrysts present altered to chlorite or epidote. Matrix appears intermediate in composition but the alteration has obliterated most of the characteristics. Sericite, chlorite, quartz and pyrite alteration dominate the matrix. Patches of epidote present possibly a late stage overprint. 3-5% zeolite and calcite veining oriented 30-60 deg to the core axis with some randomly oriented. ~2% randomly oriented fractures present. Minor chlorite in some veins. Vuggy sections present. Pyrite is mainly disseminated within the matrix with minor pyrite within some veins. Trace of chalcopyrite within the matrix and veins. Trace of sphalerite within the matrix and veins.

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Northgate Minerals Corp.

KH-07-25

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Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
307.0	319.1	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	
319.1	323.0	T	ANDESITE VOLCANIC BRECCIA	Alteration has obliterated most to all of the characteristics of the rock. QSP alteration dominates with some chlorite patches. Sections do show some remnant AAP and BFP sections, but most appear to be possible AND remnant textures. 2-4% zeolite and calcite veins oriented 30-60 deg to the core axis. Pyrite is mainly disseminated within the matrix and is minorly present within some veins. Alteration or unit contact with the above is 50 deg to the core axis.
323.0	335.0	T	ANDESITE FLOW	
335.0	339.0	T	ANDESITE VOLCANIC BRECCIA	
339.0	359.0	T	ANDESITE FLOW	
359.0	398.4	T	ANDESITE VOLCANIC BRECCIA	
398.4	422.0	T	ANDESITE FLOW	Unit has transitioned into a more massive andesite. Unit is intermediate in composition. Alteration has obliterated most of the characteristics of the rock. Strong QSP alteration of the matrix with patchy epidote overprint. 2-4% zeolite and calcite veining 20-60 deg to the core axis. Patchy brecciated sections. Pyrite is mainly disseminated within the matrix and minorly within the veins. Minor hematite staining of some veins and within the matrix.
422.0	424.0	T	ANDESITE VOLCANIC BRECCIA	
424.0	428.0	T	ANDESITE FLOW	
428.0	432.0	T	ANDESITE VOLCANIC BRECCIA	

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KH-07-25

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		Elevation:	1705	**Dip:**	-80

Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
432.0	436.0	T	ANDESITE FLOW	
436.0	448.0	T	ANDESITE VOLCANIC BRECCIA	
448.0	472.0	T	ANDESITE FLOW	
472.0	473.6	T	ANDESITE VOLCANIC BRECCIA	
473.6	497.4	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 7-12% feldspar phenocrysts 3-15mm in length with some altered to sericite, chlorite and epidote. Matrix appears to be intermediate in composition with alteration obliterating most of the characteristics of the rock. Strong QSP alteration present with minor chlorite and patchy epidote overprint. 3-5% zeolite and calcite veining oriented 20-50 deg to the core axis with minor veins randomly oriented. Pyrite is mainly disseinated within the matrix with minor amounts within some veins.
497.4	555.8	T	ANDESITE FLOW	Unit contains 6-8% feldspar phenocrysts 2-4mm in size with some altered to sericite, epidote and chlorite. Unit contains 2-4% augite phenocrysts 2-4mm in size with some altered to chlorite and epidote. ~2% amygdules present filled with calcite and epidote. The matrix is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong QSP and chlorite alteration within the matrix. Patchy epidote overprint present. 2-4% zeolite and calcite veining oriented 25-45 deg to the core axis. Minor veins near parallel and perpendicular to the core axis. Pyrite is disseminated within the matrix and minorly present within the veins. Minor randomly oriented fractures present.

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UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0
		Elevation:	1705	**Dip:**	-80

Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
555.8	576.9	T	BLADED FELDSPAR PORPHYRY FLOW	Unit contains 8-13% feldspar phenocrysts 4-12mm in size with some altered to sericite and spotty chlorite. Alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz alteration dominate the matrix. 2-4% zeolite and calcite veining oriented 30-60 deg to the core axis. ~3% randomly oriented fractures. Patchy epidote overprint and located as halos around some veins. Pyrite is disseminated withi the matrix and present within some veins. Minor chalcopyrite disseminated within the matrix and present within some veins.
576.9	693.4	B	MONZONITE INTRUSIVE	Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Unit is brecciated at the top and becomes massive down the hole. Strong to intense chlorite and sericite alteration at the beginning of the unit and transtions to strong and intense QSP and chlorite alteration down the hole. 2-3% zeolite, flourite and quartz veining oriented 10-40 deg to the core axis with minor veins near perpendicular to the core axis. Spotty magnetite within some veins and within the matrix. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite is present within the matrix and veins. Mottled contact around 40 deg to the core axis.
693.4	722.3	T	ANDESITE VOLCANIC BRECCIA	Alteration has obliterated most of the characteristics of the rock. Unit is intermediate in composition with sericite, chlorite, pyrite and minor quartz alteration dominating the matrix. Unit is brecciated with minor massive section. Spotty remnant AAP section present. 2-3% zeolite, quartz, flourite and calcite veining randomly oriented. Pyrite is disseminated within the matrix and present within some veins. Trace of chalcopyrite disseminated within the matrix and present within some veins. Upper contact is 85 deg to the core axis.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-25

UTM Northing:	6326880	**Northing:**	16514	**Total Depth:**	857 **m**
UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0
		Elevation:	1705	**Dip:**	-80

Geologist: Wade Barnes

Drilled: 9/6/2007

From (m)	To (m)	Group*	Rock Type	Comments
722.3	728.0	P	HETEROLITHIC INTRUSION BRECCIA	Unit contains mostly fragments of Sovereign with minor Takla andesites and other granitoid material. Fragments range in size from 0.4-7cm and are subangular to subrounded in shape. Matrix is made up of blasted host rock material and intrusive material. Matrix is altered to chlorite. The Sovereign fragments are hematite stained while the Takla andesite fragments are phyllic and potassic altered. 2-3% calcite, zeolite and quartz veining oriented 45-70 deg to the core axis. ~2% fractures oriented 40-80 deg to the core axis. Fragments and matrix contain magnetite. Pyrite and chalcopyrite are disseminated within the matrix and fragments. Upper and lower contacts are 70 deg to the core axis. Patchy siliceous overprint present.
728.0	796.3	B	QUARTZ MONZONITE INTRUSIVE	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Alteration has obliterated most of the characteristics of the rock. Quartz, sericite and minor chlorite alteration dominate the rock. 2-3% calcite, zeolite, quartz and minor flourite veining oriented 60-75 deg to the core axis and 15-30 deg to the core axis. ~1-2% fractures randomly oriented. Pyrite and chalcopyrite are disseminated within the matrix and present within veins. Minor molybdenum present within some veins.
796.3	857.0	H	HETEROLITHIC LAPILLI-TUFF	Unit is composed minor fragments of tuffaceous material. The matrix is made up of blasted host rock and feldspar grains and minor quartz and mafic minerals. Minor stockworking at the beginning of the unit. 2-4% zeolite and calcite veining oriented 25-70 deg to the core axis. Fracturing decreases down the hole. Minor hematite staining within some veins and on most feldspar minerals. Minor chlorite alteration of the matrix. Unit is magnetic. Spotty quartz eyes present. Upper contact is 70 deg to the core axis. Minor Sovereign fragments present in the upper 4m.

Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-26

UTM Northing:	6326660	**Northing:**	16297	**Total Depth:**	402 **m**
UTM Easting:	637820	**Easting:**	11882	**Azimuth:**	340
		Elevation:	1760	**Dip:**	-85

Geologist: Wade Barnes

Drilled: 9/19/2007

From (m)	To (m)	Group*	Rock Type	Comments
0.0	15.0		CASING	Casing to 22.5m Overburden recovered from 15-22.5m.
15.0	22.5	Q	OVERBURDEN	Overburden is composed of broken core of a dacitic unit.
22.5	38.4	H	DACITE LAPILLI-TUFF	Unit is intermediate in composition to start and becomes slightly more felsic in composition down the hole with 5-10% fragments present. Matrix is mostly altered to silca with minor patches of chlorite and clay. Clay alteration is present mostly around ve
38.4	39.7	H	FELSIC LAPILLI-TUFF	Alteration has obliterated the characteristics of the rock, possible felsic unit (possibly an altered form of the unit above). Strong chlorite and sericite alteration present. Patchy quartz and hematite (purple) alteration present. Pyrite is dissminated a
39.7	40.4	H	DACITE LAPILLI-TUFF	Unit is intermediate in composition. Chlorite alteration dominates at the start with siliceous alteration increasing down the unit. ~1% zeolite and calcite veining oriented 30-45 deg to the core axis. Unit is magnetic. ~1%, <1mm quartz eyes present. Minor
40.4	44.8	H	FELSIC LAPILLI-TUFF	Alteration has obliterated the characteristics of the rock, possible felsic unit (possibly an altered form of the unit above). Strong chlorite and sericite alteration present. Patchy quartz and hematite (purple) alteration present. Pyrite is dissminated a
44.8	61.2	H	DACITE LAPILLI-TUFF	Unit is intermediate in composition with rare tuffaceous and andesite fragments present. Weak sericite and chlorite alteration dominate the matrix withy patchy siliceous sections. ~3% zeolite and calcite veining and stringers oriented 25-40 deg to the cor
61.2	84.1	H	HETEROLITHIC LAPILLISTONE	Unit contains ~40-50% fragments and ~50-60% ash and lapilli matrix. Fragments range in size from 0.3-4cm and are subangular to subrounded in shape. Fragments include andesite, tuffaceous and granitoid material. Matrix is fine grained and intermediate in c

**Groups: A=Asitka, B=Syn-Mineral Black Lake, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Black Lake, S=Sustut, T=Takla*

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

KH-07-26

UTM Northing:	6326660	**Northing:**	16297	**Total Depth:**	402 **m**
UTM Easting:	637820	**Easting:**	11882	**Azimuth:**	340
		Elevation:	1760	**Dip:**	-85

Geologist: Wade Barnes

Drilled: 9/19/2007

From (m)	To (m)	Group*	Rock Type	Comments
84.1	96.1	H	DACITE LAPILLI-TUFF	Unit is intermediate in composition with rare tuffaceous and andesite fragments present. Siliceous alteration dominates the start of the unit and decreses down the hole with an increase in clay alteration due to an increase in veining. ~5% zeolite and cal
96.1	113.3	H	HETEROLITHIC AGLOMERATE	Unit contains 70-80% fragments within a medium to coarse grained matrix. Matrix is intermediate in composition and is also composed of broken fragment material. Fragments include BFP, andesite, AAP, tuffaceous and rare granitoid material. Fragments are su
113.3	115.1	H	FELSIC LAPILLI-TUFF	Siliceouse alteration is strong within this section and has masked the charactersitics of the unit. Could be an altered state of a intermediate to felsic dacite unit. Purple hematite present. Minor chlorite and sericite sections present. ~2% zeolite and c
115.1	116.6	H	DACITE LAPILLI-TUFF	Unit is intermediate in compostion with rare fragments present. Matrix is siliceous in patches with sections that are sericite. Chlorite alteration present on some mafic sections. Clay alteration around most veins and fractures. ~2% zeolite and calcite ve
116.6	117.9	H	FELSIC LAPILLI-TUFF	Siliceouse alteration is strong within this section and has masked the charactersitics of the unit. Could be an altered state of a intermediate to felsic dacite unit. Purple hematite present. Minor chlorite and sericite sections present. ~2% zeolite and c
117.9	140.1	H	DACITE LAPILLI-TUFF	Unit is similar to the dacitic unit just above. Unit is intermediate in compostion with rare fragments present. Matrix is siliceous in patches with sections that are sericite. Chlorite alteration present on some mafic sections. Clay alteration around most
140.1	142.0	H	DACITE FAULT ZONE	Shear zone marked by stockwork zeolite and calcite veining with hematite. Stockwork veining oriented 25-30 deg to the core axis. Host rock is strongly clay altered with hematite staining.
142.0	402.0	H	DACITE LAPILLI-TUFF	Unit is similar to the dacitic unit before the shear zone. Unit is intermediate in compostion with rare fragments present. Welded sections present. Matrix is mostly siliceous woth spotty chlorite alteration. Clay alteration around most veins and fractures

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Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	5	**CASING**									
0.0	5.0										
5	11	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
5.0	7.0	Fine to coarse grained grey green moderately sericitic	0.1	*0*	FLT	40	1	Slightly mottled texture due to increase in alteration and veining.	230156	0.031	0.001
7.0	9.0	Fine to coarse grained grey green moderately epidote altered	1.0	*0.2*	FLT	40	1	Moderate epidote alteration of fragments and individual feldspar and mafic minerals and forming halos around some veins. Sericite and chlorite alteration still weakly present.	230157	0.013	0.012
9.0	11.0	Fine to medium grained dark grey green moderately sericitic	0.3	*0.1*				Unit has a gradational change within this section to a more tuffaceous unit with 2-3% clasts. Clasts are mostly BFP and tuffaceous. Tuffaceous material is mostly composed of feldspars, mafic material and quartz. Veining is still similar to the above. Pyrite mineralization is also similar. Sericite and chlorite alteration has increased. Epidote and hematite alteration has decreased.	230158	0.009	0.138
11	21	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
11.0	13.0	Fine to medium grained dark grey green weakly sericitic	0.1	*38.2*				Aglomerate unit seems to carry more pyrite.	230159	0.002	0.001
13.0	15.0	Fine to medium grained grey green weakly sericitic	0.1	*30.1*					230160	0.006	0.001
15.0	17.0	Fine to medium grained dark grey weakly sericitic	0.1	*23.5*					230161	0.001	0.001
17.0	19.0		0.0	*21.2*					230162	0.002	0.001
19.0	21.0		0.0	*45.2*					230163	0.001	0.001
21	27	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
21.0	23.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*0*				Unit has become like the aglomerate section unit encountered before. Portion of this section is moderately hematite altered with minor epidote alteration. Silica overprint in this section. Gradational contact.	230164	0.005	0.028

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
23.0	25.0	Fine to coarse grained dark grey weakly sericitic	0.2	*32.2*		Slight increase in sericite and chlorite alteration.	230165	0.001	0.155
25.0	27.0	Fine to coarse grained dark grey green weakly sericitic	0.2	*2.7*	FLT 40 2		230166	0.003	0.298
27	33	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
27.0	29.0	Fine to medium grained dark grey green weakly sericitic	0.3	*41*		Unit has become weakly stockworked at a random orientation with zeolite, calcite and minor quartz.	230167	0.002	0.005
29.0	31.0		0.1	*15.3*			230168	0.002	0.006
31.0	33.0	Fine to medium grained dark grey black weakly sericitic	0.1	*21.3*			230169	0.003	0.009
33	35	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
33.0	35.0	Fine to coarse grained dark grey green moderately sericitic	0.1	*1.1*		Gradational contact in and out of an aglomerate unit similar to before.	230170	0.009	0.040
35	51	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
35.0	37.0	Fine to medium grained grey green moderately sericitic	0.5	*46.1*		Stockworking has decreased.	230171	0.009	0.023
37.0	39.0	Fine to medium grained grey moderately chloritic	1.0	*15.1*		Minor aglomerate within this section. Chlorite alteration dominant over sericite alteration.	230172	0.002	0.057
39.0	41.0	Fine to medium grained dark grey green moderately sericitic	0.1	*5.8*			230173	0.002	0.796
41.0	43.0	Fine to medium grained dark grey moderately sericitic	0.1	*56.8*		Minor hematite overprint. Trace of anhydrite within a vein. Slight increase in clasts within the tuffaceous unit to 4-6%.	230174	0.006	0.213
43.0	45.0	Fine to medium grained dark grey weakly sericitic	0.1	*51.6*			230176	0.001	0.036
45.0	47.0		0.1	*7.4*			230177	0.002	1.055
47.0	49.0		0.1	*14.6*			230178	0.003	0.679
49.0	51.0	Fine to coarse grained dark grey pink moderately sericitic	0.2 **0.0**	*28.7*		Trace of chalcopyrite seen within a vein of calcite and zeolite. Increase in the amount of zeolite within the veins.	230179	0.007	0.289
51	61	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
51.0	53.0	Fine to medium grained dark grey green moderately epidote altered	0.5	*13.9*		Back to a similar aglomerate section encountered before. Unit contains more clasts of other material. Clasts include andesite, BFP, AAP, intrusives, and minor tuffaceous material. Clasts range from about 1cm to block and bomb size. Clasts are subrounded to angular. Matrix is mainly fine to medium grained mostly consisting of feldspars and ~1% 1mm quartz eyes. Phyllic and potassic alteration is present with some clasts. Alteration ranges from sericite and epidote with minor chlorite and a trace of hematite. Epidote alteration within veins and disseminated. Pyrite is disseminated within the matrix and minorly within the veins. Clasts contain pyrite within the veins and disseminated. Minorly magnetic. 2-4% veining containing calcite and zeolite oriented 30-60 deg to the core axis. Minor stockworking present oriented the same.	230180	0.012	0.034
53.0	55.0		0.4	*15.6*	FLT 15 1		230181	0.013	0.023
55.0	57.0	Fine to medium grained grey weakly sericitic	0.2	*63.4*			230182	0.008	0.012
57.0	59.0	Fine to medium grained dark grey green weakly epidote altered	0.3				230183	0.012	0.045
59.0	61.0	Fine to medium grained dark grey weakly propyllitic	0.4	*12.5*		Hematite increase within this section within the matrix and clasts.	230184	0.015	0.014
61	73	**PORPHYRITIC ANDESITE FLOW**							
61.0	63.0	Fine grained black moderately propyllitic	0.2	*7.6*		Entered a large block of andesite flow with feldspar pheoncysts in a fine grained matrix with some brecciated sections. Feldspar phenocrysts are 9-11% 2-10mm in size. Some of the feldspar phenocrysts are altered to epidote and sericite. Epidote, chlorite and minor sericte, quartz and hematite are present within the matrix. Large feldspar porphyry flow starts at 61.8 m and ends at 73.5 m. Contacts are undulating. H4 according to Diakow's map.	230185	0.017	0.001
63.0	65.0		0.2	*35.6*			230186	0.014	0.001

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
65.0	67.0	Fine grained black moderately propyllitic	0.5		*27*					230187	0.051	0.001
67.0	69.0	Fine grained black green moderately propyllitic	0.3		*0.3*					230188	0.031	0.001
69.0	71.0	Fine grained black green weakly propyllitic	0.5		*0.8*					230189	0.021	0.001
71.0	73.0		0.1		*0.6*					230190	0.020	0.001
73	103	**FRAGMENTAL HETEROLITHIC AGLOMERATE**										
73.0	75.0	Fine grained grey green weakly propyllitic	0.7		*0.6*	FLT	45	2	Block of feldspar porphyry ends at 73.5 m. Back into the aglomerate encountered before the feldspar porphyry block.	230191	0.022	0.001
75.0	77.0	Fine grained green grey moderately propyllitic	0.5		*0.5*					230192	0.022	0.021
77.0	79.0	Fine to medium grained green moderately propyllitic	0.6		*0.8*				Minor hematite section located at the beginning of the section.	230193	0.006	0.009
79.0	81.0	Fine to medium grained green weakly propyllitic	1.0		*35.3*					230194	0.007	0.008
81.0	83.0	Fine to medium grained green weakly sericitic	0.1		*40.9*				This section has a trace of epidote alteration with weak sercite and chlorite alteration and a trace of pyrite.	230195	0.005	0.001
83.0	85.0	Fine to coarse grained grey green moderately propyllitic	0.5		*0*				Veining has decreased to 2-3% composed of caclite with little zeolite. Veining is oriented 15-30 deg to the core axis and 50-70 deg to the core axis.	230196	0.020	0.017
85.0	87.0	Fine to medium grained grey green weakly propyllitic	0.4	**0.0**	*0.4*	SHR	25	1	Trace of chalcopyrite within a quartz vein of a clasts.	230197	0.015	0.076
87.0	89.0	Fine to medium grained grey green moderately propyllitic	0.6		*0.5*					230198	0.016	0.135
89.0	91.0		1.0		*0*					230199	0.015	0.041
91.0	93.0	Fine to medium grained green grey moderately propyllitic	1.2		*0.5*					230201	0.012	0.034
93.0	95.0		1.2		*0.5*				Slight increase in the amount of magnetite.	230202	0.012	0.119
95.0	97.0		0.8		*13*				Sphalerite seen within a clast of andesite associated with pyrite.	230203	0.015	0.027

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
97.0	99.0	Fine to medium grained green grey moderately propyllitic	0.7	*0*			230204	0.014	0.034
99.0	101.0	Fine to medium grained green grey weakly propyllitic	0.7	*0*			230205	0.012	0.023
101.0	103.0	Fine to medium grained dark grey	1.0	*1.6*		Section is spotty altered with sericite and chlorite with a weak silica overprint. Propylitic alteration increases at the end of the interval.	230206	0.008	0.010
103	105	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
103.0	105.0	Fine to coarse grained dark grey	0.2	*97.8*		Unit has changed into a more tuffaceous unit with rare clasts similar to before. Less pyrite and propylitic alteration are present. Spotty sercite and chlorite alteration with rare epidote and hematite alteration around rare volcanic clasts	230207	0.003	0.001
105	107	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
105.0	107.0	Fine to coarse grained dark grey green	0.5	*1.6*		From 106.0 to 107.2 is an aglomerate section like the ones encountered before. Moderate propylitic alteration is within the aglomerate section with an increase in pyrite as well. From 107.2-108.4 m is a large BFP block with 7-9% feldspar crystals with weak propylitic alteration. Within the tuffaceous unit there is a slight fabric to the crystals of 40 deg to the core axis.	230208	0.009	0.009
107	113	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
107.0	109.0	Fine to coarse grained black weakly propyllitic	0.3	*120*		After 108.4 m the section jumps in and out of a tuffaceouse and aglomerate unit sericite and chlorite alteration. Aglomerate and tuffaceouse units are similar to before. Clasts of volcanic, intrusive material are present. Aglomerate sections are present noted by the propylitic alteration and pyrite increase.	230209	0.009	0.011
109.0	111.0		0.3	*27.7*			230210	0.006	0.015
111.0	113.0		0.4	*1.9*			230211	0.012	0.035
113	121	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
113.0	115.0	Fine to coarse grained black weakly propyllitic	0.5	*1.5*					230212	0.009	0.016
115.0	117.0	Fine to coarse grained black weakly silicified (non-K)	0.2	*72.3*				Minor tuffaceouse section within this interval. Propylitic, sericite and chlorite alteration spotty with a weak siliceous overprint.	230213	0.008	0.018
117.0	119.0	Fine to coarse grained grey green weakly propyllitic	0.4	*2.2*					230214	0.008	0.071
119.0	121.0		0.7	*2*	FLT	50	3		230215	0.013	0.021
121	135	**TUFFACEOUS DACITE FLOW**									
121.0	123.0	Fine grained green moderately propyllitic	0.3	*1*	FLT	30	1	At 121.5 unit changes into an aphanitic dark grey ash flow with some flow banding. 1-2% sparse feldspar phenocrysts 1-4 mm in size with some altered to epidote and sericite. Possible amygdules present as circular shapes filled with calcite and epidote. Propylitic alteration is dominant within the matrix with epidote, chlorite and sericite. Pyrite is present within veins of calcite and zeolite. A carbonate overprint is present in patches. 1-2% veining within the block oriented 40-60 deg to the core axis. Alignment of feldspar crystals at 35-40 deg to the core axis.	230216	0.034	0.001
123.0	125.0		0.1	*1.9*					230217	0.025	0.001
125.0	127.0	Fine grained black weakly propyllitic	0.3	*1.2*	FLT	50	1		230218	0.014	0.001
127.0	129.0	Fine grained		*58*				Spotty epidote alteration of feldpspar phenocrysts and amygdules. Hematite present within the veins. Weak siliceous overprint present. Pyrite mineralization has decreased.	230219	0.013	0.001
129.0	131.0			*89.8*					230220	0.015	0.001
131.0	133.0			*1.6*					230221	0.069	0.001
133.0	135.0			*67.2*					230222	0.021	0.001
135	157	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
135.0	137.0	Fine to coarse grained green black moderately propyllitic	0.5	*2.8*				At 135.9 m the ash flow unit ends and the unit becomes similar to the aglomerate encountered above.	230223	0.011	0.016
137.0	139.0	Fine to coarse grained green grey moderately propyllitic	0.8	*0.5*					230224	0.013	0.037
139.0	141.0		0.5	*111*				From 140.0-141.1 m another large volcanic block of basalt is encountered. 3-5% feldspar phenocrysts present 2-5 mm in length with some altered to epidote and sericite.	230226	0.014	0.012
141.0	143.0		0.5	*0.8*					230227	0.014	0.018
143.0	145.0		0.4	*0.9*					230228	0.015	0.049
145.0	147.0	Fine grained dark green black weakly propyllitic	0.0	*0.8*	FLT	40	2	Block of basalt with 2-4% feldspar phenocrysts like before. The block goes from 145.0-153.2 m.	230229	0.044	0.001
147.0	149.0		0.1	*9*					230230	0.030	0.001
149.0	151.0		0.1	*0.8*					230231	0.018	0.001
151.0	153.0		0.1	*2*				Wollastinite seen within a fracture and vein.	230232	0.018	0.001
153.0	155.0	Fine to coarse grained green grey moderately propyllitic	0.3	*1.9*	FLT	50	1	Back into the aglomerate unit at 153.2 m encountered before the block of basalt.	230233	0.019	0.021
155.0	157.0		0.5	*1.3*					230234	0.014	0.029
157	159	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
157.0	159.0	Fine to coarse grained green grey moderately propyllitic	0.2	*2.1*				Magnetite seems to have decreased to a trace.	230235	0.011	0.026
159	161	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
159.0	161.0	Fine to coarse grained green grey moderately propyllitic	0.4	*1.8*	SHR	45	2		230236	0.016	0.024
161	169	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
161.0	163.0	Fine to coarse grained green grey moderately propyllitic	0.1	*2.2*				2-3% veining now present composed of calcite and zeolite and oriented 45-60 deg to the core axis.	230237	0.007	0.001
163.0	165.0	Medium to coarse grained green grey moderately propyllitic	0.1	*2.5*					230238	0.017	0.021

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
165.0	167.0	Medium to coarse grained green grey moderately propyllitic	0.1	*1.1*				Trace of sphalerite seen assoctiated with hematite within a vein.	230239	0.012	0.031
167.0	169.0	Fine to medium grained green strongly propyllitic	0.6	*1.3*	FLT	30	2		230240	0.016	0.041
169	171	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
169.0	171.0	Fine to coarse grained green moderately propyllitic	0.4	*0.6*	CALV	10	5	Calcite vein with minor zeolite oriented at 10 deg to the core axis from 169.3-169.4 m.	230241	0.012	0.035
171	183	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
171.0	173.0	Fine to medium grained green moderately propyllitic	0.5	*0.6*	SHR	15	5		230242	0.007	0.204
173.0	175.0	Fine to coarse grained green strongly propyllitic	0.5	*0.8*					230243	0.006	0.038
175.0	177.0		0.4	*1.1*	FLT	35	1		230244	0.014	0.024
177.0	179.0		0.3	*1.2*	FLT	40	1		230245	0.023	0.016
179.0	181.0	Fine to coarse grained green grey moderately propyllitic	0.1	*13.9*					230246	0.013	0.014
181.0	183.0		0.0	*12.1*					230247	0.016	0.033
183	189	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
183.0	185.0	Fine to coarse grained green grey moderately propyllitic	0.3	*1.4*					230248	0.015	0.042
185.0	187.0		0.6	*1.1*					230249	0.014	0.044
187.0	189.0		0.5	*6.3*					230251	0.021	0.052
189	199	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
189.0	191.0	Fine to coarse grained green grey strongly propyllitic	0.7	*11.7*				Sphalerite seen with hematite within a vein.	230252	0.022	0.055
191.0	193.0	Fine to coarse grained green grey moderately propyllitic	0.4	*1.6*					230253	0.021	0.067
193.0	195.0		0.2	*15.7*	CALZV	15	4		230254	0.014	0.049
195.0	197.0	Fine to coarse grained green grey strongly propyllitic	0.3	*8.9*					230255	0.014	0.034

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
197.0	199.0	Fine to coarse grained green grey moderately propyllitic	0.2	*106*			230256	0.018	0.021
199	201	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
199.0	201.0	Fine to coarse grained green grey strongly propyllitic	0.6	*36.7*			230257	0.018	0.054
201	213	**FRAGMENTAL RHYOLITE CLAST BEARING AGLOMERATE**							
201.0	203.0	Fine to coarse grained green grey moderately propyllitic	0.8	*2.1*			230258	0.023	0.070
203.0	205.0		1.1	*2.4*		QFP/rhyolite clasts are present within a small interval from 203m to 213m. Clasts are only 1cm to 2cm in size with one large clast seen about 8cm in size. QFP/rhyolite clasts represent ~4% of the section. Amount of chlorite alteration has increased.	230259	0.021	0.056
205.0	207.0	Fine to coarse grained green grey strongly propyllitic	1.0	*5.8*			230260	0.021	0.062
207.0	209.0		1.0	*0.9*			230261	0.023	0.067
209.0	211.0	Fine to coarse grained dark green grey strongly propyllitic	1.2	*2.7*	FLT 45 1		230262	0.018	0.080
211.0	213.0	Fine to coarse grained dark green grey intensely propyllitic	1.1	*2.7*		Degree of chlorite and epidote alteration has increased. Borderline potassic level. Clasts are mostly Takla with minor intrusive fragments. Takla fragments are potassic altered with chlorite, some biotite, sericite, and magnetite. Moderate hematite present within the veins. Matrix is altered to epidote, chlorite, sericite, minor hematite and trace of biotite. No quartz eyes seen due to alteration.	230263	0.029	0.095
213	249.7	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
213.0	215.0	Fine to coarse grained dark green grey intensely propyllitic	1.3 **0.0**	*2.4*		QFP/rhyolite clasts are no longer visible. Trace of chalcopyrite is now showing within the veins.	230264	0.028	0.082
215.0	217.0		1.3 **0.0**	*80.3*			230265	0.040	0.087
217.0	219.0		1.5	*1.9*			230266	0.047	0.110

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
219.0	221.0	Fine to coarse grained dark green grey intensely propyllitic	0.5		*0.5*					230267	0.047	0.116
221.0	223.0		0.6		*1.9*					230268	0.050	0.143
223.0	225.0		2.0	**0.0**	*2.9*					230269	0.049	0.183
225.0	227.0	Fine to medium grained dark green intensely propyllitic	1.7	**0.0**	*2.6*				Potassic alteration has become more evident with in the volcanic clasts with chlorite and sericite the major alteration present. Epidote, chlorite, pyrite and minor hematite found within the matrix and minorly with the clasts. Hematite is still found within some veins. 2-4% veining filled with calcite, zeolite and minor quartz. Veining is oriented 35-55 deg to the core axis. Magnetite still present as black specks within the matrix with some in the clasts. Pyrite found disseminated, within veins and within clasts. Trace of chalcopyrite with in some veins. No quartz eyes seen due to alteration. Trace of anhydrite is seen within the vein.	230270	0.021	0.185
227.0	229.0		2.0	**0.0**	*30.4*					230271	0.024	0.125
229.0	231.0	Fine to medium grained dark green grey intensely propyllitic	2.5	**0.0**	*2.8*	SHR	25	1		230272	0.023	0.133
231.0	233.0	Fine to medium grained dark green grey strongly propyllitic	1.3		*38.3*					230273	0.019	0.103
233.0	235.0		3.0	**0.0**	*3.3*					230274	0.033	0.175
235.0	237.0	Fine to coarse grained dark green grey strongly propyllitic	3.2		*1.3*					230276	0.020	0.153
237.0	239.0		1.7		*0*				Patchy siliceous overprint. BFP clasts present.	230277	0.029	0.240
239.0	241.0		3.5	**0.0**	*1.3*					230278	0.024	0.132
241.0	243.0		3.0		*1.3*					230279	0.023	0.103
243.0	245.0		2.6	**0.0**	*1*	SHR	15	5	Shear running from 230.3 to 230.4 m filled with calcite, quartz, clay, host rock, and chlorite.	230280	0.024	0.068
245.0	247.0		3.0	**0.0**	*1.1*	FLT	55	1		230281	0.026	0.087
247.0	248.5	Fine to coarse grained grey green strongly propyllitic	2.0		*1.2*	SHR	15	10	2 major shear zones one from 247.0-247.1 m and the other is from 247.0-247.05 m.	230282	0.039	0.109

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
248.5	249.7	Fine grained grey green strongly propyllitic	1.3	*1.6*			230283	0.038	0.127
249.7	250.7	**MASSIVE CALCITE**							
249.7	250.7	Fine grained white grey		*0.5*		Shear zone noted by calcite, minor quartz and clay. Upper contact is 15 deg to the core axis and the lower contact is 20 deg to the core axis.	230284	0.023	0.068
250.7	256	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
250.7	252.0	Fine grained dark green strongly potassic - chlorite-sericite-biotite	4.0 **0.0**	*1.3*		Strongly potassic altered andesite unit. Andesite unit changes from a homogeneous breccia fragmental unit to a more massive flow with minor in-situ brecciation. Some AAP sections are present. Alteration is predominately potassic with strong chlorite and sericite with biotite in sections. Some Takla fragments within the breccia sections are QSP altered. The matrix of the breccia sections are composed of remnant Takla material (andesite). Magnetite present within veins and increases down the hole. 4-6% veining oriented 15-30 deg to the core axis and 65-80 deg to the core axis. Veining is composed of calcite, quartz, anhydrite, minor zeolite and wollastinite (noted by hardness and radial pattern). Pyrite is present within veins and disseminated within the unit and fragments. Trace of chalcopyrite present within the veins and disseminted. Trace of epidote and hematite still present within the veins, but decreases to not present down the hole. A chlorite halo surrounds some of the veins and increases down the hole.	230285	0.018	0.046
252.0	254.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	4.5 **0.1**	*1.2*			230286	0.019	0.040
254.0	256.0		5.0 **0.1**	*0.7*			230287	0.016	0.036
256	258	**BRECCIATED ANDESITE FLOW**							
256.0	258.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	5.0 **0.1**	*1*			230288	0.027	0.048
258	266	**MOTTLED ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
258.0	260.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	4.0	*5.4*	FLT	10	2		230289	0.029	0.062
260.0	262.0		6.0 **0.0**	*0.9*					230290	0.022	0.074
262.0	264.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	7.0 **0.1**	*1*					230291	0.019	0.054
264.0	266.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	6.0 **0.1**	*0.7*	SHR	30	2		230292	0.022	0.046
266	272	**MASSIVE ANDESITE FLOW**									
266.0	268.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	5.0 **0.0**	*0.9*					230293	0.019	0.052
268.0	270.0		4.5 **0.0**	*2.5*					230294	0.022	0.071
270.0	272.0		5.0 **0.0**	*0.6*					230295	0.026	0.052
272	276	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
272.0	274.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	5.0 **0.1**	*0.4*				5-7%, 1-4 mm augite phenocrysts present within this interval with some altered to chlorite.	230296	0.016	0.040
274.0	276.0	Fine grained strongly phyllic	3.0 **0.1**	*3.6*				Unit has become phyllicaly altered which has oblitered most of the characteristics of the rock. Sercite alteration dominates and is pervasive with moderate chlorite altertion. Augite phenocrysts are altered to chlorite and sericite.	230297	0.009	0.025
276	278.4	**FRAGMENTAL ANDESITIC AUGITE PORPHYRY VOLCANIC**									
276.0	278.4	Fine grained strongly phyllic	3.0 **0.1**	*0.1*					230298	0.027	0.059
278.4	281.8	**MASSIVE MONZONITE DYKE**									

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
278.4	280.0	Medium to coarse grained strongly phyllic	1.0	*0.2*		Strong phyllicaly altered monzonite dike. Phyllic alteration has obliterted most of the charateristics of the rock. Most of the feldspar crystals have been altered to sericite and chlorite. Quartz is still present with most of the mafic minerals altered to chlorite and sericite. 1-3% veins filled with anhydrite, quartz, zeolite, calcite and wollastinite. Vein orientation is 40-50 deg to the core axis. Upper contact is 50 deg to the core axis and the lower contact is brecciated. Minor pyrite mineralization is present within the veins and disseminated within the matrix.	230299	0.004	0.017
280.0	281.8		1.5 **0.0**	*0.1*			230301	0.001	0.019
281.8	292	**MASSIVE ANDESITE FLOW**							
281.8	284.0	Fine grained strongly potassic - chlorite-biotite-quartz	5.0 **0.1**	*0.4*		Back into a similar potassic altered andesite encoutered above. 1-3% augite phenocrysts present about 1-3 mm in size some altered to chlorite and biotite. Some minor fragmental sections near the beginning. In-situ brecciated sections present. Fragmental and brecciated sections are chiefly comprised of Takla clasts with the matrix made up of Takla material. Mineralization present is similar with pyrite and chalcopyrite disseminated and within veins. Massive magnetite present within some veins. 4-6% veining composed of quartz, anhydrite and minor amounts of calcite, zeolite and wollastinite. Vein orientation is 40-50 deg to the core axis and 10-20 deg to the core axis.	230302	0.031	0.053
284.0	286.0	Fine grained green moderately potassic - chlorite-sericite-quartz	5.5	*0.5*			230303	0.037	0.069
286.0	288.0	Fine grained grey green moderately potassic - chlorite-sericite-quartz	4.5 **0.0**	*0.3*			230304	0.030	0.052
288.0	290.0	Fine grained grey brown strongly potassic - biotite-quartz-chlorite	4.5 **0.0**	*0.9*			230305	0.036	0.053
290.0	292.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	4.5 **0.3**	*0.7*			230306	0.033	0.060
292	300	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
292.0	294.0	Fine to medium grained red green intensely potassic - biotite-quartz-chlorite	5.0 **0.0**	*0.5*			230307	0.036	0.051
294.0	296.0	Fine to medium grained dark green brown strongly potassic - chlorite-biotite-quartz	6.0 **0.0**	*0.6*			230308	0.042	0.051
296.0	298.0	Fine to medium grained dark green brown strongly potassic - chlorite-biotite-sericite	4.0	*0.6*			230309	0.044	0.050
298.0	300.0	Fine to medium grained dark green grey strongly potassic - chlorite-biotite-quartz	4.5 **0.1**	*0.6*	FLT 50 1		230310	0.028	0.040
300	304	**IN-SITU BRECCIATED ANDESITE FLOW**							
300.0	302.0	Fine to medium grained dark green strongly potassic - chlorite-biotite-sericite	4.0 **0.0**	*0.4*			230311	0.036	0.052
302.0	304.0		6.0 **0.0**	*0.2*			230312	0.047	0.051
304	310	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
304.0	306.0	Fine grained dark green strongly potassic - chlorite-biotite-quartz	6.0 **0.0**	*0.2*		Unit now contains 20-30% augite phenocrysts 2-7mm in size and subhedral to euhedral in shape. Some augite phenocrysts have altered to chlorite, sericite and minor biotite. Matrix is aphanitic and altered to chlorite, sericite and minor quartz and biotite. 4-6% veining composed of quartz, anhydrite and minor mounts of calcite, zeolite and wollastinite. Vein orientation is 20-30 deg to the core axis. Pyrite and chalcopyrite mineralization present within the veins and disseminated within the matrix.	230313	0.032	0.200
306.0	308.0		5.0 **0.0**	*0.5*			230314	0.056	0.056
308.0	310.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	4.5	*0.4*			230315	0.047	0.057
310	312	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
310.0	312.0	Fine to coarse grained dark green brown strongly potassic - chlorite-biotite-quartz	6.5 **0.0**	*0.5*		Back into the similar potassic andesite flow encountered before the AAP section.	230316	0.071	0.068
312	314	**STOCKWORKED ANDESITE BRECCIA**							
312.0	314.0	Fine to coarse grained red strongly potassic - biotite-chlorite-quartz	5.0 **0.0**	*0.1*		Vuggy veins.	230317	0.042	0.078
314	351	**BRECCIATED ANDESITE FLOW**							
314.0	316.0	Fine to coarse grained red green strongly potassic - biotite-chlorite-quartz	7.0 **0.1**	*0.6*			230318	0.047	0.200
316.0	318.0	Fine to coarse grained dark green brown strongly potassic - chlorite-biotite-quartz	6.0 **0.0**	*0.4*			230319	0.036	0.047
318.0	320.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	7.0 **0.0**	*0.6*		3-5% augite phenocrysts present.	230320	0.053	0.053
320.0	322.0		5.0 **0.0**	*0.6*	SHR 25 2		230321	0.072	0.072
322.0	324.0		4.5 **0.1**	*2*			230322	0.043	0.040
324.0	326.0	Fine grained red green strongly potassic - biotite-chlorite-quartz	5.0	*42.9*			230323	0.044	0.038
326.0	328.0		3.5 **0.0**	*0.2*			230324	0.048	0.050
328.0	330.0		3.5	*0.1*		Augite phenocrysts have decreased.	230326	0.053	0.062
330.0	332.0		4.0 **0.0**	*0.1*			230327	0.048	0.049
332.0	334.0		4.0	*0.4*			230328	0.027	0.033
334.0	336.0		5.0	*0.3*			230329	0.053	0.047
336.0	338.0		5.0 **0.0**	*0.2*			230330	0.032	0.039
338.0	340.0		5.0 **0.2**	*1.9*			230331	0.044	0.038
340.0	342.0		5.5	*0.7*			230332	0.033	0.031
342.0	344.0		5.0 **0.0**	*0.6*			230333	0.046	0.051

Hole Number: KH-07-01

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
344.0	346.0	Fine grained red green strongly potassic - biotite-chlorite-quartz	5.0 **0.4**	*2.4*			230334	0.062	0.057
346.0	348.0		6.0 **0.1**	*5.8*			230335	0.042	0.049
348.0	350.0		5.5 **0.1**	*0.8*			230336	0.037	0.272
350.0	351.0		4.5	*2.8*		EOH	230337	0.023	0.192

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	6	**CASING**							
0.0	6.0								
6	14	**MOTTLED HETEROLITHIC AGLOMERATE**							
6.0	8.0	Fine to coarse grained grey moderately propyllitic	0.3	*2.2*		Volcanoclastic unit, with minor veining and rare faulting. Unit is composed of beds of aglomerate units that grade upwards to finer sequence. Some beds are just aglomerates and some are fine to coarse grained ash. Weak sericitic alteration with lesser chlorite alteration of feldspar and mafic minerals within the matrix and clasts. In spots silica and chlorite alteration increases slightly. Spotty epidote and hematite alteration within the clasts and matrix (minorly within veins). Epidote nd chlorite alteration increase down the hole with a slight increase of hematite. Composed of 70-80% clasts ranging from rounded to angular, 5mm to 40cm. Clasts are composed of BFP, andesite, basalt, tuffaceous fragments and intrusive material. Matrix is fine grained, tuffaceous with local magnetite and quartz eyes. 1-2% quartz eyes 1-2mm in size nd decrease and unable to be seen down the hole. Magnetite also present within clasts and matrix. Colour varies from grey, dark grey, green and pink. 2-4% veining at 20-40 deg to core axis and 1-2% veining near parallel to the core axis to 10 deg. Veining is composed of calcite, zeolite with lesser amounts of quartz. Trace to 1% pyrite is present in sections. The pyrite is disseminated within the matrix and within clasts.	230338	0.035	0.001
8.0	10.0	Fine to coarse grained grey green moderately propyllitic	0.1	*1.7*		Some of the clasts in the unit display phyllic alteration and potassic alteration.	230339	0.015	0.057

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
10.0	12.0	Fine to coarse grained grey green moderately sericitic	0.0	*14*	BED	40	Some of the clasts and lapilli are welded and show a fabric of ~40 deg to the core axis. Bedding contact present that separates and aglomerate unit from another aglomerate unit with a tuffaceous beginning, contact angle is 40 deg to the core axis. Amount of epidote alteration has decresed. Mainly sericite and minor chlorite alteration present.	230340	0.002	0.173
12.0	14.0		0.2	*24.4*				230341	0.004	0.001
14	22	**MASSIVE HETEROLITHIC LAPILLI-TUFF**								
14.0	16.0	Fine to coarse grained grey moderately sericitic	0.1	*24.2*	BED	40	Bedding contact at 13.8 m into a more fine-coarse grained tuffaceous section with welded material at 40 deg to the core axis. Rare clasts of BFP, andesite, intrusives and tuffaceous material present. Clasts are subrounded and some are welded.	230342	0.001	0.001
16.0	18.0		0.0	*32.4*				230343	0.003	0.001
18.0	20.0	Fine to coarse grained dark grey pink moderately sericitic	0.3	*47.9*			Minor hematite increase within the veins and matrix.	230344	0.001	0.001
20.0	22.0		0.1	*8*	BED	35	Bedding contact at 21.9 m at an orientation of 30 deg to the core axis. From 21.5-21.9 is a quartz and hematitic section. Upper contact is 40 deg to the core axis and the lower with the aglomerate unit is 30 deg to the core axis.	230345	0.001	0.041
22	24	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
22.0	24.0	Fine to coarse grained grey moderately sericitic	0.0	*71.7*	BED	45	Three bedding contacts within this interval. One contact is between an aglomerate unit and small tuffaceous unit at 22.8 m and the orientation of the contact is 45 deg to the core axis. At 22.9 m is another contact between a tuffaceous unit and an aglomerate unit at an angle of 45 deg to the core axis. At 23.2m is another contact separating and aglomerate unit from a tuffaceous unit at an angle of 55 deg to the core axis. The interval ends in a Lapilli Tuff unit.	230346	0.006	0.067
24	32	**MASSIVE HETEROLITHIC LAPILLI-TUFF**								

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
24.0	26.0	Fine to coarse grained dark grey pink moderately sericitic	0.1	*77.4*					230347	0.001	0.001
26.0	28.0			*31.2*	FLT	15	10		230348	0.001	0.008
28.0	30.0	Fine to coarse grained dark grey moderately sericitic	0.0	*45.1*					230349	0.003	0.001
30.0	32.0		0.0	*12.2*				Quartz eyes are decreasing to ~1% at 1mm.	230351	0.002	0.007
32	36	**STOCKWORKED HETEROLITHIC AGLOMERATE**									
32.0	34.0	Fine to coarse grained grey weakly propyllitic	0.1	*2.1*				Weak propylitic alteration present with an increase in epidote, chlorite, and hematite. Unit has a gradational contact into an aglomerate section.	230352	0.006	0.033
34.0	36.0	Fine to coarse grained dark grey green weakly propyllitic	0.0	*2.1*	FLT	10	2	Unit changes into a welded tuffaceous unit at around 35.6 m. Contact is broken.	230353	0.017	0.024
36	38	**MASSIVE HETEROLITHIC LAPILLI-TUFF**									
36.0	38.0	Fine to medium grained dark grey green weakly propyllitic	0.0	*30.9*	FAB	50		Welded fragments at an angle of 50 deg to the core axis. Near the end of the interval the tuffaceous unit transitions into an aglomerate section. Contact is broken.	230354	0.005	0.001
38	42	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
38.0	40.0	Fine to medium grained dark grey green weakly propyllitic	0.1	*2.4*					230355	0.003	0.035
40.0	42.0	Fine to medium grained dark grey weakly sericitic	0.1	*33.8*				Half way through this section the unit changes back into a tuffaceous unit. Contact is broken. Epidote, chlorite and hematite alteration have decreased with slight increase in the sericite alteration.	230356	0.001	0.005
42	48	**MASSIVE HETEROLITHIC LAPILLI-TUFF**									
42.0	44.0	Fine to coarse grained dark grey weakly sericitic	0.1	*34.7*					230357	0.003	0.071
44.0	46.0		0.0	*40*					230358	0.002	0.010
46.0	48.0			*61.9*	FLT	45	1		230359	0.001	0.001
48	56	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
48.0	50.0	Fine to coarse grained dark grey green weakly propyllitic	0.1	*16.7*	BED	50	At 149.2 m unit transitions into an aglomerate unit at a bedding angle of 50 deg to the core axis. Epidote, chlorite, and hematite alteration have increased.	230360	0.005	0.040
50.0	52.0		0.1	*41.1*				230361	0.008	0.053
52.0	54.0		0.2	*6.2*	BED	45	Tuffaceous layer from 53.0 m to 54.2 m then the unit goes back into an aglomerate unit. Lower bedding contact is 45 deg to the core axis. Upper contact is broken	230362	0.008	0.028
54.0	56.0	Fine to coarse grained dark grey green moderately propyllitic	0.1	*1*			Interval contains vesicles filled with calcite, epidote and chlorite. Vesicles are 3-7mm in size and about 2-4% of the interval.	230363	0.004	0.017
56	58	**HOMOGENEOUS HETEROLITHIC LAPILLI-TUFF**								
56.0	58.0	Fine to coarse grained dark grey green weakly propyllitic	0.0	*85.2*				230364	0.003	0.005
58	61.6	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
58.0	60.0	Fine grained dark grey green moderately propyllitic	0.2	*1.7*				230365	0.016	0.036
60.0	61.6		0.3	*45.2*				230366	0.013	0.023
61.6	76	**PORPHYRITIC ANDESITE FLOW**								
61.6	64.0	Fine grained dark grey green moderately propyllitic	0.2	*11.4*			Entered a large section of andesite flow with feldspar phenocrysts in a fine grained matrix with some brecciated sections. Feldspar phenocrysts are 13-16% 2-10mm in size. Some of the feldspar phenocrysts are altered to epidote and sericite. Epidote, chlorite and minor sericte and hematite are present within the aphnitic matrix. Large feldspar porphyry flow starts at 61.6 m and ends at 76.0 m. Upper contact is 30 deg to the core axis and the lower contact is faulted at 50 deg to the core axis. Long axis of the feldspars are oriented between 35-50 deg to the core axis with some random. 2-3% veining present and composed of calcite and zeolite. Vein orientation is between 40-50 deg to the core axis. No quartz eyes seen. H4 according to Diakow's map.	230367	0.015	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
64.0	66.0	Fine grained dark grey green moderately propyllitic	0.4	*23*				230368	0.032	0.005
66.0	68.0		0.6	*33.3*				230369	0.013	0.001
68.0	70.0		0.2	*1.6*				230370	0.014	0.005
70.0	72.0		0.4	*1.4*				230371	0.016	0.001
72.0	74.0		0.3	*0.8*				230372	0.020	0.001
74.0	76.0		0.3	*1.1*				230373	0.024	0.005
76	112.5	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
76.0	78.0	Fine grained dark grey green moderately propyllitic	0.6	*1.1*			Back into a similar aglomerate unit encountered before. Clasts are angular and subrounded with a fine matrix between them. 2-3% veining composed of calcite and zeolite and oriented 30-60 deg to the core axis. Pyrite present with in clasts and disseminated within the matri. Magnetite present as fine black specks. Magnetite present within clasts. No quartz eyes visible.	230374	0.010	0.014
78.0	80.0		0.7	*40*	FAB	40	Some welded frgments at the top of the unit with the long axis oriented ~40 deg to the core axis. Trace of sphalerite seen within a vein associated with pyrite.	230376	0.009	0.034
80.0	82.0	Fine to coarse grained dark grey green moderately propyllitic	0.3	*34*				230377	0.003	0.007
82.0	84.0		0.5	*0.6*				230378	0.006	0.020
84.0	86.0		0.3	*78.7*	BED	50	Small tuffaceous layer from 83.5 m to 84.5 m. Upper contact is 50 deg to the core axis and the lower contact is 50 deg to the core axis.	230379	0.008	0.015
86.0	88.0		0.3	*1.3*			Malachite seen surrounding and with a QSP altered clast at 87.9 m.	230380	0.013	0.037
88.0	90.0	Fine grained dark grey green moderately propyllitic	0.4	*3.7*				230381	0.010	0.031
90.0	92.0		0.5	*1.4*				230382	0.012	0.032
92.0	94.0		0.4	*1.4*				230383	0.014	0.028

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca)	(%)	Comments	Sample#	Cu %	Au ppm
94.0	96.0	Fine grained dark grey green moderately propyllitic	0.6	*2.8*					230384	0.013	0.034
96.0	98.0		0.5	*1.2*				Malachite seen within a QSP altered clast.	230385	0.014	0.029
98.0	100.0		0.6	*99.7*	BED	45		From 98.1-98.3 m is a small tuffaceous layer with an upper contact of 45 deg to the core axis and a lower contact of 70 deg to the core axis.	230386	0.013	0.025
100.0	102.0		0.8	*31.3*				Wollastinite is present within the veins.	230387	0.013	0.029
102.0	104.0		0.3	*62.4*	BED	45		Small tuffaceous unit starts at 102.0-103.9 m dark grey with welded fragments. Upper and lower contact is 50 deg to the core axis.	230388	0.007	0.009
104.0	106.0	Fine grained dark grey green strongly propyllitic	0.4	*0.9*					230389	0.015	0.034
106.0	108.0		0.3	*0.9*	BED	40		From 107.4-108.1 m is a small BFP ash flow similar to the one encountered before. Upper contact is 40 deg to the core axis and the lower contact is broken. Could be a large block.	230390	0.013	0.020
108.0	110.0	Fine grained grey strongly propyllitic	0.5	*1.6*	FLT	45	3	Small tuffaceous layer from 109.0-109.6 m. Upper and lower contact is 50 deg to the core axis.	230391	0.017	0.018
110.0	112.5		0.6	*1.4*	SHR	50	1		230392	0.013	0.041
112.5	114.3	**MASSIVE HETEROLITHIC LAPILLI-TUFF**									
112.5	114.3	Medium to coarse grained dark grey black weakly silicified (non-K)	0.1	*39.7*				Tuffaceous begins at 112.5m and ends at 114.3 m. Feldspar phenocrysts dominate in a fine ash matrix. Minor quartz phenocrysts also present. Weak silica alteration present with spotty sericite and hematite alteration. ~1% veining filled with zeolite and clacite. Trace of disseminated pyrite present. Upper contact is 70 deg to the core axis and the lower contact is 50 deg to the core axis.	230393	0.002	0.001
114.3	124.4	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
114.3	116.0	Fine to coarse grained dark grey weakly propyllitic	0.3	*1.5*				Back into the similar propylitic altered aglomerate section encountered before.	230394	0.011	0.030

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
116.0	118.0	Fine to coarse grained dark grey moderately propyllitic	0.3	*31*	FLT	30 2		230395	0.011	0.021
118.0	120.0	Fine grained dark grey green strongly propyllitic	0.4	*1.8*				230396	0.012	0.026
120.0	122.0	Fine grained dark grey green intensely propyllitic	1.2	*1.2*				230397	0.016	0.005
122.0	124.4		1.5	*1.2*				230398	0.039	0.001
124.4	135.9	**TUFFACEOUS DACITE FLOW**								
124.4	126.0	Fine grained dark grey moderately propyllitic	0.1	*0.5*	FOL	40	Unit has changed into an aphanitic dark grey ash flow with some flow banding. 1-2% sparse feldspar phenocrysts 1-4 mm in size with some altered to epidote and sericite. Possible amygdules/vesicles present as circular shapes filled with calcite and epidote. Propylitic alteration is dominant within the matrix with epidote, chlorite and sericite. Pyrite is present within veins of calcite and zeolite. A carbonate overprint is present in patches. 2-4% veining within the block oriented 30-60 deg to the core axis.Epidote is present with in the veins and halos the veins in places. Alignment of feldspar crystals at 35-40 deg to the core axis. Flowbanding is also 35-40 deg to the core axis.	230399	0.011	0.001
126.0	128.0	Fine grained dark grey green moderately propyllitic	0.1	*75*				230401	0.012	0.001
128.0	130.0		0.1	*130*				230402	0.055	0.001
130.0	132.0		0.1	*95*			Anhydrite has shown up within the veins.	230403	0.037	0.001
132.0	134.0		0.1	*45.2*				230404	0.038	0.001
134.0	135.9		0.1	*63.5*				230405	0.023	0.009
135.9	142	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
135.9	138.0	Fine grained dark grey green moderately propyllitic	1.2	*1*			Back into the similar type of aglomerate unit encountered before the aphanitic ash flow. No quartz eyes seen and the amount of magnetite has decreased.	230406	0.014	0.058
138.0	140.0		1.0	*0.6*				230407	0.013	0.019

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
140.0	142.0	Fine grained dark grey green strongly propyllitic	1.0 **0.0**	*1*		Trace of chalcopyrite within a potassic altered andesite fragments.	230408	0.012	0.038
142	143.6	**IN-SITU BRECCIATED HETEROLITHIC LAPILLI-TUFF**							
142.0	143.6	Fine grained dark grey green moderately propyllitic	1.0	*0.4*		Similar aphanitic grey tuffaceous unit encountered above. Upper and lower contacts are 45 deg to the core axis.	230409	0.012	0.026
143.6	144.8	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
143.6	144.8	Fine grained dark grey green moderately propyllitic	1.5	*0.9*		Similar to the one encountered above.	230410	0.016	0.042
144.8	154.5	**MASSIVE TUFFACEOUS FLOW**							
144.8	147.0	Fine grained dark grey green moderately propyllitic	1.5	*88.3*	FAB 45	Similar dark grey aphanitic tuffaceous flow with minor amounts of feldspar phenocrysts and vesicles. Long axis of the feldspar oriented 40-50 deg to the core axis. No flow banding is visible.	230411	0.015	0.001
147.0	150.0		1.5	*84.8*		25% lost core.	230412	0.008	0.001
150.0	153.0	Fine grained moderately phyllic	4.0	*0.1*		25% lost core. Phyllic alteration is dominant with sericite, pyrite, quart and chlorite present. Alteration has obliterated most of the characteristics of the rock.	230413	0.013	0.007
153.0	154.5		4.0	*0.1*	FLT 50 3		230414	0.017	0.014
154.5	177.6	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
154.5	156.0	Medium to coarse grained grey green moderately propyllitic	1.0	*0.7*		The unit has now gone back into a similar aglomerate unit as before. Propylitic alteration is dominant with epidote, chlorite, sericite, minor hematite and pyrite present. Magnetite present as fine black specks. 2-3% veining composed of calcite, zeolite and a trace amount of wollastinite. Vein orientation is 10-20 and 50-60 deg to the core axis. Pyrite mineralization is present disseminated within the matrix and within veins and clasts. No quartz eyes seen.	230415	0.007	0.044
156.0	158.0		0.3	*50*			230416	0.001	0.001
158.0	160.0		0.3	*31*			230417	0.002	0.061

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
160.0	162.0	Fine to medium grained grey green moderately propyllitic	0.5		*0.9*	FLT	30	2		230418	0.012	0.055
162.0	164.0	Fine to medium grained moderately propyllitic	0.3		*0.6*	FLT	60	3	Sphalerite present within veins and within some clasts. Sericite alteration has increased.	230419	0.014	0.030
164.0	166.0		0.2		*0.8*					230420	0.003	0.023
166.0	168.0	Fine to medium grained dark grey green moderately propyllitic	0.4		*0.5*					230421	0.004	0.022
168.0	170.0	Fine to medium grained dark grey green strongly propyllitic	0.2		*0.3*					230422	0.008	0.019
170.0	172.0		0.2		*1*					230423	0.008	0.043
172.0	174.0	Fine grained dark grey green strongly propyllitic	1.5	**0.0**		FLT	30	2	Chalcopyrite seen within a phyllic altered fragment.	230424	0.012	0.078
174.0	176.0	Fine grained grey strongly propyllitic	3.0	**0.0**	*0.3*	FLT	40	5	Strong chlorite alteration. Chalcopyrite seen within a vein.	230426	0.014	0.145
176.0	177.6	Fine to coarse grained green grey intensely propyllitic	1.3	**0.0**	*0.8*				Chalcopyrite seen within a clast.	230427	0.034	0.118
177.6	200.2	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**										
177.6	179.0	Fine to coarse grained green grey intensely propyllitic	0.5		*0.8*				The amount of blocky material has decreased to 30-40% with 60-70% lapilli/ash matrix. Fragments are still similar to the aglomerate unit above as well as the matrix. Intense epidote alteration has obliterated most of the characteristics of the rock. Strong sericite and chlorite alteration present. 2-3% veining present and composed of calcite and zeolite. Vein orientation is 30-50 deg to the core axis. No quartz eyes seen, no magnetite seen. Minor pyrite mineralization present within the matrix and clasts.	230428	0.007	0.023
179.0	181.0		0.6		*1.4*					230429	0.030	0.012
181.0	183.0		0.5		*3*	FLT	60	1		230430	0.007	0.031
183.0	185.0		0.7		*1*					230431	0.005	0.010
185.0	187.0		0.6		*2.1*					230432	0.012	0.017
187.0	189.0		0.3		*1.5*					230433	0.009	0.023

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
189.0	191.0	Fine to coarse grained green grey intensely propyllitic	0.3		*1.4*				230434	0.017	0.027
191.0	193.0	Fine to coarse grained dark grey green strongly propyllitic	0.4		*1.6*				230435	0.013	0.001
193.0	195.0		0.4		*51*				230436	0.009	0.001
195.0	197.0		0.2		*5*				230437	0.010	0.012
197.0	199.0		0.3	**0.0**	*18.4*			Trace of chalcopyrite within a vein. Spotty wollastinite seen within some veins.	230438	0.010	0.018
199.0	200.2		0.7		*16.6*				230439	0.007	0.027
200.2	207.5	**FRAGMENTAL RHYOLITE CLAST BEARING AGLOMERATE**									
200.2	202.0	Fine grained dark grey green moderately propyllitic	1.2		*0.9*	CNT	35	QFP clasts are present within a small interval from 200.2m to 207.5m. Clasts are only 1cm to 5cm in size. QFP clasts represent ~7% of the section. Amount of chlorite alteration has increased. Other clasts include other intrusive material, mafic material. Alteration of some clasts has obliterated their characteristics. Matrix is fine grained intermediate in composition. Pyrite mineralization is present disseminated within the matrix, within veins and within clasts. 4-6% veining composed of calcite and zeolite with an orientation of 30-40 deg to the core axis. Trace of magnetite present within the matrix and within the clasts. No quartz eyes seen. Epidote alteration within the matrix and clasts. Upper contact is 35 deg to the core axis and the lower contact is 30 deg to the core axis.	230440	0.018	0.056
202.0	204.0	Fine grained dark grey green intensely propyllitic	2.0		*3.6*				230441	0.022	0.059
204.0	206.0	Fine grained dark grey green strongly propyllitic	1.5		*1.6*				230442	0.020	0.077
206.0	207.5		3.0		*1*				230443	0.017	0.045
207.5	211	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
207.5	209.0	Fine grained dark grey green strongly propyllitic	2.0	*21.4*				Unit is similar to the lithic tuff/aglomerate encountered before the unit with the QFP clasts.	230444	0.021	0.054
209.0	211.0		2.4	*26.8*					230445	0.018	0.054
211	226.1	**FRAGMENTAL RHYOLITE CLAST BEARING AGLOMERATE**									
211.0	213.0	Fine grained dark grey green moderately propyllitic	1.3	*2*	CNT	35		QFP clasts are present within a small interval from 211.0m to 226.1m. Clasts are only 1cm to 7cm in size. QFP clasts represent ~7% of the section. Amount of chlorite alteration has increased. Other clasts include other intrusive material, mafic material. Alteration of some clasts has obliterated their characteristics. Matrix is fine grained intermediate in composition. Pyrite mineralization is present disseminated within the matrix, within veins and within clasts. 4-6% veining composed of calcite and zeolite with an orientation of 50-60 deg to the core axis. Trace of magnetite present within the matrix and within the clasts. No quartz eyes seen. Epidote alteration within the matrix and clasts. Upper contact is brecciated and the lower contact is 35 deg to the core axis.	230446	0.022	0.057
213.0	215.0		3.0	*0.5*					230447	0.025	0.089
215.0	217.0		3.1	*23.9*					230448	0.025	0.077
217.0	219.0	Fine grained dark grey green weakly propyllitic	2.0	*1.1*					230449	0.021	0.069
219.0	221.0	Fine grained dark grey green moderately propyllitic	2.6	*0.5*	FLT	50	1		230451	0.022	0.089
221.0	223.0		3.0	*0.7*					230452	0.017	0.087
223.0	225.0		3.0	*0.7*					230453	0.021	0.072
225.0	226.1		1.5	*0.6*					230454	0.017	0.077
226.1	238	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
226.1	228.0	Fine grained dark green intensely propyllitic	4.0		*1.6*		Fragmental aglomerate unit with a high amount of mafic (Takla?) fragments that are strongly altered. Chlorite alteration dominates within the clasts with minor amounts of sericite, biotite and quartz. Some of the mafic clasts are potassic altered. Alteration has oblieterated the characteristics of the clasts. Matrix is fine grained and dominated by epidote alteration with chlorite and minor hematite and sericite. 3-5% veining composed of calcite, zeolite and spotty wollastinite. Vein orientation is 35-60 deg to the core axis with some minor veins almost parallel to the core axis. Magnetite present as fine black specks within the matrix and within clasts. No quartz eyes seen. Pyrite mineralization present within veins, disseminated within the matrix and within clasts.	230455	0.038	0.091
228.0	230.0	Fine grained green strongly propyllitic	2.0		*1.4*			230456	0.055	0.097
230.0	232.0	Fine grained dark green black intensely propyllitic	5.0	**0.0**	*18.5*		Trace of chalcopyrite within a vein. Minor anhydrite has shown up within the veins.	230457	0.069	0.119
232.0	234.0		7.0	**0.0**	*32.4*		Trace of chalcopyrite within a vein.	230458	0.033	0.120
234.0	236.0		7.0		*35.3*		Trace of molybenum within a vein.	230459	0.032	0.103
236.0	238.0	Fine grained green intensely propyllitic	5.0		*2.1*		Chlorite alteration has increased within the matrix with a decrease in the amount of epidote altertion.	230460	0.024	0.107
238	249.1	**FRAGMENTAL HETEROLITHIC CRYSTAL-LITHIC TUFF**								
238.0	240.0	Fine to coarse grained green intensely propyllitic	6.0		*1.4*		Unit has changed into a more tuffaceous unit with 10-15% clasts of mafic fragments (Takla?). Alteration has obliterated most of the characteristics of the rock. Chlorite and epidote dominated within the matrix with chlorite dominating within the clasts. Sericite alteration is present within the matrix. No visible quartz eyes present. Trace of magnetite present. Pyrite mineralization is disseminated within the matrix and within veins. Veining is similar to the unit above.	230461	0.014	0.116
240.0	242.0		7.5		*2.9*			230462	0.024	0.144
242.0	244.0		7.0		*1.2*			230463	0.020	0.159

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
244.0	246.0	Fine to coarse grained green intensely propyllitic	7.0 **0.0**	*0.8*		Trace of chalcopyrite within a vein.	230464	0.025	0.147
246.0	248.0		7.0	*20.3*		Sphalerite seen within the matrix.	230465	0.020	0.139
248.0	249.1		5.0	*1.6*			230466	0.026	0.123
249.1	262	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
249.1	251.0	Fine to coarse grained green strongly propyllitic	6.0	*0.9*		Similar aglomerate unit encountered before the crystal lithic tuff unit. Gradational contact.	230467	0.025	0.097
251.0	253.0		6.5	*2*			230468	0.031	0.119
253.0	255.0		6.0	*0*	FLT 45 4		230469	0.030	0.149
255.0	257.0	Fine to coarse grained green strongly phyllic	7.0 **0.0**	*1.6*		Trace of chalcopyrite within a vein. Amount of anhydrite and sericite have increased along with the chlorite. Epidote has decreased to weak to none.	230470	0.027	0.102
257.0	259.0		8.0 **0.0**	*0.6*			230471	0.022	0.069
259.0	261.0	Fine to coarse grained green moderately potassic - chlorite-sericite-biotite	7.0 **0.0**	*0.5*		Unit has now become predominantly potassic altered with chlorite, sericite and minor biotite present.	230472	0.039	0.133
261.0	262.0	Fine to coarse grained green strongly potassic - chlorite-sericite-biotite	9.0 **0.2**	*0.5*			230473	0.055	0.263
262	263.3	**MASSIVE CALCITE**							
262.0	263.3	Fine grained	0.1	*0.3*	SHR 20	Shear zone noted by calcite, minor quartz and clay. Upper contact is 20 deg to the core axis and the lower contact is 15 deg to the core axis.	230474	0.037	0.104
263.3	301.4	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
263.3	265.0	Fine grained dark green strongly potassic - chlorite-sericite-biotite	5.0 **0.0**	*0.3*	SHR	15	7	Strongly potassic altered andesite unit. Andesite unit changes from a homogeneous breccia fragmental unit to a more massive flow with minor in-situ brecciation. Some AAP sections are present. Alteration is predominately potassic with strong chlorite and sericite with biotite and quartz in sections. Some Takla fragments within the breccia sections are QSP altered. The matrix of the breccia sections are composed of remnant Takla material (andesite). Magnetite present within veins and increases down the hole. 4-6% veining oriented 30-50 deg to the core axis and 65-80 deg to the core axis. Veining is composed of calcite, quartz, anhydrite, minor zeolite and wollastinite (noted by hardness and radial pattern). Pyrite is present within veins and disseminated within the unit and fragments. Trace of chalcopyrite present within the veins and disseminted. Trace of epidote and hematite still present within the veins, but decreases to not present down the hole. A chlorite halo surrounds some of the veins and increases down the hole. Shear zone from 264.7-264.9 m composed of calcite veining with some zeolite. Ash and clay from ground up host rock present. Shear orientation is 15 deg to the core axis.	230476	0.032	0.123
265.0	267.0	Fine grained dark green brown strongly potassic - chlorite-sericite-biotite	5.0 **0.0**	*0.2*					230477	0.023	0.045
267.0	269.0	Fine grained dark green strongly potassic - chlorite-sericite	8.0 **0.0**	*0.1*					230478	0.011	0.057
269.0	271.0	Fine grained dark green strongly potassic - chlorite-sericite-biotite	9.0 **0.0**	*0.5*					230479	0.015	0.046
271.0	273.0	Fine grained dark green grey strongly potassic - chlorite-sericite-biotite	8.5	*0.3*					230480	0.021	0.042
273.0	275.0		8.0 **0.0**	*1.1*					230481	0.032	0.051

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
275.0	277.0	Fine grained dark green brown strongly potassic - chlorite-sericite-biotite	8.0 **0.0**	*0.9*					230482	0.026	0.037
277.0	279.0	Fine grained green strongly potassic - chlorite-biotite-quartz	9.0 **0.0**	*2.2*					230483	0.028	0.045
279.0	281.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	9.5 **0.0**	*0.9*					230484	0.029	0.060
281.0	283.0	Fine grained red strongly potassic - biotite-quartz-chlorite	8.0	*0.8*					230485	0.037	0.046
283.0	285.0		10.0 **0.5**	*0.9*					230486	0.034	0.052
285.0	287.0		10.0 **0.1**	*0.7*					230487	0.036	0.062
287.0	289.0		4.5 **0.0**	*0.6*					230488	0.030	0.057
289.0	291.0	Fine grained dark green brown strongly potassic - biotite-quartz-chlorite	6.0 **0.1**	*0.6*	SHR	30	2		230489	0.034	0.050
291.0	293.0	Fine grained dark green brown intensely potassic - biotite-quartz-chlorite	7.0 **0.1**	*0.7*					230490	0.050	0.049
293.0	295.0		6.5	*0.3*					230491	0.032	0.049
295.0	297.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	7.0 **0.1**	*0.5*					230492	0.028	0.052
297.0	299.0	Fine grained brown intensely potassic - biotite-sericite-chlorite	6.5 **0.0**	*0.2*					230493	0.017	0.057
299.0	301.4	Fine grained dark green brown intensely potassic - biotite-sericite-chlorite	7.0 **0.0**	*0.5*	FLT	15	8	For the first 30 cm of the interval is some broken core.	230494	0.030	0.034
301.4	302.1	**MASSIVE MONZONITE DYKE**									

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
301.4	302.1	Medium to coarse grained green strongly phyllic	5.0	*0.8*		Strong phyllicaly altered monzonite dike. Phyllic alteration has obliterated most of the characteristics of the rock. Most of the feldspar crystals have been altered to sericite and chlorite. Quartz is still present with most of the mafic minerals altered to chlorite and sericite. 1-3% veins filled with anhydrite, quartz, zeolite, calcite and wollastinite. Vein orientation is 30-45 deg to the core axis. Upper contact is 45 deg to the core axis and the lower contact is brecciated. Minor pyrite mineralization is present within the veins and disseminated within the matrix.	230495	0.012	0.023
302.1	309.8	**MASSIVE ANDESITE FLOW**							
302.1	303.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	6.0	*0.5*		Back into the similar potassic altered encountered before the mozonite dike.	230496	0.024	0.039
303.0	305.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	7.0	*0*	SHR 30 2		230497	0.024	0.040
305.0	307.0	Fine grained dark green strongly potassic - chlorite-sericite	8.0 **0.0**	*0.7*		Vuggy veins.	230498	0.045	0.058
307.0	309.0	Fine grained dark green strongly potassic - chlorite-sericite-biotite	7.0 **1.0**	*0.6*			230499	0.080	0.111
309.0	309.8	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	6.5 **0.0**	*1.2*			231001	0.042	0.046
309.8	315.6	**FRAGMENTAL MAFIC VOLCANIC**							
309.8	311.0	Fine grained dark green strongly potassic - chlorite-biotite-quartz	6.0 **0.0**	*0.7*		Unit has transitioned into a fragmental epiclastic unit. Clasts are takla (andesite, AAP) and are subrounded. Matrix is composed of fine grained mafic material that is altered to chlorite and sercite. Minor siliceous overprint present. Clasts are altered to chlorite, biotite, quartz and sericite. 2-3% veining composed of calcite mainly and the orientation is 10-20 deg to the core axis. Pyrite mineralization present within the matrix and within clasts. Upper contact is 50 deg to the core axis and lower contact is 40 deg to the core axis.	231002	0.037	0.048

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
311.0	313.0	Fine grained dark green strongly potassic - chlorite-biotite-quartz	6.5	*1.4*					231003	0.045	0.069
313.0	315.0		4.0	*0.3*				K-spar has become present within the veins. Vuggy veins.	231004	0.036	0.053
315.0	315.6		2.0	*0.5*					231005	0.040	0.052
315.6	321	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
315.6	317.0	Fine grained red green strongly potassic - biotite-quartz-chlorite	5.0	*0.9*				Back into the similar potassic altered andesite unit encountered before the epiclastic unit.	231006	0.040	0.043
317.0	319.0	Fine grained red strongly potassic - biotite-quartz-chlorite	6.0 **0.0**	*0.2*					231007	0.043	0.100
319.0	321.0		7.0 **0.0**	*0.1*				Trace of molybdenum within a vein.	231008	0.036	0.044
321	327	**MASSIVE ANDESITE FLOW**									
321.0	323.0	Fine grained red strongly potassic - biotite-quartz-chlorite	7.5 **0.1**	*6.7*	FLT	25	1	Amount of anhydrite is increasing down the hole.	231009	0.033	0.036
323.0	325.0	Fine grained dark green strongly potassic - biotite-chlorite-quartz	6.0	*0.9*					231010	0.046	0.044
325.0	327.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	9.0 **0.1**	*20.5*	FLT	40	7		231011	0.031	0.049
327	333	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
327.0	329.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	8.0 **0.1**	*0.3*				Minor increase in augite phenocrysts to 3-5%. Augite phenocrysts are 2-4 mm in size with some altered to chlorite and containing pyrite.	231012	0.056	0.066
329.0	331.0		7.0 **0.1**	*0.5*					231013	0.052	0.046
331.0	333.0		8.0 **0.1**	*0.9*				Trace of molybdenum within vein.	231014	0.052	0.053
333	339	**MASSIVE ANDESITE FLOW**									
333.0	335.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	8.0 **0.3**	*65.9*					231015	0.052	0.055
335.0	337.0	Fine grained red green intensely potassic - biotite-chlorite-quartz	7.0	*1.1*					231016	0.044	0.046
337.0	339.0		6.0 **0.7**	*0.3*					231017	0.044	0.062

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
339	343	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
339.0	341.0	Fine grained dark green intensely potassic - chlorite-biotite-quartz	7.5 **0.3**	*1.8*				Molybenum present within couple of veins.	231018	0.041	0.045
341.0	343.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	7.0 **0.0**	*2.2*					231019	0.053	0.054
343	356.6	**IN-SITU BRECCIATED ANDESITE FLOW**									
343.0	345.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	6.7 **0.1**	*1*					231020	0.038	0.048
345.0	347.0		7.2 **0.1**	*0.4*	SHR	20	5		231021	0.046	0.072
347.0	349.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.0 **0.3**	*5.6*	SHR	20	3		231022	0.050	0.187
349.0	351.0	Fine grained red green intensely potassic - biotite-chlorite-quartz	7.0 **0.2**	*0.6*					231023	0.036	0.076
351.0	353.0	Fine grained dark green brown intensely potassic - biotite-chlorite-quartz	6.5 **0.2**	*0.6*					231024	0.045	0.056
353.0	355.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.7 **0.0**	*0.7*					231026	0.035	0.103
355.0	356.6		6.7 **0.3**	*1.8*					231027	0.064	0.210
356.6	362	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
356.6	358.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.5 **0.2**	*1.7*				Similar andesite unit above except the unit contains 10-15% augite phenocrysts 2-5 mm in size.	231028	0.059	0.070
358.0	360.0		8.0	*12.3*					231029	0.056	0.373
360.0	362.0		8.5 **0.2**	*1.2*					231030	0.056	0.054
362	366	**MASSIVE ANDESITE FLOW**									
362.0	364.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.0 **0.1**	*5.8*				Unit has transitioned back into a more massive andesite flow. Molybdenum seen within a vein.	231031	0.035	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
364.0	366.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	6.5 **0.1**	*85.2*			231032	0.029	0.057
366	370	**IN-SITU BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**							
366.0	368.0	Fine grained dark green grey intensely potassic - chlorite-biotite-quartz	6.7 **0.1**	*1.4*			231033	0.036	0.039
368.0	370.0		7.7 **0.8**	*4.3*			231034	0.050	0.227
370	372	**FRAGMENTAL ANDESITIC AUGITE PORPHYRY VOLCANIC**							
370.0	372.0	Fine grained green intensely potassic - chlorite-biotite-quartz	7.3 **0.1**	*140*			231035	0.043	0.046
372	373	**IN-SITU BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**							
372.0	373.0	Fine grained green intensely potassic - chlorite-biotite-quartz	6.4 **0.1**	*46.2*			231036	0.056	0.059
373	378.7	**IN-SITU BRECCIATED ANDESITE FLOW**							
373.0	375.0	Fine grained green intensely potassic - chlorite-biotite-quartz	6.7 **0.2**	*11.7*			231037	0.068	0.219
375.0	377.0		7.8 **0.3**	*0*	FLT 60 4	Broken patches of core.	231038	0.130	0.151
377.0	378.7	Fine grained dark green intensely potassic - chlorite-biotite-quartz	6.2 **0.3**	*0.8*			231039	0.082	0.178
378.7	388	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
378.7	380.0	Fine grained dark green intensely potassic - chlorite-biotite-quartz	6.6 **0.2**	*0*			231040	0.085	0.114
380.0	382.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	8.1 **1.0**	*0.2*		Vuggy veins and patchy broken core.	231041	0.096	0.122
382.0	384.0		7.7 **0.5**	*52.9*			231042	0.104	0.141
384.0	386.0		9.0 **0.7**	*11.3*			231043	0.069	0.096
386.0	388.0	Fine grained green intensely potassic - chlorite-biotite-quartz	5.7 **0.1**	*65*			231044	0.049	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
388	398	**MASSIVE ANDESITE FLOW**							
388.0	390.0	Fine grained dark green intensely potassic - chlorite-biotite-quartz	6.9 **0.3**	*22.2*			231045	0.031	0.036
390.0	392.0		6.5 **0.4**	*78.3*			231046	0.025	0.031
392.0	394.0	Fine grained green intensely potassic - chlorite-biotite-quartz	5.7 **0.3**	*1.1*			231047	0.061	0.073
394.0	396.0		4.5 **0.1**	*0.7*			231048	0.050	0.056
396.0	398.0		5.6 **0.3**	*0.8*			231049	0.059	0.049
398	400.3	**MASSIVE CALCITE VEIN**							
398.0	400.3	Fine grained white	3.0 **0.6**	*0.6*		Massive calcite, feldspar, zeolite vein with reworked fragments of potassic altered andesite. Pyrite and chalcopyrite are present. Upper contact is 50 deg to the core axis and the lower contact is 45 deg to the core axis.	231051	0.017	0.016
400.3	408.3	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
400.3	402.0	Fine grained green intensely potassic - chlorite-biotite-quartz	6.0 **0.1**	*1*		Start of an AAP section. 8-12% augite phenocrysts ranging in size from 1-4mm. Altertion, rock type, veining and mineralization are similar before the vein.	231052	0.084	0.076
402.0	404.0		7.0 **0.1**	*1.6*			231053	0.053	0.067
404.0	406.0	Fine grained green intensely potassic - chlorite-biotite-sericite	6.0 **0.1**	*0.5*			231054	0.049	0.071
406.0	408.3	Fine grained green intensely potassic - chlorite-biotite-quartz	7.2 **0.1**	*0.8*			231055	0.073	0.105
408.3	422.2	**MASSIVE ANDESITE FLOW**							
408.3	410.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	6.7 **0.1**	*1.2*		Augite phenocrysts have decreased to 2-4%.	231056	0.129	0.153
410.0	412.0	Fine grained dark green intensely potassic - chlorite-biotite-quartz	6.4	*6.8*			231057	0.056	0.147
412.0	414.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.5 **0.0**	*0.8*			231058	0.044	0.283

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
414.0	416.0	Fine grained dark green intensely potassic - chlorite-biotite-quartz	7.2 **0.1**	*1*		Trace of molybenum within a vein.	231059	0.032	0.072
416.0	418.0		5.0 **0.0**	*2.3*	FLT 50 1		231060	0.070	0.093
418.0	420.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	9.0 **1.0**	*2.9*			231061	0.119	0.141
420.0	422.2		9.5 **0.0**	*26.2*			231062	0.065	0.089
422.2	425	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
422.2	424.0	Fine grained red green intensely potassic - chlorite-biotite-quartz	7.0 **0.5**	*1.2*		Unit is fragmental with clasts of andesite dominating with a fine grained matrix of broken volcanic material. 60-75% clasts angular in shape and 1-6 cm in size. Biotite, chlorite and quartz alteration dominate. Pyrite mineralization is disseminated within the matrix, veins an clasts. Chalcopyrite within some veins. 1-2% veining composed of quartz and oriented 50-60 deg to the core axis. Magnetite present within the clasts.	231063	0.088	0.101
424.0	425.0		4.0 **0.3**	*0.5*			231064	0.124	0.118
425	455.9	**MASSIVE ANDESITE FLOW**							
425.0	426.0	Fine grained red green intensely potassic - chlorite-biotite-quartz	5.0 **0.3**	*0.4*		Back into a similar potassic altered andesite.	231065	0.050	0.056
426.0	428.0	Fine grained dark green brown intensely potassic - chlorite-biotite-quartz	7.0 **0.2**	*15.1*			231066	0.067	0.076
428.0	430.0		7.2 **0.1**	*3.4*			231067	0.058	0.074
430.0	432.0	Fine grained intensely potassic - biotite-sericite-chlorite	6.0	*0.5*	SHR 20 2		231068	0.056	0.090
432.0	434.0	Fine grained brown grey strongly potassic - sericite-chlorite	4.0	*0.2*		Vuggy veins.	231069	0.092	0.108
434.0	436.0	Fine grained grey strongly potassic - sericite-chlorite	5.0	*0.2*		Alteration is dominated by sericite and chlorite with pyrite giving the mottled look to the rock.	231070	0.071	0.077
436.0	438.0	Fine grained grey brown strongly potassic - biotite-sericite-quartz	5.0 **0.1**	*0.3*		Biotite alteration is dominant.	231071	0.050	0.056

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
438.0	440.0	Fine grained red green intensely potassic - biotite-chlorite-quartz	6.0	*0.7*			231072	0.146	0.151
440.0	442.0	Fine grained grey strongly potassic - sericite-quartz-chlorite	3.3 **0.1**	*0.6*			231073	0.081	0.056
442.0	444.0		4.0 **0.0**	*0.3*		Trace of molybenum within a quartz vein.	231074	0.043	0.026
444.0	446.0		4.3 **0.0**	*0*			231076	0.037	0.041
446.0	448.0		2.5 **0.0**	*0.5*			231077	0.058	0.041
448.0	450.0		3.0 **0.1**	*0.4*			231078	0.054	0.050
450.0	452.0		3.0	*0.3*		Minor hematite staining within the veins.	231079	0.058	0.055
452.0	454.0		4.0 **0.0**	*0.5*			231080	0.115	0.124
454.0	455.9	Fine grained red green weakly hematitic	2.0 **0.1**	*0.4*			231081	0.101	0.288
455.9	457	**PORPHYRITIC QUARTZ MONZONITE DYKE**							
455.9	457.0	Medium to coarse grained weakly hematitic	2.0 **0.1**	*0.5*	DYK 10	Unit contains 75-85% felspars, 10-20% quartz and 5-10% mafic minerals. Quartz phenocrysts present 2-4mm in size with the odd feldspar crystal present. Minor hematite staining of the feldspar grains and within the veins. Upper contact is veined and vuggy with magnetite and epidote present, contact angle is brecciated. Lower contact is 10 deg to the core axis. Pyrite and chalcopyrite are found at the upper contact within the vein. Contact vein is composed of quartz, anhydrite and zeolite.	231082	0.145	0.109
457	473.4	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
457.0	459.0	Fine to medium grained dark green moderately potassic - chlorite-quartz-biotite	5.0	*19.4*		Unit is fragmental composed of 55-65% clasts with a mafic fine to medium grained matrix. Clasts range in size from 0.5-8 cm. The clasts compose massive andesite, basalt, AAP, BFP and intrusive (monzonite). Takla fragments are mostly potassic altered with few phyllic altered clasts. Monzonite fragments appear unaltered. Pyrite mineralization is present within the matrix, clasts an veins. 4-6% veining composed of calcite, zeolite and anhydrite oriented 15-20 and 40-60 deg to the core axis. Magnetite present within mafic clasts. Chloite, quartz with minor biotite an sericite are the alterations present within the matrix and clasts.	231083	0.139	0.134
459.0	461.0		7.0	*0.8*		Trace of molybenum within an intrusive clast.	231084	0.145	0.136
461.0	463.0		6.5 **0.0**	*1*		Trace of chalcopyrite within an andesite clast.	231085	0.174	0.161
463.0	465.0		4.6 **0.0**	*0.5*		Trace of chalcopyrite within an andesite clast. Trace of molybenum within an intrusive clast.	231086	0.139	0.136
465.0	467.0		5.3 **0.0**	*1.1*		Trace of chalcopyrite within a vein.	231087	0.119	0.116
467.0	469.0	Fine to medium grained dark green moderately potassic - quartz-chlorite-biotite	5.7 **0.7**	*0.6*		Chalcopyrite seen within andesite and intrusive clasts.	231088	0.162	0.164
469.0	471.0		4.2 **0.0**	*7.1*			231089	0.120	0.127
471.0	473.4		3.3 **0.0**	*7.4*			231090	0.131	0.089
473.4	475	**FRAGMENTAL HETEROLITHIC FAULT ZONE**							
473.4	475.0	Fine grained pink black moderately clay altered	0.0 **0.0**	*9.8*	SHR 20	Shear zone/faults zone noted by clay, chlorite, round and ground up clasts of the andesite unit above and the quartz monzonite unit below. Calcite, zeolite, quartz veining is persistent through the fault in the shear direction. Upper contact and lower contact is 20 deg to the core axis. Trace of disseminated pyrite present.	231091	0.094	0.089
475	490.2	**PORPHYRITIC HETEROLITHIC INTRUSION BRECCIA**							

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
475.0	477.0	Medium to coarse grained pink grey moderately hematitic	0.5 **0.0**	*28.8*		Unit is brecciated quartz monzonite and quartz monzodiorite with phenocrysts of quartz, minor feldspars and altered mafic minerals. Unit contains 75-85% feldspars, 10-20% quartz and 5-10% mafic minerals. Hematite stain is patchy throughout the unit with spotty siliceous patches. Matrix between clasts of the brecci are fine grained and intermediate in composition. 1-2% andesite (Takla?) fragments present Minor amount of augites are altered to biotite and chlorite. Minor amounts of the feldspars are altered to sericite. Magnetite present as fine black specks (~1%). Unit changes to massive down the hole. 7-10% veining composed of calcite, zeolite and quartz oriented 45-65 deg to the core axis. Minor pyrite is disseminated and within veins. Chalcopyrite is present within the quartz monzonite associated with mafic minerals and in quartz veins. Trace of epidote is seen within the veins. Large phenocrysts of hornblende present.	231092	0.086	0.061
477.0	479.0		0.3	*25.9*	SHR 20 2		231093	0.050	0.040
479.0	481.0		0.3 **0.0**	*46.2*			231094	0.056	0.058
481.0	483.0		0.2	*11.7*			231095	0.086	0.088
483.0	485.0		0.4	*83.1*			231096	0.043	0.045
485.0	487.0		0.2	*61.6*			231097	0.084	0.089
487.0	489.0		0.3	*106*			231098	0.083	0.090
489.0	490.2		0.4 **0.0**	*118*			231099	0.101	0.111
490.2	492.7	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
490.2	492.7	Fine to coarse grained pink grey moderately hematitic	0.7 **0.0**	*6*		Small unit that is composed of clasts of quartz monzonite, quartz monzodioite and takla andesites. Clasts are angular and range in size from 0.5-7 cm. Matrix is composed of ground up quartz monzonite and monzodiorite material. Hematite staining is still present along with weak chlorite and sericite alteration. Upper contact is 20 deg to the core axis and the lower contact is 25 deg to the core axis.	231101	0.083	0.090
492.7	541.1	**PORPHYRITIC HETEROLITHIC INTRUSION BRECCIA**							
492.7	494.0	Medium to coarse grained pink grey weakly silicified (non-K)	0.4 **0.0**	*85.7*		Back into the brecciated quartz monzodiorite and quartz monzodiorite encountered before.	231102	0.011	0.021
494.0	496.0	Medium to coarse grained grey weakly silicified (non-K)	0.1	*62.1*			231103	0.003	0.014
496.0	498.0	Medium to coarse grained grey pink weakly hematitic	0.1	*41.5*			231104	0.008	0.008
498.0	500.0	Medium to coarse grained grey pink weakly silicified (non-K)	1.0	*48.8*			231105	0.010	0.009
500.0	502.0	Medium to coarse grained pink grey weakly hematitic	0.7	*61.7*			231106	0.014	0.010
502.0	504.0		0.3 **0.3**	*52.4*			231107	0.055	0.072
504.0	506.0		0.3 **0.5**	*61.7*		Trace of molybenum within a quartz vein.	231108	0.184	0.162
506.0	508.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.3	*60*			231109	0.050	0.138
508.0	510.0		0.2 **0.1**	*5.8*			231110	0.071	0.113
510.0	512.0		0.4 **0.1**	*44.7*			231111	0.115	0.086
512.0	514.0		0.3 **0.0**	*63.3*			231112	0.045	0.049
514.0	516.0		0.3 **0.0**	*55.8*		BFP clast present. Trace of molybenum within a quartz vein.	231113	0.034	0.076
516.0	518.0		0.4 **0.0**	*4.9*		Vuggy veins.	231114	0.032	0.023
518.0	520.0		0.2	*34.4*			231115	0.050	0.057

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
520.0	522.0	Medium to coarse grained grey pink weakly hematitic	0.1	*21.8*			231116	0.021	0.031
522.0	524.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.2 **0.0**	*33.8*			231117	0.049	0.049
524.0	526.0		0.3 **0.0**	*46.8*			231118	0.049	0.051
526.0	528.0		0.2	*50.4*			231119	0.043	0.033
528.0	530.0		0.2 **0.0**	*44.2*			231120	0.028	0.021
530.0	532.0		0.1	*0.7*			231121	0.018	0.012
532.0	534.0		0.1	*58.3*	SHR 20 1		231122	0.026	0.017
534.0	536.0		0.1 **0.0**	*63.4*			231123	0.026	0.019
536.0	538.0	Medium to coarse grained grey weakly silicified (non-K)	0.1	*68.2*			231124	0.005	0.005
538.0	540.0	Medium to coarse grained dark grey weakly silicified (non-K)	0.1	*56.6*			231126	0.006	0.011
540.0	541.1	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.2	*60.2*			231127	0.015	0.019
541.1	980	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
541.1	543.0	Fine to medium grained dark grey pink weakly silicified (non-K)	0.2	*44.1*		Unit has now become more massive with no brecciation. Unit is composed of ~70% feldspars, ~20% mafics and ~10% quartz. Large phenocrysts of quartz, feldspar and horblende are present. Magnetite present as coarse crystals. Minor pyrite and trace of chalcopyrite is disseminated within the matrix and present within veins. Unit is hematite staind with patchy siliceous sections.	231128	0.022	0.050
543.0	545.0	Fine to medium grained dark grey weakly silicified (non-K)	0.2	*33.2*	SHR 10 1		231129	0.006	0.005
545.0	547.0	Fine to medium grained dark grey weakly hematitic	0.4	*62*			231130	0.002	0.001
547.0	549.0	Fine to medium grained dark grey pink weakly silicified (non-K)	0.4	*66.1*			231131	0.001	0.006
549.0	551.0	Fine to medium grained dark grey weakly silicified (non-K)	0.2	*45.5*			231132	0.001	0.005

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
551.0	553.0	Fine to medium grained dark grey pink weakly silicified (non-K)	0.1		*56.1*		Epidote alteration is increasing slightly.	231133	0.002	0.001
553.0	555.0	Fine to medium grained dark grey pink weakly hematitic	0.4	**0.0**	*55*			231134	0.004	0.005
555.0	557.0	Fine to medium grained dark grey pink weakly propyllitic	0.2		*52.8*			231135	0.004	0.001
557.0	559.0	Fine to medium grained dark grey pink weakly hematitic	0.1		*60.1*			231136	0.004	0.001
559.0	561.0		0.1		*59.2*			231137	0.008	0.005
561.0	563.0		0.4		*51.9*			231138	0.004	0.006
563.0	565.0		0.1		*43.9*			231139	0.003	0.016
565.0	567.0	Fine to medium grained dark grey pink weakly propyllitic	0.2	**0.0**	*67.3*			231140	0.006	0.001
567.0	569.0	Fine to medium grained dark grey pink weakly hematitic	0.1		*51.6*			231141	0.005	0.007
569.0	571.0	Fine to medium grained dark grey pink weakly silicified (non-K)	0.1	**0.0**	*61.7*			231142	0.004	0.005
571.0	573.0		0.1	**0.0**	*64.3*			231143	0.009	0.007
573.0	575.0	Fine to medium grained dark grey pink weakly hematitic	0.1		*43.6*			231144	0.008	0.007
575.0	577.0		0.1	**0.0**	*53.8*			231145	0.006	0.009
577.0	579.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.2	**0.0**	*62.9*			231146	0.002	0.001
579.0	581.0	Medium to coarse grained dark grey weakly silicified (non-K)	0.2	**0.0**	*60.7*			231147	0.001	0.001
581.0	583.0		0.2	**0.1**	*56.6*			231148	0.027	0.017
583.0	585.0		0.2	**0.0**	*67.1*			231149	0.012	0.011
585.0	587.0	Medium to coarse grained dark grey pink weakly hematitic	0.1	**0.0**	*56.8*			231151	0.013	0.010
587.0	589.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1	**0.0**	*43.2*			231152	0.007	0.006

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
589.0	591.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*55.1*			231153	0.019	0.009
591.0	593.0		0.1 **0.1**	*56.4*			231154	0.030	0.018
593.0	595.0		0.1 **0.1**	*62.6*			231155	0.022	0.012
595.0	597.0		0.1 **0.1**	*43.2*			231156	0.017	0.010
597.0	599.0		0.1 **0.0**	*66.4*			231157	0.008	0.007
599.0	601.0		0.1 **0.1**	*60.7*			231158	0.042	0.026
601.0	603.0		0.1 **0.1**	*63.2*			231159	0.011	0.008
603.0	605.0	Medium to coarse grained dark grey pink weakly hematitic	0.1 **0.1**	*51.6*			231160	0.024	0.016
605.0	607.0		0.0	*65.7*			231161	0.013	0.013
607.0	609.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.2	*65.6*			231162	0.008	0.012
609.0	611.0		0.0 **0.0**	*66.4*			231163	0.014	0.013
611.0	613.0		0.0 **0.0**	*70.4*			231164	0.015	0.014
613.0	615.0		0.1 **0.0**	*40*			231165	0.006	0.007
615.0	617.0		0.1 **0.0**	*68.4*			231166	0.007	0.010
617.0	619.0	Medium to coarse grained dark grey weakly silicified (non-K)	0.1	*52.9*		Patchy chlorite alteration.	231167	0.006	0.013
619.0	621.0		0.1 **0.0**	*47.3*			231168	0.007	0.006
621.0	623.0	Medium to coarse grained dark green pink moderately chloritic	0.1 **0.0**	*39.6*		Chlorite alteration has become dominant with minor hematite staining and veining and minor epidote within the matrix.	231169	0.008	0.010
623.0	625.0		0.1 **0.0**	*38.1*			231170	0.006	0.010
625.0	627.0	Medium to coarse grained dark green maroon moderately chloritic		*37.2*			231171	0.004	0.008
627.0	629.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1	*35.8*			231172	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
629.0	631.0	Medium to coarse grained grey weakly silicified (non-K)	0.1	*65.9*	SHR 50 1		231173	0.003	0.005
631.0	633.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*53.7*			231174	0.005	0.008
633.0	635.0		0.1 **0.0**	*57.1*			231176	0.005	0.009
635.0	637.0	Medium to coarse grained dark green pink weakly chloritic		*48.1*			231177	0.005	0.009
637.0	639.0	Medium to coarse grained green weakly chloritic	0.1 **0.0**	*36.6*	SHR 10 1		231178	0.027	0.013
639.0	641.0	Medium to coarse grained green weakly silicified (non-K)	0.1 **0.0**	*37.5*			231179	0.006	0.007
641.0	643.0	Medium to coarse grained dark grey pink weakly silicified (non-K)		*50.2*			231180	0.013	0.011
643.0	645.0			*40.6*			231181	0.005	0.001
645.0	647.0		0.1 **0.1**	*76.2*			231182	0.024	0.014
647.0	649.0	Medium to coarse grained dark grey moderately silicified (non-K)	**0.0**	*67.9*			231183	0.004	0.006
649.0	651.0		0.1 **0.1**	*67.7*			231184	0.021	0.014
651.0	653.0	Medium to coarse grained dark grey pink moderately silicified (non-K)	0.1 **0.2**	*69.4*			231185	0.037	0.014
653.0	655.0	Medium to coarse grained dark grey moderately silicified (non-K)		*40.9*			231186	0.010	0.008
655.0	657.0	Medium to coarse grained grey moderately hematitic		*47.6*			231187	0.004	0.006
657.0	659.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.0 **0.0**	*63.9*			231188	0.013	0.012
659.0	661.0		0.0 **0.0**	*54.6*			231189	0.004	0.008
661.0	663.0	Medium to coarse grained grey weakly hematitic		*45*			231190	0.003	0.010
663.0	665.0			*59*			231191	0.004	0.007
665.0	667.0	Medium to coarse grained grey moderately hematitic		*59.1*			231192	0.005	0.007

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
667.0	669.0	Medium to coarse grained dark grey weakly silicified (non-K)			*32.3*	FRK	30	8		231193	0.009	0.008
669.0	671.0	Medium to coarse grained dark green moderately chloritic			*43.1*					231194	0.010	0.007
671.0	673.0				*13.1*					231195	0.003	0.005
673.0	675.0	Medium to coarse grained green weakly chloritic			*54.2*					231196	0.001	0.006
675.0	677.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1	**0.1**	*46.7*					231197	0.004	0.005
677.0	679.0		0.0	**0.0**	*42.6*					231198	0.009	0.018
679.0	681.0	Medium to coarse grained grey weakly hematitic	0.0		*58.9*					231199	0.004	0.005
681.0	683.0	Medium to coarse grained pink moderately hematitic	0.0		*37.2*					231201	0.003	0.001
683.0	685.0		0.0		*40.7*					231202	0.002	0.012
685.0	687.0		0.0		*19*					231203	0.002	0.005
687.0	689.0		0.0		*35.8*				Patchy epidote within the matrix and veins.	231204	0.003	0.001
689.0	691.0		0.0		*50.1*					231205	0.016	0.028
691.0	693.0	Medium to coarse grained grey weakly hematitic	0.0	**0.2**	*43.6*					231206	0.039	0.019
693.0	695.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.0	**0.0**	*52.2*					231207	0.002	0.001
695.0	697.0				*53.9*					231208	0.002	0.001
697.0	699.0				*53.6*					231209	0.001	0.001
699.0	701.0				*60*					231210	0.002	0.001
701.0	703.0	Medium to coarse grained grey weakly hematitic	0.0	**0.0**	*63.7*					231211	0.012	0.006
703.0	705.0		0.1	**0.1**	*50.6*					231212	0.022	0.010
705.0	707.0		0.1	**0.1**	*46.2*					231213	0.007	0.008

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
707.0	709.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.0	*52.6*			231214	0.002	0.005
709.0	711.0		0.0	*70.1*			231215	0.007	0.013
711.0	713.0		0.0	*63.7*			231216	0.002	0.005
713.0	715.0	Medium to coarse grained grey weakly hematitic	0.0	*40.5*		Interval contains large magnetic, chlorite and epidote altered clast.	231217	0.002	0.001
715.0	717.0	Medium to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*55.6*			231218	0.002	0.001
717.0	719.0	Medium to coarse grained grey moderately hematitic		*35.9*			231219	0.003	0.001
719.0	721.0		0.1	*52.3*			231220	0.006	0.007
721.0	723.0		0.1	*54.7*			231221	0.002	0.001
723.0	725.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.1 **0.0**	*69.7*			231222	0.004	0.005
725.0	727.0	Medium to coarse grained grey pink weakly hematitic	0.1 **0.1**	*64.4*			231223	0.017	0.014
727.0	729.0			*54*			231224	0.001	0.001
729.0	731.0	Medium to coarse grained grey pink weakly silicified (non-K)		*50.4*		Pathy epidote present.	231226	0.003	0.001
731.0	733.0		0.0 **0.0**	*68.1*			231227	0.001	0.001
733.0	735.0		0.0	*63.3*			231228	0.001	0.001
735.0	737.0		0.2	*43.7*			231229	0.001	0.001
737.0	739.0		0.1	*35.2*		Chlorite alteration at the beginning of the interval.	231230	0.001	0.001
739.0	741.0		0.1	*50.2*			231231	0.001	0.001
741.0	743.0		0.1 **0.0**	*72.1*			231232	0.003	0.001
743.0	745.0	Medium to coarse grained grey pink weakly propyllitic	0.1 **0.0**	*48.9*		Patchy epidote present.	231233	0.005	0.014
745.0	747.0		0.1	*48.1*			231234	0.007	0.007
747.0	749.0		0.1 **0.0**	*73.4*			231235	0.013	0.010

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
749.0	751.0	Medium to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*39.2*		Patchy epidote present.	231236	0.004	0.006
751.0	753.0	Medium to coarse grained grey pink weakly silicified (non-K)		*64.2*			231237	0.003	0.005
753.0	755.0	Medium to coarse grained grey pink weakly hematitic	0.0	*76.3*			231238	0.009	0.010
755.0	757.0	Medium to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*80.5*		Patchy epidote present.	231239	0.006	0.006
757.0	759.0	Medium to coarse grained grey pink moderately hematitic		*49.7*			231240	0.008	0.009
759.0	761.0	Medium to coarse grained grey pink weakly hematitic	0.0	*66.3*			231241	0.009	0.012
761.0	763.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.3 **0.1**	*69*			231242	0.015	0.011
763.0	765.0			*78*			231243	0.011	0.001
765.0	767.0		0.0 **0.0**	*49.6*			231244	0.006	0.007
767.0	769.0		0.0 **0.0**	*73.9*			231245	0.005	0.001
769.0	771.0		0.0 **0.1**	*65.3*			231246	0.020	0.030
771.0	773.0		0.0 **0.0**	*56.9*			231247	0.003	0.007
773.0	775.0		0.1 **0.1**	*66.8*			231248	0.016	0.013
775.0	777.0	Medium to coarse grained grey pink weakly hematitic		*58.5*			231249	0.003	0.001
777.0	779.0	Medium to coarse grained grey pink weakly propyllitic	0.1 **0.1**	*80.1*		Patchy epidote present.	231251	0.009	0.009
779.0	781.0	Medium to coarse grained pink grey weakly propyllitic	0.0 **0.1**	*79.3*			231252	0.006	0.009
781.0	783.0	Medium to coarse grained grey weakly propyllitic		*45.1*		Patchy epidote and chlorite present.	231253	0.003	0.001
783.0	785.0	Medium to coarse grained pink grey moderately hematitic	0.0	*58.4*	SHR 50 2		231254	0.012	0.013
785.0	787.0		0.0 **0.0**	*67*			231255	0.018	0.015

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
787.0	789.0	Medium to coarse grained pink grey moderately hematitic	0.0	*50.1*	SHR	55	2		231256	0.014	0.019
789.0	791.0		0.0 **0.0**	*43.2*					231257	0.012	0.015
791.0	793.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.0	*72*					231258	0.013	0.018
793.0	795.0		0.0 **0.0**	*79.8*					231259	0.007	0.009
795.0	797.0		0.0 **0.0**	*64.3*					231260	0.007	0.009
797.0	799.0			*56.7*	SHR	60	4		231261	0.001	0.001
799.0	801.0	Medium to coarse grained grey pink weakly hematitic	**0.0**	*34.3*				Patchy siliceous sections.	231262	0.009	0.009
801.0	803.0	Medium to coarse grained pink grey moderately hematitic	0.0	*47.7*	SHR	60	5		231263	0.010	0.007
803.0	805.0			*65.2*					231264	0.004	0.001
805.0	807.0	Medium to coarse grained grey pink weakly silicified (non-K)		*60.8*					231265	0.003	0.005
807.0	809.0		0.0 **0.0**	*71.3*					231266	0.007	0.007
809.0	811.0			*22.6*				Patchy hematite sections.	231267	0.011	0.001
811.0	813.0	Medium to coarse grained pink grey weakly hematitic		*32.9*					231268	0.006	0.010
813.0	815.0			*27.5*					231269	0.011	0.013
815.0	817.0			*57.2*					231270	0.005	0.007
817.0	819.0	Medium to coarse grained grey weakly silicified (non-K)	0.0	*79.1*				Chlorite alteration increases towards the end of the interval.	231271	0.003	0.001
819.0	821.0	Medium to coarse grained pink weakly hematitic	0.0	*12.9*					231272	0.006	0.008
821.0	823.0			*76.8*				hem/zeolite alteration is overprinting the minor chlorite alt, focused along small (<3mm thick) veins. Veins are oblique to core axis.	231273	0.003	0.001

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
823.0	825.0	Medium to coarse grained green weakly potassic	0.0		*58.8*		hem/zeo alt increases towards end of interval. Early in interval, zeolites are limited to veins; no halo/leaching. Veins are ~60-80 degrees to CA.	231274	0.002	0.069
825.0	827.0	Medium to coarse grained pink grey weakly hematitic	0.0		*74.6*		Strongest hem alt at beginning of interval, including zeolite and calcite zeolite in 10mm vein. Py concentration increases slightly down-hole.	231276	0.003	0.001
827.0	829.0	Medium to coarse grained green grey weakly silicified (non-K)	0.0		*3.8*		Minor calcite veining.	231277	0.002	0.008
829.0	831.0	Medium to coarse grained grey weakly chloritic	0.0		*3.7*		qtz/cal in veins, with 2-3mm chlorite xtals.	231278	0.003	0.001
831.0	833.0	Medium to coarse grained dark grey green weakly chloritic			*4.1*		no discernable py. 20cm Clay-ey/gouge-ey interval at ~832.8m	231279	0.005	0.007
833.0	835.0	Medium to coarse grained dark green grey weakly chloritic			*6.8*		Chlorite alteration weakens near end of interval	231280	0.002	0.001
835.0	837.0	Medium to coarse grained grey weakly silicified (non-K)			*84*		lost chlorite from previous interval, regained Mt. Minor (<2mm) calcite/zeolite veins.	231281	0.009	0.024
837.0	839.0		0.0		*72.2*		10cm mafic xenolith that contains all of the py for this interval, blebs to 1mm. Xenolith is also cut by small (~1mm) zeolite/calite veins.	231282	0.004	0.010
839.0	840.8	Medium to coarse grained grey green weakly silicified (non-K)	0.0		*43.5*		decreasing zeolite vein density down-hole.	231283	0.005	0.010
840.8	842.8	Medium to coarse grained dark green grey weakly chloritic	0.0		*4.5*		sudden change back to chloritic alteration. Mt xtals are strongly altered.	231284	0.008	0.017
842.8	844.6		0.0		*3.1*		4-5mm thick quartz and calcite veins containing chlorite crystals.	231285	0.002	0.001
844.6	846.6	Medium to coarse grained green grey weakly chloritic			*4.3*		qtz/cal veins remain, plus rare zeolite. Feldspars are strongly altered.	231286	0.001	0.001
846.6	848.6		0.0	**0.0**	*66.6*		chlorite alteration genreaqlly lessens, except around a few veins. Those veins display proximal minor cpy and moly.	231287	0.001	0.001
848.6	850.6	Medium to coarse grained grey green weakly silicified (non-K)	0.0		*6.3*		return to sil alteration. Still very minor molybdenite.	231288	0.005	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
850.6	852.6	Medium to coarse grained grey weakly silicified (non-K)	0.0 **0.0**	*74.2*		interval begins with ~40cm of chlorite alteration, containing most of the cpy and moly. The remainder of the interval is normal silicic alteration, except for a 10cm interval that is stained/bleached pink around a zeolite/calcite vein. The 'contact' between CLOR and SIL alt occurs over ~3cm, 45 degree to CA, parallel to a qtz/calc vein.	231289	0.002	0.001
852.6	854.6	Medium to coarse grained grey green weakly silicified (non-K)	0.0 **0.0**	*74.1*		20cm interval of chloritic alteration, again at ~45 deg to CA. Cpy and moly on a zeolite vein (<1mm) face.	231290	0.009	0.010
854.6	856.6	Medium to coarse grained green grey weakly chloritic	0.0 **0.0**	*4*		quick transition back into chlorite alteration for bottom three-quarters of interval. Minor cpy seen associated with qtz/calc vein (4mm wide)	231291	0.008	0.005
856.6	858.6	Medium to coarse grained grey weakly hematitic	0.0 **0.0**	*26.9*		Silicic alteration overprinted by vein-contolled hematite (?) staining associated with zeolite-calcite veins. Moly, or specular hematite grains, very small; metallic with slight purple colour. Minor patchy chlorite alt as halo around a few veins.	231292	0.006	0.001
858.6	860.6	Medium to coarse grained grey weakly silicified (non-K)	0.0 **0.0**	*66.7*		all three types of alteration are present in this interval. Principle silicic alteration is locally overprinted by vein-controlled chloritic (qtz/calc veins) and vein-controlled hematite/zeolite. The zeolite veins crosscut the chloritic alteration, which overprints the SIL alt. Minor cpy associated with some zeolite/calcite veins.	231293	0.022	0.029
860.6	862.1	Medium to coarse grained pink grey moderately hematitic	0.0 **0.0**	*51.4*		hematite staining associated with zeolite/calcite veining dominates this interval. Very minor economic Cu minerals.	231294	0.001	0.001
862.1	864.0	Medium to coarse grained pink grey weakly hematitic	0.0	*50.3*		vein-controlled hematite staining.	231295	0.008	0.030
864.0	865.2		0.0	*60.3*			231296	0.007	0.008
865.2	866.6	Medium to coarse grained green grey moderately chloritic	0.0	*2.6*		interval of stronger chloritic alteration. Very few visible sulfides.	231297	0.001	0.009
866.6	867.9	Fine to coarse grained green grey moderately chloritic		*3.5*			231298	0.002	0.016

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
867.9	869.9	Medium to coarse grained pink grey moderately hematitic		*78.9*				231299	0.006	0.012
869.9	871.9	Medium to coarse grained dark green pink weakly chloritic		*14.6*			Chlorite alteration increases along interval. Loss of magnetite after about a metre.	231301	0.005	0.007
871.9	873.9	Medium to coarse grained dark green grey weakly chloritic		*34.3*			sudden change from chloritic to SIL alteration at 873.1 m. Alteration change occurs at ~45 degrees to CA. At boundary, it appears that the chlorite alteration overprints the SILc.	231302	0.001	0.001
873.9	875.9	Medium to coarse grained grey pink weakly silicified (non-K)		*75.4*			increased zeolite-filled veinlets in second half of interval, no common orientation.	231303	0.005	0.006
875.9	877.9			*75.2*			zeolite veinlets continue. Hematite alteration halos around larger (>2mm) veins.	231304	0.007	0.009
877.9	879.9			*66.9*			increasing hematite alteration; mottled, vein-controlled	231305	0.003	0.005
879.9	881.9	Medium to coarse grained pink weakly hematitic		*38.9*			sudden localized chloritic alteration halos. Hematite alteration seems to be the youngest chemical event.	231306	0.015	0.018
881.9	883.9	Medium to coarse grained grey green weakly silicified (non-K)		*68*			Less hematite alteration in this interval than previously. Localized intense chloritic alteration continues. No sulfides :(	231307	0.005	0.006
883.9	885.9	Medium to coarse grained grey weakly silicified (non-K)	0.0	*50.7*			continued silicic alteration overprinted in halos by vein-controlled chlorite and hematite alteration. Very minor pyrite observed.	231308	0.006	0.008
885.9	887.6	Medium to coarse grained grey pink weakly silicified (non-K)	0.0	*69.6*			much less chlorite alteration in this interval. Very minor pyrite remains.	231309	0.004	0.005
887.6	889.5	Medium to coarse grained green weakly hematitic	0.0	*65.8*	V	30	30cm zone of intense chlorite alteration around a single (8mm wide) chlorite/qtz/calcite vein at start of interval. Remainder of interval is hematite altered/veinlet controlled qmz.	231310	0.004	0.001
889.5	891.5	Medium to coarse grained grey pink weakly hematitic		*101*			veinlet-contolled hetamite alteration, localized.	231311	0.009	0.008
891.5	893.5	Medium to coarse grained pink grey weakly hematitic		*13.5*	E	45	continued hematite alteration. At 893 m, a 5cm thick epidote altered section, bound by 3-4mm wide quartz veins. Very little or no epidote alteration outside of qtz-bracketed interval.	231312	0.009	0.008

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
893.5	895.5	Medium to coarse grained grey pink weakly hematitic		*69.5*		5cm section of chloritic alteration near end of interval: matrix has dark green chlorite colour, but the overprinting is incomplete; some relic magnetization from potassic alteration still discernable.	231313	0.009	0.008
895.5	897.0	Medium to coarse grained grey pink weakly silicified (non-K)		*78.9*		zeolite veinlet density increases slightly in this interval, however the associated hematite alteration is decreased.	231314	0.001	0.001
897.0	899.0		0.0	*91.7*		further reduction of hemetite alteration and zeolite veinlet density. Two xenoliths, one 10 cm and one 2 cm, both andesite with hornblende laths? Larger xenolith contains very minor pyrite.	231315	0.001	0.001
899.0	901.0	Medium to coarse grained grey weakly silicified (non-K)		*65.2*		SIL altered, with very minor hematite alt associated with low density zeolite veinlets.	231316	0.008	0.006
901.0	903.0			*81*			231317	0.005	0.009
903.0	905.0			*54.9*		at 903.5 m, there is a 15 cm long patch of hematite alteration. Within the hematite zone is a quartz vein 1-2 mm wide, which branches to encompass an 8 mm by 20 mm piece of monzanite. This monzaite is epidote altered like a similar zone in sample interval 231312.	231318	0.005	0.001
905.0	907.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*54.7*		minor py and cpy at 905.7 m in a small zone of hematite alteration. Sulfide mineralization seems to be limited to vein surface and does not disseminate into the QMZ. Proximal minor epidote	231319	0.005	0.005
907.0	909.0		0.0 **0.0**	*88*		minor py and cpy at 907.8 m, on a fracture/vein surface, and py at 908.1 and 908.3 m.	231320	0.008	0.007
909.0	911.0			*72.6*		at 909.9 m, a 10 cm patch of chlorite alteration; distinct colour and lack of magnetism.	231321	0.003	0.001
911.0	912.0	Medium to coarse grained pink grey moderately hematitic		*57.1*		interval of more intense zeolite/calcite veining. Veins are sometimes vuggy. Last 10cm of interval is highly altered…fault gauge?	231322	0.006	0.001
912.0	914.0	Medium to coarse grained pink grey weakly chloritic		*14.9*		Sudden change to chloritic alteration. Distinctive colour and lack of magnetism. Minor zeolite/calcite veinlets continue, but do not appear to alter the surrounding rock	231323	0.007	0.011

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
914.0	915.4	Medium to coarse grained grey weakly silicified (non-K)		*44.9*			Return to normal silicic altered QMZ with local hematite alteration proximal to zeolite/calcite veinlets. Minor chloritic halo around a small vein at 914.2 m. No obervable sulfide minerals.	231324	0.002	0.001
915.4	917.4	Medium to coarse grained green weakly chloritic		*63.7*			chloritic-altered section, patchy magnetism, small mafic zenolith at ~917 m.	231326	0.001	0.001
917.4	919.4	Medium to coarse grained green grey weakly chloritic		*1.4*			chloritic-altered. Alteration intensity increases within a few mms of veinlets.	231327	0.001	0.001
919.4	921.4			*2.9*				231328	0.013	0.001
921.4	923.4			*1.9*	FLT	50	at 921.5 m, a 10 cm long sheared section…fault? Slight return of magnetism at 923 m, but chlorite colour remains.	231329	0.003	0.001
923.4	925.4			*4.7*			chlorite-altered. Qtz/calcite veinlet at ~924.3 m. Magnetization increases slightly near end of interval.	231330	0.001	0.001
925.4	927.0			*35.6*			still chlorite altered, but a slightly lighter green, with some magnetic response. 4 mm zeolite/calcite veins between 925.4 and 925.9 m	231331	0.003	0.001
927.0	929.0			*15.3*			qtz/calcite vein (4-6 mm wide) enters core at 927.2 m and runs parallel for 40 cm, then exits by same side. Mafic minerals seem to be more weathered in proximity to qtz/calc vein? Weak to no magnetization throughout.	231332	0.000	0.001
929.0	931.0			*22.4*			continued chlorite-alteration with weak magnetic response.	231333	0.001	0.001
931.0	933.0			*67.3*			chlorite-alteration becomes slightly patchy, revealing regular silicified QMZ.	231334	0.001	0.001
933.0	935.0	Medium to coarse grained green weakly chloritic		*6.2*			40 cm of hematite alteration starting at 933.2 m. Locally broken sections…due to drilling?	231335	0.001	0.001
935.0	937.0	Medium to coarse grained green pink weakly chloritic		*21.9*			locallized rubbly sections continue. Patchy zeolite vein-controlled hematite alteration overprints chlorite from ~936.1 m.	231336	0.001	0.001
937.0	939.0			*48*			About equal volume of hematite and chloritic alteration patches. Magnetic throughout	231337	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
939.0	941.0	Medium to coarse grained pink weakly hematitic		*38.5*		a short rubbly section at 940 m. Hematite alteration is patchy, but slightly dominant over chlorite.	231338	0.001	0.001
941.0	943.0	Medium to coarse grained green grey weakly chloritic		*4.9*		No hematite alteration. At 842 m, a 20 cm section of stronger alteration; core looks more rubbly than sheared. No or weak magnetic response.	231339	0.000	0.001
943.0	945.0	Medium to coarse grained green weakly chloritic		*2.2*	V 25	6-10 mm qtz/calcite/chlor vein at 943.7 m. Uniform chlorite intensity throughout interval.	231340	0.000	0.001
945.0	947.0	Medium to coarse grained green grey weakly chloritic		*3.4*		10 cm of hematite alteration at 945.4 m. Hematite patch crosses core at ~ 40 degrees to CA. Patchy magnetism.	231341	0.000	0.001
947.0	949.0			*3.4*		chlorite alteration is less intense.	231342	0.000	0.001
949.0	951.0			*0.6*		40 cm section of qtz/calc/chlor anastamosing veins starting at 950 m. QMZ is brecciated. No sulfide mineralization.	231343	0.000	0.001
951.0	953.0			*62.7*		minor qtz/calc/chlor veinlets, and a few zeolite/calcite veinlets.	231344	0.000	0.001
953.0	955.0			*1.4*		3cm intense alteration just before 954 m. I suspect more of this altered rock existed, but it was at the end of a core run, and some of the rubble might have been lost. Very similar to the alteration seen in a section in sample interval 231339	231345	0.000	0.001
955.0	957.0		0.0	*1.9*		At 955.6 m, a qtz/calc vein brushes against core, with obvious alteration halo around for 1-2 cm. The qtz/calc hosts a very small amount of pyrite.	231346	0.002	0.001
957.0	959.0		0.0	*27.4*		py in small zeo/calc veinlet. Chlorite alteration is pervasive through interval, but slightly intensified as halos around veinlets.	231347	0.002	0.009
959.0	961.0			*40.9*		chlorite alteration is less pervasive and more veinlet controlled. Also a small amout of hematite alteration around a few of the zeolite veins.	231348	0.000	0.001
961.0	963.0	Medium to coarse grained grey green weakly silicified (non-K)		*45.8*		largly normal silicified QMZ with 2-3 patches of vein-controlled chlorite alteration. No sulfides, magnetic.	231349	0.002	0.001
963.0	965.0	Medium to coarse grained grey weakly silicified (non-K)		*57.7*		a few qtz/calc veins with chlorite halos.	231351	0.002	0.001

Hole Number: KH-07-01A

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
965.0	967.0	Medium to coarse grained grey weakly silicified (non-K)	0.0 **0.0**	*68.5*		py and cpy on a zeolite vein face at 965.8 m.	231352	0.002	0.001
967.0	969.0			*89.3*		middle half of interval is hematite-altered thanks to zeolite veins. Minor chlorite alteration just below 967 m.	231353	0.001	0.001
969.0	971.0	Medium to coarse grained grey pink weakly silicified (non-K)		*69.3*	V	return to 'normal' alteration; silicified QMZ with minor vein controlled hematite alteration. At 970.8 m, a broken 5 cm quartz vein.	231354	0.003	0.008
971.0	973.0			*61.9*			231355	0.001	0.001
973.0	975.0	Medium to coarse grained grey pink weakly hematitic		*85.4*		Slight dominance of hematite alteration over silicification, centred around 4-6 mm zeolite/calcite veins. Lower 40 cm of interval is rubbly.	231356	0.001	0.001
975.0	977.0	Medium to coarse grained pink grey weakly hematitic		*54.4*		increasing hematite alteration intensity in second half of interval, however there is a zeolite/calcite vein that runs along that part of the core.	231357	0.001	0.001
977.0	979.0			*45.8*			231358	0.001	0.001
979.0	980.0	Medium to coarse grained grey pink weakly hematitic		*37.7*		slight decrease in zeolite vein density.	231359	0.000	0.001

Hole Number: KH-07-02

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
0	7.5	**CASING**								
	0.0	7.5					Bedrock at 5.5m. No sample first two metres.			
7.5	41.5	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
	7.5	9.5 Fine to coarse grained grey green		*15.1*	ZF	10	Blocky ash tuff; fragments include BFP clasts, medium grained andesite clasts, vesicular basaltic(?) clasts and altered (sericite) felsic clasts. Matric is fine ash with minor fspar grains. Entire unit is magnetic, well fractured with pink zeolite infilling. Lower contact is very sharp. Badly broken sections at 15, 21.5 and 25.7m.	230676	0.010	0.010
	9.5	11.5		*43.8*	FRK	5		230677	0.012	0.006
	11.5	13.5	**0.0**	*4.8*	ZF	10	12.1m two 1cm by 3mm chalcopyrite grains in carbonate veinlets; very local propyllitic (ep) zone (10cms).	230678	0.011	0.008
	13.5	15.5		*17.6*	ZF	5		230679	0.009	0.011
	15.5	17.5		*32.6*	ZF	5		230680	0.010	0.198
	17.5	19.5		*21.3*	ZF	5		230681	0.012	0.006
	19.5	21.5		*43*	ZF	5		230682	0.011	0.008
	21.5	23.5		*27.7*				230683	0.007	0.010
	23.5	25.5 Fine to coarse grained grey green weakly propyllitic	1.0	*47.8*				230684	0.011	0.006
	25.5	27.5		*14.1*	ZV	45 5		230685	0.004	0.001
	27.5	29.5 Fine to coarse grained grey green		*57.5*	ZV	5		230686	0.009	0.007
	29.5	31.5		*30.5*	ZV	5		230687	0.012	0.007
	31.5	33.5		*16.4*	ZV	5		230688	0.010	0.010
	33.5	35.5		*21.6*	ZV	2		230689	0.016	0.010
	35.5	37.5		*26.9*			Minor galena in carbonate veinlet.	230690	0.017	0.016
	37.5	39.5		*16.8*			Weak propyllitic alteration of BFP fragment at 38.7m.	230691	0.018	0.010
	39.5	41.5		*52.3*			10cm felsic clast at 41m.	230692	0.007	0.009

Hole Number: KH-07-02

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
41.5	61.5	**HOMOGENEOUS DACITE LAPILLISTONE**								
41.5	43.5	Fine to coarse grained grey		*45.6*			Titanite bearing unit, with some rare fiamme textures. Unit could be welded. Rare clasts upto 2cms. 2-3% magnetite throughout…..1-2mm diameter grains.	230693	0.001	0.007
43.5	45.5	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*52.5*	FRK	5	quartz eyes	230694	0.002	0.006
45.5	47.5		0.0 **0.0**	*50*	LIN	20 100	minor zeolite and calcite veins throughout	230695	0.002	0.001
47.5	49.5		0.0 **0.0**	*54.3*				230696	0.002	0.001
49.5	51.5		0.0 **0.0**	*31.2*				230697	0.002	0.005
51.5	53.5		0.0 **0.0**	*17.4*			5 cm Bladed Feldspar Porphyry fragments	230698	0.007	0.008
53.5	55.5		0.0 **0.0**	*6.6*				230699	0.008	0.005
55.5	57.5		0.0 **0.0**	*50.6*				230700	0.005	0.001
57.5	59.5		0.0 **0.0**	*66.1*			Bladed Feldspar Porphyry fragments, sub-angular, 3cm	230702	0.008	0.001
59.5	61.5		0.0 **0.0**	*0.6*				230703	0.013	0.007
61.5	115.8	**MASSIVE DACITE TUFF**								
61.5	63.5	Very fine to coarse grained light grey green weakly propyllitic	0.0 **0.0**	*0.1*	CNT	40 100	Uniform, fine to medium grained tuff with rare mafic clasts to 2cm. More felsic than the unit above with no Bladed Feldspar Porphyry fragments, absence of decernable quartz eyes. Alteration and Mineralization: sparse calcite stringers, minor zeolite stringers and weakly chlorite alteration. Increasingly siliceous downhole (primary?).	230704	0.002	0.005
63.5	65.5		0.0 **0.0**	*0.2*				230705	0.002	0.001
65.5	67.5		0.0 **0.0**	*0.4*				230706	0.007	0.007
67.5	69.5		0.0 **0.0**	*1.5*				230707	0.003	0.001
69.5	71.5		0.0 **0.0**	*0.3*				230708	0.002	0.001
71.5	73.5		0.0 **0.0**	*0.3*				230709	0.001	0.005
73.5	75.5	Very fine to coarse grained light grey weakly propyllitic	0.0 **0.0**	*0.1*				230710	0.031	0.014

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
75.5	77.5	Very fine to coarse grained light grey weakly propyllitic	0.0 **0.0**	*0.2*			230711	0.006	0.013
77.5	79.5		0.0 **0.0**	*0.2*			230712	0.002	0.001
79.5	81.5		0.0 **0.0**	*0*			230713	0.001	0.011
81.5	83.5		0.0 **0.0**	*0.1*			230714	0.002	0.007
83.5	85.5		0.0 **0.0**	*0.1*			230715	0.001	0.001
85.5	87.5		0.0 **0.0**	*0.2*			230716	0.001	0.001
87.5	89.5		0.0 **0.0**	*0.3*			230717	0.001	0.052
89.5	91.5		0.0 **0.0**	*0.3*			230718	0.001	0.001
91.5	93.5		0.0 **0.0**	*0.3*			230719	0.002	0.001
93.5	95.5		0.0 **0.0**	*0.2*			230720	0.003	0.007
95.5	97.5		0.0 **0.0**	*0.4*			230721	0.002	0.001
97.5	99.5		0.0 **0.0**	*0.3*			230722	0.002	0.007
99.5	101.5		0.0 **0.0**	*0.4*			230723	0.001	0.001
101.5	103.5		0.0 **0.0**	*0.4*			230724	0.001	0.001
103.5	105.5		0.0 **0.0**	*0.4*		increasingly siliceous, sparsely peppered with chlorite.	230726	0.002	0.006
105.5	107.5		0.0 **0.0**	*0.5*			230727	0.002	0.006
107.5	109.5		0.0 **0.0**	*0.4*			230728	0.001	0.001
109.5	111.5		0.0 **0.0**	*0.7*			230729	0.003	0.001
111.5	113.5		0.0 **0.0**	*0.6*			230730	0.001	0.005
113.5	115.8		0.0 **0.0**	*0.7*			230731	0.011	0.005
115.8	152	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
115.8	118.0	Very fine to coarse grained green grey weakly propyllitic	0.0 **0.0**	*8.5*	CNT	70	100	Upper contact with Hazelton inot structural, it is sharp but irregular, with no apparent paleo weathering. Unit is distinctly amygduloidal down to 138m. Overall weakly propyllitic with epidote replacement of plagioclase and localized weak hematitic staining. 5-40% 1-2cm feldspar laths in a fine grained, magnetic, green-grey matrix. Feldspars are varied in orientation with some feltings. Base of the unit contains occasionally twinned mega-phenocrysts (up to 4cm). No mineralization otherthan spoardic flecks of pyrite. 2% carbonate-zeolite veining throughout. Lower contact brecciated.	230732	0.017	0.009
118.0	120.0		0.0 **0.0**	*1.2*					230733	0.017	0.007
120.0	122.0		0.0 **0.0**	*1.9*					230734	0.008	0.010
122.0	124.0		0.0 **0.0**	*1.4*					230735	0.014	0.015
124.0	126.0		0.0 **0.0**	*0.9*					230736	0.011	0.023
126.0	128.0		0.0 **0.0**	*98.9*					230737	0.011	0.014
128.0	130.0		0.0 **0.0**	*9.1*					230738	0.013	0.005
130.0	132.0		0.0 **0.0**	*2.3*					230739	0.018	0.014
132.0	134.0		0.0 **0.0**	*1.4*					230740	0.024	0.021
134.0	136.0		0.0 **0.0**	*7.8*					230741	0.019	0.013
136.0	138.0		0.0 **0.0**	*57.1*				patches of moderate chloritization	230742	0.022	0.009
138.0	140.0		0.0 **0.0**	*67.6*					230743	0.017	0.009
140.0	142.0		0.0 **0.0**	*3.4*					230744	0.017	0.005
142.0	144.0		0.0 **0.0**	*70.7*				weak pervasive clay alteration overprint	230745	0.016	0.006
144.0	146.0		0.0 **0.0**	*50.2*				massive section with rare plagioclase laths	230746	0.026	0.007
146.0	148.0		0.0 **0.0**	*93.4*					230747	0.018	0.001
148.0	150.0	Very fine to coarse grained light green grey weakly propyllitic	0.0 **0.0**	*80.8*	CALV	10	20	weak pervasive clay alteration overprint, 25% calcite and zeolite veining.	230748	0.018	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
150.0	152.0	Very fine to coarse grained dark green grey weakly propyllitic	0.0 **0.0**	*85.6*	SHR 15 2	crowded finer plagioclase laths	230749	0.023	0.008
152	168	**FLOW BRECCIATED BLADED FELDSPAR PORPHYRY BRECCIA**							
152.0	154.0	Very fine to coarse grained dark green grey strongly silicated	0.1 **0.0**	*131*		20 cm zone of massive magnetite flooding Skarn zone, 8% calcite and zeolite veining. Start of the basal portion of this unit includes fragments of Andesite unit below with some sections of polylithic epiclastics. Skarn magnetite replacement patches to the bottom of unit.	230751	0.012	0.001
154.0	156.0		0.0 **0.0**	*7.2*			230752	0.027	0.001
156.0	158.0		0.0 **0.0**	*76.6*			230753	0.025	0.001
158.0	160.0		0.0 **0.0**	*91.4*			230754	0.025	0.001
160.0	162.0		3.0 **0.0**	*50*		zones of disseminated pyrite to 15%.	230755	0.023	0.001
162.0	164.0		3.0 **0.0**	*4.9*		zones of disseminated pyrite to 8%.	230756	0.016	0.001
164.0	166.0		3.0 **0.0**	*24.2*			230757	0.018	0.006
166.0	168.0	Very fine to coarse grained dark green grey moderately silicated	0.5 **0.0**	*1.9*			230758	0.028	0.001
168	191	**BRECCIATED BASALT VOLCANIC BRECCIA**							
168.0	170.0	Very fine grained green grey weakly propyllitic	0.1 **0.0**	*0.9*		Massive with local flowbrecciated zones. Unit is overprinted with brittle fracture brecciation with calcite infill to 15%. Similar to unit above with rare plagioclase laths. Upper part of unit brecciated with local pyritic zones.	230759	0.038	0.008
170.0	172.0		0.0 **0.0**	*1.8*			230760	0.004	0.001
172.0	174.0	Very fine grained dark green grey weakly propyllitic	0.0 **0.0**	*40.7*		weak epidote replacement	230761	0.022	0.001
174.0	176.0	Very fine grained green grey weakly propyllitic	0.0 **0.0**	*69.6*			230762	0.009	0.001
176.0	178.0		0.0 **0.0**	*113*			230763	0.027	0.014
178.0	180.0	Very fine grained dark green grey weakly propyllitic	0.0 **0.0**	*71.9*			230764	0.028	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
180.0	182.0	Very fine grained green grey weakly propyllitic	0.0 **0.0**	*100*		15% calcite and zeolite breccia matrix	230765	0.027	0.001
182.0	184.0	Very fine grained dark green grey weakly propyllitic	0.0 **0.0**	*69.5*			230766	0.022	0.006
184.0	186.0		0.0 **0.0**	*0.8*		5% calcite and zeolite breccia matrix	230767	0.025	0.001
186.0	188.8	Very fine grained green grey weakly propyllitic	0.1 **0.0**	*2.7*			230768	0.040	0.006
188.8	191.0		0.1 **0.0**	*10.7*			230769	0.033	0.019
191	217	**PORPHYRITIC MONZODIORITE DYKE**							
191.0	192.0	Very fine to medium grained grey weakly propyllitic	0.0 **0.0**	*54.3*	CNT 40	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 40º and lower contact 3º to core axis healed shear with chloritic seams and milled pebbles. Minor calcite and zeolite stringers.	230770	0.003	0.001
192.0	194.0		0.0 **0.0**	*49.2*			230771	0.002	0.001
194.0	196.0		0.0 **0.0**	*57.5*			230772	0.001	0.001
196.0	198.0		0.0 **0.0**	*48.9*			230773	0.001	0.001
198.0	200.0		0.0 **0.0**	*56.3*			230774	0.001	0.001
200.0	202.0		0.0 **0.0**	*46.4*			230776	0.001	0.001
202.0	204.0		0.0 **0.0**	*45.9*			230777	0.001	0.001
204.0	206.0		0.0 **0.0**	*44.8*			230778	0.001	0.001
206.0	208.0	Very fine to medium grained grey pink weakly propyllitic	0.0 **0.0**	*51.1*			230779	0.001	0.001
208.0	210.0		0.0 **0.0**	*2.6*		increased hematite staining in zones of increased calcite zeolite stringer stockwork to end of unit.	230780	0.001	0.006
210.0	212.0		0.0 **0.0**	*56.5*			230781	0.001	0.001
212.0	214.5		0.0 **0.0**	*54.8*			230782	0.001	0.001
214.5	217.0		0.0 **0.0**	*42.9*		20% calcite and zeolite veins and stringers	230783	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
217	243.4	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**								
217.0	219.0	Very fine to coarse grained green grey weakly propyllitic	0.0 **0.0**	*92.9*	CNT	3 100	Upper contact is irregular, brecciated, and very steep. Unit is mainly massive with local vbx sections. Overall weakly propyllitic with epidote replacement of plagioclase and localized weak hematitic staining. 15-40% 1-3cm feldspar laths in a fine grained, magnetic, green-grey matrix. Feldspars are varied in orientation with some feltings. No mineralization otherthan spoardic flecks of pyrite. 3% carbonate-zeolite veining throughout. Lower contact sharp and sub-planar.	230784	0.041	0.031
219.0	221.0		0.0 **0.0**	*79.2*				230785	0.036	0.028
221.0	223.0		0.0 **0.0**	*116*				230786	0.021	0.013
223.0	225.0		0.0 **0.0**	*94*				230787	0.039	0.013
225.0	227.0		0.0 **0.0**	*73.2*				230788	0.037	0.015
227.0	229.0		0.0 **0.0**	*120*				230789	0.063	0.030
229.0	231.0		0.0 **0.0**	*103*				230790	0.059	0.026
231.0	233.0		0.0 **0.0**	*105*				230791	0.047	0.014
233.0	235.0		0.0 **0.0**	*111*				230792	0.049	0.024
235.0	237.0		0.0 **0.0**	*93.1*				230793	0.066	0.051
237.0	239.0		0.0 **0.0**	*90.6*				230794	0.045	0.034
239.0	241.0		0.0 **0.0**	*106*				230795	0.043	0.025
241.0	243.4		0.0 **0.0**	*83.5*				230796	0.073	0.052
243.4	279	**EPICLASTIC ANDESITE SANDSTONE**								
243.4	245.0	Very fine to medium grained green strongly propyllitic	0.5 **0.0**	*0.9*	CNT	80 100	Crystalithic sandstone with occasional pebbles and cobbles. Unit is overprinted with patchy moderate to intense epidote +/- chlorite, and pyritic zones. Calcite stringers and veinlettes to 15%. Sharp upper contact at 80º to core axis.	230797	0.040	0.022
245.0	247.0		2.0 **0.0**	*0.6*				230798	0.016	0.017

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
247.0	249.0	Very fine to medium grained green strongly propyllitic	0.5 **0.0**	*4.1*	GYV 80 1		230799	0.003	0.005
249.0	251.0		3.0 **0.0**	*7.8*			230801	0.019	0.012
251.0	253.0		5.0 **0.0**	*8.7*		fine grained disseminated pyrite	230802	0.017	0.024
253.0	255.0		10.0 **0.0**	*9.2*		very fine grained disseminated pyrite	230803	0.035	0.010
255.0	257.0		5.0 **0.0**	*9.8*			230804	0.008	0.008
257.0	259.0		4.0 **0.0**	*11.2*			230805	0.012	0.008
259.0	261.0		5.0 **0.0**	*12*			230806	0.006	0.008
261.0	263.0		5.0 **0.0**	*12.8*		some hematitic/felsic clasts and pebbles	230807	0.009	0.005
263.0	265.0		5.0 **0.0**	*13.7*		pyrite aslo as irregular stringers, increase chloritiation	230808	0.011	0.005
265.0	267.0		4.0 **0.0**	*14.4*			230809	0.009	0.008
267.0	269.0		2.0 **0.0**	*16.5*			230810	0.013	0.007
269.0	271.0		3.0 **0.0**	*17.8*			230811	0.010	0.001
271.0	273.0		3.0 **0.0**	*1.8*		cobbles	230812	0.019	0.006
273.0	275.0		4.0 **0.0**	*2.3*			230813	0.021	0.006
275.0	277.0		5.0 **0.0**	*3.2*			230814	0.014	0.011
277.0	279.0		5.0 **0.0**	*3.9*			230815	0.017	0.058
279	280.5	**SHEARED CHLORITE VEIN**							
279.0	280.5	Very fine to medium grained green white intensely chloritic	18.0 **0.0**	*0.6*		Chlorite-Calcite-Pyrite vein. Sheared and mylonitic with patches of massive pyrite.	230816	0.031	0.470
280.5	284.4	**EPICLASTIC ANDESITE SANDSTONE**							
280.5	282.0	Very fine to medium grained green tan strongly chloritic	6.0 **0.0**	*3.7*		Same as above vein, pyritic, chloritized and shearing.	230817	0.005	0.122
282.0	284.4		6.0 **0.0**	*4.1*			230818	0.006	0.015
284.4	296.2	**PORPHYRITIC MONZODIORITE DYKE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
284.4	286.0	Very fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*56.7*	CNT 30 100	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafics often in clusters of grains, 5% coarse grained hornblende and augite crystals. Rare very fine grained mafic xenoliths. Upper contact 20º and lower contact 8º to core axis with healed chloritic, calcareous shears. Minor calcite and zeolite stringers throughout. Local hematie staining of plagioclase.	230819	0.001	0.001
286.0	288.0		0.0 **0.0**	*51*			230820	0.001	0.001
288.0	290.0		0.0 **0.0**	*59.4*			230821	0.001	0.001
290.0	292.0		0.0 **0.0**	*50.5*			230822	0.001	0.001
292.0	294.0		0.0 **0.0**	*53.4*			230823	0.001	0.001
294.0	296.2		0.0 **0.0**	*55.4*	CNT 20 100		230824	0.001	0.001
296.2	318.1	**EPICLASTIC ANDESITE SANDSTONE**							
296.2	298.0	Very fine to medium grained green strongly propyllitic	1.0 **0.0**	*0.8*		Crystalithic sandstone with occasional pebbles and cobbles, increasingly common down hole. Unit has patchy moderate to intense epidote +/- chlorite, and pyritic alteration in the upper portion. Sericite stringers increasing down hole into QSP alteration at 309m. Zone with sphalerite(0.5%), galena(0.5%), and chalcopyrite(0.1%) in gypsum-quartz-calcite-sercite veins from 316 to 320 stratling lower contact. Sharp steep upper contact. Phyllic alteration increasing down hole to intense at bottom of unit.	230826	0.009	0.030
298.0	300.0		0.5 **0.0**	*1.1*		Very fine grained pyrite, 2% sericite stringer stockworks.	230827	0.007	0.022
300.0	302.0		3.0 **0.0**	*1*			230828	0.008	0.024
302.0	304.0	Very fine to medium grained green intensely propyllitic	1.0 **0.0**	*1*			230829	0.008	0.030
304.0	306.0	Very fine to medium grained green strongly propyllitic	0.5 **0.0**	*0.8*			230830	0.013	0.031
306.0	308.0		3.0 **0.0**	*0.9*			230831	0.013	0.038

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
308.0	310.0	Very fine to medium grained green strongly propyllitic	4.0 **0.0**	*0.8*				Angular Andesitic Augite Porphyry clasts to 4 cm. Pyrite stringers. Increased sericite replacement and stinger stockwork and quartz flooding.	230832	0.010	0.024
310.0	312.0	Very fine to medium grained green strongly phyllic	4.0 **0.0**	*0.8*					230833	0.004	0.024
312.0	314.0	Very fine to medium grained green strongly propyllitic	5.0 **0.0**	*0.3*					230834	0.013	0.025
314.0	316.0	Very fine to medium grained grey strongly propyllitic	5.0 **0.0**	*0.4*				Upto 50% pebbles with angular clast more common.	230835	0.019	0.038
316.0	318.1	Very fine to medium grained grey white intensely phyllic	2.0 **0.1**	*0.3*	GYSHP	25	15	Zone with sphalerite(0.8%), galena(0.6%), and chalcopyrite(0.1%) in gypsum-quartz-calcite-sercite veins from 316 to 320 stratling lower contact.	230836	0.050	0.035
318.1	356.2	**LAPILLITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**									
318.1	320.0	Very fine to medium grained grey white intensely phyllic	2.0 **0.1**	*0.2*	GYLSH	25	10	Fragmental unit. Intensely altered with some less altered zones with decernable Andesitic Augite Porphyry. Protolith is unidentifiable for the most part. Upper contact at 50 º to core axis with zone of sphalerite(0.3%), galena(0.3%), and chalcopyrite(0.1%) in gypsum-quartz-calcite-sercite veins. Phyllic alteration primarily quartz flooding and sericite psuedomorphs of augite and feldspar with lesser pyrite and chlorite. Base of unit 40º to 60º to core axis chloritic shear.	230837	0.016	0.035
320.0	322.0		2.0 **0.0**	*0*					230838	0.017	0.051
322.0	324.0		2.0 **0.0**	*0*					230839	0.028	0.058
324.0	326.0		4.0 **0.0**	*0*					230840	0.028	0.053
326.0	328.0		2.0 **0.0**	*0*	CALV	20	5	propylitic overprint as epidote	230841	0.020	0.040
328.0	330.0		2.0 **0.0**	*0*					230842	0.026	0.044
330.0	332.0		4.0 **0.0**	*0*					230843	0.041	0.067
332.0	334.0		4.0 **0.0**	*0*	FLT	40		bright green sericite(?) in intense quartz (80%) zone above a 20 cm chloritic shear 40º to 60º to core axis.	230844	0.018	0.103
334.0	336.0		4.0 **0.0**	*0.6*					230845	0.015	0.037

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
336.0	338.0	Very fine to medium grained grey white intensely phyllic	4.0 **0.0**	*0*		Less fragmental than the unit above with more massive finer grained sections with few decernable Andesitic Augite Porphyry sections. Increasingly intense phyllic altered down hole to massive quartz-sericite.	230846	0.010	0.027
338.0	340.0		4.0 **0.0**	*0.6*			230847	0.009	0.020
340.0	342.0		4.0 **0.0**	*0.6*			230848	0.012	0.032
342.0	344.0	Very fine to medium grained grey green strongly phyllic	2.0 **0.0**	*0.5*		Unit is more massive with large Andesitic Augite Porphyry sections with few fragmental zones and less intense alteration that is more propylitic as epidote patches overprinting weaker phyllic alteration	230849	0.018	0.034
344.0	346.0		1.0 **0.0**	*0.6*			230851	0.009	0.042
346.0	348.0	Very fine to medium grained grey green moderately phyllic	1.0 **0.0**	*0.5*			230852	0.021	0.037
348.0	350.0	Very fine to medium grained light green grey moderately phyllic	1.0 **0.0**	*0.6*			230853	0.009	0.026
350.0	352.0		1.0 **0.0**	*0.6*			230854	0.001	0.044
352.0	354.0		1.0 **0.0**	*0.5*			230855	0.001	0.025
354.0	356.2		1.0 **0.0**	*0.5*			230856	0.001	0.045
356.2	371.7	**PORPHYRITIC MONZODIORITE DYKE**							
356.2	358.0	Very fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*49*	CNT 45 100	Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafics often in clusters of grains, 5% coarse grained augite and rare hornblende crystals. 2% very fine grained mafic xenoliths. Sharp upper contact 45º and sharp, irregular lower contact 50º to core axis. Minor calcite and zeolite stringers throughout.	230857	0.001	0.001
358.0	360.0		0.0 **0.0**	*49.7*			230858	0.001	0.001
360.0	362.0		0.0 **0.0**	*53.1*			230859	0.004	0.001
362.0	364.0		0.0 **0.0**	*50.8*			230860	0.005	0.001
364.0	366.0		0.0 **0.0**	*46.2*			230861	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
366.0	368.0	Very fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*47.8*			230862	0.001	0.001
368.0	370.0		0.0 **0.0**	*46.3*			230863	0.001	0.001
370.0	371.7		0.0 **0.0**	*36.3*			230864	0.002	0.001
371.7	410.2	**HOMOGENEOUS ANDESITIC AUGITE PORPHYRY VOLCANIC**							
371.7	374.0	Fine to coarse grained green weakly propyllitic	0.5 **0.0**	*1.1*		5-60% fine to coarse grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesitic Augite Porphyry, locally fragmental. Weakly propylitic alteration as epidote with lesser pyrite and chlorite.	230865	0.019	0.021
374.0	376.0		0.5 **0.0**	*0.7*			230866	0.006	0.034
376.0	378.0		0.5 **0.0**	*0.6*			230867	0.010	0.060
378.0	380.0		0.5 **0.0**	*0.9*			230868	0.013	0.095
380.0	382.0		2.0 **0.0**	*0.5*			230869	0.007	0.041
382.0	384.0		0.5 **0.0**	*0.8*			230870	0.010	0.084
384.0	386.0		1.0 **0.0**	*0.7*			230871	0.011	0.086
386.0	388.0	Fine to coarse grained green moderately propyllitic	1.0 **0.0**	*0.5*		Massive epidote locally.	230872	0.013	0.070
388.0	390.0		1.0 **0.0**	*1.1*			230873	0.008	0.130
390.0	392.0	Fine to coarse grained green strongly propyllitic	0.5 **0.0**	*0.6*			230874	0.012	0.076
392.0	394.0	Fine to coarse grained green moderately propyllitic	0.5 **0.0**	*1.3*	BED 45 100		230876	0.010	0.092
394.0	396.0	Fine to coarse grained green weakly chloritic	1.0 **0.0**	*1.1*		Alteration becomes quartz-chlorite dominant with lesser epidote and pyrite.	230877	0.025	0.064
396.0	398.0		1.0 **0.1**	*1.1*			230878	0.021	0.057
398.0	400.0		1.0 **0.0**	*1.2*			230879	0.014	0.112
400.0	402.0		1.0 **0.0**	*1.8*			230880	0.008	0.105
402.0	404.0		1.0 **0.0**	*0.8*			230881	0.006	0.131
404.0	406.0		1.0 **0.1**	*1.3*			230882	0.010	0.064

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
406.0	408.0	Fine to coarse grained green weakly chloritic	1.0 **0.0**	*1.2*			230883	0.018	0.067
408.0	410.2	Fine to coarse grained green moderately propyllitic	2.0 **0.0**	*3.5*		Finer grained augite pheocrysts to bottom of unit.	230884	0.012	0.053
410.2	427	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
410.2	412.0	Fine to medium grained dark green moderately potassic - quartz-chlorite	2.0 **0.0**	*58*		5-10% fine to mediume grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesite, locally fragmental with 1-4 cm Andesitic Augite Porphyry and basalt clasts. Weak propylitic alteration as epidote locally overprints quartz-chlorite-magnetite alteration with rare cpy blebs. Gradational contact.	230885	0.021	0.043
412.0	414.0		2.0 **0.0**	*7.6*			230886	0.022	0.048
414.0	416.0		3.0 **0.0**	*6.1*			230887	0.015	0.089
416.0	418.0		4.0 **0.0**	*8*			230888	0.019	0.047
418.0	420.0		2.0 **0.0**	*22.6*			230889	0.019	0.030
420.0	422.0		3.0 **0.0**	*2.2*			230890	0.020	0.061
422.0	424.0		2.0 **0.0**	*37.8*			230891	0.032	0.095
424.0	425.6		3.0 **0.0**	*60.1*			230892	0.021	0.068
425.6	427.0		3.0 **0.0**	*3.3*			230893	0.019	0.091
427	433	**FOLIATED QUARTZ FELDSPAR PORPHYRY DYKE**							
427.0	429.0	Very fine to coarse grained white green moderately phyllic	4.0 **0.0**	*3.5*	CNT 15 100	40-70% coarse grained quartz and feldspar phenocrysts in a grey to light green groundmass. Irregular, steep upper and lower contacts 15º and 25º to core axis. Unit is equivalent to Daikows unit "r" of the Black Lake Intrusive Suite, dated 195.7 +/- 2.5 Ma. Zones of flow aligned phenocrysts. Moderately altered to quartz with lesser chlorite and sericite pseudomorphs, and pyrite (mainly as stringers).	230894	0.008	0.045
429.0	431.0		4.0 **0.0**	*3.7*			230895	0.005	0.035
431.0	433.0		4.0 **0.0**	*4.2*			230896	0.003	0.037

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
433	444.2	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
433.0	435.0	Fine to medium grained dark green moderately potassic - quartz-chlorite	6.0 **0.0**	*5*		5-10% fine to medium grained augite pheocrysts in an aphanitic groundmass. Mostly massive Andesite, locally fragmental with 1-4 cm Andesitic Augite Porphyry and basalt clasts. Weak propylitic alteration as epidote locally overprints quartz-chlorite-magnetite alteration with rare cpy blebs. Gradational contact.	230897	0.013	0.151
435.0	437.0		6.0 **0.0**	*5.9*			230898	0.039	0.142
437.0	439.0		6.0 **0.0**	*0.9*			230899	0.037	0.255
439.0	441.0		6.0 **0.2**	*2.1*			230901	0.060	0.246
441.0	442.5		4.0 **0.0**	*3.1*			230902	0.022	0.153
442.5	444.2		10.0 **0.0**	*2.7*			230903	0.019	0.191
444.2	480.6	**FOLIATED QUARTZ FELDSPAR PORPHYRY DYKE**							
444.2	446.0	Very fine to coarse grained white green moderately phyllic	2.0 **0.0**	*2.8*	CNT 25 100	40-70% coarse grained quartz and feldspar phenocrysts in a grey to light green groundmass. Irregular, steep upper and lower contacts 15º and 25º to core axis. Unit is equivalent to Daikows unit "r" of the Black Lake Intrusive Suite, dated 195.7 +/- 2.5 Ma. Zones of flow aligned phenocrysts. Moderately altered to quartz with lesser chlorite and sericite pseudomorphs, and pyrite (mainly as stringers). Quartz veins with blebs of chalcopyrite, sphalerite, and galena (460-467m)	230904	0.009	0.031
446.0	448.0		8.0 **0.0**	*3.2*			230905	0.009	0.048
448.0	450.0		2.0 **0.0**	*3.5*			230906	0.006	0.026
450.0	452.0		2.0 **0.0**	*3.7*			230907	0.014	0.040
452.0	454.0		1.0 **0.0**	*4.1*			230908	0.010	0.043
454.0	456.0	Very fine to coarse grained white green strongly phyllic	1.0 **0.0**	*4.5*		cpy bleb in quartz stringer.	230909	0.015	0.043
456.0	458.0		1.0 **0.0**	*4.9*			230910	0.012	0.040
458.0	460.0		1.0 **0.0**	*0.7*			230911	0.011	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
460.0	462.0	Very fine to coarse grained white green strongly phyllic	1.0 **0.1**	*1.1*		Quartz veins with blebs of chalcopyrite, sphalerite, and galena	230912	0.009	0.030
462.0	464.0		1.0 **0.1**	*1.8*			230913	0.009	0.035
464.0	466.0		2.0 **0.1**	*2.1*			230914	0.010	0.024
466.0	468.0		1.0 **0.1**	*2.3*			230915	0.011	0.035
468.0	470.0		0.5 **0.0**	*2.7*			230916	0.009	0.035
470.0	472.0		0.5 **0.0**	*2.1*			230917	0.008	0.050
472.0	474.0		3.0 **0.0**	*0.7*			230918	0.010	0.040
474.0	476.0		4.0 **0.0**	*0.9*			230919	0.007	0.035
476.0	478.0		2.5 **0.0**	*0.8*		Trace of sphalerite within a quartz vein.	230920	0.012	0.024
478.0	480.6		3.5 **0.0**	*2.1*			230921	0.006	0.027
480.6	483.1	**BRECCIATED ANDESITE FLOW**							
480.6	483.1	Very fine to coarse grained dark green strongly phyllic	3.0 **0.0**	*2.5*		Small brecciated AAP unit between two different types of dikes. 10-13% augite phenocrysts 1-3 mm in size and some altered to chlorite and sericite. Chlorite and sercite dominant with no magnetite present. Alteration has obliterated most of the characteristics of the rock. Upper contact is 35 deg to the core axis and the lower contact is 30 deg to the core axis. Pyrite mineralization is present within the matrix and within veins.	230922	0.019	0.057
483.1	494.7	**PORPHYRITIC MONZODIORITE DYKE**							
483.1	485.0	Very fine to coarse grained brown moderately chloritic	0.0 **0.0**	*27.8*		Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (brecciated) and lower contact 45º to core axis healed shear. Minor calcite and zeolite stringers.	230923	0.006	0.001
485.0	487.0		0.0 **0.0**	*37.1*			230924	0.000	0.001
487.0	489.0		0.0 **0.0**	*33.7*			230926	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
489.0	491.0	Very fine to coarse grained brown moderately chloritic	0.0 **0.0**	*28.4*			230927	0.000	0.001
491.0	493.0		0.0 **0.0**	*31.9*			230928	0.000	0.001
493.0	494.7		0.0 **0.0**	*29.7*			230929	0.001	0.001
494.7	496.3	**BRECCIATED ANDESITE FLOW**							
494.7	496.3	Very fine to coarse grained dark green strongly potassic - chlorite-sericite-quartz	3.0 **0.0**	*2.8*		Andesite unit altered to chlorite, sericite and quartz. Unit is intermediate in composition and brecciated. Matrix is made up of fine grained ground up andesite material. Minor veining contains quartz, anhydrite, calcite and hematite. Magnetite present within some fragments and veins.	230930	0.029	0.067
496.3	520.4	**PORPHYRITIC MONZODIORITE DYKE**							
496.3	498.3	Very fine to coarse grained brown moderately chloritic	0.0 **0.0**	*26.2*		Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 45º (sheared) and lower contact 35º to core axis healed shear. Minor calcite and zeolite stringers oriented between 30-50 deg to the core axis. Unit is magnetic with fine magnetite present.	230931	0.002	0.001
498.3	500.0		0.0 **0.0**	*32.6*			230932	0.001	0.001
500.0	502.0		0.0 **0.0**	*33.9*			230933	0.001	0.001
502.0	504.0		0.0 **0.0**	*31.1*			230934	0.001	0.001
504.0	506.0		0.0 **0.0**	*38.9*			230935	0.001	0.001
506.0	508.0		0.0 **0.0**	*40.2*			230936	0.001	0.001
508.0	510.0		0.0 **0.0**	*33*			230937	0.001	0.001
510.0	512.0	Very fine to coarse grained dark grey brown moderately chloritic		*23.2*			230938	0.006	0.010
512.0	514.0	Very fine to coarse grained red grey moderately sericitic		*32.9*		Trace of hematite present on some feldspar crystals.	230939	0.004	0.001
514.0	516.0	Very fine to coarse grained dark grey pink weakly hematitic		*37*		Weak hematite stain present with weak chlorite and sericite alteration.	230940	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
516.0	518.0	Very fine to coarse grained dark grey pink weakly hematitic		*48.6*					230941	0.002	0.001
518.0	520.4			*37.7*					230942	0.003	0.001
520.4	539.3	**MASSIVE ANDESITE FLOW**									
520.4	522.0	Fine grained dark green black moderately potassic - chlorite-quartz	3.5 **0.1**	*24.7*				Massive andesite flow with breccia sections. Core is competant at the beginning and becomes blocky and broken down the hole. Chlorite and quartz are the dominant alteration present with patchy sericite. 2-3% stringers present composed of calcite and zeolite oriented 30-40 deg to the core axis. 1-3% augite pheocrysts present (1-3mm). Magnetite is present as small black specks within the matrix. Pyrite and minor chalcopyrite are disseminated and found within veins. Trace of hematite seen within some veins.	230943	0.028	0.063
522.0	524.0	Fine grained green black strongly propyllitic	3.0 **0.0**	*68.6*				Epidote alteration has become strong with chlorite and hematite.	230944	0.030	0.083
524.0	526.0		4.0	*49.5*				Vuggy veins present.	230945	0.033	0.103
526.0	528.0		4.5	*2.5*					230946	0.040	0.112
528.0	530.0		4.5	*65.3*					230947	0.044	0.106
530.0	532.0		7.0	*16.2*	PYV	35			230948	0.042	0.266
532.0	534.0		5.0	*5.5*	FLT	25		Vuggy veins.	230949	0.043	0.074
534.0	536.0		4.5 **0.6**	*1.8*	FLT	15	4		230951	0.118	0.062
536.0	538.0		4.0 **0.2**	*2.5*					230952	0.040	0.162
538.0	539.3		4.7 **0.0**	*2.3*	FLT	20	5	Really broken and vuggy core.	230953	0.036	0.100
539.3	542.3	**MASSIVE BASALT FLOW**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
539.3	541.0	Fine grained black moderately propyllitic	2.0	*103*		Unit has changed into a fine grained, highly magnetic basalt unit with pyrite disseminated within the matrix and present within some veins. Contact with the andesite unit above is brecciated at 30 deg to the core axis. Chlorite and epidote are present. ~1% randomly oriented calcite filled stringers present.	230954	0.030	0.087
541.0	542.3		4.0 **0.3**	*21*		Unit transfers back into the andesite unit encountered above towards the end of the interval.	230955	0.057	0.195
542.3	548	**MASSIVE ANDESITE FAULT ZONE**							
542.3	544.0	Fine grained green moderately phyllic	4.0 **0.1**	*2.7*		Fault zone noted by broken core and gougey sections. Core pieces are mottled and QSP altered andesite sections. Pyrite and chalcopyrite are present with in the QSP fragments. Upper contact is 45 deg to the core axis and the lower contact is 40 deg to the core axis.	230956	0.052	0.212
544.0	548.0		5.0	*3.1*		About 50% lost core.	230957	0.015	0.059
548	566	**MOTTLED ANDESITE FLOW**							
548.0	550.0	Fine grained dark grey strongly phyllic	4.0 **0.4**	*3.4*		Back into the similar massive andesite flow encountered before the fault. Strong phyllic alteration present with QSP pervasive obliterating most of the characteristics of the rock. Pyrite and chalcopyrite present.	230958	0.012	0.043
550.0	552.0	Fine grained grey strongly phyllic	3.2	*3.8*			230959	0.007	0.043
552.0	554.0		4.5 **0.0**	*0.6*	FLT 35 2		230960	0.011	0.063
554.0	556.0	Fine grained grey moderately potassic - chlorite-sericite-biotite	4.0 **0.0**	*0.7*		Chlorite, seriite alteration dominate with minor biotite alteration present. Minor k-spar present within a few a veins. Stockworking present. Patchy epidote present.	230961	0.023	0.112
556.0	558.0		3.6	*1.1*			230962	0.031	0.069
558.0	560.0		4.7 **0.1**	*1.7*			230963	0.045	0.168
560.0	562.0		5.4 **0.1**	*2*			230964	0.034	0.155
562.0	564.0	Fine grained dark green moderately potassic - chlorite-sericite-biotite	4.8 **0.1**	*2.5*			230965	0.023	0.099
564.0	566.0		4.0 **0.1**	*3.3*		Trace of k-spar within a few veins.	230966	0.046	0.141

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
566	570.4	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
566.0	568.0	Fine grained dark green moderately potassic - chlorite-sericite-biotite	4.3 **0.1**	*3*		Small fragmental unit within this section.	230967	0.031	0.100
568.0	570.4	Fine grained dark green weakly hematitic		*3.5*			230968	0.028	0.090
570.4	572.8	**PORPHYRITIC MONZODIORITE DYKE**							
570.4	572.8	Very fine to coarse grained grey pink weakly hematitic	0.1	*25*		Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (vein) and lower contact is broken. Minor calcite and zeolite veins randomly oriented. Unit is magnetic with fine magnetite present. Weak hematite staining present. Minor pyrite within the veins.	230969	0.010	0.006
572.8	578.7	**MASSIVE MONZODIORITE FAULT ZONE**							
572.8	575.0	Very fine to coarse grained grey pink weakly hematitic	0.1	*36.9*		Massive fault zone noted by broken core and ground up wall rock with fault gouge. Fault zone starts off with monzodiroite material and around 578.7 m ground up andesite material is present. From 582.0-582.3 m is a brown unit possibly a block of QFP entrained in the fault zone. The unit ends with a mixture of andesite and monzodiorite material. Upper contact is broken and the lower contact is 10 deg to core axis. Overall the section has about 25% core loss.	230970	0.004	0.001
575.0	578.7		0.1	*21.3*		50% core loss	230971	0.006	0.001
578.7	586	**MASSIVE ANDESITE FAULT ZONE**							
578.7	581.0	Fine grained grey moderately chloritic	4.0 **0.0**	*1.9*		QSP altered andesite clasts.	230972	0.018	0.087
581.0	583.0	Fine grained grey	2.0	*2.2*		Brown QFP section within this.	230973	0.007	0.016
583.0	586.0		2.0	*2.6*			230974	0.009	0.021
586	591.5	**MASSIVE MONZODIORITE DYKE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
586.0	588.0	Very fine to coarse grained grey pink weakly hematitic		*29.9*		Weakly porphyritic, 5% Quartz, 80% Felspar (dominantly plagioclase), 15% very fine grained mafic often in clusters of grains, decernable hornblende crystals toward bottm of unit. Upper contact 30º (vein) and lower contact is broken. Minor calcite and zeolite veins randomly oriented. Unit is magnetic with fine magnetite present. Weak hematite staining present. Minor pyrite within the veins.	230976	0.002	0.001
588.0	590.0			*23.4*			230977	0.002	0.001
590.0	591.5			*30.6*			230978	0.004	0.006
591.5	599	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
591.5	593.0	Fine grained green strongly phyllic	5.0 **0.4**	*1.8*		QSP altered andesite breccia. Alteration has obliterated most of the charcteristics of the rock. Fragments are angular with some rounded edges. 1-2% calcite and zeolite stringers present and are randomly oriented. No magnetite present. Pyrite and chalcopyrite present within veins and disseminated within the rock.	230979	0.085	0.137
593.0	595.0		3.0 **0.0**	*2.2*			230980	0.015	0.050
595.0	597.0		3.5 **0.1**	*2.6*			230981	0.029	0.085
597.0	599.0		6.0 **0.0**	*0.4*			230982	0.021	0.101
599	615.2	**MOTTLED ANDESITE FLOW**							
599.0	601.0	Fine grained green strongly phyllic	7.0 **0.1**	*1*			230983	0.059	0.218
601.0	603.0	Fine grained green moderately potassic - chlorite-sericite	5.5 **0.1**	*1.2*		Chlorite and sericite alteration dominate. No quartz alteration present. Trace of anhydrite showing up within the veins.	230984	0.030	0.182
603.0	605.0		6.5 **0.2**	*1.7*			230985	0.021	0.089
605.0	607.0	Fine grained green moderately potassic - chlorite-sericite-quartz	7.5 **0.2**	*1.9*			230986	0.024	0.084
607.0	609.0	Fine grained grey moderately potassic - chlorite-sericite-quartz	7.0 **0.2**	*2.1*	FLT 35 7		230987	0.032	0.095

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
609.0	611.0	Fine grained grey moderately potassic - chlorite-sericite-biotite	6.7	*0.7*				230988	0.034	0.113
611.0	613.0		6.5	*1.1*				230989	0.018	0.081
613.0	615.2		7.2	*1.2*				230990	0.014	0.095
615.2	621	**MASSIVE ANDESITE FAULT ZONE**								
615.2	617.0	Fine grained grey moderately phyllic	5.0	*0.6*	FLT	45	Andesite fault zone noted by the abundance of gouge and milled up andesite clasts. Most of the milled up andesite are QSP altered with some chlorite. 1-2% quart and calcite veining present oriented 40-50 deg to the core axis. Upper contact angle is 45 deg to the core axis and the lower contact is 50 deg to the core axis. Pyrite mineralization I present within the matrix and clasts.	230991	0.001	0.069
617.0	619.0		5.3	*1.1*				230992	0.001	0.050
619.0	621.0		6.2	*1.4*				230993	0.011	0.050
621	624	**MASSIVE QUARTZ FELDSPAR PORPHYRY FAULT ZONE**								
621.0	623.0	Fine grained brown		*4.6*			Fault zone hs transitioned into a brown QFP unit noted by broken core and fault gouge.	230994	0.000	0.001
623.0	624.0			*5.6*	FLT	50		230995	0.000	0.001
624	641.2	**MASSIVE QUARTZ FELDSPAR PORPHYRY DYKE**								
624.0	626.0	Fine grained brown		*1.9*			Brown QFP intrusion noted by the phenocrysts of plagioclase and quartz. 5-8% quartz phenocrysts 2-5mm in size. 5-8% plagioclase phenocrysts 2-5mm in size. Matrix is prominantly made up of feldspars with minor quartz and mafic minerals. Very weak hemtite alteration present possibly giving the brown colour to the matrix. No mineralization present. 1-3% calcite and zeolite stringers present oriented 60-80 deg to the core axis. Upper contact is faulted at 50 deg to the core axis and the lower contact is 70 deg to the core axis.	230996	0.000	0.001
626.0	628.0			*12.7*				230997	0.000	0.001

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
628.0	630.0	Fine grained brown			*7.7*	SHR	20		Small healed shear zone from 629.8-629.9 m, orientation is 20 deg to the core axis.	230998	0.000	0.001
630.0	632.0				*11.5*					230999	0.000	0.001
632.0	634.0				*8.8*					231501	0.000	0.001
634.0	636.0				*7.1*					231502	0.000	0.001
636.0	638.0				*6.9*					231503	0.000	0.001
638.0	640.0		0.0		*7.1*				Trace of pyrite within the matrix.	231504	0.000	0.001
640.0	641.2		0.0		*7.3*					231505	0.000	0.001
641.2	649.1	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**										
641.2	643.0	Fine grained dark grey moderately phyllic	6.0		*3*	FLT	40	7	Back into a phyllic altered andesite fragmental breccia unit. QSP alteration has obliterated most of the charcteristics of the rock. Andesite fragments are intermediate in composition and are fine grained. Clasts are altered to sericite, quartz and chlorite. Matrix is composed of milled up andesite clasts. Pyrite mineralization is disseminated within the clasts and matrix as well as within some veins. 1-2% calcite veining randomly oriented. No magnetite present.	231506	0.011	0.050
643.0	645.0		8.0		*0.8*					231507	0.028	0.065
645.0	647.0		10.0	**0.1**	*1.3*				Trace of chalcopyrite within a vein.	231508	0.015	0.058
647.0	649.1	Fine grained grey moderately phyllic	6.0		*1*					231509	0.012	0.038
649.1	651.5	**MASSIVE QUARTZ FELDSPAR PORPHYRY FAULT ZONE**										
649.1	650.0	Fine grained brown			*4.5*	FLT	20		QFP fault zone noted by fault gouge, milled clasts of QFP, and broken core. Upper contact is 20 deg to the core axis and the lower contact is broken.	231510	0.001	0.001
650.0	651.5				*7.3*					231511	0.000	0.001
651.5	662.9	**MASSIVE QUARTZ FELDSPAR PORPHYRY DYKE**										

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
651.5	653.0	Fine grained brown	0.0		*7.9*	FLT	35	2	Back into a similar type of brown QFP dike encoutered above. Both the upper and lower contacts are faulted and broken. Trace of pyrite seen within the matrix.	231512	0.000	0.001
653.0	655.0		0.0		*5.7*	FLT	45	2		231513	0.000	0.001
655.0	657.0		0.0		*10.4*					231514	0.000	0.001
657.0	659.0		0.0		*5.1*	FLT	25	10		231515	0.000	0.001
659.0	661.0		0.0		*9.6*	FLT	40	8		231516	0.000	0.001
661.0	662.9		0.0		*0.9*	FLT	30	5		231517	0.001	0.001
662.9	754.3	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**										
662.9	664.0	Fine to coarse grained dark grey moderately phyllic	6.0		*1.1*				Unit is a fragmental andesite breccia with clasts of andesite and QFP. Unit starts off dominated by QFP clasts ranging in size from 1cm to 7cm with slightly rounded edges. The QFP clasts decrease to not being present around 672.0 m. Andesite clasts range in size from 1cm to 5 cm with slightly rounded edges. The QFP clasts are dominantly altered to QSP with chlorite. Andesite clasts are QSP altered with chlorite. The matrix is composed of ground andesite material and is moderately altered with chlorite and sericite. Pyrite mineralization is disseminated within the matrix and clasts and found within veins. 1-3% calcite, zeolite and quartz stringers and veins present oriented ~30 deg to the core axis. No magnetite present.	231518	0.017	0.078
664.0	666.0		6.4	**0.0**	*1.3*					231519	0.024	0.084
666.0	668.0		6.7	**0.0**	*1.6*	FLT	20	4		231520	0.024	0.054
668.0	670.0		7.2	**0.0**	*0.6*					231521	0.027	0.061
670.0	672.0		8.0	**0.0**	*1.1*					231522	0.026	0.087
672.0	674.0	Fine to coarse grained grey moderately potassic - chlorite-sericite-quartz	7.0	**0.0**	*2.5*	SHR	40	2	Chlorite alteration has increased.	231523	0.036	0.102
674.0	676.0		7.5	**0.1**	*2.1*	SHR	35	2		231524	0.045	0.151

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
676.0	678.0	Fine to coarse grained grey moderately potassic - chlorite-sericite-quartz	6.0	*1.3*					231526	0.033	0.089
678.0	680.0		6.8 **0.2**	*1.1*	FLT	40	5		231527	0.026	0.063
680.0	682.0		5.5	*1.4*	SHR	30	2		231528	0.010	0.049
682.0	684.0		7.0 **0.0**	*2*				Interval contains a BFP clast.	231529	0.030	0.065
684.0	686.0	Fine to medium grained grey moderately potassic - chlorite-sericite-quartz	7.3 **0.1**	*0.8*				Patchy epidote present.	231530	0.013	0.046
686.0	688.0		6.8 **0.0**	*0.8*					231531	0.028	0.068
688.0	690.0		5.0 **0.0**	*1.4*	FLT	50	2		231532	0.034	0.060
690.0	692.0		4.7 **0.0**	*1.2*	FLT	45	10		231533	0.008	0.051
692.0	694.0	Fine to medium grained grey strongly phyllic	5.0 **0.0**	*0.6*				Chlorite alteration has decreased with strong QSP still present giving the mottled texture and obliteration some of the characteristics of the rock.	231534	0.019	0.038
694.0	696.0		5.0 **0.0**	*1*	FLT	40	4		231535	0.022	0.049
696.0	698.0	Fine to medium grained grey strongly potassic - chlorite-sericite	4.0 **0.0**	*1.8*	FLT	60	4	Chlorite alteration has increased.	231536	0.023	0.065
698.0	700.0		4.5 **0.1**	*1.9*	FLT	20	2		231537	0.051	0.077
700.0	702.0		5.0 **0.0**	*2.2*	FLT	35	3		231538	0.005	0.049
702.0	704.0		4.5 **0.0**	*1.5*	FLT	35	4		231539	0.023	0.064
704.0	706.0		5.5 **0.0**	*1.8*	FLT	30	4		231540	0.054	0.071
706.0	708.0	Fine to medium grained green strongly phyllic	5.0	*2.1*	FLT	45	2	Strong QSP alteration present with lesser chlorite.	231541	0.010	0.030
708.0	710.0		6.0	*0.7*					231542	0.007	0.030
710.0	712.0	Fine grained dark grey strongly phyllic	9.0	*1*	FLT	40	2	Pyrite and quartz vein from 710.6-711.3m. Vein orientation is 25-30 deg to the core axis.	231543	0.011	0.108
712.0	714.0		7.0	*1.5*					231544	0.006	0.027
714.0	716.0		7.5	*0.8*					231545	0.012	0.056

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
716.0	718.0	Fine grained dark grey strongly phyllic	8.0	*0.8*					231546	0.020	0.051
718.0	720.0		7.0	*1.2*					231547	0.004	0.040
720.0	722.0	Fine grained grey strongly phyllic	6.5 **0.0**	*1.6*				Increase in chlorite. Patchy broken sections.	231548	0.048	0.080
722.0	723.4		7.0	*0.9*	FLT	40	2		231549	0.020	0.064
723.4	725.4	Fine grained dark green strongly potassic - chlorite-sericite-biotite	6.7	*31.9*				Intense chlorite alteration with some sericite and biotite.	231551	0.038	0.158
725.4	727.6		7.7	*2.5*					231552	0.035	0.137
727.6	729.0	Fine grained grey intensely phyllic	7.3	*0.6*				Unit transitions into an intense QSP alteration with most of the characteristics of the rock oblieterated. Extremely mottled look to the rock with some sections showing a fragmental texture.	231553	0.004	0.036
729.0	731.0		7.0	*1*	FLT	10	5		231554	0.002	0.037
731.0	733.0		7.5	*1.6*					231555	0.003	0.039
733.0	735.0		8.0 **0.0**	*0.8*					231556	0.004	0.022
735.0	737.0		8.5 **0.0**	*1*	FLT	40	4	Anhydrite seen within the veins.	231557	0.006	0.097
737.0	739.0		8.0 **0.0**	*0.7*					231558	0.003	0.053
739.0	741.0		7.0 **0.0**	*0.9*					231559	0.009	0.071
741.0	743.0		5.0	*1.2*					231560	0.016	0.071
743.0	745.0	Fine grained green intensely phyllic	5.5	*1.8*				Chlorite alteration has started to increase down the hole. QSP alteration has slightly decreased with the texture of the rock being exposed again. Alteration is bordering potassic.	231561	0.014	0.089
745.0	747.0	Fine grained grey intensely phyllic	6.0	*0.9*	FLT	45	10		231562	0.061	0.233
747.0	749.0	Fine grained grey strongly phyllic	6.7	*1.4*				Hematite present within the veins.	231563	0.024	0.128
749.0	751.0		7.0	*1.6*					231564	0.017	0.055
751.0	753.0	Fine grained grey intensely phyllic	5.5	*1.9*					231565	0.016	0.062
753.0	754.3		6.0 **0.0**	*0.8*					231566	0.010	0.045
754.3	789	**MASSIVE QUARTZ FELDSPAR PORPHYRY DYKE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
754.3	756.0	Fine grained brown weakly sericitic	0.0	*1.2*	DYK	30		Similar brown QFP intrusion encountered before in the hole noted by the phenocrysts of plagioclase and quartz. 4-6% quartz phenocrysts 1-3mm in size. 5-8% plagioclase phenocrysts 2-5mm in size. Minor sericite alteration the plagioclase phenocrysts and the matrix. Matrix is prominantly made up of feldspars with minor quartz and mafic minerals. Very weak hemtite alteration present possibly giving the brown colour to the matrix. Trace of disseminated pyrite present within the matrix. 3-5% calcite and zeolite stringers present oriented 50-70 deg to the core axis. Upper contact is faulted at 30 deg to the core axis and the lower contact is 50 deg to the core axis.	231567	0.001	0.001
756.0	758.0		0.0	*2.4*					231568	0.000	0.001
758.0	760.0		0.0	*8.6*					231569	0.000	0.001
760.0	762.0			*11.3*					231570	0.000	0.001
762.0	764.0			*9.9*					231571	0.000	0.001
764.0	766.0			*10*					231572	0.000	0.001
766.0	768.0			*8.5*				Strong hematite veining becoming prominent. No pyrite mineralization present anymore.	231573	0.000	0.001
768.0	770.0			*4.7*					231574	0.000	0.001
770.0	772.0			*8.2*					231576	0.000	0.001
772.0	774.0			*7.9*					231577	0.000	0.001
774.0	776.0			*6.8*					231578	0.000	0.001
776.0	778.0			*9.8*					231579	0.000	0.001
778.0	780.0			*9*	FLT	45	3		231580	0.000	0.001
780.0	782.0			*10.7*					231581	0.001	0.001
782.0	784.0			*14.2*					231582	0.000	0.001
784.0	786.0			*10.8*					231583	0.000	0.001
786.0	788.0			*14.8*					231584	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
788.0	789.0	Fine grained brown weakly sericitic		*18*				231585	0.000	0.001
789	795.8	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**								
789.0	791.0	Fine to medium grained dark green grey strongly potassic - chlorite-quartz-sericite	7.0 **0.0**	*7.1*	FLT	30 4	Potassic altered fragmental andesite. Stong chlorite alteration associated with quartz and sericite alteration. Alteration is targeting clasts as well as the matrix. Unit is made up of subangular clasts of andesite ranging in size from 1 to 4 cm. Matrix is made up of milled and ground up andesite material. 1-2% quartz, calcite, anhydrite and zeolite veins randomly oriented. Pyrite is disseminated within the matrix as well as present within veins and clasts. Trace of chalcopyrite present within some veins.	231586	0.021	0.088
791.0	793.0		7.5 **0.1**	*4.5*				231587	0.027	0.067
793.0	795.0		6.5 **0.0**	*1.4*			Trace of hematite within a vein.	231588	0.029	0.064
795.0	795.8		6.0 **0.0**	*2.4*			Trace of molybdenum within a quartz vein.	231589	0.037	0.048
795.8	798.8	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**								
795.8	797.0	Fine grained brown weakly sericitic		*10.9*	DYK	60	Similar brown quartz feldspar porphyry dike encountered above. 4-6% calcite and zeolite veins/stringers oriented 35-60 deg to the core axis. Some stringers are randomly oriented. Hematite is present within some of the veins/stringers. Upper contact is 60 deg to the core axis and the lower contact is 50 deg to the core axis.	231590	0.000	0.001
797.0	798.8			*10.7*	DYK	50		231591	0.001	0.001
798.8	799.4	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**								
798.8	799.4	Fine to medium grained dark green grey strongly potassic - chlorite-quartz-sericite	5.0 **0.1**	*0.7*			Similar andesite fragmental encountered before the dike just above. Minor sphalerite present within a portion of a quartz vein fragment.	231592	0.055	0.048
799.4	839.9	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**								

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
799.4	801.0	Fine grained brown weakly sericitic	0.0	*5.4*	DYK	40		Similar brown quartz feldspar porphyry dike encountered above. 4-6% calcite and zeolite veins/stringers oriented 35-60 deg to the core axis. Some stringers are randomly oriented. Hematite is present within some of the veins/stringers. Upper contact is 40 deg to the core axis and the lower contact (sheared and veined) is 30 deg to the core axis. Trace of pyrite mineralization at the beginning of the unit. Increase in sericite alteration of sericite phenocrysts down the hole. Hematite present within the veins and stringers.	231593	0.001	0.001
801.0	803.0		0.0	*6.4*					231594	0.000	0.001
803.0	805.0			*6.3*	FLT	35	2		231595	0.000	0.001
805.0	807.0	Fine grained brown moderately silicified (non-K)		*3.1*				Moderate siliceous overprint present.	231596	0.000	0.001
807.0	809.0			*6.5*	FLT	10	8		231597	0.000	0.001
809.0	811.0	Fine grained brown weakly sericitic		*7.9*					231598	0.000	0.001
811.0	813.0	Fine grained tan weakly sericitic		*7.1*					231599	0.000	0.001
813.0	815.0			*6.6*				Minor hematite staining of some feldspar phenocrysts.	231601	0.000	0.001
815.0	817.0			*5.4*				Minor hematite staining of some feldspar phenocrysts. Patchy stockworking.	231602	0.000	0.001
817.0	819.0			*7.5*				Minor hematite staining of some feldspar phenocrysts.	231603	0.000	0.001
819.0	821.0			*7.8*					231604	0.000	0.001
821.0	823.0			*11.7*					231605	0.000	0.001
823.0	825.0	Fine grained red grey weakly sericitic		*15.7*					231606	0.000	0.001
825.0	827.0			*8.9*				Feldspar and quartz phenocrysts have decreased to 3-5% each with their sizes staying the same.	231607	0.000	0.001
827.0	829.0			*8.9*					231608	0.000	0.001
829.0	831.0			*13.1*					231609	0.000	0.005
831.0	833.0			*13.1*					231610	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
833.0	835.0	Fine grained red grey weakly sericitic		*11.8*			231611	0.000	0.001
835.0	837.0			*5.6*			231612	0.002	0.001
837.0	839.0			*5.4*			231613	0.000	0.001
839.0	839.9			*2.4*			231614	0.001	0.006
839.9	852.6	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
839.9	841.0	Fine to medium grained dark green strongly phyllic	7.0 **0.0**	*0.7*		Unit is a strong phyllic altered andesite breccia with most of the rock characteristics obliterated by the alteration. Strong QSP alteration with strong chlorite alteration. Unit contains clasts of andesite, BFP and intrusive material which are phyllic altered along with a matrix composed of milled andesite material. ~1% calcite stringers oriented 30-35 deg to the core axis. Pyrite is disseminated within the matrix and within clasts. ~1% pyrite veins present oriented 30-35 deg to the core axis and contain trace amounts of chalcopyrite.	231615	0.016	0.035
841.0	843.0	Fine to medium grained green strongly phyllic	7.5 **0.0**	*0.9*			231616	0.011	0.036
843.0	845.0		7.0 **0.0**	*1.5*		Trace of sphalerite within a vein.	231617	0.022	0.038
845.0	847.0		7.0 **0.0**	*0.7*			231618	0.047	0.067
847.0	849.0		6.0 **0.0**	*1*	FLT 40 2		231619	0.020	0.062
849.0	851.0	Fine to medium grained green strongly potassic - chlorite-quartz-sericite	6.5 **0.0**	*1.7*		Amount of chlorite alteration has increased. Anhydrite is now present within some veins.	231620	0.011	0.037
851.0	852.6		5.0 **0.0**	*1.8*			231621	0.035	0.037
852.6	878.3	**BRECCIATED MONZONITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
852.6	854.0	Medium to coarse grained green strongly potassic - chlorite-quartz-sericite	4.0	**0.0**	*14.9*	FLT	45	2	Unit contains 75-85% felspars, ~5% quartz and 10-20% mafic minerals. Intrusion is brecciated with clasts of the MNZ in a dark to light grey matrix of ground up intrusion material. Occasional andesite fragments are present. Chlorite, quartz nd sericite alteration dominant obliterating most of the characteristics of the rock. Upper contact is gradational and brecciated. 2-4% quartz, calcite and zeolite veining present oriented 40-60 deg to the core axis. Pyrite is mainly found within veins and minorly disseminated within clasts and the matrix. Magnetite present as fine black specks within the clasts and disseminated within the matrix. Minor hematite present within some veins. A chlorite halo is present arround some veins.	231622	0.039	0.028
854.0	856.0	Medium to coarse grained strongly potassic - chlorite-quartz-sericite	3.0	**0.0**	*13.7*					231623	0.044	0.039
856.0	858.0	Medium to coarse grained grey strongly potassic - chlorite-quartz-sericite	2.0		*2.7*					231624	0.034	0.041
858.0	860.0	Medium to coarse grained grey moderately potassic - chlorite-quartz-sericite	4.0		*1.1*					231626	0.029	0.057
860.0	862.0		3.0		*9.9*				Minor anhydrite present within a few veins.	231627	0.043	0.043
862.0	864.0	Medium to coarse grained green moderately potassic - chlorite-quartz-sericite	5.0		*9.3*					231628	0.064	0.074
864.0	866.0	Medium to coarse grained weakly potassic - chlorite-quartz-sericite	4.5		*3.5*				Hematite staining starting to become present, specifically on the feldspar crystals.	231629	0.025	0.079
866.0	868.0	Medium to coarse grained green weakly potassic - chlorite-quartz-sericite	3.0		*4.4*					231630	0.029	0.079
868.0	870.0		3.5		*11.8*					231631	0.048	0.030
870.0	872.0		1.0		*29.5*					231632	0.064	0.058
872.0	874.0		1.0		*12.3*				Minor molybdenum within couple of veins.	231633	0.050	0.025

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
874.0	876.0	Medium to coarse grained green weakly potassic - chlorite-quartz-sericite	3.0	*2.2*		Minor molybdenum within couple of veins.	231634	0.043	0.029
876.0	878.3		3.5 **0.0**	*2.4*			231635	0.014	0.028
878.3	899.9	**PORPHYRITIC MONZODIORITE DYKE**							
878.3	880.0	Fine to coarse grained grey weakly sericitic	0.1	*2.8*	DYK 25	Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite staining of some of the feldspars and within some veins. 2-4% calcite and zeolite veining present and the veining is oriented 25-45 deg to the core axis. Unit is weakly magnetic. Sparse pyrite within some veins. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating around 25 deg to the core axis and the lower contact is 30 deg to the core axis.	231636	0.005	0.001
880.0	882.0		0.1	*35.3*			231637	0.003	0.001
882.0	884.0	Fine grained grey weakly silicified (non-K)	0.0	*3.4*		Unit gains a siliceous overprint midway through the section along with the the grain size and phenocrysts decreasing. Augite and hornblende phenocrysts present with some altered to chlorite.	231638	0.002	0.001
884.0	886.0		0.0	*25.6*		Unit transitions back into the similar style feldspar porphyry monzodiorite. With a weak hematite stain on the unit.	231639	0.001	0.001
886.0	888.0	Fine to coarse grained pink grey weakly hematitic	0.0	*41.3*			231640	0.001	0.001
888.0	890.0			*42.7*			231641	0.001	0.001
890.0	892.0			*48.7*			231642	0.001	0.001
892.0	894.0	Fine to coarse grained grey pink weakly silicified (non-K)		*55.8*			231643	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
894.0	896.0	Fine to coarse grained grey pink weakly silicified (non-K)		*55.2*			Hematite staining has decreased. Quartz phenocrysts have increased (2-4%, 2-4mm).	231644	0.001	0.001
896.0	898.0	Fine to coarse grained grey brown weakly silicified (non-K)		*40.6*				231645	0.005	0.001
898.0	899.9			*31.9*	CNT	30		231646	0.005	0.001
899.9	900.7	**MOTTLED ANDESITE VOLCANIC BRECCIA**								
899.9	900.7	Fine to medium grained dark green strongly potassic - chlorite-sericite-quartz	4.0 **0.0**	*3.1*			Unit appears to be a fragmental andesite flow breccia. Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock. Veining contains calcite and hematite. Pyrite and chalcopyrite present within veins.	231647	0.111	0.068
900.7	903.8	**MASSIVE QUARTZ-CARBONATE VEIN**								
900.7	902.0	Fine grained light grey white	3.0 **1.0**	*2*	QV	40	Large quartz vein with minor calcite and chlorite stringers. Upper contact is 40 deg to the core axis and the lower contact is 45 deg to the core axis. Unit contains pyrite, chalcopyrite, molybdenum,sphalerite and galena. Hematite stringers present.	231648	0.108	0.028
902.0	903.8		2.0 **0.4**	*0.7*	CNT	45		231649	0.061	0.023
903.8	905.2	**MOTTLED ANDESITE VOLCANIC BRECCIA**								
903.8	905.2	Fine to medium grained dark green strongly potassic - chlorite-sericite-quartz	2.5 **0.1**	*1.6*	FLT	60 3	Unit appears to be a fragmental andesite flow breccia. Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock. Veining contains calcite and hematite. Pyrite and chalcopyrite present within veins.	231651	0.136	0.067
905.2	910	**PORPHYRITIC MONZODIORITE DYKE**								

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
905.2	907.0	Fine to coarse grained red weakly hematitic		*18.3*		Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite staining of some of the feldspars and within some veins. 2-4% calcite and zeolite veining present and the veining is oriented 35-55 deg to the core axis. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is sharp and marked by a vein at around 40 deg to the core axis and the lower contact is 60 deg to the core axis.	231652	0.003	0.001
907.0	909.0			*40.1*			231653	0.003	0.001
909.0	910.0			*42.1*			231654	0.002	0.001
910	911	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
910.0	911.0	Fine to coarse grained light grey strongly phyllic		*0.6*		Unit contains 8-10% quartz 6-8% feldspar phenocrysts 2-7mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong phyllic alteration has obliterated most of the characteristics of the rock. Patchy chlorite alteration present. ~1% zeolite, calcite and hematite veins present oriented 55-60 deg to the core axis. Pyrite is disseminated within the unit. Upper contact is 50 deg to the core axis and the lower contact is undulating at around 10 deg to the core axis.	231655	0.023	0.028
911	913.8	**PORPHYRITIC MONZODIORITE DYKE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
911.0	912.5	Fine to medium grained red grey weakly sericitic		*11.9*		Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm but the phenocrysts decrease in amount down the unit. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite within some veins. 1-2% calcite and zeolite veining present and randomly oriented. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating at 10 deg to the core axis and the lower contact is 60 deg to the core axis. Siliceous overprint present.	231656	0.000	0.001
912.5	913.8			*8.7*			231657	0.000	0.001
913.8	916.3	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
913.8	916.3	Fine to coarse grained light grey strongly phyllic	5.0	*0.7*		Unit contains 8-10% quartz 6-8% feldspar phenocrysts 2-7mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong phyllic alteration has obliterated most of the characteristics of the rock. Patchy chlorite alteration present. ~1% zeolite, calcite and hematite veins present oriented 55-60 deg to the core axis. Pyrite is disseminated within the unit. Upper contact is 60 deg to the core axis and the lower contact is undulating at around 30 deg to the core axis. Beginning of the unit is interwoven with the monzodiorite dike above.	231658	0.014	0.019
916.3	918.3	**PORPHYRITIC MONZODIORITE DYKE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
916.3	918.3	Fine to medium grained red grey weakly sericitic		*9.5*		Unit contains 80-85% feldspars (mostly plagioclase),~5% quartz, 10-15% mafic minerals. Most of the plagioclase occurs as phenocrysts randing in size from 1-4mm but the phenocrysts decrease in amount down the unit. Mafic minerals tend to occur together in groups. Mafic minerals include hornblende, augite?, biotite?. Matrix is fine grained. Weak hematite within some veins. 1-2% calcite and zeolite veining present and randomly oriented. Unit is weakly magnetic. Weak sericite alteration of the feldspars. Spotty chlorite alteration of the mafic minerals. Upper contact is undulating at 30 deg to the core axis and the lower contact is 30 deg to the core axis. Siliceous overprint present.	231659	0.000	0.001
918.3	924	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
918.3	920.0	Fine to medium grained green strongly potassic - chlorite-quartz-biotite	5.0 **0.0**	*1.5*		Unit starts off as a fargmental breccia and transitions into a more massive andesite flow. Minor in-situ brecciation within the massive sections. Fragmental section is composed of andesite and intrusive clasts (including QFP) within a fine-medium grained matrix of milled up andesite material. Strong chlorite, quartz and biotite alteration present within the andesite and matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present.	231660	0.028	0.052
920.0	922.0	Fine to medium grained dark green brown strongly potassic - chlorite-biotite-quartz	7.0 **0.0**	*2*			231661	0.059	0.074
922.0	924.0	Fine to medium grained dark green tan strongly potassic - chlorite-biotite-quartz	6.0 **0.0**	*4.6*		Epidote present within some veins.	231662	0.048	0.053
924	932.5	**MASSIVE ANDESITE FLOW**							
924.0	926.0	Fine grained dark green tan strongly potassic - chlorite-biotite-quartz	7.5 **0.1**	*3.3*		Epidote present within some veins.	231663	0.074	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
926.0	928.0	Fine grained dark green strongly potassic - chlorite-quartz-biotite	7.0 **0.1**	*33.1*			231664	0.081	0.074
928.0	930.0	Fine grained dark green brown strongly potassic - chlorite-biotite-quartz	7.2	*6.2*			231665	0.121	0.120
930.0	932.5	Fine grained dark green strongly potassic - chlorite-biotite-quartz	6.0	*0.6*			231666	0.065	0.069
932.5	936.4	**STOCKWORKED MONZODIORITE DYKE**							
932.5	934.0	Fine to coarse grained dark grey pink moderately chloritic		*10.7*		Monzodiorite dike that is moderately altered with chlorite and sericite. Dark green specks are clusters of mafic minerals altered to chlorite. Matrix is mainly made up of altered feldspars. Beginning of the dike is stockworked with calcite, zeolite and quartz. At the end of the unit stockworking decreases and veining is oriented 45-60 deg to the core axis. Upper contact is undulating between 15-40 deg to the core axis and the lower contact is 15 deg to the core axis.	231667	0.001	0.001
934.0	936.4	Fine to coarse grained light grey green moderately chloritic		*5*		Minor epidote associated with mafic mineral clusters. Hematite present within the veins.	231668	0.002	0.001
936.4	941.8	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
936.4	938.0	Fine to medium grained green strongly potassic - chlorite-quartz-biotite	3.5	*4.9*		Unit starts off as a fargmental breccia and transitions into a more massive andesite flow. Minor in-situ brecciation within the massive sections. Fragmental section is composed of andesite clasts within a fine-medium grained matrix of milled up andesite material. Strong chlorite, quartz and biotite alteration present within the andesite and matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present.	231669	0.071	0.140
938.0	940.0		6.5	*4.3*			231670	0.062	0.065
940.0	941.8		4.0	*4.8*		Trace of epidote and hematite within a few veins.	231671	0.065	0.068

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
941.8	943.4	**STOCKWORKED MONZONITE DYKE**							
941.8	943.4	Fine to coarse grained light grey pink moderately potassic - chlorite-sericite	3.5	*0.9*		Monzodiorite dike that is moderately altered with chlorite and sericite. Alteration is pervasive throughout obliterating most of the characteristics of the rock. Matrix is mainly made up of altered feldspars. The dike is stockworked with calcite, zeolite and quartz. Stockwork veining is roughly oriented between 40-60 deg to the core axis. Pyrite mineralization is present mainly within the veins and minorly within the matrix. Upper contact is 70 deg to the core axis and the lower contact is 35 deg to the core axis. Minor K-spar within the veins.	231672	0.186	0.201
943.4	961	**MASSIVE ANDESITE FLOW**							
943.4	945.0	Fine grained dark grey strongly potassic - biotite-quartz-chlorite	4.0 **0.0**	*1.6*		Unit is a massive andesite flow with minor in-situ brecciation sections. Strong quartz, biotite, chlorite with weak sericite alteration present within the matrix. 2-3% calcite, quartz and anhydrite veining present randomly oriented. Minor hematite and zeolite present within the veins. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and within veins. Trace of chalcopyrite present. Trace of molybdenum within some quartz veins.	231673	0.147	0.131
945.0	947.0		2.5	*1.6*			231674	0.098	0.089
947.0	949.0	Fine grained grey strongly potassic - quartz-chlorite-sericite	5.0 **0.0**	*0.7*		Section contains 0.2% molybdenum. Unit has become quartz flooded.	231676	0.075	0.060
949.0	951.0		3.0 **0.0**	*1*			231677	0.091	0.076
951.0	953.0	Fine grained grey brown strongly potassic - quartz-biotite-chlorite	2.0	*1.6*			231678	0.070	0.068
953.0	955.0		4.0 **0.0**	*0.5*			231679	0.048	0.050
955.0	957.0		3.0 **0.0**	*1*			231680	0.077	0.058
957.0	959.0	Fine grained light grey pink strongly potassic - sericite-chlorite-biotite	3.0 **0.0**	*1.6*		Patchy hematite staining surrounding some veins. Quartz flooding has decreased with an increase in sericite overprint.	231681	0.089	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
959.0	961.0	Fine grained light grey white strongly potassic - sericite-chlorite-biotite	3.0	*0.6*			231682	0.093	0.086
961	962	**MOTTLED QUARTZ FELDSPAR PORPHYRY DYKE**							
961.0	962.0	Fine grained green moderately silicified (non-K)		*4.4*	FAB 30	Unit contains 5-7% quartz, 8-10% feldspar phenocrysts 2-5mm in size and euhedral and subhedral in shape. Matrix is mostly made up of feldspars with minor quartz and mafic material Strong chlorite, sericite and quartz alteration has obliterated most of the characteristics of the rock.Moderate siliceous overprint. ~3% randomly oriented healed fractures filled with calcite and zeolite. Upper contact is 10 deg to the core axis and the lower contact is undulating at around 15 deg to the core axis.	231683	0.014	0.013
962	983.2	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
962.0	964.0	Fine to medium grained light grey strongly potassic - biotite-chlorite-quartz	2.0	*1.3*		Similar altered andesite encountered before the above QSP dike. More fragmental than before with the odd intrusive clast.	231684	0.097	0.086
964.0	966.0	Fine to medium grained dark green brown strongly potassic - biotite-chlorite-quartz	6.0	*6.4*			231685	0.087	0.102
966.0	968.0		6.5	*26*			231686	0.146	0.136
968.0	970.0	Fine to medium grained red green strongly potassic - biotite-chlorite-quartz	6.0	*2.5*		Magnetite and molybdenum seen within a couple of veins.	231687	0.161	0.151
970.0	972.0	Fine to medium grained light grey pink strongly potassic - sericite-chlorite-quartz	4.0	*0.5*			231688	0.103	0.097
972.0	974.0	Fine to medium grained dark grey brown strongly potassic - sericite-chlorite-quartz	5.0	*1.9*			231689	0.123	0.131
974.0	976.0		3.5	*0.7*			231690	0.108	0.087
976.0	978.0		4.0	*0.7*		Trace of molybdenum within a vein.	231691	0.137	0.137
978.0	980.0		4.0	*1.2*			231692	0.085	0.084

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
980.0	982.0	Fine to medium grained dark grey brown strongly potassic - sericite-chlorite-quartz	3.0 **0.0**	*0.7*			231693	0.138	0.128
982.0	983.2	Fine to medium grained grey strongly potassic - sericite-chlorite-quartz	4.5 **0.0**	*0.7*		Trace of molybdenum within a vein.	231694	0.147	0.150
983.2	1099	**MASSIVE MONZODIORITE INTRUSIVE**							
983.2	985.0	Fine to coarse grained pink grey moderately hematitic		*21.8*	CNT 15	Unit contains 80-90% feldspars (mostly plagioclase), 10-15% mafics (hornblende, augite and biotite) and 1-5% quartz. Some of the feldspar crystals are altered to sericite. Mafic minerals occur in clusters with some altered to chlorite. Hematite staining is present on most of the rock. 2-4% zeolite and calcite veins present and oriented 30-40 deg to the core axis and some parallel to the core axis. Upper contact is 15 deg to the core axis. 2% magnetite present as 1-3mm crystals. Patchy epidote present around some veins. Trace of pyrite seen within a few veins. Rare mafic xenoliths present.	231695	0.010	0.001
985.0	987.0		0.0	*33.1*			231696	0.006	0.001
987.0	989.0			*42.7*		Patchy shattered section.	231697	0.002	0.001
989.0	991.0	Fine to coarse grained maroon grey moderately hematitic		*32.7*			231698	0.008	0.020
991.0	993.0	Fine to coarse grained maroon grey strongly hematitic	0.0	*44.7*			231699	0.002	0.001
993.0	995.0			*43.8*			231701	0.003	0.001
995.0	997.0			*30.7*			231702	0.004	0.001
997.0	999.0	Fine to coarse grained pink grey moderately hematitic	0.0	*36*			231703	0.002	0.001
999.0	1001.0	Fine to coarse grained grey pink moderately hematitic		*55.7*		Siliceous patches.	231704	0.005	0.001
1001.0	1003.0		0.0	*55.7*			231705	0.002	0.001
1003.0	1005.0	Fine to coarse grained pink grey moderately hematitic		*45.8*			231706	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
1005.0	1007.0	Fine to coarse grained pink grey moderately hematitic		*43.9*				231707	0.002	0.001
1007.0	1009.0		0.0	*50.7*				231708	0.003	0.001
1009.0	1011.0		0.1	*49.2*				231709	0.001	0.001
1011.0	1013.0	Fine to coarse grained maroon grey strongly hematitic	0.0	*51.9*				231710	0.001	0.001
1013.0	1015.0		0.1	*7.5*				231711	0.001	0.001
1015.0	1017.0			*51.6*				231712	0.001	0.001
1017.0	1019.0			*44.4*				231713	0.001	0.001
1019.0	1021.0	Fine to coarse grained pink grey weakly hematitic		*40.9*			Weak siliceous overprint.	231714	0.001	0.001
1021.0	1023.0			*56*				231715	0.001	0.001
1023.0	1025.0		0.0	*47.4*				231716	0.001	0.001
1025.0	1027.0			*54.6*				231717	0.001	0.001
1027.0	1029.0		0.0	*52.4*				231718	0.002	0.001
1029.0	1031.0		0.0	*52.5*			Weak siliceous overprint.	231719	0.002	0.001
1031.0	1033.0		0.0	*45.2*				231720	0.002	0.001
1033.0	1035.0		0.0	*57.1*	FRK	60		231721	0.002	0.001
1035.0	1037.0		0.0	*52.3*	FRK	55	Weak siliceous overprint.	231722	0.002	0.001
1037.0	1039.0		0.0	*52.3*	FRK	50		231723	0.002	0.001
1039.0	1041.0			*51.1*			Weak siliceous overprint.	231724	0.002	0.001
1041.0	1043.0			*54.1*	FRK	65		231726	0.002	0.001
1043.0	1045.0			*48.7*				231727	0.002	0.001
1045.0	1047.0			*53.2*				231728	0.002	0.001
1047.0	1049.0	Fine to coarse grained maroon grey moderately hematitic		*46.1*				231729	0.002	0.001
1049.0	1051.0		0.0	*51.2*				231730	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
1051.0	1053.0	Fine to coarse grained maroon grey moderately hematitic	0.0	*47*				Patchy broken core.	231731	0.002	0.001
1053.0	1055.0		0.0	*33.8*	FRK	75			231732	0.001	0.001
1055.0	1057.0		0.0	*57.3*				Weak siliceous overprint.	231733	0.001	0.001
1057.0	1059.0	Fine to coarse grained pink grey moderately hematitic	0.0	*10.8*				Vuggy veins.	231734	0.002	0.001
1059.0	1061.0		0.0	*54.4*					231735	0.002	0.001
1061.0	1063.0			*57.1*					231736	0.002	0.001
1063.0	1065.0			*38.1*	CALQV	30	8	Large calcite and quartz vein at 1064.70 m to 1064.75 m.	231737	0.001	0.001
1065.0	1067.0		0.0	*61*	CALQV	25	10	Large calcite, quartz and weak zeolite vein from 1065.13m to 1065.27m.	231738	0.001	0.001
1067.0	1069.0		0.0	*38*					231739	0.002	0.001
1069.0	1071.0		0.0	*40.4*					231740	0.002	0.001
1071.0	1073.0			*34.1*					231741	0.002	0.001
1073.0	1075.0			*45.2*					231742	0.001	0.001
1075.0	1077.0			*43.4*					231743	0.002	0.001
1077.0	1079.0			*50.7*					231744	0.002	0.001
1079.0	1081.0			*49.4*					231745	0.002	0.001
1081.0	1083.0			*48.8*					231746	0.002	0.001
1083.0	1085.0			*48*					231747	0.002	0.001
1085.0	1087.0			*44.4*					231748	0.002	0.001
1087.0	1089.0			*38.8*					231749	0.002	0.001
1089.0	1091.0			*44.8*					231751	0.002	0.001
1091.0	1093.0			*38.5*					231752	0.002	0.008
1093.0	1095.0			*36.6*					231753	0.002	0.001
1095.0	1097.0			*43.4*					231754	0.014	0.031
1097.0	1099.0			*53.5*					231755	0.003	0.012

Hole Number: KH-07-02

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1099	1120.5	**BRECCIATED QUARTZ MONZONITE INTRUSIVE**							
1099.0	1101.0	Fine to coarse grained green moderately potassic - chlorite-quartz-sericite	0.1	*55.7*		Unit transitions into a more chloritic and siliceous unit with spotty sericite and some anhydrite within the veins. Unit contains phenocrysts of feldspars and quartz. Unit contains 10-20% quartz, 70-80% feldspars and 10-20% mafic minerals. Moderate quartz replacement. Weak hemtite and epidote alteration present. 4-6% calcite and zeolite veining present randomly oriented. Pyrite and trace amount of chlorite is seen within the veins. Unit contact is broken and rubbly. Unit is magnetic.	231756	0.052	0.041
1101.0	1103.0		0.1 **0.0**	*72.2*			231757	0.098	0.055
1103.0	1105.0		0.1 **0.0**	*38*			231758	0.063	0.017
1105.0	1107.0		0.0	*79*			231759	0.058	0.030
1107.0	1109.0		0.0	*9.9*		Minor K-spar alteration now present.	231760	0.016	0.008
1109.0	1111.0		0.0	*38.3*			231761	0.001	0.001
1111.0	1113.0		0.0	*29.6*			231762	0.001	0.001
1113.0	1115.0		0.0	*53.1*			231763	0.001	0.001
1115.0	1117.0		0.0	*5.1*			231764	0.001	0.001
1117.0	1119.0		0.0	*38.7*			231765	0.000	0.001
1119.0	1120.5		0.0	*55.7*		EOH	231766	0.000	0.001

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	10.5	**OVERBURDEN**							
	0.0 10.5			*37.7*			231359	0.000	0.001
10.5	53.2	**HOMOGENEOUS ANDESITE FLOW**							
	10.5 12.5	Fine to medium grained grey green weakly potassic	5.0 **1.0**	*1.5*		grey/green andesite flow. Massive to plagioclose-phyric (0.5-2 mm euhedral crystals). Potassic alteration (rare magnetite veins, chlorite in groundmass) overprinted by pervasive silicious alteration. Occaisional quartz/calcite +/- hematite veins (vuggy when > 10 mm wide) up to 15 mm wide with phyllic alteration halo that crosscut magnetite veins. Core is 5-7% sulfides; 90% pyrite, occuring as vein infil in quartz/carbonate veins, with chalcopyrite and molybdenite. Pyrite also occurs as disseminated blebs up to 5 mm.	231360	0.112	0.048
	12.5 14.5		7.0 **1.0**	*2.3*	V	Anastamosing quartz/carbonate vein at ~13 m, up to 80 mm wide, enclosing several andesite fragments; locally high sulfide concentrations.	231361	0.060	0.035
	14.5 16.5		8.0 **1.0**	*1.5*		At 15 m, sulfide concentration briefly reaches 20% along a coincident qtz/calc vein.	231362	0.077	0.044
	16.5 18.5		5.0 **0.5**	*1.9*	V	Slight phyllic alteration halo around a qtz/calc vein at 18.7 m, with pyrite and chalcopyrite.	231363	0.163	0.096
	18.5 20.5		5.0 **0.5**	*0.8*			231364	0.106	0.048
	20.5 22.5		5.0 **0.5**	*13.8*	V	At 20.6 m, qtz/calc vein with pyrite, chalcopyrite and molybdenite, and a very light phyllic alteration halo.	231365	0.106	0.054
	22.5 24.5		2.0 **0.5**	*0.6*	V 20	At 23.4 m, a quartz/carbonate/hematite vein.	231366	0.070	0.037
	24.5 26.5		2.0 **0.5**	*1.5*		Interval is somewhat rubbly from 26.3 to 26.5 m.	231367	0.094	0.048
	26.5 28.5		2.0 **0.5**	*9.4*	V 30	moderate phyllic alteration from 28.0 to 28.2 m. Three magnetite veins, 8 mm wide and approximately 7 cm apart at 28.4 m. They feature minor sulfide mineralization, and very minor patchy epidote.	231368	0.103	0.055

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
28.5	30.5	Fine to medium grained grey green weakly potassic	2.0 **0.5**	*3.8*			New small (<1 mm) disseminated epidote crystals; additional evidence for primary potassic alteration. Occurrence of epidote crystals roughly coincides with disseminated pyrite blebs.	231369	0.067	0.035
30.5	32.0		2.0 **0.5**	*7.9*	V	45	A few short phyllic patches close to small veinlets	231370	0.109	0.054
32.0	33.0	Fine to medium grained grey green strongly phyllic	3.0 **1.0**	*4.2*	V	40	The middle third of this interval is strongly phyllic altered due to the presence of a 10 mm wide, locally vuggy quartz/calcite vein. The vein hosts pyrite, chalcopyrite and molybdenite. The remainder of the interval is 'normal' potassic altered andesite.	231371	0.228	0.132
33.0	34.6	Fine to medium grained grey green weakly potassic	2.0 **0.5**	*1.4*			minor phyllic alteration patches associated with veinlets	231372	0.081	0.034
34.6	36.6		2.0 **0.5**	*2.1*	V	50	phyllic alteration at 35.0 m around a quartz/carbonate vein, with pyrite and chalcopyrite; no molybdenum seen, plus a few small patches of phyllic alteration that look a little like clasts. Trace molybdenum, with py and cpy in another qtz/calc vein at 36.2 m.	231373	0.076	0.037
36.6	38.6		2.0 **0.5**	*1.6*			patchy minor phyllic alteration continues.	231374	0.082	0.037
38.6	39.6		2.0 **0.5**	*2.2*			Interval begins with 15 mm vuggy quartz/calcite vein and 25 cm phyllic alteration halo. Pyrite and chalcopyrite, no molybdenum. A few other phyllic patches, continued strong sulfide (pyrite) concentrations	231375	0.067	0.228

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
39.6	41.6	Fine to medium grained grey green weakly potassic	2.0 **0.3**	*2.7*			Green/grey andesite with 1-20% heterolithic fragments (Phyllic-altered andesite, intrusive fragments…monzonite?). Gradual 'contact' with homogeneous andesite above. Massive to rarely plagioclose-phyric (0.5-2 mm euhedral crystals). Potassic alteration (rare magnetite veins, chlorite in groundmass, disseminated ~1 mm epidote crystals) overprinted by pervasive silicious alteration. Quartz/calcite +/- hematite veins (vuggy when > 10 mm wide) up to 15 mm wide with phyllic alteration halo that crosscut magnetite veins. Core is 2-7% sulfides; largely pyrite, occuring as vein infil in quartz/carbonate veins, with chalcopyrite and molybdenite. Pyrite also occurs as disseminated blebs up to 5 mm in tandem with disseminated epidote crystals.	231376	0.092	0.035
41.6	43.2		2.0 **0.3**	*3.3*	V	10	3-6 mm wide vuggy quartz/caronate vein from 42.5 to 42.9 with moderate phyllic alteration halo; pyrite and chalcopyrite, no molybdenum	231377	0.096	0.061
43.2	45.2		2.0 **0.3**	*3.9*			interval is 20% weakly phyllic altered due to several small quartz/carbonate veins.	231378	0.082	0.053
45.2	47.2		2.0 **0.3**	*5.1*	V	60	At 45.9 m, a 3 mm quartz/carbonate vein with good sulfide concentrations.	231379	0.089	0.045
47.2	49.2		2.0 **0.3**	*2.3*				231380	0.086	0.053
49.2	51.2		2.0 **0.3**	*2.9*			Fewer fragments in this interval	231381	0.068	0.039
51.2	53.2		2.0 **0.3**	*1.8*			weak phyllic alteration in this interval, increasing slightly downhole.	231382	0.101	0.060
53.2	54.3	**PORPHYRITIC MONZODIORITE DYKE**								

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
53.2	54.3	Fine to medium grained green weakly propyllitic	1.0 **0.0**	*8.8*	DYK		Porphyritic monzodiorite dyke. 5-10% hematite stained plagioclase grains (2-4 mm), 2-5 % mafic minerals, fine-grained green/grey matrix. Propylitic alteration (chlorite in matrix, disseminated epidote and minor pyrite), with slight hematitic overprint from quartz/calcite/zeolite veinlets. Diffuse upper contact with andesite, roughly orthogonal to core axis. Sharp undulatory lower contact, also nearly 90 degrees to core axis.	231383	0.109	0.084
54.3	66	**FRAGMENTAL ANDESITE FLOW**								
54.3	56.3	Fine to medium grained grey green weakly phyllic	2.0 **0.0**	*2.9*			Grey/green andesite. Carries 1-8% phyllic-altered andesite fragments. Potassic-altered, with phyllic alteration patches and pervasive silicious overprinting. Older magnetite veins and younger quartz/calcite +/- zeolite veins. 2-6% sulfides, disseminated pyrite blebs and pyrite infill (rare chalcopyrite) in quartz/calc veins.	231384	0.121	0.067
56.3	58.3	Fine to medium grained grey green weakly potassic	3.0 **0.0**	*1.4*			At 56.9 m, a 15 mm vuggy quartz/calcite vein with surrounding moderate intensity phyllic halo.	231386	0.098	0.062
58.3	60.3		3.0 **0.0**	*1.1*	FLT	70	patchy phyllic alteration associated with a few minor qtz/calc veins. Fault (~10 mm of gouge) at 59.3 m at a high angle to the core axis…70 degrees?	231387	0.086	0.038
60.3	62.3	Fine to medium grained grey green moderately phyllic	5.0 **0.0**	*1.5*	V	45	stronger phyllic alteration around a 20 mm quartz/calcite vein at 60.5 m; increased pyrite concentration with very very minor (imaginary?) chalcopyrite. A few other veins give this interval stronger phyllic overprint.	231388	0.110	0.059
62.3	64.3	Fine to medium grained grey green weakly phyllic	3.0 **0.0**	*2.1*			continued phyllic alteration due to quartz/carbonate veins, spaced ~ 20-30 cm.	231389	0.077	0.044
64.3	66.0	Fine to medium grained green grey moderately phyllic	3.0 **0.0**	*2.3*	FLT		Rubbly section from 65.0 to 65.7 m with local strong phyllic to argillic alteration; sulfides still 2-4%.	231390	0.046	0.027
66	71	**STOCKWORKED BASALT FLOW**								

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
66.0	68.0	Fine to medium grained green black weakly potassic	0.0	*1.6*	STK	Green/black basalt. 2-10% 0.5-2 mm augite phenocrysts. Prominent stockwork quartz/calcite +/- hematite veining. Potassic alteration (disseminated magnetite and chlorite, plus discrete epidote crystals and veinfill) with local phyllic and pervasive silicious overprint. Upper contact is sharp, undulatory and at a low angle to the core axis. Lower contact is sharp and ~45 degrees to the core axis. A wimpy basalt; probably not too far from the andesite boundary.	231391	0.036	0.017
68.0	70.0		0.0	*58.9*		prominent quartz/calcite vein, 25 degrees to core axis at 68.3 m, with phyllic alteratoin halo and rubbly core.	231392	0.017	0.013
70.0	71.0		0.0	*72.2*		increased hematite staining of quartz/calcite veins towards end of interval.	231393	0.020	0.012
71	87	**LAPILLITIC INTERMEDIATE FRAGMENTAL INTRUSION**							
71.0	73.0	Fine to medium grained green pink weakly potassic	0.0	*22.6*		green/pink/grey hard weakly magnetic tuff. 5-20% 1-4 mm hematite-stained plagioclase lapilli. 2-10% epidote crystals. 1-5% fine-grained 1-3 cm mafic clasts. Bottom few metres of unit grades in and out of a heterolithic lapillistone, with only 2-10% plagioclase lapilli and 10-40% 1-10 cm rounded lithic fragments, chiefly fine grained mafic volcanics, and quartz-feldspar porphyry fragments. Prevalent zeolite/carbonate stockwork veining and rare hematite-rich stringers. Alteration is mainly propylitic (disseminated epidote crystals), and pervasive weak hematite staining, with silicic overprint, and minor sericitization as halos around some quartz/carbonate veins.	231394	0.002	0.008
73.0	74.1		0.0	*19.5*		phillic or argillic overprint in last 15 cm of interval.	231395	0.000	0.119
74.1	75.0	Fine to medium grained grey intensely silicified (non-K)	0.0	*0.9*		Very hard non-magnetic lapilli tuff. Contains 2-8% 0.5-1 mm lapilli and a few 1-3 cm clasts. This unit has undergone near complete silica replacement. A few remnant veinlets, possibly zeolite/carbonate?	231396	0.002	0.012
75.0	77.0	Fine to medium grained green weakly propyllitic	0.0	*33.2*		lapilli rich (~20%) interval.	231397	0.001	0.005

Hole Number: KH-07-03

From	To		Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
	77.0	79.0	Fine to medium grained green weakly propyllitic	0.0	*63.6*	V	50	interval begins with 20cm sericitized section from 3 mm qtz/calc vein	231398	0.000	0.036
	79.0	81.0		0.0	*45.1*				231399	0.000	0.039
	81.0	83.0		0.0	*53.6*				231400	0.000	0.001
	83.0	85.0		0.0	*59.6*	V	50	at 84.1 m, a 4 mm vuggy quartz/calcite vein with 6 cm sericitized halo.	231401	0.000	0.001
	85.0	87.0		0.0	*19.5*				231402	0.000	0.006
87	89.5		**LAPILLITIC HETEROLITHIC INTRUSION BRECCIA**								
	87.0	88.5	Fine to medium grained green grey weakly propyllitic	0.0	*30.5*			This interval grades whickly into a lapillistone; gone suddenly are the plagioclase lapilli and now there are 1-10 cm rounded lithic clasts. Less hematite staining leaves the core more green.	231403	0.002	0.001
	88.5	89.5		0.0	*63.6*			lapillistone continues.	231404	0.003	0.010
89.5	97.4		**LAPILLITIC INTERMEDIATE FRAGMENTAL INTRUSION**								
	89.5	91.4	Fine to medium grained green weakly propyllitic	0.0	*4.5*			Reversion to lapilli tuff; the transition is quick, but there doesn't seem to be any kind of bedding plane or boundary.	231405	0.008	0.009
	91.4	93.4	Fine to medium grained green grey weakly propyllitic	0.0	*43.3*			final change to lapillistone until the end of the unit. 20 cm WFP fragment at 93.1 m.	231406	0.005	0.065
	93.4	95.4		0.0	*90.5*				231407	0.003	0.132
	95.4	97.4		0.0	*37.2*				231408	0.024	0.021
97.4	119.6		**PORPHYRITIC BLADED FELDSPAR PORPHYRY FLOW**								

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
97.4	99.4	Fine to coarse grained green black strongly propyllitic	0.1	*0.9*	CNT	60	Bladed plagioclase-phyric basalt flow. 20-40% 8-30 mm plagioclase laths. Matrix is fine grained, black to green depending on alteration intensity. Moderate flow alignment of most plagioclase at low angle to core axis. Upper contact is distinct by not sharp at 60 degrees to core axis. Common quartz/carbonate veinlets with minor hematite staining at many angles to core axis. Weak to moderate magnetic response. Moderate to strong propylitic alteration (epidote replacement of plagioclase laths, chlorite in matrix, patchy sericite, disseminated pyrite specs). Pyrite is the only sulfide, disseminated disseminated <0.5 mm crystals.	231409	0.012	0.087
99.4	101.4	Fine to coarse grained green black moderately propyllitic	0.1	*3.5*				231410	0.059	0.066
101.4	103.4		0.1	*41.1*				231412	0.020	0.001
103.4	105.2		0.1	*93.7*			This interval has a slightly higher quartz/calcite vein density, locally stockworked and less than 30 degrees to core axis.	231413	0.045	0.008
105.2	107.2	Fine to coarse grained green black strongly propyllitic	0.1	*74.1*			about 80 cm of this interval is broken rubbly core, without a noticeable change in alteration intensity or style.	231414	0.039	0.008
107.2	109.2	Fine to coarse grained green black intensely propyllitic	0.1	*2*			Rubbly core continues; propylitic alteration intensifies down hole over length of interval (increased sericite).	231415	0.105	0.050
109.2	111.2	Fine to coarse grained green black strongly propyllitic	0.1	*2.3*			Alteration intensity lessens, loss of good plagioclase flow alignment.	231416	0.131	0.016
111.2	113.2		0.1	*3*			Larger (2 by 10 mm) randomly oriented plagioclase laths return; most are not epidote altered like nearly all of the smaller crystals.	231417	0.019	0.012
113.2	115.2		8.0	*3.5*	V	60	At 114.2 m, a 40 cm wide quartz/carbonate vein with extremely high concentrations of pyrite.	231418	0.023	0.213
115.2	117.2		5.0	*3.5*	V	60	At 115.1 m, another wide quartz/carbonate vein with incredible pyrite.	231419	0.015	0.073
117.2	118.2		1.0	*4.4*	FLT	70	Appearance of 6-8 mm wide vesicles? All are completely epidote-replaced. Small fault at 118.0 m.	231420	0.017	0.022

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
118.2	119.6	Fine to coarse grained green black moderately propyllitic	0.5	*5.2*				231421	0.108	0.023
119.6	125.9	**FRAGMENTAL ANDESITE FLOW BRECCIA**								
119.6	121.6	Fine to medium grained grey green strongly phyllic	1.0	*1.5*			green to dark grey fragmental andesite flow. 5-15% fragments, mafic volcanics (andesite?) very sall (<15 mm) quartz felspar porphyry fragments. Green aphanitic matrix. Quartz/calcite veining common. Alteration is potassic with local phyllic patches. Weakly magnetic. Discontinuous disseminated pyrite blebs and occaisional pyrite infill of quartz/carbonate veins.	231422	0.058	0.081
121.6	123.0		1.0	*2.5*	V		Dense quartz/carbonate veining in this interval; strong phyllic alteration overprints potassic.	231423	0.067	0.019
123.0	125.0	Fine to medium grained green grey moderately potassic	1.0	*18.8*	V	30	At 124.3 m, a quartz/carbonate vein with moderate phyllic halo (sericite).	231424	0.060	0.013
125.0	125.9		0.5	*10.8*			Lithic fragments constitute ~20-30% of interval	231425	0.040	0.006
125.9	129.2	**PORPHYRITIC QUARTZ MONZODIORITE BRECCIA**								
125.9	128.0	Fine to coarse grained green grey moderately potassic	0.5	*6.4*			Green/grey/pinkk Porphyritic quartz monzodiorite. 5-20% 0.5-4 mm quartz and plagioclase phenocrysts. Quartz phenocrysts are not found near beginning of unit. Alteration is potassic, overprinted by hematite with depth. Promminant quartz/calcite/zeolite veining at various high angles to the core axis. Upper contact is at a high angle to core axis and undulatory. Unit is primarily autobrecciated with minor black mafic fragments.	231426	0.036	0.010
128.0	129.2	Fine to coarse grained pink grey moderately hematitic	0.5	*13.7*			increased zeolite content in quartz/carbonate veins and associated hematitic alteration gives core a pink hue.	231427	0.052	0.021
129.2	130.2	**FRAGMENTAL ANDESITE FLOW BRECCIA**								
129.2	130.2	Fine to medium grained green grey moderately hematitic	0.5	*5.3*			green to dark grey fragmental andesite flow. Autobrecciated. Green aphanitic matrix. Quartz/calcite veining common. Alteration is potassic with local phyllic patches. Weakly magnetic. Disseminated pyrite blebs and occaisional pyrite infill of quartz/carbonate veins.	231428	0.070	0.037

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
130.2	132.3	**PORPHYRITIC QUARTZ MONZODIORITE BRECCIA**									
130.2	131.4	Fine to coarse grained grey pink moderately potassic	1.0		*44.4*			Green/grey/pinkk Porphyritic quartz monzodiorite. 5-20% 0.5-4 mm quartz and plagioclase phenocrysts. Quartz phenocrysts are not found near the end of unit. Alteration is potassic, with local hematite alteration as halos around veins. Promminant quartz/calcite/zeolite veining at various high angles to the core axis. Both upper and lower contacts are a high angles to the core axis; distinct but not sharp. Unit is primarily autobrecciated with minor black mafic fragments, and at least one BFP fragment. Disseminated pyrite blebs and occaisional pyrite infil of qtz/carb veinlets.	231429	0.044	0.031
131.4	132.3		1.0		*18.6*				231430	0.051	0.028
132.3	152	**MASSIVE ANDESITE FLOW**									
132.3	134.3	Fine to medium grained grey green moderately potassic	2.0		*3.4*	V	45	Green/grey andesite flow. Unit contains fragmental sections containing 5-30% phyllic-altered (sericite) andesite and minor intrusive fragments; gradual transition between fragmental and massive andesite. Variable magnetism. Common quartz/carbonate +/- (zeolite, chlorite, magnetite) veining. Zeolite and chlorite never coexist in veins, zeolite is more common; might be two events. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-5% disseminated and minor vein infill pyrite.	231431	0.094	0.047
134.3	136.3		3.0		*3.1*	V	50	fragmental interval, fragments are generally 0.5 - 3 cm. At 135.5 m, a 10 mm quartz/carbonate vein at about 50 degrees to the core axis.	231432	0.106	0.059
136.3	138.3		3.0		*3.7*			core transitions from fragmental to massive from 183.7 to 184.1 m. Sulfide content is unaffected.	231433	0.065	0.044
138.3	140.3		3.0		*4.2*			interval is massive except for a few phyllic altered andesite fragments.	231434	0.067	0.044
140.3	142.3		3.0	**0.0**	*6.5*			magnetite in a small vein at 141.2 m. Very minor chalcopyrite blebs (<0.5 mm).	231435	0.066	0.039

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
142.3	144.3	Fine to medium grained grey green moderately potassic	5.0 **0.0**	*2.7*	V	80	phyllic altered patch at 143.9 m surrounding a quartz/carbonate vein.	231437	0.087	0.047
144.3	146.3		5.0 **0.0**	*2.9*			Quartz/carbonate vein with phyllic halo at 145.0 m. Increasing phyllic andesite fragments with depth.	231438	0.085	0.046
146.3	148.3		5.0	*3.2*	V	80	minor epidote crystals associated with disseminated pyrite. Phyllic (sericitized) halo at end of interval	231439	0.057	0.039
148.3	150.3		5.0	*3.8*				231440	0.062	0.035
150.3	152.0	Fine to medium grained grey green moderately phyllic	5.0	*4.3*			large proportion of phyllic-altered fragments in this interval.	231441	0.069	0.089
152	153.3	**FRAGMENTAL BLADED FELDSPAR PORPHYRY FLOW**								
152.0	153.3	Fine to coarse grained dark green weakly phyllic	5.0 **0.0**	*4.8*			dark green bladed feldspar porphyry flow breccia. 20-40% 10-30 mm plagioclase phencrysts, mostly unaltered, some sericitized. Aphanitic green matrix. Strong fabric expressed by the phenocrysts; randomly oriented breccia fragments prevent interpretation of flow direction relative to core axis. Common quartz/carbonate/zeolite veining at various high angles to core axis. Alteration is mainly phyllic (sericite/chlorite/pyrite). 2-5% pyrite as disseminated blebs and minor vein infill.	231442	0.116	0.060
153.3	162	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**								
153.3	155.3	Fine to coarse grained grey pink weakly hematitic	0.3 **0.0**	*37.6*			Pink/grey quartz feldspar porphy. 20% 1-2 mm euhedral plagioclase phenocrysts. 8% 2-4 mm euhedral quartz phenocrysts. Phenocryst density is highest in middle of unit; at edges modes are 10% plagioclase and 0% quartz. 1-5 % 1-5 mm mafic minerals. Hematite-stained quartz/calcite veining at various angles to core axis. Alteration is principally hematite; alteration intensity is weakest at edges of unit. Sulfide concentrations are genrally very low.	231443	0.004	0.106
155.3	157.3	Fine to coarse grained pink grey strongly hematitic	0.3 **0.0**	*39.6*			highest concentration of phenocrysts in this interval.	231444	0.001	0.001
157.3	159.0	Fine to coarse grained pink grey moderately hematitic	0.3 **0.0**	*35.9*			phenocryst density and hematite alteration intensity decrease over length of interval.	231445	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
159.0	161.0	Fine to coarse grained grey pink weakly hematitic	0.3 **0.0**	*68.6*		Remaining plagioclase phenocrysts are still hematite stained, but matrix is increasingly grey over length of interval.	231446	0.001	0.001
161.0	162.0	Fine to coarse grained grey weakly hematitic	0.3 **0.0**	*57.6*			231447	0.004	0.001
162	163.2	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
162.0	163.2	Fine to coarse grained green grey moderately potassic	4.0 **0.0**	*3.4*		Green/grey fragmental andesite flow. Fragmental sections contain 5-30% phyllic-altered (sericite) andesite. Variable magnetism. Common quartz/carbonate +/- (zeolite) veining. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-5% disseminated and minor vein infill pyrite.	231448	0.126	0.134
163.2	165.8	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
163.2	165.0	Fine to medium grained grey pink weakly hematitic	0.3 **0.0**	*38.1*		Grey/pink plagioclase-phyric monzodiorite. 10-15% 1-2 mm euhedral plagioclase phenocrysts. 1-5 % 1-5 mm mafic minerals. Hematite-stained quartz/calcite veining at various angles to core axis. Weakly hematite altered. Sulfide concentrations are genrally very low. Looks almost the same as the last interval of the QFP unit above. Upper and lower contacts are undulatory and at high angles to the core axis.	231449	0.012	0.001
165.0	165.8	Fine to medium grained grey weakly hematitic	0.3 **0.0**	*53.5*			231450	0.006	0.001
165.8	182.8	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
165.8	167.8	Fine to medium grained green grey moderately potassic	5.0 **0.0**	*3.9*		Green/grey andesite flow breccia. Unit contains 10-50% phyllic-altered (sericite) andesite and some sections of massive andesite; gradual transition between fragmental and massive andesite sections. Variable magnetism. Common quartz/carbonate +/- (zeolite, magnetite) veining. Alteration is dominantly potassic, with minor phyllic alteration around larger veins. 1-10% disseminated and occaisional vein infill pyrite.	231451	0.072	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
167.8	169.8	Fine to medium grained green grey moderately potassic	5.0 **0.0**	*4.8*				231452	0.076	0.038
169.8	171.8		5.0 **0.0**	*5*	V	10	10 mm quartz/carbonate vein from 170.3 to 170.7 m at 10 degrees to core axis. Anastomoses a little, very good pyrite concentration.	231453	0.086	0.067
171.8	173.8		3.0 **0.0**	*5.4*			This interval is 40% phyllic-altered andesite fragments.	231454	0.170	0.128
173.8	175.8		4.0 **0.0**	*2.5*				231455	0.252	0.123
175.8	177.8		3.0 **0.0**	*1.7*	V	10	15 mm quartz/carbonate vein from 176.0 to 176.8 m, without significant pyrite in the vein, though there continues to be disseminated pyrite in the surrounding rock.	231456	0.156	0.088
177.8	179.8		3.0 **0.0**	*2.2*				231457	0.277	0.154
179.8	181.8		3.0 **0.0**	*2.8*				231458	0.121	0.063
181.8	182.8	Fine to medium grained green grey moderately phyllic	4.0 **0.5**	*2.9*			This interval is largely phyllic altered by a quartz/varbonate vein that dips into the core from 182.0 to 182.2 m. Trace chalcopyrite.	231459	0.326	0.153
182.8	195.1	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**								
182.8	184.8	Fine to coarse grained pink grey moderately hematitic	0.1 **0.0**	*50.6*			pink/grey quartz feldspar porphyrya. 20% 0.5-2 mm euhedral plagioclase crystals and 5-10% 1-5 mm euhedral quartz crystals. 5-10% mafic minerals. Aphanitic hematite-stained matrix. Reasonably strong magnetic response. 5-10% quartz/carbonate veinings at various angles, but usually >45 degrees to core axis. Pervasive hematite alteration gives core a pink hue. Very little sulfide. Visually indistinguishable from the unit of sample number 231443.	231460	0.002	0.001
184.8	186.8		0.1 **0.0**	*55.4*				231462	0.001	0.040
186.8	188.8		0.1 **0.0**	*41.7*				231463	0.002	0.001
188.8	190.8		0.1 **0.0**	*44.3*				231464	0.001	0.001
190.8	192.8		0.1 **0.0**	*33*				231465	0.001	0.001
192.8	194.0		0.1 **0.0**	*46.8*				231466	0.001	0.001

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From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
	194.0	195.1	Fine to coarse grained grey moderately hematitic	0.1 **0.0**	*70.6*		Alteration intensity decreases over length of interval. Phenocryst modes are now 10% plagioclase and 0% quartz. Very similar to sample interval 231447.	231467	0.001	0.001
195.1	203.5		**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
	195.1	197.1	Fine to coarse grained pink grey moderately propyllitic	0.1 **0.0**	*44.7*		pink/grey autobrecciated crystal tuff. Contains 15-20% euhedral plagioclase grains and 1-5 % quartz grains. 5-10% mafic clasts…andesite? 15-30% phyllic-altered QFP fragments. Propylitic alteration, disseminated epidote crystals, and minor epidote replacement of plagioclase. Also hematite stain gives core a pink tinge. 5% quartz/calcite/zeolite veining. Tiny disseminated pyrite specs.	231468	0.069	0.025
	197.1	199.1		0.1 **0.0**	*28.4*			231469	0.069	0.029
	199.1	201.1	Fine to coarse grained pink moderately propyllitic	0.1	*6.5*			231470	0.087	0.037
	201.1	202.1		0.1	*33.2*			231471	0.082	0.025
	202.1	203.5		0.1	*34.5*			231472	0.078	0.033
203.5	204.7		**FRAGMENTAL TUFFACEOUS LAPILLI-TUFF**							
	203.5	204.7	Fine to coarse grained pink grey weakly hematitic	0.1	*46.2*		Pink/grey crystal tuff. 10-20% 0.5-2 mm euhedral plagioclase phenocrysts and 0-5% 2 mm quartz phenocrysts. ~5% 1-3 mm chlorite crystals after augite and hornblende. Two stages of veining; oldest is calcite-rich quartz veins, usually at a low angle to the core axis. Younger (cuts of offsets qtz/calc veins) are ~1 mm zeolite veins. Alteration is patchy hematite, becoming more pervasive with depth.	231473	0.004	0.001
204.7	239.1		**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
204.7	206.7	Fine to coarse grained green grey moderately propyllitic	0.0	*0.4*			Green/grey heterolithic crystal lapilli tuff. Principally 0.5-3 mm plagioclase crystals, but also minor chlorite after augite. Lithic fragments are 5-50% of core volume, dominantly phyllic-altered andesite, but also lapilli tuff and intermediate intrusive porphyry fragments. Calcite/zeolite veining at high angles (60-80 degrees) to core axis; dense stockwork in first part of unit, then vein density decreases at about 232 m. Rare major quartz/calcite veins with phyllic alteration halo. Unit is moderate to strongly propyllitic altered, with phyllic patches and a few large entrained phyllic lithic fragments; first half of unit has very light phyllic overprint (sericite) due to calcite-zeolite veining. Very low sulfide concentrations, only a few disseminated pyrite blebs.	231474	0.013	0.011
206.7	208.7		0.0	*0.3*				231475	0.006	0.017
208.7	210.7		0.0	*52*				231476	0.014	0.031
210.7	212.7		0.0	*4.4*			higher than overage pyrite content, occuring as minor quartz/carbonate vein infill.	231477	0.008	0.023
212.7	214.7		0.0	*6.8*				231478	0.005	0.019
214.7	216.7		0.0	*1.3*				231479	0.003	0.022
216.7	218.7	Fine to coarse grained green moderately propyllitic	0.0	*26.2*			Hematite-stained patch from 218.2 to 218.7 m; noticable coincident magnetic anomaly. Lithology is unchanged; hematite is leeched from zeolite-filled veins?	231480	0.053	0.037
218.7	220.7	Fine to coarse grained green grey moderately propyllitic	0.0	*9.9*				231481	0.114	0.044
220.7	222.7		0.0	*0.6*	V	30	At 221.7 m, a 10 mm wide quartz/carbonate/chlorite vein at ~30 degrees to the core axis.	231482	0.059	0.025
222.7	224.7		0.0	*0.4*			At 213.5 m, a patch of stronger sericite alteration; local community of veins.	231483	0.052	0.026
224.7	226.7		0.0	*2.5*				231484	0.073	0.025
226.7	228.7		0.0	*0.6*	V	5	phyllic patch at start of interval from carbonate/zeoilte vein dipping into core, at 226.9 m.	231485	0.049	0.030

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
228.7	230.7	Fine to coarse grained green grey moderately propyllitic	0.0	*31.2*			231487	0.006	0.008
230.7	232.0		0.0	*23.4*		This is the last interval with dense stockwork carbonate/zeolite veinlets.	231488	0.004	0.007
232.0	234.0		0.0	*54.4*		Sudden loss of 40% stockwork veining at 232.0 m leaves core without any mild phyllic overprint.	231489	0.004	0.005
234.0	236.0		0.0	*18.3*		much lower RQD in this interval,	231490	0.003	0.007
236.0	237.9		0.0	*10.7*	V 20	At 236.2 m, a carbonate/zeolite vein at 20 degrees to core axis with ~10 cm weak phyllic halo. From 237.4 to end of interval, appearance of strongly silicified overprinting phyllic alteration white/cream lithic fragments; protolith obscured…possibly Hazelton tuffs?	231491	0.014	0.008
237.9	239.1	Fine to coarse grained white strongly propyllitic	0.0	*0*		Interval is dominated by large lithic fragments; intense silicification overprinting phyllic alteration. Light phyllic alteration overprinting strong propylitic alteration in matrix.	231492	0.003	0.006
239.1	239.9	**HOMOGENEOUS TUFFACEOUS LAPILLI-TUFF**							
239.1	239.9	Fine to coarse grained green grey moderately	0.0	*55.8*		Strange crystal lapilli tuff unit. Green aphanitic matrix with 10-15% 0.5-2 mm plagioclase crystals. 5-10% zeolite/carbonate veinlets, 30-60 degrees to core axis. Strong silicious overprint masks previous alteration. Virtually barren of sulfides. Seems very similar to nearby Hazelton unit, but without the heterolithic fragments. There is some chance that it is a mislabeled dyke?…looks very similar to unit in sample interval 231473.	231493	0.001	0.001
239.9	261.2	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
239.9	241.2	Fine to coarse grained white strongly propyllitic	0.0	*0.2*			Green/grey heterolithic aglomerate. 0.5-3 mm plagioclase crystals, but also minor chlorite after augite. Lithic fragments are 5-80% of core volume, dominantly phyllic-altered andesite, but also lapilli tuff and intermediate intrusive porphyry fragments. 0-10% 1-10 mm calcite/zeolite veining at high angles (60-80 degrees) to core axis. Rare major quartz/calcite veins with phyllic alteration halo. Unit is moderate to strongly propyllitic altered, with phyllic patches and a few large entrained phyllic lithic fragments. Very low sulfide concentrations, only a few disseminated pyrite blebs. First interval is dominantly large intensely silicified lithic fragments, very similar to 231492.	231494	0.000	0.001
241.2	243.2	Fine to coarse grained green grey moderately propyllitic	0.0	*13.3*			Lithic fragments are 0.5-3 cm, dominantly phylic altered crystal tuffs.	231495	0.002	0.009
243.2	245.2		0.0	*52.9*	V	75	At 244.7 m, an 8 mm wide vuggy zeolite/calcite vein.	231496	0.005	0.031
245.2	247.2		0.3	*83.6*	V	45	At 247.0 m, a 15 mm zeolite/carbonate vein (or quick series of veins) with moderate pyrite concentrations and local phyllic overprinting (sericite).	231497	0.006	0.027
247.2	249.2		0.0	*70.9*				231498	0.001	0.007
249.2	251.2		0.0	*39*			interval is largely broken into 5-10 cm fragments. Lithology and alteration are unchanged…due to drilling?	231499	0.001	0.006
251.2	253.2		0.0	*62.2*	V	85	At 251.4 m, a 5 mm vuggy zeolite/carbonate vein with 5 cm weak phyllic halo.	231500	0.001	0.001
253.2	255.2		0.0	*57.4*			Sample number jump --> new book of tags. Lower vein density, 1-5%.	232501	0.000	0.001
255.2	257.2		0.0	*45.3*	V	70	At 256.2 m, a 10 mm carbonate/zeolite vein with moderate phyllic halo (sericite).	232502	0.001	0.001
257.2	259.2	Fine to coarse grained green grey strongly propyllitic	0.0	*17.2*			Stronger propylitic alteration in this interval; more epidote alteration.	232503	0.009	0.001
259.2	261.2	Fine to coarse grained green grey moderately propyllitic	0.0	*5.5*				232504	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
261.2	263.2	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
261.2	263.2	Fine to coarse grained green grey moderately propyllitic	0.0	*23.5*		Transitional interval? Fewer lithic fragments.	232505	0.002	0.001
263.2	264.7	**FLOW BANDED TUFFACEOUS LAPILLI-TUFF**							
263.2	264.0	Fine to medium grained green grey moderately propyllitic	1.0	*114*		Green-grey crystal lapilli tuff. 10-30% 0.5-2 mm euhedral plagioclase crystals (like everywhere else). Green to dark grey aphanitic matrix. Plagioclase grains display weak fabric. Patchy flowbanding; corresponding slight changes in alteration? ~5% 1-5 mm zeolite +/- carbonate veins, 45-75 degrees to core axis. Gradational upper and lower contacts. Moderate propylitic alteration (epidote). Low sulfide content, but increases fractionally downhole. Brief aglomerate section from 263.6 to 263.8 m, contains fragments of phyllic crystal tuffs and silicified lithics and has 2-4% pyrite.	232506	0.010	0.008
264.0	264.7		0.3	*35.2*			232507	0.004	0.001
264.7	272.2	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
264.7	266.7	Fine to coarse grained green grey moderately propyllitic	0.3	*37.4*		Green-dark grey aglomerate. Contains 10-50% heterolithic fragments: phyllic altered crystal lapilli tuffs, andesite and strongly silicified lithic fragments. 5-20% euhdral plagiocalse crystals. 5-10% 1-10 mm zeolite +/- carbonate veins at 40-80 degrees to core axis. Moderate to strong propylitic alteration: epidote and chlorite replacement of plagioclase grains and matrix. Gradational upper contact, sharp lower contact at ~ 45 degrees to core axis. Minor disseminated pyrite blebs.	232508	0.008	0.001
266.7	268.7		0.3	*77.6*			232509	0.009	0.024
268.7	270.7		0.3	*19.9*	V 55	From 270.0 to 270.5 m, four 4-8 mm zeolite/carbonate veins with 8-12 cm between, all ~ 50-60 degrees to core axis.	232510	0.005	0.011
270.7	272.2		0.3	*14.5*			232512	0.017	0.010
272.2	273.6	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
272.2	273.6	Fine to medium grained dark green moderately propyllitic	2.0	*44.3*			Dark green andesite flow. Generally massive, with minor andesite fragments. Rare fine mafics…chlorite after augite? Alteration is propylitic (epidote, chlorite) overprinting potassic (pyrite, magnetite, biotite). 5% 2-4 mm zeolite +/- carbonate veins at 20-45 degrees to core axis. 2% 0.5-1 mm pyrite blebs. Distinct upper contact, 45 degrees to core axis. Lower contact is less distinct, and is ~70 degrees to core axis.	232513	0.173	0.098
273.6	274.7	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
273.6	274.7	Fine to coarse grained green grey moderately propyllitic	0.3	*13.1*	V		Green-dark grey aglomerate. Contains 10-50% heterolithic fragments (decreasing downhole): phyllic altered crystal lapilli tuffs, andesite and strongly silicified lithic fragments. 5-20% euhdral plagiocalse crystals. 5% 1-10 mm zeolite +/- carbonate veins at 40-80 degrees to core axis, one parallel to core axis from 273.8 to 274.3 m. Moderate to strong propylitic alteration: epidote and chlorite replacement of plagioclase grains and matrix. Gradational upper contact, sharp lower contact at ~ 45 degrees to core axis. Minor disseminated pyrite blebs.	232514	0.054	0.035
274.7	331	**MASSIVE ANDESITE FLOW**								
274.7	276.7	Fine to medium grained dark green grey moderately potassic	2.0 **0.3**	*54.8*			Dark green andesite flow. Generally massive, with minor andesite fragmental sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% 1-10 mm veins: quartz/carbonate +/- magnetite and pyrite, rare zeolite, usually at 40-60 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill. Upper unit contact is not very distinct, ~70 degrees to core axis.	232515	0.156	0.094
276.7	278.7		5.0 **0.1**	*110*				232516	0.304	0.189
278.7	280.7		4.0 **0.3**	*116*	V	50	Slight phyllic halo around a qtz/carbonate vein at 280 m.	232517	0.130	0.092

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
280.7	282.7	Fine to medium grained dark green grey moderately potassic	6.0 **0.3**	*11.8*				232518	0.233	0.253
282.7	284.7		6.0 **0.3**	*29.1*				232519	0.094	0.074
284.7	286.7		4.0 **0.5**	*161*				232520	0.126	0.078
286.7	288.7		5.0 **0.5**	*135*				232521	0.257	0.145
288.7	290.7		5.0 **0.5**	*5.7*				232522	0.193	0.115
290.7	292.7		5.0 **0.5**	*62.7*	V	80	quartz/carbonate vein at 290.9 m bearing molybdenite with small phyllic (sericite) halo. A few minor magnetite bearing veins between 291.5 and 291.8 m.	232523	0.212	0.151
292.7	294.7		6.0 **0.5**	*103*	V	70	At 294.4 m, a 2 cm quartz/carbonate/zeolite vein.	232524	0.156	0.111
294.7	296.7		6.0 **0.5**	*25.1*			minor patchy biotite alteration (potassic) in proximity to carbonate veinlets.	232525	0.225	0.150
296.7	298.7		6.0 **0.5**	*13.4*			A more fragmental section, autobrecciated andesite.	232526	0.289	0.213
298.7	300.3		6.0 **0.5**	*8.5*				232527	0.160	0.106
300.3	300.9	Fine to medium grained grey strongly phyllic	6.0 **0.1**	*3*			Strongly phyllic altered interval. Less chalcopyrite than in previous intervals.	232528	0.146	0.100
300.9	302.9	Fine to medium grained dark green grey moderately potassic	6.0 **0.4**	*12.3*			Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-10 mm veins: quartz/carbonate +/- magnetite and sulfides, rare zeolite, usually at 40-60 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill.	232529	0.469	0.291
302.9	304.9		7.0 **0.5**	*2.7*	V	65	6 cm quartz vein at 304.3 m with 2 cm andesite xenolith. Vein, xenolith and surrounding matrix are all mineralized.	232530	0.216	0.149
304.9	306.9		7.0 **0.5**	*148*	V	45	2 cm carbonate/quartz vein at 306.0 m with moderate phyllic (sericite, chlorite) halo.	232531	0.344	0.211

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
306.9	308.9	Fine to medium grained dark green grey moderately potassic	7.0 **0.4**	*2.5*	V	10	20% 1-2 mm stockwork veining from 307.0 to 307.6m From 308.4 to 308.8 m, a 3 mm carbonate vein.	232532	0.349	0.227
308.9	310.9		6.0 **0.5**	*3*	V		Anastomosing quartz vein from 309.8 to 310.0 m with several entrained andesite xenoliths. Sulfide mineralization is noticably higher in the vein than in the xenoliths or surrounding matrix.	232533	0.247	0.164
310.9	312.9		7.0 **0.5**	*3.8*			Generally good sulfide mineralization; sulfides are concentrated slightly as vein infill over disseminated blebs.	232534	0.463	0.318
312.9	314.9		8.0 **0.6**	*106*			At 313.4 m, a 12 mm quartz vein with phyllic (sericite) halo.	232535	0.292	0.208
314.9	316.9		8.0 **0.4**	*117*			A few basaltic fragments in this interval, with 1-2 mm quartz and minor pyrite filled amygdules at 316.0 m.	232537	0.374	0.477
316.9	318.9		7.0 **0.4**	*20.9*	V	60	Two BFP fragments at 317.5 m; entering a more mafic section? 8 mm quartz vein with pyrite and chalcopyrite at 317.7 m.	232538	0.276	0.326
318.9	320.9		7.0 **0.4**	*60.3*	STK		Minor stockworking of quartz veins: responsible for most of the fragmentation in this interval.	232539	0.166	0.141
320.9	322.9		7.0 **0.4**	*67.4*	V	5	5 mm quartz vein is briefly coincident with core at 322.8 m. A more massive interval, only a few fragments.	232540	0.157	0.116
322.9	324.9		8.0 **0.5**	*21.4*			At 323.6 m, a 10 mm quartz vein with pyrite infill and local chloritization of andesite matrix.	232541	0.271	0.123
324.9	326.9		6.0 **0.3**	*6.2*	V		At 325.8 m, a 5 mm quartz vein which crosses the core at 60 degrees to core axis, this shallows out at one edge of the core then looks like it dips back into the core a few centimetres downhole. Pretty cool. Phyllic section at 326.0 m.	232542	0.372	0.209
326.9	328.9		8.0 **0.5**	*4.1*			From 327.2 to 327.5 m, a corase stockwork of 3-6 mm quartz veins. Still mostly disseminated sulfides in this interval, but larger veins host pyrite and chalcopyrite blebs.	232543	0.389	0.262
328.9	330.0		6.0 **0.3**	*15.6*			Strengthening phyllic alteration from 329.6 to 330.0 m. New zeolite in quartz/carbonate veins	232544	0.174	0.110

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
330.0	331.0	Fine to medium grained grey moderately phyllic	3.0 **0.1**	*1.1*		increasing phylic alteration downhole. Noticable drop in sulfide content.	232545	0.284	0.199
331	334.1	**FRAGMENTAL QUARTZ MONZODIORITE DYKE**							
331.0	333.0	Fine to coarse grained grey moderately phyllic	3.0 **0.1**	*1.5*		Grey quartz monzodiorite dyke. 10-20% medium-grained plagioclase and minor quartz phenocrysts. 5-10% mafic crystals…chlorite after augite? Grey-light green aphanitic matrix. Autobrecciated/fragmental. 5-10% 1-4 mm carbonate/zeolite veins at 10-40 degrees to core axis. Strong phyllic alteration (sericite, pyrite, chlorite) with minor secondary disseminated epidote crystals. Sulfides are 3-5% pyrite, trace chalcopyrite; occuring as disseminated blebs and minor vein infill. Contacts are distinct, undulating and slightly gradational…due to slight transfer of chemistry during emplacement?	232546	0.085	0.070
333.0	334.1		5.0 **0.3**	*3.6*		Contains a large mineralized andesite xenolith from 333.6 to 333.9 m.	232547	0.151	0.107
334.1	350.9	**FRAGMENTAL ANDESITE FLOW**							
334.1	336.1	Fine to medium grained dark green grey moderately potassic	5.0 **0.3**	*233*		Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-10 mm veins: quartz/carbonate +/- magnetite and sulfides, rare zeolite, usually at 40-60 degrees to core axis. Also occaisional 4-12 mm quartz veins with pyrite and minor molybdenite, usually at 60-80 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill. 8 cm thick phyllic-altered brecciated flow boundary at 334.4 m at 60 degrees to core axis.	232548	0.159	0.098
336.1	338.1		5.0 **0.3**	*10.2*	V 30	6 mm quartz/carbonate/zeolite/chlorite vein at 337.9 m at 30 degrees to core axis with phyllic halo.	232549	0.143	0.083

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
338.1	340.1	Fine to medium grained dark green grey moderately potassic	6.0 **0.4**	*8.8*	V	30	qtz/calc/zeo/chlor veins with phillic halos at 338.3, 338.8 and 339.4 m. Rubbly 15 cm of core at 339.2 m.	232550	0.218	0.139
340.1	342.1		7.0 **0.5**	*70.8*			sulfide is noticably more concentrated in qtz/calc/zeo/chlor veins in this interval than disseminated in matrix. Notable occurrences at 340.2, 340.6 and 341.5 m.	232551	0.146	0.100
342.1	344.1		7.0 **0.5**	*56.2*	V	75	Notable magnetite in a few veins. 10 mm quartz vein at 342.8 m at 80 degrees to core axis.	232552	0.132	0.099
344.1	346.1		7.0 **0.5**	*52.7*	V	45	At 345.5 m, a 5 mm quartz/carbonate vein with minor phyllic halo	232553	0.189	0.144
346.1	348.1		7.0 **0.5**	*88.2*	V	50	At 347.3 m, a 6 mm quartz vein with respectable related sulfide mineralization.	232554	0.165	0.112
348.1	350.0		7.0 **0.5**	*67.7*	V	80	Significant quartz from 348.3 to 348.7 m. Veins are 1-5 cm wide and cut the core in a several places; contains some sulfides, including some molybdenite.	232555	0.138	0.086
350.0	350.9		6.0 **0.4**	*19.6*	V	80	At 350.1 m, a quartz/calc/zeo/chlor vein at 60 degrees to core axis, pyrite and chalcopyrite. At 350.8 m, a 10 mm quartz vein with a few andesite xenoliths and minor molybdenite.	232556	0.175	0.121
350.9	352.5	**FRAGMENTAL QUARTZ MONZODIORITE DYKE**								
350.9	352.5	Fine to medium grained grey strongly phyllic	6.0 **0.4**	*36.5*			Grey quartz monzodiorite dyke. 10-20% medium-grained plagioclase and minor quartz phenocrysts. 5-10% mafic crystals…chlorite after augite and hornblende? Grey-light green aphanitic matrix. Autobrecciated/fragmental. 5-10% 1-4 mm carbonate/zeolite veins at 10-40 degrees to core axis. 5% 3-8 mm quartz veins; contain sulfides but no molybdenum :(Strong phyllic alteration (sericite, pyrite, chlorite) with minor secondary disseminated epidote crystals. Sulfides are 3-5% pyrite, trace chalcopyrite; occuring as disseminated blebs and minor vein infill. Contacts are distinct, undulating and slightly gradational…due to slight transfer of chemistry during emplacement?	232557	0.208	0.139

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
352.5	353	**FRAGMENTAL ANDESITE FLOW**								
352.5	353.0	Fine to medium grained dark green grey moderately potassic	6.0 **0.4**	*96.3*			Large xenolith of Takla andesite within a quartz monzodiorite dyke.	232558	0.136	0.096
353	356.4	**FRAGMENTAL QUARTZ MONZODIORITE DYKE**								
353.0	355.0	Fine to medium grained grey strongly phyllic	3.0 **0.1**	*3.3*			Continuation of QMZD dyke. Distinct lack of copper sulfides in this interval.	232559	0.139	0.101
355.0	356.4		3.0 **0.1**	*0.8*	V	5	10 mm zeolite/carbonate dyke dips into the core from 355.5 to 355.9 m.	232560	0.197	0.108
356.4	396.6	**FRAGMENTAL ANDESITE FLOW**								
356.4	358.4	Fine to medium grained dark green grey moderately potassic	5.0 **0.3**	*41.9*	V	60	Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-10 mm veins: quartz/carbonate +/- magnetite and sulfides, rare zeolite, usually at 40-60 degrees to core axis. Also occaisional 4-12 mm quartz veins with pyrite and minor molybdenite, usually at 60-80 degrees to core axis. 1-10% 0.5-10 mm pyrite blebs, plus less common chalcopyrite and molybdenite. Sulfides occur disseminated and as vein infill.	232562	0.294	0.219
358.4	360.0		6.0 **0.5**	*65.9*	V		14 mm quartz vein at 359.5 m, contains significant sulfides, including trace molybdenite.	232563	0.329	0.296
360.0	362.0		6.0 **0.5**	*22.6*	V	30	Lots of fun in this interval. Firstly, a moderate phyllic (sericite, chlorite) patch at 360.0 m. A pyrite/chalcopyrite/molybdenite bearing quartz vein at 361.0 m. A unique feature; at 360.4 m, a 2.5 cm gypsum vein: see unit photo.	232564	0.281	0.267
362.0	364.0		6.0 **0.5**	*6.4*	V		At 362.5 m, an 8 mm quartz vein with trace molybdenite.	232565	0.147	0.119
364.0	366.0		5.0 **0.4**	*79.6*			Strongly phyllic-altered (sericite, chlorite) patch at 365.8 to 366.1 m.	232566	0.284	0.246

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
366.0	368.0	Fine to medium grained dark green grey moderately potassic	5.0 **0.4**	*137*	STK	carbonate/zeolite stockworking from 366.8 - 367.0 m, with moderate phyllic altered halo.	232567	0.128	0.092
368.0	370.0		5.0 **0.4**	*28*	V 80	quartz vein at 369.5 m with trace molybdenite?	232568	0.176	0.130
370.0	372.0		5.0 **0.3**	*4.9*			232569	0.196	0.163
372.0	374.0		4.0 **0.2**	*4.3*		Most sulfides in this interval occur as vein infill, less as disseminated crystals.	232570	0.240	0.239
374.0	376.0		4.0 **0.4**	*92.9*		More massive interval	232571	0.134	0.140
376.0	378.0		5.0 **0.4**	*44*		Disseminated sulfides continue to be the lesser occurrence behind vein infill.	232572	0.187	0.169
378.0	380.0		5.0 **0.4**	*62.5*		Anastamosing/stockworked quartz veins from 379.0 to 379.8 m. Local phyllic (chlorite, sericite) alteration.	232573	0.279	0.231
380.0	382.0		6.0 **0.4**	*26.5*		Strong magnetism in this interval: magnetite in veins around 381.5 m.	232574	0.213	0.235
382.0	384.0		4.0 **0.3**	*87.5*	DYK	At 383.4 m, a 12 cm section of a quartz-feldspar porphyry, likely a small dyke.	232575	0.187	0.168
384.0	386.0		4.0 **0.3**	*106*			232576	0.185	0.171
386.0	388.0	Fine to medium grained dark green grey strongly potassic	4.0 **0.3**	*86.3*	FLT	carbonate/zeolite veins form stockwork starting at 387.5 m. Small fault (gouge, chlorite, clays) at 387.9 m.	232577	0.271	0.252
388.0	390.0		4.0 **0.3**	*41.4*		Magnetite in one veinlet, zeolite/carbonate stockworking continues. Stronger chlorite replacement towards end of interval.	232578	0.208	0.227
390.0	391.0		2.0 **0.1**	*75*		Chlorite replacement and zeolite/carbonate veins continue, much less sulfide in this interval.	232579	0.047	0.036
391.0	392.5	Fine to medium grained green grey moderately phyllic	1.0 **0.0**	*46.7*		weak phyllic overprint in this interval, though some trace magnetite remains in one or two veins; the core is definitely a lighter green.	232580	0.451	0.354
392.5	394.5	Fine to medium grained grey strongly phyllic	1.0 **0.0**	*21.1*		stronger phyllic (sericite) alteration; core has lost most of it's green colour.	232581	0.240	0.264
394.5	396.6		1.0 **0.0**	*7.3*			232582	0.386	0.370
396.6	411.7	**PORPHYRITIC MONZODIORITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
396.6	398.6	Fine to coarse grained grey moderately phyllic	1.0 **0.0**	*9.3*		Grey plagioclase-phyric monzodiorite. 20-75% 0.5-2 mm euhedral plagioclase phenocrysts. 5-10% 1-2 mm chlorite after augite and hornblende. Intermediate aphanitic matrix. 5-15% 1-15 mm zeolite/carbonate/gypsum veins, occaisionally stockworked or vuggy. Moderate to strong phyllic (sericite, pyrite, chlorite) overprinting potassic alteration. 2-8% sulfides, pyrite and lesser chalcopyrite as fine-grained disseminated crystals, also minor vein infil of pyrite, +/- chalcopyrite, rare molybdenite.	232583	0.399	0.418
398.6	400.6		1.0 **0.0**	*1.5*			232584	0.361	0.461
400.6	402.6		1.0 **0.0**	*2.2*			232585	0.304	0.408
402.6	404.6		3.0 **0.3**	*15*			232587	0.355	0.497
404.6	406.6		3.0 **0.3**	*2*	V	large slightly vuggy quartz/zeolite/gypsum vein; zeolite shows some crystals, 4 cm gypsum crystal; includes minor chalcopyrite and trace molybdenite.	232588	0.409	0.438
406.6	408.6	Fine to coarse grained grey strongly phyllic	2.0 **0.2**	*0.7*		stronger phyllic (sericite) alteration.	232589	0.481	0.513
408.6	411.0		3.0 **0.2**	*1.6*		Drillers indicate that they encountered a void in this interval; core is brocken and rubbly. Evidence of vugs.	232590	0.418	0.399
411.0	411.7	Fine to coarse grained grey green weakly phyllic	5.0 **0.4**	*1.8*		Transitional interval? Phyllic alteration is suddenly very weak, and sulfide content in matrix is increased.	232591	0.834	0.993
411.7	414.9	**FRAGMENTAL ANDESITE FLOW**							
411.7	413.7	Fine to medium grained green grey moderately potassic	5.0 **0.3**	*4.4*		Rubbly interval between QMZD dyke and AND fragmental flow.	232592	0.649	0.616

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
413.7	414.9	Fine to medium grained dark green moderately potassic	5.0 **0.4**	*112*		Dark green andesite flow. Generally autofragmental, with local massivel sections. Rare fine mafic minerals…chlorite after augite? Alteration is potassic (pyrite, magnetite, biotite) with minor phylic overprints proximal to some quartz/carbonate veins. 5-10% (some local dense stockwork, noted) 1-5 mm stockworked veins: quartz/carbonate +/- sulfides. 5% 0.5-10 mm pyrite blebs, plus less common chalcopyrite. Sulfides occur disseminated and as vein infill.	232593	0.501	0.685
414.9	418.8	**FRAGMENTAL QUARTZ MONZODIORITE INTRUSIVE**							
414.9	415.7	Fine to coarse grained dark green weakly potassic	5.0 **0.4**	*4.6*		Grey-green quartz monzodiorite dyke. 20-40% plagioclase and 1-3% quartz phenocrysts. 1-3% andesite xenoliths. Aphanitic green matrix. Weak potassic (quartz, chlorite, trace magnetite) alteration. 5% zeolite/carbonate veins at various angles to core axis, "dominantly" 30-60 degrees.	232594	0.687	0.686
415.7	417.0		3.0 **0.2**	*34*		Large andesite xenoliths from 415.8 to 416.3 m and 416.7 to 417.0 m.	232595	0.312	0.358
417.0	418.8	Fine to coarse grained dark green moderately potassic	5.0 **0.4**	*5.2*		Trace disseminated chalcopyrite and minor magnetite veins.	232596	0.884	0.890
418.8	431.2	**FRAGMENTAL ANDESITE FLOW**							
418.8	420.8	Fine to medium grained dark green moderately potassic	5.0 **0.4**	*5.9*		Dark green andesite fragmental flow. 1-5% 2 mm chlorite after augite crystals. Moderate potassic (chlorite, sericite, magnetite, quartz, rare biotite) alteration, locally overprinted by moderate to strong phyllic (chlorite, sericite). 1-3% quartz veins, hosting minor chalcopyrite and trace molybdenite. 5% zeolite/carbonate/gypsum veins, sometimes stockworked, at 45-60 degrees to core axis.	232597	0.635	0.376
420.8	422.8		6.0 **0.5**	*1*	V	Quartz vein at 420.9 m with minor chalcopyrite, no visible molybdenite. Rubbly core section from 421.0 to 421.3 m.	232598	0.304	0.250

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
422.8	425.4	Fine to medium grained dark green moderately potassic	6.0 **0.5**	*2.2*	V	poor recovery in the 423-426 core run, this interval is actually two metres of core. Minor chalcopyrite and molybdenite in quartz.	232599	0.291	0.304
425.4	427.4		3.0 **0.1**	*2.4*		More massive interval. Noticably less sulfides as vein infill.	232600	0.194	0.201
427.4	429.0	Fine to medium grained grey weakly potassic	3.0 **0.1**	*2.8*		Veinous sulfides continue to be minor. Subtle fabric?	232601	0.192	0.141
429.0	430.0	Fine to medium grained dark green black weakly chloritic	0.5 **0.0**	*60*		dark green - dark grey heterolithic fragmental andesite flow. 30-50% xenoliths: mostly 1-4 cm intermediate phaneritic fragments, also minor 0.5-2 cm andesite fragments. Aphanitic dark grey matrix. 1-2% 1-2 mm carbonate +/- zeolite veins at 20-45 degrees to core axis. Nearly devoid of sulfides, only rare disseminated pyrite. Dominant alteration is disseminated chlorite in matrix. 10 cm gradational upper contact, lower contact is obscured by broken core.	232602	0.029	0.027
430.0	431.2	Fine to medium grained dark green weakly chloritic	0.5 **0.0**	*79.8*			232603	0.008	0.048
431.2	726	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
431.2	433.2	Fine to coarse grained grey weakly potassic	0.3	*50.8*		Grey-pink porphyritic quartz monzodiorite intrusion, possibly Sovereign. 10-20% 1-4 mm euhedral feldspar (dominantly plagioclase) and 5% 2-5 mm quartz phenocrysts. 5% 3-10 mm biotite, often replaced by chlorite. 5% mafic minerals, chlorite replaced, hornblende and lesser augite. 5-10% carbonate/zeolite veins, usually at 45-70 degrees to core axis, but occaisionally at various angles and stockworked. Potassic altered (quartz, magnetite, chlorite, rare epidote, patchy sericite) with weak to moderate hematite overprint (gives core pink hue). Dissapointing sulfide mineralization: rare fine pyrite blebs.	232604	0.001	0.041
433.2	436.3		0.3	*44.9*		Very poor core recovery (bit change?), though core is in good condition. Paucity of zeolite veins in this interval, and very little hematite alteration.	232605	0.001	0.047

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
436.3	438.3	Fine to coarse grained grey weakly potassic	0.3	*49.7*			232606	0.001	0.020
438.3	440.3		0.3	*41.2*			232607	0.003	0.031
440.3	442.3		0.3	*59.4*		minor patchy hematite staining.	232608	0.000	0.053
442.3	444.0	Fine to coarse grained grey pink moderately hematitic	0.3	*47.3*		hematite staining increases to moderate over length of interval; matrix and most feldspars are affected, quartz and mafics are not.	232609	0.001	0.084
444.0	446.0	Fine to coarse grained pink grey strongly hematitic	0.3	*57.8*		minor pyrite in a small vein at 444.7 m.	232610	0.006	0.027
446.0	448.0	Fine to coarse grained grey pink moderately hematitic	0.1	*48.9*		hematite staining decreases to patchy over length of interval	232612	0.001	0.001
448.0	450.0	Fine to coarse grained grey weakly potassic	0.1	*50.9*			232613	0.007	0.028
450.0	452.0	Fine to coarse grained grey pink weakly potassic	0.1	*55.4*		Very weak hematite overprint, light pink colour.	232614	0.002	4.690
452.0	454.0		0.1	*60*			232615	0.001	0.001
454.0	456.0		0.1	*62.1*		unit photo from this interval	232616	0.002	0.005
456.0	458.0		0.1	*54.7*		increasing hematite alteration towards end of interval	232617	0.009	0.023
458.0	460.0	Fine to coarse grained grey pink weakly hematitic	0.1	*42.2*			232618	0.014	0.039
460.0	462.0	Fine to coarse grained grey weakly potassic	0.0	*31.9*			232619	0.069	0.117
462.0	464.0			*55.5*			232620	0.005	0.011
464.0	466.0			*57.3*			232621	0.002	0.016
466.0	468.0			*41.3*			232622	0.010	0.022
468.0	470.0			*8.7*		Increasing chlorite in matrix from 469.1 to end of interval	232623	0.011	0.030
470.0	472.0	Fine to coarse grained grey weakly chloritic		*43.2*		weak chloritic overprint.	232624	0.019	0.023
472.0	474.0	Fine to coarse grained grey weakly potassic		*64.4*			232625	0.019	0.036

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
474.0	476.0	Fine to coarse grained grey weakly potassic		*53.7*		hematite-stained patches	232626	0.012	0.035
476.0	478.0			*54*	V	3 mm zeolite vein meanders parallel to core axis from 476.7 to 477.7 m.	232627	0.018	0.074
478.0	480.0			*57.2*		patchy hematite staining.	232628	0.016	0.115
480.0	482.0			*45.4*		patchy hematite staining	232629	0.010	0.039
482.0	484.0			*56.1*			232630	0.011	0.196
484.0	486.0			*68.8*			232631	0.003	0.001
486.0	488.0	Fine to coarse grained grey weakly propyllitic		*60*			232632	0.001	0.007
488.0	490.0			*23*			232633	0.002	0.009
490.0	492.0			*56*			232634	0.002	0.006
492.0	494.0			*54*			232635	0.001	0.001
494.0	496.0			*45*		Limited sampling from this sample to end of hole. 10-15 cm whole core taken from the end of each 2m sample interval.	232637	0.003	0.001
496.0	498.0			*43*			232638	0.021	1.215
498.0	500.0	Fine to coarse grained grey moderately propyllitic		*58*			232639	0.003	0.014
500.0	502.0			*61*			232640	0.003	0.001
502.0	504.0			*54*			232641	0.002	0.034
504.0	506.0			*45*			232642	0.010	0.001
506.0	508.0			*63*			232643	0.001	0.001
508.0	510.0			*15*			232644	0.002	0.006
510.0	512.0			*57*			232645	0.001	0.001
512.0	514.0			*60*			232646	0.001	0.001
514.0	516.0			*52*		Feldpar phenos diminish, Augite dominant porphyritic mineral.	232647	0.001	0.001

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
516.0	518.0	Fine to coarse grained grey moderately propyllitic		*17.7*				232648	0.001	0.010
518.0	520.0			*12*				232649	0.002	0.001
520.0	522.0	Fine to coarse grained grey strongly silicified (non-K)		*56.2*				232650	0.001	0.001
522.0	524.0	Fine to coarse grained grey moderately silicified (non-K)		*26.8*				232651	0.001	0.001
524.0	526.0	Fine to coarse grained grey moderately propyllitic		*47.9*				232652	0.001	0.001
526.0	528.0			*40.3*				232653	0.004	0.001
528.0	530.0	Fine to coarse grained grey weakly propyllitic		*45.5*				232654	0.007	0.005
530.0	532.0			*65*				232655	0.003	0.001
532.0	534.0			*21*				232656	0.001	0.010
534.0	535.7			*57.2*				232657	0.001	0.001
535.7	537.0	Fine to coarse grained grey strongly propyllitic		*23*	CALST	65 20		232658	0.001	0.001
537.0	539.0			*3.8*				232659	0.001	0.001
539.0	541.0			*38*				232660	0.000	0.009
541.0	543.0	Fine to coarse grained grey moderately silicified (non-K)		*30.4*				232661	0.000	0.341
543.0	545.0	Fine to coarse grained grey weakly potassic - quartz-chlorite-sericite		*16.8*	QKVLT	20 0.1	Hornblende, Augite altered partially to chlorite	232663	0.003	0.022
545.0	547.0			*2.3*				232664	0.002	0.100
547.0	549.0	Fine to coarse grained grey moderately potassic - quartz-chlorite-sericite		*.7*				232665	0.001	0.008
549.0	551.0			*48.8*				232666	0.001	0.001
551.0	553.0	Fine to coarse grained grey moderately silicified (non-K)		*51*			Chlorite sericite replacement of mafics ends	232667	0.026	0.067

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
553.0	555.0	Fine to coarse grained grey moderately silicified (non-K)			*33*					232668	0.000	0.001
555.0	557.0	Fine to coarse grained grey weakly silicified (non-K)			*2.5*					232669	0.001	0.005
557.0	559.0				*37.6*					232670	0.001	0.001
559.0	561.0				*1.2*					232671	0.000	0.001
561.0	563.0	Fine to coarse grained grey weakly potassic - quartz	0.1		*1.2*					232672	0.000	0.001
563.0	565.0		0.1		*21.2*					232673	0.040	0.095
565.0	567.0	Fine to coarse grained grey moderately potassic - quartz	0.1	**0.1**	*1.3*	QCPYV	15	1	Clots chalcopyrite in 1cm quartz vein.	232674	0.001	0.013
567.0	569.0	Fine to coarse grained grey weakly potassic - quartz	0.1		*1.6*					232675	0.000	0.007
569.0	571.0		0.1		*33*					232676	0.001	0.001
571.0	573.0		0.1		*31.5*					232677	0.003	0.051
573.0	575.0		0.1		*44.2*					232678	0.000	0.001
575.0	577.0	Fine to coarse grained grey moderately potassic - quartz	0.1		*1*	QV	25	10		232679	0.000	0.001
577.0	579.0	Fine to coarse grained grey weakly potassic - quartz	0.1		*38*					232680	0.001	0.001
579.0	581.0		0.1		*2*					232681	0.001	0.001
581.0	583.0	Fine to coarse grained grey moderately propyllitic			*33.1*					232682	0.000	0.009
583.0	585.0	Fine to coarse grained grey weakly propyllitic			*.8*					232683	0.001	0.061
585.0	587.0	Fine to coarse grained green grey weakly propyllitic			*16.3*				pervasive chloritization downhole	232684	0.000	0.001
587.0	589.0	Fine to coarse grained dark green grey weakly propyllitic			*0.6*					232685	0.003	0.001
589.0	591.0	Fine to coarse grained green grey weakly propyllitic			*35.2*					232686	0.001	0.006

Hole Number: KH-07-03

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
591.0	593.0	Fine to coarse grained green grey weakly propyllitic		*30.8*			232687	0.001	0.001
593.0	595.0			*55.7*			232688	0.001	0.001
595.0	597.0			*53.1*			232689	0.001	0.010
597.0	599.0	Fine to coarse grained dark green grey weakly propyllitic		*1.8*			232690	0.000	0.001
599.0	601.0			*0.7*			232691	0.000	0.001
601.0	603.0			*1*			232692	0.001	0.001
603.0	605.0			*0.7*			232693	0.001	0.027
605.0	607.0	Fine to coarse grained green grey weakly propyllitic		*0.6*			232694	0.000	0.001
607.0	609.0			*24.8*			232695	0.001	0.001
609.0	611.0			*0.9*			232696	0.001	0.001
611.0	613.0			*16.6*			232697	0.003	0.010
613.0	615.0			*1.4*			232698	0.001	0.001
615.0	617.0			*4.1*			232699	0.000	0.005
617.0	619.0			*5.5*			232701	0.001	0.001
619.0	621.0			*2.4*			232702	0.001	0.001
621.0	623.0			*46.6*			232703	0.001	0.001
623.0	625.0			*2.8*			232704	0.001	0.001
625.0	627.0			*2.2*			232705	0.000	0.001
627.0	629.0			*29.2*			232706	0.001	0.038
629.0	631.0			*30*			232707	0.001	0.001
631.0	633.0	Fine to coarse grained grey weakly propyllitic		*30.3*			232708	0.000	0.001
633.0	635.0			*34.4*			232709	0.001	0.001
635.0	637.0			*36.8*			232710	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
637.0	639.0	Fine to coarse grained green grey weakly propyllitic		*22*					232711	0.001	0.001
639.0	641.0	Fine to coarse grained grey weakly propyllitic		*40.9*					232712	0.000	0.001
641.0	643.0			*52.1*					232713	0.001	0.001
643.0	645.0			*58.1*					232714	0.001	0.001
645.0	647.0			*54.4*					232715	0.001	0.001
647.0	649.0			*41.4*					232716	0.001	0.001
649.0	651.0			*57.1*					232717	0.001	0.001
651.0	653.0			*49.8*					232718	0.001	0.001
653.0	655.0			*18.9*					232719	0.001	0.017
655.0	657.0			*64.4*					232720	0.001	0.005
657.0	659.0			*55.3*					232721	0.001	0.027
659.0	661.0			*48.8*					232722	0.000	0.014
661.0	663.0		0.1	*26.7*	QPYV	20	1		232723	0.001	0.001
663.0	665.0			*52.9*					232724	0.002	0.001
665.0	667.0	Fine to coarse grained green grey weakly propyllitic		*65.4*					232726	0.001	0.005
667.0	669.0	Fine to coarse grained pink grey weakly propyllitic		*23.5*					232727	0.001	0.006
669.0	671.0			*41.3*					232728	0.000	0.001
671.0	673.0			*36*					232729	0.000	0.001
673.0	675.0			*36.2*					232730	0.001	0.001
675.0	677.0			*0.5*					232731	0.000	0.001
677.0	679.0			*27.7*					232732	0.001	0.005
679.0	681.0	Fine to coarse grained green grey weakly propyllitic		*77.6*					232733	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
681.0	683.0	Fine to coarse grained grey weakly propyllitic		*74.7*			232734	0.000	0.005
683.0	685.0			*50.3*			232735	0.000	0.001
685.0	687.0			*71.4*			232736	0.001	0.001
687.0	689.0			*68.1*			232737	0.001	0.001
689.0	691.0			*79.6*			232738	0.000	0.001
691.0	693.0			*55.9*			232739	0.001	0.001
693.0	695.0			*55.9*			232740	0.001	0.001
695.0	697.0			*58.2*			232741	0.001	0.001
697.0	699.0			*51.8*			232742	0.000	0.001
699.0	701.0			*45.5*			232743	0.000	0.001
701.0	703.0			*48.2*			232744	0.003	0.001
703.0	705.0	Fine to coarse grained dark green grey weakly propyllitic		*41.5*			232745	0.003	0.012
705.0	707.0			*34*			232746	0.000	0.001
707.0	709.0			*0.4*		10 cm spot sampling seems to have picked up a piece of cpy bearing quartz vein	232747	0.005	1.620
709.0	711.0	Fine to coarse grained grey weakly propyllitic		*13.6*			232748	0.000	0.011
711.0	713.0			*58.9*			232749	0.000	0.001
713.0	715.0			*31.7*			232751	0.000	0.001
715.0	717.0			*45.9*			232752	0.001	0.011
717.0	719.0			*1.2*			232753	0.000	0.001
719.0	721.0			*19.4*			232754	0.000	0.001
721.0	723.0			*51.4*			232755	0.000	0.001
723.0	724.5			*78.3*			232756	0.000	0.001
724.5	726.0			*11.4*		End of hole.	232757	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	6	**CASING**							
0.0	6.0								
6	41	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
6.0	8.0	Fine to coarse grained grey		*36.1*	ZSTR 7	Blocky Ash Tuff: fragments include local BFP clasts, medium andesite clasts, and sericite altered felsic clasts; zeolite stringers (fracture infill) in 10% of core range from 15 to 70 TCA; unit is wekly to moderately magnetic; matrix consists of fine ash with minor feldspar; local sections contain trace very fine grained disseminated pyrite minerlization	231767	0.011	0.007
8.0	10.0			*15.6*	ZSTR 5	local sections rubbly	231768	0.012	0.007
10.0	12.0			*41.1*	ZSTR 5		231769	0.008	0.009
12.0	14.0			*43.9*	ZSTR 6		231770	0.010	0.010
14.0	16.0		0.0	*12.7*	ZSTR 8		231771	0.008	0.008
16.0	18.0			*95.5*	ZSTR 6		231772	0.012	0.001
18.0	20.0			*38*	ZSTR 10		231773	0.012	0.001
20.0	22.0			*34.8*	ZSTR 10		231774	0.007	0.007
22.0	24.0			*17*	ZSTR 6	single 4cm thick zeolite vein at 40 TCA	231776	0.014	0.007
24.0	26.0			*35.2*	ZSTR 5	local sections rubbly	231777	0.008	0.001
26.0	28.0			*28.8*	ZSTR 4		231778	0.008	0.008
28.0	30.0			*40.9*	ZSTR 4		231779	0.008	0.007
30.0	32.0			*66.9*	ZSTR 4	local sections rubbly	231780	0.009	0.007
32.0	34.0			*41.8*	ZSTR 4		231781	0.010	0.001
34.0	36.0		0.0	*39.7*	ZSTR 5	minor local zones of propylitic (ep) alteration (<10cm)	231782	0.008	0.001
36.0	38.0			*37.7*	ZSTR 3		231783	0.009	0.001
38.0	40.0			*36*	ZSTR 4		231784	0.016	0.001
40.0	41.0			*16.2*	ZSTR 3	unit becomes rubbly towards base of sample	231785	0.021	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
41	49.7	**WELDED DACITE LAPILLISTONE**							
41.0	43.0	Fine to medium grained grey weakly propyllitic	0.1	*11.6*		Welded Dacite: upper contact broken; unit appears to be welded; grain size between 0.5mm and 2mm; minor zeolite stringers at 15 to 45 TCA, minor carbonate stringers at 5 to 25 TCA	231786	0.002	0.001
43.0	45.0		0.1	*16.9*			231787	0.004	0.001
45.0	47.0		0.1	*6.3*		local section rubbly	231788	0.002	0.001
47.0	48.7		0.1	*41.5*	ZSTR 3	local increase in zeolite stringers	231789	0.006	0.001
48.7	49.7		0.1	*35.1*		local very fine grained mafic fragments from 1cm to 10 cm in size	231790	0.001	0.001
49.7	55.1	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
49.7	52.0	Fine to medium grained grey brown		*27.5*	ZSTR 3	Blocky Ash Tuff: unit contains BFP clasts, small andesite clasts, medium sized fine grained mafic clasts, and minor local chert clasts; matrix consists of fine grained ash and lesser feldspars; zeolite stringers up to 4% range from 5 to 75 TCA	231791	0.013	0.014
52.0	54.0			*53.1*	ZSTR 4		231792	0.022	0.011
54.0	55.1			*28.9*			231793	0.014	0.008
55.1	83	**FRAGMENTAL DACITE LAPILLISTONE**							
55.1	57.0	Fine to medium grained grey weakly propyllitic		*4.7*		up to 10% heterolithic fragments in dacite matrix; upper contact strong but irregular; minor zeolite stringers throughout unit; dacite matrix fine grained between 0.25mm and 1mm; weak chlorite and sericite alteriton with minor local epidote (propylitic); also minor local hemtitic alteration	231794	0.002	0.001
57.0	59.0			*24.9*			231795	0.003	0.001
59.0	61.0			*20.5*		fragments grade out in this sample leaving only dacite matrix	231796	0.003	0.001
61.0	63.0			*28.8*			231797	0.002	0.001
63.0	65.0			*82.9*			231798	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
65.0	67.0	Fine to medium grained grey weakly propyllitic		*82*	ZSTR 3	minor local mafic fragments; local increase in zeolite stringers	231799	0.001	0.001
67.0	69.0			*56.4*			231801	0.001	0.001
69.0	71.0			*31.7*			231802	0.001	0.001
71.0	73.0			*51.6*	ZSTR 4	general increase in frequency of zeolite stringers	231803	0.001	0.001
73.0	75.0			*71.6*	ZSTR 4	minor local carbonate stringers	231804	0.000	0.001
75.0	77.0			*104*	ZSTR 5		231805	0.001	0.012
77.0	79.0			*65.6*	ZSTR 3		231806	0.001	0.001
79.0	81.0			*47.3*			231807	0.000	0.007
81.0	83.0			*52.2*	ZSTR 3		231808	0.000	0.001
83	92.4	**MASSIVE DACITE TUFF**							
83.0	85.0	Fine to medium grained light grey weakly propyllitic		*55.7*	ZCBST 5	Dacite Tuff: upper contact broken; zeolite-carbonate stringers at 0 to 60 TCA, local sections contain quartz eyes up to 2mm in size; unit contains increases felsic minerals compared to previous unit	231809	0.002	0.001
85.0	87.0			*55.4*	ZCBST 7		231810	0.002	0.001
87.0	89.0			*56.8*	ZCBST 6		231811	0.001	0.001
89.0	91.0			*51.7*	ZCBST 3		231812	0.002	0.001
91.0	92.4			*11.5*	ZCBST 4		231813	0.001	0.001
92.4	177	**FRAGMENTAL DACITE LAPILLISTONE**							
92.4	94.0	Fine to medium grained grey		*26*	ZCBST 5	Heterolithic fragments in dacite matrix: unit contains large BFP fragments, medium andesite fragments, and small to medium fine grained mafic fragments; matrix is fine grained dacite 0.5mm to 1mm with local zones contining feldspar up to 2mm; local sections contain weak propylitic altertion; zeolite stringers and zeolite-carbonte stringers at 10 to 70 TCA	231814	0.001	0.001
94.0	96.0			*89.4*	ZCBST 5		231815	0.008	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
96.0	98.0	Fine to medium grained grey		*36.9*	ZCBST	5		231816	0.016	0.005
98.0	100.0			*60.9*	ZCBST	3	local decrease in all fragments except small mafic fragments	231817	0.002	0.001
100.0	102.0			*52.5*	ZCBST	3		231818	0.001	0.001
102.0	104.0			*65*	ZCBST	3		231819	0.001	0.001
104.0	106.0			*45.1*	ZCBST	3	clast size and composition return to earlier description	231820	0.008	0.001
106.0	108.0			*30.1*	ZCBST	4		231821	0.001	0.001
108.0	110.0			*61.5*	ZBSTR	3		231822	0.006	0.001
110.0	112.0			*6.1*	ZCBST	3		231823	0.003	0.001
112.0	114.0			*34.9*	ZCBST	4		231824	0.009	0.005
114.0	116.0			*63.1*	ZCBST	5	local BFP clast 12cm in length	231826	0.007	0.007
116.0	118.0	Fine to medium grained grey weakly propyllitic		*49*	ZCBST	4		231827	0.002	0.001
118.0	120.0		0.1	*40.8*	ZCBST	5		231828	0.021	0.016
120.0	122.0		0.1	*38.7*	ZCBST	4		231829	0.002	0.013
122.0	124.0			*7.2*	ZCBST	5	carbonate veins at 30 TCA	231830	0.006	0.015
124.0	126.0	Fine to medium grained grey		*68.9*	ZCBST	3		231831	0.003	0.001
126.0	128.0			*5.5*	ZCBST	4	carbonte veinlet at 10 TCA	231832	0.001	0.010
128.0	130.0			*6.7*	ZCBST	5	carbonate veinlets at 15 TCA	231833	0.004	0.010
130.0	132.0			*11*	ZCBST	3		231834	0.001	0.001
132.0	134.0	Fine to medium grained grey weakly propyllitic		*4.5*	ZCBST	4	local propylitic (ser,clor,carb) alteration	231835	0.002	0.001
134.0	136.0			*17.5*	ZCBST	6		231836	0.008	0.013
136.0	138.0			*39.4*	ZCBST	6	weak hemtitic alteration associated with stringers	231837	0.007	0.011
138.0	140.0			*10.5*	ZCBST	7	carbonte vein at 20 TCA	231838	0.009	0.024
140.0	142.0			*4.3*	ZCBST	3		231839	0.005	0.013
142.0	144.0		0.1	*0.5*	ZCBST	4		231840	0.005	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
144.0	146.0	Fine to medium grained grey		*53.9*			local decrease in frequency of stringers	231841	0.002	0.001
146.0	148.0			*51.5*				231842	0.001	0.001
148.0	150.0			*35.9*	ZCBST	3		231843	0.008	0.001
150.0	152.0	Fine to medium grained grey weakly propyllitic	0.0	*18.6*	ZCBST	3	local propylitic (ep) alteration	231844	0.029	0.015
152.0	154.0			*27.9*	ZCBST	3	single BFP clast 48cm long	231845	0.009	0.013
154.0	156.0			*120*	ZCBST	3		231846	0.001	0.001
156.0	158.0			*41.9*	ZCBST	3	propylitic alteration (ser) becomes prevalent and locally moderate	231847	0.001	0.001
158.0	160.0			*62.8*	ZCBST	4		231848	0.006	0.005
160.0	162.0			*19.7*	ZCBST	4		231849	0.008	0.015
162.0	164.0			*10*	ZCBST	3		231851	0.004	0.025
164.0	166.0			*11.9*	ZCBST	3		231852	0.005	0.011
166.0	168.0			*77.4*	ZCBST	3	quartz clast 7cm in length	231853	0.002	0.001
168.0	170.0			*42.7*	ZCBST	3		231854	0.002	0.007
170.0	172.0			*80.6*	ZCBST	3		231855	0.001	0.001
172.0	174.0			*93.3*	ZCBST	4		231856	0.004	0.001
174.0	176.0			*60.9*	ZCBST	4		231857	0.006	0.007
176.0	177.0			*9.3*	ZCBST	3		231858	0.010	0.006
177	205	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**								
177.0	179.0	Fine to medium grained dark grey green weakly propyllitic		*32.8*	ZCBST	3	Bladed Feldspar Porphyry: upper contact broken, unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote and local sections of moderate sericite-pyrite alteration; local zeolite and zeolite-carbonate stringers at 25 to 90 TCA	231859	0.021	0.011
179.0	181.0			*116*				231860	0.022	0.001
181.0	183.0			*113*				231861	0.016	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
183.0	185.0	Fine to medium grained dark grey green weakly propyllitic	0.1	*2.7*		local moderately altered section contins 2% pyrite mineralization	231862	0.013	0.001
185.0	187.0			*97.4*	ZCBST 5		231863	0.021	0.001
187.0	189.0		0.0	*112*		minor local moderately altered sections contain minor pyrite	231864	0.021	0.001
189.0	191.0			*45.9*	ZCBST 3		231865	0.019	0.001
191.0	193.0	Fine to medium grained dark grey green moderately propyllitic	2.0	*1*		alteration increses over entire sample; local pyrite minerlization up to 5%	231866	0.024	0.012
193.0	195.0	Fine to medium grained dark grey green weakly propyllitic		*1*	ZCBST 4		231867	0.018	0.011
195.0	197.0			*1.8*	ZCBST 3		231868	0.030	0.067
197.0	199.0			*1.6*	ZCBST 4		231869	0.014	0.012
199.0	201.0			*84*	ZCBST 5		231870	0.020	0.001
201.0	203.0			*113*		zeolite-carbonte stringers reduced in frequency	231871	0.015	0.001
203.0	205.0			*2.4*	ZCBST 3		231872	0.013	0.001
205	205.5	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**							
205.0	205.5	Fine to medium grained grey green weakly propyllitic		*1.8*		local zone of heterolithic ash	231873	0.021	0.012
205.5	236.6	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**							
205.5	207.0	Fine to medium grained dark grey green weakly propyllitic		*64.9*	ZCBST 4		231874	0.010	0.001
207.0	209.0			*21.3*	ZCBST 4	local zeolite-carbonate veinlet at 70 TCA	231876	0.008	0.006
209.0	211.0		2.0	*5.5*		local pyrite mineraliztion up to 5%	231877	0.005	0.007
211.0	213.0		2.0	*9.9*		local pyrite mineraliztion up to 5%; carbonate vein at 30 TCA	231878	0.012	0.008
213.0	215.0		2.5	*3.2*			231879	0.017	0.008
215.0	217.0		2.5	*3.5*		local pyrite mineraliztion up to 10%	231880	0.022	0.008
217.0	219.0		0.5	*93.1*			231881	0.021	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
219.0	221.0	Fine to medium grained dark grey green weakly propyllitic	0.5	*10.9*	ZCBST	4	unit becomes flow brecciated	231882	0.016	0.025
221.0	223.0		0.5	*2*	ZCBST	3		231883	0.022	0.007
223.0	225.0	Fine to medium grained dark grey green moderately propyllitic	0.5	*2.2*			propylitic altertion (ep) becomes moderate	231884	0.019	0.001
225.0	227.0		0.5	*2.3*				231885	0.022	0.001
227.0	229.0		0.5	*23.4*				231886	0.023	0.018
229.0	231.0		0.1	*31.6*	ZCBST	4		231887	0.023	0.001
231.0	233.0		0.1	*24.8*	ZCBST	3		231888	0.038	0.001
233.0	235.0		0.5	*14.3*			zeolite-carbonte veinlet at 45 TCA	231889	0.042	0.005
235.0	236.6		0.5	*2.5*				231890	0.025	0.006
236.6	240	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
236.6	238.0	Fine to medium grained grey green weakly propyllitic		*5*	ZCBST	3	zone of heterolithic ash tuff; composed of all small to medium sized clasts of BFP, andesite and fine grained mafics; zeolite-carbonate stringers at 5 to 55 TCA	231891	0.022	0.013
238.0	240.0			*1*	ZCBST	3		231892	0.012	0.001
240	241	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**								
240.0	241.0	Fine to medium grained dark grey green weakly propyllitic		*84.3*			small zone of bladed feldspar porphyry, possible interfingering between BFP and HTL ash units	231893	0.013	0.001
241	249.6	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
241.0	243.0	Very fine to medium grained grey green weakly propyllitic		*64.9*	ZCBST	3	heterolithic ash tuff: upper contact broken; unit contains large BFP fragments, small to medium andesite fragments, and small mafic fragments; matrix consists of very fine to medium ash frgments; minor propylitic (ep) altertion; zeolite-carbonate stringers at 20 to 80 TCA	231894	0.001	0.001
243.0	245.0			*67.6*	ZCBST	4		231895	0.000	0.001
245.0	247.0			*60.6*	ZCBST	5		231896	0.001	0.001
247.0	248.0			*66.3*	ZCBST	3	local BFP fragment 6cm in size	231897	0.007	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
248.0	249.6	Very fine to medium grained grey green weakly propyllitic		*4.4*	ZCBST	4		231898	0.010	0.005
249.6	270.2	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**								
249.6	251.0	Fine to medium grained dark grey green weakly propyllitic		*96.9*	ZCBST	3	Bladed Feldspar Porphyry: upper contact strong at 75 TCA; unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote;zeolite and zeolite-carbonate stringers at 15 to 60 TCA;	231899	0.010	0.001
251.0	253.0			*101*	ZCBST	3		231901	0.010	0.001
253.0	255.0			*80.3*	ZCBST	3		231902	0.003	0.001
255.0	257.0			*85.1*	ZCBST	5		231903	0.011	0.001
257.0	259.0			*95.1*	ZCBST	3		231904	0.010	0.001
259.0	261.0			*78.3*	ZCBST	6		231905	0.010	0.001
261.0	263.0			*27.8*	ZCBST	5		231906	0.007	0.001
263.0	265.0			*81.6*	ZCBST	4		231907	0.028	0.001
265.0	267.0	Fine to medium grained dark grey green moderately propyllitic		*4*	ZCBST	4		231908	0.025	0.001
267.0	269.0			*56.7*	ZCBST	6		231909	0.019	0.001
269.0	270.2	Fine to medium grained dark grey green weakly propyllitic		*29.6*	ZCBST	4		231910	0.007	0.001
270.2	277.9	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
270.2	272.0	Fine to medium grained grey green weakly propyllitic		*41.6*	ZCBST	4	Heterolithic ash tuff: upper contact strong but irregular; unit composed of small fine grained mafic and andesite clasts, and larger local BFP clasts; matrix consists of very fine to fine grained ash; propylitic alteration consistiing of feldspar altering to epidote and minor sericite alteration; zeolite and zeolite-carbonate stringers at 5 to 70 TCA	231911	0.012	0.007
272.0	274.0			*71.7*	ZCBST	5		231912	0.017	0.011
274.0	276.0			*78.9*	ZCBST	4		231913	0.031	0.043

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
276.0	277.9	Fine to medium grained grey green weakly propyllitic		*24.2*	ZCBST	3		231914	0.020	0.024
277.9	295.8	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**								
277.9	280.0	Fine to medium grained dark grey green weakly propyllitic		*128*	ZCBST	3	Bladed Feldspar Porphyry: upper contact strong at 45 TCA; unit consists of 15 to 20 % bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting primarily of feldspars altering to epidote; zeolite and zeolite-carbonate stringers at 5 to 75 TCA	231915	0.030	0.042
280.0	282.0			*128*				231916	0.028	0.030
282.0	284.0			*120*	ZCBST	3		231917	0.020	0.034
284.0	286.0			*63*	ZCBST	3		231918	0.016	0.014
286.0	288.0	Fine to medium grained dark grey green moderately propyllitic		*103*	ZCBST	4	increased sericite and chlorite altertion	231919	0.014	0.005
288.0	290.0			*58*	ZCBST	3		231920	0.018	0.011
290.0	292.0			*97.9*	ZCBST	3		231921	0.020	0.005
292.0	294.0	Fine to medium grained dark grey green weakly propyllitic		*92*	ZCBST	5	unit becomes strongly flow breccited	231922	0.019	0.001
294.0	295.8			*76.8*	ZCBST	4		231923	0.018	0.001
295.8	299.2	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
295.8	298.0	Fine to medium grained grey weakly propyllitic		*52.3*	ZCBST	4	Heterolithic Ash Tuff: upper contact at 35 TCA; unit consists of large angular fine grained mafic clasts, medium sized andesite clasts, and small feldspar crystals; matrix consists of very fine to fine feldspars and ash fragments; unit is more felsic in composition than previous units; zeolite and zeolite-carbonate stringers at 10 to 75 TCA; local sections rubbly	231924	0.011	0.001
298.0	299.2			*7*	ZCBST	4		231926	0.014	0.007
299.2	313.7	**AMYGDULAR BLADED FELDSPAR PORPHYRY VOLCANIC**								

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
299.2	301.0	Fine to medium grained dark grey green weakly propyllitic	0.1	*80.3*	ZCBST	3	Bladed Feldspar Porphyry: upper contact at 65 TCA; unit consists of 10 to 15% bladed feldspar crystals in a fine grained matrix; propylitic alteration consisting primarily of feldspars altering to epidote; zeolite and zeolite-carbonate stringers at 5 to 65 TCA	231927	0.024	0.010
301.0	303.0		0.5	*1.3*				231928	0.056	0.041
303.0	305.0		0.1	*77.5*	ZCBST	4		231929	0.053	0.033
305.0	307.0		0.1	*68.6*	ZCBST	3	local sections moderately to strongly altered	231930	0.041	0.022
307.0	309.0	Fine to medium grained dark grey green moderately propyllitic	0.1	*0.8*	ZCBST	3	alteration increases with depth	231931	0.020	0.007
309.0	311.0		0.1	*1.5*	ZCBST	4		231932	0.018	0.008
311.0	312.0	Fine to medium grained dark grey green strongly propyllitic	0.1	*1.7*	ZCBST	3		231933	0.025	0.006
312.0	313.7		0.1	*2*	ZCBST	4		231934	0.021	0.001
313.7	341.3	**PORPHYRITIC QUARTZ MONZODIORITE DYKE**								
313.7	316.0	Fine to medium grained grey weakly propyllitic		*55.6*	ZCBST	6	Quartz Monzodiorite Dyke: upper contact at 10 TCA; unit consists of 75% plagioclase, 10 to 15%, and 10 to 15% mafics; grain size is fine to medium; unit is weakly propylitic with weak hematitic staining throughout; zeolite and zeolite-carbonate stringers at 5 to 80 TCA; minor sringers carbonate only	231935	0.003	0.001
316.0	318.0			*24.1*	ZCBST	5		231936	0.002	0.001
318.0	320.0			*61.8*	ZCBST	4		231937	0.001	0.001
320.0	322.0			*51.1*	ZCBST	6		231938	0.001	0.001
322.0	324.0			*43.6*	ZCBST	4		231939	0.001	0.001
324.0	326.0			*61.4*	ZCBST	3		231940	0.001	0.001
326.0	328.0			*34.5*	ZCBST	4	zeolite-carbonate veinlet at 30 TCA	231941	0.002	0.001
328.0	330.0			*60*	ZCBST	4		231942	0.001	0.001
330.0	332.0			*39.7*	ZCBST	6		231943	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
332.0	334.0	Fine to medium grained grey weakly propyllitic		*41.2*	ZCBST	3		231944	0.001	0.001
334.0	336.0			*56.5*	ZCBST	3		231945	0.002	0.001
336.0	338.0			*54*	ZCBST	4		231946	0.003	0.001
338.0	340.0			*57.1*	ZCBST	3		231947	0.001	0.001
340.0	341.3			*56*	ZCBST	4		231948	0.001	0.001
341.3	343.5	**FLOW BRECCIATED BLADED FELDSPAR PORPHYRY**								
341.3	343.5	Fine to medium grained grey green strongly propyllitic	5.0	*0.7*	ZCBST	4	Altered Bladed Feldspar Porphyry: upper contact at 42 TCA, unit appears to be strongly altered brecciated feldspar porphyry; massive pyrite minerliztion localy up to 50%; local zone of microcrystaline quartz	231949	0.177	0.087
343.5	347	**PORPHYRITIC QUARTZ MONZODIORITE DYKE**								
343.5	345.0	Fine to medium grained grey weakly propyllitic		*38.8*	ZCBST	5	Quartz Monzodiorite Dyke: upper contact at 30 TCA; unit consists of 75% plagioclase, 10 to 15%, and 10 to 15% mafics; grain size is fine to medium; unit is weakly propylitic with weak hematitic staining throughout; zeolite and zeolite-carbonate stringers at 5 to 80 TCA; minor sringers carbonate only	231951	0.002	0.006
345.0	347.0			*44.4*	ZCBST	5		231952	0.001	0.001
347	366.7	**LAPILLITIC HETEROLITHIC LAPILLI-TUFF**								
347.0	349.0	Fine to medium grained grey green weakly propyllitic		*15.1*	ZCBST	6	Heterolithic Lapilli-Tuff: upper contact broken; unit consists of 70% fine ash clasts, 15% small to large fine grained mafic clasts, 10% fine to medium feldspar crystals, and 5% large clasts of mixed lithology including andesite and BFP; weak to local propylitic alteration varies throughout unit; zeolite and zeolite-carbonate stringers at 10 to 80 TCA; local sections blocky	231953	0.004	0.001
349.0	351.0			*2.1*	ZCBST	10		231954	0.002	0.008
351.0	353.0			*15.1*	ZCBST	4		231955	0.005	0.001
353.0	355.0			*41.6*	ZCBST	5		231956	0.003	0.006

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
355.0	357.0	Fine to medium grained grey green weakly propyllitic	0.0	*35.9*	ZCBST	6		231957	0.003	0.020
357.0	359.0		0.0	*40.7*	ZCBST	6		231958	0.001	0.001
359.0	361.0		0.0	*11.9*	ZCBST	5	local mafic clasts up to 3cm in size	231959	0.007	0.001
361.0	363.0		0.0	*1.1*	ZCBST	4	Large vug infilled with zeolite crystals at 361.3m (photo)	231960	0.001	0.001
363.0	365.0		0.0	*45.5*	ZCBST	3		231961	0.016	0.024
365.0	366.7		0.0	*1.5*	ZCBST	3		231962	0.009	0.025
366.7	380.3	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
366.7	369.0	Fine to medium grained grey green weakly propyllitic		*16*	ZCBST	5	Heterolithic Ash Tuff: upper contact at 20 TCA; unit consists of small to medium andesite clasts, small to medium fine grained mafic clasts, and medium feldspar clasts altering to epidote; propylitic altertion consisting of feldspar altering to epidote, local sericite amd minor chlorite; matrix consists of very fine to fine grained ash fragments; zeolite and zeolite-carbonate stringers at 5 to 75 TCA	231963	0.003	0.005
369.0	371.0		0.0	*42.8*	ZCBST	4		231964	0.004	0.006
371.0	373.0		0.1	*2.7*	ZCBST	3		231965	0.019	0.032
373.0	375.0		0.1	*3.4*	ZCBST	4	sericite alteration decreses with depth along sample	231966	0.011	0.051
375.0	377.0		0.1	*65.1*	ZCBST	4		231967	0.001	0.018
377.0	379.0		0.1	*22.4*	ZCBST	5		231968	0.006	0.038
379.0	380.3		0.1	*15*	ZCBST	3		231969	0.029	0.012
380.3	383.1	**FLOW BRECCIATED BLADED FELDSPAR PORPHYRY**								
380.3	382.0	Fine to medium grained light grey green strongly propyllitic	1.0	*0.7*	ZCBST	3	Altered Bladed Feldspar Porphyry: upper contact at 70 TCA; unit is bladed feldspar porphyry with flow brecciated section; unit has strong propylitic altertion with feldspar altering to epidote and sericite chlorite alteration throughout; up to 1% disseminted pyrite throughout; zeolite and zeolite-carbonate stringers and veinlets at 10 to 50 TCA	231970	0.029	0.047

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
382.0	383.1	Fine to medium grained light grey green strongly propyllitic	1.0	*1*	ZCBST 4		231971	0.037	0.014
383.1	419.3	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
383.1	385.0	Fine to medium grained grey green weakly propyllitic	0.0	*57.1*	ZCBST 5	Heterolithic Ash Tuff: upper contact broken; unit consists of small to medium andesite and fine grained mafic clasts, minor large BFP clasts and polycrystaline quartz clasts; fewer clasts near top of unit; matrix is composed of very fine to fine grained ash fragments; alteration consists of feldspars altering to epidote, as well as sericite alteration throughout and minor local chlorite; zeolite and zeolite-carbonate stringers at 10 to 60 TCA; top of unit weakly hematite stained	231972	0.001	0.001
385.0	387.0		0.0	*160*	ZCBST 6		231973	0.040	0.008
387.0	389.0		0.0	*3.3*	ZCBST 10		231974	0.001	0.012
389.0	391.0		1.0	*22.3*	ZCBST 6		231976	0.012	0.053
391.0	393.0		1.0	*0.8*	ZCBST 4		231977	0.018	0.077
393.0	395.0		1.0	*1.5*	ZCBST 3		231978	0.018	0.041
395.0	397.0		1.0	*1.6*	ZCBST 3		231979	0.014	0.060
397.0	399.0		1.0	*1.9*	ZCBST 4		231980	0.017	0.069
399.0	401.0		1.0	*2.4*	ZCBST 4		231981	0.007	0.048
401.0	403.0		0.5	*1.9*	ZCBST 4	pyrite mineraliztion decreases with alteration	231982	0.002	0.024
403.0	404.0		0.0	*23.2*	ZCBST 3		231983	0.002	0.039
404.0	406.0			*47.5*	ZCBST 3		231984	0.000	0.001
406.0	408.0		0.1	*47.9*	ZCBST 5		231985	0.003	0.023
408.0	410.0		1.0	*3.7*	ZCBST 3		231986	0.032	0.062
410.0	412.0		1.0	*3.2*	ZCBST 4		231987	0.024	0.087
412.0	414.0		1.0	*3.8*	ZCBST 3		231988	0.020	0.078
414.0	416.0		1.0	*4*	ZCBST 4		231989	0.021	0.087

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
416.0	418.0	Fine to medium grained grey green weakly propyllitic	1.0		*4.3*	ZCBST	3		231990	0.030	0.103
418.0	419.3		1.0		*4.6*				231991	0.024	0.067
419.3	430.7	**FLOW BRECCIATED BLADED FELDSPAR PORPHYRY**									
419.3	421.0	Fine to medium grained dark grey green weakly propyllitic	0.5		*89.8*	ZCBST	4	Bladed Feldspr Porphyry: upper contact at 80 TCA; unit consists of 15% bladed fedspar crystals in a fine grained matrix; propylitic alteration consisting of feldspars altering to epidote and local sections of moderate sericite-pyrite alteration; zeolite and zeolite-carbonate stringers at 5 to 80 TCA	231992	0.023	0.012
421.0	423.0	Fine to medium grained light grey green moderately propyllitic	1.0		*47.5*	ZCBST	3		231993	0.055	0.025
423.0	425.0	Fine to medium grained dark grey green weakly propyllitic	0.5		*37.2*	ZCBST	3		231994	0.048	0.017
425.0	427.0	Fine to medium grained light grey green moderately propyllitic	0.5		*2.1*	ZCBST	3		231995	0.027	0.022
427.0	429.0		0.5		*2.7*	ZCBST	4		231996	0.029	0.022
429.0	430.7		0.5		*2.8*	ZCBST	3		231997	0.022	0.060
430.7	453.2	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**									
430.7	433.0	Fine to medium grained grey green intensely silicified (non-K)	0.1		*3.1*	ZCBST	5	Silicified Andesite Volcanic Breccia: upper contact at 40 TCA; unit is composed primarily of flow brecciated andesite; unit contains minor clasts of fine grained mafics; unit is strongly to intensely silicified; zeolite and zeolite-carbonte stringers at 5 to 70 TCA	231998	0.042	0.077
433.0	435.0	Fine to medium grained grey green strongly silicified (non-K)	3.0		*3.4*	ZCBST	4	increse in pyrite mineralization locally up to 5%	231999	0.033	0.069
435.0	437.0	Fine to medium grained grey green intensely silicified (non-K)	3.0	**0.0**	*0.6*	ZCBST	3	trace chalcopyrite mineralization associated with pyrite minerlization	233001	0.038	0.125
437.0	439.0		3.0		*1.2*	ZCBST	4		233002	0.031	0.093
439.0	441.0		2.0		*1.8*	ZCBST	3		233003	0.029	0.054
441.0	443.0		1.0		*2.3*	ZCBST	6		233004	0.043	0.056

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
443.0	445.0	Fine to medium grained grey green intensely silicified (non-K)	1.5	*2.5*	ZCBST	6		233005	0.046	0.046
445.0	447.0		2.0	*3*	ZCBST	3		233006	0.047	0.060
447.0	449.0		1.0	*27.5*	ZCBST	4	sample contins 80cm BFP fragment	233007	0.040	0.052
449.0	451.0		1.0	*5.3*	ZCBST	4		233008	0.036	0.046
451.0	453.2		0.5	*4.4*	ZCBST	8		233009	0.036	0.061
453.2	454	**FLOW BRECCIATED BLADED FELDSPAR PORPHYRY**								
453.2	454.0	Fine to medium grained dark grey green weakly propyllitic	0.1	*5*	ZCBST	3	sample contains single large BFP fragment	233010	0.018	0.035
454	468	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**								
454.0	456.0	Fine to medium grained grey green intensely silicified (non-K)	0.1 **0.0**	*5.4*	ZCBST	4		233011	0.065	0.047
456.0	458.4		1.0	*0.9*	ZCBST	3		233012	0.038	0.049
458.4	460.0	Fine to medium grained grey green moderately propyllitic	1.0	*1.1*	ZCBST	5	silica altertion disappears and is replaced by moderate propylitic alteration	233013	0.039	0.055
460.0	462.0		0.5	*1.5*	ZCBST	4		233014	0.028	0.034
462.0	464.0		0.5	*1.9*	ZCBST	4	unit becoms increasingly fragmental with depth	233015	0.042	0.102
464.0	466.0		0.5	*2.1*	ZCBST	5		233016	0.022	0.065
466.0	468.0		1.0	*2.4*	ZCBST	6		233017	0.023	0.073
468	607	**STOCKWORKED BASALT FLOW**								
468.0	470.0	Fine to medium grained grey green weakly propyllitic	0.5	*103*	ZCBST	5	Stockworked Basalt Flow: upper contact at 65 TCA; massive baslt flow crosscut by stockworks of carbonte and carbonate-zeolite veinlets and stringers at 10 to 75 TCA; upper part of unit is weakly propylitic with weak epidote and chlorite altertion; pyrite mineralization disseminated throughout	233018	0.021	0.027
470.0	472.0		0.5	*4.4*	ZCBST	3		233019	0.020	0.029
472.0	474.0		1.0	*4.2*	ZCBST	3		233020	0.019	0.029

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
474.0	476.0	Fine to medium grained grey green weakly propyllitic	1.5	*4.5*	ZCBST	4		233021	0.026	0.044
476.0	478.0		2.5	*4.7*	ZCBST	4		233022	0.015	0.030
478.0	480.0		2.0	*0.8*	ZCBST	3		233023	0.022	0.040
480.0	482.0		2.5	*1.3*	ZCBST	5		233024	0.018	0.044
482.0	484.0		1.5	*19.6*				233026	0.016	0.023
484.0	486.0		2.0	*1.1*	ZCBST	4		233027	0.025	0.050
486.0	488.0		2.0	*1.7*	ZCBST	4		233028	0.027	0.041
488.0	490.0		1.5	*2.4*	ZCBST	4		233029	0.033	0.043
490.0	492.0		1.5	*3*	ZCBST	5		233030	0.031	0.050
492.0	494.0		2.0	*21.3*	ZCBST	6		233031	0.023	0.031
494.0	495.0		2.0	*2.7*	ZCBST	5		233032	0.035	0.068
495.0	497.0	Fine to medium grained light grey green weakly phyllic	2.0	*0.5*	ZCBST	4	unit becomes weakly phyllic altered	233033	0.030	0.033
497.0	499.0		2.0	*0.8*	ZCBST	3		233034	0.012	0.047
499.0	501.0		1.5	*0.5*	ZCBST	5		233035	0.022	0.050
501.0	503.0		1.0	*0.7*	ZCBST	5		233036	0.017	0.053
503.0	505.0		2.0	*0.5*	ZCBST	5		233037	0.020	0.064
505.0	507.0		1.5	*0.7*	ZCBST	6		233038	0.011	0.060
507.0	509.0		2.0	*1*	ZCBST	5	local pyrite mineralization up to 15%	233039	0.018	0.050
509.0	511.0		0.5	*1.1*	ZPYST	4	carbonate in stringers decreases to minor component, pyrite mineralization in stringers; texture becomes mottled	233040	0.020	0.045
511.0	513.0		2.0	*1.6*	ZPYST	3		233041	0.036	0.057
513.0	515.0		1.5	*1.7*	ZPYST	3		233042	0.015	0.070
515.0	517.0		2.5	*2.2*	ZPYST	4		233043	0.028	0.051
517.0	519.0		2.5	*2.6*	ZPYST	3		233044	0.024	0.049
519.0	521.0		2.5	*3*	ZPYST	4	zeolite-carbonate veins at 25 to 35 TCA	233045	0.032	0.041

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
521.0	523.0	Fine to medium grained light grey green weakly phyllic	3.0		*4.9*	ZPYST	4		233046	0.033	0.050
523.0	525.0		2.5		*4.3*	ZPYST	5	vuggy carbonate-gypsum vein at 10 TCA	233047	0.037	0.048
525.0	527.0		3.0		*3.6*	CBGYV	7		233048	0.047	0.046
527.0	529.0		3.5		*0.8*				233049	0.024	0.072
529.0	531.0		3.0		*0.7*			quartz present appears to be secondary from phyllic alteration rather than being andesite	233051	0.029	0.058
531.0	533.0		2.0		*1.5*	ZSTR	7	local sections blocky	233052	0.021	0.063
533.0	535.0		5.0	**0.1**	*1.4*	ZPYV	7	increased pyrite mineralization in veinlets; minor chalcopyrite mineralization in stringers associted with pyrite	233053	0.046	0.077
535.0	537.0		4.0	**0.1**	*1.9*	ZPYV	4		233054	0.052	0.083
537.0	539.0		4.5	**0.1**	*2.2*	ZAHPY	5		233055	0.016	0.058
539.0	541.0		3.0		*2.7*	ZPYST	4		233056	0.018	0.051
541.0	543.0		3.5		*3.7*	ZPYST	4		233057	0.030	0.048
543.0	545.0		3.0		*4.5*	ZPYST	3		233058	0.022	0.034
545.0	547.0		4.0		*4.6*	ZPYST	5		233059	0.041	0.061
547.0	549.0		3.0		*4.8*	ZPYST	6		233060	0.033	0.047
549.0	551.0		2.5		*6.4*	ZPYST	3		233061	0.031	0.051
551.0	553.0		3.0		*59.8*	ZPYST	5		233062	0.043	0.061
553.0	555.0		2.5		*1.1*	ZPYST	6		233063	0.040	0.060
555.0	557.0		2.0		*1.9*	ZPYST	4	single low angle TCA zeolite veinlet along 45cm of core	233064	0.030	0.051
557.0	559.0		1.5		*2.4*	ZPYST	6		233065	0.024	0.046
559.0	561.0		1.0		*2.8*	ZPYST	5		233066	0.057	0.063
561.0	562.8		1.5		*2.9*	ZPYST	6		233067	0.032	0.047
562.8	565.0	Very fine to medium grained grey green weakly potassic - chlorite	1.5		*3.1*	ZPYST	8	unit becomes potassic altered, minor to local ; texture becomes only locally mottled; most quartz still appears to be secondary; local sections blocky to rubbly	233068	0.049	0.067

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
565.0	567.0	Fine to medium grained grey green weakly potassic - chlorite	3.5		*4.1*	ZPYST	5		233069	0.029	0.057
567.0	569.0	Very fine to medium grained grey green weakly potassic - chlorite	1.5		*4.9*	ZPYST	4		233070	0.016	0.034
569.0	571.0		3.5		*60.7*	ZPYST	4		233071	0.024	0.041
571.0	573.0		2.5	**0.0**	*6.4*	ZPYST	5	local zeolite veinlet at 30 TCA; trace chalcopyrite mineralization associated with pyrite mineralization	233072	0.034	0.059
573.0	575.0		2.5		*6.8*	ZPYST	3	local sections fragmental	233073	0.036	0.067
575.0	577.0		1.0		*0.9*	ZSTR	4	local decrease in stringer associated pyrite	233074	0.033	0.080
577.0	579.0		1.0		*1.7*	ZSTR	3		233076	0.042	0.108
579.0	581.0		2.5		*31.2*	ZSTR	3	minor local zeolite-pyrite stringers	233077	0.044	0.107
581.0	583.0		2.5		*17.6*	ZSTR	5	local sections fragmental	233078	0.030	0.112
583.0	585.0		1.0		*8.2*	ZSTR	5		233079	0.026	0.119
585.0	587.0		2.0		*7.7*	ZSTR	5		233080	0.035	0.156
587.0	589.0		2.0		*18.6*	ZSTR	4		233081	0.044	0.221
589.0	591.0		0.5		*6.5*	ZSTR	6	single large carbonate vein at 30 TCA 38cm long	233082	0.028	0.121
591.0	593.0		1.0		*4.9*	ZSTR	3	zeolite-pyrite stringer at 30 TCA	233083	0.029	0.113
593.0	595.0		1.5	**0.0**	*8.5*	ZSTR	5	carbonate vein at 47 TCA; trace chalcopyrite minerlization	233084	0.031	0.127
595.0	597.0		3.0		*5.9*	ZPYST	4	minor zeolite stringers also present	233085	0.049	0.179
597.0	599.0		2.0		*5.8*	ZSTR	4	zeolite-pyrite stringers at 30 TCA; local sections fragmental	233086	0.035	0.119
599.0	601.0		2.0		*1.3*	ZV	6	zeolite stringers associated with veins; locl sections fragmental	233087	0.048	0.171
601.0	603.0		0.5		*152*	ZSTR	3		233088	0.033	0.106
603.0	605.0		1.5		*0.9*	ZSTR	3		233089	0.033	0.122
605.0	607.0		1.0		*1.3*	ZAHST	3	local sections mottled texture	233090	0.029	0.160
607	609	**RUBBLY BASALT FAULT ZONE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
607.0	609.0	Very fine to medium grained grey green weakly potassic - chlorite	1.0	*1.8*		local possible fault zone including fault gouge, rubbly texture may be due to faulting	233091	0.029	0.165
609	651	**MASSIVE BASALT FLOW**							
609.0	611.0	Very fine to medium grained grey green weakly potassic - chlorite	1.5	*2.5*	ZAHST 4	stockworked zeolite vein at 20 TCA	233092	0.045	0.162
611.0	613.0		1.5 **0.0**	*43.8*	ZAHST 4		233093	0.050	0.186
613.0	615.0		2.0	*5.8*	ZAHST 4		233094	0.042	0.140
615.0	617.0		3.5	*3.4*	ZAHST 6		233095	0.045	0.284
617.0	619.0		2.5	*4.2*	ZAHST 5		233096	0.035	0.127
619.0	621.0		1.5	*4.4*	ZAHST 5		233097	0.027	0.103
621.0	623.0		2.0	*5*	ZAHST 4		233098	0.039	0.162
623.0	625.0		2.0	*0.9*	ZAHST 5		233099	0.043	0.205
625.0	627.0		1.5	*2.3*	ZAHST 4	zeolite-carbonate veins at 30 TCA	233101	0.031	0.115
627.0	629.0		1.0	*2.6*	ZAHST 4	zeolite-carbonate veinlet at 17 TCA	233102	0.052	0.134
629.0	631.0		1.0	*2.6*	ZAHST 4		233103	0.003	0.039
631.0	633.0		4.0	*2.9*	CBPYS 5	minor zeolite-anhydrite stringers; local zone of mottled texture	233104	0.037	0.057
633.0	635.0		2.0 **0.0**	*6*	ZAHST 3	local quartz veins contain trace chalcopyrite	233105	0.041	0.067
635.0	637.0		1.0	*68.8*	ZSTR 3		233106	0.035	0.052
637.0	639.0		3.0 **0.0**	*4.4*	ZAHST 4	trace chalcopyrite in zeolite-anhydrite stringers	233107	0.059	0.093
639.0	641.0		3.5	*4.9*	CBPYS 4	minor zeolite-anhydrite stringers	233108	0.045	0.074
641.0	643.0		5.0	*4.6*	ZAHST 3	locl section rubbly	233109	0.020	0.071
643.0	645.0		4.0	*1*	AHCBS 5		233110	0.030	0.059
645.0	647.0		3.0	*1.7*	ZAHST 6		233111	0.043	0.069
647.0	649.0		2.5	*2*	ZAHST 4	local sections rubbly	233112	0.042	0.077
649.0	651.0		2.0	*2.3*	ZAHST 3		233113	0.034	0.059

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
651	779	**FLOW BRECCIATED ANDESITIC AUGITE PORPHYRY**							
651.0	653.0	Very fine to medium grained grey green weakly potassic - chlorite	0.8	*0.8*	ZAHST 3	Flow Brecciated Andesite Augite Porphyry: augite clasts up to 2cm in size; matrix is 85% plag, 10% primary quartz; and 5% k-spar; unit is weakly to moderately potassic with local sections of increased sericite; zeolite-anhydrite stringers at 5 to 75 TCA; zeolite-carbonate veinlets at 30 TCA	233114	0.016	0.038
653.0	655.0		1.0	*2.3*	ZAHST 4		233115	0.032	0.067
655.0	657.0	Very fine to medium grained grey green weakly potassic - chlorite-sericite	2.0	*2.7*	ZAHST 6		233116	0.021	0.072
657.0	659.0	Very fine to medium grained grey green weakly potassic - chlorite	0.5	*1.3*	ZAHST 5		233117	0.027	0.050
659.0	661.0		1.5	*1.4*	ZAHST 5		233118	0.037	0.076
661.0	663.0	Very fine to medium grained grey green weakly potassic - chlorite-sericite	2.0	*3.9*	ZAHST 5		233119	0.063	0.090
663.0	665.0		0.5	*2.6*	ZAHST 6		233120	0.046	0.114
665.0	667.0		1.5 **0.1**	*92*	ZAHST 6	minor chalcopyrite in quartz stringer at 30 TCA	233121	0.036	0.065
667.0	669.0		2.5	*5.5*	ZAHST 5		233122	0.021	0.083
669.0	671.0		2.0	*6.4*	ZAHST 4		233123	0.028	0.067
671.0	673.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	4.0	*1*	ZAHST 6		233124	0.014	0.100
673.0	675.0		2.5	*1*	ZAHST 5	local sections rubbly	233126	0.026	0.070
675.0	677.0		3.5	*3.7*	ZAHST 4		233127	0.023	0.053
677.0	679.0		4.0	*4.3*	CBV 5	zeolite-anhydrite stringers 3%	233128	0.003	0.053
679.0	681.0		6.0	*1.9*	ZAHST 5		233129	0.006	0.087
681.0	683.0		3.0	*2.7*	ZAHST 4		233130	0.028	0.039
683.0	685.0		2.5	*4.8*	ZAHST 5		233131	0.028	0.060

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
685.0	687.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	2.0		5.7	ZAHST	4	local section weakly altered, may be basalt clast	233132	0.032	0.043
687.0	689.0		3.0	**0.0**	1	ZAHST	4	chalcopyrite mineralization in clast	233133	0.043	0.050
689.0	691.0		2.0		1.3	ZAHST	4		233134	0.036	0.072
691.0	693.0	Very fine to medium grained grey green weakly potassic - chlorite-sericite	2.5		1.8	ZHSTR	4		233135	0.031	0.060
693.0	695.0		2.5	**0.0**	4.9	ZAHST	5		233136	0.041	0.068
695.0	697.0		2.5		5.3	ZAHST	4		233137	0.054	0.083
697.0	699.0		2.5	**0.0**	1	ZAHST	6		233138	0.028	0.048
699.0	701.0		2.0		1.3	ZAHST	4		233139	0.047	0.042
701.0	703.0		3.0		1.5	ZAHST	3		233140	0.039	0.043
703.0	705.0		3.0		1	ZAHST	4		233141	0.029	0.044
705.0	707.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	4.5		1.4	AHSTR	4		233142	0.041	0.050
707.0	709.0		3.0		2.5	ZAHST	3		233143	0.089	0.069
709.0	711.0		3.5		2	ZAHST	4		233144	0.034	0.041
711.0	713.0		2.5		2.3	ZAHST	6	zeolite-carbonate vein at 25 TCA	233145	0.036	0.047
713.0	715.0		1.5		18.4	ZAHST	3		233146	0.064	0.049
715.0	717.0		2.5		4.3	ZAHST	4		233147	0.037	0.073
717.0	719.0		2.0		3.4	ZAHST	5		233148	0.034	0.051
719.0	721.0		4.0		4.2	ZAHST	6	local sections rubbly	233149	0.049	0.045
721.0	723.0		2.0	**0.0**	0.9	ZAHST	6		233151	0.035	0.046
723.0	725.0		2.5		1.1	ZAHST	4	zeolite-carbonate veinlet at 5 TCA	233152	0.025	0.044
725.0	727.0		1.5		1.6	ZAHST	3		233153	0.014	0.089
727.0	729.0		5.0		1.8	ZAHST	5		233154	0.061	0.051

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
729.0	731.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	4.0 **0.0**	*0.5*	ZAHST 4		233155	0.054	0.049
731.0	733.0		4.0 **0.0**	*2.8*	ZAHST 5	stockworked zeolite vein at 20 TCA	233156	0.094	0.066
733.0	735.0	Very fine to medium grained grey green weakly potassic - chlorite-sericite	3.0	*3.4*	AHSTR 4		233157	0.069	0.067
735.0	737.0		3.5	*0.1*	ZAHST 4		233158	0.059	0.069
737.0	739.0		3.0	*3.9*	ZAHST 3		233159	0.051	0.060
739.0	741.0		2.5 **0.1**	*4.3*	ZAHST 3	local sections blocky; chalcopyrite mineralization in fine grained pyrite vein	233160	0.118	0.083
741.0	743.0		3.5	*0.6*	ZAHST 4		233161	0.096	0.069
743.0	745.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	4.0	*0.7*	ZAHST 4		233162	0.113	0.071
745.0	747.0		5.5	*1.1*	ZAHST 4		233163	0.149	0.101
747.0	749.0		4.0	*0.2*	ZAHST 3		233164	0.128	0.067
749.0	751.0		2.5	*1.5*	ZAHST 3		233165	0.076	0.066
751.0	753.0		2.0	*0.1*	ZAHST 15	zeolite and anhydrite stringers may be stockworked vein in this sample	233166	0.060	0.062
753.0	755.0		1.0	*0.2*	ZAHST 7	locl sections blocky	233167	0.095	0.076
755.0	757.0		2.5	*2.5*	ZAHST 5		233168	0.049	0.061
757.0	759.0		3.5	*0.1*	ZAHST 4	21cm thick zeolite-anhydrite-carbonate-pyrite vein at 40 TCA	233169	0.088	0.068
759.0	761.0	Very fine to medium grained grey green weakly potassic - chlorite-sericite	4.0	*3.6*	ZAHST 4		233170	0.055	0.041
761.0	763.0		2.0	*3.4*	ZAHST 3		233171	0.049	0.037

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
763.0	765.0	Very fine to medium grained grey green moderately potassic - chlorite-sericite	2.0	*0.1*	ZAHST 3		233172	0.069	0.047
765.0	767.0		2.5	*1.1*	ZAHST 4		233173	0.075	0.062
767.0	769.0		2.0 **0.1**	*1.7*	ZAHST 4		233174	0.074	0.059
769.0	771.0		5.0	*0.9*	ZAHST 5		233176	0.073	0.079
771.0	773.0		3.0	*0.8*	ZAHST 3		233177	0.092	0.058
773.0	775.0		3.5	*1.2*	ZAHST 3	local sections blocky	233178	0.142	0.102
775.0	777.0		3.0	*0.1*	ZAHST 3		233179	0.122	0.080
777.0	779.0		4.0	*2.1*	ZAHST 4		233180	0.065	0.060
779	813	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**							
779.0	781.0	Very fine to fine grained grey green moderately potassic - chlorite-sericite	4.0	*2.6*	ZAHST 4	augite clasts disappear leaving only flow brecciated andesite matrix	233181	0.161	0.114
781.0	783.0		2.5	*0.2*	ZAHST 4		233182	0.385	0.199
783.0	785.0		3.0 **0.1**	*2.8*	ZAHST 5	minor chalcopyrite mineralization in zeolite-anhydrite-pyrite veinlets at 15 to 30 TCA	233183	0.297	0.164
785.0	787.0		3.0 **0.1**	*0.4*	ZAHST 4		233184	0.216	0.082
787.0	789.0		4.5	*0.7*	ZAHST 3	zeolite-anhydrite-k-spar-pyrite vein at 7 TCA	233185	0.137	0.098
789.0	791.0		3.5 **0.0**	*1.1*	ZAHST 5		233186	0.187	0.114
791.0	793.0		3.0	*0.3*	ZAHST 4		233187	0.191	0.107
793.0	795.0		2.5	*1.9*	ZAHST 4		233188	0.257	0.143
795.0	797.0		2.5 **0.1**	*1.8*	ZAHST 5	chalcopyrite mineralization in stringers with pyrite	233189	0.248	0.166
797.0	799.0		2.0	*0.1*	ZAHST 6		233190	0.385	0.230
799.0	801.0		2.0 **0.0**	*2.4*	ZAHST 4		233191	0.175	0.071
801.0	803.0		4.0	*2.7*	ZAHST 3		233192	0.144	0.102
803.0	805.0	Very fine to fine grained grey green weakly potassic - chlorite-sericite	1.5 **0.0**	*0.7*	ZAHST 4		233193	0.213	0.116

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
805.0	807.0	Very fine to fine grained grey green weakly potassic - chlorite-sericite	2.5		*1.4*	ZAHST	3		233194	0.300	0.189
807.0	809.0		2.0		*0.1*	ZAHST	3		233195	0.366	0.233
809.0	811.0		3.0		*0.1*	ZAHST	4		233196	0.168	0.114
811.0	813.0		2.0		*0*	ZAHST	4	possible fault zone?	233197	0.266	0.147
813	815	**MASSIVE QUARTZ MONZONITE DYKE**									
813.0	815.0	Very fine to medium grained grey green	0.5	**0.1**	*0*	ZAHST	3	Quartz Monzonite Dyke: upper contact broken; 60% K-spar, 30% plagioclase and 10% quartz; base of unit contains fault zone; minor chalcopyrite mineralization in pyrite stringer	233198	0.104	0.076
815	845	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**									
815.0	817.0	Very fine to fine grained grey green weakly potassic - chlorite-sericite	1.0		*0.2*	ZAHST	3	flow brecciated andesite returns	233199	0.141	0.114
817.0	819.0	Very fine to fine grained grey green moderately potassic - chlorite-sericite	1.5		*0.2*	ZAHST	5		233201	0.140	0.142
819.0	821.0		2.5	**0.0**	*0.4*	ZAHST	4		233202	0.355	0.270
821.0	823.0	Very fine to fine grained grey green weakly potassic - chlorite-sericite	3.0	**0.0**	*0.3*	ZAHST	4		233203	0.179	0.115
823.0	825.0	Very fine to fine grained grey green moderately potassic - chlorite-sericite	5.0		*0.1*	ZAHST	4		233204	0.169	0.154
825.0	827.0	Very fine to fine grained grey green strongly potassic - quartz	1.0	**3.0**	*3.8*	ZAHST	3	sample contains 10% magnetite; chalcopyrite mineralization associated with magnetite	233205	0.288	0.286
827.0	829.0		1.5	**2.0**	*7.8*	ZAHST	4	chalcopyrite decrease associated with magnetite decrease	233206	0.161	0.142
829.0	831.0		1.0	**2.0**	*0.2*	ZAHST	4		233207	0.154	0.143
831.0	833.0		3.0	**0.1**	*0.2*	ZAHST	5	minor chalcopyrite where magnetite present	233208	0.194	0.102
833.0	835.0		3.5	**0.1**	*0.8*	ZAHST	5		233209	0.223	0.133
835.0	837.0		1.0	**0.0**	*0.2*	ZAHST	4		233210	0.150	0.136
837.0	839.0		0.5	**0.5**	*0*	ZAHST	3	zeolite-anhydrite-K-spar vein at 55 TCA contains trace molybdenite	233211	0.312	0.223

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
839.0	841.0	Very fine to fine grained grey green moderately potassic - chlorite-biotite	0.5 **0.5**	*0.3*	ZAHST 3		233212	0.503	0.313
841.0	843.0		0.5 **1.0**	*16.5*		5% magnetite in this sample	233213	0.370	0.209
843.0	845.0		0.1 **1.0**	*0.6*	ZAHST 4		233214	0.380	0.180
845	849	**RUBBLY ANDESITE FAULT ZONE**							
845.0	847.0	Very fine to fine grained grey green moderately potassic - chlorite-biotite	0.5 **0.5**	*3.7*	ZAHST 4		233215	0.140	0.121
847.0	849.0		0.5 **0.5**	*1.2*	ZAHST 4		233216	0.233	0.212
849	868.6	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
849.0	851.0	Very fine to fine grained grey green weakly potassic - chlorite	1.0 **0.0**	*7.1*	ZAHST 4	unit is fragmental below fault zone; alteration changes below fault zone	233217	0.217	0.209
851.0	853.0		1.0	*9.7*	ZAHST 4		233218	0.141	0.142
853.0	855.0		1.0 **0.0**	*2.8*	ZAHST 3		233219	0.206	0.217
855.0	857.0	Very fine to fine grained grey green moderately potassic - chlorite-sericite	0.5	*6.5*	ZAHST 3	carbonate veins containing euhedral crystls up to 1.5cm in size with zeolite-anhydrite margins at 35 TCA	233220	0.502	0.361
857.0	859.0	Very fine to fine grained grey green strongly potassic - chlorite-sericite	0.5 **0.1**	*0*	ZAHST 3	local sections containing chalcopyrite may be intrusive	233221	0.537	0.295
859.0	861.0		1.0 **0.1**	*0.3*			233222	0.336	0.258
861.0	863.0		1.0 **0.1**	*0*			233223	0.291	0.221
863.0	865.0	Very fine to fine grained grey green strongly potassic - quartz	1.0	*0*		minor zeolite and nhydrite stringers	233224	0.283	0.200
865.0	867.0		0.5	*0*	ZAHST 3		233226	0.209	0.117
867.0	868.6		0.1	*0*			233227	0.184	0.128
868.6	944	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
868.6	870.0	Very fine to fine grained light grey green strongly potassic - quartz-sericite	0.1	*0*	ZAHST 3	Quartz Monzonite Intrusive: upper contact strong but irregular; unit is composed of 60% K-spar, 20% Plag, and 20% quartz; unit appears to be potassic (quartz) altered with minor sericite; minor zeolite and anhydrite stringers at 20 to 60 TCA; locl sections blocky to rubbly	233228	0.227	0.120

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
870.0	872.0	Very fine to fine grained light grey green strongly potassic - quartz-sericite	1.5		*0*	ZAHST	3		233229	0.251	0.108
872.0	874.0		2.5	**0.0**	*0.2*	ZAHST	3	local sections of massive pyrite	233230	0.241	0.178
874.0	876.0		0.5		*0.2*	ZAHST	3		233231	0.364	0.212
876.0	878.0		0.1		*0.2*			local sections rubbly	233232	0.301	0.209
878.0	880.0		0.1		*0*				233233	0.417	0.221
880.0	882.0		0.1		*0.1*				233234	0.728	0.339
882.0	884.0		1.0		*0.1*	ZAHST	4		233235	0.562	0.327
884.0	886.0		1.0	**1.0**	*0*	ZAHST	4	chalcopyrite mineralization associated with low angle TCA chlorite infilled fracture alon 90% of sample	233236	0.470	0.327
886.0	888.0		0.5	**0.0**	*5.4*	ZAHST	6		233237	0.177	0.203
888.0	890.0		0.1		*0.1*	ZAHST	5		233238	0.235	0.208
890.0	892.0		0.1		*0*	ZAHST	5	local sections rubbly	233239	0.286	0.213
892.0	894.0		0.1		*0.2*	ZAHST	3		233240	0.640	0.392
894.0	896.0	Very fine to fine grained light grey green moderately potassic - quartz-sericite	0.1		*0.1*	ZAHST	7	Alteration becomes locally weak; local sections rubbly	233241	0.416	2.690
896.0	898.0	Very fine to fine grained light grey green strongly potassic - quartz-sericite	0.1		*0.1*	ZAHST	4		233242	0.475	0.342
898.0	900.0		0.1		*0*	ZAHST	4		233243	0.226	0.222
900.0	902.0	Very fine to fine grained light grey green moderately potassic - quartz-sericite	0.5	**0.0**	*0*	ZAHST	6		233244	0.236	0.181
902.0	904.0		0.1	**2.0**	*0*	ZAHST	5	local chalcopyrite mineralization in stringers	233245	0.450	0.336
904.0	906.0		0.5		*0*	ZAHST	6		233246	0.463	0.337
906.0	908.0		0.5		*0.1*	ZAHST	4		233247	0.352	1.395
908.0	910.0		0.5		*25.3*	ZAHST	5	local sections blocky; minor hematite staining	233248	0.284	0.196

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
910.0	912.0	Very fine to fine grained light grey green moderately potassic - quartz-sericite	0.5	*29.5*	ZAHST 4	minor hematite staining	233249	0.255	0.177
912.0	914.0		0.5	*0*	ZAHST 7		233251	0.325	0.280
914.0	916.0		1.0	*0*	ZAHST 8		233252	0.222	0.141
916.0	918.0	Very fine to fine grained light grey green strongly potassic - quartz-sericite	1.0	*0*	ZAHST 4		233253	0.338	0.206
918.0	920.0		1.0	*0*	ZAHST 7		233254	0.501	0.310
920.0	922.0	Very fine to fine grained light grey green moderately potassic - quartz-sericite	1.0 **0.1**	*0*	ZAHST 4	quartz-chalcopyrite veinlet at 37 TCA	233255	0.355	0.177
922.0	924.0		0.5 **0.0**	*0*	ZAHST 5	k-spar-quartz vein at 55 TCA	233256	0.409	0.216
924.0	926.0		0.1	*0*	ZAHST 3	quartz veinlet at 22 TCA	233257	0.253	0.142
926.0	928.0		0.1 **0.1**	*0.1*	QCBST 3	local strong alteration	233258	0.322	0.186
928.0	930.0		0.5	*0*	ZAHST 3	quartz-zeolite vein at 40 TCA contains minor pyrite, molybdenite, and magnetite minearlization	233259	0.271	0.145
930.0	932.0		0.5 **0.0**	*0*	ZAHST 3		233260	0.269	0.151
932.0	934.0		0.5 **0.0**	*0*	ZAHST 4	local sections rubbly	233261	0.412	0.200
934.0	936.0		0.5	*0*	ZAHST 5		233262	0.324	0.152
936.0	938.0		0.5 **0.1**	*0.1*	QAHV 4	chalcopyrite mineralization in quartz-anhydrite veins	233263	0.354	0.209
938.0	940.0		0.5	*0.1*	ZAHST 5		233264	0.340	0.191
940.0	942.0		0.5 **0.0**	*0*	ZAHST 3	quartz-zeolite-carbonate vein at 15 TCA contins minor chalcopyrite and molybdenite mineralization	233265	0.490	0.240
942.0	944.0		0.5	*0*	QV 4	unit becomes fragmental towards base	233266	0.555	0.292
944	966.4	**MASSIVE BASALT FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
944.0	946.0	Very fine grained dark green grey weakly chloritic	2.0 **0.1**	*13.9*	ZAHST 4	Basalt Flow: upper contact irregular; unit appears to be very fine grained basalt based on colour and texture; chalcopyrite minerlization occurs in stringers with magnetite as well as disseminated in groundmass; zeolite and anhydrite stringers at 10 to 65 TCA, albite?-quartz striingers at 10 to 65 TCA	233267	0.300	0.194
946.0	948.0		0.1 **1.5**	*7.9*	ZAHST 5	chalcopyrite in stringers with magnetite	233268	0.249	0.170
948.0	950.0		0.1 **1.0**	*7.2*	ZAHST 5		233269	0.124	0.086
950.0	952.0		2.0 **0.5**	*0.4*	ZAHST 4		233270	0.330	0.211
952.0	954.0		2.0 **0.5**	*0.4*	ABQST 5		233271	0.389	0.254
954.0	956.0		2.0 **1.0**	*0.2*	ABQST 5	minor chalcopyrite in groundmass majority in stringers	233272	0.270	0.179
956.0	957.8		2.0 **2.0**	*0.5*	ABQST 5	increase in chalcopyrite in groundmass	233273	0.462	0.293
957.8	960.0		0.5 **3.0**	*0.3*	ABQST 4	quartz vein at 20 TCA contains minor molybdenite	233274	0.540	0.391
960.0	962.0		0.1 **5.0**	*0.7*	ABQST 4	significant increase in chalcopyrite mineraliztion in both stringers and groundmass, local mineralization up to 10%; local stringers contain magnetite	233276	0.667	0.490
962.0	964.0		0.1 **4.0**	*1.3*	ABQST 4	local stringers contain magnetite; minor anhydrite stringers	233277	0.622	0.481
964.0	966.4		2.0 **2.0**	*1.7*	ABQST 4	local stringers contain magnetite, local disseminated magnetite; minor anhydrite stringers	233278	0.234	0.155
966.4	969.6	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
966.4	968.0	Very fine to medium grained green weakly silicified (non-K)	0.5 **0.0**	*0*	ZAHST 4	Quartz Monzonite Intrusive: upper contact appears sheared at 30 TCA, composition is similar to earlier QMZ unit; unit is locally to weakly silicified; unit shows weak hematite staining; zeolite and anhydrite stringers at 20 to 50 TCA	233279	0.369	0.255
968.0	969.6		0.5 **0.1**	*0.7*	ZAHST 3	chalcopyrite minerlization in quartz stringer at 30 TCA	233280	0.318	0.202
969.6	973	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
969.6	971.0	Very fine to fine grained dark green grey weakly potassic - chlorite	2.0 **0.0**	*2.2*	ZAHST		4	Flow Brecciated Andesite: upper contact at 23 TCA; unit may be AAP in local sections; unit shows weak potassic-chloritic alteration; chalcopyrite mineraliztion in local stringers only; zeolite and anhydrite stringers at 35 to 65 TCA; local zeolite-quartz-carbonate vein contains minor molybdenite	233281	0.340	0.209
971.0	973.0		2.0 **0.0**	*19.4*	ZAHST		4		233282	0.250	0.182
973	986.9	**MASSIVE QUARTZ MONZONITE INTRUSIVE**									
973.0	975.0	Very fine to medium grained green strongly potassic - quartz-sericite	3.0 **0.0**	*0.4*	ZAHST		3	Quartz Monzonite Intrusive: upper contact irregular; composition is similar to earlier QMZ units; unit is moderately to strongly potassic-quartz-sericite altered; local weak hematite staining; zeolite and anhydrite stringers at 0 to 85 TCA	233283	0.279	0.185
975.0	977.0		0.1	*0.2*	ZAHST		7		233284	0.447	0.258
977.0	979.0		0.5 **0.0**	*0.4*	ZAHST		3		233285	0.440	0.263
979.0	981.0		0.5 **0.0**	*0.4*	SHR	35	50	weak shearing at 30 to 40 TCA, healed and overprinted by quartz, no obvious crystalographic orientation within the shearing	233286	0.354	0.216
981.0	982.9		0.5	*0.7*	SHR	30	40	weak shearing at 20 to 40 TCA	233287	0.379	0.265
982.9	985.0		1.0 **0.0**	*0.5*	QV		8	quartz veins at 15 to 30 TCA contain minor molybdenite	233288	0.349	0.219
985.0	986.9		0.5 **0.0**	*0.1*	ZAHST		3		233289	0.454	0.296
986.9	992	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**									
986.9	989.0	Very fine to medium grained dark green grey moderately potassic - quartz-sericite	1.0	*0.2*	ZAHST		7	andesite unit similar to previously named unit; upper contact at 20 TCA	233290	0.487	0.310
989.0	991.0		2.0	*0.8*	ZAHST		3	local sections rubbly	233291	0.226	0.121
991.0	992.0		2.0	*0.6*	ZAHST		5		233292	0.562	0.404
992	999.4	**MASSIVE QUARTZ MONZONITE INTRUSIVE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
992.0	994.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.5	*0.3*	ZAHST 5	quartz monzonite similar to previously named unit; upper contact at 45 TCA; quartz-carbonate-zeolite veins at 45 TCA contain minor molybdenite	233293	0.364	0.216
994.0	996.0		1.5	*0.4*	ZAHST 5		233294	0.395	0.246
996.0	998.0		1.0 **0.0**	*0.6*	ZAHST 4	local sections rubbly	233295	0.383	0.295
998.0	999.4		0.5 **0.5**	*1.3*	ZAHST 3	sample contains 34cm of AAP as described below	233296	0.435	0.277
999.4	1024.2	**FLOW BRECCIATED ANDESITIC AUGITE PORPHYRY**							
999.4	1001.0	Very fine to fine grained grey green moderately potassic - chlorite	0.5 **1.5**	*8.3*	ABQST 4	Andesitic Augite Porphyry: upper contact at 55 TCA; matrix is composed of 80% fine grained plagioclase, 10% k-spar and 10% quartz; small augite clasts make up between 5% to 10% of the overall composition; potassic alteration varies from chlorite to biotite with minor local sericite; chalcopyrite mineralization found as blebs in stringers with local sections disseminated in the groundmass; quartz and quartz-albite stringers at 5 to 55 TCA; local magnetite stringers	233297	0.365	0.268
1001.0	1003.0		0.5 **1.5**	*129*	ABQST 5		233298	0.800	0.570
1003.0	1005.0		0.5 **2.5**	*2.1*	ABQST 6		233299	0.945	0.494
1005.0	1007.0	Very fine to fine grained grey green moderately potassic - chlorite-sericite	1.0 **2.0**	*2.5*	ABQST 3	local zeolite-carbonate stringers at 15 to 30 TCA	233301	0.504	0.392
1007.0	1009.0	Very fine to fine grained grey green moderately potassic - chlorite	2.0 **1.0**	*3.3*		18cm thick microcline vein at 30 to 65 TCA; quartz-albite vein at 25 TCA	233302	0.324	0.248
1009.0	1011.0		2.0 **2.0**	*7.1*	ABQST 4		233303	0.306	0.194
1011.0	1013.0	Very fine to fine grained grey green moderately potassic - chlorite-biotite	2.0 **2.0**	*3.8*	ABQST 4	quartz-albite vein at 60 TCA	233304	0.611	0.376
1013.0	1015.0		2.0 **2.0**	*5.7*	ABQST 4	quartz veins at 40 to 50 TCA; local zeolite-anhydrite stringers at 20 to 40 TCA	233305	0.367	0.314
1015.0	1017.0		2.0 **1.0**	*32.8*	ABQST 4		233306	0.184	0.152
1017.0	1019.0		2.5 **1.0**	*4.7*	ABQST 4	local zeolite-anhydrite stringers at 35 to 70 TCA	233307	0.449	0.321
1019.0	1021.0		1.0 **5.0**	*366*	ABQST 3		233308	0.764	0.625

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1021.0	1023.0	Very fine to fine grained grey green moderately potassic - chlorite-biotite	1.0 **3.0**	*6*	ABQST 4		233309	0.382	0.342
1023.0	1024.2	Very fine to fine grained grey green moderately potassic - chlorite-biotite-sericite	0.5 **1.5**	*1.4*	ABQST 3		233310	0.212	0.155
1024.2	1081.5	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
1024.2	1026.0	Very fine to medium grained grey moderately potassic - quartz-sericite	0.5 **0.5**	*1.8*	QZSTR 4	Quartz Monzonite Intrusive: upper contact at 60 TCA; unit is 50% plag, 40% alkali feldspar, and 10% quartz; potassic alteration varies from weak chlorite to strong chlorite-quartz; chalcopyrite minerlization primarily in stringers; zeolite, quartz, and quartz-zeolite stringers at 5 to 65 TCA	233311	0.332	0.218
1026.0	1028.0		0.5 **0.5**	*2*	QZSTR 5		233312	0.388	0.250
1028.0	1030.0		0.5 **0.5**	*2.5*	QZSTR 4		233313	0.719	0.511
1030.0	1032.0		1.5 **1.5**	*2.4*	QSTR 5	local quartz stringers contain minor molybdenite	233314	0.516	0.312
1032.0	1034.0	Very fine to medium grained grey weakly potassic - quartz-sericite	0.5 **0.5**	*2.7*	QSTR 3		233315	0.248	0.159
1034.0	1036.0	Very fine to medium grained grey moderately potassic - quartz-sericite	0.1 **0.1**	*3.1*	QSTR 3		233316	0.344	0.259
1036.0	1038.0		0.1 **0.1**	*3.2*	QSTR 4		233317	0.190	0.128
1038.0	1040.0		0.1 **0.1**	*3.8*	QSTR 6	minor sphalerite in quartz stringer with chalcopyrite	233318	0.233	0.152
1040.0	1042.0		0.1 **0.1**	*4*	QSTR 4		233319	0.208	0.109
1042.0	1044.0		0.1 **0.1**	*0.3*	QSTR 5		233320	0.292	0.203
1044.0	1046.0		0.1 **0.1**	*0.8*	QSTR 4		233321	0.316	0.213
1046.0	1048.0	Very fine to medium grained grey strongly potassic - quartz-sericite	0.1 **0.1**	*1*	QSTR 3	local section rubbly	233322	0.426	0.213
1048.0	1050.0		0.1 **0.1**	*1.2*	QSTR 3	vuggy veins at 40 TCA contain needle like rhombohedral crystals, possibly gypsum	233323	0.554	0.290
1050.0	1052.0		0.5 **0.1**	*1.9*	QSTR 3		233324	0.367	0.288
1052.0	1054.0		0.5 **0.1**	*0.4*	QSTR 4		233326	0.417	0.267

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1054.0	1056.0	Very fine to medium grained grey strongly potassic - quartz-sericite	1.0 **0.1**	*0.6*	QSTR 4	quartz veinlet at 65 TCA contains minor molybdenite	233327	0.316	0.204
1056.0	1058.0		1.0 **0.1**	*0.8*	QSTR 3	minor molybdenite in stringers throughout sample	233328	0.360	0.225
1058.0	1060.0		1.0 **0.1**	*1.2*	QSTR 4		233329	0.336	0.317
1060.0	1062.0		1.0 **0.3**	*2.4*	QSTR 4	chalcopyrite mineralization in stringers	233330	0.329	0.339
1062.0	1064.0		0.5 **0.0**	*1.7*	QSTR 3		233331	0.318	0.182
1064.0	1066.0		2.0 **0.1**	*2*	QSTR 3	pyrite minerlization increse from 4cm pyrite vein	233332	0.297	0.177
1066.0	1068.0		0.1 **0.0**	*2.6*	QSTR 4		233333	0.471	0.294
1068.0	1070.0		0.1 **0.1**	*2.7*	QSTR 4		233334	0.302	0.260
1070.0	1072.0		0.1 **0.0**	*2.9*	QSTR 4		233335	0.488	0.317
1072.0	1074.0		8.0 **0.1**	*3.1*	QSTR 5	pyrite increase in 16cm pyrite vein at 55 TCA	233336	0.360	0.246
1074.0	1076.0		0.5 **0.1**	*3.4*	QSTR 3	quartz veins at 40 to 55 TCA	233337	0.310	0.320
1076.0	1078.0		2.0 **0.1**	*3.8*	QV 4		233338	0.313	0.226
1078.0	1080.0		0.5 **0.1**	*4.1*	QSTR 4		233339	0.422	0.245
1080.0	1081.5		0.5 **0.1**	*0.3*	QSTR 3		233340	0.660	0.429
1081.5	1082.6	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**							
1081.5	1082.6	Very fine to fine grained grey green weakly potassic - chlorite	0.1 **0.0**	*5.1*	ZSTR 4	local section of flow brecciated andesite	233341	0.315	0.310
1082.6	1228.5	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
1082.6	1085.0	Very fine to medium grained grey strongly potassic - quartz-sericite	0.1 **0.1**	*1.1*	ZSTR 25	local sections rubbly	233342	0.534	0.438
1085.0	1087.0	Very fine to medium grained grey moderately potassic - quartz-sericite	0.1 **0.0**	*1.3*	QZSTR 5		233343	0.435	0.430
1087.0	1089.0		0.1 **0.1**	*1.5*	QZSTR 4	quartz-zeolite vein at 60 TCA	233344	0.349	0.343
1089.0	1091.0	Very fine to medium grained grey weakly potassic - quartz-sericite	0.1 **0.0**	*2*	QZSTR 3	minor local anhydrite stringers	233345	0.263	0.293
1091.0	1093.0		0.1 **0.0**	*2.1*	QSTR 3		233346	0.450	0.417
1093.0	1095.0		0.1 **0.1**	*2.4*	QSTR 4		233347	0.634	0.576

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1095.0	1097.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.0 **0.1**	*2.5*	QSTR 3	75cm stockworked quartz-zeolite vein at 50 TCA contains increased pyrite and chalcopyrite mineralization	233348	0.430	0.306
1097.0	1099.0		1.0 **0.5**	*0.2*	QZSTR 5	increased chalcopyrite mineralization in stringers	233349	0.492	0.335
1099.0	1101.0	Very fine to medium grained grey strongly potassic - quartz-sericite	1.0 **0.5**	*0.7*	QSTR 5		233351	0.511	0.358
1101.0	1103.0		1.0 **0.5**	*0.6*	QSTR 5		233352	0.340	0.270
1103.0	1105.0		1.0 **0.5**	*1*	QZSTR 8	disseminated chlacopyrite mineralization increases while mineralization in stringers decrease	233353	0.458	0.353
1105.0	1107.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.5 **0.5**	*0.8*	ZAHST 20	sample is stockworked with zeolite-anhydrite stringers; quartz veins at 45 TCA	233354	0.698	0.692
1107.0	1109.0	Very fine to medium grained grey weakly potassic - quartz-sericite	1.5 **0.3**	*1.3*	QSTR 3		233355	0.459	0.553
1109.0	1111.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.5 **1.0**	*1.3*	QSTR 5	increased chlcopyrite mineralization in quartz veins at 35 to 45 TCA	233356	0.525	0.442
1111.0	1113.0	Very fine to medium grained grey strongly potassic - quartz-sericite	1.0 **1.5**	*1.6*	QSTR 4	local zeolite stringers	233357	0.348	0.327
1113.0	1115.0		1.0 **1.5**	*1.6*	ZSTR 4	local sections blocky to rubbly	233358	0.620	0.655
1115.0	1117.0		1.5 **0.5**	*1.8*	QSTR 3		233359	0.713	0.698
1117.0	1119.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.0 **0.5**	*2.3*	QSTR 5		233360	0.758	0.728
1119.0	1121.0		1.0 **0.5**	*2.9*	QSTR 5	local stringers vuggy	233361	0.535	0.524
1121.0	1123.0		1.0 **1.0**	*2.8*	QSTR 5	increased chalcopyrite mineralization in stringers; quartz vein at 30 TCA	233362	0.866	0.836
1123.0	1125.0		1.0 **0.5**	*3.1*	QSTR 5		233363	0.546	0.532
1125.0	1127.0		1.0 **0.5**	*3.7*	QSTR 4		233364	0.384	0.433
1127.0	1129.0		1.0 **0.5**	*0.2*	QSTR 4		233365	0.421	0.438
1129.0	1131.0		1.0 **0.5**	*0.5*	QSTR 3	base of sample contains 9cm zeolite vein	233366	0.431	0.488
1131.0	1133.0		1.0 **0.5**	*0.6*	ZSTR 4		233367	0.645	0.632
1133.0	1135.0		1.0 **0.8**	*1*	ZSTR 4	chalcopyrite bleb surrounds minor sphalerite in stringer	233368	0.469	0.457

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
1135.0	1137.0	Very fine to medium grained grey moderately potassic - quartz-sericite	1.0 **0.3**	*1.1*	ZSTR	5		233369	0.416	0.298
1137.0	1139.0		1.0 **0.3**	*1.4*	ZSTR	7		233370	0.291	0.230
1139.0	1141.0		1.0 **0.3**	*1.9*	ZSTR	3		233371	0.367	0.289
1141.0	1143.0		1.0 **0.5**	*1.9*	ZSTR	4		233372	0.440	0.297
1143.0	1145.0		1.0 **0.5**	*2*	ZSTR	4		233373	0.297	0.247
1145.0	1147.0		1.0 **0.3**	*2.3*	ZSTR	3		233374	0.284	0.256
1147.0	1149.0		1.0 **0.3**	*2.8*	ZSTR	3		233376	0.396	0.393
1149.0	1151.0		1.0 **0.3**	*2.8*	ZSTR	4	minor quartz stringers present	233377	0.283	0.318
1151.0	1153.0		1.0 **0.3**	*3.1*	ZSTR	5		233378	0.316	0.330
1153.0	1155.0		1.0 **0.3**	*0.5*	ZSTR	6		233379	0.287	0.286
1155.0	1157.0		1.0 **0.3**	*0.6*	ZSTR	4	local sections rubbly	233380	0.435	0.387
1157.0	1159.0		1.0 **0.3**	*0.8*	ZSTR	3	local sections rubbly; quartz vein at 35 TCA	233381	0.354	0.352
1159.0	1161.0		1.0 **0.3**	*1.1*	ZSTR	3	vuggy quartz-zeolite vein at 45 TCA	233382	0.364	0.330
1161.0	1163.0		1.0 **0.3**	*1.5*	ZSTR	5		233383	0.513	0.487
1163.0	1165.0		1.0 **0.3**	*1.5*	ZSTR	3		233384	0.538	0.507
1165.0	1167.0	Very fine to medium grained grey weakly potassic - quartz-sericite	0.8 **0.5**	*0.2*	ZSTR	5	increased chalcopyrite in quartz veins and stringers at 75 TCA	233385	0.456	0.424
1167.0	1169.0		0.5 **0.3**	*0.3*	ZSTR	4	60cm stockworked zeolite vein at 37 TCA	233386	0.363	0.352
1169.0	1171.0		0.8 **0.3**	*0.5*	ZSTR	3		233387	0.272	0.239
1171.0	1173.0		0.8 **0.3**	*0.8*	ZSTR	3	minor local quartz stringers	233388	0.367	0.329
1173.0	1175.0		0.8 **0.3**	*0.9*	ZSTR	3		233389	0.191	0.234
1175.0	1177.0		0.8 **0.3**	*1.1*	ZSTR	4		233390	0.317	0.371
1177.0	1179.0		0.8 **0.3**	*1.3*	ZSTR	5	minor anhydrite in some stringers	233391	0.267	0.324
1179.0	1181.0		0.8 **0.3**	*1.6*	ZSTR	4		233392	0.193	0.270
1181.0	1183.0		0.8 **0.5**	*1.6*	QV	60 10		233393	0.438	0.462

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1183.0	1185.0	Very fine to medium grained grey weakly potassic - quartz-sericite	0.8 **0.5**	*1.9*	QV 4		233394	0.208	0.276
1185.0	1187.0	Very fine to medium grained grey moderately potassic - quartz-sericite	0.8 **0.3**	*2.2*	QSTR 5		233395	0.224	0.326
1187.0	1189.0	Very fine to medium grained grey weakly potassic - chlorite-sericite	0.8 **0.5**	*2.5*	QSTR 3	quartz-zeolite vein at 10 TCA; quartz vein at 50 TCA contains increased chalcopyrite mineralization	233396	0.305	0.313
1189.0	1191.0		0.8 **0.5**	*2.7*	ZSTR 3	zone of increased silicification (quartz vein?) contains increased chalcopyrite mineralization	233397	0.236	0.316
1191.0	1193.0		0.8 **0.3**	*3.1*	ZSTR 3		233398	0.275	0.404
1193.0	1195.0		0.8 **1.0**	*3.5*	ZAHST 4	coarse chalcopyrite minerlization in quartz vein	233399	0.758	0.495
1195.0	1197.0		0.8 **0.8**	*0.5*	QSTR 5	increased chalcopyrite minerlization in quartz stringers; local zeolite stringers	233401	0.334	0.811
1197.0	1199.0		0.8 **0.3**	*4.6*	ZSTR 4		233402	0.239	0.253
1199.0	1201.0		0.8 **0.3**	*0.9*	ZSTR 5	irregular quartz vein at top of sample	233403	0.451	0.529
1201.0	1203.0		2.0 **0.5**	*751*	ZSTR 3	increased pyrite and chalcopyrite mineralization in quartz stringers	233404	0.341	0.382
1203.0	1205.0		2.5 **0.5**	*1.7*	ZSTR 3	quartz vein at 30 TCA	233405	0.306	0.327
1205.0	1207.0		0.8 **0.5**	*1.9*	ZSTR 3	increased chalcopyrite mineralization in quartz stringers	233406	0.336	0.408
1207.0	1209.0		0.8 **0.3**	*2.3*			233407	0.281	0.358
1209.0	1211.0		0.8 **0.3**	*2.6*	ZSTR 6	sample includes 9cm zeolite vein in which the open spaces in the vugs have been filled with gypsum	233408	0.613	0.769
1211.0	1213.0		0.8 **0.3**	*2.7*	ZSTR 5		233409	0.406	0.530
1213.0	1215.0		0.8 **0.5**	*3*	ZSTR 4	increased chalcopyrite mineralization in quartz stringers and veins	233410	0.423	0.542
1215.0	1217.0		0.8 **1.0**	*3.4*	QV 6		233411	0.475	0.608
1217.0	1219.0		0.8 **0.5**	*0.6*	ZSTR 3		233412	0.281	0.398
1219.0	1221.0		0.8 **0.8**	*0.8*		minor quartz and zeolite stringers only	233413	0.518	0.789
1221.0	1223.0		0.8 **0.3**	*0.8*	ZSTR 4	vuggy quartz-zeolite vein at 30 TCA	233414	0.565	0.879

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1223.0	1225.0	Very fine to medium grained grey weakly potassic - chlorite-sericite	0.8 **1.0**	*1.3*	QV 7	increased disseminated chalcopyrite minerlization associted with quartz veining	233415	0.468	0.627
1225.0	1227.0		3.0 **1.0**	*0.2*	QV 20	increases in magnetite in quartz veins	233416	0.318	0.445
1227.0	1228.5		1.0 **0.5**	*23.1*	QV 4		233417	0.508	0.952
1228.5	1229.5	**MASSIVE QUARTZ VEIN**							
1228.5	1229.5	Very fine to medium grained grey weakly potassic - chlorite-sericite	0.8 **0.5**	*0.7*		sample is 70% quartz vein with quartz monzanite; minor zeolite stringers	233418	0.724	0.999
1229.5	1296.3	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
1229.5	1231.0	Very fine to medium grained grey weakly potassic - chlorite-sericite	0.8 **0.5**	*0.8*	QSTR 4	minor zeolite stringers	233419	0.586	0.847
1231.0	1233.0		0.8 **0.3**	*1*	ZSTR 3	increases in magnetite in quartz stringers	233420	0.460	0.948
1233.0	1235.0		0.8 **0.3**	*1.4*	ZSTR 4		233421	0.644	0.489
1235.0	1237.0		0.8 **0.3**	*3.9*	ZSTR 4		233422	0.428	0.680
1237.0	1239.0		0.8 **0.3**	*97.9*	QSTR 5	increases in magnetite in quartz stringers; minor zeolite stringers	233423	0.445	0.845
1239.0	1241.0		1.0 **0.5**	*2*	QSTR 5	increased chalcopyrite mineralization in quartz stringers	233424	0.637	0.971
1241.0	1243.0		0.8 **0.3**	*2.4*	QSTR 3		233426	0.474	0.506
1243.0	1245.0		0.8 **0.5**	*2.5*	QV 10	increased chalcopyrite mineralization in quartz veins	233427	0.606	0.648
1245.0	1247.0		1.0 **0.5**	*3*	QV 7	magnetite increase in unit below this sample	233428	0.444	0.523
1247.0	1249.0		1.0 **0.3**	*217*	QSTR 4	unit may be brecciated with monzonite to monzodorite clasts and possible clasts of Sovereign intrusive	233429	0.248	0.400
1249.0	1251.0		1.0 **0.5**	*16*	QSTR 5	increased disseminated chalcopyrite mineralization associated with quartz stringers	233430	0.297	0.595
1251.0	1253.0		1.0 **0.5**	*8.9*	QSTR 5		233431	0.355	0.494
1253.0	1255.0		1.0 **0.8**	*8.4*	QSTR 5		233432	0.295	0.526
1255.0	1257.0		1.5 **0.8**	*1.5*	QSTR 3	minor zeolite stringers	233433	0.342	0.587
1257.0	1259.0		1.0 **0.8**	*7.7*	ZSTR 5		233434	0.329	0.611

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1259.0	1261.0	Very fine to medium grained grey weakly potassic - chlorite-sericite	0.8 **0.5**	*1.7*	ZSTR 4		233435	0.325	0.595
1261.0	1263.0	Very fine to medium grained grey weakly potassic - chlorite-quartz-sericite	0.8 **0.3**	*2.2*	ZSTR 4	quartz veins at 22 to 70 TCA	233436	0.406	0.680
1263.0	1265.0		1.0 **0.5**	*3*	QSTR 5	irregular quartz stringers contain increased mineralization	233437	0.228	0.352
1265.0	1266.9		1.0 **0.5**	*2.2*	QSTR 4		233438	0.279	0.393
1266.9	1269.0	Very fine to medium grained grey moderately potassic - chlorite-quartz-sericite	3.0 **0.8**	*2.8*	QV 7	massive pyrite minerlization in quartz-carbonate vein	233439	0.349	0.477
1269.0	1271.0		1.0 **0.5**	*3.1*	QSTR 4		233440	0.402	0.661
1271.0	1273.0		1.0 **0.5**	*3.4*	ZSTR 4		233441	0.194	0.317
1273.0	1275.0		1.0 **0.8**	*3.7*	ZSTR 4	quartz stringers and veins contain increased chalcopyrite mineralization	233442	0.333	0.546
1275.0	1277.0		1.0 **0.8**	*4.1*	QSTR 4		233443	0.258	0.415
1277.0	1279.0		1.0 **0.8**	*4.6*	QSTR 4		233444	0.353	0.601
1279.0	1281.0		1.0 **0.8**	*0.8*	QSTR 5		233445	0.305	0.553
1281.0	1283.0		1.0 **0.8**	*8.7*	QSTR 5		233446	0.244	0.453
1283.0	1285.0		1.5 **1.0**	*1.7*	QSTR 3	increase in disseminated mineralization	233447	0.364	0.604
1285.0	1287.0		1.5 **0.8**	*2*	QSTR 4	minor zeolite and anhydrite stringers	233448	0.321	0.564
1287.0	1289.0		1.0 **0.8**	*2.4*	QSTR 4		233449	0.329	0.531
1289.0	1291.0		1.0 **0.8**	*2.7*	QSTR 5	local sections blocky	233451	0.257	0.421
1291.0	1293.0	Very fine to medium grained grey strongly potassic - chlorite-quartz-sericite	1.0 **0.5**	*3*	QSTR 3		233452	0.151	0.210
1293.0	1295.0		1.0 **0.8**	*4.8*	QSTR 5		233453	0.256	0.314
1295.0	1296.3		1.0 **0.5**	*3.9*	QSTR 4		233454	0.422	0.458
1296.3	1344	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
1296.3	1298.0	Very fine to medium grained grey green weakly phyllic	0.8 **0.3**	*0.6*			Blocky Ash Tuff: upper contact my be sheared or faulted; unit consists of medium to large andesite and fine grained mafic clasts, small to medium quartz clasts, small cherty clasts, and other minor local clasts; matrix consists of less than 15% very fine to fine grained ash; pyrite mineraliztion disseminated throughout, disseminated chalcopyrite minerlization decreases with depth; clasts appear to be phyllic altered throughout; sections of zeolite, carbonate, and zeolite-carbonate stringers and veins are found throughout the unit	233455	0.267	0.191
1298.0	1300.0		0.5 **0.1**	*0.9*			local section rubbly	233456	0.176	0.098
1300.0	1302.0		0.5 **0.1**	*1.1*				233457	0.195	0.119
1302.0	1304.0		0.5 **0.1**	*1.3*	ZSTR	3		233458	0.203	0.129
1304.0	1306.0		0.5 **0.1**	*1.5*	ZCBST	4		233459	0.225	0.143
1306.0	1308.0		1.0 **0.1**	*1.8*	ZCBST	4	local blebs of pyrite	233460	0.293	0.145
1308.0	1310.0		1.0 **0.3**	*2.1*	ZCBST	5	increase in chalcopyrite in local quartz stringers; carbonate vein at 10 TCA	233461	0.293	0.183
1310.0	1312.0		1.0 **0.1**	*2.4*	ZCBST	4		233462	0.253	0.175
1312.0	1314.0		0.5 **0.1**	*2.3*	ZAHST	4	local stringers contain anhydrite	233463	0.253	0.179
1314.0	1316.0		0.5 **0.1**	*3.2*				233464	0.196	0.141
1316.0	1318.0		0.5 **0.1**	*7.5*				233465	0.141	0.101
1318.0	1320.0		0.5 **0.1**	*3.9*	ZCBST	4		233466	0.130	0.111
1320.0	1322.0		0.5 **0.1**	*3.6*	ZCBST	3		233467	0.206	0.140
1322.0	1324.0		0.5 **0.1**	*1*	CBSTR	4	20cm long carbonte vein at low angle to core axis	233468	0.154	0.120
1324.0	1326.0		0.5 **0.1**	*1.2*	CBSTR	5		233469	0.319	0.194
1326.0	1328.0		0.5 **0.1**	*1.6*	ZCBST	4		233470	0.381	0.192
1328.0	1330.0		0.5 **0.1**	*1.6*	ZCBST	3		233471	0.291	0.198
1330.0	1332.0		0.5 **0.1**	*7.4*	ZCBST	3		233472	0.124	0.078
1332.0	1334.0		0.5 **0.1**	*2.4*	ZCBST	3		233473	0.099	0.056

Hole Number: KH-07-04

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1334.0	1336.0	Very fine to medium grained grey green weakly phyllic	0.5 **0.0**	*2.3*	ZSTR 3		233474	0.110	0.060
1336.0	1338.0		0.5 **0.0**	*0.6*	ZSTR 3	local sections rubbly	233476	0.109	0.074
1338.0	1340.0		0.5 **0.0**	*1.4*	ZSTR 5		233477	0.128	0.089
1340.0	1342.0		0.8 **0.0**	*1.3*	ZSTR 5	incresed pyrite mineralization towards base of hole	233478	0.115	0.072
1342.0	1344.0		0.8 **0.0**	*1.4*		End of Hole	233479	0.125	0.073

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	15	**GROUND OVERBURDEN**							
0.0	6.0	Fine to medium grained green brown moderately oxidized	2.0 **0.0**	*0.7*		Talus blocks and rubble of pyritic chloritized andesite.	232758	0.083	0.066
6.0	9.0		2.0 **0.0**	*0.9*			232759	0.078	0.056
9.0	12.0		2.0 **0.0**	*1.4*			232760	0.073	0.110
12.0	15.0		2.0 **0.0**	*1.5*			232761	0.041	0.039
15	64	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
15.0	17.0	Fine to medium grained green moderately potassic - chlorite-quartz	1.0 **0.0**	*1.4*		Monolithic andesite flow breccias with sub-angular clasts to 5cm. Moderate chlorite-quartz alteration with serecitic zones. Disseminated pyrite to 2%. Quartz-pyrite+/- magnetite stringer with associated chalcopyrite to 0.1%. Calcite-zeolite stringer overprint throughout.	232762	0.157	0.098
17.0	19.0		1.0 **0.0**	*0.8*		quartz-pyrite stringer stockwork	232763	0.135	0.089
19.0	21.0		1.0 **0.1**	*6.7*	QMTCP 10 0.1	Very fine grained chalcopyrite associated with pyrite in sheeted Quartz-Magnetite-Pyrite stringers.	232764	0.154	0.152
21.0	23.0		1.0 **0.0**	*1.7*			232765	0.198	0.110
23.0	25.0		1.0 **0.0**	*1.7*			232766	0.220	0.105
25.0	27.0		2.0 **0.0**	*1.6*			232767	0.101	0.050
27.0	29.0		2.0 **0.0**	*2.6*			232768	0.126	0.064
29.0	31.0	Fine to medium grained light green moderately potassic - chlorite-quartz	4.0 **0.0**	*3*			232769	0.105	0.053
31.0	33.0		2.0 **0.0**	*2.9*			232770	0.133	0.071
33.0	35.0		2.0 **0.0**	*5.7*		Pyrite as stringers and very fine grained disseminations.	232771	0.201	0.133
35.0	37.0	Fine to medium grained light green moderately potassic - chlorite-sericite-quartz	2.0 **0.0**	*2.3*		Andesitic Augite Porphyry locally, occassional magnetite stringers	232772	0.174	0.093
37.0	39.0		2.0 **0.0**	*1.5*			232773	0.117	0.074

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
39.0	41.0	Fine to medium grained green moderately potassic - chlorite-sericite-quartz	2.0 **0.0**	*3.5*			232774	0.147	0.405
41.0	43.0		2.0 **0.0**	*1.9*	QPYV 20 2		232776	0.393	0.164
43.0	45.0	Fine to medium grained green brown moderately potassic - chlorite-biotite-K-feldspar	1.0 **0.0**	*2.2*			232777	0.191	0.110
45.0	47.0	Fine to medium grained green moderately potassic - chlorite-biotite-sericite	1.0 **0.1**	*0.6*		Irregular quartz-pyrite-chalcopyrite-molybdenum stringers.	232778	0.273	0.151
47.0	49.0	Fine to medium grained green moderately potassic - chlorite-biotite-K-feldspar	1.0 **0.0**	*0.4*			232779	0.079	0.048
49.0	51.0	Fine to medium grained green moderately potassic - chlorite-biotite	1.0 **0.0**	*0.8*		patchy hematite and epidote overprint	232780	0.105	0.052
51.0	53.0	Fine to medium grained green brown moderately potassic - chlorite-biotite-K-feldspar	1.0 **0.0**	*0.5*		patches of K-spar and magnetite flooding.	232781	0.101	0.044
53.0	55.0		1.0 **0.0**	*0.5*		trace cpy in irregular quartz stringers	232782	0.105	0.052
55.0	57.0	Fine to medium grained green brown strongly potassic - chlorite-biotite-K-feldspar	1.0 **0.1**	*0.6*		cpy in irregular quartz stringers	232783	0.108	0.050
57.0	59.0		1.0 **0.0**	*1*		trace cpy in irregular quartz stringers	232784	0.084	0.017
59.0	61.0	Fine to medium grained dark green brown strongly potassic - chlorite-biotite-K-feldspar	1.0 **0.1**	*1.1*			232785	0.166	0.107
61.0	63.0	Fine to medium grained green moderately potassic - chlorite-biotite	0.5 **0.0**	*0.5*			232786	0.105	0.065
63.0	64.0	Fine to medium grained green moderately potassic - chlorite-sericite	1.0 **0.0**	*0.3*			232787	0.113	0.084
64	74	**TUFFACEOUS INTERMEDIATE FRAGMENTAL INTRUSION**							

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
64.0	66.0	Very fine to coarse grained grey weakly propyllitic	0.1 **0.0**	*13.5*	CNT 80 100	15-40% 1-4 mm hematite-stained plagioclase lapilli. 2-10% epidote crystals. 1-5% fine-grained 1-3 cm mafic clasts. Grades into a granitoid bearing heterolithic lapillistone below, with only 2-10% plagioclase lapilli and 10-40% 1-10 cm rounded lithic fragments, chiefly fine grained mafic volcanics, and quartz-feldspar porphyry fragments. Irregular, discreate (competant, 2 cm wide zone) intrusive(?) upper contact, shallow angle. Possibly a sill. Prevalent zeolite/carbonate stockwork veining and rare hematite-rich stringers. Alteration is mainly propylitic (disseminated pyrite crystals), and pervasive weak hematite staining, with silicic overprint, and minor sericitization as halos around some quartz/carbonate veins. Irregular patches of magnetite.	232788	0.036	0.031
66.0	68.0	Very fine to coarse grained green weakly propyllitic	0.1 **0.0**	*29.4*			232789	0.038	0.029
68.0	70.0		0.1 **0.0**	*87.2*			232790	0.009	0.019
70.0	72.0	Very fine to coarse grained grey pink weakly propyllitic	0.1 **0.0**	*39.2*			232791	0.008	0.015
72.0	74.0		0.1 **0.0**	*1.4*			232792	0.043	0.234
74	88	**LAPILLITIC HETEROLITHIC INTRUSION BRECCIA**							
74.0	76.0	Very fine to coarse grained grey pink weakly propyllitic	0.1 **0.0**	*55.4*		Granitoid bearing lapillistone with lesser fine grained mafic fragments and large blocks of mineralized Takla similar to Andesite unit above. More fragmental version of the intrusive(?) unit above. Pervasively Hematite stained with clots of epidote. Calcite-zeolite stringers and minor disseminated pyrite throughout.	232793	0.070	0.059
76.0	78.0		0.1 **0.0**	*22.5*			232794	0.063	0.062
78.0	80.0		0.1 **0.0**	*19.9*			232795	0.091	0.231
80.0	82.0		0.0 **0.0**	*74.2*			232796	0.131	0.085
82.0	84.0		0.1 **0.1**	*9.8*		Block of KCB alterred andesite (weakly augite porphyritic). Chalcopyrite-pyrite stringer.	232797	0.261	0.189

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From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
	84.0	86.0	Very fine to coarse grained grey pink weakly propyllitic	0.1 **0.0**	*17.7*			Zone of milled to sub-angular polylithic fragments including BFP, granitoid, andesite, and fine grained mafics volcanics with clots of chalcopyrite in locally mylonitic matrix.	232798	0.127	0.089
	86.0	88.0		0.1 **0.0**	*.3*			Block of KCBS alterred andesite	232799	0.151	0.092
88	90.1		**GROUND HETEROLITHIC FAULT ZONE**								
	88.0	90.1	Very fine to coarse grained grey pink weakly propyllitic	0.1 **0.1**	*22.5*	CNT	30	clots of chalcopyrite in matrix.	232801	0.155	0.090
90.1	92.3		**BRECCIATED BLADED FELDSPAR PORPHYRY FLOW**								
	90.1	92.3	Very fine to coarse grained green pink moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*1*	CNT	85 100	60% Felted megacrystic plagioclase blades to 3 x 0.2cm in an dark green aphanitic gounmass. Pervassive hematite staining of feldspars. Faulted upper contact with an irregular shallow lower contact. Pyrite stringers in breccias matrix.	232802	0.199	0.121
92.3	118.1		**MASSIVE ANDESITE FLOW**								
	92.3	94.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.1**	*2.8*	QV	20 4	Monolithic andesite flow with locall Andesitic Augite Porphyry zones. Moderate to strong chlorite-quartz-biotite alteration. Disseminated pyrite to 2%. Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.	232803	0.294	0.205
	94.0	96.0		0.5 **0.0**	*0.4*				232804	0.202	0.110
	96.0	98.0	Very fine to medium grained dark green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*0.6*				232805	0.305	0.168
	98.0	100.0		0.5 **0.1**	*0.3*				232806	0.368	0.223
	100.0	102.0		0.5 **0.0**	*1*				232807	0.145	0.082
	102.0	104.0		0.5 **0.0**	*1.3*				232808	0.149	0.099
	104.0	106.0		0.5 **0.0**	*1.5*				232809	0.103	0.069
	106.0	108.0		0.5 **0.0**	*3.2*				232810	0.086	0.042

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
108.0	110.0	Very fine to medium grained dark green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*2.8*	CNT	40	100	20 cm intrusive breccias dyke similar to the Hazelton intrusion breccie above and below. Sharp parallel contacts at 40º to core axis.	232811	0.135	0.071
110.0	112.0		0.5 **0.0**	*2.2*					232812	0.114	0.069
112.0	114.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*6.5*					232813	0.152	0.109
114.0	116.0	Very fine to medium grained green moderately potassic - chlorite-biotite	0.5 **0.1**	*2.3*					232814	0.146	0.060
116.0	118.1	Very fine to medium grained green moderately potassic - chlorite	0.5 **0.0**	*7.9*					232815	0.171	0.048
118.1	119.8	**LAPILLITIC HETEROLITHIC INTRUSION BRECCIA**									
118.1	119.8	Very fine to coarse grained grey pink weakly propyllitic	0.0 **0.1**	*44.1*	CNT	40	100	Granitoid bearing lapillistone with lesser fine grained mafic fragments, typically less than 3cm. Sharp upper contact at 40º to core axis. Pervasively Hematite stained with clots of chalcopyrite in the matrix. Calcite-zeolite stringers and minor disseminated pyrite throughout.	232816	0.125	0.048
119.8	152	**MASSIVE ANDESITE FLOW**									
119.8	122.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.1**					Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.	232817	0.165	0.358
122.0	124.0	Very fine to medium grained green moderately potassic - quartz-chlorite	0.5 **0.0**	*1.3*	MTV	40	1	Andesitic Augite Porphyry section. Chalcopyrite associated with magnetite stringers. 3 cm quartz-magnetite vein.	232818	0.102	0.135
124.0	126.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*1.1*					232819	0.209	0.122
126.0	128.0		0.5 **0.1**	*1.1*	MTV	20	1	Chalcopyrite associated with magnetite stringers.	232820	0.184	0.078
128.0	130.0	Very fine to medium grained green moderately potassic - quartz-chlorite	0.5 **0.0**	*1.7*					232821	0.133	0.054

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
130.0	132.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.5**	*1*				Disseminated chalcopyrite with chalcopyrite stringers and K-spar patches and stringer halos. Irregular magnetite stingers.	232822	0.282	0.133
132.0	134.0		0.5 **0.0**	*0.9*	QCPYV	30	5	Trace disseminated chalcopyrite associated with magnetite.	232823	0.350	0.183
134.0	136.0		0.5 **0.0**	*1.2*					232824	0.219	0.146
136.0	138.0		0.5 **0.0**	*1.7*	QV	65	1	quartz-magnetite-pyrite stringers.	232826	0.290	0.174
138.0	140.0		3.0 **0.0**	*4.4*	QPYMO	10	8		232827	0.360	0.239
140.0	142.0		0.5 **0.0**	*0.8*					232828	0.304	0.198
142.0	144.0		0.5 **0.0**	*0.7*					232829	0.407	0.254
144.0	146.0		0.5 **0.0**	*0.7*					232830	0.375	0.205
146.0	148.0	Very fine to medium grained green white moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*0.3*	QPYMO	10	10	extremely fine grained molybdenite (galena?) in quartz vein.	232831	0.363	0.225
148.0	150.0	Very fine to medium grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*0.8*				trace disseminated chalcopyrite	232832	0.332	0.217
150.0	152.0		0.1 **0.0**	*0.4*					232833	0.316	0.196
152	153.4	**MASSIVE QUARTZ VEIN**									
152.0	153.4	Very fine to medium grained white green intensely potassic - quartz-biotite	0.0 **0.0**	*0.3*	QMOV	30	90	Extremely fine grained molybdenite (galena?) in quartz vein.	232834	0.410	0.268
153.4	157.1	**BRECCIATED BLADED FELDSPAR PORPHYRY FLOW**									
153.4	155.3	Very fine to coarse grained green white moderately potassic - quartz-biotite	0.0 **0.0**	*0.4*	CNT	30	100	Sparse hematite plagioclase 0.3 x 2 cm laths in a dark green aphanitic groundmass. Magnetite stringers with associated chalcopyrite. Sharp upper contact with quartz vein.	232835	0.470	0.360
155.3	157.1		0.0 **0.5**	*1.2*				magnetite-chalcopyrite stringers	232836	0.311	0.237
157.1	190.4	**MASSIVE ANDESITE FLOW**									

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
157.1	159.5	Very fine to fine grained green moderately potassic - quartz-biotite	0.0 **0.0**	*0.8*				Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.	232837	0.256	0.170
159.5	162.0	Very fine to fine grained green white moderately potassic - quartz-biotite	0.5 **0.0**	*0.5*				magnetite stringers	232838	0.212	0.113
162.0	164.0	Very fine to fine grained green moderately potassic - quartz-biotite	0.5 **0.5**	*18.6*	QMTCP	25	3	clots of chalcopyrite in quartz-magnetite stringers	232839	0.492	0.414
164.0	166.0	Very fine to fine grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.3**	*0.2*					232840	0.333	0.199
166.0	168.0		1.0 **0.0**	*0.2*	MTV	10	0.1		232841	0.265	0.142
168.0	170.0	Very fine to fine grained dark green strongly potassic - quartz-chlorite-biotite	0.5 **0.2**	*4*	MTCPY	55	1	magnetite flooding	232842	0.141	0.085
170.0	172.0	Very fine to fine grained green strongly potassic - quartz-biotite	0.5 **0.1**	*15.8*	QCPYV	10	2		232843	0.156	0.089
172.0	174.0	Very fine to fine grained green strongly potassic - quartz-chlorite-biotite	0.3 **0.1**	*0.6*					232844	0.396	0.231
174.0	176.0		0.3 **0.1**	*0.4*	QMTV	15	2	30 cm sericitized quartz monzonite dyke	232845	0.290	0.222
176.0	178.0	Very fine to fine grained green brown moderately potassic - quartz-chlorite-biotite	0.2 **0.0**	*0.3*					232846	0.254	0.126
178.0	180.0	Very fine to fine grained green moderately potassic - quartz-chlorite-biotite	0.5 **0.0**	*0.2*					232847	0.151	0.051
180.0	182.0	Very fine to fine grained green brown strongly potassic - quartz-chlorite-biotite	0.5 **0.1**	*0.1*	MTV	45	1	chalcopyrite in magnetite veinlet and traces of molybdenite in quartz viens	232848	0.271	0.159
182.0	184.0		0.5 **0.1**	*0.2*	QMOV	15	20		232849	0.322	0.205

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
184.0	186.0	Very fine to fine grained green brown strongly potassic - quartz-chlorite-biotite	0.5 **0.0**	*84.4*			232851	0.144	0.103
186.0	188.0		0.5 **0.1**	*2.4*		contains a 40 cm sericitized quartz monzonite dyke with chalcopyrite along irregular upper contact	232852	0.219	0.178
188.0	190.4		0.5 **0.5**	*1.6*	QMTCP 65 4		232853	0.159	0.103
190.4	192	**PORPHYRITIC QUARTZ MONZONITE DYKE**							
190.4	192.0	Very fine to coarse grained green white strongly potassic - quartz-sericite	0.1 **0.0**	*4.2*		30-50% fine to coarse grained sericitized plagioclase with pyrite veinlet and trace chalcopyrite along irregular upper contact	232854	0.154	0.171
192	196.6	**BRECCIATED ANDESITE FLOW**							
192.0	194.4	Very fine to fine grained green brown strongly potassic - quartz-chlorite-biotite	0.5 **0.5**	*28.4*	QMTPY 20 5		232855	0.265	0.183
194.4	196.6		0.5 **0.2**	*0.8*	QMOCP 40 2		232856	0.173	0.212
196.6	197.5	**MASSIVE QUARTZ VEIN**							
196.6	197.5	Very fine to fine grained white green strongly potassic - quartz-chlorite-biotite	0.5 **0.0**	*0*	QMOV 2 95	7% very fine grain molybdenum with minor chalcopyrite in irregular steep quartz vein	232857	0.231	0.183
197.5	198.1	**PORPHYRITIC QUARTZ MONZONITE DYKE**							
197.5	198.1	Very fine to coarse grained green white strongly potassic - quartz-sericite	0.1 **0.0**	*0.2*		30-50% fine to coarse grained sericitized plagioclase with pyrite veinlet and trace chalcopyrite along irregular upper contact	232858	0.233	0.181
198.1	200	**PORPHYRITIC ANDESITE FLOW**							
198.1	200.0	Very fine to medium grained green brown strongly potassic - quartz-chlorite-biotite	0.2 **0.2**	*2.5*		Similar to andesite above with chalcopyrite in magnetite stringers	232859	0.197	0.153
200	201.5	**PORPHYRITIC QUARTZ MONZONITE DYKE**							

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
200.0	201.5	Very fine to medium grained green white strongly potassic - quartz-sericite-chlorite	0.2 **0.2**	*0.1*	QMOCP	20	25	Same as quartz monzonite above	232860	0.298	0.197
201.5	203.4	**BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**									
201.5	203.4	Very fine to coarse grained green brown strongly potassic - quartz-chlorite-biotite	0.2 **0.2**	*91.9*				Similar to andesite above with chalcopyrite in magnetite stringers	232861	0.225	0.128
203.4	204	**PORPHYRITIC QUARTZ MONZONITE DYKE**									
203.4	204.0	Very fine to medium grained green white strongly potassic - quartz-sericite-chlorite	0.2 **0.2**	*2.3*	QMOCP	20	25	Same as quartz monzonite above	232862	0.384	0.303
204	245.1	**MASSIVE ANDESITE FLOW**									
204.0	206.0	Very fine to fine grained green brown strongly potassic - quartz-biotite-chlorite	0.1 **0.4**	*5.8*				Monolithic andesite flow with local Andesitic Augite Porphyry zones common. Moderate to strong chlorite-quartz-biotite-k-spar alteration. Disseminated pyrite to 2%. Disseminated pyrite and chalchopyrite and Quartz-pyrite+/-magnetite stringer with associated chalcopyrite to 0.5%. Calcite-zeolite stringer overprint throughout.	232863	0.444	0.289
206.0	208.0		1.0 **0.0**	*0.7*	PYV	50	1		232864	0.318	0.237
208.0	210.0		0.1 **0.1**	*1.7*					232865	0.337	0.283
210.0	212.0		1.0 **0.1**	*6.2*	MTPYV	25	2	3 cm Quartz-Molybdenum vein.	232866	0.374	0.209
212.0	214.0		0.1 **0.0**	*0.2*					232867	0.877	0.570
214.0	216.0		0.1 **0.1**	*1.1*				Chalcopyrite clots in quartz stringers	232868	0.343	0.209
216.0	218.0		0.1 **0.1**	*13.5*	QMOV	30	2		232869	0.267	0.161
218.0	220.0		0.1 **0.1**	*38.5*	QMOV	30	3	Chalcopyrite clots in quartz-magnetite-pyrite stringers	232870	0.348	0.253
220.0	222.0		2.0 **0.1**	*11.8*				Chalcopyrite clots in quartz stringers	232871	0.260	0.171
222.0	224.0		1.0 **0.1**	*7.4*					232872	0.365	0.262
224.0	226.0		1.0 **0.1**	*43.1*	MPTV	25	2		232873	0.427	0.253
226.0	228.0		0.5 **0.2**	*0.8*					232874	0.602	0.348

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
228.0	230.0	Very fine to fine grained green brown strongly potassic - quartz-biotite-chlorite	0.5 **0.1**	*1.8*				patches of disseminated chalcopyrite	232876	0.535	0.345
230.0	232.0		1.0 **0.2**	*8.4*	PYCPY	15	1		232877	0.219	0.144
232.0	234.0		2.0 **0.1**	*11.8*					232878	0.187	0.130
234.0	236.0		2.0 **0.1**	*5.4*	QMTV	30	1		232879	0.338	0.286
236.0	238.0		2.0 **0.2**	*1.7*	QMOV	30	1		232880	0.355	0.332
238.0	240.0		0.5 **0.1**	*5.6*				Zone of Andesitic Augite Porphyry. Quartz-molybdenite veinlet.	232881	0.207	0.171
240.0	242.0	Very fine to fine grained green brown strongly potassic - quartz-chlorite	0.0 **0.1**	*22.2*				Minor Bladed Feldspar Porphyry with patches of magnetite flooding	232882	0.539	0.357
242.0	243.6	Very fine to fine grained green brown moderately potassic - quartz-chlorite	0.0 **0.1**	*5.7*				Zone of Andesitic Augite Porphyry. Quartz-chalcopyrite veinlet.	232883	0.758	0.736
243.6	245.1	Very fine to fine grained dark green brown strongly potassic - quartz-chlorite	1.0 **0.2**	*2.3*	CPYV	30	0.1		232884	0.529	0.456
245.1	246.8	**BRECCIATED QUARTZ VEIN**									
245.1	246.8	Very fine to fine grained white strongly potassic - quartz	1.0 **0.2**	*0.1*	QMOCP	55	30	Quarttz-Molybdenite-Chalcopyrite vein stokwork at intrusive contact. Sheared upper contact 70º to core axis	232885	0.442	0.353
246.8	258.2	**PORPHYRITIC QUARTZ MONZONITE DYKE**									
246.8	248.4	Very fine to coarse grained white strongly potassic - quartz-sericite	1.0 **0.2**	*0.1*	CTN	55	100	50-70% medium to coarse grained sericitized plagioclase with less than 5% mafics. Sharp upper contact 55º to core axis. Quartz stockworked towards upper contact with trace chalcopyrite. Hematite stained with zeolite calcite stringers throughout.	232886	0.413	0.287
248.4	250.0		1.0 **0.0**	*3.7*				Quartz stockworked	232887	0.306	0.296
250.0	252.0		0.1 **0.0**	*0*					232888	0.326	0.246
252.0	254.0		0.1 **0.0**	*0.2*				Hematite stained increasing downhole.	232889	0.361	0.290
254.0	256.0		0.0 **0.0**	*0.1*				Quartz stockworked	232890	0.428	0.326

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
256.0	258.2	Very fine to coarse grained white moderately potassic - quartz-sericite	0.0 **0.0**	*0.2*			232891	0.454	0.375
258.2	417	**EQUIGRANULAR QUARTZ MONZODIORITE INTRUSIVE**							
258.2	260.0	Fine to coarse grained pink weakly propyllitic	0.0 **0.0**	*36.9*		25% quartz, 60% Feldspar, 15% mafics. 70 cm chill margin; finer grained and more porphyritic than the rest of this unit. Patchy hematite staining and zeolite calcite stringers throughout. Sovereign Pluton.	232892	0.002	0.005
260.0	262.0		0.0 **0.0**	*42.9*			232893	0.001	0.011
262.0	264.0		0.0 **0.0**	*36.1*			232894	0.001	0.001
264.0	266.0		0.0 **0.0**	*30.7*			232895	0.001	0.001
266.0	268.0		0.0 **0.0**	*21.3*			232896	0.001	0.001
268.0	270.0		0.0 **0.0**	*54.5*			232897	0.001	0.001
270.0	272.0		0.0 **0.0**	*28.1*			232898	0.001	0.001
272.0	274.0		0.0 **0.0**	*42.4*			232899	0.001	0.011
274.0	276.0		0.0 **0.0**	*25.8*		Limited sampling from this sample to end of hole. 10-15 cm whole core taken from the end of each 2m sample interval.	232901	0.003	0.019
276.0	278.0	Fine to coarse grained pink moderately propyllitic	0.0 **0.0**	*39*			232902	0.001	0.001
278.0	280.0	Fine to coarse grained pink strongly propyllitic	0.5 **0.0**	*36.9*		Patch of intense epidote replacement zone.	232903	0.000	0.001
280.0	282.0	Fine to coarse grained pink weakly propyllitic	0.0 **0.0**	*32.9*			232904	0.001	0.001
282.0	284.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*31.4*			232905	0.001	0.001
284.0	286.0		0.0 **0.0**	*21.3*			232906	0.001	0.001
286.0	288.0		0.0 **0.0**	*17.4*			232907	0.001	0.001
288.0	290.0		0.0 **0.0**	*26.1*			232908	0.001	0.001
290.0	292.0		0.0 **0.0**	*13.4*			232909	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
292.0	294.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*17.5*			232910	0.002	0.001
294.0	296.0		0.0 **0.0**	*30.7*			232911	0.001	0.001
296.0	298.0		0.0 **0.0**	*23.7*			232912	0.001	0.001
298.0	300.0		0.0 **0.0**	*25.3*			232913	0.001	0.001
300.0	302.0		0.0 **0.0**	*32.4*			232914	0.001	0.001
302.0	304.0		0.0 **0.0**	*23.1*			232915	0.001	0.001
304.0	306.0		0.0 **0.0**	*6.7*			232916	0.002	0.001
306.0	308.0		0.0 **0.0**	*18.9*			232917	0.001	0.001
308.0	310.0		0.0 **0.0**	*32.6*			232918	0.001	0.001
310.0	312.0		0.0 **0.0**	*23.8*			232919	0.001	0.059
312.0	314.0		0.0 **0.0**	*23.8*			232920	0.017	0.031
314.0	316.0		0.0 **0.0**				232921	0.003	0.001
316.0	318.0		0.0 **0.0**				232922	0.002	0.019
318.0	320.0		0.0 **0.0**				232923	0.002	0.001
320.0	322.0		0.0 **0.0**				232924	0.003	0.001
322.0	324.0		0.0 **0.0**				232926	0.001	0.001
324.0	326.0		0.0 **0.0**				232927	0.001	0.001
326.0	328.0		0.0 **0.0**				232928	0.001	0.001
328.0	330.0		0.0 **0.0**				232929	0.001	0.001
330.0	332.0		0.0 **0.0**				232930	0.001	0.051
332.0	334.0		0.0 **0.0**				232931	0.001	0.001
334.0	336.0		0.0 **0.0**				232932	0.001	0.001
336.0	338.0		0.0 **0.0**				232933	0.008	0.001
338.0	340.0		0.0 **0.0**				232934	0.003	0.001
340.0	342.0		0.0 **0.0**				232935	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
342.0	344.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**				232936	0.007	0.001
344.0	346.0		0.0 **0.0**				232937	0.002	0.001
346.0	348.0		0.0 **0.0**				232938	0.002	0.001
348.0	350.0		0.0 **0.0**				232939	0.008	0.001
350.0	352.0		0.0 **0.0**				232940	0.005	0.001
352.0	354.0		0.0 **0.0**				232941	0.004	0.001
354.0	356.0		0.0 **0.0**				232942	0.001	0.001
356.0	358.0		0.0 **0.0**				232943	0.004	0.001
358.0	360.0		0.0 **0.0**				232944	0.004	0.001
360.0	362.0		0.0 **0.0**				232945	0.002	0.001
362.0	364.0		0.0 **0.0**				232946	0.020	0.006
364.0	366.0		0.0 **0.0**				232947	0.004	0.001
366.0	368.0		0.0 **0.0**				232948	0.089	0.044
368.0	370.0		0.0 **0.0**				232949	0.002	0.001
370.0	372.0		0.0 **0.0**				232951	0.016	0.141
372.0	374.0		0.0 **0.0**				232952	0.001	0.001
374.0	376.0		0.0 **0.0**				232953	0.001	0.001
376.0	378.0		0.0 **0.0**				232954	0.001	0.001
378.0	380.0		0.0 **0.0**				232955	0.003	0.001
380.0	382.0		0.0 **0.0**				232956	0.002	0.001
382.0	384.0		0.0 **0.0**				232957	0.001	0.012
384.0	386.0		0.0 **0.0**				232958	0.006	0.001
386.0	388.0		0.0 **0.0**				232959	0.001	0.001
388.0	390.0		0.0 **0.0**				232960	0.003	0.001
390.0	392.0		0.0 **0.0**				232961	0.001	0.001

Hole Number: KH-07-05

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
392.0	394.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**				232962	0.001	0.001
394.0	396.0		0.0 **0.0**				232963	0.001	0.001
396.0	398.0		0.0 **0.0**				232964	0.001	0.001
398.0	400.0		0.0 **0.0**				232965	0.001	0.001
400.0	402.0		0.0 **0.0**				232966	0.001	0.001
402.0	404.0		0.0 **0.0**				232967	0.003	0.001
404.0	406.0		0.0 **0.0**				232968	0.003	0.001
406.0	408.0		0.0 **0.0**				232969	0.001	0.001
408.0	410.0		0.0 **0.0**				232970	0.002	0.001
410.0	412.0		0.0 **0.0**				232971	0.001	0.001
412.0	414.0		0.0 **0.0**				232972	0.001	0.001
414.0	415.5		0.0 **0.0**				232973	0.004	0.001
415.5	417.0		0.0 **0.0**			End of hole.	232974	0.001	0.001

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	8.6	**CASING**							
	0.0 8.6								
8.6	16.9	**OVERBURDEN**							
	8.6 12.0	Fine to coarse grained pink grey	0.0	*19.9*		Unit is made up of overburden material and core pieces of a tuffaceous Hazelton unit. About 30% lost core. Pyrite and magnetite are present within the tuffaceous aglomerate sections. Hematite staining and alteration present.	233501	0.005	0.015
	12.0 16.9		0.0	*34.3*		35% lost core.	233502	0.006	0.007
16.9	21.5	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
	16.9 18.0	Fine to coarse grained grey pink moderately chloritic	0.1	*4.8*		Unit is predominantly made up of clasts of different rocks types. Clasts include andesite, minor granitic fragments, feldspar porphyry basalt (possible BFP), possible QFP and AAP. Clast size ranges from 1cm to 7cm and are angular. Feldspar porphyry fragments contain 1-3mm feldspar phenocrysts. Pyrite mineralization and trace of chalcopyrite mineralization present within some andesite fragments. Some andesite fragments are phyllic and potassic altered. Matrix is made up of material of the clasts and feldspar minerals with minor mafics. Chlorite alteration dominates within the matrix with minor seicite alteration. Spotty hematite staining of some feldspars within the matrix. 2-3% calcite and zeolite veining oriented 15-35 deg to the core axis. 1-2% calcite and zeolite stringers randomly oriented. Minor hematite located within the veins. Minor pyrite and magnetite found within the matrix. ~1%, 1mm quartz eyes present.	233503	0.003	0.014
	18.0 20.2	Fine to coarse grained dark grey weakly chloritic	0.6	*1.7*			233504	0.004	0.005
	20.2 21.5		0.3	*1.9*			233505	0.004	0.001
21.5	33.6	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
21.5	24.0	Fine to coarse grained dark grey weakly chloritic	0.1	*35.5*		Unit has transitioned into a lapilli tuff with 2-4% clasts of andesite and basalt. Matrix is composed of ~70% feldspars, ~15% quartz, ~15% mafic minerals (augite, hornblende). Some mafic minerals and feldspars are altered to chlorite. Minor sercite alteration of the feldspars. 2-4% calcite and zeolite veining oriented 35-45 deg to the core axis. Spotty hematite within the veins and staining some feldspars within the matrix. Trace pyrite and magnetite are disseminated within the matrix. ~1%, 1mm quartz eyes present.	233506	0.006	0.001
24.0	26.0		0.1	*26.7*			233507	0.004	0.001
26.0	28.0	Fine to coarse grained dark grey pink moderately chloritic	0.7	*0.7*	CALZS 35	Unit has becomed stockworked with calcite and zeolite. Orientation is 30-40 deg to the core axis. In this interval around 15% clasts of andesite and basalt are present with minor granitic clasts.	233508	0.002	0.017
28.0	30.0	Fine to coarse grained pink grey moderately hematitic	0.1	*1.3*		Stockworking has increased along with the hematite staining and veining.	233509	0.005	0.016
30.0	32.0		0.2	*60*		Stockworking has decreased but the hematite staining and veining has remained the same.	233510	0.002	0.001
32.0	33.6	Fine to coarse grained grey pink weakly chloritic	0.1	*36.8*	CNT 30	Hematite staining has decreased.	233511	0.006	0.001
33.6	35.2	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							

Hole Number: KH-07-06

From	To		Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
	33.6	35.2	Fine grained dark grey weakly chloritic	0.5	*38.6*	CNT	30	Intrusion breccia unit composed of mostly quartz monzonite clasts within a fine ash matrix. Intrusion clasts range in size from 0.5 cm to 5 cm and are subrounded. Minor andesite, basalt and tuffaceous clasts present. Pyrite mineralization present within the andesite clasts. Matrix is intermediate in composition with minor chlorite and sercite alteration present. Minor chlorite and sercite alteration is present within the intrusion clasts. 1-2% calcite and zeolite stringers oriented 40-60 deg to the core axis. Strong magnetite within the matrix. Minor pyrite within the matrix. No quartz eyes visible. Hematite present within the veins. Upper and lower contact is 30 deg to the core axis.	233512	0.007	0.009
35.2	40.9		**WELDED HETEROLITHIC LAPILLI-TUFF**								
	35.2	37.0	Fine to coarse grained dark grey weakly sericitic	0.1	*40.4*	FAB	50	Unit is a welded lapilli tuff similar to the non-welded lapilli tuff encountered before the intrusion breccias. Unit contains more clasts of andesite and basalt (~10%). Clasts contain pyrite mineralization and rare clasts are phyllic and potassic altered. Welded orientation is ~50 deg to the core axis. Matrix is mostly made up of feldspars(~70%) with minor quartz (~20%) and mafic minerals (~10%) present. Mafic minerals are mostly altered to chlorite with some feldspars altered to chlorite. Minor pyrite and magnetite disseminated throughout. 2-3% calcite and zeolite veining oriented 20-40 deg to the core axis. ~1%, 1-2mm quartz eyes present. Minor hematite present within the veins and staining some feldspars within the matrix.	233513	0.002	0.001
	37.0	39.0		0.2	*2.6*				233514	0.002	0.007
	39.0	40.9	Fine to coarse grained dark grey pink weakly sericitic	0.2	*38.3*				233515	0.005	0.001
40.9	45.4		**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**								

Hole Number: KH-07-06

From	To		Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
	40.9	42.0	Fine grained dark grey pink moderately chloritic	0.4	**0.0**	*2.4*	CNT	30		Another intrusion breccia unit similar to above. Intrusion clasts are stained with hematite. Mostly intrusion clasts with minor andesite, basalt and BFP clasts present. Matrix is intermediate in composition and is moderately altered to chlorite with minor sericite. Intrusion clasts are mostly altered to sericite with spotty chlorite. Andesite clasts contain pyrite. Magnetite present within the clasts and matrix. No quartz eyes visible. Pyrite present within the matrix. 2-3% calcite and zeolite veining oriented 35-45 deg to the core axis. Minor hematite present within the veins. Trace of chalcopyrite seen near the contact in a fine ground up section. Some QSP altered clasts present. Epidote present associated with a BFP clast. Upper contact is 30 deg to the core axis. The lower contact is broken.	233516	0.017	0.001
	42.0	44.0		0.5		*15.3*	SHR	40	5	QFP clast present.	233517	0.016	0.007
	44.0	45.4		0.5		*2.4*					233518	0.007	0.010
45.4	46.2		**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**										
	45.4	46.2	Fine to coarse grained dark grey maroon moderately hematitic	0.1		*16.8*	BED	35		Similar lapilli tuff unit as the one encoutered before the intrusion breccias unit.	233519	0.004	0.001
46.2	49.5		**FRAGMENTAL HETEROLITHIC AGLOMERATE**										
	46.2	47.5	Fine to coarse grained grey moderately chloritic	0.5		*3*				Unit is composed of clasts of andesite, basalt, BFP, AAP and minor granitic clasts. Some andesite clasts are phyllic and potassic altered. Clasts are 0.5-6cm in size and are angular to subrounded. Pyrite mineralization is present within some clasts. Matrix is intermediate in composition with mostly feldspars present and minor quart and mafic minerals. Chlorite alteration dominates the matrix with minor sericite. 1-3% calcite and zeolite veins randomly oriented. Unable to see any quartz eyes.	233520	0.005	0.001
	47.5	49.5		0.2		*6.7*					233521	0.004	0.001
49.5	64.6		**WELDED HETEROLITHIC LAPILLI-TUFF**										

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
49.5	51.0	Fine to coarse grained grey moderately chloritic	0.1	*64.9*	FAB	45	Unit is a welded lapilli tuff similar to the one encountered before. Unit contains clasts of andesite and basalt (~5%). Clasts contain pyrite mineralization and rare clasts are phyllic and potassic altered. Welded orientation is ~45 deg to the core axis. Matrix is mostly made up of feldspars(~65%) with minor quartz (~20%) and mafic minerals (~15%) present. Mafic minerals are mostly altered to chlorite with some feldspars altered to chlorite. Minor pyrite and magnetite disseminated throughout. ~1% calcite and zeolite veining oriented 15-20 deg to the core axis and 40-50 deg to the core axis. ~1%, 1-2mm quartz eyes present. Minor hematite present within the veins.	233522	0.003	0.001
51.0	53.0		0.2	*39*	FAB	45		233523	0.003	0.001
53.0	55.0		0.3	*24.3*			Clast content has increased to 15-20% mostly andesite and basalt containing mineralization. Some clasts are phyllic altered. No welded texture within this interval.	233524	0.003	0.001
55.0	57.0		0.1	*76.8*	FAB	50	Large block of unaltered andesite from 55.6-60.0 m. Slight welded texture towards the end of the interval.	233526	0.001	0.009
57.0	59.0	Fine to coarse grained dark grey moderately hematitic	0.2	*4.9*			Moderate hematite alteration at the beginning of the interval. Chlorite and sericite alteration dominate towards the end of the interval. Welded texture is not present anymore.	233527	0.001	0.001
59.0	61.0		0.2	*16.9*			Hematite alteration increased towards the middle of the interval. Patchy epidote alteration present. Veining has increased to 3-5%.	233528	0.002	0.001
61.0	63.0		0.1	*6.6*			Hematite alteration decreases towards the end of the interval.	233529	0.002	0.001
63.0	64.6	Fine to coarse grained grey moderately chloritic	0.4	*2*				233530	0.002	0.001
64.6	116	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
	64.6	66.0 Fine grained grey moderately chloritic	0.3	*2*				Unit has gradationally transitioned into an aglomerate. Clasts are mostly andesites and basalts with some feldspar porphyry basalts (1-3 mm feldspar phenocrysts), AAP. Trace of QFP clasts present. More Takla rich clasts than before. Clasts are 1-8cm in size and are angular to subrounded. Matrix is intermediate in compostion and altered mostly to chlorite with minor sericite as well as some clasts. Some clasts are phyllic and potassic altered. Some clasts are maroon from hematite staining. Pyrite is present within some clasts. 2-3% zeolite, calcite and minor quartz veins oriented 50-70 deg to the core axis. Pyrite disseminated within the matrix. <1%, 1mm quartz eyes present.	233531	0.003	0.012
	66.0	68.0	0.8	*0.8*					233532	0.002	0.021
	68.0	70.0	0.5	*2*					233533	0.004	0.025
	70.0	72.0	0.7	*1.5*	SHR	50	2		233534	0.001	0.023
	72.0	74.0	0.9	*1.9*					233535	0.001	0.019
	74.0	76.0	0.6	*2*				Hematite is showing up within the veins.	233536	0.002	0.015
	76.0	78.0	1.0	*0.8*					233537	0.002	0.018
	78.0	80.0	0.6	**0.0** *1.1*				Trace of chalocpyrite within a quartz vein.	233538	0.003	0.009
	80.0	82.0	1.0	*1.5*					233539	0.001	0.011
	82.0	84.0	1.1	*1.4*				Vuggy veins.	233540	0.003	0.006
	84.0	86.0	0.8	*1.6*					233541	0.004	0.009
	86.0	88.0	1.0	*0.6*					233542	0.005	0.012
	88.0	90.0	1.0	*0.9*					233543	0.002	0.007
	90.0	92.0	1.3	*1.2*					233544	0.003	0.008
	92.0	94.0	0.7	*1.7*				Wollastinite is now present within some veins.	233545	0.003	0.009
	94.0	96.0	0.9	*1.5*	SHR	45	2	Patchy epidote present, associated with an andesite clast.	233546	0.003	0.008
	96.0	98.0	1.1	*0.7*					233547	0.005	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
98.0	100.0	Fine grained grey moderately chloritic	0.6	*1.1*			233548	0.003	0.008
100.0	102.0		0.8	*1.1*	FLT 60 2		233549	0.001	0.007
102.0	104.0		0.7	*1.1*			233551	0.002	0.008
104.0	106.0		0.5	*1.3*			233552	0.001	0.006
106.0	108.0		0.4	*1.5*			233553	0.001	0.006
108.0	110.0		0.5	*2*			233554	0.004	0.001
110.0	112.0	Fine grained dark grey moderately chloritic	0.3 **0.0**	*1.3*		Trace of chalcopyrite within a calcite and quartz vein. Weak hematite alteration present within the matrix.	233555	0.006	0.001
112.0	114.0	Fine grained dark grey green moderately propyllitic	0.2	*0.8*		Weak propylitic section with an increase in epidote alteration associated with an increase in intrusive clasts. Epidote alteration associated with intrusive clasts and andesite clasts.	233556	0.031	0.009
114.0	116.0	Fine grained grey moderately chloritic	0.1	*0.8*		Back into moderate chlorite and sericite alteration with patchy hematite alteration. Unit has changed with sections that are brecciated andesite and AAP with other sections of aglomerate with slight mixed lithologies encoutered before. Aglomerate sections are still mainly andesite clasts with lesser amounts of AAP, feldspar porphyry basalt and intrusives. Brecciated sections of andesite and AAP could be large blocks broken up.	233557	0.003	0.009
116	120	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
116.0	118.0	Fine grained grey moderately chloritic	0.0	*1.1*			233558	0.001	0.008
118.0	120.0		0.2	*1.3*		Amount of zeolite within the veins has decreased.	233559	0.001	0.012
120	130	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
120.0	122.0	Fine grained grey moderately chloritic	0.1	*1.5*			233560	0.001	0.005
122.0	124.0		0.1	*1.6*			233561	0.001	0.007
124.0	126.0		0.1	*0.8*			233562	0.001	0.009

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
126.0	128.0	Fine grained grey moderately chloritic	1.0	*1.3*	SHR	35	5		233563	0.002	0.010
128.0	130.0		0.8	*1.1*	FLT	50	5	BFP clasts present within this interval.	233564	0.005	0.008
130	132	**FRAGMENTAL HETEROLITHIC FAULT ZONE**									
130.0	132.0	Fine grained dark grey strongly sericitic	0.1	*1.5*	SHR	25	50	Interval is marked by a series of small shear zones, faults and healed shears. Orientation of the structures is between 25-30 deg to the core axis. Unit is still an aglomerate.	233565	0.001	0.024
132	147.6	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
132.0	134.0	Fine grained grey moderately chloritic	0.7	*0.7*				Back into the similar aglomerate/andesite breccias encountered before the fault zone.	233566	0.001	0.014
134.0	136.0		0.5	*1.8*					233567	0.002	0.001
136.0	138.0		0.4	*1.9*					233568	0.002	0.005
138.0	140.0		0.5	*3.4*					233569	0.002	0.005
140.0	142.0		0.7	*64.8*				Patchy hematite alteration.	233570	0.001	0.001
142.0	144.0		0.3	*13.3*				Last intersection where quartz eyes were visible.	233571	0.002	0.001
144.0	146.0	Fine grained dark grey moderately chloritic	0.5	*16.1*				Patchy hematite alteration within the matrix and veins.	233572	0.003	0.001
146.0	147.6	Fine grained grey moderately chloritic	0.7	*4.6*					233573	0.005	0.001
147.6	148.4	**MOTTLED QUARTZ VEIN**									
147.6	148.4	Fine grained grey intensely silicified (non-K)		*0.6*	QV	40		Quartz vein with quartz flooding of some host rock. Zeolite present. Upper contact is 40 deg to the core axis. The lower contact is gradational due to quartz flooding.	233574	0.001	0.005
148.4	166	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
148.4	150.0	Fine grained grey moderately chloritic	1.0	*0.8*		Unit brecciated heterolithic unit mostly comprised of andesite and AAP clasts. Spotty sections contain feldspar porphyry clasts and rare intrusive clasts. Clasts are agular and range in size from 1-7cm. Matrix is composed of ground up andesite material amoung other ground up material of other clasts. 2-4% calcite, zeolite and quartz veining randomly oriented. Chlorite and sericite alteration dominate the clasts and matrix. Spotty hematite is present within the matrix and veins. Pyrite mineralization is present within the veins, clasts and matrix. No magnetite seen.	233576	0.001	0.005
150.0	152.0		1.0	*1.3*			233577	0.001	0.006
152.0	154.0		0.1	*1.3*			233578	0.001	0.005
154.0	156.0		0.4	*1.7*			233579	0.001	0.007
156.0	158.0		0.7	*1.7*			233580	0.001	0.007
158.0	160.0		0.1	*0.8*		Patchy quartz flooding.	233581	0.001	0.005
160.0	162.0		0.0	*1.3*			233582	0.001	0.005
162.0	164.0		0.0	*1.2*			233583	0.001	0.001
164.0	166.0		0.7	*2.1*		Minor aglomerate section towards the end of the interval containing clasts of phyllic altered AAP and massive andesite, unaltered AAP and massive andesite and some feldspar pporphyry basalts. Pyrite mineralization has increased. Pyrite is present within the clasts, veins and matrix.	233584	0.003	0.005
166	168	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
166.0	168.0	Fine grained grey moderately chloritic	1.5	*2.3*	FLT 60 2	Aglomerate section continues.	233585	0.001	0.007
168	170	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
168.0	170.0	Fine grained grey moderately chloritic	0.6	*0.7*		Back into a brecciated volcanic.	233586	0.001	0.007
170	172	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
170.0	172.0	Fine grained grey moderately chloritic	0.8	*1.8*	SHR	50 2	Back into an aglomerate section with mostly AAP clasts.	233587	0.013	0.019
172	177.5	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**								
172.0	174.0	Fine grained moderately chloritic	1.0 **0.0**	*10.5*	CNT	50	Unit contains clasts of quartzmonzonite ranging in size from 1cm to 10cm and are subangular to subrounded in shape. A minor amount of the clasts are andesite and basalt. Matrix is intermediate in composition composed of ground up intrusion and host rock material. Chlorite with lesser sericite alteration dominate the matrix. Quartz monzonite clasts have minor hematite staining and sericite alteration of the feldspars. Magnetite is present within the intrusion clasts. Some of the andesite and basalt clasts are chlorite altered. 3-5% calcite, zeolite and quartz veining oriented 15-25 deg to the core axis with some randomly oriented. Intrusion clasts contain chalcopyrite and pyrite mineralization within quartz veins within the clasts. Pyrite mineralization seen within the matrix and other clasts. Upper contact is brecciated at around 50 deg to the core axis and the lower contact is veined and healed at 40 deg to the core axis.	233588	0.130	0.090
174.0	176.0		1.2 **0.0**	*7.3*				233589	0.133	0.103
176.0	177.5		1.0	*7.3*	CNT	40		233590	0.138	0.103
177.5	185	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**								

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
177.5	179.0	Fine to medium grained green moderately chloritic	0.2	*2.5*				Entered an andesite augite porphyry unit. Unit contains 5-10% augite phenocrysts ranging in size from 1mm to 5mm and are subhedral to euhedral in shape. Sections of the andesite contain less than 5% augite phenocrysts, but most of the unit contains 5% or above augite phenocrysts. Some sections are massive while some are brecciated. Small sections contain 3-5% 1-3mm feldspar phenocrysts with some altered to sericite. Andesite is intermediate in composition with chlorite and sericite alteration dominating. Some augite pheoncrysts are altered to chlorite. 2-4% calcite and zeolite veining oriented 40-60 deg to the core axis. Some randomly oriented veins within brecciated sections. Pyrite mineralization is dissemineted within the matrix and present within veins. Spotty epidote associated with augite phenocrysts.	233591	0.032	0.022
179.0	181.0		0.8	*21*					233592	0.009	0.008
181.0	183.0		1.0	*1.8*					233593	0.007	0.007
183.0	185.0		1.5	*1.6*					233594	0.009	0.005
185	189	**IN-SITU BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**									
185.0	187.0	Fine to medium grained green moderately chloritic	1.7	*3.1*	FLT	35	4		233595	0.009	0.006
187.0	189.0	Fine to medium grained green strongly chloritic	1.0	*2.6*				Trace of anhydrite within a vein.	233596	0.005	0.005
189	193	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
189.0	191.0	Fine grained green strongly chloritic	1.3	*0.8*					233597	0.014	0.005
191.0	193.0		0.9	*1.1*	FLT	35	3	Wollastinite is now present within some veins.	233598	0.013	0.007
193	195	**IN-SITU BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**									
193.0	195.0	Fine grained dark green grey strongly chloritic	1.2	*1.6*					233599	0.011	0.001
195	197	**FRAGMENTAL ANDESITIC AUGITE PORPHYRY VOLCANIC**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
195.0	197.0	Fine grained dark green grey strongly chloritic	1.5	*1*	SHR 30 2		233601	0.013	0.007
197	213.1	**IN-SITU BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**							
197.0	199.0	Fine grained dark green grey strongly chloritic	1.7	*0.9*			233602	0.007	0.009
199.0	201.0		1.1	*1.2*			233603	0.013	0.011
201.0	203.0		1.0	*2*			233604	0.009	0.008
203.0	205.0		0.9	*2.6*			233605	0.009	0.007
205.0	207.0		1.3	*2*			233606	0.010	0.001
207.0	209.0		1.5	*2.5*			233607	0.015	0.005
209.0	211.0		1.1	*1.1*			233608	0.012	0.001
211.0	213.1	Fine grained green weakly propyllitic	1.0	*11.2*		Increase in epidote within the matrix.	233609	0.010	0.008
213.1	214.3	**STOCKWORKED HETEROLITHIC VOLCANIC BRECCIA**							
213.1	214.3	Fine grained grey weakly propyllitic	1.0	*0.4*		Contact zone between the above AAP and BFP below. Zone is heavily stockworked with clasts of AAP and BFP present. Weak epidote, hematite, chlorite and sericite alteration present. Stockwork veining is composed of calcite and zeolite and is randomly oriented. Minor 1-2cm shear zones present (5%) oriented 20 and 60 deg to the core axis. Pyrite mineralization is disseminated within the clasts. Upper and lower contacts are undulating between 50-70 deg to the core axis.	233610	0.039	0.016
214.3	220	**STOCKWORKED BLADED FELDSPAR PORPHYRY VOLCANIC**							

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
214.3	216.0	Fine grained grey weakly propyllitic	1.2		*0.4*				Unit contains 10-15% feldspar phenocrysts 0.3cm to 2cm in length. Matrix is fine grained and mafic in composition. Weak to moderate propylitic alteration present. Epidote, chlorite, sercite (of feldspar phenocrysts) and chlorite alteration are present. Some feldspar phenocrysts are altered to chlorite and epidote. Alteration increases down the hole. Minor stockwork veining towards the upper contact with the AAP unit and general veining increases down the hole. Veining increases from 3-5% at the start of the unit to 5-7% down the hole. Veins are composed of calcite and zeolite and are oriented 20-60 deg to the core axis with some randomly oriented stringers. Minor hematite present within some veins. Patchy siliceous overprint and flooding present mostly in breccia sections. Pyrite mineralization is disseminated within the matrix and is associated with veins and altered feldspar phenocrysts. Minor sphalerite present dissemnated within the matrix. Spotty hematite staining on some feldspar phenocrysts. 1%, 2-5mm amygdules present filled with calcite, chlorite, pyrite and epidote. Unit contains 1-2%, 1-2mm chlorite specks.	233611	0.042	0.020
216.0	218.0		2.0	**0.0**	*0.4*	FLT	50	2	Trace of chalcopyrite within a vein. Minor spahlerite present.	233612	0.036	0.011
218.0	220.0	Fine grained grey moderately propyllitic	2.5		*0.4*	FLT	50	1	0.1% sphalerite present.	233613	0.046	0.011
220	234	**IN-SITU BRECCIATED BLADED FELDSPAR PORPHYRY FLOW**										
220.0	222.0	Fine grained green moderately propyllitic	3.0		*0.3*	FLT	50	2	0.1% sphalerite present.	233614	0.055	0.011
222.0	224.0		2.3		*0*				0.05% sphalerite present.	233615	0.025	0.005
224.0	226.0		2.0		*0*	CALV	30	8	Calcite vein from 224.2m to 224.3m oriented 30 deg to the core axis. 0.05% sphalerite present. K-spar wothin a vein.	233616	0.021	0.007
226.0	228.0	Fine grained grey weakly propyllitic	2.5		*0*				Trace of sphalerite present.	233617	0.013	0.009
228.0	230.0		2.5		*0*	FLT	70	1		233618	0.020	0.013

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
230.0	232.0	Fine grained grey weakly propyllitic	2.7	*0*				Trace of sphalerite present.	233619	0.032	0.012
232.0	234.0	Fine grained grey moderately propyllitic	3.1	*0*					233620	0.024	0.009
234	242	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**									
234.0	236.0	Fine grained grey green moderately propyllitic	2.8	*0*					233621	0.013	0.009
236.0	238.0		2.6	*0*					233622	0.016	0.006
238.0	240.0	Fine grained green moderately propyllitic	2.2	*0*	FLT	60	1		233623	0.023	0.009
240.0	242.0		2.4	*0*				0.1% sphalerite present mostly within a vein.	233624	0.013	0.016
242	304.3	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
242.0	244.0	Fine grained green moderately propyllitic	2.7	*0.1*	FAB	60		Rough fabric to the feldspar phenocrysts at about 60 deg to the core axis. Trace of sphalerite present.	233626	0.005	0.033
244.0	246.0		3.2	*0.1*				Trace of sphalerite present.	233627	0.010	0.022
246.0	248.0		2.6	*0.1*					233628	0.012	0.018
248.0	250.0	Fine grained grey weakly propyllitic	2.5	*0.4*					233629	0.042	0.020
250.0	252.0		2.1	*0.1*					233630	0.042	0.017
252.0	254.0	Fine grained green moderately propyllitic	2.5	*0*	FLT	40	1		233631	0.028	0.015
254.0	256.0		2.4	*0*	FAB	55		Rough fabric of the feldspar phenocrysts is 55 deg to the core axis.	233632	0.025	0.035
256.0	258.0	Fine grained green weakly propyllitic	2.4	*0*				Trace of disseminated sphalerite.	233633	0.017	0.062
258.0	260.0	Fine grained green grey weakly propyllitic	1.7	*0.1*					233634	0.040	0.032
260.0	262.0		1.0	*0*					233635	0.022	0.013
262.0	264.0	Fine grained grey green weakly propyllitic	0.5	*0.2*				Small section within this interval that is unaltered and magnetic.	233636	0.041	0.012
264.0	266.0		1.5	*0*	SHR	20	1	Trace of chalcopyrite within some minor disseminated sphalerite.	233637	0.022	0.022

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
266.0	268.0	Fine grained grey green weakly propyllitic	1.3	*0.3*	SHR	60	2	Trace of disseminated sphalerite.	233638	0.022	0.026
268.0	270.0	Fine grained green grey moderately propyllitic	2.3	*0*	FLT	55	4	Minor fault encountered from 268.1m to 268.4m. Before the fault BFP unit is weakly propylitic altered. After the fault the BFP unit becomes moderate to strong propylitic altered.	233639	0.048	0.033
270.0	272.0	Fine grained green grey strongly propyllitic	2.7 **0.0**	*0*	FLT	70	2	Trace of chalcopyrite within some disseminated sphalerite.	233640	0.037	0.024
272.0	274.0	Fine grained green grey moderately propyllitic	2.0	*0*					233641	0.015	0.017
274.0	276.0		2.1	*0*				0.05% disseminated sphalerite present.	233642	0.027	0.014
276.0	278.0		2.2	*0*					233643	0.013	0.010
278.0	280.0	Fine grained green grey weakly propyllitic	2.0	*0.2*					233644	0.011	0.010
280.0	282.0	Fine grained grey green weakly propyllitic	1.5	*0.1*					233645	0.004	0.009
282.0	284.0		1.0	*0.1*					233646	0.009	0.008
284.0	286.0		1.3	*0.3*					233647	0.010	0.008
286.0	288.0		1.5	*0.2*					233648	0.047	0.011
288.0	290.0		1.1	*0.1*	FLT	40	1		233649	0.006	0.006
290.0	292.0		1.2	*0.2*					233651	0.023	0.012
292.0	294.0	Fine grained green grey moderately propyllitic	1.8	*0.5*					233652	0.028	0.017
294.0	296.0	Fine grained green grey strongly propyllitic	2.1	*0.6*					233653	0.019	0.016
296.0	298.0		2.5	*0.3*				Vuggy veins. 0.1% sphalerite within veins and disseminated.	233654	0.023	0.014
298.0	300.0	Fine grained grey green weakly propyllitic	1.0	*0.2*				Minor hematite and sphalerite associated with some epidote.	233655	0.022	0.013
300.0	302.0	Fine grained grey green moderately propyllitic	2.0	*1.2*					233656	0.032	0.026

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
302.0	304.3	Fine grained green grey moderately propyllitic	2.3	*0*	SHR	15	2		233657	0.030	0.042
304.3	306.2	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
304.3	306.2	Fine grained grey green moderately propyllitic	2.5	*0.2*				AAP section similar to the AAP before the BFP. 10-13% 1-4mm augite phenocrysts present. Alteration has obliterated most of the characteristics of the rock. Most of the augite phenocrysts are altered to chlorite, sercite and epidote. Minor pyrite is present within the altered augite phenocrysts. Matrix is altered to chlorite, sericite and epidote. Minor pyrite is disseminated within the matrix. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. Upper contact is a brecciated with ground up host rock at 55 deg to the core axis. The lower contact is brecciated and made up of ground up host rock at 40 deg to the core axis.	233658	0.035	0.026
306.2	324	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
306.2	308.0	Fine grained grey green moderately propyllitic	4.0	*0*				Similar BFP unit as the one encountered before the AAP unit just above. Unit contains 10-15% feldspar phenocrysts 0.3cm to 2cm in length. Matrix is fine grained and mafic in composition. Weak to moderate propylitic alteration present. Epidote, chlorite, sercite (of feldspar phenocrysts) and chlorite alteration are present. Some feldspar phenocrysts are altered to chlorite and epidote. Veins are composed of calcite and zeolite and are oriented 30-45 deg to the core axis with some randomly oriented stringers. Minor hematite present within some veins. Pyrite mineralization is disseminated within the matrix and is associated with veins and altered feldspar phenocrysts. Spotty hematite staining on some feldspar phenocrysts. Unit contains 1-2%, 1-2mm chlorite specks.	233659	0.021	0.096
308.0	310.0	Fine grained grey green weakly propyllitic	1.3	*0*	SHR	30	2		233660	0.017	0.048
310.0	312.0	Fine grained green grey moderately propyllitic	1.5	*0*				Trace of disseminated sphalerite present.	233661	0.050	0.021

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
312.0	314.0	Fine grained green grey moderately propyllitic	2.5	*0*	SHR	40	5		233662	0.039	0.016
314.0	316.0	Fine grained grey green weakly propyllitic	2.7	*0.4*					233663	0.012	0.012
316.0	318.0	Fine grained grey green moderately propyllitic	3.0	*0.8*					233664	0.064	0.023
318.0	320.0	Fine grained grey green weakly propyllitic	2.5	*0.8*				Trace of sphalerite present.	233665	0.039	0.008
320.0	322.0		2.8	*1.2*					233666	0.024	0.012
322.0	324.0	Fine grained green grey moderately propyllitic	2.0	*1.4*				Minor stockworking present.	233667	0.020	0.012
324	326	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**									
324.0	326.0	Fine grained green grey moderately propyllitic	3.5	*1.8*	SHR	55	4		233668	0.024	0.014
326	332.3	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
326.0	328.0	Fine grained green grey moderately propyllitic	2.5	*1.9*					233669	0.026	0.011
328.0	330.0		2.0	*0.6*				Quartz is showing up within the veins with a slight decrease in the amount of zeolite present.	233670	0.037	0.035
330.0	332.3		2.7	*0.9*					233671	0.007	0.042
332.3	332.9	**MASSIVE BLADED FELDSPAR PORPHYRY FAULT ZONE**									
332.3	332.9	Fine grained grey	7.0	*0.8*	SHR	30		Minor shear zone. Upper and lower contact is 30 deg to the core axis. Shear zone contains ground up wall rock, clay, chlorite and pyrite. Calcite veining present within the shear oriented in the same shear direction.	233672	0.056	0.091
332.9	539.2	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
332.9	334.0	Fine grained green grey moderately propyllitic	3.0		*1.7*				Back into the similar propylitic altered BFP flow encountered before the shear zone. Veining has decreased to 2-4% composed of calcite, zeolite and quartz and oriented 40-70 deg to the core axis. Local stockworking present and abundant veining within shear zones. 1-2% amygdules present, 2-4mm in size and filled with epidote, chlorite and calcite. Unit contains 1-2%, 1-2mm chlorite specks.	233673	0.013	0.020
334.0	336.0		3.2		*0.7*					233674	0.026	0.016
336.0	338.0		2.0		*0.5*					233676	0.041	0.022
338.0	340.0		1.7		*1*					233677	0.019	0.015
340.0	342.0		2.0		*1.6*					233678	0.036	0.025
342.0	344.0		2.3		*1.7*	FLT	30	1		233679	0.042	0.027
344.0	346.0		1.8		*2.1*					233680	0.036	0.043
346.0	348.0		3.0		*0.8*					233681	0.076	0.049
348.0	350.0	Fine grained grey green weakly propyllitic	2.0		*0.9*					233682	0.026	0.038
350.0	352.0		1.5		*1.5*					233683	0.035	0.057
352.0	354.0		1.3		*0.7*					233684	0.019	0.049
354.0	356.0	Fine grained green grey moderately propyllitic	2.5	**0.0**	*1.1*				Trace of chlacopyrite within a quartz vein.	233685	0.018	0.039
356.0	358.0	Fine grained green moderately propyllitic	2.7		*1*	SHR	20	8		233686	0.040	0.054
358.0	360.0		2.2		*1.4*	SHR	55	5		233687	0.045	0.042
360.0	362.0		4.0		*1.8*					233688	0.021	0.044
362.0	364.0		2.0		*0.6*					233689	0.020	0.048
364.0	366.0	Fine grained grey green weakly propyllitic	1.5		*1.2*	FAB	60		Slight fabric to the feldspar phenocrysts at 60 deg to the core axis.	233690	0.021	0.014
366.0	368.0		1.7		*1.6*	FAB	60		Minor K-spar showing up within the veins.	233691	0.030	0.048

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
368.0	370.0	Fine grained green grey moderately propyllitic	2.0		*0.6*					233692	0.028	0.037
370.0	372.0	Fine grained grey green weakly propyllitic	1.3		*1*					233693	0.110	0.045
372.0	374.0		3.0		*1.2*				Trace of sphalerite present.	233694	0.015	0.053
374.0	376.0	Fine grained green grey moderately propyllitic	3.2		*0.5*	FAB	60		Slight fabric to the feldspar phenocrysts at 60 deg to the core axis.	233695	0.031	0.018
376.0	378.0		2.5		*0.7*					233696	0.008	0.020
378.0	380.0	Fine grained grey green moderately propyllitic	2.8	**0.0**	*0.6*	FAB	60		Slight fabric to the feldspar phenocrysts at 60 deg to the core axis. Trace of chalcopyrite within a vein. About 0.05% sphalerite present within a vein.	233697	0.060	0.013
380.0	382.0	Fine grained green grey moderately propyllitic	2.0		*0.7*	FAB	60		Slight fabric to the feldspar phenocrysts at 60 deg to the core axis.	233698	0.048	0.016
382.0	384.0	Fine grained grey green weakly propyllitic	4.0		*1*	SHR	50	8	Small healed shear zone mid way through the interval. Shear zone contains gound up host rock, clay, chlorite and quartz/calcite veins with pyrite. Phyllic alteration dominates on either side of the shear.	233699	0.033	0.026
384.0	386.0		2.0		*0.6*					233701	0.041	0.016
386.0	388.0		1.8		*0.6*				Strong sericite alteration present within this interval.	233702	0.032	0.016
388.0	390.0		1.5		*0.9*				Sericite alteration has increased, epidote and chlorite alteration remain the same.	233703	0.016	0.023
390.0	392.0		3.0		*1.5*				Pyrite amount has increased.	233704	0.022	0.019
392.0	394.0		4.5		*0.5*				Strong silliceous overprint with minor quartz flooding.	233705	0.033	0.037
394.0	396.0		4.7		*1*					233706	0.042	0.039
396.0	398.0	Fine grained green grey moderately propyllitic	5.0	**0.0**	*1.2*	GYV	20	4	Gypsum is now present within a few veins. Trace of chalcopyrite seen within a vein of quartz.	233707	0.006	0.042
398.0	400.0		4.0		*1.4*					233708	0.010	0.044
400.0	402.0		4.2		*0.6*					233709	0.017	0.037
402.0	404.0	Fine grained green grey strongly propyllitic	4.5		*1*				Chlorite alteration has increased.	233710	0.020	0.050

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
404.0	406.0	Fine grained green grey strongly propyllitic	4.0		*1.5*			233711	0.038	0.045
406.0	408.0	Fine grained grey green weakly propyllitic	3.0		*0.6*			233712	0.046	0.042
408.0	410.0	Fine grained green grey moderately propyllitic	4.2		*0.9*			233713	0.045	0.037
410.0	412.0	Fine grained grey green moderately propyllitic	3.5		*1*			233714	0.023	0.058
412.0	414.0	Fine grained green moderately propyllitic	4.3	**0.0**	*1.2*		Trace of chalcopyrite within a pyrite stringer.	233715	0.024	0.050
414.0	416.0	Fine grained grey green weakly propyllitic	4.0		*1.8*			233716	0.030	0.057
416.0	418.0		3.8	**0.0**	*1.3*		Trace of chalcopyrite within a vein.	233717	0.023	0.025
418.0	420.0		4.2	**0.1**	*1.2*		Minor chalcopyrite within a quartz and zeolite vein.	233718	0.030	0.028
420.0	422.0		3.5		*1.5*			233719	0.017	0.030
422.0	424.0		3.2	**0.0**	*0.6*		Trace of spahlerite and chalcopyrite within a quartz, zeolite and calcite vein.	233720	0.056	0.045
424.0	426.0	Fine grained grey green moderately propyllitic	3.7		*0.8*			233721	0.022	0.014
426.0	428.0		3.0		*1*			233722	0.010	0.016
428.0	430.0		4.0	**0.0**	*0.7*		Trace of chalcopyrite associated with pyrite within a quartz vein with epidote.	233723	0.021	0.025
430.0	432.0		3.3		*0.8*			233724	0.032	0.015
432.0	434.0		4.0		*9.5*			233726	0.024	0.020
434.0	436.0	Fine grained grey moderately phyllic	4.0		*1.9*		Moderate phyllic alteration with an increase in sericite and quartz alteration. Remnant epidote still present.	233727	0.021	0.032
436.0	438.0	Fine grained grey green moderately propyllitic	3.8		*0.1*		Slight decrease in the sericite and quartz alteration. Propylitic alteration still present. Quartz replacement and sericite alteration still present.	233728	0.015	0.037
438.0	440.0		4.3	**0.0**	*0.7*		Chalcopyrite stringer present.	233729	0.029	0.037
440.0	442.0		4.6		*0.9*			233730	0.030	0.026

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
442.0	444.0	Fine grained green grey moderately propyllitic	3.9		*0.6*					233731	0.044	0.020
444.0	446.0		4.2		*0.9*					233732	0.028	0.016
446.0	448.0		3.0		*1.3*					233733	0.016	0.014
448.0	450.0		4.3		*0.8*				Veining is now 2-4%, composed of calcite, quartz and zeolite and oriented between 10-30 deg to the core axis and 60-70 deg to the core axis. No hematite present.	233734	0.023	0.015
450.0	452.0		4.5		*0.7*					233735	0.018	0.019
452.0	454.0	Fine grained grey green weakly propyllitic	2.5		*1*				Patchy siliceous overprint mostly over the matrix now present.	233736	0.044	0.032
454.0	456.0		3.5	**0.0**	*1.2*				Trace of chalcopyrite within a quartz vein.	233737	0.016	0.024
456.0	458.0	Fine grained green grey moderately propyllitic	3.7		*0.8*					233738	0.024	0.015
458.0	460.0		5.0	**0.1**	*0.9*				Minor chalcopyrite present within a chlorite stringer and quartz/calcite vein.	233739	0.022	0.012
460.0	462.0	Fine grained grey green moderately propyllitic	3.0		*0.6*					233740	0.034	0.018
462.0	464.0	Fine grained grey green weakly propyllitic	3.5		*1.1*					233741	0.021	0.016
464.0	466.0		2.8		*49.8*					233742	0.017	0.018
466.0	468.0		3.0		*5.4*	SHR	45	2		233743	0.009	0.022
468.0	470.0		1.7		*1.2*					233744	0.037	0.017
470.0	472.0		2.2		*1.3*					233745	0.008	0.018
472.0	474.0	Fine grained grey green moderately propyllitic	5.2	**0.0**	*31.5*				Trace of chalcopyrite within a chlorite altered section of the matrix.	233746	0.054	0.014
474.0	476.0	Fine grained grey green weakly propyllitic	2.0		*0.9*					233747	0.028	0.009
476.0	478.0	Fine grained green grey moderately propyllitic	3.5		*2.9*	SHR	55	2		233748	0.051	0.021
478.0	480.0		3.8	**0.0**	*0.7*				Trace of chalcopyrite within quartz veins.	233749	0.083	0.024

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
480.0	482.0	Fine grained green grey moderately propyllitic	4.7 **0.0**	*3.9*				Trace of chalocpyrite within a pyrite stringer.	233751	0.040	0.016
482.0	484.0	Fine grained grey green moderately propyllitic	4.5	*0.9*					233752	0.039	0.014
484.0	486.0		3.7	*1.2*					233753	0.029	0.018
486.0	488.0		4.2 **0.1**	*1.4*				Minor chalcopyrite within a zeolite and calcite vein. Chlorite halo around the chalcopyrite.	233754	0.058	0.014
488.0	490.0		4.5 **0.1**	*1.6*				Chalcopyrite present within some veins and disseminated within the matrix.	233755	0.123	0.027
490.0	492.0	Fine grained green grey moderately propyllitic	5.0 **0.1**	*1.9*				Minor chalcopyrite with a couple of stringers.	233756	0.038	0.023
492.0	494.0		5.2 **0.0**	*0.6*				Trace of chalcopyrite within a quartz vein.	233757	0.069	0.026
494.0	496.0	Fine grained grey green weakly propyllitic	4.0	*1.3*					233758	0.046	0.020
496.0	498.0		4.5	*0.6*	FAB	45		Slight fabric to the feldspar phenocrysts at 45 deg to the core axis.	233759	0.045	0.027
498.0	500.0	Fine grained green grey moderately propyllitic	3.5	*1.3*					233760	0.014	0.019
500.0	502.0		4.0	*1.4*					233761	0.013	0.022
502.0	504.0	Fine grained grey green weakly propyllitic	3.0	*1.7*	FAB	50		Slight fabric to the feldspar phenocrysts at 45 deg to the core axis.	233762	0.028	0.024
504.0	506.0		2.7	*2.1*	LIN	45			233763	0.018	0.026
506.0	508.0		1.5	*2.5*	FLT	50	6		233764	0.011	0.033
508.0	510.0	Fine grained grey weakly propyllitic	1.3 **0.1**	*0.8*	SHR	30	4	Minor hematite staining of some feldspar phenocrysts again. Chalcopyrite present within the stockworking.	233765	0.013	0.039
510.0	512.0		3.0	*0.8*					233766	0.035	0.033
512.0	514.0	Fine grained green moderately propyllitic	2.5	*1.3*					233767	0.023	0.027
514.0	516.0		3.2	*1.5*					233768	0.016	0.017
516.0	518.0	Fine grained green strongly propyllitic	3.0	*1.7*					233769	0.029	0.023

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
518.0	520.0	Fine grained green grey moderately propyllitic	2.5	*6.2*			233770	0.040	0.018
520.0	522.0	Fine grained grey green moderately propyllitic	2.5 **0.0**	*3.4*		Trace of chlacopyrite within a calcite and zeolite vein.	233771	0.019	0.016
522.0	524.0		2.0 **0.0**	*0.8*		Trace of chalcopyrite disseminated within the matrix associated with chlorite.	233772	0.015	0.025
524.0	526.0		3.0 **0.0**	*1*			233773	0.018	0.019
526.0	528.0		2.5 **0.0**	*1.3*		Trace of chalcopyrite within a quartz calcite vein.	233774	0.041	0.021
528.0	530.0		4.3	*0.6*			233776	0.026	0.021
530.0	532.0	Fine grained green grey moderately propyllitic	4.5 **0.1**	*1.1*		Minor chalcopyrite within a quartz vein.	233777	0.043	0.027
532.0	534.0		4.0	*70.5*			233778	0.014	0.012
534.0	534.9		3.8 **0.0**	*1.7*		Trace of chalcopyrite within a calcite and zeolite vein.	233779	0.040	0.018
534.9	536.0	Fine grained grey green moderately phyllic	4.0	*1.8*		Sericite and chlorite have increased with a minor increase in quartz alteration. Epidote alteration is still present.	233780	0.023	0.026
536.0	538.0		4.5 **0.0**	*1.8*		Trace of chalcopyrite within a quartz vein.	233781	0.029	0.020
538.0	539.2		4.7 **0.0**	*0.6*		Trace of chalcopyrite within a quartz calcite vein.	233782	0.035	0.052
539.2	554.3	**MASSIVE ANDESITE FLOW**							
539.2	541.0	Fine grained grey moderately phyllic	8.0	*0.9*		Unit is moderate to strong phyllic altered obliterating most of the characteristics of the rock. Sercite, quartz and chlorite alteration dominate. Intensity level of each varies throughout the unit. Chlorite appears as dark green balck spots within the unit. Unit is intermediate in composition. 1-2% zeolite, calcite and quartz veining oriented 50-75 deg to the core axis. 1-2% randomly oriented zeolite and calcite stringers present. Moderate chill margin surrounding some veins. Pyrite is disseminated within the matrix and located within veins. Most of the pyrite disseminated within the matrix is associated with the chloritic sections.	233783	0.026	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
541.0	543.0	Fine grained grey moderately phyllic	9.0 **0.0**	*1.2*			Trace of chalcopyrite within a quartz vein.	233784	0.028	0.026
543.0	545.0		9.5	*1.8*				233785	0.065	0.044
545.0	547.0		9.2	*0.6*				233786	0.032	0.038
547.0	549.0		9.7	*0.8*				233787	0.043	0.043
549.0	551.0		7.5 **0.0**	*0.9*			Trace of chalcopyrite within a quartz vein.	233788	0.046	0.053
551.0	553.0		8.0	*1.1*				233789	0.067	0.039
553.0	554.3		7.5	*1.6*				233790	0.020	0.024
554.3	556	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
554.3	556.0	Fine grained grey moderately phyllic	6.0	*1.7*	CNT	55	Small BFP unit with 8-10%, 0.7-1cm feldspar phenocrysts. Phyllic alteration dominates obliterating most of the characteristics of the rock. Quartz, sericte and pyrite dominate with lesser amounts of chlorite. Most of the feldspar phenocrysts have been altered to chlorite. 1-2% quartz and zeolite veins oriented 60-70 deg to the core axis. Pyrite is disseminated and within veins. Upper and lower conacts are brecciated and veined at 55 deg to the core axis. Slight fabric to the feldspar phenocrysts at 55 deg to the core axis.	233791	0.063	0.037
556	563.3	**MASSIVE ANDESITE FLOW**								
556.0	558.0	Fine grained grey moderately phyllic	7.0	*0.7*			Back into the similar phyllic altered andesite encountered before the small BFP unit above.	233792	0.039	0.041
558.0	560.0		6.0	*1*				233793	0.042	0.041
560.0	562.0	Fine grained grey strongly phyllic	8.0	*1.3*				233794	0.028	0.036
562.0	563.3		7.0	*1.9*				233795	0.102	0.059
563.3	565.7	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
563.3	565.7	Fine grained grey strongly phyllic	5.8	*1.3*	CNT	60	Unit similar to the phyllic altered BFP unit encountered at 554.3 m. Upper and lower conacts are undulating at 60 deg to the core axis. Fabric of the feldspar phenocrysts is 60 deg to the core axis.	233796	0.047	0.074

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
565.7	578.5	**MOTTLED ANDESITE FLOW**									
565.7	567.0	Fine grained grey strongly phyllic	6.5	*1.5*	SHR	20	2	Back into the similar phyllic altered andesite encountered before the small BFP unit above.	233797	0.051	0.048
567.0	569.0		7.0	*2.8*					233798	0.039	0.037
569.0	571.0		7.3	*1*	SHR	35	8		233799	0.042	0.058
571.0	573.0		7.5	*0.9*	SHR	30	6		233801	0.044	0.042
573.0	575.0		7.0	*1.6*	QV	15	6	Calcite present in the veins now.	233802	0.012	0.039
575.0	577.0		6.5 **0.0**	*2.2*				Trace of chalcopyrite within a vein of calcite and zeolite.	233803	0.044	0.046
577.0	578.5		9.0	*2.3*					233804	0.048	0.048
578.5	594.9	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									
578.5	580.0	Medium to coarse grained grey pink moderately phyllic	7.0	*2.7*				Intrusion breccias containing clasts of post mineral monzodiorite, monzonite, and andesite. Clasts are subrounded to rounded and the matrix is made up of ground up material of of the clasts. Hematite staining present on some of the intrusive clasts. Patchy siliceous overprint present. Weak sericite and chlorite alteration present within sections of the matrix and clasts. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor disseminated pyrite with in the matrix. Pyrite is also present in some clasts. Minor chalcopyrite within the veins. Magnetite present within some intrusive clasts. Upper contact is brecciated and broken. The lower contact is gradational due to the alteration..	233805	0.060	0.016
580.0	582.0	Medium to coarse grained grey pink weakly silicified (non-K)	1.5	*25.3*	FRK		8	Clast size is increasing.	233806	0.074	0.042
582.0	584.0	Medium to coarse grained pink grey weakly silicified (non-K)	0.7 **0.1**	*17.1*					233807	0.059	0.039
584.0	586.0		0.8 **0.2**	*54*				Trace of chalcopyrite within an andesite clast.	233808	0.069	0.038
586.0	588.0		1.0	*46.6*					233809	0.059	0.039
588.0	590.0	Medium to coarse grained grey pink weakly silicified (non-K)	1.5 **0.0**	*55.9*					233810	0.055	0.031

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
590.0	592.0	Medium to coarse grained grey pink weakly silicified (non-K)	0.4	*43.1*			233811	0.058	0.033
592.0	594.0	Medium to coarse grained pink grey weakly silicified (non-K)	0.3	*46.6*		Clast size is decreasing.	233812	0.069	0.039
594.0	594.9		0.3	*4.5*			233813	0.124	0.048
594.9	598	**MOTTLED MONZONITE DYKE**							
594.9	596.0	Fine to coarse grained grey strongly phyllic	5.0	*0.6*		Strong phyllic altered monzonite. Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspars, ~20% mafics and ~5% quartz. Unit is dominated by sericite and chlorite alteration with minor quartz replacement. 2-4% zeolite, calcite and quartz veining oriented 25-40 deg to the core axis. Pyrite is disseminated within the matrix and present within veins. The upper contact is gradational due to the alteration. Lower contact is undulating around 20 deg to the core axis.	233814	0.113	0.029
596.0	598.0		4.3	*1.6*		Molybdenum present within a quartz vein.	233815	0.217	0.114
598	622.5	**MASSIVE ANDESITE FLOW**							
598.0	600.0	Fine grained green strongly potassic - sericite-chlorite-quartz	5.0 **0.2**	*2.9*		Massive andesite flow dominated by potassic alteration. Alteration has obliterated most of the characteristics of the rock. Unit starts with strong sericite, chlorite and quartz alteration and down the hole the sericite alteration decreases as the chlorite and biotite alteration increase. Minor K-spar alteration is present down the hole. 3-5% quartz and calcite veining oriented 35-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Magnetite present within some veins and increases in amount down the hole. Minor moly bdenum within a quartz vein.	233816	0.214	0.146
600.0	602.0	Fine grained grey strongly potassic - chlorite-sericite-quartz	6.0 **0.3**	*2.8*		Molybdenum present within a fracture.	233817	0.309	0.184
602.0	604.0	Fine grained green strongly potassic - chlorite-quartz-biotite	5.0 **0.2**	*36.8*			233818	0.204	0.144

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
604.0	606.0	Fine grained red grey strongly potassic - sericite-biotite-quartz	4.5 **0.5**	*2.1*					233819	0.364	0.351
606.0	608.0	Fine grained brown grey strongly potassic - sericite-biotite-quartz	3.5 **0.1**	*2.3*					233820	0.370	0.259
608.0	610.0	Fine grained red strongly potassic - biotite-quartz-chlorite	5.0 **0.0**	*2.7*					233821	0.288	0.177
610.0	612.0	Fine grained red green strongly potassic - biotite-quartz-chlorite	6.0 **0.4**	*2.8*					233822	0.272	0.165
612.0	614.0		4.5 **0.1**	*3.4*	QV	40	10	Quartz vein at the end of the interval from 613.8-614.0m at an orientation of 40 deg to the core axis.	233823	0.270	0.178
614.0	616.0		5.0 **0.3**	*4.9*				Small post mineral dike at the end of the intersetion for 4 cm at an orientation of 70 deg to the core axis.	233824	0.231	0.142
616.0	618.0		5.0 **0.4**	*0.8*				Small post mineral dike at the beginning of the intersetion for 6 cm at an orientation of 70 deg to the core axis. Molybdenum within some fractures.	233826	0.200	0.139
618.0	620.0	Fine grained red green intensely potassic - biotite-quartz-chlorite	5.0 **1.5**	*1.3*					233827	0.490	0.331
620.0	622.5	Fine grained dark green brown intensely potassic - chlorite-quartz-biotite	6.0 **1.2**	*0.5*				Trace of molybdenum within a quartz vein.	233828	0.447	0.304
622.5	624	**MASSIVE MONZONITE DYKE**									
622.5	624.0	Fine to coarse grained grey pink strongly potassic - sericite-chlorite	3.0 **1.5**	*0.5*	CNT	30		Unit is a strong potassic altered monzonite with sericite and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 7-10% zeolite, quartz and anhydrite veining oriented 40-50 deg to the core axis. Minor chalcopyrite and pyrite is disseminated within the matrix. Minor pyrite and molybdenum within quartz veins. Upper contact is 25 deg to the core axis and the lower contact is 30 deg to the core axis.	233829	0.443	0.293
624	630.2	**MASSIVE BASALT FLOW**									

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
624.0	626.0	Fine grained red intensely potassic - biotite-chlorite-quartz	4.0 **1.8**	*4*		Unit is a strong potassic altered basalt. Chlorite, biotite and quartz are the dominant alterations present. Alteration has obliterated most of the characteristics of the rock. 2-4% zeolite, quartz, calcite and minor anhydrite veining oriented 25-60 deg to the core axis. Quartz veins contain pyrite, chalcopyrite, magnetite and a trace of molybdenum. Minor disseminated pyrite and chalcopyrite disseminated within the matrix.	233830	0.380	0.319
626.0	628.0	Fine grained intensely potassic - biotite-chlorite-quartz	3.5 **1.0**	*4.6*		Minor K-spar alteration present.	233831	0.212	0.136
628.0	630.2		3.5 **1.0**	*28.5*		End of the unit is broken ans stockworked.	233832	0.193	0.119
630.2	648.4	**STOCKWORKED MONZONITE INTRUSIVE**							
630.2	632.0	Fine to coarse grained grey pink strongly potassic - sericite-quartz-chlorite	2.0 **0.1**	*1*	CNT 30	Unit is a moderate to strong potassic altered monzonite with sericite, quartz and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 6-8% calcite, zeolite and quartz veining oriented 0-50 deg to the core axis. Trace of anhydrite present within the veins. Minor chalcopyrite and pyrite is disseminated within the matrix. Minor pyrite, chalcopyrite and molybdenum within calcite and quartz veins. Upper contact is 30 deg to the core axis. Upper section of the unit is broken and heavily stockworked at the contact angle. Minor K-spar halo around some veins.	233833	0.411	0.275
632.0	634.0		2.2 **0.3**	*0.6*			233834	0.338	0.284
634.0	636.0		2.5 **1.2**	*0.7*			233835	0.505	0.320
636.0	638.0		3.0 **0.5**	*1.2*			233836	0.314	0.188
638.0	640.0	Fine to coarse grained grey pink strongly potassic - quartz-sericite-chlorite	1.0 **0.1**	*0.6*			233837	0.259	0.188
640.0	642.0		0.8 **0.0**	*0.7*			233838	0.293	0.210
642.0	644.0		1.5 **0.1**	*1.3*		Minor hematite staining present on some feldspar grains.	233839	0.267	0.172

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
644.0	646.0	Fine to coarse grained grey pink moderately potassic - quartz-sericite-chlorite	1.5	**0.5**	*1.4*				233840	0.394	0.217
646.0	648.4		0.7	**0.1**	*0.7*				233841	0.325	0.232
648.4	672.2	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									
648.4	650.0	Fine to coarse grained grey pink moderately hematitic	0.1		*45.9*	CNT	50	Unit contains clasts of two types of intrusive: monzonite and monzodiorite. There are more magnetic monzodiorite clasts than monzonite clasts. Minor amounts of darke green andesite clasts. Clasts range in size from 1cm to 7cm. Most of the intrusive clasts are hematite stained with minor sericite alteration of the feldpsar grains. Minor epidote alteration of some mafic minerals within the intrsuive clasts. Matrix is composed of ground up material of the clasts. 2-4% zeolite and calcite veining oriented 20-40 deg to the core axis. 8-12% zeolite and calcite stringers randomly oriented. Minor hematite and epidote present within some veins and stringers. Pyrite is disseminated within the matrix and present within clasts.	233842	0.178	0.141
650.0	652.0		0.1		*36.1*				233843	0.087	0.052
652.0	654.0		0.5	**0.0**	*37.5*			Trace of chalcopyrite within a clast of monzonite.	233844	0.065	0.049
654.0	656.0		0.2		*15.8*				233845	0.069	0.037
656.0	658.0		0.1	**0.1**	*33.3*			Chalcopyrite present within an andesite clast and within a quartz vein within a hematite stained monzonite clast.	233846	0.067	0.048
658.0	660.0		0.0	**0.0**	*37.8*			A feldspar porphyry basalt clast present. Trace of chalcopyrite within a fracture.	233847	0.054	0.023
660.0	662.0		0.0	**0.0**	*40.3*			Trace of chalcopyrite along a fracture.	233848	0.047	0.033
662.0	664.0		0.8	**0.0**	*32.4*			Trace of chalcopyrite within an andesite clast.	233849	0.054	0.066
664.0	666.0		1.5		*43.6*				233851	0.048	0.028
666.0	668.0		0.2		*40.4*				233852	0.033	0.021
668.0	670.0		1.3		*27.8*				233853	0.013	0.018
670.0	672.2		2.0		*25.9*				233854	0.028	0.062

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
672.2	684.1	**MASSIVE MONZODIORITE INTRUSIVE**										
672.2	674.0	Fine to coarse grained grey pink moderately hematitic	0.0		*22.2*				Massive hematite stained monzodioite. Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Some feldspar grains are stained with hematite and others are altered to sericite. Mafic minerals include augite and hornblende. Some mafics are altered to chlorite. Minor biotite present. Trace of epidote present in association with mafic minerals. 2-4% clacite and zeolite veins oriented 40-60 deg to the core axis and 1-2% veins oriented parallel to the core axis. Trace of pyrite present.	233855	0.057	0.059
674.0	676.0				*20.8*					233856	0.007	0.028
676.0	678.0		0.2	**0.1**	*24.6*	QV	30	3	Minor chalcopyrite present within a quartz vein.	233857	0.011	0.151
678.0	680.0		0.1		*18.3*					233858	0.008	0.015
680.0	682.0		0.1		*31.2*					233859	0.031	0.057
682.0	684.1		0.0		*30*					233860	0.043	0.098
684.1	684.9	**FRAGMENTAL HETEROLITHIC FAULT ZONE**										
684.1	684.9	Fine to coarse grained grey pink	1.0	**0.3**	*3.5*				Unit is broken up with strong stockworking and quartz flooding. Monzonite fragments are present. Orientation is unable to be determined due to broken nature of the core. Chalcopyrite, pyrite and molybdenum are present.	233861	0.428	0.210
684.9	702	**BRECCIATED MONZONITE INTRUSIVE**										
684.9	686.0	Fine to coarse grained grey pink moderately phyllic	2.0		*3.8*				Unit is a moderate to strong phyllic altered monzonite with sericite, quartz and chlorite being the dominant alteration types. Alteration has obliterated most of the characteristics of the rock. Unit is composed of ~80% feldspars, ~15% mafics and ~5% quartz. 6-8% calcite, zeolite and quartz veining are randomly oriented. Pyrite is disseminated within the matrix. Minor pyrite, molybdenum and chalcopyrite are within calcite and quartz veins. Upper contact is 30 deg to the core axis. Upper section of the unit is brecciated. Moderate hematite staining present.	233862	0.327	0.237

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
686.0	688.0	Fine to coarse grained grey pink strongly phyllic	1.5 **0.1**	*0.6*					233863	0.474	0.301
688.0	690.0		1.5 **0.1**	*0.9*	FLT	20	5		233864	0.483	0.276
690.0	692.0		2.0 **1.0**	*1.1*					234301	0.390	0.286
692.0	694.0		2.5 **1.2**	*0.6*					234302	0.315	0.203
694.0	696.0		2.0 **0.4**	*0.7*					234303	0.323	0.258
696.0	698.0		2.3 **0.5**	*1.1*					234304	0.390	0.358
698.0	700.0		1.7 **0.2**	*1.4*	SHR	20	2		234305	0.458	0.299
700.0	702.0		1.2 **0.1**	*1.4*					234306	0.330	0.254
702	716	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									
702.0	704.0	Fine to coarse grained dark grey pink moderately hematitic	1.0 **0.0**	*26.3*				Unit has become brecciated is is composed of clasts of monzonite, quartz monzodiorite and rare andesite. Clasts size ranges from 0.5cm to 10cm and the clasts are angular to subangular in shape. Some monzonite and quartz monzodiorite clasts have a hematite stain and sericite alteration. Some clasts are chlorite altered. Matrix is made up of ground up clast material. Matrix has a patchy weak hematite stain and altered to chlorite and sericite. 5-7% calcite and zeolite veining oriented 25-50 deg to the core axis. 3-5% calcite and zeolite stringers randomly oriented. Remnant quartz veining within some monzonite clasts. Magnetite present within the matrix and within monzodiorite clasts. Minor pyrite present within the matrix and clasts. Trace of chalcopyrite seen within the matrix.	234307	0.063	0.054
704.0	706.0		0.6	*19.8*				Spotty epidote associated with mafic minerals and clasts.	234308	0.043	0.036
706.0	708.0		0.4	*10*					234309	0.031	0.042
708.0	710.0		0.8	*29.9*					234310	0.020	0.031
710.0	712.0		0.5	*19.6*					234311	0.005	0.020
712.0	714.0		0.3	*24.8*					234312	0.006	0.027

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
714.0	716.0	Fine to coarse grained dark grey pink moderately hematitic	0.7	*48.9*			234313	0.007	0.016
716	730.4	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
716.0	718.0	Fine to coarse grained dark grey pink strongly hematitic	0.1	*7.4*		Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Feldspar minerals are mostly plagioclase with rare orthoclase. Mafic minerals include hornblende, augite and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende, augite and biotite. Moderate ro strong hematite staining throughout the unit. Moderate sericite alteration of some of the feldspar crystals. Weak chlorite alteration of the mafic minerals. Rare epidote present associated with veins and mafic minerals. 3-5% calcite and zeolite veining oriented 30-50 deg to the core axis. Spotty magnetite present within the matrix. Trace of pyrite disseminated within the matrix and within veins.	234314	0.024	0.036
718.0	720.0	Fine to coarse grained maroon pink strongly hematitic	0.2	*34.7*			234315	0.013	0.028
720.0	722.0		0.1	*34.5*			234316	0.019	0.028
722.0	724.0	Fine to coarse grained pink maroon strongly hematitic	0.1	*39*			234317	0.001	0.007
724.0	726.0		0.0	*20.5*			234318	0.031	0.095
726.0	728.0		0.0	*19.8*			234319	0.008	0.030
728.0	730.4	Fine to coarse grained pink grey moderately hematitic	0.0	*27.8*			234320	0.007	0.020
730.4	731.6	**FRAGMENTAL QUARTZ MONZODIORITE FAULT ZONE**							
730.4	731.6	Fine grained black pink		*12*	FLT 30	Fault zone comprised 25% quartz monzodiorite clasts within a fine dark clay matrix. Upper contact is 30 deg to the core axis and the lower contact is 25 deg to the core axis. 10-13% calcite and zeolite stringers oriented 20-35 deg to the core axis. Some stringers randomly oriented.	234321	0.075	0.017
731.6	749	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
731.6	733.0	Fine to coarse grained pink grey strongly hematitic	0.0	*18.3*		Similar hematite stained quartz monzodiorite encountered before the fault. Spotty epidote present associated with stringers and mafic minerals.	234322	0.013	0.001
733.0	735.0	Fine to coarse grained pink maroon strongly hematitic	0.0	*20.1*			234323	0.001	0.001
735.0	737.0			*25.5*			234324	0.002	0.006
737.0	739.0			*15.8*			234326	0.001	0.006
739.0	741.0		0.0	*11.2*			234327	0.002	0.001
741.0	743.0			*17.9*			234328	0.001	0.001
743.0	745.0		0.0	*16.2*			234329	0.002	0.013
745.0	747.0			*16*			234330	0.001	0.007
747.0	749.0		0.0	*24.5*		Patchy shattered section.	234331	0.003	0.001
749	755	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSION BRECCIA**							
749.0	751.0	Fine to coarse grained pink strongly hematitic		*34.7*		Unit is brecciated and contains clasts of the quartz monzodiorite within a fine grained black clay matrix. Contacts are broken.	234332	0.022	0.016
751.0	753.0			*31.7*			234333	0.023	0.001
753.0	755.0			*21.1*			234334	0.004	0.015
755	770	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
755.0	757.0	Fine to coarse grained grey pink moderately silicified (non-K)		*19.6*		Unit becomes a massive quartz monzodiorite again similar to before the breccia sections. Unit is less hemtitic and more siliceous.	234335	0.006	0.010
757.0	759.0			*48.7*			234336	0.001	0.001
759.0	761.0			*33*			234337	0.004	0.006
761.0	763.0	Fine to coarse grained pink grey moderately hematitic		*43*		Unit is more hematitic with a siliceousness decrease.	234338	0.002	0.001
763.0	765.0			*25.5*			234339	0.002	0.017
765.0	767.0			*46.7*			234340	0.001	0.001

Hole Number: KH-07-06

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
767.0	770.0	Fine to coarse grained pink grey moderately hematitic		*40.9*		EOH	234341	0.001	0.001

Hole Number: KH-07-07

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
0	17.9	**CASING**								
0.0	17.9									
17.9	21	**RUBBLY OVERBURDEN**								
17.9	21.0	Fine to coarse grained grey brown					overburden mixed with core fragments; unit is 60% missing core, remainder is Hazlton fragments			
21	53.8	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
21.0	23.0	Fine to coarse grained grey brown weakly chloritic	0.0	*57.3*			Blocky Ash Tuff: unit is composed of small feldspar porphyry basalt clasts (possible BFP), large brecciated andesite clasts containing smaller fragments in the clast, as well as minor granitic clasts, and possible QFP and AAP clasts; trace pyrite increases with depth; unitis wekly to moderately chlorite ltered with local clasts showing weak phyllic alteration; zeolite and zeolite-carbonate stringers throughout unit; unit not sampled due to proximity to hole KH-07-06			
23.0	25.0		0.0	*1.5*	ZSTR	3				
25.0	27.0		0.0	*2.5*	ZSTR	4				
27.0	29.0		0.0	*64.3*	ZSTR	4				
29.0	31.0		0.0	*44.0*	ZCBST	5				
31.0	33.0		0.0	*34.4*	ZSTR	5				
33.0	35.0		0.0	*25.3*	ZSTR	15	local section contains zeolite stockwork			
35.0	37.0		0.0	*57.9*	ZSTR	7				
37.0	39.0	Fine to coarse grained grey pink weakly chloritic	0.0	*8.8*	ZSTK	25	zeolite stockwork increases to base of sample; hematitic staining associated with stockwork			
39.0	41.0		0.0	*32.4*	ZSTK	70	local section intensely silica altered			
41.0	43.0	Fine to coarse grained grey green weakly chloritic	0.0	*16.2*	ZSTR	5				
43.0	45.0		0.1	*0.8*	ZCBST	4				
45.0	47.0		0.1	*1.3*	ZCBST	4				

Hole Number: KH-07-07

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
	47.0	49.0 Fine to coarse grained grey green moderately chloritic	0.1	*2.1*	ZCBST	5				
	49.0	51.0	0.3	*3.5*	ZCBST	3				
	51.0	52.5	0.3	*3.7*	ZCBST	3	local section of zeolite stockwork; 30cm andesite clast			
	52.5	53.8	0.3	*3.8*	ZCBST	3				
53.8	110.7	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**								
	53.8	56.0 Very fine to fine grained grey weakly chloritic	0.0	*1.6*			Andesite Flow: upper contact broken; unit has sections of flow breccia; weakly chlorite altered with sections of strong to moderate phyllic alteration; trace pyrite mineralization increases with depth; carbonate stringers and minor zeolite-carbonate stringers; start of interval not sampled due to proximity to hole KH-07-06; unit may be partly Hazelton			
	56.0	58.0	0.0	*1.5*						
	58.0	60.0	0.0	*2.6*						
	60.0	62.0	0.0	*2.4*						
	62.0	64.0	0.1	*1.3*						
	64.0	66.0	0.1	*36.1*						
	66.0	68.0	0.1	*1.9*	CBSTR	3				
	68.0	70.0	0.1	*2.6*						
	70.0	72.0	0.1	*2.6*						
	72.0	74.0	0.1	*3.1*	ZCBST	4				
	74.0	76.0	0.1	*3.4*	ZCBST	3				
	76.0	78.0	0.1	*0.6*	ZCBST	4				
	78.0	80.0	0.1	*1.8*	ZCBST	4				
	80.0	82.0	0.1	*0.6*	ZCBST	4	sampled interval begins	233480	0.004	0.005
	82.0	84.0	0.1	*0.4*	ZCBST	10		233481	0.030	0.001
	84.0	86.0	0.3	*0.5*	ZCBST	4		233482	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
86.0	88.0	Very fine to fine grained grey weakly chloritic	0.3	*0.5*	ZCBST 3	local sections weakly phyllic altered; unit becomes strongly flow brecciated	233483	0.003	0.001
88.0	90.0	Very fine to fine grained light grey green weakly phyllic	0.5	*0.6*	ZCBST 4		233484	0.001	0.006
90.0	92.0	Very fine to fine grained light grey green moderately phyllic	0.5	*0.5*	CBSTR 3		233485	0.002	0.006
92.0	94.0		0.5	*1.3*	CBSTR 5		233486	0.010	0.005
94.0	96.0		0.5	*3.1*	CBSTR 5		233487	0.012	0.001
96.0	98.0	Very fine to fine grained light grey green weakly phyllic	1.0	*1.3*	CBSTR 3		233488	0.018	0.007
98.0	100.0		1.0	*1.5*	CBSTR 4	minor local zeolite-carbonate stringers	233489	0.008	0.009
100.0	102.0		1.0	*1.6*	CBSTR 5		233490	0.006	0.006
102.0	104.0	Very fine to fine grained grey weakly phyllic	0.5	*1.8*	CBSTR 5		233491	0.011	0.001
104.0	106.0	Very fine to fine grained grey green weakly chloritic	0.1	*47.7*	CBSTR 4	phyllic alteration becomes patchy	233492	0.013	0.001
106.0	108.0		0.0	*27.4*	CBSTR 5		233493	0.012	0.005
108.0	109.5		0.0	*16.3*	CBSTR 5		233494	0.044	0.019
109.5	110.7		0.0	*34.6*	CBSTR 5		233495	0.012	0.005
110.7	112.3	**MASSIVE QUARTZ MONZODIORITE DYKE**							
110.7	112.3	Very fine to fine grained grey pink weakly epidote altered	0.0	*12.2*	ZSTR 3	Quartz Monzodiorite Dyke: upper contact at 55 TCA; unit is 70% plag, 20% alkali feldspars and 10% quartz; plagioclase altering to epidote; trace pyrite mineraliztion only; zeolite stringers with minor quartz and anhydrite present	233496	0.038	0.009
112.3	152	**FLOW BRECCIATED ANDESITE VOLCANIC BRECCIA**							
112.3	114.0	Very fine to fine grained grey green weakly chloritic	0.1	*0.8*	CBSTR 5	unit returns to andesite flow	233497	0.010	0.020
114.0	116.0		0.1	*1.2*	ZCBST 4		233498	0.006	0.011
116.0	118.0		0.1	*1.7*	ZCBST 4		233499	0.008	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
118.0	120.0	Very fine to fine grained grey green weakly chloritic	0.1	*0.7*	ZCBST	5		234001	0.006	0.001
120.0	122.0		0.1	*1.1*	ZCBST	5		234002	0.003	0.001
122.0	124.0		0.1	*1.3*	ZCBST	4		234003	0.002	0.001
124.0	126.0		0.1	*1.8*	ZCBST	4	local section of zeolite stockwork	234004	0.002	0.001
126.0	128.0		0.1	*2.3*	ZCBST	3		234005	0.002	0.001
128.0	130.0		0.1	*2.5*	ZCBST	4		234006	0.002	0.001
130.0	132.0		0.1	*2.6*	ZCBST	4		234007	0.001	0.005
132.0	134.0		0.1	*21.4*	ZCBST	3	local weak hematitic altertion	234008	0.002	0.001
134.0	136.0		0.1	*15.9*	ZCBST	3	local weak hematitic altertion; local sections rubbly	234009	0.005	0.001
136.0	138.0		0.1	*7.5*	ZCBST	3		234010	0.005	0.008
138.0	140.0		0.1	*4.2*	ZCBST	3		234011	0.005	0.006
140.0	142.0		0.1	*57.6*	ZCBST	4	minor carbonate altertion introduced	234012	0.001	0.001
142.0	144.0	Very fine to fine grained grey green weakly carbonate altered	0.3	*29.7*	ZCBST	4	carbonate alteration dominant with subordinate chlorite and hematite alteration; individual cubic pyrite crystals between 3mm and 5mm in size throughout sample	234013	0.001	0.001
144.0	146.0		0.1	*31*	ZCBST	3		234014	0.002	0.001
146.0	148.0		0.1	*61.6*	ZCBST	4		234015	0.035	0.012
148.0	150.0	Very fine to fine grained grey green weakly chloritic	0.1	*49.5*	ZCBST	7		234016	0.004	0.001
150.0	152.0	Very fine to fine grained grey green moderately chloritic	0.1	*20.4*	ZCBST	3		234017	0.002	0.009
152	156.3	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**								
152.0	154.0	Very fine to medium grained grey green moderately chloritic	0.5	*52.4*	ZCBST	7	Andesite Augite Porphyry: upper contact at 10 TCA; unit is composed of 5% augite crystals up to 3mm in size and 15% magnetite crystals in an andesite matrix; unit is moderately chlorite altered overprinting propylitic (ep) altertion; pyrite mineralization locally high; zeolite-carbonte stringers throughout unit	234018	0.009	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
154.0	156.3	Very fine to medium grained grey green moderately chloritic	0.5	*87.1*	ZCBST	7		234019	0.011	0.008
156.3	175.2	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								
156.3	158.0	Fine to coarse grained grey weakly phyllic	0.5	*8*	ZCBST	5	Blocky Ash Tuff: upper contact broken; unit consists of medium to large granitic fragments, small to medium mafic fragments, small quartz fragments, and small andesite fragments; matrix consists of fine grained ash fragments; matrix is phyllic (sericite with minor quartz) altered with weak hematitic staining in granitic fragments; increased pyrite mineralization in mafic fragments, minor pyrite minerlization in matrix; zeolite-carbonate stringers throughout unit. Appears to correlate with hole 07-18 from ~174-230m and hole 07-14 from ~100-130m and hole 06-03 from ~190-222m.	234020	0.127	0.101
158.0	160.0		0.5	*5.3*	ZCBST	4		234021	0.127	0.101
160.0	162.0		0.5	*3.1*	ZCBST	7		234022	0.141	0.102
162.0	164.0		0.5	*132*	ZCBST	6		234023	0.134	0.119
164.0	166.0		0.5	*133*	ZCBST	4		234024	0.137	0.104
166.0	168.0		0.5	*11*	ZCBST	4		234026	0.131	0.109
168.0	170.0		0.5	*7*	ZCBST	5	minor local quartz-carbonate stringers	234027	0.127	0.106
170.0	172.0		0.5	*16*	ZCBST	4		234028	0.143	0.123
172.0	174.0		0.5	*9.9*	ZCBST	4		234029	0.141	0.113
174.0	175.2		0.5	*0.6*	ZCBST	4		234030	0.111	0.061
175.2	220.6	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**								
175.2	177.0	Fine to coarse grained light grey green weakly phyllic	0.5	*1.5*	CBSTR	3	Andesite Augite Porphyry: upper contact appears to be a healed fault at 40 TCA; unit consists of 15% augite crystals in fine grained andesite matrix; unit is phyllic altered at top and bottom changing to propylitic alteration in middle; pyrite minerlization decreses in propylitic altered zone; carbonate and minor quartz-carbonate stringers throughout unit	234031	0.017	0.013

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
177.0	179.0	Fine to coarse grained light grey green weakly phyllic	1.0	*2.1*	CBSTR	5		234032	0.010	0.006
179.0	181.0		1.0	*2.5*	CBSTR	5		234033	0.011	0.001
181.0	183.0		0.1	*2.9*	CBSTR	6	propylitic alteration overprinted at top of sample, bottom of sample propylitic (ep & clor) alteration replaces phyllic alteration,	234034	0.012	0.007
183.0	185.0	Fine to coarse grained grey green weakly propyllitic	0.3	*65.9*	CBSTR	3	local zone strongly altered contains increased pyrite; some augite crystals altering to epidote; increased disseminated magnetite in propylitic altered zone	234035	0.009	0.001
185.0	187.0		0.1	*85.7*	CBSTR	3		234036	0.009	0.001
187.0	189.0		0.1	*76.6*	CBSTR	4		234037	0.005	0.001
189.0	191.0		0.1	*25.1*	CBSTR	5	propylitic alteration overprinted by phyllic alteration towards base of sample; some augite crystals show alteration halos	234038	0.014	0.006
191.0	193.0	Fine to coarse grained light grey green weakly phyllic	0.1	*6*	CBSTR	6		234039	0.014	0.001
193.0	195.0		0.3	*5.6*	CBSTR	5	pyrite stringers increasing minerlization	234040	0.013	0.001
195.0	197.0		0.8	*4.7*	CBSTR	5		234041	0.013	0.001
197.0	199.0		0.5	*5.1*	CBSTR	4	pyrite stringers increasing minerlization; some augite crystals show alteration halos	234042	0.015	0.001
199.0	201.0		0.3	*1*	CBSTR	6		234043	0.016	0.001
201.0	203.0		0.3	*1.1*	CBSTR	4	local sections blocky to rubbly	234044	0.023	0.005
203.0	205.0		0.3	*1.4*	CBSTR	4	local sections blocky	234045	0.031	0.001
205.0	207.0		0.3	*1.7*	CBSTR	3		234046	0.023	0.001
207.0	209.0	Fine to coarse grained light grey green moderately phyllic	0.3	*1.9*	CBSTR	5	increased phyllic alteration (ser & q) overprinting increased propylitic (ep) altertion	234047	0.014	0.001
209.0	211.0	Fine to coarse grained grey green moderately phyllic	0.3	*2.2*	ZCBST	5	local sections blocky to rubbly	234048	0.024	0.005
211.0	213.0		0.3	*2.1*	ZCBST	4		234049	0.023	0.006

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
213.0	215.0	Fine to medium grained grey green strongly phyllic	0.1		ZCBST	5	phyllic alteration still overprinting propylitic alteration	234051	0.013	0.008
215.0	217.0		0.3	*0.6*	CBSTR	3		234052	0.032	0.012
217.0	219.0		0.3	*1.2*	CBSTR	4	local sections may be BFP	234053	0.055	0.013
219.0	220.6		0.3	*1.8*	CBSTR	4	last sample where augite phenocrysts dominate	234054	0.028	0.011
220.6	276	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
220.6	222.0	Fine to coarse grained grey white intensely phyllic	0.5	*1.8*			Bladed Felspar Porphyry: upper contact gradational; feldspar phenocrysts up to 3.5cm long present in unit; local sections contain mineralized mafic amygduls; phyllic alteration overprints propylitic alteration throughout unit, alteration intensity varies throughout; pyrite mineralization throughout with local increases; carbonate stringers throughout, minor zeolite-carbonate stringers present	234055	0.022	0.012
222.0	224.0		0.5	*2.3*				234056	0.046	0.014
224.0	226.0	Fine to coarse grained light grey green strongly phyllic	0.3	*0.7*	CBSTR	4	increased silica alteration in sample	234057	0.037	0.011
226.0	228.0		0.3	*10.4*	CBSTR	4		234058	0.025	0.009
228.0	230.0		0.3	*1.7*	CBSTR	3	sample contains about 1% pyrite mineralized amygduls	234059	0.057	0.013
230.0	232.0	Fine to coarse grained light grey green intensely phyllic	0.3	*0.7*				234060	0.051	0.032
232.0	234.0	Fine to coarse grained light grey green strongly phyllic	0.3	*1.2*				234061	0.031	0.010
234.0	236.0		0.3	*1.2*	ZCBST	4	sample contains about 1% pyrite mineralized amygdules	234062	0.030	0.015
236.0	238.0		0.3	*2*	ZCBST	3		234063	0.032	0.013
238.0	240.0		0.3	*2.4*	ZCBST	3	minor pyrite mineralized amygdules	234064	0.019	0.009
240.0	242.0		0.3	*0.8*	ZCBST	6	minor pyrite mineralized amygduls	234065	0.021	0.010
242.0	244.0		1.0	*1*	CBSTR	4	sample contains about 3% pyrite mineralized amygdules	234066	0.032	0.008
244.0	246.0		1.0	*2*	CBSTR	4	sample contains about 3% pyrite mineralized amygdulus	234067	0.022	0.013

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
246.0	248.0	Fine to coarse grained light grey green strongly phyllic	1.0	*1.9*	CBSTR	7	amygdules increase to 5% and become more fine grined	234068	0.019	0.026
248.0	250.0		1.0	*2.2*	CBSTR	5	3% pyrite mineralized amygdulus	234069	0.029	0.040
250.0	252.0		0.5	*1*	CBSTR	5	amygdules decrease at center of sample	234070	0.019	0.014
252.0	254.0		0.5	*1.5*	CBSTR	4	amygdules decrease along sample	234071	0.058	0.052
254.0	256.0	Fine to coarse grained light grey green intensely phyllic	0.5	*1.5*			sample becomes intensely altered in narrow bands	234072	0.064	0.034
256.0	258.0		0.5	*2.7*	CBSTR	3	intense alteration becomes evenly spread	234073	0.021	0.021
258.0	260.0		0.5	*2.8*	CBSTR	3		234074	0.015	0.032
260.0	262.0	Fine to coarse grained light grey green strongly phyllic	0.5	*0.6*	CBSTR	3		234076	0.041	0.035
262.0	264.0		0.5	*1.2*	CBSTR	4		234077	0.041	0.034
264.0	266.0		0.5	*0.7*	ZCBST	5		234078	0.038	0.029
266.0	268.0		0.5	*1*	ZCBST	6	minor fine grained amygdules	234079	0.052	0.029
268.0	270.0	Fine to coarse grained light grey green moderately phyllic	0.5	*2.4*	CBSTR	5		234080	0.024	0.017
270.0	272.0	Fine to coarse grained grey green weakly propyllitic	0.1	*2.3*	CBSTR	5	local phyllic alteration dissappears	234081	0.027	0.010
272.0	274.0	Fine to coarse grained light grey green moderately phyllic	0.1	*19.3*	ZCBST	6		234082	0.021	0.011
274.0	276.0	Fine to coarse grained light grey green weakly phyllic	0.1	*12.9*	ZCBST	7	local feldspar phenocrysts become hematite stained	234083	0.028	0.011
276	301.5	**STOCKWORKED ANDESITIC AUGITE PORPHYRY FLOW**								

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
276.0	278.0	Fine to coarse grained grey green strongly propyllitic	0.1		*48*	SHR	40 8	Unit has changed into massive AAP with 8-10% augite pheoncrysts 1-3mm and some altered to chlorite, sericite and epidote. Unit is intermediate in composition. Alteration has obliterated most of the characteristics of the rock. Sericite, chlorite and epidote alteration of the matrix is moderate to strong with patchy epidote within the veins. Magnetite present s fine black specks. 6-8% calcite and zeolite veining oriented 35-50 deg to the core axis. 1-2% calcite and zeolite stringers randomly oriented. Minor pyrite disseminated within the matrix and veins. Start of the unit is stockworked and slightly sheared at 40 deg to the core axis. Feldspar phenocrysts present (5-7%) 1-3mm long.	234084	0.018	0.011
278.0	280.0	Fine to coarse grained grey green moderately propyllitic	0.4		*1.8*			Patchy hematite stain on the feldspars.	234085	0.026	0.017
280.0	282.0	Fine to coarse grained green moderately propyllitic	0.5	**0.0**	*2.6*			Trace of chalcopyrite and sphalerite within a vein.	234086	0.018	0.017
282.0	284.0		1.0		*1*				234087	0.015	0.014
284.0	286.0	Fine to coarse grained green strongly propyllitic	0.8		*5.2*			Patchy hematite staining.	234088	0.017	0.014
286.0	288.0	Fine to coarse grained green moderately propyllitic	0.6		*52.6*			Large undulating breccia zone with calcite and zeolite veining through this section.	234089	0.024	0.019
288.0	290.0	Fine to coarse grained grey moderately propyllitic	0.1		*2*			Patchy hematite staining. Vuggy veins. Increase in the degree of sericite alteration with decrease in chlorite alteration.	234090	0.035	0.034
290.0	292.0	Fine to coarse grained green strongly propyllitic	0.3		*92.7*				234091	0.018	0.013
292.0	294.0	Fine to coarse grained grey green moderately propyllitic	2.5		*1.2*			BFP clast present. Feldspar phenocrysts are 0.3-1cm in length with some altered to sericite.	234092	0.032	0.042
294.0	296.0	Fine to coarse grained grey green strongly propyllitic	3.0		*1.7*			Quartz present within some veins.	234093	0.039	0.058
296.0	298.0	Fine to coarse grained dark green moderately propyllitic	1.0		*1.4*			Increase in chlorite alteration with decrease in sericite alteration.	234094	0.021	0.017

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
298.0	300.0	Fine to coarse grained dark green moderately propyllitic	0.8		*2*			234095	0.017	0.018
300.0	301.5	Fine to coarse grained green grey moderately propyllitic	1.5		*1.5*			234096	0.033	0.024
301.5	333.8	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
301.5	303.0	Fine grained grey green strongly phyllic	1.0		*0.7*		Unit contains 10-13% feldspar phenocrysts 0.3cm to 1.2cm in size. Some of the feldspar phenocrysts are altered to sericite and chlorite. Matrix is fine grained and composed of mafics and some feldspars. Alteration has obliterated some to most of the charactersitics of rock. 4-6% zeolite and calcite veining oriented 25-50 deg to the core axis. Minor quartz and hematite present within the veins. Sericite and chlorite alteration dominate the matriz. Patchy epidote present within the matrix. Patchy quartz replacement present. Pyrite present within veins and disseminated within the matrix.	234097	0.013	0.026
303.0	305.0	Fine grained green moderately phyllic	4.0		*76.6*		Section contains a 50cm AAP clast.	234098	0.020	0.014
305.0	307.0	Fine grained grey moderately phyllic	4.0	**0.0**	*1.5*		Trace of chalcopyrite within some chlorite zones within the matrix.	234099	0.021	0.020
307.0	309.0		3.5		*32.9*			234101	0.020	0.021
309.0	311.0	Fine grained grey green strongly phyllic	5.0	**0.0**	*0.7*		Vuggy, trace of chalcopyrite present.	234102	0.100	0.050
311.0	313.0		5.5	**0.0**	*0.9*			234103	0.035	0.040
313.0	315.0	Fine grained grey green moderately phyllic	3.5		*0.5*		Trace of sphalerite within the matrix.	234104	0.097	0.059
315.0	317.0		4.0		*0.7*			234105	0.018	0.021
317.0	319.0		5.0		*1.4*			234106	0.023	0.019
319.0	321.0		5.5	**0.0**	*1.7*		Trace of chalcopyrite within a vein.	234107	0.024	0.019
321.0	323.0	Fine grained grey green strongly phyllic	4.0		*1.6*			234108	0.025	0.016
323.0	325.0		4.5		*35.6*			234109	0.024	0.012

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
325.0	327.0	Fine grained grey green moderately phyllic	5.0	*3.1*			234110	0.026	0.013
327.0	329.0	Fine grained grey green moderately propyllitic	5.2	*9.5*		Sericite and quartz alteration have decreased with an increase in epidote and chlorite alteration. Intensity of epidote, chlorite and sericite alteration is moderate.	234111	0.023	0.017
329.0	331.0		3.8	*0.8*			234112	0.023	0.019
331.0	333.0		3.5	*1.1*			234113	0.027	0.028
333.0	333.8		3.5	*1.3*			234114	0.018	0.018
333.8	374.1	**AMYGDULAR BASALT FLOW**							
333.8	335.0	Fine grained grey green moderately propyllitic	3.0	*2*		Unit contains 15-20% amygdules filled with epidote, calcite, chlorite and pyrite. 1-2% feldspar phenocrysts with some altered to sericite. Epidote, sericite and chlorite alteration dominate within the matrix. Patchy siliceous overprint present. Matrix is fine grained. 4-6% calcite, zeolite and minor quartz veining oriented 30-50 deg to the core axis. Pyrite is disseminated within the matrix and within veins.	234115	0.028	0.036
335.0	337.0		4.0	*3.4*			234116	0.029	0.025
337.0	339.0		5.0	*0.8*		Vuggy veins.	234117	0.021	0.025
339.0	341.0		4.0	*1.6*			234118	0.021	0.021
341.0	343.0		4.5	*0.9*			234119	0.009	0.026
343.0	344.4		4.0	*1.4*			234120	0.032	0.044

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
344.4	346.0	Fine grained grey green moderately propyllitic	4.5	*72.9*		Massive basalt with 2-4% feldspar phenocrysts and 2-4% amygdules. Feldspar phenocrysts range in size from 0.2cm to 1 cm. Some phenocrysts are altered to sericite and epidote. Amygdules are 3mm to 8mm in size and filled with calcite, epidote, chlorite and pyrite. Matrix is fine grained and altered to epidote, chlorite and sericite. Patchy siliceous overprint present. Patchy magnetic sections depending on the degree of alteration. 4-6% calcite, zeolite nd quartz veining oriented 30-50 deg to the core axis with some randomly oriented. Patchy stockworking present 30-50 deg to the core axis with stringers randomly oriented. Pyrite is disseminated within the matrix and present within the veins.	234121	0.017	0.024
346.0	348.0		3.5 **0.0**	*107*	SHR 40 2	Trace of chalcopyrite within the matrix. Vuggy veins.	234122	0.014	0.017
348.0	350.0		3.0	*113*			234123	0.009	0.011
350.0	352.0		4.5	*3.4*			234124	0.023	0.024
352.0	354.0	Fine grained grey green weakly propyllitic	4.0	*38.2*			234126	0.024	0.018
354.0	356.0	Fine grained grey green moderately propyllitic	5.0	*1.2*			234127	0.050	0.028
356.0	358.0		7.0	*1.3*		Quartz flooded.	234128	0.023	0.033
358.0	360.0		6.0	*1.6*		Quartz flooded, vuggy veins.	234129	0.013	0.030
360.0	362.0	Fine grained grey green weakly propyllitic	5.5	*2.4*			234130	0.021	0.025
362.0	364.0	Fine grained grey green moderately propyllitic	7.0	*2.5*		Quartz flooded.	234131	0.062	0.050
364.0	366.0		6.0	*3.1*			234132	0.028	0.034
366.0	368.0	Fine grained grey green weakly propyllitic	6.5	*1.2*			234133	0.016	0.032
368.0	370.0	Fine grained grey green moderately propyllitic	7.0 **0.1**	*1.6*		Minor chalcopyrite within a vein and disseminated. Trace of sphalerite within a vein.	234134	0.030	0.044

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
370.0	372.0	Fine grained grey green moderately propyllitic	6.2 **0.0**	*1.7*		Section contains 15-20% amygdules. Trace of chalcopyrite within a quartz vein.	234135	0.025	0.044
372.0	374.1		6.8	*2.2*			234136	0.060	0.044
374.1	402.7	**MASSIVE ANDESITE FLOW**							
374.1	376.0	Fine grained green moderately potassic - chlorite-quartz-sericite	6.0 **0.1**	*21.9*	CNT 30	Unit is an andesite flow. Alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and sericite alteration dominate at the start of the unit. Biotite alteration increases down the hole. 2-4% secondary calcite and zeolite veins present randomly oriented. 1-2% primary quartz veins oriented 30-60 deg to the core axis.Magnetite present within the matrix and veins. Pyrite is disseminated within the matrix and present within veins. Contact with the basalt unit is veined at 30 deg to the core axis. Minor chalcopyrite within a quartz vein. Minor disseminated and veined chalcopyrite. Spotty epidote within the matrix present.	234137	0.060	0.038
376.0	378.0		6.0 **0.1**	*32.7*		Trace of chalcopyrite and molybdenum within a quartz vein.	234138	0.069	0.037
378.0	380.0		5.5 **0.1**	*5*			234139	0.081	0.053
380.0	382.0	Fine grained green strongly potassic - chlorite-quartz-sericite	6.5	*67.9*			234140	0.071	0.040
382.0	384.0		7.0 **0.2**	*9.1*			234141	0.224	0.125
384.0	386.0	Fine to coarse grained red green strongly potassic - biotite-quartz-chlorite	6.0 **0.5**	*2.8*		Increase in biotite alteration and spotty K-spar altertion. Anhydrite present within some veins now.	234142	0.285	0.176
386.0	388.0	Fine to coarse grained red intensely potassic - biotite-quartz-chlorite	4.5 **1.0**	*20.3*			234143	0.204	0.104
388.0	390.0		5.0 **1.5**	*61.5*		Trace of molybdenum within quartz vein.	234144	0.253	0.123
390.0	392.0	Fine to coarse grained red intensely potassic - biotite-sericite-chlorite	4.0 **1.7**	*1.5*		Minor molybdenum within a couple of quartz veins.	234145	0.112	0.052
392.0	394.0	Fine to coarse grained red intensely potassic - chlorite-sericite-biotite	5.0 **1.3**	*1.7*			234146	0.266	0.155

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
394.0	396.0	Fine to coarse grained red intensely potassic - biotite-chlorite-quartz	4.7 **1.5**	*3.6*				Trace of molybdenum within a quartz vein.	234147	0.142	0.072
396.0	398.0	Fine to coarse grained red intensely potassic - biotite-chlorite-sericite	6.0 **1.7**	*24.6*					234148	0.174	0.110
398.0	400.0	Fine to coarse grained red intensely potassic - biotite-chlorite-quartz	6.3 **2.0**	*2.8*					234149	0.196	0.096
400.0	402.0	Fine to coarse grained red strongly potassic - sericite-biotite-chlorite	4.0 **1.0**	*1.5*					234151	0.184	0.106
402.0	402.7	Fine to coarse grained red green strongly potassic - sericite-biotite-quartz	6.0 **1.3**	*1.9*					234152	0.180	0.103
402.7	408.6	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
402.7	404.0	Fine grained dark grey white weakly sericitic	4.0 **0.7**	*2.1*	FAB	45		Unit contains 12-17% feldspar phenocrysts 0.3cm to 1.3cm. Some phenocrysts are altered to sericite and minor hematite staining. Fine grained matrix weakly altered to sericite and chlorite. 3-5% zeolite, calcite, anhydrite and quartz veining oriented 30-60 deg to the core axis. Magnetite present within some veins. Pyrite and chalcopyrite disseminated within the matrix and present within the veins. Fabric to the phenocrysts at 45 deg to the core axis. Trace of molybdenum within quartz veins. Upper contact is 50 deg to the core axis and the lower contact is 60 deg to the core axis.	234153	0.114	0.077
404.0	406.0		3.0 **0.3**	*11.9*	FAB	45		Trace of molybdenum within a quartz vein.	234154	0.185	0.110
406.0	408.6	Fine grained dark grey weakly sericitic	4.0 **0.5**	*7.1*	FAB	45		Patchy K-spar alteration.	234155	0.166	0.114
408.6	413.4	**MASSIVE ANDESITE FLOW**									
408.6	410.0	Fine to coarse grained dark green grey strongly potassic - sericite-chlorite-quartz	4.5 **0.6**	*2.5*				Back into the similar potssic altered andesite encoutered before the BFP unit/block. Minor molybdenum present within some quartz veins. Spotty feldpsar phenocrysts present.	234156	0.236	0.141
410.0	412.0		3.5 **0.2**	*2.9*	FLT	30	2		234157	0.132	0.079

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
412.0	413.4	Fine to coarse grained dark green grey moderately potassic - sericite-chlorite-quartz	1.5 **0.3**	*2.9*	FLT	40	2		234158	0.163	0.129
413.4	413.8	**MASSIVE CALCITE VEIN**									
413.4	413.8	Fine grained white		*0.3*	CALV	35			234159	0.019	0.014
413.8	452.2	**MASSIVE ANDESITE FLOW**									
413.8	415.0	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite-quartz	5.0 **1.0**	*2.5*				Back into similar potassic altered andesite before the calcite vein. Minor molybdenum within a quartz vein.	234160	0.181	0.109
415.0	417.0	Fine to coarse grained dark green grey moderately potassic - chlorite-quartz-biotite	6.0 **1.5**	*4.9*				Minor molybdenum within a quartz vein.	234161	0.132	0.078
417.0	419.0	Fine to coarse grained dark green grey moderately potassic - chlorite-quartz-sericite	3.0 **0.2**	*14.6*					234162	0.147	0.096
419.0	421.0	Fine to coarse grained dark green grey moderately potassic - chlorite-quartz-biotite	5.0 **0.6**	*32.2*	FLT	60	2		234163	0.143	0.091
421.0	423.0	Fine to coarse grained dark green moderately potassic - chlorite-quartz-biotite	3.0 **0.3**	*4.8*					234164	0.153	0.145
423.0	425.0	Fine to coarse grained red strongly potassic - biotite-chlorite-quartz	3.5 **0.8**	*2.2*				Minor molybdenum within some quartz veins.	234165	0.248	0.150
425.0	427.0	Fine to coarse grained strongly potassic - biotite-quartz-chlorite	4.0 **1.5**	*86.7*				Minor K-spar alteration around some quartz veins.	234166	0.265	0.181
427.0	429.0		5.0 **1.0**	*1.8*					234167	0.230	0.162
429.0	431.0	Fine to coarse grained dark green strongly potassic - chlorite-quartz-biotite	6.5 **1.0**	*85.3*					234168	0.256	0.168
431.0	433.0	Fine to coarse grained brown black strongly potassic - chlorite-quartz-biotite	5.5 **1.5**	*0.9*				0.2% molybdenum within a quartz vein.	234169	0.180	0.120

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
433.0	435.0	Fine to coarse grained strongly potassic - chlorite-quartz-biotite	5.0 **0.8**	*2.5*		Trace of molybdenum within a quartz vein.	234170	0.231	0.124
435.0	437.0		7.0 **1.0**	*51.3*		K-spar alteration halo surrounding some quartz veins.	234171	0.107	0.065
437.0	439.0		6.0 **1.1**	*15*			234172	0.234	0.179
439.0	441.0	Fine to coarse grained grey green strongly potassic - sericite-chlorite-biotite	6.5 **2.0**	*3.5*		Moderate epidote alteration. Skarn looking.	234173	0.231	0.150
441.0	443.0		5.0 **2.5**	*0.8*			234174	0.527	0.280
443.0	445.0		5.0 **2.5**	*86.9*		Moderate epidote alteration. Skarn looking. Minor molybdenum within a quartz vein.	234176	0.488	0.251
445.0	447.0		3.0 **0.1**	*0.5*		Moderate epidote alteration. Skarn looking.	234177	0.241	0.124
447.0	449.0	Fine to coarse grained dark green pink strongly potassic - chlorite-biotite-quartz	4.5 **0.5**	*0.9*		Moderate K-spar alteration. Minor molybdenum within a quartz vein.	234178	0.161	0.119
449.0	451.0	Fine to coarse grained dark green black strongly potassic - chlorite-biotite-quartz	5.0 **0.8**	*44*		Trace of molybdenum within a quartz vein.	234179	0.246	0.171
451.0	452.2		6.0 **1.6**	*57.5*			234180	0.174	0.105
452.2	457.7	**BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**							
452.2	454.0	Fine to coarse grained dark green black strongly potassic - chlorite-biotite-quartz	6.5 **1.8**	*29.2*		Unit is similar to the above except this unit contains 8-12%, 1-5mm augite phenocrysts. Most of the augite phenocrysts are altered to chlorite and minor biotite and sericite. Alteration of the unit has obliterated most of the characteristics of the rock. Chlorite, biotite and quartz are the dominant alteration types. 3-6% quartz, calcite, zeolite and anhydrite veins oriented 30-50 deg to the core axis. Matrix and veins contain magnetite. Pyrite and chalcopyrite is disseminated within the matrix and present within veins.	234181	0.249	0.198
454.0	456.0		6.0 **1.5**	*60.3*		Minor molybdenum within a quartz vein.	234182	0.295	0.256
456.0	457.7		5.0 **1.8**	*6.7*			234183	0.392	0.282

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
457.7	460.6	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
457.7	459.0	Fine grained dark grey moderately potassic - sericite-quartz-chlorite	2.5 **0.7**	*27.6*	FAB	50	Unit contains 15-20% feldspar 0.3cm to 1.2cm. Sericite alteration dominates the alteration with weak hematite alteration. Weak magnetite replacement within some phenocrysts. 4-6% zeolite, quartz, anhydrite and calcite veining oriented 40-60 deg to the core axis. Minor pyrite and chalcopyrite are disseminated within the matrix and present within the veins. Moderate, quartz, sericite and chlorite alteration present. Minor magnetite present within the veins.	234184	0.372	0.342
459.0	460.6		2.2 **0.9**	*33.6*	FAB	50		234185	0.363	0.231
460.6	476	**BRECCIATED ANDESITE FLOW**								
460.6	462.0	Fine grained green strongly potassic - quartz-chlorite-biotite	6.0 **1.5**	*5*			Unit is becciated in sections and massive in others. Andesite clasts are magnetic. Matrix within brecciated sections are made of groundup andesite material. Alteration has obliterated most of the characteristics of the rock. Quartz, chlorite, biotite are the dominant alteration types present. 2-4% quartz, calcite and zeolite veining oriented 20-40 deg to the core axis. Pyrite and chalcopyrite present within the matrix, veins and brecciated clasts. Spotty epidote alteration present within the matrix. Minor molybdenum within some veins.	234186	0.549	0.368
462.0	464.0		5.0 **2.0**	*1.7*				234187	0.277	0.196
464.0	466.0		5.5 **2.5**	*1.6*				234188	0.203	0.133
466.0	468.0		6.0 **2.0**	*60.5*			Minor molybdenum within a couple of quartz veins.	234189	0.291	0.184
468.0	470.0		6.5 **2.3**	*86.1*				234190	0.290	0.204
470.0	472.0	Fine grained green strongly potassic - chlorite-quartz-sericite	4.5 **1.8**	*3.2*				234191	0.436	0.299
472.0	474.0	Fine to coarse grained green strongly potassic - chlorite-sericite-quartz	3.0 **0.2**	*0.4*			Trace of molybdenum within a quartz vein.	234192	0.310	0.232

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
474.0	476.0	Fine to medium grained dark green black strongly potassic - chlorite-sericite-quartz	5.0 **1.2**	*0.1*			234193	0.297	0.226
476	476.9	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**							
476.0	476.9	Fine grained black brown strongly potassic - biotite-quartz	2.0 **0.1**	*0.1*		Unit is a possible BFP block. Unit contains 12-17% feldspar phenocrysts, 0.3-1.2cm in size. Some of the phenocrysts are altered to sericite and have a hematite stain. 2-3% zeolite veining oriented 40-50 deg to the core axis. Alteration has obliterated most of the characteristics of the rock. Biotite and quartz are the dominant altertion types. Minor pyrite and quartz present within the matrix and veins.	234194	0.355	0.287
476.9	488.3	**BRECCIATED ANDESITE FLOW**							
476.9	479.0	Fine grained strongly potassic - biotite-quartz-chlorite	5.0 **2.0**	*17.7*		Unit starts off brecciated and becomes massive down the hole. Alteration has obliterated most of the characteristics of the rock. Biotite, quartz and chlorite are the dominant alteration types present. Unit contains 2-3%, 1-3mm augite phenocrysts, some altered to chlorite. Spotty magnetite present within the matrix. 2-4% quartz, anhydrite and calcite veins oriented 20-50 deg to the core axis. Patchy epidote and hematite within the veins. Magnetite within the veins. Pyrite and chalcopyrite is disseminated within the matrix and present within the veins. Minor K-spar alteration halo around some veins. Top of the unit contains BFP clasts.	234195	0.531	0.430
479.0	481.0		6.0 **2.2**	*17.3*		Trace of molybdenum within a quartz vein.	234196	0.395	0.324
481.0	483.0		5.0 **2.7**	*76.6*			234197	0.402	0.341
483.0	485.0	Fine grained green strongly potassic - biotite-quartz-chlorite	5.5 **1.5**	*79.7*			234198	0.386	0.301
485.0	487.0		4.5 **0.8**	*35.3*			234199	0.237	0.177
487.0	488.3		3.0 **0.5**	*26.7*			234201	0.226	0.187
488.3	499.7	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							

Hole Number: KH-07-07

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
488.3	490.0	Fine to medium grained dark green strongly potassic - chlorite-quartz-biotite	3.5 **1.0**	*59.7*	FLT	30	2	Unit contains 12-15%, 1-7mm augite phenocrysts with most of them altered to chlorite. 1-3% quartz and calcite veining oriented 55-75 deg to the core axis. Alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and biotite are the dominant alteration types present. Minor K-spar alteration surrounding some veins and within the matrix. Magnetite present within the matrix and veins. Pyrite and chalcopyrite is disseminated within the matrix and present within the veins. Contact with the overlying andesite is veined at 70 deg to the core axis. Trace of molybdenum within some quartz veins. Patchy epidote within the matrix and veins.	234202	0.270	0.279
490.0	492.0		4.0 **2.0**	*21.3*					234203	0.442	0.345
492.0	494.0		4.5 **1.6**	*20.8*					234204	0.235	0.243
494.0	496.0	Fine to medium grained dark green black strongly potassic - chlorite-quartz-biotite	5.0 **0.7**	*45.5*					234205	0.253	0.204
496.0	498.0		4.0 **0.5**	*54.9*					234206	0.369	0.339
498.0	499.7		3.5 **0.7**	*0.6*	QV	10	10	Quartz vein from 499.5m to 499.7m containing pyrite, chalcopyrite and molybdenum.	234207	0.365	0.312
499.7	500.1	**MASSIVE MONZONITE DYKE**									
499.7	500.1	Fine to coarse grained grey moderately hematitic	1.5 **0.1**	*0*	DYK	30		Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~7% quartz and calcite veining oriented 30-40 deg to the core axis. Pyrite and chlcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 30 deg to the core axis and the lower contact is 35 deg to the core axis.	234208	0.351	0.230
500.1	504	**MASSIVE ANDESITE FLOW**									

Hole Number: KH-07-07

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
500.1	502.0	Fine grained green strongly potassic - quartz-biotite-chlorite	2.5 **2.0**	*5.6*		Unit is similar to the potassic altered andesite encountered before the dike above. Unit contains less augite phenocrysts down to 2-4%. 4-6% healed fractures filled with quartz, calcite and zeolite. 1-2% quartz, calcite and anhydrite veining oriented 30-50 deg to the core axis. Alteration is dominated by quartz, biotite and chlorite. Pyrite and chalcopyrite are disseminted within the matrix and present within the veins and fracture fills. Magnetite present within the veins and matrx.	234209	0.477	0.386
502.0	504.0		4.0 **1.5**	*49*			234210	0.200	0.207
504	504.8	**MASSIVE MONZONITE DYKE**							
504.0	504.8	Fine to coarse grained grey moderately hematitic	3.5 **0.7**	*1.6*	DYK 40	Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~3% quartz and calcite veining oriented 40-70 deg to the core axis. Pyrite and chlcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 45 deg to the core axis and the lower contact is 40 deg to the core axis. Unit undulates in and out of Takla andesite.	234211	0.417	0.317
504.8	507.4	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
504.8	506.0	Fine grained green strongly potassic - quartz-biotite-chlorite	4.0 **0.5**	*22.6*		Unit is similar to the potassic altered andesite encountered before the dike above. Unit contains 5-8% augite phenocrysts 1-5mm in size. 2-3% healed fractures filled with quartz, calcite and zeolite. 2-3% quartz, calcite and anhydrite veining oriented 30-50 deg to the core axis. Alteration is dominated by quartz, biotite and chlorite. Pyrite and chalcopyrite are disseminted within the matrix and present within the veins and fracture fills. Magnetite present within the veins and matrx.	234212	0.245	0.218
506.0	507.4		4.3 **0.8**	*17.2*		Trace of molybdenum within a quartz vein.	234213	0.301	0.280
507.4	507.9	**MASSIVE MONZONITE DYKE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
507.4	507.9	Fine to coarse grained grey moderately hematitic	2.5 **0.4**	*3.2*		Unit contains ~75% feldspars, ~20 mafics and ~5% quartz. Hematite staining over the feldspar crystals. Unit has a siliceous overpring. ~5% quartz, calcite and anhydrite veining oriented 10-60 deg to the core axis. Pyrite and chalcopyrite present within the matrix and veins. Siliceous overprint present. Upper contact is 35 deg to the core axis and the lower contact is broken.	234214	0.550	0.663
507.9	514.9	**MASSIVE ANDESITE FLOW**							
507.9	510.0	Fine grained green strongly potassic - chlorite-quartz-biotite	4.5 **1.7**	*89.4*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, quartz and biotite are the main alteration types present. 2-4% quartz, calcite and zeolite veining oriented 50-80 deg to the core axis. Magnetite present within veins and the matrix. Pyrite and chalcopyrite are disseminated within the matrix and present within veins. Trace of molybdenum within some of the quartz veins.	234215	0.330	0.337
510.0	512.0		5.5 **1.0**	*21.6*			234216	0.305	0.297
512.0	514.0		4.0 **0.8**	*3.2*			234217	0.432	0.335
514.0	514.9		2.0 **0.3**	*5.7*			234218	0.373	0.279
514.9	516.6	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
514.9	516.6	Medium to coarse grained grey pink moderately potassic - quartz-sericite-chlorite	3.3 **1.2**	*0.2*	CNT 45	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 45-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the overlying Takla is 45 deg to the core axis.	234219	0.458	0.401
516.6	517	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
516.6	517.0	Fine grained green strongly potassic - chlorite-biotite-quartz	4.0 **0.3**	*0*		Possible block of andesite within the quartz monzonite. Andesite is similar to the one encountered before the start of the quartz monzonite. Upper contact is broken and lower contact is 65 deg to the core axis.	234220	0.344	0.305
517	530	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
517.0	519.0	Medium to coarse grained grey moderately potassic - quartz-sericite-chlorite	2.0 **1.2**	*0*		Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 45-70 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the overlying Takla is 65 deg to the core axis.	234221	0.500	0.403
519.0	521.0		2.1 **0.7**	*0*			234222	0.459	0.305
521.0	523.0		1.8 **0.4**	*0*			234223	0.362	0.213
523.0	525.0		2.6 **1.2**	*0*			234224	0.487	0.331
525.0	527.0	Medium to coarse grained grey pink moderately potassic - quartz-sericite-chlorite	2.1 **1.6**	*0.1*		Patchy hematite staining of some feldspar grains.	234226	0.570	0.489
527.0	529.0		2.0 **1.3**	*0*			234227	0.432	0.413
529.0	530.0		1.6 **0.6**	*0*			234228	0.602	0.579
530	546.1	**MASSIVE QUARTZ MONZODIORITE INTRUSIVE**							
530.0	532.0	Medium to coarse grained pink grey moderately hematitic	0.0	*52.7*	CNT 60	Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Unit also contains large pheocrysts of quartz, feldspars and hornblende. Spotty biotite present. Weak sericite alteration of some feldspar phenocrysts. 1-3% calcite and zeolite veining oriented 30-60 deg to the core axis with some parallel to the core axis. Trace of pyrite within some veins and disseminated within the matrix. Contact with the quartz monzonite is 60 deg to the core axis.l	234229	0.004	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
532.0	534.0	Medium to coarse grained pink grey moderately hematitic	0.0	*38.3*			234230	0.002	0.017
534.0	536.0			*27.3*			234231	0.001	0.007
536.0	538.0			*30*			234232	0.001	0.007
538.0	540.0		0.0	*21.3*			234233	0.001	0.006
540.0	542.0			*27.8*			234234	0.001	0.006
542.0	544.0			*23.1*			234235	0.001	0.009
544.0	546.1	Fine to coarse grained pink grey moderately hematitic	0.1	*59.9*			234236	0.016	0.014
546.1	561	**MASSIVE QUARTZ MONZONITE INTRUSIVE**							
546.1	548.0	Fine to coarse grained grey white moderately potassic - sericite-chlorite-quartz	3.0 **0.3**	*2.2*	CNT 30	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Moderate alteration has obliterated some of the characteristics. Quartz, sericite and chlorite alteration dominate. ~4% quartz, zeolite and calcite veining oriented 30-40 deg to the core axis with some near perpendicular to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum is present within some quartz veins. Contact with the Sovereign is 30 deg to the core axis.	234237	0.248	0.264
548.0	550.0	Fine to coarse grained grey moderately potassic - sericite-chlorite-quartz	2.0 **0.5**	*1.1*		Hematite staining of some feldspar grains.	234238	0.371	0.305
550.0	552.0		3.5 **0.4**	*0.2*			234239	0.250	0.198
552.0	554.0	Fine to coarse grained grey pink moderately potassic - sericite-chlorite-quartz	2.0 **1.2**	*0.1*		Patchy K-spar alteration present.	234240	0.502	0.301
554.0	556.0		3.0 **0.7**	*0*		Vuggy veins.	234241	0.515	0.479
556.0	558.0		3.7 **0.4**	*8.7*			234242	0.594	0.542
558.0	560.0		2.0 **0.3**	*4.7*			234243	0.257	0.234

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
560.0	561.0	Fine to coarse grained dark green moderately chloritic	1.5 **0.5**	*4.2*		Unit has become strongly chloritic and has a sheared or there is a fabric 50 deg to the core axis. The end of the unit is veined and brecciated and faulted at 50 deg to the core axis.	234244	0.232	0.181
561	565.4	**MASSIVE HETEROLITHIC INTRUSION BRECCIA**							
561.0	563.0	Fine to medium grained dark grey pink moderately chloritic	1.0 **0.1**	*38.2*		Unit contains clasts of QMZ, QMZD and andesite. Clasts range in size from 0.5cm to 5cm and are subangular in shape. Matrix is made up of groundup material from the clasts. Matrix is weakly altered to chlorite and sericite. Some clasts are hematite stained while some are potassic altered (QMZ, andesite). Matrix and some clasts are magnetic (andesite, QMZD). ~2% calcite, zeolite stringers oriented 40 to 50 deg to the core axis. Patchy siliceous overprint present. Patchy epidote alteration associated with mafic minerals and clasts. Pyrite and chalcopyrite mineralization present within the matrix and within some clasts and in some minor veins. ~1% quartz veins oriented 30 deg to the core axis.	234245	0.066	0.110
563.0	565.4	Fine to medium grained dark grey pink moderately sericitic	1.0 **0.1**	*40.6*			234246	0.032	0.049
565.4	663.2	**MASSIVE MONZODIORITE INTRUSIVE**							
565.4	566.0	Fine to coarse grained green grey weakly chloritic	1.5 **0.0**	*2.7*	CNT 30	Unit is a magnetic MNZD and contains phenocrysts of hornblende, augite, feldspar and biotite. Unit is composed of 75% feldspars, 20% and 5% quartz. Veining occurs at approx. 40 degrees to core axis. Veins contain traces of calcite, zeolite, quartz and epidote. Primary chloritic and alternating silicified and hematitic alteration occurs throughout unit. Pyrite minerlization is present with epidote veins. 1-2% pyrite is present, and decreases down the hole. Contact lost in rubble.	234247	0.006	0.164
566.0	568.0	Fine to coarse grained green grey moderately silicified (non-K)	0.0 **0.0**	*37.5*		Pyrite content has dropped to trace amounts and silicified alteration is primary with secondary chloritic alt.	234248	0.029	0.668
568.0	570.0	Fine to coarse grained pink grey moderately silicified (non-K)	0.0	*62.2*		Hematitic alteration is secondary with traces of pyrite mineraliztion.	234249	0.004	0.013

Hole Number: KH-07-07

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
570.0	572.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0	*50.1*		Silicified alteration is still dominant with a small amount of hematitic alteration occuring. Traces of pyrite present.	234251	0.002	0.011
572.0	574.0	Fine to coarse grained green moderately silicified (non-K)	0.0 **0.0**	*56.6*		Traces of PY and CPY. PY is present in veins. Hemtitic alteration is still secondary.	234252	0.006	0.023
574.0	576.0		0.0 **0.0**	*27.7*		Sericite and hematite included in vein structures as well as hematite stringers. Traces of CPY and PY present.	234253	0.015	0.034
576.0	578.0	Fine to coarse grained pink grey weakly silicified (non-K)	0.1 **0.0**	*48.8*		Sample shows both hematitic and silicated alteration. Pyrite is present in both vein and matrix structures.	234254	0.006	0.025
578.0	580.0		0.1 **0.0**	*59.6*		Sample shows both hematitic and silicated alteration in equal amounts. One 2cm thick chloride altered vein structure.	234255	0.006	0.024
580.0	582.0	Fine to coarse grained green weakly silicified (non-K)	0.0 **0.0**	*55.1*			234256	0.006	0.012
582.0	584.0		0.0 **0.0**	*65.3*			234257	0.001	0.009
584.0	586.0	Fine to coarse grained green moderately	0.0 **0.0**	*38.7*		Alteration varies between silicified, chloritic, hematitic. Pyrite no longer present.	234258	0.001	0.006
586.0	588.0	Fine to coarse grained green moderately hematitic	0.0 **0.0**	*15.4*		Hematite stringers present.	234259	0.002	0.005
588.0	590.0	Fine to coarse grained green moderately chloritic	0.0 **0.0**	*36.3*		Chloritic alteration is prominent with hematitic as secondary and no silicified. Pyrite present again in trace amounts.	234260	0.007	0.024
590.0	592.0	Fine to coarse grained green moderately	0.0 **0.0**	*42.9*		Alteration varies between silicified, chloritic, hemtitic.	234261	0.002	0.038
592.0	594.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*55.1*		Secondary alteration is silicified, with calcite and zeolite as dominant vein material.	234262	0.002	0.021
594.0	596.0	Fine to coarse grained pink green moderately	0.0 **0.0**	*53.3*		Chloritic, hematitic and silicified alterations are shown in this sample.	234263	0.001	0.001
596.0	598.0	Fine to coarse grained green pink strongly chloritic	0.0 **0.0**	*22.9*		Large amount of calcite/zeolite veining. Represents some hematitic alteration.	234264	0.014	0.060
598.0	600.0	Fine to coarse grained green grey strongly silicified (non-K)	0.0 **0.0**	*47.2*		Small amount of chloritic as well as the dominant silicified alteration.	234265	0.006	0.010

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
600.0	602.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.1 **0.0**	*13.7*		Silicified accompanied by a small amount of hematitic alteration. High percentage of pyrite present in calcite/zeolite veins as well as lower concentrtions in the matrix.	234266	0.001	0.007
602.0	604.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*50.9*		Dominant silicified alteration accompanied by hemtitic alteration. Traces of CPY. Zeolite, calcite and quartz veining also present.	234267	0.035	0.014
604.0	606.0	Fine to coarse grained green weakly silicified (non-K)	0.0 **0.0**	*6.1*		Trace amounts of CPY. Epidote, calcite and zeolite veining. Secondary chloritic alteration present as well as some hematite staining.	234268	0.001	0.005
606.0	608.0	Fine to coarse grained green moderately chloritic	0.0 **0.0**	*24.7*	SHR 22 5	Two small shears at 22 tca with hematite infilling, trace pyrite. Primarily chloritic alt, and silicified secondary alt.	234269	0.002	0.005
608.0	610.0	Fine to coarse grained green grey moderately chloritic	0.0 **0.0**	*52*			234270	0.001	0.005
610.0	612.0	Fine to coarse grained green moderately chloritic	0.0 **0.0**	*16.8*		1cm vein of hematite.	234271	0.001	0.008
612.0	614.0	Fine to coarse grained green pink moderately chloritic	0.0 **0.0**	*25.2*		Hematite alteration secondary, and specular hematite at peripherals of quarts vein.	234272	0.001	0.009
614.0	616.0	Fine to coarse grained green pink moderately	0.0 **0.0**	*0.7*		Primary alt shared by both chloritic and hematite.	234273	0.002	0.036
616.0	618.0	Fine to coarse grained green black moderately chloritic	0.0 **0.0**	*29.7*			234274	0.001	0.001
618.0	620.0	Fine to coarse grained grey weakly chloritic	0.0 **0.0**	*37.3*		Zeolite veins infilled with calcite. Signs of epidote staining along some fractures.	234276	0.001	0.006
620.0	622.0	Fine to coarse grained green moderately chloritic	0.0 **0.0**	*32.5*		Primarily chloritic alteration. Epidote, calcite, chlorite and zeolite veining also present.	234277	0.002	0.008
622.0	624.0	Fine to coarse grained green weakly silicified (non-K)	0.0 **0.0**	*36.2*		Primary alteration is accompanied by equal amounts of chloritic and hematitic alterations. Hematite veins also occur.	234278	0.001	0.001
624.0	626.0	Fine to coarse grained pink moderately chloritic	0.0 **0.0**	*4.9*		Presence of hematite, zeolite, calcite and quartz veining.	234279	0.007	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
626.0	628.0	Fine to coarse grained green strongly chloritic	0.0 **0.0**	*42.6*		Primary alteration also accompanied by hematite staining and a small amount of silicified alteration. Clay alterations are also present.	234280	0.001	0.001
628.0	630.0		0.0 **0.0**	*38.8*			234281	0.000	0.005
630.0	632.0	Fine to coarse grained green grey moderately silicified (non-K)	0.0 **0.0**	*19.2*			234282	0.000	0.001
632.0	634.0	Fine to coarse grained pink grey moderately silicified (non-K)	0.0 **0.0**	*15.7*		Pyrite mineralization is found amoungst veins of epidote and quartz, hemititic alt is secondary.	234283	0.001	0.007
634.0	636.0	Fine to coarse grained pink moderately silicified (non-K)	0.0 **0.0**	*72*		Secondary hemititic alt, and chloritic alt with silicous overprint.	234284	0.001	0.001
636.0	638.0	Fine to coarse grained pink grey moderately silicified (non-K)	0.0 **0.0**	*65.3*		Pyrite mineralization not occuring.	234285	0.001	0.001
638.0	640.0		0.0 **0.0**	*67.8*		Pyrite mineralization occuring.	234286	0.001	0.001
640.0	642.0	Fine to coarse grained pink moderately silicified (non-K)	0.0 **0.0**	*34*		Secondary alt chloritic and hematitic occur as well as a hematite vein with epidote halo.	234287	0.000	0.001
642.0	644.0	Fine to coarse grained grey green strongly silicified (non-K)	0.0 **0.0**	*59.5*		Anhydrite and calcite veining.	234288	0.000	0.001
644.0	646.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0 **0.0**	*58*		Calcite and zeolite veining.	234289	0.001	0.005
646.0	648.0	Fine to coarse grained grey pink moderately hematitic	0.0 **0.0**	*79.8*		Primary alteration accompanied by moderate silicified alteration. Significant quartz veining also present.	234290	0.001	0.001
648.0	650.0	Fine to coarse grained pink strongly hematitic	0.0 **0.0**	*50.8*		Epidote/quartz formation about 10% of sample.	234291	0.001	0.001
650.0	652.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*48.6*		Plenty of zeolite in matrix. Altered clay fractures.	234292	0.003	0.007
652.0	654.0		0.0 **0.0**	*28.9*		Zeolite present in matrix. Epidote veining and clay fractures also present.	234293	0.000	0.001
654.0	656.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*56.8*		Primary alt. Joined by a moderate amount of silicifed alteration.	234294	0.005	0.007
656.0	658.0		0.0 **0.0**	*71*		Primary alt. Joined by moderate silicified alteration. Matrix crystal size appears to be getting larger.	234295	0.010	0.006
658.0	660.0		0.0 **0.0**	*60.6*		Moderate silicified alteration. Clay fractures.	234296	0.004	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
660.0	662.0	Fine to coarse grained grey moderately silicified (non-K)	0.0 **0.0**	*73.3*		Primary alt. Coupled with hemtitic alteration. Quartz veining as well as clay fractures. CPY also present in minute quantities.	234297	0.008	0.007
662.0	663.2	Fine to coarse grained grey strongly silicified (non-K)	0.1 **0.0**	*66.5*		Dominant silicified alteration. PY in veins, although no CPY found. EOH!	234298	0.001	0.005

Hole Number: KH-07-08

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	5	**CASING**							
0.0	5.0					This hole was composite sampled: the final 25 cm whole rock of each sample interval was collected for assay, the remainder was not cut.			
5	135	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
5.0	7.0	Fine to coarse grained pink moderately hematitic	0.0 **0.0**	*35.1*		Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Feldspar minerals are mostly plagioclase with rare orthoclase. Mafic minerals include hornblende, augite and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende, augite and biotite. Moderate to strong hematite staining throughout the unit. Moderate sericite alteration of some of the feldspar crystals. Weak chlorite alteration of the mafic minerals. Rare epidote present associated with veins and mafic minerals. 3-5% calcite and zeolite veining. Spotty magnetite present.	233866	0.002	0.001
7.0	9.0		0.0 **0.0**	*34.6*			233867	0.003	0.007
9.0	11.0		0.0 **0.0**	*42.2*			233868	0.001	0.001
11.0	13.0		0.0 **0.0**	*38.7*			233869	0.001	0.001
13.0	15.0		0.0 **0.0**	*46.9*		Unit photo from this interval.	233870	0.001	0.001
15.0	17.0		0.0 **0.0**	*49.3*			233871	0.002	0.001
17.0	19.0	Fine to coarse grained pink strongly hematitic	0.0 **0.0**	*33.7*		Higher vein density in this interval; core is locally brecciated.	233872	0.001	0.001
19.0	21.0	Fine to coarse grained pink moderately hematitic	0.0 **0.0**	*45.6*			233873	0.001	0.001
21.0	23.0		0.0 **0.0**	*35.2*			233874	0.001	0.001
23.0	25.0		0.0 **0.0**	*44.6*			233876	0.001	0.006
25.0	27.0	Fine to coarse grained pink strongly hematitic	0.0 **0.0**	*38.5*			233877	0.001	0.001
27.0	29.0	Fine to coarse grained pink moderately hematitic	0.0 **0.0**	*54.8*			233878	0.001	0.009
29.0	31.0		0.0 **0.0**	*47.4*			233879	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
31.0	33.0	Fine to coarse grained pink moderately hematitic	0.0 **0.0**	*53.9*				233880	0.001	0.001
33.0	35.0		0.0 **0.0**	*51.2*				233881	0.000	0.005
35.0	37.0		0.0 **0.0**	*43.8*				233882	0.000	0.001
37.0	39.0		0.0 **0.0**	*54.2*				233883	0.001	0.001
39.0	41.0		0.0 **0.0**	*44.9*	EV	40	small epidote vein at 40.8 m. Photo shows crosscutting relationships between veins	233884	0.001	0.001
41.0	43.0		0.0 **0.0**	*41*	CBZV	80	small vugs in a zeolite/calcite vein at 41.5 m.	233885	0.000	0.001
43.0	45.0		0.0 **0.0**	*56.2*				233886	0.001	0.001
45.0	47.0		0.0 **0.0**	*43.9*				233887	0.000	0.001
47.0	49.0		0.0 **0.0**	*47.4*				233888	0.001	0.001
49.0	51.0		0.0 **0.0**	*46.4*				233889	0.001	0.001
51.0	53.0		0.0 **0.0**	*37.1*				233890	0.001	0.016
53.0	55.0		0.0 **0.0**	*37.2*				233891	0.004	0.022
55.0	57.0		0.0 **0.0**	*41.4*				233892	0.000	0.001
57.0	59.0		0.0 **0.0**	*56.4*				233893	0.000	0.001
59.0	61.0		0.0 **0.0**	*46.4*				233894	0.001	0.001
61.0	63.0		0.0 **0.0**	*40.9*				233895	0.000	0.007
63.0	65.0		0.0 **0.0**	*55.5*				233896	0.000	0.001
65.0	67.0		0.0 **0.0**	*53.8*				233897	0.000	0.014
67.0	69.0		0.0 **0.0**	*49.9*				233898	0.000	0.001
69.0	71.0		0.0 **0.0**	*53.8*				233899	0.002	0.098
71.0	73.0		0.0 **0.0**	*65.5*				233901	0.002	0.001
73.0	75.0		0.0 **0.0**	*55.4*				233902	0.001	0.001
75.0	77.0		0.0 **0.0**	*52.6*				233903	0.001	0.001
77.0	79.0		0.0 **0.0**	*44.1*				233904	0.001	0.013

Hole Number: KH-07-08

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
79.0	81.0	Fine to coarse grained pink moderately hematitic	0.0 **0.0**	*51.9*			233905	0.001	0.019
81.0	83.0		0.0 **0.0**	*58.8*			233906	0.000	0.001
83.0	85.0		0.0 **0.0**	*61.1*			233907	0.000	0.001
85.0	87.0		0.0 **0.0**	*62*			233908	0.000	0.007
87.0	89.0		0.0 **0.0**	*66.1*			233909	0.000	0.001
89.0	91.0		0.0 **0.0**	*54.3*			233910	0.000	0.001
91.0	93.0		0.0 **0.0**	*52.6*			233911	0.038	0.915
93.0	95.0		0.0 **0.0**	*49*			233912	0.001	0.011
95.0	97.0		0.0 **0.0**	*45.7*			233913	0.001	0.085
97.0	99.0		0.0 **0.0**	*62.4*			233914	0.001	0.095
99.0	101.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*49.9*			233915	0.000	0.266
101.0	103.0		0.0 **0.0**	*66.2*			233916	0.000	0.738
103.0	105.0		0.0 **0.0**	*68.3*			233917	0.000	0.983
105.0	107.0	Fine to coarse grained grey weakly epidote altered	0.0 **0.0**	*78.1*		local lack of zeolite veins leaves this interval grey and mostly unaltered. Unit photo to show unaltered Sovereign. Minor small (<1 cm) epidote patches.	233918	0.000	0.530
107.0	109.0		0.0 **0.0**	*64*			233919	0.000	0.111
109.0	111.0	Fine to coarse grained pink grey weakly hematitic	0.0 **0.0**	*81.9*		Return to normal hematite alteration, overprinting the spotty epidote. Epidote much less common to end of hole.	233920	0.001	0.030
111.0	113.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*62*			233921	0.000	0.270
113.0	115.0		0.0 **0.0**	*59.4*			233922	0.001	0.030
115.0	117.0		0.0 **0.0**	*57.6*			233923	0.009	0.181
117.0	119.0		0.0 **0.0**	*59.5*			233924	0.000	0.077
119.0	121.0		0.0 **0.0**	*42.1*			233926	0.008	0.010

Hole Number: KH-07-08

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
121.0	123.0	Fine to coarse grained pink black strongly hematitic	0.0 **0.0**	*67.4*		Stronger hematite alteration with a black mineral coating (manganese something?) on prominent fracture coincident with core. Also the epidote blebs have returned in this interval; yay.	233927	0.003	0.019
123.0	125.0		0.0 **0.0**	*50.6*	FRK 10		233928	0.002	0.005
125.0	127.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*72.8*			233929	0.014	0.013
127.0	129.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*70.4*			233930	0.003	0.001
129.0	131.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*61.7*		Intense veining and alteration gives core a slightly fragmental look. Unit photo with good cross-cutting relationships.	233931	0.014	0.017
131.0	133.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*66.3*			233932	0.003	0.008
133.0	135.0		0.0 **0.0**	*81.8*			233933	0.015	0.020

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	15	**OVERBURDEN**							
0.0	12.0			*1*		Rubble from first casing interval, sampled as overburden. I mean, why the hell not?	233934	0.016	0.153
12.0	15.0			*1.9*		Rubble from second casing interval, sampled as overburden. Right on.	233935	0.015	0.111
15	29.7	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
15.0	17.0	Fine to medium grained grey moderately potassic - chlorite-quartz	5.0 **0.3**	*1.1*	ANCBV 20 5	Green grey heterolithic agglomerate. Aphanitic groundmass supporting up to 80% angular to subrounded lithic fragments. Fragments are 1-10 cm, mostly andesite and AAP, rarely QFP. No quartz eyes observed. Lower contact is cryptic due to similar lithology and texture with brecciated andesite. Alteration is principally potassic (chlorite, quartz) with phyllic patches (sericite) associated with veining. Most common vein type is anhydrite/carbonate (phyllic halo), 4-15 mm wide, occurring at 10-60 º to core axis, frequently vuggy. Secondary veining is carbonate, generally 0.5-1 mm wide. Good sulphide mineralization, pyrite (up to 6%) is disseminated as 0.5-2 mm blebs, occaisional chalcopyrite.	233936	0.019	0.093
17.0	19.0		5.0 **0.3**	*1.6*	CBCV 70 1	12 mm carbonate-chlorite vein at 17.1 m.	233937	0.014	0.116
19.0	21.0		5.0 **0.3**	*2.3*			233938	0.020	0.115
21.0	23.0		5.0 **0.3**	*3.4*		Decrease in occurrence of intrusive fragments, andesite is the most common fragment type.	233939	0.019	0.151
23.0	25.0	Fine to medium grained grey weakly phyllic	5.0 **0.3**	*3.2*	ANCBV 60 10	10-20 mm anhydrite-carbonate vein at 23.3 metres causes sericitization of matrix from about 23.0 to 23.7 metres.	233940	0.028	0.149
25.0	27.0	Fine to medium grained grey moderately potassic - chlorite-quartz	5.0 **0.2**	*11.3*		some pyrite occuring as vein fill in <1 mm carbonate veins.	233941	0.026	0.634
27.0	29.0		5.0 **0.2**	*18.8*			233942	0.017	0.094
29.0	29.7		5.0 **0.2**	*14.4*			233943	0.015	0.084

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
29.7	35.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
29.7	31.7	Fine grained grey moderately potassic - chlorite-quartz	5.0 **0.1**	*11.5*	CBANV 40 15	dark grey/green andesite. Aphanitic groundmass, with auto-fragmental sections. Occaisional fine to medium mafic grains. Potassic (chlorite-quartz) with vein controlled phyllic (sericite) patches. 4-20 mm anhydrite-carbonate veins occur at 10-70 º to core axis. Lesser 0.5-1.5 mm carbonate (+/-chlorite) veins. Sulfide mineralization is pervasive: pyrite occurs as 1-2 mm disseminated blebs, and as dense infill in 10-20% of carbonate veins. Very minor molybdenite in stronger phyllic-altered patches.	233944	0.018	0.066
31.7	33.7	Fine grained dark green moderately potassic - chlorite-quartz	5.0 **0.2**	*2*	CBCPY 30 2		233945	0.016	0.067
33.7	35.7		5.0 **0.2**	*6.2*			233946	0.015	0.065
35.7	39.7	**HOMOGENEOUS ANDESITE FLOW**							
35.7	37.7	Fine grained dark green moderately phyllic	5.0 **0.2**	*1*	ANCBV 40	Vuggy anhydrite/carbonate vein at 37.4 m with moderate phyllic (sericite) halo.	233947	0.019	0.083
37.7	39.7	Fine grained dark green weakly phyllic	5.0 **0.2**	*12.6*	CBPYC 70		233948	0.012	0.045
39.7	47.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
39.7	41.7	Fine grained dark green moderately potassic - chlorite-quartz	5.0 **0.2**	*2.4*	ANCBV 15 8		233949	0.024	0.077
41.7	43.7	Fine grained grey green moderately phyllic	5.0 **2.0**	*0.9*	ANCBV 5 15	Dense anhydrite/carbonate veining from 42.1 to 42.7 metres imparts a moderate phyllic (sericite) overprint to core.	233951	0.031	0.105
43.7	45.7	Fine grained dark green grey weakly phyllic	5.0 **0.3**	*3.9*	ANCBV 10 20	More low angle º to core axis anhydrite/carbonate vuggy veins.	233952	0.022	0.094
45.7	47.7		5.0 **0.2**	*7.2*	ANCBV 40 5	Continued minor phyllic overprinting.	233953	0.016	0.078
47.7	51.7	**HOMOGENEOUS ANDESITE FLOW**							
47.7	49.7	Fine grained dark green weakly potassic - chlorite-quartz	4.0 **0.1**	*57.3*			233954	0.009	0.045

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
49.7	51.7	Fine grained dark green weakly phyllic	5.0 **0.2**	*54.6*	ANCBV 50	Anhydrite/carbonate vein at 51.2 m.	233955	0.017	0.071
51.7	63.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
51.7	53.7	Fine grained dark green weakly potassic - chlorite-quartz	5.0 **0.1**	*4.3*	CBPYV 30	Carbonate vein with good pyrite infill at 52.4 metres.	233956	0.010	0.055
53.7	55.7	Fine grained dark green grey weakly phyllic	5.0 **0.1**	*43.6*	ANCBV 30		233957	0.023	0.107
55.7	57.7	Fine grained dark green weakly potassic - chlorite-quartz	3.0 **0.1**	*0.9*	ANCBV 85		233958	0.029	0.125
57.7	59.7	Fine grained dark green grey weakly phyllic	4.0 **0.1**	*1.4*	ANCBV 40		233959	0.029	0.557
59.7	61.7		5.0 **0.1**	*1.7*	CBPYV 10	prominent carbonate vein with pyrite infill at 60.7 m. Vuggy anhydrite/carbonate vein at 61.5 m.	233960	0.019	0.123
61.7	63.7		5.0 **0.1**	*19.2*	CBPYV 10		233961	0.019	0.304
63.7	67.7	**HOMOGENEOUS ANDESITE FLOW**							
63.7	65.7	Fine grained dark green grey weakly phyllic	5.0 **0.0**	*4.5*	CBPYV 10	carbonate/pyrite veining continues, with phyllic overprint.	233962	0.017	0.060
65.7	67.7	Fine grained dark green grey weakly potassic - chlorite-quartz	5.0 **0.0**	*3.7*		Haven't noticed any chalcopyrite in a while.	233963	0.028	0.124
67.7	69.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
67.7	69.7	Fine grained dark green weakly potassic - chlorite-quartz	5.0 **0.0**	*4.2*			233964	0.026	0.586
69.7	93.7	**HOMOGENEOUS ANDESITE FLOW**							
69.7	71.7	Fine grained dark green grey weakly phyllic	6.0 **0.0**	*0.6*	CBPYC 40	5 Stronger phyllic alteration due to slightly higher vein densities;	233965	0.024	0.134
71.7	73.7	Fine grained dark green weakly phyllic	5.0 **0.0**	*1.2*	CBANV 60	carbonate/anhydrite veining at 72.3 metres.	233966	0.033	0.139
73.7	75.7	Fine grained dark green weakly potassic - chlorite-quartz	5.0 **0.0**	*52.1*	ANCBV 50	Only a very weak phyllic overprint	233967	0.010	0.095
75.7	77.7		5.0 **0.0**	*3.3*			233968	0.019	0.076
77.7	79.7		5.0 **0.0**	*2.8*		minor hematite on a fracture surface at 78.2 m.	233969	0.027	0.111

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
79.7	81.7	Fine grained dark green weakly phyllic	5.0 **0.0**	*2.8*	ANCBV 15	Slightly vuggy anhydrite/carbonate vein at 80.2 metres.	233970	0.020	0.095
81.7	83.7	Fine grained dark green grey weakly phyllic	6.0 **0.0**	*0.7*	CBPYV 30		233971	0.024	0.098
83.7	85.7		6.0 **0.0**	*0.9*	CBPYV 70		233972	0.021	0.121
85.7	87.7		6.0 **0.0**	*1.3*	CBPYV 30		233973	0.022	0.135
87.7	89.7	Fine grained dark green weakly potassic - chlorite-quartz	6.0 **0.0**	*8.2*	CBPYV 30	chlorite/pyrite veins occurring in this interal as a few closely spaced sub-parallel veinlets at 88.2 and again at 89.1 metres. Unit photo for detail.	233974	0.021	0.100
89.7	91.7		5.0 **0.0**	*1.5*	CBPYC 15		233976	0.015	0.171
91.7	93.7	Fine grained dark green weakly phyllic	5.0 **0.0**	*2.8*	CBPYC		233977	0.031	0.131
93.7	99.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
93.7	95.7	Fine grained dark green weakly phyllic	4.0 **0.0**	*1.2*		phyllic alteration of matrix highlights autobrecciated andesite fragments.	233978	0.015	0.083
95.7	97.7		5.0 **0.0**	*1.2*	CBPYC		233979	0.017	0.092
97.7	99.7	Fine grained dark green moderately phyllic	5.0 **0.0**	*1.6*	CBPYC 60		233980	0.019	0.116
99.7	107.7	**HOMOGENEOUS ANDESITE FLOW**							
99.7	101.7	Fine grained dark green weakly phyllic	5.0 **0.0**	*2.3*	CBPYV 25		233981	0.027	0.144
101.7	103.7		6.0 **0.0**	*2.4*	CBPYV 15		233982	0.013	0.137
103.7	105.7	Fine to medium grained dark green grey weakly potassic - quartz-chlorite	5.0 **0.0**	*0.5*	CBCPY 60		233983	0.021	0.138
105.7	107.7	Fine to medium grained dark green grey weakly potassic - chlorite-quartz	5.0 **0.0**	*0.6*			233984	0.027	0.178
107.7	119.7	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
107.7	109.7	Fine to medium grained dark green grey weakly phyllic	5.0 **0.0**	*1*			233985	0.038	0.221
109.7	111.7		5.0 **0.0**	*1.1*			233986	0.021	0.140

Hole Number: KH-07-09

From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
111.7	113.7		Fine to medium grained dark green grey weakly phyllic	5.0 **0.0**	*1.5*				233987	0.026	0.215
113.7	115.7		Fine to medium grained dark green grey weakly potassic - chlorite-quartz-biotite	5.0 **0.0**	*1.9*				233988	0.012	0.053
115.7	117.7			5.0 **0.0**	*2.9*				233989	0.014	0.158
117.7	119.7			5.0 **0.0**	*0.4*				233990	0.009	0.082
119.7	121.7	**HOMOGENEOUS ANDESITE FLOW**									
119.7	121.7		Fine to medium grained dark green grey weakly potassic - chlorite-quartz-biotite	3.0 **0.0**	*0.7*				233991	0.003	0.056
121.7	123.9	**FRAGMENTAL ANDESITE FLOW BRECCIA**									
121.7	123.0		Fine to medium grained dark green grey weakly potassic - chlorite-quartz-biotite	3.0 **0.0**	*1.1*				233992	0.002	0.055
123.0	123.9		Fine to medium grained dark green grey weakly phyllic	4.0 **0.0**	*1.4*				233993	0.002	0.045
123.9	138.4	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**									
123.9	125.0		Fine to coarse grained grey weakly phyllic	2.0 **0.0**	*1.6*	CNT		Grey-white quartz feldspar tonalite porphyry. Medium to coarse grained intrusive; 30-40% 1-3 mm plagioclase crystals, 10-20% quartz crystals in an aphanitic felsic matrix. Upper contact is distinct at 65 º to core axis. Lower contact is undulatory at approximately 70 º to core axis. Weak phyllic (sericite, pyrite, quartz, some feldspars to chlorite) alteration overprinting moderate silica replacement. Some faulting in the 125th metre. Minor carbonate/chlorite veining towards bottom of unit. Disseminated 0.5-3 mm pyrite crystals. 0.5-30 mm patches of fuchsite(?), often in association with pyrite.	233994	0.001	0.045
125.0	125.6			2.0 **0.0**	*2.1*	FLT	50	Fault gouge from 125.0 to 125.2 and 125.4 to 125.6 metres. Upper fault surface is ~50 º to core axis.	233995	0.002	0.027
125.6	127.6			2.0 **0.0**	*0.3*				233996	0.002	0.033

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
127.6	129.6	Fine to coarse grained grey weakly phyllic	2.0 **0.0**	*0.9*			233997	0.005	0.027
129.6	131.6		2.0 **0.0**	*1.7*			233998	0.003	0.032
131.6	133.6		2.0 **0.0**	*2*			233999	0.006	0.034
133.6	135.0		3.0 **0.0**	*4.2*			234501	0.004	0.026
135.0	135.9		2.0 **0.0**	*4.5*			234502	0.003	0.023
135.9	137.4	Fine to coarse grained grey green weakly phyllic	2.0 **0.0**	*0.4*	CBCV 20	There is phyllicaly altered andesite from 136.0 to 136.3 m, with a few andesite fragments within the QFP at 136.4 m. Carbonate/chlorite vein at 137.0 m.	234503	0.006	0.086
137.4	138.4		2.0 **0.0**	*1.1*		Another large andesite fragment, likely from the upcoming unit, from 138.0 to 138.3 m.	234504	0.008	0.043
138.4	140.4	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
138.4	140.4	Fine to medium grained dark green grey weakly phyllic	3.0 **0.0**	*1.5*		Dark green andesite flow. Aphanitic matrix hosts few mafic minerals. Primary potassic alteration (chlorite, quartz, lesser biotite) is overprinted by weak to strong phyllic (sericite, pyrite, quartz) alteration. At least two vein sets, an earlier carbonate(+/-pyrite, chlorite), and latter carbonate(+/- anhydrite/quartz), sometimes vuggy, which crosscuts and sometimes displaces (<5 mm) earlier veins. Pyrite (1-5%) is most common sulfide; rare chalcopyrite in more intense phyllic zones. A large structure crosses unit between 155 and 165 metres; poor recovery of broken core.	234505	0.016	0.074
140.4	166	**MASSIVE ANDESITE FLOW**							
140.4	142.4	Fine to medium grained green grey weakly phyllic	4.0 **0.0**	*1.4*			234506	0.011	0.094
142.4	144.4		3.0 **0.0**	*1*		~5 cm patch of epidote alteration at 143.6 m; some remnant primary alteration?	234507	0.027	0.172
144.4	146.4	Fine to medium grained green grey moderately phyllic	3.0 **0.0**	*1.3*	CBV	Carbonate veining from 144.6 to 144.8 metres has caused local brecciation. Core is rubbly from 146.0 to 146.4 m.	234508	0.022	0.110

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
146.4	148.4	Fine to medium grained green grey weakly phyllic	3.0 **0.0**	*1.6*			234509	0.013	0.107
148.4	150.4		3.0 **0.0**	*1.8*	CBPYV		234510	0.013	0.103
150.4	152.4	Fine to medium grained green grey moderately phyllic	3.0 **0.0**	*2.2*			234511	0.018	0.120
152.4	154.4	Fine to medium grained green grey weakly phyllic	4.0 **0.0**	*2.4*	CBCV 10	1 mm carbonate/chlorite vein runs subparallel to core axis at 152.7 metres, then widens and becomes slightly vuggy, and turns out of core.	234512	0.010	0.080
154.4	156.4	Fine to medium grained grey green moderately phyllic	3.0 **0.0**	*3*		Slight increase in phyllic alteration.	234513	0.016	0.092
156.4	162.0		4.0 **0.0**	*0.8*	FLT	Extremely poor core recovery in this interval; actual length of sample in core box is two metres. Largest piece of core is ~11 cm, most are <4 cm. Actual position of structure difficult to determine, either in this or the next sample interval.	234514	0.014	0.073
162.0	164.0	Fine to medium grained grey green strongly phyllic	4.0 **0.0**	*1.1*	FLT	Core rubbly to 163.0 m, then competent but strongly phyllic (sericite) altered after.	234515	0.011	0.116
164.0	166.0		4.0 **0.0**	*1.5*	CBV 20	Slightly vuggy carbonate vein. Sulfides occur mostly as vein infill, rather than disseminated crystals.	234516	0.018	0.060
166	170	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
166.0	168.0	Fine to medium grained grey green strongly phyllic	4.0 **0.0**	*0.3*	CBPYV 30	First appearance of anhydrite in some veins. Anhydrite bearing veins are vuggy in this interval.	234517	0.008	0.090
168.0	170.0	Fine to medium grained green grey moderately phyllic	4.0 **0.0**	*0.8*	CBANV 50	Small bleb of chalcopyrite. Biotite-altered patches showing through the phyllic alteration speak to primary KCQB alteration at this depth.	234518	0.005	0.030
170	184	**HOMOGENEOUS ANDESITE FLOW**							
170.0	172.0	Fine to medium grained grey green moderately phyllic	3.0 **0.0**	*0.2*		small chalcopyrite bleb in an anhydrite/quartz/carbonate vein at 171.3 m.	234519	0.009	0.040
172.0	174.0		3.0	*0.6*			234520	0.014	0.038
174.0	176.0		3.0	*0.8*	ANQCB 60	Stronger phyllic alteration around an anhydrite-quartz-carbonate vein at 175.5 m.	234521	0.004	0.031

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
176.0	178.0	Fine to medium grained grey green weakly phyllic	3.0 **0.0**	*1.5*	CBCPY 10	Stronger phyllic alteration at 176.5 m around a carbonate/chlorite vein, but phillic alteration wanes in middle of interval, revealing KCBQ alteration.	234522	0.023	0.109
178.0	180.0	Fine to medium grained grey green moderately phyllic	3.0	*1.4*			234523	0.024	0.072
180.0	182.0		3.0 **0.0**	*1.7*			234524	0.007	0.030
182.0	184.0		2.0	*0.3*			234526	0.008	0.033
184	186	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
184.0	186.0	Fine to medium grained grey green moderately phyllic	3.0	*0.6*			234527	0.018	0.042
186	188	**FRAGMENTAL FLOW BRECCIA**							
186.0	188.0	Fine to medium grained grey green strongly phyllic	3.0	*2.6*	CBANV 10	Stronger phyllic alteration around a vuggy carbonate/anhydrite vein	234528	0.016	0.049
188	195	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
188.0	189.0	Fine to medium grained grey green weakly phyllic	3.0	*1.4*		Phyllic alteration wanes towards end of interval.	234529	0.011	0.056
189.0	191.0	Fine to medium grained grey green moderately potassic - chlorite-biotite-quartz	3.0	*2.2*		Loss of phyllic alteration reveales developed KCBQ alteration. Unit photo.	234530	0.032	0.092
191.0	193.0	Fine to medium grained grey green weakly phyllic	3.0	*4.2*			234531	0.007	0.028
193.0	195.0	Fine to medium grained grey green moderately phyllic	3.0	*2.4*		Vuggy-ness developed in core, reasonable crystals of calcite, pyrite. Unit photo.	234532	0.008	0.035
195	205	**MASSIVE ANDESITE FLOW**							
195.0	197.0	Fine to medium grained grey green moderately phyllic	2.0	*0.5*			234533	0.007	0.037
197.0	199.0		2.0	*0.4*	ANCBV 50	A few small vugs at 198.8 m. Anhydrite/carbonate veins show some vugs also.	234534	0.021	0.053
199.0	201.0	Fine to medium grained grey green weakly phyllic	2.0	*0.6*			234535	0.010	0.046

Hole Number: KH-07-09

From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
201.0	203.0		Fine to medium grained grey green moderately phyllic	3.0	*1*				234536	0.023	0.093
203.0	205.0		Fine to medium grained grey green weakly phyllic	4.0 **0.0**	*1.4*			Minor red hematite in an anhydrite/carbonate vein at 204.5 m.	234537	0.044	0.202
205	209		**FRAGMENTAL ANDESITE FLOW BRECCIA**								
205.0	207.0		Fine to medium grained grey green moderately phyllic	2.0	*1.5*				234538	0.017	0.107
207.0	209.0		Fine to medium grained grey green moderately potassic - chlorite-biotite-quartz	5.0	*2.1*	CBPYV	60		234539	0.030	0.111
209	212.3		**PORPHYRITIC MONZODIORITE DYKE**								
209.0	211.0		Fine to coarse grained dark grey moderately potassic - chlorite-quartz		*29.2*	ANCBV	30	Dark grey/green plagioclase-phyric monzodiorite dyke. 10-20% 0.5-3 mm plagioclase phenocrysts in an aphanitic matrx. 2-5% ~1 mm mafic minerals, augite/hornblende. Upper contact is vein-bounded at <10 º to core axis, lower contact is sharp and 20 º to core axis. Alteration is weak to moderate potassic; chlorite, quartz, magnetite (disseminated). No sulfides.	234540	0.003	0.010
211.0	212.3				*34.9*				234541	0.001	0.001
212.3	214.2		**MASSIVE ANDESITE FLOW**								
212.3	214.2		Fine to medium grained green weakly potassic - chlorite	4.0 **0.1**	*2.3*	ANCBV	30 3	Green andesite flow. Aphanitic intermediate matrix supporting 1-3% 0.5-2 mm mafic crystals. Lower contact is gradational/indistinct. Potassic alteration; dominantly chlorite with minor disseminated magnetite. ~3% anhydrite-carbonate veining, mostly at 30-40 º to core axis. 3-5% sulfides, mostly pyrite as disseminated crystals and minor vein fill. Minor chalcopyrite.	234542	0.029	0.084
214.2	215.5		**BRECCIATED ANDESITE FLOW BRECCIA**								

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
214.2	215.5	Fine to medium grained brown grey weakly phyllic	2.0	*1.7*		Brown/grey andesite flow breccia. Aphanitic intermediate matrix supporting few small mafic and plagioclase crystals and 40-60% 5-40 mm phyllic-altered angular andesite fragments. Primary moderate potassic (biotite, chlorite) alteration is overprinted by weak phyllic (sericite) alteration. Minor carbonate/quartz veining. 3-5% sulfides; pyrite occurs as disseminated crystals within the matrix, very rarely in andesite fragments.	234543	0.013	0.120
215.5	251	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY FLOW**							
215.5	217.5	Fine to medium grained green moderately potassic - chlorite-biotite-sericite	4.0 **0.1**	*2.3*	QPYV	Green andesite augite porphyry flow. Aphanitic intermediate matrix supports 1-10% 0.5-5 mm augite phenocrysts. Upper contact is undulatory at a high(?) angle to the core axis, lower contact is gradational. Primary alteration is moderate potassic (biotite, chlorite), local overprinting of weak to moderate phyllic (sericite). 1-5% 0.5-20 mm carbonate(+/- chlorite, quartz, pyrite, hematite) veining at 30-60 º to core axis. 1-3% 0.5-10 mm quartz +/- pyrite veins. Good sulfide mineralization; 1-5% pyrite as disseminated blebs and as vein infill. Minor chalcopyrite as blebs associated with carbonate veining.	234544	0.021	0.077
217.5	219.5		4.0 **0.1**	*2.7*			234545	0.022	0.101
219.5	221.5		4.0 **0.1**	*2.6*	CBCPY 60		234546	0.033	0.114
221.5	223.5		4.0 **0.1**	*0.7*	CBPYV		234547	0.025	0.158
223.5	225.5		4.0 **0.0**	*1.1*	CBCPY	Strong biotite alteration in this interval.	234548	0.015	0.097
225.5	227.5		4.0 **0.1**	*1.7*	QFLV	Fluorite-rich vein at 226.7 metres. Includes a few andesite fragments. Unit photo.	234549	0.014	0.061
227.5	229.5		4.0 **0.0**	*5.9*			234551	0.017	0.175
229.5	231.5		4.0 **0.1**	*50.4*			234552	0.013	0.070
231.5	233.5		4.0 **0.0**	*9.1*	CBPYV	minor hematite in a vein.	234553	0.011	0.087
233.5	235.5		4.0 **0.1**	*13.9*	QPYV		234554	0.013	0.055

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
235.5	237.5	Fine to medium grained green grey moderately phyllic	4.0 **0.1**	*6.7*	CBCV 50	Phyllic alteration (sericite, chlorite) around a carbonate/chlorite vein at 236.4 metres.	234555	0.018	0.066
237.5	239.5	Fine to medium grained green grey moderately potassic - chlorite-biotite-sericite	4.0 **0.1**	*3.6*	CBCV 50	Carbonate veins continue to cook core: phyllic overprint in final third of interval.	234556	0.018	0.055
239.5	241.5		4.0 **0.0**	*0.8*	CBCV	Patches of vein controlled sericite-chlorite alteration continue.	234557	0.026	0.100
241.5	243.5		4.0 **0.0**	*2.3*	CBCV		234558	0.017	0.036
243.5	245.5	Fine to medium grained green moderately phyllic	4.0 **0.0**	*6.5*			234559	0.016	0.023
245.5	247.5	Fine to medium grained green moderately potassic - chlorite-biotite-sericite	4.0 **0.1**	*4.9*	CBPYH 40	Starting to see more hematite in veins, and possibly very minor jasper?	234560	0.023	0.039
247.5	249.5		4.0 **0.0**	*3.2*	CBPYH		234561	0.012	0.019
249.5	251.0		4.0 **0.0**	*15.1*	CBPYH	Transitional interval with next unit, core looks a little fragmentary approaching 251.0 metres.	234562	0.024	0.027
251	291.4	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
251.0	253.0	Fine to medium grained grey moderately potassic - chlorite-biotite-sericite	4.0 **0.1**	*18.6*	CNT	Dark grey - green andesite breccia flow. Aphanitic matrix supporting 0-5% 0.5-4 mm mafic crystals and 10-60% 3-100 mm (mean ~15 mm) angular andesite fragments. Fragments are generally chloritic or not altered, rarely moderate phyllic. Potassic alteration: chlorite, biotite, minor sericite. 1-2% 1 mm carbonate veins at 30-60 º to core axis. 1% 1-5 mm quartz/carbonate/pyrite veins. Sulfides occur mainly as vain infill, lesser disseminated pyrite. Minor chalcopyrite.	234563	0.033	0.024
253.0	255.0		3.0 **0.0**	*70.4*			234564	0.049	0.034
255.0	257.0	Fine to medium grained green moderately potassic - chlorite-biotite-sericite	3.0 **0.0**	*29.7*		Chlorite alteration increases in matrix towards end of interval.	234565	0.045	0.029
257.0	259.0		3.0 **0.0**	*44.9*			234566	0.072	0.052

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
259.0	261.0	Fine to medium grained green moderately potassic - chlorite-biotite-sericite	3.0 **0.0**	*41.1*	FLT	8 cm of fault gouge at 259.9 metres. Andesite fragments beginning here are now larger, mean size is 20 mm, up to 100 mm.	234567	0.033	0.033
261.0	263.0		3.0 **0.0**	*65.1*	FLT 30	2 cm of fault gouge at 262.4 metres	234568	0.030	0.092
263.0	265.0		3.0 **0.0**	*29.9*			234569	0.030	0.089
265.0	267.0		3.0 **0.0**	*73.9*			234570	0.031	0.100
267.0	269.0		3.0 **0.0**	*15.6*			234571	0.037	0.103
269.0	271.0		2.0 **0.0**	*4.2*			234572	0.035	0.065
271.0	273.0		3.0 **0.0**	*2.6*			234573	0.034	0.081
273.0	275.0		3.0 **0.0**	*9.3*			234574	0.040	0.069
275.0	277.0		2.0 **0.0**	*14.9*			234576	0.033	0.066
277.0	279.0		2.0 **0.0**	*7.1*			234577	0.040	0.057
279.0	281.0		2.0 **0.0**	*18.9*			234578	0.066	0.107
281.0	283.0		2.0 **0.0**	*47*	CBEP 10	At 281.8 metres, a vuggy carbonate-epidote vein with a few chalcopyrite crystals.	234579	0.053	0.055
283.0	285.0	Fine to medium grained green grey moderately potassic - chlorite-sericite-biotite	3.0 **0.0**	*31.6*	CBANV 30		234580	0.030	0.029
285.0	287.0		3.0 **0.0**	*14.4*			234581	0.042	0.035
287.0	288.0		3.0	*99.9*			234582	0.071	0.057
288.0	291.4		2.0	*2.6*	FLT	Sheared, clay-rich rock from 290.9 to 291.1 metres. Poor core recovery; actual length of core in box is ~2 metres.	234583	0.023	0.042
291.4	366	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

Hole Number: KH-07-09

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
291.4	293.4	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*62.5*			Grey (+/- pink) quartz- and feldspar-phyric quartz monzodiorite intrusion. Likely the Sovereign intrusion; magnetic.. 2-8% 1-4 mm quartz phenocrysts and 5-10% 1-5 mm plagioclase phenocrysts. 1-4% 2-4 mm chlorite after hornblende and biotite. Aphanitic intermediate matrix. Upper contact is faulted (?) at ~ 30 º to core axis. Lower contact is not encountered. Weak potassic alteration (chlorite, +/- calcite, epidote) overprinted by vein-controlled hematite alteration. 5-10% 1-10 mm carbonate-zeolite veining at 30-60 º to core axis, occaisionally stockworked, rarely vuggy when >5 mm. Minor sulfides; rare disseminated pyrite blebs. SOS.	234584	0.004	0.035
293.4	295.4		0.0 **0.0**	*55.1*	CBZV			234585	0.005	0.019
295.4	297.4		0.0 **0.0**	*63*	CBZV			234586	0.001	0.001
297.4	299.4		0.0 **0.0**	*74.6*	CBZV			234587	0.001	0.001
299.4	301.4		0.0 **0.0**	*72.2*	CBZV			234588	0.000	0.001
301.4	303.0		0.0 **0.0**	*67.8*	CBZV			234589	0.001	0.001
303.0	305.0		0.0 **0.0**	*67.4*	CBZV			234590	0.001	0.001
305.0	307.0		0.0 **0.0**	*56*	CBZV		Veining is more dense in this interval. Trace hematite in a vein.	234591	0.001	0.005
307.0	309.0		0.0 **0.0**	*44.1*	CBZV			234592	0.001	0.001
309.0	311.0		0.0 **0.0**	*73.7*	CBZV			234593	0.001	0.001
311.0	313.0		0.0 **0.0**	*65.5*	CBZV			234594	0.001	0.001
313.0	315.0		0.0 **0.0**	*33.4*	CBZV		Higher vein density in this interval with hematite stain halos.	234595	0.001	0.001
315.0	317.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*27.7*	CBCV	30	Stronger epidote patches around carbonate/chlorite (no zeolite) veins. Veins host a small amount of pyrite and trace chalcopyrite.	234596	0.001	0.001
317.0	319.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*69.1*	CBZV			234597	0.001	0.001
319.0	321.0		0.0 **0.0**	*59.9*	CBZV			234598	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
321.0	323.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*60.2*	CBZV		234599	0.001	0.001
323.0	325.0		0.0 **0.0**	*65.6*	CBZV		234601	0.001	0.001
325.0	327.0		0.0 **0.0**	*70.6*	CBZV		234602	0.001	0.001
327.0	329.0		0.0 **0.0**	*60.1*	CBZV		234603	0.001	0.001
329.0	331.0		0.0 **0.0**	*61.9*	CBZV		234604	0.001	0.001
331.0	333.0	Fine to coarse grained grey moderately propyllitic	0.0 **0.0**	*70*	CBZV	Beginning an interval of stronger epidote alteration.	234605	0.000	0.001
333.0	335.0		0.0 **0.0**	*62.2*	CBZV		234606	0.001	0.001
335.0	337.0		0.0 **0.0**	*57.5*	CBZV		234607	0.001	0.001
337.0	339.0		0.0 **0.0**	*43.4*	CBZV		234608	0.001	0.001
339.0	341.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*69.8*	CBZV		234609	0.001	0.001
341.0	343.0	Fine to coarse grained grey moderately propyllitic	0.0 **0.0**	*36*	CBZV		234610	0.001	0.001
343.0	345.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*65.4*	CBZV		234611	0.001	0.001
345.0	347.0	Fine to coarse grained grey weakly hematitic	0.0 **0.0**	*52.8*	CBZV		234612	0.001	0.001
347.0	349.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*72*	CBZV		234613	0.003	0.001
349.0	351.0		0.0 **0.0**	*75.4*	CBZV		234614	0.005	0.001
351.0	353.0	Fine to coarse grained grey weakly hematitic	0.0 **0.0**	*57.3*		Patchy hematite staining, higher vein density.	234615	0.007	0.001
353.0	355.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*75.6*			234616	0.007	0.001
355.0	357.0		0.0 **0.0**	*58.2*			234617	0.003	0.001
357.0	359.0	Fine to coarse grained grey weakly hematitic	0.0 **0.0**	*74.4*			234618	0.003	0.001
359.0	361.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*68.3*			234619	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
361.0	363.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**	*81*			234620	0.001	0.006
363.0	365.0		0.0 **0.0**	*86.1*			234621	0.001	0.001
365.0	366.0		0.0 **0.0**	*78.1*		I declare this hole to be: over.	234622	0.002	0.001

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	6	**CASING**									
0.0	6.0							Casing rubble sampled as overburden. Non-zero RQD, but <50% recovery.			
6	12	**OVERBURDEN**									
6.0	12.0			*0.4*				Casing rubble sampled as overburden. Non-zero RQD, but <50% recovery.	234627	0.012	0.071
12	19.1	**HETEROGENEOUS HETEROLITHIC AGLOMERATE**									
12.0	14.3	Fine to medium grained grey green strongly phyllic	2.0	**0.1** *0.8*				Green-grey aglomerate. Strong alteration masks primary features. 60-80% angular to subangular lithic fragments (+90% andesite?) in an aphanitic matrix. Upper contact is not observed, lower contact is involved in a fault zone at ~30 º to core axis. Strong to intense phyllic alteration, increasing towards and within fault zone. 2-4% 1-15 mm (mean 2 mm) calcite (+/- anhydrite, chlorite in larger veins) veins. 1-2% 0.5 mm disseminated pyrite. Trace chalcopyrite.	234628	0.019	0.102
14.3	16.7	Fine to medium grained grey intensely phyllic	2.0	*1*	CBCV	45		Poor recovery in this interval, actual core length is approximately two metres. Unit photo.	234629	0.004	0.103
16.7	18.0		2.0	*0.3*	FLT	30	10	Beginning of fault zone. This interval has two ~15 cm zones of fault gouge, the remainder is strongly sericitized.	234630	0.004	0.072
18.0	19.1		3.0	*0.6*	FLT	30	33	Fault zone continues. Several 10-20 cm legnths of fault gouge, inturrupted by segments of intensely altered aglomerate, and a few large pieces of less-intensely altered andesite, likely from the unit below.	234631	0.004	0.283
19.1	34	**FRAGMENTAL ANDESITE FLOW BRECCIA**									

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
19.1	21.0	Fine to medium grained grey green intensely phyllic	2.0	*0.9*	CBV 10	10	Green-grey andesite breccia flow. Aphanitic intermediate matrix hosts 5-50% angular to subrounded andesite fragments. Patchy 1-8% 1-2 mm augite crystals. Upper contact is in fault zone, lower contact is gradational with increasingly massive andesite unit. Intense to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- anhydrite, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs.	234632	0.005	0.068
21.0	23.0	Fine to medium grained grey green strongly phyllic	2.0	*0.9*				234633	0.003	0.089
23.0	25.0	Fine to medium grained grey green moderately phyllic	3.0	*1.6*				234634	0.072	0.380
25.0	27.0	Fine to medium grained green weakly phyllic	3.0	*2*	CBANP 30		Everything vein at 26.4 metres reveals possible multiple generations of veining: carbonate/anhydrite might be a latter event, carbonate/chlorite earlier.	234635	0.049	0.208
27.0	29.0	Fine to medium grained green grey moderately phyllic	3.0	*2.4*				234636	0.051	0.224
29.0	31.0		3.0	*0.5*				234637	0.039	0.290
31.0	33.0	Fine to medium grained green grey weakly phyllic	1.0	*0.7*	CBANC			234638	0.033	0.214
33.0	34.0		2.0	*1*				234639	0.031	0.205
34	80.8	**MASSIVE ANDESITE FLOW**								

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
	34.0	36.0 Fine to medium grained green grey weakly phyllic	2.0		*2.3*			Green-grey andesite flow. Aphanitic intermediate matrix hosts patchy 1-3% 1-2 mm augite crystals. Occaisional fragmentary sections. Upper contact is gradational with fragmental andesite above, lower content is indistinct with intrusion below. Strong to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- quartz, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs.	234640	0.029	0.239
	36.0	38.0	2.0		*1.9*	FLT	50	5 cm of fault gouge at 36.4 metres, estimated 50º to core axis.	234641	0.015	0.089
	38.0	40.0 Fine to medium grained green grey moderately phyllic	2.0		*2.4*	CBV	70	phyllic alteration (sericite) increases towards end of interval, halo around some carbonate veins?	234642	0.052	0.321
	40.0	42.0 Fine to medium grained green grey strongly phyllic	2.0		*2.7*			phyllic alteration wanes over length of interval.	234643	0.050	0.272
	42.0	44.0 Fine to medium grained green grey weakly phyllic	2.0		*3*			vous ete ici	234644	0.057	0.357
	44.0	46.0	2.0		*3.4*				234645	0.058	0.429
	46.0	48.0 Fine to medium grained green grey moderately phyllic	4.0		*0.7*	CBPYH	40	Hematite in a carbonate/pyrite vein at 47.5 metres. Surrounding core is more phyllically altered, chlorite and sericite.	234646	0.066	0.423
	48.0	50.0 Fine to medium grained green grey weakly phyllic	3.0	**0.1**	*1.6*	CBPYV	50	flecks of chalcopyrite in a carbonate/pyrite vein at 48.5 metres, with stronger phyllic (sericite, chlorite) halo	234647	0.056	0.142
	50.0	52.0 Fine to medium grained green grey moderately phyllic	2.0	**0.0**	*1.8*	CBCV	15	trace disseminated chalcopyrite flecks.	234648	0.042	0.286
	52.0	54.0 Fine to medium grained green grey weakly phyllic	2.0	**0.0**	*3.7*	FLT		trace disseminated chalcopyrite flecks. Possible fault at 53.6 metres, or argillic vein? At a high angle to core axis.	234649	0.029	0.259
	54.0	56.0	3.0	**0.0**	*113*				234651	0.021	0.110
	56.0	58.0	3.0	**0.0**	*1.8*	CBCPY	10	Alteration increases sa vein density towards end of interval. Minor hematite in a vein at 57.8 metres.	234652	0.022	0.097

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
58.0	60.0	Fine to medium grained grey green strongly phyllic	3.0 **0.0**	*2.3*	CBCPY 10		234653	0.034	0.149
60.0	62.0	Fine to medium grained grey green moderately phyllic	3.0 **0.0**	*2.4*			234654	0.032	0.170
62.0	64.0	Fine to medium grained green grey weakly phyllic	3.0 **0.0**	*3.1*			234655	0.034	0.154
64.0	66.0		3.0 **0.0**	*3.2*			234656	0.018	0.108
66.0	68.0		3.0 **0.0**	*2.3*			234657	0.030	0.136
68.0	70.0	Fine to medium grained green grey moderately phyllic	3.0 **0.0**	*2*			234658	0.032	0.203
70.0	72.0	Fine to medium grained green grey weakly phyllic	3.0 **0.0**	*1.9*	CBANV 35	Vuggy 20 mm carbonate/anhydrite vein at 70.2 metres. Trace hematite in veinlets at 71.9 metres.	234659	0.021	0.138
72.0	74.0		3.0 **0.0**	*31.2*			234660	0.015	0.061
74.0	76.0		3.0 **0.0**	*4.1*			234661	0.019	0.140
76.0	78.0		3.0 **0.0**	*2.6*	CBV	High vein density at 76.9 metres gives brecciated look to core. Stronger (moderate?) potassic alteration (chlorite, biotite) showing through light phyllic alteration in this interval and next.	234662	0.020	0.169
78.0	80.0		3.0 **0.0**	*0.5*			234663	0.024	0.111
80.0	80.8		3.0 **0.0**	*1.7*	CBCPY 60	slightly vuggy vein at 80.4 metres	234664	0.028	0.091
80.8	87.1	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
80.8	82.8	Fine to medium grained grey pink moderately phyllic	0.0 **0.0**	*15.5*	ZCBV 10 3	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact undulatory and ~70 º to core axis. Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 5-40% zeolite-carbonate veins. No sulfide mineralization.	234665	0.002	0.010
82.8	84.8	Fine to medium grained tan pink moderately hematitic	0.0 **0.0**	*19.2*	ZCBV	Unit photo.	234666	0.000	0.001

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From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
	84.8	86.3	Fine to medium grained pink tan intensely hematitic	0.0 **0.0**	*14*	ZCBV 40	Large zeolite vein from 85.8 to 86.3 metres with fragments of QFP. Unit photo.	234667	0.000	0.001
	86.3	87.1	Fine to coarse grained grey pink moderately phyllic	0.0 **0.0**	*4*	ZCBV		234668	0.001	0.006
87.1	90.8		**MASSIVE ANDESITE FLOW**							
	87.1	89.1	Fine to coarse grained green weakly phyllic	3.0 **0.0**	*2.5*		Green-grey andesite flow. Aphanitic intermediate matrix hosts patchy 1-3% 1-2 mm augite crystals. Bound by QFP intrustions, distinct contacts at 70-90 º to core axis. Strong to weak phyllic (sericite, minor chlorite) alteration overprints weak to moderate potassic (chloritized matrix, minor biotite, patchy magnetism) alteration. 5% 1-10 mm carbonate (+/- quartz, chlorite, pyrite) veins at 30-40 and 70-90 º to core axis. 2-5% pyrite, mostly as (very-)fine grained dense vein infill, minor disseminated 0.5-1 mm blebs. Trace chalcopyrite. Yay.	234669	0.017	0.140
	89.1	90.8		3.0 **0.1**	*2.9*			234670	0.021	0.129
90.8	95.1		**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
	90.8	92.8	Fine to coarse grained pink tan weakly hematitic	0.0 **0.0**	*12.1*	ZCBV	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact indistinct, maybe 80 º to core axis? Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 5-10% zeolite-carbonate veins, mostly 30-60 º to core axis. No sulfide mineralization. Unit photo.	234671	0.000	0.001
	92.8	93.8	Fine to coarse grained tan pink weakly hematitic	0.0 **0.0**	*7.7*	ZCBV		234672	0.000	0.001
	93.8	95.1	Fine to coarse grained pink tan moderately hematitic	0.0 **0.0**	*6.5*	ZCBV		234673	0.000	0.001
95.1	173		**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
95.1	97.1	Fine to medium grained pink grey moderately hematitic	0.0 **0.0**	*52.5*	CBZV			Pink-grey quartz monzodiorite intrusion. Possibly the Sovereign. 10-15% 1-2 mm feldspar crystals, dominantly plagioclase. 1-5% 1-3 mm quartz crystals. 1-5% 1-4 mm mafic crystals, typically chlorite after hornblende and biotite. Hematite alteration of matrix and feldspars is pervasive, especially in areas of high vein density. Veining is principally calcite-zeolite, 5-15% 1-15 mm at 20-50 and 70-80 º to core axis. Normal dissapointing sulfide mineralization. SOS.	234674	0.003	0.001
97.1	99.1		0.0 **0.0**	*54*	ZCBV				234676	0.002	0.001
99.1	101.1		0.0 **0.0**	*55.4*	ZCBV				234677	0.002	0.001
101.1	103.1		0.0 **0.0**	*71.6*	ZCBV				234678	0.002	0.001
103.1	105.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*60.2*	ZCBV		5		234679	0.002	0.001
105.0	107.0		0.0 **0.0**	*60.6*	ZCBV		5	Unit Photo	234680	0.002	0.001
107.0	109.0		0.0 **0.0**	*62.1*	ZCBV		5		234681	0.003	0.001
109.0	111.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*57.6*	ZCBV		7		234682	0.002	0.001
111.0	113.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*61.2*	ZCBV		5		234683	0.002	0.001
113.0	115.0		0.0 **0.0**	*52.6*	ZCBV	30	4		234684	0.002	0.001
115.0	117.0		0.0 **0.0**	*59.9*	ZCBV	20	5		234685	0.002	0.001
117.0	119.0		0.0 **0.0**	*58*	ZCBV	40	3		234686	0.002	0.001
119.0	121.0		0.0 **0.0**	*57.9*	ZCBV	45	5		234687	0.002	0.001
121.0	123.0		0.0 **0.0**	*58.3*	ZCBV	75	5		234688	0.002	0.001
123.0	125.0		0.0 **0.0**	*57.1*	ZCBV	60	7		234689	0.002	0.001
125.0	127.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*55.8*	ZCBV	75	8		234690	0.002	0.001
127.0	129.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*53.2*	ZCBV	70	5		234691	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
129.0	131.0	Fine to coarse grained pink grey moderately hematitic	0.0 **0.0**	*68.8*	ZCBV	65	4		234692	0.003	0.001
131.0	133.0		0.0 **0.0**	*56.4*	ZCBV	80	2		234693	0.002	0.001
133.0	135.0		0.0 **0.0**	*59.6*	ZCBV	75	3		234694	0.003	0.001
135.0	137.0		0.0 **0.0**	*57.9*	ZCBV	75	4		234695	0.002	0.001
137.0	139.0		0.0 **0.0**	*56.2*	ZCBV	60	5		234696	0.002	0.001
139.0	141.0		0.0 **0.0**	*55.9*	CBV	40	10	Increased vein density in this interval…looks like secondary calcite-only veining using existing zeolite/carbonate vein surfaces.	234697	0.001	0.001
141.0	143.0		0.0 **0.0**	*52*	CBV	70	4		234698	0.002	0.001
143.0	145.0		0.0 **0.0**	*57.6*	ZCBV	75			234699	0.002	0.001
145.0	147.0		0.0 **0.0**	*50.7*	ZCBV	30	5		234701	0.002	0.001
147.0	149.0		0.0 **0.0**	*52.7*	CBV	45	5		234702	0.002	0.001
149.0	151.0		0.0 **0.0**	*50.9*	CBV	60	5	One carbonate vein has entrained a piece of wall rock, which has been strongly epidote altered. Unit photo.	234703	0.002	0.001
151.0	153.0		0.0 **0.0**	*57.3*	ZCBV	60	3		234704	0.002	0.001
153.0	155.0		0.0 **0.0**	*47.6*	CBV	65	3	Propylitic alteration of clast in a calcite vein again.	234705	0.002	0.001
155.0	157.0		0.0 **0.0**	*58.9*	ZCBV	60	4		234706	0.002	0.001
157.0	159.0		0.0 **0.0**	*55.8*	ZCBV	50	3		234707	0.002	0.001
159.0	161.0		0.0 **0.0**	*59.7*	ZCBV	60	4		234708	0.002	0.001
161.0	163.0		0.0 **0.0**	*53.9*	CBV	70	5	Propylitic alteration of clast in a calcite vein.	234709	0.002	0.001
163.0	165.0		0.0 **0.0**	*54.4*	ZCBV	45	6		234710	0.001	0.001
165.0	167.0		0.0 **0.0**	*58.6*	ZCBV	60	5	Hematite alteration beginning to look weak/patchy	234711	0.001	0.001
167.0	169.0	Fine to coarse grained pink grey weakly hematitic	0.0 **0.0**	*59.8*	CBV	50	3	4 cm calcite vein at 168.8 metres, with minor epidote, and chorite(?)	234712	0.002	0.001
169.0	171.0		0.0 **0.0**	*54.7*	ZCBV	75	3		234713	0.003	0.001
171.0	173.0		0.0 **0.0**	*54.4*	ZCBV	60	2	10 cm QFP xenolith (from upcoming unit) at 172.7 metres; textbook chilled margin.	234714	0.003	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
173	186.1	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY DYKE**							
173.0	174.8	Fine to coarse grained green grey weakly hematitic	0.3 **0.0**	*3.6*	CBCPY 75 1	Pink-tan quartz felspar porphyry dyke. 1-5% 1-2 mm quartz and feldspar (plagioclase) phenocrysts. ~1% <1 mm mafic minerals. Aphanitic matrix. Lower contact sharp with 5 cm chill margin at 80-90 º to core axis. Hematite alteration is prevalent, overprinting strong sericitization(?), leaving matrix massive. 2-8% carbonate-anhydrite (+/- zeolite) veins at 30-60 º to core axis, with stringers subparallel to core axis. Minor sulfide mineralization only observed in areas of intense phyllic alteration (QSP). First interval is affected by Sovereign intrusion: first twenty centimetres are propylitic altered, with some hematite-sulfide bearing carbonate/chlorite veinlets.	234715	0.001	0.005
174.8	176.8	Fine to coarse grained tan pink strongly hematitic	0.3 **0.0**	*8.5*	CBZHV 45 30	Dense anastamosing veining in this interval, resulting in local brecciation of QFP and intense phyllic alteration with hematite overprint. Unit photo.	234716	0.000	0.001
176.8	178.8	Fine to coarse grained tan pink moderately hematitic	0.0 **0.0**	*9.8*	CBZV 50 6		234717	0.000	0.001
178.8	180.8		0.0 **0.0**	*9.4*	CBZV 75 5	Vuggy carbonate-zeolite vein at 180.7 metres	234718	0.000	0.016
180.8	182.8		0.0 **0.0**	*7.7*	CBZV 50 1	Marked decrease in vein density to end of unit.	234719	0.000	0.001
182.8	184.8		0.0 **0.0**	*6.5*	CBZV 50 1		234720	0.000	0.001
184.8	186.1		0.0 **0.0**	*9.7*	CBV 60 1	Good chill margin against next unit.	234721	0.001	0.001
186.1	188.1	**FRAGMENTAL ANDESITE FLOW BRECCIA**							
186.1	188.1	Fine to medium grained green grey weakly phyllic	3.0 **0.0**	*1.4*		Green-grey fragmental andesite flow breccia. 10-50% angular to subrounded lithic fragments (dominantly phyllic altered andesite(?)) in an aphanitic matrix. Weak phyllic alteration overprinting moderate to strong potassic (chlorite, biotite, quartz) alteration. Few carbonate (+/- zeolite, pyrite, hematite, chlorite) veins at 70+ º to core axis. Reasonable sulfide mineralization: 1-4% pyrite mostly as disseminated blebs. Chalcopyrite is trace to imaginary.	234722	0.014	0.050

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
188.1	237.1	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**								
188.1	189.9	Fine to coarse grained green weakly chloritic		*17.5*	FLT		Dark green - grey quartz monzodiorite intrusion. 1-4% 0.5-2 mm euhdral quartz phenocrysts. 2-10% 0.5-4 mm euhdral or 2:1 elongate feldspar phenocrysts, dominantly plagioclase. 1-3% 0.5-1 mm mafic crystals. Intermediate aphanitic matrix. Faulted upper and lower contacts, upper is rubble, lower is ~30 º to core axis. Weak to moderate chlorite alteration; plagioclase and remnant magnetization are reasonably unmolested, however matrix has distinct green hue. Common carbonate (+/- zeolite, hematite, chlorite) veins at 30-60 º to core axis. Dissapointing sulfide mineralization: rare pyrite crystals in carbonate veins, no disseminated sulfides.	234723	0.001	0.001
189.9	192.0	Fine to coarse grained green moderately chloritic		*26.5*	FLT		40 cm zone of intensely phyllic (argillic?) altered core, possibly a fault, starting at 190.0 metres. Same rock on either side of zone, with no discernable alteration halo.	234724	0.001	0.001
192.0	194.0			*30*			Unit photo.	234726	0.001	0.001
194.0	196.0			*27.8*				234727	0.001	0.001
196.0	198.0		0.0	*32.7*			Minor pyrite in a carbonate vein at 196.3 metres.	234728	0.002	0.005
198.0	200.0		0.0	*29.8*				234729	0.001	0.005
200.0	202.0		0.0	*31.9*				234730	0.001	0.001
202.0	204.0		0.0	*25.2*				234731	0.001	0.001
204.0	206.0		0.0	*39*			Seeing more hematite in veins.	234732	0.001	0.005
206.0	208.0		0.0	*30.5*	CBCV	30	Some phyllic alteration (more chlorite, sericite) as halo around a carbonate-chlorite vein at 206.3 metres.	234733	0.001	0.007
208.0	210.0		0.0	*38.8*				234734	0.001	0.001
210.0	212.0		0.0	*33.8*				234735	0.001	0.001
212.0	214.0		0.0	*32.6*				234736	0.001	0.001
214.0	216.0		0.0	*29.7*				234737	0.001	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
216.0	218.0	Fine to coarse grained green moderately chloritic	0.0	*23.7*	CBZV	5	vuggy/crystaline carbonate within zeolite vein from 216.4 to 216.7 metres.	234738	0.001	0.005
218.0	220.0	Fine to coarse grained green moderately phyllic	0.1	*28.7*	CBCV	45	Phyllic alteration, briefly intesnse at 218.6 metres, another possible fault?, just twenty centimetres above a 10 mm carbonate/chlorite vein. Phyllic alteration fades quickly after this larger than average vein. Some very fine grained pyrite in strongly altered section.	234739	0.001	0.001
220.0	222.0	Fine to coarse grained green moderately chloritic	0.0	*29.1*				234740	0.001	0.006
222.0	224.0		0.0	*29.8*				234741	0.001	0.005
224.0	226.0		0.0	*28*				234742	0.001	0.008
226.0	228.0		0.0	*26*	CBZV		vein density increases in this interval	234743	0.001	0.006
228.0	229.8	Fine to coarse grained green grey moderately chloritic	0.0	*30.6*				234744	0.001	0.009
229.8	231.0	Fine to coarse grained grey pink weakly hematitic	0.0	*56.6*	CBZV		veins begin carrying more zeolite, gradual appearance of hematite staining of plagioclase crystals at beginning of interval. Looks a lot like Sovereign intrusive.	234745	0.002	0.001
231.0	232.6	Fine to coarse grained pink grey moderately hematitic	0.0	*46.2*	ZCBV		Hematite staining continues.	234746	0.002	0.001
232.6	234.6	Fine to coarse grained grey pink weakly hematitic	0.0	*48.5*	CBZV		zeolite and hematite staining wane over length of interval.	234747	0.001	0.001
234.6	236.0	Fine to coarse grained green grey moderately chloritic	0.0	*49.3*				234748	0.001	0.006
236.0	237.1	Fine to coarse grained green grey weakly chloritic	0.0	*48.6*	CBZV	20 10	vein denity increases in last third of interval.	234749	0.003	0.001
237.1	281	**FRAGMENTAL HETEROLITHIC AGLOMERATE**								

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
237.1	239.0	Fine to medium grained grey green intensely phyllic	4.0 **0.0**	*0.4*	FLT	30	Grey-green heterolithic aglomerate. Contains 30-70% angular to subrounded lithic fragments. Fragments are QFP, andesite and few others. Also contains 5% plagioclase lapilli and mafic crystals(?). Upper contact with QMZD is faulted; fault surface is ~30 º to core axis, possible slickenlines with rake of ~ -50º (unit photo). Strong phyllic (quartz, sericite, pyrite, chlorite) alteration obscures fragment lithologies, primary textures and overprinted alteration styles. Occaisional carbonate (+/- zeolite, hematite, chlorite) veins (1-2 mm), mostly at 60-90 º to core axis. Sulfides are courtesy of phyllic alteration, disseminated 0.5-1 mm pyrite crystals. Rare/trace chalcopyrite. This unit generated several alternate interpretations, due to the intense alteration, before being 'identified' as Hazelton.	234751	0.047	0.089
239.0	241.0	Fine to medium grained grey green strongly phyllic	4.0 **0.0**	*0.8*				234752	0.005	0.080
241.0	243.0		4.0 **0.0**	*1.9*				234753	0.023	0.074
243.0	245.0	Fine to medium grained grey green intensely phyllic	4.0 **0.0**	*1.1*			Unit photo of mottled QSP alteration.	234754	0.005	0.042
245.0	247.0		4.0 **0.0**	*1.6*			Minor wollastonite in a carbonate vein.	234755	0.004	0.038
247.0	249.0	Fine to medium grained grey green moderately phyllic	4.0 **0.0**	*2.3*				234756	0.025	0.073
249.0	251.0	Fine to medium grained grey green intensely phyllic	4.0 **0.0**	*2.4*			Unit photo.	234757	0.011	0.061
251.0	253.0	Fine to medium grained grey green moderately phyllic	4.0 **0.0**	*0.7*				234758	0.034	0.079
253.0	255.0		4.0 **0.0**	*1*				234759	0.013	0.074
255.0	257.0		4.0 **0.0**	*1.7*				234760	0.030	0.114
257.0	259.0		4.0 **0.0**	*2.1*			decrease to ~1% of plagioclase crystals.	234761	0.022	0.073
259.0	261.0	Fine to medium grained grey green strongly phyllic	4.0 **0.0**	*2.5*	CBZV	30	Stronger alteration around veins.	234762	0.010	0.071

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
261.0	263.0	Fine to medium grained grey green moderately phyllic	4.0 **0.0**	*3.7*				234763	0.018	0.102
263.0	265.0		4.0 **0.0**	*0.7*				234764	0.007	0.093
265.0	267.0		4.0 **0.0**	*1.1*				234765	0.019	0.075
267.0	269.0		4.0 **0.0**	*1.6*				234766	0.038	0.104
269.0	271.0		4.0 **0.0**	*1.8*				234767	0.011	0.048
271.0	273.0		4.0 **0.0**	*0.3*				234768	0.022	0.061
273.0	275.0	Fine to medium grained grey green strongly phyllic	4.0 **0.0**	*0.8*	CBANV	3	30 cm of carbonate-anhydrite stockwork veining, increased phyllic alteration.	234769	0.023	0.078
275.0	277.0	Fine to medium grained grey green moderately phyllic	3.0 **0.0**	*1.5*				234770	0.029	0.105
277.0	279.0	Fine to medium grained grey green strongly phyllic	3.0 **0.0**	*0.6*	CBV		higher vein density (stockworking?) gives higher alteation intensity.	234771	0.012	0.100
279.0	281.0	Fine to medium grained grey green moderately phyllic	3.0 **0.0**	*0.9*			Some AAP-ish fragments near the end of this interval that look similar to upcoming unit.	234772	0.014	0.071
281	424.4	**FRAGMENTAL ANDESITE FLOW BRECCIA**								

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
281.0	283.0	Fine to coarse grained dark green moderately propyllitic	4.0 **0.1**	*2.1*	CBCAN 70 10	Dark green augite-phyric andesite flow breccia. 0-5% 1-3 mm augite phenocrysts (decreasing downhole) in an intermediate autobrecciated (5-20 mm subangular fragments) aphanitic matrix. Upper contact is indistinct, ~70 º to core axis, with evidence of an unconformity; Hazelton unit above contains some AAP fragments. Moderate to strong proplytic alteration: chloritization of matrix, extensive epidote replacement, disseminated pyrite. Unit is cut by at least one fault at ~300 metres. ~5% 1-10 mm carbonate (+/- chlorite, anhydrite) veins at 0-40 º to core axis. Less common quartz (+/- carbonate, sulfides) veins at 60-70 º to core axis. Good sulfide mineralization: 3-6% disseminated and vein fill pyrite, as well as minor chalcopyrite (incrreasing downhole, mostly occuring in 2-5 mm carbonate +/- anhydrite, chlorite veins), and trace (observed once) sphalerite. High vein density at beginning on first interval.	234773	0.027	0.092
283.0	285.0		4.0 **0.0**	*2.3*	CBV		234774	0.020	0.081
285.0	287.0	Fine to coarse grained dark green strongly propyllitic	4.0 **0.0**	*0.9*			234776	0.028	0.073
287.0	289.0	Fine to coarse grained dark green moderately propyllitic	4.0 **0.0**	*1.2*	CBV	Vuggy carbonate vein at 288.1 metres.	234777	0.017	0.097
289.0	291.0		4.0 **0.0**	*2.1*			234778	0.018	0.073
291.0	293.0		4.0 **0.0**	*2.2*			234779	0.034	0.135
293.0	295.0		4.0 **0.0**	*2.4*			234780	0.019	0.103
295.0	297.0		4.0 **0.0**	*3.2*			234781	0.044	0.127
297.0	298.9		4.0 **0.0**	*3.6*			234782	0.028	0.115
298.9	301.5	Fine to medium grained dark grey strongly phyllic	5.0 **0.0**	*3.7*	FLT 45 60	Fault zone, core is rubbly or sheared. Gouge is about 60% of core. Poor recovery. Unit photo.	234783	0.030	0.156
301.5	303.0	Fine to coarse grained dark green moderately propyllitic	4.0 **0.0**	*4.9*			234784	0.021	0.121
303.0	305.0	Fine to medium grained dark green moderately propyllitic	4.0 **0.0**	*0.8*			234785	0.034	0.108

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
305.0	307.0	Fine to medium grained dark green moderately propyllitic	4.0 **0.0**	*1.7*				234786	0.039	0.198
307.0	309.0		4.0 **0.1**	*1.2*			chalcopyrite concentration seems to be increasing? Mean carbonate vein width seems to also be increasing, now ~3-5 mm.	234787	0.021	0.117
309.0	311.0		4.0 **0.1**	*1.9*				234788	0.014	0.080
311.0	313.0		4.0 **0.0**	*2.2*				234789	0.027	0.169
313.0	315.0		4.0 **0.1**	*3.5*				234790	0.022	0.168
315.0	317.0		5.0 **0.1**	*0.9*	CBCB	70	Large carbonate vein at 315.3 metres hosts chalcopyrite and sphalerite blebs. Two unit photos.	234791	0.020	0.081
317.0	319.0		5.0 **0.1**	*1.3*				234792	0.025	0.134
319.0	321.0		5.0 **0.1**	*1.4*				234793	0.032	0.107
321.0	323.0		5.0 **0.1**	*1.7*				234794	0.037	0.197
323.0	325.0		5.0 **0.1**	*2.2*	QCBV		Good chalcopyrite in a quartz/carbonate vein at 324.4 metres.	234795	0.039	0.195
325.0	327.0		5.0 **0.1**	*2.5*				234796	0.033	0.347
327.0	329.0	Fine to medium grained dark green strongly propyllitic	5.0 **0.1**	*3.3*	CBV			234797	0.026	0.099
329.0	331.0	Fine to medium grained dark green moderately propyllitic	4.0 **0.1**	*1.2*	CBV	50	two vuggy veins in this interval. One host reasonable pyrite, neither any chalcopyrite.	234798	0.021	0.095
331.0	333.0		4.0 **0.1**	*2.1*	CBV	50	Chalcopyrite in quartz-carbonate veins.	234799	0.027	0.144
333.0	335.0		4.0 **0.1**	*1.9*				234801	0.015	0.052
335.0	337.0		4.0 **0.1**	*2.3*				234802	0.033	0.066
337.0	339.0		4.0 **0.1**	*2.8*	CBEPP	75	Vuggy carbonate vein with epidote and pyrite, trace chalcopyrite, at 338.1 metres.	234803	0.029	0.068
339.0	341.0		4.0 **0.1**	*2.3*				234804	0.044	0.146
341.0	343.0		4.0 **0.1**	*1.1*	CBV		Smaller (<2 mm) carbonate veins decreasing in abundance. Remaining larger veins showing minor vugs. Occaisional pyrite-rich veins still occur.	234805	0.028	0.120

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
343.0	345.0	Fine to medium grained dark green moderately propyllitic	4.0 **0.1**	*1.3*				234806	0.030	0.105
345.0	347.0		4.0 **0.1**	*2.2*	CBV			234807	0.010	0.057
347.0	349.0		4.0 **0.1**	*2.1*				234808	0.015	0.074
349.0	351.0		4.0 **0.1**	*3.2*				234809	0.027	0.070
351.0	353.0		4.0 **0.1**	*5.5*	CBV			234810	0.036	0.076
353.0	355.0		3.0 **0.1**	*3.8*				234811	0.008	0.074
355.0	357.0		4.0 **0.1**	*1.4*				234812	0.027	0.065
357.0	359.0		4.0 **0.1**	*2.7*				234813	0.017	0.072
359.0	361.0		4.0 **0.2**	*1.2*				234814	0.031	0.070
361.0	363.0		4.0 **0.1**	*1.6*	CBPYV	30		234815	0.018	0.064
363.0	365.0		4.0 **0.1**	*1.9*			Few small pyrite stringers	234816	0.019	0.067
365.0	367.0		4.0 **0.1**	*2.5*				234817	0.020	0.113
367.0	369.0		4.0 **0.1**	*7.1*	CBCPY		Dense carbonte-anhydrite/chlorite veining from 368.7 to 369.0 metres. Contains some pyrite infill (possibly another vein event) and trace chalcopyrite.	234818	0.012	0.066
369.0	371.0		4.0 **0.1**	*35.2*				234819	0.038	0.086
371.0	373.0		4.0 **0.1**	*14.1*				234820	0.018	0.126
373.0	375.0		4.0 **0.1**	*2.4*			minor vein fill chalcopyrite in 2-3 mm carbonate veins.	234821	0.029	0.093
375.0	377.0		4.0 **0.1**	*2.2*			trace disseminated chalcopyrite, in addition to minor vein fill.	234822	0.055	0.095
377.0	379.0		4.0 **0.1**	*2.3*	FLT	70	10 cm fault zone at 378.8 metres.	234823	0.029	0.165
379.0	381.0		4.0 **0.1**	*2.8*				234824	0.019	0.088
381.0	383.0		4.0 **0.1**	*3.3*				234826	0.018	0.077
383.0	385.0		10.0 **0.1**	*1.8*	PYCBV	10 20	Large quartz-carbonate vein with impressive pyrite infill, trace to imaginary chalcopyrite.	234827	0.031	0.126
385.0	387.0		9.0 **0.1**	*1.4*				234828	0.048	0.098

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
387.0	389.0	Fine to medium grained dark green moderately propyllitic	5.0 **0.1**	*1.7*	PYCBV	Another large pyrite vein from 389.5 to 389.9 metres.	234829	0.020	0.113
389.0	391.0		4.0 **0.1**	*2.7*			234830	0.070	0.101
391.0	393.0		4.0 **0.1**	*3.7*			234831	0.014	0.054
393.0	395.0		5.0 **0.1**	*3.2*			234832	0.021	0.059
395.0	397.0		5.0 **0.1**	*4.3*			234833	0.034	0.069
397.0	399.0		5.0 **0.1**	*1.3*			234834	0.052	0.089
399.0	401.0		7.0 **0.1**	*1.8*			234835	0.038	0.100
401.0	403.0		5.0 **0.1**	*2*			234836	0.042	0.107
403.0	405.0		5.0 **0.1**	*5.5*	CBANV 70	8 mm vuggy carbonate-anhydrite vein at 404.8 metres.	234837	0.027	0.068
405.0	407.0		7.0 **0.1**	*3.5*			234838	0.021	0.073
407.0	409.0		6.0 **0.1**	*6.5*			234839	0.048	0.104
409.0	411.0		6.0 **0.1**	*2.6*			234840	0.028	0.074
411.0	413.0		6.0 **0.2**	*11*		Larger chalcopyrite blebs in quartz+/-carbonate vein.	234841	0.032	0.084
413.0	415.0		6.0 **0.2**	*4.1*	QCPYV		234842	0.032	0.071
415.0	417.0		7.0 **0.3**	*24.6*	QCPYV		234843	0.057	0.101
417.0	419.0		6.0 **0.1**	*6.5*		Minor sphalerite in a small quartz vein with surrounding weak potassic halo at 418.0 metres.	234844	0.025	0.099
419.0	421.0		6.0 **0.1**	*14.4*			234845	0.048	0.103
421.0	423.0		6.0 **0.0**	*18.2*			234846	0.045	0.130
423.0	424.4		4.0 **0.0**	*2*	CBV	Dendritic carbonate veins in this interval, lower RQD, likely related to contact with monzodiorite below.	234847	0.040	0.136
424.4	455.2	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
424.4	426.0	Fine to coarse grained grey moderately potassic - chlorite-quartz	0.0 **0.0**	*41*	CNT	85	Grey to pink monzodiorite intrusive. 10-15% 0.5-2 mm plagioclase phenocrysts. 5% 1-3 mm mafic crystals. 1-2% 0.5-1 mm quartz Aphanitic intermediate matrix. Upper contact is ~85 º to core axis, lower contact is ~70 º to core axis. Weak to moderate potassic (quartz, chlorite) alteration with patchy weak to moderate hematite overprint. Common carbonate-zeolite veins at 30-60 º to core axis. Secondary carbonate veining event evident as calcite-only veins infilling pre-existing zeolite-carbonate veins. Trace sulfides in intervals adjoining mineralized Takla units, zero sulfides in bulk of unit.	234848	0.004	0.008
426.0	428.0		0.0 **0.0**	*56.3*			Unit photo: potassic altered monzodiorite.	234849	0.003	0.006
428.0	430.0	Fine to coarse grained light grey pink moderately potassic - chlorite-quartz	0.0 **0.0**	*51.8*				234851	0.002	0.001
430.0	432.0	Fine to coarse grained light grey pink weakly hematitic	0.0 **0.0**	*45.3*				234852	0.002	0.001
432.0	434.0	Fine to coarse grained light grey pink moderately hematitic	0.0 **0.0**	*44.3*	CBV	80 5	Anastamosing carbonate vein at 433.0 metres has locally brecciated the monzodiorite.	234853	0.001	0.001
434.0	436.0	Fine to coarse grained grey moderately hematitic	0.0 **0.0**	*44.3*				234854	0.001	0.001
436.0	438.0		0.0 **0.0**	*51.5*				234855	0.001	0.001
438.0	440.0		0.0 **0.0**	*49.6*				234856	0.001	0.001
440.0	442.0		0.0 **0.0**	*50.7*				234857	0.002	0.005
442.0	444.0		0.0 **0.0**	*52.6*			Unit photo: hematite altered monzodiorite.	234858	0.002	0.001
444.0	446.0		0.0 **0.0**	*49.2*				234859	0.002	0.001
446.0	448.0	Fine to coarse grained light grey pink weakly hematitic	0.0 **0.0**	*61.6*				234860	0.002	0.011
448.0	450.0	Fine to coarse grained light grey pink weakly potassic - chlorite-quartz	0.0 **0.0**	*53.7*			Vein controlled hematitic patches.	234861	0.001	0.001
450.0	452.0		0.0 **0.0**	*53.5*				234862	0.001	0.001
452.0	454.0	Fine to coarse grained light grey weakly potassic - chlorite-quartz	0.0 **0.0**	*45*				234863	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
454.0	455.2	Fine to coarse grained light grey weakly potassic - chlorite-quartz	0.0 **0.0**	*43.6*				234864	0.001	0.001
455.2	549.9	**MOTTLED ANDESITE FLOW**								
455.2	457.0	Fine to coarse grained grey green strongly phyllic	4.0 **0.0**	*0.7*	CNT	75	Grey to greenish andesite flow. Contains 0-5% 1-4 mm augite grains and patchy 1-2 mm plagioclase grains and possible occaisional andesite fragments. Upper contact is distinct at ~75 º to core axis. Moderate to strong phyllic (sericite, quartz, pyrite, chlroite) overprints moderate potassic (chlorite) alteration, with phyllic alteration broadly waning downhole. Pervasive sericitization gives core a mottled look and obscures primary features. Common 0.5-2 mm carbonate stringers, and 1-5 mm carbonate-pyrite (+/- quartz) veins. 3-6% disseminated and vein-fill pyrite, trace chalcopyrite.	234865	0.042	0.167
457.0	459.0		4.0 **0.0**	*0.4*			Unit photo: phyllic altered mottled andesite.	234866	0.027	0.132
459.0	461.0		4.0 **0.0**	*0.7*				234867	0.029	0.173
461.0	463.0		4.0 **0.0**	*0.8*				234868	0.026	0.187
463.0	465.0		4.0 **0.0**	*1.1*				234869	0.023	0.169
465.0	467.0		5.0 **0.0**	*1.5*				234870	0.008	0.088
467.0	469.0		4.0 **0.0**	*2.1*				234871	0.025	0.091
469.0	471.0		4.0 **0.0**	*2.5*				234872	0.017	0.090
471.0	473.0		5.0 **0.0**	*0.3*				234873	0.011	0.070
473.0	475.0		5.0 **0.0**	*0.8*			minor fuchsite; accessory alteration mineral.	234874	0.006	0.076
475.0	477.0	Fine to coarse grained grey green moderately phyllic	5.0 **0.0**	*0.3*				234876	0.009	0.072
477.0	479.0	Fine to coarse grained grey green strongly phyllic	5.0 **0.0**	*0.7*			minor fuchsite.	234877	0.005	0.066
479.0	481.0		5.0 **0.1**	*0.9*			minor vein-fill chalcopyrite.	234878	0.018	0.057
481.0	483.0		5.0 **0.0**	*1.6*				234879	0.006	0.065

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
483.0	485.0	Fine to coarse grained grey green strongly phyllic	5.0 **0.0**	*0.6*					234880	0.010	0.159
485.0	487.0	Fine to coarse grained green grey weakly phyllic	5.0 **0.1**	*1.7*				minor vein-fill chalcopyrite in less phyllic sections, where chlorite (potassic) alteration shows through.	234881	0.017	0.351
487.0	489.0	Fine to coarse grained green grey moderately phyllic	5.0 **0.1**	*1.4*				Unit photo: weak phyllic - moderate chloritic alteration.	234882	0.039	0.217
489.0	491.0	Fine to coarse grained grey green strongly phyllic	5.0 **0.0**	*1.6*					234883	0.013	0.049
491.0	493.0		5.0 **0.0**	*0.3*					234884	0.004	0.027
493.0	495.0		5.0 **0.0**	*0.2*					234885	0.004	0.024
495.0	497.0	Fine to coarse grained grey green moderately phyllic	5.0 **0.0**	*0.2*					234886	0.005	0.030
497.0	499.0		5.0 **0.0**	*0.1*				This is the last box delivered before a planned two week shut down of the drill.	234887	0.015	0.063
499.0	501.0	Fine to coarse grained grey green strongly phyllic	7.0	*0.6*					234888	0.008	0.043
501.0	503.0		8.0	*0.8*				Spotty biotite alteration.	234889	0.012	0.066
503.0	505.0		7.5	*1.1*					234890	0.012	0.037
505.0	507.0	Fine to coarse grained grey strongly phyllic	6.5 **0.1**	*1.3*	FLT	25	1	Minor chalcopyrite within a quartz vein.	234891	0.008	0.041
507.0	509.0		5.5	*1.6*	FLT	50	2		234892	0.009	0.056
509.0	511.0	Fine to coarse grained grey green strongly phyllic	6.5 **0.1**	*0.7*	QPYCP	35	5	Minor chalcopyrite present within a fault filled with quartz vein and pyrite. Minor green sericite alteration present.	234893	0.075	0.281
511.0	513.0		7.0	*1.1*	FLT	40	2	Spotty biotite altertion present.	234894	0.007	0.124
513.0	515.0	Fine to coarse grained grey brown strongly phyllic	9.0	*1.6*	PYV	40	3		234895	0.035	0.245
515.0	517.0		5.5	*1.9*					234896	0.024	0.141
517.0	519.0	Fine to coarse grained grey moderately potassic - chlorite-sericite-quartz	7.5	*0.7*				Chlorite alteration has increased.	234897	0.063	0.243

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
519.0	521.0	Fine to coarse grained grey green moderately potassic - chlorite-sericite-quartz	7.2		*1.8*					234898	0.032	0.184
521.0	523.0		7.7	**0.2**	*0.7*	PYQCP	55	2	Chalcopyrite present within a pyrite and quartz vein.	234899	0.090	0.139
523.0	525.0	Fine to coarse grained grey strongly potassic - chlorite-sericite-quartz	7.5		*0.5*	FLT	40	3		234901	0.027	0.086
525.0	527.0	Fine to coarse grained grey strongly phyllic	8.2		*0.7*	FLT	30	2	Chlorite alteration has decreased. Unit is strong to intensely QSP altered.	234902	0.012	0.080
527.0	529.0	Fine to coarse grained grey intensely phyllic	7.0		*0.8*					234903	0.003	0.022
529.0	531.0		7.5		*0.9*					234904	0.004	0.033
531.0	533.0	Fine to coarse grained grey strongly phyllic	5.0		*1*					234905	0.003	0.022
533.0	535.0	Fine to coarse grained grey green moderately phyllic	5.3		*1.2*					234906	0.005	0.039
535.0	537.0		5.5		*1.4*					234907	0.002	0.025
537.0	539.0	Fine to coarse grained grey strongly phyllic	5.2		*0.5*					234908	0.003	0.033
539.0	541.0	Fine to coarse grained grey green strongly phyllic	6.5	**0.0**	*0.7*	FLT	40	4	Trace of chalcopyrite within a calcite and zeolite vein. Minor faulting filled with ground up material and pyrite.	234909	0.023	0.148
541.0	543.0	Fine to coarse grained grey green intensely phyllic	11.0	**0.5**	*0.9*	QPYCP	30	8	Interval contains minor faults, strong QSP alteration and quartz veining within the faults. Fault orientation is ~30 deg to the core axis. Chalcopyrite present within the quartz veins.	234910	0.169	0.370
543.0	545.0	Fine to coarse grained grey strongly phyllic	7.0		*1*					234911	0.002	0.102
545.0	547.0	Fine to coarse grained grey intensely phyllic	6.5		*1*	FLT	30	3		234912	0.003	0.081
547.0	549.0	Fine to coarse grained grey strongly phyllic	5.0		*1.1*					234913	0.010	0.053
549.0	549.9	Fine to coarse grained grey green strongly phyllic	5.5		*1.3*	FLT	20	2	Chlorite alteration has increased.	234914	0.008	0.219

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
549.9	552.3	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**							
549.9	552.3	Fine to coarse grained dark grey strongly phyllic	5.0 **0.2**	*1.5*		Unit contains 13-18% feldspar phenocrysts 2-7mm in size. Matrix is very fine grained. Most of the feldspar phenocrysts are altered to sericite with some altered to chlorite. Matrix is moderately altered to quartz and sericite. A strong siliceous overprint is present in patches. 3-5% zeolite and calcite veining oriented 30-50 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and minorly present within some veins.	234915	0.020	0.120
552.3	556.4	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
552.3	554.0	Fine grained red moderately phyllic	5.5	*0.5*		Unit is brecciated and contains andesite clasts. Clasts vary in size from 0.3cm to 4cm and are subangular to angular in shape. Some of the clasts are altered to chlorite, biotite, quartz and sericite. The matrix is fine grained and made up of ground up andesite fragments. Matrix is mainly sericite and quartz altered. 1-2% quartz, calcite and zeolite veins oriented 35-70 deg to the core axis. Contact with the upper unit is uneven and brecciated. Pyrite is disseminated within the matrix, present within veins and present within clasts.	234916	0.024	0.149
554.0	556.4	Fine grained grey green moderately phyllic	6.0 **0.0**	*23.4*		Trace of chalcopyrite disseminated within the matrix.	234917	0.029	0.146
556.4	558	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
556.4	558.0	Fine grained dark green grey strongly potassic - chlorite-sericite-quartz	5.0 **0.3**	*0.6*		Unit is a massive andesite intermediate in composition where the alteration has obliterted most of the characteristics of the rock. Unit contains brecciated sections. Minor AAP sections at the beginning of the unit with augite phenocrysts 2-5mm in size. Potassic alteration dominates with chlorite and sericite alteration dominating and minor quartz. 2-4% quartz, anhydrite, calcite and zeolite veining present oriented 20-60 deg to the core axis. Veining slightly increases down the hole. Spotty magnetite present within the matrix. Pyrite is disseminated within the matrix and present within veins. Spotty chalcopyrite present within the matrix and veins. Contact with the overlying unit is brecciated and gradational.	234918	0.039	0.157
558	560	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
558.0	560.0	Fine grained dark green strongly potassic - chlorite-sericite-quartz	6.0 **0.1**	*18.6*		Section contains 15% augite phenocrysts 3-7mm in size.	234919	0.031	0.121
560	562	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
560.0	562.0	Fine grained dark green strongly potassic - chlorite-sericite-quartz	6.3 **0.0**	*20.4*		Section contains 6% augite phenocrysts 2-5mm in size.	234920	0.038	0.106
562	576	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
562.0	564.0	Fine to coarse grained dark green strongly potassic - chlorite-sericite-quartz	6.0 **0.1**	*33.7*			234921	0.036	0.069
564.0	566.0		6.5 **0.1**	*2.5*			234922	0.044	0.136
566.0	568.0		6.2 **0.1**	*5.9*	FLT 15 1		234923	0.029	0.101
568.0	570.0		5.3 **0.1**	*0.8*			234924	0.037	0.096
570.0	572.0	Fine to coarse grained green strongly potassic - chlorite-sericite-quartz	5.0 **0.2**	*65*			234926	0.033	0.066
572.0	574.0	Fine to coarse grained dark green black strongly potassic - chlorite-sericite-quartz	4.8 **0.1**	*2*			234927	0.034	0.124

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
574.0	576.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite-quartz	6.3 **0.0**	*0.6*					234928	0.037	0.109
576	630	**MASSIVE ANDESITE FLOW**									
576.0	578.0	Fine to coarse grained dark green strongly potassic - chlorite-sericite-quartz	6.0 **0.1**	*0.7*					234929	0.029	0.079
578.0	580.0		6.0 **0.0**	*0.8*	SHR	30	5		234930	0.030	0.107
580.0	582.0	Fine to coarse grained dark green strongly potassic - chlorite-quartz-biotite	6.5 **0.2**	*0.9*	FLT	30	1	Small 10cm section containing 15% augite phenocrysts.	234931	0.035	0.141
582.0	584.0	Fine to coarse grained dark green strongly potassic - chlorite-sericite-quartz	6.3 **0.0**	*2.4*					234932	0.032	0.104
584.0	586.0	Fine to coarse grained green grey strongly potassic - chlorite-sericite	8.0 **0.0**	*0.5*					234933	0.011	0.081
586.0	588.0		5.5	*1.8*					234934	0.034	0.115
588.0	590.0		7.0 **0.0**	*1*					234935	0.023	0.087
590.0	592.0		6.5	*0.7*					234936	0.025	0.095
592.0	594.0		6.7	*1.3*					234937	0.025	0.090
594.0	596.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	5.8 **0.0**	*10.8*					234938	0.041	0.090
596.0	598.0		5.5 **0.0**	*1.8*	FLT	40	4		234939	0.022	0.065
598.0	600.0	Fine to coarse grained green strongly phyllic	7.0 **0.1**	*0.7*	FLT	20	4	Quartz, sericite and pyrite alteration dominate with lesser chlorite.	234940	0.008	0.066
600.0	602.0		7.5 **0.1**	*1*	FLT	50	6		234941	0.003	0.041
602.0	604.0		8.0 **0.0**	*1.5*					234942	0.007	0.048
604.0	606.0		8.3 **0.0**	*1.8*	QPYV	30	3		234943	0.005	0.050
606.0	608.0		7.0 **0.0**	*0.7*					234944	0.013	0.074

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
608.0	610.0	Fine to coarse grained green strongly phyllic	7.2 **0.0**	*1*			234945	0.026	0.065
610.0	612.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	7.7	*1.4*		Chlorite alteration has increased.	234946	0.020	0.065
612.0	614.0		8.0 **0.1**	*0.7*			234947	0.030	0.104
614.0	616.0		8.5 **0.1**	*0.8*			234948	0.039	0.135
616.0	618.0		8.0 **0.0**	*1*			234949	0.036	0.128
618.0	620.0		9.0 **0.1**	*0.8*			234951	0.045	0.114
620.0	622.0		7.5 **0.0**	*0.8*			234952	0.028	0.129
622.0	624.0		7.7 **0.2**	*1*			234953	0.046	0.178
624.0	626.0	Fine to coarse grained strongly potassic - sericite-chlorite-biotite	7.0 **0.0**	*1.2*		Spotty biotite alteration becoming present.	234954	0.038	0.118
626.0	628.0		8.0 **0.1**	*1.8*			234955	0.023	0.091
628.0	630.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	6.5 **0.1**	*0.9*			234956	0.032	0.068
630	640	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
630.0	632.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	7.0 **0.3**	*1.6*			234957	0.036	0.073
632.0	634.0	Fine to coarse grained dark green strongly potassic - chlorite-sericite	7.5 **0.2**	*1.4*			234958	0.060	0.094
634.0	636.0	Fine to coarse grained dark green strongly potassic - chlorite-sericite-biotite	8.5 **0.1**	*1.7*			234959	0.027	0.090
636.0	638.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	7.0 **0.1**	*2*		Magnetite present within the matrix.	234960	0.045	0.093

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
638.0	640.0	Fine to coarse grained dark green brown strongly potassic - chlorite-sericite-biotite	7.5 **0.0**	*1.5*			234961	0.038	0.057
640	662	**STOCKWORKED ANDESITE FLOW**							
640.0	642.0	Fine to coarse grained dark green pink strongly potassic - chlorite-sericite	6.5 **0.0**	*1.5*		Stockworked section with calcite, zeolite and minor anhydrite.	234962	0.037	0.098
642.0	644.0		6.5 **0.0**	*1.7*			234963	0.043	0.085
644.0	646.0	Fine to coarse grained dark green strongly potassic - chlorite-biotite-sericite	7.0 **0.0**	*1.3*			234964	0.040	0.064
646.0	648.0		6.5	*1.3*			234965	0.041	0.078
648.0	650.0		6.0 **0.1**	*1.7*			234966	0.044	0.100
650.0	652.0		7.5 **0.1**	*1.9*			234967	0.036	0.063
652.0	654.0		8.0 **0.2**	*1*			234968	0.040	0.066
654.0	656.0	Fine to coarse grained dark green brown strongly potassic - chlorite-biotite-sericite	6.0 **0.0**	*1.2*			234969	0.039	0.066
656.0	658.0		8.5	*1.4*		Magnetite present within a quartz vein with pyrite.	234970	0.034	0.067
658.0	660.0	Fine to coarse grained dark green strongly potassic - chlorite-biotite-sericite	10.0 **0.0**	*2.7*			234971	0.027	0.061
660.0	662.0		8.0 **0.0**	*3.5*			234972	0.046	0.076
662	664	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
662.0	664.0	Fine to coarse grained dark green strongly potassic - biotite-chlorite-sericite	7.5 **0.0**	*0.8*			234973	0.044	0.075
664	666	**MASSIVE ANDESITE FLOW**							
664.0	666.0	Fine to coarse grained red strongly potassic - biotite-chlorite-sericite	8.5 **0.0**	*2.1*			234974	0.029	0.055

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
666	700	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
666.0	668.0	Fine to coarse grained red strongly potassic - biotite-chlorite-sericite	8.0 **0.0**	*2.5*					234976	0.045	0.083
668.0	670.0		9.0 **0.1**	*1.1*	FLT	35	4		234977	0.046	0.073
670.0	672.0	Fine to coarse grained strongly potassic - sericite-chlorite-biotite	6.5	*1.2*					234978	0.074	0.117
672.0	674.0		7.0 **0.2**	*1.4*				Hematite present within the veins. Vuggy veins.	234979	0.050	0.100
674.0	676.0	Fine to coarse grained red strongly potassic - biotite-chlorite-sericite	6.0 **0.0**	*2.4*					234980	0.037	0.064
676.0	678.0		6.5 **0.3**	*2.6*					234981	0.052	0.085
678.0	680.0		7.5 **0.0**	*1.2*					234982	0.035	0.118
680.0	682.0		8.0 **0.2**	*1.1*					234983	0.036	0.076
682.0	684.0	Fine to coarse grained brown grey strongly potassic - biotite-sericite-chlorite	6.0 **0.1**	*1.6*					234984	0.039	0.089
684.0	686.0		7.0 **0.3**	*2*					234985	0.053	0.101
686.0	688.0		7.5 **0.0**	*0.6*	SHR	30	4		234986	0.033	0.066
688.0	690.0	Fine to coarse grained strongly potassic - biotite-chlorite-sericite	8.5 **0.0**	*1.3*					234987	0.053	0.074
690.0	692.0		8.0 **0.0**	*1.2*					234988	0.042	0.058
692.0	694.0	Fine to coarse grained strongly potassic - chlorite-sericite-biotite	7.5 **0.0**	*1.9*					234989	0.035	0.048
694.0	696.0	Fine to coarse grained green strongly potassic - chlorite-sericite	6.5 **0.0**	*1.8*					234990	0.049	0.050
696.0	698.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	8.5 **0.2**	*2.3*	QSPHM	30	2	Minor molybdenum and sphalerite within a quartz vein.	234991	0.071	0.101
698.0	700.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite-biotite	7.0 **0.0**	*2.8*					234992	0.031	0.045

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
700	702	**MASSIVE ANDESITE FLOW**							
700.0	702.0	Fine to coarse grained green strongly potassic - biotite-chlorite-sericite	7.0 **0.0**	*0.8*			234993	0.026	0.048
702	708	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
702.0	704.0	Fine to coarse grained green strongly potassic - chlorite-sericite-biotite	6.5 **0.0**	*1.1*			234994	0.036	0.051
704.0	706.0	Fine to coarse grained green strongly potassic - biotite-chlorite-sericite	7.0 **0.0**	*1.2*		Stronger biotite alteration. Noticably fewer veins in this interval.	234995	0.030	0.046
706.0	708.0		7.0 **0.0**	*1.5*	VCBZ 40		234996	0.058	0.062
708	712	**MASSIVE ANDESITE FLOW**							
708.0	710.0	Fine to coarse grained green strongly potassic - biotite-chlorite-sericite	7.0 **0.1**	*2.2*			234997	0.037	0.064
710.0	712.0		6.0 **0.0**	*1.6*			234998	0.050	0.069
712	754	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
712.0	714.0	Fine to coarse grained green strongly potassic - chlorite-biotite-sericite	6.0 **0.0**	*5.4*			234999	0.059	0.078
714.0	716.0		7.0 **0.3**	*0.6*		minor blebs of chalcopyrite in a quartz/carbonate vein at 716.9 metres.	239001	0.052	0.063
716.0	718.0	Fine to coarse grained green strongly potassic - chlorite-sericite	6.0 **0.0**	*0.7*			239002	0.069	0.076
718.0	720.0		5.0 **0.0**	*0.5*	VANWO 65	Anhydrite/wollastonite vein at 219.8 metres.	239003	0.009	0.023
720.0	722.0	Fine to coarse grained green grey strongly potassic - sericite-chlorite	4.0 **0.0**	*0.8*			239004	0.018	0.023

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
722.0	724.0	Fine to coarse grained green grey strongly phyllic	4.0 **0.0**	*1*	VCBMO 20	strong phyllic (sericite, chlorite) alteration overprinting potassic(?) alteration. Caronate vein at 722.9 metres containing molybdenite blebs (~0.5-3 mm) and minor sphalerite.	239005	0.035	0.079
724.0	726.0	Fine to coarse grained grey green moderately phyllic	3.0 **0.0**	*0.3*		phyllic alteration wanes over interval	239006	0.034	0.036
726.0	728.0	Fine to coarse grained dark green grey strongly potassic - chlorite-biotite-sericite	8.0 **0.0**	*0.9*	VQMO	Molybdenite-bearing vein at 726.1 metres.	239007	0.076	0.087
728.0	730.0	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite	7.0 **0.1**	*144*	VCBZ 70	few coarse/vuggy zeolite-carbonate veins.	239008	0.041	0.044
730.0	732.0	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite-biotite	7.0 **0.0**	*1.7*	VCB	patchy carbonate vein controlled phyllic (sericite) alteration.	239009	0.043	0.057
732.0	734.0		8.0 **0.3**	*5.8*		minor disseminated magnetite.	239010	0.030	0.047
734.0	736.0		8.0 **0.1**	*2.1*	VCB	patchy carbonate vein controlled phyllic (sericite) alteration.	239011	0.069	0.069
736.0	738.0	Fine to coarse grained green moderately potassic - chlorite-sericite-biotite	5.0 **0.0**	*2.4*			239012	0.089	0.123
738.0	740.0	Fine to coarse grained green moderately potassic - chlorite-sericite	8.0 **0.1**	*11.8*			239013	0.048	0.071
740.0	742.0		7.0 **0.1**	*1*			239014	0.083	0.097
742.0	744.0		9.0 **0.1**	*2.2*			239015	0.156	0.135
744.0	746.0		7.0 **0.1**	*5.6*			239016	0.051	0.059
746.0	748.0		7.0 **0.0**	*1.3*	VCBZ 70	coarse/vuggy carbonate-zeolite vein at 747.8 metres, with slight phyllic halo.	239017	0.098	0.105
748.0	750.0		7.0 **0.0**	*1.7*			239018	0.129	0.121
750.0	752.0		7.0 **0.1**	*2*			239019	0.055	0.053
752.0	754.0		7.0 **0.1**	*0.6*		Rubbly core from 752.0 to 752.5 metres. Slight phyllic (sericite) halo around a few quartz/pyrite veins.	239020	0.064	0.052

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
754	764.6	**MASSIVE ANDESITE FLOW**									
754.0	756.0	Fine to coarse grained green moderately potassic - chlorite-sericite	7.0 **0.2**	*3.9*					239021	0.050	0.036
756.0	758.0		7.0 **0.2**	*2.1*					239022	0.073	0.078
758.0	760.0		7.0 **0.2**	*44.1*	VMT	50		Unit photo. 10 mm magnetite vein at 759.9 metres.	239023	0.057	0.089
760.0	762.0		7.0 **0.3**	*42.9*					239024	0.065	0.077
762.0	763.0		7.0 **0.1**	*1.5*					239026	0.084	0.092
763.0	764.6	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite	7.0 **0.2**	*1.1*				Scarn-style mineralization around a 12 mm calcite vein at 764.1 metres, with epidote, trace pyrite and molybdenite.	239027	0.133	0.134
764.6	765.1	**HOMOGENEOUS CALCITE VEIN**									
764.6	765.1	Coarse grained white	0.0 **0.0**	*0.7*	VCAL	85	95	50 cm coarse calcite vein. Unit photo.	239028	0.003	0.001
765.1	765.9	**RUBBLY ANDESITE FAULT ZONE**									
765.1	765.9	Fine to medium grained green grey strongly argillic	0.0 **0.0**	*1.9*	FLT			Fault zone, rubbly andesite fragments.	239029	0.079	0.068
765.9	767.9	**MASSIVE ANDESITE FLOW**									
765.9	767.9	Fine to medium grained green moderately potassic - chlorite-sericite	5.0 **0.2**	*81.7*				Return to andesite unit from above. Dark green andesite flow. Usually massive, rarely fragmental. Potassic altered (chlorite, sericite, lesser biotite), with patchy phyllic (sericite) overprinting proximal to veins. 5-8% 0.5-10 mm quartz-carbonate veins, +/- pyrite, chlorite, zeolite, chalcopyrite. 3-9% sulfides, dominantly pyrite, minor to trace chalcopyrite, rare molbdenite.	239030	0.231	0.277
767.9	773.7	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**									
767.9	769.9	Fine to medium grained green strongly potassic - chlorite-sericite	6.0 **0.2**	*19.3*				increase in andesite fragmentation and stronger (biotite) potassic alteration.	239031	0.074	0.070
769.9	771.9		6.0 **0.2**	*0.9*					239032	0.145	0.143
771.9	773.7		6.0 **0.2**	*1.6*				Unit photo.	239033	0.246	0.260
773.7	778	**MASSIVE MONZONITE INTRUSIVE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
773.7	775.7	Fine to coarse grained yellow green strongly phyllic	3.0 **0.1**	*1.4*		Grey/light green monzodiorite intrusive. Upper contact is sharp but not distinct at approximately 80 º to core axis. Strong to intense phyllic (sericite, lesser chlorite) alteration. Primary features are obscured by alteration. 2-4% 1 mm zeolite-carbonate veins and 2-5% carbonate-pyrite with trace chalcopyrite veins. Sulfides are vein-hosted and disseminated (0.5-1 mm).	239034	0.105	0.089
775.7	777.0		3.0 **0.1**	*0.2*			239035	0.098	0.093
777.0	778.0		4.0 **0.1**	*0.4*			239036	0.099	0.113
778	778.5	**SHEARED MONZONITE FAULT ZONE**							
778.0	778.5	Fine to coarse grained yellow green intensely phyllic	4.0 **0.2**	*1.2*		Short fault zone, rubbly core, intense phyllic (sericite) alteration.	239037	0.106	0.126
778.5	829	**MASSIVE ANDESITE FLOW**							
778.5	780.0	Fine to medium grained green strongly potassic - chlorite-sericite	4.0 **0.2**	*2.3*		Dark green/grey andesite flow. Uncommon plagioclase and mafic grains in aphanitic matrix. Upper contact is faulted at >45 º to core axis. Strong to intense potassic (chlorite, sericite, +/- biotite) alteration. 2-7% 0.5-5 mm carbonate +/- pyrite, chlorite, zeolite, trace chalcopyrite veins (zeolite and pyrite rarely coexist in veins) at 40-70 º to core axis. 3-7% sulfides as vein fill and minor disseminated grains. Dominantly pyrite, trace to minor chalcopyrite.	239038	0.117	0.001
780.0	782.0		4.0 **0.1**	*0.6*			239039	0.110	0.091
782.0	784.0		4.0 **0.1**	*0.8*			239040	0.128	0.109
784.0	786.0		5.0 **0.1**	*1.1*		unit photo.	239041	0.077	0.110
786.0	788.0		5.0 **0.1**	*1.4*			239042	0.066	0.069
788.0	790.0		5.0 **0.1**	*1.7*			239043	0.062	0.072
790.0	792.0		5.0 **0.2**	*0.8*			239044	0.101	0.199
792.0	794.0		5.0 **0.1**	*0.9*			239045	0.107	0.100
794.0	796.0		5.0 **0.1**	*1.2*			239046	0.143	0.125

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
796.0	798.0	Fine to medium grained green strongly potassic - chlorite-sericite	5.0 **0.1**	*1.2*			239047	0.092	0.080
798.0	800.0		5.0 **0.1**	*1.4*		Fragmental look to core accompanies slight increase in alteration intensity.	239048	0.099	0.072
800.0	802.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite	6.0 **0.2**	*0.9*			239049	0.064	0.072
802.0	804.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	6.0 **0.3**	*1.1*		Stronger sericite component of potassic alteration.	239051	0.100	0.101
804.0	806.0	Fine to medium grained grey green intensely potassic - sericite-chlorite	6.0 **0.3**	*1.7*		Fewer disseminted sulfides with intense potassic (sericite) alteration.	239052	0.080	0.081
806.0	808.0		5.0 **0.2**	*0.6*			239053	0.076	0.089
808.0	810.0		5.0 **0.2**	*1.4*		Broken/rubbly core in this interval, but no sign of shearing or fault gouge, largish (5<x<12 cm) pieces of core. Very low RQD.	239054	0.091	0.086
810.0	812.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite	4.0 **0.2**	*0.5*			239055	0.144	0.151
812.0	814.0	Fine to medium grained green strongly potassic - chlorite-sericite	4.0 **0.1**	*0.7*			239056	0.095	0.094
814.0	816.0		4.0 **0.1**	*2.7*			239057	0.117	0.099
816.0	818.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	4.0 **0.3**	*2.9*	FLT	Unit photo. 5 cm of rubble and gouge at 816.3 metres.	239058	0.140	0.100
818.0	820.0		4.0 **0.3**	*3.9*			239059	0.114	0.088
820.0	822.0	Fine to medium grained dark green grey intensely potassic - chlorite-sericite-biotite	4.0 **0.3**	*1*			239060	0.156	0.134
822.0	824.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	4.0 **0.3**	*1.7*			239061	0.122	0.115

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
824.0	826.0	Fine to medium grained dark green grey intensely potassic - sericite-chlorite-biotite	5.0 **0.4**	*0.9*	VCALZ	15 cm vuggy calcite/zeolite vein at 825.0 metres with sericite alteration halo.	239062	0.178	0.181
826.0	828.0	Fine to medium grained grey green intensely potassic - sericite-chlorite-biotite	5.0 **0.8**	*1.4*	VCALZ 85	Fragmental section in proximity to coarse calcite vein at 827.1 metres. Seeing 2-3 ~8 mm chalcopyrite blebs in veins.	239063	0.155	0.146
828.0	829.0		5.0 **0.9**	*2.1*			239064	0.096	0.069
829	830.8	**FRAGMENTAL MONZODIORITE INTRUSIVE**							
829.0	830.8	Fine to coarse grained light grey green intensely potassic - sericite-chlorite-biotite	5.0 **0.5**	*0.8*		Grey/green monzonite intrusive. 10% 2 mm plagioclase grains, <5% mafic crystals, aphanitic matrix. Strong to intense potassic (chlorite, sericite, biotite) alteration masks primary features. Both upper and lower contacts are indistict at a high angle to the core axis. 3-6% sulfides, mostly pyrite with ~0.4% chalcopyrite. 3% 1-3 mm carbonate/zeolite veins at 60-85 º to core axis.	239065	0.092	0.087
830.8	911.9	**MASSIVE ANDESITE FLOW**							
830.8	832.0	Fine to medium grained green grey intensely potassic - sericite-chlorite-biotite	5.0 **0.5**	*1.8*		Dark green/grey andesite flow. Uncommon plagioclase and mafic grains (augite?) in aphanitic matrix. Upper contact is faulted at >45 º to core axis. Strong to intense potassic (chlorite, sericite, +/- biotite) alteration. 2-7% 0.5-5 mm carbonate +/- pyrite, chlorite, zeolite, trace chalcopyrite veins (zeolite and pyrite rarely coexist in veins) at 40-70 º to core axis. 3-7% sulfides as vein fill and disseminated grains. Dominantly pyrite, trace to minor chalcopyrite.	239066	0.151	0.122
832.0	834.0	Fine to medium grained dark green grey strongly potassic - chlorite-biotite-sericite	5.0 **0.5**	*0.7*			239067	0.142	0.093
834.0	836.0		6.0 **0.7**	*2.7*			239068	0.136	0.151
836.0	838.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	6.0 **0.3**	*0.7*			239069	0.125	0.091
838.0	840.0		6.0 **0.3**	*1.1*			239070	0.263	0.232

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
840.0	842.0	Fine to medium grained dark green grey intensely potassic - sericite-chlorite-biotite	6.0 **0.3**	*1.4*			239071	0.488	0.401
842.0	844.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	6.0 **0.3**	*2*			239072	0.364	0.259
844.0	846.0		5.0 **0.3**	*1.4*			239073	0.210	0.178
846.0	848.0		5.0 **0.5**	*6.5*			239074	0.243	0.293
848.0	850.0		5.0 **0.5**	*0.7*			239076	0.369	0.282
850.0	852.0		5.0 **0.5**	*0.9*			239077	0.262	0.207
852.0	854.0		5.0 **0.6**	*3.3*			239078	0.194	0.139
854.0	856.0		6.0 **0.8**	*10.8*	VCBZM 15	Magnetite in two carbonate/zeolite veins at 855.0 and 855.7 metres. Both are less than 20 º to core axis, dipping in and out of the core.	239079	0.170	0.155
856.0	858.0		6.0 **0.5**	*6.1*	VCBZ 15	Vuggy carbonte/zeolite vein from 857.0 to 857.4 metres at ~15 º to core axis.	239080	0.226	0.181
858.0	860.0		6.0 **0.5**	*5.9*	VMTCB 15	10 mm magnetite (accessory carbonate/zeolite) vein at 859.9 metres. Also minor hematite in a vein at 859.6 metres.	239081	0.150	0.121
860.0	862.0		6.0 **0.4**	*89.7*		Some magnetite replacement in the matrix.	239082	0.156	0.144
862.0	864.0		6.0 **0.4**	*2.2*			239083	0.194	0.152
864.0	866.0	Fine to medium grained dark green grey moderately potassic - chlorite-sericite-biotite	5.0 **0.3**	*16.4*	VMTCA 70	Drop in alteration intensity	239084	0.126	0.119
866.0	868.0		5.0 **0.4**	*4.1*			239085	0.081	0.064
868.0	870.0		7.0 **0.4**	*10.8*			239086	0.173	0.133
870.0	872.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	5.0 **0.4**	*1.7*			239087	0.198	0.149

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
872.0	874.0	Fine to medium grained grey weakly potassic - chlorite-sericite-biotite	5.0 **0.2**	*28.1*		Drop in alteration intensity; underlying rock has 2% augite crystals…not quite an AAP. Stronger magnetic response also.	239088	0.118	0.107
874.0	876.0		5.0 **0.2**	*64.5*			239089	0.139	0.111
876.0	878.0	Fine to medium grained grey moderately potassic - chlorite-sericite-biotite	5.0 **0.2**	*2*	VMTCB 50		239090	0.435	0.341
878.0	880.0		5.0 **0.3**	*0.8*	VMTCB 40	Mt-bearing calcite(good crystals)-zeolite vein at 878.1 metres.	239091	0.468	0.303
880.0	882.0		5.0 **0.3**	*1.2*			239092	0.325	0.282
882.0	884.0		5.0 **0.2**	*1.1*	VCBZ 10	20 mm wide coarse-grained calcite vein at 10 º to core axis, starting at 883.1 metres.	239093	0.431	0.356
884.0	886.0	Fine to medium grained green moderately potassic - chlorite-sericite-biotite	5.0 **0.2**	*1.1*			239094	0.297	0.229
886.0	888.0	Fine to medium grained green strongly potassic - chlorite-sericite-biotite	5.0 **0.2**	*0.8*	VCBZ 15		239095	0.193	0.128
888.0	890.0		5.0 **0.2**	*0.6*			239096	0.173	0.187
890.0	892.0		5.0 **0.2**	*1.3*			239097	0.206	0.151
892.0	894.0	Fine to medium grained green moderately potassic - chlorite-sericite-biotite	5.0 **0.4**	*1.2*	VMTCL 50		239098	0.172	0.116
894.0	896.0		5.0 **0.2**	*1.7*			239099	0.216	0.161
896.0	898.0		4.0 **0.1**	*8.1*			239101	0.235	0.182
898.0	900.0	Fine to medium grained green strongly potassic - chlorite-sericite-biotite	5.0 **0.2**	*1.6*			239102	0.152	0.100
900.0	902.0	Fine to medium grained dark green grey strongly potassic - chlorite-sericite-biotite	6.0 **0.4**	*2.5*			239103	0.152	0.117
902.0	904.0		6.0 **0.8**	*3.2*			239104	0.174	0.117

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
904.0	906.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite-biotite	6.0 **0.8**	*0.7*		blebs of magnetite.	239105	0.348	0.237
906.0	908.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite-biotite	6.0 **0.5**	*16.1*			239106	0.260	0.222
908.0	910.0		6.0 **0.8**	*8.4*	VMTCA 20		239107	0.213	0.196
910.0	911.9		6.0 **0.5**	*1.9*	VMTCA 15	A 9 cm fragment of monzonite at 901.8 metres.	239108	0.322	0.285
911.9	912.5	**BRECCIATED MONZODIORITE INTRUSIVE**							
911.9	912.5	Fine to coarse grained green weakly potassic - sericite-chlorite-biotite	3.0 **0.1**	*0.7*		Brecciated transitional unit. Dominantly monzonite fragments <3 cm, with a few larger andesite fragments from the unit above. 1-3% disseminated pyrite grains, trace chalcopyrite, almost entirely in the Takla fragments. Minor veining, carbonate/chlorite. Upper contact is irregular, approximately 60 º to core axis.	239109	0.104	0.200
912.5	996.3	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
912.5	914.0	Fine to coarse grained grey strongly phyllic	3.0 **0.3**	*0.5*		Grey quartz monzodiorite intrusion. 5-10% 0.5-4 mm quartz grains, 5-20% 0.5-2 mm plagioclase grains, 1-5% 1-3 mm mafic grains, hornblende and biotite. Moderate to strong phyllic (sericite, chlorite, pyrite, quartz) alteration, obscuring some primary features. 1-5% 8-20 mm quartz (+/-carbonate, pyrite, chalcopyrite, trace molybdenite) veins at 10-50 º to core axis. 1-3% 1-2 mm carbonate-quartz veins at 30-60 º to core axis. 2-6% sulfides, dominantly pyrite, with minor chalcopyrite and trace molybdenite; chalcopyrite (up to 10 mm!) and molybdenite occur most often in quartz veins. Upper contact is distinct (for once) at about 50 º to core axis.	239110	0.490	0.144
914.0	916.0		5.0 **0.4**	*1.1*	QCBPY 15	chalcopyrite and molybdenite in a quartz vein at 915.3 metres.	239111	0.443	0.216
916.0	918.0		4.0 **0.4**	*1.5*	QPYCP 40		239112	0.557	0.250
918.0	920.0		3.0 **0.3**	*0.6*	QVPYM 50		239113	0.431	0.216

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
920.0	922.0	Fine to coarse grained grey strongly phyllic	3.0 **0.4**	*0.3*		Unit photo.	239114	0.396	0.253
922.0	924.0		3.0 **0.4**	*0*		trace molybdenite continues.	239115	0.431	0.245
924.0	926.0		3.0 **0.4**	*0.4*			239116	0.481	0.256
926.0	928.0		3.0 **0.4**	*0.2*			239117	0.702	0.374
928.0	930.0		3.0 **0.4**	*0.6*	QMOPY 60	Molybdenite and chalcopyrite in quartz veins.	239118	0.652	0.418
930.0	932.0		3.0 **0.8**	*0.2*		Disseminated fine-grained chalcopyrite.	239119	0.606	0.386
932.0	934.0		4.0 **1.3**	*0.7*		Vein-fill molybdenite. Disseminated and veinous chalcopyrite.	239120	0.634	0.380
934.0	936.0		3.0 **1.0**	*0.3*		Vein-fill molybdenite.	239121	0.620	0.412
936.0	938.0		4.0 **0.9**	*0.5*		trace molybdenite.	239122	0.477	0.332
938.0	940.0		4.0 **0.8**	*1.9*		minor molybdenite.	239123	0.434	0.338
940.0	942.0		4.0 **0.9**	*11.1*			239124	0.403	0.180
942.0	944.0		3.0 **0.8**	*0.2*		minor molybdenite.	239126	0.398	0.232
944.0	946.0		4.0 **0.8**	*0.2*			239127	0.274	0.193
946.0	948.0		4.0 **0.9**	*0.4*		trace to no molybdenite.	239128	0.372	0.259
948.0	950.0		4.0 **0.9**	*0.1*		minor molybdenite.	239129	0.412	0.244
950.0	952.0		3.0 **1.0**	*0*	QCBCP 50	Blebby chalcopyrite in a quartz vein at 950.4 metres.	239130	0.420	0.241
952.0	954.0	Fine to coarse grained grey moderately phyllic	4.0 **0.4**	*0.5*	QCBPY 45	minor molybdenite.	239131	0.368	0.242
954.0	956.0	Fine to coarse grained grey strongly phyllic	3.0 **0.7**	*0.3*			239132	0.400	0.237
956.0	958.0		3.0 **0.8**	*0.6*		trace molybdenite.	239133	0.374	0.231
958.0	960.0		4.0 **0.8**	*0*			239134	0.343	0.212
960.0	962.0		3.0 **0.5**	*0.4*			239135	0.291	0.197
962.0	964.0		3.0 **0.6**	*0.3*	QPYCP 20	25 mm quartz vein with minor pyrite, chalcopyrite and trace molybdenite at 963.8 metres.	239136	0.249	0.169
964.0	966.0		3.0 **0.5**	*0.7*	QPYCP 15	Coarse quartz veining with minor-trace sulfides continues.	239137	0.268	0.201

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
966.0	968.0	Fine to coarse grained grey strongly phyllic	3.0 **0.6**	*0.1*			239138	0.312	0.235
968.0	970.0		3.0 **0.6**	*0.4*		trace molybdenite.	239139	0.460	0.334
970.0	972.0		3.0 **0.8**	*0.6*			239140	0.371	0.303
972.0	974.0		3.0 **0.8**	*0.9*		minor molybdenite.	239141	0.381	0.296
974.0	976.0		3.0 **0.8**	*0.2*		trace molybdenite.	239142	0.426	0.352
976.0	978.0		4.0 **0.6**	*0.2*			239143	0.340	0.262
978.0	980.0		3.0 **0.6**	*0.5*		trace molybdenite.	239144	0.368	0.233
980.0	982.0	Fine to coarse grained grey moderately phyllic	3.0 **0.5**	*0.9*			239145	0.340	0.227
982.0	984.0	Fine to coarse grained grey strongly phyllic	3.0 **0.8**	*0.1*	QCBPY 45	trace molybdenite in a vein.	239146	0.420	0.302
984.0	986.0		3.0 **0.8**	*0.3*			239147	0.306	0.238
986.0	988.0		3.0 **0.8**	*0.6*		minor molybdenite.	239148	0.398	0.302
988.0	990.0		3.0 **0.6**	*0.2*		2 cm andesite fragment at 989.7 metres.	239149	0.500	0.366
990.0	992.0		2.5 **0.6**	*0.1*	CBZV 70	10 cm carbonate-zeolite vein at 990.9 metres, approximately 10 cm of rubbly core on either side (alteration intensity = 4).	239151	0.568	0.381
992.0	994.0	Fine to coarse grained grey moderately phyllic	3.0 **0.8**	*0.4*			239152	0.503	0.399
994.0	995.0	Fine to coarse grained grey green strongly phyllic	3.0 **0.6**	*0.6*		Additional chlorite alteration gives rock a green tinge.	239153	0.375	0.312
995.0	996.3		3.0 **0.6**	*0.3*		trace molybdenite.	239154	0.239	0.253
996.3	1005	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
996.3	997.0	Fine to medium grained green grey moderately phyllic	2.0 **0.6**	*0.9*		Green andesite flow. 1-3% 1-2 mm augite grains. Aphaniitc matrix. Moderately phyllic (chlorite, sericite) altered. 3-5% 1-8 mm carbonate-zeolite veins at 40-70 º to core axis. 1-3% 1-10 mm quartz (+/- calcite, pyrite, chalcopyrite, molybdenite) veins at 10-25 º to core axis. 2-4% sulfides as blebs in veins and 0.5-2 mm disseminated grains. Pyrite and chalcopyrite, with trace to minor molybdenite. Upper contact is undulatory at approximately 40 º to core axis.	239155	0.174	0.234
997.0	999.0		2.0 **0.6**	*1*	CBZV 35	slightly vuggy to coarse carbonate-zeolite vein at 997.6 metres.	239156	0.108	0.157
999.0	1001.0		2.0 **0.6**	*0.8*			239157	0.239	0.192
1001.0	1003.0	Fine to medium grained green grey weakly phyllic	3.0 **1.0**	*1.8*	QCBCH 45		239158	0.516	0.534
1003.0	1005.0	Fine to medium grained green grey moderately phyllic	2.0 **0.6**	*0.9*	QCBV 15	alteration intensity (sericite) increases over length of interval.	239159	0.501	0.461
1005	1006	**BRECCIATED QUARTZ MONZODIORITE INTRUSIVE**							
1005.0	1006.0	Fine to coarse grained grey green moderately phyllic	2.0 **0.8**	*1.1*	QCBV 60	Transitional brecciated unit. Fragments of andesite and quartz monzodiorite. Phyllic (sericite, chlorite, pyrite, minor quartz) alteration, stronger proximal to veining. 5% coarse-grained quartz (minor to trace pyrite, chalcopyrite, molybdenite) veins at 45 º to core axis. 2-3% sulfides as blebs in veins and 0.5-1 mm disseminated crystals.	239160	0.411	0.300
1006	1145.4	**BRECCIATED QUARTZ MONZONITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1006.0	1008.0	Fine to coarse grained grey green moderately phyllic	4.0 **0.8**	*1.2*		Grey quartz monzodiorite intrusive. 10-20% 1-3 mm plagioclase grains, 5-15% 2-4 mm quartz grains, 5% 1-4 mm mafic minerals, augite, hornblende, biotite (good hexagonal crystals), in a grey aphanitic groundmass. Rare 5-20 mm andesite fragments. Weak to strong phyllic (sericite, chlorite, pyrite, minor quartz) alteration. 5% 2-15 mm quartz (+/- carbonate, zeolite, sulfides) veining at 30-60 º to core axis. <3% 0.5-1 mm carbonate (+/- zeolite, chlorite, pyrite) veining at 30-60 º to core axis. Upper contact is diffuse and undulatory at approximately 50 º to core axis.	239161	0.329	0.301
1008.0	1010.0	Fine to coarse grained grey green weakly phyllic	2.0 **0.8**	*1.6*		Unit photo.	239162	0.355	0.318
1010.0	1012.0		3.0 **0.8**	*2*			239163	0.290	0.234
1012.0	1014.0		2.0 **0.8**	*2.3*			239164	0.361	0.278
1014.0	1016.0		2.2 **1.0**	*0.9*			239165	0.410	0.316
1016.0	1018.0		2.5 **0.8**	*1.2*			239166	0.441	0.322
1018.0	1020.0		2.0 **1.3**	*1.5*			239167	0.332	0.305
1020.0	1022.0	Fine to coarse grained grey green moderately phyllic	2.0 **0.7**	*1.9*	QMOPY 15 2		239168	0.249	0.213
1022.0	1024.0		1.7 **0.6**	*1.9*	QMOPY 25 4		239169	0.324	0.243
1024.0	1026.0		2.2 **1.4**	*2.5*	QMOPY 35 8		239170	0.413	0.302
1026.0	1028.0	Fine to coarse grained grey green weakly phyllic	2.3 **0.8**	*2.7*			239171	0.200	0.163
1028.0	1030.0		1.7 **1.0**	*1*			239172	0.321	0.229
1030.0	1032.0		1.6 **0.8**	*1.4*			239173	0.277	0.275
1032.0	1034.0		1.8 **1.1**	*1.7*		Siliceous overprint.	239174	0.184	0.192
1034.0	1036.0		2.0 **0.8**	*2.3*			239176	0.500	0.509
1036.0	1038.0		2.2 **1.5**	*1.1*			239177	0.468	0.477
1038.0	1040.0		2.5 **1.7**	*0.9*			239178	0.468	0.466

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
1040.0	1042.0	Fine to coarse grained grey green moderately phyllic	2.0 **1.0**	*1.3*					239179	0.421	0.413
1042.0	1044.0		2.0 **1.2**	*1.6*					239180	0.595	0.528
1044.0	1046.0	Fine to coarse grained grey pink moderately phyllic	2.2 **1.2**	*1.7*				Patchy hematite stained feldspars. Vuggy veins.	239181	0.587	0.712
1046.0	1048.0	Fine to coarse grained grey green moderately phyllic	2.0 **1.5**	*1.9*					239182	0.557	0.519
1048.0	1050.0		2.5 **1.2**	*0.6*					239183	0.270	0.290
1050.0	1052.0	Fine to coarse grained grey green weakly phyllic	2.2 **1.0**	*0.8*					239184	0.312	0.303
1052.0	1054.0		2.0 **1.2**	*1.1*					239185	0.338	0.310
1054.0	1056.0	Fine to coarse grained grey moderately phyllic	2.5 **0.7**	*1.4*				Hematite stained feldspars.	239186	0.248	0.249
1056.0	1058.0		2.7 **1.0**	*1.8*				Hematite stained feldspars. Vuggy veins.	239187	0.200	0.196
1058.0	1060.0	Fine to coarse grained grey green moderately phyllic	2.2 **1.5**	*2*	QPYCP	55	5	Vuggy veins.	239188	0.211	0.225
1060.0	1062.0		2.0 **0.5**	*0.6*					239189	0.198	0.170
1062.0	1064.0		2.3 **0.7**	*1.2*					239190	0.376	0.385
1064.0	1066.0		2.0 **0.5**	*1.3*					239191	0.297	0.340
1066.0	1068.0		1.8 **0.5**	*1.8*					239192	0.291	0.251
1068.0	1070.0	Fine to coarse grained grey pink moderately phyllic	0.7 **0.1**	*0.6*	SHR	25	1	Hematite stained.	239193	0.436	0.424
1070.0	1072.0	Fine to coarse grained grey moderately phyllic	1.2 **0.3**	*0.7*				Hematite stained and brecciated at the beginning of the interval.	239194	0.547	0.543
1072.0	1075.0	Fine to coarse grained grey green weakly phyllic	1.2 **0.2**	*0.8*					239195	0.357	0.348
1075.0	1076.0		1.5 **0.3**	*0.9*					239196	0.534	0.559
1076.0	1078.0	Fine to coarse grained grey green moderately phyllic	1.8 **0.3**	*1.2*				Increase in chlorite alteration.	239197	0.482	0.514
1078.0	1080.0	Fine to coarse grained grey green strongly phyllic	2.5 **0.7**	*1.3*					239198	0.493	0.603

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1080.0	1082.0	Fine to coarse grained grey green moderately phyllic	2.0 **1.0**	*1.6*			239199	0.437	0.483
1082.0	1084.0		2.5 **0.5**	*0.7*			239201	0.299	0.365
1084.0	1086.0		2.3 **0.6**	*0.9*			239202	0.364	0.385
1086.0	1088.0		2.5 **0.8**	*1.2*		Decrease in chlorite alteration.	239203	0.377	0.471
1088.0	1090.0		2.7 **0.7**	*1.6*	SHR 20 1		239204	0.325	0.346
1090.0	1092.0	Fine to coarse grained grey weakly phyllic	3.0 **0.3**	*1.9*			239205	0.226	0.211
1092.0	1094.0		2.3 **0.5**	*2.1*			239206	0.285	0.237
1094.0	1096.0		2.5 **0.8**	*2.3*			239207	0.358	0.405
1096.0	1098.0	Fine to coarse grained grey pink weakly phyllic	3.5 **0.3**	*2.7*		Patchy hematite staining.	239208	0.252	0.277
1098.0	1100.0		2.0 **0.8**	*0.7*			239209	0.245	0.282
1100.0	1102.0		2.5 **1.5**	*1.1*	CALZM 20 2	Magnetite present within some veins and matrix associated with chalcopyrite. Minor epidote within a quartz vein.	239210	0.438	0.632
1102.0	1104.0	Fine to coarse grained grey moderately phyllic	2.0 **1.0**	*0.8*			239211	0.324	0.417
1104.0	1106.0		1.8 **0.5**	*1.1*			239212	0.384	0.434
1106.0	1108.0		1.8 **0.3**	*1.3*			239213	0.314	0.364
1108.0	1110.0	Fine to coarse grained grey pink moderately phyllic	2.0 **0.5**	*1.8*		Increasing zeolite within the veining.	239214	0.432	0.526
1110.0	1112.0		2.2 **0.7**	*2*			239215	0.288	0.324
1112.0	1114.0	Fine to coarse grained grey moderately phyllic	2.5 **1.0**	*2.4*			239216	0.269	0.299
1114.0	1116.0	Fine to coarse grained grey pink moderately phyllic	2.3 **0.8**	*0.6*			239217	0.292	0.286
1116.0	1118.0	Fine to coarse grained grey moderately phyllic	1.7 **0.4**	*1.2*		Hematite staining within the matrix and veins.	239218	0.288	0.313
1118.0	1120.0		2.2 **0.5**	*1.3*			239219	0.299	0.251

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1120.0	1122.0	Fine to coarse grained grey moderately phyllic	2.4 **0.2**	*1.8*			239220	0.310	0.319
1122.0	1124.0	Fine to coarse grained green grey moderately phyllic	2.7 **1.2**	*0.9*		Chlorite increase within the matrix and patchy siliceous overprint.	239221	0.339	0.346
1124.0	1126.0		3.0 **1.0**	*1.2*			239222	0.388	0.407
1126.0	1128.0	Fine to coarse grained grey moderately phyllic	2.5 **1.3**	*1.6*		Chlorite alteration decrease. Patchy siliceous overprint still present.	239223	0.507	0.549
1128.0	1130.0		3.0 **1.5**	*2.2*	SHR 40 1		239224	0.420	0.518
1130.0	1132.0		2.2 **1.3**	*0.8*			239226	0.456	0.462
1132.0	1134.0	Fine to coarse grained grey pink moderately phyllic	2.2 **0.7**	*1.1*			239227	0.426	0.411
1134.0	1136.0	Fine to coarse grained grey moderately phyllic	1.9 **1.2**	*1.5*		Increase in chlorite alteration of the matrix.	239228	0.593	0.518
1136.0	1138.0	Fine to coarse grained grey green moderately phyllic	1.7 **1.0**	*2*			239229	0.395	0.453
1138.0	1140.0	Fine to coarse grained grey moderately phyllic	2.5 **1.3**	*2.4*			239230	0.641	0.806
1140.0	1142.0		2.7 **1.5**	*2.9*			239231	0.586	0.752
1142.0	1144.0	Fine to coarse grained grey green moderately phyllic	3.0 **1.7**	*0.6*			239232	0.567	0.696
1144.0	1145.4	Fine to coarse grained dark grey green moderately phyllic	3.0 **2.0**	*1.2*			239233	0.483	0.449
1145.4	1145.9	**FRAGMENTAL QUARTZ MONZONITE VOLCANIC BRECCIA**							
1145.4	1145.9	Fine to coarse grained dark grey green moderately phyllic	2.0 **0.7**	*5.1*		Unit contains fragments of quartz monzonite within a matrix of ground up quartz monzonite and pyroclastic material. Quartz monzonite fragments range in size from 0.5cm to 4cm and are subangular in shape. Possible quartz eye seen within the matrix. Sericite and chlorite alteration dominate the matrix and fragments with some minor quartz replacement. Pyrite and chalcopyrite are present within the matrix and fragments. Upper and lower contacts are brecciated.	239234	0.151	0.168

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
1145.9	1275.7	**MASSIVE QUARTZ MONZONITE INTRUSIVE**									
1145.9	1148.0	Fine to coarse grained dark grey moderately phyllic	2.3 **1.5**	*2.1*				Unit is similar to the unit before the minor fragmental section above. Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Mafic minerals include hornblende and augite. Alteration has obliterated some to most of the characteristics of the rock in sections. Moderate to weak sericite and chlorite alteration of the feldspars and mafic minerals with minor quartz replacement. Minor biotite replacement of some hornblende and augite crystals. 2-4% zeolite, quartz, anhydrite and calcite veining oriented 30-40 deg to the core axis. ~2% massive quartz and anhydrite veins oriented 25-30 deg to the core axis. Magnetite present within the veins. Minor hematite staining of the feldspars and within the veins present. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum present within some veins. Spotty K-spar alteration halo associated with some quartz mineralized veins.	239235	0.434	0.399
1148.0	1150.0	Fine to coarse grained dark grey green moderately phyllic	3.2 **0.1**	*2.5*					239236	0.421	0.384
1150.0	1152.0	Fine to coarse grained green moderately chloritic	1.5 **0.3**	*0.8*	SHR	20	1	Chlorite alteration dominates.	239237	0.354	0.514
1152.0	1154.0		3.5 **0.7**	*1.2*					239238	0.408	0.340
1154.0	1156.0		3.0 **0.5**	*1.8*					239239	0.437	0.469
1156.0	1158.0	Fine to coarse grained grey green moderately phyllic	2.5 **0.8**	*0.8*				Chlorite alteration has decreased with the sericite and quartz alteration remaining the same intensity.	239240	0.334	0.364
1158.0	1160.0	Fine to coarse grained moderately phyllic	3.2 **1.0**	*1.9*				Patchy siliceous overprint.	239241	0.373	0.499
1160.0	1162.0	Fine to coarse grained moderately chloritic	3.7 **1.3**	*0.7*				Patchy siliceous overprint. Chlorite alteration has increased with a decrease in sericite alteration.	239242	0.512	0.650
1162.0	1164.0		3.5 **1.2**	*2.2*					239243	0.469	0.702
1164.0	1166.0		3.7 **1.7**	*2*					239244	0.416	0.498

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
1166.0	1168.0	Fine to coarse grained weakly chloritic	2.8 **1.0**	*0.8*				Chlorite alteration has decreased.	239245	0.314	0.283
1168.0	1170.0		3.3 **1.5**	*1.1*					239246	0.273	0.334
1170.0	1172.0	Fine to coarse grained grey pink weakly phyllic	2.5 **1.3**	*1.4*				Chlorite alteration has decreased slightly with an increase in sericite alteration. Patchy siliceousness still present.	239247	0.398	0.454
1172.0	1174.0		2.0 **1.1**	*1.4*					239248	0.318	0.382
1174.0	1176.0		3.3 **0.8**	*2.1*					239249	0.332	0.473
1176.0	1178.0		3.0 **1.2**	*0.7*					239251	0.241	0.304
1178.0	1180.0	Fine to coarse grained weakly phyllic	2.8 **1.0**	*0.9*	SHR	20	1		239252	0.245	0.319
1180.0	1182.0		3.2 **1.1**	*13.6*				Decrease in K-spar alteration around some veins with an increase in hematite staining around some veins.	239253	0.227	0.310
1182.0	1184.0	Fine to coarse grained grey maroon weakly phyllic	4.0 **1.7**	*2.6*				Strong hematite and siliceous overprint. Epidote present within a quartz vein.	239254	0.418	0.548
1184.0	1186.0		3.0 **1.0**	*16.7*				Hematite alteration decreases midway through the interval.	239255	0.287	0.447
1186.0	1188.0	Fine to coarse grained grey pink weakly phyllic	3.2 **0.8**	*0.8*					239256	0.307	0.395
1188.0	1190.0	Fine to coarse grained grey weakly phyllic	2.8 **1.1**	*1.1*					239257	0.297	0.325
1190.0	1192.0		3.5 **0.6**	*1.2*					239258	0.279	0.345
1192.0	1194.0		3.3 **0.4**	*2.1*					239259	0.296	0.355
1194.0	1196.0		3.1 **0.5**	*2.1*					239260	0.120	0.117
1196.0	1198.0		3.5 **0.3**	*2.2*					239261	0.141	0.131
1198.0	1200.0		4.0 **0.3**	*12.4*	FLT	20	1		239262	0.218	0.405
1200.0	1202.0		3.3 **0.6**	*16*					239263	0.132	0.091
1202.0	1204.0	Fine to coarse grained grey maroon weakly phyllic	3.0 **1.0**	*39.4*				Strong hematite staining of the matrix and veins.	239264	0.099	0.087
1204.0	1206.0	Fine to coarse grained grey pink weakly phyllic	3.5 **0.3**	*17*					239265	0.067	0.062

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1206.0	1208.0	Fine to coarse grained grey weakly phyllic	2.6 **0.6**	*1*		Flourite present within the veins. Spotty K-spar alteration present around some quartz veins.	239266	0.143	0.130
1208.0	1210.0		3.0 **1.0**	*23.3*			239267	0.172	0.170
1210.0	1212.0		2.5 **0.8**	*10.3*			239268	0.134	0.124
1212.0	1214.0		2.7 **0.5**	*46.7*			239269	0.150	0.175
1214.0	1216.0		2.3 **0.3**	*89.4*			239270	0.131	0.120
1216.0	1218.0		2.0 **0.2**	*37.6*			239271	0.119	0.134
1218.0	1220.0		1.3 **0.1**	*36.7*			239272	0.102	0.085
1220.0	1222.0		1.5 **0.1**	*15.9*			239273	0.177	0.158
1222.0	1224.0	Fine to coarse grained weakly phyllic	1.0 **0.1**	*12.6*		Increase in the degree of chlorite alteration.	239274	0.206	0.176
1224.0	1226.0		2.0 **0.4**	*45.1*			239276	0.242	0.250
1226.0	1228.0	Fine to coarse grained dark green weakly phyllic	2.5 **0.5**	*64*			239277	0.089	0.071
1228.0	1230.0		1.7 **0.3**	*60.1*			239278	0.055	0.042
1230.0	1232.0		2.2 **0.5**	*81.3*			239279	0.082	0.080
1232.0	1234.0	Fine to coarse grained dark green weakly chloritic	2.0 **0.6**	*101*		Chlorite alteration has increased with a decrease in sericite alteration. Siliceous overprint present.	239280	0.076	0.049
1234.0	1236.0	Fine to coarse grained dark green black moderately chloritic	2.3 **0.8**	*73.2*	SHR 45 2		239281	0.044	0.036
1236.0	1238.0	Fine to coarse grained dark green moderately chloritic	2.7 **1.0**	*4.2*			239282	0.100	0.075
1238.0	1240.0		2.5 **0.8**	*21.4*		Minor phyllic altered section within this interval.	239283	0.092	0.077
1240.0	1242.0		3.0 **1.0**	*64.7*			239284	0.079	0.064
1242.0	1244.0		2.0 **0.1**	*25.3*			239285	0.054	0.046
1244.0	1246.0		1.8 **0.2**	*32.3*			239286	0.147	0.110
1246.0	1248.0	Fine to coarse grained dark green strongly chloritic	2.5 **0.1**	*7*			239287	0.121	0.124
1248.0	1250.0	Fine to coarse grained dark green moderately chloritic	3.0 **0.1**	*46.4*			239288	0.111	0.125

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
1250.0	1252.0	Fine to coarse grained dark green moderately chloritic	3.2 **0.0**	*55.2*					239289	0.103	0.114
1252.0	1254.0	Fine to coarse grained dark green strongly chloritic	2.0 **0.2**	*3.3*					239290	0.068	0.066
1254.0	1256.0	Fine to coarse grained dark green black moderately chloritic	2.5 **0.4**	*10.4*				Quartz stockworked section.	239291	0.143	0.166
1256.0	1258.0	Fine to coarse grained grey pink moderately phyllic	2.0 **0.4**	*36*	SHR	35	5	Chlorite alteration has decreased with an increase in sericite alteration.	239292	0.187	0.203
1258.0	1260.0	Fine to coarse grained moderately chloritic	2.2 **0.1**	*13*				Chlorite alteration has increased.	239293	0.151	0.155
1260.0	1262.0	Fine to coarse grained dark green weakly chloritic	2.7 **0.2**	*22.7*					239294	0.134	0.152
1262.0	1264.0		3.0 **0.3**	*72.1*					239295	0.137	0.134
1264.0	1266.0	Fine to coarse grained dark green grey moderately chloritic	3.5 **0.5**	*9.1*	SHR	55	4		239296	0.106	0.109
1266.0	1268.0		2.8 **0.1**	*5*					239297	0.124	0.126
1268.0	1270.0		2.5 **0.1**	*37.9*					239298	0.126	0.132
1270.0	1272.0		2.0 **0.0**	*65.2*					239299	0.102	0.110
1272.0	1274.0		2.3 **0.1**	*30.1*					239301	0.130	0.180
1274.0	1275.7		1.8 **0.0**	*23.2*					239302	0.112	0.142
1275.7	1296.4	**MASSIVE HETEROLITHIC INTRUSION BRECCIA**									

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1275.7	1277.0	Fine to coarse grained dark green moderately chloritic	2.0	*22.6*		Unit is host to mostly quartz monzonite fragments with the odd hematite stain fragment (Sovereign?). Fragments range in size from 0.3cm to blocks and are subrounded to subangular. Some sections contain large blocks of the quartz monzonite. Quartz monzonite similar to the unit above. Matrix is made up of ground up material of the quartz monzonite. Chlorite alteration dominates the matrix and fragments with lesser sericite alteration patchy quartz flooding present. Spotty hematite staining present associated with some fragments and within and halos of some veins. 2-4% calcite and zeolite veining randomly oriented. Minor pyrite and chalcopyrite mineralization within the fragments, matrix and veins. Spotty magnetite present.	239303	0.041	0.069
1277.0	1279.0	Fine to coarse grained green moderately chloritic	1.5 **0.0**	*7.2*			239304	0.042	0.065
1279.0	1281.0		1.8 **0.0**	*33.2*		Basalt fragment present.	239305	0.037	0.106
1281.0	1283.0		2.0 **0.1**	*46.2*			239306	0.048	0.062
1283.0	1285.0	Fine to coarse grained dark green moderately chloritic	2.3 **0.1**	*38.6*		Mafic fragments present.	239307	0.037	0.146
1285.0	1287.0	Fine to coarse grained dark green grey moderately chloritic	1.3	*2.2*			239308	0.163	0.237
1287.0	1289.0	Fine to coarse grained dark green moderately chloritic	1.5 **0.1**	*29.7*			239309	0.143	0.204
1289.0	1291.0		1.1 **0.1**	*29.6*			239310	0.170	0.220
1291.0	1293.0		1.0 **0.0**	*57.9*		Minor molybdenum present.	239311	0.157	0.190
1293.0	1295.0	Fine to coarse grained moderately chloritic	1.2 **0.0**	*37.5*		Increased hematite staining.	239312	0.153	0.253
1295.0	1296.4	Fine to coarse grained dark green moderately chloritic	1.3	*19.9*			239313	0.118	0.237
1296.4	1297.7	**PORPHYRITIC MONZODIORITE DYKE**							

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1296.4	1297.7	Fine to coarse grained brown weakly hematitic		*52.4*	DYK 70	Unit contains ~75% feldspars, ~20% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase 1-3mm in size and spotty phenocrysts of augite and hornblende. Matrix is fine grained. ~1% calcite and zeolite veining oriented 35-45 deg to the core axis. Magnetite present within the matrix. Upper contact is broken and the lower contact is 70 deg to the core axis.	239314	0.003	0.007
1297.7	1314	**BRECCIATED QUARTZ MONZONITE INTRUSIVE**							
1297.7	1299.0	Fine to coarse grained pink grey moderately chloritic	2.0 **0.2**	*12.3*		Unit is similar to the unit before the IBX and dike above. Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Mafic minerals include hornblende and augite. Alteration has obliterated some to most of the characteristics of the rock in sections. Moderat chlorite alteration of the feldspars and mafic minerals with minor quartz replacement. Minor biotite replacement of some hornblende and augite crystals. 1-3% zeolite and calcite veining oriented 25-45 deg to the core axis. ~2% quartz and anhydrite veining oriented 40-60 deg to the core axis. Magnetite present within the veins. Minor hematite staining of the feldspars and within the veins present. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Molybdenum present within some veins. Spotty K-spar alteration halo associated with some quartz mineralized veins. Beginning of the unit is hematite stained.	239315	0.148	0.212
1299.0	1301.0	Fine to coarse grained dark green moderately chloritic	3.0 **0.4**	*4.4*			239316	0.166	0.242
1301.0	1303.0		2.5 **0.2**	*6*		Flourite present within a quartz vein.	239317	0.096	0.195
1303.0	1305.0		3.5 **0.5**	*5.8*			239318	0.094	0.243
1305.0	1307.0		2.3 **0.1**	*114*			239319	0.066	0.098
1307.0	1309.0		3.0 **0.2**	*122*		Siliceous overprint present.	239320	0.063	0.093
1309.0	1311.0		1.3 **0.1**	*124*			239321	0.033	0.045
1311.0	1313.0		2.5 **0.1**	*28.3*			239322	0.078	0.091

Hole Number: KH-07-10

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1313.0	1314.0	Fine to coarse grained dark green moderately chloritic	3.7 **0.2**	*59.8*		EOH	239323	0.161	0.157

Hole Number: KH-07-11

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	21	**OVERBURDEN**									
0.0	12.0							Casing for 15m, 60% lost core. Driller error on blocks, first block should read 12m not 6m. Add 6m to each block until block coreection at 438m. Block error checked with many rod counts to ensure correct.			
12.0	18.0							70% lost core.			
18.0	21.0							30% lost core.			
21	74	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
21.0	23.0	Fine to coarse grained grey moderately sericitic	0.0					Unit is made up of 40-60% ash, mostly feldspars, and fragments of clasts. Clasts present are andesite, feldspar porphyry, AAP, minor tuffaceous ones and intrusive ones. Clast size ranges from 0.4cm to 4cm ranging with most of them subangular in shape.~1%, 1-2mm quartz eyes present. Unit is magnetic within the matrix and clasts. Moderate to weak sericite alteration present throughout the matrix with spotty chlorite alteration associated with mafic minerals in the matrix and fragments. Minor pryite disseminated within the matrix and within veins and clasts. 3-5% calcite and zeolite veining oriented 0-30 deg to the core axis and 50-60 deg to the core axis. Patchy hematite stains within the veins and feldspar crystals within the matrix.			
23.0	25.0		0.0					Welded texture oriented 45 deg to the core axis.			
25.0	27.0		0.0								
27.0	29.0		0.0								
29.0	31.0	Fine to coarse grained grey pink moderately sericitic	0.0		SHR	50	3	Patchy welded textures oriented 50 deg to the core axis.			
31.0	33.0	Fine to coarse grained grey moderately sericitic	0.1								
33.0	35.0	Fine to coarse grained grey pink moderately sericitic	0.0								
35.0	37.0		0.2					Patcy epidote associated with a calcite vein.			

Hole Number: KH-07-11

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
37.0	39.0	Fine to coarse grained grey moderately sericitic	0.1								
39.0	41.0		0.2								
41.0	43.0	Fine to coarse grained grey pink moderately sericitic	0.3								
43.0	45.0		0.2					Moderate hematite staining present.			
45.0	47.0	Fine to coarse grained grey moderately sericitic	0.3					Welded texture oriented 55 deg to the core axis.			
47.0	49.0		0.3					Welded texture oriented 35 deg to the core axis.			
49.0	51.0		0.1								
51.0	53.0	Fine to coarse grained grey pink moderately sericitic	0.0					Ash content has increased to 55-75%.			
53.0	55.0	Fine to coarse grained grey moderately sericitic	0.0					Slight welded texture oriented 50 deg to the core axis.			
55.0	57.0		0.2					Increase in amount of ground up Takla material and clasts.			
57.0	59.0		0.0								
59.0	61.0	Fine to coarse grained grey pink moderately sericitic	0.0					Patchy hematite staining. Welded texture oriented 50 deg to the core axis.			
61.0	63.0	Fine to coarse grained grey pink weakly sericitic	0.3					Welded texture oriented at 50 deg to the core axis.			
63.0	65.0		0.0								
65.0	67.0	Fine to coarse grained grey weakly sericitic	0.2					Welded texture oriented at 45 deg to the core axis.			
67.0	69.0	Fine to coarse grained grey weakly chloritic	0.5	*0.9*				Phyllic altered andesite clasts have pyrite and hematite halo around some of them. Chlorite alteration has become slightly stronger than sericite.	234351	0.001	0.018
69.0	71.0	Fine to coarse grained grey weakly chloritic	0.2	*16.1*	SHR	50	4		234352	0.003	0.005
71.0	73.0		0.4	*2.5*					234353	0.001	0.015
73.0	74.0		0.1	*3.1*					234354	0.004	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
74	75.5	**HOMOGENEOUS TUFFACEOUS CRYSTAL-LITHIC TUFF**									
74.0	75.5	Fine to medium grained grey weakly chloritic	0.1	*3.4*				Unit is a fine to medium grained crystal lithic tuff. ~1% fragments 0.5-1cm in size and altered to chlorite. Matrix appears to be intermediate in composition. Matrix is altered to chlorite and sericite. ~2% calcite and zeolite veins oriented 30 deg to the core axis with some randomly oriented. Upper and lower contacts are roughly 50 deg to the core axis. Minor pyrite mineralization disseminated within the matrix.	234355	0.002	0.001
75.5	140.6	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
75.5	77.0	Fine to coarse grained grey weakly chloritic	0.1	*1.1*				Unit contains 100% Takla fragments. Fragments include andesite, AAP, BFP, basalt and feldspar porphyry. Some clasts are phyllic and potassic altered. Matrix is made of ground up material from the clasts. 2-4% calcite and zeolite veining randomly oriented. Chlorite alteration dominates the matrix and clasts with lesser amounts of sericite. Spotty hematite is located within veins around some clasts and within patches of the matrix. Epidote present around some clasts and mafic minerals. Pyrite mineralization is disseminated within the matrix, present within veins and within clasts.	234356	0.004	0.001
77.0	79.0		0.2	*2*					234357	0.005	0.001
79.0	81.0		0.1	*2*					234358	0.003	0.001
81.0	83.0		0.4	*1.6*					234359	0.003	0.001
83.0	85.0		0.3	**0.0** *15.4*	FLT	45	3	Trace of chalcopyrite within the matrix.	234360	0.004	0.001
85.0	87.0		0.1	*1.2*					234361	0.002	0.001
87.0	89.0		0.1	*3.3*					234362	0.002	0.001
89.0	91.0		0.1	*3*	FLT	40	8		234363	0.003	0.001
91.0	93.0	Fine to coarse grained dark grey weakly hematitic	0.0	*15.9*				Strong hematite stained matrix.	234364	0.001	0.001
93.0	95.0	Fine to coarse grained grey weakly chloritic	0.3	*1.5*				Patchy epidote within the matrix.	234365	0.004	0.011

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
95.0	97.0	Fine to coarse grained grey weakly chloritic	0.4		*2.3*				Patchy epidote within the matrix.	234366	0.010	0.001
97.0	99.0		0.5		*2.6*					234367	0.002	0.007
99.0	101.0		0.8		*1.5*					234368	0.003	0.012
101.0	103.0		1.0		*1.8*					234369	0.002	0.019
103.0	105.0		1.2		*2.4*					234370	0.002	0.005
105.0	107.0		1.0		*1.5*					234371	0.003	0.007
107.0	109.0		1.3		*1.8*					234372	0.006	0.007
109.0	111.0		1.1		*1.9*					234373	0.002	0.001
111.0	113.0		0.7		*2.6*					234374	0.003	0.006
113.0	115.0		0.5		*1.4*					234376	0.005	0.001
115.0	117.0		0.6		*30.5*					234377	0.009	0.001
117.0	119.0		0.8		*4.8*					234378	0.002	0.001
119.0	121.0		0.2		*3.5*					234379	0.002	0.001
121.0	123.0		0.5		*4.7*					234380	0.003	0.001
123.0	125.0	Fine to coarse grained grey moderately chloritic	1.0		*1.5*					234381	0.005	0.001
125.0	127.0	Fine to coarse grained dark grey moderately chloritic	0.6		*20.1*				Increase in hematite staining and zeolite veining within this interval.	234382	0.003	0.001
127.0	129.0		0.3		*21.2*				Increase in hematite staining within this interval.	234383	0.001	0.001
129.0	131.0	Fine to coarse grained grey moderately chloritic	0.5		*1.3*					234384	0.003	0.001
131.0	133.0		1.5		*2*				Maroon hematite spots present within the matrix.	234385	0.009	0.001
133.0	135.0		1.3	**0.0**	*1.5*				Trace of chalcopyrite seen with a couple of altered andesite clasts.	234386	0.004	0.001
135.0	137.0		1.5	**0.0**	*1.6*	SHR	40	4	Trace of chalcopyrite seen within an altered andesite clast. Hematite stained clasts present.	234387	0.051	0.009

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
137.0	139.0	Fine to coarse grained grey moderately chloritic	1.7	*11.7*				Magnetite present within an andesite clast. Intrusive clasts present.	234388	0.090	0.032
139.0	140.6		1.7	*3.6*					234389	0.113	0.061
140.6	271.3	**AMYGDULAR ANDESITIC AUGITE PORPHYRY FLOW**									
140.6	142.0	Fine grained green moderately chloritic	0.1	*2.2*	SHR	20	2	Unit contains 15-20% augite phenocrysts ranging in size from 2mm to 8mm. Abundance and size of the augite phenocrysts vary throughout the unit. Rare hornblende phenocrysts are present. 6-8% amydules are present at the beginning of the unit. Amygdules are filled with calcite, chlorite and epidote. Augite phenocrysts are altered to chlorite, epidote and calcite. Matrix is altered to chlorite with minor amounts of sercite. Patchy carbonate and epidote alteration present within the matrix. Carbonate alteration becomes pervsive down the hole. Spotty hematite associated with fractures and altered augite phenocrysts. 3-5% calcite, quartz and zeolite veins oriented 30-50 deg to the core axis with some randomly oriented. Magnetite present within the matrix. Minor disseminated pyrite present.	234390	0.010	0.001
142.0	144.0		0.2	*89.4*					234391	0.007	0.001
144.0	146.0		0.2 **0.0**	*58.3*				Trace of chalcopyrite within a calcite/quartz vein.	234392	0.011	0.001
146.0	148.0		1.0	*57.4*					234393	0.011	0.001
148.0	150.0		0.1	*82.3*					234394	0.006	0.001
150.0	152.0		0.0	*69.3*					234395	0.006	0.001
152.0	154.0			*54.4*	FLT	45	2		234396	0.008	0.001
154.0	156.0		0.5	*2.2*					234397	0.014	0.001
156.0	158.0		0.1	*21.9*					234398	0.018	0.001
158.0	160.0		0.1	*61.5*	FLT	35	2	Epidote and hematite alteration has increased.	234399	0.015	0.023
160.0	162.0		0.1	*58*					234401	0.016	0.005
162.0	164.0			*31.5*					234402	0.009	0.008

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
164.0	166.0	Fine grained green moderately chloritic		*35.8*			234403	0.021	0.006
166.0	168.0		0.1	*72.8*		Spotty anhydrite within some quartz veins.	234404	0.023	0.001
168.0	170.0			*63.8*			234405	0.014	0.005
170.0	172.0			*48.8*			234406	0.012	0.007
172.0	174.0		0.0	*48.3*			234407	0.010	0.001
174.0	176.0		0.0	*35.1*			234408	0.008	0.001
176.0	178.0		0.1	*5*			234409	0.011	0.009
178.0	180.0		0.8	*29.3*			234410	0.011	0.001
180.0	182.0		0.0	*18.9*			234411	0.007	0.001
182.0	184.0		0.1	*46.8*			234412	0.003	0.001
184.0	186.0		0.0	*23.6*			234413	0.005	0.006
186.0	188.0	Fine grained green moderately propyllitic	0.1	*23.9*		Increase in epidote alteration with a minor decrease in chlorite alteration.	234414	0.009	0.001
188.0	190.0		0.0	*37.4*			234415	0.011	0.001
190.0	192.0			*36.2*			234416	0.014	0.001
192.0	194.0			*63.2*			234417	0.012	0.001
194.0	196.0			*35.2*			234418	0.011	0.001
196.0	198.0		0.2	*75.3*			234419	0.011	0.001
198.0	200.0		0.0	*73*			234420	0.009	0.001
200.0	202.0		0.1	*73.6*			234421	0.007	0.001
202.0	204.0		0.0	*56.2*			234422	0.014	0.001
204.0	206.0		0.0	*26.5*			234423	0.013	0.001
206.0	208.0			*61.8*			234424	0.013	0.001
208.0	210.0			*73.2*			234426	0.011	0.001
210.0	212.0		0.0	*53.2*			234427	0.010	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
212.0	214.0	Fine grained green moderately propyllitic	0.1	*13.2*			234428	0.015	0.001
214.0	216.0		0.1	*2.7*			234429	0.010	0.001
216.0	218.0		0.1	*3.4*			234430	0.007	0.001
218.0	220.0		0.0	*51.9*			234431	0.009	0.001
220.0	222.0		0.0	*42.7*			234432	0.012	0.001
222.0	224.0		0.0	*59.6*			234433	0.007	0.001
224.0	226.0	Fine grained dark green moderately propyllitic	0.0 **0.0**	*25.5*		Amygdules vary from chlorite, epidote or anhydrite. Veins are dominantly calcite and matrix has calcite intermixed. Amygdules increase gradually until peak of about ~40% and then drop back down to ~6%. Frequency of amydules decreases towards contact with next unit. Brecciated frags occur with some of the larger calcite veins throughout unit.	234434	0.009	0.001
226.0	228.0		0.0 **0.0**	*36.9*			234435	0.012	0.001
228.0	230.0		0.0 **0.0**	*51.2*		Some calcite amygdules in addition to the other types.	234436	0.016	0.001
230.0	232.0		0.0 **0.0**	*44.2*		Epidote occuring as veins and with anhydrite not exclusivly as amygdules. Possible replacement of augite by epidote.	234437	0.012	0.005
232.0	234.0		0.0 **0.0**	*40.2*			234438	0.013	0.005
234.0	236.0	Fine grained moderately propyllitic	0.0 **0.0**	*52.1*		Amygdule frequency drops to ~4%	234439	0.013	0.001
236.0	238.0		0.0 **0.0**	*31*			234440	0.008	0.001
238.0	240.0	Fine grained green moderately propyllitic	0.0 **0.0**	*70.5*			234441	0.011	0.001
240.0	242.0		0.0 **0.0**	*57.3*		Amygdule frequency drops to ~1%	234442	0.016	0.007
242.0	244.0		0.1 **0.0**	*72.9*		Frequency of pyrite increases in matrix.	234443	0.008	0.001
244.0	246.0	Fine to medium grained green moderately propyllitic	0.1 **0.0**	*31.9*			234444	0.005	0.001
246.0	248.0	Fine to medium grained moderately propyllitic	0.1 **0.0**	*14.3*			234445	0.010	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
248.0	250.0	Fine to medium grained green moderately clay altered	0.1 **0.0**	*28*		Amydules are spotty and clustered together.	234446	0.016	0.001
250.0	252.0	Fine to medium grained dark green black moderately propyllitic	0.0 **0.0**	*29.5*			234447	0.010	0.001
252.0	254.0	Fine to medium grained dark green grey moderately propyllitic	0.1 **0.0**	*19.7*			234448	0.009	0.001
254.0	256.0		0.3 **0.0**	*4*		Sericite alteration has increased.	234449	0.013	0.005
256.0	258.0		0.3 **0.0**	*1.4*			234451	0.011	0.001
258.0	260.0		0.6 **0.0**	*11*		Epidote has increased within the matrix.	234452	0.009	0.001
260.0	262.0		0.7 **0.0**	*27.9*			234453	0.009	0.001
262.0	264.0		0.1 **0.0**	*28.8*			234454	0.007	0.001
264.0	266.0		0.1 **0.0**	*8.4*			234455	0.010	0.001
266.0	268.0		0.0 **0.0**	*41.4*			234456	0.007	0.001
268.0	270.0		0.0 **0.0**	*54.3*		Unit is broken and sheared the end.	234457	0.006	0.001
270.0	271.3		0.0	*2.9*			234458	0.009	0.001
271.3	273	**MOTTLED ANDESITE FAULT ZONE**							
271.3	273.0	Fine to coarse grained light grey pink moderately propyllitic	3.5	*3.2*	CNT 20	Healed shear contact between the overlying AAP unit and the underlying massive andesite. Shear direction is between 30-40 deg to the core axis with a rough contact of 20 deg to the core axis. Unit is mostly made up of massive andesite altered to sericite, chlorite, epidote and hematite. Spotty carbonate sections present. Zeolite and calcite veining throughout oriented in the same direction as the shear. Pyrite present as blebs.	234459	0.015	0.006
273	353	**MASSIVE ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
273.0	275.0	Fine grained light grey moderately propyllitic	3.0		*1*	ZCALP	30	5	Unit is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. 3-5% zeolite and calcite veins oriented 25-40 deg to the core axis. ~1-2% randomly oriented fractures. Spotty quartz and hematite within some veins. Unit is altered to sericite, chlorite, patchy epidote and quartz. Epdiote present within the matrix and veins. Pyrite is disseminated and present within veins.	234460	0.007	0.001
275.0	277.0		3.5		*1.7*					234461	0.022	0.010
277.0	279.0	Fine grained light grey green moderately propyllitic	3.2		*2.3*					234462	0.005	0.008
279.0	281.0	Fine grained light grey moderately phyllic	4.0		*0.7*				Epidote and chlorite alteration have decreased and present in patches and halos around some veins. Seicite, quartz and pyrite dominate.	234463	0.005	0.005
281.0	283.0		4.2		*1.3*					234464	0.009	0.001
283.0	285.0		4.5	**0.0**	*1.3*	CALQP	40	1	Trace of chalcopyrite within a calcite and quartz vein.	234465	0.014	0.009
285.0	287.0		5.0		*1.9*					234466	0.006	0.007
287.0	289.0		4.8	**0.0**	*2.6*	QPYCP	60	1	Trace of chalcopyrite within a quartz vein.	234467	0.017	0.001
289.0	291.0		5.0		*1.1*					234468	0.009	0.001
291.0	293.0		7.0		*0.9*					234469	0.017	0.001
293.0	295.0		7.4		*1.4*	FLT	60	10	Unit is faulted towards the end of the interval.	234470	0.019	0.001
295.0	297.0	Fine grained grey moderately phyllic	5.0		*1.6*	FLT	60	5	Unit is faulted towards the beginning of the interval.	234471	0.022	0.009
297.0	299.0		5.2		*2*					234472	0.011	0.008
299.0	301.0		5.5		*1.1*					234473	0.010	0.001
301.0	303.0	Fine grained grey green moderately propyllitic	6.0		*0.9*	SHR	20	1	Epidote alteration has increased.	234474	0.007	0.001
303.0	305.0		5.7		*0.7*	QZPYV	25	2		234476	0.008	0.006
305.0	307.0		6.2		*1*					234477	0.011	0.001
307.0	309.0		6.5	**0.0**	*1.5*	PYCPY	55	1	Trace of chalcopyrite seen within a pyrite stringer.	234478	0.017	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
309.0	311.0	Fine grained grey green moderately propyllitic	6.0	*1.7*	SHR	45	2		234479	0.009	0.008
311.0	313.0		7.0	*2*					234480	0.011	0.001
313.0	315.0		5.0	*0.7*					234481	0.017	0.007
315.0	317.0	Fine grained grey moderately phyllic	6.0	*0.9*				Epidote alteration has decreased with a slight QSP increase.	234482	0.012	0.018
317.0	319.0		6.5	*1.5*					234483	0.023	0.006
319.0	321.0		6.3	*1.8*					234484	0.007	0.005
321.0	323.0		6.5	*1.7*					234485	0.009	0.007
323.0	325.0		6.8	*2*	FLT	40	1		234486	0.013	0.006
325.0	327.0		6.2	*0.8*					234487	0.010	0.006
327.0	329.0		6.5	*1*					234488	0.013	0.001
329.0	331.0		6.7	*1.3*					234489	0.014	0.007
331.0	333.0		6.0	*1.4*	FLT	35	2		234490	0.016	0.007
333.0	335.0		5.7	*1.9*					234491	0.010	0.006
335.0	337.0		5.5	*0.8*					234492	0.019	0.005
337.0	339.0		5.3	*1*	SHR	30	4		234493	0.011	0.008
339.0	341.0		5.8	*1.5*					234494	0.011	0.001
341.0	343.0		5.0	*0.7*	FLT	40	1		234495	0.011	0.008
343.0	345.0		4.0	*1.2*					234496	0.014	0.006
345.0	347.0	Fine grained grey green moderately phyllic	4.5	*1*				Epidote alteration has increased.	234497	0.010	0.014
347.0	349.0		4.0	*0.8*	FLT	45	2		234498	0.011	0.013
349.0	351.0		4.0	*0.9*					234499	0.014	0.014
351.0	353.0		4.2	*0.7*					237501	0.022	0.016
353	357	**MASSIVE ANDESITE VOLCANIC BRECCIA**									

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
353.0	355.0	Fine grained grey green moderately phyllic	4.0	*0.7*					237502	0.018	0.011
355.0	357.0		5.0	*0.7*					237503	0.015	0.012
357	361	**MASSIVE ANDESITE FLOW**									
357.0	359.0	Fine grained grey green moderately phyllic	4.8	*0.6*					237504	0.012	0.014
359.0	361.0		4.5	*0.4*					237505	0.007	0.010
361	369	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
361.0	363.0	Fine grained grey green moderately phyllic	5.5	*0.8*	FLT	40	2		237506	0.010	0.009
363.0	365.0		5.2	*0.4*					237507	0.015	0.016
365.0	367.0		6.0	*0.5*					237508	0.012	0.013
367.0	369.0		5.7	*0.6*					237509	0.017	0.018
369	373.4	**MASSIVE ANDESITE FLOW**									
369.0	371.0	Fine grained grey green moderately phyllic	6.2	*0.5*	SHR	20	4	Unit has become more fractured and contains minor healed faults filled with zeolite and gypsum. Structures are randomly oriented with some orineted mostly between 20-40 deg to the core axis.	237510	0.018	0.026
371.0	373.4		5.4	*0.2*					237511	0.007	0.012
373.4	378.1	**MASSIVE ANDESITE FAULT ZONE**									
373.4	375.0	Fine to coarse grained grey green strongly phyllic	4.3	*0*	FLT	25		Andesite fault zone containing several high angle faults between 20-50 deg to the core axis. Dominate orientation of the faulting is 25 deg to the core axis. Fault zones are filled with fragments of andesite and ground up andesite material (gouge) and clay. Minor andesite sections and large clasts are phyllic altered. Spotty epidote present within the andesite. Pyrite is mainly disseminated within the andesite fragments. Massive quartz veining towards the end of the fault zone. 1-2% zeolite and gypsum veining roughly oriented in the same orientation as the faulting within some andesite sections.	237512	0.016	0.029

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
375.0	377.0	Fine to coarse grained grey black moderately clay altered	3.0	*0*					237513	0.036	0.042
377.0	378.1	Fine to coarse grained grey strongly phyllic	3.0	*0.1*	QV	20	20		237514	0.032	0.045
378.1	412	**MOTTLED ANDESITE FLOW**									
378.1	380.0	Fine to coarse grained grey green strongly phyllic	5.0	*0.4*				Unit is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. 4-5% zeolite and minor calcite veins and 1-2% zeolite and calcite stringers oriented 15-30 deg to the core axis and 50-70 deg to the core axis. Unit is altered to sericite, chlorite, patchy epidote and quartz. Epdiote present within the matrix and veins and decreases down the hole. Pyrite is disseminated and present within veins.	237515	0.042	0.013
380.0	382.0		5.5	*0.5*				Weak hematite staining present surrounding some veins and within some veins.	237516	0.036	0.010
382.0	384.0	Fine to coarse grained grey strongly phyllic	9.0	*0.7*				Weak hematite staining present surrounding some veins and within some veins. Increased amount of disseminated pyrite and epidote within this interval.	237517	0.067	0.028
384.0	386.0		5.0	*0.6*				Weak hematite staining present surrounding some veins and within some veins.	237518	0.027	0.009
386.0	388.0	Fine to coarse grained grey green moderately phyllic	5.5	*0.7*				Epdiote alteration has decreased.	237519	0.019	0.007
388.0	390.0		5.3	*0.9*				Clay present within some veins.	237520	0.038	0.010
390.0	392.0		5.0	*0.6*					237521	0.018	0.001
392.0	394.0		5.5	*1*					237522	0.023	0.010
394.0	396.0	Fine to coarse grained grey green strongly phyllic	4.5	*0.9*					237523	0.025	0.009
396.0	398.0		5.5	*1.2*					237524	0.024	0.009
398.0	400.0		5.3	*0.6*					237526	0.016	0.001
400.0	402.0		5.7	*0.9*	FLT	55	2		237527	0.044	0.035
402.0	404.0		5.0	*1.5*	FLT	50	1	Trace of epidote alteration now present.	237528	0.020	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
404.0	406.0	Fine to coarse grained grey green strongly phyllic	5.5	*1.9*	FLT	30	1	Possible bedding contact at 50 deg to the core axis.	237529	0.029	0.008
406.0	408.0	Fine to coarse grained grey strongly phyllic	5.2	*2.1*				Vuggy veins. Minor hematite staining within the veins.	237530	0.057	0.009
408.0	410.0	Fine to coarse grained grey green strongly phyllic	6.5	*0.7*	PYV	70	1	Trace of chalcopyrite within a pyrite vein.	237531	0.032	0.009
410.0	412.0	Fine to coarse grained grey green moderately phyllic	4.7	*1.1*	QV	40	2	Quartz veins present.	237532	0.023	0.008
412	418	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
412.0	414.0	Fine to coarse grained light grey green strongly phyllic	5.0	*1.5*				Clay filled vein present. Trace of disseminated sphalerite present.	237533	0.018	0.010
414.0	416.0	Fine to coarse grained light grey strongly phyllic	4.0	*1.9*				Minor disseminated sphalerite present. No epidote present.	237534	0.012	0.015
416.0	418.0	Fine to coarse grained grey strongly phyllic	2.5	*0.8*					237535	0.012	0.006
418	452	**MASSIVE ANDESITE FLOW**									
418.0	420.0	Fine to coarse grained grey strongly phyllic	2.0	*1*				High degree of clay alteration.	237536	0.006	0.001
420.0	422.0	Fine to coarse grained grey moderately phyllic	4.0	*1.7*				Minor sphalerite disseminated within the matrix.	237537	0.011	0.001
422.0	424.0	Fine to coarse grained grey strongly phyllic	2.2	*0.7*					237538	0.008	0.001
424.0	426.0	Fine to medium grained grey strongly phyllic	4.3	*1.1*					237539	0.009	0.013
426.0	428.0		4.7	*1.5*				Sphalerite present within a couple of veins and disseminated within the matrix.	237540	0.010	0.010
428.0	430.0	Fine to medium grained light grey strongly phyllic	4.0	*1.7*					237541	0.009	0.006
430.0	432.0		2.7	*0.7*				Trace of disseminated sphalerite. Minor vuggy texture.	237542	0.007	0.001
432.0	434.0		3.2	*1.1*				Trace of epidote present.	237543	0.005	0.001
434.0	436.0		3.0	*1.2*				Minor vuggy texture.	237544	0.010	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
436.0	438.0	Fine to medium grained light grey strongly phyllic	3.5	*0.6*			237545	0.011	0.007
438.0	440.0		3.0	*0.6*		Trace of sphalerite present.	237546	0.010	0.010
440.0	442.0		3.7	*1*			237547	0.021	0.015
442.0	444.0		3.2	*1*			237548	0.011	0.009
444.0	446.0		2.3	*1.4*			237549	0.011	0.006
446.0	448.0		2.5	*0.6*			237551	0.012	0.009
448.0	450.0	Fine to medium grained grey strongly phyllic	2.0	*0.7*			237552	0.006	0.009
450.0	452.0	Fine to medium grained grey moderately phyllic	3.0	*0.5*		Spotty epidote present within the matrix again.	237553	0.002	0.005
452	455	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
452.0	454.0	Fine to medium grained grey green moderately phyllic	3.5	*0.6*			237554	0.009	0.022
454.0	455.0		3.0	*0.5*			237555	0.063	0.066
455	462.6	**BRECCIATED MONZONITE DYKE**							
455.0	457.0	Fine to coarse grained grey moderately phyllic	3.2 **0.0**	*0.6*		Unit is composed of ~75% feldspars (mostly plagioclase), ~20% mafics (augite and hornblende) and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Moderate to strong sericite alteration of the feldspars and mafic minerals. Minor quartz replacement. Spotty epidote present within the matrix. Minor hematite staining of some veins and some feldspar grains. 2-4% zeolite veins oriented 25-50 deg to the core axis. Minor veined and disseminated pyrite. Trace of chalcopyrite within the veins and disseminated within the matrix associated with pyrite. Upper contact is broken and the lower contact is 55 deg to the core axis.	237556	0.276	0.122
457.0	459.0		2.7 **0.1**	*1.6*			237557	0.316	0.071
459.0	461.0		3.0 **0.2**	*0.6*			237558	0.318	0.160
461.0	462.6		3.2 **0.4**	*0.9*	CNT 55		237559	0.318	0.202

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
462.6	466	**MASSIVE ANDESITE VOLCANIC BRECCIA**										
462.6	464.0	Fine grained grey moderately phyllic	2.0		*1.2*				Andesite unit intermediate in composition. Altertion has obliterated some of the characteristics of the rock. Moderate QSP alteration in proximity to the dike, propylitic alteration (epidote, chlorite, sericite) appears after the QSP alteration. Propylitic alteration possible overprint. 1-3% calcite, zeolite and minor quartz veins oriented 0-10 deg to the core axis and 45-70 deg to the core axis. Minor pyrite disseminted within the matrix and present within the veins.	237560	0.008	0.011
464.0	466.0	Fine grained grey green moderately phyllic	4.0		*1.7*					237561	0.002	0.015
466	481.3	**MASSIVE ANDESITE FLOW**										
466.0	468.0	Fine grained grey strongly propyllitic	4.2	**0.0**	*0.9*				Trace of sphalerite and chalcopyrite within a quartz vein.	237562	0.011	0.033
468.0	470.0	Fine grained grey moderately propyllitic	3.0		*1.1*					237563	0.011	0.029
470.0	472.0		1.5		*1.5*				Sericite alteration has increased.	237564	0.018	0.034
472.0	474.1		1.0		*1.7*	FLT	20	2		237565	0.007	0.034
474.1	476.3	Fine grained grey green moderately phyllic	4.5		*0.8*				Small phyllic altered zone within the propylitic andesite. QSP dominant and 6-8% fractures filled with calcite and zeolite randomly oriented. Spotty epidote alteration present within the matrix.	237566	0.001	0.029
476.3	478.0	Fine grained grey moderately propyllitic	1.0		*1.6*	SHR	15	3	Back into the propylitic altered andesite, possible overprint of the phyllic zone. Trace of sphalerite present.	237567	0.011	0.034
478.0	480.0		3.0	**0.0**	*0.8*	SHR	15	2	Minor disseminated sphalerite present. Trace of disseminated chalcopyrite present associated with pyrite.	237568	0.064	0.310
480.0	481.3	Fine grained grey strongly propyllitic	1.5		*1.4*					237569	0.018	0.066
481.3	481.7	**MOTTLED MONZONITE DYKE**										

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
481.3	481.7	Fine to coarse grained grey moderately phyllic	2.5	*1.1*				Unit is composed of ~75% feldspars (mostly plagioclase), ~20% mafics (augite and hornblende) and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Moderate to strong sericite alteration of the feldspars and mafic minerals. Minor quartz replacement. Minor hematite staining of some veins and some feldspar grains. 2-4% zeolite veins oriented 30-65 deg to the core axis. Minor veined and disseminated pyrite. Upper contact is brecciated at 20 deg to the core axis and the lower contact is 35 deg to the core axis.	237570	0.233	0.051
481.7	483	**MASSIVE ANDESITE FLOW**									
481.7	483.0	Fine grained green grey strongly propyllitic	3.0	*1.9*				Back into the similar propylitic altered andesite encountered before the monzonite dike. Propylitic alteration possible overprinting phyllic alteration.	237571	0.010	0.021
483	506	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
483.0	485.0	Fine grained green grey strongly propyllitic	3.2	*2.1*	SHR	10	1		237572	0.009	0.010
485.0	487.0		2.0	*5.2*					237573	0.001	0.008
487.0	489.0		2.3	*1.2*					237574	0.015	0.010
489.0	491.0		2.5	*0.9*	FLT	35	8		237576	0.011	0.022
491.0	493.0		3.0	*1.5*				Sericite alteration has increased.	237577	0.033	0.012
493.0	495.0		1.5	*1.9*	FLT	25	1		237578	0.019	0.030
495.0	497.0		2.0	*1.7*	SHR	10	1		237579	0.020	0.032
497.0	499.0		3.0	*2.6*					237580	0.016	0.022
499.0	501.0		3.5 **0.0**	*3*	CALQC			Trace of chalcopyrite within a quartz and calcite vein. Hemtite present within the vein.	237581	0.013	0.044
501.0	503.0		2.0	*3.3*					237582	0.005	0.027
503.0	505.0		1.5	*0.9*					237583	0.019	0.124
505.0	506.0		2.2	*1.9*	FLT	15	5	Unit is faulted at the end of the interval.	237584	0.046	0.104

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
506	525	**STOCKWORKED BLADED FELDSPAR PORPHYRY VOLCANIC**									
506.0	508.0	Fine to coarse grained green strongly propyllitic	4.0	*1.4*				Alteration has obliterated most of the characteristics of the rock. Where visible unit contains 2-7mm feldspar phenocrysts with some altered to sercite, chlorite and epidote. Matrix is a basalt. Propyltic alteration (epidote, hematite, chlorite and sericite) dominates the beginning of the unit possibly overprint phyllic alteration. Phyllic alteration dominates down the hole with sericite, quartz and pyrite. 7-10% zeolite and calcite stringers and veins mostly oriented 40-60 deg to the core axis with some randomly oriented. Veining and stringers decrease down the hole. Major stockworking at the beginning of the unit. Pyrite is disseminated within the matrix and present within veins.	237585	0.063	0.082
508.0	510.0	Fine to coarse grained green grey moderately propyllitic	6.0	*1.6*	FLT	10	2		237586	0.034	0.068
510.0	512.0		5.0	*2*	SHR	25	2		237587	0.069	0.026
512.0	513.0		3.5	*2.6*					237588	0.040	0.024
513.0	515.0	Fine to coarse grained grey green moderately phyllic	2.5	*2.8*				Unit now is dominated by quartz, sericite, pyrite and minor chlorite. Spotty epidote present.	237589	0.030	0.078
515.0	517.0		2.0	*0.8*					237590	0.030	0.051
517.0	519.0	Fine to coarse grained light grey moderately phyllic	2.3	*1*	SHR	10	10		237591	0.007	0.015
519.0	521.0	Fine to coarse grained grey green strongly phyllic	4.0	*1.4*	FLT	15	2		237592	0.034	0.030
521.0	523.0	Fine to coarse grained dark grey green strongly phyllic	5.0	*1.8*				Increase in chlorite and decrease in epidote.	237593	0.020	0.021
523.0	525.0		5.5	*1.7*	FLT	25	1		237594	0.003	0.021
525	537	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
525.0	527.0	Fine to coarse grained dark grey green strongly phyllic	5.0	*2.1*					237595	0.019	0.028

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
527.0	529.0	Fine to coarse grained dark grey green moderately phyllic	5.2	*0.7*		Increase in epidote and a decrease in chlorite alteration.	237596	0.016	0.037
529.0	531.0		5.8	*0.8*			237597	0.016	0.033
531.0	533.0		6.0 **0.0**	*0.8*		Trace of disseminated chalcopyrite associated with some disseminated pyrite.	237598	0.036	0.053
533.0	535.0		6.3	*1.3*			237599	0.025	0.039
535.0	537.0		4.8	*28.4*			237601	0.027	0.038
537	552.7	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**							
537.0	539.0	Fine to coarse grained dark grey green moderately phyllic	4.8	*1.5*			237602	0.022	0.036
539.0	541.0		4.5	*0.7*			237603	0.035	0.043
541.0	543.0		4.0	*1*			237604	0.041	0.049
543.0	545.0		5.0 **0.1**	*1.2*			237605	0.047	0.056
545.0	547.0		4.5 **0.1**	*1.7*			237606	0.041	0.059
547.0	549.0		4.0 **0.0**	*4.3*			237607	0.018	0.035
549.0	551.0		6.0 **0.1**	*3.1*			237608	0.024	0.041
551.0	552.7	Fine to coarse grained dark grey moderately phyllic	3.0	*0.8*		Stockworked and siliceous overprint.	237609	0.023	0.039
552.7	567.7	**MASSIVE MONZONITE INTRUSIVE**							
552.7	554.0	Fine to coarse grained grey strongly phyllic	5.0 **0.1**	*1.1*	CNT 15	Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Most of the feldspars have been blasted into sericite and some chlorite. The mafic minerals have been chloritized. 1-2% zeolite, quartz and flourite veins oriented 30-50 deg to the core axis. Pyrite and chalcopyrite are disseminated within the matrix and present within the veins. Spotty magnetite present within some quartz and flourite veins. Contact with the upper unit is veined and brecciated at 15 deg to the core axis.	237610	0.066	0.049
554.0	556.0		4.5 **0.2**	*1.3*			237611	0.138	0.100

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
556.0	558.0	Fine to coarse grained grey strongly phyllic	4.7 **0.1**	*1.8*					237612	0.129	0.097
558.0	560.0		5.0 **0.1**	*2.2*					237613	0.158	0.110
560.0	562.0		5.3 **0.1**	*2.4*					237614	0.125	0.075
562.0	564.0		6.0 **0.1**	*1*					237615	0.118	0.082
564.0	566.0		4.0 **0.0**	*1.4*					237616	0.125	0.065
566.0	567.7		3.0 **0.0**	*1.9*					237617	0.131	0.066
567.7	570.3	**MASSIVE HETEROLITHIC INTRUSION BRECCIA**									
567.7	569.0	Fine to coarse grained grey pink	0.0	*17.6*	CNT	35		Unit is composed of 15% pink quartz monzodiorite fragments (Sovereign) and rare monzonite fragments (Black Lake). Matrix is made of ground up material of the quartz monzodiorite. Unit is highly fractured with some infill oriented 20-30 deg to the core axis and 65-75 deg to the core axis. Fractures are infilled with zeolite. Spotty disseminated pyrite present. Minor hematite staining of the quartz monzodiorite fragments. Upper contact is 35 deg to the core axis and the lower contact is broken.	237618	0.057	0.054
569.0	570.3		0.0	*17.3*					237619	0.048	0.060
570.3	660	**MASSIVE MONZONITE INTRUSIVE**									
570.3	572.0	Fine to coarse grained grey strongly phyllic	5.0 **0.1**	*0.7*				Back into the similar phyllic altered monzonite.	237620	0.121	0.114
572.0	574.0		5.5 **0.2**	*1.2*				Molybdenum present within a quartz vein.	237621	0.171	0.122
574.0	576.0		5.2 **0.4**	*1.8*					237622	0.167	0.107
576.0	578.0		4.0 **0.1**	*1.3*					237623	0.169	0.111
578.0	580.0		4.2 **0.3**	*1.3*					237624	0.150	0.099
580.0	582.0		3.8 **0.3**	*1.7*	SHR	10	4	Minor molybdenum present.	237626	0.185	0.102
582.0	584.0		3.0 **0.1**	*0.7*	SHR	10	4		237627	0.165	0.100
584.0	586.0		3.5 **0.2**	*0.9*	SHR	20	3		237628	0.194	0.131
586.0	588.0		2.0 **0.1**	*1.5*				Minor molybdenum present.	237629	0.106	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
588.0	590.0	Fine to coarse grained grey strongly phyllic	3.5 **0.1**	*0.9*					237630	0.193	0.118
590.0	592.0		3.0 **0.1**	*1.2*					237631	0.187	0.089
592.0	594.0		4.0 **0.1**	*1.6*					237632	0.115	0.072
594.0	596.0		3.7 **0.2**	*2.1*					237633	0.110	0.062
596.0	598.0		4.3 **0.1**	*0.7*					237634	0.123	0.079
598.0	600.0		5.0 **0.1**	*0.9*				Minor molybdenum present.	237635	0.126	0.083
600.0	602.0		4.0 **0.1**	*0.1*	FLT	60	1		237636	0.135	0.082
602.0	604.0		4.3 **0.5**	*0.2*					237637	0.175	0.110
604.0	606.0		5.0 **0.2**	*0.3*					237638	0.165	0.114
606.0	608.0		6.0 **0.2**	*0.7*					237639	0.158	0.180
608.0	610.0		5.5 **0.3**	*0.5*					237640	0.040	0.044
610.0	612.0		5.0 **0.1**	*0.7*					237641	0.056	0.040
612.0	614.0		5.2 **0.0**	*0.8*					237642	0.081	0.061
614.0	616.0		5.5 **0.1**	*1*					237643	0.058	0.045
616.0	618.0		4.5 **0.1**	*1.1*					237644	0.085	0.057
618.0	620.0		4.8 **0.0**	*1.3*					237645	0.099	0.074
620.0	622.0		4.0 **0.1**	*0.6*					237646	0.091	0.070
622.0	624.0		4.2 **0.2**	*0.6*					237647	0.073	0.031
624.0	626.0		5.5 **0.1**	*0.9*	FLT	50	1		237648	0.043	0.375
626.0	628.0		6.5 **0.1**	*1*					237649	0.051	0.031
628.0	630.0		6.0 **0.1**	*1.2*					237651	0.029	0.031
630.0	632.0		6.3 **0.1**	*1.4*					237652	0.023	0.022
632.0	634.0		5.8 **0.1**	*1.5*					237653	0.022	0.022
634.0	636.0		5.2 **0.0**	*1.8*					237654	0.012	0.008
636.0	638.0		6.0	*2*					237655	0.021	0.018

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
638.0	640.0	Fine to coarse grained grey strongly phyllic	6.5 **0.0**	*0.1*					237656	0.017	0.021
640.0	642.0		5.0	*0.4*					237657	0.006	0.013
642.0	644.0		5.5	*0.7*	SHR	80	1		237658	0.011	0.013
644.0	646.0		5.3 **0.0**	*0.8*	FLT	70	1		237659	0.012	0.012
646.0	648.0		5.5 **0.0**	*0.8*					237660	0.011	0.013
648.0	650.0		6.0 **0.0**	*1.1*					237661	0.009	0.010
650.0	652.0		5.0	*1.2*					237662	0.007	0.022
652.0	654.0		5.5 **0.0**	*1.4*	FLT	60	1		237663	0.007	0.012
654.0	656.0		4.0	*1.7*	FLT	55	8		237664	0.003	0.011
656.0	658.0		5.0	*1.8*	FLT	60	10		237665	0.007	0.006
658.0	660.0		5.7	*0.6*	FLT	55	5		237666	0.034	0.015
660	660.8	**BRECCIATED MONZONITE FAULT ZONE**									
660.0	660.8	Fine to coarse grained grey strongly argillic	4.5	*0.9*	FLT	45	100	Unit is faulted at an orientation ~45 deg to the core axis. Fault zone is mostly made of ground up monzonite material and the Hazelton unit below. Unit is now made up of clay and sericite. Pyrite is disseminated within the matrix. 5-7% zeolite veining oriented the same orientation as the fault zone.	237667	0.029	0.023
660.8	798.5	**MASSIVE HETEROLITHIC CRYSTAL-LITHIC TUFF**									

Hole Number: KH-07-11

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
660.8	662.0	Fine to coarse grained pink grey strongly hematitic	0.1	*5*		Unit contains ~75% feldspar crystals, ~15% mafic minerals and ~10% quartz. Feldpsars are mostly plagioclase with 70% hematite stained. Mafic minerals include biotite and hornblende. Spotty chlorite altertion present of some mafic minerals and feldspars. Weak sericite alteration of some feldspar grains. 2-4% basalt/andesite fragments present that are magnetic with some having porphyritic texture (AAP) and pyrite mineralization. Magnetite present within the matrix. ~1% 1-2mm sized quartz eyes present. 2-4% zeolite and calcite veining randomly oriented. Hematite is present within the veins. Minor disseminated pyrite.	237668	0.001	0.009
662.0	664.0			*4.8*			237669	0.001	0.001
664.0	666.0	Fine to coarse grained pink strongly hematitic	0.0	*21.6*	FLT 50 1		237670	0.002	0.001
666.0	668.0		0.0	*34.8*			237671	0.003	0.001
668.0	670.0		0.0	*47.2*			237672	0.002	0.001
670.0	672.0		0.0	*46.7*			237673	0.001	0.001
672.0	674.0		0.0	*50*			237674	0.002	0.001
674.0	676.0		0.1	*29.4*			237676	0.002	0.001
676.0	678.0		0.1	*59.3*			237677	0.002	0.001
678.0	680.0		0.1	*61.9*		BFP fragment present.	237678	0.002	0.001
680.0	682.0		0.1	*62.4*			237679	0.002	0.001
682.0	684.0		0.0	*64.5*		BFP fragment present.	237680	0.002	0.001
684.0	686.0		0.1	*62.8*			237681	0.002	0.001
686.0	688.0		0.0	*54.4*			237682	0.002	0.001
688.0	690.0		0.1	*60.1*			237683	0.002	0.001
690.0	692.0		0.0	*57.3*			237684	0.002	0.001
692.0	694.0		0.1	*60.8*			237685	0.002	0.001

Hole Number: KH-07-11

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
694.0	696.0	Fine to coarse grained pink strongly hematitic	0.1	*63.6*			237686	0.002	0.001
696.0	698.0		0.1	*61.6*			237687	0.002	0.001
698.0	700.0		0.0	*66.3*			237688	0.002	0.011
700.0	702.0		0.0	*21.2*			237689	0.002	0.008
702.0	704.0		0.0	*57.4*			237690	0.002	0.001
704.0	706.0		0.1	*48.3*			237691	0.002	0.001
706.0	708.0		0.1	*52.3*			237692	0.002	0.001
708.0	710.0		0.0	*52.2*			237693	0.002	0.001
710.0	712.0		0.1	*55.3*			237694	0.001	0.001
712.0	714.0		0.0	*55.9*			237695	0.002	0.001
714.0	716.0		0.0	*59.5*			237696	0.002	0.001
716.0	718.0		0.0	*68.5*			237697	0.002	0.001
718.0	720.0		0.0	*52.4*			237698	0.001	0.001
720.0	722.0		0.0	*41.6*			237699	0.001	0.001
722.0	724.0		0.0	*44.2*			237701	0.002	0.011
724.0	726.0		0.1	*30.8*			237702	0.002	0.001
726.0	728.0		0.0	*49.5*			237703	0.002	0.005
728.0	730.0	Fine to coarse grained pink moderately hematitic	0.1	*42.7*			237704	0.002	0.001
730.0	732.0		0.1	*50*			237705	0.002	0.001
732.0	734.0		0.0	*51.2*			237706	0.001	0.001
734.0	736.0		0.0	*48.7*			237707	0.002	0.009
736.0	738.0		0.1	**0.0** *55.1*		Trace of chalcopyrite within a mafic clast.	237708	0.002	0.001
738.0	741.0		0.0	*32.9*		3m interval with 1m sampling from beginning of the interval.	237709	0.002	0.005
741.0	744.0		0.0	*32.4*			237710	0.001	0.005

Hole Number: KH-07-11

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
744.0	747.0	Fine to coarse grained pink moderately hematitic	0.0	*56.4*			237711	0.002	0.006
747.0	750.0		0.1	*39.7*			237712	0.003	0.001
750.0	753.0		0.0	*45.4*			237713	0.002	0.001
753.0	756.0		0.2	*43*			237714	0.004	0.001
756.0	759.0		0.1	*27.3*			237715	0.002	0.001
759.0	762.0		0.1	*47.4*			237716	0.002	0.001
762.0	765.0		0.0	*35.1*		Fragments slightly increasing.	237717	0.002	0.001
765.0	768.0		0.1	*56*			237718	0.003	0.001
768.0	771.0		0.0	*51*			237719	0.002	0.001
771.0	774.0		0.0	*85.9*			237720	0.002	0.001
774.0	777.0		0.1	*49.3*			237721	0.002	0.001
777.0	780.0		0.1	*41.7*			237722	0.002	0.001
780.0	783.0		0.1	*49.7*			237723	0.002	0.006
783.0	786.0		0.0	*58.1*			237724	0.002	0.008
786.0	789.0		0.1	*62.2*			237726	0.002	0.010
789.0	792.0		0.0	*53.4*			237727	0.002	0.005
792.0	795.0		0.0	*30.5*			237728	0.002	0.001
795.0	798.0		0.0	*49.5*			237729	0.002	0.001
798.0	798.5		0.0	*55.5*		EOH	237730	0.002	0.001

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	7.5	**CASING**									
0.0	7.5										
7.5	46.3	**PORPHYRITIC MONZODIORITE INTRUSIVE**									
7.5	9.0	Fine to coarse grained grey pink weakly hematitic	0.0	*39.4*				Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain and weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite, zeolite and quartz veins present oriented 30-45 deg to the core axis with minor near parallel ones. Unit is magnetic. Trace of pyrite present within the matrix. 20cm composite sampling conducted within this hole back from each sample tag.	238032	0.001	0.007
9.0	11.0		0.0	*43.6*					238033	0.001	0.001
11.0	13.0		0.0	*47.6*					238034	0.001	0.001
13.0	15.0		0.0	*9.9*	FLT	40	2		238035	0.001	0.001
15.0	17.0	Fine to coarse grained grey pink weakly sericitic	0.0	*30.1*	FLT	10		Hematite staining has decreased and sericite alteration has increase.	238036	0.001	0.001
17.0	19.0		0.0	*41*					238037	0.006	0.016
19.0	21.0		0.0	*41.3*					238038	0.000	0.001
21.0	23.0		0.0	*38.4*					238039	0.001	0.001
23.0	25.0		0.0	*29.9*					238040	0.000	0.001
25.0	27.0		0.0	*40.7*					238041	0.000	0.001
27.0	29.0		0.0	*42.6*	FLT	30	2		238042	0.000	0.001
29.0	31.0		0.0	*30.6*					238043	0.000	0.001
31.0	33.0		0.0	*23*					238044	0.001	0.001
33.0	35.0	Fine to coarse grained light grey pink weakly sericitic	0.0	*33.2*	DYK	20	7	Unit contains a small brown/tan QFP dike.	238045	0.001	0.013
35.0	37.0		0.0	*39.1*					238046	0.000	0.005

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
37.0	39.0	Fine to coarse grained light grey pink weakly sericitic	0.0	*24.5*				238047	0.000	0.001
39.0	41.0	Fine to coarse grained light grey pink weakly hematitic	0.0	*31.7*			Sericite alteration has decreased with a slight increase in hematite staining.	238048	0.000	0.006
41.0	43.0		0.0	*45.6*				238049	0.001	0.001
43.0	45.0		0.0	*44*				238051	0.000	0.011
45.0	46.3	Fine to coarse grained light grey weakly hematitic	0.0	*22.7*			Epidote alteration surrounding some veins.	238052	0.001	0.001
46.3	46.8	**MASSIVE QUARTZ MONZODIORITE DYKE**								
46.3	46.8	Fine to coarse grained brown weakly hematitic	0.0	*26.8*	DYK	50	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~1% quartz phenocrysts present ~2mm in size. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented 50-65 deg to the core axis. Upper contact and lower contacts are 50 deg to the core axis.	238053	0.009	0.001
46.8	50.6	**PORPHYRITIC MONZODIORITE INTRUSIVE**								
46.8	48.0	Fine to coarse grained grey pink weakly sericitic	0.0	*28*			Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite nd zeolite quartz veins present oriented 30-55 deg to the core axis with minor near parallel ones. Unit is magnetic. Trace of pyrite present within the matrix.	238054	0.001	0.001
48.0	50.6	Fine to coarse grained grey weakly sericitic	0.0	*26.7*			Slight increase in chlorite alteration down the interval.	238055	0.029	0.040
50.6	52.1	**MASSIVE QUARTZ MONZODIORITE DYKE**								

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
50.6	52.1	Fine to coarse grained brown weakly hematitic	0.0	*54.6*	DYK 50	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented 50-60 deg to the core axis. Upper contact and lower contacts are 50 deg to the core axis. Trace of pyrite within the matrix.			
52.1	57	**PORPHYRITIC MONZODIORITE INTRUSIVE**							
52.1	54.0	Fine to coarse grained grey pink weakly hematitic	0.0	*33.9*		Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~2% calcite and zeolite quartz veins present oriented 70-80 deg to the core axis and 10-25 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.	238057	0.002	0.008
54.0	56.0		0.0	*35.1*			238058	0.004	0.010
56.0	57.0		0.0	*40.5*			238059	0.010	0.001
57	57.3	**MASSIVE QUARTZ MONZODIORITE DYKE**							

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
57.0	57.3	Fine to coarse grained brown weakly hematitic	0.0	*34.4*	DYK	40		Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~1% zeolite and calcite veining oriented ~80 deg to the core axis. Upper contact and lower contacts are 40 deg to the core axis. Trace of pyrite within the matrix.	238060	0.003	0.001
57.3	84.9	**PORPHYRITIC MONZODIORITE INTRUSIVE**									
57.3	59.0	Fine to coarse grained grey pink weakly hematitic	0.0	*31.1*	FLT	20	2	Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals. ~4% calcite and zeolite veins present oriented 70-80 deg to the core axis and 15-30 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.	238061	0.004	0.251
59.0	61.0		0.2	*36.3*	PYEPV	60	1		238062	0.015	0.097
61.0	63.0		0.0	*46.1*					238063	0.004	0.035
63.0	65.0		0.0	*57.9*					238064	0.000	0.005
65.0	67.0	Fine to coarse grained grey weakly hematitic	0.0	*47.5*				Slight increase in epidote.	238065	0.008	0.023
67.0	69.0	Fine to coarse grained light grey weakly hematitic	0.0	*42.6*					238066	0.000	0.001
69.0	71.0		0.0	*47*					238067	0.002	0.173
71.0	73.0		0.0	*51*					238068	0.027	0.014
73.0	75.0		0.0	*40.4*					238069	0.001	0.001
75.0	77.0		0.0	*41.6*					238070	0.001	0.051

Hole Number: KH-07-14

From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
	77.0	79.0	Fine to coarse grained light grey weakly hematitic	0.0	*45.3*				238071	0.001	0.024
	79.0	81.0		0.0	*47.4*				238072	0.004	0.013
	81.0	83.0		0.0	*54.1*				238073	0.001	0.018
	83.0	84.9	Fine to coarse grained light grey moderately hematitic	0.0	*45.1*			Vuggy veins.	238074	0.005	0.032
84.9	85.9		**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**								
	84.9	85.9	Fine to coarse grained grey weakly sericitic	0.0	*1.7*			Unit contains fragments of sovereign and andesite. Matrix is made up of fine to coarse material including busted up fragments, quartz, feldspars and mafic minerals. Sericite and chlorite alteration dominate within the matrix. ~7% calcite and zeolite veining present oriented 40-80 deg to the core axis. 1mm quartz eyes present. Unit is magnetic. Pyrite is disseminated within the matrix. Upper contact is faulted at 30 deg to the core axis and the lower contact is undulating around 15 deg to the core axis.	238076	0.001	0.001
85.9	86.9		**PORPHYRITIC MONZODIORITE INTRUSIVE**								
	85.9	86.9	Fine to coarse grained grey pink weakly hematitic	0.0	*42.9*			Unit is similar to the monzodiorite encountered before the heterolithic unit.	238077	0.014	0.005
86.9	89		**PORPHYRITIC QUARTZ MONZODIORITE DYKE**								
	86.9	89.0	Fine to coarse grained brown pink weakly hematitic	0.0	*57.7*	CNT	45	Unit contains ~75% feldspars, ~15% mafics, ~10% quartz. Unit contains 5-8% feldspar phenocrysts 2-4mm in size with some altered to sericite. ~2% quartz phenocrysts present ~2mm in size. Unit also contains ~2% hornblende and augite phenocrysts 2-4mm in size and some altered to chlorite or biotite. Matrix is fine grained and hematite stained with weak sericite alteration. Epidote alteration around contacts with host rock. Unit is magnetic. ~4% zeolite and calcite veining oriented 20-40 deg to the core axis and 70-80 deg to the core axis. Upper contact is 45 deg to the core axis and the lower contact is 35 deg to the core axis. Trace of pyrite within the matrix.	238078	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
89	92.5	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**								
89.0	91.0	Fine to coarse grained brown pink weakly hematitic	0.0	*52.9*				238079	0.000	0.001
91.0	92.5		0.0	*55.5*	CNT	35		238080	0.000	0.001
92.5	102.4	**PORPHYRITIC MONZODIORITE INTRUSIVE**								
92.5	94.0	Fine to coarse grained grey pink weakly hematitic	0.0	*59.7*			Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals nd veining. ~5% calcite, zeolite and hematite veins present oriented 10-50 deg to the core axis. Unit is magnetic. Trace of pyrite present within the matrix.	238081	0.001	0.001
94.0	96.0		0.0	*52.1*				238082	0.002	0.001
96.0	98.0		0.0	*47.8*				238083	0.000	0.012
98.0	100.0		0.0	*51.1*				238084	0.009	0.023
100.0	102.4		0.0	*40.7*				238085	0.002	0.001
102.4	103.6	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**								
102.4	103.6	Fine to coarse grained dark grey moderately sericitic	0.3	*12*	CNT	30	Unit contains fragments of andesite, monzodiorite, basalt and some bleached fragments. Matrix is composed of ground up fragments, Sericite and chlorite dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~7% zeolite, calcite and hematite veins randomly oriented. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is brecciated and the lower contact is 30 deg to the core axis.	238086	0.005	0.042
103.6	114.6	**PORPHYRITIC MONZODIORITE INTRUSIVE**								

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
103.6	105.0	Fine to coarse grained pink grey moderately hematitic	0.0	*17.2*		Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a weak hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals and veining. ~5% calcite, zeolite and hematite veins present oriented 30-60 deg to the core axis. Minor hematite halo around some veins. Unit is magnetic. Trace of pyrite present within the matrix.	238087	0.001	0.598
105.0	107.0		0.1	*42.4*			238088	0.004	0.023
107.0	109.0	Fine to coarse grained grey pink moderately hematitic	0.0	*46.8*			238089	0.004	0.100
109.0	111.0	Fine to coarse grained grey pink weakly hematitic	0.0	*60.2*		Siliceous overprint.	238090	0.007	0.005
111.0	113.0		0.0	*50.1*			238091	0.002	0.051
113.0	114.6		0.0	*47.8*			238092	0.003	0.009
114.6	115.9	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
114.6	115.9	Fine to coarse grained dark green moderately sericitic	0.1	*24.1*		Unit contains fragments of andesite, AAP, monzodiorite, basalt and some bleached fragments. Matrix is composed of ground up fragments, Sericite and chlorite dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~4% zeolite, calcite and hematite veins oriented 30-40 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is brecciated and the lower contact is broken. Rare 1mm quartz eyes present.	238093	0.006	0.005
115.9	116.5	**PORPHYRITIC MONZODIORITE INTRUSIVE**							
115.9	116.5	Fine to coarse grained grey pink weakly hematitic	0.0	*51.7*		Similar hematite stained monzodiorite encountered before the above heterolithic unit.	238094	0.001	0.054
116.5	118.9	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
116.5	118.9	Fine to coarse grained dark grey moderately propyllitic	0.3	*49.8*		Unit contains fragments of andesite, AAP, monzodiorite, basalt, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, Sericite, chlorite and epidote dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~6% zeolite, calcite and hematite veins oriented 15-30 deg to the core axis and 70-85 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is 50 deg to the core axis and the lower contact is undulating roughly at 30 deg to the core axis. Rare 1mm quartz eyes present.	238095	0.000	0.481
118.9	121.5	**PORPHYRITIC MONZODIORITE INTRUSIVE**							
118.9	121.5	Fine to coarse grained grey pink weakly hematitic	0.0	*48.6*		Similar hematite stained monzodiorite encountered before the above heterolithic unit.	238096	0.035	0.014
121.5	127.3	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
121.5	123.0	Fine to coarse grained dark green weakly propyllitic	0.2	*62.8*		Unit contains fragments of IN, AAP, MNZD, BFP, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, fine grained feldspars, mafic minerals and quartz. Sericite, chlorite and epidote dominate the matrix. Patchy hematite associated with the monzodiorite fragments and veins. Patchy epidote associated with fragments. ~8% zeolite, calcite and hematite veins oriented 20-40 deg to the core axis and 60-80 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact undulating between 20-50 deg to the core axis and the lower contact is undulating roughly at 30 deg to the core axis. Rare 1mm quartz eyes present. May correlate to hole 07-18 from ~170-230m and hole 07-07 from ~156-176m and hole 06-03 from ~190-222m.	238097	0.001	0.129
123.0	125.0		0.3	*62.7*			238098	0.001	0.013
125.0	127.3		0.1	*8.7*			238099	0.001	0.011

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
127.3	129.7	**FRAGMENTAL HETEROLITHIC CRYSTAL-LITHIC TUFF**								
127.3	129.7	Fine to coarse grained dark grey strongly hematitic	0.1	*27.6*			Unit contains rare fragments. Matrix is composed phenocrysts of feldspars, hornblende, quartz and augite. Matrix is fine grained. Hematite, sericite and chlorite alteration dominate the matrix. ~7% zeolite and calcite veining oriented 0-25 deg to the core axis. Unit is magnetic. 1mm quartz eyes present.	238101	0.000	0.001
129.7	131.5	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**								
129.7	131.5	Fine to coarse grained dark grey pink moderately sericitic	0.2	*90.4*	CNT	35	Unit contains fragments of IN, AAP, MNZD, tuffaceous and some bleached fragments. Matrix is composed of ground up fragments, fine grained feldspars, mafic minerals and quartz. Sericite, chlorite and hematite dominate the matrix. Patchy epidote associated with fragments. ~3% zeolite, calcite and hematite veins oriented 25-55 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments.Rare 1mm quartz eyes present.	238102	0.001	0.019
131.5	297	**PORPHYRITIC MONZODIORITE INTRUSIVE**								
131.5	133.0	Fine to coarse grained pink grey strongly hematitic	0.0	*48.7*			Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende, augite and minor quartz. Unit has a moderate to strong hematite stain with weak sericite alteration. Spotty epidote present associated with mafic minerals and veining. ~5% calcite, zeolite and hematite veins present oriented 35-55 deg to the core axis. Minor hematite halo around some veins. Unit is magnetic. Trace of pyrite present within the matrix.	238103	0.001	0.001
133.0	135.0		0.0	*58.1*				238104	0.001	0.001
135.0	137.0		0.0	*51*				238105	0.001	0.001
137.0	139.0		0.0	*54.5*				238106	0.001	0.011
139.0	141.0		0.0	*53.5*				238107	0.021	0.115
141.0	143.0		0.0	*42.5*				238108	0.001	0.001

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
143.0	145.0	Fine to coarse grained grey pink moderately hematitic	0.0	*28.8*				Siliceous overprint.	238109	0.000	0.007
145.0	147.0		0.0	*59.5*					238110	0.001	0.001
147.0	149.0		0.0	*64.1*					238111	0.000	0.001
149.0	151.0		0.0	*63.6*					238112	0.000	0.001
151.0	153.0		0.0	*53.5*					238113	0.000	0.001
153.0	155.0	Fine to coarse grained pink grey strongly hematitic	0.0	*60.7*					238114	0.000	0.001
155.0	157.0		0.0	*54.3*					238115	0.004	0.021
157.0	159.0		0.0	*58.4*	SHR	20	2		238116	0.002	0.247
159.0	161.0		0.0	*54.9*					238117	0.000	0.005
161.0	163.0		0.0	*49.7*					238118	0.001	0.886
163.0	165.0		0.0	*52.1*					238119	0.001	0.006
165.0	167.0	Fine to coarse grained pink grey moderately hematitic	0.0	*29.4*					238120	0.001	0.015
167.0	169.0		0.0	*64.8*					238121	0.001	0.014
169.0	171.0		0.0	*43.2*					238122	0.002	0.062
171.0	173.0	Fine to coarse grained pink moderately hematitic	0.0	*12.1*	SHR	15	2	Slight increase in chlorite alteration within this interval.	238123	0.001	0.012
173.0	175.0		0.0	*52.3*	SHR	15	2		238124	0.001	0.052
175.0	177.0	Fine to coarse grained pink grey strongly hematitic	0.0	*50.4*	FLT	20	1		238126	0.002	0.023
177.0	179.0		0.0	*27.6*	FLT	20	1		238127	0.009	0.026
179.0	181.0		0.0	*29.2*					238128	0.008	0.025
181.0	183.0		0.0	*60.3*					238129	0.012	0.019
183.0	185.0		0.0	*66*					238130	0.001	0.001
185.0	187.0		0.0	*55.3*					238131	0.001	0.001
187.0	189.0		0.0	*60.7*					238132	0.014	0.008

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
189.0	191.0	Fine to coarse grained pink grey strongly hematitic	0.0	*71.2*					238133	0.003	0.031
191.0	193.0		0.0	*53.8*					238134	0.087	0.179
193.0	195.0		0.0	*46.2*					238135	0.001	0.011
195.0	197.0		0.0	*55.5*					238136	0.001	0.001
197.0	199.0		0.0	*61*					238137	0.001	0.001
199.0	201.0		0.0	*51*					238138	0.001	0.006
201.0	203.0		0.0	*63.2*					238139	0.001	0.001
203.0	205.0		0.0	*58.9*	FLT	50	2		238140	0.003	0.001
205.0	207.0		0.0	*57.6*					238141	0.001	0.001
207.0	209.0		0.0	*63.3*					238142	0.001	0.001
209.0	211.0		0.0	*63.1*					238143	0.000	0.001
211.0	213.0		0.0	*51.7*					238144	0.001	0.001
213.0	215.0	Fine to coarse grained pink grey moderately hematitic	0.0	*63.1*				Patchy siliceous overprint now present.	238145	0.004	0.001
215.0	217.0		0.0	*62.7*					238146	0.001	0.005
217.0	219.0	Fine to coarse grained grey pink moderately hematitic	0.0	*55.4*					238147	0.002	0.001
219.0	221.0		0.0	*44*					238148	0.003	0.001
221.0	223.0		0.0	*50.1*					238149	0.002	0.001
223.0	225.0		0.0	*67.7*					238151	0.002	0.001
225.0	227.0		0.0	*59.9*					238152	0.001	0.001
227.0	229.0	Fine to coarse grained grey pink weakly hematitic	0.0	*59.2*					238153	0.001	0.001
229.0	231.0		0.0	*63.4*					238154	0.001	0.001
231.0	233.0		0.0	*45.5*					238155	0.001	0.001
233.0	235.0		0.0	*65.4*					238156	0.001	0.001

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
235.0	237.0	Fine to coarse grained grey pink moderately hematitic	0.0		*49.9*					238157	0.001	0.001
237.0	239.0		0.0		*44.9*					238158	0.002	0.001
239.0	241.0	Fine to coarse grained pink grey strongly hematitic	0.1	**0.1**	*47.9*				Chalcopyrite within a calcite vein with a halo of epidote.	238159	0.008	0.006
241.0	243.0	Fine to coarse grained grey pink weakly hematitic	0.0		*51.6*					238160	0.009	0.011
243.0	245.0	Fine to coarse grained grey pink	0.0		*69.5*				Hematite has decreased.	238161	0.004	0.005
245.0	247.0		0.0		*74.5*					238162	0.001	0.001
247.0	249.0	Fine to coarse grained grey pink weakly hematitic	0.0		*62.7*				Hematite staining has increased.	238163	0.006	0.001
249.0	251.0		0.0		*63.9*					238164	0.001	0.001
251.0	253.0		0.0		*65.3*					238165	0.003	0.001
253.0	255.0		0.0		*76.7*					238166	0.003	0.005
255.0	257.0		0.0		*63.2*					238167	0.007	0.001
257.0	259.0		0.0		*65.2*					238168	0.005	0.001
259.0	261.0		0.0		*65.3*					238169	0.001	0.001
261.0	263.0		0.0		*75.6*					238170	0.020	0.001
263.0	265.0		0.0		*27*	SHR	30	6		238171	0.005	0.006
265.0	267.0	Fine to coarse grained dark green weakly chloritic	0.0		*43.5*				Chlorite alteration has increased within this section.	238172	0.001	0.001
267.0	269.0	Fine to coarse grained grey pink weakly hematitic	0.0		*74.6*					238173	0.002	0.009
269.0	271.0		0.1	**0.0**	*63.2*				Minor chalcopyrite associated with epidote.	238174	0.001	0.001
271.0	273.0		0.0		*64.1*					238176	0.001	0.001
273.0	275.0		0.0		*58.8*					238177	0.001	0.001
275.0	277.0		0.0		*116*					238178	0.001	0.001
277.0	279.0		0.0		*76*					238179	0.000	0.005

Hole Number: KH-07-14

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
279.0	281.0	Fine to coarse grained grey pink weakly hematitic	0.0	*67.5*			238180	0.002	0.036
281.0	283.0		0.0	*66.3*			238181	0.000	0.009
283.0	285.0		0.0	*72.5*			238182	0.000	0.001
285.0	287.0		0.0	*53.6*			238183	0.000	0.001
287.0	289.0	Fine to coarse grained pink grey moderately hematitic	0.0	*52*			238184	0.001	0.114
289.0	291.0		0.0	*45.6*			238185	0.002	0.015
291.0	293.0	Fine to coarse grained grey pink weakly hematitic	0.0	*66.3*			238186	0.005	0.021
293.0	295.0		0.0	*64*			238187	0.001	0.001
295.0	297.0		0.0	*67.8*		EOH	238188	0.001	0.001

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	12	**CASING**									
0.0	12.0							24m of casing with 12m lost core and 12m overburden.			
12	24	**OVERBURDEN**									
12.0	15.0	Fine to coarse grained grey pink		*43.4*				Unit is composed of broken core material of the underlying dacite.			
15.0	18.0			*82.8*							
18.0	21.0			*40.6*							
21.0	24.0			*51*							
24	108	**STOCKWORKED DACITE LAPILLI-TUFF**									
24.0	27.0	Fine to coarse grained grey pink moderately clay altered	0.1 **0.0**	*23*				Unit is intermediate in composition and contains ~5% fragments. Fragments include andesite, BFP and tuffaceous material. Unit is strongly fractured and stockworked throughout. Strong stockworking and fracturing have cause the unit to be clay altered. Hematite stain is present within some feldspar grains and within some veins and stringers. ~15% calcite, zeolite and quartz veins and stringers present randomly oriented. ~10% randomly oriented fractures present. Unit contains magnetite. Rare quartz eyes present. Trace of disseminated pyrite present. Rare quartz eyes present.			
27.0	30.0		0.1 **0.0**	*19.7*	QPYV	70	1				
30.0	33.0		0.1 **0.0**	*27.5*	HSTR	25	1				
33.0	36.0		0.1 **0.0**	*10.2*	FAB	65		Weak fabric present.			
36.0	39.0		0.0 **0.0**	*69.8*	FAB	70					
39.0	42.0		0.0 **0.0**	*70.1*				Patchy section within that are not stockworked.			
42.0	45.0	Fine to coarse grained moderately clay altered	0.1 **0.0**	*2.9*				Minor chlorite alteration present.			
45.0	48.0	Fine to coarse grained grey pink moderately clay altered	0.1 **0.0**	*24*	FAB	60		AAP fragment present.			

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
48.0	51.0	Fine to coarse grained grey pink moderately clay altered	0.1 **0.0**	*9*				Spotty epidote now showing up with the unit and fragments.			
51.0	54.0	Fine to coarse grained moderately clay altered	0.0 **0.0**	*5.9*				Patchy chlorite alteration present.			
54.0	57.0	Fine to coarse grained grey pink moderately clay altered	0.0 **0.0**	*55.9*	CALZV	30	2				
57.0	60.0		0.1 **0.0**	*38.8*				Fragment content has increased to 15%.			
60.0	63.0		0.0 **0.0**	*62.7*	FAB	50					
63.0	66.0		0.1 **0.0**	*41*	QCALP	20	1	Patchy chlorite alteration present. Fabric oriented 70 deg to the core.			
66.0	69.0		0.1 **0.0**	*24.3*				At 66.5m a bleached partially silicfied fragment present.			
69.0	72.0		0.2 **0.0**	*43.8*	FLT	75	1				
72.0	75.0		0.1 **0.0**	*47.3*							
75.0	78.0		0.1 **0.0**	*30.4*	FLT	70	2				
78.0	81.0	Fine to coarse grained grey moderately clay altered	0.1 **0.0**	*7.9*	FLT	65	2	Patchy epidote alteration present.			
81.0	84.0	Fine to coarse grained grey pink moderately clay altered	0.1 **0.0**	*9.7*				Spotty epidote associated with chloritic sections.			
84.0	87.0		0.1 **0.0**	*38.8*				At 86.1m is a quartz vein fragment hosting magnetite.			
87.0	90.0		0.0 **0.0**	*37.3*				At 87.1m is a flourite vein fragment.			
90.0	93.0		0.0 **0.0**	*26.7*							
93.0	96.0	Fine to coarse grained grey moderately clay altered	0.1 **0.0**	*7*				Increase in epidote alteration around some stringers.			
96.0	99.0		0.0 **0.0**	*31.1*							
99.0	102.0	Fine to coarse grained grey weakly silicified (non-K)	0.0 **0.0**	*39.4*				Stockworking has decreased within this interval. Unit is more siliceous.			
102.0	105.0	Fine to coarse grained grey moderately clay altered	0.0 **0.0**	*28.8*				Stockworking has increased.			
105.0	108.0	Fine to coarse grained grey weakly silicified (non-K)	0.1 **0.0**	*16.4*	CALZP	40	1	Unit is more siliceous with patchy clay alteration.			

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
108	202	**STOCKWORKED HETEROLITHIC VOLCANIC BRECCIA**									
108.0	111.0	Fine to coarse grained grey moderately clay altered	0.1 **0.0**	*1.4*				Unit has become more brecciated with a fragmental look. Unit is still intermediate in composition or dacitic. More fragments of andesite, AAP, basalt and rare BFP and granitoid material are more prevalant. Units alteration is patchy dependant on the rock composition and structures. Patchy clay alteration still present around some veins and stringers. Chloritic patches mainly associated with mafic fragments. Siliceous patches present. Spotty hematite staining of some feldspar grains. Hematite also present within some veins and stringers. Spotty epidote present within some veins and fragments. Stockworking still present with ~15% zeolite, quartz and rare calcite veins and stringers randomly oriented. ~10% randomly oriented fractures present. Spotty magnetite present. Minor pyrite is present within the unit and fragments. Contact with the upper unit is gradational.			
111.0	114.0		0.1 **0.0**	*33.5*	DYK	40	13	Small tan FP dike from 113.5-114.0m.			
114.0	117.0	Fine to coarse grained grey weakly propyllitic	0.2 **0.0**	*9.4*				Around 30% fragments within this section.			
117.0	120.0		0.1 **0.0**	*29.2*							
120.0	123.0		0.1 **0.0**	*12.1*				Fragment content has dropped to ~10% with the unit mostly being a brecciated intermediate unit. Fragmental dominant sections still present.			
123.0	126.0		0.1 **0.0**	*21.1*	QPYV	20	1				
126.0	129.0		0.1 **0.0**	*14.9*	SHR	30	3				
129.0	132.0		0.1 **0.0**	*19.7*							
132.0	135.0		0.1 **0.0**	*29.4*							
135.0	138.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*16*							
138.0	141.0		0.1 **0.0**	*11.1*							

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
141.0	144.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*6.9*					
144.0	147.0	Fine to coarse grained grey weakly propyllitic	0.1 **0.0**	*6.1*					
147.0	150.0		0.1 **0.0**	*30*		Vuggy sections present.			
150.0	153.0		0.0 **0.0**	*54.6*					
153.0	156.0	Fine to coarse grained grey moderately propyllitic	0.0 **0.0**	*24*					
156.0	159.0	Fine to coarse grained grey strongly propyllitic	0.2 **0.0**	*10.6*					
159.0	162.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*9.9*					
162.0	165.0		0.1 **0.0**	*28.7*					
165.0	168.0		0.1 **0.0**	*2.3*		Trace of disseminated chalcopyrite associated with pyrite.			
168.0	171.0	Fine to coarse grained grey pink strongly clay altered	0.0 **0.0**	*26.9*					
171.0	174.0		0.0 **0.0**	*36.4*					
174.0	177.0		0.1 **0.0**	*15.2*					
177.0	180.0		0.1 **0.0**	*28.5*					
180.0	183.0		0.1 **0.0**	*47.9*					
183.0	186.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*25.5*					
186.0	189.0		0.1 **0.0**	*42.4*					
189.0	192.0		0.1 **0.0**	*10.2*					
192.0	195.0		0.0 **0.0**	*0.7*					
195.0	198.0		0.0 **0.0**	*28.1*					
198.0	201.0		0.0 **0.0**	*6.9*					
201.0	202.0		0.0 **0.0**	*10.5*					
202	238.1	**MOTTLED HETEROLITHIC FAULT ZONE**							

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
202.0	204.0	Fine to coarse grained grey strongly clay altered	0.0 **0.0**	*3.9*		Fault zone marked by abundance of clay alteration and milled up fragmental look of the rock. Several discrete little faults occur the entire fault zone ranging in orientation from 10-35 deg to the core angle. Strong calcite and zeolite stockworking throughout. Upper portion of the fault zone is comprised of milled fragments of the propylitic overlying unit and towards the end of the unit there is minor sections including the unit below.			
204.0	207.0		0.0 **0.0**	*7.9*					
207.0	210.0		0.0 **0.0**	*15*					
210.0	213.0		0.0 **0.0**	*1.4*					
213.0	216.0		0.0 **0.0**	*18.5*					
216.0	219.0		0.0 **0.0**	*11.9*					
219.0	222.0	Fine to coarse grained grey pink strongly clay altered	0.0 **0.0**	*14.3*		Fault zone is mosty comprised of milled lower footwall material.			
222.0	225.0		0.0 **0.0**	*2.5*					
225.0	228.0		0.0 **0.0**	*6.5*					
228.0	231.0		0.0 **0.0**	*3.4*					
231.0	234.0		0.0 **0.0**	*12.6*					
234.0	237.0		0.0 **0.0**	*6.7*					
237.0	238.1		0.0 **0.0**	*40.6*					
238.1	447	**CRYSTAL-LITHIC HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
238.1	240.0	Fine to coarse grained pink grey strongly hematitic	0.0 **0.0**	*59.7*		Unit contains ~75% feldspar crystals, ~15% mafic minerals and ~10% quartz. Feldpsars are mostly plagioclase with 70% hematite stained. Mafic minerals include biotite and hornblende. Spotty chlorite altertion present of some mafic minerals and feldspars. Clay alteration throughout. Weak sericite alteration of some feldspar grains. 2-4% basalt/andesite fragments present that are magnetic with some having porphyritic texture (AAP) and pyrite mineralization. Magnetite present within the matrix. ~1% ,1mm sized quartz eyes present. 2-4% zeolite and calcite veining randomly oriented. Hematite is present within the veins. Minor disseminated pyrite. Similar to the unit encountered in 07-11.			
240.0	243.0		0.0 **0.0**	*59.7*					
243.0	246.0		0.0	*65.3*					
246.0	249.0		0.0	*61.4*					
249.0	252.0		0.0	*47.5*					
252.0	255.0		0.0	*41.5*					
255.0	258.0		0.0	*59.9*		Epidote halo around a mafic fragment.			
258.0	261.0		0.1	*57.2*					
261.0	264.0		0.0	*66.5*		At 263.1m is a granitoid fragment fairly similar to the Sovereign intrsion.			
264.0	267.0		0.0	*52.1*					
267.0	270.0	Fine to coarse grained pink grey moderately hematitic	0.0	*50.6*	SHR 35 1				
270.0	273.0		0.0	*57.4*		Minor epidote is more common around some fractures and mafic fragments.			
273.0	276.0		0.0	*64.9*					
276.0	279.0		0.0	*61*					
279.0	282.0		0.0	*57.5*					

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
282.0	285.0	Fine to coarse grained pink grey moderately hematitic	0.0	*44.1*							
285.0	288.0		0.0	*64.2*							
288.0	291.0		0.0	*63.2*							
291.0	294.0		0.0	*56.6*	QV	15	5				
294.0	297.0		0.0	*66*							
297.0	300.0		0.0	*66.1*							
300.0	303.0		0.0	*51.6*							
303.0	306.0		0.0	*67*							
306.0	309.0		0.0	*56.9*							
309.0	312.0	Fine to coarse grained dark grey weakly propyllitic	0.0	*57*				Epidote alteration has increased.			
312.0	315.0		0.0	*63.2*							
315.0	318.0		0.0	*41.6*							
318.0	321.0		0.0	*71.1*							
321.0	324.0	Fine to coarse grained dark grey pink moderately clay altered	0.0	*36.1*				Epidote alteration has decreased.			
324.0	327.0		0.0	*59.4*							
327.0	330.0		0.0	*51.4*							
330.0	333.0		0.0	*65.6*				Randomly oriented fractures have increased to ~13%.			
333.0	336.0		0.0	*68.9*	QCALV	20	2				
336.0	339.0	Fine to coarse grained dark grey pink weakly clay altered	0.0	*51.4*				Siliceous patches present.			
339.0	342.0		0.0	*65.6*							
342.0	345.0		0.0	*68.9*	SHR	80	2				
345.0	348.0	Fine to coarse grained dark grey weakly propyllitic	0.0	*51.4*				Increase in epidote alteration. Siliceous patches still present.			
348.0	351.0		0.0	*65.6*							

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
351.0	354.0	Fine to coarse grained dark grey weakly propyllitic	0.0	*68.9*	SHR	40	2				
354.0	357.0		0.0	*51.4*							
357.0	360.0		0.0	*56.4*	QV	20	2				
360.0	363.0		0.0	*55.2*							
363.0	366.0		0.0	*61.1*	QV	20	1				
366.0	369.0		0.0	*55.4*	QV	20	2				
369.0	372.0		0.0	*57.6*	QV	20	2				
372.0	375.0		0.0	*61.9*							
375.0	378.0		0.0	*58.9*	QV	30	1	Large basalt fragment from 375.9-376.2m.			
378.0	381.0		0.0	*56*							
381.0	384.0		0.0	*56.9*							
384.0	387.0		0.0	*70.8*	QCALV	15	3				
387.0	390.0		0.1	*60.2*	QEPYS	70	1				
390.0	393.0		0.0	*60.2*	QCALV	20	2				
393.0	396.0		0.0	*53*							
396.0	399.0		0.0	*56.7*	QCALV	30	2	Fragment content has increased to ~7%. Size of fragments have also increased and range now from 0.5-6cm.			
399.0	402.0		0.0	*59.6*							
402.0	405.0		0.0	*63.4*							
405.0	408.0		0.0	*55.9*	QCALV	40	2				
408.0	411.0		0.0	*41.8*	QCALV	20	1				
411.0	414.0		0.0	*58.1*							
414.0	417.0		0.0	*64.4*	QCALV	50	1				
417.0	420.0		0.0	*54.5*							

Hole Number: KH-07-15

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
420.0	423.0	Fine to coarse grained dark grey weakly propyllitic	0.0	*61.1*		Patchy broken and rubbly core.			
423.0	426.0		0.0	*55.8*	SHR 25 1				
426.0	429.0		0.0	*27.7*					
429.0	432.0		0.0	*33.8*					
432.0	435.0		0.0	*29.2*					
435.0	438.0	Fine to coarse grained dark grey moderately propyllitic	0.0	*28.5*		Epidote alteration has increased.			
438.0	441.0	Fine to coarse grained dark grey strongly propyllitic	0.0	*32.6*					
441.0	444.0		0.0	*29.7*					
444.0	447.0		0.1	*28.6*		EOH			

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	1	**CASING**							
0.0	1.0								
1	19.3	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
1.0	6.0	Fine to coarse grained pink grey moderately hematitic	0.0	*37.4*		Unit contains ~75% feldspars, ~15% mafic and ~10% quartz. Feldspar minerals are mostly plagioclase. Mafic minerals include augite, hornblende and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende and augite. Unit is hematite stained with minor sericite alteration of the feldspars. Minor chlorite alteration of the mafic minerals. Spotty epidote associated mafic minerals. Minor lost core at the beginning of the hole. ~2% calcite and zeolite veining oriented 10-30 deg to the core axis. Unit is magnetic and contains a trace of pyrite disseminated within the matrix.	237841	0.000	0.001
6.0	9.0		0.0	*31.5*			237842	0.000	0.001
9.0	12.0		0.0	*51.2*			237843	0.000	0.001
12.0	14.0		0.0	*44.1*			237844	0.001	0.001
14.0	17.0		0.0	*35.8*			237845	0.000	0.001
17.0	19.3	Fine to coarse grained grey pink moderately sericitic	0.0	*37.1*		Hematite staining has decreased with an increase in sericitic alteration.	237846	0.004	0.001
19.3	63.4	**PORPHYRITIC MONZODIORITE DYKE**							

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
19.3	21.0	Fine to coarse grained grey pink weakly hematitic	0.0	*47.7*	CNT	30		Unit contains ~80% feldspars, ~15% mafic and ~5% quartz. Feldspar minerals are mostly plagioclase. Mafic minerals include augite, hornblende and biotite. Unit contains phenocrysts of plagioclase and hornblende. Unit is hematite stained with minor sericite alteration of the feldspars. Minor chlorite alteration of the mafic minerals. Spotty epidote associated mafic minerals. Minor lost core at the beginning of the hole. ~2% calcite and zeolite veining oriented 30-40 deg to the core axis. Unit is magnetic and contains a trace of pyrite disseminated within the matrix. Upper contact is 30 deg to the core axis and the lower contact is 35 deg to the core axis.	237847	0.001	0.001
21.0	22.5		0.0	*50.9*	CNT	35			237848	0.000	0.001
22.5	24.0	Fine to coarse grained grey pink moderately sericitic	0.0	*10.7*				Unit contains ~75% feldspars, ~15% mafic and ~10% quartz. Feldspar minerals are mostly plagioclase. Mafic minerals include augite, hornblende and biotite. Unit contains phenocrysts of quartz, plagioclase, hornblende and augite. Unit is hematite stained with minor sericite alteration of the feldspars. Moderate sericitic alteration in contact with the above dike. Minor chlorite alteration of the mafic minerals. Spotty epidote associated mafic minerals. Minor lost core at the beginning of the hole. ~2% calcite and zeolite veining oriented 10-20 deg to the core axis. Unit is magnetic and contains a trace of pyrite disseminated within the matrix.	237849	0.001	0.001
24.0	27.0	Fine to coarse grained grey pink moderately hematitic	0.0	*29.6*					237851	0.000	0.010
27.0	30.0	Fine to coarse grained grey pink weakly hematitic	0.0	*21*				Hematite staining has decreased with an increase in sercite alteration	237852	0.001	0.008
30.0	33.0	Fine to coarse grained grey pink moderately sericitic	0.0	*23.7*	DYK	30	10	Interval contains a monzodiorite dike within it, similar to the one encountered above.	237853	0.001	0.001
33.0	36.0	Fine to coarse grained grey pink weakly sericitic	0.0	*52*				Sericite alteration has slightly decreased.	237854	0.000	0.001
36.0	39.0		0.0	*37.8*					237855	0.000	0.001

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
39.0	42.0	Fine to coarse grained grey pink weakly hematitic	0.0	*17*		Hematite staining has increased within this interval.	237856	0.001	0.001
42.0	45.0		0.0	*45*			237857	0.000	0.001
45.0	48.0		0.0	*49.9*		Patchy siliceous overprint present.	237858	0.005	0.008
48.0	51.0		0.0	*48*			237859	0.001	0.001
51.0	54.0		0.0	*19.6*			237860	0.001	0.001
54.0	57.0	Fine to coarse grained grey pink weakly sericitic	0.0	*55.3*		Hematite staining has slightly decreased with a slight increase in sericite alteration.	237861	0.004	0.009
57.0	58.0		0.0	*51.1*			237862	0.000	0.001
58.0	60.0		0.0	*78.3*			237863	0.000	0.001
60.0	62.0		0.0	*17.6*			237864	0.001	0.001
62.0	63.4		0.0	*14.6*			237865	0.001	0.045
63.4	70.2	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
63.4	65.0	Fine to coarse grained dark grey weakly propyllitic	0.3	*41.9*		Unit contains ~35% ash material and ~60% fragements of AND, intrusive and BFP. Fragments are subangular to subrounded and 0.3cm to 7cm. Matrix is mostly made up of ground up fragments and feldspar, mafic minerals and quartz. Chlorite and sericite altertion dominate within the matrix. Patchy epidote is present within the matrix and fragments. Unable to spot any quartz eyes. ~5% calcite and zeolite veining randomly oriented. Unit is magnetic and pyrite is present within the matrix and fragments. Contact with the quartz monzodiorite above is gradational and brecciated.	237866	0.004	0.035
65.0	67.0	Fine to coarse grained grey weakly propyllitic	0.2	*24.8*	FLT 60 3		237867	0.003	0.008
67.0	69.0		0.1	*34.9*			237868	0.001	0.001
69.0	70.2		0.1	*34.7*	FLT 40 4		237869	0.002	0.005
70.2	74	**MASSIVE ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
70.2	72.0	Fine grained grey weakly propyllitic	1.5	*128*	CNT	50		Unit is intermediate in composition. Sections contain 2-4% augite phenocrysts 1-3mm in size with some altered to chlorite. Chlorite and sericite dominate within the matrix with patchy epidote alteration. ~5% calcite and zeolite veining oriented 40-70 deg to the core axis. Spotty epidote and hematite are within some veins. Unit is magnetic. Minor pyrite is disseminated within the matrix.	237870	0.020	0.051
72.0	74.0		1.3	*31.6*					237871	0.030	0.071
74	86.1	**MASSIVE ANDESITE FLOW**									
74.0	76.0	Fine grained grey weakly propyllitic	1.7	*5.3*					237872	0.034	0.110
76.0	78.0		2.2	*7.1*	FLT	65	2		237873	0.031	0.115
78.0	80.0		2.0	*60.7*					237874	0.031	0.069
80.0	82.0		2.6	*59.7*					237876	0.039	0.176
82.0	84.0		1.3	*95.8*					237877	0.028	0.156
84.0	86.1		1.3	*90.7*					237878	0.043	0.103
86.1	87.1	**MOTTLED FELDSPAR PORPHYRY FLOW**									
86.1	87.1	Fine to coarse grained grey pink moderately sericitic	1.0	*1.8*	CNT	70	100	Unit contains 7-12% feldspar (albite?) phenocrysts 0.5-1.3cm in size. Alteration has obliterated most of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration. ~2% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper and lower contacts are 70 deg to the core axis.	237879	0.029	0.040
87.1	91.9	**MASSIVE ANDESITE VOLCANIC BRECCIA**									
87.1	89.0	Fine grained grey weakly propyllitic	0.3	*88.7*				Similar propylitic altered andesite encountered before the FP unit.	237880	0.026	0.081
89.0	91.0		0.6	*109*				Small 20cm FP clast similar to the above is within this interval.	237881	0.016	0.057

Hole Number: KH-07-16

From	To		Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
	91.0	91.9	Fine grained grey weakly propyllitic	0.2		*15.2*				237882	0.030	0.144
91.9	95.4		**MASSIVE FELDSPAR PORPHYRY FLOW**									
	91.9	94.0	Fine to coarse grained grey weakly propyllitic	0.5		*10.7*	CNT	40	Unit contains 10-15% feldspar (albite?) phenocrysts 0.2-1.cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration. Patchy epidote is present within the matrix and veins. ~4% zeolite and calcite veining oriented 20-50 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper contact is 40 deg to the core axis and the lower contact 50 deg to the core axis.	237883	0.013	0.048
	94.0	95.4		0.5						237884	0.012	0.044
95.4	100.6		**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
	95.4	97.0	Fine to coarse grained green moderately propyllitic	4.0		*37.4*			Unit contains 5-8% augite phenocrysts, 1-3mm in size with some altered to chlorite or epidote. Matrix is intermediate in composition with chlorite, sericite and epidote alteration within it. ~2% calcite and zeolite veins oriented 40-60 deg to the core axis. Unit is magnetic. Pyrite is present within some veins and disseminated within the matrix. Unit is brecciated.	237885	0.021	0.079
	97.0	99.0		4.5	**0.0**	*117*			Trace of chalcopyrite within the matrix.	237886	0.021	0.083
	99.0	100.6		3.0	**0.0**	*107*				237887	0.022	0.073
100.6	118.1		**MASSIVE FELDSPAR PORPHYRY FLOW**									

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
100.6	102.0	Fine to coarse grained weakly propyllitic	2.8	*6*		Unit contains 10-15% feldspar (albite?) phenocrysts 0.3-1cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. ~2% zeolite and calcite veining oriented 10-30 deg to the core axis and 50-65 deg to the core axis. Minor pyrite is present within some veins and the matrix. Upper contact is brecciated and gradational and the lower contact is 55 deg to the core axis. Spotty hematite halo around some veins	237888	0.011	0.038
102.0	104.0		1.7	*2.5*			237889	0.015	0.055
104.0	106.0	Fine to coarse grained grey weakly propyllitic	2.2	*5.7*			237890	0.007	0.037
106.0	108.0		2.5	*6.2*			237891	0.011	0.040
108.0	110.0		1.2	*8.3*			237892	0.013	0.039
110.0	112.0		1.5	*2.1*			237893	0.007	0.024
112.0	114.0		1.2	*1.4*			237894	0.019	0.072
114.0	116.0		1.5	*3*			237895	0.011	0.063
116.0	118.1		1.0	*2.2*			237896	0.015	0.051
118.1	119.4	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
118.1	119.4	Fine to coarse grained green weakly propyllitic	2.0	*3.2*		Unit contains 5-8% augite phenocrysts, 1-3mm in size with some altered to chlorite or epidote. Matrix is intermediate in composition with chlorite, sericite and epidote alteration within it. ~4% calcite and zeolite veins oriented 20-50 deg to the core axis. Pyrite is present within some veins and disseminated within the matrix.	237897	0.013	0.076
119.4	143	**MASSIVE FELDSPAR PORPHYRY FLOW**							

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
119.4	121.0	Fine to coarse grained weakly propyllitic	1.2	*3.7*		Unit contains 10-15% feldspar (albite?) phenocrysts 3-8mm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. ~4% zeolite and calcite veining oriented 45-65 deg to the core axis and some near parallel to the core axis. Minor pyrite is present within some veins and the matrix. Spotty hematite halo around some veins	237898	0.015	0.072
121.0	123.0	Fine to coarse grained green weakly propyllitic	1.4	*9.2*			237899	0.018	0.062
123.0	125.0		1.7 **0.0**	*1.4*		Trace of chalcopyrite within a vein with pyrite.	237901	0.014	0.050
125.0	127.0		0.7	*2*			237902	0.014	0.050
127.0	129.0		1.3 **0.0**	*2.4*		Trace of chalcopyrite within a vein with pyrite.	237903	0.009	0.051
129.0	131.0		1.0	*2.7*			237904	0.021	0.054
131.0	133.0		0.8	*3.3*			237905	0.018	0.051
133.0	135.0		0.3	*19.9*			237906	0.018	0.048
135.0	137.0		1.5 **0.0**	*1.5*		Trace of chalcopyrite within a vein with pyrite.	237907	0.030	0.061
137.0	139.0		0.8	*1.8*		Quartz is showing up within some veins and minor quartz flooded sections present.	237908	0.016	0.042
139.0	141.0		1.0	*41.9*			237909	0.027	0.051
141.0	143.0		1.5 **0.0**	*2.8*		Trace of chalcopyrite within a vein with pyrite.	237910	0.027	0.063
143	152.2	**MASSIVE ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
143.0	145.0	Fine to coarse grained green moderately phyllic	3.0	*3.2*		Unit is intermediate in composition where the alteration has obliterated some of the characteristics of the rock. Spotty sections contain augite phenocrysts with some altered to chlorite. Chlorite, sericite and epidote alteration are present within the matrix. Spotty sections QSP alteration is dominant. ~3% calcite, zeolite and minor quartz veins oriented 30-70 deg to the core axis. Unit is brecciated in patches. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins. Contact with the above unit is brecciated and gradational.	237911	0.033	0.085
145.0	147.0	Fine to coarse grained green moderately propyllitic	2.8	*22.3*	FLT 55 2		237912	0.032	0.109
147.0	149.0	Fine to coarse grained green moderately phyllic	4.5 **0.0**	*1.5*		Trace of chalcopyrite within an andesite fragment.	237913	0.038	0.147
149.0	151.0	Fine to coarse grained green moderately propyllitic	4.0 **0.0**	*2*			237914	0.034	0.067
151.0	152.2		4.0	*4.4*			237915	0.013	0.065
152.2	152.7	**MASSIVE FELDSPAR PORPHYRY FLOW**							
152.2	152.7	Fine to coarse grained grey green moderately propyllitic	2.0	*2.3*		Unit contains 10-15% feldspar (albite?) phenocrysts 0.3-1cm in size. Alteration has obliterated some of the characteristics of the rock. Unit seems to be intermedite in composition with a fine grained matrix. Some feldspar phenocrysts are altered to sericite and chlorite and have a hematite stain. Matrix is dominated by sericite and chlorite alteration with patchy epidote within the matrix and near veins. Minor pyrite is present within some veins and the matrix.	237916	0.008	0.035
152.7	169	**MASSIVE ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
152.7	154.0	Fine grained green moderately propyllitic	4.2	*6.9*		Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Spotty sections contain augite phenocrysts with some altered to chlorite. Sericite, chlorite, quartz and epidote alteration are present within the matrix. Unit varies between phyllic and propylitic alteration. ~4% zeolite, calcite and minor quartz veins oriented 20-40 deg to the core axis with rare veins near parallel and vertical to the core axis. Unit is brecciated in patches. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.	237917	0.027	0.081
154.0	156.0	Fine grained grey moderately phyllic	5.0	*3.2*		Vuggy zeolite and calcite vein.	237918	0.023	0.078
156.0	158.0		5.0	*5.4*			237919	0.025	0.096
158.0	160.0	Fine grained green moderately phyllic	3.5 **0.0**	*3.4*		Trace of chalcopyrite within the matrix.	237920	0.030	0.091
160.0	162.0		4.5	*1.5*			237921	0.032	0.092
162.0	164.0	Fine grained grey moderately phyllic	3.8	*1.9*			237922	0.018	0.098
164.0	166.0		4.3	*2.3*			237923	0.039	0.120
166.0	168.0		3.0	*46.9*			237924	0.029	0.107
168.0	169.0		2.0	*126*			237926	0.025	0.092
169	173.2	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
169.0	171.0	Fine to coarse grained grey pink moderately sericitic	0.1	*54.3*	CNT 50	Unit is composed of sovereign fragments and minor andesite fragments. The matrix is mostly made up of ground up and blasted parts of sovereign and andesite material. Some sovereign fragments are hematite stained while most of the andesite fragments are chlorite altered. Matrix is altered to sericite and chlorite. ~3% calcite and zeolite veins oriented 25-40 deg to the core axis. Matrix and fragments are magnetic. Trace of pyrite within some fragments and matrix. Minor andesite breccia zone within the first interval. Upper contact is 50 deg to the core axis and the lower contact is 45 deg to the core axis.	237927	0.043	0.053

Hole Number: KH-07-16

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
171.0	173.2	Fine to coarse grained grey pink moderately sericitic	0.1 **0.1**	*57.6*	FLT 15 2	Minor chalcopyrite within a calcite vein.	237928	0.055	0.034
173.2	174.2	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
173.2	174.2	Fine to coarse grained grey strongly phyllic	4.5	*3.9*		Small andesite unit that is brecciated with subrounded fragments. Matrix is made up of blasted parts of the andesite. Alteration has obliterated most of characteristics of the rock. Strong QSP alteration present.	237929	0.014	0.065
174.2	176.4	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
174.2	176.4	Fine to coarse grained grey pink moderately sericitic	0.2	*50.3*		Similar to the IBX layer encountered above.	237930	0.069	0.046
176.4	222.1	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
176.4	178.0	Fine to coarse grained grey green strongly phyllic	4.0	*4.6*	FLT 45 4	Unit is intermediate in composition and alteration has obliterated most of the characteristics of the rock. QSP alteration dominates the unit. The unit is brecciated and becomes more fragmental down the hole. ~3% quartz, zeolite and calcite veining oriented 20-50 deg to the core axis. Local quartz flooding present. Pyrite is disseminated within the matrix. Spotty epidote present.	237931	0.033	0.071
178.0	180.0		4.3	*4.6*	FLT 40 6		237932	0.005	0.046
180.0	182.0	Fine to coarse grained grey strongly phyllic	4.7 **0.0**	*4.8*		Trace of chalcopyrite within the matrix.	237933	0.010	0.027
182.0	184.0		4.0 **0.0**	*0.5*		Trace of chalcopyrite within the matrix. Vuggy veins.	237934	0.006	0.030
184.0	186.0		3.7 **0.0**	*0.9*		Trace of chalcopyrite within the matrix.	237935	0.021	0.069
186.0	188.0	Fine to coarse grained green grey moderately propyllitic	4.3 **0.0**	*4.2*		Trace of chalcopyrite within a fragment. Epidote and chlorite alteration have increased.	237936	0.024	0.065
188.0	190.0		3.2	*2.3*			237937	0.019	0.056
190.0	192.0		3.5	*3.9*			237938	0.024	0.074
192.0	194.0	Fine to coarse grained green grey strongly propyllitic	3.0	*2.9*			237939	0.028	0.074
194.0	196.0		2.5 **0.0**	*1.8*		Trace of chalcopyrite within the matrix.	237940	0.011	0.022

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
196.0	198.0	Fine to coarse grained green grey intensely propyllitic	2.7 **0.0**	*2.4*				Trace of chalcopyrite within a vein.	237941	0.030	0.040
198.0	200.0		2.0	*3.2*					237942	0.013	0.026
200.0	202.0		2.2	*3.4*					237943	0.015	0.049
202.0	204.0		2.5	*3.9*					237944	0.015	0.081
204.0	206.0		3.0	*4.1*					237945	0.003	0.029
206.0	208.0		1.7	*4.5*					237946	0.001	0.018
208.0	210.0		2.0	*1.7*	FLT	70	1		237947	0.003	0.108
210.0	212.0		2.2	*2.1*	FLT	50	1		237948	0.002	0.088
212.0	214.0		2.8 **0.0**	*2.4*				Trace of chalcopyrite within a quartz vein.	237949	0.002	0.180
214.0	216.0		2.5 **0.0**	*3.1*				Trace of chalcopyrite within the matrix.	237951	0.004	0.100
216.0	218.0		2.0	*3.8*					237952	0.005	0.096
218.0	220.0		2.3	*1.6*					237953	0.013	0.042
220.0	222.1		3.0 **0.0**	*2.1*				Trace of chalcopyrite within a quartz vein.	237954	0.004	0.042
222.1	224.4	**MASSIVE ANDESITIC AUGITE PORPHYRY FAULT ZONE**									
222.1	224.4	Fine grained dark green black moderately propyllitic	4.0 **0.2**	*4.3*	FLT	65		Unit is made up of broken core of AAP sections. Gougy clay sections between broken core. Minor core loss. AAP section contains 8-10% augite phenocrysts 2-4mm in size with some altered to chlorite. Intermediate matrix is mostly altered to chlorite with epdiote patches. Pyrite and chalcopyrite are disseminated within the matrix. Unit is magnetic. Rough fault orientation is 60-70 deg to the core axis.	237955	0.026	0.026
224.4	237.3	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
224.4	226.0	Fine to coarse grained grey green moderately propyllitic	3.5	*2.7*		Possible basal Hazelton or top of the Takla. Unit contains fragments of AND, AAP and rare BFP. Some AND and AAP fragments are phyllic and potassic altered. Fragments range from 0.3-1.2cm and are subrounded to subangular. Matrix is made up of blasted fragments and feldspar, mafic minerals. No quartz eyes seen. Epidote, chlorite and sericite alteration dominate the matrix. ~3% calcite and zeolite veins oriented 10-40 deg to the core axis. Pyrite is present within the matrix and fragments.	237956	0.019	0.093
226.0	228.0		3.8	*3.6*			237957	0.026	0.062
228.0	230.0		4.0	*1.6*			237958	0.024	0.057
230.0	232.0		4.2 **0.0**	*2.3*		Trace of chalcopyrite within the matrix.	237959	0.024	0.061
232.0	234.0		4.5	*3.1*			237960	0.023	0.050
234.0	236.0		3.5	*3.2*			237961	0.028	0.062
236.0	237.3		3.7	*3.8*			237962	0.015	0.054
237.3	277	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
237.3	239.0	Fine to coarse grained dark green grey moderately propyllitic	3.5	*1*		Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Unit is brecciated with subangular to angular clasts. Matrix in between the clasts are filled with ground up host rock or vein material. Epidote, chlorite and minor sericite alteration dominate the rock. Unit contains sections with augite phenocrysts 1-3mm in size with most altered to chlorite. ~4% calcite, zeolite and minor quartz veining oriented 30-60 deg to the core axis. Minor amount of veins are randomly oriented. Unit is magnetic. Pyrite is present within the matrix and minorly within veins.	237963	0.016	0.044
239.0	241.0		4.0 **0.0**	*1.5*		Trace of chalcopyrite within a quartz vein.	237964	0.006	0.047
241.0	243.0		3.2	*2.1*	FLT 40 7		237965	0.013	0.045
243.0	245.0	Fine to coarse grained dark green grey strongly propyllitic	3.5	*2.8*		Hematite present within a few veins.	237966	0.021	0.024

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
245.0	247.0	Fine to coarse grained dark green grey strongly propyllitic	3.0		*3.6*				Molybdenum present within a vein.	237967	0.009	0.031
247.0	249.0		3.7		*1.7*					237968	0.012	0.032
249.0	251.0		2.2		*27.1*					237969	0.017	0.014
251.0	253.0		2.5		*21.4*					237970	0.025	0.022
253.0	255.0		3.0	**0.0**	*22.5*				Trace of chalcopyrite associated with pyrite surrounding a clast.	237971	0.011	0.021
255.0	257.0		2.0		*43*	SHR	50	2		237972	0.006	0.010
257.0	259.0	Fine to coarse grained dark green grey moderately propyllitic	1.7		*3.3*					237973	0.022	0.039
259.0	261.0		2.0		*35.6*					237974	0.031	0.020
261.0	263.0		1.5		*14.4*					237976	0.023	0.032
263.0	265.0		2.5	**0.0**	*10.9*				Trace of chalcopyrite within and epidote patch with pyrite.	237977	0.014	0.034
265.0	267.0		2.8		*2.5*					237978	0.022	0.037
267.0	269.0		2.5		*2.7*					237979	0.039	0.050
269.0	271.0		2.7		*3*					237980	0.050	0.044
271.0	273.0		2.3	**0.0**	*5.6*				Trace of chalcopyrite within a vein.	237981	0.023	0.053
273.0	275.0		1.5		*79.4*					237982	0.027	0.026
275.0	277.0		1.2		*1.5*					237983	0.012	0.015
277	288	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
277.0	279.0	Fine to coarse grained dark green grey moderately propyllitic	1.7		*1.4*				Augite phenorysts have increased to 10-15% at 1-3mm in size.	237984	0.015	0.027
279.0	281.0		2.0		*2.5*					237985	0.015	0.034
281.0	283.0		2.2		*52.9*					237986	0.021	0.038
283.0	285.0		2.5		*29.3*					237987	0.020	0.026
285.0	287.0	Fine to coarse grained dark green grey strongly propyllitic	2.3		*61.8*				Magnetite present within a vein.	237988	0.020	0.027

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
287.0	288.0	Fine to coarse grained dark green grey strongly propyllitic	2.5	*74.6*		Trace of chalcopyrite within a quartz vein.	237989	0.014	0.023
288	290	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
288.0	290.0	Fine to coarse grained dark green moderately propyllitic	3.2	*2.8*		Unit contains fragments of intrusive material (Sovereign?) and AND and AAP. The matrix is composed of blasted and ground up portions of the wall rock and intrusive material. Chlorite, sericite and epidote alteration dominate the matrix. ~2% zeolite and calcite veining oriented 40-70 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and within fragments.	237990	0.034	0.040
290	328	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
290.0	292.0	Fine to coarse grained dark green grey moderately propyllitic	4.0 **0.0**	*2.5*		Unit contains fragments of andesite and rare AAP with some phyllic and potassic altered. Matrix is made of ground up portions of the fragments. Chlorite, sericite and epidote alteration dominate the matrix. ~2% calcite and zeolite veining oriented 30-50 deg to the core axis. Some fragments are magnetic. Pyrite is disseminated within the matrix and present within some fragments. Trace of chalcopyrite present.	237991	0.016	0.044
292.0	294.0		5.0 **0.1**	*3*			237992	0.014	0.038
294.0	296.0		5.3 **0.1**	*46*			237993	0.032	0.048
296.0	298.0		4.2	*0.8*			237994	0.018	0.033
298.0	300.0		5.5	*8.1*	FLT 30 4		237995	0.028	0.036
300.0	302.0		5.8	*69*			237996	0.022	0.030
302.0	304.0		5.3 **0.0**	*16.5*			237997	0.012	0.037
304.0	306.0		4.0	*14.4*			237998	0.031	0.041
306.0	308.0		5.0	*19.9*	SHR 10 1		237999	0.030	0.037
308.0	310.0		4.8 **0.0**	*5.7*			238001	0.019	0.035
310.0	312.0	Fine to coarse grained dark green grey strongly propyllitic	3.5	*99.5*			238002	0.025	0.031

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
312.0	314.0	Fine to coarse grained dark green grey strongly propyllitic	3.8	*101*			238003	0.032	0.036
314.0	316.0		4.0	*4*			238004	0.030	0.039
316.0	318.0	Fine to coarse grained dark green grey moderately propyllitic	3.5	*70.7*			238005	0.019	0.031
318.0	320.0		3.0	*5.7*			238006	0.017	0.025
320.0	322.0		4.7	*36.6*			238007	0.029	0.055
322.0	324.0		3.3	*6.1*			238008	0.026	0.038
324.0	326.0		3.5	*36.8*			238009	0.022	0.033
326.0	328.0	Fine to coarse grained dark green grey strongly propyllitic	4.0 **0.0**	*29*			238010	0.016	0.023
328	338	**MASSIVE ANDESITE FLOW**							
328.0	330.0	Fine to coarse grained dark green grey strongly propyllitic	3.2	*2.4*			238011	0.016	0.029
330.0	332.0		3.5	*1.9*			238012	0.027	0.043
332.0	334.0		3.0 **0.1**	*2.2*			238013	0.033	0.050
334.0	336.0		3.5	*2.8*			238014	0.040	0.061
336.0	338.0	Fine to coarse grained grey moderately phyllic	4.0	*3.2*		Amount of sericite alteration has increased with a decrease in epidote alteration.	238015	0.020	0.066
338	340	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**							
338.0	340.0	Fine to coarse grained grey strongly phyllic	4.3 **0.1**	*0.7*		Unit contains 10-15% feldspar phenocrysts 0.4-1.1cm in size with most altered to sericite. Alteration has obliterated most of the characteristics of the rock. Sericite and chlorite alteration with patchy quartz replacement. ~3% zeolite, quartz and calcite veining oriented 20-40 deg to the core axis. Pyrite is disseminated within the matrix and present within the veins. Minor chalcopyrite present within a quartz vein and matrix.	238016	0.054	0.055
340	345	**MOTTLED ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
340.0	342.0	Fine to coarse grained grey moderately phyllic	1.5	*1.2*	FLT	15	10	Back into the phyllic altered andesite breccia. Alteration has obliterated most of the characteristics of the rock. Unit is intermediate in compostion with sericite, chlorite and minor quartz alteration present. ~2% zeolite, calcite and quartz veining oriented 20-50 deg to the core axis. Pyrite is present within veins and disseminated within the matrix. Vuggy veins present.	238017	0.039	0.058
342.0	344.0	Fine to coarse grained grey green moderately phyllic	3.5	*1.8*					238018	0.026	0.079
344.0	345.0		3.3	*2.1*					238019	0.028	0.067
345	358	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**									
345.0	347.0	Fine to coarse grained grey moderately phyllic	2.8 **0.1**	*0.7*				Unit contains 13-18% feldspar phenocrysts 0.3-1.2cm in size with most altered to sericite and chlorite. Alteration has obliterated some of the characteristics of the rock. Sericite and chlorite alteration with patchy quartz replacement. ~4% zeolite, quartz and calcite veining oriented 20-50 deg to the core axis. Pyrite is disseminated within the matrix and present within the veins. Trace of chalcopyrite within the matrix and veins. Unit is magnetic. Patchy epidote and hematite present.	238020	0.074	0.059
347.0	349.0	Fine to coarse grained grey green moderately phyllic	3.0 **0.0**	*21.6*					238021	0.044	0.041
349.0	351.0		3.5 **0.0**	*1.3*					238022	0.037	0.057
351.0	353.0		2.7 **0.1**	*2.1*					238023	0.036	0.046
353.0	355.0		2.5 **0.0**	*2.5*					238024	0.041	0.055
355.0	357.0	Fine to coarse grained grey moderately phyllic	3.0	*2.8*	SHR	50	3		238026	0.007	0.005
357.0	358.0		3.3 **0.1**	*0.6*					238027	0.055	0.061
358	365	**MASSIVE BASALT FLOW**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
358.0	360.0	Fine grained dark green moderately potassic - chlorite-sericite	2.7 **0.0**	*1.6*		Alteration has obliterated some of the characteristics of the rock. Chlorite and sericite alteration dominate within the matrix. Unit contains 3-5% feldspar phenocrysts 0.5-1cm in size and some altered to sericite and chlorite. Chlorite and sericite dominate the matrix. Patchy epidote present within the matrix. ~2% zeolite and calcite veining oriented 35-55 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Trace of chalcopyrite within the matrix.	238028	0.042	0.077
360.0	362.0		3.0 **0.0**	*79.1*			238029	0.044	0.052
362.0	364.0		3.2 **0.0**	*2.5*			238030	0.022	0.040
364.0	365.0		3.5 **0.0**	*2.4*		EOH	238031	0.015	0.069

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	25.5	**CASING**							
	0.0	25.5				Overburden - Rock and talus recovered from 11 - 25.5m			
25.5	149	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**							
	25.5	27.0 Medium grained grey brown	1.0		zv 10	Unit is similar to that cored east of the Saunders Fault. Crystals are dominantly felspar (2 - 5mm laths) at 25% with 2-5% quartz phenos - remainder fine ash? Accidentals lithics up to 2 cms present as fine grained dark grey sub-rounded clasts. There is abundant fracturing infilled by zeolite and minor calcite (~10% over entire section). Initial sampling is 20cms only back up hole from interval base while in Hazelton.	238189	0.040	0.028
	27.0	29.0	1.0				238190	0.000	0.001
	29.0	31.0	1.0				238191	0.001	0.001
	31.0	33.0	1.0				238192	0.003	0.012
	33.0	35.0	1.0				238193	0.002	0.010
	35.0	37.0	1.0				238194	0.001	0.001
	37.0	39.0	1.0				238195	0.000	0.012
	39.0	41.0	1.0				238196	0.001	0.005
	41.0	43.0	1.0			Areas of core showing coarser sections in high angle contact with finer matrix.	238197	0.000	0.006
	43.0	45.0	1.0				238198	0.000	0.001
	45.0	47.0	1.0				238199	0.000	0.001
	47.0	49.0	1.0				238201	0.000	0.001
	49.0	51.0	1.0				238202	0.000	0.001
	51.0	53.0	1.0				238203	0.000	0.001
	53.0	55.0	1.0				238204	0.000	0.001
	55.0	57.0	1.0				238205	0.000	0.001
	57.0	59.0	1.0				238206	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
59.0	61.0	Medium grained grey brown	1.0				Badly broken section between 59 and 60m.	238207	0.006	0.300
61.0	63.0		1.0					238208	0.000	0.001
63.0	65.0		1.0					238209	0.039	0.047
65.0	67.0	Medium grained pink grey	1.0				Fragments switched over to reddish-brown granitiod clasts ranging from 0.25cm to 2.5cm…65 - 71m with lower contact defined by fault structure.	238210	0.027	0.049
67.0	69.0		1.0					238211	0.040	0.041
69.0	71.0		2.0					238212	0.018	0.030
71.0	73.0	Medium grained grey brown	2.0		FLT	10	Slickensides at 40 degrees to CA.	238213	0.000	0.001
73.0	75.0		2.0				Anastomosing fine dark grey ash rich areas over section from 73-74m.	238214	0.000	0.114
75.0	77.0		2.0				Minor fracture controlled pyrite at 76.5m.	238215	0.000	0.007
77.0	79.0		1.0				Zeolite carbonate fracturing up to 15% of rock mass.	238216	0.001	0.008
79.0	81.0		3.0				Pyrite occurs as irregular sporadic 2 x 4cm replacement lenses @ 79.2m.	238217	0.000	0.001
81.0	83.0		1.0					238218	0.000	0.001
83.0	85.0		1.0					238219	0.000	0.001
85.0	87.0		1.0					238220	0.000	0.001
87.0	89.0		1.0		FOL	30		238221	0.001	0.045
89.0	91.0		1.0					238222	0.001	0.040
91.0	93.0		1.0					238223	0.001	0.031
93.0	95.0		1.0					238224	0.001	0.051
95.0	97.0		1.0					238225	0.001	0.127
97.0	99.0		1.0					238227	0.003	0.054
99.0	101.0		1.0					238228	0.001	0.049
101.0	103.0			*62.7*				238229	0.005	0.050
103.0	105.0			*85.1*				238230	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
105.0	107.0	Medium grained grey brown		*39.1*			238231	0.003	0.072
107.0	109.0		1.0	*41.3*			238232	0.008	0.050
109.0	111.0			*88*			238233	0.001	0.001
111.0	113.0			*23*			238234	0.001	0.015
113.0	115.0			*47.2*			238235	0.000	0.026
115.0	117.0		2.0	*41.8*			238236	0.000	0.001
117.0	119.0			*23.4*			238237	0.019	1.115
119.0	121.0			*17.3*			238238	0.002	0.051
121.0	123.0			*22.6*			238239	0.002	0.129
123.0	125.0			*33.8*			238240	0.000	0.001
125.0	127.0			*39.1*			238241	0.001	0.012
127.0	129.0			*75.3*			238242	0.001	0.001
129.0	131.0			*27.6*			238243	0.000	0.001
131.0	133.0			*46.7*			238244	0.002	0.001
133.0	135.0			*38*			238245	0.001	0.001
135.0	137.0			*12.1*			238246	0.001	0.074
137.0	139.0			*59.2*			238247	0.001	0.001
139.0	141.0			*47.7*			238248	0.001	0.013
141.0	143.0			*45.3*			238250	0.001	0.005
143.0	145.0	Medium grained grey brown strongly clay altered		*0.8*			238251	0.000	0.006
145.0	147.0			*6.5*			238252	0.002	0.001
147.0	149.0	Medium grained grey brown		*7.2*			238253	0.039	0.050
149	151	**BEDDED DACITE TUFF**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
149.0	151.0	Fine to medium grained grey brown		*4.5*	BED	70	Two 10cm thick magnetite bearing tuffaceous units at 150.2m and 150.7m. Sample ws completely sawn from 149 to 152m. 20cm sampling resumes below this interval.	238254	0.054	0.096
151	152.7	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**								
151.0	152.7	Medium grained grey brown						238254	0.054	0.096
152.7	153	**BEDDED DACITE TUFF**								
152.7	153.0	Fine grained tan		*47.9*	BED	80	Thinly (mm) laminated weakly magnetic ash tuff, with disrupted base. Possible interflow marker. Sawn sample over specified interval.	238255	0.005	0.017
153	189	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**								
153.0	155.0	Medium grained grey brown		*32.5*			Lapilli to 5cm sized monomict angular clasts.	238256	0.001	0.137
155.0	157.0			*81.9*				238257	0.002	0.393
157.0	159.0			*76.5*				238258	0.009	0.364
159.0	161.0			*82.1*				238259	0.003	0.007
161.0	163.0		1.0	*46.1*			Minor clay filled veinlets occurring post-dating the zeolite-carbonate veins.	238260	0.001	0.018
163.0	165.0		1.0	*52.7*	ZVN	20	Zeolite fracturing is increasing as a proportion of the rock mass.	238261	0.002	0.008
165.0	167.0			*41*				238262	0.001	0.024
167.0	169.0			*121*				238263	0.001	0.001
169.0	171.0			*83.8*				238264	0.000	0.020
171.0	173.0			*45*				238265	0.001	0.030
173.0	175.0		1.0	*33.2*				238266	0.001	0.018
175.0	177.0		1.0	*40.4*				238267	0.000	0.001
177.0	179.0			*37.8*			Badly broken section of core - abundant 3mm zeolite fractures.	238268	0.006	0.001
179.0	181.0			*11.9*				238269	0.002	0.022

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
181.0	183.0	Medium grained grey brown		*40.1*				238270	0.032	0.007
183.0	185.0			*66.9*				238271	0.001	0.007
185.0	187.0			*35.5*				238272	0.001	0.001
187.0	189.0	Medium grained grey brown weakly propyllitic	1.0	*14.5*	ZVN	5	Minor epidote selvage to zeolite veinlet	238273	0.001	0.040
189	273.2	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**								
189.0	191.0	Medium grained grey brown weakly propyllitic	0.3	*20.2*			Grey-brown heterolithic dacitic volcanic breccia. 10-20% 1-3 mm plagioclase crystals, 1-3% 0.5-2 mm quartz crystals in a fine ash(?) matrix. Breccia fragments are 5-25 mm subangular to subrounded fragments of host tuff, less common andesite, rare felsic clasts. Pervasive weak propylitic (epidote, sericite, minor chlorite) alteration. 5-10% 0.5-5 mm zeolite +/- calcite veins at 30-80 ° to core axis. <1% 0.5 mm pyrite flecks.	238274	0.001	0.025
191.0	193.0		0.3	*3.6*				238276	0.001	0.011
193.0	195.0		0.3	*27.2*				238277	0.001	0.001
195.0	197.0		0.3	*13.9*				238278	0.001	0.009
197.0	199.0		0.3	*5.9*				238279	0.001	0.204
199.0	201.0		0.3	*13.8*				238280	0.001	0.206
201.0	203.0		0.3	*2.8*	FLT		30 cm zone of rubble, no piece larger than 30 mm.	238281	0.001	0.167
203.0	205.0		0.3	*37*	FLT		35 cm zone of rubble, no piece larger than 40 mm.	238282	0.003	0.008
205.0	207.0		0.3	*54.1*			zeolite vein density increases to ~12% in this interval.	238283	0.000	0.001
207.0	209.0		0.3	*25*				238284	0.001	0.009
209.0	211.0		0.8	*42.6*				238285	0.012	0.006
211.0	213.0		0.3	*2.7*				238286	0.001	0.006
213.0	215.0		0.1	*55.3*				238287	0.000	0.001
215.0	217.0		0.1	*68.3*				238288	0.000	0.001
217.0	219.0		0.1	*56*	ANV	10		238289	0.000	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
219.0	221.0	Medium grained grey brown weakly propyllitic	0.1	*51.6*				238290	0.000	0.001
221.0	223.0		0.1	*54.9*				238291	0.000	0.001
223.0	225.0		0.1	*41.8*				238292	0.000	0.001
225.0	227.0		0.1	*25.9*				238293	0.001	0.001
227.0	229.0		0.1	*54.8*			2-3 larger lithic fragments, up to 60 mm, all types.	238294	0.001	0.032
229.0	231.0		0.5	*17.9*				238295	0.000	0.090
231.0	233.0		0.8	*16.3*				238296	0.000	0.001
233.0	235.0		1.0	*17.5*			Vein density increases over length of interval, seeing more anhydrite in veins also.	238297	0.000	0.068
235.0	237.0		0.8	*18*	FLT		20 cm zone of rubble, possible fault zone? Anhydrite veining continues.	238298	0.000	0.030
237.0	239.0		0.1	*9.1*			End of composite sampling.	238299	0.000	0.017
239.0	241.0		0.5	*16.7*	QV	50	Beginning of regular sampling (full cut interval) in anticipation of upcoming lithology change. Noticable drop in zeolite veining, now <5%. 5 cm quartz vein at 239.6 metres with minor pyrite.	238301	0.000	0.021
241.0	243.0		0.1	*18.3*				238302	0.000	0.009
243.0	245.0	Medium grained dark grey brown weakly propyllitic	0.8	*17.6*	HEMV	15	2 mm hematite vein at 243.7 metres.	238303	0.000	0.024
245.0	247.0		1.0	*21.6*			minor epidote associated with anhydrite-carbonate veins.	238304	0.000	0.013
247.0	249.0		0.1	*22.9*				238305	0.000	0.017
249.0	251.0	Medium grained grey brown weakly propyllitic	0.5	*10.8*	ANCBV	60	35 mm anhydrite-carbonate vein at 249.8 metres with entrained wallrock fragments.	238306	0.000	0.021
251.0	253.0		0.5	*17.1*			Most pyrite in andesite fragments and not disseminated in the tuff.	238307	0.000	0.010
253.0	255.0		0.5	*35.5*				238308	0.003	0.012
255.0	257.0		0.1	*47.7*				238309	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
257.0	259.0	Medium grained grey brown weakly propyllitic	0.1	*13.4*		A 20 mm felsic fragment showing good concentric zoned alteration at 257.1 metres.	238310	0.001	0.005
259.0	261.0		0.1	*41.2*	FLT	Evidence for minor local faulting, few veins displaced 5-10 mm.	238311	0.001	0.001
261.0	263.0		0.1	*40.7*	STK	30 cm zone of dense <1 mm zeolite stringers. Epidote in a vein at 262.3 metres.	238312	0.001	0.001
263.0	265.0		0.1	*39.7*			238313	0.001	0.001
265.0	267.0		0.3	*47.5*			238314	0.001	0.001
267.0	269.0		0.3	*41.4*		15 cm felsic clast at 268.4 metres; hematite stained with minor pyrite.	238315	0.010	0.016
269.0	271.0		0.2	*62.6*			238316	0.008	0.001
271.0	272.0		0.1	*24*	FLT 20	Core is slightly rubbly with sheared fabric at 271.3 metres, stronger alteration (epidote) surrounding.	238317	0.005	0.001
272.0	273.2		0.1	*51.5*	ANQCB 60	Anhydrite with quartz-carbonate vein at 273.1 metres, parallels fault.	238318	0.001	0.001
273.2	285.5	**HOMOGENEOUS ANDESITE FLOW**							
273.2	275.0	Fine to medium grained green strongly propyllitic	0.5	*2.7*		Pistacio-green andesite flow. 3-10% (mode ~6%) 1-3 mm augite phenocrysts. Weak fabric. Strong to intense propylitic (epidote) alteration, minor silicious overprint. 5% 1-5 mm carbonate +/- anhydrite veins at 30-60 ° to core axis. Minor hematite patches and hematite in some veins. 0.1-1% very fine grained disseminated pyrite. Upper contact is faulted at ~50-60 ° to core axis.	238319	0.005	0.040
275.0	277.0		0.5	*2.7*		Rubbly core from 276.8 to 277.3 metres.	238320	0.002	0.076
277.0	279.0		0.5	*0.7*			238321	0.002	0.099
279.0	281.0		0.5	*0.8*			238322	0.002	0.080
281.0	283.0		0.5	*0.5*	FLT 80	8 cm fault zone at 282.4 metres	238323	0.003	0.104
283.0	285.0		0.5	*0.6*		Low RQD in this interval.	238324	0.017	0.094
285.0	285.5		0.3	*0.8*			238326	0.004	0.094

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
285.5	327	**BRECCIATED BLADED FELDSPAR PORPHYRY FLOW**							
285.5	287.0	Fine to coarse grained green strongly propyllitic	0.3	*0.8*		Green bladed feldspar porphyry flow. 15-40% 2-6 mm long blades of plagioclase. Sporadically amydular (quartz and anhydrite filled). Strong to intense propylitic (epidote, chlorite) alteration, epidote and chlorite colour the matrix, epidote replaces 90%+ of plagioclase crystals. Unit has variable texture, some sections are autobrecciated and others are massive flows. 5% 1-8 mm calcite (+/- quartz, anhydrite) veins at 10-20 and 50-80 ° to core axis. 0.1-1% disseminated fine grained pyrite. Upper contact is indistinct at ~75 ° to core axis.	238327	0.015	0.091
287.0	289.0		0.3	*0.9*		Rubbly core from 288.1 to 288.7 metres.	238328	0.018	0.107
289.0	291.0		0.3	*0.7*			238329	0.022	0.163
291.0	293.0		0.3	*1*			238330	0.016	0.104
293.0	295.0		0.3	*0.7*			238331	0.013	0.087
295.0	297.0		0.3	*0.7*		Unit photo.	238332	0.017	0.048
297.0	299.0		0.5	*0.7*		patches of quartz/anhydrite; boundaries are too irregular to be amygdules, veins maybe?	238333	0.015	0.058
299.0	301.0		0.3	*0.4*			238334	0.043	0.057
301.0	303.0		0.5	*0.8*			238335	0.020	0.031
303.0	305.0		0.5	*0.7*			238336	0.018	0.034
305.0	307.0		0.8	*0.6*			238337	0.025	0.018
307.0	309.0		0.8	*0.7*			238338	0.018	0.014
309.0	311.0	Fine to coarse grained green intensely propyllitic	0.8	*0.6*	QCALV 75	3 cm quartz/carbonate vein at 309.4 metres	238339	0.011	0.018
311.0	313.0	Fine to coarse grained green strongly propyllitic	0.8	*0.8*			238340	0.005	0.015
313.0	315.0		1.0	*0.7*			238341	0.024	0.009
315.0	317.0		1.0	*0.6*		30 cm zone with only 10% feldspar crystals.	238342	0.013	0.008

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
317.0	319.0	Fine to coarse grained green strongly propyllitic	1.0	*0.7*				238343	0.009	0.007
319.0	321.0		1.0	*0.8*				238344	0.010	0.008
321.0	323.0		1.0	*0.9*				238345	0.022	0.013
323.0	325.0		1.0	*0.4*				238346	0.027	0.013
325.0	327.0		1.0	*0.5*				238347	0.021	0.010
327	330	**BRECCIATED BLADED FELDSPAR PORPHYRY FAULT ZONE**								
327.0	329.0	Fine to coarse grained grey strongly phyllic	4.0	*0.7*	FLT	80	Fault zone with strong phyllic (sericite) alteration. Core remains reasonably competant: healed fault? Principal fault seems to be at approximately 327.4 m and ~80 ° to core axis.	238348	0.018	0.024
329.0	330.0	Fine to coarse grained grey green strongly phyllic	1.0	*0.3*			Fault zone continues, phyllic overprint waning, revealing strong propylitic (epidote) primary alteration.	238349	0.014	0.011
330	384	**FRAGMENTAL ANDESITE FLOW BRECCIA**								
330.0	332.0	Fine to medium grained green strongly propyllitic	1.0	*0.6*			Green andesite flow breccia. 0-5% 1-2 mm mafic crystals (augite?) and 1-10% 1-3 mm euhedral to slightly bladed plagioclase crystals. Contains frequent 1-30 cm subrounded fragments of a bladed feldspr porphyry. Core is strongly to intensely propyltic (epidote, chlorite, minor calcite) altered. 5% 1-3 mm zeolite-quartz +/- carbonte veins at 30-60 ° to core axis. 0.5-2% disseminated fine grained pyrite. Upper contact is indistinct in fault zone.	238351	0.012	0.005
332.0	334.0		1.0	*0.3*				238352	0.028	0.013
334.0	336.0		1.0	*0.6*				238353	0.019	0.014
336.0	338.0		1.0	*0.6*				238354	0.011	0.006
338.0	340.0		2.0	*1*				238355	0.014	0.009
340.0	342.0		2.0	*0.8*				238356	0.020	0.001
342.0	344.0		2.0	*0.8*				238357	0.020	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
344.0	346.0	Fine to medium grained grey weakly phyllic	2.0	*0.4*	QANZV	75	5	Second half of interval has a weak phyllic (sericite, quartz) overprint as halo around a few 2-4 mm quartz/anhydrite +/- zeolite veins, one with vugs. 5% 2-5 mm rounded mafic fragments, altered to chlorite. Unit photo.	238358	0.014	0.011
346.0	348.0		1.0	*0.4*				weak phyllic alteration continues, wanes over interval.	238359	0.019	0.011
348.0	350.0	Fine to medium grained green strongly propyllitic	1.0	*0.9*					238360	0.010	0.006
350.0	352.0		1.0	*0.6*				60-80% BFP fragments	238361	0.008	0.005
352.0	354.0		1.0	*0.5*				Dominantly BFP fragments.	238362	0.010	0.007
354.0	356.0		1.0	*0.3*					238363	0.012	0.016
356.0	358.0		1.0	*0.7*	FLT	75		Fault with surrounding phyllic (quartz, sericite) alteration at 356.3 metres, approximately 70-85 ° to core axis.	238364	0.009	0.010
358.0	360.0		1.0	*0.6*					238365	0.013	0.012
360.0	362.0		1.0	*0.6*					238366	0.016	0.008
362.0	364.0		2.0	*0.6*					238367	0.018	0.012
364.0	366.0		2.0	*1.4*				Few BFP fragments.	238368	0.021	0.019
366.0	368.0		2.0	*0.7*					238369	0.016	0.014
368.0	370.0		2.0	*0.8*				Few BFP fragments.	238370	0.015	0.017
370.0	372.0	Fine to medium grained green weakly phyllic	2.0	*0.4*				Slight phyllic overprint; quartz, sericite.	238371	0.033	0.015
372.0	374.0		2.0	*0.5*					238372	0.019	0.020
374.0	376.0	Fine to medium grained green strongly propyllitic	2.0	*0.7*					238373	0.019	0.019
376.0	378.0	Fine to medium grained green weakly phyllic	2.0	*0.8*	QV	60		3 cm quartz vein at 376.8 m, phyllic (quartz, sericite) alteration weakly overprints surrounding core.	238374	0.018	0.017
378.0	380.0		2.0	*0.8*	V	25		5 cm vein containing host rock fragments and sericite groundmass at 379.7 metres.	238376	0.012	0.018
380.0	382.0		2.0	*0.4*				phyllic overprint continues	238377	0.015	0.014

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From	To		Rock Type	Py-Cpy		Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
382.0	384.0	Fine to medium grained green strongly propyllitic		2.0		*0.6*				238378	0.012	0.015
384	390	**FRAGMENTAL BLADED FELDSPAR PORPHYRY FLOW**										
384.0	386.0	Fine to medium grained green strongly propyllitic		2.0		*0.6*			Feldspar-phyric fragments dominate core.	238379	0.017	0.035
386.0	388.0			2.0		*0.8*				238380	0.023	0.028
388.0	390.0			2.0		*0.7*				238381	0.013	0.021
390	400	**FRAGMENTAL ANDESITE FLOW BRECCIA**										
390.0	392.0	Fine to medium grained green strongly propyllitic		2.5		*0.5*			very weak phyllic (quartz) overprint.	238382	0.017	0.024
392.0	394.0			2.5		*0.6*				238383	0.022	0.029
394.0	396.0			2.0	**0.0**	*0.6*			trace (imaginary?) chalcopyrite in a zone of stockwork veining.	238384	0.014	0.040
396.0	398.0			2.5		*0.6*				238385	0.029	0.042
398.0	400.0			2.5		*0.5*				238386	0.025	0.060
400	555	**MOTTLED ANDESITE FLOW**										
400.0	402.0	Fine to medium grained green grey moderately phyllic		3.0		*0.6*	FLT	30	Green-grey volcanic flow, likely an andesite. 1-15% phenocrysts, mostly epidote-replaced plagioclase and chlorite after augite(?). Weak to moderate phyllic (sericite, +/- quartz, pyrite) alteration overprinting strong propylitic (epidote, chlorite, +/- calcite) alteration. Core has mottled texture from storied alteration history. 5-15% (locally stockworked) 1-10 mm calcite (+/- quartz, sericite, zeolite) veins at 5-45 ° to core axis. 2-4% 0.5-1 mm disseminated pyrite. This unit is likely the continuation of the unit above with phyllic overprint.	238387	0.016	0.058
402.0	404.0			3.0		*0*				238388	0.035	0.063
404.0	406.0	Fine to medium grained green grey strongly phyllic		3.0		*0.6*	FLT	85	Small fault (identified by gouge and surrounding alteration intensity) at 425.3 metres. Also in this interval, 2-3 3 mm fuchsite blebs.	238389	0.011	0.053

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
406.0	408.0	Fine to medium grained green grey moderately phyllic	3.0	*0.7*		Unit photo.	238390	0.078	0.073
408.0	410.0		3.0	*0.6*			238391	0.048	0.035
410.0	412.0		3.0	*0.5*			238392	0.030	0.042
412.0	414.0		3.0	*0.6*			238393	0.022	0.041
414.0	416.0		3.0	*0.6*			238394	0.018	0.045
416.0	418.0	Fine to medium grained green grey strongly phyllic	2.5	*0.7*		phyllic (sericite) overprint ramps up.	238395	0.007	0.049
418.0	420.0		3.0	*0.6*		phyllic alteration wanes over interval	238396	0.006	0.031
420.0	422.0	Fine to medium grained grey green weakly phyllic	3.0	*0.5*	STK	This interval has a higher (10-12%) density of calcite veins.	238397	0.005	0.036
422.0	424.0	Fine to medium grained grey green moderately phyllic	2.5	*0.8*			238398	0.003	0.040
424.0	426.0	Fine to medium grained green grey weakly phyllic	2.0	*0.8*			238399	0.022	0.021
426.0	428.0		2.0	*1.3*		Rubbly core, but no fault gouge --> not a fault zone?	238401	0.066	0.031
428.0	430.0		2.0	*0.9*			238402	0.030	0.020
430.0	432.0		2.0	*0.5*			238403	0.013	0.015
432.0	434.0		2.0	*0.8*			238404	0.005	0.016
434.0	436.0		2.0	*1.6*		Phyllic overprint has definitely waned over preceeding few intervals, moderate to strong propylitic ltertion showing through.	238405	0.015	0.020
436.0	438.0		2.0	*0.6*		Another rubbly few metres of core. Doesn't look like a fault zone itself, but might relate to upcoming fault at 440.9 metres.	238406	0.007	0.022
438.0	440.0		2.0	*1.3*			238407	0.018	0.015
440.0	440.9		2.0	*0.6*		This short interval is mostly solid core. Obvious epidote in groundmass	238408	0.012	0.021

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
440.9	442.0	Fine to medium grained grey strongly phyllic	2.0	*0*	FLT	80	Grey andesite flow. Mottled texture from alteration obscures many primary features. ~5% 1-3 mm mafic crystals, augite(?). Moderate to strong phyllic (quartz, sericite, pyrite) alteration. 1-5% 0.5-10 mm (mode is 2 mm) quartz (+/- sericite, fluorite, chalcopyrite) veins at 5-30 ° to core axis. 1% 3 mm pyrite veins at 50-80 ° to core axis. 1-4% sulfides: pyrite as veins and 1-2 mm disseminated grains, zero to trace chalcopyrite in quartz veins. Upper contact is faulted at approximately 80 ° to core axis.	238409	0.005	0.011
442.0	444.0		2.0	*0*			trace fuchsite associated with quartz and sericite.	238410	0.015	0.015
444.0	446.0		4.0 **0.0**	*0*	QLFV	25	minor fluorite in quartz vein.	238411	0.019	0.018
446.0	448.0		4.0 **0.0**	*0.1*				238412	0.061	0.040
448.0	450.0		4.0 **0.1**	*0.1*			Reasonable chalcopyrite blebs in one quartz vein.	238413	0.048	0.035
450.0	452.0		4.0 **0.0**	*0*				238414	0.015	0.018
452.0	454.0		4.0 **0.1**	*0.1*				238415	0.055	0.039
454.0	456.0		3.0 **0.0**	*0.3*	QFLCP	30		238416	0.019	0.021
456.0	458.0		3.0 **0.0**	*0.4*				238417	0.038	0.030
458.0	460.0		3.0 **0.0**	*0.4*				238418	0.027	0.022
460.0	462.0		3.0 **0.0**	*0.2*				238419	0.044	0.041
462.0	464.0		3.0 **0.0**	*0.7*				238420	0.024	0.025
464.0	466.0		3.0 **0.0**	*0.5*				238421	0.053	0.038
466.0	468.0		3.0 **0.0**	*0*				238422	0.007	0.011
468.0	470.0		3.0 **0.0**	*0*				238423	0.013	0.015
470.0	472.0		3.0 **0.0**	*0.2*			Slightly more distinct mottling, or maybe the core was fragmentary in a previous life?	238424	0.008	0.016
472.0	474.0		3.0 **0.0**	*0*				238426	0.032	0.049
474.0	476.0		4.0 **0.0**	*0.1*				238427	0.013	0.019
476.0	478.0		4.0 **0.1**	*0.3*				238428	0.026	0.022

Hole Number: KH-07-17

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
478.0	480.0	Fine to medium grained grey strongly phyllic	3.0 **0.3**	*0.5*		Reasonable chalcopyrite bleb in a quartz/fluorite vein.	238429	0.078	0.025
480.0	482.0		3.0 **0.0**	*0.2*			238430	0.015	0.019
482.0	484.0		3.0 **0.0**	*0*			238431	0.015	0.022
484.0	486.0		4.0 **0.0**	*0.2*			238432	0.027	0.047
486.0	488.0		4.0 **0.0**	*0.1*			238433	0.010	0.022
488.0	490.0		4.0 **0.0**	*0.4*			238434	0.006	0.018
490.0	492.0		4.0 **0.0**	*0.5*			238435	0.042	0.055
492.0	494.0		4.0 **0.0**	*0.1*			238436	0.028	0.029
494.0	496.0		4.0 **0.0**	*0.2*			238437	0.015	0.027
496.0	498.0		4.0 **0.0**	*0.3*			238438	0.009	0.021
498.0	500.0		4.0 **0.0**	*0.6*			238439	0.011	0.018
500.0	502.0		4.0 **0.0**	*0.3*	QFLV		238440	0.019	0.027
502.0	504.0		4.0 **0.0**	*0.4*			238441	0.016	0.023
504.0	506.0		3.0 **0.0**	*0.5*			238442	0.039	0.036
506.0	508.0		4.0 **0.0**	*0.6*	FLT 60	Small fault - 506.9 metres.	238443	0.009	0.027
508.0	510.0		4.0 **0.0**	*0.3*			238444	0.008	0.016
510.0	512.0		4.0 **0.0**	*0.3*			238445	0.004	0.019
512.0	514.0		4.0 **0.0**	*0.5*			238446	0.010	0.013
514.0	516.0		4.0 **0.0**	*0.6*		Interval has a slightly massive look to it, brief waning of the phyllic alteration?	238447	0.018	0.022
516.0	518.0		4.0 **0.0**	*0.2*			238448	0.006	0.013
518.0	520.0		4.0 **0.0**	*0.3*	QFLPY 90		238449	0.025	0.036
520.0	522.0		4.0 **0.0**	*0.2*			238451	0.011	0.013
522.0	524.0		5.0 **0.0**	*0.4*		Lots of pyrite, dissapointing chalcopyrite.	238452	0.029	0.024
524.0	526.0		5.0 **0.1**	*0.4*	QFLCP 35		238453	0.050	0.041

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
526.0	528.0	Fine to medium grained grey strongly phyllic	5.0 **0.0**	*0.4*		Small patch of fuchsite at 527.5 m.	238454	0.002	0.009
528.0	530.0		5.0 **0.0**	*0.7*		40 cm less altered zone…looks like massive KCB andesite? Unit photo. Also trace fuchsite again.	238455	0.008	0.012
530.0	532.0		5.0 **0.0**	*0.3*			238456	0.002	0.009
532.0	534.0		5.0 **0.0**	*0.1*			238457	0.008	0.014
534.0	536.0		5.0 **0.0**	*0.5*		Upon further reflection, I'm mostly seeing chalcopyrite in association with the fluorite bearing quartz veins, with only rare trace disseminated blebs.	238458	0.004	0.011
536.0	538.0		5.0 **0.8**	*0.4*	PYCPY 75	Strong chalcopyrite-bearing pyrite vein at 537.1 metres. More like this please.	238459	0.051	0.037
538.0	540.0		5.0 **0.0**	*0.3*			238460	0.032	0.030
540.0	542.0		5.0 **0.0**	*0.3*			238461	0.018	0.042
542.0	544.0		5.0 **0.0**	*0.2*			238462	0.003	0.010
544.0	546.0		5.0 **0.0**	*0.4*			238463	0.005	0.010
546.0	548.0		5.0 **0.0**	*0.2*			238464	0.008	0.011
548.0	550.0		5.0 **0.0**	*0.3*			238465	0.024	0.015
550.0	552.0		5.0 **0.0**	*0.2*			238466	0.002	0.011
552.0	554.0		4.0 **0.0**	*0.2*		Alteration intensity briefly increases near end of interval (+sericite), maybe a small fault?	238467	0.010	0.012
554.0	555.0		4.0 **0.0**	*0.2*			238468	0.036	0.033
555	638.1	**MOTTLED MONZONITE INTRUSIVE**							

Hole Number: KH-07-17

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
555.0	556.0	Fine to coarse grained grey strongly phyllic	4.0 **0.0**	*0.2*		Grey monzonite intrusive. 1-5% plagioclase phenocyrsts, 0-8% mafic phenocrysts, 0-1% quartz grains. Massive to mottled texture; moderate to strong phyllic (quartz, sericite, pyrite) alteration. 1-3% 1-10 mm quartz (+/- fluorite, pyrite, trace chalcopyrite) veins at 20-50 ° to core axis. 3-6% sulfides: pyrite in quartz veins and as disseminated grains, trace to minor chalcopyrite in quartz veins. Upper contact is indistinct due to strong alteration, but looks to be close to 90 ° to core axis.	238469	0.035	0.048
556.0	558.0		5.0 **0.0**	*0.3*			238470	0.005	0.008
558.0	560.0		5.0 **0.0**	*0.3*	QPYFL		238471	0.011	0.010
560.0	562.0		4.0 **0.0**	*0.2*			238472	0.002	0.008
562.0	564.0		5.0 **0.0**	*0.3*			238473	0.001	0.008
564.0	566.0		5.0 **0.0**	*0.2*			238474	0.004	0.010
566.0	568.0		5.0 **0.0**	*0.1*			238476	0.004	0.011
568.0	570.0		5.0 **0.1**	*0.4*	QPYCP 55	chalcopyrite in vein.	238477	0.034	0.020
570.0	573.0		4.0 **0.0**	*0.6*		Anomalous poor recovery, actual length of interval is 2 metres.	238478	0.012	0.011
573.0	575.0		4.0 **0.0**	*0.1*	QPYFL 25	Unit photo.	238479	0.001	0.009
575.0	577.0		5.0 **0.0**	*0.3*			238480	0.009	0.020
577.0	579.0		4.0 **0.0**	*0.5*			238481	0.009	0.014
579.0	581.0		5.0 **0.1**	*0.3*			238482	0.018	0.014
581.0	583.0		4.0 **0.0**	*0.2*			238483	0.013	0.014
583.0	585.0		4.0 **0.0**	*0.6*			238484	0.009	0.010
585.0	587.0		5.0 **0.0**	*0.1*			238485	0.011	0.014
587.0	589.0		6.0 **0.1**	*0.2*			238486	0.007	0.013
589.0	591.0		5.0 **0.0**	*0.3*			238487	0.012	0.012
591.0	593.0		8.0 **0.1**	*0.4*	QPYFL 15	10-15 mm quartz/pyrite with minor fluorite vein, very little chalcopyrite.	238488	0.010	0.017

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
593.0	595.0	Fine to coarse grained grey strongly phyllic	5.0 **0.0**	*0.6*			238489	0.009	0.013
595.0	597.0		5.0 **0.0**	*0.4*			238490	0.035	0.028
597.0	599.0		5.0 **0.0**	*0.6*			238491	0.004	0.010
599.0	601.0		5.0 **1.0**	*0.8*		Larger blebs of chalcopyrite in veins, and a few smaller disseminated.	238492	0.040	0.019
601.0	603.0		5.0 **0.1**	*0.2*			238493	0.008	0.014
603.0	605.0		5.0 **0.0**	*0.4*			238494	0.014	0.015
605.0	607.0		5.0 **0.1**	*0.1*		Trace fuchsite.	238495	0.013	0.015
607.0	609.0		5.0 **0.0**	*0.4*			238496	0.010	0.012
609.0	611.0		5.0 **0.0**	*0.4*			238497	0.028	0.020
611.0	613.0		5.0 **0.0**	*0.2*			238498	0.008	0.013
613.0	615.0		5.0 **0.1**	*0.4*			238499	0.146	0.116
615.0	617.0		5.0 **0.0**	*0.1*			238501	0.122	0.086
617.0	619.0		5.0 **0.2**	*0.4*			238502	0.083	0.068
619.0	621.0		5.0 **0.1**	*0.3*			238503	0.040	0.027
621.0	623.0		5.0 **0.2**	*0.4*			238504	0.010	0.009
623.0	625.0		5.0 **0.1**	*0.5*			238505	0.020	0.018
625.0	627.0		5.0 **0.1**	*0.8*			238506	0.067	0.051
627.0	629.0		5.0 **0.1**	*0.6*			238507	0.013	0.013
629.0	631.0		5.0 **0.1**	*0.1*			238508	0.024	0.022
631.0	633.0		5.0 **0.1**	*0.6*			238509	0.055	0.052
633.0	635.0		5.0 **0.2**	*0*			238510	0.042	0.036
635.0	637.0		5.0 **0.1**	*0.2*			238511	0.065	0.040
637.0	638.1		5.0 **0.1**	*0.2*			238512	0.029	0.018
638.1	642	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
638.1	640.0	Fine to coarse grained grey pink weakly hematitic	0.0 **0.0**	*26.7*		Grey with red stain feldspar-phyric quartz monzodiorite. 5-20% 1-3 mm euhdedral feldspar (95%+ plagioclase) crystals, 3-6% 1-4 mm quartz crystals, 5% 2-5 mm mafic crystals. Weak to moderate hematite alteration: red staining of feldspars and matrix. 5-8% 0.5-5 mm calcite-zeolite +/- clorite veins at 20-70 ° to core axis. Zero to trace sulfides. Upper contact is indistinct at approximately 50 ° to core axis?	238513	0.001	0.001
640.0	642.0		0.0 **0.0**	*42.9*			238514	0.001	0.001
642	663.1	**PORPHYRITIC QUARTZ MONZONITE INTRUSIVE**							
642.0	644.0	Fine to coarse grained grey pink weakly hematitic	0.0 **0.0**	*40.7*			238515	0.001	0.001
644.0	646.0		0.0 **0.0**	*48.4*			238516	0.001	0.001
646.0	648.0		0.0 **0.0**	*30.7*			238517	0.002	0.001
648.0	650.0		0.0 **0.0**	*45*		more chlorite in veins in this interval	238518	0.001	0.001
650.0	652.0		0.0 **0.0**	*34.2*			238519	0.001	0.001
652.0	654.0	Fine to coarse grained grey pink moderately hematitic	0.0 **0.0**	*25.2*			238520	0.007	0.013
654.0	656.0		0.0 **0.0**	*17.7*			238521	0.007	0.013
656.0	658.0		0.0 **0.0**	*36.2*			238522	0.010	0.025
658.0	660.0		0.0 **0.0**	*41.9*			238523	0.001	0.008
660.0	662.0		0.0 **0.0**	*20*		1-2 mm pyrite grains on a fracture surface near end of interval. Core becomes increasingly rubbly along interval.	238524	0.005	0.015
662.0	663.1		0.1 **0.0**	*37.4*		pyrite on some fracture surfaces.	238526	0.015	0.138
663.1	665	**PORPHYRITIC MONZONITE INTRUSIVE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
663.1	665.0	Fine to coarse grained grey moderately phyllic	1.0 **0.0**	*0.7*		Grey monzonite intrusive. Phenocrysts are 5-15% plagioclase, 1-5% quartz and 3-6% mafic grains. Weak to moderate phyllic (quartz, sericite, minor pyrite) alteration. 1% quartz-fluorite +/- chalcopyrite veins. 3-8% 1-3 mm quartz (+/- anhydrite, calcite, zeolite) at 30-80 ° to core axis. 1-3% pyrite, zero to minor chalcopyrite. Upper contact is fragmentary over 15 cm.	238527	0.186	0.143
665	678.3	**PORPHYRITIC QUARTZ MONZONITE INTRUSIVE**							
665.0	667.0	Fine to coarse grained grey moderately phyllic	1.0 **0.0**	*0.3*			238528	0.201	0.133
667.0	669.0		1.0 **0.0**	*0.4*			238529	0.280	0.194
669.0	671.0		1.0 **0.0**	*0.5*		Unit photo.	238530	0.253	0.170
671.0	673.0		2.0 **0.1**	*0.1*			238531	0.226	0.136
673.0	675.0		3.0 **0.1**	*0.2*			238532	0.177	0.103
675.0	677.0		3.0 **0.1**	*0.1*		Minor molybdenite in a chalcopyrite-bearing vein.	238533	0.199	0.118
677.0	678.3		3.0 **0.1**	*0.3*			238534	0.210	0.174
678.3	688.8	**FRAGMENTAL ANDESITE FLOW**							
678.3	679.0	Fine to medium grained grey green moderately phyllic	2.0 **0.1**	*1.5*		Grey-green andesite flow. Contains numerous 0.5-10 cm unmineralized QFP fragments. Aphanitic matrix. Phyllic (quartz, chlorite, sericite) alteration. 5-10% quartz-calcite veins at 20-70 ° to core axis, 1-2% quartz veins at 30-50 ° to core axis. 1-4% pyrite, trace to minor chalcopyrite.	238535	0.110	0.074
679.0	681.0		2.0 **0.1**	*0.5*			238536	0.180	0.115
681.0	683.0		2.0 **0.1**	*0.1*			238537	0.199	0.150
683.0	685.0		2.0 **0.1**	*0.2*			238538	0.221	0.172
685.0	687.0		2.0 **0.1**	*0.1*		Unit photo.	238539	0.123	0.184
687.0	688.8		2.0 **0.1**	*0.3*			238540	0.117	0.123
688.8	723	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							

Hole Number: KH-07-17

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
688.8	690.0	Fine to coarse grained grey moderately phyllic	2.0 **0.1**	*0.3*		Grey monzonite intrusive. Phenocrysts are 5-15% plagioclase, 1-5% quartz and 3-6% mafic grains. Weak to moderate phyllic (quartz, sericite, minor pyrite) alteration. 1% quartz-fluorite +/- chalcopyrite veins. 3-8% 1-3 mm quartz (+/- anhydrite, calcite, zeolite) at 45-80 ° to core axis. 1-3% pyrite, zero to minor chalcopyrite. Upper contact at 80 ° to core axis.	238541	0.185	0.199
690.0	692.0		2.0 **0.1**	*0*	STK	40 cm of dense calcite-zeolite veining.	238542	0.153	0.128
692.0	694.0		2.0 **0.1**	*0.2*			238543	0.258	0.207
694.0	696.0		2.0 **0.3**	*0.3*		Unit photo.	238544	0.327	0.225
696.0	698.0		2.0 **0.2**	*0.3*			238545	0.282	0.204
698.0	700.0		2.0 **0.2**	*0.2*			238546	0.134	0.093
700.0	702.0		2.0 **0.1**	*0.1*			238547	0.138	0.109
702.0	704.0		2.0 **0.1**	*0*			238548	0.033	0.032
704.0	706.0		2.0 **0.1**	*0*		trace molybdenite and chalcopyrite in a quartz vein.	238549	0.076	0.072
706.0	708.0		2.0 **0.1**	*0.1*	STK		238551	0.069	0.064
708.0	710.0		2.0 **0.1**	*0*			238552	0.077	0.080
710.0	712.0		2.0 **0.1**	*0*			238553	0.155	0.133
712.0	714.0		2.0 **0.1**	*0*			238554	0.148	0.138
714.0	716.0		2.0 **0.2**	*0.2*			238555	0.161	0.144
716.0	718.0		2.0 **0.1**	*0.3*			238556	0.151	0.135
718.0	720.0		2.0 **0.1**	*0*			238557	0.097	0.074
720.0	722.0		2.0 **0.1**	*0*			238558	0.168	0.167
722.0	723.0		2.0 **0.1**	*0.1*		End of hole. Chalcopyrite in the very last piece of core: keep drilling!	238559	0.170	0.144

Hole Number: KH-07-18

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
165.3	217	**CRYSTAL-LITHIC DACITE TUFF**							
165.3	168.0	Fine to coarse grained grey weakly propyllitic	0.1 **0.0**	*41.4*		Massive mostly medium grained felspar and very fine grained magnetite in a green-grey groundmass. Minor epidote replacement and pervasive calcite-zeolite stringers and patchy hematite staining. Base of unit sheared at 2º to core axis. May correlate with hole 7 from ~156-176m and hole from ~100-130m and hole 06-03 from 190-222m.	239609	0.001	0.001
168.0	170.0		0.1 **0.0**	*14.8*			239610	0.001	0.022
170.0	172.0		0.1 **0.0**	*23.4*			239611	0.002	0.017
172.0	174.0		0.1 **0.0**	*41.5*			239612	0.001	0.001
174.0	176.0		0.1 **0.0**	*38.5*			239613	0.001	0.005
176.0	178.0		0.1 **0.0**	*25*			239614	0.000	0.001
178.0	180.0		0.1 **0.0**	*59.3*			239615	0.001	0.019
180.0	182.0		0.1 **0.0**	*10.9*			239616	0.001	0.008
182.0	184.0		0.1 **0.0**	*85.5*			239617	0.003	0.012
184.0	186.0		0.1 **0.0**	*56.7*	SHR 2 55		239618	0.009	0.101
186.0	187.5	Fine to coarse grained green moderately propyllitic	0.5 **0.0**	*26*		Sub-angular to rounded fragments of Andesite, Quartz, and basalt in a fine ground mass. Chloritized with minor disseminated pyrite.	239619	0.007	0.057
187.5	189.0		0.5 **0.0**	*38.3*			239620	0.009	0.117
189.0	191.0	Fine to coarse grained green weakly propyllitic	0.3 **0.0**	*3*		Angular fragments of Andesite, felsite, and basalt in a crystallithic groundmass. Chloritized with minor disseminated pyrite. Zeolite-calcite veins throughout.	239621	0.004	0.502
191.0	193.0		0.3 **0.0**	*7.6*			239622	0.006	0.187
193.0	195.0		0.3 **0.0**	*11.7*			239623	0.020	0.049
195.0	197.0		0.3 **0.0**	*18.1*			239624	0.031	0.177
197.0	199.0		0.3 **0.0**	*6.1*			239626	0.006	0.613

Hole Number: KH-07-18

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
199.0	201.0	Fine to coarse grained grey weakly propyllitic	0.1 **0.0**		STK	10	30		239627	0.008	0.033
201.0	202.6		0.0 **0.0**						239628	0.036	0.244
202.6	205.0		0.0 **0.0**					RELOGGED. Unit contains ~70% felspars (mostly plagioclase), ~20% mafics and ~10% quartz. 3-4mm plagioclase phenocrysts present. Most of the feldspars are hematite stained. Siliceous overprint present. ~4% zeolite and calcite veining nd stringers oriented 40-70 deg to the core axis. Unit is magnetic.	239629	0.021	0.024
205.0	206.2		0.0 **0.0**					RELOGGED	239630	0.026	0.456
206.2	207.7	Fine to coarse grained grey moderately potassic - quartz-chlorite	10.0 **1.0**		CPYV	20	1	Floating boulder of Takla in Hazleton flow. Hematite and epidote present within some quartz veins.	239631	0.228	3.280
207.7	209.0	Fine to coarse grained grey weakly propyllitic	1.0 **0.1**						239632	0.163	0.536
209.0	211.0		1.0 **0.0**	*61.6*					239633	0.033	1.150
211.0	213.0		1.0 **0.0**	*3.3*					239634	0.052	0.587
213.0	215.0		2.0 **0.0**	*2.1*					239635	0.060	0.183
215.0	217.0		1.0 **0.1**	*0.3*	CALV	30	20	Trace sphalerite on fracture.	239636	0.029	0.312
186.0	187.5	Fine to coarse grained green moderately propyllitic	0.5 **0.0**	*26*				Sub-angular to rounded fragments of Andesite, Quartz, and basalt in a fine ground mass. Chloritized with minor disseminated pyrite.	239619	0.007	0.057
187.5	189.0		0.5 **0.0**	*38.3*					239620	0.009	0.117
189.0	191.0	Fine to coarse grained green weakly propyllitic	0.3 **0.0**	*3*				Angular fragments of Andesite, felsite, and basalt in a crystallithic groundmass. Chloritized with minor disseminated pyrite. Zeolite-calcite veins throughout.	239621	0.004	0.502
191.0	193.0		0.3 **0.0**	*7.6*					239622	0.006	0.187
193.0	195.0		0.3 **0.0**	*11.7*					239623	0.020	0.049
195.0	197.0		0.3 **0.0**	*18.1*					239624	0.031	0.177
197.0	199.0		0.3 **0.0**	*6.1*					239626	0.006	0.613

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
202.6	205.0	Fine to coarse grained grey weakly propyllitic	0.0 **0.0**					RELOGGED. Unit contains ~70% felspars (mostly plagioclase), ~20% mafics and ~10% quartz. 3-4mm plagioclase phenocrysts present. Most of the feldspars are hematite stained. Siliceous overprint present. ~4% zeolite and calcite veining nd stringers oriented 40-70 deg to the core axis. Unit is magnetic.	239629	0.021	0.024
205.0	206.2		0.0 **0.0**					RELOGGED	239630	0.026	0.456
206.2	207.7	Fine to coarse grained grey moderately potassic - quartz-chlorite	10.0 **1.0**		CPYV	20	1	Floating boulder of Takla in Hazleton flow. Hematite and epidote present within some quartz veins.	239631	0.228	3.280
207.7	209.0	Fine to coarse grained grey weakly propyllitic	1.0 **0.1**						239632	0.163	0.536
209.0	211.0		1.0 **0.0**	*61.6*					239633	0.033	1.150
211.0	213.0		1.0 **0.0**	*3.3*					239634	0.052	0.587
213.0	215.0		2.0 **0.0**	*2.1*					239635	0.060	0.183
215.0	217.0		1.0 **0.1**	*0.3*	CALV	30	20	Trace sphalerite on fracture.	239636	0.029	0.312
217.0	219.0		1.0 **0.0**	*0.6*	DYK	75		RELOGGED. Unit contains ~70% felspars (mostly plagioclase), ~20% mafics and ~10% quartz. 3-4mm plagioclase phenocrysts present. Most of the feldspars are hematite stained. Siliceous overprint present. ~4% zeolite and calcite veining nd stringers oriented 40-70 deg to the core axis. Unit is magnetic.	239637	0.026	0.425
219.0	221.0		0.1 **0.0**	*26.1*				RELOGGED	239638	0.029	0.234
221.0	223.0		0.1 **0.0**	*32.3*					239639	0.063	0.354
223.0	225.0		0.1 **0.0**	*47.5*					239640	0.050	0.486
225.0	227.0		0.1 **0.0**	*50.2*					239641	0.018	0.451
227.0	229.0		0.1 **0.0**	*47.4*					239642	0.012	0.072
229.0	231.0		0.1 **0.0**	*48.3*					239643	0.027	0.216
231.0	233.0		0.1 **0.0**	*44.1*					239644	0.017	0.566
233.0	233.9		0.1 **0.0**	*40.6*					239645	0.028	0.389

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
206.2	207.7	Fine to coarse grained grey moderately potassic - quartz-chlorite	10.0 **1.0**		CPYV	20	1	Floating boulder of Takla in Hazleton flow. Hematite and epidote present within some quartz veins.	239631	0.228	3.280
207.7	209.0	Fine to coarse grained grey weakly propyllitic	1.0 **0.1**						239632	0.163	0.536
209.0	211.0		1.0 **0.0**	*61.6*					239633	0.033	1.150
211.0	213.0		1.0 **0.0**	*3.3*					239634	0.052	0.587
213.0	215.0		2.0 **0.0**	*2.1*					239635	0.060	0.183
215.0	217.0		1.0 **0.1**	*0.3*	CALV	30	20	Trace sphalerite on fracture.	239636	0.029	0.312
217.0	219.0		1.0 **0.0**	*0.6*	DYK	75		RELOGGED. Unit contains ~70% felspars (mostly plagioclase), ~20% mafics and ~10% quartz. 3-4mm plagioclase phenocrysts present. Most of the feldspars are hematite stained. Siliceous overprint present. ~4% zeolite and calcite veining nd stringers oriented 40-70 deg to the core axis. Unit is magnetic.	239637	0.026	0.425
219.0	221.0		0.1 **0.0**	*26.1*				RELOGGED	239638	0.029	0.234
221.0	223.0		0.1 **0.0**	*32.3*					239639	0.063	0.354
223.0	225.0		0.1 **0.0**	*47.5*					239640	0.050	0.486
225.0	227.0		0.1 **0.0**	*50.2*					239641	0.018	0.451
227.0	229.0		0.1 **0.0**	*47.4*					239642	0.012	0.072
229.0	231.0		0.1 **0.0**	*48.3*					239643	0.027	0.216
231.0	233.0		0.1 **0.0**	*44.1*					239644	0.017	0.566
233.0	233.9		0.1 **0.0**	*40.6*					239645	0.028	0.389
233.9	236.0	Fine to coarse grained grey green moderately phyllic	2.0 **0.0**	*0.2*	CNT	35	1	Contact is structural. Takla andesite is blocky fine grained fault breccia. Clacite zeolite veining stockworking. Splashy pale pyrite.	239646	0.015	0.038
236.0	238.0	Fine to medium grained grey green moderately phyllic	2.0 **0.0**	*0.3*					239647	0.014	0.031
238.0	240.0		2.0 **0.0**	*0.3*					239648	0.023	0.050
240.0	242.0		2.0 **0.0**	*0.5*					239649	0.023	0.049

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
242.0	244.0	Fine to medium grained grey green moderately phyllic	2.0 **0.0**	*0.3*				Fine grained massive andesite with rare larger augite phenocrysts. Sourse of fault breccia above. Vuggy calcite veins	239651	0.030	0.057
244.0	246.0		2.0 **0.1**	*0.9*					239652	0.019	0.041
246.0	248.0		2.0 **0.1**	*0.5*					239653	0.020	0.056
248.0	249.0		2.0 **0.1**	*2.6*					239654	0.017	0.045
249.0	252.0		2.0 **0.1**	*35.7*					239655	0.019	0.045
252.0	254.0		2.0 **0.1**	*3.7*					239656	0.016	0.149
254.0	256.0		2.0 **0.1**	*2.9*					239657	0.016	0.038
256.0	258.4		2.0 **0.1**	*2.3*					239658	0.026	0.058
258.4	260.0		2.0 **0.1**	*2.1*				As above unit with mainly angular but locally rounded milled clasts to 3cm.	239659	0.027	0.072
260.0	262.0		2.0 **0.1**	*1.9*					239660	0.022	0.038
262.0	264.0		2.0 **0.1**	*87.7*					239661	0.025	0.034
264.0	266.0		2.0 **0.1**	*1.5*					239662	0.028	0.045
266.0	268.0		2.0 **0.1**	*3.5*					239663	0.019	0.031
268.0	270.0	Fine to medium grained grey green strongly phyllic	2.0 **0.1**	*0.4*	FLT	15	20	High clay content around fault zone.	239664	0.016	0.053
270.0	271.7		2.0 **0.1**	*0.4*					239665	0.004	0.022
271.7	274.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	5.0 **0.1**	*0.4*				Massive andesite flows with 10-15% 5mm augite phenos mostly chlorite altered.	239666	0.016	0.050
274.0	276.0		5.0 **0.1**	*9.6*					239667	0.023	0.042
276.0	278.0		5.0 **0.1**	*0.8*	CALV	15	20		239668	0.037	0.063
278.0	280.0		5.0 **0.1**	*0.5*					239669	0.017	0.043
280.0	282.0		4.0 **0.1**	*0.7*					239670	0.026	0.033
282.0	284.0		4.0 **0.1**	*0.7*					239671	0.032	0.032
284.0	286.0		4.0 **0.1**	*1.2*					239672	0.019	0.040

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
286.0	288.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	4.0 **0.1**	*0.9*					239673	0.019	0.049
288.0	290.0		4.0 **0.1**	*0.9*					239674	0.036	0.055
290.0	292.0		4.0 **0.1**	*1.1*					239676	0.024	0.042
292.0	294.0		8.0 **0.1**	*1.1*	PYSTK	45	8		239677	0.027	0.041
294.0	296.0		4.0 **0.1**	*1*	CALPY	15	2		239678	0.028	0.040
296.0	298.0		4.0 **0.1**	*1.6*					239679	0.030	0.087
298.0	300.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*66.9*	PYV	60	3	Disseminated chlorite content drops, persists in viens and vein margins.	239680	0.043	0.076
300.0	302.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	5.0 **0.1**	*3.9*					239681	0.034	0.043
302.0	304.0		10.0 **0.1**	*0.6*					239682	0.031	0.053
304.0	306.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	10.0 **0.1**	*5*	BED	60			239683	0.015	0.066
306.0	308.0		5.0 **0.1**	*14.4*					239684	0.038	0.047
308.0	310.0		5.0 **0.1**	*19.2*				Local magnetic sections, zones of weaker alteration where primary magnetite hasn't been destroyed	239685	0.033	0.183
310.0	312.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*1.5*					239686	0.024	0.037
312.0	314.0		5.0 **0.1**	*2*					239687	0.016	0.021
314.0	316.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*23.8*					239688	0.021	0.039
316.0	318.0		5.0 **0.0**	*0.6*					239689	0.014	0.023
318.0	320.0		5.0 **0.0**	*0.8*					239690	0.018	0.067
320.0	322.0		5.0 **0.0**	*0.9*				Bleached, clay-rich zones.	239691	0.023	0.053
322.0	324.0		10.0 **0.0**	*0.5*	MV	25	1	Clots of coarse grained pyrite to 3cm.	239692	0.029	0.036
324.0	326.0		10.0 **0.0**	*1*					239693	0.026	0.037
326.0	328.0		10.0 **0.0**	*1.1*					239694	0.029	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
328.0	330.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	10.0 **0.0**	*1.1*					239695	0.031	0.056
330.0	331.6		10.0 **0.0**	*38.5*					239696	0.022	0.055
331.6	333.0	Fine to medium grained light grey strongly argillic	1.0 **0.0**	*0.4*	SHR	35	10	Healed/cemented zone of milled clasts in ground matrix. Strongly bleached, high clay content.	239697	0.032	0.090
333.0	335.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*0.7*					239698	0.062	0.472
335.0	337.0		5.0 **0.0**	*0.4*					239699	0.026	0.247
337.0	339.0		5.0 **0.0**	*2.7*					239701	0.036	0.097
339.0	341.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.0**	*1*					239702	0.039	0.062
341.0	343.0		5.0 **0.0**	*0.9*					239703	0.045	0.060
343.0	345.0		5.0 **0.0**	*0.6*					239704	0.024	0.073
345.0	347.0		6.0 **0.0**	*0.4*	CALZV	5	20	Phyllic sections	239705	0.033	0.098
347.0	349.0		5.0 **0.0**	*0.5*					239706	0.019	0.207
349.0	351.0		8.0 **0.0**	*0.4*	PYV	90	3		239707	0.048	0.103
351.0	353.0		8.0 **0.0**	*19.3*					239708	0.029	0.069
353.0	355.0	Fine to medium grained green grey weakly potassic - chlorite-sericite	3.0 **0.0**	*2.5*					239709	0.018	0.062
355.0	357.0		8.0 **0.0**	*83.5*	QSPHV	35	0.1		239710	0.018	0.061
357.0	359.0		5.0 **0.0**	*0.9*					239711	0.018	0.087
359.0	361.0		8.0 **0.0**	*1.7*				Patches of epidote.	239712	0.033	0.117
361.0	363.0		3.0 **0.0**	*14.5*					239713	0.026	0.055
363.0	365.0		3.0 **0.0**	*31.5*					239714	0.016	0.081
365.0	367.0		3.0 **0.0**	*16.8*					239715	0.033	0.116
367.0	369.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	3.0 **0.0**	*33.8*					239716	0.020	0.040
369.0	371.0		3.0 **0.0**	*60.3*					239717	0.019	0.062

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
371.0	373.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	3.0 **0.0**	*35.3*			239718	0.026	0.040
373.0	375.0		3.0 **0.0**	*25.4*	CALAK 5 15		239719	0.021	0.069
375.0	377.0		5.0 **0.0**	*1.9*	CALAK 5 15		239720	0.028	0.086
377.0	379.0		5.0 **0.0**	*0.8*			239721	0.017	0.073
379.0	381.0		5.0 **0.0**	*20.6*			239722	0.022	0.050
381.0	383.0		5.0 **0.0**	*41.2*			239723	0.035	0.079
383.0	385.0		5.0 **0.0**	*1.1*		Minor epidote in calcite veins. Propyllitic overprint.	239724	0.026	0.075
385.0	387.0		5.0 **0.0**	*1.7*			239726	0.045	0.065
387.0	389.0		5.0 **0.0**	*2*			239727	0.032	0.087
389.0	391.0		5.0 **0.0**	*1.1*			239728	0.015	0.061
391.0	393.0		5.0 **0.0**	*0.6*			239729	0.030	0.081
393.0	395.0		5.0 **0.0**	*0.6*			239730	0.039	0.106
395.0	397.0		5.0 **0.0**	*1*			239731	0.040	0.085
397.0	399.0		8.0 **0.0**	*31.4*			239732	0.019	0.044
399.0	401.0		8.0 **0.0**	*122*			239733	0.042	0.057
401.0	403.0		8.0 **0.0**	*1.2*			239734	0.018	0.044
403.0	405.0		10.0 **0.0**	*1*			239735	0.026	0.069
405.0	407.0		5.0 **0.0**	*0.7*			239736	0.024	0.065
407.0	409.0		2.0 **0.0**	*1.2*			239737	0.022	0.054
409.0	411.0		5.0 **0.0**	*0.8*			239738	0.037	0.069
411.0	413.0		1.0 **0.0**	*0.5*		Local sandy texture.	239739	0.044	0.076
413.0	415.0		1.0 **0.0**	*0.7*			239740	0.029	0.078
415.0	417.0		1.0 **0.0**	*0.6*			239741	0.019	0.050
417.0	419.0		1.0 **0.0**	*0.9*			239742	0.023	0.052
419.0	421.0		1.0 **0.0**	*46.7*			239743	0.028	0.045

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
421.0	423.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	1.0 **0.1**	*1.4*			239744	0.029	0.051
423.0	425.0		1.0 **0.0**	*24.3*		5cm clot of coarse pyrite with magnetite	239745	0.031	0.048
425.0	427.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*1.1*			239746	0.044	0.057
427.0	429.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*2.4*		Volcanic Breccia fragments 25% of rock volume. 75% fine to medium grained massive flows. Local bladed feldspars partially chloritised. Generally medium grained matrix of feldspar 1mm mafics to 2mm.	239747	0.028	0.053
429.0	431.0		5.0 **0.0**	*2.4*			239748	0.040	0.061
431.0	433.0		3.0 **0.0**	*1.2*			239749	0.021	0.054
433.0	435.0		5.0 **0.0**	*0.8*			239751	0.022	0.042
435.0	437.0		5.0 **0.0**	*0.4*	PYCHL 60 5	Crackle breccia textures on veins.	239752	0.026	0.029
437.0	439.0		8.0 **0.0**	*0.3*			239753	0.031	0.051
439.0	441.0		3.0 **0.0**	*0.3*			239754	0.040	0.079
441.0	443.0		3.0 **0.0**	*0.8*			239755	0.042	0.059
443.0	445.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	3.0 **1.0**	*1.5*	QCPYV 5 2	Blebs chalcopyrite in quartz calcite vein.	239756	0.040	0.040
445.0	447.0		3.0 **0.0**	*22.8*			239757	0.031	0.042
447.0	449.0		3.0 **0.0**	*0.6*			239758	0.046	0.053
449.0	451.0		3.0 **0.0**	*0.6*			239759	0.042	0.031
451.0	453.0		3.0 **0.0**	*88.5*			239760	0.037	0.071
453.0	455.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	10.0 **0.0**	*88.5*		Specks chalcopyrite in spidery quartz carb veins.	239761	0.029	0.069
455.0	457.0		3.0 **0.0**	*41.8*			239762	0.024	0.047
457.0	459.0		5.0 **0.0**	*0.7*			239763	0.034	0.049
459.0	461.0		1.0 **0.0**	*13.6*			239764	0.068	0.103

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
461.0	463.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*8*			239765	0.029	0.043
463.0	465.0		1.0 **0.0**	*3.4*	PYV 605	1cm chlorite selvages around pyrite veins.	239766	0.035	0.055
465.0	467.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	5.0 **0.0**	*10.9*			239767	0.036	0.050
467.0	469.0		5.0 **0.0**	*57.6*			239768	0.038	0.057
469.0	471.0		5.0 **0.0**	*0.8*			239769	0.033	0.052
471.0	473.0		5.0 **0.0**	*0.5*			239770	0.020	0.041
473.0	475.0		10.0 **0.1**	*0.9*	QCPYV 30 1		239771	0.033	0.075
475.0	477.2		10.0 **0.1**	*2.2*			239772	0.032	0.046
477.2	477.5	Fine to coarse grained pink grey weakly silicified (non-K)	0.0 **0.0**	*63.6*	CNT 45 1		239773	0.002	0.008
477.5	480.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	10.0 **0.5**	*0*			239774	0.031	0.055
480.0	482.0		5.0 **0.1**	*0.7*	GYPVL 40 2		239776	0.030	0.057
482.0	484.1		8.0 **0.1**	*0.5*			239777	0.054	0.072
484.1	486.0	Fine to medium grained light green grey strongly potassic - quartz-sericite-chlorite	5.0 **1.0**	*47*		Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.	239778	0.046	0.073
486.0	487.4		5.0 **1.0**	*2.2*			239779	0.019	0.053
487.4	489.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	5.0 **0.1**	*0.5*			239780	0.021	0.050
489.0	491.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.2*		Strong calcite/zeolite stockworking	239781	0.026	0.043
491.0	493.0		3.0 **0.0**	*45*			239782	0.024	0.042
493.0	495.0		3.0 **0.0**	*0.9*			239783	0.023	0.072

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
495.0	497.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*3.3*					239784	0.043	0.038
497.0	499.0		3.0 **0.0**	*71*					239785	0.017	0.023
499.0	501.0		1.0 **0.0**	*0.5*					239786	0.021	0.089
501.0	503.0	Fine to medium grained dark green grey moderately phyllic	1.0 **0.0**	*0.8*					239787	0.015	0.195
503.0	505.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.7*					239788	0.018	0.038
505.0	507.0		3.0 **0.0**	*1.2*					239789	0.028	0.054
507.0	509.0		3.0 **0.0**	*0.8*					239790	0.028	0.050
509.0	511.0		3.0 **1.0**	*13*	CALCP	20	1		239791	0.029	0.036
511.0	513.0		3.0 **1.0**	*1.5*	QCALC	10	2		239792	0.042	0.056
513.0	515.0		3.0 **0.5**	*3.8*					239793	0.032	0.053
515.0	517.0		3.0 **0.1**	*1.6*					239794	0.026	0.058
517.0	519.0		3.0 **0.1**	*32*	CALCP	15	1		239795	0.022	0.044
519.0	521.0		3.0 **0.1**	*1.6*					239796	0.040	0.057
521.0	523.0		3.0 **0.1**	*0.5*					239797	0.021	0.049
523.0	525.0		3.0 **0.1**	*1.3*					239798	0.028	0.049
525.0	527.0		3.0 **0.1**	*0.2*					239799	0.029	0.041
527.0	528.0	Fine to coarse grained dark grey moderately potassic - quartz-sericite-chlorite	0.1 **0.0**	*0.5*	FLT	45	100		239801	0.032	0.048
528.0	530.0	Fine to medium grained light green strongly phyllic	5.0 **0.0**	*0.6*				Sub-rounded to angular clasts of fc BFP 50% and fg andesite 20% in finegrained light green matrix.	239802	0.021	0.062
530.0	532.0	Fine to coarse grained light green strongly phyllic	5.0 **0.0**	*0.4*					239803	0.040	0.081
532.0	534.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*0.3*					239804	0.060	0.069

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
534.0	536.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*0.3*	QCPYV 30 2		239805	0.036	0.023
536.0	538.0		5.0 **0.1**	*18.1*			239806	0.023	0.022
538.0	540.0		5.0 **0.1**	*0.3*			239807	0.047	0.026
540.0	542.0		5.0 **0.0**	*0.4*			239808	0.028	0.012
542.0	544.0		5.0 **0.0**	*1.6*			239809	0.020	0.017
544.0	546.0		5.0 **0.0**	*0.4*			239810	0.011	0.018
546.0	548.0		5.0 **0.0**	*0.3*			239811	0.061	0.031
548.0	550.0		5.0 **0.0**	*2.2*			239812	0.037	0.028
550.0	551.5		5.0 **0.0**	*0.7*		Interval contains no BFP clasts only massive andesite, augite porphyry and feldspar porphyritic clasts.	239813	0.051	0.028
551.5	554.0		5.0 **0.0**	*0.5*			239814	0.037	0.026
554.0	556.0		5.0 **0.0**	*1.3*			239815	0.041	0.024
556.0	558.0	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*81.4*		Local patchy propyllitic alterate, epidote clots. Strong calcite veining.	239816	0.028	0.021
558.0	560.0		5.0 **0.0**	*1.7*			239817	0.049	0.029
560.0	562.0		5.0 **0.0**	*1.1*			239818	0.052	0.045
562.0	564.0		5.0 **0.0**	*1.3*			239819	0.027	0.030
564.0	566.0	Fine to coarse grained dark grey moderately propyllitic	2.0 **0.0**	*1.8*	QCALC 25 10		239820	0.007	0.019
566.0	568.0		2.0 **0.0**	*5.4*	CALZV 45 10		239821	0.099	0.023
568.0	570.0		2.0 **0.0**	*8.3*			239822	0.015	0.027
570.0	572.0		2.0 **0.0**	*76*			239823	0.041	0.026
572.0	574.0		2.0 **0.0**	*0.8*			239824	0.030	0.026
574.0	575.5		2.0 **0.0**	*0.5*			239826	0.085	0.159
575.5	576.9		2.0 **0.0**	*0.6*			239827	0.113	0.075
576.9	579.0	Fine to coarse grained dark grey moderately phyllic	2.0 **0.0**	*0.7*			239828	0.043	0.048

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
579.0	581.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.0**	*0.8*					239829	0.020	0.054
581.0	583.0		5.0 **0.5**	*1.2*					239830	0.076	0.068
583.0	585.0		5.6 **0.0**	*1.3*					239831	0.057	0.047
585.0	587.0	Fine to coarse grained dark grey pink strongly phyllic	7.0 **0.2**	*2.2*	FLT	35	2		239832	0.057	0.054
587.0	589.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.4**	*20.5*				Patchy brecciated sections.	239833	0.072	0.043
589.0	591.0	Fine to coarse grained grey pink intensely phyllic	5.0 **0.0**	*2.1*	FLT	5	5	Fault undulating almost parallel to the core axis.	239834	0.023	0.055
591.0	593.0	Fine to coarse grained dark grey intensely phyllic	6.5 **0.0**	*3.6*					239835	0.039	0.065
593.0	595.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.1**	*2.8*				Siliceous patches present.	239836	0.037	0.036
595.0	597.0		7.7 **0.0**	*3.1*					239837	0.059	0.060
597.0	599.0	Fine to coarse grained dark grey pink strongly phyllic	8.0 **0.0**	*3.5*					239838	0.047	0.049
599.0	601.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.0**	*0.7*					239839	0.222	0.167
601.0	603.0		7.8 **0.3**	*1*					239840	0.154	0.080
603.0	605.0	Fine to coarse grained dark grey green strongly phyllic	7.0 **0.0**	*0.7*					239841	0.024	0.057
605.0	607.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.1**	*2*					239842	0.066	0.076
607.0	609.0	Fine to coarse grained dark grey green strongly phyllic	6.0 **0.0**	*1.8*					239843	0.063	0.051
609.0	611.3	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*2.3*	CNT	40			239844	0.026	0.039

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
611.3	613.0	Fine grained grey green strongly phyllic	6.5 **0.0**	*2.4*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. Patchy epidote overprint in sections. Unit contains 3-4% feldspar phenocrysts 0.8-1.2 cm in length. Some of the feldspars are sercite, chlorite or epidote altered. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. ~1% primary quartz veins present 75-85 deg to the core axis. Epidote and hematite present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239845	0.043	0.059
613.0	615.0		4.5 **0.0**	*1.9*			239846	0.033	0.065
615.0	617.0		4.7 **0.1**	*2.4*		Feldspar phenocrysts have decreased to 1-2%.	239847	0.068	0.076
617.0	619.0		4.2 **0.1**	*2.9*			239848	0.042	0.060
619.0	621.0	Fine to coarse grained dark green black moderately potassic - chlorite-sericite	4.5 **0.1**	*9.4*		Unit contains 10-15% augite phenocrysts 2-7mm in size. Matrix is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite alteration dominates the matrix and augite phenocrysts. Lesser amounts of sericite alteration present and a slight epidote overprint present. 2-4% quartz and calcite veining oriented 30-60 deg to the core axis. Unit is magnetic. Pyrite is present within some veins and disseminated within the matrix. Minor chalocpyrite present within the veins and matrix. Spotty hematite stringers present.	239849	0.036	0.029
621.0	623.0		5.0 **0.1**	*73.2*			239851	0.012	0.026
623.0	625.0		5.2 **0.0**	*20.9*	FLT 55 3		239852	0.039	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
625.0	627.0	Fine grained grey green moderately phyllic	6.0 **0.0**	*4.2*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. QSP alteration increases down the hole. Unit contains 1-2% feldspar phenocrysts 0.6-1cm in size, some altered to sericite and chlorite. 3-5% calcite and zeolite veins oriented 45-55 deg to the core axis and 5-20 deg to the core axis. ~1% primary quartz veins present randomly oriented. Hematite is present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239853	0.047	0.073
627.0	629.0		7.5 **0.0**	*1.3*			239854	0.038	0.082
629.0	631.0	Fine grained green strongly phyllic	8.0 **0.0**	*1.1*			239855	0.049	0.090
631.0	633.0		8.2 **0.1**	*1.2*			239856	0.053	0.049
633.0	635.0		7.0 **0.0**	*1.5*			239857	0.038	0.064
635.0	637.0		9.0 **0.0**	*1.9*			239858	0.074	0.110
637.0	639.0		7.5 **0.0**	*2.4*			239859	0.077	0.115
639.0	641.0		7.0 **0.2**	*2.8*			239860	0.106	0.095
641.0	643.0		6.5 **0.1**	*0.6*			239861	0.067	0.053
643.0	645.0	Fine grained strongly phyllic	7.0 **0.0**	*0.8*			239862	0.032	0.056
645.0	647.0	Fine grained intensely phyllic	5.0 **0.1**	*1*			239863	0.028	0.121
647.0	649.0	Fine grained grey pink intensely phyllic	6.0 **0.0**	*1.6*			239864	0.033	0.108
649.0	650.1		5.0 **0.0**	*1.7*			239865	0.017	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
650.1	652.0	Fine to coarse grained dark grey moderately phyllic	7.5	*2.6*		Unit contains 6-8% feldspar phenocrysts 0.4-1.1cm in size. Some feldspars are altered to sericite, chlorite and epidote. Feldspar phenocrysts increase down the hole to 12-17%. Matrix is mafic in composition and alteration has obliterated some of the characteristics of the rock. 4-6% zeolite and calcite veining oriented 40-70 deg to the core axis and rarely 0-10 deg to the core axis. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite mostly present within veins.	239866	0.045	0.068
652.0	654.0		7.0 **0.1**	*0.9*			239867	0.041	0.067
654.0	656.0		6.7 **0.0**	*0.8*			239868	0.067	0.085
656.0	658.0		7.0 **0.1**	*1.2*			239869	0.070	0.090
658.0	660.0	Fine to coarse grained dark grey pink moderately phyllic	7.3 **0.0**	*1.1*		Hematite present as halos around some veins and within some veins.	239870	0.051	0.039
660.0	662.0		7.0 **0.0**	*1.5*			239871	0.105	0.102
662.0	664.0	Fine to coarse grained grey pink strongly phyllic	6.7 **0.0**	*1.7*			239872	0.112	0.081
664.0	666.0	Fine to coarse grained green strongly phyllic	6.3 **0.0**	*0.5*			239873	0.046	0.048
666.0	668.0		6.5 **0.0**	*0.6*	FLT 60 2		239874	0.024	0.034
668.0	670.0	Fine to coarse grained dark grey moderately phyllic	4.5 **0.4**	*1.5*			239876	0.057	0.061
670.0	672.0		5.5 **0.2**	*1.7*			239877	0.076	0.107
672.0	674.0	Fine to coarse grained dark grey strongly phyllic	6.0 **0.0**	*1.9*			239878	0.050	0.106
674.0	676.0		6.3 **0.1**	*2*			239879	0.036	0.058
676.0	678.0		6.5 **0.2**	*0.7*			239880	0.185	0.093
678.0	680.0	Fine to coarse grained dark grey moderately phyllic	6.0 **0.2**	*1.2*			239881	0.119	0.122
680.0	682.0		6.7 **0.3**	*1.5*			239882	0.036	0.049

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
682.0	684.0	Fine to coarse grained dark grey pink moderately phyllic	6.5 **0.4**	*1.8*				Hematite present as halos around some veins and within some veins.	239883	0.085	0.091
684.0	686.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.0**	*1.7*					239884	0.007	0.017
686.0	688.0		7.2 **0.0**	*2.1*					239885	0.017	0.037
688.0	690.0		7.5 **0.0**	*0.6*					239886	0.017	0.034
690.0	692.0		7.3 **0.1**	*0.8*	FLT	20	2		239887	0.064	0.037
692.0	693.5		6.5 **0.1**	*1.1*					239888	0.066	0.037
693.5	695.0	Fine to coarse grained grey strongly phyllic	7.0 **0.0**	*1.3*	FLT	50	5	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong sericite, chlorite, quartz and pyrite alteration present. Sections within the unit contain feldspar phenocrysts 2-4mm in size. 2-3% zeolite and calcite veining oriented 30-50 deg to the core axis. Unit is magnetic in patches. Pyrite is disseminated within the matrix and present within veins. Minor chalcopyrite mostly present within veins.	239889	0.009	0.020
695.0	697.0	Fine to coarse grained dark grey strongly phyllic	9.0 **0.2**	*1*					239890	0.035	0.041
697.0	699.0	Fine to coarse grained grey strongly phyllic	8.5 **0.1**	*1*				Increase in chlorite alteration.	239891	0.045	0.065
699.0	701.0		7.7 **0.0**	*21.9*					239892	0.052	0.056
701.0	703.0	Fine to coarse grained green moderately potassic - chlorite-sericite	6.5 **0.0**	*14.9*				Chlorite and sericite alteration have increased with spotty quartz. Anhydrite and flourite present within some veins now.	239893	0.061	0.071
703.0	705.0		7.5 **0.0**	*86.4*					239894	0.039	0.040
705.0	707.0		7.3 **0.1**	*28.9*					239895	0.036	0.033
707.0	709.0		7.0 **0.1**	*44.2*					239896	0.034	0.034
709.0	710.2		6.5 **0.1**	*1.2*					239897	0.043	0.048

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
710.2	712.0	Fine to coarse grained green moderately potassic - chlorite-sericite	7.5 **0.0**	*2.6*				Unit contains 10-15% augite phenocrysts 1-6mm in size. Some augite phenocrysts are altered to sericte and chlorite. Unit also contains 3-5% 1-3mm feldspar phenocrysts. Matrix is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. Chlorite and sericite alteration dominate the start of the unit (potassic), down the hole sericite alteration becomes more dominant (phyllic). 3-5% zeolite, quartz and calcite veining oriented 60-80 deg to the core axis and 30-40 deg to the core axis. Unit is magnetic. Pyrite and chalcopyrite is disseminated within the matrix and present within veins. Spotty hematite and epidote within some veins. Minor anhydrite present at the start of the unit.	239898	0.066	0.068
712.0	714.0		7.0 **0.0**	*1.7*	FLT	40	1		239899	0.074	0.089
714.0	716.0	Fine to coarse grained green strongly phyllic	8.0 **0.1**	*1.8*				Sercite alteration has increased.	239901	0.033	0.037
716.0	718.0		7.5 **0.1**	*2.1*					239902	0.040	0.039
718.0	720.0		8.2 **0.1**	*0.6*					239903	0.006	0.018
720.0	722.0		7.0 **0.0**	*0.8*					239904	0.011	0.020
722.0	723.0		7.2 **0.0**	*1.1*					239905	0.006	0.021
233.9	236.0	Fine to coarse grained grey green moderately phyllic	2.0 **0.0**	*0.2*	CNT	35	1	Contact is structural. Takla andesite is blocky fine grained fault breccia. Clacite zeolite veining stockworking. Splashy pale pyrite.	239646	0.015	0.038
236.0	238.0	Fine to medium grained grey green moderately phyllic	2.0 **0.0**	*0.3*					239647	0.014	0.031
238.0	240.0		2.0 **0.0**	*0.3*					239648	0.023	0.050
240.0	242.0		2.0 **0.0**	*0.5*					239649	0.023	0.049
242.0	244.0		2.0 **0.0**	*0.3*				Fine grained massive andesite with rare larger augite phenocrysts. Sourse of fault breccia above. Vuggy calcite veins	239651	0.030	0.057
244.0	246.0		2.0 **0.1**	*0.9*					239652	0.019	0.041

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
246.0	248.0	Fine to medium grained grey green moderately phyllic	2.0 **0.1**	*0.5*					239653	0.020	0.056
248.0	249.0		2.0 **0.1**	*2.6*					239654	0.017	0.045
249.0	252.0		2.0 **0.1**	*35.7*					239655	0.019	0.045
252.0	254.0		2.0 **0.1**	*3.7*					239656	0.016	0.149
254.0	256.0		2.0 **0.1**	*2.9*					239657	0.016	0.038
256.0	258.4		2.0 **0.1**	*2.3*					239658	0.026	0.058
258.4	260.0		2.0 **0.1**	*2.1*				As above unit with mainly angular but locally rounded milled clasts to 3cm.	239659	0.027	0.072
260.0	262.0		2.0 **0.1**	*1.9*					239660	0.022	0.038
262.0	264.0		2.0 **0.1**	*87.7*					239661	0.025	0.034
264.0	266.0		2.0 **0.1**	*1.5*					239662	0.028	0.045
266.0	268.0		2.0 **0.1**	*3.5*					239663	0.019	0.031
268.0	270.0	Fine to medium grained grey green strongly phyllic	2.0 **0.1**	*0.4*	FLT	15	20	High clay content around fault zone.	239664	0.016	0.053
270.0	271.7		2.0 **0.1**	*0.4*					239665	0.004	0.022
271.7	274.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	5.0 **0.1**	*0.4*				Massive andesite flows with 10-15% 5mm augite phenos mostly chlorite altered.	239666	0.016	0.050
274.0	276.0		5.0 **0.1**	*9.6*					239667	0.023	0.042
276.0	278.0		5.0 **0.1**	*0.8*	CALV	15	20		239668	0.037	0.063
278.0	280.0		5.0 **0.1**	*0.5*					239669	0.017	0.043
280.0	282.0		4.0 **0.1**	*0.7*					239670	0.026	0.033
282.0	284.0		4.0 **0.1**	*0.7*					239671	0.032	0.032
284.0	286.0		4.0 **0.1**	*1.2*					239672	0.019	0.040
286.0	288.0		4.0 **0.1**	*0.9*					239673	0.019	0.049
288.0	290.0		4.0 **0.1**	*0.9*					239674	0.036	0.055
290.0	292.0		4.0 **0.1**	*1.1*					239676	0.024	0.042

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
292.0	294.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	8.0 **0.1**	*1.1*	PYSTK	45	8		239677	0.027	0.041
294.0	296.0		4.0 **0.1**	*1*	CALPY	15	2		239678	0.028	0.040
296.0	298.0		4.0 **0.1**	*1.6*					239679	0.030	0.087
298.0	300.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*66.9*	PYV	60	3	Disseminated chlorite content drops, persists in viens and vein margins.	239680	0.043	0.076
300.0	302.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	5.0 **0.1**	*3.9*					239681	0.034	0.043
302.0	304.0		10.0 **0.1**	*0.6*					239682	0.031	0.053
304.0	306.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	10.0 **0.1**	*5*	BED	60			239683	0.015	0.066
306.0	308.0		5.0 **0.1**	*14.4*					239684	0.038	0.047
308.0	310.0		5.0 **0.1**	*19.2*				Local magnetic sections, zones of weaker alteration where primary magnetite hasn't been destroyed	239685	0.033	0.183
310.0	312.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*1.5*					239686	0.024	0.037
312.0	314.0		5.0 **0.1**	*2*					239687	0.016	0.021
314.0	316.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*23.8*					239688	0.021	0.039
316.0	318.0		5.0 **0.0**	*0.6*					239689	0.014	0.023
318.0	320.0		5.0 **0.0**	*0.8*					239690	0.018	0.067
320.0	322.0		5.0 **0.0**	*0.9*				Bleached, clay-rich zones.	239691	0.023	0.053
322.0	324.0		10.0 **0.0**	*0.5*	MV	25	1	Clots of coarse grained pyrite to 3cm.	239692	0.029	0.036
324.0	326.0		10.0 **0.0**	*1*					239693	0.026	0.037
326.0	328.0		10.0 **0.0**	*1.1*					239694	0.029	0.033
328.0	330.0		10.0 **0.0**	*1.1*					239695	0.031	0.056
330.0	331.6		10.0 **0.0**	*38.5*					239696	0.022	0.055

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
331.6	333.0	Fine to medium grained light grey strongly argillic	1.0 **0.0**	*0.4*	SHR	35	10	Healed/cemented zone of milled clasts in ground matrix. Strongly bleached, high clay content.	239697	0.032	0.090
333.0	335.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*0.7*					239698	0.062	0.472
335.0	337.0		5.0 **0.0**	*0.4*					239699	0.026	0.247
337.0	339.0		5.0 **0.0**	*2.7*					239701	0.036	0.097
339.0	341.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.0**	*1*					239702	0.039	0.062
341.0	343.0		5.0 **0.0**	*0.9*					239703	0.045	0.060
343.0	345.0		5.0 **0.0**	*0.6*					239704	0.024	0.073
345.0	347.0		6.0 **0.0**	*0.4*	CALZV	5	20	Phyllic sections	239705	0.033	0.098
347.0	349.0		5.0 **0.0**	*0.5*					239706	0.019	0.207
349.0	351.0		8.0 **0.0**	*0.4*	PYV	90	3		239707	0.048	0.103
351.0	353.0		8.0 **0.0**	*19.3*					239708	0.029	0.069
353.0	355.0	Fine to medium grained green grey weakly potassic - chlorite-sericite	3.0 **0.0**	*2.5*					239709	0.018	0.062
355.0	357.0		8.0 **0.0**	*83.5*	QSPHV	35	0.1		239710	0.018	0.061
357.0	359.0		5.0 **0.0**	*0.9*					239711	0.018	0.087
359.0	361.0		8.0 **0.0**	*1.7*				Patches of epidote.	239712	0.033	0.117
361.0	363.0		3.0 **0.0**	*14.5*					239713	0.026	0.055
363.0	365.0		3.0 **0.0**	*31.5*					239714	0.016	0.081
365.0	367.0		3.0 **0.0**	*16.8*					239715	0.033	0.116
367.0	369.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	3.0 **0.0**	*33.8*					239716	0.020	0.040
369.0	371.0		3.0 **0.0**	*60.3*					239717	0.019	0.062
371.0	373.0		3.0 **0.0**	*35.3*					239718	0.026	0.040
373.0	375.0		3.0 **0.0**	*25.4*	CALAK	5	15		239719	0.021	0.069
375.0	377.0		5.0 **0.0**	*1.9*	CALAK	5	15		239720	0.028	0.086

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
377.0	379.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	5.0 **0.0**	*0.8*			239721	0.017	0.073
379.0	381.0		5.0 **0.0**	*20.6*			239722	0.022	0.050
381.0	383.0		5.0 **0.0**	*41.2*			239723	0.035	0.079
383.0	385.0		5.0 **0.0**	*1.1*		Minor epidote in calcite veins. Propyllitic overprint.	239724	0.026	0.075
385.0	387.0		5.0 **0.0**	*1.7*			239726	0.045	0.065
387.0	389.0		5.0 **0.0**	*2*			239727	0.032	0.087
389.0	391.0		5.0 **0.0**	*1.1*			239728	0.015	0.061
391.0	393.0		5.0 **0.0**	*0.6*			239729	0.030	0.081
393.0	395.0		5.0 **0.0**	*0.6*			239730	0.039	0.106
395.0	397.0		5.0 **0.0**	*1*			239731	0.040	0.085
397.0	399.0		8.0 **0.0**	*31.4*			239732	0.019	0.044
399.0	401.0		8.0 **0.0**	*122*			239733	0.042	0.057
401.0	403.0		8.0 **0.0**	*1.2*			239734	0.018	0.044
403.0	405.0		10.0 **0.0**	*1*			239735	0.026	0.069
405.0	407.0		5.0 **0.0**	*0.7*			239736	0.024	0.065
407.0	409.0		2.0 **0.0**	*1.2*			239737	0.022	0.054
409.0	411.0		5.0 **0.0**	*0.8*			239738	0.037	0.069
411.0	413.0		1.0 **0.0**	*0.5*		Local sandy texture.	239739	0.044	0.076
413.0	415.0		1.0 **0.0**	*0.7*			239740	0.029	0.078
415.0	417.0		1.0 **0.0**	*0.6*			239741	0.019	0.050
417.0	419.0		1.0 **0.0**	*0.9*			239742	0.023	0.052
419.0	421.0		1.0 **0.0**	*46.7*			239743	0.028	0.045
421.0	423.0		1.0 **0.1**	*1.4*			239744	0.029	0.051
423.0	425.0		1.0 **0.0**	*24.3*		5cm clot of coarse pyrite with magnetite	239745	0.031	0.048

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
425.0	427.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*1.1*			239746	0.044	0.057
427.0	429.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*2.4*		Volcanic Breccia fragments 25% of rock volume. 75% fine to medium grained massive flows. Local bladed feldspars partially chloritised. Generally medium grained matrix of feldspar 1mm mafics to 2mm.	239747	0.028	0.053
429.0	431.0		5.0 **0.0**	*2.4*			239748	0.040	0.061
431.0	433.0		3.0 **0.0**	*1.2*			239749	0.021	0.054
433.0	435.0		5.0 **0.0**	*0.8*			239751	0.022	0.042
435.0	437.0		5.0 **0.0**	*0.4*	PYCHL 60 5	Crackle breccia textures on veins.	239752	0.026	0.029
437.0	439.0		8.0 **0.0**	*0.3*			239753	0.031	0.051
439.0	441.0		3.0 **0.0**	*0.3*			239754	0.040	0.079
441.0	443.0		3.0 **0.0**	*0.8*			239755	0.042	0.059
443.0	445.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	3.0 **1.0**	*1.5*	QCPYV 5 2	Blebs chalcopyrite in quartz calcite vein.	239756	0.040	0.040
445.0	447.0		3.0 **0.0**	*22.8*			239757	0.031	0.042
447.0	449.0		3.0 **0.0**	*0.6*			239758	0.046	0.053
449.0	451.0		3.0 **0.0**	*0.6*			239759	0.042	0.031
451.0	453.0		3.0 **0.0**	*88.5*			239760	0.037	0.071
453.0	455.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	10.0 **0.0**	*88.5*		Specks chalcopyrite in spidery quartz carb veins.	239761	0.029	0.069
455.0	457.0		3.0 **0.0**	*41.8*			239762	0.024	0.047
457.0	459.0		5.0 **0.0**	*0.7*			239763	0.034	0.049
459.0	461.0		1.0 **0.0**	*13.6*			239764	0.068	0.103
461.0	463.0		1.0 **0.0**	*8*			239765	0.029	0.043
463.0	465.0		1.0 **0.0**	*3.4*	PYV 605	1cm chlorite selvages around pyrite veins.	239766	0.035	0.055

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
465.0	467.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	5.0 **0.0**	*10.9*			239767	0.036	0.050
467.0	469.0		5.0 **0.0**	*57.6*			239768	0.038	0.057
469.0	471.0		5.0 **0.0**	*0.8*			239769	0.033	0.052
471.0	473.0		5.0 **0.0**	*0.5*			239770	0.020	0.041
473.0	475.0		10.0 **0.1**	*0.9*	QCPYV 30 1		239771	0.033	0.075
475.0	477.2		10.0 **0.1**	*2.2*			239772	0.032	0.046
477.2	477.5	Fine to coarse grained pink grey weakly silicified (non-K)	0.0 **0.0**	*63.6*	CNT 45 1		239773	0.002	0.008
477.5	480.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	10.0 **0.5**	*0*			239774	0.031	0.055
480.0	482.0		5.0 **0.1**	*0.7*	GYPVL 40 2		239776	0.030	0.057
482.0	484.1		8.0 **0.1**	*0.5*			239777	0.054	0.072
484.1	486.0	Fine to medium grained light green grey strongly potassic - quartz-sericite-chlorite	5.0 **1.0**	*47*		Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.	239778	0.046	0.073
486.0	487.4		5.0 **1.0**	*2.2*			239779	0.019	0.053
487.4	489.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	5.0 **0.1**	*0.5*			239780	0.021	0.050
489.0	491.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.2*		Strong calcite/zeolite stockworking	239781	0.026	0.043
491.0	493.0		3.0 **0.0**	*45*			239782	0.024	0.042
493.0	495.0		3.0 **0.0**	*0.9*			239783	0.023	0.072
495.0	497.0		3.0 **0.0**	*3.3*			239784	0.043	0.038
497.0	499.0		3.0 **0.0**	*71*			239785	0.017	0.023
499.0	501.0		1.0 **0.0**	*0.5*			239786	0.021	0.089

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
501.0	503.0	Fine to medium grained dark green grey moderately phyllic	1.0 **0.0**	*0.8*					239787	0.015	0.195
503.0	505.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.7*					239788	0.018	0.038
505.0	507.0		3.0 **0.0**	*1.2*					239789	0.028	0.054
507.0	509.0		3.0 **0.0**	*0.8*					239790	0.028	0.050
509.0	511.0		3.0 **1.0**	*13*	CALCP	20	1		239791	0.029	0.036
511.0	513.0		3.0 **1.0**	*1.5*	QCALC	10	2		239792	0.042	0.056
513.0	515.0		3.0 **0.5**	*3.8*					239793	0.032	0.053
515.0	517.0		3.0 **0.1**	*1.6*					239794	0.026	0.058
517.0	519.0		3.0 **0.1**	*32*	CALCP	15	1		239795	0.022	0.044
519.0	521.0		3.0 **0.1**	*1.6*					239796	0.040	0.057
521.0	523.0		3.0 **0.1**	*0.5*					239797	0.021	0.049
523.0	525.0		3.0 **0.1**	*1.3*					239798	0.028	0.049
525.0	527.0		3.0 **0.1**	*0.2*					239799	0.029	0.041
527.0	528.0	Fine to coarse grained dark grey moderately potassic - quartz-sericite-chlorite	0.1 **0.0**	*0.5*	FLT	45	100		239801	0.032	0.048
528.0	530.0	Fine to medium grained light green strongly phyllic	5.0 **0.0**	*0.6*				Sub-rounded to angular clasts of fc BFP 50% and fg andesite 20% in finegrained light green matrix.	239802	0.021	0.062
530.0	532.0	Fine to coarse grained light green strongly phyllic	5.0 **0.0**	*0.4*					239803	0.040	0.081
532.0	534.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*0.3*					239804	0.060	0.069
534.0	536.0		5.0 **0.0**	*0.3*	QCPYV	30	2		239805	0.036	0.023
536.0	538.0		5.0 **0.1**	*18.1*					239806	0.023	0.022
538.0	540.0		5.0 **0.1**	*0.3*					239807	0.047	0.026
540.0	542.0		5.0 **0.0**	*0.4*					239808	0.028	0.012

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
542.0	544.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*1.6*					239809	0.020	0.017
544.0	546.0		5.0 **0.0**	*0.4*					239810	0.011	0.018
546.0	548.0		5.0 **0.0**	*0.3*					239811	0.061	0.031
548.0	550.0		5.0 **0.0**	*2.2*					239812	0.037	0.028
550.0	551.5		5.0 **0.0**	*0.7*				Interval contains no BFP clasts only massive andesite, augite porphyry and feldspar porphyritic clasts.	239813	0.051	0.028
242.0	244.0	Fine to medium grained grey green moderately phyllic	2.0 **0.0**	*0.3*				Fine grained massive andesite with rare larger augite phenocrysts. Sourse of fault breccia above. Vuggy calcite veins	239651	0.030	0.057
244.0	246.0		2.0 **0.1**	*0.9*					239652	0.019	0.041
246.0	248.0		2.0 **0.1**	*0.5*					239653	0.020	0.056
248.0	249.0		2.0 **0.1**	*2.6*					239654	0.017	0.045
249.0	252.0		2.0 **0.1**	*35.7*					239655	0.019	0.045
252.0	254.0		2.0 **0.1**	*3.7*					239656	0.016	0.149
254.0	256.0		2.0 **0.1**	*2.9*					239657	0.016	0.038
256.0	258.4		2.0 **0.1**	*2.3*					239658	0.026	0.058
258.4	260.0		2.0 **0.1**	*2.1*				As above unit with mainly angular but locally rounded milled clasts to 3cm.	239659	0.027	0.072
260.0	262.0		2.0 **0.1**	*1.9*					239660	0.022	0.038
262.0	264.0		2.0 **0.1**	*87.7*					239661	0.025	0.034
264.0	266.0		2.0 **0.1**	*1.5*					239662	0.028	0.045
266.0	268.0		2.0 **0.1**	*3.5*					239663	0.019	0.031
268.0	270.0	Fine to medium grained grey green strongly phyllic	2.0 **0.1**	*0.4*	FLT	15	20	High clay content around fault zone.	239664	0.016	0.053
270.0	271.7		2.0 **0.1**	*0.4*					239665	0.004	0.022
271.7	274.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	5.0 **0.1**	*0.4*				Massive andesite flows with 10-15% 5mm augite phenos mostly chlorite altered.	239666	0.016	0.050

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
274.0	276.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	5.0 **0.1**	*9.6*					239667	0.023	0.042
276.0	278.0		5.0 **0.1**	*0.8*	CALV	15	20		239668	0.037	0.063
278.0	280.0		5.0 **0.1**	*0.5*					239669	0.017	0.043
280.0	282.0		4.0 **0.1**	*0.7*					239670	0.026	0.033
282.0	284.0		4.0 **0.1**	*0.7*					239671	0.032	0.032
284.0	286.0		4.0 **0.1**	*1.2*					239672	0.019	0.040
286.0	288.0		4.0 **0.1**	*0.9*					239673	0.019	0.049
288.0	290.0		4.0 **0.1**	*0.9*					239674	0.036	0.055
290.0	292.0		4.0 **0.1**	*1.1*					239676	0.024	0.042
292.0	294.0		8.0 **0.1**	*1.1*	PYSTK	45	8		239677	0.027	0.041
294.0	296.0		4.0 **0.1**	*1*	CALPY	15	2		239678	0.028	0.040
296.0	298.0		4.0 **0.1**	*1.6*					239679	0.030	0.087
298.0	300.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*66.9*	PYV	60	3	Disseminated chlorite content drops, persists in viens and vein margins.	239680	0.043	0.076
300.0	302.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	5.0 **0.1**	*3.9*					239681	0.034	0.043
302.0	304.0		10.0 **0.1**	*0.6*					239682	0.031	0.053
304.0	306.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	10.0 **0.1**	*5*	BED	60			239683	0.015	0.066
306.0	308.0		5.0 **0.1**	*14.4*					239684	0.038	0.047
308.0	310.0		5.0 **0.1**	*19.2*				Local magnetic sections, zones of weaker alteration where primary magnetite hasn't been destroyed	239685	0.033	0.183
310.0	312.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*1.5*					239686	0.024	0.037
312.0	314.0		5.0 **0.1**	*2*					239687	0.016	0.021
314.0	316.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*23.8*					239688	0.021	0.039

Hole Number: KH-07-18

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318.0	320.0		5.0 **0.0**	*0.8*					239690	0.018	0.067
320.0	322.0		5.0 **0.0**	*0.9*				Bleached, clay-rich zones.	239691	0.023	0.053
322.0	324.0		10.0 **0.0**	*0.5*	MV	25	1	Clots of coarse grained pyrite to 3cm.	239692	0.029	0.036
324.0	326.0		10.0 **0.0**	*1*					239693	0.026	0.037
326.0	328.0		10.0 **0.0**	*1.1*					239694	0.029	0.033
328.0	330.0		10.0 **0.0**	*1.1*					239695	0.031	0.056
330.0	331.6		10.0 **0.0**	*38.5*					239696	0.022	0.055
331.6	333.0	Fine to medium grained light grey strongly argillic	1.0 **0.0**	*0.4*	SHR	35	10	Healed/cemented zone of milled clasts in ground matrix. Strongly bleached, high clay content.	239697	0.032	0.090
333.0	335.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*0.7*					239698	0.062	0.472
335.0	337.0		5.0 **0.0**	*0.4*					239699	0.026	0.247
337.0	339.0		5.0 **0.0**	*2.7*					239701	0.036	0.097
339.0	341.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.0**	*1*					239702	0.039	0.062
341.0	343.0		5.0 **0.0**	*0.9*					239703	0.045	0.060
343.0	345.0		5.0 **0.0**	*0.6*					239704	0.024	0.073
345.0	347.0		6.0 **0.0**	*0.4*	CALZV	5	20	Phyllic sections	239705	0.033	0.098
347.0	349.0		5.0 **0.0**	*0.5*					239706	0.019	0.207
349.0	351.0		8.0 **0.0**	*0.4*	PYV	90	3		239707	0.048	0.103
351.0	353.0		8.0 **0.0**	*19.3*					239708	0.029	0.069
353.0	355.0	Fine to medium grained green grey weakly potassic - chlorite-sericite	3.0 **0.0**	*2.5*					239709	0.018	0.062
355.0	357.0		8.0 **0.0**	*83.5*	QSPHV	35	0.1		239710	0.018	0.061
357.0	359.0		5.0 **0.0**	*0.9*					239711	0.018	0.087
359.0	361.0		8.0 **0.0**	*1.7*				Patches of epidote.	239712	0.033	0.117

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
361.0	363.0	Fine to medium grained green grey weakly potassic - chlorite-sericite	3.0 **0.0**	*14.5*			239713	0.026	0.055
363.0	365.0		3.0 **0.0**	*31.5*			239714	0.016	0.081
365.0	367.0		3.0 **0.0**	*16.8*			239715	0.033	0.116
367.0	369.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	3.0 **0.0**	*33.8*			239716	0.020	0.040
369.0	371.0		3.0 **0.0**	*60.3*			239717	0.019	0.062
371.0	373.0		3.0 **0.0**	*35.3*			239718	0.026	0.040
373.0	375.0		3.0 **0.0**	*25.4*	CALAK 5 15		239719	0.021	0.069
375.0	377.0		5.0 **0.0**	*1.9*	CALAK 5 15		239720	0.028	0.086
377.0	379.0		5.0 **0.0**	*0.8*			239721	0.017	0.073
379.0	381.0		5.0 **0.0**	*20.6*			239722	0.022	0.050
381.0	383.0		5.0 **0.0**	*41.2*			239723	0.035	0.079
383.0	385.0		5.0 **0.0**	*1.1*		Minor epidote in calcite veins. Propyllitic overprint.	239724	0.026	0.075
385.0	387.0		5.0 **0.0**	*1.7*			239726	0.045	0.065
387.0	389.0		5.0 **0.0**	*2*			239727	0.032	0.087
389.0	391.0		5.0 **0.0**	*1.1*			239728	0.015	0.061
391.0	393.0		5.0 **0.0**	*0.6*			239729	0.030	0.081
393.0	395.0		5.0 **0.0**	*0.6*			239730	0.039	0.106
395.0	397.0		5.0 **0.0**	*1*			239731	0.040	0.085
397.0	399.0		8.0 **0.0**	*31.4*			239732	0.019	0.044
399.0	401.0		8.0 **0.0**	*122*			239733	0.042	0.057
401.0	403.0		8.0 **0.0**	*1.2*			239734	0.018	0.044
403.0	405.0		10.0 **0.0**	*1*			239735	0.026	0.069
405.0	407.0		5.0 **0.0**	*0.7*			239736	0.024	0.065
407.0	409.0		2.0 **0.0**	*1.2*			239737	0.022	0.054

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
409.0	411.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	5.0 **0.0**	*0.8*			239738	0.037	0.069
411.0	413.0		1.0 **0.0**	*0.5*		Local sandy texture.	239739	0.044	0.076
413.0	415.0		1.0 **0.0**	*0.7*			239740	0.029	0.078
415.0	417.0		1.0 **0.0**	*0.6*			239741	0.019	0.050
417.0	419.0		1.0 **0.0**	*0.9*			239742	0.023	0.052
419.0	421.0		1.0 **0.0**	*46.7*			239743	0.028	0.045
421.0	423.0		1.0 **0.1**	*1.4*			239744	0.029	0.051
423.0	425.0		1.0 **0.0**	*24.3*		5cm clot of coarse pyrite with magnetite	239745	0.031	0.048
425.0	427.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*1.1*			239746	0.044	0.057
427.0	429.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*2.4*		Volcanic Breccia fragments 25% of rock volume. 75% fine to medium grained massive flows. Local bladed feldspars partially chloritised. Generally medium grained matrix of feldspar 1mm mafics to 2mm.	239747	0.028	0.053
429.0	431.0		5.0 **0.0**	*2.4*			239748	0.040	0.061
431.0	433.0		3.0 **0.0**	*1.2*			239749	0.021	0.054
433.0	435.0		5.0 **0.0**	*0.8*			239751	0.022	0.042
435.0	437.0		5.0 **0.0**	*0.4*	PYCHL 60 5	Crackle breccia textures on veins.	239752	0.026	0.029
437.0	439.0		8.0 **0.0**	*0.3*			239753	0.031	0.051
439.0	441.0		3.0 **0.0**	*0.3*			239754	0.040	0.079
441.0	443.0		3.0 **0.0**	*0.8*			239755	0.042	0.059
443.0	445.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	3.0 **1.0**	*1.5*	QCPYV 5 2	Blebs chalcopyrite in quartz calcite vein.	239756	0.040	0.040
445.0	447.0		3.0 **0.0**	*22.8*			239757	0.031	0.042
447.0	449.0		3.0 **0.0**	*0.6*			239758	0.046	0.053
449.0	451.0		3.0 **0.0**	*0.6*			239759	0.042	0.031

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
451.0	453.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	3.0 **0.0**	*88.5*			239760	0.037	0.071
453.0	455.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	10.0 **0.0**	*88.5*		Specks chalcopyrite in spidery quartz carb veins.	239761	0.029	0.069
455.0	457.0		3.0 **0.0**	*41.8*			239762	0.024	0.047
457.0	459.0		5.0 **0.0**	*0.7*			239763	0.034	0.049
459.0	461.0		1.0 **0.0**	*13.6*			239764	0.068	0.103
461.0	463.0		1.0 **0.0**	*8*			239765	0.029	0.043
463.0	465.0		1.0 **0.0**	*3.4*	PYV 605	1cm chlorite selvages around pyrite veins.	239766	0.035	0.055
465.0	467.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	5.0 **0.0**	*10.9*			239767	0.036	0.050
467.0	469.0		5.0 **0.0**	*57.6*			239768	0.038	0.057
469.0	471.0		5.0 **0.0**	*0.8*			239769	0.033	0.052
471.0	473.0		5.0 **0.0**	*0.5*			239770	0.020	0.041
473.0	475.0		10.0 **0.1**	*0.9*	QCPYV 30 1		239771	0.033	0.075
475.0	477.2		10.0 **0.1**	*2.2*			239772	0.032	0.046
477.2	477.5	Fine to coarse grained pink grey weakly silicified (non-K)	0.0 **0.0**	*63.6*	CNT 45 1		239773	0.002	0.008
477.5	480.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	10.0 **0.5**	*0*			239774	0.031	0.055
480.0	482.0		5.0 **0.1**	*0.7*	GYPVL 40 2		239776	0.030	0.057
482.0	484.1		8.0 **0.1**	*0.5*			239777	0.054	0.072
484.1	486.0	Fine to medium grained light green grey strongly potassic - quartz-sericite-chlorite	5.0 **1.0**	*47*		Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.	239778	0.046	0.073
486.0	487.4		5.0 **1.0**	*2.2*			239779	0.019	0.053

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
487.4	489.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	5.0 **0.1**	*0.5*			239780	0.021	0.050
489.0	491.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.2*		Strong calcite/zeolite stockworking	239781	0.026	0.043
491.0	493.0		3.0 **0.0**	*45*			239782	0.024	0.042
493.0	495.0		3.0 **0.0**	*0.9*			239783	0.023	0.072
495.0	497.0		3.0 **0.0**	*3.3*			239784	0.043	0.038
497.0	499.0		3.0 **0.0**	*71*			239785	0.017	0.023
499.0	501.0		1.0 **0.0**	*0.5*			239786	0.021	0.089
501.0	503.0	Fine to medium grained dark green grey moderately phyllic	1.0 **0.0**	*0.8*			239787	0.015	0.195
503.0	505.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.7*			239788	0.018	0.038
505.0	507.0		3.0 **0.0**	*1.2*			239789	0.028	0.054
507.0	509.0		3.0 **0.0**	*0.8*			239790	0.028	0.050
509.0	511.0		3.0 **1.0**	*13*	CALCP 20 1		239791	0.029	0.036
511.0	513.0		3.0 **1.0**	*1.5*	QCALC 10 2		239792	0.042	0.056
513.0	515.0		3.0 **0.5**	*3.8*			239793	0.032	0.053
515.0	517.0		3.0 **0.1**	*1.6*			239794	0.026	0.058
517.0	519.0		3.0 **0.1**	*32*	CALCP 15 1		239795	0.022	0.044
519.0	521.0		3.0 **0.1**	*1.6*			239796	0.040	0.057
521.0	523.0		3.0 **0.1**	*0.5*			239797	0.021	0.049
523.0	525.0		3.0 **0.1**	*1.3*			239798	0.028	0.049
525.0	527.0		3.0 **0.1**	*0.2*			239799	0.029	0.041

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
527.0	528.0	Fine to coarse grained dark grey moderately potassic - quartz-sericite-chlorite	0.1 **0.0**	*0.5*	FLT 45 100		239801	0.032	0.048
528.0	530.0	Fine to medium grained light green strongly phyllic	5.0 **0.0**	*0.6*		Sub-rounded to angular clasts of fc BFP 50% and fg andesite 20% in finegrained light green matrix.	239802	0.021	0.062
530.0	532.0	Fine to coarse grained light green strongly phyllic	5.0 **0.0**	*0.4*			239803	0.040	0.081
532.0	534.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*0.3*			239804	0.060	0.069
534.0	536.0		5.0 **0.0**	*0.3*	QCPYV 30 2		239805	0.036	0.023
536.0	538.0		5.0 **0.1**	*18.1*			239806	0.023	0.022
538.0	540.0		5.0 **0.1**	*0.3*			239807	0.047	0.026
540.0	542.0		5.0 **0.0**	*0.4*			239808	0.028	0.012
542.0	544.0		5.0 **0.0**	*1.6*			239809	0.020	0.017
544.0	546.0		5.0 **0.0**	*0.4*			239810	0.011	0.018
546.0	548.0		5.0 **0.0**	*0.3*			239811	0.061	0.031
548.0	550.0		5.0 **0.0**	*2.2*			239812	0.037	0.028
550.0	551.5		5.0 **0.0**	*0.7*		Interval contains no BFP clasts only massive andesite, augite porphyry and feldspar porphyritic clasts.	239813	0.051	0.028
551.5	554.0		5.0 **0.0**	*0.5*			239814	0.037	0.026
554.0	556.0		5.0 **0.0**	*1.3*			239815	0.041	0.024
556.0	558.0	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*81.4*		Local patchy propyllitic alterate, epidote clots. Strong calcite veining.	239816	0.028	0.021
558.0	560.0		5.0 **0.0**	*1.7*			239817	0.049	0.029
560.0	562.0		5.0 **0.0**	*1.1*			239818	0.052	0.045
562.0	564.0		5.0 **0.0**	*1.3*			239819	0.027	0.030
564.0	566.0	Fine to coarse grained dark grey moderately propyllitic	2.0 **0.0**	*1.8*	QCALC 25 10		239820	0.007	0.019
566.0	568.0		2.0 **0.0**	*5.4*	CALZV 45 10		239821	0.099	0.023

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
568.0	570.0	Fine to coarse grained dark grey moderately propyllitic	2.0 **0.0**	*8.3*					239822	0.015	0.027
570.0	572.0		2.0 **0.0**	*76*					239823	0.041	0.026
572.0	574.0		2.0 **0.0**	*0.8*					239824	0.030	0.026
574.0	575.5		2.0 **0.0**	*0.5*					239826	0.085	0.159
575.5	576.9		2.0 **0.0**	*0.6*					239827	0.113	0.075
576.9	579.0	Fine to coarse grained dark grey moderately phyllic	2.0 **0.0**	*0.7*					239828	0.043	0.048
579.0	581.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.0**	*0.8*					239829	0.020	0.054
581.0	583.0		5.0 **0.5**	*1.2*					239830	0.076	0.068
583.0	585.0		5.6 **0.0**	*1.3*					239831	0.057	0.047
585.0	587.0	Fine to coarse grained dark grey pink strongly phyllic	7.0 **0.2**	*2.2*	FLT	35	2		239832	0.057	0.054
587.0	589.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.4**	*20.5*				Patchy brecciated sections.	239833	0.072	0.043
589.0	591.0	Fine to coarse grained grey pink intensely phyllic	5.0 **0.0**	*2.1*	FLT	5	5	Fault undulating almost parallel to the core axis.	239834	0.023	0.055
591.0	593.0	Fine to coarse grained dark grey intensely phyllic	6.5 **0.0**	*3.6*					239835	0.039	0.065
593.0	595.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.1**	*2.8*				Siliceous patches present.	239836	0.037	0.036
595.0	597.0		7.7 **0.0**	*3.1*					239837	0.059	0.060
597.0	599.0	Fine to coarse grained dark grey pink strongly phyllic	8.0 **0.0**	*3.5*					239838	0.047	0.049
599.0	601.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.0**	*0.7*					239839	0.222	0.167
601.0	603.0		7.8 **0.3**	*1*					239840	0.154	0.080
603.0	605.0	Fine to coarse grained dark grey green strongly phyllic	7.0 **0.0**	*0.7*					239841	0.024	0.057

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
605.0	607.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.1**	*2*					239842	0.066	0.076
607.0	609.0	Fine to coarse grained dark grey green strongly phyllic	6.0 **0.0**	*1.8*					239843	0.063	0.051
609.0	611.3	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*2.3*	CNT	40			239844	0.026	0.039
611.3	613.0	Fine grained grey green strongly phyllic	6.5 **0.0**	*2.4*				Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. Patchy epidote overprint in sections. Unit contains 3-4% feldspar phenocrysts 0.8-1.2 cm in length. Some of the feldspars are sercite, chlorite or epidote altered. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. ~1% primary quartz veins present 75-85 deg to the core axis. Epidote and hematite present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239845	0.043	0.059
613.0	615.0		4.5 **0.0**	*1.9*					239846	0.033	0.065
615.0	617.0		4.7 **0.1**	*2.4*				Feldspar phenocrysts have decreased to 1-2%.	239847	0.068	0.076
617.0	619.0		4.2 **0.1**	*2.9*					239848	0.042	0.060
619.0	621.0	Fine to coarse grained dark green black moderately potassic - chlorite-sericite	4.5 **0.1**	*9.4*				Unit contains 10-15% augite phenocrysts 2-7mm in size. Matrix is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite alteration dominates the matrix and augite phenocrysts. Lesser amounts of sericite alteration present and a slight epidote overprint present. 2-4% quartz and calcite veining oriented 30-60 deg to the core axis. Unit is magnetic. Pyrite is present within some veins and disseminated within the matrix. Minor chalocpyrite present within the veins and matrix. Spotty hematite stringers present.	239849	0.036	0.029
621.0	623.0		5.0 **0.1**	*73.2*					239851	0.012	0.026
623.0	625.0		5.2 **0.0**	*20.9*	FLT	55	3		239852	0.039	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
625.0	627.0	Fine grained grey green moderately phyllic	6.0 **0.0**	*4.2*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. QSP alteration increases down the hole. Unit contains 1-2% feldspar phenocrysts 0.6-1cm in size, some altered to sericite and chlorite. 3-5% calcite and zeolite veins oriented 45-55 deg to the core axis and 5-20 deg to the core axis. ~1% primary quartz veins present randomly oriented. Hematite is present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239853	0.047	0.073
627.0	629.0		7.5 **0.0**	*1.3*			239854	0.038	0.082
629.0	631.0	Fine grained green strongly phyllic	8.0 **0.0**	*1.1*			239855	0.049	0.090
631.0	633.0		8.2 **0.1**	*1.2*			239856	0.053	0.049
633.0	635.0		7.0 **0.0**	*1.5*			239857	0.038	0.064
635.0	637.0		9.0 **0.0**	*1.9*			239858	0.074	0.110
637.0	639.0		7.5 **0.0**	*2.4*			239859	0.077	0.115
639.0	641.0		7.0 **0.2**	*2.8*			239860	0.106	0.095
641.0	643.0		6.5 **0.1**	*0.6*			239861	0.067	0.053
643.0	645.0	Fine grained strongly phyllic	7.0 **0.0**	*0.8*			239862	0.032	0.056
645.0	647.0	Fine grained intensely phyllic	5.0 **0.1**	*1*			239863	0.028	0.121
647.0	649.0	Fine grained grey pink intensely phyllic	6.0 **0.0**	*1.6*			239864	0.033	0.108
649.0	650.1		5.0 **0.0**	*1.7*			239865	0.017	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
650.1	652.0	Fine to coarse grained dark grey moderately phyllic	7.5	*2.6*		Unit contains 6-8% feldspar phenocrysts 0.4-1.1cm in size. Some feldspars are altered to sericite, chlorite and epidote. Feldspar phenocrysts increase down the hole to 12-17%. Matrix is mafic in composition and alteration has obliterated some of the characteristics of the rock. 4-6% zeolite and calcite veining oriented 40-70 deg to the core axis and rarely 0-10 deg to the core axis. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite mostly present within veins.	239866	0.045	0.068
652.0	654.0		7.0 **0.1**	*0.9*			239867	0.041	0.067
654.0	656.0		6.7 **0.0**	*0.8*			239868	0.067	0.085
656.0	658.0		7.0 **0.1**	*1.2*			239869	0.070	0.090
658.0	660.0	Fine to coarse grained dark grey pink moderately phyllic	7.3 **0.0**	*1.1*		Hematite present as halos around some veins and within some veins.	239870	0.051	0.039
660.0	662.0		7.0 **0.0**	*1.5*			239871	0.105	0.102
662.0	664.0	Fine to coarse grained grey pink strongly phyllic	6.7 **0.0**	*1.7*			239872	0.112	0.081
664.0	666.0	Fine to coarse grained green strongly phyllic	6.3 **0.0**	*0.5*			239873	0.046	0.048
666.0	668.0		6.5 **0.0**	*0.6*	FLT 60 2		239874	0.024	0.034
668.0	670.0	Fine to coarse grained dark grey moderately phyllic	4.5 **0.4**	*1.5*			239876	0.057	0.061
670.0	672.0		5.5 **0.2**	*1.7*			239877	0.076	0.107
672.0	674.0	Fine to coarse grained dark grey strongly phyllic	6.0 **0.0**	*1.9*			239878	0.050	0.106
674.0	676.0		6.3 **0.1**	*2*			239879	0.036	0.058
676.0	678.0		6.5 **0.2**	*0.7*			239880	0.185	0.093
678.0	680.0	Fine to coarse grained dark grey moderately phyllic	6.0 **0.2**	*1.2*			239881	0.119	0.122
680.0	682.0		6.7 **0.3**	*1.5*			239882	0.036	0.049

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
682.0	684.0	Fine to coarse grained dark grey pink moderately phyllic	6.5 **0.4**	*1.8*				Hematite present as halos around some veins and within some veins.	239883	0.085	0.091
684.0	686.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.0**	*1.7*					239884	0.007	0.017
686.0	688.0		7.2 **0.0**	*2.1*					239885	0.017	0.037
688.0	690.0		7.5 **0.0**	*0.6*					239886	0.017	0.034
690.0	692.0		7.3 **0.1**	*0.8*	FLT	20	2		239887	0.064	0.037
692.0	693.5		6.5 **0.1**	*1.1*					239888	0.066	0.037
693.5	695.0	Fine to coarse grained grey strongly phyllic	7.0 **0.0**	*1.3*	FLT	50	5	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong sericite, chlorite, quartz and pyrite alteration present. Sections within the unit contain feldspar phenocrysts 2-4mm in size. 2-3% zeolite and calcite veining oriented 30-50 deg to the core axis. Unit is magnetic in patches. Pyrite is disseminated within the matrix and present within veins. Minor chalcopyrite mostly present within veins.	239889	0.009	0.020
695.0	697.0	Fine to coarse grained dark grey strongly phyllic	9.0 **0.2**	*1*					239890	0.035	0.041
697.0	699.0	Fine to coarse grained grey strongly phyllic	8.5 **0.1**	*1*				Increase in chlorite alteration.	239891	0.045	0.065
699.0	701.0		7.7 **0.0**	*21.9*					239892	0.052	0.056
701.0	703.0	Fine to coarse grained green moderately potassic - chlorite-sericite	6.5 **0.0**	*14.9*				Chlorite and sericite alteration have increased with spotty quartz. Anhydrite and flourite present within some veins now.	239893	0.061	0.071
703.0	705.0		7.5 **0.0**	*86.4*					239894	0.039	0.040
705.0	707.0		7.3 **0.1**	*28.9*					239895	0.036	0.033
707.0	709.0		7.0 **0.1**	*44.2*					239896	0.034	0.034
709.0	710.2		6.5 **0.1**	*1.2*					239897	0.043	0.048
268.0	270.0	Fine to medium grained grey green strongly phyllic	2.0 **0.1**	*0.4*	FLT	15	20	High clay content around fault zone.	239664	0.016	0.053

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
270.0	271.7	Fine to medium grained grey green strongly phyllic	2.0 **0.1**	*0.4*					239665	0.004	0.022
271.7	274.0	Fine to medium grained dark green moderately potassic - chlorite-sericite	5.0 **0.1**	*0.4*				Massive andesite flows with 10-15% 5mm augite phenos mostly chlorite altered.	239666	0.016	0.050
274.0	276.0		5.0 **0.1**	*9.6*					239667	0.023	0.042
276.0	278.0		5.0 **0.1**	*0.8*	CALV	15	20		239668	0.037	0.063
278.0	280.0		5.0 **0.1**	*0.5*					239669	0.017	0.043
280.0	282.0		4.0 **0.1**	*0.7*					239670	0.026	0.033
282.0	284.0		4.0 **0.1**	*0.7*					239671	0.032	0.032
284.0	286.0		4.0 **0.1**	*1.2*					239672	0.019	0.040
286.0	288.0		4.0 **0.1**	*0.9*					239673	0.019	0.049
288.0	290.0		4.0 **0.1**	*0.9*					239674	0.036	0.055
290.0	292.0		4.0 **0.1**	*1.1*					239676	0.024	0.042
292.0	294.0		8.0 **0.1**	*1.1*	PYSTK	45	8		239677	0.027	0.041
294.0	296.0		4.0 **0.1**	*1*	CALPY	15	2		239678	0.028	0.040
296.0	298.0		4.0 **0.1**	*1.6*					239679	0.030	0.087
298.0	300.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*66.9*	PYV	60	3	Disseminated chlorite content drops, persists in viens and vein margins.	239680	0.043	0.076
300.0	302.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	5.0 **0.1**	*3.9*					239681	0.034	0.043
302.0	304.0		10.0 **0.1**	*0.6*					239682	0.031	0.053
304.0	306.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	10.0 **0.1**	*5*	BED	60			239683	0.015	0.066
306.0	308.0		5.0 **0.1**	*14.4*					239684	0.038	0.047
308.0	310.0		5.0 **0.1**	*19.2*				Local magnetic sections, zones of weaker alteration where primary magnetite hasn't been destroyed	239685	0.033	0.183
310.0	312.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*1.5*					239686	0.024	0.037

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
312.0	314.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	5.0 **0.1**	*2*					239687	0.016	0.021
314.0	316.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*23.8*					239688	0.021	0.039
316.0	318.0		5.0 **0.0**	*0.6*					239689	0.014	0.023
318.0	320.0		5.0 **0.0**	*0.8*					239690	0.018	0.067
320.0	322.0		5.0 **0.0**	*0.9*				Bleached, clay-rich zones.	239691	0.023	0.053
322.0	324.0		10.0 **0.0**	*0.5*	MV	25	1	Clots of coarse grained pyrite to 3cm.	239692	0.029	0.036
324.0	326.0		10.0 **0.0**	*1*					239693	0.026	0.037
326.0	328.0		10.0 **0.0**	*1.1*					239694	0.029	0.033
328.0	330.0		10.0 **0.0**	*1.1*					239695	0.031	0.056
330.0	331.6		10.0 **0.0**	*38.5*					239696	0.022	0.055
331.6	333.0	Fine to medium grained light grey strongly argillic	1.0 **0.0**	*0.4*	SHR	35	10	Healed/cemented zone of milled clasts in ground matrix. Strongly bleached, high clay content.	239697	0.032	0.090
333.0	335.0	Fine to medium grained light green grey weakly potassic - chlorite-sericite	5.0 **0.0**	*0.7*					239698	0.062	0.472
335.0	337.0		5.0 **0.0**	*0.4*					239699	0.026	0.247
337.0	339.0		5.0 **0.0**	*2.7*					239701	0.036	0.097
339.0	341.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	5.0 **0.0**	*1*					239702	0.039	0.062
341.0	343.0		5.0 **0.0**	*0.9*					239703	0.045	0.060
343.0	345.0		5.0 **0.0**	*0.6*					239704	0.024	0.073
345.0	347.0		6.0 **0.0**	*0.4*	CALZV	5	20	Phyllic sections	239705	0.033	0.098
347.0	349.0		5.0 **0.0**	*0.5*					239706	0.019	0.207
349.0	351.0		8.0 **0.0**	*0.4*	PYV	90	3		239707	0.048	0.103
351.0	353.0		8.0 **0.0**	*19.3*					239708	0.029	0.069

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
353.0	355.0	Fine to medium grained green grey weakly potassic - chlorite-sericite	3.0 **0.0**	*2.5*			239709	0.018	0.062
355.0	357.0		8.0 **0.0**	*83.5*	QSPHV 35 0.1		239710	0.018	0.061
357.0	359.0		5.0 **0.0**	*0.9*			239711	0.018	0.087
359.0	361.0		8.0 **0.0**	*1.7*		Patches of epidote.	239712	0.033	0.117
361.0	363.0		3.0 **0.0**	*14.5*			239713	0.026	0.055
363.0	365.0		3.0 **0.0**	*31.5*			239714	0.016	0.081
365.0	367.0		3.0 **0.0**	*16.8*			239715	0.033	0.116
367.0	369.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	3.0 **0.0**	*33.8*			239716	0.020	0.040
369.0	371.0		3.0 **0.0**	*60.3*			239717	0.019	0.062
371.0	373.0		3.0 **0.0**	*35.3*			239718	0.026	0.040
373.0	375.0		3.0 **0.0**	*25.4*	CALAK 5 15		239719	0.021	0.069
375.0	377.0		5.0 **0.0**	*1.9*	CALAK 5 15		239720	0.028	0.086
377.0	379.0		5.0 **0.0**	*0.8*			239721	0.017	0.073
379.0	381.0		5.0 **0.0**	*20.6*			239722	0.022	0.050
381.0	383.0		5.0 **0.0**	*41.2*			239723	0.035	0.079
383.0	385.0		5.0 **0.0**	*1.1*		Minor epidote in calcite veins. Propyllitic overprint.	239724	0.026	0.075
385.0	387.0		5.0 **0.0**	*1.7*			239726	0.045	0.065
387.0	389.0		5.0 **0.0**	*2*			239727	0.032	0.087
389.0	391.0		5.0 **0.0**	*1.1*			239728	0.015	0.061
391.0	393.0		5.0 **0.0**	*0.6*			239729	0.030	0.081
393.0	395.0		5.0 **0.0**	*0.6*			239730	0.039	0.106
395.0	397.0		5.0 **0.0**	*1*			239731	0.040	0.085
397.0	399.0		8.0 **0.0**	*31.4*			239732	0.019	0.044
399.0	401.0		8.0 **0.0**	*122*			239733	0.042	0.057

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
401.0	403.0	Fine to medium grained green grey weakly potassic - sericite-chlorite	8.0 **0.0**	*1.2*			239734	0.018	0.044
403.0	405.0		10.0 **0.0**	*1*			239735	0.026	0.069
405.0	407.0		5.0 **0.0**	*0.7*			239736	0.024	0.065
407.0	409.0		2.0 **0.0**	*1.2*			239737	0.022	0.054
409.0	411.0		5.0 **0.0**	*0.8*			239738	0.037	0.069
411.0	413.0		1.0 **0.0**	*0.5*		Local sandy texture.	239739	0.044	0.076
413.0	415.0		1.0 **0.0**	*0.7*			239740	0.029	0.078
415.0	417.0		1.0 **0.0**	*0.6*			239741	0.019	0.050
417.0	419.0		1.0 **0.0**	*0.9*			239742	0.023	0.052
419.0	421.0		1.0 **0.0**	*46.7*			239743	0.028	0.045
421.0	423.0		1.0 **0.1**	*1.4*			239744	0.029	0.051
423.0	425.0		1.0 **0.0**	*24.3*		5cm clot of coarse pyrite with magnetite	239745	0.031	0.048
425.0	427.0	Fine to medium grained green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*1.1*			239746	0.044	0.057
427.0	429.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	1.0 **0.0**	*2.4*		Volcanic Breccia fragments 25% of rock volume. 75% fine to medium grained massive flows. Local bladed feldspars partially chloritised. Generally medium grained matrix of feldspar 1mm mafics to 2mm.	239747	0.028	0.053
429.0	431.0		5.0 **0.0**	*2.4*			239748	0.040	0.061
431.0	433.0		3.0 **0.0**	*1.2*			239749	0.021	0.054
433.0	435.0		5.0 **0.0**	*0.8*			239751	0.022	0.042
435.0	437.0		5.0 **0.0**	*0.4*	PYCHL 60	5 Crackle breccia textures on veins.	239752	0.026	0.029
437.0	439.0		8.0 **0.0**	*0.3*			239753	0.031	0.051
439.0	441.0		3.0 **0.0**	*0.3*			239754	0.040	0.079
441.0	443.0		3.0 **0.0**	*0.8*			239755	0.042	0.059

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
443.0	445.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	3.0 **1.0**	*1.5*	QCPYV 5 2	Blebs chalcopyrite in quartz calcite vein.	239756	0.040	0.040
445.0	447.0		3.0 **0.0**	*22.8*			239757	0.031	0.042
447.0	449.0		3.0 **0.0**	*0.6*			239758	0.046	0.053
449.0	451.0		3.0 **0.0**	*0.6*			239759	0.042	0.031
451.0	453.0		3.0 **0.0**	*88.5*			239760	0.037	0.071
453.0	455.0	Fine to medium grained dark green grey moderately potassic - sericite-chlorite	10.0 **0.0**	*88.5*		Specks chalcopyrite in spidery quartz carb veins.	239761	0.029	0.069
455.0	457.0		3.0 **0.0**	*41.8*			239762	0.024	0.047
457.0	459.0		5.0 **0.0**	*0.7*			239763	0.034	0.049
459.0	461.0		1.0 **0.0**	*13.6*			239764	0.068	0.103
461.0	463.0		1.0 **0.0**	*8*			239765	0.029	0.043
463.0	465.0		1.0 **0.0**	*3.4*	PYV 605	1cm chlorite selvages around pyrite veins.	239766	0.035	0.055
465.0	467.0	Fine to medium grained dark green grey strongly potassic - sericite-chlorite	5.0 **0.0**	*10.9*			239767	0.036	0.050
467.0	469.0		5.0 **0.0**	*57.6*			239768	0.038	0.057
469.0	471.0		5.0 **0.0**	*0.8*			239769	0.033	0.052
471.0	473.0		5.0 **0.0**	*0.5*			239770	0.020	0.041
473.0	475.0		10.0 **0.1**	*0.9*	QCPYV 30 1		239771	0.033	0.075
475.0	477.2		10.0 **0.1**	*2.2*			239772	0.032	0.046
477.2	477.5	Fine to coarse grained pink grey weakly silicified (non-K)	0.0 **0.0**	*63.6*	CNT 45 1		239773	0.002	0.008
477.5	480.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	10.0 **0.5**	*0*			239774	0.031	0.055
480.0	482.0		5.0 **0.1**	*0.7*	GYPVL 40 2		239776	0.030	0.057

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
482.0	484.1	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	8.0 **0.1**	*0.5*			239777	0.054	0.072
484.1	486.0	Fine to medium grained light green grey strongly potassic - quartz-sericite-chlorite	5.0 **1.0**	*47*		Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.	239778	0.046	0.073
486.0	487.4		5.0 **1.0**	*2.2*			239779	0.019	0.053
487.4	489.0	Fine to medium grained dark green grey strongly potassic - quartz-sericite-chlorite	5.0 **0.1**	*0.5*			239780	0.021	0.050
489.0	491.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.2*		Strong calcite/zeolite stockworking	239781	0.026	0.043
491.0	493.0		3.0 **0.0**	*45*			239782	0.024	0.042
493.0	495.0		3.0 **0.0**	*0.9*			239783	0.023	0.072
495.0	497.0		3.0 **0.0**	*3.3*			239784	0.043	0.038
497.0	499.0		3.0 **0.0**	*71*			239785	0.017	0.023
499.0	501.0		1.0 **0.0**	*0.5*			239786	0.021	0.089
501.0	503.0	Fine to medium grained dark green grey moderately phyllic	1.0 **0.0**	*0.8*			239787	0.015	0.195
503.0	505.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.0**	*1.7*			239788	0.018	0.038
505.0	507.0		3.0 **0.0**	*1.2*			239789	0.028	0.054
507.0	509.0		3.0 **0.0**	*0.8*			239790	0.028	0.050
509.0	511.0		3.0 **1.0**	*13*	CALCP 20 1		239791	0.029	0.036
511.0	513.0		3.0 **1.0**	*1.5*	QCALC 10 2		239792	0.042	0.056
513.0	515.0		3.0 **0.5**	*3.8*			239793	0.032	0.053
515.0	517.0		3.0 **0.1**	*1.6*			239794	0.026	0.058
517.0	519.0		3.0 **0.1**	*32*	CALCP 15 1		239795	0.022	0.044

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
519.0	521.0	Fine to medium grained dark green grey moderately potassic - quartz-sericite-chlorite	3.0 **0.1**	*1.6*					239796	0.040	0.057
521.0	523.0		3.0 **0.1**	*0.5*					239797	0.021	0.049
523.0	525.0		3.0 **0.1**	*1.3*					239798	0.028	0.049
525.0	527.0		3.0 **0.1**	*0.2*					239799	0.029	0.041
527.0	528.0	Fine to coarse grained dark grey moderately potassic - quartz-sericite-chlorite	0.1 **0.0**	*0.5*	FLT	45	100		239801	0.032	0.048
477.2	477.5	Fine to coarse grained pink grey weakly silicified (non-K)	0.0 **0.0**	*63.6*	CNT	45	1		239773	0.002	0.008
484.1	486.0	Fine to medium grained light green grey strongly potassic - quartz-sericite-chlorite	5.0 **1.0**	*47*				Felted anhedral elongate felspars to 1cm, close packed in a very fine grained dark green groundmass.	239778	0.046	0.073
486.0	487.4		5.0 **1.0**	*2.2*					239779	0.019	0.053
551.5	554.0	Fine to coarse grained dark grey strongly phyllic	5.0 **0.0**	*0.5*					239814	0.037	0.026
554.0	556.0		5.0 **0.0**	*1.3*					239815	0.041	0.024
556.0	558.0	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*81.4*				Local patchy propyllitic alterate, epidote clots. Strong calcite veining.	239816	0.028	0.021
558.0	560.0		5.0 **0.0**	*1.7*					239817	0.049	0.029
560.0	562.0		5.0 **0.0**	*1.1*					239818	0.052	0.045
562.0	564.0		5.0 **0.0**	*1.3*					239819	0.027	0.030
564.0	566.0	Fine to coarse grained dark grey moderately propyllitic	2.0 **0.0**	*1.8*	QCALC	25	10		239820	0.007	0.019
566.0	568.0		2.0 **0.0**	*5.4*	CALZV	45	10		239821	0.099	0.023
568.0	570.0		2.0 **0.0**	*8.3*					239822	0.015	0.027
570.0	572.0		2.0 **0.0**	*76*					239823	0.041	0.026
572.0	574.0		2.0 **0.0**	*0.8*					239824	0.030	0.026
574.0	575.5		2.0 **0.0**	*0.5*					239826	0.085	0.159

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
575.5	576.9	Fine to coarse grained dark grey moderately propyllitic	2.0 **0.0**	*0.6*					239827	0.113	0.075
576.9	579.0	Fine to coarse grained dark grey moderately phyllic	2.0 **0.0**	*0.7*					239828	0.043	0.048
579.0	581.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.0**	*0.8*					239829	0.020	0.054
581.0	583.0		5.0 **0.5**	*1.2*					239830	0.076	0.068
583.0	585.0		5.6 **0.0**	*1.3*					239831	0.057	0.047
585.0	587.0	Fine to coarse grained dark grey pink strongly phyllic	7.0 **0.2**	*2.2*	FLT	35	2		239832	0.057	0.054
587.0	589.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.4**	*20.5*				Patchy brecciated sections.	239833	0.072	0.043
589.0	591.0	Fine to coarse grained grey pink intensely phyllic	5.0 **0.0**	*2.1*	FLT	5	5	Fault undulating almost parallel to the core axis.	239834	0.023	0.055
591.0	593.0	Fine to coarse grained dark grey intensely phyllic	6.5 **0.0**	*3.6*					239835	0.039	0.065
593.0	595.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.1**	*2.8*				Siliceous patches present.	239836	0.037	0.036
595.0	597.0		7.7 **0.0**	*3.1*					239837	0.059	0.060
597.0	599.0	Fine to coarse grained dark grey pink strongly phyllic	8.0 **0.0**	*3.5*					239838	0.047	0.049
599.0	601.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.0**	*0.7*					239839	0.222	0.167
601.0	603.0		7.8 **0.3**	*1*					239840	0.154	0.080
603.0	605.0	Fine to coarse grained dark grey green strongly phyllic	7.0 **0.0**	*0.7*					239841	0.024	0.057
605.0	607.0	Fine to coarse grained dark grey strongly phyllic	10.0 **0.1**	*2*					239842	0.066	0.076
607.0	609.0	Fine to coarse grained dark grey green strongly phyllic	6.0 **0.0**	*1.8*					239843	0.063	0.051
609.0	611.3	Fine to coarse grained dark grey moderately phyllic	5.0 **0.0**	*2.3*	CNT	40			239844	0.026	0.039

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
611.3	613.0	Fine grained grey green strongly phyllic	6.5 **0.0**	*2.4*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. Patchy epidote overprint in sections. Unit contains 3-4% feldspar phenocrysts 0.8-1.2 cm in length. Some of the feldspars are sercite, chlorite or epidote altered. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. ~1% primary quartz veins present 75-85 deg to the core axis. Epidote and hematite present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239845	0.043	0.059
613.0	615.0		4.5 **0.0**	*1.9*			239846	0.033	0.065
615.0	617.0		4.7 **0.1**	*2.4*		Feldspar phenocrysts have decreased to 1-2%.	239847	0.068	0.076
617.0	619.0		4.2 **0.1**	*2.9*			239848	0.042	0.060
619.0	621.0	Fine to coarse grained dark green black moderately potassic - chlorite-sericite	4.5 **0.1**	*9.4*		Unit contains 10-15% augite phenocrysts 2-7mm in size. Matrix is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite alteration dominates the matrix and augite phenocrysts. Lesser amounts of sericite alteration present and a slight epidote overprint present. 2-4% quartz and calcite veining oriented 30-60 deg to the core axis. Unit is magnetic. Pyrite is present within some veins and disseminated within the matrix. Minor chalocpyrite present within the veins and matrix. Spotty hematite stringers present.	239849	0.036	0.029
621.0	623.0		5.0 **0.1**	*73.2*			239851	0.012	0.026
623.0	625.0		5.2 **0.0**	*20.9*	FLT 55 3		239852	0.039	0.075

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
625.0	627.0	Fine grained grey green moderately phyllic	6.0 **0.0**	*4.2*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong quartz, sericite and pyrite alteration present. QSP alteration increases down the hole. Unit contains 1-2% feldspar phenocrysts 0.6-1cm in size, some altered to sericite and chlorite. 3-5% calcite and zeolite veins oriented 45-55 deg to the core axis and 5-20 deg to the core axis. ~1% primary quartz veins present randomly oriented. Hematite is present within some veins. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present within veins and disseminated within the matrix.	239853	0.047	0.073
627.0	629.0		7.5 **0.0**	*1.3*			239854	0.038	0.082
629.0	631.0	Fine grained green strongly phyllic	8.0 **0.0**	*1.1*			239855	0.049	0.090
631.0	633.0		8.2 **0.1**	*1.2*			239856	0.053	0.049
633.0	635.0		7.0 **0.0**	*1.5*			239857	0.038	0.064
635.0	637.0		9.0 **0.0**	*1.9*			239858	0.074	0.110
637.0	639.0		7.5 **0.0**	*2.4*			239859	0.077	0.115
639.0	641.0		7.0 **0.2**	*2.8*			239860	0.106	0.095
641.0	643.0		6.5 **0.1**	*0.6*			239861	0.067	0.053
643.0	645.0	Fine grained strongly phyllic	7.0 **0.0**	*0.8*			239862	0.032	0.056
645.0	647.0	Fine grained intensely phyllic	5.0 **0.1**	*1*			239863	0.028	0.121
647.0	649.0	Fine grained grey pink intensely phyllic	6.0 **0.0**	*1.6*			239864	0.033	0.108
649.0	650.1		5.0 **0.0**	*1.7*			239865	0.017	0.033

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
650.1	652.0	Fine to coarse grained dark grey moderately phyllic	7.5	*2.6*		Unit contains 6-8% feldspar phenocrysts 0.4-1.1cm in size. Some feldspars are altered to sericite, chlorite and epidote. Feldspar phenocrysts increase down the hole to 12-17%. Matrix is mafic in composition and alteration has obliterated some of the characteristics of the rock. 4-6% zeolite and calcite veining oriented 40-70 deg to the core axis and rarely 0-10 deg to the core axis. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite mostly present within veins.	239866	0.045	0.068
652.0	654.0		7.0 **0.1**	*0.9*			239867	0.041	0.067
654.0	656.0		6.7 **0.0**	*0.8*			239868	0.067	0.085
656.0	658.0		7.0 **0.1**	*1.2*			239869	0.070	0.090
658.0	660.0	Fine to coarse grained dark grey pink moderately phyllic	7.3 **0.0**	*1.1*		Hematite present as halos around some veins and within some veins.	239870	0.051	0.039
660.0	662.0		7.0 **0.0**	*1.5*			239871	0.105	0.102
662.0	664.0	Fine to coarse grained grey pink strongly phyllic	6.7 **0.0**	*1.7*			239872	0.112	0.081
664.0	666.0	Fine to coarse grained green strongly phyllic	6.3 **0.0**	*0.5*			239873	0.046	0.048
666.0	668.0		6.5 **0.0**	*0.6*	FLT 60 2		239874	0.024	0.034
668.0	670.0	Fine to coarse grained dark grey moderately phyllic	4.5 **0.4**	*1.5*			239876	0.057	0.061
670.0	672.0		5.5 **0.2**	*1.7*			239877	0.076	0.107
672.0	674.0	Fine to coarse grained dark grey strongly phyllic	6.0 **0.0**	*1.9*			239878	0.050	0.106
674.0	676.0		6.3 **0.1**	*2*			239879	0.036	0.058
676.0	678.0		6.5 **0.2**	*0.7*			239880	0.185	0.093
678.0	680.0	Fine to coarse grained dark grey moderately phyllic	6.0 **0.2**	*1.2*			239881	0.119	0.122
680.0	682.0		6.7 **0.3**	*1.5*			239882	0.036	0.049

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
682.0	684.0	Fine to coarse grained dark grey pink moderately phyllic	6.5 **0.4**	*1.8*				Hematite present as halos around some veins and within some veins.	239883	0.085	0.091
684.0	686.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.0**	*1.7*					239884	0.007	0.017
686.0	688.0		7.2 **0.0**	*2.1*					239885	0.017	0.037
688.0	690.0		7.5 **0.0**	*0.6*					239886	0.017	0.034
690.0	692.0		7.3 **0.1**	*0.8*	FLT	20	2		239887	0.064	0.037
692.0	693.5		6.5 **0.1**	*1.1*					239888	0.066	0.037
693.5	695.0	Fine to coarse grained grey strongly phyllic	7.0 **0.0**	*1.3*	FLT	50	5	Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong sericite, chlorite, quartz and pyrite alteration present. Sections within the unit contain feldspar phenocrysts 2-4mm in size. 2-3% zeolite and calcite veining oriented 30-50 deg to the core axis. Unit is magnetic in patches. Pyrite is disseminated within the matrix and present within veins. Minor chalcopyrite mostly present within veins.	239889	0.009	0.020
695.0	697.0	Fine to coarse grained dark grey strongly phyllic	9.0 **0.2**	*1*					239890	0.035	0.041
697.0	699.0	Fine to coarse grained grey strongly phyllic	8.5 **0.1**	*1*				Increase in chlorite alteration.	239891	0.045	0.065
699.0	701.0		7.7 **0.0**	*21.9*					239892	0.052	0.056
701.0	703.0	Fine to coarse grained green moderately potassic - chlorite-sericite	6.5 **0.0**	*14.9*				Chlorite and sericite alteration have increased with spotty quartz. Anhydrite and flourite present within some veins now.	239893	0.061	0.071
703.0	705.0		7.5 **0.0**	*86.4*					239894	0.039	0.040
705.0	707.0		7.3 **0.1**	*28.9*					239895	0.036	0.033
707.0	709.0		7.0 **0.1**	*44.2*					239896	0.034	0.034
709.0	710.2		6.5 **0.1**	*1.2*					239897	0.043	0.048

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
710.2	712.0	Fine to coarse grained green moderately potassic - chlorite-sericite	7.5 **0.0**	*2.6*		Unit contains 10-15% augite phenocrysts 1-6mm in size. Some augite phenocrysts are altered to sericte and chlorite. Unit also contains 3-5% 1-3mm feldspar phenocrysts. Matrix is intermediate in composition. Alteration has obliterated some of the characteristics of the rock. Chlorite and sericite alteration dominate the start of the unit (potassic), down the hole sericite alteration becomes more dominant (phyllic). 3-5% zeolite, quartz and calcite veining oriented 60-80 deg to the core axis and 30-40 deg to the core axis. Unit is magnetic. Pyrite and chalcopyrite is disseminated within the matrix and present within veins. Spotty hematite and epidote within some veins. Minor anhydrite present at the start of the unit.	239898	0.066	0.068
712.0	714.0		7.0 **0.0**	*1.7*	FLT 40 1		239899	0.074	0.089
714.0	716.0	Fine to coarse grained green strongly phyllic	8.0 **0.1**	*1.8*		Sercite alteration has increased.	239901	0.033	0.037
716.0	718.0		7.5 **0.1**	*2.1*			239902	0.040	0.039
718.0	720.0		8.2 **0.1**	*0.6*			239903	0.006	0.018
720.0	722.0		7.0 **0.0**	*0.8*			239904	0.011	0.020
722.0	723.0		7.2 **0.0**	*1.1*			239905	0.006	0.021
723.0	725.0	Fine to coarse grained dark grey strongly phyllic	7.5 **0.0**	*1.4*		Unit contains 10-15% feldspar phenocrysts 0.3-1.1cm in size. Some feldspar phenocrysts are altered to sericite and chlorite. Alteration has obliterated some of the characteristics of the rock. Matrix is mafic in composition with sericite, chlorite and quartz alteration within the matrix. 3-5% zeolite and calcite veining oriented 50-70 deg to the core axis and 5-30 deg to the core axis. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins. Trace of chalcopyrite within some veins.	239906	0.012	0.025
725.0	727.0	Fine to coarse grained dark grey black strongly phyllic	6.5 **0.0**	*2.5*			239907	0.052	0.044

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
727.0	729.0	Fine to coarse grained dark grey black moderately phyllic	6.7 **0.2**	*22.5*			239908	0.060	0.050
729.0	731.0		6.0 **0.0**	*1.8*		Minor epidote and hematite within some veins.	239909	0.027	0.031
731.0	732.4		5.5 **0.0**	*45.1*		EOH	239910	0.022	0.032
0	2.7	**CASING**							
0.0	2.7								
2.7	12.1	**OVERBURDEN**							
2.7	9.0	orange grey		*0.7*			239526	0.058	0.040
9.0	12.1	grey strongly phyllic	4.0	*1.9*			239527	0.049	0.036
12.1	51	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
12.1	15.0	Fine to coarse grained green strongly potassic - chlorite-sericite	4.2 **0.0**	*7*		Unit contains 7-12% augite phenocrysts 1-3mm in size. Some of the augite phenocrysts are altered to chlorite. Patchy brecciated sections. Matrix is intermediate in composition. Chlorite, sericite and epidote alteration dominate the matrix. Spotty fragments have biotite alteration. 2-4% calcite, zeolite and quartz veins oriented 20-30 deg to the core axis and 60-80 deg to the core axis. Magnetite present within the veins and matrix. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite present. Spotty epidote present.	239528	0.089	0.055
15.0	17.0		3.8 **0.0**	*3.1*		Minor molybdenum within a quartz vein.	239529	0.067	0.040
17.0	19.0	Fine to coarse grained green strongly potassic - chlorite-sericite-biotite	3.8 **0.0**	*2*	QCALP 40 3		239530	0.093	0.053
19.0	21.0	Fine to coarse grained green strongly potassic - chlorite-sericite	3.3	*2.5*			239531	0.071	0.033
21.0	23.0		3.8 **0.1**	*3.2*			239532	0.050	0.029
23.0	25.0		4.2 **0.0**	*3.1*	FLT 30 1		239533	0.068	0.033
25.0	27.0		4.5 **0.0**	*18.5*	FLT 30 3		239534	0.103	0.048

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
27.0	29.0	Fine to coarse grained green strongly potassic - chlorite-sericite	4.0 **0.0**	*3.5*			239535	0.068	0.040
29.0	31.0		4.3 **0.0**	*3.7*			239536	0.058	0.037
31.0	33.0	Fine to coarse grained strongly potassic - chlorite-sericite-K-feldspar	4.0 **0.0**	*4.6*		a heterolithic section very similar to 57-87m originally quick logged as Hazelton due to it's heterolithic nature.	239537	0.048	0.035
33.0	35.0		4.0 **0.0**	*3.3*			239538	0.063	0.042
35.0	37.0		4.0 **0.0**	*4.5*		Propylitic overprint, patches of K-spar flooding, traces of very fine grained chalcopyrite.	239539	0.058	0.038
37.0	39.0	Fine to coarse grained green strongly potassic - chlorite-sericite	5.0 **0.0**	*3.7*		sercite stringer stockwork	239540	0.062	0.034
39.0	41.0		5.0 **0.0**	*4*		Propylitic overprint	239541	0.069	0.039
41.0	43.0		5.0 **0.0**	*5.3*	QAHMT 10 4	irregular patches and veins of quartz-sericite-anhydrite-magnetite.	239542	0.060	0.045
43.0	45.0		5.0 **0.0**	*7.3*		Phyllic in appearance sericite>chlorite. Classified as K zone alteration because of secondary magnetite. Chalcopyrite occurs as very fine grained disseminations in magnetite patches and veins.	239543	0.103	0.062
45.0	47.0		3.0 **0.0**	*4.5*		very siliceous, fragmental with heterolithic sections but mostly AAP fragments and matrix. End of sample very broken (faulted?).	239544	0.053	0.033
47.0	49.0	Fine to coarse grained grey green strongly phyllic	9.0 **0.0**	*2.4*		pervasive serititzation with very fine grained pyrite and patches of epidote. Magnetite absent.	239545	0.031	0.034
49.0	51.0		9.0 **0.0**	*14*			239546	0.023	0.021
51	57	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
51.0	53.0	Fine to coarse grained green moderately potassic - quartz-chlorite	0.5 **0.0**	*116*		Massive with zones of vbx. Very fine grained felspar crystal in a dark green aphanitic ground mass. Propylitic overprint as epidote psuedomorphs of feldspars. Pyrite in rare quartz veins.	239547	0.023	0.009
53.0	55.0		1.0 **0.0**	*3.4*			239548	0.028	0.016
55.0	57.0	Fine to coarse grained grey green moderately potassic - quartz-chlorite	2.0 **0.0**	*3.7*	QPYV 5 10		239550	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
57	59	**EPICLASTIC HETEROLITHIC SEDIMENTS**							
57.0	59.0	Fine to coarse grained dark green weakly propyllitic	1.0 **0.0**	*50.1*		RELOGGED. Lapilli fragments of basalt and qmz within larger fragments in a grey heterolithic tuffaceus matrix. Possible epiclastic layer inbetween the deposition of the upper andesite and the lower AAP. Debris flow characteristics with rounded fragments and poorly graded.	239551	0.011	0.009
59	67	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
59.0	61.0	Fine to coarse grained dark green weakly propyllitic	1.0 **0.0**	*21.4*		RELOGGED	239552	0.010	0.007
61.0	63.3		1.0 **0.0**	*107*			239553	0.009	0.001
63.3	65.0	Fine to coarse grained green strongly propyllitic	3.0 **0.0**	*1.4*		Fragmental heterolithic sections similar unit above at 33m. Pervasive epidote and disseminated pyrite with spotty chlorite.	239554	0.005	0.014
65.0	67.0		3.0 **0.0**	*4.3*			239555	0.013	0.021
67	73	**FRAGMENTAL HETEROLITHIC FAULT ZONE**							
67.0	69.0	Fine to coarse grained green weakly propyllitic	10.0 **0.0**	*0.5*		Mostly AAP fragments. Rare anglular quartz-pyrite vein fragments in matriX of ground fragments and compitent rock-flour. Sections of hazelton: Lapilli fragments of basalt, qmz, felsite, AAP, and AND fragments to 7 cm in a grey heterolithic tuffaceus matrix. Pervasive calcite-zeolite stringers.	239556	0.046	0.038
69.0	71.0		7.0 **0.0**	*2.1*			239557	0.039	0.039
71.0	73.0		6.0 **0.0**	*2.7*			239558	0.121	0.073
73	87	**CRYSTAL-LITHIC DACITE TUFF**							
73.0	75.0	Fine to medium grained dark green grey weakly propyllitic	2.0 **0.0**	*0.9*		Rare angular lapilli basalt fragments in a massive crystal tuff matrix of medium grained plagioclase in a dark grey-green ground-mass. Calcite-zeolite stringers throughout. Minor propylitic alteration as small amounts of disseminated pyrite and patchy epidote and chlorite alteration.	239559	0.056	0.033
75.0	77.0		0.1 **0.0**	*20.7*			239560	0.000	0.001

Hole Number: KH-07-18

From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
	77.0	79.0	Fine to medium grained dark green grey weakly propyllitic	0.1 **0.0**	*14.2*			239561	0.002	0.059
	79.0	81.0		0.1 **0.0**	*28.5*			239562	0.002	0.001
	81.0	83.0		0.1 **0.0**	*37.3*			239563	0.001	0.008
	83.0	85.0		0.1 **0.0**	*18.8*			239564	0.006	0.086
	85.0	87.0		0.1 **0.0**	*54*			239565	0.001	0.028
87	90		**CRYSTAL-LITHIC DACITE FAULT ZONE**							
	87.0	88.5	Fine to medium grained dark green grey weakly propyllitic	0.1 **0.0**	*2.3*		Sheared at 15º to core axis. Hematitic slickensides striated at 90º to core axis.	239566	0.004	0.252
	88.5	90.0		0.1 **0.0**	*17.2*			239567	0.001	0.047
90	118		**CRYSTAL-LITHIC DACITE TUFF**							
	90.0	92.0	Fine to medium grained dark green grey weakly propyllitic	0.0 **0.0**	*21.1*		Rare angular lapilli basalt fragments in a massive crystal tuff matrix of medium grained plagioclase in a dark grey-green quartz eyes bearing ground-mass. Calcite-zeolite stringers throughout. Minor propylitic alteration as small amounts of patchy chlorite alteration. Local patches of hematite staining.	239568	0.001	0.001
	92.0	94.0		0.0 **0.0**	*28.1*			239569	0.000	0.001
	94.0	96.0		0.0 **0.0**	*47.3*			239570	0.000	0.001
	96.0	98.0		0.0 **0.0**	*31.5*			239571	0.001	0.001
	98.0	100.0		0.0 **0.0**	*15.5*			239572	0.000	0.001
	100.0	102.0		0.0 **0.0**	*21.1*			239573	0.000	0.001
	102.0	104.0		0.0 **0.0**	*20.7*			239574	0.000	0.001
	104.0	106.0		0.0 **0.0**	*10.9*			239576	0.003	0.033
	106.0	108.0		0.0 **0.0**	*21.1*		quartz eyes	239577	0.001	0.011
	108.0	110.0		0.0 **0.0**	*13.9*			239578	0.002	0.007
	110.0	112.0		0.0 **0.0**	*12.5*		4 cm angular basalt fragments	239579	0.005	0.022
	112.0	114.0		0.0 **0.0**	*16.5*			239580	0.001	0.001

Hole Number: KH-07-18

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
114.0	116.0	Fine to medium grained dark green grey weakly propyllitic	0.0 **0.0**	*38.1*			239581	0.000	0.001
116.0	118.0		0.0 **0.0**	*34.1*			239582	0.004	0.023
118	123.6	**CRYSTAL-LITHIC DACITE FAULT ZONE**							
118.0	120.0	Fine to medium grained dark green grey weakly propyllitic	0.0 **0.0**	*26.5*		Rare anglular quartz vein and basalt fragments in a pyritic matrix of ground fragments and compitent rock-flour.	239583	0.003	0.026
120.0	122.0		0.0 **0.0**	*8.8*			239584	0.001	0.001
122.0	123.6		0.0 **0.0**	*19.7*			239585	0.033	0.012
123.6	127.2	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**							
123.6	126.0	Fine to medium grained dark green grey moderately propyllitic	1.0 **0.0**	*1.2*		RELOGGED. Large BFP block from 123.6-127.2m. 20% megacrystic epidote pseudomorphs after plagioclase in a chloritized groundmass. Zones of vbx. Pyrite veins.	239586	0.031	0.029
126.0	127.2		3.0 **0.0**	*1.2*	PYV 40 2	RELOGGED. 4 cm medium grained pyrite vein.	239587	0.053	0.068
127.2	133.8	**FRAGMENTAL HETEROLITHIC FAULT ZONE**							
127.2	129.0	Fine to coarse grained green pink weakly propyllitic	0.0 **0.0**	*38.1*		Felsic and basaltic fragments in a crystallithic groundmass. Local hematite staining and pervasive zeolite-calcite stringers. Hematite fracture coatings.	239588	0.013	0.021
129.0	131.0		0.0 **0.0**	*5.5*			239589	0.002	0.001
131.0	132.5		0.0 **0.0**	*33.2*		Clay gouge and sand at 132.	239590	0.001	0.001
132.5	133.8	Fine to coarse grained green weakly propyllitic	0.0 **0.0**	*23.6*			239591	0.002	0.001
133.8	143	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**							
133.8	135.0	Fine to medium grained green weakly propyllitic	0.0 **0.0**	*53.2*		Weakly aligned angular fragments of basalt, AAP, AND, and felsic clasts in a green crystallithic groundmass. Pyritic andesite clast are common.	239592	0.002	0.001
135.0	137.0		0.0 **0.0**	*22*			239593	0.002	0.014
137.0	139.0		0.0 **0.0**	*9.5*			239594	0.009	0.008
139.0	141.0		0.0 **0.0**	*23.8*			239595	0.003	0.005

Hole Number: KH-07-18

From	To		Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
141.0	143.0	Fine to medium grained green weakly propyllitic		0.0 **0.0**	*2.5*					239596	0.012	0.005
143	145.8	**FRAGMENTAL HETEROLITHIC FAULT ZONE**										
143.0	145.8	Fine to medium grained green weakly propyllitic		0.0 **0.0**	*3.7*				Felsic and basaltic fragments in a crystallithic groundmass.	239597	0.009	0.036
145.8	158	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**										
145.8	148.0	Very fine to coarse grained green strongly propyllitic		1.0 **0.0**	*0.6*				20% megacrystic epidote pseudomorphs after plagioclase in a chloritized groundmass. Zones of vbx.	239598	0.004	0.093
148.0	150.0			1.0 **0.0**	*0.8*					239599	0.070	0.034
150.0	152.0	Very fine to coarse grained strongly propyllitic		1.0 **0.0**	*0.9*					239601	0.014	0.025
152.0	154.0			1.0 **0.0**	*0.4*					239602	0.014	0.019
154.0	156.0			1.0 **0.0**	*0.4*					239603	0.020	0.043
156.0	158.0			2.0 **0.0**	*0.5*	SHR	45	1		239604	0.013	0.019
158	160	**MOTTLED BLADED FELDSPAR PORPHYRY FAULT ZONE**										
158.0	160.0	Very fine to coarse grained strongly propyllitic		2.0 **0.0**	*0.5*	SHR	20	10	Gouge and sand at 160m shears and quartz veins at 20º to core axis.	239605	0.028	0.078
160	165.3	**MASSIVE ANDESITE FLOW**										
160.0	162.0	Fine to medium grained dark green maroon weakly propyllitic		0.5 **0.0**	*53.3*				Weakly porphyritic with chloritized and hematized fine grained phenocrysts. Irregular quartz-calcite veining.Lower contact sheared at 40º to core axis.	239606	0.013	0.005
162.0	164.0			0.5 **0.0**	*29.7*	SHR	40	2		239607	0.016	0.001
164.0	165.3			0.5 **0.0**	*8.7*					239608	0.008	0.007

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
0	3	**CASING**									
0.0	3.0										
3	15	**MASSIVE OVERBURDEN**									
3.0	15.0	Fine to coarse grained grey pink		*22.1*				Broken monzodiorite material (Sovereign). 70% lost material.	240576	0.009	0.006
15	61.2	**MASSIVE MONZODIORITE INTRUSIVE**									
15.0	18.0	Fine to coarse grained grey pink	0.0	*27.4*				Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Mafics include hornblende and augite. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals increases down the hole. Spotty epidote alteration of some mafic minerals. ~2-3% calcite and zeolite veining oriented 20-60 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins.	240577	0.001	0.001
18.0	20.0		0.0	*33.7*					240578	0.000	0.001
20.0	22.0		0.0	*34.2*	FLT	40	2		240579	0.001	0.001
22.0	24.0	Fine to coarse grained grey pink weakly hematitic	0.0	*27.3*					240580	0.001	0.001
24.0	26.0		0.0	*35.2*	FLT	25	2		240581	0.001	0.006
26.0	28.0		0.1	*29.8*	FLT	30	4		240582	0.017	0.012
28.0	30.0	Fine to coarse grained grey	0.0	*36.3*					240583	0.000	0.005
30.0	32.0		0.0	*34.1*					240584	0.000	0.001
32.0	34.0	Fine to coarse grained grey pink weakly hematitic	0.0	*36.4*	FLT	60	1		240585	0.001	0.001
34.0	36.0	Fine to coarse grained grey	0.0	*33.9*					240586	0.000	0.001
36.0	38.0		0.0	*35.1*				Minor chlorite halo around some veins.	240587	0.000	0.001
38.0	40.0		0.0	*36*	FLT	50	1		240588	0.000	0.001

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
40.0	42.0	Fine to coarse grained grey	0.0	*27.3*					240589	0.019	0.023
42.0	44.0	Fine to coarse grained grey pink weakly hematitic	0.0	*38.7*	FLT	40	2		240590	0.001	0.008
44.0	46.0		0.0	*36.9*					240591	0.000	0.006
46.0	48.0	Fine to coarse grained grey pink moderately hematitic	0.0	*31.1*					240592	0.001	0.019
48.0	50.0		0.0	*52.3*					240593	0.000	0.001
50.0	52.0	Fine to coarse grained grey pink weakly hematitic	0.0	*49.4*					240594	0.001	0.005
52.0	54.0	Fine to coarse grained grey pink moderately hematitic	0.0	*45.5*					240595	0.000	0.001
54.0	56.0	Fine to coarse grained grey pink weakly hematitic	0.0	*23.5*					240596	0.001	0.009
56.0	58.0		0.0	*39.9*					240597	0.001	0.018
58.0	60.0		0.0	*48.5*					240598	0.000	0.001
60.0	61.2	Fine to coarse grained grey pink	0.0	*49.7*				Unit is brecciated and contains some andesite fragments.	240599	0.002	0.001
61.2	83	**BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**									
61.2	63.0	Fine to coarse grained dark green grey moderately chloritic	0.6	*52.4*	CNT	65		Unit is composed of 7-12% augite phenocrysts 1-4mm in size with some altered to chlorite. Matrix is intermediate in composition and altered to chlorite and minor sericite in places. Unit is brecciated in places. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor hematite within some veins. Spotty epidote within the matrix. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor granitoid fragments present.	240601	0.085	0.029
63.0	65.0		0.4	*36.5*					240602	0.086	0.030
65.0	67.0		0.5	*12.9*				Molybdenum present within a granitoid fragment.	240603	0.078	0.028
67.0	69.0		0.7	*76.6*	FLT	35	2		240604	0.092	0.043
69.0	71.0		0.3	*70.9*	FLT	50	1		240605	0.058	0.047

Hole Number: KH-07-19

From	To		Rock Type	Py-Cpy		Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
	71.0	73.0	Fine to coarse grained dark green grey moderately chloritic	0.5		*45.8*					240606	0.037	0.025
	73.0	75.0		0.6		*36*					240607	0.045	0.014
	75.0	77.0		1.2		*57.3*	FLT	70	1		240608	0.063	0.036
	77.0	79.0		0.3		*56.4*					240609	0.113	0.059
	79.0	81.0		0.2		*41.6*					240610	0.079	0.130
	81.0	83.0		0.3		*79.3*					240611	0.057	0.011
83	90.5		**BRECCIATED ANDESITE FLOW**										
	83.0	85.0	Fine to coarse grained dark green grey moderately chloritic	0.1	**0.1**	*45.4*				Minor chalcopyrite disseminated within the matrix. Augite phenocrysts have decreased. The unit is now just a chloritic altered andesite.	240612	0.080	0.022
	85.0	87.0		0.4	**0.1**	*19.8*				Minor chalcopyrite within a vein clast.	240613	0.095	0.057
	87.0	89.0		0.6	**0.1**	*81.3*				Trace of chalcopyrite and magnetite present within a vein.	240614	0.056	0.143
	89.0	90.5		0.8		*13.8*					240615	0.048	0.334
90.5	91.9		**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**										
	90.5	91.9	Fine to coarse grained black			*43.9*	CNT	70		Unit is composed of granitoid (Sovereign) and minor andesite fragments. Fragments are subangular and range in size from 0.3-8cm. Matrix is composed of ash material and ground up fragmental material. 4-6% zeolite and calcite veining and fractures randomly oriented. Minor hematite staining of the granitoid fragments and veins. Matrix and fragments are magnetic. Upper and lower contacts are 70 deg to the core axis.	240616	0.089	0.075
91.9	97		**BRECCIATED ANDESITIC AUGITE PORPHYRY FLOW**										

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
91.9	94.0	Fine to coarse grained dark green grey moderately chloritic	0.4	*59.2*				Unit is composed of 7-12% augite phenocrysts 1-4mm in size with some altered to chlorite. Matrix is intermediate in composition and altered to chlorite and minor sericite in places. Unit is brecciated in places. 3-5% calcite and zeolite veining oriented 35-65 deg to the core axis. Minor hematite within some veins. Spotty epidote within the matrix. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor granitoid fragments present.	240617	0.085	0.041
94.0	96.0		0.7 **0.0**	*28.2*				Trace of chalcopyrite associated with pyrite within a vein.	240618	0.088	0.035
96.0	97.0		1.0	*27.5*					240619	0.080	0.039
97	125	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
97.0	99.0	Fine to coarse grained grey pink weakly propyllitic	1.3	*26.5*	CNT	20		Unit contains ~75% fragments and ~25% matrix. Fragments consist of andesite, basalt, granitoid and tuffaceous material. Fragments range in size from 0.7-6cm and are subangular to subrounded in shape. Matrix in intermediate in composition. Matrix and some fragments are altered to chlorite with minor sericite. Minor epidote alteration present within the matrix and as halos around some fragments and veins. Minor hematite staining of some fragments and present within some veins. 3-5% calcite and zeolite veining oriented 40-60 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Upper contact is faulted at 20 deg to the core axis. Rare quartz eyes present. May correlate with hole 07-14, 07-18 (170-230m), 07-07 (156-176m), 06-03.	240620	0.026	0.029
99.0	101.0		1.5	*2.8*	FLT	50	2		240621	0.004	0.033
101.0	103.0		1.7	*28.3*					240622	0.020	0.056
103.0	105.0	Fine to coarse grained grey green weakly propyllitic	1.4	*20.6*					240623	0.019	0.131
105.0	107.0		1.1 **0.0**	*5.9*	FLT	30	1	Trace of chalcopyrite within an andesite fragment.	240624	0.040	0.169

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
107.0	109.0	Fine to coarse grained dark grey weakly propyllitic	0.6 **0.0**	*44.7*				Needle like magnetite with minor chalcopyrite within a calcite vein.	240626	0.010	0.045
109.0	111.0		0.7 **0.0**	*1.4*				Needle like magnetite with minor chalcopyrite within a calcite vein haloed by epidote, possible fragment.	240627	0.011	0.021
111.0	113.0		0.5	*6.9*					240628	0.007	0.045
113.0	115.0		0.4	*2.7*					240629	0.002	0.049
115.0	117.0		0.4 **0.0**	*5.5*				Trace of chalcopyrite within the matrix.	240630	0.028	0.018
117.0	119.0		0.6 **0.0**	*22.9*	FLT	35	1	Needle like hematite with chalcopyrite within a highly altered fragment.	240631	0.009	0.036
119.0	121.0		0.2	*1.7*					240632	0.016	0.107
121.0	123.0		0.3	*2.4*					240633	0.035	0.046
123.0	125.0		0.5	*1.6*					240634	0.036	0.198
125	133.2	**BRECCIATED MONZODIORITE DYKE**									
125.0	127.0	Fine to coarse grained grey pink weakly hematitic	0.0	*42.6*				Unit contains ~80% feldspars, ~15% mafics and ~5% quartz. Mafics include hornblende and augite. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals. Spotty epidote alteration of some mafic minerals. ~2-3% calcite and zeolite veining oriented 20-50 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins. Upper and lower contacts are broken.	240635	0.007	0.021
127.0	129.0		0.0	*38.5*					240636	0.010	0.681
129.0	131.0		0.0	*29.1*	FLT	30	2		240637	0.012	0.355
131.0	133.2		0.0	*33.6*	FLT	50			240638	0.013	0.077
133.2	146.4	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
133.2	135.0	Fine to coarse grained dark grey weakly propyllitic	0.3 **0.0**	*36.5*				Unit contains ~65% fragments and ~35% matrix. Fragments consist of andesite, basalt, granitoid and tuffaceous material. Fragments range in size from 0.3-5cm and are subangular to subrounded in shape. Matrix in intermediate in composition. Matrix and some fragments are altered to chlorite with minor sericite. Minor hematite staining of some fragments and present within some veins. 3-5% calcite and zeolite veining oriented 20-50 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Pyrite is disseminated within the matrix and present within some fragments. Rare quartz eyes present. Trace of chalcopyrite within an andesite fragment.	240639	0.119	0.062
135.0	137.0		0.1	*20.3*					240640	0.012	0.008
137.0	139.0		0.1	*39.2*					240641	0.008	0.010
139.0	141.0		0.1	*57.5*	SHR	30	2		240642	0.004	0.007
141.0	143.0		0.1	*75.2*					240643	0.018	0.018
143.0	145.0		0.1	*59.2*					240644	0.004	0.005
145.0	146.4		0.1	*5*	SHR	30	3		240645	0.045	0.344
146.4	208.3	**MASSIVE QUARTZ MONZODIORITE INTRUSIVE**									
146.4	148.0	Fine to coarse grained grey pink weakly hematitic	0.1	*7.9*	CNT	30		Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Mafics include hornblende and augite. Phenocrysts of hornblende and augite present. Spotty sericite alteration of some of the feldspar grains. Spotty chlorite and biotite alteration of some of the mafic minerals. Hematite staining of the feldspar minerals. Spotty epidote alteration of some mafic minerals and as halos around some veins. ~3-4% calcite and zeolite veining oriented 30-70 deg to the core axis. Unit is magnetic. Minor hematite within some veins. Trace of pyrite disseminated within the matrix and present within some veins. Upper contact is 30 deg to the core axis.	240646	0.010	0.053

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
148.0	150.0	Fine to coarse grained grey weakly hematitic	0.0	*2.3*					240647	0.003	0.115
150.0	152.0		0.1	*1.9*					240648	0.015	0.224
152.0	154.0		0.1	*2.2*					240649	0.008	0.175
154.0	156.0		0.1	*2.5*					240651	0.024	0.239
156.0	158.0		0.0	*0.8*					240652	0.002	0.026
158.0	160.0		0.0	*30.2*					240653	0.012	0.070
160.0	162.0	Fine to coarse grained pink moderately hematitic	0.1	*32.9*					240654	0.003	0.021
162.0	164.0		0.1	*18.2*					240655	0.009	0.204
164.0	166.0		0.0	*26.6*					240656	0.007	0.126
166.0	168.0		0.0	*38.3*					240657	0.001	0.073
168.0	170.0		0.0	*47.4*				Start of 20cm composite sampling.	240658	0.001	0.001
170.0	172.0		0.0	*50*					240659	0.023	0.001
172.0	174.0		0.0	*3.4*					240660	0.014	0.001
174.0	176.0		0.0	*32.5*					240661	0.003	0.105
176.0	178.0		0.0	*38.8*					240662	0.000	0.001
178.0	180.0		0.0	*45.5*					240663	0.001	0.001
180.0	182.0		0.0	*18.2*					240664	0.001	0.001
182.0	184.0		0.0	*11.3*					240665	0.000	0.060
184.0	186.0		0.0	*4.8*					240666	0.000	0.005
186.0	188.0		0.0	*29.8*	QZV	40	1		240667	0.000	0.001
188.0	190.0	Fine to coarse grained pink grey moderately hematitic	0.0	*48.1*					240668	0.002	0.005
190.0	192.0		0.0	*46.2*	SHR	40	1		240669	0.001	0.006
192.0	194.0		0.0	*38.2*					240670	0.000	0.001
194.0	196.0		0.0	*56.9*					240671	0.000	0.001

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
196.0	198.0	Fine to coarse grained pink grey moderately hematitic	0.0	*50.5*					240672	0.000	0.001
198.0	200.0		0.0	*56.7*					240673	0.000	0.001
200.0	202.0		0.0	*51.1*					240674	0.000	0.001
202.0	204.0		0.0	*40.5*	CALV	40	2		240676	0.000	0.006
204.0	206.0	Fine to coarse grained pink moderately hematitic	0.0	*39.7*				Start splitting entire sample again.	240677	0.001	0.043
206.0	208.3		0.0	*44.5*					240678	0.001	0.009
208.3	210.8	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									
208.3	210.8	Fine to coarse grained black weakly chloritic	2.0	*2.6*	SHR	10	3	Unit is composed of a dark ash matrix with fragments of Sovereign. Sovereign fragments are hematite stained and are 0.5-4cm in size and are subangular to subrounded in shape. Matrix is altered to chlorite. Patchy epidote within some fragments. Unit is fractured. 5-7% zeolite and calcite veining randomly oriented. Matrix and fragments are magnetic. Shear zone towards the end of the unit separates the IBX unit from a possible AAP unit. Strong amount of pyrite on the questionable AAP unit.	240679	0.012	0.355
210.8	244.8	**BRECCIATED QUARTZ MONZODIORITE INTRUSIVE**									
210.8	213.0	Fine to coarse grained grey weakly hematitic	0.3	*7*				Back into similar Quartz Monzodiorite encountered above.	240680	0.004	0.506
213.0	215.0		0.1	*2.5*	SHR	10	1		240681	0.030	0.195
215.0	217.0	Fine to coarse grained pink weakly hematitic	0.3	*2.6*				Back to 20cm composite samples.	240682	0.005	0.055
217.0	219.0		0.3	*11.5*					240683	0.007	0.570
219.0	221.0	Fine to coarse grained pink grey weakly hematitic	0.0	*55.4*					240684	0.000	0.001
221.0	223.0		0.1	*35.2*					240685	0.000	0.047
223.0	225.0		0.1	*60.4*					240686	0.000	0.001
225.0	227.0		0.0	*55.6*					240687	0.000	0.001

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
227.0	229.0	Fine to coarse grained pink grey weakly hematitic	0.0	*29.5*					240688	0.000	0.001
229.0	231.0		0.0	*48.7*					240689	0.000	0.001
231.0	233.0	Fine to coarse grained weakly hematitic	0.2	*31.2*	SHR	10	1	Chloritic zones becoming more present as halos to some calcitic and zeolite veins. Veins contain pyrite.	240690	0.000	0.001
233.0	235.0		0.1	*43.1*					240691	0.001	0.001
235.0	237.0	Fine to coarse grained pink grey weakly hematitic	0.0	*52.6*	FLT	65	2		240692	0.000	0.001
237.0	239.0	Fine to coarse grained weakly hematitic	0.1	*41.4*	SHR	15	2		240693	0.000	0.001
239.0	241.0	Fine to coarse grained pink grey weakly hematitic	0.0	*27.6*					240694	0.000	0.018
241.0	243.0	Fine to coarse grained weakly hematitic	0.1	*44.6*	FRK	10	3		240695	0.000	0.001
243.0	244.8	Fine to coarse grained pink grey weakly hematitic	0.0	*51*				Start splitting entire sample interval again.	240696	0.001	0.001
244.8	275	**FRAGMENTAL QUARTZ MONZODIORITE INTRUSION BRECCIA**									
244.8	247.0	Fine to coarse grained grey	0.1	*72.5*	CNT	45		Unit contains fragments of Quartz Monzodiorite and rare mafic rock fragments and remnant quartz vein material with magnetite within it. Fragments 0.3-6cm and are subangular to subrounded. Quartz monzodiorite fragments are hematite stained. Matrix is intermediate in composition and is also composed of ground up host rock. Minor chloritic sections as halos around some veins, shear and fault zones. Spotty chlorite and sericite alteration within the matrix. Patchy epidote alteration of mafic fragments and minerals. 2-3% calcite and zeolite veining oriented 30-60 deg to the core axis. Matrix and fragments are magnetic. Trace of pyrite is disseminated within the matrix and fragments. Most of the pyrite is associated with the chloritic sections. Upper contact is 45 deg to the core axis and the lower contact is 30 deg to the core axis.	240697	0.066	0.046

Hole Number: KH-07-19

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
247.0	249.0	Fine to coarse grained grey	0.2	*67.6*					240698	0.073	0.077
249.0	251.0		0.1 **0.0**	*48.4*	FLT	30	2	Trace of chalcopyrite within a quartz fragment.	240699	0.069	0.032
251.0	253.0		0.1	*57*	FLT	35	2	Section contains small dark mafic tuffaceous dike oriented 10 deg to the core axis.	240701	0.070	0.068
253.0	255.0		0.1	*67.6*					240702	0.092	0.052
255.0	257.0		0.1	*60.1*					240703	0.083	0.029
257.0	259.0		0.2	*55.7*					240704	0.100	0.069
259.0	261.0		0.4 **0.1**	*52.9*				Minor chalcopyrite associated with an epidote altered mafic fragment and associated with a pyrite vein.	240705	0.143	0.204
261.0	263.0		0.3 **0.0**	*61.1*				Trace of chalcopyrite within an epdiote altered mafic fragment.	240706	0.087	0.092
263.0	265.0	Fine to coarse grained	0.1 **0.0**	*65*	FLT	20	1	Trace of chalcopyrite within a chloritic section. Unit is becoming chloritic towards the end of the interval.	240707	0.081	0.237
265.0	267.0	Fine to coarse grained weakly chloritic	0.1	*58.9*	FLT	20	1	Chloritic alteration persists for half of the interval.	240708	0.053	0.081
267.0	269.0		0.1	*10.7*	FLT	10	2	Chloritic sections again.	240709	0.037	0.029
269.0	271.0	Fine to coarse grained dark green grey moderately chloritic	0.2	*49.2*	FLT	10	2	Chloritic alteration throughout interval	240710	0.019	0.019
271.0	273.0	Fine to coarse grained grey pink weakly hematitic	0.0	*35*				Hematite alteration has increased and chloritic alteration has decreased.	240711	0.012	0.025
273.0	275.0		0.0	*8*	FLT	25	3		240712	0.004	0.071
275	318	**MASSIVE QUARTZ MONZODIORITE INTRUSIVE**									
275.0	277.0	Fine to coarse grained grey weakly hematitic	0.2 **0.0**	*45*	QCPYP	55	1	Back into the similar hematite stained quartz monzodiorite encoutered before the IBX unit. Trace of chalcopyrite within a quartz vein.	240713	0.014	0.052
277.0	279.0		0.1	*35.9*					240714	0.011	0.022
279.0	281.0		0.0	*44.1*				Back to 20cm composite sampling.	240715	0.006	0.101
281.0	283.0		0.1	*27*	SHR	20	2		240716	0.012	0.039
283.0	285.0		0.0	*7*	SHR	15	2		240717	0.002	0.027

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
285.0	287.0	Fine to coarse grained grey weakly hematitic	0.0	*35.6*					240718	0.001	0.011
287.0	289.0		0.0	*38.4*					240719	0.000	0.001
289.0	291.0		0.0	*47.8*					240720	0.000	0.001
291.0	293.0		0.0	*54.3*					240721	0.000	0.005
293.0	295.0		0.0	*37.2*					240722	0.000	0.001
295.0	297.0		0.0	*59.2*					240723	0.000	0.007
297.0	299.0		0.0	*51.4*					240724	0.000	0.005
299.0	301.0		0.0	*42.7*					240726	0.000	0.005
301.0	303.0		0.0	*47.3*					240727	0.001	0.007
303.0	305.0		0.0	*14.4*	SHR	10	2	Minor chloritic halo around a shear zone with a calcite vein.	240728	0.001	0.007
305.0	307.0		0.0	*35.3*					240729	0.000	0.001
307.0	309.0		0.0	*34.7*					240730	0.003	0.009
309.0	311.0		0.0	*30.7*					240731	0.024	0.022
311.0	313.0		0.0	*49.5*					240732	0.001	0.001
313.0	315.0		0.0	*44.6*					240733	0.001	0.001
315.0	317.0		0.0	*13.2*					240734	0.061	0.073
317.0	318.0		0.0	*4.7*				EOH	240735	0.001	0.013

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	9	**CASING**							
0.0	9.0								
9	96.7	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							
9.0	12.0	Fine to medium grained grey weakly propyllitic	0.0 **0.0**	*1.8*		Grey hetetrolithic crystal tuff. 0-15% 1-3 mm euhedral plagioclse lapilli. 5-50% 0.5-20 cm subrounded lithic fragments: QFP, AAP and BFP most common. Weak propylitic (chlorite, epidote, patchy hematite) alteration. 1-3% 0.5-4 mm quartz-calcite (+/- zeolite, hematite) veins at 45-80 ° to core axis. 0-2% disseminated pyrite.	238560	0.015	0.008
12.0	14.0		0.0 **0.0**	*42.5*			238561	0.001	0.001
14.0	16.0		0.0 **0.0**	*14.8*			238562	0.001	0.001
16.0	18.0		0.0 **0.0**	*25.4*			238563	0.000	0.001
18.0	20.0		0.0 **0.0**	*44.7*			238564	0.001	0.001
20.0	22.0		0.0 **0.0**	*35*			238565	0.002	0.011
22.0	24.0		0.0 **0.0**	*3.4*			238566	0.000	0.001
24.0	26.0		0.1 **0.0**	*3.4*			238567	0.001	0.027
26.0	28.0		0.0 **0.0**	*7.7*			238568	0.003	0.016
28.0	30.0		0.1 **0.0**	*3.6*			238569	0.002	0.033
30.0	32.0		0.0 **0.0**	*24.5*			238570	0.000	0.001
32.0	34.0		0.1 **0.0**	*33.8*			238571	0.000	0.001
34.0	36.0		0.1 **0.0**	*28.9*			238572	0.016	0.008
36.0	38.0		0.1 **0.0**	*6.5*			238573	0.007	0.006
38.0	40.0		0.1 **0.0**	*13.2*			238574	0.020	0.014
40.0	42.0		0.1 **0.0**	*3*		Unit photo.	238576	0.016	0.008
42.0	44.0		0.1 **0.0**	*51.3*		AAP fragment with small magnetite stringers.	238577	0.019	0.022
44.0	46.0		0.1 **0.0**	*53.5*			238578	0.006	0.005
46.0	48.0		0.1 **0.0**	*60.9*			238579	0.005	0.001

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
48.0	50.0	Fine to medium grained grey weakly propyllitic	0.1 **0.0**	*52.4*			238580	0.006	0.001
50.0	52.0		0.2 **0.0**	*24.8*		trace (imaginary?) chalcopyrite.	238581	0.002	0.006
52.0	54.0		0.0 **0.0**	*55.5*			238582	0.004	0.008
54.0	56.0		0.0 **0.0**	*7.4*			238583	0.000	0.005
56.0	58.0		0.0 **0.0**	*30.1*			238584	0.015	0.012
58.0	60.0		0.0 **0.0**	*29.5*		>20 cm QFP (QMZD) clast.	238585	0.001	0.001
60.0	62.0		0.0 **0.0**	*18.7*			238586	0.001	0.006
62.0	64.0		0.0 **0.0**	*29.5*		Secondary magnetite in small vein.	238587	0.000	0.001
64.0	66.0		0.0 **0.0**	*31.3*		80 cm of hematite staining in this interval, plus higher vein (zeolite) density.	238588	0.001	0.001
66.0	68.0		0.0 **0.0**	*31.4*			238589	0.001	0.011
68.0	70.0		0.1 **0.0**	*40.4*			238590	0.004	0.001
70.0	72.0		0.1 **0.0**	*26.9*			238591	0.001	0.006
72.0	74.0		0.0 **0.0**	*6.8*		40 cm clast of andesite.	238592	0.001	0.001
74.0	76.0		0.2 **0.0**	*12.7*		Fluorite (?) in a vein.	238593	0.001	0.026
76.0	78.0		0.3 **0.0**	*7.1*			238594	0.000	0.024
78.0	80.0		0.5 **0.0**	*17.3*			238595	0.000	0.023
80.0	82.0		0.1 **0.0**	*2.6*			238596	0.001	0.040
82.0	84.0		0.1 **0.0**	*24.9*		calcite-zeolite veins at 5-6%.	238597	0.001	0.040
84.0	86.0		0.3 **0.0**	*22*			238598	0.001	0.038
86.0	88.0		1.0 **0.0**	*4.7*			238599	0.000	0.026
88.0	90.0		0.5 **0.0**	*20.3*			238601	0.001	0.022
90.0	92.0		0.1 **0.0**	*2.9*		3 cm piece of jasper. <10% lithic fragments.	238602	0.002	0.001
92.0	94.0		0.5 **0.0**	*22.4*			238603	0.012	0.022
94.0	96.0		0.1 **0.0**	*3.7*			238604	0.001	0.038

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
96.0	96.7	Fine to medium grained grey weakly propyllitic	0.5 **0.0**	*26*			238605	0.007	0.087
96.7	107.8	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY FLOW**							
96.7	98.0	Fine to coarse grained grey strongly propyllitic	0.0 **0.0**	*81.5*		Green-dark grey andesitic augite porphyry flow. Phenocrysts are 5-15% 1-4 mm augite and 5-15% 2-5 mm epidote (after plagioclase?). Moderate to strong propylitic (epidote, chlorite) alteration. 2-10% (mode: 5%) 0.1-10 cm calcite (associated minor epidote) veins at 20-60 ° to core axis. Calcite veining can be locally (<20 cm) dense giving core a brecciated texture. Zero to trace pyrite. Upper contact is undulatory, approximately 80 ° to core axis.	238606	0.017	0.001
98.0	100.0		0.0 **0.0**	*27.8*	FLT 50	two small possible faults in this interval, one at 50 ° to core axis, and the other a 5 cm rubble zone. Also a 10 cm wide calcite vein containing fragments of wallrock.	238607	0.015	0.011
100.0	102.0		0.0 **0.0**	*21.3*		Unit photo.	238608	0.013	0.012
102.0	104.0		0.0 **0.0**	*15.1*			238609	0.013	0.001
104.0	106.0		0.0 **0.0**	*6.4*			238610	0.016	0.006
106.0	107.8		0.0 **0.0**	*25.1*			238611	0.015	0.001
107.8	110	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							
107.8	110.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	2.0 **0.1**	*3.7*		Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP. Moderate to strong potassic (chlorite, sericite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. One 15 x 2 mm magnetite stringer. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Upper contact is undulatory at approximately 70 ° to core axis.	238612	0.116	0.105
110	113.6	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**							

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
110.0	112.0	Fine to coarse grained grey strongly phyllic	1.0 **0.1**	*3.4*		Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafic: horneblende, augite. Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is faulted at approximately 40 ° to core axis.	238613	0.181	0.101
112.0	113.6		1.0 **0.1**	*4.2*		Few magnetite blebs with associated chalcopyrite.	238614	0.137	0.082
113.6	125.5	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							
113.6	115.0	Fine to medium grained green grey strongly phyllic	1.0 **0.1**	*6*		Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 70 ° to core axis.	238615	0.075	0.058
115.0	117.0	Fine to medium grained green grey moderately potassic - chlorite-sericite	2.0 **0.0**	*8.4*			238616	0.069	0.067
117.0	119.0		2.0 **0.0**	*2.6*			238617	0.051	0.051
119.0	121.0		2.0 **0.0**	*3.4*	CALCL 60		238618	0.071	0.059
121.0	123.0		2.0 **0.0**	*7.4*			238619	0.062	0.051
123.0	125.0		2.0 **0.0**	*5.6*		Magnetite-pyrite stringer.	238620	0.082	0.066
125.0	125.5		2.0 **0.0**	*6.6*			238621	0.063	0.054
125.5	127.2	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**							

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
125.5	127.2	Fine to coarse grained grey moderately phyllic	1.0 **0.0**	*3.3*		Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is across a vein at approximately 50 ° to core axis.	238622	0.151	0.086
127.2	128.7	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							
127.2	128.7	Fine to medium grained yellow green moderately potassic - chlorite-sericite	2.0 **0.0**	*1.1*		Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 30 ° to core axis.	238623	0.194	0.120
128.7	130	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**							
128.7	130.0	Fine to coarse grained grey moderately phyllic	1.0 **0.0**	*0.6*		Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 1-2% pyrite, zero to trace chalcopyrite. Upper contact is approximately 70 ° to core axis.	238624	0.205	0.100
130	136.5	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							

Hole Number: KH-07-21

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
130.0	132.0	Fine to medium grained yellow green moderately potassic - chlorite-sericite	2.0 **0.0**	*6.6*		Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Moderate to strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 70 ° to core axis.	238626	0.085	0.070
132.0	134.0		2.0 **0.0**	*7.5*			238627	0.080	0.059
134.0	136.0		2.0 **0.0**	*5.4*			238628	0.157	0.112
136.0	136.5		2.0 **0.0**	*0.8*			238629	0.205	0.131
136.5	137.9	**PORPHYRITIC QUARTZ FELDSPAR PORPHYRY INTRUSIVE**							
136.5	137.9	Fine to coarse grained grey moderately phyllic	1.0 **0.1**	*0.9*		Light grey-green quartz-feldspar porphyry intrusive. Phenocrysts: 5-10% 1-3 mm feldspar, 1-5% 1-4 mm quartz, 5% 1-6 mm mafics: hornblende, augite Moderate phyllic (sericite, quartz) alteration, overprinting propylitic (epidote?)? 3% 1-5 mm quartz-carbonate-anhydrite veins at 20-50 ° to core axis. 5-10 cm quartz vein from 137.6 to 137.8 metres 1% pyrite, zero to trace chalcopyrite. Trace molybdenite in quartz vein. Upper contact is undulatory at approximately 70 ° to core axis.	238630	0.252	0.166
137.9	142.5	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**							
137.9	139.0	Fine to medium grained grey green strongly potassic - chlorite-sericite	2.0 **0.0**	*7.1*		Grey-green heterolithic tuff. 5-15% 0.5-5 cm subrounded fragments of AND and QFP, rare BFP. Strong potassic (chlorite, sericite +/- biotite) alteration. 5% 1-5 mm calcite-anhydrite veins at 10-50 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is faulted at approximately 55 ° to core axis.	238631	0.204	0.130
139.0	141.0		2.0 **0.0**	*1.7*			238632	0.318	0.195
141.0	142.5		2.0 **0.1**	*44.6*		Magnetite stringer.	238633	0.187	0.177

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
142.5	145.5	**HETEROGENEOUS QUARTZ FELDSPAR PORPHYRY**							
142.5	144.0	Fine to medium grained grey salmon strongly potassic - chlorite-sericite	1.0 **0.0**	*6.4*		Grey (becoming salmon-light pink towards end of unit) intrusive breccia. Mainly QFP fragments 1-10 cm, but includes a few Takla volcanic fragments as well. Potassic (clorite, sericite) altered, with a weak to moderate propylitic (epidote, hematite) overprint over second half of unit. 5-10% calcite-zeolite veins at 30-60 ° to core axis, becoming more zeolite rich with minor epidote downhole. 1-2% pyrite with trace chalcopyrite. Upper contact is sharp and undulatory at approximately 40 ° to core axis.	238634	0.086	0.075
144.0	145.5	Fine to medium grained salmon grey moderately propyllitic	1.0 **0.0**	*34.3*			238635	0.026	0.013
145.5	146.6	**SHEARED HETEROLITHIC FAULT ZONE**							
145.5	146.6	Fine to medium grained grey white intensely phyllic	0.3 **0.0**	*5.2*	FLT 45	Whitish grey heterolithic tuff in a fault zone. Intense potassic (chlorite, sericite, magnetite blebs) alteration masks primary features, but QFP, AND, AAP fragments are all discernable. Bounding faults are both approximately 20-30 ° to core axis. ~0.5% pyrite, mostly associated with 1-2 magnetite blebs.	238636	0.105	0.083
146.6	148	**FRAGMENTAL ANDESITIC AUGITE PORPHYRY FLOW**							
146.6	147.4	Fine to coarse grained dark green moderately phyllic	0.1 **0.0**	*58.3*		Dark green andesitic augite porphyry flow breccia. Phenocrysts: 5-10% 1-5 mm euhedral augite, 3-5% 1-4 mm olivine (not correct colour for epidote?). Subangular autobrecciated fragments up to 15 cm. Strong phyllic (chlorite, sericite) alteration. Trace to minor pyrite. Upper contact is faulted at ~25 ° to core axis.	238637	0.002	0.116
147.4	148.0		0.1 **0.0**	*7.3*			238638	0.016	0.006
148	162.6	**HETEROGENEOUS HETEROLITHIC LAPILLISTONE**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
148.0	150.0	Fine to medium grained yellow green moderately potassic - chlorite-sericite	2.0 **0.0**	*9.6*		Grey-green heterolithic tuff. 5-25% 0.5-5 cm subrounded fragments of AND and QFP, less common BFP. Moderate to strong potassic (chlorite, biotite, sericite) alteration. Brief 1 m sections with phyllic (sericite) overprint. Three intersections (0.3- 1.3 metres) of phyllic altered QFP intrusive. 5% 1-5 mm calcite-anhydrite veins at 10-55 ° to core axis. 1-3% 0.5-3 mm pyrite blebs, zero to trace chalcopyrite. Uncommon magnetite-pyrite +/- chalcopyrite veinlets. Upper contact is lost in rubble, maybe 70-90 ° to core axis? 30 cm interval of propylitic intrusive breccia.	238639	0.064	0.050
150.0	152.0	Fine to medium grained light green grey weakly phyllic	3.0 **0.0**	*63.4*	FLT	Fault at 151.3 metres.	238640	0.092	0.055
152.0	154.0	Fine to medium grained yellow green weakly phyllic	3.0 **0.0**	*22.8*			238641	0.159	0.104
154.0	156.0	Fine to medium grained yellow green moderately potassic - chlorite-biotite-sericite	3.0 **0.0**	*3.5*			238642	0.290	0.164
156.0	159.0		3.0 **0.0**	*9.9*		Possible fault zone, core is suddenly rubbly, mean fragment size is 4 cm, no obvious change in lithology or alteration.	238643	0.215	0.159
159.0	161.3		3.0 **0.0**	*5.9*		Possible fault zone continues.	238644	0.075	0.065
161.3	162.6		3.0 **0.0**	*24.9*		More larger core pieces, end of possible fault zone.	238645	0.172	0.110
162.6	169	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
162.6	165.0	Fine to medium grained green grey moderately potassic - chlorite-biotite-sericite	3.0 **0.2**	*116*		Dark green-grey andesitic volcanic breccia. 1-20 cm subangular andesite fragments. Locally heterolithic: granitoid clasts suggest IBX intercepts. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite +/- anhydrite veins at 10-50 ° to core axis. 2-5% disseminated pyrite, 0-0.5% chalcopyrite.	238646	0.216	0.155
165.0	166.3		3.0 **0.2**	*45.6*			238647	0.222	0.150
166.3	169.0		3.0 **0.1**	*42*	FLT 55	40 cm fault bound phyllic heterolithic crystal tuff.	238648	0.256	0.184

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
169	173	**HETEROGENEOUS HETEROLITHIC CRYSTAL-LITHIC TUFF**								
169.0	171.0	Fine to coarse grained yellow pink strongly phyllic	1.0 **0.1**	*13.6*			grey-light pink heterolithic crystal tuff. 10-25% 1-5 mm feldspar lapilli. 10-25% 1-15 cm lithic fragments: autobreccia, BFP, AND. Strong phyllic (sericite, pyrite, quartz) alteration. 3-5% calcite-zeolite veins at 30-60 ° to core axis. 1-3% pyrite, 0-0.5% chalcopyrite.	238649	0.210	0.142
171.0	173.0		1.0 **0.1**	*59.4*			30 cm interval of AND VBX: clast or faulted from proximal unit?	238651	0.224	0.146
173	187.2	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**								
173.0	175.0	Fine to medium grained green grey moderately potassic - chlorite-biotite-sericite	3.0 **0.1**	*17.1*			Dark green-grey andesitic volcanic breccia. 1-20 cm subangular andesite fragments. Locally heterolithic: granitoid clasts suggest IBX intercepts. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite +/- anhydrite veins at 10-50 ° to core axis. 2-5% disseminated pyrite, 0-0.5% chalcopyrite.	238652	0.237	0.151
175.0	177.0		3.0 **0.1**	*2.8*				238653	0.204	0.132
177.0	177.9		3.0 **0.1**	*3.7*				238654	0.145	0.091
177.9	179.0		3.0 **0.1**	*9.6*				238655	0.178	0.100
179.0	180.1		3.0 **0.1**	*85.7*				238656	0.094	0.058
180.1	182.1		3.0 **0.0**	*14.2*	FLT	45		238657	0.207	0.133
182.1	184.1		3.0 **0.0**	*10.7*				238658	0.116	0.092
184.1	186.1		3.0 **0.0**	*4.9*				238659	0.194	0.147
186.1	187.2		3.0 **0.0**	*8.8*			larger QMZD clasts.	238660	0.114	0.095
187.2	193.6	**FRAGMENTAL QUARTZ MONZODIORITE INTRUSION BRECCIA**								
187.2	189.0	Fine to coarse grained pink moderately potassic - biotite-chlorite	1.0 **0.0**	*5.6*			pink-grey quartz monzodiorite intrusive breccia. Autobrecciated clasts up to 10 cm. Quartz and plagioclase phenocrysts. Moderate potassic (hematite, chlorite) alteration stains feldspars and matrix and gives core pink hue. Calcite +/- zeolite veining at 20-60 ° to core axis. Upper contact is faulted at 75 ° to core axis.	238661	0.048	0.036

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
189.0	191.0	Fine to coarse grained pink moderately potassic - biotite-chlorite	1.5 **0.0**	*0.7*	FLT	40 cm fault bound and sheared AND VBX.	238662	0.278	0.210
191.0	192.0		1.0 **0.0**	*4.7*			238663	0.170	0.167
192.0	193.6		1.0 **0.0**	*7.7*			238664	0.167	0.142
193.6	255.5	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
193.6	195.0	Fine to medium grained grey moderately potassic - chlorite-sericite-biotite	3.0 **0.0**	*10.1*		Dark green-grey andesitic volcanic breccia. 1-5% euhedral augite phenocrysts. 1-20 cm subangular andesite fragments. Moderate to strong potassic (chlorite, biotite, sericite) alteration. 2-5% quartz-carlcite (+/- chlorite, magnetite, rare sulfides) veins at 10-50 ° to core axis. 1-5% magnetite, associated with sulfides. 2-5% disseminated pyrite, 0-0.5% chalcopyrite. Upper contact is faulted at 45 ° to core axis.	238665	0.160	0.101
195.0	197.0		3.0 **0.0**	*1.1*			238666	0.118	0.083
197.0	199.0		3.0 **0.0**	*1*			238667	0.114	0.060
199.0	201.0		3.0 **0.0**	*3.5*			238668	0.080	0.058
201.0	203.0		3.0 **0.0**	*57.9*			238669	0.084	0.047
203.0	205.0		3.0 **0.0**	*16.8*			238670	0.202	0.187
205.0	207.0		3.0 **0.0**	*9*			238671	0.160	0.139
207.0	209.0		3.0 **0.0**	*0.9*			238672	0.128	0.067
209.0	211.0		3.0 **0.0**	*7.7*			238673	0.194	0.131
211.0	213.0		3.0 **0.2**	*64.2*			238674	0.312	0.132
213.0	215.0		3.0 **0.2**	*13.5*		Vuggy vein.	238676	0.328	0.221
215.0	217.0		3.0 **0.1**	*5.2*			238677	0.131	0.083
217.0	219.0		3.0 **0.0**	*1.8*			238678	0.180	0.115
219.0	221.0		3.0 **0.0**	*6.1*			238679	0.184	0.126
221.0	223.0		2.0 **0.0**	*48.4*			238680	0.236	0.142
223.0	225.0		4.0 **0.1**	*2.7*			238681	0.154	0.106

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
225.0	227.0	Fine to medium grained grey moderately potassic - chlorite-sericite-biotite	4.0 **0.1**	*13.4*			238682	0.127	0.064
227.0	229.0		5.0 **0.2**	*7.1*			238683	0.158	0.115
229.0	231.0		4.0 **0.1**	*0.7*			238684	0.103	0.053
231.0	233.0		4.0 **0.1**	*0.8*			238685	0.067	0.030
233.0	235.0		4.0 **0.1**	*3.8*			238686	0.197	0.114
235.0	237.0		3.0 **0.1**	*1.7*			238687	0.224	0.161
237.0	239.0		3.5 **0.1**	*84.2*			238688	0.131	0.070
239.0	241.0		3.5 **0.1**	*39.9*			238689	0.104	0.073
241.0	243.0		4.0 **0.1**	*26.8*			238690	0.150	0.128
243.0	245.0		3.5 **0.1**	*44.7*		disseminated and veinous pyrite.	238691	0.197	0.113
245.0	247.0		3.5 **0.1**	*3*			238692	0.226	0.194
247.0	249.0		3.5 **0.3**	*16.3*			238693	0.235	0.151
249.0	251.0		3.5 **1.0**	*25.9*			238694	0.180	0.145
251.0	253.0		3.5 **0.3**	*13.3*			238695	0.430	0.246
253.0	255.0		3.5 **0.1**	*2.3*			238696	0.179	0.100
255.0	255.5		3.5 **0.1**	*22.5*			238697	0.447	0.325
255.5	261	**FRAGMENTAL ANDESITE INTRUSION BRECCIA**							
255.5	257.0	Fine to medium grained grey pink moderately potassic - chlorite-sericite-biotite	3.5 **0.1**	*9.4*		New appearence of post mineral propylitic QMZD fragments, up to 25% of core.	238698	0.125	0.097
257.0	259.0		3.5 **0.1**	*18.2*			238699	0.127	0.102
259.0	261.0		3.5 **0.1**	*9.4*			238701	0.133	0.102
261	263	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
261.0	263.0	Fine to medium grained grey green moderately potassic - chlorite-sericite-biotite	3.5 **0.1**	*1.1*		only 1-2% QMZD fragments in this interval	238702	0.156	0.119
263	272.6	**FRAGMENTAL ANDESITE INTRUSION BRECCIA**							
263.0	265.0	Fine to medium grained grey pink moderately potassic - chlorite-sericite-biotite	3.5 **0.1**	*26.3*		QMZD fragments return, 10-25%.	238703	0.141	0.090
265.0	267.0		3.5 **0.1**	*10.9*			238704	0.148	0.095
267.0	269.0		3.5 **0.1**	*51.4*			238705	0.174	0.101
269.0	271.0		3.5 **0.1**	*31.8*			238706	0.201	0.094
271.0	272.6		4.0 **0.0**	*90.3*			238707	0.042	0.017
272.6	288.2	**FRAGMENTAL QUARTZ MONZODIORITE INTRUSION BRECCIA**							
272.6	274.0	Fine to coarse grained grey moderately propyllitic	0.0 **0.0**	*50*		Pink-grey quartz monzodiorite intrusive breccia. Subangular autobrecciated fragments to 10 cm. Phenocrysts: 10-25% 1-4 mm euhedral plagioclase, 1-5% 1-5 mm quartz, 5% 1-6 mm mafics: augite, hornblende, biotite. Patchy hematite staining overprinting weak to moderate propylitic (epidote) alteration. Fragments show more intense hematite staining than matrix. Rare andesite fragments. 1-3% 0.5-4 mm zeolite (+/- chlorite, calcite) veins at 20-70 ° to core axis. Trace pyrite.	238708	0.064	0.016
274.0	276.0		0.0 **0.0**	*31*			238709	0.033	0.014
276.0	278.0		0.0 **0.0**	*60.6*			238710	0.034	0.024
278.0	280.0		0.0 **0.0**	*42.7*			238711	0.045	0.049
280.0	282.0		0.0 **0.0**	*64.9*			238712	0.038	0.016
282.0	284.0		0.0 **0.0**	*68*			238713	0.039	0.015
284.0	286.0		0.0 **0.0**	*58.3*			238714	0.045	0.021
286.0	288.2		0.0 **0.0**	*47.8*			238715	0.045	0.019

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
288.2	291.4	**LAPILLITIC LITHIC LAPILLI-TUFF**							
288.2	290.0	Fine to medium grained dark grey moderately propyllitic	0.0 **0.0**	*45.5*		Post mineral ash flow. Very fine grained ash with 1-3 mm lapilli and 1-5 cm subangular QMZD fragments. Propylitic (epidote) alteration. 0.5 mm zeolite-calcite veins increase from zero to 5% over length of unit. No sulfides.	238716	0.083	0.049
290.0	291.4		0.0 **0.0**	*38.5*			238717	0.039	0.081
291.4	355	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
291.4	293.0	Fine to coarse grained grey pink moderately propyllitic	0.0 **0.0**	*43.1*		Grey to pink quartz monzodiorite intrusion. Bwahaha. Phenocrysts are 10-25% 2-4 mm plagioclase, 2-5% 1-4 mm quartz and 2-4% mafics: augite, hornblende and biotite. Patchy propylitic (epidote) alteration and hematite staining. 2-3% zeolite +/- calcite veining at 30-70 ° to core axis. Zero to trace pyrite.	238718	0.025	0.409
293.0	295.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*42.2*			238719	0.010	0.017
295.0	297.0		0.0 **0.0**	*54.5*			238720	0.000	0.001
297.0	299.0		0.0 **0.0**	*47.1*			238721	0.001	0.001
299.0	301.0		0.0 **0.0**	*59.1*			238722	0.002	0.029
301.0	303.0		0.0 **0.0**	*59.7*			238723	0.000	0.008
303.0	305.0		0.0 **0.0**	*47.7*			238724	0.001	0.094
305.0	307.0		0.0 **0.0**	*53.3*			238726	0.005	0.015
307.0	309.0		0.0 **0.0**	*55.4*			238727	0.003	0.010
309.0	311.0		0.0 **0.0**	*37.5*			238728	0.001	0.001
311.0	313.0		0.0 **0.0**	*54*			238729	0.002	0.017
313.0	315.0		0.0 **0.0**	*53*			238730	0.001	0.013
315.0	317.0		0.0 **0.0**	*53*		end of full SGs, 1/10 metres to EOH	238731	0.001	0.005
317.0	319.0		0.0 **0.0**	*35.9*			238732	0.000	0.001
319.0	321.0		0.0 **0.0**	*38.8*			238733	0.001	0.006

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
321.0	323.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*44.3*				238734	0.000	0.001
323.0	325.0		0.0 **0.0**	*50.7*				238735	0.001	0.001
325.0	327.0		0.0 **0.0**	*44.8*				238736	0.003	0.001
327.0	329.0		0.0 **0.0**	*31*				238737	0.004	0.525
329.0	331.0		0.0 **0.0**	*49.2*				238738	0.000	0.005
331.0	333.0		0.0 **0.0**	*50.6*				238739	0.000	0.001
333.0	335.0		0.0 **0.0**	*46.4*				238740	0.000	0.001
335.0	337.0		0.0 **0.0**	*49.9*				238741	0.001	0.001
337.0	339.0		0.0 **0.0**	*47.8*				238742	0.000	0.001
339.0	341.0		0.0 **0.0**	*55.4*				238743	0.000	0.001
341.0	343.0		0.0 **0.0**	*60.5*			This interval and next, zeolite veining is 10-15% Notice the lower than normal SG.	238744	0.000	0.001
343.0	345.0		0.0 **0.0**	*49.9*				238745	0.000	0.001
345.0	347.0		0.0 **0.0**	*36.4*				238746	0.001	0.001
347.0	349.0		0.0 **0.0**	*43.2*	FLT		Dense zeolite veining.	238747	0.001	0.006
349.0	351.0		0.0 **0.0**	*22.7*	FLT	60	vugs in veins.	238748	0.000	0.001
351.0	353.0		0.0 **0.0**	*48.2*			End of full core sampling, composite sampling from 238751 to 238764 (355 to 377 m)	238749	0.009	0.049
353.0	355.0		0.0 **0.0**	*53.3*				238751	0.001	0.001
355	356.6	**TUFFACEOUS LITHIC CRYSTAL-LITHIC TUFF**								
355.0	356.6	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*67.5*			Short post mineral crystal tuff interval. Sharp upper and gradational (brecciated) lower contacts. Plagioclase lapilli, aphanitic ash matrix.	238752	0.001	0.001
356.6	370.2	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**								
356.6	358.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*35.9*			Sovereign continues.	238753	0.000	0.001
358.0	360.0		0.0 **0.0**	*31.5*				238754	0.000	0.010

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
360.0	362.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*26.6*			238755	0.000	0.005
362.0	364.0		0.0 **0.0**	*34.1*			238756	0.000	0.001
364.0	366.0		0.0 **0.0**	*34.9*			238757	0.000	0.001
366.0	368.0		0.0 **0.0**	*30.9*			238758	0.000	0.001
368.0	369.0		0.0 **0.0**	*31.4*			238759	0.001	0.001
369.0	370.2		0.0 **0.0**	*29.9*			238760	0.000	0.001
370.2	371.1	**TUFFACEOUS LITHIC CRYSTAL-LITHIC TUFF**							
370.2	371.1	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*41.3*		Short post mineral ash interval. Plagioclase lapilli in an aphanitic ash matrix. Veining is identical to surrounding Sovereign, zeolite-calcite. Gradational (brecciated) upper contact, sharp lower contact at 70 ° to core axis. No visible sulfide mineralization. Don't write home about it.	238761	0.000	0.001
371.1	435	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
371.1	373.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*44.2*		Sovereign continues again, core is indistinuishable from earlier intrusive interals.	238762	0.001	0.001
373.0	375.0		0.0 **0.0**	*51.6*			238763	0.001	0.001
375.0	377.0		0.0 **0.0**	*55.6*			238764	0.001	0.001
377.0	379.0		0.0 **0.0**	*48.4*		Beginning six samples of full core sampling. In a related story, the middle four intervals (238767-238770) contain 5-10% vein controlled chlorite alteration halos, which I'm told have run before, so there you go. Samples 238765 and 238771 bracket the slightly chloritic interval to see if any results associated with the chlorite has seeped into the nearby Sovereign intrusion.	238765	0.000	0.001
379.0	381.0	Fine to coarse grained grey pink weakly chloritic	0.0 **0.0**	*57.1*	CLQCA 55 10	This interval has the most chlorite alteration, ~10%.	238766	0.004	0.001
381.0	383.0		0.0 **0.0**	*41.2*	CLQCA 70 8		238767	0.001	0.001
383.0	385.0		0.0 **0.0**	*60.6*	CLQCA 65 5		238768	0.001	0.001
385.0	387.0		0.0 **0.0**	*34.1*	CLQCA 45 5		238769	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
387.0	389.0	Fine to coarse grained grey pink weakly chloritic	0.0 **0.0**	*49.9*	CLQCA 50 3		238770	0.001	0.001
389.0	391.0	Fine to coarse grained grey pink weakly propyllitic	0.0 **0.0**	*61.5*			238771	0.001	0.001
391.0	393.0		0.0 **0.0**	*51.2*		Composite sampling here to EOH.	238772	0.001	0.001
393.0	395.0		0.0 **0.0**	*66.8*			238773	0.001	0.001
395.0	397.0		0.0 **0.0**	*62.4*			238774	0.001	0.001
397.0	399.0		0.0 **0.0**	*62.8*			238776	0.001	0.001
399.0	401.0		0.0 **0.0**	*51.7*			238777	0.001	0.001
401.0	403.0		0.0 **0.0**	*21.2*			238778	0.001	0.001
403.0	405.0		0.0 **0.0**	*22.6*		2-3 cm vuggy zeolite veins	238779	0.001	0.001
405.0	407.0		0.0 **0.0**	*57.3*			238780	0.003	0.001
407.0	409.0		0.0 **0.0**	*60.2*			238781	0.001	0.001
409.0	411.0		0.0 **0.0**	*56.8*			238782	0.001	0.001
411.0	413.0		0.0 **0.0**	*48.8*			238783	0.001	0.001
413.0	415.0		0.0 **0.0**	*53.9*			238784	0.001	0.001
415.0	417.0		0.0 **0.0**	*89.1*			238785	0.001	0.001
417.0	419.0		0.0 **0.0**	*44.9*			238786	0.002	0.001
419.0	421.0		0.0 **0.0**	*69.1*			238787	0.044	0.017
421.0	423.0		0.0 **0.0**	*58.4*			238788	0.001	0.001
423.0	425.0		0.0 **0.0**	*44.9*			238789	0.004	0.001
425.0	427.0		0.0 **0.0**	*65.2*			238790	0.002	0.001
427.0	429.0		0.0 **0.0**	*59.2*			238791	0.004	0.001
429.0	431.0		0.0 **0.0**	*61.8*			238792	0.005	0.006
431.0	433.0		0.0 **0.0**	*51.6*			238793	0.004	0.001
433.0	435.0		0.0 **0.0**	*71.3*		End of hole, good game.	238794	0.005	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	6	**CASING**									
0.0	6.0										
6	47.5	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
6.0	9.0	Fine to coarse grained grey weakly propyllitic	2.0	*7.3*				Unit contains 8-13% augite phenocrysts 1-6mm in size. Some augite phenocrysts are altered to chlorite, sericite and carbonate. Matrix is intermediate in composition with a weak propylitic alteration to it. Chlorite alteration dominates the matrix with patchy carbonate, epidote and sericite sections. Spotty sections contain feldspar phenocrysts 3-4mm in size. 3-5% calcite and zeolite veining oriented 35-60 deg to the core axis. Patchy stockworked sections. Spotty hematite present within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within the veins. Minor lost core at the beginning of the hole.	239911	0.011	0.010
9.0	11.0		1.5	*1*					239912	0.004	0.006
11.0	13.0		1.8	*4.3*					239913	0.013	0.001
13.0	15.0		1.0	*39.7*	FRK	20	5		239914	0.010	0.005
15.0	17.0		0.5	*10*	FRK	30	2		239915	0.009	0.012
17.0	19.0		0.3	*99.3*	FRK	30	3		239916	0.007	0.001
19.0	21.0		0.4	*94.6*					239917	0.010	0.001
21.0	23.0		0.0	*48.5*				Epidote alteration of some augite phenocrysts present.	239918	0.012	0.001
23.0	25.0		0.0	*51.9*	FLT	40	1		239919	0.015	0.001
25.0	27.0		0.1	*7.4*	FRK	10	3		239920	0.013	0.001
27.0	29.0		0.4	*1.5*	QFLV	35	2	Quartz and flourite present within some veins.	239921	0.013	0.001
29.0	31.0		0.1	*112*	FRK	20	4		239922	0.011	0.001
31.0	33.0		0.0	*1.3*					239923	0.009	0.005
33.0	35.0		0.0	*1.1*	FRK	15	4		239924	0.009	0.005
35.0	37.0		0.0	*9.5*					239926	0.011	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
37.0	39.0	Fine to coarse grained grey weakly propyllitic	0.0	*79.3*					239927	0.012	0.005
39.0	41.0	Fine to coarse grained grey moderately propyllitic	0.1	*12.4*				Epidote alteration increase within the matrix.	239928	0.014	0.001
41.0	43.0		0.3	*12*					239929	0.014	0.001
43.0	45.0		0.1	*1.2*	FRK	40	2		239930	0.007	0.018
45.0	47.5		1.5	*3.1*					239931	0.013	0.017
47.5	59	**STOCKWORKED ANDESITE FLOW**									
47.5	49.0	Fine to coarse grained grey weakly propyllitic	1.2	*2.6*	FLT	40	4	Unit is intermediate in composition with weak propylitic alteration. Chlorite alteration dominates the matrix with patchy epidote and carbonate sections. Minor sericite sections present. Unit contains patches of feldspar phenocrysts 2-4mm in size. 1-2% augite phenocrysts present. Patchy sections contain amygdules filled with calcite and epidote. 2-4% calcite and zeolite veining oriented 30-50 deg to the core axis. Patchy stockworked sections. Patchy magnetic sections present. Spotty hematite present within some veins. Pyrite is disseminated within the matrix and present within some veins.	239932	0.015	0.014
49.0	51.0		2.3	*1.6*	FLT	60	1		239933	0.034	0.020
51.0	53.0		1.0	*2.5*	FLT	20	2		239934	0.019	0.018
53.0	55.0		0.8	*2*	FLT	30	2		239935	0.011	0.007
55.0	57.0		3.0	*1.8*	QHV	60	1	Quartz flooding present with quartz veining.	239936	0.008	0.023
57.0	59.0		1.5	*2*				Quartz flooding present with quartz veining. Minor calcite and epidote filled amygdules present.	239937	0.021	0.007
59	69.9	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**									
59.0	61.0	Fine to coarse grained grey green weakly phyllic	1.3	*2.1*				Sericite alteration has increased. Epidote and chlorite alteration still present. Epidote alteration appears to be an overprint of phyllic alteration.	239938	0.028	0.048
61.0	63.0		1.7	*2*					239939	0.022	0.111

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
63.0	65.0	Fine to coarse grained grey green moderately phyllic	3.5	*2.3*	FLT 45 2		239940	0.012	0.016
65.0	67.0		3.2	*2.3*			239941	0.016	0.007
67.0	68.5		2.7	*2.1*	FLT 30 5		239942	0.013	0.011
68.5	69.9		2.7	*2.4*			239943	0.020	0.014
69.9	71.6	**MASSIVE ANDESITE FAULT ZONE**							
69.9	71.6	Fine to coarse grained grey green strongly clay altered	1.0	*0.4*		Fault zone marked by fault gouge and several minor faults within the host rock. Upper and lower contact is 40 deg to the core axis. Clay alteration dominates with patchy epidote sections of the host rock. 3-5% calcite veining randomly oriented.	239944	0.016	0.022
71.6	81.9	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**							
71.6	73.0	Fine to coarse grained grey green moderately propyllitic	2.0	*1*		Unit contains 7-12% feldspar phenocrysts 3-8mm in size. Some of the feldspar phenocrysts are altered to sericite and epidote. Alteration has obliterated some of the characteristics of the rock. Epidote and sericite alteration dominate the matrix with patchy chlorite. Epidote alteration appears to be an overprint in places. Unit changes from patchy propyltic and phyllic altered rock. 2-4% zeolite, calcite and minor quartz veining oriented 30-50 deg to the core axis. Pyrite is disseminated within the matrix and present within some veins.	239945	0.023	0.005
73.0	75.0		1.5	*0.6*			239946	0.018	0.031
75.0	77.0		1.7	*1.1*			239947	0.019	0.012
77.0	79.0	Fine to coarse grained grey green moderately phyllic	2.0	*1*			239948	0.012	0.001
79.0	81.0		3.0	*1.1*			239949	0.008	0.005
81.0	81.9		3.0	*1*			239951	0.007	0.009
81.9	91	**MOTTLED ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
81.9	83.0	Fine grained grey green moderately phyllic	3.3	*1*				Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Sericite and quartz dominate the alteration within the matrix. Patchy chlorite is present within the matrix. Spotty epidote and hematite overprint is present. 3-5% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor hematite present within some veins. Pyrite is disseminated within the matrix and present within some veins. Spotty sections contain feldspar phenocrysts 2-4mm in size.	239952	0.008	0.001
83.0	85.0	Fine grained grey moderately phyllic	3.7	*0.9*					239953	0.014	0.001
85.0	87.0	Fine to coarse grained grey strongly phyllic	4.0	*1.1*				Feldspar phenocrysts present within this interval.	239954	0.028	0.005
87.0	89.0	Fine grained grey strongly phyllic	4.5	*1.2*					239955	0.006	0.006
89.0	91.0		4.0	*1.3*					239956	0.015	0.005
91	101	**MOTTLED ANDESITE VOLCANIC BRECCIA**									
91.0	93.0	Fine grained grey moderately phyllic	4.2	*1.5*	FLT	50	4		239957	0.021	0.014
93.0	95.0	Fine grained grey strongly phyllic	4.5	*1.3*	SHR	45	4		239958	0.011	0.018
95.0	97.0	Fine grained grey green strongly phyllic	3.0	*1.5*					239959	0.036	0.055
97.0	99.0		4.0	*1.7*					239960	0.104	0.079
99.0	101.0	Fine grained grey moderately phyllic	3.2	*0.6*	FLT	20	5		239961	0.027	0.057
101	103.9	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
101.0	103.0	Fine grained grey moderately sericitic	0.1		*0.5*	CNT	20		Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.4-1.3cm. Post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 1-2% randomly oriented zeolite, calcite and hematite veining present. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper and lower contacts are 20 deg to the core axis.	239962	0.090	0.087
103.0	103.9		0.2		*2.2*	CNT	20			239963	0.047	0.057
103.9	126.4	**MOTTLED ANDESITE FLOW**										
103.9	105.0	Fine grained grey weakly potassic - chlorite-sericite	1.3		*3.2*				Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. 3-5% zeolite and calcite veining oriented 30-60 deg to the core axis. Minor magnetite and hematite are present within some veins. Pyrite is disseminated within the matrix and present within some veins.	239964	0.041	0.029
105.0	107.0		1.5		*1*					239965	0.049	0.038
107.0	109.0		2.5		*1.4*					239966	0.083	0.045
109.0	111.0	Fine grained grey moderately potassic - chlorite-sericite	4.0		*1.4*					239967	0.109	0.164
111.0	113.0		3.5		*1.6*					239968	0.093	0.062
113.0	115.0		3.7		*2.4*					239969	0.111	0.059
115.0	117.0		4.5	**0.0**	*2.3*	PYMCP	20	2	Trace of chalcopyrite within a vein of pyrite and magnetite. Small BFP section within this interval.	239970	0.094	0.067
117.0	119.0	Fine grained dark grey moderately potassic - chlorite-sericite	4.0	**0.0**	*2.2*				Weak biotite alteration present. Trace of chalcopyrite present within a vein associated with magnetite and pyrite.	239971	0.114	0.100

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
119.0	121.0	Fine grained dark grey moderately potassic - chlorite-sericite	4.2 **0.0**	*1.7*		K-spar halo around some veins. Trace of chalcopyrite present within a vein associated with magnetite and pyrite.	239972	0.071	0.046
121.0	123.0	Fine grained grey moderately potassic - chlorite-sericite	4.7 **0.0**	*0.3*		Trace of chalcopyrite present within a vein associated with magnetite and pyrite.	239973	0.069	0.038
123.0	125.0		3.8	*0.7*			239974	0.067	0.045
125.0	126.4		3.8	*1.3*			239976	0.068	0.063
126.4	129.3	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
126.4	128.0	Fine to coarse grained grey pink weakly sericitic	0.1	*40.6*	CNT 30	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-4cm. Post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 2-4% zeolite, calcite and hematite veining oriented 20-40 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper contact is 30 deg to the core axis and the lower contact is 60 deg to the core axis.	239977	0.066	0.058
128.0	129.3		0.1	*51*			239978	0.055	0.038
129.3	133	**MASSIVE ANDESITE FLOW**							
129.3	131.0	Fine grained grey weakly potassic - chlorite-sericite	2.5	*2.3*		Unit is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. 1-3% zeolite and calcite veining oriented 40-60 deg to the core axis. Minor magnetite and hematite are present within some veins. Pyrite is disseminated within the matrix and present within some veins.	239979	0.063	0.036
131.0	133.0	Fine grained grey moderately potassic - chlorite-sericite	3.0	*0.9*			239980	0.084	0.046
133	143.8	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
133.0	135.0	Fine to coarse grained grey	1.0	*33.3*	CNT 35	Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-7cm. Some poost mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments. 2-3% zeolite, calcite and hematite veining oriented 50-60 deg to the core axis and 5-20 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Upper contact is 35 deg to the core axis and the lower contact is 60 deg to the core axis.	239981	0.077	0.032
135.0	137.0		0.1	*19.2*	FLT 30 2		239982	0.044	0.024
137.0	139.0	Fine to coarse grained dark green grey weakly potassic - chlorite-sericite	2.0	*22.7*		Interval contains 10% granitoid fragments within Takla andesite.	239983	0.042	0.033
139.0	141.0	Fine to coarse grained grey	0.1	*50*			239984	0.018	0.009
141.0	143.0		1.0 **0.0**	*65.7*		Trace of chalocpyrite within a vein of epidote. Minor andesite section containing a trace of chalcopyrite and magnetite within a quartz vein.	239985	0.044	0.025
143.0	143.8		0.2 **0.1**	*45.9*	CNT 60	Minor chalcopyrite within a vein of epidote.	239986	0.049	0.022
143.8	147	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
143.8	145.0	Fine grained green moderately potassic - chlorite-sericite-biotite	3.0 **0.1**	*11.2*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, sericite and quartz dominate the alteration within the matrix. Spotty biotite alteration is present. Beginning of the unit is brecciated. 2-4% zeolite, calcite and minor quartz veining oriented 30-50 deg to the core axis with some near parallel to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins.	239987	0.121	0.083

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
145.0	147.0	Fine grained green moderately potassic - chlorite-sericite-biotite	3.2 **0.2**	*4.1*					239988	0.084	0.039
147	187	**MASSIVE ANDESITE FLOW**									
147.0	149.0	Fine grained green moderately potassic - chlorite-sericite-biotite	3.5 **0.3**	*6.7*					239989	0.106	0.059
149.0	151.0	Fine grained grey moderately potassic - chlorite-sericite-biotite	5.0 **0.3**	*27.7*					239990	0.090	0.043
151.0	153.0		4.5 **0.1**	*8.7*	FLT	30	1		239991	0.102	0.043
153.0	155.0		4.3 **0.2**	*5.7*					239992	0.091	0.044
155.0	157.0	Fine grained dark grey moderately potassic - chlorite-sericite-biotite	3.7 **0.1**	*31.7*	FLT	50	1		239993	0.207	0.139
157.0	159.0		4.0 **0.2**	*52.3*					239994	0.296	0.164
159.0	161.0		4.2 **0.1**	*45.4*					239995	0.142	0.089
161.0	163.0		4.5 **0.4**	*20.7*					239996	0.203	0.133
163.0	165.0		3.0 **0.1**	*35.6*	FLT	40	1		239997	0.082	0.051
165.0	167.0		3.5 **0.1**	*8.9*					239998	0.165	0.120
167.0	169.0		4.0 **0.0**	*2.3*					239999	0.258	0.171
169.0	171.0		3.5 **0.0**	*3*					240001	0.213	0.090
171.0	173.0	Fine grained grey moderately potassic - chlorite-sericite	2.8 **0.0**	*3.7*					240002	0.198	0.090
173.0	175.0	Fine grained dark grey moderately potassic - chlorite-sericite-biotite	3.0 **0.0**	*4*				Minor K-spar alteration halo around some veins.	240003	0.204	0.140
175.0	177.0	Fine grained red moderately potassic - biotite-sericite-chlorite	3.5 **0.4**	*4.6*					240004	0.283	0.220
177.0	179.0	Fine grained dark green moderately potassic - chlorite-sericite-biotite	3.7 **0.1**	*5.1*					240005	0.173	0.090
179.0	181.0	Fine grained dark grey moderately potassic - sericite-chlorite-biotite	3.3 **0.1**	*5.8*	FLT	45	1		240006	0.291	0.160
181.0	183.0		3.7 **0.6**	*3.3*				Broken section possibly due to high fracturing and stockworking.	240007	0.292	0.270

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
183.0	185.0	Fine grained dark grey moderately potassic - chlorite-sericite-biotite	2.5 **0.1**	*8.9*		Interval is broken at the beginning with minor lost core. Trace of molybdenum within a quartz vein.	240008	0.250	0.170
185.0	187.0	Fine grained dark grey strongly potassic - chlorite-sericite-biotite	3.0 **0.3**	*3.3*		Vuggy vein present.	240009	0.191	0.170
187	191	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
187.0	189.0	Fine grained grey strongly potassic - chlorite-sericite	3.3 **0.1**	*2.9*		Minor brecciation.	240010	0.131	0.050
189.0	191.0		4.0 **0.1**	*5*	FLT 40 2	Minor stockworking within the interval.	240011	0.209	0.080
191	197	**MASSIVE ANDESITE FLOW**							
191.0	193.0	Fine grained dark grey strongly potassic - chlorite-sericite-biotite	3.7 **0.1**	*9*			240012	0.251	0.130
193.0	195.0		4.0 **0.1**	*4.6*			240013	0.094	0.030
195.0	197.0		1.5 **0.1**	*4.3*		Trace of molybdenum within a quartz vein.	240014	0.071	0.040
197	199	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
197.0	199.0	Fine grained dark grey strongly potassic - chlorite-sericite-biotite	3.0 **0.2**	*2.7*			240015	0.224	0.080
199	203	**MASSIVE ANDESITE FLOW**							
199.0	201.0	Fine grained dark green strongly potassic - chlorite-biotite-sericite	4.5 **0.7**	*5.8*			240016	0.213	0.120
201.0	203.0	Fine grained dark green strongly potassic - chlorite-biotite-quartz	4.0 **2.0**	*57.7*			240017	0.382	0.210
203	219.6	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
203.0	205.0	Fine grained dark green strongly potassic - chlorite-biotite-quartz	3.0 **0.6**	*99.6*		Trace of molybdenum within a quartz vein.	240018	0.238	0.140
205.0	207.0		4.2 **1.3**	*93.1*			240019	0.254	0.130
207.0	209.0		4.5 **1.0**	*5.2*			240020	0.193	0.110
209.0	211.0		4.0 **0.8**	*13.8*			240021	0.221	0.120
211.0	213.0		4.3 **0.7**	*7*			240022	0.232	0.140
213.0	215.0		5.0 **0.2**	*1.5*			240023	0.153	0.050

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
215.0	217.0	Fine grained red strongly potassic - biotite-chlorite-quartz	3.5 **0.2**	*1.7*			240024	0.165	0.100
217.0	219.0	Fine grained strongly potassic - biotite-chlorite-quartz	3.7 **0.1**	*2.3*			240026	0.426	0.328
219.0	219.6		4.0 **0.2**	*2.8*			240027	0.665	0.517
219.6	241.4	**PORPHYRITIC MONZONITE DYKE**							
219.6	221.0	Fine to coarse grained moderately potassic - chlorite-quartz-sericite	1.5 **0.4**	*10.3*		Alteration has obliterated most of the characteristics of the rock. Unit contains 70-80% feldspar, 15-25% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende and some augite. Phenocrysts are 2-5mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz and sericite. 3-5% calcite, zeolite, quartz and minor flourite and anhydrite veining oriented 35-60 deg to the core axis and 5-15 deg to the core axis. Minor K-spar halo around some veins. Spotty magnetite present within the matrix and veins. Pyrite is disseminated within the matrix and present within veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 45 deg to the core axis. Minor molybdenum present within some veins.	240028	0.150	0.107
221.0	223.0		0.8 **0.2**	*3.4*			240029	0.147	0.106
223.0	225.0		1.0 **0.6**	*0.7*			240030	0.107	0.080
225.0	227.0		0.7 **0.4**	*1.1*			240031	0.142	0.111
227.0	229.0		2.0 **0.7**	*1.3*			240032	0.148	0.104
229.0	231.0		2.2 **1.0**	*1.7*			240033	0.118	0.086
231.0	233.0		2.5 **1.2**	*2.6*			240034	0.118	0.089
233.0	235.0		1.2 **0.2**	*3.2*			240035	0.199	0.137
235.0	237.0		1.5 **0.3**	*2.6*			240036	0.152	0.084
237.0	239.0		1.3 **0.6**	*3.2*			240037	0.157	0.117

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
239.0	241.4	Fine to coarse grained moderately potassic - chlorite-quartz-sericite	1.8 **0.4**	*3.5*			240038	0.161	0.105
241.4	247	**MASSIVE ANDESITE FLOW**							
241.4	243.0	Fine grained green moderately potassic - chlorite-quartz-sericite	2.0 **0.5**	*3.6*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, biotite, sericite and quartz dominate the alteration within the matrix. 2-4% zeolite, calcite, quartz and minor anhydrite veining oriented 35-70 deg to the core axis with some near parallel to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.	240039	0.219	0.157
243.0	245.0	Fine grained green moderately potassic - chlorite-sericite	2.5 **0.7**	*2.4*			240040	0.184	0.125
245.0	247.0	Fine grained green strongly potassic - chlorite-sericite-biotite	3.5 **0.6**	*2.3*			240041	0.181	0.141
247	250	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
247.0	249.0	Fine to coarse grained green strongly potassic - chlorite-sericite-quartz	1.4 **0.3**	*0.6*	FLT 50 2	Unit now contains ~7% augite phenocrysts 2-5mm in size with some altered to chlorite. Strong molybdenum veining present.	240042	0.187	0.114
249.0	250.0		2.0 **0.2**	*0.8*		Molybdenum present within a couple of veins.	240043	0.282	0.146
250	258.9	**PORPHYRITIC MONZONITE DYKE**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
250.0	252.0	Fine to coarse grained moderately potassic - sericite-chlorite-quartz	1.2 **0.3**	*1.2*		Alteration has obliterated most of the characteristics of the rock. Unit contains 70-80% feldspar, 15-25% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase, hornblende and some augite. Phenocrysts are 2-4mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz and sericite. 2-4% calcite, zeolite, quartz and minor anhydrite veining oriented 25-50 deg to the core axis and 5-15 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 35 deg to the core axis. Minor molybdenum present within some veins. Patchy magnetite present within some veins.	240044	0.150	0.105
252.0	254.0		1.8 **0.4**	*1.4*			240045	0.207	0.123
254.0	256.0	Fine to coarse grained grey moderately potassic - sericite-chlorite-quartz	2.4 **0.6**	*1.6*		Increase in chlorite alteration. Spotty biotite alteration present.	240046	0.234	0.128
256.0	258.0		2.0 **0.2**	*2.1*			240047	0.115	0.065
258.0	258.9		1.1 **0.1**	*2.3*			240048	0.146	0.084
258.9	267	**MASSIVE ANDESITE FLOW**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
258.9	261.0	Fine grained dark green strongly potassic - chlorite-quartz-sericite	1.5 **0.1**	*3.3*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite, biotite, sericite and quartz dominate the alteration within the matrix. 3-5% calcite, zeolite, quartz and minor anhydrite and flourite veining oriented 20-50 deg to the core axis with some near parallel and perpendicular to the core axis. Magnetite and minor hematite are present within some veins. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures. Spotty K-spar halo around some veins.	240049	0.163	0.091
261.0	263.0	Fine grained dark green strongly potassic - chlorite-sericite-quartz	1.8 **0.5**	*8.6*			240051	0.354	0.240
263.0	265.0	Fine grained dark green brown strongly potassic - chlorite-quartz-biotite	2.5 **0.8**	*3.7*			240052	0.124	0.050
265.0	267.0	Fine grained dark green black strongly potassic - chlorite-quartz-biotite	3.0 **1.0**	*4.2*			240053	0.223	0.150
267	282.1	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**							
267.0	269.0	Fine grained dark green black strongly potassic - chlorite-quartz-biotite	3.8 **1.3**	*90.3*			240054	0.186	0.100
269.0	271.0	Fine grained dark green strongly potassic - chlorite-quartz-biotite	3.5 **0.8**	*33.6*			240055	0.144	0.060
271.0	273.0	Fine grained dark green strongly potassic - chlorite-sericite-biotite	2.3 **0.3**	*14.1*		Molybdenum present within some veins.	240056	0.297	0.170
273.0	275.0		1.1 **0.2**	*75.2*			240057	0.250	0.140
275.0	277.0	Fine grained dark green brown strongly potassic - chlorite-sericite-biotite	1.4 **0.3**	*68.7*	FLT 5 3		240058	0.398	0.190
277.0	279.0		2.1 **0.5**	*34.2*			240059	0.297	0.170

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
279.0	281.0	Fine grained green strongly potassic - chlorite-quartz-biotite	2.8 **0.7**	*7.1*			240060	0.382	0.270
281.0	282.1		2.5 **1.0**	*3*			240061	0.359	0.200
282.1	295.3	**PORPHYRITIC QUARTZ MONZONITE DYKE**							
282.1	284.0	Fine to coarse grained grey strongly potassic - chlorite-quartz-biotite	0.4 **0.1**	*2.4*	DYK 40	Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspar, ~15% mafics and ~10% quartz. Unit contains phenocrysts of plagioclase, quartz, hornblende and augite. Phenocrysts are 2-6mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to chlorite, quartz, sericite and spotty biotite. 2-4% zeolite, calcite, quartz and minor anhydrite veining oriented 20-40 deg to the core axis and 5-10 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper and lower contacts are roughly 40 deg to the core axis. Minor molybdenum present within some veins.	240062	0.198	0.130
284.0	286.0		0.8 **0.2**	*4.4*			240063	0.169	0.120
286.0	288.0	Fine to coarse grained green strongly potassic - chlorite-sericite-quartz	1.0 **0.3**	*6.3*			240064	0.372	0.220
288.0	290.0	Fine to coarse grained strongly potassic - chlorite-sericite-quartz	0.7 **0.1**	*0.9*			240065	0.282	0.160
290.0	292.0	Fine to coarse grained strongly potassic - sericite-chlorite-quartz	0.3 **0.0**	*8.3*			240066	0.325	0.170
292.0	294.0		0.2 **0.1**	*1.8*	FOL 45		240067	0.516	0.280
294.0	295.3		0.2 **0.0**	*2.4*			240068	0.188	0.110
295.3	296.9	**MASSIVE ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
295.3	296.9	Fine grained dark green strongly potassic - chlorite-sericite	0.7 **0.0**	*43.6*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite and sericite dominate the alteration within the matrix. 5-7% calcite and zeolite veining oriented 30-50 deg to the core axis with some randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.	240069	0.267	0.160
296.9	300.9	**PORPHYRITIC MONZONITE DYKE**							
296.9	299.0	Fine to coarse grained light grey pink strongly potassic - sericite-chlorite-biotite	0.3 **0.1**	*2.7*		Alteration has obliterated most of the characteristics of the rock. Unit contains ~75% feldspar, ~20% mafics and ~5% quartz. Unit contains phenocrysts of plagioclase with spotty hornblende and augite. Phenocrysts are 2-6mm in size with some altered to sericite and chlorite. Minor plagioclase phenocrysts are stained with hematite. Matrix is altered to sericite, minor chlorite and spotty biotite. 3-5% zeolite, calcite and quartz veining oriented 30-60 deg to the core axis. Minor K-spar halo around some veins. Pyrite is disseminated within the matrix and present within some veins. Minor chalcopyrite present within veins and disseminated within the matrix. Upper contact is 30 deg to the core axis and the lower contact is 45 deg to the core axis.. Minor molybdenum present within some veins.	240070	0.248	0.170
299.0	300.9		0.5 **0.0**	*2.9*			240071	0.280	0.130
300.9	305	**MASSIVE ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
300.9	303.0	Fine grained dark green grey strongly potassic - chlorite-sericite	0.7 **0.0**	*35.9*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Unit contains ~3% augite phenocrysts 2-3mm in size altered to chlorite. Chlorite and sericite dominate the alteration within the matrix. 5-7% calcite and zeolite veining oriented 40-60 deg to the core axis with some randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures.	240072	0.192	0.110
303.0	305.0		0.6 **0.1**	*41.4*	FLT 60 1		240073	0.256	0.140
305	307.1	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
305.0	307.1	Fine to coarse grained pink grey moderately hematitic	0.4 **0.0**	*35.1*		Unit contains fragments of post mineral monzodiorite and fragments of Takla andesite. Fragments are subangular and range in size from 0.5-5cm. Some post mineral fragments are hematite stained. Matrix is composed of ground up fragments of the post mineral material and Takla material. Patchy hematite, sericite and chlorite alteration present within the matrix. Patchy epdiote alteration associated with some fragments and within some veins. 2-3% zeolite, calcite and hematite veining oriented 20-50 deg to the core axis. Post mineral fragments are magnetic. Minor disseminated pyrite present. Trace of chalcopyrite within the matrix. Upper and lower contacts are 70 deg to the core axis.	240074	0.062	0.030
307.1	309.6	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
307.1	309.6	Fine grained dark green brown strongly potassic - chlorite-biotite-sericite	0.4 **0.0**	*33.1*		Unit is intermediate in composition and the alteration has obliterated some of the characteristics of the rock. Chlorite and sericite dominate the alteration within the matrix with minor biotite. 8-10% calcite and zeolite stockwork veining randomly oriented. Matrix contains magnetite. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Unit contains some randomly oriented fractures. End of the unit contains ~4% augite phenocrysts 2-5mm in size with most altered to chlorite.	240076	0.198	0.140
309.6	315.9	**PORPHYRITIC MONZODIORITE DYKE**							
309.6	311.0	Fine to coarse grained pink grey moderately hematitic	0.1	*47.7*		Unit contains ~80% feldspars, ~15% mafic minerals and ~5% quartz. Unit contains phenocrysts of feldspar, hornblende, augite and quartz ranging in size from 2-7mm. Some hornblende and augite phenocrysts are altered to biotite and minor chlorite. Some feldspar phenocrysts and feldspars within the matrix are altered to sericite and hematite stained. 2-4% zeolite and calcite veining are randomly oriented. Hematite and epidote present within some veins. Minor epidote associated with some mafic minerals. Trace of pyrite disseminated within the matrix and present within some veins. Unit is magnetic. Upper contact is 50 deg to the core axis and the lower contact is 65 deg to the core axis. Unit is brecciated in patches.	240077	0.064	0.020
311.0	313.0		0.1	*63.6*			240078	0.040	0.010
313.0	315.0		0.1	*53.1*			240079	0.031	0.020
315.0	315.9		0.1 **0.0**	*28.6*		Trace of chalcopyrite within the matrix.	240080	0.068	0.040
315.9	320	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
315.9	318.0	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	0.6 **0.2**	*46.8*	DYK	60	20	Unit contains 15-20% augite phenocrysts 2-5mm in size with some altered to chlorite. Matrix is intermediate in composition and is altered to chlorite and sericite. 2-3% zeolite, calcite and quartz veins oriented 45-80 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and veins. Minor pyrite and a trace of chalcopyrite is disseminated within the matrix and present within some veins. Minor 30cm monzodiorite dike near the start of the interval.	240081	0.151	0.070
318.0	320.0		0.4 **0.1**	*33.7*	ZMOV	15	1	Minor molybdenum within a quartz vein.	240082	0.373	0.220
320	321.4	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
320.0	321.4	Fine to coarse grained dark green grey strongly potassic - chlorite-sericite	0.2	*9.7*	FLT	10	7		240083	0.286	0.190
321.4	342	**FRAGMENTAL MONZODIORITE INTRUSION BRECCIA**									
321.4	323.0	Fine to coarse grained pink grey moderately hematitic	0.4 **0.0**	*45.9*				Unit is brecciated and contains mostly fragments of monzodiorite with the rare andesite fragment. Fragments are subangular and range in size from 0.5cm to 15cm. Matrix is made up of mostly busted up monzodiorite material. Monzodiorite fragments contain ~80% feldspars, ~15% mafic minerals and ~5% quartz. Unit contains phenocrysts of feldspar, hornblende, augite and quartz ranging in size from 4-10mm. Some hornblende and augite phenocrysts are altered to biotite and minor chlorite. Some feldspar phenocrysts and feldspars within the matrix are altered to sericite and hematite stained. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis. Hematite and epidote present within some veins. Minor epidote associated with some mafic minerals. Trace of pyrite disseminated within the matrix and present within some veins. Unit is magnetic. Upper contact is undulating and brecciated. Trace of chalcopyrite present within a quartz vein within an andesite fragment.	240084	0.155	0.110

Hole Number: KH-07-22

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
323.0	325.0	Fine to coarse grained pink grey moderately hematitic	0.5 **0.0**	*32.4*		Trace of chalcopyrite present within a remnant quartz vein with magnetite.	240085	0.059	0.030
325.0	327.0		0.4 **0.1**	*66*		Chalcopyrite present associated with mafic minerals within monzodiorite fragments, similar to hole KH-07-01A in the IBX layer before the Sovereign.	240086	0.041	0.020
327.0	329.0		0.2 **0.1**	*66.5*			240087	0.042	0.030
329.0	331.0		0.3 **0.0**	*62.3*			240088	0.042	0.020
331.0	333.0		0.1	*56*			240089	0.038	0.020
333.0	335.0	Fine to coarse grained grey pink weakly hematitic	0.1	*70.8*			240090	0.027	0.020
335.0	337.0	Fine to coarse grained grey moderately silicified (non-K)	0.1	*57.8*		Hematite staining has decreased. A siliceous overprint is present.	240091	0.032	0.020
337.0	339.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.1	*58.1*			240092	0.035	0.020
339.0	341.0		0.0	*60.6*			240093	0.029	0.020
341.0	342.0	Fine to coarse grained pink grey weakly hematitic	0.0	*48.7*		Hematite stain has increased. EOH.	240094	0.029	0.020

Hole Number: KH-07-23

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	6	**CASING**							
0.0	6.0								
6	9	**OVERBURDEN**							
6.0	9.0			*20.7*			238801	0.057	0.015
9	62	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
9.0	12.5	Fine to coarse grained dark green moderately propyllitic	3.0 **0.1**	*7.6*		Dark green andesitic augite porphyry. 5-10% (mode: 6%) 1-8 mm augite phenocrysts in an aphanitic matrix. Potassic (chlorite, lesser sericite) alteration, including strong chloritization of augite crystals. 2-5% 1-35 mm calcite (+/- chlorite, pyrite) veins at 40-80 ° to core axis which occaisionally brecciate andesite when stockworked. 2-3% 2-4 mm discontinuous pyrite veins at 60-90 ° to core axis. 2-5% total sulfides, including disseminated pyrite, usually in proximity to augite crystals. Trace to 0.5% very fine chalcopyrite. Matrix contains carbonate and is altered to chlorite and patchy sericite. Patchy epidote within the matrix.	238802	0.023	0.001
12.5	15.0		5.0 **0.0**	*1.7*		Minor lost core.	238803	0.010	0.001
15.0	17.0		5.5	*1.9*			238804	0.014	0.010
17.0	19.0		4.0	*2*			238805	0.010	0.010
19.0	21.0		2.5	*5.5*			238806	0.009	0.001
21.0	23.0		3.2	*7.7*			238807	0.015	0.010
23.0	25.0		2.3	*22.6*	FLT 35 1		238808	0.011	0.001
25.0	27.0		2.0	*4.8*			238809	0.020	0.010
27.0	29.0		1.7	*50*			238810	0.022	0.010
29.0	31.0		2.2	*54.2*			238811	0.016	0.070
31.0	33.0		1.8	*4.7*			238812	0.013	0.020
33.0	35.0		0.7	*59.2*			238813	0.016	0.010

Hole Number: KH-07-23

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
35.0	37.0	Fine to coarse grained dark green moderately propyllitic	0.5	*78.2*			238814	0.013	0.010
37.0	39.0		0.3	*66.3*			238815	0.017	0.001
39.0	41.0		0.2	*69.1*			238816	0.015	0.001
41.0	43.0		0.5	*2.6*			238817	0.013	0.010
43.0	45.0		0.1	*24.1*			238818	0.013	0.010
45.0	47.0		0.3	*31.7*			238819	0.016	0.020
47.0	49.0		0.1	*73.4*			238820	0.011	0.001
49.0	51.0		0.1	*4.3*			238821	0.012	0.010
51.0	53.0		0.2	*4.8*			238822	0.014	0.020
53.0	55.0		0.1	*80.1*			238823	0.011	0.001
55.0	57.0		0.3	*76.4*			238824	0.012	0.010
57.0	59.0		0.2	*38.4*			238826	0.016	0.040
59.0	61.0		0.5	*13.9*			238827	0.021	0.760
61.0	62.0		0.3	*37.2*			238828	0.033	0.020
62	65.8	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							
62.0	64.0	Fine to coarse grained dark green grey moderately chloritic	5.0 **0.0**	*1.9*	CNT 60	Unit contains fragments of AND, AAP and granitoid material. Andesite and AAP dominate the fragments. Granitoid fragments contains phenocrysts of feldspars, hornblende and augite (altered to biotite). Fragments are subangular and range in size 0.5-5cm. Fragments are altered to chlorite and sericite. Matrix is intermediate in composition and altered to chlorite with minor sericite. Minor ground up fragment material is within the matrix. ~4% calcite and zeolite veining oriented 30-70 deg to the core axis. Spotty magnetite present within some fragments. Pyrite is disseminated within the matrix, present within veins and present within fragments. Trace of chalcopyrite within and AAP fragment. Upper and lower contacts are 60 deg to the core axis.	238829	0.072	0.060

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From	To		Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
	64.0	65.8	Fine to coarse grained dark green grey moderately chloritic	4.5 **0.0**	*2.7*	CNT	60		Trace of chalcopyrite within a granitoid fragment.	238830	0.139	0.100
65.8	70		**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
	65.8	68.0	Fine to coarse grained dark green moderately propyllitic	0.1	*3*				Unit contain 10-15% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 2-3% calcite and zeolite veins oriented 45-70 deg to the core axis. Minor stockworked sections randomly oriented. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.	238831	0.023	0.010
	68.0	70.0		0.3	*84.5*					238832	0.021	0.001
70	79.8		**STOCKWORKED ANDESITIC AUGITE PORPHYRY VOLCANIC**									
	70.0	72.0	Fine to coarse grained dark green moderately propyllitic	0.1	*82.5*	FLT	55	1		238833	0.022	0.001
	72.0	74.0		0.1	*81.6*					238834	0.029	0.025
	74.0	76.0		0.0	*57.1*				~3% 1-2mm sized feldspar phenocrysts are now also present.	238835	0.017	0.001
	76.0	78.0		0.0	*79.3*					238836	0.016	0.001
	78.0	79.8		0.0	*24.1*					238837	0.024	0.001
79.8	81.3		**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
79.8	81.3	Fine to coarse grained green weakly chloritic	3.5 **0.0**	*2.6*		Unit contains fragments of AND, AAP, BFP and granitoid material. Andesite and AAP dominate the fragments. Granitoid fragments contains phenocrysts of feldspars, hornblende and augite (altered to biotite). Fragments are subangular and range in size 0.5-10cm. Fragments are altered to chlorite and sericite. Matrix is intermediate in composition and altered to chlorite with minor sericite. Minor ground up fragment material is within the matrix. ~4% calcite, zeolite nd quartz veining oriented 25-40 deg to the core axis. Spotty magnetite present within some fragments. Pyrite is disseminated within the matrix, present within veins and present within fragments. Upper is 70 deg to the core axis and the lower contact is brecciated and gradational. Trace of chalcopyrite within a quartz vein of an andesite fragment.	238838	0.140	0.070
81.3	84.2	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
81.3	83.0	Fine to coarse grained dark green moderately propyllitic	0.0	*9.3*		Unit contain 10-15% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 4-5% calcite and zeolite veins oriented 25-70 deg to the core axis. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.	238839	0.011	0.001
83.0	84.2		0.0	*34.2*			238840	0.012	0.001
84.2	86.6	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
84.2	86.6	Fine to coarse grained dark grey weakly sericitic	4.0	*0.8*	CNT 60	Unit contains fragments of andesite, AAP and minor BFP and granitoid fragment. Fragments are subangular and range in size from 0.3-4cm. Fragments range from unaltered to potassic altered. Matrix is intermediate in composition and contains ground up portions of some fragments. Matrix is weakly altered to sericite and chlorite. ~3% zeolite and calcite veins randomly oriented. Spotty hematite and epidote present within and as halos around some veins. Unable to spot any quartz eyes. Minor fragments are magnetic. Pyrite is disseminated within the matrix and present within fragments. Upper contact is bedded at 60 deg to the core axis.	238841	0.058	0.040
86.6	88.9	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
86.6	88.9	Fine to coarse grained dark green moderately propyllitic	0.0	*6.7*		Unit contain 7-12% augite phenocrysts 2-4mm in size with most altered to chlorite and spotty epidote. Matrix is intermediate in composition and mostly altered to chlorite and epidote. Patchy carbonate sections within the matrix. 7-8% calcite and zeolite stockwork veins oriented 20-50 deg to the core axis. Spotty hematite within some veins. Unit is magnetic. Pyrite is disseminated within the matrix and present within some veins.	238842	0.024	0.060
88.9	98.4	**FRAGMENTAL HETEROLITHIC INTRUSION BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
88.9	91.0	Fine to coarse grained grey weakly sericitic	4.0 **0.0**	*3.2*	CNT 60	Unit contains fragments of andesite, AAP and minor BFP and granitoid fragment. Fragments increase in size down the hole as well as granitoid fragments increase in amount down the hole. Fragments are subangular and range in size from 0.3-6cm. Fragments range from unaltered to potassic altered. Matrix is intermediate in composition and contains ground up portions of some fragments. Matrix is weakly altered to sericite and chlorite. ~4% zeolite and calcite veins oriented 20-50 deg to the core axis. Spotty hematite and epidote present within and as halos around some veins and fragments. Unable to spot any quartz eyes. Minor fragments are magnetic. Pyrite is disseminated within the matrix and present within fragments. Trace of chalcopyrite within the matrix and within an andesite fragment. Upper contact is bedded at 60 deg to the core axis and the lower contact is 40 deg to the core axis..	238843	0.059	0.001
91.0	93.0		4.3	*2.4*			238844	0.050	0.035
93.0	95.0		2.5	*7.9*		Increasing fragment size.	238845	0.065	0.060
95.0	97.0		3.5 **0.1**	*2.7*		Minor chalcopyrite within a quartz calcite vein.	238846	0.109	0.030
97.0	98.4	Fine to coarse grained grey pink weakly hematitic	1.0	*48.6*	CNT 40	Increase in hematite staining.	238847	0.032	0.120
98.4	178	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**							
98.4	100.0	Fine to coarse grained pink grey moderately hematitic	0.1 **0.1**	*37.2*	FLT 60 5	Unit contains ~75% feldspars, ~15% mafics and ~10% quartz. Unit contains phenocrysts of hornblende and augite 4-10mm in size with some altered to biotite. Most of the feldspar grains are stained with hematite. Unit contains feldspar and minor quartz phenocrysts present 3-5mm in size. Spotty epidote and chlorite present associated with some mafic minerals and some veins. ~3% zeolite and calcite veins oriented 30-70 deg to the core axis. Minor hematite within some veins. Magnetite present within the matrix. Trace of pyrite within some veins. Trace of chalcopyrite within a calcite vein.	238848	0.030	0.960

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
100.0	102.0	Fine to coarse grained pink grey moderately hematitic	0.0	*45.2*			238849	0.002	0.010
102.0	104.0		0.0	*48.5*			238851	0.001	0.001
104.0	106.0		0.0	*53.5*			238852	0.002	0.001
106.0	108.0		0.0	*22.9*			238853	0.002	0.010
108.0	110.0		0.0	*56*			238854	0.002	0.030
110.0	112.0		0.0	*35*			238855	0.002	0.001
112.0	114.0		0.0	*51.9*			238856	0.005	0.050
114.0	116.0		0.0	*56.6*			238857	0.001	0.001
116.0	118.0		0.0	*46.6*			238858	0.003	0.030
118.0	120.0		0.0	*40.9*			238859	0.001	0.001
120.0	122.0		0.0	*27.5*			238860	0.001	0.001
122.0	124.0		0.0	*54.7*			238861	0.001	0.001
124.0	126.0		0.0	*44.3*			238862	0.001	0.001
126.0	128.0		0.0	*57.1*			238863	0.001	0.001
128.0	130.0		0.0	*51.6*			238864	0.001	0.001
130.0	132.0		0.0	*50.2*		Unit contains a highly altered porphyritic mafic fragment possibly AAP. Strong chlorite and sericite alteration with fine pyrite present.	238865	0.001	0.010
132.0	134.0		0.0	*41.2*			238866	0.001	0.001
134.0	136.0		0.0	*50.8*			238867	0.001	0.001
136.0	138.0		0.0	*54.4*			238868	0.002	0.001
138.0	140.0		0.0	*46.5*			238869	0.002	0.001
140.0	142.0		0.0	*39.9*			238870	0.002	0.001
142.0	144.0		0.0	*22.1*			238871	0.002	0.001
144.0	146.0		0.0	*22.2*			238872	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
146.0	148.0	Fine to coarse grained pink grey moderately hematitic	0.0	*41.1*					238873	0.001	0.010
148.0	150.0		0.0	*48.3*	FLT	20	2		238874	0.007	0.400
150.0	152.0		0.0	*49.6*	FLT	30	1	Start of 20cm composite sampling back from the sample tags.	238876	0.004	0.030
152.0	154.0		0.0	*37.8*	SHR	30	1		238877	0.007	0.050
154.0	156.0		0.0	*46.4*					238878	0.002	0.020
156.0	158.0		0.0	*53.9*					238879	0.006	0.030
158.0	160.0		0.0	*55.3*					238880	0.007	0.010
160.0	162.0		0.0	*48*					238881	0.002	0.001
162.0	164.0		0.0	*59.4*					238882	0.004	0.001
164.0	166.0		0.0	*51.4*					238883	0.003	0.001
166.0	168.0		0.0	*58.1*					238884	0.003	0.001
168.0	170.0		0.0	*60.9*					238885	0.006	0.001
170.0	172.0		0.0	*64.7*					238886	0.002	0.001
172.0	174.0		0.0	*50.9*	FLT	15	2		238887	0.004	0.001
174.0	176.0		0.0	*39.4*					238888	0.003	0.001
176.0	178.0		0.0	*53.3*				Split sampling again.	238889	0.002	0.001
178	178.8	**AMYGDULAR BASALT DYKE**									
178.0	178.8	Fine grained black		*88.6*	DYK	40		Unit is mafic in composition and magnetic. Minor fragments of the quartz monzodiorite present. ~5% amygdules present 1-3mm in size and filled with calcite, zeolite and hematite. ~3% calcite and zeolite veining oriented 30-40 deg to the core axis. Unit is fractured with them oriented 30-50 deg to the core axis. Upper and lower contacts are 40 deg to the core axis.	238890	0.005	0.001
178.8	275.3	**PORPHYRITIC QUARTZ MONZODIORITE INTRUSIVE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
178.8	180.0	Fine to coarse grained pink grey moderately hematitic	0.0	*59.2*				Back into the quartz monzodiorite unit encountered before the basalt dike.	238891	0.002	0.001
180.0	182.0		0.0	*45.2*				Back to 20cm composite samples.	238892	0.003	0.020
182.0	184.0		0.0	*22*					238893	0.002	0.001
184.0	186.0		0.0	*63.5*					238894	0.011	0.260
186.0	188.0		0.0	*46.8*				Mafic fragment present.	238895	0.001	0.001
188.0	190.0		0.0	*59.1*					238896	0.003	0.001
190.0	192.0		0.0	*29.9*					238897	0.003	0.001
192.0	194.0		0.0	*57.6*					238898	0.003	0.010
194.0	196.0		0.0	*52.3*					238899	0.002	0.001
196.0	198.0		0.0	*52.9*					238901	0.001	0.001
198.0	200.0		0.0	*29.5*					238902	0.001	0.001
200.0	202.0		0.0	*58.3*					238903	0.001	0.001
202.0	204.0		0.0	*16.4*					238904	0.001	0.001
204.0	206.0		0.0	*16.9*					238905	0.002	0.001
206.0	208.0		0.0	*44.5*					238906	0.001	0.001
208.0	210.0		0.0	*42.6*					238907	0.005	0.001
210.0	212.0		0.0	*47.6*	DYK	30	4	Small basalt dike within this interval similar to the one encountered above.	238908	0.021	0.009
212.0	214.0		0.0	*33.4*					238909	0.022	0.013
214.0	216.0		0.0	*52.2*					238910	0.001	0.015
216.0	218.0		0.0	*64.6*					238911	0.002	0.001
218.0	220.0		0.0	*27*					238912	0.001	0.008
220.0	222.0		0.0	*29*					238913	0.001	0.018
222.0	224.0		0.0	*42.4*					238914	0.001	0.001
224.0	226.0		0.0	*44*					238915	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
226.0	228.0	Fine to coarse grained pink grey moderately hematitic	0.0	*41*			238916	0.001	0.001
228.0	230.0		0.0	*36.8*			238917	0.001	0.001
230.0	232.0		0.0	*59*			238918	0.001	0.001
232.0	234.0		0.0	*19.7*			238919	0.001	0.001
234.0	236.0		0.0	*40.4*			238920	0.001	0.001
236.0	238.0		0.0	*43.3*			238921	0.001	0.001
238.0	240.0		0.0	*37.8*			238922	0.001	0.001
240.0	242.0		0.0	*42*			238923	0.001	0.001
242.0	244.0		0.0	*31.1*			238924	0.001	0.001
244.0	246.0		0.0	*33.5*			238926	0.001	0.001
246.0	248.0		0.0	*42.1*			238927	0.001	0.001
248.0	250.0		0.0	*37.3*			238928	0.004	0.001
250.0	252.0		0.0	*32.3*			238929	0.001	0.001
252.0	254.0		0.0	*31.7*			238930	0.001	0.001
254.0	256.0		0.0	*22.1*			238931	0.001	0.001
256.0	258.0		0.0	*41.5*			238932	0.000	0.001
258.0	260.0		0.0	*36.3*			238933	0.001	0.001
260.0	262.0		0.0	*36.8*			238934	0.001	0.005
262.0	264.0		0.0	*14.8*			238935	0.001	0.073
264.0	266.0		0.0	*43.2*			238936	0.003	0.024
266.0	268.0		0.0	*37.5*			238937	0.031	0.019
268.0	270.0		0.0	*37.4*			238938	0.002	0.006
270.0	272.0		0.0	*33*		Split samples again, tag to tag.	238939	0.002	0.001
272.0	274.0		0.0	*14.8*			238940	0.002	0.143
274.0	275.3		0.0	*25.5*			238941	0.002	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
275.3	302	**MASSIVE HETEROLITHIC FAULT ZONE**								
275.3	277.0	Fine to coarse grained red green moderately hematitic		*4.8*	FLT	20	Saunders Fault separating the post mineral Sovereign from the tuffaceous Hazelton. Unit contains fragments of both units. Fragments have been milled and are subrounded to rounded. Minor fragments have a fabric oriented in the direction of the fault at ~20 deg to the core axis. Matrix is composed of graound up fragments. Matrix is altered to chlorite and clay. Upper contact is 20 deg to the core axis and the lower contact is 20 deg to the core axis.	238942	0.002	0.006
277.0	279.0			*21.7*	FLT	20		238943	0.002	0.001
279.0	281.0			*11*	FLT	20		238944	0.002	0.007
281.0	283.0			*14.9*	FLT	20		238945	0.003	0.001
283.0	285.0			*58.9*	FLT	20		238946	0.005	0.001
285.0	287.0			*36*	FLT	20		238947	0.006	0.006
287.0	289.0			*45.7*	FLT	20	Dacitic fragments increasing.	238948	0.003	0.001
289.0	291.0			*26.3*	FLT	20		238949	0.002	0.001
291.0	293.0			*86.1*	FLT	20		238951	0.006	0.001
293.0	295.0			*61.7*	FLT	20		238952	0.003	0.001
295.0	297.0			*53.1*	FLT	20		238953	0.004	0.001
297.0	299.0			*31.9*	FLT	20		238954	0.006	0.001
299.0	301.0			*69.5*	FLT	20		238955	0.005	0.001
301.0	302.0			*44.5*	FLT	20		238956	0.004	0.001
302	345	**MASSIVE DACITE CRYSTAL-LITHIC TUFF**								

Hole Number: KH-07-23

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
302.0	304.0	Fine to coarse grained black weakly hematitic	0.0	*18.2*		Unit is intermediate in composition and contains ~60 feldspars, ~20% quartz and ~20% mafics. Hematite staining present over some feldspars. Spotty epidote present. Unit has a foliation in patches oriented 20-30 deg to the core axis. Magnetite is present within the matrix. ~1-2%, 1-2mm quartz eyes present. ~1% zeolite and calcite veining oriented 40-65 deg to the core axis. Trace of pyrite is present within the matrix.	238957	0.002	0.001
304.0	306.0		0.0	*53.8*			238958	0.002	0.001
306.0	308.0		0.0	*38.8*			238959	0.002	0.001
308.0	310.0		0.0	*26*			238960	0.001	0.001
310.0	312.0		0.0	*46*			238961	0.001	0.001
312.0	314.0		0.0	*47.7*			238962	0.001	0.001
314.0	316.0		0.0	*46.9*			238963	0.002	0.001
316.0	318.0		0.0	*54.4*		20cm composite samples again.	238964	0.002	0.001
318.0	320.0		0.0	*60.2*			238965	0.002	0.001
320.0	322.0		0.0	*45.9*			238966	0.002	0.001
322.0	324.0		0.0	*49*			238967	0.002	0.001
324.0	326.0		0.0	*52.1*			238968	0.001	0.001
326.0	328.0		0.0	*27.4*			238969	0.000	0.001
328.0	330.0		0.0	*60*			238970	0.001	0.001
330.0	332.0		0.0	*46.8*			238971	0.003	0.001
332.0	334.0		0.0	*42.2*			238972	0.002	0.005
334.0	336.0		0.0	*30.2*			238973	0.001	0.001
336.0	338.0		0.0	*33.3*			238974	0.001	0.001
338.0	340.0		0.0	*19.6*			238976	0.001	0.001
340.0	342.0		0.0	*34.2*			238977	0.001	0.001
342.0	345.0		0.0	*34.8*		EOH	238978	0.000	0.001

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	18	**FRAGMENTAL OVERBURDEN AGLOMERATE**							
0.0	6.0	Fine to coarse grained grey unaltered	0.0	*44.8*		Casing is 18m. Section is composed of broken Aglomerate and Lapilli Tuff material of the Hazelton unit. About 50-60% core recovery.	240751	0.011	0.006
6.0	12.0		0.0	*9.4*			240752	0.011	0.005
12.0	18.0		0.0	*70.9*			240753	0.000	0.001
18	25.3	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
18.0	21.0	Fine to coarse grained grey weakly chloritic	0.0	*43*		Unit is composed of 15-20% lapilli and ash material and 80-85% fragments. Fragments consist of andesite, granitoid, tuffaceous and feldspar porphyry material material. Fragments are subangular to subrounded in shape and are 0.3-6cm in size. Matrix is intermediate in composition with most of the composition being feldspars. Minor hornblende and augite seen within the matrix. Patchy hematite staining of some fragments and feldspar grains within the matrix. Spotty chlorite and sericite alteration of the matrix and fragments. 2-4% zeolite, calcite and hematite veining oriented 15-45 deg to the core axis. ~1%, <1mm quartz eyes present. Magnetite is present within the matrix and some fragments. Trace of pyrite present within the matrix and fragments. Composite sampling, 3m intervals with the last 1m split.	240754	0.000	0.001
21.0	24.0	Fine to coarse grained grey pink weakly chloritic		*21.6*			240755	0.000	0.009
24.0	25.3			*47.4*			240756	0.000	0.001
25.3	36.9	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
25.3	27.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*7.6*		Unit is composed of ~65-75% lapilli and ash and ~25-35% fragments. Matrix is intermediate in compostion almost dacitic. Fragments include andesite, feldspar porphyry, tuffaceous and granitoid material. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-8cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.	240757	0.000	0.001
27.0	30.0		0.0	*94.2*	BED 50	Possible bedding marked by hematite layer.	240758	0.000	0.001
30.0	33.0		0.0	*64.4*			240759	0.000	0.007
33.0	36.0		0.0	*66.3*	BED 55		240760	0.000	0.008
36.0	36.9		0.0	*66*			240761	0.000	0.006
36.9	61.6	**FRAGMENTAL HETEROLITHIC AGLOMERATE**							
36.9	39.0	Fine to coarse grained grey moderately silicified (non-K)	0.1	*48.5*		Unit contains 20-25% lapilli and ash matrix and 75-80% fragments. Fragments consist of andesite, tuffaceous, feldspar porphyry and granitoid material. Fragments are subangular to subrounded and are 0.4-10cm in size. Matrix is intermediate in composition. Siliceous overprint present. Patchy chlorite alteration of the matrix and fragments present. Spotty sericite alteration within some fragments. Hematite staining within some fragments and within some veins. Possible hematite separating bedded units. 2-3% zeolite and calcite veining oriented 20-60 deg to the core axis. Magnetite is present within the matrix and some fragments. ~1%, <1mm quartz eyes present. Trace of pyrite present.	240762	0.000	0.011
39.0	42.0		0.1	*105*			240763	0.000	0.009

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
42.0	45.0	Fine to coarse grained grey moderately silicified (non-K)	0.1	*63.6*			240764	0.000	0.006
45.0	48.0		0.0	*94*	BED 70		240765	0.000	0.005
48.0	51.0		0.0	*49.4*			240766	0.000	0.001
51.0	54.0		0.0	*52.5*			240767	0.000	0.001
54.0	57.0		0.0	*51.2*			240768	0.000	0.005
57.0	60.0		0.0	*3*			240769	0.000	0.001
60.0	61.6		0.0	*57.9*			240770	0.000	0.001
61.6	120.8	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
61.6	63.0	Fine to coarse grained grey pink unaltered	0.0	*66.7*		Unit is composed of ~65-75% lapilli and ash and ~25-35% fragments. Sections contain rare fragments with mostly lapilli and ash while other sections contain 50% fragments. Matrix is intermediate in compostion almost dacitic. Fragments include andesite, tuffaceous, feldspar porphyry and granitoid material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.	240771	0.000	0.001
63.0	66.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0	*59.2*			240772	0.000	0.001
66.0	69.0		0.0	*61.5*			240773	0.000	0.001
69.0	72.0		0.0	*70.1*			240774	0.000	0.001
72.0	75.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*57.3*			240776	0.000	0.001

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
75.0	78.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*93*				Unit has become highly fractured with the orientation of the fractures ranging from 10-40 deg to the core axis.	240777	0.001	0.001
78.0	81.0		0.0	*89.2*					240778	0.001	0.005
81.0	84.0		0.0	*49.3*	BED	60			240779	0.000	0.001
84.0	87.0		0.0	*53.8*					240780	0.000	0.001
87.0	90.0		0.0	*90.2*					240781	0.000	0.001
90.0	93.0		0.0	*90.3*					240782	0.000	0.001
93.0	96.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*55*					240783	0.001	0.007
96.0	99.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*29.3*	FLT	20	2		240784	0.000	0.001
99.0	102.0	Fine to coarse grained dark grey pink unaltered	0.0	*78.8*	DYK	30	15	Small Post Mineral tan QFP dike from 99.4-99.7m. Upper and lower contacts are 30 deg to the core axis.	240785	0.000	0.001
102.0	105.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*63.3*					240786	0.000	0.001
105.0	108.0	Fine to coarse grained dark grey moderately silicified (non-K)	0.0	*83.4*				Fracturing has decreased and the core is more competant.	240787	0.002	0.001
108.0	111.0		0.0	*81.1*					240788	0.000	0.001
111.0	114.0		0.0	*116*	BED	70		Fragment content is starting to increase.	240789	0.000	0.001
114.0	117.0		0.0	*74.1*					240790	0.000	0.001
117.0	120.0		0.1	*39.7*	SHR	50	2		240791	0.001	0.001
120.0	120.8		0.1	*6.9*					240792	0.001	0.009
120.8	137.9	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
120.8	123.0	Fine to coarse grained grey weakly chloritic	0.2 **0.0**	*77.2*				Unit is composed of ~60-70% fragments and ~30-40% lapilli and ash matrix. Matrix is intermediate in compostion. Fragments mostly include andesite and BFP material with minor amounts of tuffaceous, AAP and granitoid material. Some BFP fragments contain amygdules filled with calcite. Patchy chlorite alteration. Spotty sericite alteration within some fragments and matrix. Spotty hematite within some veins and some fragments. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-15cm in size. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis with some near parallel to the core axis. Minor fractures present from near parallel to 40 deg to the core axis. Magnetite is present within the matrix and present within some fragments. Minor pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Trace of chalcopyrite seen within a few fragments of altered andesite.	240793	0.017	0.011
123.0	126.0		0.1	*70.6*					240794	0.010	0.016
126.0	129.0		0.1	*56.2*	DYK	25	6	Small Post Mineral tan QFP dike from 126.6-126.8m. Upper and lower contacts are 25 deg to the core axis.	240795	0.010	0.001
129.0	131.0		0.1	*58.3*				Beginning regular splitting and sampling techniques, every 2m or on lithologic boundaries.	240796	0.013	0.014
131.0	133.0		0.2	*77.5*	DYK	25	12	Small Post Mineral tan QFP dike from 131.9-132.1m. Upper and lower contacts are 25 deg to the core axis.	240797	0.007	0.010
133.0	135.0		0.2 **0.0**	*36.9*				Trace of chalcopyrite within a couple of andesite fragments.	240798	0.012	0.010
135.0	137.0		0.1	*59.2*					240799	0.011	0.017
137.0	137.9		0.1	*85.9*					240801	0.016	0.026
137.9	196.4	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
137.9	140.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.1		*53.8*				Content of fragments has decreased with an increase in lapilli and ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion, dacitic. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-5cm in size. 2-4% zeolite and calcite veining oriented 20-50 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. ~2% fractures oriented 0-50 deg to the core axis.	240802	0.004	0.033
140.0	142.0		0.1	**0.0**	*69.9*				Trace of chalcopyrite within a small andesite fragment.	240803	0.008	0.025
142.0	144.0		0.1		*79.9*					240804	0.001	0.015
144.0	146.0		0.1	**0.0**	*68.1*	FOL	65	1	Trace of chalcopyrite within the matrix.	240805	0.002	0.010
146.0	148.0	Fine to coarse grained grey unaltered	0.0		*75.5*					240806	0.001	0.017
148.0	150.0		0.0		*71.6*					240807	0.001	0.024
150.0	152.0	Fine to coarse grained grey weakly silicified (non-K)	0.2		*60.5*	QPYV	65	1		240808	0.001	0.010
152.0	154.0	Fine to coarse grained grey pink unaltered	0.0		*83.9*				Hematite staining increases at the end of the interval.	240809	0.001	0.006
154.0	156.0	Fine to coarse grained grey pink weakly hematitic	0.0		*82.1*				Section is hematite stained.	240810	0.000	0.013
156.0	158.0	Fine to coarse grained grey pink unaltered	0.0		*62.7*	BED	30		Hematite staining decreases. Rough bedding contact towards the end of the section. Unit is fractured.	240811	0.001	0.019
158.0	160.0	Fine to coarse grained dark grey weakly silicified (non-K)			*79.7*					240812	0.001	0.011
160.0	162.0		0.0		*85.5*	BED	30			240813	0.001	0.007

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
162.0	164.0	Fine to coarse grained dark grey unaltered	0.0		*15.6*	BED	25		Steep structure, calcite and zeolite vein almost parallel with the core axis.	240814	0.000	0.005
164.0	166.0		0.0		*46.1*				Steep structure, calcite and zeolite vein almost parallel with the core axis. Fragments include granitoid material with biotite replacing some hornblende.	240815	0.000	0.001
166.0	168.0		0.0		*73.1*					240816	0.001	0.006
168.0	170.0		0.0		*77.8*					240817	0.000	0.005
170.0	172.0	Fine to coarse grained grey unaltered	0.0		*60.4*					240818	0.001	0.039
172.0	174.0		0.0		*60*					240819	0.001	0.016
174.0	176.0	Fine to coarse grained grey weakly chloritic	0.1	**0.0**	*72.2*				Trace of chalcopyrite within an altered andesite fragment.	240820	0.001	0.017
176.0	178.0	Fine to coarse grained grey weakly silicified (non-K)	0.1		*88.6*	SHR	25	2		240821	0.003	0.030
178.0	180.0		0.1		*71.6*	FLT	55	1	Fragments have increased.	240822	0.000	0.001
180.0	182.0		0.1		*42.4*					240823	0.001	0.006
182.0	184.0		0.1		*68.1*	BED	50			240824	0.001	0.001
184.0	186.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.1		*71*				Back to 3m sample intervals and 1m split sampling.	240826	0.001	0.005
186.0	189.0	Fine to coarse grained grey weakly silicified (non-K)	0.0		*80*					240827	0.001	0.001
189.0	192.0		0.0		*65*	BED	30			240828	0.001	0.005
192.0	195.0	Fine to coarse grained grey pink weakly chloritic	0.0		*48.3*				Chlorite alteration has increased spotty hematite staining at the end of the interval.	240829	0.001	0.012
195.0	196.4	Fine to coarse grained grey weakly silicified (non-K)	0.0		*58.1*					240830	0.001	0.013
196.4	214.1	**HOMOGENEOUS DACITE CRYSTAL-LITHIC TUFF**										

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
196.4	198.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*96.8*	BED	40		Unit is intermediate in composition containing ~65% feldspars, ~25% quartz and ~10% mafics. Unit contains patchy siliceous, chlorite and sericite alteration. Spotty hematite staining over some of the feldspar minerals. Hematite also present within some veins. 3-5% zeolite and calcite veining oriented 30-50 deg to the core axis. ~3% fractures orineted 10-70 deg to the core axis. Magnetite present within the matrix. Trace of disseminated pyrite present. ~1%, 1mm quartz eyes present. Rare fragments of tuffaceous and andesite material present.	240831	0.000	0.001
198.0	201.0		0.0	*58.7*				Minor welded textures present.	240832	0.000	0.006
201.0	204.0	Fine to coarse grained grey pink weakly chloritic	0.0	*84.7*					240833	0.001	0.007
204.0	207.0		0.0	*69.1*					240834	0.000	0.001
207.0	210.0		0.0	*73.8*	SHR	25	2		240835	0.001	0.005
210.0	213.0		0.0	*26.9*					240836	0.000	0.001
213.0	214.1		0.0	*65.2*					240837	0.000	0.001
214.1	241.8	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
214.1	216.0	Fine to coarse grained grey pink weakly chloritic	0.0	*66.4*			Content of fragments has increased with a decrease in ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion, dacitic. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins. Siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining oriented 25-60 deg to the core axis with some near parallel to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. ~2% fractures randomly oriented.	240838	0.000	0.001
216.0	219.0	Fine to coarse grained green weakly chloritic	0.1	*85.2*				240839	0.000	0.001
219.0	222.0	Fine to coarse grained grey weakly chloritic	0.1	*118*				240840	0.002	0.001
222.0	225.0	Fine to coarse grained grey weakly silicified (non-K)	0.1	*69.2*				240841	0.000	0.010
225.0	228.0		0.0	*59.5*	BED	50	Spotty welded textures.	240842	0.000	0.001
228.0	231.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*106*	BED	50		240843	0.001	0.010
231.0	234.0		0.0	*74.7*				240844	0.001	0.041
234.0	237.0		0.0	*94.7*	BED	40		240845	0.001	0.009
237.0	240.0		0.0	*73.7*				240846	0.000	0.007
240.0	241.8		0.1	*75.9*				240847	0.001	0.015
241.8	263.5	**HOMOGENEOUS DACITE CRYSTAL-LITHIC TUFF**								

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
241.8	243.0	Fine to coarse grained grey pink weakly chloritic	0.0	*43.7*	BED	40	Unit is intermediate to almost felsic in composition. Unit has a crowded feldspar look with abundant feldspar minerals. Rare fragments present including tuffaceous and andesite material. 8-10% zeolite and calcite veining oriented 0-40 deg to the core axis. Patchy welded texture. ~4% randomly oriented fractures. Unit contains patchy chlorite and hematite alteration. Hematite is also present within some veins. Unit is magnetic. Trace of disseminated pyrite present. ~1%, <1mm quartz eyes present.	240848	0.002	0.010
243.0	246.0		0.0	*32.8*	LIN	50		240849	0.000	0.001
246.0	249.0	Fine to coarse grained dark grey maroon weakly chloritic	0.0	*1*	LIN	50		240851	0.000	0.001
249.0	252.0	Fine to coarse grained maroon pink weakly chloritic	0.0	*8.7*				240852	0.000	0.001
252.0	255.0	Fine to coarse grained dark grey maroon weakly chloritic	0.0	*14.4*	BED	55		240853	0.000	0.001
255.0	258.0	Fine to coarse grained grey weakly chloritic	0.0	*28.5*				240854	0.000	0.001
258.0	261.0		0.0	*40.1*				240855	0.000	0.001
261.0	263.5		0.0	*23.3*				240856	0.000	0.001
263.5	265.6	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**								

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
263.5	265.6	Fine to coarse grained grey maroon weakly hematitic	0.0	*18.5*	BED	40	Content of fragments has increased with a decrease in ash matrix. Unit is composed of ~60-70% lapilli and ash and ~30-40% fragments. Matrix is intermediate in compostion. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins and matrix. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-4cm in size. 2-4% zeolite and calcite veining randomly oriented with minor stockworked sections. ~3% randomly oriented fractures. Minor lineations of the some lapilli between 50-60 deg to the core axis. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present.	240857	0.000	0.001
265.6	266.3	**MASSIVE FELDSPAR PORPHYRY DYKE**								
265.6	266.3	Fine to coarse grained dark grey unaltered		*20.8*	DYK	75	Unit contains 15-20% feldspar phenocrysts 2-4mm in size and some altered to chlorite and sericite. The fine grained matrix is mafic in composition and is slightly altered to chlorite and sericite. ~1-2% zeolite and calcite veining oriented 20-50 deg to the core axis. Unit is magnetic. Upper and lower contacts are 75 deg to the core axis.	240858	0.000	0.001
266.3	296.8	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**								
266.3	267.0	Fine to coarse grained weakly chloritic	0.0	*26.8*			Unit is similar to one encountered before the feldspar porphyry dike.	240859	0.000	0.001
267.0	270.0		0.0	*21.7*				240860	0.000	0.001
270.0	273.0	Fine to coarse grained grey pink weakly chloritic	0.0	*21.8*				240861	0.000	0.001
273.0	276.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*80.1*	SHR	30 5		240862	0.000	0.001

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
276.0	279.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0	*89.3*			240863	0.000	0.007
279.0	282.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*119*			240864	0.000	0.014
282.0	285.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0	*36.9*			240865	0.000	0.001
285.0	288.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*97.5*			240866	0.000	0.001
288.0	291.0		0.0	*70.3*	BED 40		240867	0.000	0.008
291.0	294.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0	*85.5*	BED 50		240868	0.000	0.001
294.0	296.8		0.0	*80.2*			240869	0.000	0.001
296.8	318	**HOMOGENEOUS DACITE CRYSTAL-LITHIC TUFF**							
296.8	300.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*47*		Unit is intermediate in composition containing ~65% feldspars, ~25% quartz and ~10% mafics. Unit contains patchy siliceous, chlorite , clay and sericite alteration. Spotty hematite staining over some of the feldspar minerals. Hematite also present within some veins and halo around some veins. 3-5% zeolite and calcite veining oriented 25-60 deg to the core axis some near parallel to the core axis. ~3% fractures orineted 10-70 deg to the core axis. Magnetite present within the matrix. Trace of disseminated pyrite present. Rare quartz eyes present. Rare fragments of tuffaceous and andesite material present.	240870	0.000	0.013
300.0	303.0	Fine to coarse grained grey maroon weakly silicified (non-K)	0.0	*50.8*			240871	0.000	0.001
303.0	306.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*43.9*			240872	0.000	0.001
306.0	309.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*77.8*			240873	0.000	0.008
309.0	312.0		0.0	*20.5*	BED 60		240874	0.000	0.001

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
312.0	315.0	Fine to coarse grained grey pink weakly clay altered	0.0	*54.5*				240876	0.000	0.001
315.0	318.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*42.5*				240877	0.000	0.001
318	318.9	**MASSIVE FELDSPAR PORPHYRY DYKE**								
318.0	318.9	Fine to coarse grained grey green unaltered		*41.2*			Unit contains 7-12% feldspar phenocrysts 2-5mm and some altered to sericite and have a hematite stain. Matrix is fine grained and mafic in composition. Spotty chlorite alteration of the matrix. 2-3% calcite and zeolite veining 15-30 deg to the core axis. ~2% fractures oriented 15-30 deg to the core axis. Unit is magnetic. Upper contact is 60 deg to the core axis and the lower contact is 10 deg to the core axis.	240878	0.001	0.001
318.9	346.1	**HOMOGENEOUS DACITE CRYSTAL-LITHIC TUFF**								
318.9	321.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*35.9*			Unit is similar to the one encountered before the dike.	240879	0.000	0.005
321.0	324.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*62.7*				240880	0.000	0.005
324.0	327.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*75.4*				240881	0.000	0.001
327.0	330.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*55.1*			Spotty epidote present.	240882	0.000	0.001
330.0	333.0	Fine to coarse grained grey pink weakly clay altered	0.0	*34.1*				240883	0.000	0.001
333.0	336.0		0.0	*102*			Minor epidote within a vein.	240884	0.000	0.001
336.0	339.0		0.0	*40.4*	DYK	4	Minor epidote within a vein. A small FP dike from 337.2-337.3m is present oriented 35 deg to the core axis.	240885	0.000	0.001
339.0	342.0		0.0	*32.1*				240886	0.001	0.001
342.0	345.0		0.0	*44.2*				240887	0.001	0.001
345.0	346.1		0.0	*27.1*				240888	0.001	0.001
346.1	399	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**								

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
346.1	348.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*139*			Unit is composed of ~85-95% lapilli and ash and ~5-15% fragments. Patchy brecciated sections within the unit. Matrix is intermediate in compostion. Fragments include andesite, tuffaceous and feldspar porphyry material. Mostly tuffaceous fragments present. Patchy chlorite alteration. Spotty sericite alteration within some fragments. Spotty hematite within some veins and matrix. Patchy siliceous overprint present. Fragments are subangular to subrounded and range in size from 0.3-6cm in size. 2-4% zeolite and calcite veining oriented 25-40 deg to the core axis.. ~2% randomly oriented fractures. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Patchy welded texture throughout.	240889	0.000	0.001
348.0	351.0	Fine to coarse grained grey weakly chloritic	0.1	*117*				240890	0.001	0.010
351.0	354.0		0.1	*103*				240891	0.000	0.001
354.0	357.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*86.4*	FAB	55	Rough welded texture with a mineral fabric. Spotty hematite staining within the matrix	240892	0.000	0.005
357.0	360.0		0.1	*86.8*			Blebby pyrite present within the matrix.	240893	0.000	0.001
360.0	363.0		0.0	*118*			Patchy welded texture.	240894	0.000	0.001
363.0	366.0		0.0	*125*	FAB	50		240895	0.001	0.001
366.0	369.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*53.4*	FAB	60	Patchy hematite within the matrix.	240896	0.000	0.001
369.0	372.0		0.0	*90.2*				240897	0.000	0.001
372.0	375.0	Fine to coarse grained grey weakly silicified (non-K)	0.1	*125*			Patchy chlorite present. Blebby pyrite present within chloritic and beige sericitic sections within the matrix of brecciated sections..	240898	0.000	0.001
375.0	378.0	Fine to coarse grained grey green weakly silicified (non-K)	0.0	*52.4*	BED	60	Patchy epdiote present within the matrix.	240899	0.001	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
378.0	381.0	Fine to coarse grained green weakly silicified (non-K)	0.0	*111*				Hematite within the matrix of some brecciated sections.	240901	0.000	0.001
381.0	384.0		0.0	*101*	BED	55		Minor epidote alteration of some fragments.	240902	0.000	0.001
384.0	387.0		0.0	*35*	FAB	40		Patchy brecciated sections. Matrix within in brecciated sections filled with beige sericite and minor chlorite.	240903	0.000	0.001
387.0	390.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*151*				Minor welding present. Weak hematite staining of the matrix present.	240904	0.000	0.001
390.0	393.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*108*	BED	40		Patchy clay alteration around some veins.	240905	0.000	0.001
393.0	396.0	Fine to coarse grained grey pink weakly clay altered	0.0	*74*	BED	55		Weak hematite staining of the matrix present.	240906	0.001	0.008
396.0	399.0		0.0	*77.9*	SHR	10	1		240907	0.001	0.005
399	408	**WELDED DACITE CRYSTAL-LITHIC TUFF**									
399.0	402.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*69.1*				Fabric orientation ranges between 45-65 deg to the core axis.	240908	0.000	0.007
402.0	405.0		0.0	*124*				Brecciated. Patchy clay alteration around some veining. Hematite is present within the matrix between fragments and as well as some fragments are stained.	240909	0.004	0.009
405.0	408.0		0.0	*89.9*				Patchy clay alteration around some veining. Hematite is present within the matrix between fragments and as well as some fragments are stained. Minor beige sericite between some fragments.	240910	0.001	0.012
408	452.8	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**									
408.0	411.0	Fine to coarse grained grey maroon weakly silicified (non-K)	0.0	*59*				Minor hematite stringers present.	240911	0.000	0.007
411.0	414.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0	*116*				Patchy hematite within the matrix.	240912	0.001	0.006
414.0	417.0		0.0	*126*					240913	0.000	0.005
417.0	420.0		0.0	*53.8*					240914	0.000	0.001
420.0	423.0		0.0	*11.8*					240915	0.000	0.007

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
423.0	426.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0	*9*				Patchy hematite within the matrix. Minor brecciated sections present. Unit is becoming very dense.	240916	0.000	0.001
426.0	429.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*1.4*				Minor beige sericitic sections present.	240917	0.000	0.001
429.0	432.0	Fine to coarse grained dark grey weakly sericitic	0.0	*7.9*				Minor beige and green sericitic and chloritic sections. Patchy sericite is present within the matrix.	240918	0.000	0.001
432.0	435.0		0.0	*2.6*				Patchy brecciation.	240919	0.000	0.001
435.0	438.0	Fine to coarse grained dark grey maroon weakly sericitic	0.0	*2.3*	SHR	10	1	Patchy hematite within the matrix. Patchy siliceous alteration.	240920	0.000	0.016
438.0	441.0		0.0	*4.2*				Patchy hematite within the matrix.	240921	0.000	0.007
441.0	444.0	Fine to coarse grained dark grey weakly sericitic	0.0	*3.5*					240922	0.000	0.001
444.0	447.0		0.0	*3.8*				Section is brecciated with the matrix altered to beige and green sericite and chlorite.	240923	0.000	0.001
447.0	450.0		0.0	*4.3*				Randomly oriented hematite stringers present. Patchy sericite and chlorite sections.	240924	0.000	0.001
450.0	452.8		0.0	*2.4*					240926	0.001	0.185
452.8	454.2	**HOMOGENEOUS FELDSPAR PORPHYRY DYKE**									
452.8	454.2	Fine to coarse grained tan unaltered		*15.8*	DYK	30		Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration. 3-5% calcite and zeolite veins and stringers oriented 20-40 deg to the core axis. ~3% randomly oriented fractures. Unit is weakly magnetic. Upper and lower contacts are 30 deg to the core axis.	240927	0.000	0.006
454.2	468	**STOCKWORKED DACITE LAPILLI-TUFF**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
454.2	456.0	Fine to coarse grained grey pink weakly clay altered	0.0	*77.7*		Unit is composed of ~90-95% lapilli and ash and ~5-10% fragments. Patchy brecciated sections within the unit. Matrix is intermediate in compostion. Fragments include mostly tuffaceous material. Patchy clay, chlorite and siliceous alteration. 3-5% zeolite and calcite veining randomly oriented. ~5% randomly oriented fractures. Magnetite is present within the matrix and present within some fragments. Trace of pyrite present within some fragments and disseminated within the matrix. 1%, <1mm quartz eyes present. Patchy welded texture throughout.	240928	0.000	0.001
456.0	459.0	Fine to coarse grained dark grey weakly sericitic	0.0	*73.7*			240929	0.001	0.013
459.0	462.0	Fine to coarse grained grey pink weakly sericitic	0.0	*106*	FAB 60		240930	0.000	0.015
462.0	465.0	Fine to coarse grained grey pink moderately clay altered	0.0	*69.1*		Stockwork veining has increased.	240931	0.001	0.005
465.0	468.0		0.0	*150*			240932	0.000	0.005
468	471.7	**STOCKWORKED DACITE FAULT ZONE**							
468.0	471.0	Fine to coarse grained maroon strongly hematitic	0.0	*2.5*	FLT 30	The units characteristics have become obliterated due to faulting. Strong hematite alteration is present within the matrix and veins. String clay alteration of the matrix present. Fault orientation is 30 deg to the core axis.	240933	0.000	0.016
471.0	471.7		0.0	*6.4*	FLT 30		240934	0.000	0.001
471.7	472.2	**HOMOGENEOUS FELDSPAR PORPHYRY DYKE**							
471.7	472.2	Fine to coarse grained tan weakly hematitic		*5.2*		Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration and weak hematite stain. 3-5% calcite and zeolite veins and stringers oriented 20-40 deg to the core axis. Minor hematite present within some veins. ~3% randomly oriented fractures. Unit is weakly magnetic. Upper contact is 80 deg to the core axis and the lower contact is 20 deg to the core axis.	240935	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
472.2	476.9	**STOCKWORKED DACITE FAULT ZONE**								
472.2	475.0	Fine to coarse grained maroon strongly hematitic	0.0	*5*	FLT	30	Similar fault zone material encountered before the dike.	240936	0.000	0.001
475.0	476.9		0.0	*2*	FLT	30		240937	0.001	0.005
476.9	481.2	**HOMOGENEOUS FELDSPAR PORPHYRY DYKE**								
476.9	479.0	Fine to coarse grained tan weakly hematitic		*7.8*	DYK	30	Unit contains 7-12 feldspar phenocrysts 2-6mm with some altered to chlorite and sericite. Matrix is fine grained with a weak sericite alteration and weak hematite stain. 3-5% calcite and zeolite veins and stringers oriented 40-70 deg to the core axis. Minor hematite present within some veins. ~4% randomly oriented fractures. Unit is weakly magnetic. Upper and lower contacts are 30 deg to the core axis.	240938	0.000	0.001
479.0	481.2			*7.7*	FLT	30		240939	0.000	0.001
481.2	486.3	**STOCKWORKED DACITE FAULT ZONE**								
481.2	483.0	Fine to coarse grained maroon strongly hematitic	0.0	*6.7*	FLT	30	Similar fault zone unit encoutered before the dike.	240940	0.000	0.001
483.0	486.3		0.0	*35.2*	FLT	30		240941	0.002	0.032
486.3	547.7	**STOCKWORKED HETEROLITHIC LAPILLI-TUFF**								
486.3	489.0	Fine to coarse grained dark grey pink moderately silicified (non-K)	0.0	*36.6*			Unit contains 55-65% fragments and 35-45% lapilli and ash matrix. Most of the are tuffaceous material with rare andesite and granitoid fragments. Fragments range in size from 0.4-5cm and are subangular to subrounded in shape. Matrix is intermediate in composition. Patchy siliceous, clay and sericite alteration present. Minor hematite staining of the matrix around some veins. 5-7% calcite and zeolite veining oriented 25-50 deg to the core axis with rare veins near parallel to the core axis. Minor hematite within some veins. Spotty stockworked sections present. ~3% fractures oriented 10-50 deg to the core axis. Trace of pyrite within the matrix. ~1%, <1mm quartz eyes present. Unit is magnetic.	240942	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
489.0	492.0	Fine to coarse grained dark grey moderately silicified (non-K)	0.0	*80.3*					240943	0.000	0.001
492.0	495.0	Fine to coarse grained dark grey pink moderately silicified (non-K)	0.0	*51.9*				Patchy clay alteration within this section.	240944	0.000	0.006
495.0	498.0	Fine to coarse grained grey weakly chloritic	0.0	*80.2*					240945	0.000	0.005
498.0	501.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.0	*80.9*	SHR	25	1	Patchy clay sections around some veining.	240946	0.000	0.011
501.0	504.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*103*				Patchy sericite alteration present.	240947	0.001	0.001
504.0	507.0	Fine to coarse grained grey pink moderately clay altered	0.0	*68.5*					240948	0.000	0.001
507.0	510.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*44.1*					240949	0.000	0.001
510.0	513.0		0.0	*57.9*					240951	0.004	0.010
513.0	516.0		0.0	*47.2*				Minor welding textures present.	240952	0.003	0.010
516.0	519.0		0.0	*54.6*				Patchy chlorite and sericite alteration present.	240953	0.002	0.010
519.0	522.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0	*68.5*				Patchy clay alteration around some veins.	240954	0.002	0.010
522.0	525.0	Fine to coarse grained dark grey weakly sericitic	0.0	*59.9*				Sericite and chlorite alteration are increasing.	240955	0.002	0.010
525.0	528.0	Fine to coarse grained dark grey pink weakly sericitic	0.0	*75.9*				Patchy hematite and clay alteration.	240956	0.013	0.050
528.0	531.0		0.0	*38.5*				Minor welded textures present.	240957	0.003	0.010
531.0	534.0	Fine to coarse grained dark grey weakly sericitic	0.0	*7.3*	FAB	55			240958	0.002	0.010
534.0	537.0	Fine to coarse grained light grey maroon intensely sericitic	0.0	*0.8*	FLT	40	1	Intense sericite alteration present with chlorite. Alteration has obliterated most of the characteristics of the rock. Fragments are still visible with hematite within the matrix. Similar unit the one above. Veining has decreased. ~2% quartz, zeolite and calcite veining oriented 40-75 deg to the core axis.	240959	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
537.0	540.0	Fine to coarse grained light grey maroon intensely sericitic	0.0	*1*	FLT	40	1		240960	0.001	0.010
540.0	543.0		0.0	*1.1*	FAB	50		Minor welded texture present.	240961	0.001	0.010
543.0	546.0	Fine to coarse grained green weakly sericitic	0.0	*38*	FAB	35		Unit has returned back to what it was before the intense sericitic alteration. Minor welding present.	240962	0.001	0.010
546.0	547.7		0.0	*55*	SHR	30	1		240963	0.002	0.010
547.7	645	**WELDED DACITE LAPILLI-TUFF**									
547.7	549.0	Fine to coarse grained grey weakly sericitic	0.0	*79.5*	CNT	40		Unit is a welded lapilli tuff. Unit is intermediate in composition with patchy chlorite, siliceous and sericite alteration of the matrix. Minor fragments of andesite and tuffaceous material present. 3-5% zeolite and calcite veining oriented 20-60 deg to the core axis. Veining decreases down the hole. Minor hematite within some veins. Clay alteration around some veins. ~3% fractures randomly oriented. Patchy hematite staining within the matrix. Trace of disseminated pyrite present within the matrix. ~1%, <1mm quartz eyes present. Contact with the upper unit is 40 deg to the core axis.	240964	0.001	0.010
549.0	552.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*62*	FAB	65			240965	0.001	0.010
552.0	555.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*66.5*	FAB	60		Patchy clay alteration.	240966	0.002	0.110
555.0	558.0	Fine to coarse grained grey weakly silicified (non-K)	0.0	*91.9*	BED	40			240967	0.000	0.010
558.0	561.0		0.0	*76.2*					240968	0.001	0.010
561.0	564.0		0.0	*87.7*				Fracturing and veining have decreased.	240969	0.002	0.090
564.0	567.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*90.9*				Patchy epidote within the matrix.	240970	0.002	0.010
567.0	570.0		0.0	*30.5*	FAB	60			240971	0.001	0.010
570.0	571.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*16.3*	SHR	20	5		240972	0.001	0.010

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
571.0	573.0	Fine to coarse grained grey green moderately chloritic	0.0		*57.5*			Units matrix is intermediate in composition and contains 5-15% fragments. Sections contain no fragments while some other sections contain abundant fragments. Fragments are mostly tuffaceous material with the odd andesite, BFP and granitoid fragment. Fragments are subangular to subrounded and range in size from 0.5-4cm. Siliceous alteration dominates the matrix with minor patches of chlorite and clay, mostly around some veins. ~2-3% zeolite and calcite veining oriented 20-50 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Trace of disseminated pyrite present within the matrix. ~1%, <1mm quartz eyes present. Start of the unit is really chloritic.	240973	0.001	0.010
573.0	576.0	Fine to coarse grained grey green weakly chloritic	0.0		*70.2*			Minor welding present.	240974	0.001	0.010
576.0	579.0	Fine to coarse grained grey green weakly silicified (non-K)	0.0		*54.6*	FAB	50		240976	0.002	0.010
579.0	581.0	Fine to coarse grained grey weakly silicified (non-K)	0.0		*55.2*	FAB	30	Back to regular sampling and splitting techniques.	240977	0.001	0.010
581.0	583.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0		*97.7*	BED	50		240978	0.004	0.010
583.0	585.0	Fine to coarse grained dark grey maroon weakly silicified (non-K)	0.0		*54.4*	BED	40	Minor hematite within the matrix and as stringers.	240979	0.003	0.010
585.0	587.0	Fine to coarse grained grey weakly silicified (non-K)	0.1		*1.5*				240980	0.008	0.020
587.0	589.0	Fine to coarse grained grey weakly silicified (non-K)	0.0		*72*				240981	0.003	0.010
589.0	591.0	Fine to coarse grained green weakly silicified (non-K)	0.0	**0.0**	*55.2*			Trace of chalcopyrite within the matrix. Patchy epidote has now become more common.	240982	0.049	0.080
591.0	593.0	Fine to coarse grained weakly silicified (non-K)	0.1	**0.1**	*65.3*			Minor hematite staining within the matrix. Minor chalcopyrite disseminated within the matrix associated with altered mafic minerals.	240983	0.014	0.030
593.0	595.0	Fine to coarse grained grey weakly silicified (non-K)	0.0		*79.7*				240984	0.002	0.010

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
595.0	597.0	Fine to coarse grained grey green weakly silicified (non-K)	0.0	*62*			240985	0.006	0.010
597.0	599.0		0.0	*69.9*			240986	0.002	0.010
599.0	601.0	Fine to coarse grained grey green weakly propyllitic	0.0	*53.6*		Minor sericite alteration is becoming more common. A slight increase in the epidote alteration already present.	240987	0.001	0.010
601.0	603.0	Fine to coarse grained grey weakly propyllitic	0.0	*88.6*			240988	0.001	0.001
603.0	605.0		0.0	*51.5*	BED 50		240989	0.002	0.010
605.0	607.0		0.0	*75.6*			240990	0.002	0.010
607.0	609.0	Fine to coarse grained grey green weakly propyllitic	0.0	*67.4*		Weak carbonate alteration of the matrix now present.	240991	0.002	0.010
609.0	611.0		0.0	*99.8*			240992	0.001	0.010
611.0	613.0	Fine to coarse grained grey weakly propyllitic	0.0	*49.8*			240993	0.001	0.010
613.0	615.0		0.0	*64.3*			240994	0.001	0.010
615.0	617.0		0.0	*89*	FAB 40		240995	0.002	0.010
617.0	619.0	Fine to coarse grained grey pink weakly propyllitic	0.0	*41.7*			240996	0.001	0.010
619.0	621.0		0.0	*29.6*			240997	0.002	0.010
621.0	623.0	Fine to coarse grained grey weakly propyllitic	0.0	*62.3*			240998	0.001	0.010
623.0	625.0	Fine to coarse grained grey moderately propyllitic	0.1 **0.0**	*71.2*		Trace of chalcopyrite disseminated within the matrix.	240999	0.012	0.010
625.0	627.0		0.0	*46.7*	FAB 35		241001	0.000	0.001
627.0	629.0	Fine to coarse grained grey weakly propyllitic	0.0	*83.9*			241002	0.001	0.001
629.0	631.0		0.0	*61.4*			241003	0.000	0.001
631.0	633.0	Fine to coarse grained grey moderately silicified (non-K)	0.0	*71.6*		Section is mostly siliceous with patchy chlorite and clay.	241004	0.000	0.001
633.0	635.0	Fine to coarse grained dark grey green moderately silicified (non-K)	0.0	*81.1*		Section is mostly siliceous with patchy epidote.	241005	0.000	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
635.0	637.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0	*78.7*		Siliceous with clay patches.	241006	0.000	0.001
637.0	639.0	Fine to coarse grained grey pink weakly propyllitic	0.0	*64.8*			241007	0.000	0.001
639.0	641.0		0.0	*52*			241008	0.000	0.001
641.0	643.0		0.0	*75.8*			241009	0.001	0.001
643.0	645.0	Fine to coarse grained grey weakly propyllitic	0.0	*50.2*			241010	0.000	0.001
645	647	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
645.0	647.0	Fine to coarse grained grey weakly clay altered	0.1 **0.0**	*13.8*	CNT 65	Section contains fragments of altered andesite containing chalcopyrite, bleached fragments and AAP fragments. Fragments are subangular ranging in size from 0.5-6cm. Matrix is a fine ash partially clay altered. ~4% fractures oriented 30-40 deg to the core axis. ~3% zeolite and calcite veins oriented ~30 deg to the core axis. Pyrite is disseminated within the matrix and present within some fragments. Matrix is magnetic. Upper contact is 70 deg to the core axis and the lower contact is 65 deg to the core axis.	241011	0.008	0.011
647	693.2	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**							
647.0	649.0	Fine to coarse grained grey weakly propyllitic	0.0	*3.7*		Fragment content has increased to 35-45%. Matrix is intermediate in composition. Unit contains patchy epidote, clay, quartz and sericite alteration throughout. Minor hematite staining of some fragments, matrix and veins. ~3% zeolite and calcite veining oriented 30-50 deg to the core axis. Fragments include andesite, BFP, BAS (with amygdules or without), and granitoid. Fragments are subangular to subrounded and range in size from 0.5-10cm. ~1%, <1mm quartz eyes present. Sections appear to have aglomerate lith form while most appear to be lithic tuff.	241012	0.003	0.007
649.0	651.0		0.0	*81.1*			241013	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
651.0	653.0	Fine to coarse grained grey moderately propyllitic	0.1	*17.5*					241014	0.001	0.020
653.0	655.0		0.2	*25.6*					241015	0.001	0.020
655.0	657.0		0.1	*131*					241016	0.001	0.011
657.0	659.0	Fine to coarse grained grey strongly propyllitic	0.1	*36*					241017	0.001	0.019
659.0	661.0	Fine to coarse grained grey moderately propyllitic	0.1	*21.5*					241018	0.001	0.016
661.0	663.0		0.1	*18.5*					241019	0.006	0.012
663.0	665.0		0.0	*44.7*					241020	0.001	0.001
665.0	667.0		0.1	*33.9*					241021	0.001	0.001
667.0	669.0		0.1	*16.4*					241022	0.002	0.001
669.0	671.0	Fine to coarse grained dark grey green weakly phyllic	1.3	*43.3*				Sericite, quartz and pyrite amounts have increased with a minor increase in chlorite alteration. Epidote and hematite alteration has decreased. No quartz eyes are visible. Patchy epidote still present.	241023	0.003	0.025
671.0	673.0		0.7	*42.3*					241024	0.001	0.008
673.0	675.0		0.4	*43.3*					241026	0.005	0.013
675.0	677.0	Fine to coarse grained dark green moderately phyllic	1.5	*1.1*	FLT	50	2	Large AAP block within this section.	241027	0.010	0.023
677.0	679.0	Fine to coarse grained grey green moderately phyllic	4.0	*0.9*	SHR	25	1		241028	0.018	0.013
679.0	681.0		5.5	*1.2*					241029	0.011	0.015
681.0	683.0		5.5	*1.5*					241030	0.021	0.018
683.0	685.0	Fine to coarse grained grey green strongly phyllic	6.0	*0.6*	SHR	20	1	Strong to intense phyllic alteration now present.	241031	0.011	0.019
685.0	687.0	Fine to coarse grained grey intensely phyllic	4.5	*0.8*					241032	0.001	0.005
687.0	689.0	Fine to coarse grained grey green moderately phyllic	4.0	*1.1*	CALV	0	1		241033	0.014	0.021

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
689.0	691.0	Fine to coarse grained grey green strongly phyllic	5.0	*1.5*	FLT 50 3		241034	0.012	0.016
691.0	693.2		5.2	*1.2*			241035	0.002	0.001
693.2	707	**MOTTLED ANDESITE FLOW**							
693.2	695.0	Fine grained green intensely phyllic	6.5	*1.3*		Alteration has obliterated most of the characteristics of the unit. Unit is intermediate in composition where strong QSP and chlorite alteration is present. Similar to the strong QSP unit above except this unit is not fragmental. 2-4% zeolite and calcite veining oriented 20-60 deg to the core axis with rare veins parallel and perpendicular to the core axis. Pyrite is mostly disseminated within the matrix with minor amounts within some veins. Minor quartz flooded sections.	241036	0.051	0.014
695.0	697.0		7.0	*1.5*			241037	0.024	0.007
697.0	699.0		8.0 **0.1**	*1.9*		Minor sphalerite and chalcopyrite within a vein.	241038	0.022	0.010
699.0	701.0		8.5 **0.0**	*1.9*		Trace of chalcopyrite within a vein associated with pyrite.	241039	0.004	0.013
701.0	703.0		9.0	*0.6*			241040	0.009	0.010
703.0	705.0		8.7	*1*			241041	0.022	0.017
705.0	707.0	Fine grained dark green grey moderately potassic - chlorite-sericite	8.0 **0.1**	*0.9*		Chlorite alteration has increased with a slight decrease in sericite alteration. Patchy quartz replacement is present. Trace of chalcopyrite now showing up disseminated within the matrix and veins. Unit is magnetic.	241042	0.026	0.020
707	713	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
707.0	709.0	Fine grained dark green grey moderately potassic - chlorite-sericite	7.5 **0.0**	*8.9*		Patchy secondary epidote alteration within the matrix.	241043	0.028	0.019
709.0	711.0	Fine grained green strongly phyllic	8.8	*1.2*		Chlorite alteration has slightly decreased with an increase in QSP alteration.	241044	0.017	0.018
711.0	713.0		8.0	*1.4*		Vuggy veins.	241045	0.014	0.019
713	719	**MOTTLED ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
713.0	715.0	Fine grained green strongly phyllic	8.2	*1.9*		Vuggy vein present. Patchy epidote alteration within the matri.	241046	0.012	0.011
715.0	717.0		7.0 **0.0**	*1.6*		Trace of chalcopyrite disseminated within the matrix.	241047	0.014	0.018
717.0	719.0		6.7 **0.0**	*1.7*			241048	0.023	0.015
719	734.9	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
719.0	721.0	Fine grained green strongly phyllic	7.5	*1.6*		Vuggy veins present. Patchy epidote within the matrix.	241049	0.010	0.013
721.0	723.0		7.0 **0.0**	*0.5*		Trace of chalcopyrite disseminated within the matrix associated with pyrite.	241051	0.030	0.022
723.0	725.0		7.3	*0.6*			241052	0.024	0.023
725.0	727.0		7.0 **0.0**	*1.5*		Trace of chalocpyrite within a vein. Patchy epidote within the matrix.	241053	0.035	0.033
727.0	729.0		8.0	*115*		Patchy epidote within the matrix.	241054	0.037	0.030
729.0	731.0		6.0	*11.8*			241055	0.018	0.026
731.0	733.0		5.0	*1.6*			241056	0.035	0.033
733.0	734.9		5.5 **0.3**	*2.9*	QCPYV 40 1	Minor chalocpyrite within a zeolite vein and quartz vein.	241057	0.023	0.035
734.9	737	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**							

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
734.9	737.0	Fine to coarse grained intensely phyllic	8.0 **0.1**	*0.5*		Unit contains 10-15% augite phenocrysts 1-7mm in size with some altered to chlorite and sericite. Augite phenocrysts decrease in size down the hole. Unit also contains sections with 3-4mm size feldspar phenocrysts, some altered to sericite. Matrix is intermediate in composition. Alteration at the beginning of the unit is strong QSP with minor chlorite and down the hole the chlorite alteration increases and the alteration becomes more potassic. Patchy seconadry epidote alteration present. 2-3% calcite, zeolite and minor quartz veining oriented 50-70 deg to the core axis and 10-30 deg to the core axis. Minor randomly oriented fractures present at the start of the unit. Unit is magnetic after the phyllic section. Pyrite and a trace of chalcopyrite are disseminated within the matrix and present within some veins. Minor hematite staining at the start of the unit.	241058	0.079	0.084
737	739	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
737.0	739.0	Fine to coarse grained strongly phyllic	6.5 **0.0**	*0.8*			241059	0.036	0.059
739	745	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**							
739.0	741.0	Fine to coarse grained green grey strongly phyllic	5.0	*0.8*			241060	0.015	0.023
741.0	743.0		5.5 **0.0**	*0.8*			241061	0.020	0.012
743.0	745.0		5.2	*1.1*			241062	0.013	0.013
745	775	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
745.0	747.0	Fine to coarse grained green strongly phyllic	4.3	*2*		Strong epidote overprint present. Minor hematite staining present.	241063	0.010	0.014
747.0	749.0		3.5	*9.5*	SHR 30 1		241064	0.006	0.001
749.0	751.0	Fine to coarse grained dark green black moderately potassic - chlorite-sericite-quartz	2.0	*80.7*		Chlorite alteration has increased with minor quartz replacement. Sericite alteration is still present with patchy epidote and siliceous overprint. Unit is magnetic now. Pyrite amount has decreased.	241065	0.015	0.009

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
751.0	753.0	Fine to coarse grained dark green black moderately potassic - chlorite-sericite-quartz	0.6	*97.2*					241066	0.015	0.005
753.0	755.0		0.5	*108*	LIN	50		Minor flowbanded section.	241067	0.016	0.015
755.0	757.0		0.3	*5.2*	FLT	70	1		241068	0.009	0.001
757.0	759.0		0.1	*7.2*					241069	0.005	0.001
759.0	761.0		0.2	*93.3*					241070	0.005	0.001
761.0	763.0		0.1	*88.1*					241071	0.014	0.001
763.0	765.0		0.3	*102*					241072	0.009	0.001
765.0	767.0		0.2	*73*				Minor K-spar alteration around a vein.	241073	0.011	0.001
767.0	769.0		0.4	*119*					241074	0.010	0.001
769.0	771.0		0.1	*126*					241076	0.008	0.006
771.0	773.0	Fine to coarse grained dark green black weakly potassic - chlorite-sericite-quartz	0.1	*133*					241077	0.014	0.001
773.0	775.0		0.0	*76.8*					241078	0.011	0.001
775	801	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
775.0	777.0	Fine to coarse grained dark green black weakly potassic - chlorite-sericite-quartz	0.1 **0.0**	*135*	EPQV	15	2		241079	0.015	0.007
777.0	779.0		0.1	*82.7*					241080	0.008	0.001
779.0	781.0		0.3	*139*					241081	0.012	0.005
781.0	783.0		0.1	*104*					241082	0.009	0.001
783.0	785.0		0.2 **0.0**	*151*				Minor wollastnite within a vein of calcite.	241083	0.017	0.001
785.0	787.0		1.3 **0.0**	*4.5*					241084	0.012	0.014
787.0	789.0		0.5	*61.1*					241085	0.019	0.007
789.0	791.0		0.0	*118*					241086	0.031	0.006
791.0	793.0		0.1	*141*					241087	0.010	0.006

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
793.0	795.0	Fine to coarse grained dark green black weakly potassic - chlorite-sericite-quartz	0.0	*119*			241088	0.015	0.011
795.0	797.0		0.1	*134*			241089	0.013	0.007
797.0	799.0		0.0	*127*			241090	0.012	0.005
799.0	801.0		0.1	*107*			241091	0.008	0.012
801	882	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
801.0	803.0	Fine to coarse grained dark green black weakly potassic - chlorite-sericite-quartz	0.1	*104*			241092	0.018	0.007
803.0	805.0		0.1	*130*			241093	0.017	0.008
805.0	807.0		0.1 **0.0**	*84.8*			241094	0.019	0.007
807.0	809.0		0.0	*129*			241095	0.012	0.007
809.0	811.0		0.1 **0.0**	*118*			241096	0.015	0.006
811.0	813.0		0.1	*165*			241097	0.015	0.001
813.0	815.0		0.1	*138*			241098	0.006	0.005
815.0	817.0		0.1	*120*			241099	0.010	0.001
817.0	819.0		0.1	*125*			241101	0.013	0.001
819.0	821.0		0.0	*158*			241102	0.020	0.010
821.0	823.0		0.0	*174*			241103	0.012	0.010
823.0	825.0		0.0	*164*			241104	0.016	0.001
825.0	827.0		0.0	*168*			241105	0.014	0.001
827.0	829.0		0.0	*116*			241106	0.017	0.001
829.0	831.0		0.1	*153*			241107	0.015	0.001
831.0	833.0		0.3 **0.0**	*114*			241108	0.011	0.001
833.0	835.0		0.5 **0.1**	*25.2*			241109	0.018	0.001
835.0	837.0		1.2 **0.0**	*3.4*			241110	0.021	0.010

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
837.0	839.0	Fine to coarse grained green weakly potassic - chlorite-sericite-quartz	1.0 **0.0**	*5.4*		Trace of molybdenum within a quartz vein.	241111	0.014	0.010
839.0	841.0		0.5	*2.4*			241112	0.002	0.010
841.0	843.0	Fine to coarse grained dark green weakly potassic - chlorite-sericite-quartz	2.0 **0.0**	*2.9*		Trace of molybdenum within a couple of quartz veins.	241113	0.002	0.010
843.0	845.0		1.8 **0.0**	*6.4*			241114	0.005	0.010
845.0	847.0		1.5	*15.1*			241115	0.009	0.001
847.0	849.0		2.0	*4*			241116	0.008	0.001
849.0	851.0		2.2	*4.2*			241117	0.001	0.001
851.0	853.0		2.0	*1.8*			241118	0.012	0.001
853.0	855.0		3.0 **0.0**	*1.7*			241119	0.002	0.010
855.0	857.0		1.2	*9.9*			241120	0.015	0.001
857.0	859.0		1.5	*120*	FLT 50 1		241121	0.012	0.001
859.0	861.0		1.5	*146*			241122	0.018	0.001
861.0	863.0		1.8	*108*			241123	0.014	0.001
863.0	865.0		2.2	*152*			241124	0.014	0.001
865.0	867.0		0.2	*129*			241126	0.006	0.001
867.0	869.0		0.1	*5.7*			241127	0.013	0.001
869.0	871.0		0.0	*143*			241128	0.011	0.001
871.0	873.0		0.2	*138*			241129	0.014	0.001
873.0	875.0		0.1	*114*			241130	0.058	0.010
875.0	877.0		0.2 **0.0**	*131*		Vuggy veins present	241131	0.052	0.010
877.0	879.0		0.1	*180*		Vuggy veins present.	241132	0.019	0.001
879.0	881.0		0.1	*112*			241133	0.009	0.001
881.0	882.0		0.1	*206*		Vuggy veins present.	241134	0.014	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
882	898	**MASSIVE ANDESITE FLOW**							
882.0	884.0	Fine grained green weakly potassic - chlorite-sericite-quartz	0.0	*138*		Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Chlorite and minor sericite and quartz dominate the matrix. Patchy epidote overprint present. Spotty 1-3mm augite phenocrysts present. 2-3% calcite, zeolite and quartz veining oriented 10-40 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Minor pyrite is disseminated within the matrix and present within veins. Spotty hematite present within some veins.	241135	0.035	0.010
884.0	886.0		0.0 **0.0**	*139*		Trace of chalcopyrite present within a vein.	241136	0.020	0.001
886.0	888.0		0.0	*114*			241137	0.033	0.001
888.0	890.0		0.0	*79.9*			241138	0.015	0.001
890.0	892.0		0.1	*127*			241139	0.000	0.001
892.0	894.0		0.1	*125*			241140	0.005	0.001
894.0	896.0		0.5 **0.1**	*47.2*		Minor brecciated section containing disseminated chalcopyrite within the matrix.	241141	0.025	0.020
896.0	898.0		0.4	*64.7*			241142	0.009	0.001
898	900	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
898.0	900.0	Fine to coarse grained green weakly potassic - chlorite-sericite-quartz	0.3 **0.0**	*97*		Unit contains 10-15% augite phenocrysts 2-8mm in size with some altered to chlorite and sericite. 5-8% feldspar phenocrysts present 2-3mm in size with some altered to sericite. Patchy brecciated sections within the unit. Matrix is intermediate in composition and altered chlorite and minor sericite and quartz. 2-3% calcite, zeolite and quartz veining oriented 20-40 deg to the core axis and 60-70 deg to the core axis. Magnetite is present within the matrix. Patchy epidote overprint present. Minor pyrite disseminated within the matrix and within some veins. Upper contact is brecciated. Trace of chalcopyrite disseminated within the matrix.	241143	0.013	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
900	904	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
900.0	902.0	Fine to coarse grained green weakly potassic - chlorite-sericite-quartz	0.5	**0.0**	*39*		241144	0.014	0.001
902.0	904.0		0.7	**0.0**	*15.4*		241145	0.012	0.001
904	906	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
904.0	906.0	Fine to coarse grained green weakly potassic - chlorite-sericite-quartz	0.6		*1.3*		241146	0.003	0.001
906	927.5	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
906.0	908.0	Fine grained green weakly potassic - chlorite-sericite-quartz	1.0		*1.5*	Unit is intermediate in composition where the alteration has obliterated most of the characteristics of the rock. Chlorite and minor sericite and quartz dominate the matrix. Patchy epidote overprint present. Spotty 1-3mm augite phenocrysts present. 2-3% calcite, zeolite and quartz veining oriented 10-30 deg to the core axis and 50-70 deg to the core axis. Minor randomly oriented fractures. Unit is magnetic. Minor pyrite is disseminated within the matrix and present within veins.	241147	0.001	0.001
908.0	910.0		0.8		*1.9*		241148	0.001	0.010
910.0	912.0		1.3		*1.6*		241149	0.002	0.010
912.0	914.0		1.7		*1.8*	Trace of molybdenum within a quartz vein.	241151	0.000	0.010
914.0	916.0		1.5		*1.9*		241152	0.000	0.010
916.0	918.0		2.0		*2.2*	Trace of molybdenum and chalcopyrite within a quartz vein.	241153	0.001	0.010
918.0	920.0		2.2		*0.8*	Hematite present within a stringer. Weak biotite alteration present.	241154	0.001	0.040
920.0	922.0	Fine grained green weakly potassic - sericite-chlorite-quartz	1.8		*0.9*		241155	0.000	0.010
922.0	924.0		1.7		*1*		241156	0.001	0.001
924.0	926.0		2.0		*1.4*		241157	0.000	0.010

Hole Number: KH-07-24

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
926.0	927.5	Fine grained grey weakly potassic - sericite-chlorite	0.7	*1.4*	FLT	45	6		241158	0.001	0.030
927.5	979	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**									
927.5	929.0	Fine to coarse grained grey green strongly phyllic	3.0	*2.1*	CNT	45		Unit contains 7-10% feldspar phenocrysts 0.5-1.2cm in size with some altered to sericite, chlorite and epidote. Alteration has obliterated most of the characteristics of the rock. Strong QSP alteration throughout with minor chlorite and patchy epidote overprint. 2-3% zeolite, calcite and quartz veining oriented 10-40 deg to the core axis and 65-75 deg to the core axis. Minor randomly oriented fractures. Pyrite is disseminated within the matrix and present within some veins. Contact with the upper unit is faulted at 45 deg to the core axis.	241159	0.012	0.080
929.0	931.0		4.0	*2*					241160	0.027	0.070
931.0	933.0		6.0 **0.1**	*0.8*				Minor chalcopyrite disseminated within the matrix.	241161	0.027	0.010
933.0	935.0		7.0 **0.1**	*1.1*				Minor disseminated chalcopyrite within the matrix and present within a vuggy vein. Minor biotite alteration present.	241162	0.065	0.020
935.0	937.0		8.0 **0.3**	*1.3*	QCPYV	10	1	Chalcopyrite disseminated within the matrix and present within some quartz veins.	241163	0.059	0.020
937.0	939.0		7.5 **0.0**	*1.3*				Trace of chalcopyrite within a vuggy vein.	241164	0.018	0.010
939.0	941.0		7.7	*1.7*				Vuggy veins present.	241165	0.029	0.010
941.0	943.0		6.8	*1.8*					241166	0.023	0.001
943.0	945.0		7.0	*2.1*					241167	0.031	0.010
945.0	947.0		6.5	*2.7*					241168	0.028	0.010
947.0	949.0		7.2 **0.1**	*2.7*				Minor chalcopyrite within a vuggy vein.	241169	0.028	0.010
949.0	951.0		7.3	*2.6*					241170	0.006	0.010
951.0	953.0		7.5	*3*					241171	0.069	0.020
953.0	955.0		3.0	*4.1*					241172	0.033	0.001

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
955.0	957.0	Fine to coarse grained grey green moderately phyllic	1.5		*4.6*					241173	0.029	0.010
957.0	959.0		3.0		*16.3*					241174	0.034	0.010
959.0	961.0		4.5		*0.8*					241176	0.033	0.020
961.0	963.0		5.0	**0.1**	*1.1*				Minor chalcopyrite disseminated within the matrix.	241177	0.056	0.020
963.0	965.0		4.3	**0.1**	*1.2*					241178	0.096	0.030
965.0	967.0	Fine to coarse grained grey green strongly phyllic	5.2		*1.6*					241179	0.071	0.020
967.0	969.0		5.0		*1.7*				Minor anhydrite located in a vein.	241180	0.040	0.030
969.0	971.0		6.0	**0.0**	*2.3*				Minor chalcopyrite within a few quartz veins.	241181	0.044	0.030
971.0	973.0	Fine to coarse grained green moderately phyllic	3.0		*41.3*					241182	0.025	0.001
973.0	975.0	Fine to coarse grained grey green moderately phyllic	4.5		*1.3*					241183	0.035	0.040
975.0	977.0		4.7		*1.2*					241184	0.014	0.020
977.0	979.0		5.0		*1.7*	FLT	55	1		241185	0.024	0.040
979	1001	**MASSIVE ANDESITE FLOW**										
979.0	981.0	Fine grained dark green moderately potassic - chlorite-sericite	3.0	**0.1**	*15.7*	CNT	55		Unit is intermediate in composition and contains 1-2% augite phenocrysts 2-4mm in size with some altered to chlorite and epidote. Matrix is altered to chlorite and sericite. 2-4% calcite, zeolite and minor quartz and anhydrite veining oriented 20-60 deg to the core axis. Minor epidote and chlorite present within some veins. Unit is magnetic. Pyrite and a trace of chalcopyrite is disseminated within the matrix and present within some veins. Contact with the upper unit is 55 deg to the core axis. Minor randomly oriented fractures that present that decrease down the hole.	241186	0.027	0.030
981.0	983.0		4.0	**0.0**	*90.8*					241187	0.026	0.030
983.0	985.0		3.5		*104*					241188	0.020	0.020

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
985.0	987.0	Fine grained dark green moderately potassic - chlorite-sericite	2.0	*65.5*			241189	0.015	0.020
987.0	989.0		2.4 **0.3**	*16.8*			241190	0.030	0.020
989.0	991.0		1.2 **0.0**	*54.3*			241191	0.010	0.010
991.0	993.0		2.5 **0.0**	*116*			241192	0.012	0.020
993.0	995.0		3.5 **0.1**	*9.2*			241193	0.029	0.030
995.0	997.0		3.0 **0.0**	*149*			241194	0.021	0.020
997.0	999.0		3.2 **0.0**	*4.1*			241195	0.028	0.020
999.0	1001.0	Fine grained dark green grey moderately potassic - sericite-chlorite	4.0 **0.0**	*0.6*			241196	0.015	0.030
1001	1016.3	**MASSIVE ANDESITE VOLCANIC BRECCIA**							
1001.0	1003.0	Fine grained grey brown moderately potassic - sericite-chlorite-biotite	6.0 **0.0**	*0.7*			241197	0.036	0.040
1003.0	1005.0		5.5 **0.0**	*0.9*			241198	0.045	0.050
1005.0	1007.0	Fine grained moderately potassic - chlorite-sericite-biotite	5.7 **0.1**	*1.5*		Trace of molybdenum within a quartz vein.	241199	0.054	0.060
1007.0	1009.0	Fine grained dark green moderately potassic - chlorite-sericite	5.0 **0.0**	*1.3*			241201	0.049	0.060
1009.0	1011.0		5.2 **0.1**	*1.5*			241202	0.034	0.050
1011.0	1013.0	Fine grained dark green grey moderately potassic - chlorite-sericite	6.7 **0.0**	*1.6*			241203	0.097	0.070
1013.0	1015.0		7.0 **0.0**	*1.7*			241204	0.099	0.070
1015.0	1016.3		7.2 **0.0**	*2.2*			241205	0.071	0.060
1016.3	1089	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1016.3	1018.0	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite	6.5 **0.0**	*2.4*		Unit contains 15-20% feldspar phenocrysts 0.2-1.5cm in size with some altered to sericite, chlorite and epidote. Chlorite and sericite alteration dominate the matrix. 2-4% zeolite, calcite and quartz veining oriented 10-40 deg to the core axis and 60-80 deg to the core axis. Minor randomly oriented fractures. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Contact with the upper unit is gradational.	241206	0.021	0.030
1018.0	1020.0		7.0 **0.0**	*3.8*			241207	0.033	0.030
1020.0	1022.0		7.5 **0.0**	*2.5*			241208	0.020	0.020
1022.0	1024.0		7.7 **0.3**	*2.6*			241209	0.022	0.020
1024.0	1026.0		7.3 **0.1**	*1.1*			241210	0.059	0.040
1026.0	1028.0	Fine to coarse grained green moderately potassic - sericite-chlorite	6.0 **0.1**	*0.6*			241211	0.019	0.020
1028.0	1030.0		6.2 **0.0**	*0.9*			241212	0.028	0.110
1030.0	1032.0	Fine to coarse grained green grey moderately potassic - sericite-chlorite	6.7 **0.0**	*1.3*			241213	0.024	0.030
1032.0	1034.0		6.5 **0.1**	*1.5*			241214	0.024	0.030
1034.0	1036.0		8.0 **0.0**	*0.6*			241215	0.036	0.030
1036.0	1038.0		7.5 **0.1**	*0.7*			241216	0.021	0.040
1038.0	1040.0		7.0 **0.0**	*0.6*	FLT 25 2		241217	0.007	0.060
1040.0	1042.0	Fine to coarse grained grey strongly phyllic	4.0	*0.8*		Unit has become brecciated and stockworked. Strong phyllic alteration present. Stockwork veining is composed of zeolite, clay and sericite. Vugginess present.	241218	0.007	0.060
1042.0	1044.0		6.0	*0.6*			241219	0.008	0.080
1044.0	1046.0		5.5	*0.9*			241220	0.007	0.040
1046.0	1048.0		6.2	*1*			241221	0.005	0.020
1048.0	1050.0		6.5	*1.1*			241222	0.010	0.040
1050.0	1052.0		7.0	*1.4*			241223	0.004	0.020

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1052.0	1054.0	Fine to coarse grained grey strongly phyllic	5.3	*0.5*			241224	0.006	0.010
1054.0	1056.0		5.0	*0.8*			241226	0.015	0.060
1056.0	1058.0		4.7	*1.6*			241227	0.091	0.100
1058.0	1060.0	Fine to coarse grained green strongly phyllic	6.7	*4.1*		Stockworking and fracturing has decreased. Unit is still a massive BFP flow, but is now strongly QSP altered with chlorite. Patchy epidote overprint present.	241228	0.059	0.070
1060.0	1062.0		6.0 **0.1**	*1.7*			241229	0.062	0.040
1062.0	1064.0		7.0	*1.8*			241230	0.077	0.030
1064.0	1066.0		7.2	*2*			241231	0.051	0.020
1066.0	1068.0		7.5	*2.2*			241232	0.017	0.010
1068.0	1070.0		7.0	*2.5*			241233	0.011	0.010
1070.0	1072.0	Fine to coarse grained dark grey strongly phyllic	7.3	*0.7*			241234	0.081	0.030
1072.0	1074.0		6.8	*1.2*			241235	0.031	0.020
1074.0	1076.0		7.5 **0.1**	*0.6*			241236	0.101	0.040
1076.0	1078.0		7.0	*0.9*			241237	0.059	0.020
1078.0	1080.0		7.6 **0.0**	*1.1*			241238	0.040	0.020
1080.0	1082.0		8.5	*1.3*			241239	0.036	0.030
1082.0	1084.0		7.7 **0.0**	*1.7*	SHR 30 3		241240	0.103	0.040
1084.0	1086.0		7.5 **0.0**	*1.9*			241241	0.068	0.030
1086.0	1088.0	Fine to coarse grained grey strongly phyllic	7.2	*0.6*			241242	0.031	0.020
1088.0	1089.0	Fine to coarse grained grey pink strongly phyllic	6.7	*1*		Minor hematite staining present.	241243	0.012	0.010
1089	1169.8	**PORPHYRITIC ANDESITE FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1089.0	1091.0	Fine to coarse grained grey strongly potassic - chlorite-sericite	7.4 **0.0**	*1.3*		Unit contains ~2% feldspar phenocrysts 4-6mm in size with some altered to chlorite and sericite. Fine grained matrix is intermediate in composition. Unit goes in and out between phyllic and potassic alteration. Phyllic altered sections contain strong QSP and chlorite alteration while the potassic sections contain mostly chlorite with minor sericite and quartz. Potassic sections contain patchy magnetite within the matrix. 2-4% zeolite, calcite and quartz veining oriented 30-60 deg to the core axis. Minor randomly oriented fractures. Spotty epidote within some veins. Pyrite and minor chalcopyrite are disseminated within the matrix and present within some veins. Upper contact with the above unit is ~65 deg to the core axis.	241244	0.034	0.010
1091.0	1093.0		7.7 **0.3**	*21*			241245	0.089	0.050
1093.0	1095.0		7.0 **0.1**	*3.4*		Minor jasper within a vein.	241246	0.035	0.040
1095.0	1097.0	Fine to coarse grained dark grey strongly potassic - chlorite-sericite	6.0 **0.4**	*2.6*			241247	0.126	0.100
1097.0	1099.0	Fine to coarse grained dark grey strongly potassic - chlorite-sericite-biotite	6.2 **0.1**	*2.2*		Minor biotite alteration present.	241248	0.030	0.080
1099.0	1101.0	Fine to coarse grained dark grey strongly phyllic	7.0 **0.1**	*1.2*			241249	0.018	0.040
1101.0	1103.0	Fine to coarse grained grey strongly phyllic	7.2 **0.0**	*1.6*			241251	0.039	0.030
1103.0	1105.0		7.5 **0.0**	*1.8*			241252	0.015	0.020
1105.0	1107.0		7.7 **0.0**	*0.7*			241253	0.017	0.040
1107.0	1109.0		7.4	*1.1*			241254	0.032	0.040
1109.0	1111.0		7.5 **0.0**	*1*			241255	0.072	0.040
1111.0	1113.0		6.7	*0.7*			241256	0.059	0.080
1113.0	1115.0		7.8 **0.0**	*0.8*			241257	0.029	0.030
1115.0	1117.0		7.0 **0.5**	*1.3*			241258	0.081	0.060

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1117.0	1119.0	Fine to coarse grained grey strongly phyllic	7.2 **0.1**	*1.4*			241259	0.032	0.040
1119.0	1121.0	Fine to coarse grained green strongly phyllic	7.5 **0.4**	*0.7*			241260	0.083	0.050
1121.0	1123.0		7.8 **0.1**	*1.1*	SHR 40 10		241261	0.025	0.040
1123.0	1125.0		7.6 **0.4**	*1.1*			241262	0.063	0.060
1125.0	1127.0		8.0 **0.1**	*1.4*			241263	0.230	0.090
1127.0	1129.0		7.4 **0.1**	*1.7*			241264	0.016	0.030
1129.0	1131.0		7.7 **0.1**	*1.9*			241265	0.052	0.050
1131.0	1133.0		8.2 **0.0**	*0.7*			241266	0.034	0.030
1133.0	1135.0		7.5 **0.1**	*1.1*			241267	0.030	0.020
1135.0	1137.0		7.8 **0.1**	*1*			241268	0.019	0.030
1137.0	1139.0		8.0 **0.1**	*1.6*			241269	0.009	0.020
1139.0	1141.0		7.0 **0.0**	*0.6*			241270	0.013	0.020
1141.0	1143.0		7.2 **0.0**	*1.1*			241271	0.016	0.030
1143.0	1145.0		7.5 **0.0**	*1.2*			241272	0.039	0.010
1145.0	1147.0		7.1 **0.0**	*1.7*			241273	0.018	0.010
1147.0	1149.0		7.7 **0.0**	*0.6*			241274	0.004	0.020
1149.0	1151.0		8.0 **0.0**	*1.2*			241276	0.012	0.020
1151.0	1153.0		7.9 **0.1**	*1.2*			241277	0.015	0.020
1153.0	1155.0		7.3 **0.0**	*1.5*			241278	0.091	0.090
1155.0	1157.0		6.3 **0.1**	*1.7*			241279	0.254	0.220
1157.0	1159.0		7.0 **0.1**	*2.2*			241280	0.018	0.020
1159.0	1161.0		7.5 **0.1**	*0.6*			241281	0.013	0.030
1161.0	1163.0		7.3 **0.0**	*0.9*			241282	0.010	0.020
1163.0	1165.0		7.6 **0.0**	*1.1*			241283	0.015	0.020

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
1165.0	1167.0	Fine to coarse grained green strongly phyllic	7.4 **0.1**	*1.3*				241284	0.008	0.010
1167.0	1169.0		7.0 **0.0**	*1.4*				241285	0.085	0.030
1169.0	1169.8	Fine to coarse grained dark grey moderately phyllic	5.7 **0.0**	*1.6*			Unit contains 10-15% feldspar phenocrysts 2-4mm in size with some altered to sericite and chlorite. Spotty augite phenocrysts present. Matrix is intermediate in composition and altered to quartz, chlorite and sericite. Patchy epidote overprint present. 2-3% zeolite, calcite and quartz veining oriented 20-60 deg to the core axis. Pyrite and minor chalcopyrite disseminated within the matrix and within some veins. Contact with the upper unit is 65 deg to the core axis.	241286	0.044	0.020
1169.8	1195.1	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**								
1169.8	1172.0	Fine to coarse grained dark grey moderately potassic - chlorite-quartz-sericite	5.5 **0.1**	*2.7*	CNT	65		241287	0.062	0.060
1172.0	1174.0	Fine to coarse grained grey moderately potassic - chlorite-quartz-sericite	6.0 **0.2**	*9.1*				241288	0.033	0.030
1174.0	1176.0		5.8 **0.4**	*0.7*				241289	0.063	0.060
1176.0	1178.0		6.5 **0.1**	*1*				241290	0.052	0.050
1178.0	1180.0		6.0 **0.1**	*1.4*				241291	0.036	0.050
1180.0	1182.0		6.7 **0.1**	*0.6*				241292	0.036	0.050
1182.0	1184.0		6.3 **0.1**	*1.2*	BED	50	Flourite now present within some veins.	241293	0.024	0.040
1184.0	1186.0		6.5 **0.1**	*1*				241294	0.016	0.020
1186.0	1188.0		5.6 **0.3**	*1.3*			Minor anhydrite present within a vein.	241295	0.041	0.050
1188.0	1190.0		6.7 **0.1**	*0.7*				241296	0.033	0.040
1190.0	1192.0		5.0 **0.0**	*0.9*				241297	0.041	0.040
1192.0	1194.0		4.2 **0.0**	*1.1*				241298	0.041	0.040
1194.0	1195.1		4.0 **0.0**	*1.2*				241299	0.096	0.090

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
1195.1	1348	**BRECCIATED QUARTZ MONZONITE INTRUSIVE**									
1195.1	1197.0	Fine to medium grained green moderately potassic - chlorite-quartz-sericite	2.0 **0.1**	*1.2*	SHR	20	5	Unit is composed of ~70% feldspars, ~20% mafics and ~10% quartz. Matrix is fine to medium grained and the alteration has obliterated some of the characteristics of the rock. The beginning of the unit is brecciated and becomes more massive down the hole. Chlorite, sericite and quartz alteration dominate the unit. Patchy biotite alteration present and increases down the hole. 2-4% zeolite, calcite and minor quartz and anhydrite veining oriented 15-50 deg to the core axis. Minor hematite within some veins. Minor magnetite present within the matrix and within some veins. Pyrite and chalcopyrite are disseminated within the matrix and present within some veins. Minor molybdenum is present within some veins.	241301	0.590	0.490
1197.0	1199.0		1.0 **0.1**	*1.6*	SHR	15	7		241302	0.556	0.500
1199.0	1201.0		0.7 **0.4**	*1.6*					241303	0.553	0.530
1201.0	1203.0		2.0 **1.4**	*0.7*					241304	0.652	0.680
1203.0	1205.0		2.2 **0.7**	*0.8*					241305	0.530	0.580
1205.0	1207.0		1.5 **0.5**	*1*	SHR	15	2		241306	0.616	0.660
1207.0	1209.0	Fine to medium grained grey moderately potassic - quartz-sericite-biotite	2.5 **0.8**	*0.8*					241307	0.549	0.640
1209.0	1211.0	Fine to medium grained grey brown moderately potassic - quartz-sericite-biotite	3.0 **1.0**	*1.1*					241308	0.428	0.490
1211.0	1213.0		3.2 **1.3**	*1.3*					241309	0.374	0.440
1213.0	1215.0	Fine to medium grained grey moderately potassic - quartz-chlorite-sericite	2.0 **1.1**	*0.8*					241310	0.777	0.920
1215.0	1217.0	Fine to medium grained grey pink moderately potassic - quartz-chlorite-sericite	2.0 **1.5**	*0.6*					241311	0.786	0.840

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1217.0	1219.0	Fine to medium grained grey pink moderately potassic - quartz-chlorite-sericite	2.0 **2.0**	*0.8*			241312	0.716	0.850
1219.0	1221.0		1.8 **1.3**	*0.9*			241313	0.707	0.840
1221.0	1223.0	Fine to medium grained grey brown moderately potassic - quartz-sericite-biotite	2.0 **1.5**	*1.1*			241314	0.505	0.490
1223.0	1225.0		2.2 **1.2**	*1.3*			241315	0.503	0.560
1225.0	1227.0	Fine to medium grained grey moderately potassic - quartz-chlorite-sericite	2.5 **1.6**	*1.4*			241316	0.550	0.600
1227.0	1229.0		2.1 **1.2**	*0.7*			241317	0.518	0.540
1229.0	1231.0		1.7 **1.4**	*2.1*			241318	0.501	0.580
1231.0	1233.0		3.0 **1.5**	*1.3*			241319	0.415	0.510
1233.0	1235.0	Fine to medium grained grey moderately potassic - quartz-chlorite-biotite	1.7 **1.2**	*0.9*			241320	0.634	0.690
1235.0	1237.0	Fine to medium grained grey brown moderately potassic - quartz-chlorite-biotite	2.3 **1.0**	*1*			241321	0.609	0.590
1237.0	1239.0		2.0 **0.8**	*1.3*			241322	0.572	0.540
1239.0	1241.0	Fine to medium grained grey moderately potassic - quartz-chlorite-biotite	2.0 **1.5**	*1.6*			241323	0.500	0.590
1241.0	1243.0	Fine to medium grained grey brown moderately potassic - quartz-chlorite-biotite	1.6 **1.0**	*43.3*			241324	0.422	0.500
1243.0	1245.0		2.0 **1.7**	*3.1*		Minor hematite staining present.	241326	0.389	0.510
1245.0	1247.0	Fine to medium grained grey black moderately potassic - quartz-chlorite-sericite	2.0 **2.0**	*14.3*		A lot of magnetite present within the matrix.	241327	0.154	0.170
1247.0	1249.0		2.3 **1.5**	*1.2*			241328	0.257	0.300

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1249.0	1251.0	Fine to medium grained grey black moderately potassic - quartz-chlorite-sericite	2.3 **1.7**	*1.2*			241329	0.419	0.440
1251.0	1253.0	Fine to medium grained grey brown moderately potassic - quartz-sericite-biotite	2.5 **1.9**	*1.2*			241330	0.539	0.570
1253.0	1255.0		2.0 **1.3**	*1.9*			241331	0.477	0.560
1255.0	1257.0		2.2 **1.8**	*0.7*			241332	0.557	0.700
1257.0	1259.0	Fine to medium grained grey brown moderately potassic - quartz-chlorite-biotite	2.2 **2.0**	*1.3*			241333	0.544	0.660
1259.0	1261.0	Fine to medium grained grey moderately potassic - quartz-chlorite-sericite	2.0 **1.0**	*0.8*	SHR 30 1		241334	0.408	0.370
1261.0	1263.0		1.8 **0.7**	*0.8*			241335	0.427	0.420
1263.0	1265.0		2.3 **0.8**	*1.1*			241336	0.426	0.440
1265.0	1267.0		2.0 **1.5**	*0.8*			241337	0.610	0.620
1267.0	1269.0	Fine to medium grained grey black moderately potassic - quartz-chlorite-sericite	2.2 **1.2**	*2.5*			241338	0.431	0.460
1269.0	1271.0	Fine to medium grained grey black moderately potassic - quartz-chlorite-biotite	2.5 **1.7**	*0.7*			241339	0.425	0.470
1271.0	1273.0		2.1 **1.6**	*1*			241340	0.720	0.690
1273.0	1275.0	Fine to medium grained grey moderately potassic - quartz-chlorite-sericite	2.6 **1.3**	*1*			241341	0.362	0.320
1275.0	1277.0		2.8 **1.5**	*8*			241342	0.396	0.470
1277.0	1279.0		3.2 **1.0**	*1.6*			241343	0.565	0.730
1279.0	1281.0	Fine to medium grained green moderately potassic - quartz-chlorite-sericite	3.0 **1.6**	*0.7*			241344	0.854	1.130

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1281.0	1283.0	Fine to medium grained green moderately potassic - quartz-chlorite-sericite	2.5 **1.8**	*1*			241345	0.922	1.090
1283.0	1285.0	Fine to medium grained grey brown moderately potassic - quartz-biotite-sericite	2.3 **2.0**	*1.1*			241346	0.447	0.450
1285.0	1287.0	Fine to medium grained grey moderately potassic - quartz-chlorite-sericite	2.0 **1.5**	*1.7*			241347	0.534	0.640
1287.0	1289.0	Fine to medium grained grey brown moderately potassic - quartz-biotite-sericite	4.0 **1.1**	*0.7*			241348	0.590	0.710
1289.0	1291.0	Fine to coarse grained grey brown moderately potassic - quartz-biotite-sericite	3.0 **2.0**	*1.4*		Grain size has increased.	241349	0.439	0.520
1291.0	1293.0		1.7 **1.7**	*1.3*			241351	0.459	0.570
1293.0	1295.0	Fine to coarse grained grey black moderately potassic - quartz-biotite-sericite	2.5 **1.5**	*0.7*			241352	0.520	0.760
1295.0	1297.0	Fine to coarse grained grey moderately potassic - quartz-sericite-chlorite	2.0 **1.2**	*0.8*			241353	0.742	0.980
1297.0	1299.0		2.2 **1.6**	*1*			241354	0.737	0.820
1299.0	1301.0	Fine to coarse grained green moderately potassic - quartz-chlorite-sericite	2.5 **2.3**	*5.4*			241355	0.880	1.180
1301.0	1303.0	Fine to coarse grained grey moderately potassic - quartz-sericite-chlorite	2.5 **2.5**	*16*			241356	0.681	0.970
1303.0	1305.0	Fine to coarse grained green moderately potassic - quartz-sericite-chlorite	2.3 **1.3**	*6.6*			241357	0.388	0.480
1305.0	1307.0		2.2 **1.5**	*1.1*			241358	0.570	0.760

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1307.0	1309.0	Fine to coarse grained green moderately potassic - quartz-sericite-chlorite	1.8 **1.1**	*1*			241359	0.459	0.580
1309.0	1311.0		2.0 **1.4**	*1.4*			241360	0.618	0.760
1311.0	1313.0		2.0 **1.3**	*31.8*			241361	0.524	0.780
1313.0	1315.0		2.3 **1.5**	*2.5*			241362	0.409	0.760
1315.0	1317.0		1.7 **1.0**	*4.9*			241363	0.569	0.730
1317.0	1319.0		1.8 **1.3**	*3*			241364	0.682	0.890
1319.0	1321.0	Fine to coarse grained grey moderately potassic - quartz-sericite-chlorite	2.0 **1.7**	*1.4*			241365	0.585	0.830
1321.0	1323.0		1.9 **1.5**	*2*			241366	0.415	0.550
1323.0	1325.0		2.2 **0.8**	*1.4*			241367	0.463	0.520
1325.0	1327.0		1.8 **1.3**	*43.6*			241368	0.440	0.580
1327.0	1329.0	Fine to coarse grained grey pink moderately potassic - quartz-sericite-chlorite	1.7 **1.5**	*2.4*		Minor hematite staining present.	241369	0.874	1.000
1329.0	1331.0	Fine to coarse grained grey moderately potassic - quartz-sericite-chlorite	1.4 **1.0**	*0.8*			241370	0.417	0.510
1331.0	1333.0		1.5 **1.7**	*0.8*			241371	0.624	0.660
1333.0	1335.0	Fine to coarse grained grey brown moderately potassic - quartz-sericite-biotite	1.7 **1.6**	*4*			241372	0.486	0.530
1335.0	1337.0		2.5 **1.2**	*1.8*		Large chalcopyrite goober at 1335.2m.	241373	0.493	0.440
1337.0	1339.0		2.0 **2.0**	*1.8*			241374	0.381	0.430
1339.0	1341.0	Fine to coarse grained grey brown strongly potassic - quartz-biotite-sericite	2.5 **2.2**	*2.3*			241376	0.387	0.440
1341.0	1343.0		2.6 **1.8**	*2.5*		BFP xenolith present.	241377	0.352	0.480

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
1343.0	1345.0	Fine to coarse grained grey brown strongly potassic - quartz-biotite-sericite	2.2 **1.7**	*2.7*			241378	0.516	0.540
1345.0	1347.0		2.0 **1.5**	*0.7*			241379	0.364	0.370
1347.0	1348.0		2.0 **2.5**	*1.3*		EOH	241380	0.396	0.380

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
0	4.5	**CASING**									
	0.0 4.5										
4.5	21.9	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**									
	4.5 6.0	Fine to coarse grained grey weakly propyllitic	0.0	*39.6*					240101	0.005	0.010
	6.0 8.0		0.1	*116*	FLT	30	3	Unit contains 8-13% feldspar phenocrysts 2-5mm. Matrix is mafic in composition and altered to chlorite, carbonate and spotty hematite. Some feldspar phenocrysts are altered to sericite, chlorite and hematite. 3-5% calcite and zeolite veins oriented 30-60 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and veins.	240102	0.008	0.001
	8.0 10.0		0.0	*95.7*					240103	0.002	0.001
	10.0 12.0		0.0	*73.3*					240104	0.002	0.001
	12.0 13.9		0.0	*6.7*					240105	0.011	0.010
	13.9 15.2	Fine to coarse grained maroon intensely hematitic		*0.8*	FLT	40	1	Unit is similar to the BFP unit above except for the intensely hematitic nature of the matrix and feldspar phenocrysts.	240106	0.001	0.001
	15.2 17.2	Fine to coarse grained dark grey weakly propyllitic	0.0	*1*				BFP is similar to the one before the hematitic section.	240107	0.002	0.001
	17.2 17.9	Fine to coarse grained maroon intensely hematitic		*1.6*				Unit is similar to the BFP unit above except for the intensely hematitic nature of the matrix and feldspar phenocrysts.	240108	0.001	0.010
	17.9 20.0	Fine to coarse grained dark grey weakly propyllitic	0.0	*1.4*				Unit contains 10-15% feldspar phenocrysts 2-8mm. Matrix is mafic in composition and altered to chlorite, carbonate and spotty hematite. Some feldspar phenocrysts are altered to sericite, chlorite and hematite. 2-4% calcite and zeolite veins oriented 30-60 deg to the core axis. Unit is magnetic. Pyrite is disseminated within the matrix and veins. Minor fractures randomly oriented. ~1-2% calcite filled amygdules present.	240109	0.002	0.001
	20.0 21.9		0.0	*1.4*					240110	0.001	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
21.9	23.4	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**							
21.9	23.4	Fine to coarse grained black maroon weakly propyllitic	0.0	*2.7*		Unit contains 20-25% augite phenocrysts 2-7mm in size with most altered to carbonate. Matrix is intermediate in composition and hematite altered. 2-4% calcite, zeolite and chlorite veins oriented 50-80 deg to the core axis. Upper contact is 70 deg to the core axis and the lower contact is 40 deg to the core axis. Minor epidote within some of the augite phenocrysts.	240111	0.001	0.010
23.4	39.3	**MASSIVE BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA**							
23.4	25.0	Fine to coarse grained weakly propyllitic	0.0	*1.9*		Unit contains 10-20% feldspar phenocrysts 2-13mm. Feldspar phenocrysts decrease ina amount but increase in size down the hole. Matrix is mafic in composition and altered to chlorite, carbonate and spotty hematite. Some feldspar phenocrysts are altered to sericite, chlorite and hematite. Spotty epidote within some veins and feldspar phenocrysts. 2-3% calcite and zeolite veins oriented 30-60 deg to the core axis. Pyrite is disseminated within the matrix and veins. Minor chlorite present within some veins. Minor fractures randomly oriented.	240112	0.002	0.001
25.0	27.0		0.0	*2.9*			240113	0.002	0.001
27.0	29.0		0.0	*2.2*			240114	0.002	0.001
29.0	31.0			*0.7*			240115	0.003	0.001
31.0	33.0			*0.8*			240116	0.002	0.001
33.0	35.0		0.0	*1*		Feldspar phenocrysts have increased in size and decreased in amount. Possible contact between the BFP unit above and below is brecciated.	240117	0.006	0.001
35.0	37.0		0.0	*1*			240118	0.004	0.001
37.0	39.3		0.0	*1.6*			240119	0.004	0.001
39.3	43	**AMYGDULAR BASALT FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
39.3	41.0	Fine to coarse grained weakly propyllitic		*2.2*		Unit starts off as an amygdular basalt then transitions into an AAP then into a BFP. The amygdules at the beginning of the unit are 2-5mm in size and are filled with calcite, epidote and chlorite. The AAP section contains 15-20% augite phenocrysts altered to calcite, chlorite and carbonate. The augite phenocrysts are 3-6mm in size. The BFP unit contains 15-20% 2-4mm size feldspar phenocrysts with some altered to carbonate, zeolite and epidote. Matrix throughout the unit is altered to hematite, chlorite and patchy carbonate. 1-2% calcite,chlorite and epidote veins oriented 30-40 deg to the core axis. Contact with the upper BFP unit is 50 deg to the core axis.	240120	0.010	0.010
41.0	43.0			*2.2*		Unit contains the small AAP section.	240121	0.006	0.010
43	47.8	**MASSIVE BLADED FELDSPAR PORPHYRY FLOW**							
43.0	45.0	Fine to coarse grained weakly propyllitic		*2.4*		Unit is now in the BFP section.	240122	0.003	0.010
45.0	47.0			*2.8*			240123	0.003	0.001
47.0	47.8			*2.9*			240124	0.005	0.010
47.8	51.2	**AMYGDULAR ANDESITIC AUGITE PORPHYRY FLOW**							
47.8	49.0	Fine to coarse grained dark green maroon weakly propyllitic		*5.9*		Unit contains 20-25% augite phenocrysts 2-7mm in size with most altered to carbonate and chlorite. 1-2% 2-5mm amygdules present filled with carbonate. Matrix is intermediate in composition and hematite altered. ~1% calcite, zeolite and chlorite veins oriented 40-60 deg to the core axis. Upper contact is 60 deg to the core axis. Minor epidote within some of the augite phenocrysts. Unit is magnetic.	240126	0.001	0.001
49.0	51.2			*1.8*			240127	0.000	0.001
51.2	67.5	**MOTTLED ANDESITE VOLCANIC BRECCIA**							

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
51.2	53.0	Fine to coarse grained maroon white intensely hematitic		*0.8*				Alteration has obliterated all the characteristics of the rock. Intense hematite alteration present with patchy carbonate sections. Unit appears brecciated with hematitic sections and white carbonate sections. Unit could be a remnant AAP unit.	240128	0.000	0.001
53.0	55.0			*1*	FLT	60	2		240129	0.000	0.001
55.0	57.0			*1.4*				Small unaltered section or epiclastic bedded unit oriented 35 deg to the core axis. Andesite and granitoid fragments present.	240130	0.000	0.001
57.0	59.0			*1.6*					240131	0.000	0.001
59.0	61.0			*1.9*					240132	0.000	0.001
61.0	63.0			*2.3*	FLT	50	1		240133	0.000	0.001
63.0	65.0			*2.4*					240134	0.000	0.001
65.0	67.5			*2.5*	FLT	70	1		240135	0.000	0.001
67.5	85	**AMYGDULAR ANDESITIC AUGITE PORPHYRY FLOW**									
67.5	69.0	Fine to coarse grained dark green weakly propyllitic		*1.1*				Unit contains 10-15% augite phenocrysts 2-5mm in size with some altered to epidote, chlorite and minor carbonate. Spotty phenocrysts are stained with hematite. Unit also contains 5-7% 3-6mm calcite and chlorite filled amygdules. Matrix is intermediate in composition with chlorite alteration dominating and patchy sections of carbonate. 2-3% calcite, zeolite and hematite veining oriented 20-60 deg to the core axis. Minor randomly oriented fractures present. Unit is magnetic.	240136	0.001	0.001
69.0	71.0			*9.9*					240137	0.001	0.001
71.0	73.0			*1.8*					240138	0.001	0.001
73.0	75.0			*5.4*					240139	0.001	0.001
75.0	77.0			*25*					240140	0.009	0.001
77.0	79.0			*14.3*				Small unaltered epiclastic unit (bed?) oriented 55 deg to the core axis. Unit contains rounded fragments of BFP and andesite. Possible debris flow material.	240141	0.012	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
	79.0	81.0 Fine to coarse grained dark green weakly propyllitic		*3*				240142	0.001	0.001
	81.0	83.0		*21.1*				240143	0.000	0.001
	83.0	85.0 Fine to coarse grained green weakly propyllitic	0.0	*97.5*			Hematite alteration and amygdules have decreased. Trace of pyrite present within the matrix.	240144	0.002	0.001
85	86.4	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**								
	85.0	86.4 Fine to coarse grained green weakly propyllitic		*38.2*				240145	0.006	0.001
86.4	98	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**								
	86.4	88.0 Fine to coarse grained green weakly chloritic	0.3	*54.3*	CNT	40	Unit contains ~20% fragments of andesite, AAP and granitoid material. Fragments range in size from 4mm to 6cm and are subrounded to rounded. Minor fragments show phyllic and potassic alteration with pyrite mineralization. Matrix is intermediate in composition and is altered to chlorite in places with lesser amounts of sericite. ~1% 1mm quartz eyes present. 4-6% calcite and zeolite veining oriented 20-60 deg to the core axis with some randomly oriented. Minor hematite present within some veins. Unit is magnetic. Pyrite is disseminated within the matrix. Contact with the upper unit is sheared at 40 deg to the core axis. Patchy stockworked sections present.	240146	0.010	0.005
	88.0	90.0	0.7	*19.8*				240147	0.002	0.001
	90.0	92.0	0.3	*60.5*	BED	30		240148	0.002	0.001
	92.0	94.0	0.1	*29.6*			Large propylitic altered andesite block within this interval.	240149	0.011	0.001
	94.0	96.0 Fine to coarse grained grey pink weakly chloritic	0.1	*55.4*			Minor hematite staining within the matrix.	240151	0.004	0.001
	96.0	98.0	0.1	*5.7*				240152	0.006	0.001
98	100	**STOCKWORKED HETEROLITHIC AGLOMERATE**								

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
98.0	100.0	Fine to coarse grained grey pink weakly chloritic	0.1	*10.6*				Interval is broken and is composed of very little matrix and mostly large granitoid (Sovereign?) fragments with minor amounts of andesite and AAP fragments possible IBX no real contacts seen.	240153	0.015	0.010
100	106	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**									
100.0	102.0	Fine to coarse grained grey weakly chloritic	1.0	*4*	SHR	20	2	Unit is back to the same lapillistone as before. Hematite staining has decreased with an increase in chlorite alteration within the matrix.	240154	0.041	0.010
102.0	104.0		0.5 **0.0**	*3.8*	FAB	45		Trace of chalcopyrite within the matrix. Slight welding of some lapilli.	240155	0.062	0.020
104.0	106.0		0.4	*5.7*	SHR	30	3		240156	0.019	0.010
106	110.6	**FRAGMENTAL HETEROLITHIC LAPILLI-TUFF**									
106.0	108.3	Fine to coarse grained grey weakly chloritic	0.8	*1.1*				Fragments have increased to 40% of the rock now.	240157	0.026	0.020
108.3	110.6		1.2	*1*	CALPY	65	1	Trace of chalcopyrite within a calcite vein with pyrite.	240158	0.004	0.010
110.6	122	**EQUIGRANULAR DACITE CRYSTAL-LITHIC TUFF**									
110.6	112.0	Fine to coarse grained grey weakly chloritic	0.5	*1*	CNT	60		Unit is intermediate in composition ~65% feldspars, ~25% quartz, ~10% mafics. Chlorite and sericite alteration dominate the matrix. Spotty carbonate within the matrix. 1-2% calcite and zeolite veining oriented oriented 20-40 deg to the core axis. Spotty magnetite present. ~1% 1mm quartz eyes present. Pyrite is disseminated within the matrix.	240159	0.003	0.010
112.0	114.0		0.3	*1.5*	FLT	60	1		240160	0.004	0.020
114.0	116.0		1.3	*1.9*					240161	0.005	0.010
116.0	118.0		0.2	*41.5*					240162	0.003	0.001
118.0	120.0		0.4	*2.4*	BED	10			240163	0.002	0.010
120.0	122.0		0.6	*3.1*					240164	0.002	0.020
122	150.1	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
122.0	124.0	Fine to coarse grained grey weakly chloritic	0.4	*3.5*		Unit contains fragments of AND, AAP and BFP. Fragments range in size from 0.5-8cm and are subangular. Most of the fragments have a degree of chlorite and sericite alteration. Matrix is intermediate in composition and is altered to chlorite and sericite. 2-3% calcite and zeolite veining oriented 20-60 deg to the core axis with minor veins near parallel to the core axis. ~1% 1mm quartz eyes present. Pyrite is disseminated within the matrix and fragments.	240165	0.003	0.020
124.0	126.0		1.0	*4*			240166	0.004	0.010
126.0	128.0		0.7	*3.9*			240167	0.003	0.010
128.0	130.0		0.8	*4.2*			240168	0.005	0.010
130.0	132.0	Fine to coarse grained dark green moderately chloritic	1.0	*4.1*		Chlorite alteration has increased.	240169	0.004	0.001
132.0	134.0		0.6	*3.3*		Fragments and matrix is becoming more andesitic.	240170	0.012	0.020
134.0	136.0		0.5	*0.8*			240171	0.003	0.001
136.0	138.0		0.7	*1*			240172	0.008	0.010
138.0	140.0		1.0	*1.1*			240173	0.005	0.010
140.0	142.0		1.5	*1.4*	FLT 25 1		240174	0.002	0.010
142.0	144.0		0.4	*1.9*			240176	0.001	0.010
144.0	146.0		0.1	*2.6*			240177	0.007	0.005
146.0	148.0		0.1	*3.6*			240178	0.014	0.001
148.0	150.1		0.1	*2.6*			240179	0.003	0.009
150.1	152	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
150.1	152.0	Fine to coarse grained dark green moderately propyllitic	0.0	*21.9*	CNT	70		Unit contains 7-12% augite phenocrysts 2-5mm in size and some altered to chlorite and carbonate. Matrix is intermediate in composition and altered to chlorite with patches of carbonate. Spotty epidote present within the matrix and around some veins. 3-5% calcite veining oriented 30-70 deg to the core axis. Minor chlorite within some veins. Spotty sericite within the matrix. Unit is magnetic. Trace of pyrite within the matrix. Contact with the upper Hazelton is 70 deg to the core axis.	240180	0.013	0.007
152	154	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
152.0	154.0	Fine to coarse grained dark green moderately propyllitic	0.0	*65.7*	FLT	15	1		240181	0.006	0.001
154	160	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
154.0	156.0	Fine to coarse grained dark green moderately propyllitic		*36.4*	FLT	30	1	Vuggy veins.	240182	0.007	0.005
156.0	158.0			*91.3*					240183	0.008	0.005
158.0	160.0		0.0	*63.7*					240184	0.011	0.001
160	182	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
160.0	162.0	Fine to coarse grained dark green moderately propyllitic		*57.9*					240185	0.003	0.001
162.0	164.0			*56.1*	FLT	10	1		240186	0.025	0.012
164.0	166.0		0.2	*2.2*					240187	0.006	0.009
166.0	168.0		0.0	*42.2*					240188	0.014	0.006
168.0	170.0			*19.4*					240189	0.007	0.005
170.0	172.0		0.0	*78.7*					240190	0.013	0.001
172.0	174.0		0.0	*100*					240191	0.003	0.001
174.0	176.0		0.0	*47.2*					240192	0.007	0.001
176.0	178.0			*98*					240193	0.005	0.001
178.0	180.0			*33.3*					240194	0.005	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
180.0	182.0	Fine to coarse grained dark green moderately propyllitic	0.0	*2*	SHR	55	2		240195	0.023	0.008
182	192	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
182.0	184.0	Fine to coarse grained dark green moderately propyllitic	0.1	*2.1*					240196	0.045	0.007
184.0	186.0	Fine to coarse grained dark green grey moderately propyllitic		*26.8*	FLT	35	1		240197	0.025	0.006
186.0	188.0			*3.6*					240198	0.021	0.009
188.0	190.0		0.0	*12.2*					240199	0.021	0.005
190.0	192.0		0.1	*1.5*					240201	0.010	0.010
192	194	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
192.0	194.0	Fine to coarse grained dark green grey moderately propyllitic	0.0	*4.1*					240202	0.010	0.006
194	202	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**									
194.0	196.0	Fine to coarse grained dark green grey moderately propyllitic	0.0	*18.7*					240203	0.012	0.007
196.0	198.0			*58.4*					240204	0.011	0.005
198.0	200.0		0.1	*39.6*					240205	0.006	0.006
200.0	202.0		0.1	*2.2*	FLT	35	4		240206	0.016	0.005
202	296	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
202.0	204.0	Fine to coarse grained dark green grey moderately propyllitic	0.0	*40.1*				Broken rubbly core in the middle of the interval.	240207	0.008	0.001
204.0	206.0			*70.3*				~1% chlorite filled amygdules now present.	240208	0.013	0.001
206.0	208.0			*76*					240209	0.011	0.001
208.0	210.0			*76.2*					240210	0.012	0.001
210.0	212.0			*3.3*					240211	0.011	0.007
212.0	214.0		0.1	*78.9*					240212	0.015	0.005
214.0	216.0		0.0	*79.7*	FLT	50	2	Spotty hematite starting to show up.	240213	0.012	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
216.0	218.0	Fine to coarse grained dark green grey moderately propyllitic	0.0	*75.4*	FLT	30	1		240214	0.008	0.001
218.0	220.0			*58.6*					240215	0.011	0.001
220.0	222.0		0.0	*1.8*					240216	0.008	0.001
222.0	224.0		0.0	*37.1*					240217	0.011	0.001
224.0	226.0		0.0	*82.3*					240218	0.011	0.001
226.0	228.0		0.0	*59.4*					240219	0.012	0.005
228.0	230.0		0.0	*41.9*					240220	0.009	0.001
230.0	232.0		0.1	*2.2*					240221	0.010	0.006
232.0	234.0		0.1	*3*					240222	0.012	0.001
234.0	236.0		0.1	*3.2*					240223	0.012	0.001
236.0	238.0		0.1	*97.1*					240224	0.012	0.001
238.0	240.0		0.1	*58.2*					240226	0.015	0.005
240.0	242.0		0.3	*3.8*					240227	0.007	0.001
242.0	244.0		0.1	*3.5*					240228	0.009	0.001
244.0	246.0		0.1	*54.6*					240229	0.011	0.005
246.0	248.0		0.5	*1.3*					240230	0.010	0.001
248.0	250.0		1.8	*1.5*					240231	0.015	0.005
250.0	252.0		1.5	*2.1*					240232	0.009	0.008
252.0	254.0		0.1	*1.7*					240233	0.003	0.001
254.0	256.0		0.2	*1.7*					240234	0.007	0.010
256.0	258.0		0.2	*2.2*	SHR	35	2		240235	0.011	0.009
258.0	260.0		0.0	*1*					240236	0.011	0.013
260.0	262.0		0.0	*7.2*					240237	0.014	0.010
262.0	264.0		0.1	*41.3*					240238	0.010	0.005

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
264.0	266.0	Fine to coarse grained grey green moderately phyllic	2.0	*1.2*	FLT 60 1	Sericite, quartz and pyrite alteration have increased possibly due to stockworking. Possible overprint of the propylitic altered AAP. Patches of epidote still present replacing augite phenocrysts. Feldspar phenocrysts are altered to sericite.	240239	0.017	0.010
266.0	268.0		3.0	*1.3*			240240	0.016	0.013
268.0	270.0		2.8	*1.5*			240241	0.018	0.014
270.0	272.0		2.0	*0.6*			240242	0.015	0.014
272.0	274.0		0.5	*1.3*			240243	0.023	0.014
274.0	276.0	Fine to coarse grained dark green moderately propyllitic	0.1	*1.8*		Veining is about 50% of the unit with heavy calcite stockworking. Host rock is back to propylitic altered AAP as before. Stockwork veining is roughly 30-50 deg to the core axis.	240244	0.006	0.006
276.0	278.0		0.2	*1.9*			240245	0.007	0.006
278.0	280.0		0.4	*2.3*			240246	0.011	0.009
280.0	282.0		0.5	*1.9*		Minor phyllic altered AAP section within this interval possible due to stockwork veining.	240247	0.012	0.012
282.0	284.0		0.3	*0.7*			240248	0.013	0.010
284.0	286.0		2.0	*0.7*			240249	0.028	0.021
286.0	288.0		0.1	*38.2*			240251	0.024	0.011
288.0	290.0		0.2	*12.9*			240252	0.015	0.001
290.0	292.0		0.0	*13.3*			240253	0.010	0.001
292.0	294.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	*95.4*		Calcite and zeolite veining has decresed to 4-6% oriented 35-60 deg to the core axis. Propylitic altered AAP unit is more massive now with brecciated sections.	240254	0.017	0.001
294.0	296.0		0.0	*100*			240255	0.014	0.001
296	302	**MASSIVE ANDESITIC AUGITE PORPHYRY FLOW**							
296.0	298.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	*11.8*			240256	0.006	0.001

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
298.0	300.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	*15.5*					240257	0.010	0.001
300.0	302.0		0.1	*41.2*	FLT	50	1		240258	0.012	0.001
302	305.7	**MASSIVE ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
302.0	304.0	Fine to coarse grained dark green grey moderately propyllitic	0.4	*3.5*				Sericite alteration is increasing.	240259	0.018	0.007
304.0	305.7	Fine to coarse grained green moderately propyllitic	0.6	*3.5*					240260	0.029	0.011
305.7	307	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**									
305.7	307.0	Fine to coarse grained grey green moderately phyllic	4.5 **0.0**	*0.8*	CNT	50		Unit contains 10-15% feldspar phenocrysts 2-5mm in size with some altered to sericite and minor quartz and chlorite. ~1-2% augite phenocrysts present altered to chlorite or epidote. Matrix appears intermediate in composition but the alteration has obliterated most of the characteristics. Sericite, chlorite, quartz and pyrite alteration dominate the matrix. Patches of epidote present possibly a late stage overprint. 3-5% zeolite and calcite veining oriented 30-60 deg to the core axis with some randomly oriented. ~2% randomly oriented fractures present. Minor chlorite in some veins. Vuggy sections present. Pyrite is mainly disseminated within the matrix with minor pyrite within some veins. Trace of chalcopyrite within the matrix and veins. Trace of sphalerite within the matrix and veins.	240261	0.022	0.010
307	319.1	**MOTTLED BLADED FELDSPAR PORPHYRY VOLCANIC**									
307.0	309.0	Fine to coarse grained grey green moderately phyllic	4.0	*1*					240262	0.018	0.011
309.0	311.0		5.5 **0.0**	*1.6*	FLT	50	1		240263	0.028	0.013
311.0	313.0		5.0	*21.5*				Trace of molybdenum within a vein.	240264	0.016	0.005
313.0	315.0		5.2	*2.1*					240265	0.018	0.005
315.0	317.0	Fine to coarse grained grey green strongly phyllic	4.8	*2.4*					240266	0.022	0.014

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
317.0	319.1	Fine to coarse grained grey green moderately phyllic	4.0 **0.0**	*2.8*		Trace of chalcopyrite and molybdenum within a vein.	240267	0.027	0.016
319.1	323	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
319.1	321.0	Fine to coarse grained grey intensely phyllic	6.0	*0.6*	CNT 50	Alteration has obliterated most to all of the characteristics of the rock. QSP alteration dominates with some chlorite patches. Sections do show some remnant AAP and BFP sections, but most appear to be possible AND remnant textures. 2-4% zeolite and calcite veins oriented 30-60 deg to the core axis. Pyrite is mainly disseminated within the matrix and is minorly present within some veins. Alteration or unit contact with the above is 50 deg to the core axis.	240268	0.023	0.035
321.0	323.0		7.0	*1*			240269	0.010	0.011
323	335	**MOTTLED ANDESITE FLOW**							
323.0	325.0	Fine to coarse grained grey intensely phyllic	7.2	*1.5*			240270	0.008	0.018
325.0	327.0		6.7 **0.0**	*1.6*		Trace of chalcopyrite within the matrix.	240271	0.029	0.013
327.0	329.0		6.2 **0.0**	*1.7*		Trace of chalcopyrite and sphalerite within a vein. Minor quartz flooding present.	240272	0.018	0.008
329.0	331.0		5.0	*1.9*	FLT 40 3		240273	0.006	0.009
331.0	333.0		7.0	*2.3*			240274	0.008	0.007
333.0	335.0		8.5	*2.4*			240276	0.011	0.009
335	339	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
335.0	337.0	Fine to coarse grained grey intensely phyllic	5.5	*0.7*			240277	0.006	0.016
337.0	339.0		6.3	*0.9*			240278	0.006	0.018
339	359	**MOTTLED ANDESITE FLOW**							
339.0	341.0	Fine to coarse grained grey intensely phyllic	3.0	*1.2*			240279	0.006	0.009
341.0	343.0		6.0	*1.5*			240280	0.003	0.010

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
343.0	345.0	Fine to coarse grained grey intensely phyllic	6.5		*1.7*	SHR	60	1		240281	0.006	0.001
345.0	347.0		7.0		*0.7*					240282	0.005	0.001
347.0	349.0		7.0		*1.1*					240283	0.011	0.001
349.0	351.0		5.5		*1.4*					240284	0.005	0.006
351.0	353.0		6.5		*1.6*					240285	0.009	0.007
353.0	355.0		6.7		*1.9*					240286	0.002	0.013
355.0	357.0		7.0		*2.1*					240287	0.008	0.016
357.0	359.0		5.8		*2.3*					240288	0.010	0.015
359	398.4	**MOTTLED ANDESITE VOLCANIC BRECCIA**										
359.0	361.0	Fine to coarse grained grey intensely phyllic	6.2		*2.6*					240289	0.003	0.016
361.0	363.0		5.5		*0.6*	SHR	35	3		240290	0.005	0.016
363.0	365.0	Fine to coarse grained grey green intensely phyllic	6.5		*0.8*				Epidote overprint present.	240291	0.009	0.011
365.0	367.0	Fine to coarse grained grey intensely phyllic	6.8	**0.0**	*1*				Trace of chalcopyrite within a vein.	240292	0.006	0.011
367.0	369.0		7.5		*1.3*					240293	0.006	0.010
369.0	371.0	Fine to coarse grained grey green intensely phyllic	7.7		*1.5*				Unit now contains fragments of andesite within a phyllic altered matrix. Andesite fragments appear to phyllic altered as well. Alteration is masking most of the characteristics of the rock. 2-3% zeolite and calcite veins oriented 30-60 deg to the core axis. QSP alteration dominates the matrix and fragments. Spotty chlorite alteration present. Pyrite is disseminated within the matrix and present within some fragments. Fragments range in size from 3mm to 7cm. Patchy epidote overprint present	240294	0.005	0.015
371.0	373.0		6.5		*0.6*					240295	0.013	0.027
373.0	375.0		7.0		*0.8*					240296	0.012	0.024

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From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
375.0	377.0	Fine to coarse grained grey intensely phyllic	5.5		*0.9*					240297	0.027	0.018
377.0	379.0	Fine to coarse grained grey green intensely phyllic	6.0		*1.2*					240298	0.011	0.016
379.0	381.0		6.3		*1.6*					240299	0.012	0.013
381.0	383.0		6.0		*1.9*					240301	0.018	0.019
383.0	385.0		4.7		*0.6*	SHR	30	10		240302	0.038	0.016
385.0	387.0		9.5		*0.8*					240303	1.260	0.108
387.0	389.0		7.5		*1.4*	FLT	5	1		240304	0.158	0.043
389.0	391.0		6.7		*0.6*	FLT	30	1		240305	0.157	0.042
391.0	393.0		6.5	**0.0**	*0.9*	FLT	30	4	Trace of chalcopyrite within the matrix.	240306	0.162	0.030
393.0	395.0		7.0	**0.0**	*1*	FLT	5	1		240307	0.014	0.023
395.0	397.0		5.0		*1.5*					240308	0.150	0.039
397.0	398.4	Fine to coarse grained grey intensely phyllic	5.5		*0.5*				Minor hematite staining present.	240309	0.155	0.049
398.4	422	**MOTTLED ANDESITE FLOW**										
398.4	400.0	Fine to coarse grained grey intensely phyllic	5.0		*0.6*				Unit has transitioned into a more massive andesite. Unit is intermediate in composition. Alteration has obliterated most of the characteristics of the rock. Strong QSP alteration of the matrix with patchy epidote overprint. 2-4% zeolite and calcite veining 20-60 deg to the core axis. Patchy brecciated sections. Pyrite is mainly disseminated within the matrix and minorly within the veins. Minor hematite staining of some veins and within the matrix.	240310	0.015	0.024
400.0	402.0	Fine to coarse grained grey strongly phyllic	5.7		*1*					240311	0.047	0.030
402.0	404.0		4.8		*1.1*					240312	0.067	0.023
404.0	406.0		5.3		*1.4*					240313	0.024	0.018
406.0	408.0		5.0		*1.5*					240314	0.019	0.011

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
408.0	410.0	Fine to coarse grained grey strongly phyllic	3.7	*1.7*			240315	0.016	0.022
410.0	412.0	Fine to coarse grained grey green strongly phyllic	4.0	*0.8*			240316	0.024	0.016
412.0	414.0		5.0	*0.6*			240317	0.059	0.025
414.0	416.0		5.5	*1*			240318	0.019	0.029
416.0	418.0		5.5	*1*			240319	0.017	0.040
418.0	420.0		5.3	*0.6*			240320	0.026	0.030
420.0	422.0	Fine to coarse grained grey strongly phyllic	7.0	*1.2*			240321	0.042	0.043
422	424	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
422.0	424.0	Fine to coarse grained grey strongly phyllic	5.7	*1.2*			240322	0.037	0.049
424	428	**MOTTLED ANDESITE FLOW**							
424.0	426.0	Fine to coarse grained grey green strongly phyllic	5.2	*2.1*			240323	0.042	0.050
426.0	428.0		6.5	*2.2*			240324	0.036	0.079
428	432	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
428.0	430.0	Fine to coarse grained grey green strongly phyllic	6.2	*1.7*			240326	0.114	0.127
430.0	432.0		6.0	*2.1*	FLT 30 2		240327	0.061	0.100
432	436	**MOTTLED ANDESITE FLOW**							
432.0	434.0	Fine to coarse grained grey green strongly phyllic	5.5	*2.7*			240328	0.039	0.064
434.0	436.0		4.0	*2.1*			240329	0.043	0.031
436	448	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
436.0	438.0	Fine to coarse grained grey green strongly phyllic	5.8	*0.6*			240330	0.017	0.022

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
438.0	440.0	Fine to coarse grained grey strongly phyllic	8.0	*0.8*			240331	0.094	0.073
440.0	442.0	Fine to coarse grained grey green strongly phyllic	7.7	*1.1*			240332	0.042	0.019
442.0	444.0		6.0	*1.5*			240333	0.046	0.047
444.0	446.0	Fine to coarse grained grey strongly phyllic	6.0	*1.2*			240334	0.012	0.012
446.0	448.0		6.7	*1.4*	FLT 35 1		240335	0.015	0.021
448	472	**MOTTLED ANDESITE FLOW**							
448.0	450.0	Fine to coarse grained grey green strongly phyllic	5.0	*2.2*			240336	0.001	0.015
450.0	452.0		4.5	*2.4*			240337	0.001	0.016
452.0	454.0		4.0	*2.5*			240338	0.001	0.015
454.0	456.0		4.0	*2.3*			240339	0.001	0.014
456.0	458.0		3.5	*2.4*			240340	0.001	0.016
458.0	460.0		3.0	*3*			240341	0.001	0.029
460.0	462.0		3.5	*0.9*			240342	0.012	0.077
462.0	464.0		3.3	*0.6*			240343	0.002	0.062
464.0	466.0		3.0	*0.8*			240344	0.005	0.030
466.0	468.0		3.7	*0.9*			240345	0.004	0.029
468.0	470.0		3.5	*0.9*			240346	0.055	0.035
470.0	472.0		3.8	*1.4*			240347	0.017	0.037
472	473.6	**MOTTLED ANDESITE VOLCANIC BRECCIA**							
472.0	473.6	Fine to coarse grained grey strongly phyllic	3.3	*1*			240348	0.077	0.048
473.6	497.4	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**							

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
473.6	475.0	Fine to coarse grained grey green strongly phyllic	3.0	*0.6*		Unit contains 7-12% feldspar phenocrysts 3-15mm in length with some altered to sericite, chlorite and epidote. Matrix appears to be intermediate in composition with alteration obliterating most of the characteristics of the rock. Strong QSP alteration present with minor chlorite and patchy epidote overprint. 3-5% zeolite and calcite veining oriented 20-50 deg to the core axis with minor veins randomly oriented. Pyrite is mainly disseinated within the matrix with minor amounts within some veins.	240349	0.033	0.029
475.0	477.0		4.0 **0.0**	*0.8*		Trace of chalcopyrite within the matrix.	240351	0.020	0.017
477.0	479.0		4.2	*1*			240352	0.045	0.030
479.0	481.0		4.7	*1.4*			240353	0.029	0.020
481.0	483.0		5.0 **0.0**	*1.4*		Trace of chalcopyrite within the matrix.	240354	0.054	0.026
483.0	485.0		5.5	*1.5*			240355	0.025	0.035
485.0	487.0		2.7	*1.7*			240356	0.033	0.022
487.0	489.0		3.5	*2*			240357	0.027	0.026
489.0	491.0		4.0	*2.3*			240358	0.024	0.018
491.0	493.0		4.7	*0.6*			240359	0.032	0.017
493.0	495.0		5.0	*0.9*			240360	0.064	0.024
495.0	497.4		4.5	*1.5*	SHR 35 4		240361	0.063	0.023
497.4	555.8	**PORPHYRITIC ANDESITE FLOW**							

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy		Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
497.4	499.0	Fine to coarse grained grey green strongly phyllic	4.7		*2*	CNT	35		Unit contains 6-8% feldspar phenocrysts 2-4mm in size with some altered to sericite, epidote and chlorite. Unit contains 2-4% augite phenocrysts 2-4mm in size with some altered to chlorite and epidote. ~2% amygdules present filled with calcite and epidote. The matrix is intermediate in composition and the alteration has obliterated most of the characteristics of the rock. Strong QSP and chlorite alteration within the matrix. Patchy epidote overprint present. 2-4% zeolite and calcite veining oriented 25-45 deg to the core axis. Minor veins near parallel and perpendicular to the core axis. Pyrite is disseminated within the matrix and minorly present within the veins. Minor randomly oriented fractures present.	240362	0.024	0.024
499.0	501.0		5.5		*1*					240363	0.026	0.021
501.0	503.0		5.3		*1.5*					240364	0.014	0.018
503.0	505.0	Fine to coarse grained green grey moderately potassic - chlorite-sericite	5.8	**0.0**	*1.5*				Chlorite alteration has increases. Trace of chalcopyrite disseminated within the matrix.	240365	0.046	0.032
505.0	507.0		3.8		*2*					240366	0.075	0.047
507.0	509.0		5.0		*2.5*					240367	0.023	0.023
509.0	511.0		4.7		*3*					240368	0.009	0.017
511.0	513.0		4.8		*3.2*					240369	0.039	0.027
513.0	515.0		6.0		*5*					240370	0.042	0.027
515.0	517.0		5.5		*3.9*					240371	0.026	0.023
517.0	519.0		5.7	**0.0**	*21.5*				Trace of chalcopyrite within the matrix.	240372	0.041	0.026
519.0	521.0		5.0		*3.9*	FLT	60	2		240373	0.024	0.027
521.0	523.0	Fine to coarse grained dark green grey moderately potassic - chlorite-sericite	5.2		*4.3*					240374	0.012	0.029
523.0	525.0	Fine to coarse grained dark green grey moderately potassic - chlorite-quartz-sericite	6.0		*1.2*					240376	0.020	0.048

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From	To	Rock Type	Py-Cpy		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
525.0	527.0	Fine to coarse grained dark green grey moderately potassic - chlorite-quartz-sericite	6.3		*15.7*					240377	0.026	0.038
527.0	529.0	Fine to coarse grained green grey moderately potassic - chlorite-sericite	4.0		*1.8*					240378	0.037	0.053
529.0	531.0		5.0	**0.0**	*2.1*				Trace of chalcopyrite within a vein.	240379	0.031	0.024
531.0	533.0		5.2		*2.5*					240380	0.013	0.068
533.0	535.0		4.3		*2.4*					240381	0.014	0.034
535.0	537.0		4.5		*2.3*	FLT	15	1		240382	0.016	0.032
537.0	539.0		3.7		*1*					240383	0.031	0.023
539.0	541.0		6.0		*1.3*					240384	0.019	0.018
541.0	543.0		8.0		*1.4*					240385	0.045	0.032
543.0	545.0		6.5		*1.4*					240386	0.056	0.051
545.0	547.0		6.8		*1.9*				Siliceous overprint present.	240387	0.026	0.040
547.0	549.0		6.0		*2.4*					240388	0.020	0.025
549.0	551.0		6.7		*2.9*					240389	0.034	0.056
551.0	553.0		6.2		*3.3*					240390	0.013	0.022
553.0	555.0		7.0		*3.2*					240391	0.016	0.020
555.0	555.8		6.0		*0.8*					240392	0.024	0.041
555.8	576.9	**MOTTLED BLADED FELDSPAR PORPHYRY FLOW**										

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
555.8	558.0	Fine to coarse grained grey strongly phyllic	6.6	*0.8*	CNT 70	Unit contains 8-13% feldspar phenocrysts 4-12mm in size with some altered to sericite and spotty chlorite. Alteration has obliterated most of the characteristics of the rock. Chlorite, sericite and quartz alteration dominate the matrix. 2-4% zeolite and calcite veining oriented 30-60 deg to the core axis. ~3% randomly oriented fractures. Patchy epidote overprint and located as halos around some veins. Pyrite is disseminated withi the matrix and present within some veins. Minor chalcopyrite disseminated within the matrix and present within some veins.	240393	0.037	0.041
558.0	560.0		7.0 **0.1**	*1.1*			240394	0.022	0.030
560.0	562.0		6.3 **0.1**	*0.7*			240395	0.036	0.030
562.0	564.0		5.0 **0.1**	*1.1*			240396	0.035	0.086
564.0	566.0		5.3 **0.0**	*1.4*			240397	0.043	0.081
566.0	568.0		5.7 **0.0**	*1.6*			240398	0.018	0.052
568.0	570.0		5.5 **0.0**	*0.9*			240399	0.019	0.040
570.0	572.0		6.0 **0.1**	*1*			240401	0.027	0.049
572.0	574.0		5.7 **0.4**	*1.3*			240402	0.079	0.097
574.0	576.0	Fine to coarse grained dark grey strongly phyllic	6.5 **0.1**	*1.4*			240403	0.040	0.035
576.0	576.9		7.0 **0.0**	*1.6*			240404	0.011	0.032
576.9	693.4	**BRECCIATED MONZONITE INTRUSIVE**							

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
576.9	579.0	Fine to coarse grained grey intensely potassic - chlorite-sericite	6.7 **0.0**	*2*		Unit is composed of ~75% feldspars, ~20% mafics and ~5% quartz. Alteration has obliterated most of the characteristics of the rock. Unit is brecciated at the top and becomes massive down the hole. Strong to intense chlorite and sericite alteration at the beginning of the unit and transtions to strong and intense QSP and chlorite alteration down the hole. 2-3% zeolite, flourite and quartz veining oriented 10-40 deg to the core axis with minor veins near perpendicular to the core axis. Spotty magnetite within some veins and within the matrix. Pyrite is disseminated within the matrix and present within veins. Trace of chalcopyrite is present within the matrix and veins. Mottled contact around 40 deg to the core axis.	240405	0.061	0.035
579.0	581.0		7.5 **0.3**	*2.4*			240406	0.149	0.115
581.0	583.0		7.0 **0.1**	*2.8*		Broken and rubbly towards the end of the interval. Minor molybdenum within a vein.	240407	0.135	0.112
583.0	588.0		5.5 **0.0**	*14.8*		Broken portion of the unit with 30% lost core.	240408	0.110	0.095
588.0	590.0		5.0 **0.2**	*31.6*			240409	0.169	0.147
590.0	592.0		5.7 **0.1**	*0.9*			240410	0.140	0.110
592.0	594.0	Fine to coarse grained grey intensely phyllic	4.8 **0.0**	*2.4*	FLT 60 1	Alteration has changed to a more QSP dominant with lesser chlorite.	240411	0.092	0.071
594.0	596.0		5.3 **0.0**	*0.8*			240412	0.051	0.041
596.0	598.0		6.0 **0.0**	*1.2*			240413	0.040	0.032
598.0	600.0		6.2 **0.0**	*1.3*		Broken core, about 30% lost core.	240414	0.038	0.035
600.0	602.0		6.5 **0.0**	*1.6*			240415	0.042	0.044
602.0	604.0		6.0 **0.0**	*2*			240416	0.037	0.033
604.0	606.0		5.5 **0.0**	*2.4*			240417	0.029	0.030
606.0	608.0		5.7 **0.0**	*2.3*			240418	0.042	0.041
608.0	610.0		5.3	*2.3*			240419	0.024	0.029
610.0	612.0		5.5	*2.6*			240420	0.018	0.021

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
612.0	614.0	Fine to coarse grained grey intensely phyllic	6.0 **0.0**	*0.7*					240421	0.024	0.020
614.0	616.0		5.7 **0.0**	*0.7*					240422	0.028	0.026
616.0	618.0		6.5 **0.0**	*1*					240423	0.023	0.023
618.0	620.0		6.0	*1*					240424	0.020	0.016
620.0	622.0		6.3 **0.0**	*1.3*					240426	0.014	0.017
622.0	624.0		6.8 **0.0**	*1.5*					240427	0.050	0.042
624.0	626.0		7.0	*1.7*					240428	0.054	0.036
626.0	628.0		6.5 **0.0**	*1.8*	FLT	60	1		240429	0.043	0.029
628.0	630.0		6.7 **0.0**	*2.1*					240430	0.058	0.038
630.0	632.0		5.8	*2.1*					240431	0.032	0.026
632.0	634.0		6.0 **0.1**	*2.3*					240432	0.019	0.020
634.0	636.0		6.5	*2.5*					240433	0.027	0.021
636.0	638.0		5.5 **0.0**	*2.7*					240434	0.016	0.032
638.0	640.0		6.2	*2.8*					240435	0.013	0.019
640.0	642.0		6.7 **0.0**	*0.5*					240436	0.020	0.028
642.0	644.0		7.0	*0.9*					240437	0.009	0.017
644.0	646.0		8.0	*1*					240438	0.011	0.022
646.0	648.0		7.2 **0.0**	*1.1*					240439	0.001	0.012
648.0	650.0		5.7	*1.2*					240440	0.002	0.010
650.0	652.0		6.5	*1.4*					240441	0.014	0.023
652.0	654.0		5.5	*1.8*				Minor broken section within this interval.	240442	0.006	0.019
654.0	656.0		5.2	*1.8*	FLT	50	3		240443	0.002	0.020
656.0	658.0		6.8 **0.0**	*2*					240444	0.020	0.022
658.0	660.0		6.5 **0.0**	*2.2*					240445	0.016	0.023
660.0	662.0		6.3 **0.0**	*2.3*					240446	0.006	0.016

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
662.0	664.0	Fine to coarse grained grey intensely phyllic	6.7 **0.0**	*2.4*				240447	0.014	0.026
664.0	666.0		6.2 **0.0**	*2.6*				240448	0.013	0.018
666.0	668.0		6.0	*2.6*				240449	0.009	0.013
668.0	670.0		6.4 **0.0**	*0.5*				240451	0.017	0.010
670.0	672.0		5.5	*0.8*				240452	0.007	0.010
672.0	674.0		6.0 **0.0**	*1.1*				240453	0.015	0.010
674.0	676.0		5.0	*1*				240454	0.029	0.010
676.0	678.0		4.8	*1.1*				240455	0.012	0.010
678.0	680.0		4.5	*1.3*				240456	0.006	0.010
680.0	682.0		5.0	*1.4*				240457	0.014	0.010
682.0	684.0		6.0	*1.5*				240458	0.027	0.020
684.0	686.0		5.5	*1.7*				240459	0.004	0.010
686.0	688.0		5.2	*1.7*				240460	0.002	0.010
688.0	690.0		4.8	*1.8*				240461	0.017	0.010
690.0	692.0		4.8	*2.1*				240462	0.003	0.010
692.0	693.4		5.0	*2.3*				240463	0.007	0.010
693.4	722.3	**MOTTLED ANDESITE VOLCANIC BRECCIA**								
693.4	695.0	Fine grained grey intensely phyllic	7.0 **0.0**	*2.2*	CNT	85	Alteration has obliterated most of the characteristics of the rock. Unit is intermediate in composition with sericite, chlorite, pyrite and minor quartz alteration dominating the matrix. Unit is brecciated with minor massive section. Spotty remnant AAP section present. 2-3% zeolite, quartz, flourite and calcite veining randomly oriented. Pyrite is disseminated within the matrix and present within some veins. Trace of chalcopyrite disseminated within the matrix and present within some veins. Upper contact is 85 deg to the core axis.	240464	0.008	0.020
695.0	697.0		6.0 **0.0**	*2.4*				240465	0.034	0.030

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
697.0	699.0	Fine grained grey intensely phyllic	6.7 **0.1**	*2.6*			240466	0.017	0.020
699.0	701.0		7.2 **0.0**	*2.5*			240467	0.017	0.030
701.0	703.0		7.0	*2.6*			240468	0.024	0.030
703.0	705.0		6.5	*2.8*			240469	0.034	0.040
705.0	707.0		7.5 **0.0**	*0.6*			240470	0.029	0.030
707.0	709.0		7.3 **0.0**	*1*			240471	0.071	0.050
709.0	711.0	Fine grained green strongly potassic - chlorite-sericite	7.7 **0.0**	*0.8*		Chlorite alteration has increased.	240472	0.105	0.080
711.0	713.0		7.5 **0.1**	*1*			240473	0.070	0.040
713.0	715.0		6.5 **0.2**	*1*			240474	0.091	0.060
715.0	717.0		6.7 **0.1**	*1.5*			240476	0.087	0.060
717.0	719.0		6.3 **0.3**	*1.5*			240477	0.094	0.070
719.0	721.0		6.0 **0.3**	*1.5*			240478	0.107	0.080
721.0	722.3		7.0 **0.0**	*2*			240479	0.085	0.060
722.3	728	**MASSIVE HETEROLITHIC INTRUSION BRECCIA**							
722.3	724.0	Fine to coarse grained dark grey pink weakly chloritic	0.4 **0.1**	*23.5*	CNT 70	Unit contains mostly fragments of Sovereign with minor Takla andesites and other granitoid material. Fragments range in size from 0.4-7cm and are subangular to subrounded in shape. Matrix is made up of blasted host rock material and intrusive material. Matrix is altered to chlorite. The Sovereign fragments are hematite stained while the Takla andesite fragments are phyllic and potassic altered. 2-3% calcite, zeolite and quartz veining oriented 45-70 deg to the core axis. ~2% fractures oriented 40-80 deg to the core axis. Fragments and matrix contain magnetite. Pyrite and chalcopyrite are disseminated within the matrix and fragments. Upper and lower contacts are 70 deg to the core axis. Patchy siliceous overprint present.	240480	0.035	0.030
724.0	726.0		0.7 **0.1**	*15.2*			240481	0.056	0.120

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
726.0	728.0	Fine to coarse grained dark grey pink weakly chloritic	1.5 **0.1**	*32.4*	CNT 70		240482	0.069	0.080
728	796.3	**EQUIGRANULAR QUARTZ MONZONITE INTRUSIVE**							
728.0	730.0	Medium to coarse grained grey strongly phyllic	2.5 **1.3**	*3*		Unit contains ~70% feldspars, ~20% mafics and ~10% quartz. Alteration has obliterated most of the characteristics of the rock. Quartz, sericite and minor chlorite alteration dominate the rock. 2-3% calcite, zeolite, quartz and minor flourite veining oriented 60-75 deg to the core axis and 15-30 deg to the core axis. ~1-2% fractures randomly oriented. Pyrite and chalcopyrite are disseminated within the matrix and present within veins. Minor molybdenum present within some veins.	240483	0.317	0.270
730.0	732.0		2.0 **1.0**	*3.4*			240484	0.499	0.570
732.0	734.0		2.4 **1.5**	*0.6*			240485	0.522	0.360
734.0	736.0		2.7 **1.2**	*1.1*			240486	0.426	0.300
736.0	738.0		3.0 **2.0**	*1.2*			240487	0.488	0.390
738.0	740.0		2.5 **1.5**	*1.7*		~1.2% moly present.	240488	0.291	0.190
740.0	742.0		2.8 **1.7**	*2*			240489	0.341	0.230
742.0	744.0		2.3 **1.0**	*2.2*			240490	0.265	0.190
744.0	746.0		3.2 **0.8**	*0.6*		Broken and fractured section. Fracturing is starting to increase.	240491	0.296	0.190
746.0	748.0		2.7 **1.3**	*0.6*			240492	0.404	0.340
748.0	750.0		3.0 **1.1**	*0.8*	FLT 80 1		240493	0.337	0.280
750.0	752.0		3.5 **0.6**	*1.2*			240494	0.292	0.270
752.0	754.0		2.0 **0.5**	*1.1*		Increase in quartz and zeolite stockworking.	240495	0.236	0.190
754.0	756.0		2.3 **0.3**	*1.5*			240496	0.325	0.330
756.0	758.0		1.8 **0.5**	*0.6*			240497	0.300	0.250
758.0	760.0		2.0 **0.7**	*0.9*			240498	0.348	0.280
760.0	762.0		1.7 **0.4**	*1.1*			240499	0.347	0.250

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
762.0	764.0	Medium to coarse grained grey strongly phyllic	2.5 **1.0**	*1.8*			240501	0.412	0.370
764.0	766.0		2.3 **1.2**	*2*			240502	0.396	0.380
766.0	768.0		2.0 **1.4**	*0.6*			240503	0.499	0.450
768.0	770.0		1.7 **0.5**	*0.9*			240504	0.330	0.330
770.0	772.0	Medium to coarse grained dark grey pink strongly phyllic	1.3 **0.3**	*2.8*		Minor hematite staining present.	240505	0.382	0.440
772.0	774.0	Medium to coarse grained dark grey pink moderately phyllic	1.0 **0.1**	*1.6*			240506	0.474	0.470
774.0	776.0		0.8 **0.1**	*2*			240507	0.331	0.380
776.0	778.0		1.2 **0.1**	*2.2*			240508	0.289	0.355
778.0	780.0		0.7 **0.1**	*2.7*		Unit is broken and rubbly, still stockworked.	240509	0.379	0.520
780.0	782.0		0.7 **0.0**	*1*			240510	0.443	0.520
782.0	784.0		1.5 **0.1**	*2*			240511	0.235	0.250
784.0	786.0		1.0 **0.1**	*1.5*			240512	0.390	0.320
786.0	788.0		1.7 **0.1**	*7.5*		Magnetite now present within some veins.	240513	0.270	0.210
788.0	790.0		1.2 **0.1**	*4.7*			240514	0.434	0.290
790.0	792.0		2.0 **0.2**	*3.6*			240515	0.413	0.310
792.0	794.0		1.0 **0.0**	*1.1*			240516	0.304	0.230
794.0	796.3		0.7 **0.0**	*1.3*			240517	0.247	0.180
796.3	857	**STOCKWORKED HETEROLITHIC LAPILLI-TUFF**							

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
796.3	798.0	Fine to coarse grained dark grey maroon moderately hematitic	0.1	*1.9*	CNT	70		Unit is composed minor fragments of tuffaceous material. The matrix is made up of blasted host rock and feldspar grains and minor quartz and mafic minerals. Minor stockworking at the beginning of the unit. 2-4% zeolite and calcite veining oriented 25-70 deg to the core axis. Fracturing decreases down the hole. Minor hematite staining within some veins and on most feldspar minerals. Minor chlorite alteration of the matrix. Unit is magnetic. Spotty quartz eyes present. Upper contact is 70 deg to the core axis. Minor Sovereign fragments present in the upper 4m.	240518	0.119	0.115
798.0	800.0		0.0	*2.5*					240519	0.062	0.040
800.0	802.0		0.0	*10.9*					240520	0.016	0.020
802.0	804.0		0.0	*16.9*	SHR	30	1		240521	0.007	0.010
804.0	806.0		0.0	*9.8*	SHR	25	3		240522	0.004	0.010
806.0	808.0		0.0	*18.8*					240523	0.011	0.001
808.0	810.0		0.0	*44.1*					240524	0.013	0.010
810.0	812.0		0.0	*30.2*					240526	0.003	0.001
812.0	814.0		0.0	*38.3*				Really broken and rubbly core.	240527	0.004	0.010
814.0	816.0		0.0	*55.3*				Section is very broken.	240528	0.005	0.030
816.0	818.0		0.1	*25.6*					240529	0.006	0.001
818.0	820.0		0.0	*50.6*					240530	0.006	0.001
820.0	822.0		0.0	*13.9*				Spotty epidote within a vein and associated with some mafic minerals.	240531	0.003	0.001
822.0	824.0		0.0	*59.1*					240532	0.003	0.070
824.0	826.0		0.0	*38.3*					240533	0.007	0.001
826.0	828.0		0.0	*90.8*					240534	0.010	0.001
828.0	830.0		0.0	*45.8*					240535	0.006	0.001
830.0	832.0		0.0	*48.8*					240536	0.004	0.001

Hole Number: KH-07-25

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
832.0	834.0	Fine to coarse grained dark grey maroon moderately hematitic	0.0	*49.5*			240537	0.005	0.010
834.0	836.0		0.0	*35.9*			240538	0.003	0.001
836.0	838.0		0.0	*60.2*			240539	0.001	0.001
838.0	840.0		0.0	*60.8*			240540	0.002	0.001
840.0	842.0		0.0	*66.7*			240541	0.002	0.001
842.0	844.0		0.0	*62.3*			240542	0.002	0.001
844.0	846.0		0.0	*57*			240543	0.003	0.001
846.0	848.0		0.0	*38.2*			240544	0.006	0.001
848.0	850.0		0.0	*33.2*			240545	0.003	0.001
850.0	852.0		0.0	*39.4*			240546	0.002	0.001
852.0	854.0		0.0	*59.8*			240547	0.001	0.001
854.0	857.0		0.0	*50.1*		EOH	240548	0.004	0.010

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	15	**CASING**							
0.0	15.0					Casing to 22.5m Overburden recovered from 15-22.5m.			
15	22.5	**OVERBURDEN**							
15.0	17.0			*32.1*		Overburden is composed of broken core of a dacitic unit.	241726	0.001	0.008
17.0	19.0			*47.1*			241727	0.001	0.083
19.0	21.0			*17.9*			241728	0.000	0.099
21.0	22.5			*10.6*			241729	0.001	0.048
22.5	38.4	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**							
22.5	24.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.2 **0.0**	*20.6*		Unit is intermediate in composition to start and becomes slightly more felsic in composition down the hole with 5-10% fragments present. Matrix is mostly altered to silca with minor patches of chlorite and clay. Clay alteration is present mostly around ve	241730	0.001	0.548
24.0	26.0		2.0 **0.0**	*3.9*		Blebby disseminated pyrite.	241731	0.001	2.560
26.0	28.0		1.2 **0.0**	*8.9*		Minor hematite within the matrix. Blebby disseminated pyrite.	241732	0.000	0.163
28.0	30.0		0.6 **0.0**	*16.3*			241733	0.000	0.186
30.0	32.0	Fine to coarse grained weakly chloritic	0.3 **0.0**	*8.2*	SHR 15 1	Patchy clay alteration due to veining and fractures.	241734	0.000	0.594
32.0	34.0	Fine to coarse grained green weakly chloritic	1.0 **0.0**	*5*		Blebby disseminated pyrite.	241735	0.001	0.383
34.0	36.0		1.3 **0.0**	*16.2*			241736	0.000	0.216
36.0	38.4	Fine to coarse grained green weakly silicified (non-K)	0.7 **0.0**	*7*		Minor fragmental section from 36.0-37.1m. Unit transitions back into the dacite lapilli tuff with a weak fabric of 40 deg to the core axis.	241737	0.000	0.239
38.4	39.7	**MOTTLED FELSIC LAPILLI-TUFF**							

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
38.4	39.7	Fine grained green grey strongly sericitic	0.4 **0.0**	*0.7*		Alteration has obliterated the characteristics of the rock, possible felsic unit (possibly an altered form of the unit above). Strong chlorite and sericite alteration present. Patchy quartz and hematite (purple) alteration present. Pyrite is dissminated a	241738	0.000	0.035
39.7	40.4	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**							
39.7	40.4	Fine to coarse grained grey moderately chloritic	1.5 **0.0**	*3.8*	FAB 50	Unit is intermediate in composition. Chlorite alteration dominates at the start with siliceous alteration increasing down the unit. ~1% zeolite and calcite veining oriented 30-45 deg to the core axis. Unit is magnetic. ~1%, <1mm quartz eyes present. Minor	241739	0.000	0.413
40.4	44.8	**MOTTLED FELSIC LAPILLI-TUFF**							
40.4	42.0	Fine grained green grey moderately sericitic	0.8 **0.0**	*1.9*		Alteration has obliterated the characteristics of the rock, possible felsic unit (possibly an altered form of the unit above). Strong chlorite and sericite alteration present. Patchy quartz and hematite (purple) alteration present. Pyrite is dissminated a	241740	0.000	0.543
42.0	44.0	Fine grained green grey strongly sericitic	1.7 **0.0**	*1.7*			241741	0.000	0.155
44.0	44.8		1.0 **0.0**	*2.4*			241742	0.001	0.272
44.8	61.2	**WELDED DACITE LAPILLI-TUFF**							
44.8	46.0	Fine to coarse grained dark grey weakly sericitic	0.3 **0.0**	*20.7*	PYCAL 45 1	Unit is intermediate in composition with rare tuffaceous and andesite fragments present. Weak sericite and chlorite alteration dominate the matrix withy patchy siliceous sections. ~3% zeolite and calcite veining and stringers oriented 25-40 deg to the cor	241743	0.021	6.940
46.0	48.0		0.5 **0.0**	*7.6*			241744	0.001	0.324
48.0	50.0		0.1 **0.0**	*23.4*			241745	0.002	0.037
50.0	52.0		0.1 **0.0**	*12.1*		Minor hematite within the matrix.	241746	0.001	0.061
52.0	54.0		0.1 **0.0**	*21.2*	HSTR 30 1		241747	0.000	2.210
54.0	56.0		0.0 **0.0**	*41.7*	FAB 50		241748	0.000	0.013

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
	56.0	58.0 Fine to coarse grained dark grey weakly sericitic	0.1 **0.0**	*58.8*				Minor fragmental sections present.	241749	0.000	0.017
	58.0	60.0	0.1 **0.0**	*14.9*	SHR	35	2		241751	0.000	0.076
	60.0	61.2	0.1 **0.0**	*16.9*					241752	0.000	0.001
61.2	84.1	**FRAGMENTAL HETEROLITHIC LAPILLISTONE**									
	61.2	63.0 Fine to coarse grained dark grey pink weakly sericitic	0.2 **0.0**	*20.1*	CNT	50		Unit contains ~40-50% fragments and ~50-60% ash and lapilli matrix. Fragments range in size from 0.3-4cm and are subangular to subrounded in shape. Fragments include andesite, tuffaceous and granitoid material. Matrix is fine grained and intermediate in c	241753	0.001	0.105
	63.0	65.0 Fine to coarse grained dark grey pink weakly chloritic	0.4 **0.0**	*8.9*					241754	0.001	0.165
	65.0	67.0 Fine to coarse grained grey weakly chloritic	0.1 **0.0**	*1.5*				Small welded dacitic section from 67.0-67.2m. Welded textures present within fragmental section.	241755	0.001	0.031
	67.0	69.0	0.0 **0.0**	*3.5*				Welded textures present.	241756	0.001	0.015
	69.0	71.0 Fine to coarse grained grey weakly silicified (non-K)	0.3 **0.0**	*19.9*				Mostly andesite fragments present within this section. Hematite stained fragments present.	241757	0.001	0.287
	71.0	73.0	0.0 **0.0**	*71.2*				Hematite stained fragments present.	241758	0.001	0.022
	73.0	75.0	0.0 **0.0**	*56.6*	SHR	30	2	Minor welded textures within the matrix.	241759	0.000	0.016
	75.0	77.0	0.0 **0.0**	*25.9*					241760	0.002	0.048
	77.0	79.0	0.0 **0.0**	*1.9*	FAB	60		Rough fabric present.	241761	0.000	0.005
	79.0	81.0	0.2 **0.0**	*1.8*					241762	0.001	0.761
	81.0	83.0	0.0 **0.0**	*60.9*				Fragment content and size are decreasing.	241763	0.001	0.016
	83.0	84.1	0.0 **0.0**	*37.4*					241764	0.001	0.022
84.1	96.1	**BRECCIATED DACITE LAPILLI-TUFF**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
84.1	86.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0 **0.0**	*97*				Unit is intermediate in composition with rare tuffaceous and andesite fragments present. Siliceous alteration dominates the start of the unit and decreses down the hole with an increase in clay alteration due to an increase in veining. ~5% zeolite and cal	241765	0.000	0.008
86.0	88.0		0.0 **0.0**	*97.2*	FAB	40		Patchy clay alteration due to veining and fractures. Patchy welded texture present.	241766	0.001	0.088
88.0	90.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*60.2*	PYV	50	1	Patchy clay alteration due to increased fracturing and veining. Pyrite vein at 89.7m.	241767	0.004	0.068
90.0	92.0	Fine to coarse grained grey pink moderately clay altered	1.0 **0.0**	*30.7*				Large BFP block from 90.0-90.2m with pyrite blebs. Clay alteration has become dominant.	241768	0.016	1.685
92.0	94.0		0.1 **0.0**	*96.9*				Veining has increased with vuggy sections.	241769	0.165	0.256
94.0	96.1		0.1 **0.0**	*70.7*	HSTR	35	1	Vuggy veins present.	241770	0.700	0.389
96.1	113.3	**FRAGMENTAL HETEROLITHIC AGLOMERATE**									
96.1	98.0	Medium to coarse grained grey pink moderately clay altered	0.5 **0.0**	*53.5*				Unit contains 70-80% fragments within a medium to coarse grained matrix. Matrix is intermediate in composition and is also composed of broken fragment material. Fragments include BFP, andesite, AAP, tuffaceous and rare granitoid material. Fragments are su	241771	0.016	0.262
98.0	100.0		0.2 **0.0**	*44.3*	SHR	15	2		241772	0.010	0.014
100.0	102.0	Medium to coarse grained grey black weakly silicified (non-K)	0.1 **0.0**	*50.6*	SHR	15	2	Siliceous alteration has increased.	241773	0.004	0.112
102.0	104.0		0.2 **0.1**	*32*	CPYZC	65	1	Chalcopyrite present within a zeolite and calcite vein. Hematite stained fragments present.	241774	0.070	0.072
104.0	106.0		0.2 **0.0**	*44*					241776	0.003	0.079
106.0	108.0		0.1 **0.0**	*18.5*					241777	0.002	0.011
108.0	110.0		0.0 **0.0**	*52*					241778	0.001	0.022
110.0	112.0		0.0 **0.0**	*26.5*					241779	0.001	0.066
112.0	113.3		0.1 **0.0**	*31.2*					241780	0.001	0.032
113.3	115.1	**MOTTLED FELSIC LAPILLI-TUFF**									

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
113.3	115.1	Fine grained white maroon moderately silicified (non-K)	0.0 **0.0**	*0.7*		Siliceouse alteration is strong within this section and has masked the charactersitics of the unit. Could be an altered state of a intermediate to felsic dacite unit. Purple hematite present. Minor chlorite and sericite sections present. ~2% zeolite and c	241781	0.001	0.036
115.1	116.6	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**							
115.1	116.6	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*63.6*		Unit is intermediate in compostion with rare fragments present. Matrix is siliceous in patches with sections that are sericite. Chlorite alteration present on some mafic sections. Clay alteration around most veins and fractures. ~2% zeolite and calcite ve	241782	0.000	0.001
116.6	117.9	**MOTTLED FELSIC LAPILLI-TUFF**							
116.6	117.9	Fine to coarse grained white maroon moderately silicified (non-K)	0.0 **0.0**	*1.2*		Siliceouse alteration is strong within this section and has masked the charactersitics of the unit. Could be an altered state of a intermediate to felsic dacite unit. Purple hematite present. Minor chlorite and sericite sections present. ~2% zeolite and c	241783	0.001	0.001
117.9	140.1	**CRYSTAL-LITHIC DACITE LAPILLI-TUFF**							
117.9	120.0	Fine to coarse grained grey pink weakly sericitic	0.0 **0.0**	*61.3*		Unit is similar to the dacitic unit just above. Unit is intermediate in compostion with rare fragments present. Matrix is siliceous in patches with sections that are sericite. Chlorite alteration present on some mafic sections. Clay alteration around most	241784	0.000	0.013
120.0	122.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*85.1*	SHR 30 2		241785	0.000	0.185
122.0	124.0		0.0 **0.0**	*42.1*			241786	0.013	0.026
124.0	126.0		0.0 **0.0**	*61.1*			241787	0.001	0.069
126.0	128.0	Fine to coarse grained dark grey pink weakly clay altered	0.0 **0.0**	*81.9*		Patchy clay alteration due to veining and fractures.	241788	0.028	0.120
128.0	130.0	Fine to coarse grained dark grey pink weakly sericitic	0.0 **0.0**	*73.5*	HSTR 15 1	Sericitic alteration present of the feldspars within the matrix.	241789	0.006	0.015

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From	To	Rock Type	Py-Cpy	Ms	Veins	(°tca-%)		Comments	Sample#	Cu %	Au ppm
130.0	132.0	Fine to coarse grained grey pink weakly clay altered	0.0 **0.0**	*18.6*	FAB	20		Clay altered due to veining.	241790	0.001	0.076
132.0	134.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.0 **0.0**	*79*					241791	0.003	0.011
134.0	136.0	Fine to coarse grained dark grey pink moderately clay altered	0.0 **0.0**	*38.9*	FLT	20	2	Two separate little fault zones.	241792	0.006	0.024
136.0	138.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.0 **0.0**	*63.6*					241793	0.001	0.010
138.0	140.1		0.0 **0.0**	*48.1*	PYHST	30	1		241794	0.003	0.230
140.1	142	**STOCKWORKED DACITE FAULT ZONE**									
140.1	142.0	Fine to coarse grained strongly clay altered	0.0 **0.0**	*52.1*	FLT	25		Shear zone marked by stockwork zeolite and calcite veining with hematite. Stockwork veining oriented 25-30 deg to the core axis. Host rock is strongly clay altered with hematite staining.	241795	0.047	0.153
142	402	**WELDED DACITE LAPILLI-TUFF**									
142.0	144.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*50.3*	FAB	50		Unit is similar to the dacitic unit before the shear zone. Unit is intermediate in compostion with rare fragments present. Welded sections present. Matrix is mostly siliceous woth spotty chlorite alteration. Clay alteration around most veins and fractures	241796	0.003	0.013
144.0	146.0		0.1 **0.0**	*76.7*					241797	0.000	0.001
146.0	148.0		0.1 **0.0**	*82.3*				Trace of chalcopyrite within a couple of stringers.	241798	0.022	0.053
148.0	150.0		0.0 **0.0**	*44.7*				Patchy clay alteration due to stockworking.	241799	0.012	0.024
150.0	152.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.1 **0.0**	*25.2*	FAB	60			241801	0.000	0.006
152.0	154.0		0.0 **0.0**	*28.4*	FAB	50		Patchy clay alteration due to veining.	241802	0.001	0.001
154.0	156.0		0.0 **0.0**	*42.1*	FAB	55			241803	0.001	0.022
156.0	158.0		0.0 **0.0**	*52.3*	FAB	50			241804	0.002	0.024
158.0	160.0		0.0 **0.0**	*42.1*	FAB	60			241805	0.001	0.013

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
160.0	162.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*50.5*	FAB	55	Fracturing has decreased to ~4% and the veining and stringers have decreased to ~4%.	241806	0.000	0.013
162.0	164.0		0.0 **0.0**	*23*	FAB	50		241807	0.000	0.008
164.0	166.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0 **0.0**	*70.9*	FAB	55	Siliceous alteration has increased. Hematite staining has decreased.	241808	0.000	0.001
166.0	168.0	Fine to coarse grained grey moderately silicified (non-K)	0.0 **0.0**	*47.6*	FAB	55		241809	0.000	0.001
168.0	170.0		0.0 **0.0**	*39.1*	FAB	60		241810	0.000	0.001
170.0	172.0		0.0 **0.0**	*38.9*	HSTR	60 1	Welded texture has stopped.	241811	0.000	0.001
172.0	174.3	Fine to coarse grained grey pink moderately clay altered	0.0 **0.0**	*116*			Unit is stockworked with zeolite and calcite veins which has increased the clay alteration. Hematite staining is present.	241812	0.007	0.027
174.3	176.0	Fine to coarse grained dark grey maroon moderately silicified (non-K)	0.8 **0.0**	*64.5*	CNT	30	Unit is similar to the dacite above except for the fracture and veining amount. Unit is intermediate in composition with a strong siliceous alteration. Minor fragments of andesite and tuffaceous material present. Minor hematite halo around some fragments.	241813	0.012	0.161
176.0	178.0	Fine to coarse grained dark grey maroon strongly silicified (non-K)	1.5 **0.0**	*51.9*				241814	0.000	0.211
178.0	180.0		1.2 **0.0**	*85.3*				241815	0.000	0.233
180.0	182.0		2.2 **0.2**	*7.4*	CPYV	50 1	Chalcopyrite vein at 181.9m.	241816	0.054	3.050
182.0	184.0		2.2 **0.1**	*66.2*				241817	0.032	2.000
184.0	186.0	Fine to coarse grained grey pink moderately clay altered	0.0 **0.0**	*38.4*			Unit has become fractured again with strong stockworking within this section. Unit is similar to the fractured and veined dacite encountered before the siliceous chalcopyrite bearing dacite zone. Unit now contains ~7% randomly oriented fractures and ~8% z	241818	0.003	0.099
186.0	188.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0 **0.0**	*44.1*				241819	0.001	0.020
188.0	190.0		0.2 **0.0**	*65*				241820	0.007	0.709
190.0	192.0		0.3 **0.0**	*61.1*	FAB	60		241821	0.005	0.503

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From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
192.0	194.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.2 **0.0**	*66.2*					241822	0.000	0.082
194.0	196.0		0.0 **0.0**	*88.1*				Vuggy veins present.	241823	0.000	0.104
196.0	198.0		0.0 **0.0**	*89.3*					241824	0.000	0.055
198.0	200.0	Fine to coarse grained grey moderately silicified (non-K)	0.0 **0.0**	*61.5*				Fracturing and veining have decreased to ~4% fractures and ~5% veining and stringers.	241826	0.000	0.028
200.0	202.0		0.0 **0.0**	*80.5*	FAB	60		Minor welding present.	241827	0.000	0.006
202.0	204.0	Fine to coarse grained grey pink moderately silicified (non-K)	0.0 **0.0**	*114*					241828	0.000	0.005
204.0	206.0		0.0 **0.0**	*8*					241829	0.001	0.044
206.0	208.0		0.0 **0.0**	*128*					241830	0.002	0.020
208.0	210.0		0.1 **0.0**	*27.9*	CALPY	75	1	Minor welding present with a fabric of 55 deg to the core axis.	241831	0.002	0.018
210.0	212.0		0.0 **0.0**	*145*					241832	0.000	0.006
212.0	214.0		0.0 **0.0**	*43.4*					241833	0.000	0.001
214.0	216.0		0.0 **0.0**	*74.3*	FAB	60		Minor welding present.	241834	0.001	0.009
216.0	218.0		0.0 **0.0**	*48*	FAB	40			241835	0.000	0.001
218.0	220.0		0.2 **0.0**	*39.7*					241836	0.026	0.039
220.0	222.0		0.0 **0.0**	*183*				Disseminated blebby pyrite towards the end of the interval.	241837	0.014	0.009
222.0	224.0		0.0 **0.0**	*59.4*					241838	0.009	0.010
224.0	226.0		0.0 **0.0**	*53*					241839	0.026	0.025
226.0	228.0	Fine to coarse grained grey moderately silicified (non-K)	1.0 **0.0**	*0.7*				Blebby disseminated pyrite present. Trace of disseminated chalcopyrite present. Section contains bleached white felsic clasts.	241840	0.013	0.445
228.0	230.0		0.7 **0.0**	*81.5*				White felsic or altered dacitic sections midway through the section with blebby pyrite.	241841	0.048	0.296

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
230.0	232.0	Fine to coarse grained grey moderately silicified (non-K)	0.0 **0.0**	*37.7*		Small fragmental section at the beginning of this interval with mostly tuffaceous fragments and some andesite fragments.	241842	0.001	0.041
232.0	234.0		0.0 **0.0**	*58.9*	BED 50		241843	0.001	0.006
234.0	236.0		0.0 **0.0**	*40*			241844	0.000	0.001
236.0	238.0		0.0 **0.0**	*41.7*			241845	0.000	0.001
238.0	240.0	Fine to coarse grained grey pink weakly clay altered	0.1 **0.0**	*35.8*		Fracturing has dropped to ~2%. Clay alteration is due to veining.	241846	0.000	0.001
240.0	242.0		0.0 **0.0**	*46.1*		Clay alteration is due to veining. Minor tuffaceous fragments present.	241847	0.000	0.001
242.0	244.0	Fine to coarse grained grey maroon weakly silicified (non-K)	0.0 **0.0**	*1.6*		Hematite stained matrix.	241848	0.000	0.001
244.0	246.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*69.7*			241849	0.000	0.019
246.0	248.0		0.0 **0.0**	*23.2*		Large hornblende and augite phenocrysts present.	241851	0.000	0.001
248.0	250.0	Fine to coarse grained grey pink weakly clay altered	0.0 **0.0**	*5.5*	SHR 20 3	Clay alteration due to veining and shear zones.	241852	0.000	0.001
250.0	252.0	Fine to coarse grained dark grey moderately silicified (non-K)	0.0 **0.0**	*9*		Siliceously altered.	241853	0.000	0.001
252.0	254.0		0.0 **0.0**	*17.1*		Hematite specks within this section.	241854	0.000	0.001
254.0	256.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*17.1*		Patchy clay alteration due to veining.	241855	0.000	0.001
256.0	258.0	Fine to coarse grained dark grey weakly chloritic	0.1 **0.0**	*52*		Section is brecciated.	241856	0.000	0.001
258.0	260.0	Fine to coarse grained grey green weakly chloritic	0.1 **0.0**	*59.4*			241857	0.000	0.011
260.0	262.0	Fine to coarse grained grey pink weakly clay altered	0.0 **0.0**	*76.4*		Patchy hematite staining on some feldspar grains within the matrix.	241858	0.000	0.001
262.0	264.0		0.0 **0.0**	*22*		Patchy hematite staining on some feldspar grains within the matrix. Bleached section from 262.5-262.8m.	241859	0.000	0.001

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
264.0	266.0	Fine to coarse grained grey pink moderately clay altered	0.0 **0.0**	*26.2*			241860	0.000	0.001
266.0	268.0		0.1 **0.0**	*12.7*		Strong chloritic and sericitic zone from 266.6-267.1m.	241861	0.000	0.017
268.0	270.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.1 **0.0**	*36*		Clay alterded at the beginning of the section due to fractures and veins.	241862	0.038	0.281
270.0	272.0		0.1 **0.0**	*8.3*	EPCAL 65 1		241863	0.001	0.006
272.0	274.0		0.0 **0.0**	*13.5*		Chloritic and sericitic section from 272.2-272.8m.	241864	0.000	0.001
274.0	276.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*15.3*		Patchy clay altered due to veining and fractures.	241865	0.000	0.001
276.0	278.0		0.1 **0.0**	*21.5*			241866	0.000	0.001
278.0	280.0	Fine to coarse grained grey pink weakly clay altered	0.1 **0.0**	*14.6*			241867	0.000	0.006
280.0	282.0		0.0 **0.0**	*10.4*			241868	0.000	0.001
282.0	284.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.0 **0.0**	*28.2*			241869	0.000	0.001
284.0	286.0		0.0 **0.0**	*9.2*		Small brecciated section within this interval.	241870	0.000	0.001
286.0	288.0		0.0 **0.0**	*9.1*		Strong chlorite and sericite alteration from 286.7-287.2m.	241871	0.000	0.001
288.0	290.0	Fine to coarse grained dark grey pink weakly chloritic	0.0 **0.0**	*36.4*		Slight purple colour within the matrix. Chloritic alteration now persists.	241872	0.000	0.001
290.0	292.0		0.0 **0.0**	*6.6*		Slight purple colour within the matrix. Section is brecciated.	241873	0.000	0.001
292.0	294.0		0.0 **0.0**	*39.5*			241874	0.004	0.001
294.0	296.0	Fine to coarse grained dark grey maroon moderately hematitic	0.0 **0.0**	*74.3*	BED 60	Moderate hematite alteration within the matrix. Weak chlorite alteration still present.	241876	0.001	0.001
296.0	298.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.3 **0.0**	*98.4*		Start of a new dacitic unit.	241877	0.001	0.226
298.0	300.0	Fine to coarse grained dark grey pink weakly clay altered	0.1 **0.0**	*73.5*		Patchy clay alteration due to veining and fractures.	241878	0.001	0.043
300.0	302.0	Fine to coarse grained dark grey weakly clay altered	0.0 **0.0**	*68.9*			241879	0.000	0.008

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
302.0	304.0	Fine to coarse grained dark grey pink weakly silicified (non-K)	0.0 **0.0**	*107*				Patchy hematite staining.	241880	0.001	0.001
304.0	306.0	Fine to coarse grained dark grey pink moderately clay altered	0.0 **0.0**	*61.2*	EPV	10	1	Fracturing has increased within the unit to ~8% oriented 40-80 deg to the core axis with some 0-15 deg to the core axis. Zeolite and calcite stringers have increased to 8% oriented the same as the fractures. Increase in fractures and veins caused an incre	241881	0.001	0.001
306.0	308.0		0.0 **0.0**	*64.4*					241882	0.001	0.039
308.0	310.0		0.0 **0.0**	*63.1*	EPCCA	20	2		241883	0.000	0.086
310.0	312.0		0.0 **0.0**	*59*					241884	0.001	0.019
312.0	314.0		0.1 **0.0**	*89.9*					241885	0.001	0.006
314.0	316.0		0.0 **0.0**	*84.3*					241886	0.000	0.001
316.0	318.0		0.0 **0.0**	*87.7*	HSTR	45	1		241887	0.001	0.007
318.0	320.0		0.0 **0.0**	*44.2*				Brecciated in patches. Siliceous alteration is increasing.	241888	0.001	0.001
320.0	322.0	Fine to coarse grained dark grey moderately silicified (non-K)	0.0 **0.0**	*67*				Fracturing and veining have decreased.	241889	0.001	0.001
322.0	324.0		0.0 **0.0**	*65*					241890	0.001	0.006
324.0	326.0		0.0 **0.0**	*81.8*				Hematite halo around some clasts.	241891	0.004	0.129
326.0	328.0		0.0 **0.0**	*131*	QEPV	60	1		241892	0.003	0.013
328.0	330.0		0.0 **0.0**	*92.5*	FAB	65		Slight fabric within a unbrecciated section.	241893	0.001	0.001
330.0	332.0		0.0 **0.0**	*66.9*				Hematite halo around some clasts.	241894	0.000	0.052
332.0	334.0	Fine to coarse grained dark grey pink moderately clay altered	0.1 **0.0**	*26.9*	HSTR	40	2	Interval has increased fracturing and stringers causing the clay alteration. Pyrite and chalcopyrite halo around a zeolite and calcite vein.	241895	0.014	0.030
334.0	336.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0 **0.0**	*27.8*				Back into the siliceous altered dacite with low veining and stringers, but the fracturing is still high.	241896	0.001	0.001
336.0	338.0		0.0 **0.0**	*37.5*					241897	0.002	0.001
338.0	340.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*13.2*					241898	0.001	0.001

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
340.0	342.0	Fine to coarse grained grey pink weakly silicified (non-K)	0.0 **0.0**	*11.6*			241899	0.001	0.001
342.0	344.0		0.0 **0.0**	*20.2*			241901	0.001	0.001
344.0	346.0		0.0 **0.0**	*36.4*		Zeolite and calcite veining has increased. Siliceous alteration still persists with spot patches of clay alteration around some fractures and veins.	241902	0.001	0.001
346.0	348.0		0.0 **0.0**	*67.8*			241903	0.001	0.001
348.0	350.0		0.0 **0.0**	*95.9*		Small brecciated section within this interval.	241904	0.002	0.001
350.0	352.0		0.0 **0.0**	*81.7*			241905	0.002	0.001
352.0	354.0		0.0 **0.0**	*121*		Small brecciated section within this interval.	241906	0.059	0.016
354.0	356.0		0.1 **0.0**	*44.1*			241907	0.013	0.010
356.0	358.0		0.0 **0.0**	*51*		Small brecciated section within this interval.	241908	0.008	0.060
358.0	360.0		0.0 **0.0**	*71.3*			241909	0.004	0.044
360.0	362.0		0.0 **0.0**	*30.1*			241910	0.006	0.055
362.0	364.0		0.0 **0.0**	*96.2*			241911	0.011	0.022
364.0	366.0		0.0 **0.0**	*23.1*			241912	0.002	0.108
366.0	368.0		0.0 **0.0**	*28.4*			241913	0.010	0.078
368.0	370.0		0.1 **0.0**	*3.1*			241914	0.001	0.105
370.0	372.0		0.0 **0.0**	*47.1*			241915	0.002	0.103
372.0	374.0		0.0 **0.0**	*127*		Patchy hematite staining within this section.	241916	0.001	0.022
374.0	376.0	Fine to coarse grained dark grey weakly silicified (non-K)	0.0 **0.0**	*47.6*		Fracturing and veining have decreased.	241917	0.001	0.052
376.0	378.0		0.1 **0.0**	*61.1*	PYV 60 1		241918	0.001	0.018
378.0	380.0	Fine to coarse grained dark grey maroon moderately silicified (non-K)	0.0 **0.0**	*163*		Patchy hematite within the matrix.	241919	0.001	0.007
380.0	382.0		0.0 **0.0**	*83.3*	BED 60		241920	0.001	0.001
382.0	384.0		0.0 **0.0**	*37.3*			241921	0.001	0.001

Hole Number: KH-07-26

From	To	Rock Type	Py-Cpy	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
384.0	386.0	Fine to coarse grained dark grey maroon moderately silicified (non-K)	0.0 **0.0**	*37*		Patchy hematite within the matrix.	241922	0.002	0.012
386.0	388.0		0.0 **0.0**	*26.8*			241923	0.000	0.001
388.0	390.0		0.0 **0.0**	*40.4*			241924	0.001	0.001
390.0	392.0		0.0 **0.0**	*18.9*			242796	0.001	0.001
392.0	394.0		0.0 **0.0**	*11.4*			242797	0.000	0.001
394.0	396.0		0.0 **0.0**	*36.5*		Minor increase in fracturing and zeolite and calcite stringers.	242798	0.000	0.001
396.0	398.0		0.0 **0.0**	*31.7*	ZCALS 10 5		242799	0.003	0.001
398.0	400.0		0.0 **0.0**	*39.9*		Patchy hematite within the matrix.	242800	0.000	0.001
400.0	402.0		0.0 **0.0**	*93*		EOH? Tune into next year same geo time same geo place as the advetures of BATWADE take on entire new quests and personalities. Will he be busy like last year, will be continue this hole along with others. Only the band of evil dogooders will decide.	240097	0.001	0.007

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-01***

UTM Northing:	6326380	**Northing:**	16017	**Total Depth:**	351 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0°
		Elevation:	1820.4	**Dip:**	-90°

Geologist: Carl Edmunds

Drilled: 11/5/2007

Survey Depth	Azimuth	Dip
10.0 m	0°	-90°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-01A***

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0°
		Elevation:	1820.4	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 5/24/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
36.0 m	300.74°	-88.43°	78.0 m	289.8°	-88.36°	120.0 m	285.1°	-88.25°	162.0 m	277.15°	-88.25°
39.0 m	296.76°	-88.37°	81.0 m	287.59°	-88.34°	123.0 m	285.25°	-88.27°	165.0 m	275.82°	-88.22°
42.0 m	299.1°	-88.32°	84.0 m	287.73°	-88.34°	126.0 m	281.85°	-88.29°	168.0 m	276.5°	-88.21°
45.0 m	292.1°	-88.4°	87.0 m	286.56°	-88.38°	129.0 m	278.99°	-88.28°	171.0 m	276.26°	-88.23°
48.0 m	292.95°	-88.35°	90.0 m	287.3°	-88.39°	132.0 m	280.63°	-88.3°	174.0 m	274.25°	-88.23°
51.0 m	291.85°	-88.34°	93.0 m	287.21°	-88.4°	135.0 m	279.61°	-88.27°	177.0 m	274.63°	-88.21°
54.0 m	293.27°	-88.39°	96.0 m	284.58°	-88.38°	138.0 m	278.26°	-88.27°	180.0 m	274.62°	-88.24°
57.0 m	290.48°	-88.4°	99.0 m	285.94°	-88.35°	141.0 m	282.41°	-88.29°	183.0 m	273.49°	-88.28°
60.0 m	289.3°	-88.39°	102.0 m	284.9°	-88.37°	144.0 m	281.81°	-88.29°	186.0 m	273.87°	-88.25°
63.0 m	288.06°	-88.38°	105.0 m	282.51°	-88.29°	147.0 m	278.11°	-88.29°	189.0 m	274°	-88.23°
66.0 m	291.42°	-88.33°	108.0 m	286.58°	-88.29°	150.0 m	277.8°	-88.28°	192.0 m	275.86°	-88.26°
69.0 m	292.44°	-88.32°	111.0 m	285.58°	-88.28°	153.0 m	280.27°	-88.27°	195.0 m	274.89°	-88.26°
72.0 m	290.48°	-88.39°	114.0 m	284.53°	-88.27°	156.0 m	280.27°	-88.28°	198.0 m	275.94°	-88.3°
75.0 m	290.36°	-88.36°	117.0 m	282.89°	-88.24°	159.0 m	278.73°	-88.28°	201.0 m	275.09°	-88.26°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-01A***

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0°
		Elevation:	1820.4	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 5/24/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
204.0 m	273.01°	-88.23°	246.0 m	274.6°	-88.09°	288.0 m	273.63°	-88.03°	330.0 m	268.95°	-87.92°
207.0 m	276.67°	-88.23°	249.0 m	273.49°	-88.09°	291.0 m	273.88°	-88.02°	333.0 m	268.79°	-87.9°
210.0 m	270.61°	-88.22°	252.0 m	273.87°	-88.09°	294.0 m	273.68°	-88.01°	336.0 m	269.67°	-87.89°
213.0 m	274.25°	-88.19°	255.0 m	275.01°	-88.07°	297.0 m	260.97°	-87.58°	339.0 m	271.98°	-87.86°
216.0 m	274.06°	-88.22°	258.0 m	274.63°	-88.06°	300.0 m	273.01°	-87.99°	342.0 m	275.7°	-87.89°
219.0 m	272.59°	-88.17°	261.0 m	275.27°	-88.02°	303.0 m	273.61°	-87.99°	345.0 m	273.66°	-87.93°
222.0 m	272.37°	-88.17°	264.0 m	275.42°	-88.02°	306.0 m	272.7°	-88.03°	348.0 m	276.16°	-87.96°
225.0 m	273.03°	-88.21°	267.0 m	275.3°	-88.01°	309.0 m	271°	-88.03°	351.0 m	273.67°	-88.01°
228.0 m	271.39°	-88.19°	270.0 m	275.17°	-88.02°	312.0 m	270.25°	-88.04°	354.0 m	274.52°	-87.98°
231.0 m	271.51°	-88.15°	273.0 m	273.26°	-88.12°	315.0 m	270.4°	-88.01°	357.0 m	272.84°	-87.95°
234.0 m	272.43°	-88.18°	276.0 m	275.38°	-88.03°	318.0 m	269.84°	-88.02°	360.0 m	277.46°	-87.98°
237.0 m	275.38°	-88.12°	279.0 m	274.49°	-88°	321.0 m	268.89°	-87.95°	363.0 m	284.19°	-87.94°
240.0 m	273.72°	-88.13°	282.0 m	270.79°	-87.89°	324.0 m	267.6°	-87.91°	366.0 m	273.34°	-87.86°
243.0 m	274.26°	-88.12°	285.0 m	273.54°	-88.02°	327.0 m	267.38°	-87.93°	369.0 m	273.12°	-87.94°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-01A***

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0°
		Elevation:	1820.4	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 5/24/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
372.0 m	274.62°	-87.99°	414.0 m	273.37°	-87.97°	456.0 m	252.19°	-88.35°	498.0 m	267.95°	-88.43°
375.0 m	276.25°	-87.93°	417.0 m	247.34°	-88.73°	459.0 m	260.84°	-88.36°	501.0 m	269.23°	-88.44°
378.0 m	280.72°	-87.78°	420.0 m	264.85°	-80.94°	462.0 m	304.99°	-86.85°	504.0 m	266.69°	-88.44°
381.0 m	269.03°	-87.84°	423.0 m	271.54°	-88.38°	465.0 m	269.93°	-88.35°	507.0 m	270.66°	-88.45°
384.0 m	270.08°	-88.03°	426.0 m	272.52°	-88.37°	468.0 m	270.82°	-88.34°	510.0 m	266.76°	-88.46°
387.0 m	274.23°	-88.02°	429.0 m	275.83°	-88.42°	471.0 m	270.01°	-88.34°	513.0 m	267.6°	-88.48°
390.0 m	274.09°	-88.06°	432.0 m	272.45°	-88.41°	474.0 m	271.16°	-88.38°	516.0 m	270.86°	-88.5°
393.0 m	269.6°	-88.05°	435.0 m	270.72°	-88.46°	477.0 m	270.12°	-88.36°	519.0 m	270.49°	-88.45°
396.0 m	270.93°	-88.1°	438.0 m	272.3°	-88.45°	480.0 m	271.31°	-88.38°	522.0 m	271.87°	-88.46°
399.0 m	272.04°	-88.06°	441.0 m	272.57°	-88.44°	483.0 m	271.63°	-88.38°	525.0 m	267.73°	-88.48°
402.0 m	272.04°	-88.07°	444.0 m	271.24°	-88.42°	486.0 m	271.93°	-88.36°	528.0 m	270.7°	-88.49°
405.0 m	280.67°	-88.85°	447.0 m	270.5°	-88.41°	489.0 m	272.64°	-88.35°	531.0 m	269.49°	-88.46°
408.0 m	272.52°	-88.01°	450.0 m	271.59°	-88.4°	492.0 m	267.74°	-88.39°	534.0 m	262.45°	-88.34°
411.0 m	270.29°	-87.98°	453.0 m	270.09°	-88.4°	495.0 m	270.14°	-88.41°	537.0 m	267.67°	-88.46°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-01A***

UTM Northing:	6326380	**Northing:**	16018	**Total Depth:**	980 **m**
UTM Easting:	637914	**Easting:**	11967	**Azimuth:**	0°
		Elevation:	1820.4	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 5/24/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
540.0 m	268.58°	-88.46°	582.0 m	273.4°	-88.46°	624.0 m	282.54°	-88.15°	666.0 m	282.89°	-87.47°
543.0 m	265.35°	-88.49°	585.0 m	274.35°	-88.47°	627.0 m	281.2°	-88.09°	669.0 m	270.65°	-88.09°
546.0 m	264.09°	-88.48°	588.0 m	274°	-88.44°	630.0 m	283.51°	-88.06°	672.0 m	281.44°	-87.68°
549.0 m	264.1°	-88.46°	591.0 m	273.59°	-88.43°	633.0 m	284.58°	-88.07°	675.0 m	279.36°	-87.58°
552.0 m	265.14°	-88.46°	594.0 m	273.81°	-88.4°	636.0 m	283.84°	-88°	678.0 m	276.6°	-87.76°
555.0 m	266.43°	-88.46°	597.0 m	274.68°	-88.37°	639.0 m	284.86°	-87.95°	681.0 m	278.05°	-87.77°
558.0 m	267.48°	-88.48°	600.0 m	272.35°	-88.34°	642.0 m	283.09°	-87.95°	684.0 m	275.89°	-87.72°
561.0 m	267.88°	-88.52°	603.0 m	271.27°	-88.33°	645.0 m	280.11°	-87.9°	687.0 m	276.51°	-87.76°
564.0 m	270.31°	-88.55°	606.0 m	271.93°	-88.38°	648.0 m	281.36°	-87.92°	690.0 m	276.07°	-87.83°
567.0 m	269.79°	-88.51°	609.0 m	273.83°	-88.38°	651.0 m	281.74°	-87.89°	693.0 m	276.11°	-87.73°
570.0 m	268.09°	-88.51°	612.0 m	273.51°	-88.36°	654.0 m	288.98°	-88.11°	696.0 m	277.56°	-87.71°
573.0 m	270.35°	-88.5°	615.0 m	275.55°	-88.35°	657.0 m	278.19°	-88.15°	699.0 m	277.83°	-87.72°
576.0 m	272.34°	-88.48°	618.0 m	279.56°	-88.33°	660.0 m	276.54°	-87.96°	702.0 m	275.79°	-87.68°
579.0 m	273.34°	-88.46°	621.0 m	278.47°	-88.31°	663.0 m	276.24°	-87.65°	786.0 m	263.73°	-87.93°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-02***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0°
		Elevation:	1818.6	**Dip:**	-90°

Geologist: Ron Konst

Drilled: 5/31/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
13.0 m	47.33°	-89.11°	139.0 m	321.33°	-87.6°	265.0 m	316.65°	-87.62°	391.0 m	308.84°	-87.4°
22.0 m	64.67°	-89.18°	148.0 m	319.21°	-87.54°	274.0 m	313.91°	-87.7°	400.0 m	308.92°	-87.34°
31.0 m	34.82°	-88.92°	157.0 m	321.78°	-87.66°	283.0 m	317.73°	-87.46°	409.0 m	308.62°	-87.35°
40.0 m	21.26°	-89.02°	166.0 m	321.28°	-87.42°	292.0 m	316.3°	-87.76°	418.0 m	308.24°	-87.39°
49.0 m	8.43°	-88.79°	175.0 m	318.28°	-87.6°	301.0 m	319.49°	-87.81°	427.0 m	309.02°	-87.43°
58.0 m	355.93°	-88.52°	184.0 m	315.05°	-87.66°	310.0 m	315.33°	-87.69°	436.0 m	308.01°	-87.44°
67.0 m	346.23°	-88.07°	193.0 m	314.9°	-87.8°	319.0 m	314.43°	-87.63°	445.0 m	306.25°	-87.29°
76.0 m	342.85°	-87.78°	202.0 m	316.93°	-87.71°	328.0 m	313.42°	-87.58°	454.0 m	301.67°	-87.12°
85.0 m	334.78°	-87.73°	211.0 m	314.45°	-87.64°	337.0 m	314.15°	-87.49°	463.0 m	299.28°	-87.08°
94.0 m	331.1°	-87.66°	220.0 m	319.55°	-87.69°	346.0 m	311.13°	-87.58°	472.0 m	298.07°	-87.15°
103.0 m	321.15°	-87.69°	229.0 m	316.97°	-87.64°	355.0 m	309.91°	-87.59°	481.0 m	298.21°	-87.04°
112.0 m	320.1°	-87.58°	238.0 m	317°	-87.71°	364.0 m	313.35°	-87.53°	490.0 m	298.48°	-87.07°
121.0 m	317.17°	-87.61°	247.0 m	316.82°	-87.73°	373.0 m	314.71°	-87.61°	499.0 m	297.91°	-87.05°
130.0 m	319.85°	-87.61°	256.0 m	317.63°	-87.6°	382.0 m	309.48°	-87.24°	508.0 m	297.15°	-87.06°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-02***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0°
		Elevation:	1818.6	**Dip:**	-90°

Geologist: Ron Konst

Drilled: 5/31/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
517.0 m	296.98°	-87.17°	643.0 m	288.31°	-87.14°	769.0 m	288.18°	-86.26°	895.0 m	282.38°	-86.15°
526.0 m	298.02°	-87.05°	652.0 m	292.07°	-86.97°	778.0 m	288.49°	-86.27°	904.0 m	284.37°	-86.13°
535.0 m	299.48°	-87.02°	661.0 m	292.08°	-86.84°	787.0 m	288.71°	-86.26°	913.0 m	285.19°	-86.11°
544.0 m	298.04°	-86.36°	670.0 m	292.2°	-86.85°	796.0 m	288.65°	-86.37°	922.0 m	286.04°	-86.14°
553.0 m	296.23°	-87.07°	679.0 m	289.45°	-86.61°	805.0 m	286.38°	-86.46°	931.0 m	285.68°	-86.17°
562.0 m	297.85°	-87.01°	688.0 m	290.15°	-86.52°	814.0 m	286.55°	-86.43°	940.0 m	287.99°	-86.29°
571.0 m	299.42°	-87.2°	697.0 m	290.6°	-86.53°	823.0 m	287.14°	-86.45°	949.0 m	288.42°	-86.23°
580.0 m	297.73°	-87.05°	706.0 m	289.09°	-86.51°	832.0 m	288.39°	-86.44°	958.0 m	288.62°	-86.25°
589.0 m	294.63°	-87.05°	715.0 m	286.88°	-86.41°	841.0 m	286.41°	-86.56°	967.0 m	290.04°	-86.27°
598.0 m	294.78°	-87.14°	724.0 m	287.98°	-86.28°	850.0 m	282.86°	-86.42°	976.0 m	287.34°	-86.25°
607.0 m	290.83°	-87.12°	733.0 m	288.17°	-86.37°	859.0 m	283.33°	-86.32°	985.0 m	290°	-86.2°
616.0 m	288.15°	-87.04°	742.0 m	288.31°	-86.3°	868.0 m	284.71°	-86.3°	994.0 m	288.89°	-86.17°
625.0 m	288.52°	-87.05°	751.0 m	288.52°	-86.12°	877.0 m	283.53°	-86.26°	1003.0 m	288.82°	-86.18°
634.0 m	287.66°	-87.16°	760.0 m	287.62°	-86.23°	886.0 m	285.88°	-86.2°	1012.0 m	286.29°	-86.24°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-02***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1120.5 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	0°
		Elevation:	1818.6	**Dip:**	-90°

Geologist: Ron Konst

Drilled: 5/31/2007

Survey Depth	Azimuth	Dip
1021.0 m	287.78°	-86.24°
1030.0 m	288.06°	-86.26°
1039.0 m	287.9°	-86.26°
1048.0 m	287.43°	-86.27°
1057.0 m	288.27°	-86.26°
1066.0 m	289.43°	-86.26°
1075.0 m	288.63°	-86.3°
1084.0 m	289.81°	-86.26°
1093.0 m	291.12°	-84.89°
1102.0 m	289.71°	-86.27°
1111.0 m	288.2°	-86.22°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-03***

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	726 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340°
		Elevation:	1830.6	**Dip:**	-65°

Geologist: Brian Kay

Drilled: 6/5/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
24.0 m	331.81°	-70.98°	150.0 m	336.6°	-72.31°	276.0 m	335.21°	-73.18°	402.0 m	339.51°	-73.63°
33.0 m	331.72°	-71.04°	159.0 m	337.94°	-72.31°	285.0 m	333.67°	-73.06°	411.0 m	339.14°	-73.58°
42.0 m	330.87°	-71.13°	168.0 m	335.47°	-72.57°	294.0 m	335.81°	-72.99°	420.0 m	337.39°	-73.63°
51.0 m	331.38°	-71.23°	177.0 m	332.79°	-72.57°	303.0 m	336.53°	-72.93°	429.0 m	336.84°	-73.56°
60.0 m	332.58°	-71.32°	186.0 m	335.21°	-72.79°	312.0 m	335.52°	-73.02°	438.0 m	341.02°	-73.6°
69.0 m	330.2°	-71.52°	195.0 m	333.51°	-72.86°	321.0 m	339.39°	-73.02°	447.0 m	341.06°	-73.63°
78.0 m	331.71°	-71.73°	204.0 m	334.38°	-72.89°	330.0 m	337.18°	-73°	456.0 m	341.59°	-73.5°
87.0 m	332.58°	-71.78°	213.0 m	337.55°	-72.89°	339.0 m	334.55°	-73.15°	465.0 m	342.44°	-73.5°
96.0 m	332.54°	-71.9°	222.0 m	336.89°	-72.84°	348.0 m	337.94°	-73.2°	474.0 m	341.74°	-73.43°
105.0 m	332.47°	-71.94°	231.0 m	335.96°	-72.76°	357.0 m	341.34°	-73.32°	483.0 m	342.64°	-73.41°
114.0 m	333.92°	-72.18°	240.0 m	334.75°	-72.78°	366.0 m	339.63°	-73.38°	492.0 m	342.23°	-73.36°
123.0 m	332.46°	-72.47°	249.0 m	336.63°	-72.85°	375.0 m	335.76°	-73.44°	501.0 m	341.76°	-73.28°
132.0 m	332.99°	-72.41°	258.0 m	336.57°	-72.92°	384.0 m	340.25°	-73.56°	510.0 m	345.05°	-73.26°
141.0 m	334.81°	-72.32°	267.0 m	333.13°	-73.07°	393.0 m	339.38°	-73.58°	519.0 m	343.57°	-73.16°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-03***

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	726 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	340°
		Elevation:	1830.6	**Dip:**	-65°

Geologist: Brian Kay

Drilled: 6/5/2007

Survey Depth	Azimuth	Dip
528.0 m	343.69°	-73.19°
537.0 m	344.21°	-73.16°
546.0 m	345.3°	-73.31°
555.0 m	345.69°	-73.41°
564.0 m	345.24°	-73.37°
573.0 m	345.44°	-73.32°
582.0 m	345.06°	-73.29°
591.0 m	345.35°	-73.25°
600.0 m	347.11°	-73.18°
609.0 m	345.85°	-73.17°
618.0 m	347.2°	-73.16°
627.0 m	345.14°	-73.15°
636.0 m	346.3°	-73.08°
645.0 m	346.61°	-72.98°

Survey Depth	Azimuth	Dip
654.0 m	347.05°	-72.84°
663.0 m	345.19°	-72.69°
672.0 m	346.18°	-72.5°
681.0 m	348.81°	-72.32°
690.0 m	347.31°	-72.27°
699.0 m	347.91°	-72.21°
708.0 m	349.78°	-72.15°
717.0 m	348.38°	-72.1°
726.0 m	349.18°	-72.04°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-04***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1344 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	340°
		Elevation:	1818.6	**Dip:**	-70°

Geologist: Iain McIlwraith

Drilled: 6/20/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
30.0 m	348.91°	-70.68°	156.0 m	344.4°	-72.48°	282.0 m	350.94°	-73.53°	408.0 m	354.24°	-74.16°
39.0 m	344.18°	-71.39°	165.0 m	348.47°	-72.55°	291.0 m	350.89°	-73.54°	417.0 m	354.89°	-74.12°
48.0 m	347.14°	-70.61°	174.0 m	347.77°	-72.6°	300.0 m	348.69°	-73.62°	426.0 m	355.12°	-74.22°
57.0 m	345.64°	-71.12°	183.0 m	346.31°	-72.69°	309.0 m	346.44°	-73.67°	435.0 m	353.09°	-74.26°
66.0 m	344.59°	-71.25°	192.0 m	343.55°	-72.75°	318.0 m	353.82°	-73.8°	444.0 m	356.94°	-74.33°
75.0 m	346.12°	-71.28°	201.0 m	349.5°	-72.9°	327.0 m	353.58°	-73.88°	453.0 m	354.46°	-74.35°
84.0 m	344.1°	-71.49°	210.0 m	349.5°	-72.93°	336.0 m	351.47°	-73.95°	462.0 m	355.24°	-74.27°
93.0 m	346.99°	-71.61°	219.0 m	348.22°	-73.01°	345.0 m	350.92°	-73.89°	471.0 m	355.51°	-74.35°
102.0 m	345.36°	-71.73°	228.0 m	349.19°	-73.12°	354.0 m	351.25°	-73.83°	480.0 m	356.31°	-74.42°
111.0 m	346.84°	-71.9°	237.0 m	349.65°	-73.19°	363.0 m	354.36°	-73.93°	489.0 m	0.81°	-74.5°
120.0 m	347.35°	-72.04°	246.0 m	350.54°	-73.28°	372.0 m	353.94°	-73.91°	498.0 m	358.56°	-74.69°
129.0 m	347.69°	-72.11°	255.0 m	347.47°	-73.33°	381.0 m	354.59°	-74.01°	507.0 m	358.86°	-74.61°
138.0 m	348.17°	-72.26°	264.0 m	350.32°	-73.41°	390.0 m	355.51°	-74.06°	516.0 m	0.09°	-74.7°
147.0 m	344.9°	-72.38°	273.0 m	351.04°	-73.55°	399.0 m	352.84°	-74.12°	525.0 m	0.98°	-74.77°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-04***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1344 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	340°
		Elevation:	1818.6	**Dip:**	-70°

Geologist: Iain McIlwraith

Drilled: 6/20/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
534.0 m	1.53°	-74.79°	660.0 m	0.46°	-77.44°	786.0 m	0.51°	-75.93°	912.0 m	0.73°	-76.4°
543.0 m	1.8°	-74.78°	669.0 m	12.5°	-57.85°	795.0 m	0.51°	-75.91°	921.0 m	359.12°	-76.5°
552.0 m	1.29°	-74.89°	678.0 m	1.43°	-75.64°	804.0 m	0.52°	-75.95°	930.0 m	0.52°	-76.57°
561.0 m	2.61°	-74.89°	687.0 m	1.94°	-75.61°	813.0 m	0.45°	-75.95°	939.0 m	0.87°	-76.57°
570.0 m	2.67°	-74.96°	696.0 m	2.56°	-74.81°	822.0 m	1.32°	-75.94°	948.0 m	1.55°	-76.55°
579.0 m	3.15°	-74.93°	705.0 m	2.05°	-75.59°	831.0 m	0.23°	-76.04°	957.0 m	1.1°	-76.59°
588.0 m	4.15°	-75.02°	714.0 m	10.46°	-64.21°	840.0 m	4.37°	-76.15°	966.0 m	360°	-76.66°
597.0 m	2.15°	-75.06°	723.0 m	1.99°	-75.67°	849.0 m	355.95°	-76.16°	975.0 m	357.59°	-76.79°
606.0 m	1.78°	-75.07°	732.0 m	2.12°	-75.69°	858.0 m	359.96°	-76.17°	984.0 m	356.66°	-76.77°
615.0 m	3.68°	-75.18°	741.0 m	1.48°	-75.8°	867.0 m	358.21°	-76.29°	993.0 m	358.4°	-76.76°
624.0 m	11.71°	-64.57°	750.0 m	0.91°	-75.77°	876.0 m	1.45°	-76.29°	1002.0 m	357.65°	-76.77°
633.0 m	4.71°	-75.24°	759.0 m	0.86°	-75.83°	885.0 m	2.42°	-76.28°	1011.0 m	359.27°	-76.76°
642.0 m	4.42°	-73.89°	768.0 m	0.72°	-75.86°	894.0 m	1.07°	-76.39°	1020.0 m	358.56°	-76.67°
651.0 m	3.14°	-75.5°	777.0 m	0.31°	-75.9°	903.0 m	0.81°	-76.23°	1029.0 m	359.57°	-76.77°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-04***

UTM Northing:	6326240	**Northing:**	15885	**Total Depth:**	1344 **m**
UTM Easting:	637706	**Easting:**	11754	**Azimuth:**	340°
		Elevation:	1818.6	**Dip:**	-70°

Geologist: Iain McIlwraith

Drilled: 6/20/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
1038.0m	359°	-76.75°	1164.0m	0.67°	-77.03°	1290.0m	358.33°	-77.73°
1047.0m	358.65°	-76.77°	1173.0m	1.08°	-77.04°	1299.0m	1.06°	-77.93°
1056.0m	358.6°	-76.79°	1182.0m	1.23°	-77.08°	1308.0m	1.03°	-77.95°
1065.0m	359.01°	-76.76°	1191.0m	1.49°	-77.15°	1317.0m	0.7°	-78.01°
1074.0m	359.28°	-76.7°	1200.0m	1.41°	-77.21°	1326.0m	0.59°	-78.11°
1083.0m	359.68°	-76.66°	1209.0m	0.84°	-77.25°	1335.0m	359.43°	-78.08°
1092.0m	359.5°	-76.76°	1218.0m	0.73°	-77.34°	1344.0m	359.01°	-78.13°
1101.0m	359.71°	-76.79°	1227.0m	350.52°	-77.32°			
1110.0m	354°	-79.96°	1236.0m	0.76°	-77.28°			
1119.0m	0.04°	-76.85°	1245.0m	0.98°	-77.37°			
1128.0m	0.25°	-76.88°	1254.0m	359.34°	-77.52°			
1137.0m	0.09°	-76.99°	1263.0m	358.93°	-77.49°			
1146.0m	0.18°	-77.05°	1272.0m	0.29°	-77.5°			
1155.0m	0.02°	-77.07°	1281.0m	0.57°	-77.69°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-05***

UTM Northing:	6326430	**Northing:**	16058	**Total Depth:**	417 **m**
UTM Easting:	638113	**Easting:**	12167	**Azimuth:**	0°
		Elevation:	1830.6	**Dip:**	-90°

Geologist: Ron Konst

Drilled: 6/9/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
21.0 m	234.42°	-88.41°	147.0 m	205.67°	-87.35°	273.0 m	199.29°	-86.57°	399.0 m	209.33°	-86.94°
30.0 m	234.27°	-88.36°	156.0 m	204.16°	-87.27°	282.0 m	201°	-86.63°	408.0 m	209.41°	-86.97°
39.0 m	233.17°	-88.31°	165.0 m	207.23°	-87.03°	291.0 m	203.53°	-86.65°	417.0 m	209.83°	-86.93°
48.0 m	223.8°	-88.27°	174.0 m	207.79°	-86.91°	300.0 m	206.59°	-86.61°			
57.0 m	219.49°	-88.25°	183.0 m	199.96°	-86.91°	309.0 m	206.71°	-86.64°			
66.0 m	213.52°	-88.09°	192.0 m	201.38°	-86.98°	318.0 m	205.67°	-86.64°			
75.0 m	216.9°	-87.97°	201.0 m	200.11°	-87°	327.0 m	204.57°	-86.72°			
84.0 m	213.91°	-87.75°	210.0 m	199.92°	-86.95°	336.0 m	205.45°	-86.77°			
93.0 m	214.48°	-87.67°	219.0 m	198.9°	-86.72°	345.0 m	207.26°	-86.92°			
102.0 m	213.11°	-87.69°	228.0 m	204.82°	-86.83°	354.0 m	211.07°	-86.93°			
111.0 m	208.73°	-87.54°	237.0 m	194.44°	-86.63°	363.0 m	212.78°	-86.78°			
120.0 m	209.83°	-87.53°	246.0 m	203.97°	-86.9°	372.0 m	211.72°	-86.75°			
129.0 m	211.65°	-87.5°	255.0 m	197.91°	-86.67°	381.0 m	209.84°	-86.72°			
138.0 m	210.43°	-87.46°	264.0 m	203.07°	-86.62°	390.0 m	208.6°	-86.8°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-06***

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	770 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0°
		Elevation:	1767.1	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 6/25/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
6.0 m	14.93°	-89.85°	132.0 m	340.52°	-89.81°	258.0 m	260.74°	-89.8°	384.0 m	291.54°	-89.63°
15.0 m	287.79°	-89.67°	141.0 m	338.15°	-89.83°	267.0 m	259.44°	-89.37°	393.0 m	273.11°	-89.71°
24.0 m	35.82°	-89.55°	150.0 m	263.82°	-89.9°	276.0 m	276.21°	-89.76°	402.0 m	285.17°	-89.76°
33.0 m	22.07°	-89.56°	159.0 m	253.02°	-89.92°	285.0 m	259.53°	-89.77°	411.0 m	290.77°	-89.75°
42.0 m	16.57°	-89.59°	168.0 m	300.57°	-89.82°	294.0 m	231.41°	-89.64°	420.0 m	281.45°	-89.64°
51.0 m	12.43°	-89.58°	177.0 m	286.38°	-89.67°	303.0 m	284.97°	-89.71°	429.0 m	264.31°	-89.66°
60.0 m	11.47°	-89.59°	186.0 m	328.25°	-89.76°	312.0 m	286.76°	-89.52°	438.0 m	289.25°	-89.66°
69.0 m	25.56°	-89.71°	195.0 m	283.29°	-89.78°	321.0 m	329.93°	-89.64°	447.0 m	279.88°	-89.71°
78.0 m	354.9°	-89.71°	204.0 m	330.58°	-89.66°	330.0 m	296.31°	-89.56°	456.0 m	246.59°	-89.65°
87.0 m	333.77°	-89.77°	213.0 m	277.6°	-89.71°	339.0 m	275.22°	-89.64°	465.0 m	234.43°	-89.65°
96.0 m	354.38°	-89.72°	222.0 m	284.64°	-89.74°	348.0 m	342.62°	-89.96°	474.0 m	217.56°	-89.79°
105.0 m	358.19°	-89.76°	231.0 m	271.47°	-89.73°	357.0 m	289.65°	-89.44°	483.0 m	221.07°	-89.7°
114.0 m	345.07°	-89.8°	240.0 m	253.94°	-89.67°	366.0 m	295.77°	-89.47°	492.0 m	209.38°	-89.64°
123.0 m	331.92°	-89.78°	249.0 m	270.78°	-89.81°	375.0 m	296°	-89.59°	501.0 m	227.62°	-89.53°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-06***

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	770 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	0°
		Elevation:	1767.1	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 6/25/2007

Survey Depth	Azimuth	Dip
510.0 m	197.23°	-89.71°
519.0 m	187.43°	-89.83°
528.0 m	238.33°	-89.71°
537.0 m	204.98°	-89.71°
546.0 m	212.57°	-89.68°
555.0 m	223.98°	-89.62°
564.0 m	203.42°	-89.55°
573.0 m	180.73°	-89.6°
582.0 m	188.9°	-89.57°
591.0 m	195.51°	-89.59°
600.0 m	184.68°	-89.46°
609.0 m	188.65°	-89.44°
618.0 m	182.39°	-89.45°
627.0 m	178.51°	-89.47°

Survey Depth	Azimuth	Dip
636.0 m	207.92°	-89.56°
645.0 m	212.51°	-89.52°
654.0 m	207.34°	-89.52°
663.0 m	214.67°	-89.46°
672.0 m	214.47°	-89.41°
681.0 m	211.76°	-89.44°
688.0 m	197.05°	-89.42°
697.0 m	199.04°	-89.4°
706.0 m	219.12°	-89.58°
715.0 m	194.18°	-89.75°
724.0 m	185.12°	-89.47°
733.0 m	202.25°	-89.45°
742.0 m	202.43°	-89.58°
751.0 m	166.02°	-89.63°

Survey Depth	Azimuth	Dip
760.0 m	168.05°	-89.37°
769.0 m	135.54°	-77.45°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-07***

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	663.2 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180°
		Elevation:	1767.2	**Dip:**	-70°

Geologist: Wade Barnes

Drilled: 6/25/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
15.0 m	11.61°	-71.77°	141.0 m	183.07°	-72.12°	267.0 m	186.13°	-72.72°	393.0 m	190.57°	-72.43°
24.0 m	56.82°	-71.98°	150.0 m	184.24°	-72.09°	276.0 m	185.47°	-72.71°	402.0 m	191.07°	-72.48°
33.0 m	180.45°	-71.98°	159.0 m	186.61°	-72.07°	285.0 m	186.14°	-72.77°	411.0 m	189.56°	-72.53°
42.0 m	181.17°	-71.74°	168.0 m	184.54°	-71.95°	294.0 m	184.76°	-72.79°	420.0 m	189.81°	-72.62°
51.0 m	182.36°	-71.97°	177.0 m	186°	-72.14°	303.0 m	185.04°	-72.85°	429.0 m	187.04°	-72.71°
60.0 m	183.24°	-72.08°	186.0 m	184.49°	-72.23°	312.0 m	186.35°	-72.87°	438.0 m	191.62°	-72.76°
69.0 m	183.45°	-72.1°	195.0 m	185.54°	-72.32°	321.0 m	188.96°	-77.06°	447.0 m	188.15°	-72.72°
78.0 m	183.45°	-72.14°	204.0 m	186.11°	-72.4°	330.0 m	187.06°	-72.83°	456.0 m	188.27°	-72.73°
87.0 m	183.86°	-72.16°	213.0 m	185.18°	-72.41°	339.0 m	187.73°	-72.5°	465.0 m	189.29°	-72.76°
96.0 m	183.46°	-72.11°	222.0 m	185.14°	-72.49°	348.0 m	188.95°	-72.36°	474.0 m	188.87°	-72.83°
105.0 m	183.31°	-72.09°	231.0 m	185.42°	-72.57°	357.0 m	188.89°	-72.31°	483.0 m	183.85°	-72.81°
114.0 m	183.52°	-72.05°	240.0 m	186.05°	-72.62°	366.0 m	189.39°	-72.31°	492.0 m	192.06°	-72.81°
123.0 m	184.37°	-72.11°	249.0 m	186.09°	-72.6°	375.0 m	189.57°	-72.34°	501.0 m	191.8°	-72.82°
132.0 m	183.29°	-72.14°	258.0 m	186.11°	-72.69°	384.0 m	189.34°	-72.37°	510.0 m	193.98°	-72.86°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-07***

UTM Northing:	6326810	**Northing:**	16436	**Total Depth:**	663.2 **m**
UTM Easting:	638078	**Easting:**	12145	**Azimuth:**	180°
		Elevation:	1767.2	**Dip:**	-70°

Geologist: Wade Barnes

Drilled: 6/25/2007

Survey Depth	Azimuth	Dip
519.0 m	193.53°	-72.88°
528.0 m	193.49°	-72.92°
537.0 m	191.82°	-72.99°
546.0 m	194.54°	-72.95°
555.0 m	192.91°	-72.85°
564.0 m	193.11°	-72.85°
573.0 m	192.32°	-72.95°
582.0 m	191.51°	-73.01°
591.0 m	193.55°	-73.04°
600.0 m	194.13°	-73.12°
609.0 m	194.49°	-73.03°
618.0 m	195.22°	-73.19°
627.0 m	195.01°	-73.13°
636.0 m	195.16°	-73.17°
645.0 m	195.03°	-73.22°
654.0 m	193.81°	-73.14°
663.0 m	197.85°	-73.16°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-08***

UTM Northing:	6326240	**Northing:**	15874	**Total Depth:**	135 **m**
UTM Easting:	638044	**Easting:**	12092	**Azimuth:**	0°
		Elevation:	1743.7	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 6/22/2007

Survey Depth	Azimuth	Dip
132.0 m	154.2°	-86.04°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-09***

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	366 **m**
UTM Easting:	637853	**Easting:**	11898	**Azimuth:**	0°
		Elevation:	1734.2	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 6/25/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
15.0 m	345.27°	-89.19°	141.0 m	250.66°	-88.98°	267.0 m	260.8°	-89.58°
24.0 m	231.36°	-89.13°	150.0 m	250.15°	-89.04°	276.0 m	252.12°	-89.63°
33.0 m	232.14°	-89.03°	159.0 m	249.66°	-88.9°	285.0 m	226.66°	-89.62°
42.0 m	237.25°	-89.01°	168.0 m	246.97°	-88.93°	294.0 m	209.23°	-89.63°
51.0 m	236.7°	-89.05°	177.0 m	245.01°	-88.85°	303.0 m	201.49°	-89.53°
60.0 m	240.4°	-89.09°	186.0 m	247.35°	-88.89°	312.0 m	198.51°	-89.54°
69.0 m	241.53°	-89.11°	195.0 m	249.72°	-88.89°	321.0 m	192.53°	-89.43°
78.0 m	238.19°	-89.08°	204.0 m	254.39°	-88.96°	330.0 m	186.02°	-89.37°
87.0 m	241.22°	-89.1°	213.0 m	260.17°	-89.01°	339.0 m	188.41°	-89.31°
96.0 m	244.11°	-89.1°	222.0 m	263.04°	-89.14°	348.0 m	198.49°	-89.16°
105.0 m	240.55°	-89.04°	231.0 m	264.06°	-89.25°	357.0 m	209.26°	-89.11°
114.0 m	243.41°	-89.07°	240.0 m	265.7°	-89.35°	366.0 m	227.58°	-88.98°
123.0 m	245.09°	-89.06°	249.0 m	271.54°	-89.41°			
132.0 m	246.12°	-88.98°	258.0 m	268.18°	-89.51°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-10***

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	1314 **m**
UTM Easting:	637852	**Easting:**	11898	**Azimuth:**	340°
		Elevation:	1734.2	**Dip:**	-70°

Geologist: Brian Kay

Drilled: 7/31/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
9.0 m	354.79°	-70.35°	135.0 m	339.46°	-71.78°	261.0 m	344.72°	-71.92°	387.0 m	348.87°	-72.13°
18.0 m	345.08°	-70.47°	144.0 m	339.62°	-71.83°	270.0 m	345.64°	-71.95°	396.0 m	347.74°	-72.19°
27.0 m	342.8°	-70.59°	153.0 m	340.95°	-71.86°	279.0 m	345.67°	-71.98°	405.0 m	349.54°	-72.17°
36.0 m	342.72°	-70.75°	162.0 m	339.64°	-71.82°	288.0 m	345.94°	-71.94°	414.0 m	349.72°	-72.12°
45.0 m	341.55°	-70.79°	171.0 m	341.23°	-71.82°	297.0 m	346.05°	-71.92°	423.0 m	345.88°	-72.11°
54.0 m	340.59°	-70.87°	180.0 m	342.4°	-71.84°	306.0 m	346.97°	-71.56°	432.0 m	348.31°	-72.11°
63.0 m	341.46°	-71.04°	189.0 m	342.57°	-71.85°	315.0 m	346.18°	-71.95°	441.0 m	348.12°	-72.11°
72.0 m	339.11°	-71.14°	198.0 m	341.87°	-71.86°	324.0 m	346.35°	-71.95°	450.0 m	348.69°	-72.08°
81.0 m	340.79°	-71.18°	207.0 m	342.32°	-71.89°	333.0 m	346.35°	-72.06°	459.0 m	351.71°	-72.06°
90.0 m	341.11°	-71.28°	216.0 m	341.78°	-71.89°	342.0 m	346.67°	-72.06°	468.0 m	351.43°	-72.01°
99.0 m	339.55°	-71.4°	225.0 m	341.83°	-71.92°	351.0 m	347.79°	-72.05°	477.0 m	351.43°	-72.02°
108.0 m	338.31°	-71.48°	234.0 m	341.27°	-71.95°	360.0 m	347.8°	-72.11°	486.0 m	351.51°	-72.03°
117.0 m	339.31°	-71.62°	243.0 m	344.24°	-71.98°	369.0 m	346.53°	-72.16°	495.0 m	351.33°	-72.02°
126.0 m	339.76°	-71.68°	252.0 m	344.45°	-71.91°	378.0 m	348.6°	-72.11°	504.0 m	351.61°	-72.04°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-10***

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	1314 **m**
UTM Easting:	637852	**Easting:**	11898	**Azimuth:**	340°
		Elevation:	1734.2	**Dip:**	-70°

Geologist: Brian Kay

Drilled: 7/31/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
513.0 m	351.7°	-72.03°	639.0 m	352.26°	-72.49°	765.0 m	355.5°	-73.15°	891.0 m	358.27°	-74.25°
522.0 m	351.65°	-72.05°	648.0 m	352.32°	-72.59°	774.0 m	355.99°	-73.26°	900.0 m	359.6°	-74.46°
531.0 m	351.3°	-72.13°	657.0 m	354.39°	-72.66°	783.0 m	355.33°	-73.34°	909.0 m	359.57°	-74.53°
540.0 m	351.7°	-72.17°	666.0 m	353.29°	-72.68°	792.0 m	355.12°	-73.37°	918.0 m	359.35°	-74.59°
549.0 m	351.84°	-72.05°	675.0 m	353.42°	-72.59°	801.0 m	355.33°	-73.41°	927.0 m	358.99°	-74.52°
558.0 m	350.97°	-72.06°	684.0 m	353.98°	-72.55°	810.0 m	354.97°	-73.42°	936.0 m	358.85°	-74.52°
567.0 m	349.25°	-72.07°	693.0 m	354.38°	-72.59°	819.0 m	355.5°	-73.55°	945.0 m	358.5°	-74.47°
576.0 m	351.38°	-72.27°	702.0 m	354.33°	-72.62°	828.0 m	356.01°	-73.66°	954.0 m	357.99°	-74.55°
585.0 m	349.81°	-72.17°	711.0 m	354.4°	-72.65°	837.0 m	350.07°	-73.69°	963.0 m	357.98°	-74.78°
594.0 m	351.32°	-72.16°	720.0 m	354.28°	-72.67°	846.0 m	357.17°	-73.72°	972.0 m	357.76°	-74.87°
603.0 m	352.07°	-72.23°	729.0 m	354.67°	-72.74°	855.0 m	353.44°	-74.04°	981.0 m	358.17°	-74.85°
612.0 m	351.93°	-72.25°	738.0 m	354.18°	-72.94°	864.0 m	353.67°	-74.06°	990.0 m	358.09°	-74.88°
621.0 m	352.01°	-72.45°	747.0 m	355.41°	-73.01°	873.0 m	354.76°	-74.07°	999.0 m	358°	-74.9°
630.0 m	352.45°	-72.53°	756.0 m	355.45°	-73.05°	882.0 m	354.32°	-74.16°	1008.0 m	359.05°	-74.95°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-10***

UTM Northing:	6326160	**Northing:**	15800	**Total Depth:**	1314 **m**
UTM Easting:	637852	**Easting:**	11898	**Azimuth:**	340°
		Elevation:	1734.2	**Dip:**	-70°

Geologist: Brian Kay

Drilled: 7/31/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
1017.0m	358.93°	-75.08°	1143.0m	3.39°	-75.35°	1269.0m	3.21°	-75.59°
1026.0m	358.99°	-75.08°	1152.0m	3.6°	-75.15°	1278.0m	2.61°	-75.61°
1035.0m	359.14°	-75.1°	1161.0m	3.06°	-75.26°	1287.0m	2.36°	-75.65°
1044.0m	359.1°	-75.1°	1170.0m	3.77°	-75.3°	1296.0m	1.37°	-75.62°
1053.0m	359.5°	-75.16°	1179.0m	3.02°	-75.3°	1305.0m	2.68°	-75.62°
1062.0m	359.79°	-75.23°	1188.0m	2.43°	-75.41°	1314.0m	11.22°	-76.22°
1071.0m	0.22°	-75.34°	1197.0m	4.01°	-75.42°			
1080.0m	0.49°	-75.34°	1206.0m	3.85°	-75.37°			
1089.0m	0.81°	-75.33°	1215.0m	1.84°	-75.36°			
1098.0m	1.44°	-75.34°	1224.0m	3.96°	-75.49°			
1107.0m	1.2°	-75.31°	1233.0m	4.07°	-75.45°			
1116.0m	1.89°	-75.32°	1242.0m	1.34°	-75.45°			
1125.0m	2.7°	-75.4°	1251.0m	4.25°	-75.49°			
1134.0m	3.17°	-75.38°	1260.0m	2.58°	-75.51°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-11***

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360°
		Elevation:	1767.2	**Dip:**	-65°

Geologist: Wade Barnes

Drilled: 6/23/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
25.0 m	2.81°	-70.45°	151.0 m	352.36°	-71.01°	277.0 m	354.81°	-71.86°	403.0 m	358.73°	-72.82°
34.0 m	353.1°	-70.4°	160.0 m	351.27°	-71.11°	286.0 m	354.88°	-71.89°	412.0 m	358.89°	-72.89°
43.0 m	354.13°	-70.28°	169.0 m	351.73°	-71.14°	295.0 m	354.7°	-71.99°	421.0 m	358.73°	-72.98°
52.0 m	353.38°	-70.13°	178.0 m	352.59°	-71.24°	304.0 m	354.79°	-72.11°	430.0 m	358.59°	-72.95°
61.0 m	352.75°	-70.1°	187.0 m	352.41°	-71.27°	313.0 m	355.1°	-72.1°	439.0 m	358.41°	-73.17°
70.0 m	352.59°	-70.03°	196.0 m	353.18°	-71.28°	322.0 m	355.61°	-72.21°	448.0 m	358.25°	-73.25°
79.0 m	352.66°	-70.18°	205.0 m	352°	-71.32°	331.0 m	355.93°	-72.31°	457.0 m	358.89°	-73.24°
88.0 m	352.48°	-70.28°	214.0 m	352.14°	-71.45°	340.0 m	356.32°	-72.41°	466.0 m	359.92°	-73.28°
97.0 m	351.02°	-70.31°	223.0 m	353.52°	-71.54°	349.0 m	356.76°	-72.4°	475.0 m	0.3°	-73.32°
106.0 m	352.64°	-70.45°	232.0 m	352.05°	-71.57°	358.0 m	357.15°	-72.39°	484.0 m	0.24°	-73.43°
115.0 m	352.62°	-70.58°	241.0 m	351.9°	-71.62°	367.0 m	357.52°	-72.4°	493.0 m	0.59°	-73.62°
124.0 m	352.54°	-70.67°	250.0 m	352.86°	-71.7°	376.0 m	358.27°	-72.49°	502.0 m	0.91°	-73.59°
133.0 m	352.29°	-70.8°	259.0 m	354.23°	-71.7°	385.0 m	358.46°	-72.71°	511.0 m	1.4°	-73.63°
142.0 m	353°	-70.92°	268.0 m	351.33°	-71.81°	394.0 m	358.58°	-72.75°	520.0 m	1.05°	-73.71°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-11***

UTM Northing:	6326810	**Northing:**	16439	**Total Depth:**	798.5 **m**
UTM Easting:	638079	**Easting:**	12145	**Azimuth:**	360°
		Elevation:	1767.2	**Dip:**	-65°

Geologist: Wade Barnes

Drilled: 6/23/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
529.0 m	2.8°	-73.87°	655.0 m	6.35°	-74.36°	781.0 m	11.63°	-74.43°
538.0 m	2.57°	-73.89°	664.0 m	8.11°	-74.28°	790.0 m	12.37°	-74.43°
547.0 m	3.23°	-74.04°	673.0 m	9.06°	-74.29°	799.0 m	13.56°	-74.49°
556.0 m	3.92°	-74.15°	682.0 m	8.91°	-74.27°			
565.0 m	4°	-74.22°	691.0 m	9.57°	-74.27°			
574.0 m	5.01°	-74.23°	700.0 m	9.97°	-74.22°			
583.0 m	4.35°	-74.26°	709.0 m	10.27°	-74.27°			
592.0 m	4.61°	-74.28°	718.0 m	11.59°	-74.29°			
601.0 m	4.88°	-74.31°	727.0 m	12.04°	-74.25°			
610.0 m	4.33°	-74.29°	736.0 m	11.6°	-74.27°			
619.0 m	5.21°	-74.31°	745.0 m	12.56°	-74.32°			
628.0 m	5.46°	-74.32°	754.0 m	12.04°	-74.36°			
637.0 m	8.11°	-71.56°	763.0 m	11.95°	-74.44°			
646.0 m	5.86°	-74.35°	772.0 m	12.82°	-74.44°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-14***

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	297 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	340°
		Elevation:	1831.1	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 8/5/2007

Survey Depth	Azimuth	Dip
293.0 m	180.32°	-88.66°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-15***

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	447 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180°
		Elevation:	1650	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 8/8/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
18.0 m	353.6°	-87.67°	153.0 m	348.47°	-87.71°	297.0 m	343.4°	-87.53°	423.0 m	349.39°	-87.6°
27.0 m	355.11°	-87.74°	162.0 m	347.9°	-87.76°	306.0 m	345.61°	-87.5°	432.0 m	348.64°	-87.66°
36.0 m	355.43°	-87.77°	180.0 m	350.79°	-87.79°	315.0 m	350.37°	-87.28°	441.0 m	349.24°	-87.68°
45.0 m	352.35°	-87.82°	189.0 m	352.27°	-87.79°	324.0 m	352.57°	-87.5°			
54.0 m	352.73°	-87.85°	198.0 m	350.62°	-87.72°	333.0 m	351.24°	-87.49°			
72.0 m	349.79°	-87.84°	207.0 m	346.76°	-87.62°	342.0 m	350.53°	-87.5°			
81.0 m	351.02°	-87.78°	216.0 m	345.22°	-87.67°	351.0 m	350.14°	-87.5°			
90.0 m	348.65°	-87.78°	225.0 m	345.74°	-87.67°	360.0 m	350.53°	-87.52°			
99.0 m	348.88°	-87.71°	234.0 m	342.09°	-87.7°	369.0 m	349.67°	-87.55°			
108.0 m	349.7°	-87.79°	243.0 m	343.75°	-87.72°	378.0 m	350.41°	-87.59°			
117.0 m	351.67°	-87.79°	261.0 m	343.87°	-87.74°	387.0 m	348.78°	-87.63°			
126.0 m	351.02°	-87.67°	270.0 m	344.23°	-87.64°	396.0 m	348.61°	-87.6°			
135.0 m	351.37°	-87.69°	279.0 m	345.16°	-87.58°	405.0 m	348.95°	-87.64°			
144.0 m	350.68°	-87.72°	288.0 m	342.99°	-87.53°	414.0 m	348.71°	-87.59°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-16***

UTM Northing:	6326390	**Northing:**	16018	**Total Depth:**	365 **m**
UTM Easting:	638039	**Easting:**	12092	**Azimuth:**	310°
		Elevation:	1831.1	**Dip:**	-55°

Geologist: Wade Barnes

Drilled: 8/8/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
18.0 m	311.02°	-56.07°	144.0 m	314.52°	-55.83°	270.0 m	318.37°	-55.25°
27.0 m	310.15°	-56.12°	153.0 m	315.25°	-55.76°	279.0 m	317.04°	-55.17°
36.0 m	311.47°	-56.13°	162.0 m	316.37°	-55.83°	288.0 m	317.5°	-54.87°
45.0 m	311.55°	-56.14°	171.0 m	318.58°	-55.82°	297.0 m	313.27°	-54.69°
54.0 m	311.58°	-56.05°	180.0 m	316.17°	-55.76°	306.0 m	347.23°	-42.22°
63.0 m	311.98°	-56.03°	189.0 m	316.33°	-55.77°	315.0 m	316.06°	-54.69°
72.0 m	315.56°	-56.01°	198.0 m	316.23°	-55.77°	324.0 m	325.61°	-54.51°
81.0 m	314.44°	-55.98°	207.0 m	316.82°	-55.75°	333.0 m	319.62°	-54.39°
90.0 m	306.54°	-55.92°	216.0 m	317.06°	-55.66°	342.0 m	320.69°	-54.32°
99.0 m	315.27°	-55.89°	225.0 m	317.13°	-55.6°	351.0 m	320.81°	-54.18°
108.0 m	314.55°	-55.85°	234.0 m	317.02°	-55.56°	360.0 m	319.89°	-54.03°
117.0 m	314.63°	-55.83°	243.0 m	315.49°	-55.43°			
126.0 m	315.02°	-55.78°	252.0 m	317.54°	-55.37°			
135.0 m	315.58°	-55.81°	261.0 m	336.47°	-49.89°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-17***

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180°
		Elevation:	1650	**Dip:**	-65°

Geologist: Ron Konst

Drilled: 8/15/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
36.0 m	158.25°	-66.2°	162.0 m	162.96°	-66.1°	288.0 m	165.57°	-66.45°	414.0 m	168.25°	-67.62°
45.0 m	160.43°	-66.21°	171.0 m	164.75°	-66.1°	297.0 m	165.43°	-66.55°	423.0 m	168.48°	-67.89°
54.0 m	163.03°	-66.28°	180.0 m	163.43°	-66.23°	306.0 m	165.31°	-66.59°	432.0 m	168.77°	-68.03°
63.0 m	161.6°	-66.34°	189.0 m	164.35°	-66.25°	315.0 m	165.28°	-66.72°	441.0 m	168.42°	-68.05°
72.0 m	159.88°	-66.38°	198.0 m	164.05°	-66.2°	324.0 m	165.19°	-66.83°	450.0 m	168.46°	-68.07°
81.0 m	160.93°	-66.4°	207.0 m	164.2°	-66.13°	333.0 m	165.2°	-66.96°	459.0 m	168.62°	-68.13°
90.0 m	161.9°	-66.39°	216.0 m	163.64°	-66.08°	342.0 m	165.36°	-66.96°	468.0 m	168.9°	-68.18°
99.0 m	160.86°	-66.47°	225.0 m	164.15°	-66.07°	351.0 m	165.79°	-66.95°	477.0 m	169.06°	-68.22°
108.0 m	162.06°	-66.52°	234.0 m	165.44°	-66.09°	360.0 m	166.05°	-67.08°	486.0 m	168.86°	-68.27°
117.0 m	160.79°	-66.34°	243.0 m	164.22°	-66.17°	369.0 m	166.41°	-67.11°	495.0 m	169.54°	-68.35°
126.0 m	163.46°	-66.29°	252.0 m	163.56°	-66.23°	378.0 m	166.49°	-67.2°	504.0 m	169.09°	-68.4°
135.0 m	164.02°	-66.25°	261.0 m	164.48°	-66.26°	387.0 m	166.75°	-67.3°	513.0 m	169.07°	-68.43°
144.0 m	162.86°	-66.31°	270.0 m	166.29°	-66.26°	396.0 m	166.89°	-67.34°	522.0 m	170.65°	-68.44°
153.0 m	159.92°	-66.26°	279.0 m	165.25°	-66.37°	405.0 m	167.24°	-67.48°	531.0 m	169.7°	-68.5°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-17***

UTM Northing:	6327220	**Northing:**	16853	**Total Depth:**	723 **m**
UTM Easting:	637960	**Easting:**	12040	**Azimuth:**	180°
		Elevation:	1650	**Dip:**	-65°

Geologist: Ron Konst

Drilled: 8/15/2007

Survey Depth	Azimuth	Dip
540.0 m	169.73°	-68.57°
549.0 m	170.08°	-68.66°
558.0 m	170.34°	-68.75°
567.0 m	170.5°	-68.76°
576.0 m	170.83°	-68.77°
585.0 m	171.08°	-68.78°
594.0 m	171.3°	-68.84°
603.0 m	171.47°	-68.9°
612.0 m	171.46°	-68.92°
621.0 m	171.99°	-68.97°
630.0 m	172.44°	-69.03°
639.0 m	173.52°	-69°
648.0 m	174.51°	-69.09°
657.0 m	173.62°	-69.16°

Survey Depth	Azimuth	Dip
666.0 m	174.48°	-69.13°
675.0 m	174.51°	-69.1°
684.0 m	174.77°	-69.04°
693.0 m	174.31°	-69.02°
702.0 m	174.14°	-68.97°
711.0 m	174.13°	-68.93°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-18***

UTM Northing:	6326430	**Northing:**	16056	**Total Depth:**	732.4 **m**
UTM Easting:	638110	**Easting:**	12164	**Azimuth:**	310°
		Elevation:	1829.8	**Dip:**	-60°

Geologist: Ron Konst

Drilled: 8/14/2007

Survey Depth	Azimuth	Dip
122.0 m	308.68°	-59.31°
322.0 m	308.43°	-58.7°
387.0 m	307.68°	-59.16°
522.0 m	310.72°	-60.43°
717.0 m	315.34°	-62.35°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-19***

UTM Northing:	6326610	**Northing:**	16237	**Total Depth:**	318 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180°
		Elevation:	1825.9	**Dip:**	-90°

Geologist: Bryn Laidlaw

Drilled: 8/17/2007

Survey Depth	Azimuth	Dip
318.0 m	56.4°	-87.38°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-21***

UTM Northing:	6326610	**Northing:**	16235	**Total Depth:**	435 **m**
UTM Easting:	638214	**Easting:**	12274	**Azimuth:**	180°
		Elevation:	1825.3	**Dip:**	-55°

Geologist: Wade Barnes

Drilled: 8/24/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
30.0 m	177.21°	-54.96°	156.0 m	178.28°	-55.71°	282.0 m	184.2°	-56.29°	408.0 m	185.49°	-56.39°
39.0 m	178.22°	-55.03°	165.0 m	181.57°	-55.68°	291.0 m	186.36°	-56.37°	417.0 m	185.98°	-56.21°
48.0 m	178.31°	-55.11°	174.0 m	180.68°	-55.87°	300.0 m	186.82°	-56.44°	426.0 m	186.21°	-56.17°
57.0 m	178.84°	-55.1°	183.0 m	182.31°	-55.73°	309.0 m	184.87°	-56.51°	435.0 m	186.35°	-56.1°
66.0 m	179.63°	-55.18°	192.0 m	180.65°	-55.68°	318.0 m	185.49°	-56.53°			
75.0 m	182.82°	-55.34°	201.0 m	182.89°	-55.73°	327.0 m	185.95°	-56.48°			
84.0 m	181.99°	-55.48°	210.0 m	182.52°	-55.78°	336.0 m	185.16°	-56.48°			
93.0 m	178.43°	-55.47°	219.0 m	181.23°	-55.92°	345.0 m	185.23°	-56.5°			
102.0 m	179.4°	-55.52°	228.0 m	182.11°	-56.03°	354.0 m	184.23°	-56.49°			
111.0 m	178.76°	-55.61°	237.0 m	191.78°	-56.09°	363.0 m	184.8°	-56.52°			
120.0 m	182.03°	-55.59°	246.0 m	180.91°	-56.12°	372.0 m	184.55°	-56.57°			
129.0 m	177.19°	-55.64°	255.0 m	182.76°	-56.16°	381.0 m	184.65°	-56.57°			
138.0 m	178.17°	-55.7°	264.0 m	179.74°	-56.19°	390.0 m	183.09°	-56.47°			
147.0 m	179.18°	-55.77°	273.0 m	181.51°	-56.26°	399.0 m	185.38°	-56.41°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-22***

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	342 **m**
UTM Easting:	638188	**Easting:**	12244	**Azimuth:**	80°
		Elevation:	1821.0	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 8/23/2007

Survey Depth	Azimuth	Dip
334.0 m	163.98°	-88.48°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-23***

UTM Northing:	6326480	**Northing:**	16110	**Total Depth:**	345 **m**
UTM Easting:	638189	**Easting:**	12245	**Azimuth:**	45°
		Elevation:	1821	**Dip:**	-55°

Geologist: Wade Barnes

Drilled: 8/27/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
54.0 m	56.63°	-55.29°	180.0 m	62.1°	-56.17°	306.0 m	66.94°	-55.94°
63.0 m	61.7°	-55.44°	189.0 m	62.27°	-56.17°	315.0 m	66.41°	-55.83°
72.0 m	58.88°	-55.62°	198.0 m	64.34°	-56.17°	324.0 m	72.6°	-55.96°
81.0 m	54.39°	-55.7°	207.0 m	64.47°	-56.18°	333.0 m	66.96°	-56.02°
90.0 m	55.25°	-55.78°	216.0 m	68.01°	-56.14°	342.0 m	69.25°	-56.11°
99.0 m	58.17°	-55.84°	225.0 m	67.3°	-56.18°	351.0 m	69.96°	-56.16°
108.0 m	59.04°	-55.93°	234.0 m	65.3°	-56.12°	360.0 m	68.81°	-56.24°
117.0 m	55.65°	-55.96°	243.0 m	65.05°	-56.1°	366.0 m	69.9°	-56.14°
126.0 m	55.68°	-56.03°	252.0 m	65.64°	-56.06°	369.0 m	69.21°	-56.22°
135.0 m	58.21°	-56.08°	261.0 m	65.88°	-56.02°	378.0 m	69.97°	-56.16°
144.0 m	60.89°	-56.14°	270.0 m	67.1°	-56°			
153.0 m	59.52°	-56.25°	279.0 m	66.14°	-56.06°			
162.0 m	62.29°	-56.21°	288.0 m	66.84°	-56.02°			
171.0 m	61.31°	-56.21°	297.0 m	66.96°	-56.01°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-24***

UTM Northing:	6326720	**Northing:**	16364	**Total Depth:**	1348 **m**
UTM Easting:	637630	**Easting:**	11694	**Azimuth:**	340°
		Elevation:	1747.1	**Dip:**	-90°

Geologist: Wade Barnes

Drilled: 9/12/2007

Survey Depth	Azimuth	Dip
838.0 m	167.31°	-86.21°
1104.0 m	167.41°	-86.19°
1323.0 m	208.69°	-85.93°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-25***

UTM Northing:	6326880	**Northing:**	16514	**Total Depth:**	857 **m**
UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0°
		Elevation:	1705	**Dip:**	-80°

Geologist: Wade Barnes

Drilled: 9/6/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
3.0 m	359.04°	-79.46°	129.0 m	10.26°	-63.52°	255.0 m	0.15°	-80.24°	381.0 m	357.13°	-80.67°
12.0 m	356.78°	-79.43°	138.0 m	358.69°	-79.73°	264.0 m	359.94°	-80.29°	390.0 m	356.9°	-80.67°
21.0 m	358.28°	-79.49°	147.0 m	358.5°	-79.87°	273.0 m	359.83°	-80.27°	399.0 m	357.4°	-80.69°
30.0 m	358.77°	-79.58°	156.0 m	358.52°	-79.93°	282.0 m	357.9°	-80.34°	408.0 m	358.08°	-80.79°
39.0 m	358.43°	-79.6°	165.0 m	358.72°	-79.96°	291.0 m	357.16°	-80.06°	417.0 m	358.66°	-80.77°
48.0 m	358.82°	-79.68°	174.0 m	358.62°	-80.01°	300.0 m	359.51°	-80.2°	426.0 m	358.23°	-80.94°
57.0 m	359.5°	-79.69°	183.0 m	3.19°	-79.97°	309.0 m	359.54°	-80.17°	435.0 m	358.65°	-81.04°
66.0 m	3.26°	-79.67°	192.0 m	0.67°	-80.05°	318.0 m	342.53°	-81.87°	444.0 m	359.76°	-80.93°
75.0 m	0.94°	-79.71°	201.0 m	1.66°	-80.12°	327.0 m	358.23°	-80.39°	453.0 m	1.32°	-80.33°
84.0 m	359.41°	-79.65°	210.0 m	0.92°	-80.18°	336.0 m	358.05°	-80.44°	462.0 m	1.77°	-80.92°
93.0 m	358.36°	-79.64°	219.0 m	359.29°	-80.2°	345.0 m	357.86°	-80.55°	471.0 m	1.5°	-81.12°
102.0 m	358.02°	-79.8°	228.0 m	2.52°	-80.18°	354.0 m	358.24°	-80.53°	480.0 m	359.26°	-80.71°
111.0 m	359.16°	-79.7°	237.0 m	1.95°	-80.18°	363.0 m	357.84°	-80.56°	489.0 m	1.43°	-81.13°
120.0 m	358.51°	-79.61°	246.0 m	0.77°	-80.17°	372.0 m	356.84°	-80.62°	498.0 m	1.88°	-81.13°

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-25***

UTM Northing:	6326880	**Northing:**	16514	**Total Depth:**	857 **m**
UTM Easting:	637935	**Easting:**	12004	**Azimuth:**	0°
		Elevation:	1705	**Dip:**	-80°

Geologist: Wade Barnes

Drilled: 9/6/2007

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
507.0 m	1.84°	-81.06°	633.0 m	1.99°	-79.98°	839.0 m	0.3°	-81.08°
516.0 m	2.55°	-81.1°	642.0 m	0.27°	-81.34°	848.0 m	0.25°	-81.1°
525.0 m	2.07°	-81.11°	651.0 m	346.35°	-85.22°	857.0 m	0.26°	-81.12°
534.0 m	1.73°	-81.09°	660.0 m	2.07°	-78.54°			
543.0 m	1.54°	-81.14°	669.0 m	358.96°	-81.32°			
552.0 m	1.92°	-80.69°	678.0 m	357.5°	-81.22°			
561.0 m	0.86°	-81.18°	687.0 m	357.4°	-81.39°			
570.0 m	359.71°	-81.22°	696.0 m	357.92°	-81.44°			
579.0 m	359.73°	-81.12°	705.0 m	358.74°	-81.39°			
588.0 m	1.58°	-81.17°	714.0 m	358.32°	-81.41°			
597.0 m	2.64°	-81.16°	723.0 m	357.68°	-81.43°			
606.0 m	2.26°	-81.25°	732.0 m	358.05°	-81.46°			
615.0 m	1.58°	-81.28°	741.0 m	359.75°	-82.25°			
624.0 m	1.16°	-81.3°	750.0 m	357.04°	-81.3°			

Kemess East 2007 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KH-07-26***

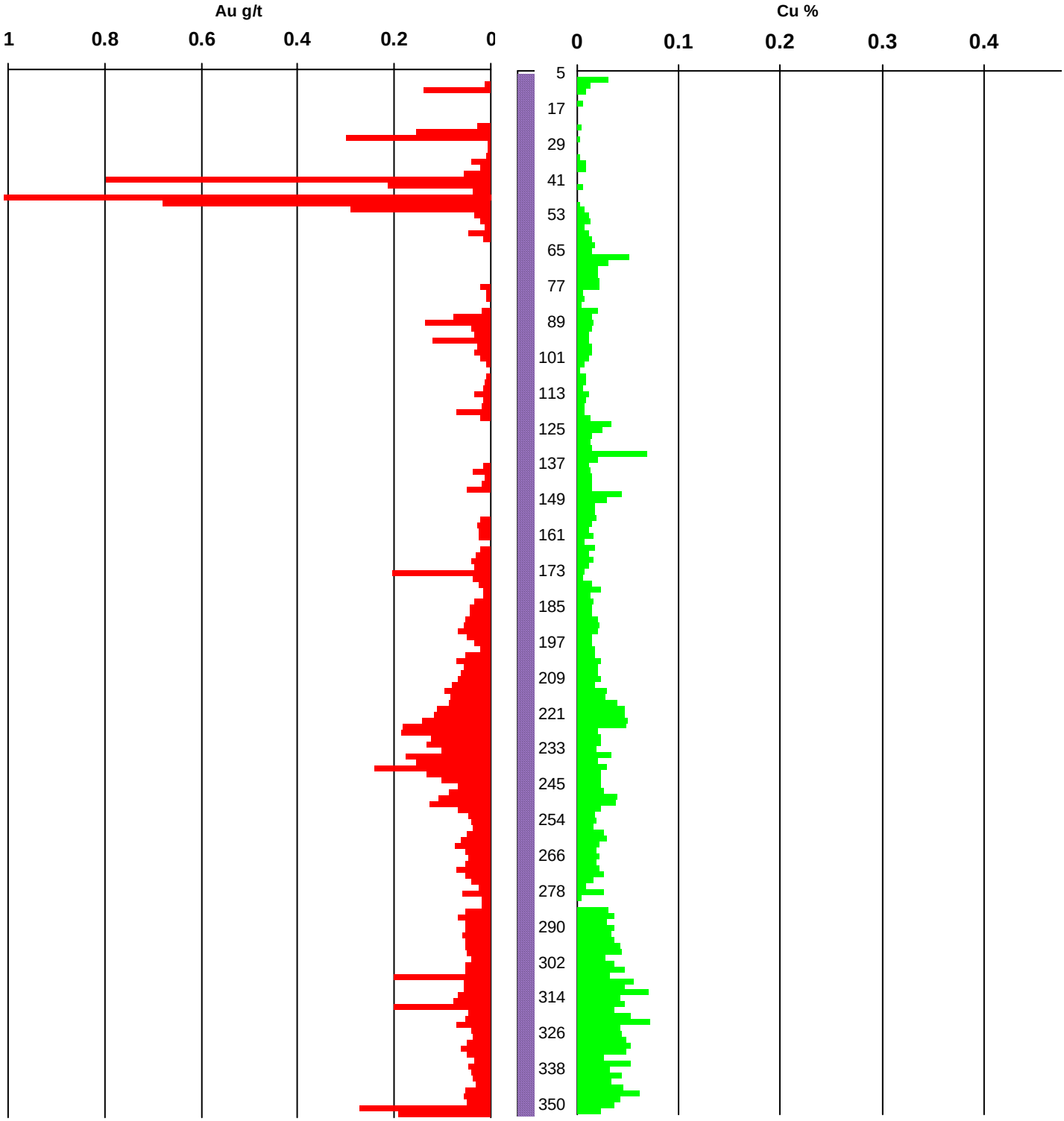
UTM Northing:	6326660	**Northing:**	16297	**Total Depth:**	402 **m**
UTM Easting:	637820	**Easting:**	11882	**Azimuth:**	340°
		Elevation:	1760	**Dip:**	-85°

Geologist: Wade Barnes

Drilled: 9/19/2007

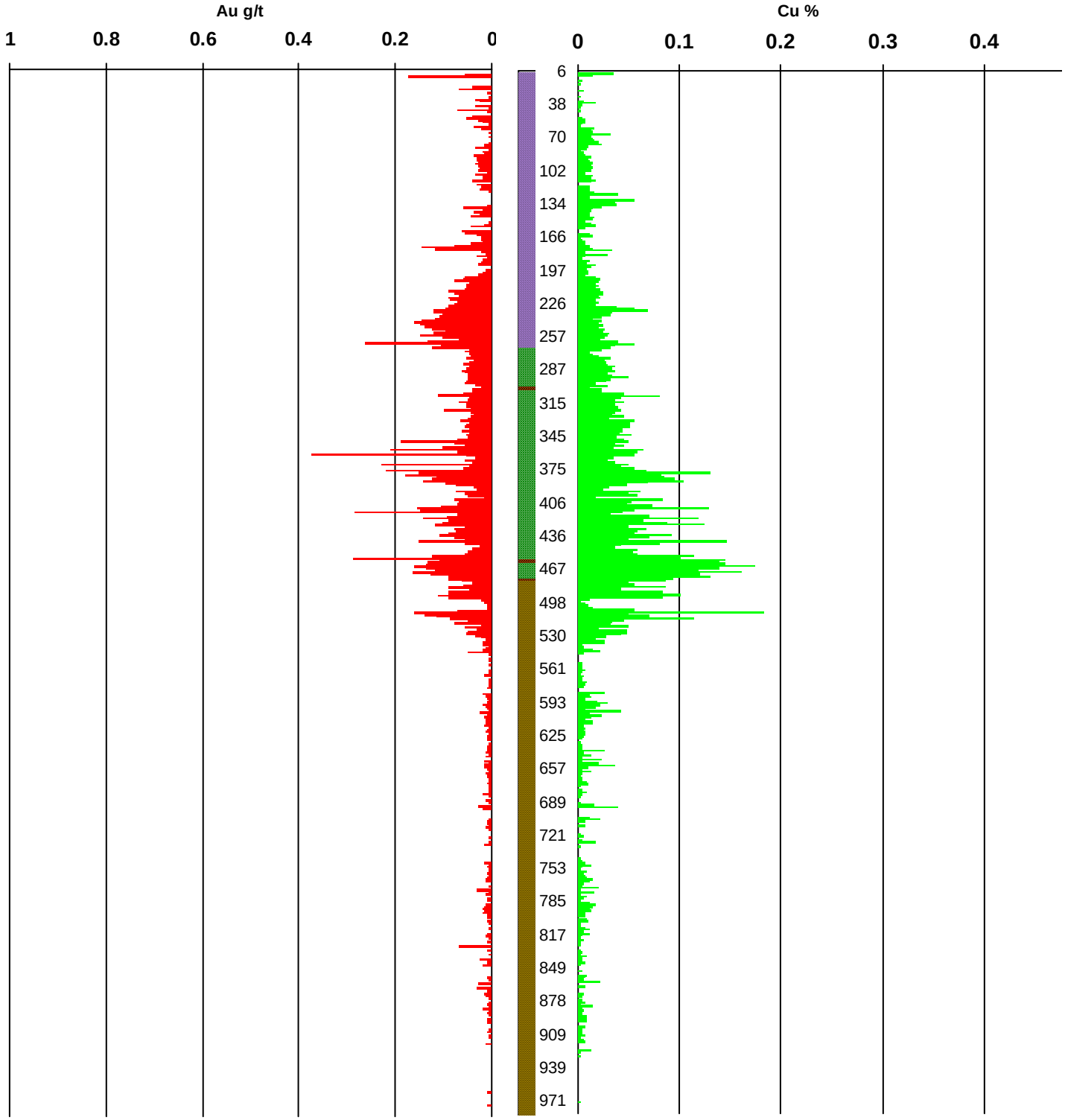
Survey Depth	Azimuth	Dip
402.0 m	299.79°	-85.87°

Hole Number: ***KH-07-01***



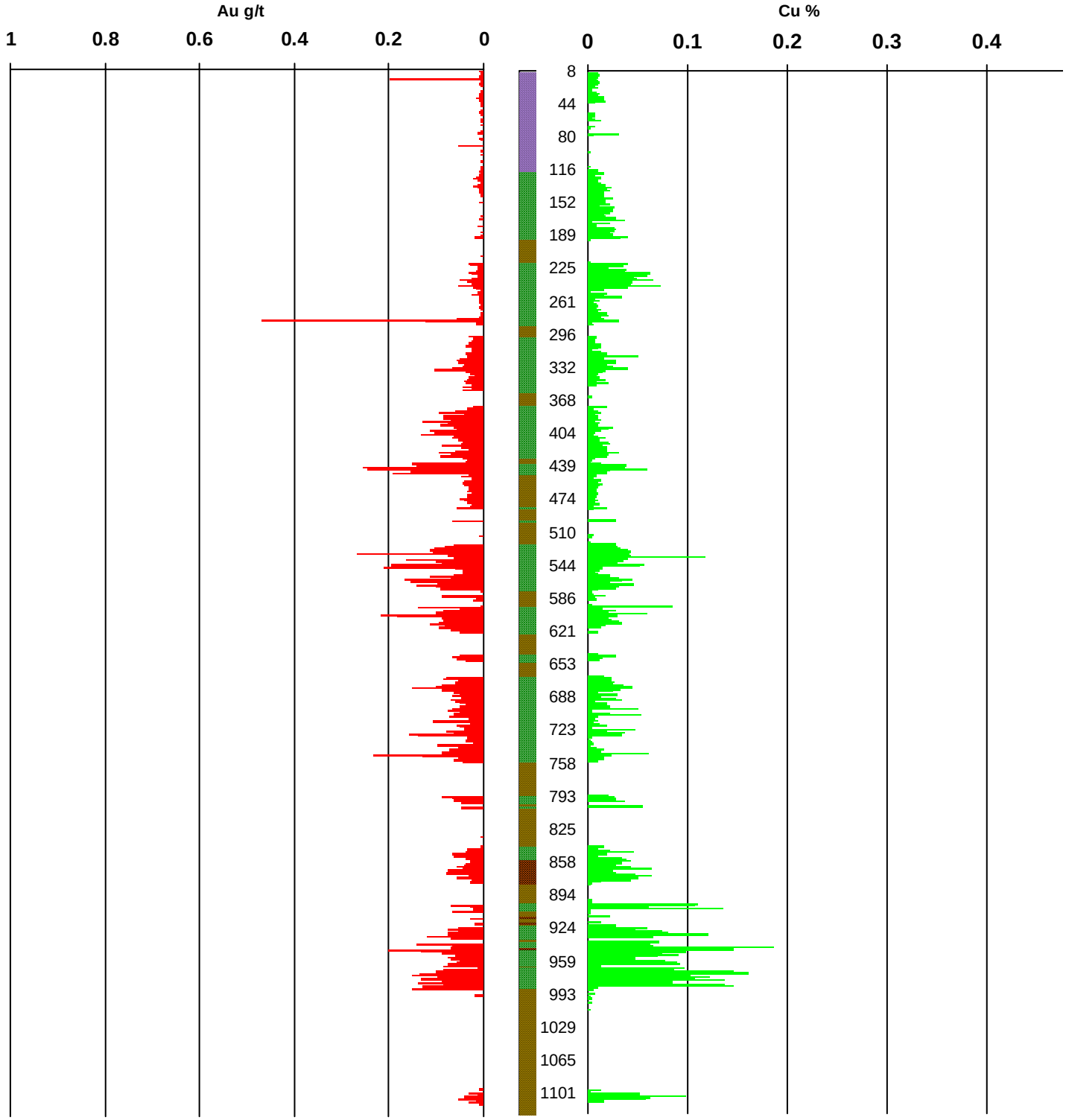
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-01A***



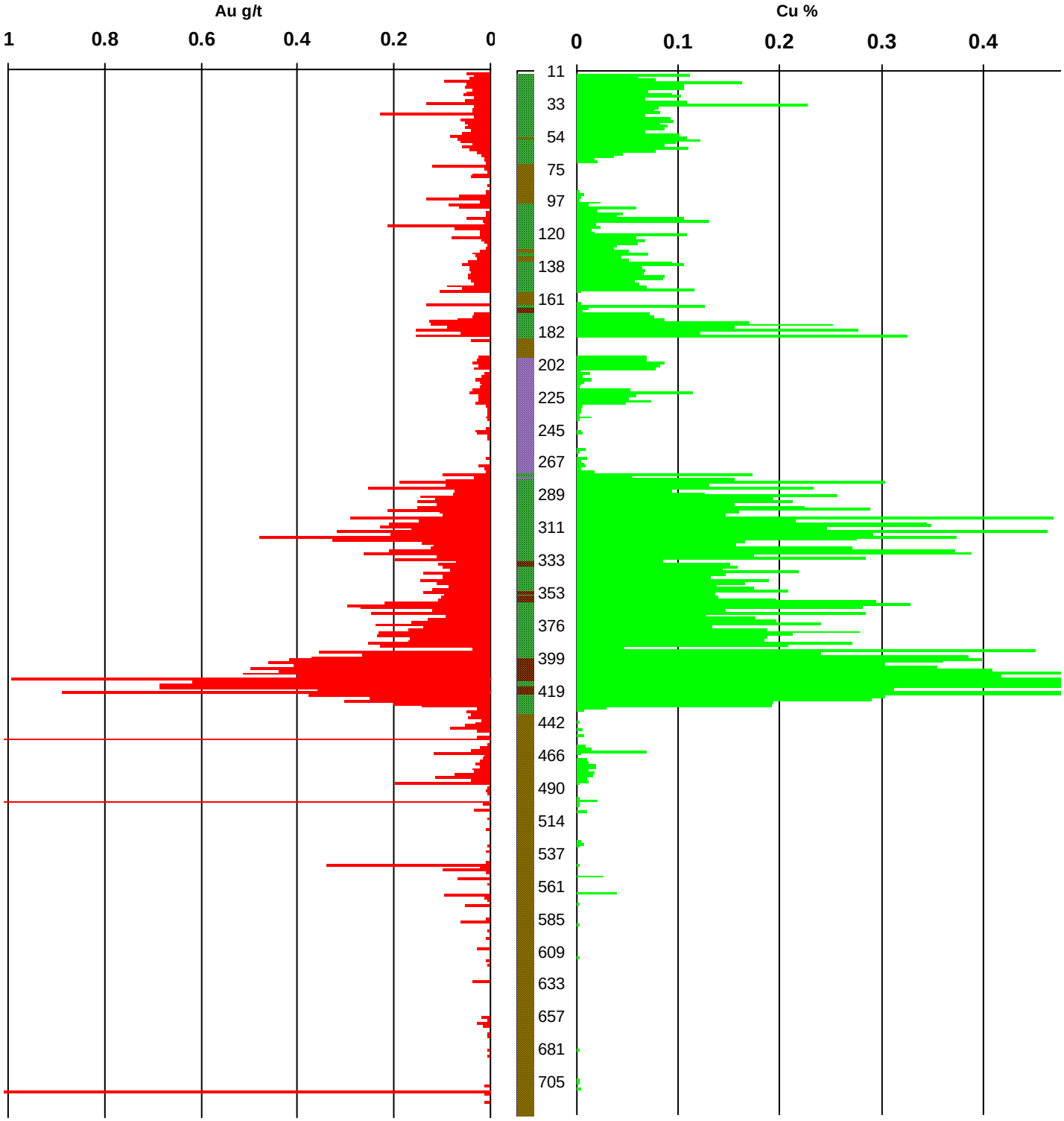
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-02***



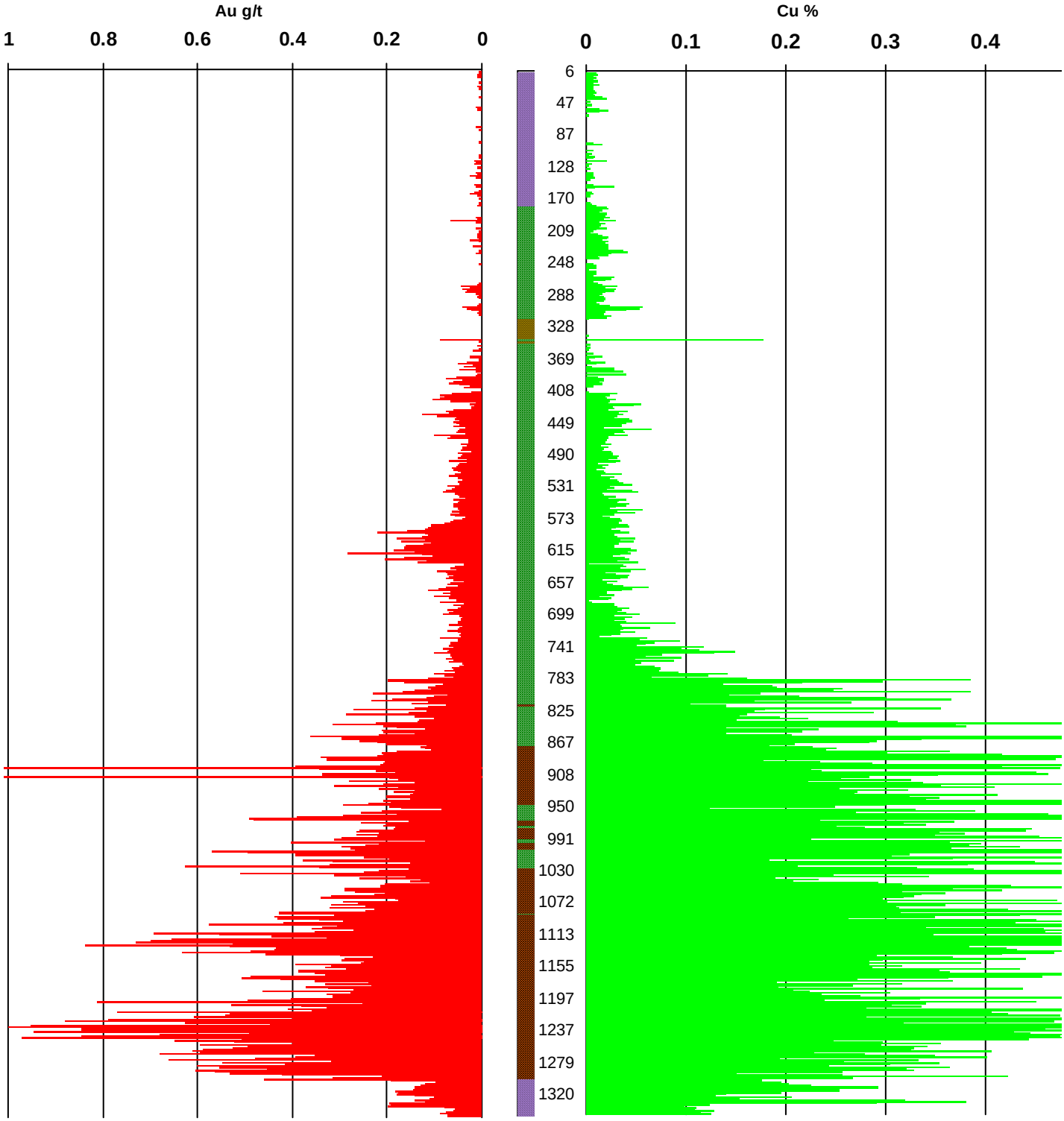
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-03***



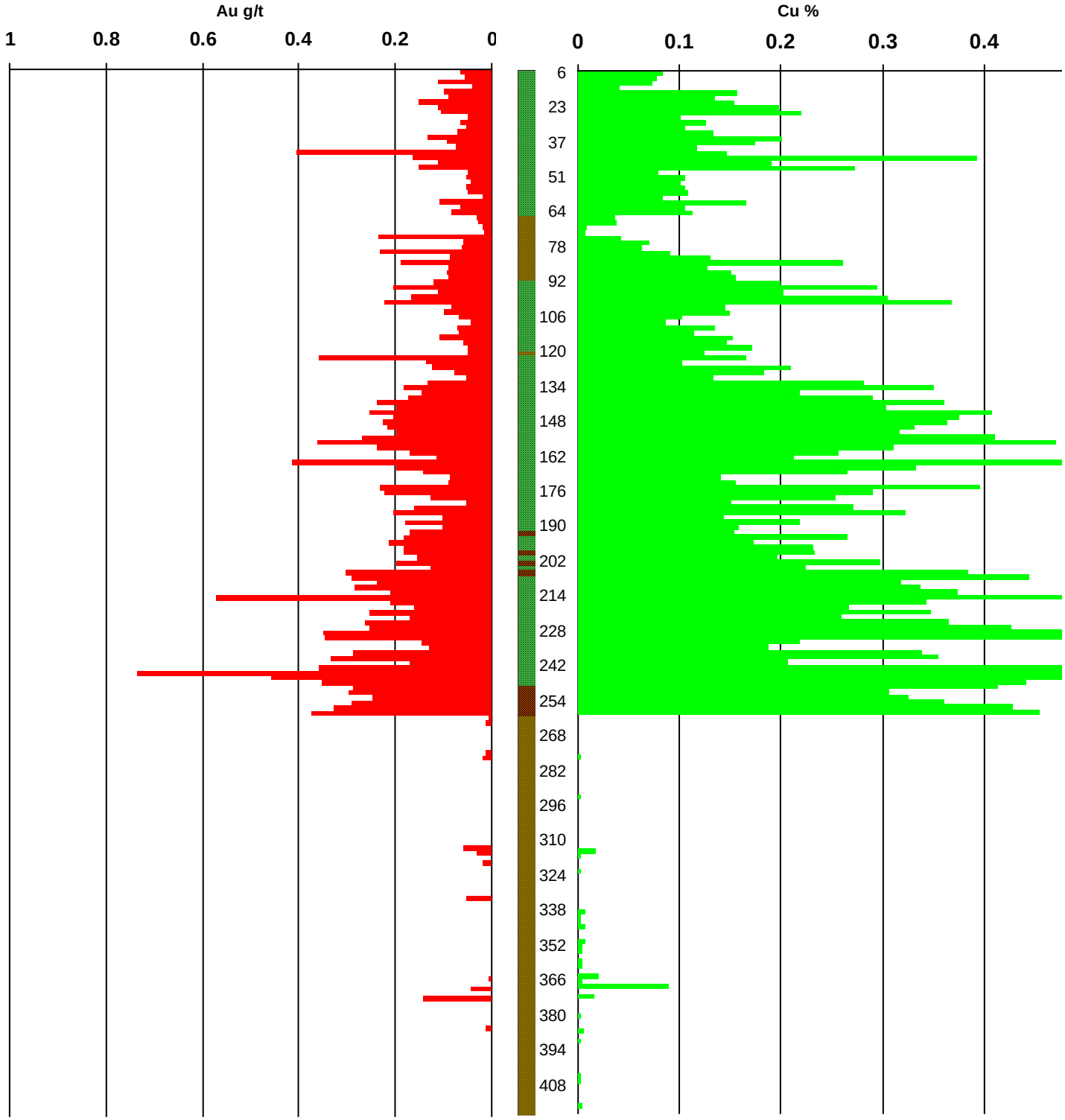
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-04***



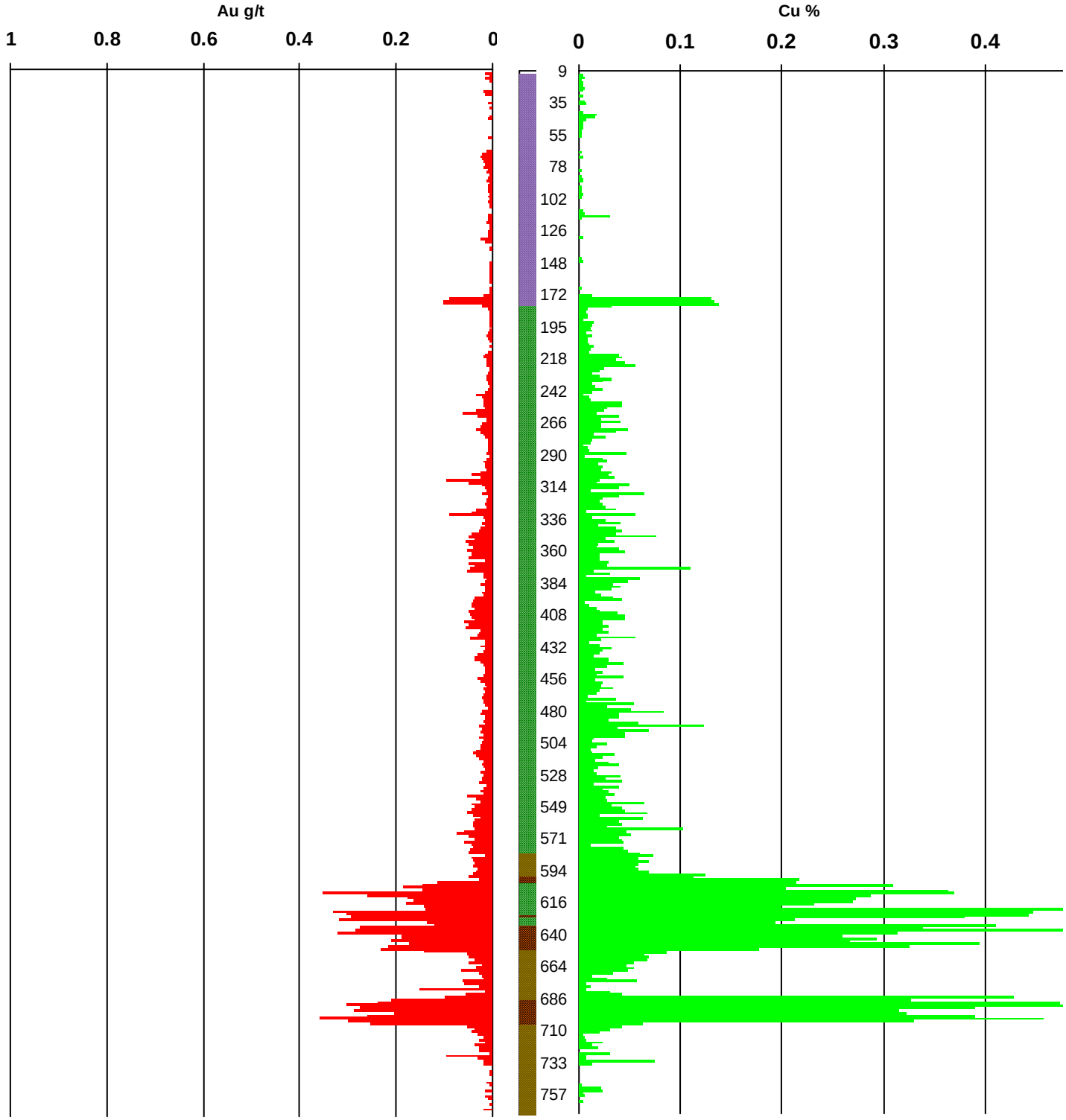
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-05***



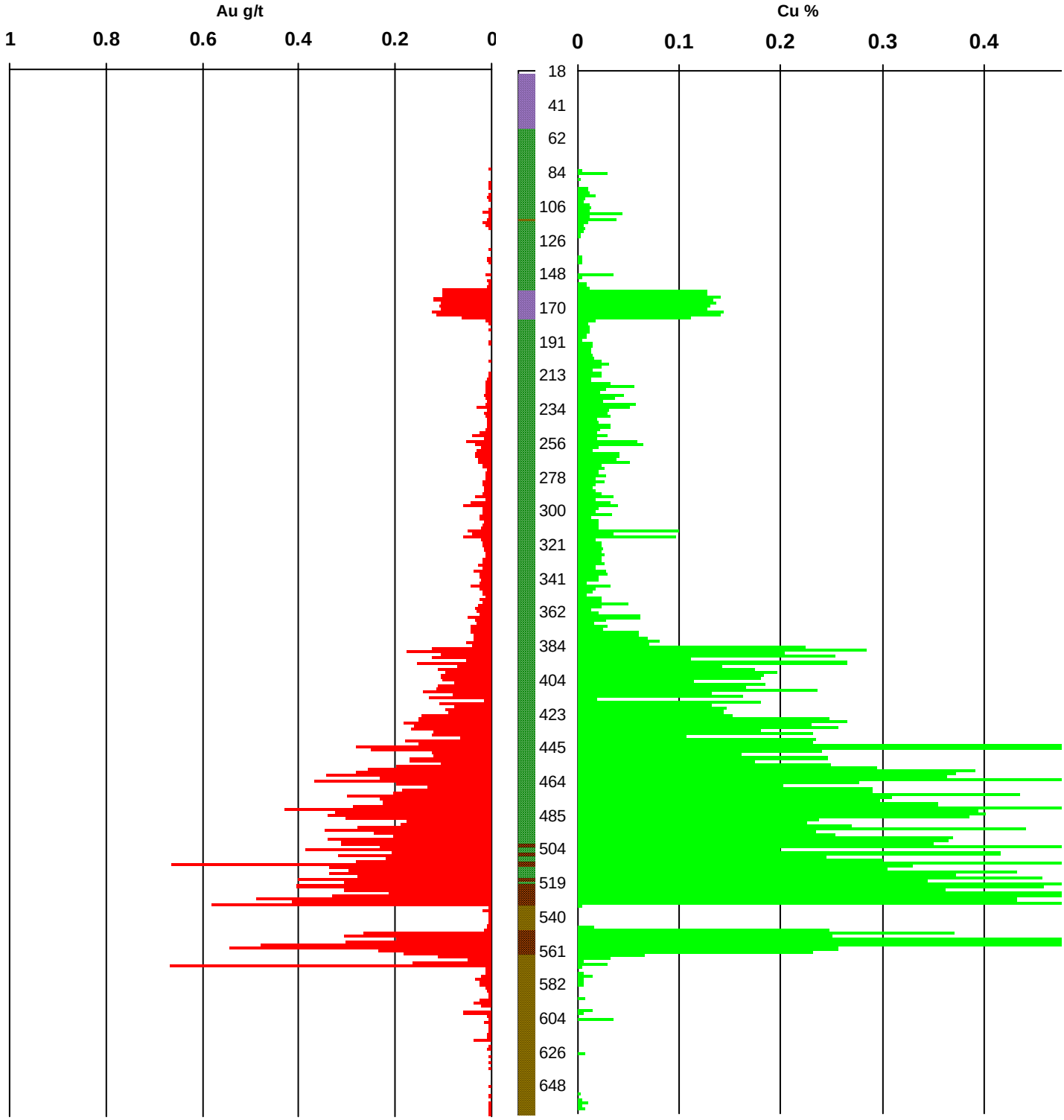
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-06***



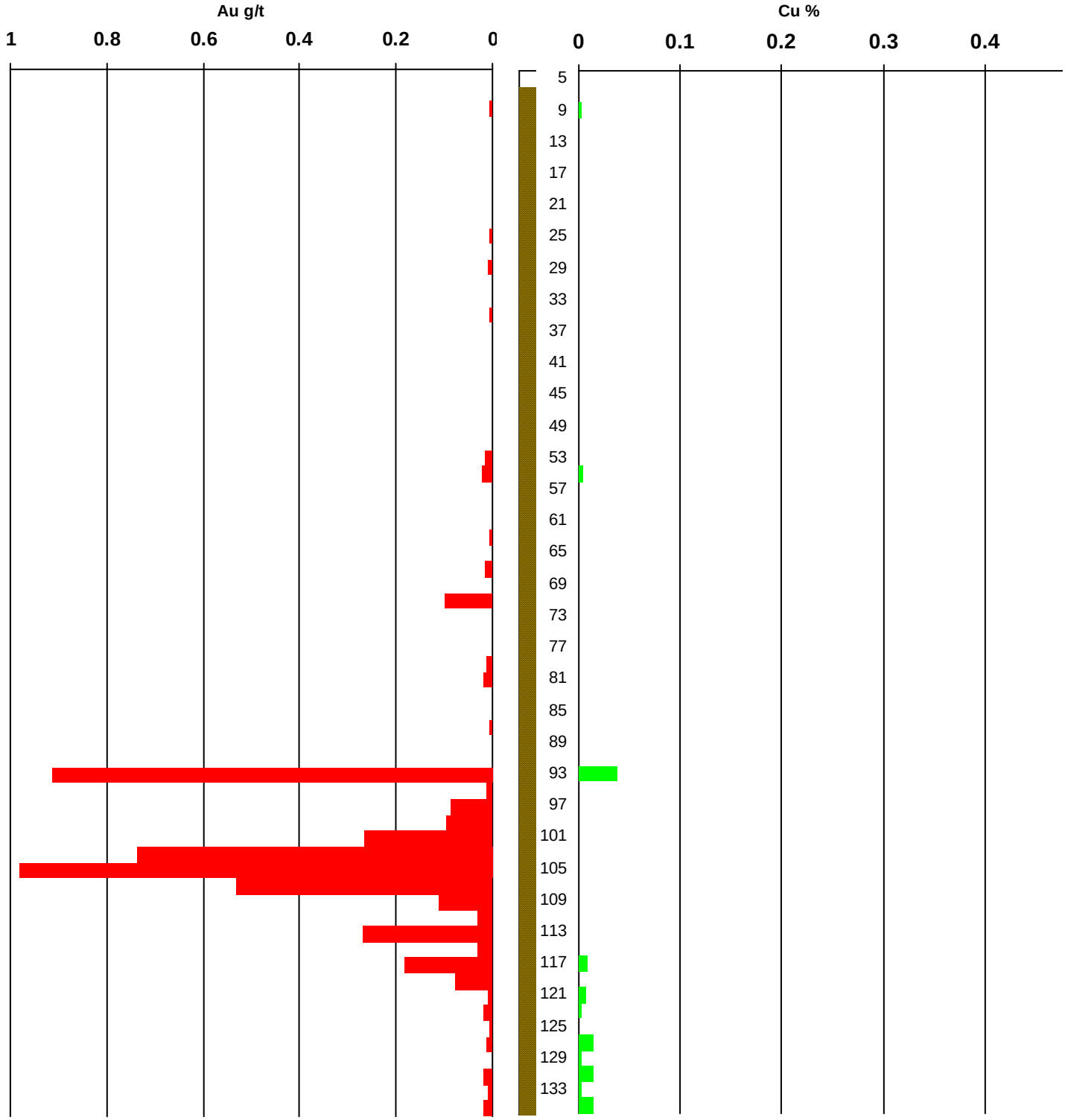
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-07***



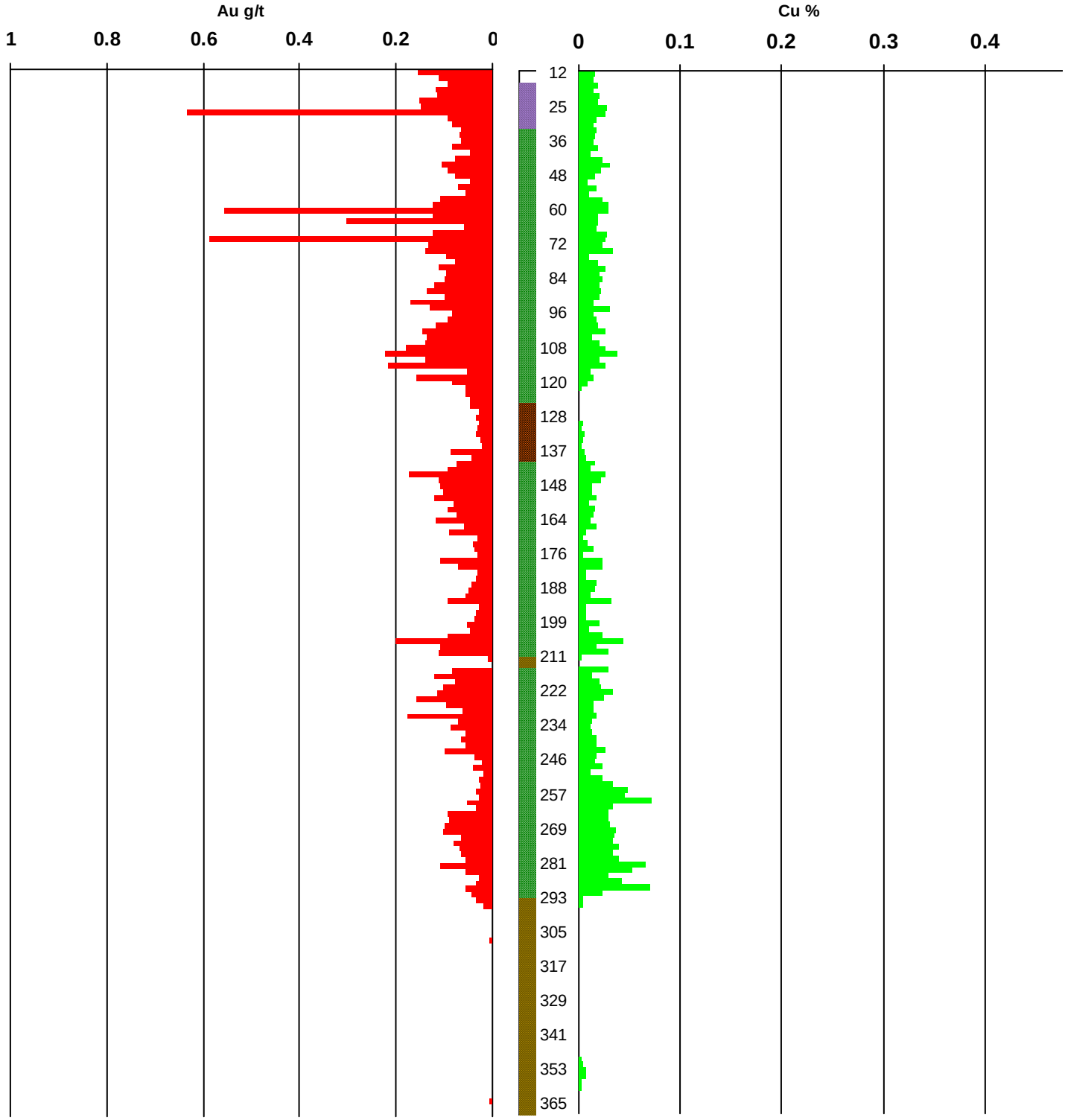
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-08***



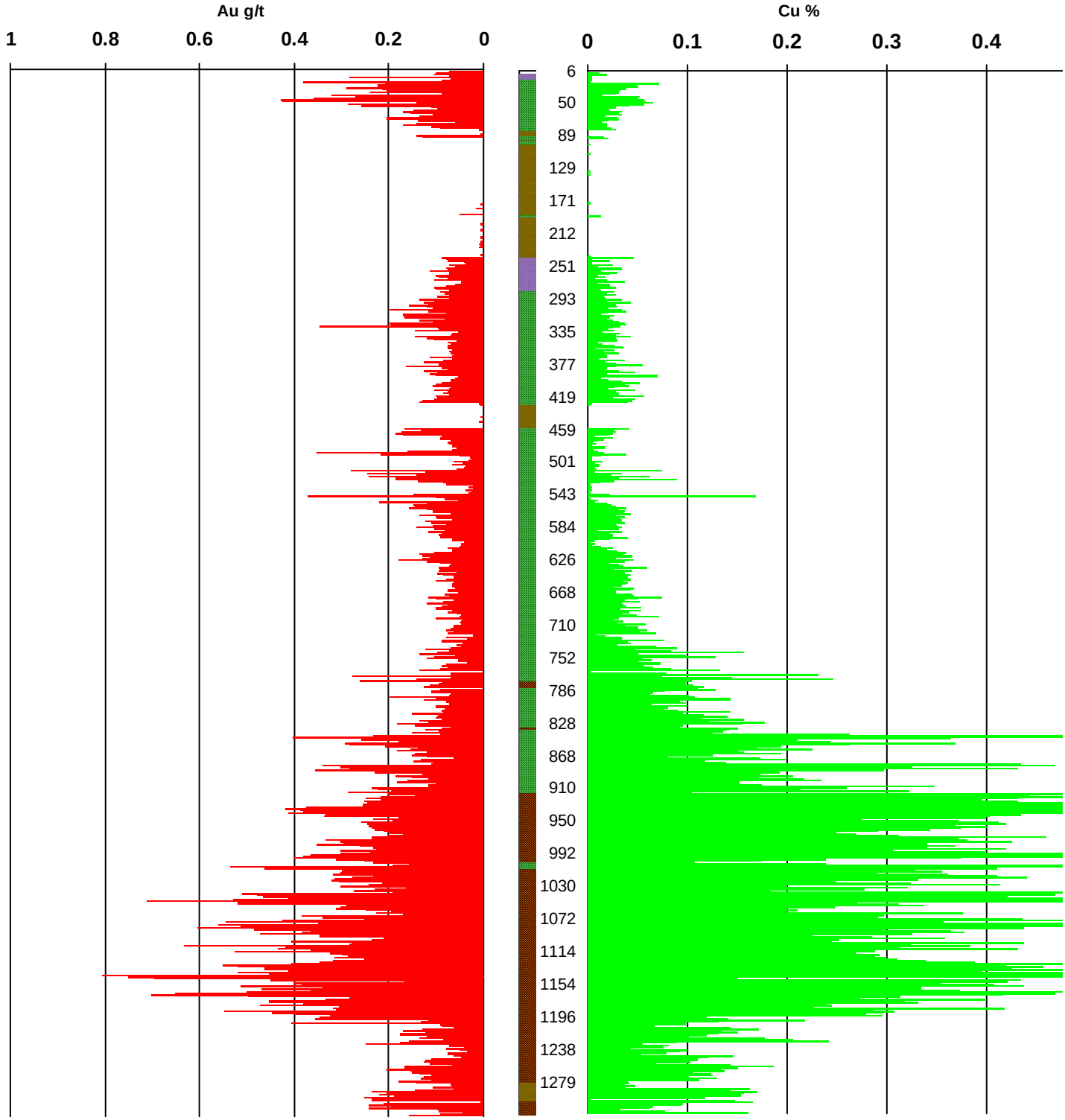
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-09***



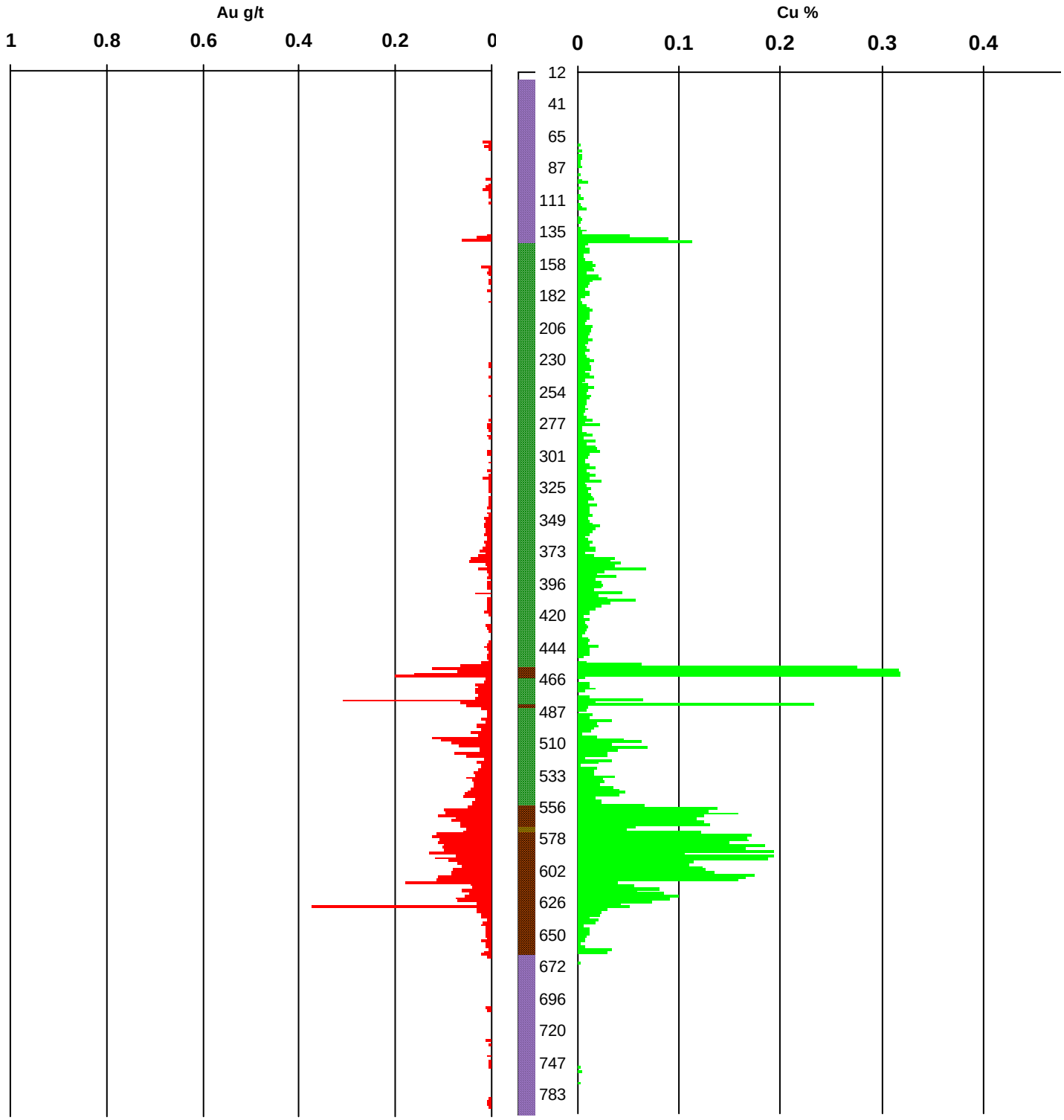
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-10***



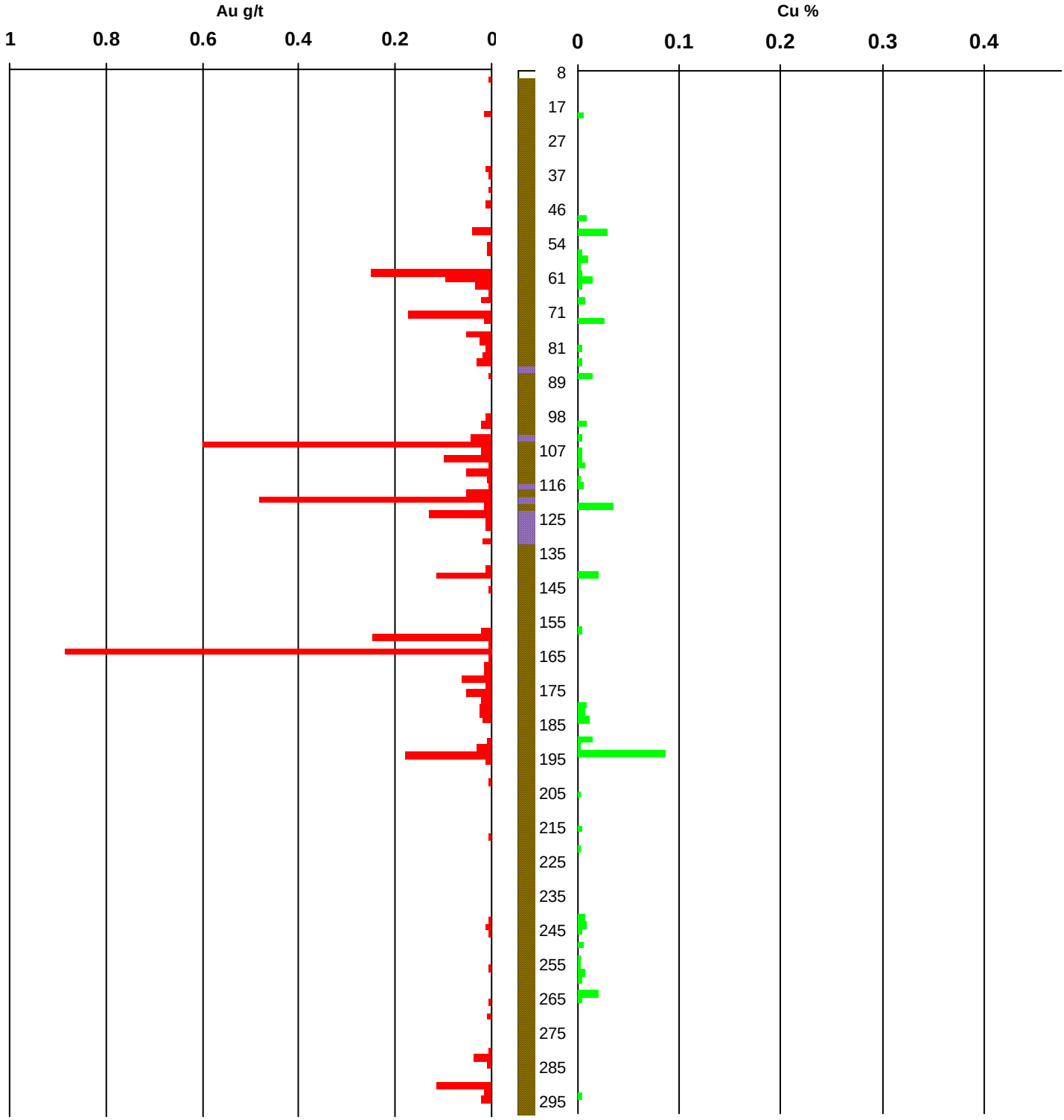
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-11***



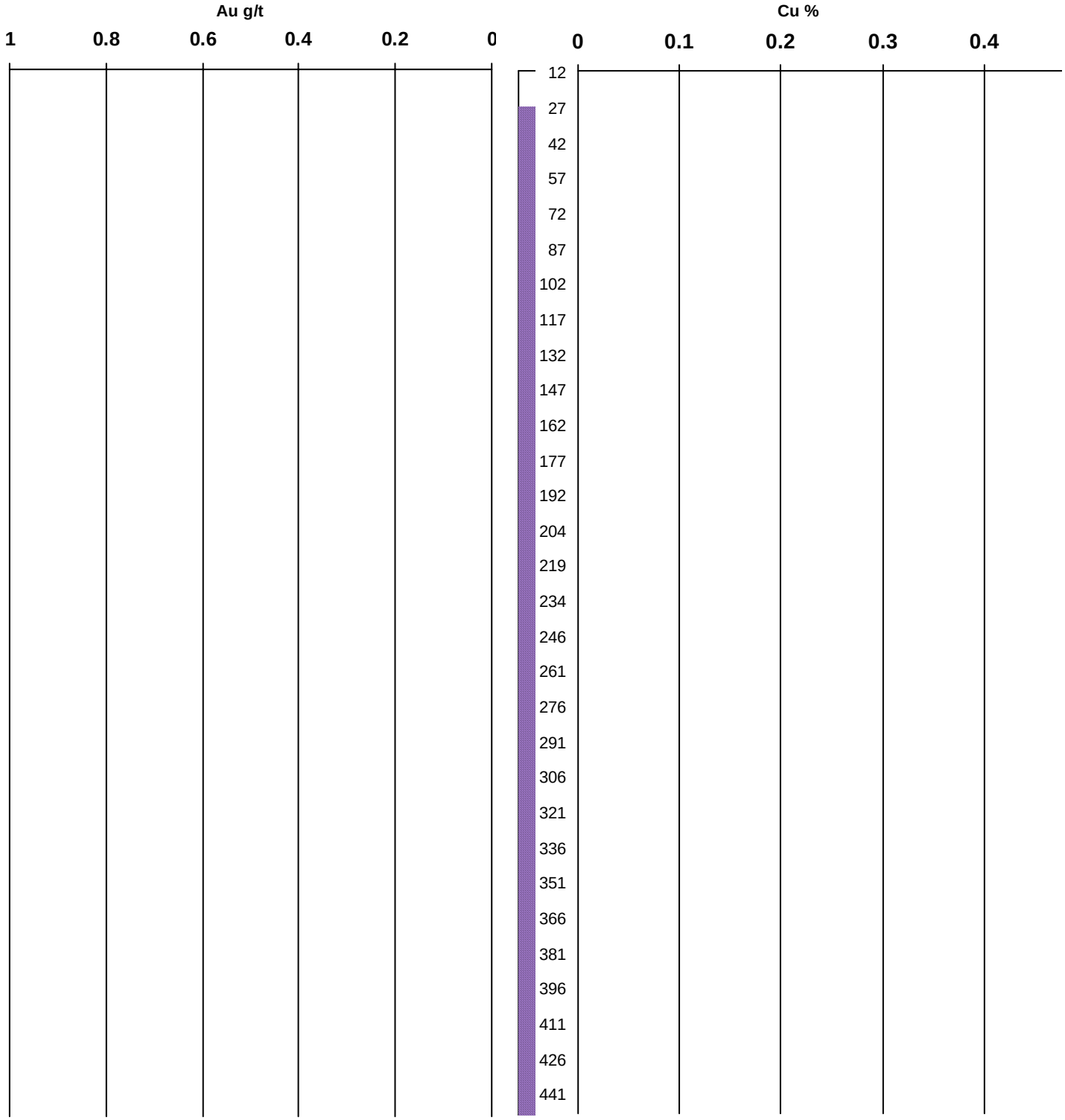
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-14***



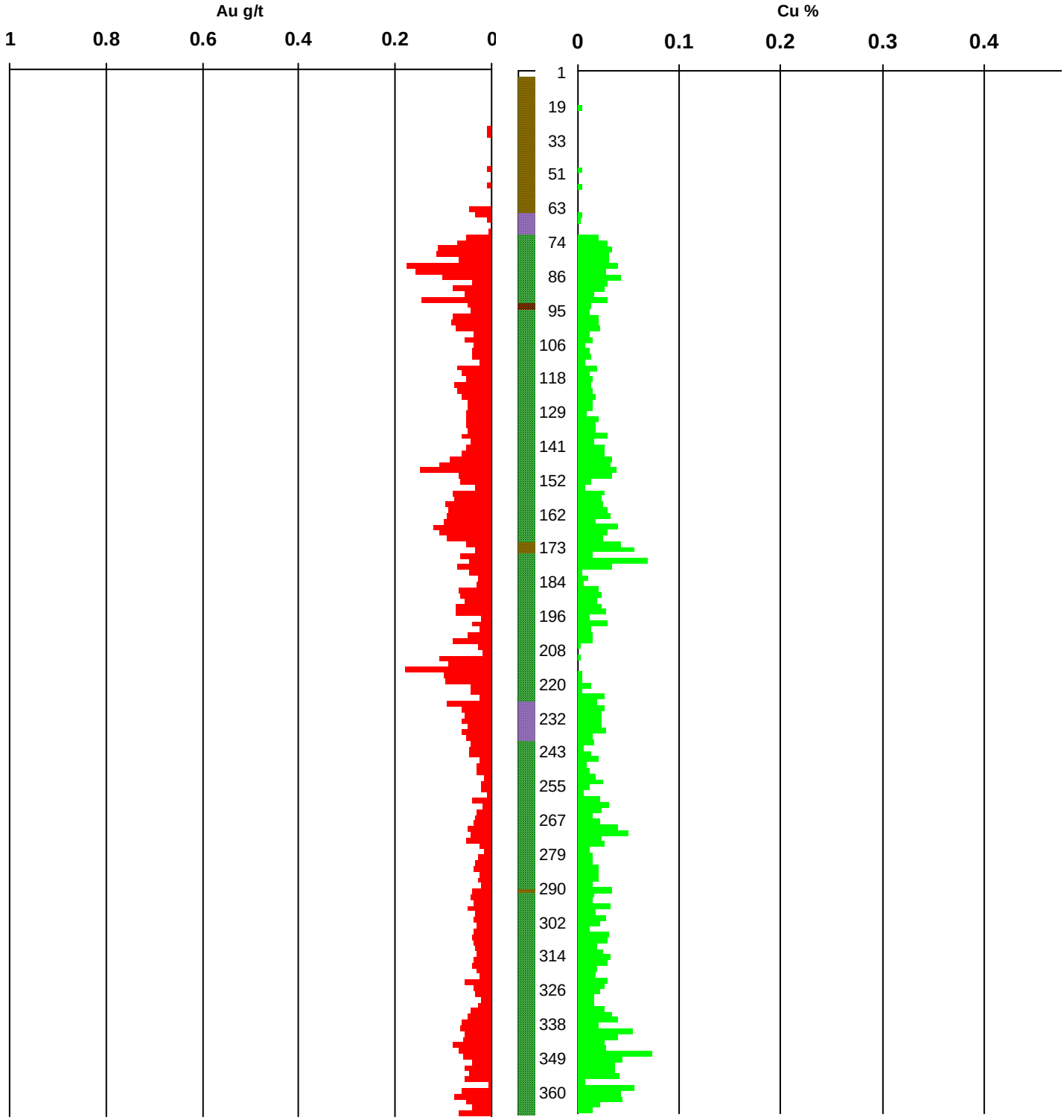
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-15***



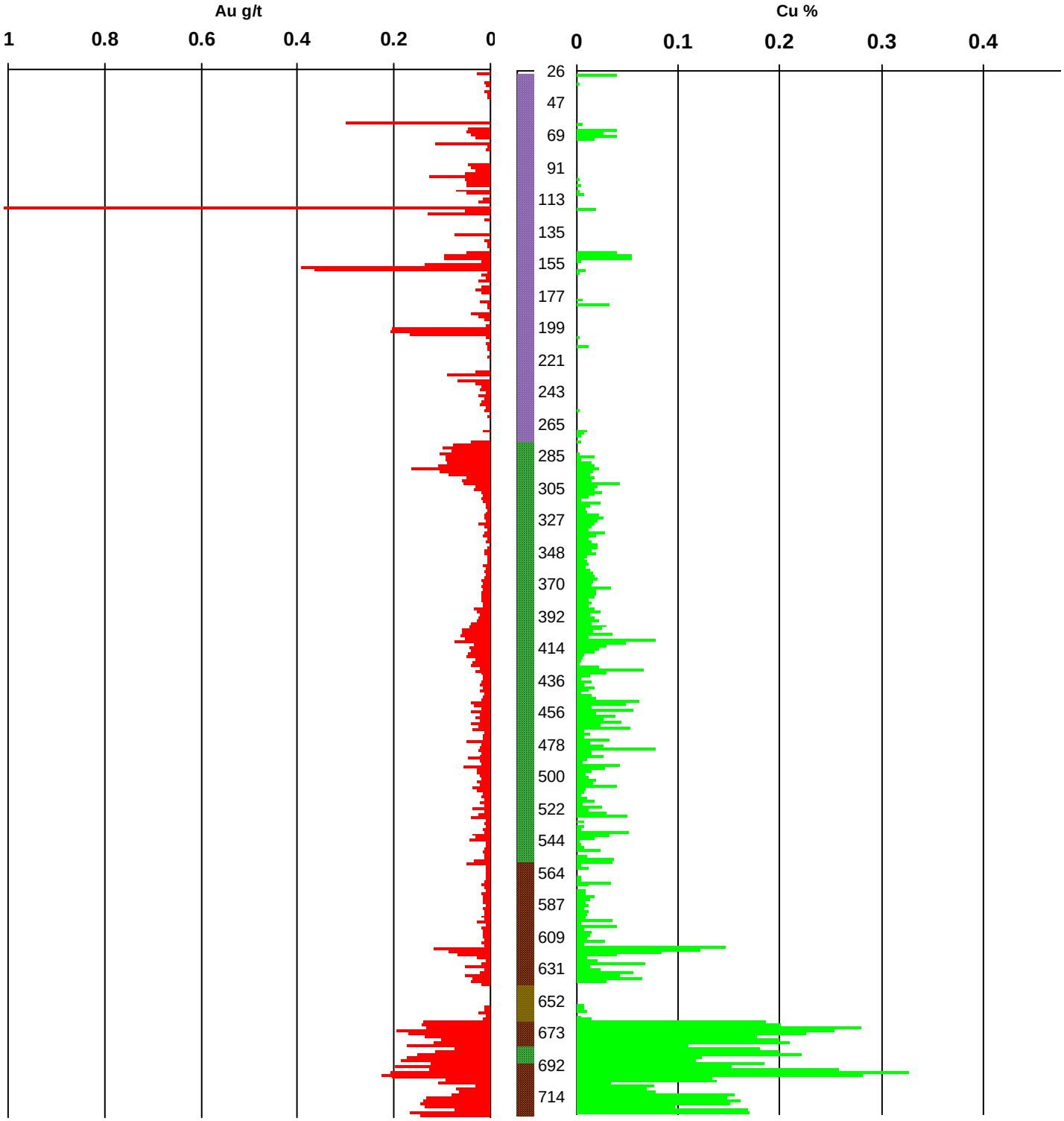
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-16***



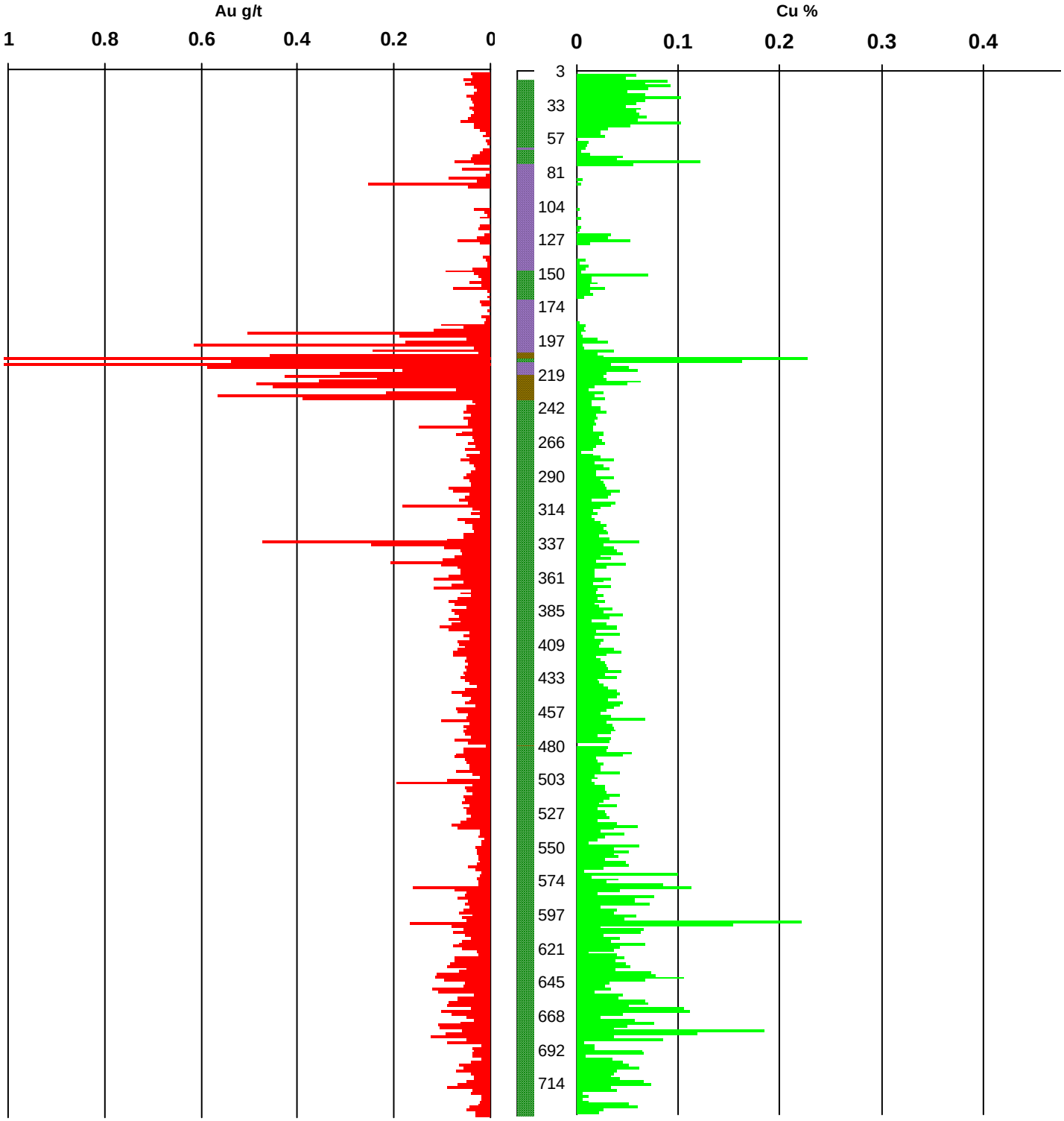
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-17***



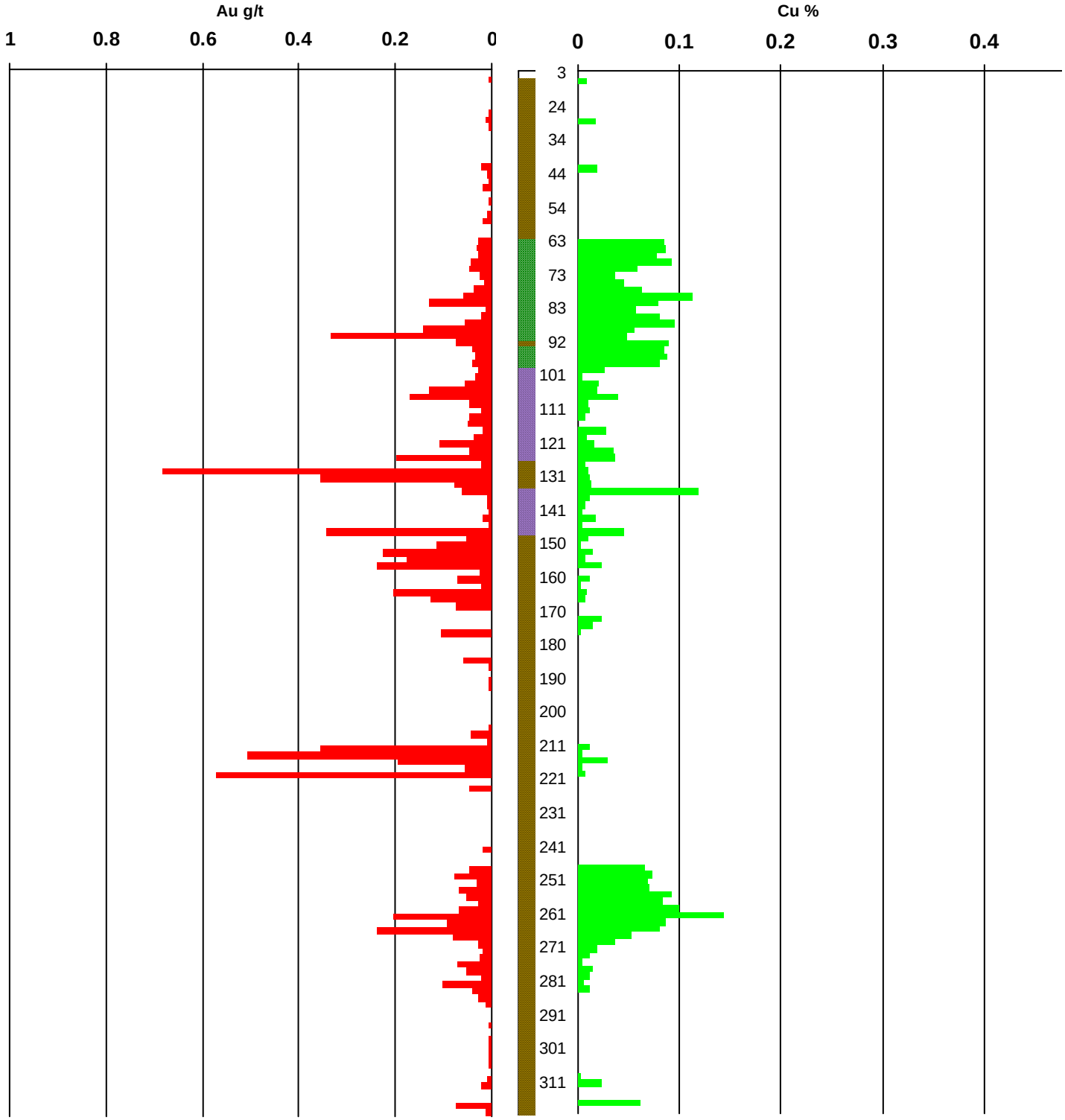
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-18***



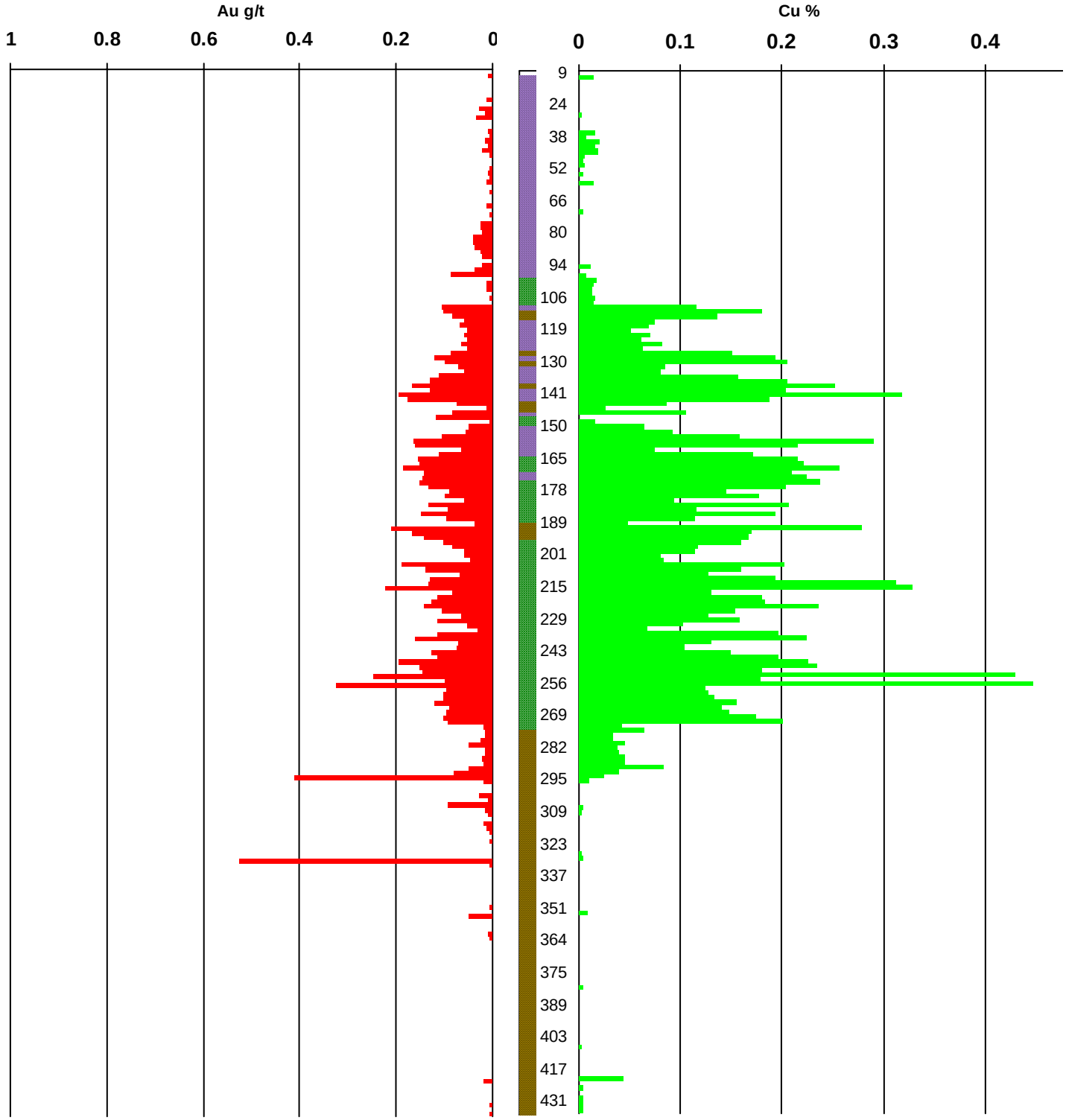
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-19***



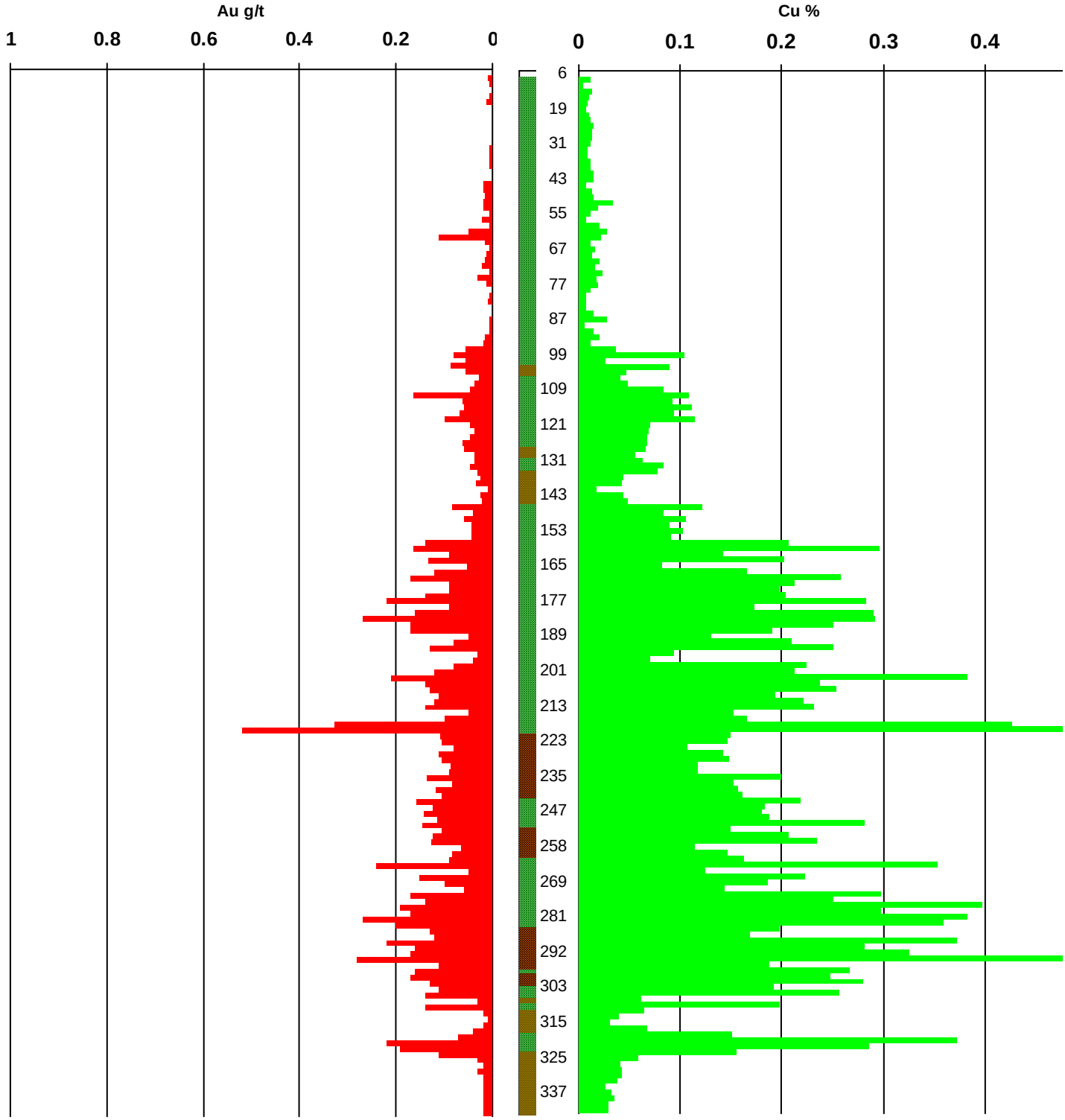
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-21***



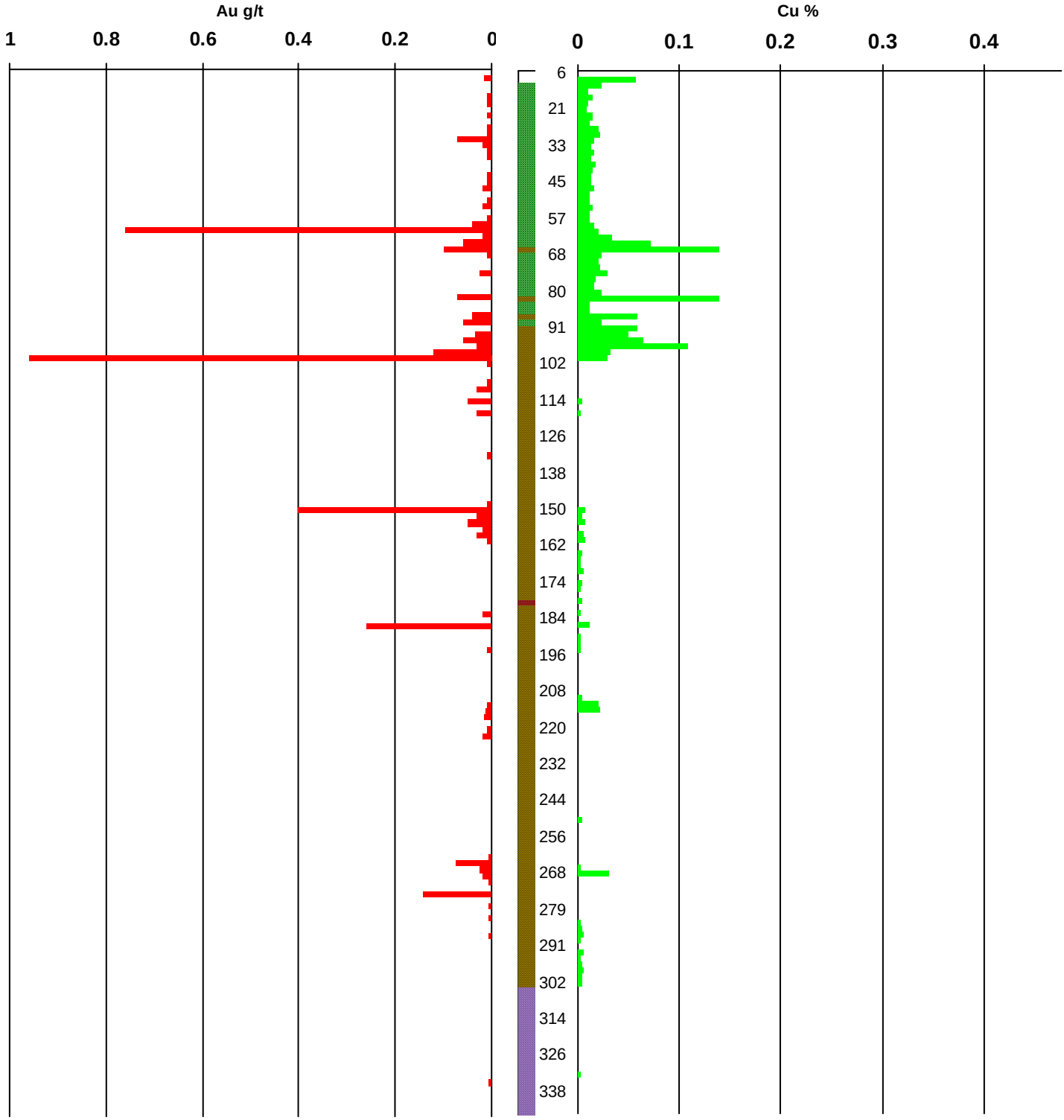
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-22***



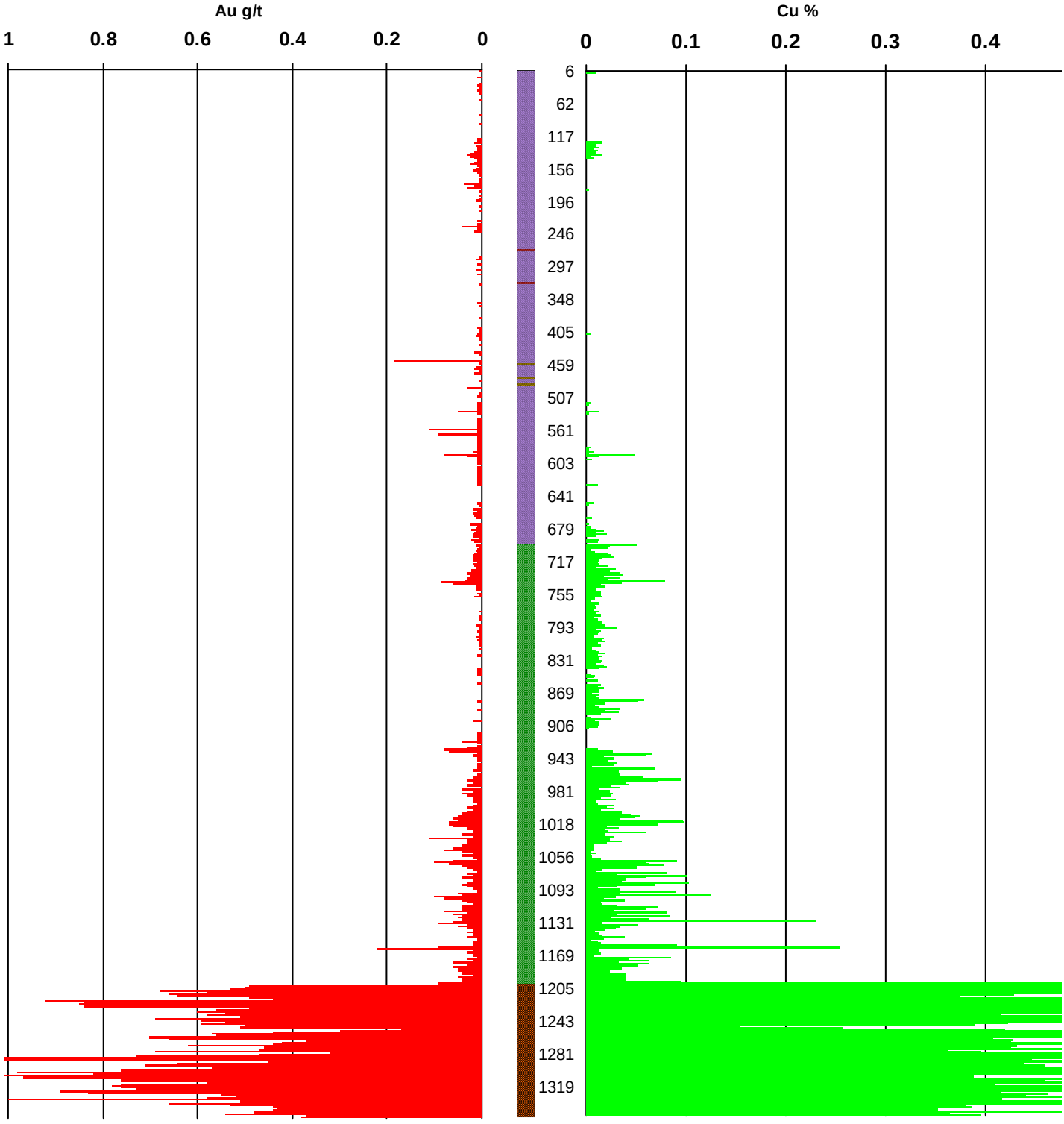
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-23***



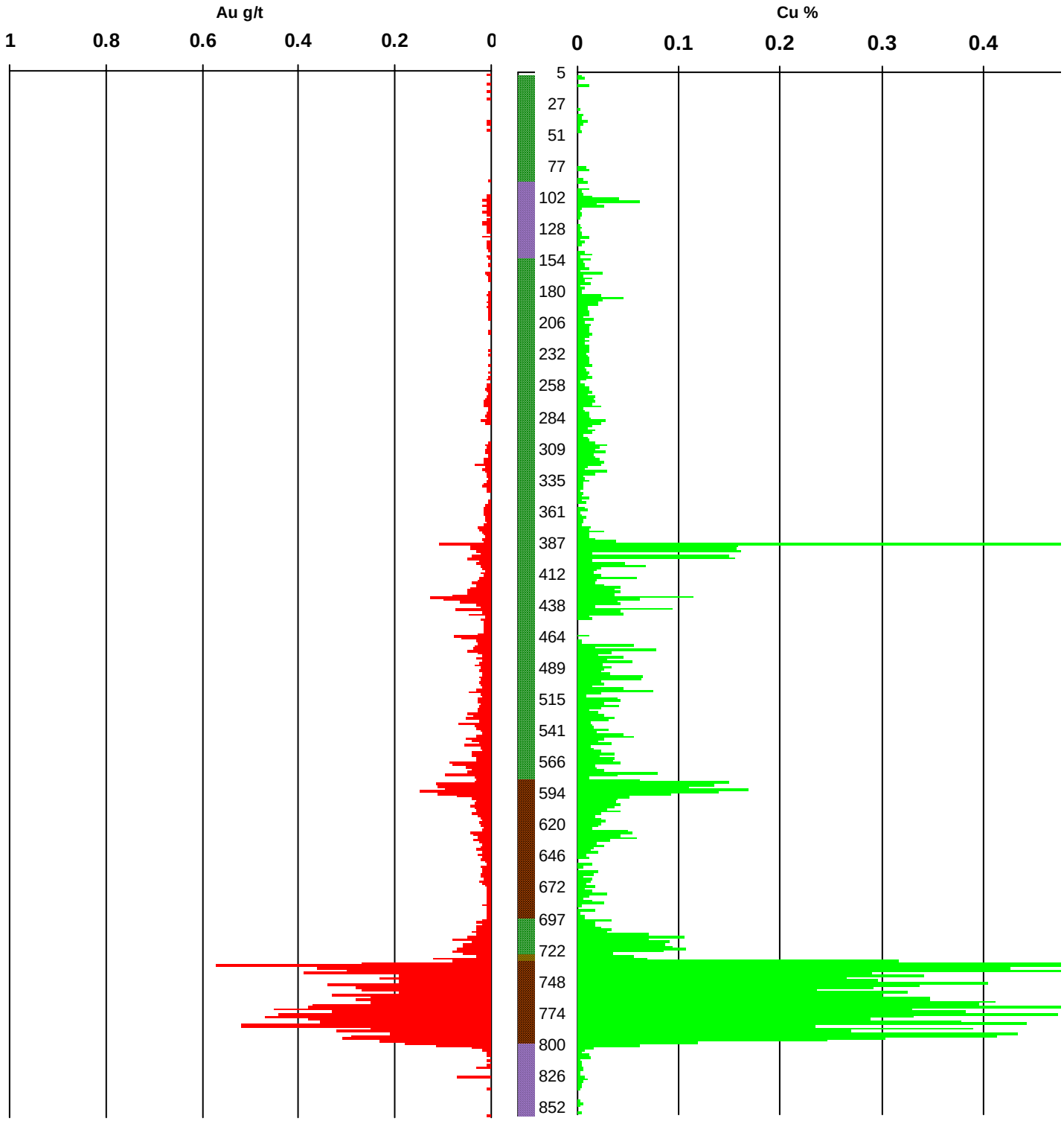
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-24***



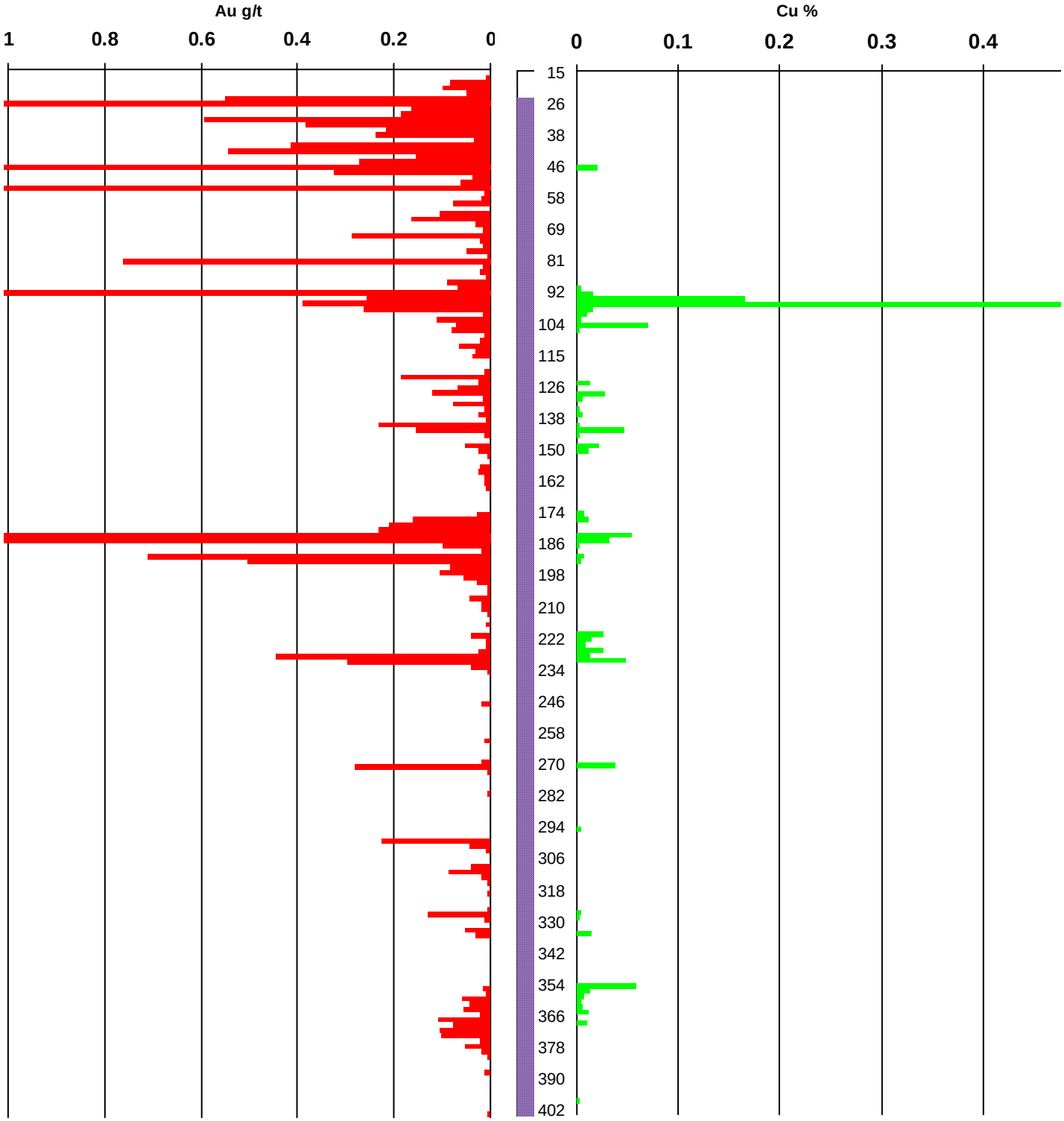
Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Hole Number: ***KH-07-25***



- *Cretaceous Dykes*
- *Takla*
- *Syn-Min Black Lake*
- *Hazelton(Toodoggone)*
- *Asitka*
- *Post-Min Black Lake*
- *Late Triassic Intrusives*

Hole Number: ***KH-07-26***



Cretaceous Dykes
Takla
Syn-Min Black Lake
Hazelton(Toodoggone)
Asitka
Post-Min Black Lake
Late Triassic Intrusives

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01					
Drilled 2007	0	-90	351.00	11966.76	16017.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	2.8	2.8	0.0	0	0.0	0	0
0.0	36.0	3.0	2.9	1	0.8	0	4
0.0	60.0	3.0	2.7	1	0.9	0	4
0.0	3.0	3.0					0
2.8	3.0	0.2	0.2	1	0.0	0	4
3.0	6.0	3.0	1.7	1	0.1	0	4
6.0	9.0	3.0	2.6	1	0.6	0	3
6.0	9.0	3.0					0
9.0	12.0	3.0	2.8	1	1.5	1	3
9.0	12.0	3.0					0
12.0	15.0	3.0	3.2	1	1.6	1	4
12.0	15.0	3.0					0
15.0	18.0	3.0	2.5	1	1.2	0	4
15.0	18.0	3.0					0
18.0	21.0	3.0					0
18.0	21.0	3.0	3.0	1	1.3	0	4
21.0	24.0	3.0					0
21.0	24.0	3.0	3.1	1	1.5	1	4
24.0	27.0	3.0					0
24.0	27.0	3.0	2.2	1	1.0	0	4
27.0	30.0	3.0	2.7	1	0.5	0	4
27.0	30.0	3.0					0
30.0	33.0	3.0	1.9	1	0.6	0	4
30.0	33.0	3.0					0
33.0	36.0	3.0					0
36.0	39.0	3.0					0
36.0	39.0	3.0	3.0	1	1.3	0	4
39.0	42.0	3.0	2.9	1	1.3	0	4
42.0	45.0	3.0	2.8	1	1.8	1	4
45.0	48.0	3.0	3.3	1	1.0	0	3
48.0	51.0	3.0	2.8	1	0.5	0	3
51.0	54.0	3.0	2.3	1	1.7	1	3
54.0	57.0	3.0	2.8	1	1.2	0	4
60.0	63.0	3.0	3.1	1	2.0	1	3
63.0	66.0	3.0	2.8	1	1.9	1	4
66.0	69.0	3.0	3.0	1	1.7	1	5
69.0	72.0	3.0	2.9	1	2.1	1	3
72.0	75.0	3.0	2.7	1	1.2	0	4
75.0	78.0	3.0	2.2	1	1.4	0	5
78.0	81.0	3.0	2.9	1	2.0	1	4
81.0	84.0	3.0	2.8	1	1.6	1	4
84.0	87.0	3.0	2.8	1	1.7	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01					
Drilled 2007	0	-90	351.00	11966.76	16017.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
87.0	90.0	3.0	2.9	1	1.0	0	4
90.0	93.0	3.0	3.1	1	2.0	1	4
93.0	96.0	3.0	2.8	1	2.0	1	4
96.0	99.0	3.0	2.9	1	1.8	1	4
99.0	102.0	3.0	2.9	1	1.6	1	4
102.0	105.0	3.0	2.9	1	2.2	1	3
105.0	108.0	3.0	2.9	1	2.7	1	3
108.0	111.0	3.0	2.7	1	1.8	1	5
111.0	114.0	3.0	2.9	1	2.2	1	4
114.0	117.0	3.0	2.9	1	2.0	1	4
117.0	120.0	3.0	2.7	1	1.8	1	4
120.0	123.0	3.0	2.9	1	1.7	1	4
123.0	126.0	3.0	2.9	1	1.9	1	4
126.0	129.0	3.0	2.8	1	1.3	0	3
129.0	132.0	3.0	2.9	1	1.7	1	4
132.0	135.0	3.0	2.9	1	0.8	0	3
135.0	138.0	3.0	3.0	1	2.1	1	4
138.0	141.0	3.0	2.9	1	2.3	1	4
141.0	144.0	3.0	2.8	1	2.0	1	4
144.0	147.0	3.0	2.8	1	0.8	0	4
147.0	150.0	3.0	2.8	1	1.1	0	4
150.0	153.0	3.0	3.0	1	2.6	1	4
153.0	156.0	3.0	2.8	1	1.1	0	4
156.0	159.0	3.0	3.0	1	1.2	0	4
159.0	162.0	3.0	2.9	1	1.6	1	4
162.0	165.0	3.0	2.9	1	1.6	1	4
165.0	168.0	3.0	2.9	1	1.1	0	4
168.0	171.0	3.0	2.8	1	2.3	1	4
171.0	174.0	3.0	2.9	1	2.3	1	4
174.0	177.0	3.0	2.9	1	2.1	1	4
177.0	180.0	3.0	2.9	1	1.4	0	4
180.0	183.0	3.0	2.9	1	1.1	0	4
183.0	186.0	3.0	3.0	1	1.8	1	4
186.0	189.0	3.0	2.9	1	1.3	0	5
189.0	192.0	3.0	2.9	1	2.0	1	4
192.0	195.0	3.0	2.7	1	1.6	1	4
195.0	198.0	3.0	2.9	1	1.2	0	4
198.0	201.0	3.0	2.9	1	2.2	1	4
201.0	204.0	3.0	3.0	1	1.7	1	4
204.0	207.0	3.0	3.0	1	1.5	1	5
207.0	210.0	3.0	2.9	1	1.5	1	4
210.0	213.0	3.0	2.9	1	2.0	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01					
Drilled 2007	0	-90	351.00	11966.76	16017.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
213.0	216.0	3.0	3.0	1	2.2	1	4
216.0	219.0	3.0	3.0	1	2.3	1	4
219.0	222.0	3.0	2.9	1	2.0	1	4
222.0	225.0	3.0	3.0	1	1.8	1	4
225.0	228.0	3.0	3.0	1	1.8	1	4
228.1	231.0	2.9	3.0	1	1.6	1	4
231.0	234.0	3.0	3.0	1	1.7	1	4
234.0	237.0	3.0	2.9	1	2.0	1	4
237.0	240.0	3.0	3.0	1	1.9	1	5
240.0	243.0	3.0	3.0	1	1.7	1	4
243.0	246.0	3.0	3.0	1	2.2	1	5
246.0	249.0	3.0	3.0	1	1.8	1	4
249.0	252.0	3.0	3.1	1	1.8	1	4
252.0	255.0	3.0	3.0	1	1.7	1	5
255.0	258.0	3.0	2.9	1	2.0	1	4
258.0	261.0	3.0	3.1	1	1.4	0	4
261.0	264.0	3.0	3.0	1	1.8	1	4
264.0	267.0	3.0	3.0	1	1.7	1	5
267.0	270.0	3.0	3.0	1	2.0	1	4
270.0	273.0	3.0	3.1	1	2.0	1	5
273.0	276.0	3.0	2.9	1	1.7	1	4
276.0	279.0	3.0	3.0	1	2.3	1	4
279.0	282.0	3.0	3.0	1	2.1	1	4
282.0	285.0	3.0	3.0	1	2.1	1	4
285.0	288.0	3.0	2.9	1	1.9	1	5
288.0	291.0	3.0	3.1	1	1.9	1	5
291.0	294.0	3.0	2.9	1	1.9	1	5
294.0	297.0	3.0	2.8	1	1.8	1	4
297.0	300.0	3.0	3.0	1	1.9	1	4
300.0	303.0	3.0	3.0	1	1.7	1	4
303.0	306.0	3.0	3.0	1	1.7	1	5
306.0	309.0	3.0	2.9	1	1.7	1	5
309.0	312.0	3.0	3.0	1	2.2	1	5
312.0	315.0	3.0	3.0	1	1.8	1	5
315.0	318.0	3.0	3.0	1	1.6	1	5
318.0	321.0	3.0	2.9	1	2.3	1	4
321.0	324.0	3.0	3.0	1	1.8	1	5
324.0	327.0	3.0	3.0	1	1.9	1	5
327.0	330.0	3.0	3.0	1	2.1	1	5
330.0	333.0	3.0	3.0	1	2.3	1	5
333.0	336.0	3.0	3.0	1	1.9	1	5
336.0	339.0	3.0	2.9	1	2.1	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01					
Drilled 2007	0	-90	351.00	11966.76	16017.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
339.0	342.0	3.0	3.0	1	2.6	1	5
342.0	345.0	3.0	2.9	1	2.4	1	5
345.0	348.0	3.0	3.0	1	2.2	1	5
348.0	351.0	3.0	2.6	1	2.1	1	4
519.0	522.0	3.0	2.2	1	1.3	0	0

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01A					
Drilled 2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	6.0	6.0	0.0	0	0.0	0	0
6.0	9.0	3.0	2.6	1	1.1	0	4
9.0	12.0	3.0	2.9	1	1.3	0	4
12.0	15.0	3.0	3.0	1	1.3	0	4
15.0	18.0	3.0	3.0	1	1.6	1	4
18.0	21.0	3.0	3.0	1	0.6	0	4
21.0	24.0	3.0	3.0	1	1.0	0	4
24.0	27.0	3.0	2.7	1	1.4	0	5
27.0	30.0	3.0	3.0	1	1.1	0	4
30.0	33.0	3.0	3.0	1	1.1	0	4
33.0	36.0	3.0	3.0	1	1.5	1	4
36.0	39.0	3.0	2.8	1	0.8	0	4
39.0	42.0	3.0	2.9	1	1.5	1	4
42.0	45.0	3.0	3.0	1	1.4	0	4
45.0	48.0	3.0	3.0	1	1.7	1	4
48.0	51.0	3.0	3.0	1	1.1	0	4
51.0	54.0	3.0	3.0	1	1.3	0	4
54.0	57.0	3.0	3.0	1	0.8	0	4
57.0	60.0	3.0	2.8	1	1.1	0	4
60.0	63.0	3.0	3.0	1	1.3	0	4
63.0	66.0	3.0	3.0	1	1.2	0	4
66.0	69.0	3.0	3.0	1	1.7	1	4
69.0	72.0	3.0	3.0	1	1.8	1	4
72.0	75.0	3.0	2.9	1	1.0	0	4
75.0	78.0	3.0	2.9	1	1.2	0	4
78.0	81.0	3.0	3.0	1	1.5	1	4
81.0	84.0	3.0	2.9	1	2.0	1	4
84.0	87.0	3.0	3.0	1	2.1	1	4
87.0	90.0	3.0	3.0	1	1.8	1	4
90.0	93.0	3.0	3.1	1	1.8	1	4
93.0	96.0	3.0	3.0	1	1.7	1	4
96.0	99.0	3.0	3.0	1	1.9	1	4
99.0	102.0	3.0	3.0	1	1.9	1	4
102.0	105.0	3.0	3.0	1	1.2	0	4
105.0	108.0	3.0	3.0	1	1.7	1	5
108.0	111.0	3.0	3.0	1	1.2	0	4
111.0	114.0	3.0	3.1	1	1.6	1	5
114.0	117.0	3.0	2.9	1	1.7	1	4
117.0	120.0	3.0	3.0	1	1.6	1	4
120.0	123.0	3.0	3.0	1	1.7	1	4
123.0	126.0	3.0	3.0	1	1.4	0	4
126.0	129.0	3.0	2.8	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-01A					
Drilled 2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	3.0	1	1.2	0	4
132.0	135.0	3.0	3.0	1	1.2	0	4
135.0	138.0	3.0	3.0	1	1.5	1	4
138.0	141.0	3.0	2.9	1	1.4	0	5
141.0	144.0	3.0	3.0	1	1.4	0	4
144.0	147.0	3.0	3.0	1	1.6	1	4
147.0	150.0	3.0	2.4	1	1.0	0	4
150.0	153.0	3.0	1.9	1	1.0	0	4
153.0	156.0	3.0	2.7	1	1.4	0	4
156.0	159.0	3.0	3.0	1	1.1	0	4
159.0	162.0	3.0	3.0	1	1.5	1	4
162.0	165.0	3.0	3.0	1	2.0	1	4
165.0	168.0	3.0	2.9	1	1.7	1	4
168.0	171.0	3.0	2.9	1	1.1	0	4
171.0	174.0	3.0	3.0	1	1.6	1	5
174.0	177.0	3.0	3.0	1	2.0	1	4
177.0	180.0	3.0	3.0	1	2.2	1	4
180.0	183.0	3.0	3.0	1	1.8	1	4
183.0	186.0	3.0	3.0	1	1.1	0	4
186.0	189.0	3.0	2.9	1	2.0	1	4
189.0	192.0	3.0	2.8	1	1.0	0	4
192.0	195.0	3.0	2.8	1	0.8	0	4
195.0	198.0	3.0	3.0	1	0.8	0	4
198.0	201.0	3.0	3.0	1	1.7	1	4
201.0	204.0	3.0	2.9	1	1.8	1	4
204.0	207.0	3.0	3.0	1	1.7	1	4
207.0	210.0	3.0	2.9	1	1.8	1	4
210.0	213.0	3.0	3.0	1	1.2	0	4
213.0	216.0	3.0	3.0	1	2.0	1	4
216.0	219.0	3.0	2.9	1	2.3	1	4
219.0	222.0	3.0	2.9	1	2.1	1	4
222.0	225.0	3.0	3.0	1	1.7	1	4
225.0	228.0	3.0	2.9	1	0.9	0	4
228.0	231.0	3.0	3.0	1	1.7	1	4
231.0	234.0	3.0	3.0	1	1.7	1	4
234.0	237.0	3.0	2.8	1	1.2	0	4
237.0	240.0	3.0	2.9	1	1.6	1	4
240.0	243.0	3.0	3.0	1	2.1	1	4
243.0	246.0	3.0	2.8	1	1.5	1	4
246.0	249.0	3.0	2.9	1	1.6	1	4
249.0	252.0	3.0	2.8	1	1.7	1	4
252.0	255.0	3.0	2.7	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	2.9	1	2.5	1	4
258.0	261.0	3.0	2.7	1	1.4	0	4
261.0	264.0	3.0	3.0	1	1.9	1	4
264.0	267.0	3.0	2.9	1	2.4	1	4
267.0	270.0	3.0	2.8	1	1.5	1	4
270.0	273.0	3.0	2.9	1	2.0	1	4
273.0	276.0	3.0	3.0	1	2.0	1	4
276.0	279.0	3.0	3.0	1	2.4	1	4
279.0	282.0	3.0	2.9	1	2.5	1	4
282.0	285.0	3.0	2.9	1	2.4	1	4
285.0	288.0	3.0	3.0	1	2.0	1	4
288.0	291.0	3.0	3.0	1	1.8	1	4
291.0	294.0	3.0	3.0	1	1.9	1	4
294.0	297.0	3.0	2.9	1	2.1	1	4
297.0	300.0	3.0	3.0	1	2.1	1	4
300.0	303.0	3.0	3.0	1	2.4	1	4
303.0	306.0	3.0	3.0	1	1.7	1	4
306.0	309.0	3.0	3.0	1	2.1	1	4
309.0	312.0	3.0	3.1	1	2.0	1	4
312.0	315.0	3.0	3.0	1	2.3	1	4
315.0	318.0	3.0	2.9	1	2.1	1	4
318.0	321.0	3.0	3.0	1	2.5	1	4
321.0	324.0	3.0	2.9	1	2.2	1	4
324.0	327.0	3.0	2.9	1	2.1	1	4
327.0	330.0	3.0	3.0	1	2.0	1	4
330.0	333.0	3.0	3.0	1	2.2	1	4
333.0	336.0	3.0	2.9	1	2.5	1	4
336.0	339.0	3.0	2.9	1	2.4	1	4
339.0	342.0	3.0	3.0	1	2.2	1	4
342.0	345.0	3.0	3.0	1	1.9	1	4
345.0	348.0	3.0	3.0	1	2.0	1	4
348.0	351.0	3.0	3.0	1	2.0	1	5
348.0	351.0	3.0	3.2	1	1.8	1	4
351.0	354.0	3.0	3.0	1	2.4	1	4
354.0	357.0	3.0	3.0	1	2.3	1	4
357.0	360.0	3.0	3.0	1	2.3	1	4
360.0	363.0	3.0	3.0	1	2.3	1	4
363.0	366.0	3.0	3.0	1	2.5	1	4
366.0	369.0	3.0	3.0	1	2.3	1	4
369.0	372.0	3.0	3.0	1	2.6	1	4
372.0	375.0	3.0	2.7	1	2.2	1	4
375.0	378.0	3.0	3.0	1	1.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
378.0	381.0	3.0	3.0	1	1.9	1	4
381.0	384.0	3.0	3.1	1	2.4	1	4
384.0	387.0	3.0	3.1	1	1.8	1	4
387.0	390.0	3.0	3.0	1	2.3	1	4
390.0	393.0	3.0	3.0	1	2.2	1	4
393.0	396.0	3.0	3.1	1	1.9	1	4
396.0	399.0	3.0	3.1	1	2.5	1	4
399.0	402.0	3.0	2.9	1	2.5	1	4
402.0	405.0	3.0	3.0	1	2.1	1	3
405.0	408.0	3.0	3.0	1	2.7	1	4
408.0	411.0	3.0	3.0	1	2.2	1	4
411.0	414.0	3.0	3.0	1	2.2	1	4
414.0	417.0	3.0	3.0	1	2.3	1	4
417.0	420.0	3.0	3.1	1	2.1	1	4
420.0	423.0	3.0	3.0	1	2.6	1	4
423.0	426.0	3.0	3.0	1	2.7	1	4
426.0	429.0	3.0	3.0	1	2.1	1	4
429.0	432.0	3.0	3.0	1	1.6	1	4
432.0	435.0	3.0	3.0	1	2.7	1	4
435.0	438.0	3.0	3.0	1	2.5	1	4
438.0	441.0	3.0	3.0	1	1.7	1	4
441.0	444.0	3.0	3.0	1	2.3	1	4
444.0	447.0	3.0	3.0	1	2.3	1	4
447.0	450.0	3.0	3.0	1	2.2	1	4
450.0	453.0	3.0	3.0	1	2.4	1	4
453.0	456.0	3.0	3.0	1	2.0	1	4
456.0	459.0	3.0	3.0	1	2.1	1	4
459.0	462.0	3.0	3.0	1	1.8	1	4
462.0	465.0	3.0	3.1	1	2.2	1	4
465.0	468.0	3.0	3.0	1	1.9	1	4
468.0	471.0	3.0	3.0	1	2.6	1	4
471.0	474.0	3.0	3.0	1	1.4	0	4
474.0	477.0	3.0	3.0	1	2.3	1	4
477.0	480.0	3.0	3.0	1	2.3	1	4
480.0	483.0	3.0	3.0	1	1.8	1	4
483.0	486.0	3.0	3.0	1	1.8	1	4
486.0	489.0	3.0	3.0	1	1.4	0	4
489.0	492.0	3.0	3.0	1	1.7	1	4
492.0	495.0	3.0	3.0	1	1.3	0	4
495.0	498.0	3.0	3.0	1	2.2	1	4
498.0	501.0	3.0	3.0	1	2.2	1	4
501.0	504.0	3.0	3.1	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
504.0	507.0	3.0	3.1	1	1.9	1	4
507.0	510.0	3.0	3.0	1	2.1	1	4
510.0	513.0	3.0	3.0	1	2.2	1	4
513.0	516.0	3.0	3.0	1	1.9	1	4
516.0	519.0	3.0	3.0	1	1.8	1	4
519.0	522.0	3.0	3.0	1	1.5	1	3
522.0	525.0	3.0	3.1	1	1.7	1	4
525.0	528.0	3.0	3.0	1	2.2	1	4
528.0	531.0	3.0	3.1	1	1.7	1	4
531.0	534.0	3.0	2.8	1	1.6	1	4
534.0	537.0	3.0	3.0	1	2.0	1	4
537.0	540.0	3.0	3.0	1	1.0	0	4
540.0	543.0	3.0	3.0	1	1.3	0	4
543.0	546.0	3.0	3.0	1	1.1	0	4
546.0	549.0	3.0	3.0	1	0.8	0	4
549.0	552.0	3.0	3.0	1	1.8	1	4
552.0	555.0	3.0	3.0	1	1.7	1	4
555.0	558.0	3.0	3.1	1	2.0	1	4
558.0	561.0	3.0	3.0	1	1.1	0	4
561.0	564.0	3.0	3.0	1	0.9	0	4
564.0	567.0	3.0	2.9	1	2.2	1	4
567.0	570.0	3.0	3.1	1	1.3	0	4
570.0	573.0	3.0	3.0	1	1.7	1	4
573.0	576.0	3.0	3.1	1	1.4	0	4
576.0	579.0	3.0	3.0	1	2.0	1	4
579.0	582.0	3.0	3.0	1	1.6	1	4
582.0	585.0	3.0	3.0	1	1.8	1	4
585.0	588.0	3.0	2.9	1	1.5	1	4
588.0	591.0	3.0	3.0	1	1.4	0	4
591.0	594.0	3.0	3.0	1	1.9	1	4
594.0	597.0	3.0	3.0	1	1.5	0	4
597.0	600.0	3.0	3.0	1	1.9	1	4
600.0	603.0	3.0	3.1	1	1.7	1	4
603.0	606.0	3.0	3.1	1	2.4	1	4
606.0	609.0	3.0	3.0	1	2.1	1	4
609.0	612.0	3.0	3.1	1	1.6	1	4
612.0	615.0	3.0	3.0	1	1.9	1	4
615.0	618.0	3.0	3.1	1	1.0	0	3
618.0	621.0	3.0	3.0	1	0.4	0	3
621.0	624.0	3.0	3.1	1	1.5	0	3
624.0	627.0	3.0	3.0	1	1.3	0	4
627.0	630.0	3.0	3.0	1	1.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
630.0	633.0	3.0	2.9	1	1.7	1	4
633.0	636.0	3.0	3.1	1	2.3	1	4
636.0	639.0	3.0	3.0	1	2.3	1	4
639.0	642.0	3.0	3.0	1	1.5	1	4
642.0	645.0	3.0	3.0	1	2.2	1	4
645.0	648.0	3.0	3.0	1	1.6	1	4
648.0	651.0	3.0	2.8	1	1.9	1	4
651.0	654.0	3.0	3.1	1	1.9	1	4
654.0	657.0	3.0	3.1	1	2.2	1	4
657.0	660.0	3.0	2.9	1	1.7	1	4
660.0	663.0	3.0	3.0	1	2.3	1	4
663.0	666.0	3.0	3.1	1	1.9	1	4
666.0	669.0	3.0	3.0	1	1.2	0	4
669.0	672.0	3.0	3.0	1	1.5	0	4
672.0	675.0	3.0	3.0	1	1.3	0	4
675.0	678.0	3.0	2.9	1	1.9	1	4
678.0	681.0	3.0	3.1	1	1.5	1	4
681.0	684.0	3.0	3.1	1	2.2	1	4
684.0	687.0	3.0	3.0	1	2.4	1	4
687.0	690.0	3.0	3.0	1	1.5	1	4
690.0	693.0	3.0	2.9	1	2.1	1	4
693.0	696.0	3.0	3.2	1	1.8	1	4
696.0	699.0	3.0	3.1	1	1.4	0	4
699.0	702.0	3.0	3.1	1	1.3	0	4
702.0	705.0	3.0	3.1	1	1.7	1	4
705.0	708.0	3.0	3.0	1	1.7	1	4
708.0	711.0	3.0	3.0	1	1.5	1	4
711.0	714.0	3.0	3.0	1	1.6	1	4
714.0	717.0	3.0	3.0	1	0.5	0	3
717.0	720.0	3.0	3.0	1	1.0	0	4
720.0	723.0	3.0	2.9	1	1.8	1	4
723.0	726.0	3.0	2.9	1	0.9	0	4
726.0	729.0	3.0	3.1	1	1.1	0	4
729.0	732.0	3.0	3.0	1	1.1	0	4
732.0	735.0	3.0	3.0	1	0.9	0	4
735.0	738.0	3.0	3.0	1	1.3	0	4
738.0	741.0	3.0	2.9	1	1.6	1	4
741.0	744.0	3.0	3.0	1	1.3	0	4
744.0	747.0	3.0	2.6	1	0.6	0	4
747.0	750.0	3.0	3.0	1	1.6	1	5
750.0	753.0	3.0	3.0	1	1.0	0	4
753.0	756.0	3.0	3.0	1	1.6	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
756.0	759.0	3.0	2.9	1	1.7	1	4
759.0	762.0	3.0	3.0	1	1.7	1	4
762.0	765.0	3.0	2.9	1	1.8	1	4
765.0	768.0	3.0	3.0	1	1.2	0	5
768.0	771.0	3.0	2.9	1	1.3	0	4
771.0	774.0	3.0	3.0	1	1.5	1	4
774.0	777.0	3.0	2.0	1	0.9	0	4
777.0	780.0	3.0	3.0	1	1.5	1	4
780.0	783.0	3.0	3.0	1	1.7	1	4
783.0	786.0	3.0	3.0	1	1.5	1	4
786.0	789.0	3.0	3.0	1	1.0	0	4
789.0	792.0	3.0	3.0	1	1.4	0	4
792.0	795.0	3.0	2.9	1	1.7	1	4
795.0	798.0	3.0	2.9	1	0.6	0	4
798.0	801.0	3.0	3.0	1	1.2	0	4
801.0	804.0	3.0	3.0	1	1.1	0	4
804.0	807.0	3.0	3.0	1	1.2	0	4
807.0	810.0	3.0	2.9	1	1.4	0	4
810.0	813.0	3.0	2.9	1	2.1	1	4
813.0	816.0	3.0	3.0	1	1.5	1	4
816.0	819.0	3.0	3.0	1	1.5	1	4
819.0	822.0	3.0	2.9	1	2.0	1	4
822.0	825.0	3.0	3.0	1	1.4	0	4
825.0	828.0	3.0	3.0	1	1.0	0	4
828.0	831.0	3.0	2.9	1	1.5	1	5
831.0	834.0	3.0	3.0	1	1.2	0	4
834.0	837.0	3.0	3.0	1	1.4	0	4
837.0	840.0	3.0	3.0	1	1.3	0	4
840.0	843.0	3.0	2.9	1	1.9	1	5
843.0	846.0	3.0	3.0	1	2.4	1	4
846.0	849.0	3.0	3.0	1	1.4	0	4
849.0	852.0	3.0	2.9	1	1.9	1	4
852.0	855.0	3.0	3.0	1	1.4	0	4
855.0	858.0	3.0	3.0	1	1.9	1	4
858.0	861.0	3.0	3.0	1	1.1	0	4
861.0	864.0	3.0	3.0	1	1.5	1	4
864.0	867.0	3.0	2.7	1	1.0	0	4
867.0	870.0	3.0	3.0	1	1.0	0	4
870.0	873.0	3.0	2.8	1	1.5	1	5
873.0	876.0	3.0	2.9	1	1.5	0	4
876.0	879.0	3.0	3.0	1	1.5	1	4
879.0	882.0	3.0	2.8	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	KH-07-01A	Azimuth	Dip	Depth	Easting	Northing
Drilled	2007	0	-90	980.00	11966.76	16017.57

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
882.0	885.0	3.0	3.0	1	2.2	1	4
885.0	888.0	3.0	2.8	1	1.0	0	4
888.0	891.0	3.0	3.0	1	1.8	1	4
891.0	894.0	3.0	2.9	1	1.3	0	4
894.0	897.0	3.0	3.0	1	1.3	0	4
897.0	900.0	3.0	2.9	1	1.0	0	4
900.0	903.0	3.0	3.0	1	1.3	0	4
903.0	906.0	3.0	2.8	1	1.5	1	4
906.0	909.0	3.0	3.0	1	1.2	0	4
909.0	912.0	3.0	2.9	1	1.5	1	4
912.0	915.0	3.0	3.0	1	1.6	1	4
915.0	918.0	3.0	2.7	1	1.3	0	4
918.0	921.0	3.0	3.0	1	2.1	1	4
921.0	924.0	3.0	3.0	1	2.4	1	4
924.0	927.0	3.0	3.0	1	1.7	1	4
927.0	930.0	3.0	2.8	1	2.0	1	4
930.0	933.0	3.0	3.0	1	2.1	1	4
933.0	936.0	3.0	2.7	1	0.6	0	4
936.0	939.0	3.0	3.0	1	1.0	0	4
939.0	942.0	3.0	2.9	1	0.9	0	4
942.0	945.0	3.0	3.0	1	2.0	1	4
945.0	948.0	3.0	2.8	1	1.7	1	4
948.0	951.0	3.0	3.0	1	1.8	1	4
951.0	954.0	3.0	2.8	1	1.3	0	4
954.0	957.0	3.0	2.9	1	2.2	1	4
957.0	960.0	3.0	2.9	1	1.7	1	4
960.0	963.0	3.0	2.7	1	0.9	0	4
963.0	966.0	3.0	2.9	1	2.1	1	4
966.0	969.0	3.0	2.8	1	1.2	0	4
969.0	972.0	3.0	2.9	1	1.6	1	4
972.0	975.0	3.0	3.0	1	1.6	1	4
975.0	978.0	3.0	3.0	1	1.8	1	4
978.0	980.0	2.0	2.0	1	1.1	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	7.5	7.5	0.0	0	0.0	0	4
9.0	12.0	3.0	2.3	1	0.3	0	4
12.0	15.0	3.0	2.5	1	0.0	0	4
15.0	18.0	3.0	3.0	1	0.3	0	4
18.0	21.0	3.0	2.5	1	0.3	0	4
21.0	24.0	3.0	2.2	1	0.6	0	4
24.0	27.0	3.0	1.6	1	0.2	0	4
27.0	30.0	3.0	2.6	1	0.9	0	4
30.0	33.0	3.0	2.7	1	0.6	0	4
33.0	36.0	3.0	3.0	1	1.0	0	4
36.0	39.0	3.0	3.0	1	1.2	0	4
39.0	42.0	3.0	3.0	1	0.6	0	4
42.0	45.0	3.0	3.0	1	0.7	0	4
45.0	48.0	3.0	2.7	1	0.6	0	4
48.0	51.0	3.0	2.8	1	2.0	1	4
51.0	54.0	3.0	2.2	1	0.9	0	4
54.0	57.0	3.0	2.9	1	1.1	0	4
57.0	60.0	3.0	2.6	1	0.9	0	4
60.0	63.0	3.0	2.7	1	1.3	0	4
63.0	66.0	3.0	3.0	1	1.7	1	4
66.0	69.0	3.0	2.8	1	1.3	0	4
69.0	72.0	3.0	2.8	1	2.1	1	4
72.0	75.0	3.0	2.8	1	2.1	1	4
75.0	78.0	3.0	2.9	1	2.2	1	4
78.0	81.0	3.0	2.8	1	1.9	1	4
81.0	84.0	3.0	2.8	1	1.7	1	4
84.0	87.0	3.0	3.0	1	2.1	1	4
87.0	90.0	3.0	3.0	1	1.1	0	4
90.0	93.0	3.0	2.9	1	1.8	1	4
93.0	96.0	3.0	3.0	1	2.2	1	4
96.0	99.0	3.0	2.6	1	1.3	0	4
99.0	102.0	3.0	3.1	1	0.6	0	4
102.0	105.0	3.0	3.1	1	1.0	0	4
105.0	108.0	3.0	2.8	1	1.0	0	4
108.0	111.0	3.0	3.1	1	1.0	0	4
111.0	114.0	3.0	3.0	1	1.5	1	4
114.0	117.0	3.0	3.1	1	1.6	1	4
117.0	120.0	3.0	3.1	1	0.8	0	3
120.0	123.0	3.0	2.6	1	0.3	0	3
123.0	126.0	3.0	2.8	1	0.7	0	3
126.0	129.0	3.0	2.7	1	1.0	0	3
129.0	132.0	3.0	2.4	1	0.3	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
132.0	135.0	3.0	3.2	1	0.8	0	3
135.0	138.0	3.0	2.4	1	0.9	0	3
138.0	141.0	3.0	2.4	1	1.2	0	3
141.0	144.0	3.0	2.9	1	1.8	1	3
144.0	147.0	3.0	2.8	1	1.5	1	3
147.0	150.0	3.0	2.9	1	1.5	1	3
150.0	153.0	3.0	2.7	1	1.4	0	3
153.0	156.0	3.0	2.8	1	1.1	0	3
156.0	159.0	3.0	2.8	1	1.0	0	3
159.0	162.0	3.0	3.0	1	1.4	0	3
162.0	165.0	3.0	2.7	1	1.5	1	3
165.0	168.0	3.0	2.9	1	1.9	1	3
168.0	171.0	3.0	2.7	1	1.4	0	3
171.0	174.0	3.0	2.5	1	1.0	0	3
174.0	177.0	3.0	2.7	1	0.8	0	3
177.0	180.0	3.0	2.8	1	0.8	0	3
180.0	183.0	3.0	2.8	1	1.5	1	3
183.0	186.0	3.0	2.7	1	1.8	1	3
186.0	189.0	3.0	2.8	1	1.1	0	3
189.0	192.0	3.0	2.8	1	1.6	1	3
192.0	195.0	3.0	3.0	1	1.9	1	3
195.0	198.0	3.0	3.0	1	2.5	1	3
198.0	201.0	3.0	3.0	1	1.9	1	3
201.0	204.0	3.0	3.0	1	1.2	0	4
204.0	207.0	3.0	2.7	1	1.9	1	4
207.0	210.0	3.0	3.0	1	1.9	1	4
210.0	213.0	3.0	3.0	1	2.0	1	4
213.0	216.0	3.0	2.9	1	2.1	1	4
216.0	219.0	3.0	3.0	1	2.1	1	4
219.0	222.0	3.0	3.0	1	0.9	0	3
222.0	225.0	3.0	3.0	1	2.8	1	4
225.0	228.0	3.0	3.0	1	1.9	1	4
228.0	231.0	3.0	2.9	1	1.4	0	4
231.0	234.0	3.0	2.8	1	1.0	0	4
234.0	237.0	3.0	3.0	1	0.8	0	4
237.0	240.0	3.0	3.0	1	0.7	0	4
240.0	243.0	3.0	2.5	1	1.0	0	3
243.0	246.0	3.0	2.9	1	0.5	0	4
246.0	249.0	3.0	3.0	1	1.1	0	4
249.0	252.0	3.0	3.0	1	0.2	0	4
252.0	255.0	3.0	3.0	1	1.5	1	5
255.0	258.0	3.0	2.8	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
258.0	261.0	3.0	3.0	1	1.8	1	4
261.0	264.0	3.0	2.9	1	1.0	0	4
264.0	267.0	3.0	2.8	1	0.7	0	4
267.0	270.0	3.0	2.7	1	0.5	0	4
270.0	273.0	3.0	3.0	1	0.9	0	4
273.0	276.0	3.0	2.8	1	0.5	0	4
276.0	279.0	3.0	2.9	1	0.5	0	4
279.0	282.0	3.0	3.0	1	0.9	0	4
282.0	285.0	3.0	3.0	1	0.6	0	4
285.0	288.0	3.0	2.9	1	0.8	0	4
288.0	291.0	3.0	3.0	1	1.0	0	4
291.0	294.0	3.0	3.0	1	1.3	0	4
294.0	297.0	3.0	3.0	1	1.3	0	4
297.0	300.0	3.0	2.9	1	2.0	1	4
300.0	303.0	3.0	2.9	1	1.6	1	4
303.0	306.0	3.0	2.9	1	1.4	0	4
306.0	309.0	3.0	3.0	1	1.2	0	4
309.0	312.0	3.0	2.9	1	1.6	1	4
312.0	315.0	3.0	2.8	1	1.9	1	4
315.0	318.0	3.0	3.0	1	1.9	1	4
318.0	321.0	3.0	3.0	1	2.2	1	4
321.0	324.0	3.0	3.0	1	1.9	1	5
324.0	327.0	3.0	3.0	1	2.3	1	5
327.0	330.0	3.0	2.9	1	1.6	1	4
330.0	333.0	3.0	3.0	1	1.6	1	4
333.0	336.0	3.0	3.0	1	2.0	1	5
336.0	339.0	3.0	2.6	1	1.0	0	4
339.0	342.0	3.0	2.7	1	0.7	0	4
342.0	345.0	3.0	3.0	1	1.5	1	4
345.0	348.0	3.0	3.0	1	1.3	0	4
348.0	351.0	3.0	3.0	1	1.5	1	4
351.0	354.0	3.0	2.8	1	1.7	1	4
354.0	357.0	3.0	2.8	1	1.9	1	4
357.0	360.0	3.0	3.0	1	1.6	1	5
360.0	363.0	3.0	2.9	1	0.8	0	5
363.0	366.0	3.0	2.9	1	1.4	0	5
366.0	369.0	3.0	3.0	1	1.9	1	5
369.0	372.0	3.0	3.0	1	1.8	1	4
372.0	375.0	3.0	2.7	1	1.1	0	4
375.0	378.0	3.0	2.8	1	1.1	0	5
378.0	381.0	3.0	3.0	1	1.6	1	5
381.0	384.0	3.0	3.0	1	2.0	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
384.0	387.0	3.0	3.0	1	1.5	1	4
387.0	390.0	3.0	2.9	1	1.6	1	4
390.0	393.0	3.0	2.9	1	1.4	0	4
393.0	396.0	3.0	2.3	1	0.6	0	5
396.0	399.0	3.0	3.0	1	1.2	0	4
399.0	402.0	3.0	2.8	1	0.6	0	5
402.0	405.0	3.0	3.0	1	0.6	0	5
405.0	408.0	3.0	2.7	1	1.0	0	4
408.0	411.0	3.0	2.4	1	0.6	0	5
411.0	414.0	3.0	3.0	1	1.2	0	4
414.0	417.0	3.0	2.8	1	1.1	0	4
417.0	420.0	3.0	2.5	1	1.2	0	4
420.0	423.0	3.0	2.7	1	1.1	0	5
423.0	426.0	3.0	2.9	1	1.0	0	5
426.0	429.0	3.0	2.8	1	1.7	1	5
429.0	432.0	3.0	3.0	1	2.3	1	4
432.0	435.0	3.0	3.1	1	0.6	0	4
435.0	438.0	3.0	3.0	1	1.3	0	4
438.0	441.0	3.0	2.7	1	1.4	0	4
441.0	444.0	3.0	3.0	1	1.5	1	4
444.0	447.0	3.0	2.7	1	1.8	1	4
447.0	450.0	3.0	3.0	1	0.9	0	4
450.0	453.0	3.0	2.8	1	1.4	0	4
453.0	456.0	3.0	2.7	1	0.8	0	4
456.0	459.0	3.0	2.9	1	1.7	1	4
459.0	462.0	3.0	3.2	1	2.5	1	4
462.0	465.0	3.0	3.0	1	2.4	1	4
465.0	468.0	3.0	2.9	1	2.2	1	4
468.0	471.0	3.0	2.9	1	2.1	1	4
471.0	474.0	3.0	3.0	1	2.2	1	4
474.0	477.0	3.0	3.0	1	2.2	1	4
477.0	480.0	3.0	3.0	1	2.1	1	4
480.0	483.0	3.0	2.8	1	1.4	0	4
483.0	486.0	3.0	2.6	1	2.1	1	4
486.0	489.0	3.0	2.3	1	1.7	1	4
489.0	492.0	3.0	2.9	1	2.4	1	4
492.0	495.0	3.0	3.0	1	2.4	1	4
495.0	498.0	3.0	2.9	1	1.3	0	4
498.0	501.0	3.0	3.0	1	1.3	0	4
501.0	504.0	3.0	2.9	1	1.2	0	4
504.0	507.0	3.0	2.8	1	1.1	0	4
507.0	510.0	3.0	2.8	1	1.2	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
510.0	513.0	3.0					4
513.0	516.0	3.0	3.0	1	0.4	0	4
516.0	519.0	3.0	3.0	1	1.4	0	4
519.0	522.0	3.0	2.8	1	0.8	0	4
522.0	525.0	3.0	2.9	1	1.2	0	4
525.0	528.0	3.0	1.7	1	0.6	0	4
528.0	531.0	3.0	1.9	1	0.6	0	3
531.0	534.0	3.0	3.0	1	0.4	0	3
534.0	537.0	3.0	1.5	1	0.0	0	3
537.0	540.0	3.0	1.8	1	0.4	0	3
540.0	543.0	3.0	1.9	1	0.2	0	3
543.0	546.0	3.0	0.9	0	0.0	0	3
546.0	549.0	3.0	1.9	1	0.4	0	4
549.0	552.0	3.0	2.4	1	1.0	0	4
552.0	555.0	3.0	2.7	1	1.4	0	4
555.0	558.0	3.0	2.7	1	1.0	0	4
558.0	561.0	3.0	3.0	1	1.5	1	4
561.0	564.0	3.0	3.0	1	1.1	0	4
564.0	567.0	3.0	3.0	1	1.2	0	4
567.0	570.0	3.0	3.0	1	1.5	1	4
570.0	573.0	3.0	1.2	0	0.2	0	4
573.0	576.0	3.0	1.8	1	0.1	0	4
576.0	579.0	3.0	0.3	0	0.0	0	4
579.0	582.0	3.0	1.4	0	0.2	0	3
582.0	585.0	3.0	1.7	1	0.1	0	3
585.0	588.0	3.0	3.0	1	1.3	0	4
588.0	591.0	3.0	3.0	1	0.7	0	4
591.0	594.0	3.0	2.7	1	0.8	0	4
594.0	597.0	3.0	2.4	1	0.4	0	4
597.0	600.0	3.0	2.6	1	1.7	1	4
600.0	603.0	3.0	2.6	1	2.7	1	4
603.0	606.0	3.0	2.9	1	1.3	0	4
606.0	609.0	3.0	3.0	1	0.6	0	4
609.0	612.0	3.0	3.0	1	1.0	0	4
612.0	615.0	3.0	3.0	1	1.9	1	4
615.0	618.0	3.0	3.0	1	1.9	1	4
618.0	621.0	3.0	2.4	1	0.6	0	3
621.0	624.0	3.0	2.2	1	0.3	0	4
624.0	627.0	3.0	2.8	1	1.1	0	4
627.0	630.0	3.0	3.0	1	17.0	6	4
630.0	633.0	3.0	2.9	1	0.6	0	4
633.0	636.0	3.0	2.6	1	0.6	0	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
636.0	639.0	3.0	2.0	1	0.1	0	4
639.0	642.0	3.0	2.6	1	0.2	0	4
642.0	645.0	3.0	2.6	1	0.4	0	4
645.0	648.0	3.0	2.9	1	1.7	1	3
648.0	651.0	3.0	2.5	1	0.6	0	4
651.0	654.0	3.0	2.6	1	0.5	0	3
654.0	657.0	3.0	2.9	1	1.0	0	4
657.0	660.0	3.0	2.6	1	0.2	0	4
660.0	663.0	3.0	1.7	1	0.3	0	4
663.0	666.0	3.0	1.7	1	0.3	0	4
666.0	669.0	3.0	3.0	1	2.0	1	4
669.0	672.0	3.0	3.0	1	2.2	1	4
672.0	675.0	3.0	3.0	1	1.2	0	4
675.0	678.0	3.0	3.0	1	1.1	0	4
678.0	681.0	3.0	2.9	1	1.5	1	4
681.0	684.0	3.0	3.1	1	1.1	0	4
684.0	687.0	3.0	2.7	1	1.2	0	4
687.0	690.0	3.0	3.2	1	0.8	0	3
690.0	693.0	3.0	3.0	1	0.7	0	3
693.0	696.0	3.0	2.6	1	0.1	0	3
696.0	699.0	3.0	3.0	1	0.8	0	4
699.0	702.0	3.0	3.3	1	0.4	0	4
702.0	705.0	3.0	3.0	1	0.7	0	3
705.0	708.0	3.0	2.8	1	0.2	0	3
708.0	711.0	3.0	3.4	1	0.9	0	4
711.0	714.0	3.0	3.0	1	1.0	0	4
714.0	717.0	3.0	3.4	1	2.0	1	4
717.0	720.0	3.0	2.9	1	0.6	0	4
720.0	723.0	3.0	2.9	1	1.2	0	4
723.0	726.0	3.0	3.0	1	0.6	0	4
726.0	729.0	3.0	3.0	1	1.3	0	4
729.0	732.0	3.0	3.0	1	1.4	0	4
732.0	735.0	3.0	2.7	1	1.6	1	4
735.0	738.0	3.0	3.5	1	2.4	1	4
738.0	741.0	3.0	2.8	1	2.0	1	4
741.0	744.0	3.0	3.0	1	1.6	1	4
744.0	747.0	3.0	3.2	1	0.9	0	3
747.0	750.0	3.0	3.0	1	2.2	1	4
750.0	753.0	3.0	3.1	1	2.4	1	4
753.0	756.0	3.0	3.0	1	1.3	0	4
756.0	759.0	3.0	3.2	1	0.9	0	4
759.0	762.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
762.0	765.0	3.0	3.0	1	1.3	0	4
765.0	768.0	3.0	3.1	1	2.0	1	4
768.0	771.0	3.0	2.9	1	1.5	1	4
771.0	774.0	3.0	3.0	1	1.3	0	4
774.0	777.0	3.0	3.1	1	1.3	0	4
777.0	780.0	3.0	2.9	1	1.2	0	4
780.0	783.0	3.0	3.1	1	1.6	1	4
783.0	786.0	3.0	2.8	1	1.9	1	4
786.0	789.0	3.0	3.0	1	0.6	0	4
789.0	792.0	3.0	3.2	1	1.5	1	4
792.0	795.0	3.0	3.1	1	2.0	1	4
795.0	798.0	3.0	3.1	1	2.2	1	4
798.0	801.0	3.0	3.0	1	1.7	1	4
801.0	804.0	3.0	2.9	1	0.9	0	4
804.0	807.0	3.0	3.0	1	1.7	1	4
807.0	810.0	3.0	3.0	1	0.7	0	4
810.0	813.0	3.0	3.1	1	1.6	1	4
813.0	816.0	3.0	3.0	1	1.0	0	4
816.0	819.0	3.0	3.0	1	1.6	1	4
819.0	822.0	3.0	3.0	1	1.9	1	4
822.0	825.0	3.0	3.0	1	2.2	1	4
825.0	828.0	3.0	3.0	1	1.6	1	4
828.0	831.0	3.0	3.0	1	1.1	0	4
831.0	834.0	3.0	3.0	1	2.2	1	4
834.0	837.0	3.0	3.0	1	1.5	0	4
837.0	840.0	3.0	3.1	1	0.8	0	4
840.0	843.0	3.0	3.0	1	2.3	1	4
843.0	846.0	3.0	3.1	1	2.2	1	4
846.0	849.0	3.0	2.8	1	1.4	0	4
849.0	852.0	3.0	3.0	1	1.8	1	4
852.0	855.0	3.0	3.0	1	2.0	1	4
855.0	858.0	3.0	3.0	1	1.9	1	4
858.0	861.0	3.0	3.1	1	1.9	1	4
861.0	864.0	3.0	3.0	1	2.4	1	4
864.0	867.0	3.0	3.1	1	2.6	1	4
867.0	870.0	3.0	3.1	1	1.6	1	4
870.0	873.0	3.0	3.0	1	0.9	0	4
873.0	876.0	3.0	3.0	1	1.4	0	5
876.0	879.0	3.0	2.8	1	1.2	0	5
879.0	882.0	3.0	3.0	1	0.6	0	4
882.0	885.0	3.0	2.8	1	1.2	0	4
885.0	888.0	3.0	2.6	1	0.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
888.0	891.0	3.0	2.7	1	0.3	0	4
891.0	894.0	3.0	3.0	1	0.8	0	4
894.0	897.0	3.0	2.7	1	1.3	0	4
897.0	900.0	3.0	3.0	1	1.0	0	4
900.0	903.0	3.0	3.0	1	1.6	1	4
903.0	906.0	3.0	3.0	1	0.8	0	4
906.0	909.0	3.0	3.0	1	0.5	0	4
909.0	912.0	3.0	3.2	1	2.1	1	4
912.0	915.0	3.0	2.7	1	2.0	1	4
915.0	918.0	3.0	3.0	1	1.6	1	4
918.0	921.0	3.0	3.0	1	2.4	1	4
921.0	924.0	3.0	2.9	1	1.4	0	4
924.0	927.0	3.0	3.0	1	1.5	1	4
927.0	930.0	3.0	2.9	1	1.2	0	4
930.0	933.0	3.0	2.8	1	1.1	0	4
933.0	936.0	3.0	3.0	1	1.5	1	4
936.0	939.0	3.0	3.0	1	1.1	0	4
939.0	942.0	3.0	3.0	1	1.2	0	4
942.0	945.0	3.0	2.9	1	1.3	0	4
945.0	948.0	3.0	3.0	1	0.8	0	4
948.0	951.0	3.0	2.9	1	0.8	0	4
951.0	954.0	3.0	2.9	1	1.4	0	4
954.0	957.0	3.0	2.8	1	1.2	0	4
957.0	960.0	3.0	3.0	1	1.6	1	4
960.0	963.0	3.0	3.0	1	1.2	0	4
963.0	966.0	3.0	2.9	1	1.1	0	4
966.0	969.0	3.0	2.9	1	1.2	0	4
969.0	972.0	3.0	3.0	1	1.8	1	4
972.0	975.0	3.0	3.1	1	1.2	0	4
975.0	978.0	3.0	3.0	1	1.6	1	4
978.0	981.0	3.0	3.0	1	1.7	1	4
981.0	984.0	3.0	3.0	1	1.3	0	4
984.0	987.0	3.0	2.1	1	1.1	0	4
987.0	990.0	3.0	3.1	1	0.6	0	4
990.0	993.0	3.0	3.0	1	0.5	0	4
993.0	996.0	3.0	2.8	1	1.2	0	4
996.0	999.0	3.0	2.1	1	0.5	0	4
999.0	1002.0	3.0	3.0	1	1.5	1	4
1002.0	1005.0	3.0	3.1	1	0.8	0	4
1005.0	1008.0	3.0	3.0	1	1.4	0	4
1008.0	1011.0	3.0	3.0	1	0.9	0	4
1011.0	1014.0	3.0	3.0	1	0.7	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-02					
Drilled 2007	0	-90	1120.50	11754.30	15884.74

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1014.0	1017.0	3.0	3.0	1	0.9	0	4
1017.0	1020.0	3.0	3.0	1	0.7	0	4
1020.0	1023.0	3.0	2.9	1	1.0	0	4
1023.0	1026.0	3.0	3.0	1	1.8	1	4
1026.0	1029.0	3.0	2.7	1	0.9	0	4
1029.0	1032.0	3.0	3.0	1	1.0	0	4
1032.0	1035.0	3.0	2.9	1	1.1	0	4
1035.0	1038.0	3.0	3.0	1	0.3	0	4
1038.0	1041.0	3.0	2.8	1	1.3	0	4
1041.0	1044.0	3.0	3.0	1	0.5	0	4
1044.0	1047.0	3.0	3.0	1	1.2	0	4
1047.0	1050.0	3.0	3.0	1	0.7	0	4
1050.0	1053.0	3.0	2.9	1	0.3	0	4
1053.0	1056.0	3.0	2.8	1	0.1	0	4
1056.0	1059.0	3.0	2.9	1	0.7	0	4
1059.0	1062.0	3.0	2.9	1	0.3	0	4
1062.0	1065.0	3.0	2.9	1	1.2	0	4
1065.0	1068.0	3.0	2.9	1	0.4	0	4
1068.0	1071.0	3.0	2.9	1	1.2	0	4
1071.0	1074.0	3.0	3.0	2	2.2	1	4
1074.0	1077.0	3.0	3.2	1	1.7	1	4
1077.0	1080.0	3.0	2.7	1	1.9	1	4
1080.0	1083.0	3.0	2.9	1	1.8	1	4
1083.0	1086.0	3.0	3.0	1	1.1	0	4
1086.0	1089.0	3.0	3.0	1	1.3	0	4
1089.0	1092.0	3.0	3.0	1	1.2	0	4
1092.0	1095.0	3.0	3.0	1	1.1	0	4
1095.0	1098.0	3.0	3.0	1	0.7	0	4
1098.0	1101.0	3.0	3.0	1	0.8	0	4
1101.0	1104.0	3.0	2.9	1	1.1	0	4
1104.0	1107.0	3.0	3.0	1	0.7	0	4
1107.0	1110.0	3.0	3.0	1	1.9	1	4
1110.0	1113.0	3.0	3.0	1	1.0	0	4
1113.0	1116.0	3.0	2.9	1	0.8	0	4
1116.0	1119.0	3.0	3.0	1	0.9	0	4
1119.0	1120.5	1.5	1.6	1	0.7	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	9.0	9.0					0
9.0	12.0	3.0	0.5	0	0.2	0	4
12.0	15.0	3.0	2.5	1	1.0	0	4
15.0	18.0	3.0	3.0	1	1.1	0	4
18.0	21.0	3.0	3.0	1	1.2	0	4
21.0	24.0	3.0	3.0	1	0.7	0	4
24.0	27.0	3.0	3.0	1	1.0	0	4
27.0	30.0	3.0	3.0	1	1.4	0	4
30.0	33.0	3.0	2.9	1	1.2	0	4
33.0	36.0	3.0	2.9	1	0.7	0	4
36.0	39.0	3.0	2.9	1	1.3	0	4
39.0	42.0	3.0	3.0	1	1.1	0	4
42.0	45.0	3.0	3.0	1	0.9	0	4
45.0	48.0	3.0	3.0	1	1.7	1	4
48.0	51.0	3.0	3.0	1	1.5	0	4
51.0	54.0	3.0	3.0	1	0.8	0	4
54.0	57.0	3.0	2.8	1	1.1	0	4
57.0	60.0	3.0	2.9	1	1.6	1	4
60.0	63.0	3.0	2.9	1	1.0	0	4
63.0	66.0	3.0	2.8	1	1.8	1	4
66.0	69.0	3.0	2.9	1	1.4	0	4
69.0	72.0	3.0	3.0	1	1.7	1	4
72.0	75.0	3.0	3.0	1	1.3	0	4
75.0	78.0	3.0	3.0	1	2.5	1	4
78.0	81.0	3.0	3.0	1	2.6	1	4
81.0	84.0	3.0	3.0	1	2.4	1	4
84.0	87.0	3.0	3.0	1	2.0	1	4
87.0	90.0	3.0	3.0	1	1.8	1	4
90.0	93.0	3.0	3.0	1	1.1	0	4
93.0	96.0	3.0	2.9	1	0.7	0	4
96.0	99.0	3.0	3.0	1	1.5	1	4
99.0	102.0	3.0	3.0	1	1.1	0	4
102.0	105.0	3.0	2.9	1	1.4	0	4
105.0	108.0	3.0	2.5	1	0.2	0	4
108.0	111.0	3.0	2.9	1	0.7	0	4
111.0	114.0	3.0	2.9	1	1.5	1	4
114.0	117.0	3.0	3.0	1	1.2	0	4
117.0	120.0	3.0	3.0	1	1.5	1	4
120.0	123.0	3.0	3.0	1	1.8	1	4
123.0	126.0	3.0	3.0	1	2.0	1	4
126.0	129.0	3.0	3.0	1	1.6	1	4
129.0	132.0	3.0	3.0	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
132.0	135.0	3.0	3.0	1	1.6	1	4
135.0	138.0	3.0	3.0	1	1.9	1	4
138.0	141.0	3.0	3.0	1	1.3	0	4
141.0	144.0	3.0	3.0	1	2.0	1	4
144.0	147.0	3.0	3.0	1	1.9	1	4
147.0	150.0	3.0	3.0	1	2.2	1	4
150.0	153.0	3.0	3.0	1	2.3	1	4
153.0	156.0	3.0	3.0	1	2.4	1	4
156.0	159.0	3.0	3.0	1	2.8	1	4
159.0	162.0	3.0	3.0	1	1.6	1	4
162.0	165.0	3.0	3.0	1	1.1	0	4
165.0	168.0	3.0	3.0	1	1.7	1	4
168.0	171.0	3.0	3.0	1	1.5	0	4
171.0	174.0	3.0	3.0	1	1.0	0	4
174.0	177.0	3.0	3.0	1	1.8	1	4
177.0	180.0	3.0	3.0	1	1.7	1	4
180.0	183.0	3.0	3.0	1	1.5	1	4
183.0	186.0	3.0	3.0	1	2.7	1	4
186.0	189.0	3.0	3.0	1	2.6	1	4
189.0	192.0	3.0	3.0	1	2.6	1	4
192.0	195.0	3.0	3.0	1	2.5	1	4
195.0	198.0	3.0	3.0	1	2.1	1	4
198.0	201.0	3.0	3.0	1	1.6	1	4
201.0	204.0	3.0	3.0	1	1.5	1	4
204.0	207.0	3.0	3.0	1	1.6	1	4
207.0	210.0	3.0	3.0	1	1.4	0	4
210.0	213.0	3.0	3.0	1	1.4	0	4
213.0	216.0	3.0	3.0	1	1.2	0	4
216.0	219.0	3.0	3.0	1	2.1	1	4
219.0	222.0	3.0	3.0	1	1.1	0	4
222.0	225.0	3.0	3.0	1	1.9	1	4
225.0	228.0	3.0	3.0	1	1.3	0	4
228.0	231.0	3.0	3.0	1	1.6	1	4
231.0	234.0	3.0	3.1	1	1.0	0	4
234.0	237.0	3.0	3.0	1	0.3	0	4
237.0	240.0	3.0	3.0	1	1.4	0	4
240.0	243.0	3.0	3.0	1	0.8	0	4
243.0	246.0	3.0	3.0	1	0.5	0	4
246.0	249.0	3.0	3.0	1	1.0	0	4
249.0	252.0	3.0	3.0	1	0.4	0	4
252.0	255.0	3.0	3.0	1	0.5	0	4
255.0	258.0	3.0	3.0	1	1.3	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
258.0	261.0	3.0	3.0	1	1.0	0	4
261.0	264.0	3.0	3.0	1	2.1	1	4
264.0	267.0	3.0	3.0	1	1.6	1	4
267.0	270.0	3.0	3.0	1	1.6	1	4
270.0	273.0	3.0	3.0	1	2.0	1	4
273.0	276.0	3.0	3.0	1	1.8	1	4
276.0	279.0	3.0	3.0	1	2.2	1	4
279.0	282.0	3.0	3.0	1	2.4	1	4
282.0	285.0	3.0	3.0	1	2.4	1	4
285.0	288.0	3.0	3.0	1	2.2	1	4
288.0	291.0	3.0	3.0	1	2.9	1	4
291.0	294.0	3.0	3.0	1	2.8	1	4
294.0	297.0	3.0	2.9	1	2.7	1	4
297.0	300.0	3.0	3.2	1	2.7	1	4
300.0	303.0	3.0	2.9	1	2.7	1	4
303.0	306.0	3.0	3.1	1	2.7	1	4
306.0	309.0	3.0	3.0	1	2.8	1	4
309.0	312.0	3.0	3.0	1	2.9	1	4
312.0	315.0	3.0	3.0	1	2.9	1	4
315.0	318.0	3.0	3.1	1	3.0	1	4
318.0	321.0	3.0	3.1	1	2.8	1	4
321.0	324.0	3.0	3.0	1	2.8	1	4
324.0	327.0	3.0	3.0	1	2.9	1	4
327.0	330.0	3.0	3.0	1	2.9	1	4
330.0	333.0	3.0	3.0	1	1.8	1	4
333.0	336.0	3.0	3.0	1	2.5	1	4
336.0	339.0	3.0	3.0	1	2.5	1	4
339.0	342.0	3.0	3.0	1	2.6	1	4
342.0	345.0	3.0	3.1	1	2.8	1	4
345.0	348.0	3.0	3.0	1	2.8	1	4
348.0	351.0	3.0	2.9	1	2.7	1	4
351.0	354.0	3.0	3.2	1	3.0	1	4
354.0	357.0	3.0	3.0	1	2.7	1	4
357.0	360.0	3.0	3.0	1	2.8	1	4
360.0	363.0	3.0	3.0	1	2.3	1	4
363.0	366.0	3.0	3.0	1	2.8	1	4
366.0	369.0	3.0	3.1	1	2.9	1	4
369.0	372.0	3.0	3.1	1	3.0	1	4
372.0	375.0	3.0	2.9	1	2.6	1	4
375.0	378.0	3.0	3.1	1	2.9	1	4
378.0	381.0	3.0	3.1	1	3.0	1	4
381.0	384.0	3.0	3.0	1	2.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
384.0	387.0	3.0	2.8	1	2.3	1	4
384.0	387.0	3.0	2.8	1	2.3	1	4
387.0	390.0	3.0	2.9	1	1.7	1	4
390.0	393.0	3.0	2.8	1	1.3	0	4
393.0	396.0	3.0	3.0	1	2.2	1	0
396.0	399.0	3.0	2.8	1	1.5	1	0
399.0	402.0	3.0	2.9	1	1.5	1	0
402.0	405.0	3.0	3.0	1	2.3	1	0
405.0	408.0	3.0	3.1	1	2.7	1	0
408.0	411.0	3.0	1.9	1	0.5	0	0
411.0	414.0	3.0	2.7	1	1.1	0	0
414.0	417.0	3.0	3.0	1	1.3	0	0
417.0	420.0	3.0	3.0	1	1.9	1	0
420.0	423.0	3.0	2.7	1	0.8	0	0
423.0	426.0	3.0	2.3	1	1.7	1	0
426.0	429.0	3.0	3.0	1	2.8	1	0
429.0	432.0	3.0	3.1	1	1.8	1	0
432.0	435.0	3.0	2.1	1	0.7	0	0
435.0	438.0	3.0	3.0	1	0.6	0	0
438.0	441.0	3.0	2.8	1	1.6	1	0
441.0	444.0	3.0	3.0	1	2.2	1	0
444.0	447.0	3.0	2.9	1	1.5	1	0
447.0	450.0	3.0	2.7	1	1.2	0	0
450.0	453.0	3.0	3.1	1	1.5	1	0
453.0	456.0	3.0	3.0	1	0.6	0	0
456.0	459.0	3.0	3.0	1	1.9	1	0
459.0	462.0	3.0	2.9	1	1.5	1	4
462.0	465.0	3.0	3.0	1	0.9	0	4
465.0	468.0	3.0	2.9	1	0.6	0	4
468.0	471.0	3.0	3.0	1	1.5	1	4
471.0	474.0	3.0	3.2	1	1.7	1	4
474.0	477.0	3.0	3.1	1	1.4	0	4
477.0	480.0	3.0	3.0	1	0.9	0	4
480.0	483.0	3.0	2.9	1	0.7	0	4
483.0	486.0	3.0	3.0	1	1.4	0	4
486.0	489.0	3.0	3.1	1	1.4	0	4
489.0	492.0	3.0	2.9	1	1.1	0	4
492.0	495.0	3.0	2.8	1	1.2	0	4
495.0	498.0	3.0	3.0	1	1.6	1	4
498.0	501.0	3.0	2.9	1	1.6	1	4
501.0	504.0	3.0	3.0	1	1.1	0	4
504.0	507.0	3.0	2.9	1	1.2	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
507.0	510.0	3.0	2.6	1	0.8	0	4
510.0	513.0	3.0	2.5	1	0.3	0	4
513.0	516.0	3.0	2.8	1	1.6	1	4
516.0	519.0	3.0	3.1	1	1.5	1	4
519.0	522.0	3.0	3.1	1	2.0	1	4
522.0	525.0	3.0	2.8	1	0.6	0	4
525.0	528.0	3.0	2.3	1	0.5	0	4
528.0	531.0	3.0	3.0	1	0.6	0	4
531.0	534.0	3.0	2.9	1	0.3	0	4
534.0	537.0	3.0	2.8	1	0.4	0	4
537.0	540.0	3.0	2.7	1	0.3	0	4
540.0	543.0	3.0	2.9	1	1.3	0	4
543.0	546.0	3.0	3.0	1	1.2	0	4
546.0	549.0	3.0	2.7	1	1.6	1	4
549.0	552.0	3.0	3.1	1	0.6	0	4
552.0	555.0	3.0	2.6	1	1.6	1	4
552.0	555.0	3.0	2.6	1	1.6	1	4
555.0	558.0	3.0	3.0	1	2.5	1	4
555.0	558.0	3.0	3.0	1	2.5	1	4
558.0	561.0	3.0	2.9	1	1.9	1	4
558.0	561.0	3.0	2.9	1	1.9	1	4
561.0	564.0	3.0	3.0	1	2.1	1	4
561.0	564.0	3.0	3.0	1	2.1	1	4
564.0	567.0	3.0	3.0	1	1.7	1	4
564.0	567.0	3.0	2.9	1	1.6	1	4
567.0	570.0	3.0	2.8	1	0.8	0	4
567.0	570.0	3.0	3.1	1	1.1	0	4
570.0	573.0	3.0	3.0	1	2.4	1	4
570.0	573.0	3.0	3.0	1	2.5	1	4
573.0	576.0	3.0	3.0	1	2.8	1	4
573.0	576.0	3.0	3.1	1	2.4	1	4
576.0	579.0	3.0	2.8	1	2.0	1	4
576.0	579.0	3.0	2.6	1	1.7	1	4
579.0	582.0	3.0	3.0	1	1.2	0	4
579.0	582.0	3.0	2.7	1	1.7	1	4
582.0	585.0	3.0	2.9	1	2.0	1	4
585.0	588.0	3.0	3.1	1	2.1	1	4
588.0	591.0	3.0	3.0	1	1.2	0	4
588.0	591.0	3.0	3.1	1	1.6	1	4
591.0	594.0	3.0	3.0	1	2.3	1	4
591.0	594.0	3.0	2.9	1	1.1	0	4
594.0	597.0	3.0	2.8	1	2.3	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
594.0	597.0	3.0	2.8	1	1.8	1	4
597.0	600.0	3.0	3.0	1	1.9	1	4
597.0	600.0	3.0	3.0	1	1.6	1	3
600.0	603.0	3.0	3.0	1	1.7	1	4
600.0	603.0	3.0	3.0	1	1.2	0	3
603.0	606.0	3.0	2.9	1	1.4	0	4
603.0	606.0	3.0	2.8	1	1.5	1	3
606.0	609.0	3.0	2.8	1	1.5	1	4
606.0	609.0	3.0	2.8	1	1.4	0	3
609.0	612.0	3.0	2.9	1	1.6	1	3
609.0	612.0	3.0	2.9	1	2.4	1	4
612.0	615.0	3.0	2.9	1	1.3	0	4
612.0	615.0	3.0	2.7	1	1.1	0	4
615.0	618.0	3.0	3.0	1	1.4	0	4
615.0	618.0	3.0					4
618.0	621.0	3.0	2.9	1	1.6	1	3
621.0	624.0	3.0	3.0	1	0.7	0	3
624.0	627.0	3.0	2.8	1	0.6	0	3
627.0	630.0	3.0	3.0	1	1.1	0	3
630.0	633.0	3.0	2.8	1	0.4	0	4
633.0	636.0	3.0	3.0	1	1.2	0	3
636.0	639.0	3.0	3.0	1	0.6	0	3
639.0	642.0	3.0	3.1	1	1.1	0	4
642.0	645.0	3.0	2.7	1	0.6	0	3
645.0	648.0	3.0	3.3	1	0.5	0	3
648.0	651.0	3.0	2.7	1	1.2	0	4
651.0	654.0	3.0	2.6	1	1.8	1	3
654.0	657.0	3.0	2.7	1	0.9	0	3
657.0	660.0	3.0	3.0	1	0.6	0	3
660.0	663.0	3.0	2.8	1	0.8	0	4
663.0	666.0	3.0	3.0	1	1.4	0	3
666.0	669.0	3.0	2.8	1	1.7	1	4
669.0	672.0	3.0	3.0	1	2.3	1	4
672.0	675.0	3.0	2.9	1	0.9	0	4
675.0	678.0	3.0	3.1	1	2.7	1	3
678.0	681.0	3.0	2.7	1	1.6	1	4
681.0	684.0	3.0	3.0	1	1.2	0	4
684.0	687.0	3.0	2.5	1	1.1	0	4
687.0	690.0	3.0	2.9	1	1.6	1	4
690.0	693.0	3.0	3.2	1	1.8	1	4
693.0	696.0	3.0	3.0	1	1.8	1	4
696.0	699.0	3.0	2.7	1	0.7	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-03					
Drilled 2007	340	-65	726.00	12166.77	16058.07

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
699.0	702.0	3.0	3.0	1	1.1	0	4
702.0	705.0	3.0	2.6	1	1.2	0	4
705.0	708.0	3.0	3.0	1	1.7	1	4
708.0	711.0	3.0	2.7	1	1.2	0	4
711.0	714.0	3.0	2.7	1	0.8	0	4
714.0	717.0	3.0	2.6	1	1.1	0	4
717.0	720.0	3.0	2.9	1	0.9	0	4
720.0	723.0	3.0	2.7	1	1.3	0	4
723.0	726.0	3.0	3.0	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	9.0	3.0	2.3	1	1.5	1	4
9.0	12.0	3.0	2.9	1	1.7	1	4
12.0	15.0	3.0	3.0	1	2.2	1	4
15.0	18.0	3.0	3.0	1	1.9	1	4
18.0	21.0	3.0	3.0	1	2.2	1	4
21.0	24.0	3.0	2.8	1	1.6	1	4
24.0	27.0	3.0	3.0	1	0.9	0	4
27.0	30.0	3.0	2.8	1	1.2	0	4
30.0	33.0	3.0	2.9	1	0.8	0	4
36.0	39.0	3.0	3.0	1	1.6	1	4
39.0	42.0	3.0	3.1	1	2.0	1	4
42.0	45.0	3.0	2.9	1	1.8	1	4
45.0	48.0	3.0	3.2	1	1.8	1	4
48.0	51.0	3.0	3.0	1	2.1	1	4
51.0	54.0	3.0	3.1	1	2.3	1	4
54.0	57.0	3.0	3.0	1	1.6	1	4
57.0	60.0	3.0	2.9	1	2.2	1	4
60.0	63.0	3.0	2.9	1	2.3	1	4
63.0	66.0	3.0	3.1	1	2.1	1	4
66.0	69.0	3.0	3.1	1	2.0	1	4
69.0	72.0	3.0	3.1	1	1.6	1	4
72.0	75.0	3.0	3.0	1	1.8	1	4
75.0	78.0	3.0	3.1	1	1.8	1	4
78.0	81.0	3.0	2.8	1	1.6	1	4
81.0	84.0	3.0	3.2	1	2.2	1	4
84.0	87.0	3.0	3.1	1	2.3	1	4
87.0	90.0	3.0	3.0	1	2.3	1	4
90.0	93.0	3.0	2.9	1	2.6	1	4
93.0	96.0	3.0	3.3	1	1.9	1	4
96.0	99.0	3.0	3.0	1	1.9	1	4
99.0	102.0	3.0	2.9	1	1.8	1	4
102.0	105.0	3.0	3.1	1	1.9	1	4
105.0	108.0	3.0	2.9	1	1.9	1	4
108.0	111.0	3.0	3.0	1	1.4	0	4
111.0	114.0	3.0	2.8	1	1.7	1	4
114.0	117.0	3.0	3.0	1	1.8	1	4
117.0	120.0	3.0	2.9	1	0.6	0	4
120.0	123.0	3.0	2.9	1	1.3	0	4
123.0	126.0	3.0	2.8	1	1.0	0	4
126.0	129.0	3.0	3.1	1	0.9	0	4
129.0	132.0	3.0	2.3	1	1.0	0	4
132.0	135.0	3.0	2.9	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
135.0	138.0	3.0	2.9	1	1.5	1	4
138.0	141.0	3.0	2.9	1	1.6	1	4
141.0	144.0	3.0	2.8	1	0.5	0	4
144.0	147.0	3.0	2.6	1	0.7	0	4
147.0	150.0	3.0	2.7	1	1.2	0	4
150.0	153.0	3.0	2.4	1	0.7	0	4
153.0	156.0	3.0	2.7	1	1.1	0	4
156.0	159.0	3.0	2.2	1	0.3	0	4
159.0	162.0	3.0	2.0	1	0.5	0	4
162.0	165.0	3.0	2.7	1	0.9	0	4
165.0	168.0	3.0	2.8	1	1.8	1	4
168.0	171.0	3.0	2.9	1	1.4	0	4
171.0	174.0	3.0	2.8	1	2.0	1	4
174.0	177.0	3.0	2.9	1	0.8	0	4
177.0	180.0	3.0	2.9	1	2.0	1	4
180.0	183.0	3.0	2.9	1	1.3	0	4
183.0	186.0	3.0	2.9	1	1.4	0	4
186.0	189.0	3.0	2.9	1	1.8	1	4
189.0	192.0	3.0	3.0	1	2.1	1	4
192.0	195.0	3.0	3.0	1	1.4	0	4
195.0	198.0	3.0	3.0	1	2.2	1	4
198.0	201.0	3.0	2.8	1	1.8	1	4
201.0	204.0	3.0	2.9	1	2.3	1	4
204.0	207.0	3.0	3.0	1	2.3	1	4
207.0	210.0	3.0	3.0	1	1.3	0	4
210.0	213.0	3.0	3.0	1	1.5	1	4
213.0	216.0	3.0	2.9	1	2.0	1	4
216.0	219.0	3.0	3.0	1	2.4	1	4
219.0	222.0	3.0	3.0	1	2.5	1	4
222.0	225.0	3.0	3.0	1	2.5	1	4
225.0	228.0	3.0	3.0	1	2.3	1	4
228.0	231.0	3.0	3.0	1	2.5	1	4
231.0	234.0	3.0	2.8	1	1.8	1	4
234.0	237.0	3.0	3.1	1	2.5	1	4
237.0	240.0	3.0	2.9	1	2.0	1	4
240.0	243.0	3.0	3.0	1	1.4	0	4
243.0	246.0	3.0	3.2	1	1.3	0	4
246.0	249.0	3.0	3.0	1	2.9	1	4
249.0	252.0	3.0	3.1	1	2.3	1	4
252.0	255.0	3.0	3.0	1	2.3	1	4
255.0	258.0	3.0	3.0	1	2.1	1	4
258.0	261.0	3.0	3.1	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
261.0	264.0	3.0	3.0	1	2.2	1	4
264.0	267.0	3.0	2.9	1	1.2	0	4
267.0	270.0	3.0	3.1	1	1.0	0	4
270.0	273.0	3.0	3.0	1	1.3	0	4
273.0	276.0	3.0	2.9	1	2.0	1	4
276.0	279.0	3.0	3.0	1	2.0	1	4
279.0	282.0	3.0	3.1	1	2.0	1	4
282.0	285.0	3.0	3.0	1	2.3	1	4
285.0	288.0	3.0	3.0	1	1.2	0	4
288.0	291.0	3.0	2.9	1	2.3	1	4
291.0	294.0	3.0	3.0	1	2.1	1	4
294.0	297.0	3.0	3.0	1	1.5	1	4
297.0	300.0	3.0	3.0	1	1.5	0	4
300.0	303.0	3.0	3.0	1	1.9	1	4
303.0	306.0	3.0	3.0	1	2.2	1	4
306.0	309.0	3.0	3.1	1	2.5	1	4
309.0	312.0	3.0	3.0	1	1.4	0	4
312.0	315.0	3.0	3.1	1	1.8	1	4
315.0	318.0	3.0	2.7	1	1.7	1	4
318.0	321.0	3.0	3.0	1	2.8	1	4
321.0	324.0	3.0	3.2	1	2.3	1	4
324.0	327.0	3.0	3.0	1	2.3	1	4
327.0	330.0	3.0	3.0	1	2.5	1	4
330.0	333.0	3.0	2.9	1	2.6	1	4
333.0	336.0	3.0	3.0	1	2.5	1	4
336.0	339.0	3.0	3.1	1	2.5	1	4
339.0	342.0	3.0	2.9	1	2.5	1	4
342.0	345.0	3.0	3.2	1	2.9	1	4
345.0	348.0	3.0	2.9	1	1.8	1	4
348.0	351.0	3.0	3.2	1	1.4	0	4
351.0	354.0	3.0	3.1	1	1.0	0	4
354.0	357.0	3.0	3.0	1	1.5	1	4
357.0	360.0	3.0	3.1	1	0.7	0	4
360.0	363.0	3.0	3.3	1	1.5	1	4
363.0	366.0	3.0	3.1	1	1.6	1	4
366.0	369.0	3.0	3.3	1	0.9	0	4
369.0	372.0	3.0	3.1	1	1.2	0	4
372.0	375.0	3.0	3.0	1	1.8	1	4
375.0	378.0	3.0	3.0	1	1.0	0	4
378.0	381.0	3.0	3.1	1	1.6	1	4
381.0	384.0	3.0	3.0	1	1.4	0	4
384.0	387.0	3.0	3.0	1	1.5	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
387.0	390.0	3.0	3.0	1	1.7	1	4
390.0	393.0	3.0	3.0	1	1.9	1	4
393.0	396.0	3.0	3.0	1	1.6	1	4
396.0	399.0	3.0	3.0	1	2.6	1	4
399.0	402.0	3.0	3.0	1	1.9	1	4
402.0	405.0	3.0	2.9	1	1.2	0	4
405.0	408.0	3.0	2.9	1	1.0	0	3
408.0	411.0	3.0	2.9	1	1.8	1	4
411.0	414.0	3.0	2.8	1	0.7	0	4
414.0	417.0	3.0	3.1	1	2.3	1	4
417.0	420.0	3.0	2.7	1	1.9	1	4
420.0	423.0	3.0	3.1	1	2.5	1	4
423.0	426.0	3.0	3.1	1	2.0	1	4
426.0	429.0	3.0	2.9	1	1.5	1	4
429.0	432.0	3.0	2.8	1	1.8	1	4
432.0	435.0	3.0	3.1	1	1.5	1	4
435.0	438.0	3.0	2.7	1	1.4	0	4
438.0	441.0	3.0	3.1	1	2.5	1	4
441.0	444.0	3.0	2.9	1	1.6	1	4
444.0	447.0	3.0	3.1	1	1.8	1	4
447.0	450.0	3.0	2.8	1	1.2	0	4
450.0	453.0	3.0	3.0	1	2.2	1	4
453.0	456.0	3.0	2.9	1	1.6	1	4
456.0	459.0	3.0	3.0	1	2.1	1	4
459.0	462.0	3.0	2.9	1	2.4	1	4
462.0	465.0	3.0	2.9	1	1.6	1	4
465.0	468.0	3.0	3.1	1	1.8	1	4
468.0	471.0	3.0	3.0	1	1.0	0	5
471.0	474.0	3.0	2.8	1	1.2	0	4
474.0	477.0	3.0	3.1	1	1.7	1	4
477.0	480.0	3.0	2.9	1	1.9	1	4
480.0	483.0	3.0	3.0	1	1.9	1	4
483.0	486.0	3.0	3.1	1	1.9	1	4
486.0	489.0	3.0	3.1	1	1.1	0	3
489.0	492.0	3.0	2.9	1	1.5	1	3
492.0	495.0	3.0	3.1	1	1.6	1	3
495.0	498.0	3.0	3.1	1	2.1	1	4
498.0	501.0	3.0	3.0	1	2.4	1	4
501.0	504.0	3.0	2.9	1	1.7	1	4
504.0	507.0	3.0	3.0	1	2.1	1	4
507.0	510.0	3.0	3.1	1	1.3	0	4
510.0	513.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
513.0	516.0	3.0	3.3	1	1.2	0	4
516.0	519.0	3.0	3.1	1	2.0	1	4
519.0	522.0	3.0	3.1	1	1.6	1	4
522.0	525.0	3.0	3.0	1	1.2	0	4
525.0	528.0	3.0	3.5	1	1.9	1	4
528.0	531.0	3.0	3.0	1	1.7	1	4
531.0	534.0	3.0	2.9	1	1.4	0	4
534.0	537.0	3.0	3.1	1	2.2	1	4
537.0	540.0	3.0	2.5	1	1.9	1	4
540.0	543.0	3.0	2.9	1	1.4	0	4
543.0	546.0	3.0	2.9	1	1.9	1	4
546.0	549.0	3.0	3.2	1	2.3	1	4
549.0	552.0	3.0	2.9	1	1.5	1	4
552.0	555.0	3.0	3.0	1	1.5	1	4
555.0	558.0	3.0	3.0	1	1.2	0	4
558.0	561.0	3.0	3.0	1	1.0	0	4
561.0	564.0	3.0	3.1	1	1.2	0	4
564.0	567.0	3.0	3.3	1	1.5	1	4
567.0	570.0	3.0	3.2	1	1.2	0	4
570.0	573.0	3.0	2.7	1	1.2	0	4
573.0	576.0	3.0	3.0	1	1.1	0	4
576.0	579.0	3.0	3.0	1	3.2	1	4
579.0	582.0	3.0	3.1	1	1.9	1	4
582.0	585.0	3.0	2.8	1	2.1	1	4
585.0	588.0	3.0	3.3	1	2.2	1	4
588.0	591.0	3.0	2.7	1	1.3	0	4
591.0	594.0	3.0	3.1	1	2.1	1	4
594.0	597.0	3.0	3.2	1	2.3	1	4
597.0	600.0	3.0	3.0	1	1.9	1	4
600.0	603.0	3.0	2.9	1	2.1	1	4
603.0	606.0	3.0	3.1	1	2.8	1	4
606.0	609.0	3.0	2.9	1	0.4	0	4
609.0	612.0	3.0	3.1	1	1.3	0	4
612.0	615.0	3.0	2.8	1	1.1	0	4
615.0	618.0	3.0	3.0	1	1.7	1	4
618.0	621.0	3.0	3.2	1	1.6	1	4
621.0	624.0	3.0	2.8	1	1.8	1	4
624.0	627.0	3.0	3.1	1	2.5	1	4
627.0	630.0	3.0	2.8	1	1.8	1	4
630.0	633.0	3.0	3.1	1	2.0	1	4
633.0	636.0	3.0	2.9	1	2.8	1	5
636.0	639.0	3.0	3.1	1	2.8	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
639.0	642.0	3.0	2.9	1	2.3	1	4
642.0	645.0	3.0	3.1	1	2.4	1	4
645.0	648.0	3.0	3.0	1	2.5	1	4
648.0	651.0	3.0	3.0	1	2.5	1	4
651.0	654.0	3.0	2.8	1	2.1	1	4
654.0	657.0	3.0	3.1	1	3.0	1	4
657.0	660.0	3.0	2.9	1	2.3	1	4
660.0	663.0	3.0	3.0	1	2.2	1	4
663.0	666.0	3.0	2.7	1	1.3	0	4
666.0	669.0	3.0	3.4	1	2.2	1	4
669.0	672.0	3.0	2.8	1	2.3	1	4
672.0	675.0	3.0	2.8	1	1.4	0	4
675.0	678.0	3.0	3.2	1	2.6	1	4
678.0	681.0	3.0	3.0	1	2.1	1	4
681.0	684.0	3.0	2.9	1	1.5	1	4
684.0	687.0	3.0	2.9	1	2.4	1	4
687.0	690.0	3.0	3.1	1	2.7	1	4
690.0	693.0	3.0	2.9	1	2.6	1	4
693.0	696.0	3.0	3.0	1	2.5	1	4
696.0	699.0	3.0	2.9	1	2.1	1	4
699.0	702.0	3.0	3.2	1	2.5	1	4
702.0	705.0	3.0	2.9	1	2.4	1	4
705.0	708.0	3.0	3.1	1	2.3	1	4
708.0	711.0	3.0	2.9	1	1.3	0	4
711.0	714.0	3.0	3.0	1	2.1	1	4
714.0	717.0	3.0	3.0	1	1.2	0	4
717.0	720.0	3.0	2.9	1	2.3	1	4
720.0	723.0	3.0	3.0	1	2.2	1	4
723.0	726.0	3.0	2.7	1	2.2	1	4
726.0	729.0	3.0	3.1	1	2.1	1	4
729.0	732.0	3.0	3.0	1	2.0	1	4
732.0	735.0	3.0	2.9	1	2.1	1	4
735.0	738.0	3.0	3.1	1	2.6	1	4
738.0	741.0	3.0	2.9	1	1.8	1	4
741.0	744.0	3.0	3.0	1	2.1	1	4
744.0	747.0	3.0	3.0	1	2.7	1	4
747.0	750.0	3.0	2.8	1	2.3	1	4
750.0	753.0	3.0	2.8	1	2.1	1	4
753.0	756.0	3.0	3.0	1	2.0	1	4
756.0	759.0	3.0	2.8	1	2.2	1	4
759.0	762.0	3.0	3.0	1	2.4	1	4
762.0	765.0	3.0	2.9	1	2.2	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
765.0	768.0	3.0	3.0	1	1.9	1	4
768.0	771.0	3.0	3.0	1	2.8	1	4
771.0	774.0	3.0	3.0	1	2.0	1	4
774.0	777.0	3.0	3.0	1	1.1	0	4
777.0	780.0	3.0	2.8	1	2.4	1	4
780.0	783.0	3.0	3.1	1	2.4	1	4
783.0	786.0	3.0	2.7	1	2.0	1	4
786.0	789.0	3.0	2.9	1	1.8	1	4
789.0	792.0	3.0	3.2	1	2.3	1	4
792.0	795.0	3.0	2.9	1	2.0	1	4
795.0	798.0	3.0	3.0	1	2.9	1	4
798.0	801.0	3.0	2.8	1	2.1	1	4
801.0	804.0	3.0	2.9	1	2.2	1	4
804.0	807.0	3.0	2.6	1	2.0	1	4
807.0	810.0	3.0	3.0	1	1.3	0	4
810.0	813.0	3.0	3.1	1	1.0	0	4
813.0	816.0	3.0	2.8	1	0.6	0	4
816.0	819.0	3.0	3.0	1	2.4	1	4
819.0	822.0	3.0	3.0	1	2.9	1	4
822.0	825.0	3.0	2.9	1	1.6	1	4
825.0	828.0	3.0	3.0	1	2.6	1	4
828.0	831.0	3.0	2.9	1	2.5	1	4
831.0	834.0	3.0	3.1	1	2.5	1	4
834.0	837.0	3.0	2.9	1	2.7	1	4
837.0	840.0	3.0	3.0	1	2.3	1	4
840.0	843.0	3.0	2.6	1	2.3	1	4
843.0	846.0	3.0	3.1	1	1.7	1	4
846.0	849.0	3.0	2.7	1	0.5	0	4
849.0	852.0	3.0	3.1	1	2.6	1	4
852.0	855.0	3.0	2.8	1	2.5	1	4
855.0	858.0	3.0	3.0	1	1.9	1	4
858.0	861.0	3.0	3.2	1	2.7	1	4
861.0	864.0	3.0	2.8	1	2.0	1	4
864.0	867.0	3.0	3.0	1	2.4	1	4
867.0	870.0	3.0	3.0	1	2.4	1	5
870.0	873.0	3.0	3.2	1	2.3	1	5
873.0	876.0	3.0	2.9	1	2.2	1	5
876.0	879.0	3.0	3.0	1	1.4	0	5
879.0	882.0	3.0	3.0	1	1.2	0	5
882.0	885.0	3.0	3.0	1	1.7	1	5
885.0	888.0	3.0	3.0	1	1.5	1	5
888.0	891.0	3.0	3.0	1	2.2	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
891.0	894.0	3.0	2.8	1	0.9	0	5
894.0	897.0	3.0	2.9	1	1.1	0	5
897.0	900.0	3.0	3.0	1	1.5	1	5
900.0	903.0	3.0	2.8	1	1.7	1	5
903.0	906.0	3.0	3.0	1	3.0	1	5
906.0	909.0	3.0	3.0	1	2.6	1	5
909.0	912.0	3.0	2.9	1	2.6	1	5
912.0	915.0	3.0	2.9	1	1.9	1	5
915.0	918.0	3.0	3.1	1	2.5	1	5
918.0	921.0	3.0	2.8	1	2.3	1	5
921.0	924.0	3.0	3.0	1	2.8	1	5
924.0	927.0	3.0	3.1	1	2.2	1	5
927.0	930.0	3.0	3.1	1	2.5	1	5
930.0	933.0	3.0	2.9	1	2.1	1	5
933.0	936.0	3.0	3.1	1	1.9	1	5
936.0	939.0	3.0	2.9	1	2.8	1	5
939.0	942.0	3.0	3.1	1	3.0	1	5
942.0	945.0	3.0	2.8	1	2.6	1	5
945.0	948.0	3.0	3.2	1	1.9	1	5
948.0	951.0	3.0	2.8	1	2.3	1	5
951.0	954.0	3.0	3.2	1	3.1	1	5
954.0	957.0	3.0	3.0	1	2.9	1	5
957.0	960.0	3.0	3.0	1	2.9	1	5
960.0	963.0	3.0	3.0	1	3.0	1	5
963.0	966.0	3.0	3.0	1	2.8	1	5
966.0	969.0	3.0	2.9	1	1.7	1	5
969.0	972.0	3.0	3.1	1	2.9	1	5
972.0	975.0	3.0	2.9	1	2.1	1	5
975.0	978.0	3.0	3.1	1	2.4	1	5
978.0	981.0	3.0	3.1	1	2.9	1	5
981.0	984.0	3.0	2.8	1	2.5	1	5
984.0	987.0	3.0	3.0	1	2.7	1	5
987.0	990.0	3.0	3.0	1	2.1	1	5
990.0	993.0	3.0	3.2	1	2.1	1	5
993.0	996.0	3.0	3.0	1	2.1	1	5
996.0	999.0	3.0	3.2	1	2.5	1	5
999.0	1002.0	3.0	3.0	1	2.5	1	5
1002.0	1005.0	3.0	2.8	1	2.7	1	5
1005.0	1008.0	3.0	2.9	1	2.9	1	5
1008.0	1011.0	3.0	3.1	1	3.1	1	5
1011.0	1014.0	3.0	3.0	1	3.0	1	5
1014.0	1017.0	3.0	2.9	1	2.5	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1017.0	1020.0	3.0	3.1	1	2.6	1	5
1020.0	1023.0	3.0	3.1	1	2.6	1	5
1023.0	1026.0	3.0	3.0	1	2.0	1	5
1026.0	1029.0	3.0	2.9	1	1.8	1	5
1029.0	1032.0	3.0	3.1	1	1.7	1	5
1032.0	1035.0	3.0	2.9	1	1.6	1	5
1035.0	1038.0	3.0	3.0	1	2.5	1	5
1038.0	1041.0	3.0	3.0	1	1.9	1	5
1041.0	1044.0	3.0	3.0	1	1.8	1	5
1044.0	1047.0	3.0	3.0	1	2.7	1	5
1047.0	1050.0	3.0	3.1	1	2.2	1	5
1050.0	1053.0	3.0	2.8	1	2.6	1	5
1053.0	1056.0	3.0	3.1	1	1.9	1	5
1056.0	1059.0	3.0	3.0	1	2.0	1	5
1059.0	1062.0	3.0	3.0	1	1.9	1	5
1062.0	1065.0	3.0	3.0	1	2.0	1	5
1065.0	1068.0	3.0	2.9	1	2.6	1	5
1068.0	1071.0	3.0	2.9	1	2.2	1	5
1071.0	1074.0	3.0	3.2	1	2.6	1	5
1074.0	1077.0	3.0	2.9	1	2.2	1	5
1077.0	1080.0	3.0	3.0	1	2.1	1	5
1080.0	1083.0	3.0	2.8	1	1.7	1	5
1083.0	1086.0	3.0	3.0	1	2.0	1	5
1086.0	1089.0	3.0	3.0	1	2.3	1	5
1089.0	1092.0	3.0	2.9	1	2.4	1	5
1092.0	1095.0	3.0	3.1	1	2.4	1	5
1095.0	1098.0	3.0	2.8	1	2.3	1	5
1098.0	1101.0	3.0	3.2	1	2.6	1	5
1101.0	1104.0	3.0	3.0	1	2.4	1	5
1104.0	1107.0	3.0	2.9	1	2.5	1	5
1107.0	1110.0	3.0	2.9	1	2.8	1	5
1110.0	1113.0	3.0	3.0	1	1.9	1	5
1113.0	1116.0	3.0	2.8	1	1.6	1	5
1116.0	1119.0	3.0	2.8	1	1.4	0	5
1119.0	1122.0	3.0	3.2	1	2.5	1	5
1122.0	1125.0	3.0	3.0	1	2.0	1	5
1125.0	1128.0	3.0	3.0	1	2.4	1	5
1128.0	1131.0	3.0	2.8	1	2.1	1	5
1131.0	1134.0	3.0	2.9	1	2.6	1	5
1134.0	1137.0	3.0	3.0	1	2.6	1	5
1137.0	1140.0	3.0	2.9	1	1.6	1	5
1140.0	1143.0	3.0	2.9	1	2.4	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1143.0	1146.0	3.0	2.8	1	2.3	1	5
1146.0	1149.0	3.0	3.1	1	2.7	1	5
1149.0	1152.0	3.0	2.9	1	2.3	1	5
1152.0	1155.0	3.0	3.0	1	1.2	0	5
1155.0	1158.0	3.0	3.0	1	2.1	1	5
1158.0	1161.0	3.0	3.1	1	1.6	1	5
1161.0	1164.0	3.0	2.9	1	2.4	1	5
1164.0	1167.0	3.0	3.2	1	2.4	1	5
1167.0	1170.0	3.0	2.9	1	2.4	1	5
1170.0	1173.0	3.0	3.1	1	2.8	1	5
1173.0	1176.0	3.0	2.9	1	2.7	1	5
1176.0	1179.0	3.0	3.2	1	2.8	1	5
1179.0	1182.0	3.0	3.1	1	2.6	1	5
1182.0	1185.0	3.0	2.8	1	2.3	1	5
1185.0	1188.0	3.0	3.0	1	2.4	1	5
1188.0	1191.0	3.0	3.1	1	2.5	1	5
1191.0	1194.0	3.0	3.2	1	2.7	1	5
1194.0	1197.0	3.0	2.7	1	1.7	1	5
1197.0	1200.0	3.0	3.0	1	2.7	1	5
1200.0	1203.0	3.0	2.8	1	1.9	1	5
1203.0	1206.0	3.0	2.9	1	2.4	1	5
1206.0	1209.0	3.0	3.2	1	3.1	1	5
1209.0	1212.0	3.0	2.8	1	2.2	1	5
1212.0	1215.0	3.0	3.4	1	2.8	1	5
1215.0	1218.0	3.0	2.7	1	2.5	1	5
1218.0	1221.0	3.0	3.0	1	2.7	1	5
1221.0	1224.0	3.0	3.1	1	2.7	1	5
1224.0	1227.0	3.0	3.0	1	2.2	1	5
1227.0	1230.0	3.0	2.8	1	2.4	1	5
1230.0	1233.0	3.0	3.2	1	2.8	1	5
1233.0	1236.0	3.0	2.9	1	2.5	1	5
1236.0	1239.0	3.0	3.0	1	2.6	1	5
1239.0	1242.0	3.0	3.0	1	2.7	1	5
1242.0	1245.0	3.0	3.0	1	2.5	1	5
1245.0	1248.0	3.0	3.0	1	2.7	1	5
1248.0	1251.0	3.0	3.0	1	2.8	1	5
1251.0	1254.0	3.0	2.8	1	2.7	1	5
1254.0	1257.0	3.0	3.1	1	3.1	1	5
1257.0	1260.0	3.0	3.0	1	2.5	1	5
1260.0	1263.0	3.0	3.1	1	2.5	1	5
1263.0	1266.0	3.0	2.9	1	2.4	1	5
1266.0	1269.0	3.0	2.9	1	2.2	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-04					
Drilled 2007	340	-70	1344.00	11754.30	15885.24

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1269.0	1272.0	3.0	3.0	1	2.0	1	5
1272.0	1275.0	3.0	3.0	1	2.8	1	5
1275.0	1278.0	3.0	3.1	1	2.4	1	5
1278.0	1281.0	3.0	2.7	1	2.6	1	5
1281.0	1284.0	3.0	3.0	1	2.5	1	5
1284.0	1287.0	3.0	2.8	1	2.2	1	5
1287.0	1290.0	3.0	3.1	1	2.4	1	5
1290.0	1293.0	3.0	2.7	1	2.0	1	5
1293.0	1296.0	3.0	2.9	1	2.0	1	5
1296.0	1299.0	3.0	2.8	1	2.2	1	5
1299.0	1302.0	3.0	3.1	1	2.6	1	5
1302.0	1305.0	3.0	3.0	1	2.8	1	5
1305.0	1308.0	3.0	3.2	1	2.7	1	5
1308.0	1311.0	3.0	2.8	1	2.6	1	5
1311.0	1314.0	3.0	3.1	1	2.3	1	5
1314.0	1317.0	3.0	2.8	1	2.8	1	5
1317.0	1320.0	3.0	3.2	1	3.0	1	5
1320.0	1323.0	3.0	2.7	1	2.2	1	5
1323.0	1326.0	3.0	2.8	1	2.4	1	5
1326.0	1329.0	3.0	3.1	1	2.6	1	5
1329.0	1332.0	3.0	2.8	1	2.6	1	5
1332.0	1335.0	3.0	3.1	1	2.8	1	5
1335.0	1338.0	3.0	2.8	1	2.2	1	5
1338.0	1341.0	3.0	2.9	1	1.4	0	5
1341.0	1344.0	3.0	3.0	1	2.7	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-05					
Drilled 2007	0	-90	417.00	12166.77	16058.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	6.0	6.0	0.0	0	0.0	0	4
6.0	9.0	3.0	2.4	1	0.5	0	4
9.0	12.0	3.0	0.8	0	0.0	0	4
12.0	15.0	3.0	0.3	0	0.0	0	4
15.0	18.0	3.0	2.6	1	0.2	0	4
18.0	21.0	3.0	2.9	1	1.4	0	4
21.0	24.0	3.0	2.9	1	1.4	0	4
24.0	27.0	3.0	2.7	1	0.9	0	4
27.0	30.0	3.0	2.7	1	1.1	0	4
30.0	33.0	3.0	2.9	1	1.1	0	4
33.0	36.0	3.0	2.8	1	1.3	0	4
36.0	39.0	3.0	2.8	1	1.4	0	4
39.0	42.0	3.0	2.8	1	1.4	0	4
42.0	45.0	3.0	2.2	1	1.2	0	4
45.0	48.0	3.0	2.9	1	2.5	1	4
48.0	51.0	3.0	2.7	1	1.6	1	4
51.0	54.0	3.0	3.0	1	1.6	1	4
54.0	57.0	3.0	2.8	1	1.0	0	4
57.0	60.0	3.0	3.0	1	1.3	0	4
60.0	63.0	3.0	2.7	1	0.9	0	4
63.0	66.0	3.0	2.9	1	0.9	0	4
66.0	69.0	3.0	2.9	1	1.7	1	4
69.0	72.0	3.0	2.8	1	0.8	0	4
72.0	75.0	3.0	2.6	1	0.8	0	4
75.0	78.0	3.0	2.9	1	0.9	0	4
78.0	81.0	3.0	2.9	1	1.4	0	4
81.0	84.0	3.0	2.8	1	1.8	1	4
84.0	87.0	3.0	2.9	1	2.5	1	4
87.0	90.0	3.0	2.7	1	2.4	1	4
90.0	93.0	3.0	2.7	1	2.6	1	4
93.0	96.0	3.0	2.7	1	2.4	1	4
96.0	99.0	3.0	2.4	1	1.5	1	4
99.0	102.0	3.0	2.6	1	0.9	0	4
102.0	105.0	3.0	2.0	1	0.1	0	4
105.0	108.0	3.0	2.3	1	0.4	0	4
108.0	111.0	3.0	2.5	1	0.9	0	4
111.0	114.0	3.0	1.3	0	0.1	0	4
114.0	117.0	3.0	2.6	1	0.6	0	4
117.0	120.0	3.0	2.7	1	1.9	1	4
120.0	123.0	3.0	2.7	1	1.1	0	4
123.0	126.0	3.0	2.9	1	1.1	0	4
126.0	129.0	3.0	2.5	1	0.8	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-05					
Drilled 2007	0	-90	417.00	12166.77	16058.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.8	1	1.0	0	4
132.0	135.0	3.0	2.8	1	1.5	1	4
135.0	138.0	3.0	2.8	1	1.4	0	4
138.0	141.0	3.0	2.8	1	1.8	1	4
141.0	144.0	3.0	2.6	1	0.8	0	4
144.0	147.0	3.0	2.7	1	1.2	0	4
147.0	150.0	3.0	2.8	1	1.6	1	4
150.0	153.0	3.0	3.0	1	1.0	0	4
153.0	156.0	3.0	2.8	1	2.2	1	4
156.0	159.0	3.0	2.9	1	1.9	1	4
159.0	162.0	3.0	2.9	1	2.3	1	4
162.0	165.0	3.0	2.9	1	2.3	1	4
165.0	168.0	3.0	2.8	1	2.1	1	4
168.0	171.0	3.0	2.9	1	1.3	0	4
171.0	174.0	3.0	2.9	1	1.6	1	4
174.0	177.0	3.0	3.1	1	1.7	1	4
177.0	180.0	3.0	3.1	1	1.7	1	4
180.0	183.0	3.0	3.0	1	1.4	0	4
183.0	186.0	3.0	3.0	1	1.9	1	4
186.0	189.0	3.0	3.0	1	2.1	1	4
189.0	192.0	3.0	3.0	1	2.0	1	3
192.0	195.0	3.0	3.1	1	1.8	1	3
195.0	198.0	3.0	3.0	1	1.9	1	3
198.0	201.0	3.0	3.1	1	2.1	1	3
201.0	204.0	3.0	2.9	1	1.6	1	3
204.0	207.0	3.0	3.1	1	1.2	0	3
207.0	210.0	3.0	3.0	1	1.8	1	3
210.0	213.0	3.0	3.0	1	1.6	1	3
213.0	216.0	3.0	3.1	1	2.4	1	3
216.0	219.0	3.0	3.0	1	2.0	1	3
219.0	222.0	3.0	3.0	1	1.8	1	3
222.0	225.0	3.0	3.0	1	2.1	1	3
225.0	228.0	3.0	2.5	1	0.6	0	3
228.0	231.0	3.0	3.1	1	2.0	1	4
231.0	234.0	3.0	3.0	1	1.0	0	4
234.0	237.0	3.0	3.2	1	1.2	0	4
237.0	240.0	3.0	2.7	1	0.9	0	3
240.0	243.0	3.0	3.2	1	1.3	0	4
243.0	246.0	3.0	3.0	1	0.6	0	3
246.0	249.0	3.0	3.3	1	2.4	1	4
249.0	252.0	3.0	3.0	1	2.2	1	4
252.0	255.0	3.0	3.3	1	2.2	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-05					
Drilled 2007	0	-90	417.00	12166.77	16058.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	2.9	1	1.7	1	4
258.0	261.0	3.0	3.0	1	1.8	1	4
261.0	264.0	3.0	3.1	1	2.5	1	4
264.0	267.0	3.0	2.9	1	1.7	1	4
267.0	270.0	3.0	3.2	1	1.5	1	4
270.0	273.0	3.0	3.1	1	2.4	1	4
273.0	276.0	3.0	3.0	1	1.5	1	4
276.0	279.0	3.0	3.0	1	2.1	1	4
279.0	282.0	3.0	2.9	1	2.0	1	4
282.0	285.0	3.0	3.1	1	1.1	0	4
285.0	288.0	3.0	3.1	1	1.5	1	4
288.0	291.0	3.0	3.0	1	1.2	0	4
291.0	294.0	3.0	3.0	1	1.7	1	4
294.0	297.0	3.0	3.2	1	1.5	1	4
297.0	300.0	3.0	3.0	1	2.1	1	4
300.0	303.0	3.0	3.0	1	1.5	1	4
303.0	306.0	3.0	3.2	1	1.6	1	4
306.0	309.0	3.0	3.1	1	2.0	1	4
309.0	312.0	3.0	3.2	1	2.0	1	4
312.0	315.0	3.0	3.0	1	1.6	1	4
315.0	318.0	3.0	3.0	1	1.7	1	4
318.0	321.0	3.0	3.0	1	1.7	1	4
321.0	324.0	3.0	3.1	1			4
324.0	327.0	3.0	2.9	1	1.2	0	4
327.0	330.0	3.0	3.1	1	2.0	1	4
330.0	333.0	3.0	3.0	1	1.4	0	4
333.0	336.0	3.0	3.0	1	1.5	1	4
336.0	339.0	3.0	2.8	1	1.5	1	4
339.0	342.0	3.0	2.9	1	1.4	0	4
342.0	345.0	3.0	3.0	1	1.0	0	4
345.0	348.0	3.0	3.1	1	2.1	1	4
348.0	351.0	3.0	3.1	1	1.8	1	4
351.0	354.0	3.0	3.1	1	1.0	0	4
354.0	357.0	3.0	3.1	1	2.1	1	4
357.0	360.0	3.0	3.0	1	2.0	1	4
360.0	363.0	3.0	3.1	1	2.0	1	4
363.0	366.0	3.0	3.0	1	1.9	1	4
366.0	369.0	3.0	3.0	1	2.0	1	4
369.0	372.0	3.0	3.0	1	1.5	1	4
372.0	375.0	3.0	3.1	1	1.6	1	4
375.0	378.0	3.0	3.0	1	1.7	1	4
378.0	381.0	3.0	3.0	1	2.0	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-05					
Drilled 2007	0	-90	417.00	12166.77	16058.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
381.0	384.0	3.0	2.9	1	1.6	1	4
384.0	387.0	3.0	3.1	1	2.0	1	4
387.0	390.0	3.0	3.1	1	2.1	1	4
390.0	393.0	3.0	3.0	1	1.2	0	4
393.0	396.0	3.0	3.0	1	2.1	1	4
396.0	399.0	3.0	3.0	1	1.8	1	4
399.0	402.0	3.0	3.0	1	0.7	0	4
402.0	405.0	3.0	3.0	1	1.1	0	4
405.0	408.0	3.0	3.0	1	2.0	1	4
408.0	411.0	3.0	3.1	1	2.2	1	4
411.0	414.0	3.0	2.9	1	1.3	0	4
414.0	417.0	3.0	2.9	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	8.6	8.6	0.0	0	0.0	0	0
8.6	9.0	0.4	0.4	1	0.0	0	3
9.0	12.0	3.0	1.5	1	0.0	0	3
12.0	15.0	3.0	2.0	1	0.1	0	3
15.0	18.0	3.0	1.7	1	0.2	0	3
18.0	21.0	3.0	2.6	1	0.5	0	4
21.0	24.0	3.0	2.2	1	0.4	0	4
24.0	27.0	3.0	2.9	1	0.1	0	4
27.0	30.0	3.0	2.8	1	0.9	0	4
30.0	33.0	3.0	3.1	1	1.3	0	4
33.0	36.0	3.0	2.9	1	0.5	0	4
36.0	39.0	3.0	2.9	1	0.5	0	4
39.0	42.0	3.0	3.7	1	1.0	0	4
42.0	45.0	3.0	2.9	1	0.4	0	4
45.0	48.0	3.0	3.1	1	0.8	0	4
48.0	51.0	3.0	2.9	1	1.7	1	4
51.0	54.0	3.0	3.0	1	0.3	0	4
54.0	57.0	3.0	3.1	1	1.0	0	4
57.0	60.0	3.0	3.0	1	1.4	0	4
60.0	63.0	3.0	2.9	1	1.0	0	4
63.0	66.0	3.0	3.1	1	0.9	0	4
66.0	69.0	3.0	3.0	1	0.2	0	4
69.0	72.0	3.0	3.1	1	0.6	0	4
72.0	75.0	3.0	2.7	1	0.4	0	4
75.0	78.0	3.0	3.2	1	0.4	0	4
78.0	81.0	3.0	3.1	1	0.9	0	4
81.0	84.0	3.0	3.1	1	0.9	0	4
84.0	87.0	3.0	3.1	1	0.5	0	4
87.0	90.0	3.0	3.0	1	1.4	0	4
90.0	93.0	3.0	3.1	1	0.5	0	4
93.0	96.0	3.0	3.0	1	1.8	1	4
96.0	99.0	3.0	3.0	1	1.6	1	4
99.0	102.0	3.0	3.0	1	0.4	0	4
102.0	105.0	3.0	3.2	1	0.9	0	4
105.0	108.0	3.0	2.9	1	0.4	0	4
108.0	111.0	3.0	3.1	1	1.3	0	4
111.0	114.0	3.0	3.0	1	1.5	1	4
114.0	117.0	3.0	3.0	1	1.4	0	4
117.0	120.0	3.0	2.9	1	2.1	1	4
120.0	123.0	3.0	3.0	1	2.0	1	4
123.0	126.0	3.0	2.7	1	0.2	0	4
126.0	129.0	3.0	2.9	1	0.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.8	1	1.0	0	3
132.0	135.0	3.0	3.1	1	1.2	0	4
135.0	138.0	3.0	3.0	1	1.1	0	4
138.0	141.0	3.0	3.1	1	1.5	0	4
141.0	144.0	3.0	3.1	1	1.8	1	4
144.0	147.0	3.0	3.0	1	1.5	0	4
147.0	150.0	3.0	3.1	1	1.8	1	4
150.0	153.0	3.0	3.0	1	1.5	0	4
153.0	156.0	3.0	3.0	1	2.0	1	4
156.0	159.0	3.0	3.0	1	1.9	1	4
159.0	162.0	3.0	3.0	1	0.9	0	4
162.0	165.0	3.0	3.0	1	1.9	1	4
165.0	168.0	3.0	3.0	1	1.7	1	4
168.0	171.0	3.0	2.9	1	1.0	0	4
171.0	174.0	3.0	3.0	1	1.8	1	4
174.0	177.0	3.0	2.9	1	2.2	1	4
177.0	180.0	3.0	2.5	1	0.2	0	4
180.0	183.0	3.0	3.0	1	1.8	1	4
183.0	186.0	3.0	3.0	1	0.7	0	4
186.0	189.0	3.0	3.0	1	2.2	1	4
189.0	192.0	3.0	3.1	1	1.5	0	4
192.0	195.0	3.0	3.1	1	1.4	0	4
195.0	198.0	3.0	3.0	1	1.4	0	4
198.0	201.0	3.0	2.9	1	1.0	0	4
201.0	204.0	3.0	3.0	1	1.5	1	4
204.0	207.0	3.0	3.0	1	1.4	0	4
207.0	210.0	3.0	3.1	1	1.2	0	4
210.0	213.0	3.0	3.0	1	0.6	0	4
213.0	216.0	3.0	3.1	1	1.9	1	4
216.0	219.0	3.0	3.1	1	1.6	1	4
219.0	222.0	3.0	3.0	1	1.2	0	4
222.0	225.0	3.0	3.0	1	1.1	0	4
225.0	228.0	3.0	3.0	1	1.2	0	4
228.0	231.0	3.0	2.8	1	1.9	1	4
231.0	234.0	3.0	3.1	1	0.9	0	4
234.0	237.0	3.0	3.1	1	1.1	0	4
237.0	240.0	3.0	3.0	1	1.4	0	4
240.0	243.0	3.0	3.0	1	1.9	1	4
243.0	246.0	3.0	3.0	1	2.1	1	4
246.0	249.0	3.0	3.0	1	1.6	1	4
249.0	252.0	3.0	2.8	1	1.6	1	4
252.0	255.0	3.0	3.1	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.1	1	1.4	0	4
258.0	261.0	3.0	3.1	1	1.3	0	4
261.0	264.0	3.0	3.0	1	1.2	0	4
264.0	267.0	3.0	3.1	1	1.6	1	4
267.0	270.0	3.0	2.9	1	1.7	1	4
270.0	273.0	3.0	3.0	1	2.1	1	4
273.0	276.0	3.0	3.1	1	2.0	1	4
276.0	279.0	3.0	3.0	1	1.5	1	4
279.0	282.0	3.0	3.1	1	1.4	0	4
282.0	285.0	3.0	3.1	1	0.4	0	4
285.0	288.0	3.0	3.0	1	1.7	1	4
288.0	291.0	3.0	3.1	1	1.2	0	4
291.0	294.0	3.0	3.1	1	2.0	1	4
294.0	297.0	3.0	3.1	1	2.0	1	4
297.0	300.0	3.0	3.0	1	1.7	1	4
300.0	303.0	3.0	3.0	1	2.4	1	3
303.0	306.0	3.0	2.9	1	2.1	1	3
306.0	309.0	3.0	3.0	1	1.1	0	4
309.0	312.0	3.0	3.1	1	1.4	0	4
312.0	315.0	3.0	3.0	1	1.2	0	4
315.0	318.0	3.0	3.0	1	2.2	1	4
318.0	321.0	3.0	3.0	1	1.4	0	4
321.0	324.0	3.0	3.0	1	1.0	0	4
324.0	327.0	3.0	3.0	1	1.8	1	4
327.0	330.0	3.0	3.0	1	0.8	0	4
330.0	333.0	3.0	2.9	1	0.8	0	4
333.0	336.0	3.0	3.0	1	1.5	0	4
336.0	339.0	3.0	3.1	1	0.6	0	4
339.0	342.0	3.0	3.0	1	1.7	1	4
342.0	345.0	3.0	2.7	1	0.3	0	4
345.0	348.0	3.0	2.8	1	0.6	0	4
348.0	351.0	3.0	3.2	1	0.5	0	4
351.0	354.0	3.0	2.9	1	1.3	0	4
354.0	357.0	3.0	3.0	1	0.8	0	4
357.0	360.0	3.0	3.2	1	1.1	0	4
360.0	363.0	3.0	3.2	1	1.9	1	4
363.0	366.0	3.0	2.8	1	1.3	0	4
366.0	369.0	3.0	3.0	1	0.6	0	4
369.0	372.0	3.0	3.0	1	1.6	1	4
372.0	375.0	3.0	3.0	1	1.2	0	4
375.0	378.0	3.0	2.8	1	1.7	1	4
378.0	381.0	3.0	3.1	1	2.3	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
381.0	384.0	3.0	3.0	1	1.5	1	4
384.0	387.0	3.0	3.1	1	0.6	0	4
387.0	390.0	3.0	2.8	1	1.6	1	4
390.0	393.0	3.0	3.3	1	2.6	1	4
393.0	396.0	3.0	2.8	1	2.2	1	4
396.0	399.0	3.0	3.0	1	2.2	1	4
399.0	402.0	3.0	3.1	1	2.5	1	4
402.0	405.0	3.0	2.9	1	2.5	1	4
405.0	408.0	3.0	3.1	1	1.3	0	4
408.0	411.0	3.0	3.1	1	1.8	1	4
411.0	414.0	3.0	3.1	1	1.1	0	4
414.0	417.0	3.0	3.0	1	1.3	0	4
417.0	420.0	3.0	3.0	1	1.4	0	4
420.0	423.0	3.0	2.9	1	1.3	0	4
423.0	426.0	3.0	3.0	1	1.5	0	4
426.0	429.0	3.0	2.8	1	1.4	0	4
429.0	432.0	3.0	3.2	1	2.0	1	4
432.0	435.0	3.0	3.0	1	2.0	1	4
435.0	438.0	3.0	3.1	1	2.0	1	4
438.0	441.0	3.0	3.0	1	2.0	1	4
441.0	444.0	3.0	2.9	1	2.4	1	5
444.0	447.0	3.0	2.9	1	1.8	1	5
447.0	450.0	3.0	3.0	1	2.1	1	4
450.0	453.0	3.0	2.8	1	2.3	1	4
453.0	456.0	3.0	3.0	1	2.0	1	4
456.0	459.0	3.0	3.1	1	1.9	1	4
459.0	462.0	3.0	2.9	1	2.2	1	4
462.0	465.0	3.0	3.2	1	1.5	0	4
465.0	468.0	3.0	3.1	1	1.2	0	4
468.0	471.0	3.0	2.9	1	1.1	0	4
471.0	474.0	3.0	2.9	1	2.6	1	4
474.0	477.0	3.0	3.0	1	1.5	0	4
477.0	480.0	3.0	3.1	1	1.6	1	4
480.0	483.0	3.0	3.0	1	2.2	1	4
483.0	486.0	3.0	3.0	1	1.6	1	4
486.0	489.0	3.0	3.0	1	2.2	1	4
489.0	492.0	3.0	2.5	1	1.4	0	4
492.0	495.0	3.0	3.4	1	2.2	1	4
495.0	498.0	3.0	3.0	1	2.3	1	4
498.0	501.0	3.0	3.0	1	1.2	0	4
501.0	504.0	3.0	3.1	1	0.4	0	4
504.0	507.0	3.0	3.0	1	1.5	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
507.0	510.0	3.0	2.7	1	0.4	0	3
510.0	513.0	3.0	3.0	1	1.0	0	3
513.0	516.0	3.0	3.0	1	1.1	0	3
516.0	519.0	3.0	3.0	1	1.3	0	3
519.0	522.0	3.0	3.0	1	1.4	0	4
522.0	525.0	3.0	2.9	1	0.8	0	5
525.0	528.0	3.0	2.9	1	0.6	0	4
528.0	531.0	3.0	2.9	1	1.5	0	4
531.0	534.0	3.0	3.0	1	1.2	0	4
534.0	537.0	3.0	3.1	1	1.5	1	4
537.0	540.0	3.0	3.1	1	1.0	0	4
540.0	543.0	3.0	3.1	1	2.2	1	4
543.0	546.0	3.0	2.9	1	1.3	0	4
546.0	549.0	3.0	3.0	1	1.2	0	4
549.0	552.0	3.0	3.0	1	2.0	1	4
552.0	555.0	3.0	3.0	1	1.3	0	4
555.0	558.0	3.0	2.8	1	1.6	1	4
558.0	561.0	3.0	3.1	1	1.0	0	4
561.0	564.0	3.0	3.1	1	1.5	1	4
564.0	567.0	3.0	3.0	1	1.0	0	4
567.0	570.0	3.0	3.1	1	1.5	0	4
570.0	573.0	3.0	3.0	1	1.3	0	4
573.0	576.0	3.0	3.1	1	0.8	0	4
576.0	579.0	3.0	3.0	1	0.7	0	4
579.0	582.0	3.0	3.1	1	0.6	0	4
582.0	585.0	3.0	3.0	1	1.0	0	4
585.0	588.0	3.0	3.0	1	1.8	1	4
588.0	591.0	3.0	3.1	1	0.7	0	4
591.0	594.0	3.0	3.0	1	0.5	0	4
594.0	597.0	3.0	2.9	1	1.6	1	4
597.0	600.0	3.0	2.9	1	1.5	0	4
600.0	603.0	3.0	3.2	1	1.3	0	4
603.0	606.0	3.0	3.2	1	0.7	0	4
606.0	609.0	3.0	3.1	1	1.1	0	4
609.0	612.0	3.0	3.1	1	1.2	0	4
612.0	615.0	3.0	2.8	1	0.9	0	4
615.0	618.0	3.0	3.0	1	0.5	0	4
618.0	621.0	3.0	3.0	1	1.6	1	4
621.0	624.0	3.0	3.2	1	1.5	1	4
624.0	627.0	3.0	2.9	1	1.7	1	4
627.0	630.0	3.0	2.9	1	1.2	0	4
630.0	633.0	3.0	3.1	1	0.7	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
633.0	636.0	3.0	3.0	1	1.0	0	4
636.0	639.0	3.0	3.0	1	1.2	0	4
639.0	642.0	3.0	3.1	1	1.0	0	4
642.0	645.0	3.0	3.1	1	1.7	1	4
645.0	648.0	3.0	2.9	1	1.0	0	4
648.0	651.0	3.0	2.9	1	1.4	0	4
651.0	654.0	3.0	3.0	1	1.1	0	4
654.0	657.0	3.0	3.0	1	1.5	1	4
657.0	660.0	3.0	3.1	1	1.5	0	4
660.0	663.0	3.0	3.0	1	1.8	1	4
663.0	666.0	3.0	3.1	1	1.0	0	4
666.0	669.0	3.0	3.0	1	1.5	1	4
669.0	672.0	3.0	3.2	1	1.6	1	4
672.0	675.0	3.0	2.9	1	1.3	0	4
675.0	678.0	3.0	3.0	1	2.0	1	4
678.0	681.0	3.0	3.0	1	1.7	1	4
681.0	684.0	3.0	3.4	1	2.6	1	4
684.0	687.0	3.0	2.7	1	0.4	0	3
687.0	690.0	3.0	3.3	1	1.2	0	3
690.0	693.0	3.0	3.0	1	0.9	0	3
693.0	696.0	3.0	3.2	1	2.0	1	3
696.0	699.0	3.0	2.9	1	1.1	0	3
699.0	702.0	3.0	3.5	1	1.7	1	3
702.0	705.0	3.0	2.8	1	0.7	0	3
705.0	708.0	3.0	3.2	1	1.2	0	3
708.0	711.0	3.0	2.8	1	0.7	0	3
711.0	714.0	3.0	3.1	1	0.5	0	3
714.0	717.0	3.0	3.0	1	0.6	0	4
717.0	720.0	3.0	3.2	1	1.5	0	4
720.0	723.0	3.0	2.9	1	0.7	0	4
723.0	726.0	3.0	3.0	1	1.4	0	4
726.0	729.0	3.0	2.9	1	1.5	1	4
729.0	732.0	3.0	3.0	1	0.8	0	4
732.0	735.0	3.0	2.9	1	0.4	0	3
735.0	738.0	3.0	2.6	1	0.4	0	3
738.0	741.0	3.0	3.4	1	1.3	0	4
741.0	744.0	3.0	2.1	1	0.7	0	4
744.0	747.0	3.0	3.1	1	2.1	1	4
747.0	750.0	3.0	3.2	1	1.2	0	3
750.0	753.0	3.0	2.7	1	0.0	0	3
753.0	756.0	3.0	3.0	1	0.1	0	3
756.0	759.0	3.0	3.0	1	0.0	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-06					
Drilled 2007	0	-90	770.00	12144.81	16435.95

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
759.0	762.0	3.0	3.0	1	0.0	0	3
762.0	765.0	3.0	3.2	1	0.6	0	3
765.0	768.0	3.0	3.0	1	0.0	0	3
768.0	770.0	2.0	1.7	1	0.1	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	18.0	18.0	0.0	0			0
18.0	21.0	3.0	2.8	1	0.0	0	4
21.0	24.0	3.0	3.0	1	0.4	0	4
24.0	27.0	3.0	3.0	1	1.0	0	4
27.0	30.0	3.0	2.9	1	0.2	0	4
30.0	33.0	3.0	3.0	1	0.7	0	4
33.0	36.0	3.0	3.0	1	1.6	1	4
36.0	39.0	3.0	3.0	1	1.6	1	4
39.0	42.0	3.0	2.9	1	2.1	1	4
42.0	45.0	3.0	2.9	1	2.7	1	4
45.0	48.0	3.0	2.9	1	1.7	1	4
48.0	51.0	3.0	2.9	1	2.3	1	4
51.0	54.0	3.0	3.0	1	1.5	1	4
54.0	57.0	3.0	2.9	1	1.5	1	4
57.0	60.0	3.0	3.0	1	0.8	0	4
60.0	63.0	3.0	3.0	1	0.4	0	4
63.0	66.0	3.0	2.9	1	0.9	0	4
66.0	69.0	3.0	2.6	1	1.4	0	4
69.0	72.0	3.0	2.5	1	0.5	0	4
72.0	75.0	3.0	2.9	1	0.9	0	4
75.0	78.0	3.0	3.2	1	1.0	0	4
78.0	81.0	3.0	2.9	1	1.7	1	4
81.0	84.0	3.0	3.0	1	1.9	1	4
84.0	87.0	3.0	2.8	1	2.0	1	4
87.0	90.0	3.0	3.0	1	2.3	1	4
90.0	93.0	3.0	2.8	1	2.3	1	4
93.0	96.0	3.0	3.0	1	2.2	1	4
96.0	99.0	3.0	2.9	1	2.8	1	4
99.0	102.0	3.0	3.0	1	2.0	1	4
102.0	105.0	3.0	2.9	1	1.9	1	4
105.0	108.0	3.0	3.0	1	1.2	0	4
108.0	111.0	3.0	2.8	1	1.9	1	4
111.0	114.0	3.0	3.0	1	1.6	1	4
114.0	117.0	3.0	3.0	1	2.2	1	4
117.0	120.0	3.0	3.1	1	2.1	1	4
120.0	123.0	3.0	2.9	1	2.1	1	4
123.0	126.0	3.0	3.1	1	2.6	1	4
126.0	129.0	3.0	3.0	1	1.8	1	4
129.0	132.0	3.0	3.1	1	2.1	1	4
132.0	135.0	3.0	3.0	1	2.7	1	4
135.0	138.0	3.0	2.8	1	2.3	1	4
138.0	141.0	3.0	3.0	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
141.0	144.0	3.0	3.0	1	2.8	1	4
144.0	147.0	3.0	3.1	1	2.7	1	4
147.0	150.0	3.0	2.8	1	2.4	1	4
150.0	153.0	3.0	2.9	1	2.4	1	4
153.0	156.0	3.0	3.0	1	2.2	1	4
156.0	159.0	3.0	3.0	1	2.5	1	4
159.0	162.0	3.0	2.9	1	2.8	1	4
162.0	165.0	3.0	3.0	1	2.8	1	4
165.0	168.0	3.0	3.0	1	2.6	1	4
168.0	171.0	3.0	3.0	1	2.9	1	4
171.0	174.0	3.0	3.0	1	2.6	1	4
174.0	177.0	3.0	3.0	1	1.9	1	4
177.0	180.0	3.0	2.9	1	2.4	1	4
180.0	183.0	3.0	2.9	1	2.3	1	4
183.0	186.0	3.0	3.0	1	2.4	1	4
186.0	189.0	3.0	3.0	1	2.7	1	4
189.0	192.0	3.0	3.0	1	2.8	1	4
192.0	195.0	3.0	2.9	1	2.4	1	4
195.0	198.0	3.0	3.1	1	2.3	1	4
198.0	201.0	3.0	2.8	1	2.1	1	4
201.0	204.0	3.0	2.8	1	2.5	1	4
204.0	207.0	3.0	2.8	1	1.6	1	4
207.0	210.0	3.0	3.0	1	2.1	1	4
210.0	213.0	3.0	2.9	1	2.1	1	4
213.0	216.0	3.0	3.0	1	2.4	1	4
216.0	219.0	3.0	3.0	1	1.1	0	4
219.0	222.0	3.0	3.0	1	2.5	1	5
222.0	225.0	3.0	3.0	1	2.2	1	4
225.0	228.0	3.0	3.0	1	1.4	0	4
228.0	231.0	3.0	3.1	1	2.1	1	4
231.0	234.0	3.0	2.9	1	2.8	1	4
234.0	237.0	3.0	2.9	1	2.2	1	4
237.0	240.0	3.0	3.0	1	1.9	1	4
240.0	243.0	3.0	3.0	1	1.0	0	4
243.0	246.0	3.0	3.0	1	1.7	1	5
246.0	249.0	3.0	3.0	1	2.2	1	5
249.0	252.0	3.0	2.9	1	2.0	1	5
252.0	255.0	3.0	3.0	1	2.3	1	5
255.0	258.0	3.0	2.9	1	2.2	1	5
258.0	261.0	3.0	3.0	1	1.5	1	5
261.0	264.0	3.0	2.9	1	2.3	1	5
264.0	267.0	3.0	3.0	1	1.6	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
267.0	270.0	3.0	3.0	1	2.5	1	5
270.0	273.0	3.0	3.1	1	1.9	1	5
273.0	276.0	3.0	3.0	1	2.3	1	5
276.0	279.0	3.0	3.1	1	2.3	1	4
279.0	282.0	3.0	2.9	1	2.3	1	5
282.0	285.0	3.0	2.9	1	2.2	1	5
285.0	288.0	3.0	2.9	1	2.7	1	5
288.0	291.0	3.0	3.0	1	2.6	1	5
291.0	294.0	3.0	3.0	1	2.3	1	5
294.0	297.0	3.0	3.0	1	2.2	1	5
297.0	300.0	3.0	3.0	1	1.1	0	5
300.0	303.0	3.0	3.0	1	2.6	1	5
303.0	306.0	3.0	3.0	1	1.6	1	5
306.0	309.0	3.0	3.1	1	2.1	1	5
309.0	312.0	3.0	3.1	1	2.9	1	5
312.0	315.0	3.0	3.0	1	3.0	1	5
315.0	318.0	3.0	3.0	1	1.8	1	4
318.0	321.0	3.0	2.9	1	2.2	1	4
321.0	324.0	3.0	3.1	1	2.0	1	4
324.0	327.0	3.0	3.0	1	1.9	1	4
327.0	330.0	3.0	3.1	1	1.9	1	4
330.0	333.0	3.0	3.1	1	1.2	0	4
333.0	336.0	3.0	3.0	1	1.1	0	4
336.0	339.0	3.0	3.1	1	2.4	1	4
339.0	342.0	3.0	3.0	1	2.2	1	4
342.0	345.0	3.0	3.0	1	1.9	1	4
345.0	348.0	3.0	3.1	1	0.9	0	5
348.0	351.0	3.0	3.0	1	1.7	1	5
351.0	354.0	3.0	3.1	1	1.1	0	4
354.0	357.0	3.0	3.1	1	1.9	1	4
357.0	360.0	3.0	3.0	1	1.5	1	4
360.0	363.0	3.0	3.0	1	2.4	1	5
363.0	366.0	3.0	3.0	1	1.7	1	4
366.0	369.0	3.0	3.1	1	2.2	1	5
369.0	372.0	3.0	3.0	1	2.5	1	4
372.0	375.0	3.0	3.0	1	2.1	1	4
375.0	378.0	3.0	3.0	1	2.6	1	5
378.0	381.0	3.0	3.0	1	2.4	1	5
381.0	384.0	3.0	3.0	1	1.7	1	5
384.0	387.0	3.0	3.0	1	2.0	1	5
387.0	390.0	3.0	3.1	1	2.4	1	5
390.0	393.0	3.0	2.9	1	2.2	1	5

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
393.0	396.0	3.0	3.0	1	1.7	1	5
396.0	399.0	3.0	3.0	1	2.0	1	4
399.0	402.0	3.0	2.9	1	2.0	1	4
402.0	405.0	3.0	3.0	1	1.7	1	5
405.0	408.0	3.0	3.0	1	2.1	1	4
408.0	411.0	3.0	3.0	1	1.9	1	4
411.0	414.0	3.0	3.0	1	1.8	1	4
414.0	417.0	3.0	3.1	1	2.2	1	5
417.0	420.0	3.0	3.0	1	2.3	1	4
420.0	423.0	3.0	3.1	1	1.9	1	4
423.0	426.0	3.0	3.1	1	2.2	1	4
426.0	429.0	3.0	3.0	1	1.9	1	4
429.0	432.0	3.0	3.0	1	2.0	1	4
432.0	435.0	3.0	3.3	1	2.4	1	4
435.0	438.0	3.0	2.9	1	1.8	1	4
438.0	441.0	3.0	2.9	1	2.6	1	4
441.0	444.0	3.0	3.0	1	2.6	1	4
444.0	447.0	3.0	2.9	1	2.4	1	4
447.0	450.0	3.0	2.9	1	1.8	1	4
450.0	453.0	3.0	2.9	1	2.2	1	4
453.0	456.0	3.0	2.9	1	2.3	1	4
456.0	459.0	3.0	2.9	1	2.4	1	4
459.0	462.0	3.0	2.9	1	2.4	1	4
462.0	465.0	3.0	2.9	1	2.5	1	4
465.0	468.0	3.0	2.9	1	2.4	1	4
468.0	471.0	3.0	2.9	1	2.0	1	4
471.0	474.0	3.0	2.8	1	1.4	0	4
474.0	477.0	3.0	3.0	1	2.6	1	4
477.0	480.0	3.0	2.9	1	1.8	1	4
480.0	483.0	3.0	3.0	1	1.9	1	4
483.0	486.0	3.0	2.8	1	1.7	1	4
486.0	489.0	3.0	3.0	1	1.6	1	4
489.0	492.0	3.0	2.8	1	1.5	0	4
492.0	495.0	3.0	3.1	1	1.3	0	4
495.0	498.0	3.0	2.9	1	1.8	1	4
498.0	501.0	3.0	2.9	1	1.9	1	4
501.0	504.0	3.0	3.0	1	2.5	1	4
504.0	507.0	3.0	2.9	1	1.9	1	4
507.0	510.0	3.0	3.2	1	2.4	1	4
510.0	513.0	3.0	3.0	1	2.2	1	4
513.0	516.0	3.0	3.1	1	2.3	1	4
516.0	519.0	3.0	2.9	1	1.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
519.0	522.0	3.0	3.0	1	2.8	1	4
522.0	525.0	3.0	3.2	1	1.8	1	4
525.0	528.0	3.0	2.9	1	1.5	1	4
528.0	531.0	3.0	2.9	1	1.7	1	4
531.0	534.0	3.0	2.8	1	9.7	3	4
534.0	537.0	3.0	2.9	1	2.3	1	4
537.0	540.0	3.0	3.4	1	2.6	1	4
540.0	543.0	3.0	3.2	1	0.9	0	4
543.0	546.0	3.0	3.2	1	0.7	0	4
546.0	549.0	3.0	2.7	1	1.0	0	4
549.0	552.0	3.0	2.9	1	0.7	0	4
552.0	555.0	3.0	2.7	1	1.0	0	4
555.0	558.0	3.0	2.8	1	0.6	0	4
558.0	561.0	3.0	2.7	1	0.1	0	3
561.0	564.0	3.0	2.3	1	0.0	0	3
564.0	567.0	3.0	3.1	1	0.4	0	4
567.0	570.0	3.0	2.3	1	0.2	0	4
570.0	573.0	3.0	3.0	1	0.9	0	4
573.0	576.0	3.0	2.5	1	0.1	0	4
576.0	579.0	3.0	3.0	1	0.0	0	3
579.0	582.0	3.0	2.6	1	0.9	0	4
582.0	585.0	3.0	3.0	1	0.7	0	3
585.0	588.0	3.0	2.5	1	0.4	0	3
588.0	591.0	3.0	3.0	1	1.1	0	3
591.0	594.0	3.0	2.6	1	0.7	0	4
594.0	597.0	3.0	2.8	1	0.1	0	3
597.0	600.0	3.0	2.8	1	0.0	0	3
600.0	603.0	3.0	2.9	1	1.0	0	4
603.0	606.0	3.0	3.0	1	0.5	0	4
606.0	609.0	3.0	3.2	1	1.0	0	4
609.0	612.0	3.0	2.3	1	0.5	0	4
612.0	615.0	3.0	2.7	1	0.2	0	4
615.0	618.0	3.0	2.9	1	0.7	0	3
618.0	621.0	3.0	3.5	1	1.1	0	4
621.0	624.0	3.0	2.4	1	0.5	0	4
624.0	627.0	3.0	1.9	1	0.2	0	4
627.0	630.0	3.0	3.1	1	0.7	0	4
630.0	633.0	3.0	2.7	1	0.9	0	4
633.0	636.0	3.0	3.0	1	0.5	0	4
636.0	639.0	3.0	2.6	1	0.4	0	4
639.0	642.0	3.0	3.1	1	0.9	0	4
642.0	645.0	3.0	2.8	1	1.3	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-07					
Drilled 2007	180	-70	663.20	12144.85	16435.51

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
645.0	648.0	3.0	3.0	1	1.0	0	4
648.0	651.0	3.0	2.8	1	1.1	0	4
651.0	654.0	3.0	2.8	1	0.3	0	4
654.0	657.0	3.0	3.1	1	1.1	0	4
657.0	660.0	3.0	2.9	1	0.2	0	4
660.0	663.0	3.0	3.1	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-08					
Drilled 2007	0	-90	135.00	12092.45	15873.78

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	3.0	3.0	0.6	0	0.0	0	4
3.0	6.0	3.0	3.0	1	0.3	0	4
6.0	9.0	3.0	2.9	1	0.5	0	4
9.0	12.0	3.0	2.8	1	1.3	0	4
12.0	15.0	3.0	2.8	1	1.4	0	4
15.0	18.0	3.0	3.0	1	1.5	0	4
18.0	21.0	3.0	2.8	1	0.6	0	4
21.0	24.0	3.0	3.0	1	0.7	0	4
24.0	27.0	3.0	3.0	1	1.3	0	4
27.0	30.0	3.0	2.7	1	0.7	0	4
30.0	33.0	3.0	3.0	1	2.3	1	4
33.0	36.0	3.0	3.0	1	1.5	1	4
36.0	39.0	3.0	3.3	1	1.3	0	4
39.0	42.0	3.0	2.5	1	1.6	1	4
42.0	45.0	3.0	3.0	1	1.2	0	4
45.0	48.0	3.0	3.0	1	1.8	1	4
48.0	51.0	3.0	3.0	1	0.5	0	4
51.0	54.0	3.0	2.9	1	0.6	0	4
54.0	57.0	3.0	2.9	1	0.6	0	4
57.0	60.0	3.0	3.0	1	1.6	1	4
60.0	63.0	3.0	3.0	1	1.0	0	4
63.0	66.0	3.0	3.0	1	1.2	0	4
66.0	69.0	3.0	3.0	1	1.6	1	4
69.0	72.0	3.0	3.0	1	1.5	1	4
72.0	75.0	3.0	3.1	1	1.5	1	4
75.0	78.0	3.0	3.0	1	1.8	1	4
78.0	81.0	3.0	3.0	1	1.7	1	4
81.0	84.0	3.0	3.0	1	1.0	0	4
84.0	87.0	3.0	3.1	1	1.0	0	4
87.0	90.0	3.0	3.0	1	0.5	0	4
90.0	93.0	3.0	3.0	1	1.8	1	4
93.0	96.0	3.0	3.0	1	1.2	0	4
96.0	99.0	3.0	3.0	1	2.1	1	4
99.0	102.0	3.0	3.0	1	0.5	0	4
102.0	105.0	3.0	3.0	1	1.7	1	4
105.0	108.0	3.0	2.9	1	0.5	0	4
108.0	111.0	3.0	3.1	1	1.2	0	4
111.0	114.0	3.0	3.0	1	1.6	1	4
114.0	117.0	3.0	3.0	1	1.5	1	4
117.0	120.0	3.0	3.0	1	2.1	1	4
120.0	123.0	3.0	3.0	1	1.0	0	4
123.0	126.0	3.0	3.0	1	0.9	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-08					
Drilled 2007	0	-90	135.00	12092.45	15873.78

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
126.0	129.0	3.0	2.7	1	1.5	1	4
129.0	132.0	3.0	3.2	1	2.0	1	4
132.0	135.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-09					
Drilled 2007	0	-90	366.00	11898.12	15799.62

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	15.0	15.0	5.5	0	0.5	0	3
15.0	18.0	3.0	2.5	1	1.3	0	4
18.0	21.0	3.0	3.0	1	0.5	0	4
21.0	24.0	3.0	3.0	1	1.1	0	4
24.0	27.0	3.0	3.0	1	0.8	0	4
27.0	30.0	3.0	3.0	1	1.1	0	4
30.0	33.0	3.0	3.0	1	1.0	0	4
33.0	36.0	3.0	3.0	1	0.7	0	4
36.0	39.0	3.0	2.9	1	0.7	0	4
39.0	42.0	3.0	3.0	1	1.3	0	4
42.0	45.0	3.0	3.1	1	1.4	0	4
45.0	48.0	3.0	3.0	1	1.6	1	4
48.0	51.0	3.0	2.9	1	0.4	0	4
51.0	54.0	3.0	3.0	1	1.3	0	4
54.0	57.0	3.0	3.0	1	0.9	0	4
57.0	60.0	3.0	3.0	1	1.1	0	4
60.0	63.0	3.0	3.0	1	1.9	1	4
63.0	66.0	3.0	3.0	1	1.0	0	4
66.0	69.0	3.0	3.1	1	0.7	0	4
69.0	72.0	3.0	3.0	1	1.1	0	4
72.0	75.0	3.0	3.0	1	1.6	1	4
75.0	78.0	3.0	3.0	1	0.9	0	4
78.0	81.0	3.0	3.0	1	1.1	0	4
81.0	84.0	3.0	3.0	1	1.5	1	4
84.0	87.0	3.0	3.0	1	1.4	0	4
87.0	90.0	3.0	3.0	1	1.1	0	4
90.0	93.0	3.0	3.0	1	0.8	0	4
93.0	96.0	3.0	3.0	1	0.9	0	4
96.0	99.0	3.0	3.0	1	1.1	0	4
99.0	102.0	3.0	3.0	1	1.5	0	4
102.0	105.0	3.0	3.0	1	1.2	0	4
105.0	108.0	3.0	3.0	1	1.8	1	4
108.0	111.0	3.0	3.0	1	2.1	1	4
111.0	114.0	3.0	3.0	1	1.9	1	4
114.0	117.0	3.0	3.0	1	2.1	1	4
117.0	120.0	3.0	3.0	1	0.9	0	4
120.0	123.0	3.0	2.9	1	2.0	1	4
123.0	126.0	3.0	3.0	1	0.9	0	4
126.0	129.0	3.0	3.0	1	2.0	1	4
129.0	132.0	3.0	2.9	1	1.9	1	4
132.0	135.0	3.0	2.9	1	1.2	0	4
135.0	138.0	3.0	3.1	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-09					
Drilled 2007	0	-90	366.00	11898.12	15799.62

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
138.0	141.0	3.0	2.8	1	1.5	1	4
141.0	144.0	3.0	2.3	1	1.4	0	4
144.0	147.0	3.0	3.4	1	1.6	1	4
147.0	150.0	3.0	3.0	1	1.9	1	4
150.0	153.0	3.0	2.3	1	1.3	0	4
153.0	156.0	3.0	3.0	1	0.3	0	4
156.0	159.0	3.0	2.0	1	0.0	0	4
159.0	162.0	3.0	0.3	0	0.1	0	4
162.0	165.0	3.0	2.7	1	0.5	0	4
165.0	168.0	3.0	3.0	1	1.0	0	4
168.0	171.0	3.0	3.0	1	1.8	1	4
171.0	174.0	3.0	3.0	1	1.5	1	4
174.0	177.0	3.0	2.9	1	1.8	1	4
177.0	180.0	3.0	2.9	1	1.4	0	4
180.0	183.0	3.0	3.1	1	1.6	1	4
183.0	186.0	3.0	3.0	1	2.4	1	4
186.0	189.0	3.0	2.9	1	1.4	0	4
189.0	192.0	3.0	3.0	1	1.8	1	4
192.0	195.0	3.0	3.1	1	1.1	0	4
195.0	198.0	3.0	2.9	1	1.4	0	4
198.0	201.0	3.0	3.0	1	1.9	1	4
201.0	204.0	3.0	2.9	1	1.5	0	4
204.0	207.0	3.0	3.0	1	1.3	0	4
207.0	210.0	3.0	3.4	1	1.6	1	4
210.0	213.0	3.0	2.9	1	2.2	1	4
213.0	216.0	3.0	2.9	1	2.2	1	4
216.0	219.0	3.0	3.4	1	2.2	1	4
219.0	222.0	3.0	3.0	1	1.3	0	3
222.0	225.0	3.0	2.7	1	1.3	0	4
225.0	228.0	3.0	3.0	1	1.7	1	4
228.0	231.0	3.0	2.8	1	1.4	0	4
231.0	234.0	3.0	2.5	1	2.6	1	4
234.0	237.0	3.0	2.7	1	1.7	1	4
237.0	240.0	3.0	3.4	1	2.0	1	4
240.0	243.0	3.0	3.3	1	0.9	0	4
243.0	246.0	3.0	3.3	1	2.5	1	4
246.0	249.0	3.0	3.0	1	0.7	0	4
249.0	252.0	3.0	2.9	1	2.2	1	4
252.0	255.0	3.0	2.8	1	1.0	0	4
255.0	258.0	3.0	3.0	1	1.1	0	4
258.0	261.0	3.0	3.1	1	1.7	1	4
261.0	264.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-09					
Drilled 2007	0	-90	366.00	11898.12	15799.62

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
264.0	267.0	3.0	2.7	1	0.7	0	4
267.0	270.0	3.0	2.9	1	2.0	1	4
270.0	273.0	3.0	3.0	1	2.1	1	4
273.0	276.0	3.0	2.5	1	2.0	1	4
276.0	279.0	3.0	3.1	1	2.6	1	4
279.0	282.0	3.0	2.9	1	1.8	1	4
282.0	285.0	3.0	3.0	1	2.0	1	0
285.0	288.0	3.0	2.8	1	0.7	0	0
288.0	291.0	3.0	0.5	0	0.2	0	4
291.0	294.0	3.0	2.5	1	0.3	0	4
294.0	297.0	3.0	2.9	1	0.9	0	4
297.0	300.0	3.0	3.0	1	1.0	0	4
300.0	303.0	3.0	3.0	1	1.0	0	4
303.0	306.0	3.0	3.0	1	0.7	0	4
306.0	309.0	3.0	3.0	1	1.0	0	4
309.0	312.0	3.0	3.0	1	1.1	0	4
312.0	315.0	3.0	3.0	1	0.8	0	4
315.0	318.0	3.0	2.9	1	1.3	0	4
318.0	321.0	3.0	3.0	1	0.9	0	4
321.0	324.0	3.0	3.0	1	0.9	0	4
324.0	327.0	3.0	3.0	1	1.2	0	4
327.0	330.0	3.0	3.1	1	1.3	0	4
330.0	333.0	3.0	2.8	1	0.7	0	4
333.0	336.0	3.0	2.9	1	1.3	0	4
336.0	339.0	3.0	3.0	1	1.6	1	4
339.0	342.0	3.0	2.8	1	1.0	0	4
342.0	345.0	3.0	3.1	1	1.3	0	4
345.0	348.0	3.0	3.0	1	1.9	1	4
348.0	351.0	3.0	2.9	1	0.7	0	4
351.0	354.0	3.0	3.0	1	1.7	1	4
354.0	357.0	3.0	2.8	1	1.5	1	4
357.0	360.0	3.0	3.0	1	1.0	0	4
360.0	363.0	3.0	2.7	1	1.0	0	4
363.0	366.0	3.0	3.0	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	6.0	3.0					0
0.0	12.0	12.0	4.3	0	0.7	0	3
12.0	15.0	3.0	1.7	1	0.2	0	3
15.0	18.0	3.0	2.8	1	1.0	0	3
18.0	21.0	3.0	2.7	1	1.0	0	3
21.0	24.0	3.0	2.5	1	0.4	0	3
24.0	27.0	3.0	2.9	1	0.5	0	3
27.0	30.0	3.0	2.6	1	0.6	0	3
30.0	33.0	3.0	2.1	1	0.6	0	3
33.0	36.0	3.0	2.3	1	0.9	0	3
36.0	39.0	3.0	1.9	1	0.0	0	3
39.0	42.0	3.0	2.9	1	0.7	0	3
42.0	45.0	3.0	2.5	1	0.4	0	3
45.0	48.0	3.0	2.6	1	0.6	0	3
48.0	51.0	3.0	2.5	1	0.5	0	3
51.0	54.0	3.0	2.4	1	1.0	0	3
54.0	57.0	3.0	2.0	1	0.0	0	3
57.0	60.0	3.0	2.1	1	0.6	0	3
60.0	63.0	3.0	2.7	1	0.4	0	3
63.0	66.0	3.0	2.5	1	0.8	0	3
66.0	69.0	3.0	2.4	1	0.2	0	3
69.0	72.0	3.0	2.7	1	0.9	0	3
72.0	75.0	3.0	2.0	1	0.4	0	3
75.0	78.0	3.0	2.9	1	0.6	0	3
78.0	81.0	3.0	2.3	1	0.7	0	3
81.0	84.0	3.0	2.8	1	0.7	0	3
84.0	87.0	3.0	2.9	1	1.9	1	3
87.0	90.0	3.0	3.0	1	1.2	0	3
90.0	93.0	3.0	2.9	1	1.2	0	3
93.0	96.0	3.0	3.1	1	0.9	0	3
96.0	99.0	3.0	2.8	1	1.0	0	3
99.0	102.0	3.0	2.7	1	0.3	0	3
102.0	105.0	3.0	3.2	1	0.7	0	3
105.0	108.0	3.0	3.0	1	1.0	0	3
108.0	111.0	3.0	3.2	1	0.7	0	3
111.0	114.0	3.0	3.1	1	1.1	0	3
114.0	117.0	3.0	3.0	1	1.0	0	3
117.0	120.0	3.0	2.8	1	1.4	0	3
120.0	123.0	3.0	3.0	1	0.9	0	3
123.0	126.0	3.0	2.7	1	0.9	0	3
126.0	129.0	3.0	3.0	1	0.9	0	3
129.0	132.0	3.0	3.1	1	1.1	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
132.0	135.0	3.0	3.0	1	1.5	1	3
135.0	138.0	3.0	3.1	1	1.2	0	3
138.0	141.0	3.0	3.0	1	2.1	1	3
141.0	144.0	3.0	3.0	1	1.4	0	3
144.0	147.0	3.0	3.0	1	2.7	1	3
147.0	150.0	3.0	3.0	1	2.4	1	3
150.0	153.0	3.0	2.9	1	2.4	1	3
153.0	156.0	3.0	3.0	1	1.4	0	3
156.0	159.0	3.0	3.0	1	1.5	1	3
159.0	162.0	3.0	3.0	1	2.4	1	3
162.0	165.0	3.0	3.0	1	2.1	1	3
165.0	168.0	3.0	3.0	1	1.1	0	3
168.0	171.0	3.0	3.0	1	1.1	0	3
171.0	174.0	3.0	3.0	1	1.2	0	3
174.0	177.0	3.0	2.9	1	1.7	1	3
177.0	180.0	3.0	2.9	1	1.5	1	3
180.0	183.0	3.0	3.1	1	1.8	1	3
183.0	186.0	3.0	3.0	1	1.2	0	3
186.0	189.0	3.0	2.8	1	0.8	0	3
189.0	192.0	3.0	2.9	1	1.2	0	4
192.0	195.0	3.0	3.0	1	1.2	0	4
195.0	198.0	3.0	3.0	1	0.7	0	4
198.0	201.0	3.0	3.1	1	1.2	0	4
201.0	204.0	3.0	2.9	1	0.7	0	4
204.0	207.0	3.0	2.8	1	1.1	0	4
207.0	210.0	3.0	2.8	1	0.7	0	4
210.0	213.0	3.0	2.8	1	0.8	0	4
213.0	216.0	3.0	2.7	1	0.9	0	4
216.0	219.0	3.0	3.0	1	1.4	0	4
219.0	222.0	3.0	2.8	1	0.9	0	4
222.0	225.0	3.0	2.8	1	0.9	0	4
225.0	228.0	3.0	2.7	1	0.4	0	4
228.0	231.0	3.0	3.0	1	1.2	0	4
231.0	234.0	3.0	3.0	1	1.5	1	4
234.0	237.0	3.0	3.0	1	1.2	0	4
237.0	240.0	3.0	2.9	1	2.3	1	4
240.0	243.0	3.0	2.9	1	1.5	1	4
243.0	246.0	3.0	2.8	1	2.2	1	4
246.0	249.0	3.0	3.0	1	2.3	1	4
249.0	252.0	3.0	2.7	1	2.1	1	4
252.0	255.0	3.0	3.0	1	2.3	1	4
255.0	258.0	3.0	2.9	1	1.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
258.0	261.0	3.0	3.0	1	1.2	0	4
261.0	264.0	3.0	2.9	1	1.4	0	4
264.0	267.0	3.0	2.8	1	0.5	0	4
267.0	270.0	3.0	2.8	1	1.6	1	4
270.0	273.0	3.0	2.7	1	1.3	0	4
273.0	276.0	3.0	2.7	1	0.9	0	4
276.0	279.0	3.0	3.0	1	1.5	1	4
279.0	282.0	3.0	3.0	1	2.1	1	4
282.0	285.0	3.0	2.9	1	0.8	0	4
285.0	288.0	3.0	2.8	1	0.7	0	4
288.0	291.0	3.0	3.0	1	1.2	0	4
291.0	294.0	3.0	2.9	1	1.5	1	4
294.0	297.0	3.0	2.9	1	1.1	0	4
297.0	300.0	3.0	2.0	1	0.7	0	4
300.0	303.0	3.0	2.1	1	0.7	0	4
303.0	306.0	3.0	2.8	1	1.2	0	4
306.0	309.0	3.0	2.8	1	1.7	1	4
309.0	312.0	3.0	2.8	1	1.6	1	4
312.0	315.0	3.0	3.0	1	1.4	0	4
315.0	318.0	3.0	2.8	1	1.4	0	4
318.0	321.0	3.0	2.8	1	1.4	0	4
321.0	324.0	3.0	2.8	1	1.5	1	4
324.0	327.0	3.0	3.0	1	1.9	1	4
327.0	330.0	3.0	2.8	1	1.7	1	4
330.0	333.0	3.0	3.0	1	1.0	0	4
333.0	336.0	3.0	3.0	1	1.3	0	4
336.0	339.0	3.0	2.6	1	1.2	0	4
339.0	342.0	3.0	3.0	1	1.5	1	4
342.0	345.0	3.0	2.6	1	1.8	1	4
345.0	348.0	3.0	2.8	1	1.1	0	4
348.0	351.0	3.0	3.0	1	1.8	1	4
351.0	354.0	3.0	3.0	1	1.6	1	4
354.0	357.0	3.0	2.8	1	1.5	1	4
357.0	360.0	3.0	3.0	1	2.1	1	4
360.0	363.0	3.0	2.8	1	0.9	0	4
363.0	366.0	3.0	2.9	1	1.8	1	4
366.0	369.0	3.0	3.1	1	2.4	1	4
369.0	372.0	3.0	2.9	1	1.7	1	4
372.0	375.0	3.0	2.8	1	1.0	0	4
375.0	378.0	3.0	2.8	1	1.6	1	4
378.0	381.0	3.0	3.1	1	1.4	0	4
381.0	384.0	3.0	2.8	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
384.0	387.0	3.0	3.0	1	1.5	1	4
387.0	390.0	3.0	3.0	1	2.3	1	4
390.0	393.0	3.0	3.0	1	2.1	1	4
393.0	396.0	3.0	3.0	1	2.1	1	4
396.0	399.0	3.0	2.8	1	2.0	1	4
399.0	402.0	3.0	2.9	1	2.1	1	4
402.0	405.0	3.0	3.0	1	2.0	1	4
405.0	408.0	3.0	2.9	1	2.4	1	4
408.0	411.0	3.0	3.0	1	1.2	0	4
411.0	414.0	3.0	2.9	1	2.0	1	4
414.0	417.0	3.0	3.0	1	2.1	1	4
417.0	420.0	3.0	3.0	1	2.4	1	4
420.0	423.0	3.0	3.0	1	1.6	1	4
423.0	426.0	3.0	2.8	1	1.1	0	4
426.0	429.0	3.0	3.0	1	1.4	0	4
429.0	432.0	3.0	2.7	1	1.7	1	4
432.0	435.0	3.0	3.0	1	1.8	1	4
435.0	438.0	3.0	2.9	1	2.0	1	4
438.0	441.0	3.0	3.2	1	2.3	1	4
441.0	444.0	3.0	2.8	1	2.3	1	4
444.0	447.0	3.0	2.7	1	1.9	1	4
447.0	450.0	3.0	2.7	1	1.3	0	4
450.0	453.0	3.0	2.8	1	1.4	0	4
453.0	456.0	3.0	2.9	1	1.7	1	4
456.0	459.0	3.0	3.0	1	1.9	1	4
459.0	462.0	3.0	3.0	1	1.9	1	4
462.0	465.0	3.0	2.9	1	1.9	1	4
465.0	468.0	3.0	2.7	1	1.9	1	4
468.0	471.0	3.0	3.0	1	2.1	1	4
471.0	474.0	3.0	3.0	1	2.4	1	4
474.0	477.0	3.0	2.7	1	2.0	1	4
477.0	480.0	3.0	2.9	1	1.8	1	4
480.0	483.0	3.0	2.5	1	1.4	0	4
483.0	486.0	3.0	3.0	1	2.3	1	4
486.0	489.0	3.0	3.1	1	2.3	1	4
489.0	492.0	3.0	3.0	1	2.3	1	4
492.0	495.0	3.0	3.0	1	1.5	1	4
495.0	498.0	3.0	3.0	1	1.8	1	4
498.0	501.0	3.0	3.0	1	1.5	1	3
501.0	504.0	3.0	2.8	1	2.2	1	4
504.0	507.0	3.0	3.0	1	1.8	1	4
507.0	510.0	3.0	2.8	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
510.0	513.0	3.0	3.1	1	2.0	1	3
513.0	516.0	3.0	2.6	1	1.8	1	4
516.0	519.0	3.0	2.7	1	0.6	0	4
519.0	522.0	3.0	2.8	1	0.3	0	4
522.0	525.0	3.0	2.9	1	0.8	0	4
525.0	528.0	3.0	2.5	1	1.1	0	4
528.0	531.0	3.0	3.1	1	1.7	1	4
531.0	534.0	3.0	3.1	1	1.1	0	4
534.0	537.0	3.0	2.6	1	0.4	0	4
537.0	540.0	3.0	2.8	1	1.1	0	4
540.0	543.0	3.0	3.1	1	1.9	1	4
543.0	546.0	3.0	3.0	1	1.3	0	4
546.0	549.0	3.0	3.1	1	1.8	1	4
549.0	552.0	3.0	2.9	1	2.1	1	4
552.0	555.0	3.0	3.0	1	2.3	1	4
555.0	558.0	3.0	2.8	1	1.2	0	4
558.0	561.0	3.0	3.0	1	2.5	1	4
561.0	564.0	3.0	3.0	1	1.8	1	4
564.0	567.0	3.0	2.8	1	1.6	1	3
567.0	570.0	3.0	3.1	1	2.0	1	4
570.0	573.0	3.0	2.7	1	1.6	1	4
573.0	576.0	3.0	3.1	1	1.7	1	4
576.0	579.0	3.0	3.1	1	1.1	0	4
579.0	582.0	3.0	2.6	1	1.6	1	4
582.0	585.0	3.0	3.0	1	1.1	0	4
585.0	588.0	3.0	3.2	1	0.7	0	4
588.0	591.0	3.0	2.7	1	1.2	0	3
591.0	594.0	3.0	2.2	1	0.2	0	3
594.0	597.0	3.0	2.2	1	0.4	0	4
597.0	600.0	3.0	3.9	1	1.0	0	4
600.0	603.0	3.0	3.1	1	0.4	0	4
603.0	606.0	3.0	2.9	1	1.1	0	4
606.0	609.0	3.0	2.8	1	1.5	0	4
609.0	612.0	3.0	3.1	1	1.0	0	4
612.0	615.0	3.0	3.3	1	2.3	1	4
615.0	618.0	3.0	2.7	1	2.4	1	4
618.0	621.0	3.0	2.1	1	1.7	1	4
621.0	624.0	3.0	2.8	1	1.7	1	4
624.0	627.0	3.0	3.0	1	2.4	1	4
627.0	630.0	3.0	2.8	1	1.4	0	4
630.0	633.0	3.0	3.1	1	1.8	1	4
633.0	636.0	3.0	3.0	1	1.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
636.0	639.0	3.0	3.1	1	1.4	0	4
639.0	642.0	3.0	2.9	1	2.2	1	4
642.0	645.0	3.0	3.1	1	1.5	1	4
645.0	648.0	3.0	2.8	1	1.5	1	4
648.0	651.0	3.0	2.6	1	1.5	1	4
651.0	654.0	3.0	3.3	1	1.2	0	4
654.0	657.0	3.0	3.0	1	1.1	0	4
657.0	660.0	3.0	3.0	1	1.8	1	4
660.0	663.0	3.0	3.2	1	1.8	1	4
663.0	666.0	3.0	2.7	1	1.9	1	4
666.0	669.0	3.0	3.5	1	1.7	1	4
669.0	672.0	3.0	2.8	1	1.4	0	4
672.0	675.0	3.0	3.2	1	1.1	0	4
675.0	678.0	3.0	2.9	1	1.9	1	4
678.0	681.0	3.0	3.3	1	1.9	1	4
681.0	684.0	3.0	2.8	1	1.7	1	4
684.0	687.0	3.0	3.0	1	1.5	1	4
687.0	690.0	3.0	2.9	1	2.2	1	4
690.0	693.0	3.0	3.1	1	2.1	1	4
693.0	696.0	3.0	2.9	1	1.8	1	4
696.0	699.0	3.0	3.1	1	1.3	0	4
699.0	702.0	3.0	2.6	1	2.2	1	4
702.0	705.0	3.0	3.0	1	2.3	1	4
705.0	708.0	3.0	3.1	1	2.8	1	4
708.0	711.0	3.0	3.4	1	1.7	1	4
711.0	714.0	3.0	3.0	1	1.0	0	4
714.0	717.0	3.0	3.1	1	1.3	0	4
717.0	720.0	3.0	3.2	1	1.5	1	4
720.0	723.0	3.0	3.0	1	1.7	1	4
723.0	726.0	3.0	2.9	1	1.1	0	4
726.0	729.0	3.0	3.1	1	1.9	1	4
729.0	732.0	3.0	2.6	1	2.0	1	4
732.0	735.0	3.0	2.7	1	1.8	1	4
735.0	738.0	3.0	3.0	1	1.8	1	4
738.0	741.0	3.0	3.0	1	1.8	1	4
741.0	744.0	3.0	3.0	1	2.4	1	4
744.0	747.0	3.0	2.8	1	1.7	1	4
747.0	750.0	3.0	2.9	1	1.6	1	4
750.0	753.0	3.0	3.1	1	1.7	1	4
753.0	756.0	3.0	2.8	1	1.3	0	4
756.0	759.0	3.0	2.4	1	1.1	0	4
759.0	762.0	3.0	2.4	1	1.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
762.0	765.0	3.0	3.1	1	1.8	1	4
765.0	768.0	3.0	2.9	1	1.4	0	4
768.0	771.0	3.0	2.9	1	2.5	1	4
771.0	774.0	3.0	2.7	1	2.4	1	4
774.0	777.0	3.0	2.8	1	1.5	0	4
777.0	780.0	3.0	3.3	1	1.5	0	4
780.0	783.0	3.0	3.1	1	1.6	1	4
783.0	786.0	3.0	2.8	1	2.0	1	4
786.0	789.0	3.0	3.0	1	2.5	1	4
789.0	792.0	3.0	3.2	1	2.8	1	4
792.0	795.0	3.0	3.0	1	2.5	1	4
795.0	798.0	3.0	2.6	1	1.7	1	4
798.0	801.0	3.0	3.2	1	2.1	1	4
801.0	804.0	3.0	2.7	1	1.5	1	4
804.0	807.0	3.0	2.8	1	1.7	1	4
807.0	810.0	3.0	3.2	1	1.3	0	4
810.0	813.0	3.0	2.7	1	0.9	0	4
813.0	816.0	3.0	2.5	1	1.2	0	4
816.0	819.0	3.0	2.8	1	1.5	0	4
819.0	822.0	3.0	3.0	1	1.6	1	4
822.0	825.0	3.0	2.8	1	1.1	0	4
825.0	828.0	3.0	3.1	1	2.2	1	4
828.0	831.0	3.0	2.9	1	2.1	1	4
831.0	834.0	3.0	2.9	1	2.3	1	4
834.0	837.0	3.0	2.8	1	1.9	1	4
837.0	840.0	3.0	2.9	1	1.5	1	4
840.0	843.0	3.0	2.9	1	1.8	1	4
843.0	846.0	3.0	2.7	1	1.6	1	4
846.0	849.0	3.0	3.0	1	1.9	1	4
849.0	852.0	3.0	3.0	1	1.1	0	4
852.0	855.0	3.0	2.6	1	1.5	1	4
855.0	858.0	3.0	2.7	1	1.7	1	4
858.0	861.0	3.0	2.6	1	1.0	0	4
861.0	864.0	3.0	3.0	1	2.6	1	4
864.0	867.0	3.0	2.9	1	1.5	0	4
867.0	870.0	3.0	3.1	1	1.2	0	4
870.0	873.0	3.0	3.0	1	1.3	0	4
873.0	876.0	3.0	2.8	1	1.0	0	4
876.0	879.0	3.0	2.8	1	1.1	0	4
879.0	882.0	3.0	2.8	1	1.2	0	4
882.0	885.0	3.0	3.1	1	1.4	0	4
885.0	888.0	3.0	3.1	1	2.3	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
888.0	891.0	3.0	2.7	1	2.1	1	4
891.0	894.0	3.0	2.7	1	1.0	0	4
894.0	897.0	3.0	2.7	1	0.9	0	4
897.0	900.0	3.0	2.5	1	1.3	0	4
900.0	903.0	3.0	2.8	1	1.0	0	4
903.0	906.0	3.0	3.2	1	1.6	1	4
906.0	909.0	3.0	2.6	1	1.0	0	4
909.0	912.0	3.0	2.9	1	1.7	1	4
912.0	915.0	3.0	3.0	1	1.0	0	4
915.0	918.0	3.0	3.0	1	1.4	0	4
918.0	921.0	3.0	2.7	1	1.1	0	4
921.0	924.0	3.0	2.7	1	1.4	0	4
924.0	927.0	3.0	3.0	1	1.0	0	4
927.0	930.0	3.0	2.7	1	0.7	0	4
930.0	933.0	3.0	3.0	1	1.5	1	4
933.0	936.0	3.0	3.0	1	1.8	1	4
936.0	939.0	3.0	3.4	1	1.5	1	4
939.0	942.0	3.0	3.0	1	2.0	1	4
942.0	945.0	3.0	2.6	1	1.5	0	4
945.0	948.0	3.0	3.0	1	2.3	1	4
948.0	951.0	3.0	2.8	1	2.0	1	4
951.0	954.0	3.0	2.6	1	1.4	0	4
954.0	957.0	3.0	2.9	1	1.6	1	4
957.0	960.0	3.0	2.8	1	1.6	1	4
960.0	963.0	3.0	2.8	1	1.8	1	4
963.0	966.0	3.0	2.9	1	1.3	0	4
966.0	969.0	3.0	2.9	1	1.6	1	4
969.0	972.0	3.0	2.9	1	1.7	1	4
972.0	975.0	3.0	2.8	1	1.8	1	4
975.0	978.0	3.0	2.9	1	1.1	0	4
978.0	981.0	3.0	2.8	1	1.1	0	4
981.0	984.0	3.0	3.1	1	2.1	1	4
984.0	987.0	3.0	2.7	1	1.6	1	4
987.0	990.0	3.0	3.0	1	1.8	1	4
990.0	993.0	3.0	2.8	1	1.4	0	4
993.0	996.0	3.0	2.9	1	1.7	1	4
996.0	999.0	3.0	2.7	1	1.2	0	4
999.0	1002.0	3.0	3.1	1	0.8	0	4
1002.0	1005.0	3.0	2.6	1	1.6	1	4
1005.0	1008.0	3.0	3.0	1	1.6	1	4
1008.0	1011.0	3.0	3.1	1	1.7	1	4
1011.0	1014.0	3.0	2.7	1	1.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1014.0	1017.0	3.0	2.8	1	1.7	1	4
1017.0	1020.0	3.0	3.2	1	2.6	1	4
1020.0	1023.0	3.0	2.9	1	1.5	0	4
1023.0	1026.0	3.0	2.9	1	1.7	1	4
1026.0	1029.0	3.0	2.9	1	2.0	1	4
1029.0	1032.0	3.0	3.0	1	2.5	1	4
1032.0	1035.0	3.0	2.8	1	1.8	1	4
1035.0	1038.0	3.0	3.0	1	2.4	1	4
1038.0	1041.0	3.0	3.0	1	2.0	1	4
1041.0	1044.0	3.0	3.0	1	1.9	1	4
1044.0	1047.0	3.0	3.0	1	2.0	1	4
1047.0	1050.0	3.0	3.0	1	2.4	1	4
1050.0	1053.0	3.0	2.8	1	1.5	1	4
1053.0	1056.0	3.0	3.1	1	2.1	1	4
1056.0	1059.0	3.0	3.1	1	2.1	1	4
1059.0	1062.0	3.0	2.8	1	2.1	1	4
1062.0	1065.0	3.0	3.1	1	1.6	1	4
1065.0	1068.0	3.0	2.8	1	1.4	0	4
1068.0	1071.0	3.0	2.7	1	0.9	0	4
1071.0	1074.0	3.0	2.8	1	0.8	0	4
1074.0	1077.0	3.0	2.7	1	1.2	0	4
1077.0	1080.0	3.0	3.0	1	1.2	0	4
1080.0	1083.0	3.0	2.7	1	1.3	0	4
1083.0	1086.0	3.0	3.0	1	1.5	1	4
1086.0	1089.0	3.0	2.9	1	1.3	0	4
1089.0	1092.0	3.0	3.0	1	1.7	1	4
1092.0	1095.0	3.0	2.6	1	1.7	1	4
1095.0	1098.0	3.0	3.2	1	1.9	1	4
1098.0	1101.0	3.0	2.8	1	1.3	0	4
1101.0	1104.0	3.0	3.3	1	1.9	1	4
1104.0	1107.0	3.0	2.8	1	1.5	1	4
1107.0	1110.0	3.0	3.1	1	2.0	1	4
1110.0	1113.0	3.0	2.8	1	0.9	0	4
1113.0	1116.0	3.0	3.1	1	1.4	0	4
1116.0	1119.0	3.0	2.9	1	1.5	1	4
1119.0	1122.0	3.0	3.1	1	1.0	0	4
1122.0	1125.0	3.0	3.1	1	0.4	0	4
1125.0	1128.0	3.0	3.2	1	1.7	1	4
1128.0	1131.0	3.0	2.9	1	2.1	1	4
1131.0	1134.0	3.0	3.2	1	1.5	1	4
1134.0	1137.0	3.0	3.0	1	1.5	1	4
1137.0	1140.0	3.0	3.2	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1140.0	1143.0	3.0	2.9	1	2.3	1	4
1143.0	1146.0	3.0	3.1	1	2.7	1	4
1146.0	1149.0	3.0	2.5	1	1.4	0	4
1149.0	1152.0	3.0	3.2	1	1.6	1	4
1152.0	1155.0	3.0	3.1	1	0.8	0	4
1155.0	1158.0	3.0	3.3	1	1.9	1	4
1158.0	1161.0	3.0	2.8	1	0.8	0	4
1161.0	1164.0	3.0	3.1	1	1.4	0	4
1164.0	1167.0	3.0	3.0	1	1.5	1	4
1167.0	1170.0	3.0	3.1	1	2.0	1	4
1170.0	1173.0	3.0	2.8	1	1.8	1	4
1173.0	1176.0	3.0	3.2	1	1.9	1	4
1176.0	1179.0	3.0	2.8	1	1.6	1	4
1179.0	1182.0	3.0	3.1	1	1.8	1	4
1182.0	1185.0	3.0	2.9	1	2.4	1	4
1185.0	1188.0	3.0	3.2	1	2.1	1	4
1188.0	1191.0	3.0	2.8	1	2.1	1	4
1191.0	1194.0	3.0	3.2	1	1.5	0	4
1194.0	1197.0	3.0	2.9	1	1.6	1	4
1197.0	1200.0	3.0	3.2	1	1.4	0	4
1200.0	1203.0	3.0	2.8	1	0.8	0	4
1203.0	1206.0	3.0	3.0	1	1.7	1	4
1206.0	1209.0	3.0	2.8	1	1.8	1	4
1209.0	1212.0	3.0	3.0	1	2.0	1	4
1212.0	1215.0	3.0	2.7	1	1.3	0	4
1215.0	1218.0	3.0	3.0	1	2.2	1	4
1218.0	1221.0	3.0	2.9	1	1.9	1	4
1221.0	1224.0	3.0	3.1	1	1.8	1	4
1224.0	1227.0	3.0	2.5	1	1.2	0	4
1227.0	1230.0	3.0	3.1	1	1.7	1	4
1230.0	1233.0	3.0	2.9	1	1.4	0	4
1233.0	1236.0	3.0	3.1	1	1.6	1	4
1236.0	1239.0	3.0	2.9	1	1.7	1	4
1239.0	1242.0	3.0	3.0	1	1.1	0	4
1242.0	1245.0	3.0	2.8	1	1.4	0	4
1245.0	1248.0	3.0	3.0	1	1.7	1	4
1248.0	1251.0	3.0	2.6	1	1.4	0	4
1251.0	1254.0	3.0	3.0	1	1.2	0	4
1254.0	1257.0	3.0	2.3	1	0.3	0	4
1257.0	1260.0	3.0	3.0	1	1.3	0	4
1260.0	1263.0	3.0	2.7	1	1.2	0	4
1263.0	1266.0	3.0	2.9	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-10					
Drilled 2007	340	-70	1314.00	11897.87	15800.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1266.0	1269.0	3.0	2.7	1	0.9	0	4
1269.0	1272.0	3.0	3.1	1	0.8	0	4
1272.0	1275.0	3.0	2.8	1	0.7	0	4
1275.0	1278.0	3.0	2.6	1	0.4	0	4
1278.0	1281.0	3.0	2.8	1	1.5	1	4
1281.0	1284.0	3.0	3.1	1	1.4	0	4
1284.0	1287.0	3.0	3.0	1	1.0	0	4
1287.0	1290.0	3.0	3.0	1	0.7	0	4
1290.0	1293.0	3.0	2.8	1	0.8	0	4
1293.0	1296.0	3.0	3.1	1	0.6	0	4
1296.0	1299.0	3.0	2.7	1	1.1	0	4
1299.0	1302.0	3.0	3.0	1	1.2	0	4
1302.0	1305.0	3.0	2.8	1	1.0	0	4
1305.0	1308.0	3.0	3.0	1	1.8	1	4
1308.0	1311.0	3.0	3.0	1	1.3	0	4
1311.0	1314.0	3.0	3.1	1	1.5	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	10.5	10.5					0
0.0	543.0	3.0	2.8	1	0.5	0	4
10.5	12.0	1.5	1.5	1	0.0	0	4
12.0	15.0	3.0	1.5	1	0.0	0	4
15.0	18.0	3.0	0.3	0	0.0	0	4
18.0	21.0	3.0	1.7	1	0.2	0	4
21.0	24.0	3.0	2.9	1	0.8	0	4
24.0	27.0	3.0	3.1	1	1.3	0	4
27.0	30.0	3.0	3.0	1	0.8	0	4
30.0	33.0	3.0	3.5	1	1.7	1	4
33.0	36.0	3.0	2.6	1	1.4	0	4
36.0	39.0	3.0	3.1	1	1.4	0	4
39.0	42.0	3.0	3.1	1	0.8	0	4
42.0	45.0	3.0	3.0	1	1.9	1	4
45.0	48.0	3.0	3.0	1	0.2	0	4
48.0	51.0	3.0	3.0	1	0.9	0	4
51.0	54.0	3.0	3.0	1	0.9	0	4
54.0	57.0	3.0	3.0	1	0.2	0	4
57.0	60.0	3.0	3.2	1	1.1	0	4
60.0	63.0	3.0	3.0	1	1.0	0	4
63.0	66.0	3.0	3.0	1	0.9	0	4
66.0	69.0	3.0	3.1	1	0.6	0	4
69.0	72.0	3.0	3.0	1	0.7	0	4
72.0	75.0	3.0	3.2	1	0.8	0	4
75.0	78.0	3.0	3.0	1	1.8	1	4
78.0	81.0	3.0	2.9	1	1.8	1	4
81.0	84.0	3.0	3.1	1	1.1	0	4
84.0	87.0	3.0	3.0	1	1.2	0	4
87.0	90.0	3.0	3.0	1	0.9	0	4
90.0	93.0	3.0	2.9	1	1.2	0	4
93.0	96.0	3.0	3.1	1	1.5	1	4
96.0	99.0	3.0	2.9	1	0.2	0	4
99.0	102.0	3.0	3.0	1	1.4	0	4
102.0	105.0	3.0	3.0	1	1.1	0	4
105.0	108.0	3.0	3.2	1	1.5	0	4
108.0	111.0	3.0	3.0	1	0.6	0	4
111.0	114.0	3.0	3.1	1	1.2	0	4
114.0	117.0	3.0	3.0	1	0.6	0	4
117.0	120.0	3.0	3.1	1	0.7	0	4
120.0	123.0	3.0	3.1	1	0.7	0	4
123.0	126.0	3.0	2.9	1	1.1	0	4
126.0	129.0	3.0	3.0	1	2.1	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
126.0	129.0	3.0	3.2	1	1.4	0	4
129.0	132.0	3.0	3.0	1	2.2	1	4
129.0	132.0	3.0	2.9	1	1.0	0	4
132.0	135.0	3.0	2.9	1	1.9	1	4
132.0	135.0	3.0	3.1	1	0.8	0	4
135.0	138.0	3.0	2.9	1	1.7	1	4
138.0	141.0	3.0	3.0	1	1.2	0	4
141.0	144.0	3.0	3.1	1	1.4	0	4
144.0	147.0	3.0	2.8	1	0.9	0	4
147.0	150.0	3.0	3.3	1	1.3	0	4
150.0	153.0	3.0	2.8	1	1.5	0	4
153.0	156.0	3.0	3.1	1	1.2	0	4
156.0	159.0	3.0	3.0	1	1.8	1	4
159.0	162.0	3.0	3.1	1	2.1	1	4
162.0	165.0	3.0	2.9	1	1.6	1	4
165.0	168.0	3.0	3.0	1	2.2	1	4
168.0	171.0	3.0	3.1	1	2.3	1	4
171.0	174.0	3.0	3.0	1	1.9	1	4
174.0	177.0	3.0	3.0	1	1.8	1	4
177.0	180.0	3.0	3.0	1	1.6	1	4
180.0	183.0	3.0	3.0	1	1.7	1	4
183.0	186.0	3.0	3.1	1	1.7	1	4
186.0	189.0	3.0	2.9	1	1.5	1	4
189.0	192.0	3.0	3.0	1	1.5	0	4
192.0	195.0	3.0	3.1	1	1.9	1	4
195.0	198.0	3.0	3.0	1	1.8	1	4
198.0	201.0	3.0	3.0	1	1.6	1	4
201.0	204.0	3.0	2.9	1	2.0	1	4
204.0	207.0	3.0	3.1	1	2.3	1	4
207.0	210.0	3.0	3.0	1	1.7	1	4
210.0	213.0	3.0	3.0	1	2.4	1	4
213.0	216.0	3.0	3.0	1	2.2	1	4
225.0	228.0	3.0	3.1	1	1.9	1	4
228.0	231.0	3.0	3.1	1	2.2	1	4
231.0	234.0	3.0	3.1	1	1.8	1	4
234.0	237.0	3.0	3.0	1	1.8	1	4
237.0	240.0	3.0	3.0	1	2.1	1	4
240.0	243.0	3.0	3.0	1	1.2	0	4
243.0	246.0	3.0	3.0	1	1.4	0	4
246.0	249.0	3.0	3.1	1	2.0	1	4
249.0	252.0	3.0	2.9	1	1.9	1	3
252.0	255.0	3.0	2.9	1	1.4	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.0	1	1.5	1	3
258.0	261.0	3.0	3.1	1	1.7	1	3
261.0	264.0	3.0	2.7	1	1.5	1	4
264.0	267.0	3.0	3.0	1	1.9	1	4
267.0	270.0	3.0	3.0	1	1.7	1	4
270.0	273.0	3.0	2.8	1	0.9	0	3
273.0	276.0	3.0	2.8	1	0.9	0	3
276.0	279.0	3.0	2.7	1	0.6	0	4
279.0	282.0	3.0	2.7	1	0.4	0	4
282.0	285.0	3.0	2.6	1	0.2	0	4
285.0	288.0	3.0	2.8	1	0.5	0	4
288.0	291.0	3.0	2.9	1	1.2	0	4
291.0	294.0	3.0	3.0	1	1.4	0	4
294.0	297.0	3.0	3.0	1	1.0	0	4
297.0	300.0	3.0	3.0	1	0.5	0	4
300.0	303.0	3.0	3.0	1	1.1	0	4
303.0	306.0	3.0	3.0	1	0.8	0	4
306.0	309.0	3.0	3.0	1	1.2	0	4
309.0	312.0	3.0	3.0	1	1.1	0	4
312.0	315.0	3.0	2.9	1	1.1	0	4
315.0	318.0	3.0	3.0	1	1.3	0	4
318.0	321.0	3.0	3.0	1	1.5	1	4
321.0	324.0	3.0	3.1	1	1.4	0	4
324.0	327.0	3.0	2.6	1	0.6	0	4
327.0	330.0	3.0	2.9	1	1.0	0	4
330.0	333.0	3.0	3.1	1	0.8	0	4
333.0	336.0	3.0	3.0	1	0.7	0	4
336.0	339.0	3.0	3.1	1	0.6	0	4
339.0	342.0	3.0	3.3	1	2.1	1	4
342.0	345.0	3.0	2.5	1	0.5	0	4
345.0	348.0	3.0	3.0	1	0.2	0	4
348.0	351.0	3.0	2.8	1	0.7	0	4
351.0	354.0	3.0	2.7	1	1.5	1	4
354.0	357.0	3.0	3.0	1	2.0	1	4
357.0	360.0	3.0	3.0	1	1.2	0	4
360.0	363.0	3.0	2.9	1	1.0	0	4
363.0	366.0	3.0	3.1	1	1.5	1	4
366.0	369.0	3.0	3.1	1	1.8	1	4
369.0	372.0	3.0	3.0	1	2.5	1	5
372.0	375.0	3.0	3.0	1	2.1	1	4
375.0	378.0	3.0	3.1	1	2.5	1	4
378.0	381.0	3.0	3.0	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
381.0	384.0	3.0	3.0	1	2.5	1	4
384.0	387.0	3.0	3.1	1	1.3	0	3
387.0	390.0	3.0	3.0	1	2.1	1	5
390.0	393.0	3.0	3.0	1	1.4	0	4
393.0	396.0	3.0	3.0	1	2.2	1	4
396.0	399.0	3.0	3.0	1	2.5	1	4
399.0	402.0	3.0	3.0	1	2.0	1	5
402.0	405.0	3.0	3.0	1	1.7	1	4
405.0	408.0	3.0	2.9	1	1.5	1	4
408.0	411.0	3.0	3.1	1	2.3	1	4
411.0	414.0	3.0	3.0	1	2.4	1	5
414.0	417.0	3.0	3.0	1	2.6	1	4
417.0	420.0	3.0	2.9	1	2.5	1	3
420.0	423.0	3.0	3.1	1	2.9	1	4
423.0	426.0	3.0	3.1	1	2.6	1	4
426.0	429.0	3.0	2.9	1	2.4	1	4
429.0	432.0	3.0	3.1	1	2.2	1	4
432.0	435.0	3.0	3.0	1	2.6	1	4
435.0	438.0	3.0	2.7	1	1.6	1	4
438.0	441.0	3.0	3.1	1	2.6	1	5
441.0	444.0	3.0	3.0	1	2.1	1	5
444.0	447.0	3.0	3.1	1	2.0	1	5
447.0	450.0	3.0	2.4	1	1.7	1	5
450.0	453.0	3.0	3.0	1	0.2	0	4
453.0	456.0	3.0	2.9	1	0.4	0	4
456.0	459.0	3.0	2.9	1	1.2	0	4
459.0	462.0	3.0	2.7	1	1.1	0	4
462.0	465.0	3.0	2.8	1	0.9	0	4
465.0	468.0	3.0	2.8	1	1.8	1	4
468.0	471.0	3.0	2.8	1	1.6	1	4
471.0	474.0	3.0	2.9	1	1.5	1	4
474.0	477.0	3.0	2.8	1	0.7	0	4
477.0	480.0	3.0	2.7	1	1.5	1	4
480.0	483.0	3.0	3.1	1	1.7	1	4
483.0	486.0	3.0	3.1	1	1.6	1	4
486.0	489.0	3.0	2.9	1	1.0	0	4
489.0	492.0	3.0	3.0	1	0.9	0	4
492.0	495.0	3.0	3.1	1	1.1	0	4
495.0	498.0	3.0	2.9	1	2.4	1	4
498.0	501.0	3.0	3.0	1	0.9	0	4
501.0	504.0	3.0	3.0	1	1.3	0	4
504.0	507.0	3.0	3.3	1	0.7	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
507.0	510.0	3.0	3.0	1	1.6	1	4
510.0	513.0	3.0	3.1	1	0.6	0	4
513.0	516.0	3.0	3.1	1	2.4	1	4
516.0	519.0	3.0	3.1	1	1.8	1	4
519.0	522.0	3.0	3.0	1	1.5	1	4
522.0	525.0	3.0	3.1	1	1.2	0	4
525.0	528.0	3.0	3.2	1	1.0	0	4
528.0	531.0	3.0	3.0	1	1.4	0	4
531.0	534.0	3.0	3.1	1	0.9	0	4
534.0	537.0	3.0	3.0	1	1.0	0	4
537.0	540.0	3.0	2.9	1	1.4	0	4
543.0	546.0	3.0	3.1	1	0.4	0	4
546.0	549.0	3.0	3.2	1	0.9	0	4
549.0	552.0	3.0	3.1	1	0.5	0	4
552.0	555.0	3.0	3.0	1	1.0	0	4
555.0	558.0	3.0	3.2	1	2.5	1	4
558.0	561.0	3.0	3.1	1	1.2	0	4
561.0	564.0	3.0	2.7	1	1.1	0	4
564.0	567.0	3.0	3.2	1	1.3	0	4
567.0	570.0	3.0	2.6	1	0.7	0	4
570.0	573.0	3.0	3.1	1	1.3	0	4
573.0	576.0	3.0	3.3	1	1.8	1	4
576.0	579.0	3.0	2.7	1	1.8	1	4
579.0	582.0	3.0	3.0	1	1.9	1	4
582.0	585.0	3.0	2.9	1	1.3	0	4
585.0	588.0	3.0	3.0	1	1.6	1	4
588.0	591.0	3.0	3.1	1	1.1	0	4
591.0	594.0	3.0	3.2	1	2.4	1	4
594.0	597.0	3.0	3.9	1	1.5	1	4
597.0	600.0	3.0	3.2	1	1.9	1	4
600.0	603.0	3.0	3.1	1	1.6	1	4
603.0	606.0	3.0	2.9	1	2.1	1	4
606.0	609.0	3.0	3.0	1	2.7	1	4
609.0	612.0	3.0	3.1	1	2.8	1	4
612.0	615.0	3.0	2.9	1	2.4	1	4
615.0	618.0	3.0	2.9	1	2.5	1	4
618.0	621.0	3.0	2.9	1	2.6	1	4
621.0	624.0	3.0	3.0	1	2.5	1	4
624.0	627.0	3.0	2.9	1	2.5	1	4
627.0	630.0	3.0	3.0	1	2.5	1	4
630.0	633.0	3.0	2.9	1	2.6	1	4
633.0	636.0	3.0	3.2	1	2.4	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
636.0	639.0	3.0	3.0	1	2.3	1	4
639.0	642.0	3.0	3.1	1	2.4	1	4
642.0	645.0	3.0	2.9	1	2.6	1	4
645.0	648.0	3.0	3.2	1	2.7	1	4
648.0	651.0	3.0	2.9	1	1.9	1	4
651.0	654.0	3.0	2.9	1	2.5	1	4
654.0	657.0	3.0	2.7	1	0.8	0	3
657.0	660.0	3.0	3.0	1	0.0	0	3
660.0	663.0	3.0	3.2	1	0.7	0	3
663.0	666.0	3.0	3.1	1	1.1	0	4
666.0	669.0	3.0	2.8	1	1.2	0	4
669.0	672.0	3.0	3.2	1	1.3	0	4
672.0	675.0	3.0	2.9	1	0.8	0	4
675.0	678.0	3.0	3.3	1	1.0	0	4
678.0	681.0	3.0	3.0	1	1.4	0	4
681.0	684.0	3.0	3.2	1	1.3	0	4
684.0	687.0	3.0	3.0	1	1.3	0	4
687.0	690.0	3.0	3.2	1	1.3	0	4
690.0	693.0	3.0	2.9	1	0.0	0	4
693.0	696.0	3.0	2.6	1	0.4	0	4
696.0	699.0	3.0	3.1	1	0.8	0	4
699.0	702.0	3.0	2.9	1	1.7	1	4
702.0	705.0	3.0	3.1	1	1.7	1	4
705.0	708.0	3.0	2.9	1	0.4	0	4
708.0	711.0	3.0	3.2	1	1.6	1	4
711.0	714.0	3.0	3.1	1	1.2	0	4
714.0	717.0	3.0	2.5	1	1.2	0	4
717.0	720.0	3.0	2.7	1	0.6	0	4
720.0	723.0	3.0	3.2	1	2.1	1	4
723.0	726.0	3.0	2.7	1	1.5	1	4
726.0	729.0	3.0	3.0	1	0.7	0	4
729.0	732.0	3.0	2.9	1	2.1	1	4
732.0	735.0	3.0	3.2	1	1.2	0	4
735.0	738.0	3.0	3.0	1	1.8	1	4
738.0	741.0	3.0	3.1	1	1.1	0	4
741.0	744.0	3.0	2.9	1	0.9	0	4
744.0	747.0	3.0	3.0	1	3.0	1	4
747.0	750.0	3.0	3.1	1	2.3	1	4
750.0	753.0	3.0	3.1	1	2.3	1	4
753.0	756.0	3.0	3.0	1	1.7	1	4
756.0	759.0	3.0	3.0	1	2.1	1	4
759.0	762.0	3.0	2.8	1	2.0	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-11					
Drilled 2007	360	-65	798.50	12145.20	16439.38

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
762.0	765.0	3.0	3.7	1	2.0	1	4
765.0	768.0	3.0	2.4	1	1.2	0	4
768.0	771.0	3.0	3.5	1	0.7	0	4
771.0	774.0	3.0	3.0	1	2.6	1	4
774.0	777.0	3.0	3.0	1	2.7	1	4
777.0	780.0	3.0	3.1	1	2.3	1	4
780.0	783.0	3.0	3.0	1	1.8	1	4
783.0	786.0	3.0	2.5	1	0.8	0	4
786.0	789.0	3.0	3.2	1	1.9	1	4
789.0	792.0	3.0	3.1	1	1.3	0	4
792.0	795.0	3.0	2.7	1	1.6	1	4
795.0	798.0	3.0	3.3	1	1.6	1	4
798.0	798.5	0.5	0.5	0	0.3	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-14					
Drilled 2007	340	-90	297.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	7.8	7.8	0.0	0	0.0	0	0
7.8	9.0	1.2	1.2	1	0.0	0	4
9.0	12.0	3.0	3.0	1	0.3	0	4
12.0	15.0	3.0	2.3	1	0.2	0	4
15.0	18.0	3.0	2.2	1	0.0	0	4
18.0	21.0	3.0	2.5	1	0.3	0	4
21.0	24.0	3.0	2.4	1	0.1	0	4
24.0	27.0	3.0	3.6	1	0.3	0	4
27.0	30.0	3.0	2.9	1	0.2	0	4
30.0	33.0	3.0	3.0	1	0.7	0	4
33.0	36.0	3.0	2.7	1	0.0	0	4
36.0	39.0	3.0	3.0	1	0.7	0	4
39.0	42.0	3.0	2.9	1	0.1	0	4
42.0	45.0	3.0	3.0	1	0.4	0	4
45.0	48.0	3.0	3.0	1	0.7	0	4
48.0	51.0	3.0	2.9	1	0.6	0	4
51.0	54.0	3.0	3.1	1	1.0	0	4
54.0	57.0	3.0	2.9	1	0.6	0	4
57.0	60.0	3.0	3.3	1	0.8	0	4
60.0	63.0	3.0	2.8	1	0.8	0	4
63.0	66.0	3.0	2.9	1	0.6	0	4
66.0	69.0	3.0	2.9	1	0.2	0	4
69.0	72.0	3.0	3.0	1	0.5	0	4
72.0	75.0	3.0	2.8	1	1.1	0	4
75.0	78.0	3.0	3.0	1	0.4	0	4
78.0	81.0	3.0	3.0	1	1.1	0	4
81.0	84.0	3.0	2.6	1	1.1	0	4
84.0	87.0	3.0	3.2	1	1.7	1	4
87.0	90.0	3.0	3.0	1	1.7	1	4
90.0	93.0	3.0	3.1	1	1.4	0	4
93.0	96.0	3.0	3.0	1	1.9	1	4
96.0	99.0	3.0	2.8	1	2.1	1	4
99.0	102.0	3.0	2.9	1	2.4	1	4
102.0	105.0	3.0	3.1	1	1.9	1	4
105.0	108.0	3.0	3.0	1	2.4	1	4
108.0	111.0	3.0	3.0	1	1.6	1	4
111.0	114.0	3.0	2.9	1	1.0	0	4
114.0	117.0	3.0	3.0	1	0.9	0	4
117.0	120.0	3.0	2.9	1	1.5	1	4
120.0	123.0	3.0	2.9	1	0.7	0	4
123.0	126.0	3.0	3.1	1	1.7	1	4
126.0	129.0	3.0	3.0	1	1.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-14					
Drilled 2007	340	-90	297.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	3.0	1	1.4	0	4
132.0	135.0	3.0	2.9	1	2.0	1	4
135.0	138.0	3.0	3.0	1	2.1	1	4
138.0	141.0	3.0	3.1	1	2.1	1	4
141.0	144.0	3.0	3.0	1	2.0	1	4
144.0	147.0	3.0	2.9	1	1.2	0	4
147.0	150.0	3.0	3.0	1	0.5	0	4
150.0	153.0	3.0	3.0	1	1.3	0	4
153.0	156.0	3.0	3.1	1	2.0	1	4
156.0	159.0	3.0	2.8	1	1.2	0	4
159.0	162.0	3.0	3.0	1	1.7	1	4
162.0	165.0	3.0	3.1	1	2.3	1	4
165.0	168.0	3.0	3.0	1	2.1	1	4
168.0	171.0	3.0	3.2	1	1.0	0	4
171.0	174.0	3.0	3.1	1	1.9	1	4
174.0	177.0	3.0	3.0	1	2.2	1	4
177.0	180.0	3.0	2.6	1	1.0	0	4
180.0	183.0	3.0	3.1	1	0.7	0	4
183.0	186.0	3.0	2.2	1	1.1	0	4
186.0	189.0	3.0	4.2	1	0.7	0	4
189.0	192.0	3.0	3.1	1	1.1	0	4
192.0	195.0	3.0	1.6	1	0.3	0	4
195.0	198.0	3.0	3.0	1	1.7	1	4
198.0	201.0	3.0	3.0	1	2.4	1	4
201.0	204.0	3.0	3.0	1	1.6	1	4
204.0	207.0	3.0	3.0	1	2.1	1	4
207.0	210.0	3.0	3.1	1	2.2	1	4
210.0	213.0	3.0	3.0	1	2.3	1	4
213.0	216.0	3.0	3.0	1	2.2	1	4
216.0	219.0	3.0	3.0	1	2.3	1	4
219.0	222.0	3.0	3.1	1	2.2	1	4
222.0	225.0	3.0	2.9	1	2.1	1	4
225.0	228.0	3.0	3.1	1	1.8	1	4
228.0	231.0	3.0	3.1	1	2.0	1	4
231.0	234.0	3.0	3.0	1	1.4	0	4
234.0	237.0	3.0	3.0	1	1.9	1	4
237.0	240.0	3.0	3.0	1	1.7	1	4
240.0	243.0	3.0	1.9	1	0.7	0	4
243.0	246.0	3.0	3.0	1	1.5	0	4
246.0	249.0	3.0	3.2	1	1.7	1	4
249.0	252.0	3.0	3.1	1	1.9	1	4
252.0	255.0	3.0	3.1	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-14					
Drilled 2007	340	-90	297.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.1	1	1.6	1	4
258.0	261.0	3.0	3.0	1	1.7	1	4
261.0	264.0	3.0	3.1	1	1.9	1	4
264.0	267.0	3.0	3.0	1	2.3	1	4
267.0	270.0	3.0	3.0	1	2.4	1	4
270.0	273.0	3.0	3.1	1	1.6	1	4
273.0	276.0	3.0	3.0	1	2.0	1	4
276.0	279.0	3.0	3.0	1	1.6	1	4
279.0	282.0	3.0	3.0	1	1.5	0	4
282.0	285.0	3.0	3.0	1	1.8	1	4
285.0	288.0	3.0	3.0	1	2.1	1	4
288.0	291.0	3.0	3.1	1	2.5	1	4
291.0	294.0	3.0	3.0	1	1.7	1	4
294.0	297.0	3.0	2.9	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-16					
Drilled 2007	310	-55	365.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	1.0	1.0	0.0	0	0.0	0	0
1.0	3.0	2.0	0.2	0	0.0	0	0
3.0	6.0	3.0	2.1	1	0.6	0	4
6.0	9.0	3.0	2.9	1	0.8	0	4
9.0	12.0	3.0	2.9	1	0.1	0	4
12.0	15.0	3.0	2.7	1	0.2	0	4
15.0	18.0	3.0	2.7	1	0.0	0	4
18.0	21.0	3.0	2.9	1	0.8	0	4
21.0	24.0	3.0	3.0	1	1.4	0	4
24.0	27.0	3.0	3.0	1	1.0	0	4
27.0	30.0	3.0	2.6	1	0.3	0	4
30.0	33.0	3.0	3.0	1	0.2	0	4
33.0	36.0	3.0	3.0	1	0.1	0	4
36.0	39.0	3.0	2.5	1	0.5	0	4
39.0	42.0	3.0	2.8	1	1.2	0	4
42.0	45.0	3.0	2.8	1	1.1	0	4
45.0	48.0	3.0	3.0	1	1.3	0	4
48.0	51.0	3.0	2.8	1	0.9	0	4
51.0	54.0	3.0	3.0	1	0.9	0	4
54.0	57.0	3.0	3.0	1	1.2	0	4
57.0	60.0	3.0	2.8	1	0.3	0	4
60.0	63.0	3.0	3.0	1	1.1	0	4
63.0	66.0	3.0	2.9	1	0.7	0	4
66.0	69.0	3.0	2.9	1	0.2	0	4
69.0	72.0	3.0	2.8	1	0.6	0	4
72.0	75.0	3.0	3.2	1	0.5	0	4
75.0	78.0	3.0	3.0	1	0.7	0	4
78.0	81.0	3.0	2.9	1	0.6	0	4
81.0	84.0	3.0	2.9	1	0.2	0	4
84.0	87.0	3.0	3.2	1	2.9	1	4
87.0	90.0	3.0	3.1	1	1.1	0	4
90.0	93.0	3.0	3.0	1	1.5	1	4
93.0	96.0	3.0	2.8	1	0.3	0	4
96.0	99.0	3.0	3.1	1	1.4	0	4
99.0	102.0	3.0	3.1	1	1.2	0	4
102.0	105.0	3.0	3.0	1	1.3	0	4
105.0	108.0	3.0	2.9	1	1.0	0	4
108.0	111.0	3.0	3.0	1	1.2	0	4
111.0	114.0	3.0	3.0	1	1.2	0	4
114.0	117.0	3.0	3.0	1	0.7	0	4
117.0	120.0	3.0	2.8	1	0.4	0	4
120.0	123.0	3.0	3.1	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-16					
Drilled 2007	310	-55	365.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
123.0	126.0	3.0	2.9	1	0.3	0	4
126.0	129.0	3.0	2.7	1	0.2	0	4
129.0	132.0	3.0	3.1	1	1.3	0	4
132.0	135.0	3.0	3.1	1	0.9	0	4
135.0	138.0	3.0	3.0	1	1.4	0	4
138.0	141.0	3.0	2.9	1	0.7	0	4
141.0	144.0	3.0	3.0	1	1.4	0	4
144.0	147.0	3.0	3.1	1	1.2	0	4
147.0	150.0	3.0	2.8	1	1.2	0	4
150.0	153.0	3.0	3.2	1	0.8	0	4
153.0	156.0	3.0	3.1	1	1.7	1	4
156.0	159.0	3.0	3.0	1	1.4	0	4
159.0	162.0	3.0	3.0	1	1.2	0	4
162.0	165.0	3.0	3.0	1	1.3	0	4
165.0	168.0	3.0	3.0	1	2.1	1	4
168.0	171.0	3.0	3.0	1	1.9	1	4
171.0	174.0	3.0	3.0	1	1.9	1	4
174.0	177.0	3.0	3.1	1	1.6	1	4
177.0	180.0	3.0	3.0	1	1.5	1	3
180.0	183.0	3.0	3.1	1	2.4	1	3
183.0	186.0	3.0	2.9	1	1.9	1	3
186.0	189.0	3.0	3.1	1	2.2	1	4
189.0	192.0	3.0	2.9	1	1.7	1	4
192.0	195.0	3.0	3.0	1	1.3	0	4
195.0	198.0	3.0	3.0	1	2.4	1	4
198.0	201.0	3.0	3.0	1	2.1	1	4
201.0	204.0	3.0	2.9	1	2.3	1	4
204.0	207.0	3.0	3.0	1	1.9	1	4
207.0	210.0	3.0	3.0	1	1.3	0	4
210.0	213.0	3.0	3.0	1	1.8	1	4
213.0	216.0	3.0	2.9	1	1.2	0	4
216.0	219.0	3.0	3.0	1	1.8	1	4
219.0	222.0	3.0	2.9	1	1.0	0	4
222.0	225.0	3.0	2.4	1	0.3	0	3
225.0	228.0	3.0	3.3	1	1.8	1	4
228.0	231.0	3.0	3.0	1	1.2	0	4
231.0	234.0	3.0	3.0	1	1.5	1	4
234.0	237.0	3.0	3.1	1	1.1	0	4
237.0	240.0	3.0	2.9	1	1.7	1	4
240.0	243.0	3.0	3.1	1	1.5	1	4
243.0	246.0	3.0	2.9	1	1.5	0	4
246.0	249.0	3.0	3.1	1	1.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-16					
Drilled 2007	310	-55	365.00	12092.05	16018.23

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
249.0	252.0	3.0	2.8	1	1.0	0	4
252.0	255.0	3.0	3.0	1	1.7	1	4
255.0	258.0	3.0	3.1	1	2.1	1	4
258.0	261.0	3.0	3.1	1	1.5	0	4
261.0	264.0	3.0	3.1	1	1.8	1	4
264.0	267.0	3.0	3.2	1	1.1	0	4
267.0	270.0	3.0	2.8	1	1.7	1	4
270.0	273.0	3.0	3.1	1	1.6	1	4
273.0	276.0	3.0	3.3	1	0.9	0	4
276.0	279.0	3.0	2.6	1	1.4	0	4
279.0	282.0	3.0	2.8	1	1.3	0	4
282.0	285.0	3.0	3.0	1	1.8	1	4
285.0	288.0	3.0	2.9	1	0.7	0	4
288.0	291.0	3.0	3.1	1	1.4	0	4
291.0	294.0	3.0	3.1	1	2.1	1	4
294.0	297.0	3.0	3.2	1	2.3	1	4
297.0	300.0	3.0	3.1	1	1.6	1	4
300.0	303.0	3.0	12.9	4	1.6	1	4
303.0	306.0	3.0	3.0	1	2.0	1	4
306.0	309.0	3.0	3.0	1	2.5	1	4
309.0	312.0	3.0	3.0	1	2.2	1	4
312.0	315.0	3.0	3.0	1	2.2	1	4
315.0	318.0	3.0	3.2	1	1.9	1	4
318.0	321.0	3.0	2.9	1	2.1	1	4
321.0	324.0	3.0	3.0	1	1.8	1	4
324.0	327.0	3.0	2.9	1	1.7	1	4
327.0	330.0	3.0	3.1	1	2.0	1	4
330.0	333.0	3.0	2.9	1	2.4	1	4
333.0	336.0	3.0	3.0	1	1.3	0	4
336.0	339.0	3.0	3.0	1	1.9	1	4
339.0	342.0	3.0	3.1	1	1.2	0	4
342.0	345.0	3.0	3.0	1	2.6	1	4
345.0	348.0	3.0	3.0	1	1.5	0	4
348.0	351.0	3.0	2.8	1	1.8	1	4
351.0	354.0	3.0	3.0	1	1.4	0	4
354.0	357.0	3.0	3.1	1	1.3	0	4
357.0	360.0	3.0	3.0	1	1.5	1	4
360.0	363.0	3.0	3.0	1	1.4	0	4
363.0	366.0	3.0	1.5	1	1.0	0	4
366.0	369.0	3.0					4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	3.0	3.0					0
9.0	12.0	3.0	1.1	0	0.0	0	1
12.0	15.0	3.0	1.3	0	0.0	0	1
15.0	18.0	3.0	2.3	1	0.0	0	1
18.0	21.0	3.0	2.5	1	0.3	0	3
21.0	24.0	3.0	2.2	1	0.0	0	1
24.0	25.5	1.5	1.7	1	0.6	0	3
25.5	27.0	1.5	1.3	1	0.8	1	3
27.0	30.0	3.0	3.3	1	0.2	0	3
30.0	33.0	3.0	2.4	1	0.1	0	3
33.0	36.0	3.0	3.1	1	0.7	0	3
36.0	39.0	3.0	3.1	1	1.3	0	4
39.0	42.0	3.0	2.6	1	0.3	0	4
42.0	45.0	3.0	3.0	1	0.7	0	4
45.0	48.0	3.0	2.8	1	0.2	0	4
48.0	51.0	3.0	3.0	1	1.0	0	4
51.0	54.0	3.0	2.9	1	0.3	0	4
54.0	57.0	3.0	3.0	1	1.1	0	4
57.0	60.0	3.0	3.0	1	0.5	0	4
60.0	63.0	3.0	3.1	1	0.9	0	4
63.0	66.0	3.0	3.1	1	0.6	0	4
66.0	69.0	3.0	3.0	1	1.9	1	4
69.0	72.0	3.0	2.5	1	0.4	0	4
72.0	75.0	3.0	3.0	1	0.3	0	4
75.0	78.0	3.0	3.1	1	0.8	0	4
78.0	81.0	3.0	3.0	1	0.2	0	4
81.0	84.0	3.0	2.9	1	1.3	0	4
84.0	87.0	3.0	3.0	1	1.7	1	4
87.0	90.0	3.0	2.9	1	2.1	1	4
90.0	93.0	3.0	3.0	1	2.5	1	4
93.0	96.0	3.0	3.1	1	2.6	1	4
96.0	99.0	3.0	2.9	1	1.3	0	4
99.0	102.0	3.0	3.1	1	2.3	1	4
102.0	105.0	3.0	3.0	1	2.0	1	4
105.0	108.0	3.0					4
105.0	108.0	3.0	3.0	1	1.8	1	4
108.0	111.0	3.0	3.0	1	2.3	1	4
111.0	114.0	3.0	3.0	1	2.0	1	4
114.0	117.0	3.0	2.9	1	2.2	1	4
117.0	120.0	3.0	3.0	1	1.9	1	4
120.0	123.0	3.0	3.0	1	2.6	1	4
123.0	126.0	3.0	3.0	1	2.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
126.0	129.0	3.0	2.9	1	2.4	1	4
129.0	132.0	3.0	3.0	1	2.6	1	4
132.0	135.0	3.0	3.0	1	2.3	1	4
135.0	138.0	3.0	3.0	1	2.1	1	4
138.0	141.0	3.0	3.0	1	2.4	1	4
141.0	144.0	3.0	3.0	1	2.6	1	4
144.0	147.0	3.0	3.0	1	2.3	1	4
147.0	150.0	3.0	2.9	1	2.5	1	4
150.0	153.0	3.0	3.0	1	2.1	1	4
153.0	156.0	3.0	3.0	1	2.2	1	4
156.0	159.0	3.0	3.0	1	1.8	1	4
159.0	162.0	3.0	3.0	1	1.7	1	4
162.0	165.0	3.0	3.0	1	2.6	1	4
165.0	168.0	3.0	3.0	1	1.8	1	4
168.0	171.0	3.0	2.9	1	2.1	1	4
171.0	174.0	3.0	3.0	1	2.4	1	4
174.0	177.0	3.0	3.0	1	1.9	1	4
177.0	180.0	3.0	3.0	1	1.3	0	4
180.0	183.0	3.0	3.0	1	2.3	1	4
183.0	186.0	3.0	3.0	1	2.8	1	4
186.0	189.0	3.0	2.9	1	2.3	1	4
189.0	192.0	3.0	3.0	1	2.4	1	4
192.0	195.0	3.0	2.9	1	1.4	0	4
195.0	198.0	3.0	2.9	1	0.8	0	4
198.0	201.0	3.0	2.9	1	1.2	0	4
201.0	204.0	3.0	2.4	1	2.6	1	4
204.0	207.0	3.0	2.9	1	1.0	0	4
207.0	210.0	3.0	2.9	1	0.7	0	4
210.0	213.0	3.0	2.9	1	1.0	0	4
213.0	216.0	3.0	2.8	1	1.0	0	4
216.0	219.0	3.0	2.8	1	1.1	0	4
219.0	222.0	3.0	2.7	1	0.8	0	4
222.0	225.0	3.0	3.0	1	1.1	0	4
225.0	228.0	3.0	2.8	1	1.3	0	4
228.0	231.0	3.0	2.8	1	1.2	0	4
231.0	234.0	3.0	2.7	1	0.4	0	4
234.0	237.0	3.0	2.5	1	1.2	0	4
237.0	240.0	3.0	2.4	1	0.4	0	4
240.0	243.0	3.0	2.8	1	0.7	0	4
243.0	246.0	3.0	2.7	1	0.7	0	4
246.0	249.0	3.0	2.7	1	1.1	0	4
249.0	252.0	3.0	2.8	1	0.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
252.0	255.0	3.0	2.8	1	0.8	0	4
255.0	258.0	3.0	2.8	1	1.3	0	4
258.0	261.0	3.0	2.8	1	1.5	1	4
261.0	264.0	3.0	2.9	1	1.5	1	4
264.0	267.0	3.0	2.9	1	1.0	0	4
267.0	270.0	3.0	3.0	1	1.6	1	4
270.0	273.0	3.0	2.8	1	0.9	0	4
273.0	276.0	3.0	2.8	1	0.7	0	4
276.0	279.0	3.0	2.7	1	0.5	0	4
279.0	282.0	3.0	2.8	1	1.0	0	4
282.0	285.0	3.0	2.7	1	0.8	0	4
285.0	288.0	3.0	2.7	1	1.5	1	4
288.0	291.0	3.0	2.4	1	0.6	0	4
291.0	294.0	3.0	2.7	1	1.5	1	4
294.0	297.0	3.0	2.9	1	2.5	1	4
297.0	300.0	3.0	3.0	1	1.7	1	4
300.0	303.0	3.0	2.9	1	2.3	1	4
303.0	306.0	3.0	2.9	1	2.2	1	4
306.0	309.0	3.0	2.9	1	2.2	1	4
309.0	312.0	3.0	3.0	1	1.6	1	4
312.0	315.0	3.0	3.0	1	2.2	1	4
315.0	318.0	3.0	2.8	1	2.1	1	4
318.0	321.0	3.0	2.9	1	1.9	1	4
321.0	324.0	3.0	3.0	1	2.1	1	0
324.0	327.0	3.0	3.0	1	1.4	0	0
327.0	330.0	3.0	3.0	1	1.7	1	0
330.0	333.0	3.0	2.9	1	1.4	0	0
333.0	336.0	3.0	3.0	1	2.6	1	0
336.0	339.0	3.0	3.0	1	1.7	1	0
339.0	342.0	3.0	3.0	1	1.1	0	0
342.0	345.0	3.0	3.0	1	1.0	0	0
345.0	348.0	3.0	2.8	1	2.0	1	0
348.0	351.0	3.0	2.8	1	1.9	1	0
351.0	354.0	3.0	2.9	1	1.3	0	0
354.0	357.0	3.0	2.7	1	1.6	1	0
357.0	360.0	3.0	2.9	1	1.6	1	0
360.0	363.0	3.0	2.8	1	1.0	0	0
363.0	366.0	3.0	2.7	1	1.4	0	0
366.0	369.0	3.0	2.8	1	0.6	0	0
369.0	372.0	3.0	2.9	1	1.2	0	0
372.0	375.0	3.0	2.8	1	1.5	1	0
375.0	378.0	3.0	3.0	1	0.6	0	0

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
378.0	381.0	3.0	2.7	1	1.1	0	0
381.0	384.0	3.0	2.7	1	1.1	0	4
384.0	387.0	3.0	2.4	1	1.3	0	4
387.0	390.0	3.0	3.0	1	2.6	1	4
390.0	393.0	3.0	3.0	1	2.7	1	4
393.0	396.0	3.0	2.9	1	1.8	1	4
396.0	399.0	3.0	2.8	1	1.0	0	4
399.0	402.0	3.0	2.8	1	1.8	1	4
402.0	405.0	3.0	2.8	1	1.7	1	4
405.0	408.0	3.0	2.6	1	1.5	1	4
408.0	411.0	3.0	2.9	1	2.1	1	4
411.0	414.0	3.0	3.0	1	2.6	1	4
414.0	417.0	3.0	2.7	1	1.5	1	4
417.0	420.0	3.0	2.0	1	2.1	1	4
420.0	423.0	3.0	3.0	1	2.1	1	4
423.0	426.0	3.0	3.0	1	1.2	0	4
426.0	429.0	3.0	2.1	1	0.3	0	4
429.0	432.0	3.0	2.2	1	0.3	0	4
432.0	435.0	3.0	3.0	1	0.7	0	4
435.0	438.0	3.0	2.0	1	0.1	0	4
438.0	441.0	3.0	2.2	1	0.5	0	4
441.0	444.0	3.0	3.0	1	2.3	1	4
444.0	447.0	3.0	3.0	1	2.7	1	4
447.0	450.0	3.0	3.0	1	1.9	1	4
450.0	453.0	3.0	2.9	1	2.6	1	4
453.0	456.0	3.0	2.5	1	2.5	1	4
456.0	459.0	3.0	3.0	1	2.8	1	4
459.0	462.0	3.0	3.0	1	2.5	1	4
462.0	465.0	3.0	3.0	1	2.7	1	4
465.0	468.0	3.0	3.0	1	2.8	1	4
468.0	471.0	3.0	3.0	1	2.8	1	4
483.0	486.0	3.0	3.0	1	2.6	1	4
486.0	489.0	3.0	3.0	1	2.4	1	4
489.0	492.0	3.0	3.0	1	2.7	1	4
492.0	495.0	3.0	2.8	1	2.6	1	4
495.0	498.0	3.0	3.0	1	2.7	1	4
498.0	501.0	3.0	2.8	1	2.3	1	4
501.0	504.0	3.0	3.0	1	2.7	1	4
504.0	507.0	3.0	2.9	1	2.5	1	4
507.0	510.0	3.0	3.0	1	2.6	1	4
510.0	513.0	3.0	2.6	1	2.4	1	4
513.0	516.0	3.0	3.0	1	2.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
516.0	519.0	3.0	3.0	1	2.8	1	4
519.0	522.0	3.0	2.5	1	1.9	1	4
522.0	525.0	3.0	3.0	1	2.6	1	4
525.0	528.0	3.0	2.8	1	2.6	1	4
528.0	531.0	3.0	3.0	1	2.6	1	4
531.0	534.0	3.0	2.7	1	2.0	1	4
534.0	537.0	3.0	3.0	1	2.3	1	4
537.0	540.0	3.0	2.8	1	2.3	1	4
540.0	543.0	3.0	3.0	1	2.2	1	4
543.0	546.0	3.0	3.0	1	2.6	1	4
546.0	549.0	3.0	3.0	1	2.7	1	4
549.0	552.0	3.0	3.0	1	2.6	1	4
552.0	555.0	3.0	2.9	1	2.7	1	4
555.0	558.0	3.0	3.0	1	2.5	1	4
558.0	561.0	3.0	3.0	1	2.8	1	4
561.0	564.0	3.0	3.0	1	2.7	1	4
564.0	567.0	3.0	2.9	1	2.9	1	4
567.0	570.0	3.0	3.0	1	2.5	1	4
570.0	573.0	3.0	2.0	1	1.7	1	4
573.0	576.0	3.0	2.9	1	2.6	1	4
576.0	579.0	3.0	3.0	1	3.0	1	4
579.0	582.0	3.0	3.0	1	2.7	1	4
582.0	585.0	3.0	2.8	1	2.5	1	4
585.0	588.0	3.0	3.0	1	2.8	1	4
588.0	591.0	3.0	3.0	1	2.9	1	4
591.0	594.0	3.0	3.0	1	2.8	1	4
594.0	597.0	3.0	2.8	1	2.6	1	4
597.0	600.0	3.0	3.0	1	2.5	1	4
600.0	603.0	3.0	2.8	1	2.6	1	4
603.0	606.0	3.0	3.0	1	2.9	1	4
606.0	609.0	3.0	2.7	1	2.5	1	4
609.0	612.0	3.0	3.0	1	2.9	1	4
612.0	615.0	3.0	2.8	1	2.6	1	4
615.0	618.0	3.0	3.0	1	3.0	1	4
618.0	621.0	3.0	2.8	1	2.8	1	4
621.0	624.0	3.0	3.0	1	3.0	1	4
624.0	627.0	3.0	2.7	1	2.4	1	4
627.0	630.0	3.0	3.0	1	3.0	1	4
630.0	633.0	3.0	2.8	1	2.7	1	4
633.0	636.0	3.0	3.0	1	2.9	1	4
636.0	639.0	3.0	2.5	1	2.1	1	4
639.0	642.0	3.0	3.0	1	1.5	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-17					
Drilled 2007	180	-65	723.00	12039.94	16852.63

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
642.0	645.0	3.0	2.7	1	1.0	0	4
645.0	648.0	3.0	2.7	1	1.2	0	4
648.0	651.0	3.0	2.7	1	1.2	0	4
651.0	654.0	3.0	3.0	1	1.2	0	4
654.0	657.0	3.0	2.3	1	1.7	1	4
657.0	660.0	3.0	2.9	1	1.7	1	4
660.0	663.0	3.0	3.0	1	0.6	0	4
663.0	666.0	3.0	3.0	1	0.9	0	4
666.0	669.0	3.0	2.6	1	0.8	0	4
669.0	672.0	3.0	3.0	1	1.7	1	4
672.0	675.0	3.0	1.9	1	0.2	0	4
675.0	678.0	3.0	2.7	1	1.2	0	4
678.0	681.0	3.0	3.0	1	1.8	1	4
681.0	684.0	3.0	2.5	1	1.3	0	4
684.0	687.0	3.0	3.0	1	2.2	1	4
687.0	690.0	3.0	2.7	1	0.7	0	4
690.0	693.0	3.0	3.0	1	1.2	0	4
693.0	696.0	3.0	2.7	1	1.7	1	4
696.0	699.0	3.0	3.0	1	0.9	0	4
699.0	702.0	3.0	2.7	1	1.3	0	4
702.0	705.0	3.0	3.0	1	1.1	0	4
705.0	708.0	3.0	2.7	1	1.5	1	4
708.0	711.0	3.0	3.0	1	1.5	1	4
711.0	714.0	3.0	2.8	1	1.4	0	4
714.0	717.0	3.0	2.9	1	0.3	0	4
717.0	720.0	3.0	2.8	1	1.3	0	4
720.0	723.0	3.0	2.9	1	0.9	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	3.0	3.0	0.5	0	0.0	0	1
3.0	6.0	3.0	1.0	0	0.0	0	1
6.0	9.0	3.0	0.5	0	0.0	0	1
9.0	12.0	3.0	2.5	1	0.0	0	1
12.0	15.0	3.0	1.5	1	0.5	0	2
15.0	18.0	3.0	3.1	1	1.4	0	4
18.0	21.0	3.0	2.8	1	1.1	0	4
21.0	24.0	3.0	2.7	1	1.2	0	4
24.0	27.0	3.0	2.7	1	0.7	0	4
27.0	30.0	3.0	3.1	1	1.5	0	4
30.0	33.0	3.0	2.7	1	1.4	0	4
33.0	36.0	3.0	3.0	1	1.1	0	4
36.0	39.0	3.0	3.0	1	1.7	1	4
39.0	42.0	3.0	3.0	1	1.3	0	4
42.0	45.0	3.0	2.9	1	1.5	0	4
45.0	48.0	3.0	3.0	1	1.5	0	4
48.0	51.0	3.0	2.8	1	1.5	1	4
51.0	54.0	3.0	3.0	1	1.1	0	4
54.0	57.0	3.0	3.0	1	1.4	0	4
57.0	60.0	3.0	3.0	1	1.4	0	4
60.0	63.0	3.0	3.0	1	0.5	0	4
63.0	66.0	3.0	3.1	1	0.8	0	4
66.0	69.0	3.0	3.0	1	1.8	1	4
69.0	72.0	3.0	2.9	1	1.9	1	4
72.0	75.0	3.0	2.9	1	1.6	1	4
75.0	78.0	3.0	3.1	1	0.8	0	4
78.0	81.0	3.0	2.9	1	0.8	0	4
81.0	84.0	3.0	2.9	1	2.0	1	4
84.0	87.0	3.0	3.1	1	9.8	3	4
87.0	90.0	3.0	3.2	1	1.1	0	4
90.0	93.0	3.0	2.9	1	1.5	0	4
93.0	96.0	3.0	3.1	1	1.2	0	4
96.0	99.0	3.0	3.0	1	0.6	0	4
99.0	102.0	3.0	3.0	1	1.7	1	4
102.0	105.0	3.0	3.1	1	0.9	0	4
105.0	108.0	3.0	3.1	1	0.5	0	4
108.0	111.0	3.0	3.0	1	1.0	0	4
111.0	114.0	3.0	2.9	1	1.0	0	4
114.0	117.0	3.0	3.2	1	0.9	0	4
117.0	120.0	3.0	2.9	1	1.6	1	4
120.0	123.0	3.0	3.0	1	0.5	0	4
123.0	126.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
126.0	129.0	3.0	2.9	1	0.5	0	3
129.0	132.0	3.0	2.6	1	0.4	0	3
132.0	135.0	3.0	3.0	1	0.3	0	3
135.0	138.0	3.0	3.0	1	1.5	1	3
138.0	141.0	3.0	3.0	1	1.1	0	3
141.0	144.0	3.0	2.8	1	1.4	0	3
144.0	147.0	3.0	2.4	1	0.4	0	3
147.0	150.0	3.0	2.6	1	0.8	0	3
150.0	153.0	3.0	3.0	1	1.2	0	3
153.0	156.0	3.0	2.4	1	0.2	0	3
156.0	159.0	3.0	2.5	1	0.5	0	3
159.0	162.0	3.0	2.4	1	0.9	0	3
162.0	165.0	3.0	2.8	1	0.6	0	3
165.0	168.0	3.0	2.9	1	1.0	0	3
168.0	171.0	3.0	2.7	1	1.1	0	3
171.0	174.0	3.0	2.8	1	1.2	0	3
174.0	177.0	3.0	3.0	1	1.9	1	3
177.0	180.0	3.0	2.8	1	2.1	1	3
180.0	183.0	3.0	2.7	1	2.3	1	3
183.0	186.0	3.0	2.8	1	1.2	0	3
186.0	189.0	3.0	2.6	1	1.3	0	3
189.0	192.0	3.0	3.0	1	2.0	1	3
192.0	195.0	3.0	3.0	1	0.9	0	3
195.0	198.0	3.0	2.6	1	0.7	0	3
198.0	201.0	3.0	2.8	1	0.5	0	3
201.0	204.0	3.0	2.6	1	0.2	0	3
204.0	207.0	3.0	2.7	1	0.5	0	3
207.0	210.0	3.0	2.8	1	1.0	0	3
210.0	213.0	3.0	2.4	1	0.4	0	3
213.0	216.0	3.0	2.8	1	0.3	0	3
216.0	219.0	3.0	3.0	1	1.1	0	4
219.0	222.0	3.0	3.0	1	0.7	0	4
222.0	225.0	3.0	2.9	1	0.3	0	4
225.0	228.0	3.0	2.3	1	0.4	0	4
228.0	231.0	3.0	3.0	1	0.8	0	4
231.0	234.0	3.0	3.0	1	2.0	1	4
234.0	237.0	3.0	2.2	1	0.5	0	3
237.0	240.0	3.0	3.0	1	1.6	1	3
240.0	243.0	3.0	3.0	1	1.4	0	3
243.0	246.0	3.0	3.0	1	1.6	1	3
246.0	249.0	3.0	3.0	1	1.5	1	3
249.0	252.0	3.0	2.4	1	1.0	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
252.0	255.0	3.0	2.7	1	0.7	0	4
255.0	258.0	3.0	2.5	1	0.9	0	4
258.0	261.0	3.0	2.6	1	2.1	1	4
261.0	264.0	3.0	2.5	1	1.6	1	4
264.0	267.0	3.0	2.5	1	1.9	1	4
267.0	270.0	3.0	2.4	1	1.9	1	4
270.0	273.0	3.0	2.3	1	1.5	1	4
273.0	276.0	3.0	2.1	1	0.9	0	4
276.0	279.0	3.0	2.8	1	0.8	0	4
279.0	282.0	3.0	3.1	1	1.2	0	4
282.0	285.0	3.0	2.9	1	1.2	0	4
285.0	288.0	3.0	2.6	1	1.9	1	4
288.0	291.0	3.0	2.8	1	1.0	0	4
291.0	294.0	3.0	3.0	1	1.2	0	4
294.0	297.0	3.0	2.7	1	1.6	1	4
297.0	300.0	3.0	2.5	1	1.2	0	4
300.0	303.0	3.0	3.0	1	2.2	1	4
303.0	306.0	3.0	2.4	1	1.3	0	4
306.0	309.0	3.0	2.8	1	1.6	1	4
309.0	312.0	3.0	2.9	1	1.4	0	4
312.0	315.0	3.0	2.5	1	1.0	0	4
315.0	318.0	3.0	3.0	1	2.0	1	4
318.0	321.0	3.0	2.6	1	1.3	0	4
321.0	324.0	3.0	3.0	1	1.6	1	4
324.0	327.0	3.0	2.9	1	1.6	1	4
327.0	330.0	3.0	2.8	1	1.9	1	4
330.0	333.0	3.0	2.8	1	1.2	0	4
333.0	336.0	3.0	2.5	1	1.1	0	4
336.0	339.0	3.0	2.8	1	1.0	0	4
339.0	342.0	3.0	2.9	1	1.7	1	4
342.0	345.0	3.0	3.0	1	2.2	1	4
345.0	348.0	3.0	2.8	1	1.6	1	4
348.0	351.0	3.0	2.8	1	1.2	0	4
351.0	354.0	3.0	2.7	1	1.1	0	4
354.0	357.0	3.0	2.9	1	1.3	0	4
357.0	360.0	3.0	2.6	1	1.4	0	4
357.0	360.0	3.0	2.6	1	1.3	0	4
360.0	363.0	3.0	2.8	1	1.5	1	4
360.0	363.0	3.0	2.6	1	1.4	0	4
363.0	366.0	3.0	3.0	1	1.1	0	4
366.0	369.0	3.0	2.6	1	1.1	0	4
369.0	372.0	3.0	2.8	1	2.0	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
372.0	375.0	3.0	2.3	1	1.5	1	4
375.0	378.0	3.0	2.7	1	1.4	0	4
378.0	381.0	3.0	2.7	1	1.6	1	4
381.0	384.0	3.0	3.0	1	2.6	1	4
384.0	387.0	3.0	2.5	1	1.9	1	4
387.0	390.0	3.0	2.8	1	2.0	1	4
390.0	393.0	3.0	2.6	1	1.6	1	4
393.0	396.0	3.0	2.7	1	1.3	0	4
396.0	399.0	3.0	3.0	1	2.2	1	4
399.0	402.0	3.0	3.0	1	2.4	1	4
402.0	405.0	3.0	2.7	1	1.6	1	4
405.0	408.0	3.0	2.4	1	1.9	1	4
408.0	411.0	3.0	2.4	1	1.8	1	4
411.0	414.0	3.0	3.0	1	2.4	1	4
414.0	417.0	3.0	2.7	1	1.7	1	4
417.0	420.0	3.0	3.0	1	2.1	1	4
420.0	423.0	3.0	2.6	1	1.9	1	4
423.0	426.0	3.0	2.7	1	1.7	1	4
426.0	429.0	3.0	2.9	1	1.8	1	4
429.0	432.0	3.0	2.7	1	2.1	1	4
432.0	435.0	3.0	3.0	1	2.0	1	4
435.0	438.0	3.0	3.0	1	2.1	1	4
438.0	441.0	3.0	2.8	1	2.1	1	4
441.0	444.0	3.0	2.9	1	1.9	1	4
444.0	447.0	3.0	2.8	1	1.6	1	4
447.0	450.0	3.0	2.4	1	1.6	1	4
450.0	453.0	3.0	3.0	1	1.9	1	4
453.0	456.0	3.0	2.8	1	2.3	1	4
456.0	459.0	3.0	2.8	1	1.2	0	4
459.0	462.0	3.0	2.4	1	1.3	0	4
462.0	465.0	3.0	2.3	1	1.4	0	4
465.0	468.0	3.0	2.6	1	1.8	1	4
468.0	471.0	3.0	2.3	1	1.2	0	4
471.0	474.0	3.0	3.0	1	2.6	1	4
474.0	477.0	3.0	2.7	1	2.4	1	4
477.0	480.0	3.0	3.0	1	2.8	1	4
480.0	483.0	3.0	2.8	1	2.3	1	4
483.0	486.0	3.0	2.9	1	2.4	1	4
486.0	489.0	3.0	3.0	1	2.0	1	4
489.0	492.0	3.0	2.4	1	1.7	1	4
492.0	495.0	3.0	2.9	1	2.7	1	4
495.0	498.0	3.0	3.0	1	1.7	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
498.0	501.0	3.0	2.5	1	0.3	0	4
501.0	504.0	3.0	3.0	1	2.4	1	4
504.0	507.0	3.0	2.9	1	1.3	0	4
507.0	510.0	3.0	2.7	1	1.6	1	4
510.0	513.0	3.0	3.0	1	2.1	1	4
513.0	516.0	3.0	2.9	1	1.7	1	4
516.0	519.0	3.0	3.0	1	2.4	1	4
519.0	522.0	3.0	2.6	1	1.9	1	4
522.0	525.0	3.0	3.0	1	2.5	1	4
525.0	528.0	3.0	2.6	1	1.2	0	4
528.0	531.0	3.0	2.9	1	1.6	1	4
531.0	534.0	3.0	2.6	1	1.9	1	4
534.0	537.0	3.0	2.9	1	2.2	1	4
537.0	540.0	3.0	2.7	1	1.2	0	4
540.0	543.0	3.0	3.0	1	2.3	1	4
543.0	546.0	3.0	2.8	1	2.3	1	4
546.0	549.0	3.0	2.7	1	1.2	0	4
549.0	552.0	3.0	2.5	1	0.9	0	4
552.0	555.0	3.0	2.5	1	1.3	0	4
555.0	558.0	3.0	2.5	1	0.7	0	4
558.0	561.0	3.0	3.0	1	2.1	1	4
561.0	564.0	3.0	2.6	1	1.7	1	4
564.0	567.0	3.0	3.0	1	2.1	1	4
567.0	570.0	3.0	2.7	1	2.0	1	4
570.0	573.0	3.0	2.7	1	1.5	1	4
573.0	576.0	3.0	2.9	1	1.8	1	4
576.0	579.0	3.0	2.7	1	2.1	1	4
579.0	582.0	3.0	3.0	1	2.3	1	4
582.0	585.0	3.0	2.6	1	1.6	1	4
585.0	588.0	3.0	3.0	1	1.9	1	4
588.0	591.0	3.0	2.9	1	2.3	1	4
591.0	594.0	3.0	2.9	1	2.3	1	4
594.0	597.0	3.0	3.0	1	1.9	1	4
597.0	600.0	3.0	2.6	1	1.5	1	4
600.0	603.0	3.0	2.9	1	1.4	0	4
603.0	606.0	3.0	2.5	1	0.4	0	4
606.0	609.0	3.0	2.8	1	0.7	0	4
609.0	612.0	3.0	2.4	1	0.9	0	4
612.0	615.0	3.0	2.7	1	1.5	1	4
615.0	618.0	3.0	2.7	1	1.6	1	4
618.0	621.0	3.0	2.6	1	0.6	0	4
621.0	624.0	3.0	2.8	1	1.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-18					
Drilled 2007	310	-60	732.40	12164.26	16056.30

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
624.0	627.0	3.0	2.8	1	1.8	1	4
627.0	630.0	3.0	3.1	1	1.9	1	4
630.0	633.0	3.0	2.8	1	2.3	1	4
633.0	636.0	3.0	2.9	1	2.0	1	4
636.0	639.0	3.0	3.0	1	1.7	1	4
639.0	642.0	3.0	3.0	1	1.7	1	4
642.0	645.0	3.0	2.7	1	1.3	0	4
645.0	648.0	3.0	3.0	1	1.8	1	4
648.0	651.0	3.0	2.7	1	1.8	1	4
651.0	654.0	3.0	2.8	1	0.8	0	4
654.0	657.0	3.0	2.6	1	0.9	0	4
657.0	660.0	3.0	3.0	1	1.5	1	4
660.0	663.0	3.0	2.6	1	0.5	0	4
663.0	666.0	3.0	2.8	1	1.5	1	4
666.0	669.0	3.0	2.9	1	1.0	0	4
669.0	672.0	3.0	2.8	1	1.0	0	4
672.0	675.0	3.0	3.0	1	1.0	0	4
675.0	678.0	3.0	3.2	1	0.6	0	4
678.0	681.0	3.0	2.6	1	0.7	0	4
681.0	684.0	3.0	2.7	1	0.6	0	4
684.0	687.0	3.0	2.4	1	0.9	0	4
687.0	690.0	3.0	2.8	1	1.0	0	4
690.0	693.0	3.0	2.3	1	0.3	0	3
693.0	696.0	3.0	3.0	1	1.2	0	4
696.0	699.0	3.0	2.9	1	0.3	0	4
699.0	702.0	3.0	3.1	1	1.0	0	4
702.0	705.0	3.0	2.9	1	1.5	1	4
705.0	708.0	3.0	3.0	1	2.0	1	4
708.0	711.0	3.0	2.9	1	2.0	1	4
711.0	714.0	3.0	3.0	1	2.4	1	4
714.0	717.0	3.0	2.8	1	2.1	1	3
717.0	720.0	3.0	3.1	1	2.2	1	3
720.0	723.0	3.0	3.1	1	2.4	1	3
723.0	726.0	3.0	2.9	1	1.7	1	4
726.0	729.0	3.0	3.2	1	1.5	1	4
729.0	732.0	3.0	2.9	1	0.1	0	4
732.0	732.4	0.4	0.4	1	0.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-19					
Drilled 2007	180	-90	318.00	12273.98	16236.56

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	3.0	3.0	0.0	0	0.0	0	0
3.0	6.0	3.0	0.2	0	0.0	0	4
6.0	9.0	3.0	0.2	0	0.0	0	4
9.0	12.0	3.0	0.3	0	0.0	0	4
12.0	15.0	3.0	1.6	1	0.0	0	4
15.0	18.0	3.0	1.9	1	0.0	0	4
18.0	21.0	3.0	2.9	1	0.0	0	4
21.0	24.0	3.0	2.8	1	0.1	0	4
24.0	27.0	3.0	2.9	1	0.2	0	4
27.0	30.0	3.0	3.1	1	0.2	0	4
30.0	33.0	3.0	3.1	1	0.8	0	4
33.0	36.0	3.0	3.0	1	0.1	0	4
36.0	39.0	3.0	2.8	1	0.8	0	4
39.0	42.0	3.0	3.2	1	0.4	0	4
42.0	45.0	3.0	2.9	1	0.0	0	4
45.0	48.0	3.0	3.0	1	0.5	0	4
48.0	51.0	3.0	3.0	1	0.9	0	4
51.0	54.0	3.0	2.9	1	0.8	0	4
54.0	57.0	3.0	3.1	1	1.3	0	4
57.0	60.0	3.0	3.2	1	0.2	0	4
60.0	63.0	3.0	3.0	1	1.1	0	4
63.0	66.0	3.0	3.0	1	2.1	1	4
66.0	69.0	3.0	3.1	1	0.9	0	4
69.0	72.0	3.0	3.2	1	0.5	0	4
72.0	75.0	3.0	3.0	1	0.5	0	4
75.0	78.0	3.0	2.9	1	1.6	1	4
78.0	81.0	3.0	3.2	1	1.0	0	4
81.0	84.0	3.0	3.3	1	1.2	0	4
84.0	87.0	3.0	2.8	1	0.8	0	4
87.0	90.0	3.0	3.1	1	0.9	0	4
90.0	93.0	3.0	3.2	1	1.1	0	4
93.0	96.0	3.0	3.2	1	1.6	1	4
96.0	99.0	3.0	2.8	1	1.3	0	4
99.0	102.0	3.0	3.1	1	1.3	0	4
102.0	105.0	3.0	2.9	1	0.8	0	4
105.0	108.0	3.0	3.1	1	1.0	0	4
108.0	111.0	3.0	3.1	1	0.2	0	4
111.0	114.0	3.0	2.8	1	0.2	0	4
114.0	117.0	3.0	3.2	1	1.1	0	4
117.0	120.0	3.0	3.0	1	0.8	0	4
120.0	123.0	3.0	2.5	1	0.3	0	4
123.0	126.0	3.0	2.2	1	0.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-19					
Drilled 2007	180	-90	318.00	12273.98	16236.56

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
126.0	129.0	3.0	2.8	1	0.3	0	3
129.0	132.0	3.0	2.9	1	0.4	0	4
132.0	135.0	3.0	2.6	1	0.3	0	4
135.0	138.0	3.0	2.9	1	0.2	0	4
138.0	141.0	3.0	3.0	1	0.9	0	4
141.0	144.0	3.0	3.0	1	0.2	0	4
144.0	147.0	3.0	3.0	1	1.3	0	4
147.0	150.0	3.0	3.0	1	1.5	1	4
150.0	153.0	3.0	2.6	1	1.4	0	4
153.0	156.0	3.0	2.7	1	1.6	1	4
156.0	159.0	3.0	3.0	1	1.1	0	4
159.0	162.0	3.0	3.0	1	2.3	1	4
162.0	165.0	3.0	2.5	1	1.3	0	4
165.0	168.0	3.0	2.5	1	1.2	0	4
168.0	171.0	3.0	3.0	1	2.4	1	4
171.0	174.0	3.0	3.0	1	2.3	1	4
174.0	177.0	3.0	3.0	1	2.1	1	4
177.0	180.0	3.0	3.0	1	2.8	1	4
180.0	183.0	3.0	3.0	1	2.0	1	4
183.0	186.0	3.0	2.7	1	2.6	1	4
186.0	189.0	3.0	3.0	1	2.6	1	4
189.0	192.0	3.0	2.8	1	2.2	1	4
192.0	195.0	3.0	3.0	1	2.2	1	4
195.0	198.0	3.0	2.7	1	2.5	1	4
198.0	201.0	3.0	3.0	1	2.8	1	4
201.0	204.0	3.0	3.0	1	2.6	1	4
204.0	207.0	3.0	2.9	1	2.4	1	4
207.0	210.0	3.0	3.0	1	2.7	1	4
210.0	213.0	3.0	3.0	1	2.0	1	4
213.0	216.0	3.0	3.0	1	1.2	0	4
216.0	219.0	3.0	2.8	1	1.1	0	4
219.0	222.0	3.0	2.9	1	1.3	0	4
222.0	225.0	3.0	3.0	1	2.0	1	4
225.0	228.0	3.0	3.0	1	1.7	1	4
228.0	231.0	3.0	3.1	1	1.1	0	4
231.0	234.0	3.0	3.1	1	2.3	1	4
234.0	237.0	3.0	3.1	1	2.4	1	4
237.0	240.0	3.0	3.0	1	1.7	1	4
240.0	243.0	3.0	3.0	1	2.4	1	4
243.0	246.0	3.0	3.0	1	1.9	1	4
246.0	249.0	3.0	3.0	1	1.3	0	4
249.0	252.0	3.0	3.0	1	1.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-19					
Drilled 2007	180	-90	318.00	12273.98	16236.56

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
252.0	255.0	3.0	2.9	1	1.2	0	4
255.0	258.0	3.0	3.1	1	2.0	1	4
258.0	261.0	3.0	3.0	1	2.1	1	4
261.0	264.0	3.0	3.0	1	1.5	1	4
264.0	267.0	3.0	3.0	1	1.3	0	4
267.0	270.0	3.0	2.9	1	0.4	0	3
270.0	273.0	3.0	2.9	1	0.6	0	4
273.0	276.0	3.0	3.1	1	2.2	1	4
276.0	279.0	3.0	3.1	1	1.8	1	4
279.0	282.0	3.0	3.0	1	1.8	1	4
282.0	285.0	3.0	3.1	1	2.6	1	4
285.0	288.0	3.0	3.1	1	2.0	1	4
288.0	291.0	3.0	3.0	1	2.4	1	4
291.0	294.0	3.0	3.0	1	2.4	1	4
294.0	297.0	3.0	3.0	1	2.4	1	4
297.0	300.0	3.0	2.9	1	2.3	1	4
300.0	303.0	3.0	3.0	1	2.5	1	4
303.0	306.0	3.0	3.0	1	1.5	0	4
306.0	309.0	3.0	3.1	1	2.2	1	4
309.0	312.0	3.0	3.1	1	2.3	1	4
312.0	315.0	3.0	3.0	1	2.7	1	4
315.0	318.0	3.0	3.1	1	2.4	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-21					
Drilled 2007	180	-55	435.00	12273.99	16235.48

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	7.5	7.5	0.1	0	0.0	0	4
7.5	9.0	1.5	0.2	0	0.0	0	4
9.0	12.0	3.0	1.3	0	0.0	0	4
12.0	15.0	3.0	1.5	0	0.2	0	4
15.0	18.0	3.0	1.7	1	0.4	0	4
18.0	21.0	3.0	1.8	1	0.1	0	4
21.0	24.0	3.0	2.1	1	0.0	0	4
24.0	27.0	3.0	2.4	1	0.4	0	4
27.0	30.0	3.0	2.4	1	0.2	0	4
30.0	33.0	3.0	1.9	1	0.2	0	4
33.0	36.0	3.0	1.9	1	0.5	0	4
36.0	39.0	3.0	2.1	1	0.2	0	4
39.0	42.0	3.0	2.2	1	0.5	0	4
42.0	45.0	3.0	1.7	1	0.0	0	4
45.0	48.0	3.0	2.1	1	0.9	0	4
48.0	51.0	3.0	2.2	1	0.2	0	4
51.0	54.0	3.0	2.8	1	0.3	0	4
54.0	57.0	3.0	2.4	1	0.5	0	4
57.0	60.0	3.0	2.4	1	0.4	0	4
60.0	63.0	3.0	2.7	1	1.2	0	4
63.0	66.0	3.0	2.8	1	1.6	1	4
66.0	69.0	3.0	2.3	1	0.5	0	4
69.0	72.0	3.0	2.6	1	0.8	0	4
72.0	75.0	3.0	2.9	1	0.7	0	4
75.0	78.0	3.0	2.6	1	0.5	0	4
78.0	81.0	3.0	2.6	1	0.7	0	4
81.0	84.0	3.0	2.7	1	1.5	1	4
84.0	87.0	3.0	2.6	1	0.6	0	4
87.0	90.0	3.0	2.8	1	0.6	0	4
90.0	93.0	3.0	2.7	1	0.6	0	4
93.0	96.0	3.0	2.4	1	0.4	0	4
96.0	99.0	3.0	2.6	1	0.7	0	4
99.0	102.0	3.0	3.0	1	0.8	0	4
102.0	105.0	3.0	2.0	1	0.5	0	4
105.0	108.0	3.0	2.9	1	0.9	0	4
108.0	111.0	3.0	2.4	1	0.9	0	4
111.0	114.0	3.0	3.0	1	1.6	1	4
114.0	117.0	3.0	2.1	1	0.9	0	4
117.0	120.0	3.0	2.5	1	1.9	1	4
120.0	123.0	3.0	2.9	1	1.9	1	4
123.0	126.0	3.0	2.8	1	1.8	1	4
126.0	129.0	3.0	3.1	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-21					
Drilled 2007	180	-55	435.00	12273.99	16235.48

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.7	1	1.8	1	4
132.0	135.0	3.0	2.9	1	2.0	1	4
135.0	138.0	3.0	2.7	1	1.3	0	4
138.0	141.0	3.0	2.7	1	1.7	1	4
141.0	144.0	3.0	2.8	1	1.6	1	4
144.0	147.0	3.0	3.0	1	1.8	1	4
147.0	150.0	3.0	2.5	1	0.5	0	4
150.0	153.0	3.0	2.9	1	1.7	1	4
153.0	156.0	3.0	3.0	1	2.0	1	4
156.0	159.0	3.0	1.1	0	0.0	0	4
159.0	162.0	3.0	1.7	1	0.1	0	4
162.0	165.0	3.0	2.9	1	1.8	1	4
165.0	168.0	3.0	2.9	1	1.9	1	4
168.0	171.0	3.0	2.9	1	1.9	1	4
171.0	174.0	3.0	2.9	1	1.9	1	4
174.0	177.0	3.0	3.0	1	1.6	1	4
177.0	180.0	3.0	3.0	1	1.7	1	4
180.0	183.0	3.0	3.0	1	2.3	1	4
183.0	186.0	3.0	3.0	1	2.4	1	4
186.0	189.0	3.0	3.1	1	2.4	1	4
189.0	192.0	3.0	3.0	1	2.6	1	4
192.0	195.0	3.0	3.0	1	2.4	1	4
195.0	198.0	3.0	2.9	1	2.2	1	4
198.0	201.0	3.0	3.1	1	2.0	1	4
201.0	204.0	3.0	3.1	1	1.9	1	4
204.0	207.0	3.0	3.0	1	1.8	1	4
207.0	210.0	3.0	3.1	1	1.9	1	4
210.0	213.0	3.0	3.0	1	2.1	1	4
213.0	216.0	3.0	2.4	1	1.7	1	4
216.0	219.0	3.0	3.0	1	0.9	0	4
219.0	222.0	3.0	3.0	1	0.4	0	4
222.0	225.0	3.0	2.7	1	0.4	0	4
225.0	228.0	3.0	2.9	1	1.2	0	4
228.0	231.0	3.0	2.9	1	0.5	0	4
231.0	234.0	3.0	2.8	1	1.2	0	4
234.0	237.0	3.0	3.0	1	1.9	1	4
237.0	240.0	3.0	2.5	1	1.2	0	4
240.0	243.0	3.0	2.6	1	1.1	0	4
243.0	246.0	3.0	3.0	1	1.5	1	4
246.0	249.0	3.0	3.0	1	2.3	1	4
249.0	252.0	3.0	2.9	1	2.4	1	4
252.0	255.0	3.0	3.0	1	1.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-21					
Drilled 2007	180	-55	435.00	12273.99	16235.48

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	2.9	1	1.1	0	4
258.0	261.0	3.0	3.0	1	1.6	1	4
261.0	264.0	3.0	2.8	1	1.4	0	4
264.0	267.0	3.0	3.0	1	1.6	1	4
267.0	270.0	3.0	2.9	1	1.4	0	4
270.0	273.0	3.0	2.8	1	1.3	0	4
273.0	276.0	3.0	3.0	1	2.0	1	4
276.0	279.0	3.0	3.0	1	1.6	1	4
279.0	282.0	3.0	2.7	1	1.7	1	4
282.0	285.0	3.0	2.7	1	1.7	1	4
285.0	288.0	3.0	2.9	1	1.6	1	4
288.0	291.0	3.0	2.7	1	0.5	0	4
291.0	294.0	3.0	3.0	1	1.7	1	4
294.0	297.0	3.0	2.8	1	1.0	0	4
297.0	300.0	3.0	3.0	1	1.1	0	4
300.0	303.0	3.0	3.0	1	2.0	1	4
303.0	306.0	3.0	3.0	1	2.1	1	4
306.0	309.0	3.0	3.0	1	2.4	1	4
309.0	312.0	3.0	2.9	1	1.7	1	4
312.0	315.0	3.0	2.7	1	1.6	1	4
315.0	318.0	3.0	3.0	1	2.0	1	4
318.0	321.0	3.0	2.9	1	1.9	1	4
321.0	324.0	3.0	3.0	1	2.1	1	4
324.0	327.0	3.0	3.0	1	1.3	0	4
327.0	330.0	3.0	3.0	1	2.4	1	4
330.0	333.0	3.0	2.7	1	1.4	0	4
333.0	336.0	3.0	2.8	1	1.7	1	4
336.0	339.0	3.0	2.4	1	1.2	0	4
339.0	342.0	3.0	3.0	1	2.3	1	4
342.0	345.0	3.0	3.0	1	2.2	1	4
345.0	348.0	3.0	3.0	1	2.0	1	4
348.0	351.0	3.0	2.6	1	1.3	0	4
351.0	354.0	3.0	2.9	1	1.6	1	4
354.0	357.0	3.0	3.0	1	1.6	1	4
357.0	360.0	3.0	3.0	1	2.3	1	4
360.0	363.0	3.0	2.8	1	1.8	1	4
363.0	366.0	3.0	3.0	1	2.1	1	4
366.0	369.0	3.0	2.8	1	1.8	1	4
369.0	372.0	3.0	3.1	1	2.3	1	4
372.0	375.0	3.0	2.9	1	1.5	1	4
375.0	378.0	3.0	3.1	1	1.3	0	4
378.0	381.0	3.0	3.0	1	0.9	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-21					
Drilled 2007	180	-55	435.00	12273.99	16235.48

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
381.0	384.0	3.0	2.8	1	1.0	0	4
384.0	387.0	3.0	2.8	1	0.9	0	4
387.0	390.0	3.0	2.6	1	1.5	1	4
390.0	393.0	3.0	2.7	1	1.9	1	4
393.0	396.0	3.0	2.9	1	1.3	0	4
396.0	399.0	3.0	3.0	1	1.9	1	4
399.0	402.0	3.0	3.0	1	2.2	1	4
402.0	405.0	3.0	2.8	1	2.2	1	4
405.0	408.0	3.0	3.0	1	1.5	1	4
408.0	411.0	3.0	3.0	1	1.7	1	4
411.0	414.0	3.0	2.4	1	0.9	0	4
414.0	417.0	3.0	2.8	1	1.6	1	4
417.0	420.0	3.0	3.0	1	1.8	1	4
420.0	423.0	3.0	3.0	1	2.4	1	4
423.0	426.0	3.0	2.8	1	2.0	1	4
426.0	429.0	3.0	3.0	1	2.6	1	4
429.0	432.0	3.0	2.7	1	1.2	0	4
432.0	435.0	3.0	3.0	1	1.2	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-22					
Drilled 2007	80	-90	342.00	12244.17	16110.31

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	8.0	8.0	0.0	0	0.0	0	0
0.0	96.0	3.0	3.1	1	2.1	1	4
8.0	9.0	1.0	1.1	1	0.1	0	3
9.0	12.0	3.0	2.6	1	0.3	0	4
12.0	15.0	3.0	2.6	1	0.1	0	4
15.0	18.0	3.0	3.2	1	0.6	0	4
18.0	21.0	3.0	2.9	1	0.1	0	4
21.0	24.0	3.0	3.1	1	1.5	1	4
24.0	27.0	3.0	2.9	1	0.7	0	4
27.0	30.0	3.0	2.5	1	0.9	0	4
30.0	33.0	3.0	3.3	1	0.6	0	4
33.0	36.0	3.0	3.0	1	0.7	0	4
36.0	39.0	3.0	3.2	1	1.4	0	4
39.0	42.0	3.0	2.8	1	0.9	0	4
42.0	45.0	3.0	3.1	1	0.8	0	4
45.0	48.0	3.0	3.2	1	1.0	0	4
48.0	51.0	3.0	2.8	1	0.9	0	4
51.0	54.0	3.0	3.3	1	0.2	0	4
54.0	57.0	3.0	3.0	1	1.3	0	4
57.0	60.0	3.0	2.6	1	1.1	0	4
60.0	63.0	3.0	2.5	1	0.6	0	4
63.0	66.0	3.0	2.7	1	1.0	0	3
66.0	69.0	3.0	2.9	1	0.8	0	3
69.0	72.0	3.0	2.6	1	0.4	0	3
72.0	75.0	3.0	2.7	1	0.1	0	3
75.0	78.0	3.0	3.1	1	0.8	0	4
78.0	81.0	3.0	3.1	1	1.7	1	4
81.0	84.0	3.0	3.1	1	2.1	1	4
84.0	87.0	3.0	3.1	1	2.1	1	4
87.0	90.0	3.0	3.1	1	1.5	1	4
90.0	93.0	3.0	2.9	1	1.7	1	4
96.0	99.0	3.0	3.0	1	1.7	1	4
99.0	102.0	3.0	2.7	1	0.8	0	4
102.0	105.0	3.0	2.8	1	1.8	1	4
105.0	108.0	3.0	3.0	1	1.7	1	4
108.0	111.0	3.0	3.1	1	1.4	0	4
111.0	114.0	3.0	3.0	1	1.4	0	4
114.0	117.0	3.0	3.1	1	2.2	1	4
117.0	120.0	3.0	3.0	1	2.0	1	4
120.0	123.0	3.0	3.0	1	2.4	1	4
123.0	126.0	3.0	3.1	1	1.5	1	4
126.0	129.0	3.0	3.0	1	0.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-22					
Drilled 2007	80	-90	342.00	12244.17	16110.31

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.8	1	0.3	0	4
132.0	135.0	3.0	3.1	1	1.3	0	4
135.0	138.0	3.0	3.1	1	1.6	1	4
138.0	141.0	3.0	3.0	1	1.3	0	4
141.0	144.0	3.0	3.0	1	2.1	1	4
144.0	147.0	3.0	3.0	1	2.0	1	4
147.0	150.0	3.0	3.0	1	1.8	1	4
150.0	153.0	3.0	3.0	1	1.6	1	4
153.0	156.0	3.0	2.9	1	1.8	1	4
156.0	159.0	3.0	3.0	1	1.9	1	4
159.0	162.0	3.0	3.1	1	1.6	1	4
162.0	165.0	3.0	3.0	1	1.9	1	4
165.0	168.0	3.0	3.0	1	2.1	1	4
168.0	171.0	3.0	3.0	1	1.8	1	4
171.0	174.0	3.0	2.9	1	1.2	0	4
174.0	177.0	3.0	3.0	1	1.7	1	4
177.0	180.0	3.0	3.0	1	1.8	1	4
180.0	183.0	3.0	3.0	1	0.6	0	4
183.0	186.0	3.0	3.0	1	1.0	0	4
186.0	189.0	3.0	3.0	1	2.2	1	4
189.0	192.0	3.0	3.1	1	1.7	1	4
192.0	195.0	3.0	3.0	1	2.1	1	4
195.0	198.0	3.0	3.0	1	2.5	1	4
198.0	201.0	3.0	3.0	1	1.1	0	4
201.0	204.0	3.0	3.0	1	2.1	1	4
204.0	207.0	3.0	3.0	1	2.6	1	4
207.0	210.0	3.0	3.0	1	2.3	1	4
210.0	213.0	3.0	3.0	1	2.2	1	4
213.0	216.0	3.0	2.9	1	2.3	1	4
216.0	219.0	3.0	3.1	1	1.7	1	4
219.0	222.0	3.0	3.0	1	2.1	1	4
222.0	225.0	3.0	3.0	1	1.6	1	4
225.0	228.0	3.0	3.0	1	1.7	1	4
228.0	231.0	3.0	3.0	1	2.1	1	4
231.0	234.0	3.0	3.0	1	2.1	1	4
234.0	237.0	3.0	3.0	1	2.3	1	4
237.0	240.0	3.0	3.1	1	2.2	1	4
240.0	243.0	3.0	3.0	1	1.9	1	4
243.0	246.0	3.0	2.8	1	0.8	0	4
246.0	249.0	3.0	3.1	1	1.2	0	4
249.0	252.0	3.0	3.1	1	1.3	0	4
252.0	255.0	3.0	3.0	1	2.2	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-22					
Drilled 2007	80	-90	342.00	12244.17	16110.31

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.1	1	2.6	1	4
258.0	261.0	3.0	3.0	1	1.5	1	4
261.0	264.0	3.0	3.0	1	2.0	1	4
264.0	267.0	3.0	3.0	1	2.7	1	4
267.0	270.0	3.0	3.0	1	2.6	1	4
270.0	273.0	3.0	3.0	1	2.5	1	4
273.0	276.0	3.0	3.0	1	2.3	1	4
276.0	279.0	3.0	3.1	1	1.5	1	4
279.0	282.0	3.0	3.1	1	2.8	1	4
282.0	285.0	3.0	3.0	1	2.2	1	4
285.0	288.0	3.0	3.0	1	1.7	1	4
288.0	291.0	3.0	3.0	1	2.0	1	4
291.0	294.0	3.0	3.1	1	2.6	1	4
294.0	297.0	3.0	3.0	1	2.3	1	4
297.0	300.0	3.0	3.0	1	2.5	1	4
300.0	303.0	3.0	3.0	1	2.3	1	4
303.0	306.0	3.0	3.0	1	1.8	1	4
306.0	309.0	3.0	3.0	1	2.2	1	4
309.0	312.0	3.0	3.0	1	2.3	1	4
312.0	315.0	3.0	3.0	1	1.9	1	4
315.0	318.0	3.0	3.0	1	2.4	1	4
318.0	321.0	3.0	3.1	1	2.6	1	3
321.0	324.0	3.0	3.2	1	1.6	1	4
324.0	327.0	3.0	3.2	1	2.4	1	4
327.0	330.0	3.0	2.8	1	1.3	0	4
330.0	333.0	3.0	3.1	1	2.3	1	4
333.0	336.0	3.0	2.9	1	1.8	1	4
336.0	339.0	3.0	3.1	1	2.3	1	4
339.0	342.0	3.0	3.1	1	2.0	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-23					
Drilled 2007	45	-55	345.00	12245.31	16110.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	6.0	6.0	0.2	0	0.0	0	3
6.0	9.0	3.0	0.7	0	0.0	0	3
9.0	12.5	3.5	1.6	0	0.3	0	4
12.5	15.0	2.5	1.8	1	0.1	0	4
15.0	18.0	3.0	2.8	1	0.7	0	4
18.0	21.0	3.0	3.0	1	1.5	1	4
21.0	24.0	3.0	2.9	1	1.4	0	4
24.0	27.0	3.0	2.9	1	1.2	0	4
27.0	30.0	3.0	2.9	1	0.7	0	4
30.0	33.0	3.0	3.0	1	0.9	0	4
33.0	36.0	3.0	2.5	1	0.5	0	4
36.0	39.0	3.0	2.8	1	0.6	0	4
39.0	42.0	3.0	2.7	1	0.7	0	4
42.0	45.0	3.0	2.8	1	1.2	0	4
45.0	48.0	3.0	2.9	1	1.5	0	4
48.0	51.0	3.0	2.8	1	0.9	0	4
51.0	54.0	3.0	2.7	1	0.7	0	4
54.0	57.0	3.0	2.8	1	1.1	0	4
57.0	60.0	3.0	2.6	1	0.6	0	4
60.0	63.0	3.0	2.9	1	1.0	0	4
63.0	66.0	3.0	2.7	1	1.1	0	4
66.0	69.0	3.0	2.8	1	1.9	1	4
69.0	72.0	3.0	3.0	1	2.2	1	4
72.0	75.0	3.0	2.7	1	1.5	1	4
75.0	78.0	3.0	2.7	1	0.8	0	4
78.0	81.0	3.0	2.9	1	0.8	0	4
81.0	84.0	3.0	2.7	1	0.5	0	4
84.0	87.0	3.0	2.9	1	0.9	0	4
87.0	90.0	3.0	3.0	1	1.5	1	4
90.0	93.0	3.0	2.9	1	1.7	1	4
93.0	96.0	3.0	2.4	1	0.6	0	4
96.0	99.0	3.0	3.0	1	1.6	1	4
99.0	102.0	3.0	3.0	1	1.9	1	4
102.0	105.0	3.0	3.0	1	2.3	1	4
105.0	108.0	3.0	3.0	1	2.3	1	4
108.0	111.0	3.0	3.0	1	2.4	1	4
111.0	114.0	3.0	3.0	1	2.4	1	4
114.0	117.0	3.0	2.9	1	1.5	1	4
117.0	120.0	3.0	3.0	1	2.0	1	4
120.0	123.0	3.0	3.0	1	2.1	1	4
123.0	126.0	3.0	3.0	1	2.2	1	4
126.0	129.0	3.0	3.1	1	2.1	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-23					
Drilled 2007	45	-55	345.00	12245.31	16110.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.9	1	2.3	1	4
132.0	135.0	3.0	2.9	1	1.2	0	4
135.0	138.0	3.0	2.9	1	1.9	1	4
138.0	141.0	3.0	2.8	1	1.9	1	4
141.0	144.0	3.0	3.0	1	0.8	0	4
144.0	147.0	3.0	3.0	1	1.4	0	4
147.0	150.0	3.0	3.0	1	1.3	0	4
150.0	153.0	3.0	3.0	1	0.8	0	4
153.0	156.0	3.0	3.0	1	1.2	0	4
156.0	159.0	3.0	2.9	1	0.9	0	4
159.0	162.0	3.0	2.9	1	1.5	1	4
162.0	165.0	3.0	3.0	1	1.7	1	4
165.0	168.0	3.0	3.0	1	2.1	1	4
168.0	171.0	3.0	3.0	1	1.8	1	4
171.0	174.0	3.0	3.0	1	2.4	1	4
174.0	177.0	3.0	3.0	1	2.3	1	4
177.0	180.0	3.0	3.1	1	1.6	1	4
180.0	183.0	3.0	3.0	1	2.1	1	4
183.0	186.0	3.0	3.0	1	1.9	1	4
186.0	189.0	3.0	3.0	1	2.6	1	4
189.0	192.0	3.0	3.0	1	2.0	1	4
192.0	195.0	3.0	3.0	1	2.4	1	4
195.0	198.0	3.0	3.0	1	2.4	1	4
198.0	201.0	3.0	3.0	1	2.8	1	4
201.0	204.0	3.0	3.0	1	2.2	1	4
204.0	207.0	3.0	2.8	1	1.2	0	4
207.0	210.0	3.0	2.8	1	2.3	1	4
210.0	213.0	3.0	3.2	1	2.1	1	4
213.0	216.0	3.0	3.0	1	2.6	1	4
216.0	219.0	3.0	3.0	1	2.2	1	4
219.0	222.0	3.0	3.1	1	2.4	1	4
222.0	225.0	3.0	2.9	1	2.3	1	4
225.0	228.0	3.0	3.2	1	2.2	1	4
228.0	231.0	3.0	3.0	1	2.1	1	4
231.0	234.0	3.0	3.0	1	2.0	1	4
234.0	237.0	3.0	3.1	1	1.8	1	4
237.0	240.0	3.0	3.0	1	2.4	1	4
240.0	243.0	3.0	3.1	1	1.5	1	4
243.0	246.0	3.0	2.9	1	1.9	1	4
246.0	249.0	3.0	3.0	1	1.5	1	4
249.0	252.0	3.0	3.0	1	2.3	1	4
252.0	255.0	3.0	3.0	1	2.3	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-23					
Drilled 2007	45	-55	345.00	12245.31	16110.08

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.0	1	2.1	1	4
258.0	261.0	3.0	3.0	1	2.4	1	4
261.0	264.0	3.0	3.0	1	2.5	1	4
264.0	267.0	3.0	3.0	1	1.5	1	4
267.0	270.0	3.0	3.1	1	2.1	1	4
270.0	273.0	3.0	3.0	1	2.4	1	4
273.0	276.0	3.0	3.1	1	1.9	1	4
276.0	279.0	3.0	3.0	1	2.4	1	3
279.0	282.0	3.0	3.0	1	2.2	1	3
282.0	285.0	3.0	3.0	1	2.1	1	3
285.0	288.0	3.0	3.0	1	2.2	1	3
288.0	291.0	3.0	3.0	1	2.0	1	3
291.0	294.0	3.0	2.9	1	1.9	1	3
294.0	297.0	3.0	3.1	1	1.4	0	3
297.0	300.0	3.0	3.0	1	1.6	1	3
300.0	303.0	3.0	3.0	1	1.9	1	3
303.0	306.0	3.0	3.0	1	2.3	1	3
306.0	309.0	3.0	3.0	1	2.7	1	3
309.0	312.0	3.0	3.0	1	2.4	1	3
312.0	315.0	3.0	3.0	1	2.8	1	3
315.0	318.0	3.0	3.0	1	2.5	1	3
318.0	321.0	3.0	3.1	1	2.2	1	3
321.0	324.0	3.0	2.9	1	2.6	1	3
324.0	327.0	3.0	3.0	1	2.2	1	3
327.0	330.0	3.0	3.0	1	2.2	1	3
330.0	333.0	3.0	3.0	1	2.6	1	3
333.0	336.0	3.0	3.0	1	2.3	1	3
336.0	339.0	3.0	3.0	1	2.5	1	3
339.0	342.0	3.0	3.0	1	2.0	1	3
342.0	345.0	3.0	2.9	1	1.9	1	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	9.0	9.0	3.0	0	0.1	0	3
9.0	12.0	3.0	0.4	0	0.1	0	3
12.0	18.0	6.0	1.8	0	0.0	0	3
18.0	21.0	3.0	2.9	1	0.7	0	3
21.0	24.0	3.0	2.1	1	0.5	0	4
24.0	27.0	3.0	3.0	1	0.5	0	4
27.0	30.0	3.0	3.0	1	0.7	0	4
30.0	33.0	3.0	3.0	1	0.7	0	4
33.0	36.0	3.0	3.0	1	1.0	0	4
36.0	39.0	3.0	3.0	1	1.3	0	4
39.0	42.0	3.0	3.0	1	1.2	0	4
42.0	45.0	3.0	3.0	1	1.3	0	4
45.0	48.0	3.0	2.6	1	1.6	1	4
48.0	51.0	3.0	2.7	1	0.4	0	4
51.0	54.0	3.0	2.8	1	1.2	0	4
54.0	57.0	3.0	2.9	1	0.5	0	4
57.0	60.0	3.0	2.7	1	1.3	0	4
60.0	63.0	3.0	3.0	1	0.9	0	3
63.0	66.0	3.0	2.4	1	0.8	0	4
66.0	69.0	3.0	3.0	1	0.3	0	4
69.0	72.0	3.0	2.9	1	0.0	0	4
72.0	75.0	3.0	3.0	1	0.7	0	4
75.0	78.0	3.0	3.0	1	0.0	0	3
78.0	81.0	3.0	3.0	1	0.4	0	3
81.0	84.0	3.0	2.8	1	0.3	0	3
84.0	87.0	3.0	2.9	1	0.2	0	4
87.0	90.0	3.0	3.0	1	0.1	0	4
90.0	93.0	3.0	3.0	1	0.0	0	4
93.0	96.0	3.0	2.4	1	0.7	0	4
96.0	99.0	3.0	2.2	1	0.4	0	4
99.0	102.0	3.0	3.2	1	0.7	0	3
102.0	105.0	3.0	2.9	1	0.2	0	3
105.0	108.0	3.0	3.1	1	0.8	0	4
108.0	111.0	3.0	2.5	1	1.5	1	4
111.0	114.0	3.0	3.0	1	1.7	1	4
114.0	117.0	3.0	2.7	1	0.7	0	4
117.0	120.0	3.0	2.9	1	0.8	0	4
120.0	123.0	3.0	3.0	1	0.6	0	4
123.0	126.0	3.0	2.7	1	1.5	1	3
126.0	129.0	3.0	2.9	1	0.6	0	3
129.0	132.0	3.0	3.0	1	1.3	0	3
132.0	135.0	3.0	3.0	1	2.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
135.0	138.0	3.0	3.0	1	1.1	0	4
138.0	141.0	3.0	3.0	1	0.4	0	3
141.0	144.0	3.0	3.0	1	0.5	0	4
144.0	147.0	3.0	3.0	1	1.4	0	3
147.0	150.0	3.0	2.7	1	1.0	0	4
150.0	153.0	3.0	2.7	1	0.5	0	4
153.0	156.0	3.0	2.7	1	1.6	1	2.5
156.0	159.0	3.0	3.0	1	1.8	1	4
159.0	162.0	3.0	3.0	1	0.3	0	4
162.0	165.0	3.0	3.0	1	0.9	0	3
165.0	168.0	3.0	3.0	1	0.6	0	4
168.0	171.0	3.0	3.0	1	1.0	0	3
171.0	174.0	3.0	3.0	1	1.8	1	2.5
174.0	177.0	3.0	3.0	1	1.7	1	4
177.0	180.0	3.0	3.0	1	0.9	0	4
180.0	183.0	3.0	3.0	1	0.8	0	3
183.0	186.0	3.0	3.0	1	1.5	1	4
186.0	189.0	3.0	3.0	1	0.6	0	3
189.0	192.0	3.0	3.0	1	0.6	0	4
192.0	195.0	3.0	3.0	1	1.5	1	3
195.0	198.0	3.0	3.0	1	0.5	0	4
198.0	201.0	3.0	3.0	1	0.4	0	4
201.0	204.0	3.0	3.0	1	1.1	0	3
204.0	207.0	3.0	3.0	1	1.2	0	3
207.0	210.0	3.0	3.0	1	1.8	1	3
210.0	213.0	3.0	3.0	1	1.4	0	2.5
213.0	216.0	3.0	3.0	1	1.4	0	3
216.0	219.0	3.0	3.0	1	0.4	0	3
219.0	222.0	3.0	3.0	1	0.7	0	4
222.0	225.0	3.0	3.0	1	1.4	0	4
225.0	228.0	3.0	3.0	1	0.6	0	4
228.0	231.0	3.0	3.0	1	0.2	0	4
231.0	234.0	3.0	3.0	1	0.2	0	4
234.0	237.0	3.0	3.0	1	1.4	0	4
237.0	240.0	3.0	3.0	1	0.6	0	4
240.0	243.0	3.0	3.0	1	1.0	0	3
243.0	246.0	3.0	3.1	1	1.5	0	3
246.0	249.0	3.0	2.8	1	0.8	0	3
249.0	252.0	3.0	3.0	1	1.5	0	4
252.0	255.0	3.0	2.9	1	0.8	0	4
255.0	258.0	3.0	3.0	1	1.5	1	4
258.0	261.0	3.0	3.1	1	1.5	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
261.0	264.0	3.0	3.0	1	1.6	1	4
264.0	267.0	3.0	3.2	1	0.9	0	4
267.0	270.0	3.0	3.0	1	0.2	0	3
270.0	273.0	3.0	3.1	1	1.8	1	3
273.0	276.0	3.0	2.9	1	0.4	0	4
276.0	279.0	3.0	3.0	1	0.4	0	4
279.0	282.0	3.0	3.0	1	0.7	0	4
282.0	285.0	3.0	3.1	1	1.5	0	4
285.0	288.0	3.0	2.9	1	1.3	0	4
288.0	291.0	3.0	3.0	1	1.2	0	4
291.0	294.0	3.0	2.9	1	0.7	0	4
294.0	297.0	3.0	3.0	1	0.8	0	4
297.0	300.0	3.0	3.0	1	1.0	0	4
300.0	303.0	3.0	3.1	1	0.8	0	4
303.0	306.0	3.0	3.0	1	0.7	0	4
306.0	309.0	3.0	3.1	1	1.3	0	4
309.0	312.0	3.0	3.0	1	0.8	0	4
312.0	315.0	3.0	3.1	1	1.5	1	4
315.0	318.0	3.0	3.0	1	0.7	0	4
318.0	321.0	3.0	3.0	1	1.2	0	4
321.0	324.0	3.0	3.0	1	0.9	0	4
324.0	327.0	3.0	3.0	1	0.6	0	4
327.0	330.0	3.0	3.0	1	1.3	0	4
330.0	333.0	3.0	3.0	1	1.5	1	4
333.0	336.0	3.0	2.9	1	0.5	0	3
336.0	339.0	3.0	3.1	1	2.0	1	3
339.0	342.0	3.0	3.0	1	1.3	0	3
342.0	345.0	3.0	3.0	1	0.3	0	3
345.0	348.0	3.0	3.0	1	0.6	0	3
348.0	351.0	3.0	3.1	1	0.3	0	3
351.0	354.0	3.0	3.3	1	0.6	0	4
354.0	357.0	3.0	3.1	1	0.7	0	4
357.0	360.0	3.0	2.9	1	0.8	0	4
360.0	363.0	3.0	3.0	1	0.9	0	4
363.0	366.0	3.0	2.7	1	0.2	0	4
366.0	369.0	3.0	3.2	1	0.9	0	4
369.0	372.0	3.0	3.0	1	0.4	0	4
372.0	375.0	3.0	3.1	1	0.9	0	4
375.0	378.0	3.0	2.7	1	0.5	0	4
378.0	381.0	3.0	3.1	1	1.1	0	4
381.0	384.0	3.0	3.2	1	1.4	0	4
384.0	387.0	3.0	3.1	1	0.4	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
387.0	390.0	3.0	2.5	1	0.1	0	4
390.0	393.0	3.0	3.4	1	0.5	0	4
393.0	396.0	3.0	2.7	1	0.6	0	4
396.0	399.0	3.0	2.9	1	0.9	0	4
399.0	402.0	3.0	3.1	1	0.9	0	4
402.0	405.0	3.0	3.2	1	0.8	0	4
405.0	408.0	3.0	3.0	1	0.0	0	4
408.0	411.0	3.0	3.3	1	0.9	0	4
411.0	414.0	3.0	2.7	1	1.3	0	4
414.0	417.0	3.0	3.2	1	0.8	0	4
417.0	420.0	3.0	3.1	1	0.7	0	4
420.0	423.0	3.0	3.0	1	1.2	0	4
423.0	426.0	3.0	3.0	1	0.2	0	4
426.0	429.0	3.0	2.8	1	1.6	1	4
429.0	432.0	3.0	3.1	1	2.0	1	4
432.0	435.0	3.0	2.9	1	1.6	1	4
435.0	438.0	3.0	3.0	1	1.7	1	4
438.0	441.0	3.0	2.5	1	1.2	0	4
441.0	444.0	3.0	3.1	1	0.7	0	4
444.0	447.0	3.0	3.2	1	1.1	0	4
447.0	450.0	3.0	3.2	1	1.0	0	4
450.0	453.0	3.0	3.0	1	0.8	0	4
453.0	456.0	3.0	3.2	1	1.1	0	3
456.0	459.0	3.0	2.7	1	0.0	0	3
459.0	462.0	3.0	2.8	1	0.1	0	3
462.0	465.0	3.0	2.8	1	0.2	0	3
465.0	468.0	3.0	3.2	1	0.5	0	3
468.0	471.0	3.0	2.9	1	1.0	0	3
471.0	474.0	3.0	3.1	1	2.0	1	3
474.0	477.0	3.0	2.8	1	2.0	1	3
477.0	480.0	3.0	2.9	1	0.4	0	3
480.0	483.0	3.0	2.7	1	0.0	0	3
483.0	486.0	3.0	2.4	1	0.2	0	3
486.0	489.0	3.0	4.0	1	0.4	0	3
489.0	492.0	3.0	3.3	1	0.3	0	3
492.0	495.0	3.0	2.9	1	0.5	0	4
495.0	498.0	3.0	3.2	1	1.1	0	4
498.0	501.0	3.0	3.0	1	0.5	0	4
501.0	504.0	3.0	2.9	1	0.4	0	4
504.0	507.0	3.0	3.1	1	1.2	0	3
507.0	510.0	3.0	2.8	1	0.3	0	3
510.0	513.0	3.0	3.1	1	1.0	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
513.0	516.0	3.0	3.1	1	1.1	0	4
516.0	519.0	3.0	3.2	1	1.4	0	4
519.0	522.0	3.0	2.8	1	0.9	0	4
522.0	525.0	3.0	3.1	1	1.3	0	4
525.0	528.0	3.0	3.0	1	1.4	0	4
528.0	531.0	3.0	2.8	1	0.2	0	4
531.0	534.0	3.0	2.4	1	1.0	0	4
534.0	537.0	3.0	2.6	1	1.0	0	4
537.0	540.0	3.0	2.6	1	0.9	0	4
540.0	543.0	3.0	2.8	1	0.6	0	4
543.0	546.0	3.0	3.3	1	0.8	0	4
546.0	549.0	3.0	3.1	1	1.3	0	4
549.0	552.0	3.0	3.1	1	1.1	0	4
552.0	555.0	3.0	2.9	1	0.8	0	4
555.0	558.0	3.0	3.2	1	0.5	0	3
558.0	561.0	3.0	3.0	1	0.3	0	3
561.0	564.0	3.0	2.9	1	0.9	0	3
564.0	567.0	3.0	3.1	1	0.9	0	4
567.0	570.0	3.0	3.1	1	0.6	0	4
570.0	573.0	3.0	2.8	1	0.8	0	4
573.0	576.0	3.0	2.8	1	1.5	1	4
576.0	579.0	3.0	3.1	1	1.0	0	4
579.0	582.0	3.0	2.8	1	0.2	0	4
582.0	585.0	3.0	3.1	1	0.9	0	4
585.0	588.0	3.0	3.1	1	0.8	0	4
588.0	591.0	3.0	3.1	1	0.3	0	4
591.0	594.0	3.0	2.8	1	0.9	0	4
594.0	597.0	3.0	3.2	1	0.8	0	4
597.0	600.0	3.0	3.0	1	1.0	0	4
600.0	603.0	3.0	3.0	1	0.6	0	4
603.0	606.0	3.0	2.8	1	1.0	0	4
606.0	609.0	3.0	2.9	1	0.7	0	4
609.0	612.0	3.0	3.1	1	0.7	0	4
612.0	615.0	3.0	3.0	1	0.3	0	4
615.0	618.0	3.0	3.1	1	0.8	0	4
618.0	621.0	3.0	3.0	1	0.9	0	4
621.0	624.0	3.0	3.1	1	1.0	0	4
624.0	627.0	3.0	2.9	1	0.8	0	4
627.0	630.0	3.0	2.9	1	0.5	0	4
630.0	633.0	3.0	3.1	1	1.0	0	4
633.0	636.0	3.0	3.1	1	0.8	0	4
636.0	639.0	3.0	2.8	1	0.0	0	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
639.0	642.0	3.0	2.7	1	0.1	0	3
642.0	645.0	3.0	2.4	1	0.4	0	4
645.0	648.0	3.0	3.0	1	0.2	0	4
648.0	651.0	3.0	2.9	1	1.0	0	4
651.0	654.0	3.0	2.8	1	0.3	0	4
654.0	657.0	3.0	2.7	1	0.5	0	4
657.0	660.0	3.0	2.9	1	0.6	0	4
660.0	663.0	3.0	2.9	1	0.9	0	4
663.0	666.0	3.0	3.0	1	1.0	0	4
666.0	669.0	3.0	3.1	1	0.8	0	4
669.0	672.0	3.0	2.8	1	1.2	0	4
672.0	675.0	3.0	2.9	1	1.0	0	4
675.0	678.0	3.0	3.1	1	0.3	0	4
678.0	681.0	3.0	3.0	1	1.4	0	4
681.0	684.0	3.0	3.0	1	1.1	0	4
684.0	687.0	3.0	2.9	1	0.3	0	3
687.0	690.0	3.0	2.7	1	0.7	0	3
690.0	693.0	3.0	2.4	1	0.6	0	3
693.0	696.0	3.0	2.7	1	1.3	0	3
696.0	699.0	3.0	3.2	1	2.7	1	4
699.0	702.0	3.0	2.9	1	2.4	1	4
702.0	705.0	3.0	3.2	1	2.4	1	3
705.0	708.0	3.0	2.9	1	1.9	1	4
708.0	711.0	3.0	3.0	1	2.1	1	4
711.0	714.0	3.0	3.0	1	1.6	1	4
714.0	717.0	3.0	3.0	1	1.5	1	4
717.0	720.0	3.0	2.7	1	1.3	0	3
720.0	723.0	3.0	3.2	1	1.6	1	3
723.0	726.0	3.0	3.3	1	1.3	0	3
726.0	729.0	3.0	3.1	1	1.2	0	4
729.0	732.0	3.0	2.8	1	0.9	0	4
732.0	735.0	3.0	3.2	1	1.9	1	4
735.0	738.0	3.0	3.0	1	2.0	1	3
738.0	741.0	3.0	3.0	1	1.6	1	3
741.0	744.0	3.0	3.2	1	0.9	0	3
744.0	747.0	3.0	2.8	1	0.5	0	3
747.0	750.0	3.0	2.9	1	0.6	0	3
750.0	753.0	3.0	2.9	1	1.3	0	4
753.0	756.0	3.0	3.2	1	0.7	0	3
756.0	759.0	3.0	2.6	1	0.1	0	3
759.0	762.0	3.0	3.2	1	0.9	0	4
762.0	765.0	3.0	3.3	1	0.6	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
765.0	768.0	3.0	2.7	1	0.4	0	4
768.0	771.0	3.0	3.2	1	1.2	0	4
771.0	774.0	3.0	3.1	1	0.8	0	4
774.0	777.0	3.0	3.1	1	1.3	0	4
777.0	780.0	3.0	3.0	1	1.6	1	4
780.0	783.0	3.0	2.9	1	1.3	0	4
783.0	786.0	3.0	2.7	1	1.1	0	4
786.0	789.0	3.0	2.9	1	1.5	1	4
789.0	792.0	3.0	3.2	1	2.2	1	4
792.0	795.0	3.0	3.1	1	1.9	1	4
795.0	798.0	3.0	2.8	1	1.0	0	4
798.0	801.0	3.0	2.9	1	1.9	1	4
801.0	804.0	3.0	3.1	1	2.3	1	4
804.0	807.0	3.0	3.0	1	1.6	1	4
807.0	810.0	3.0	3.1	1	2.0	1	4
810.0	813.0	3.0	2.9	1	1.7	1	4
813.0	816.0	3.0	3.1	1	1.4	0	4
816.0	819.0	3.0	2.8	1	1.7	1	4
819.0	822.0	3.0	3.0	1	2.1	1	4
822.0	825.0	3.0	3.0	1	2.1	1	4
825.0	828.0	3.0	3.1	1	1.4	0	4
828.0	831.0	3.0	3.1	1	2.0	1	4
831.0	834.0	3.0	3.1	1	1.6	1	4
834.0	837.0	3.0	2.9	1	2.1	1	4
837.0	840.0	3.0	3.2	1	2.7	1	4
840.0	843.0	3.0	2.9	1	1.9	1	4
843.0	846.0	3.0	3.2	1	1.9	1	4
846.0	849.0	3.0	3.0	1	1.4	0	4
849.0	852.0	3.0	3.1	1	2.0	1	4
852.0	855.0	3.0	2.9	1	2.3	1	4
855.0	858.0	3.0	3.1	1	1.0	0	4
858.0	861.0	3.0	2.8	1	1.6	1	4
861.0	864.0	3.0	3.5	1	1.6	1	4
864.0	867.0	3.0	2.6	1	1.5	0	4
867.0	870.0	3.0	3.1	1	2.3	1	4
870.0	873.0	3.0	2.9	1	2.4	1	4
873.0	876.0	3.0	3.1	1	2.6	1	4
876.0	879.0	3.0	3.1	1	2.3	1	4
879.0	882.0	3.0	3.1	1	1.8	1	4
882.0	885.0	3.0	3.1	1	1.1	0	4
885.0	888.0	3.0	2.9	1	1.2	0	4
888.0	891.0	3.0	2.6	1	1.1	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
891.0	894.0	3.0	2.3	1	1.8	1	4
894.0	897.0	3.0	2.7	1	1.6	1	4
897.0	900.0	3.0	2.8	1	1.6	1	4
900.0	903.0	3.0	3.0	1	1.6	1	4
903.0	906.0	3.0	2.4	1	0.5	0	4
906.0	909.0	3.0	2.7	1	0.7	0	4
909.0	912.0	3.0	2.7	1	2.0	1	4
912.0	915.0	3.0	2.8	1	1.8	1	4
915.0	918.0	3.0	2.9	1	1.6	1	4
918.0	921.0	3.0	2.7	1	1.5	1	4
921.0	924.0	3.0	2.9	1	1.4	0	4
924.0	927.0	3.0	2.9	1	0.4	0	4
927.0	930.0	3.0	3.9	1	0.4	0	4
930.0	933.0	3.0	3.0	1	1.5	0	4
933.0	936.0	3.0	2.9	1	1.5	1	4
936.0	939.0	3.0	3.1	1	1.7	1	4
939.0	942.0	3.0	3.2	1	2.0	1	4
942.0	945.0	3.0	2.9	1	2.2	1	4
945.0	948.0	3.0	3.2	1	0.3	0	3
948.0	951.0	3.0	2.9	1	0.3	0	3
951.0	954.0	3.0	2.8	1	0.4	0	3
954.0	957.0	3.0	2.8	1	0.5	0	3
957.0	960.0	3.0	3.3	1	0.7	0	4
960.0	963.0	3.0	2.7	1	0.8	0	4
963.0	966.0	3.0	3.2	1	1.3	0	4
966.0	969.0	3.0	3.1	1	1.5	1	4
969.0	972.0	3.0	2.9	1	1.0	0	4
972.0	975.0	3.0	2.8	1	1.3	0	4
975.0	978.0	3.0	3.5	1	0.8	0	4
978.0	981.0	3.0	3.4	1	0.7	0	4
981.0	984.0	3.0	2.9	1	0.6	0	4
984.0	987.0	3.0	3.2	1	1.4	0	4
987.0	990.0	3.0	3.0	1	0.9	0	4
990.0	993.0	3.0	3.3	1	1.6	1	4
993.0	996.0	3.0	2.9	1	1.8	1	4
996.0	999.0	3.0	3.2	1	2.0	1	4
999.0	1002.0	3.0	2.9	1	1.7	1	4
1002.0	1005.0	3.0	3.2	1	2.5	1	4
1005.0	1008.0	3.0	3.0	1	2.6	1	4
1008.0	1011.0	3.0	3.2	1	1.8	1	4
1011.0	1014.0	3.0	3.1	1	2.3	1	4
1014.0	1017.0	3.0	3.1	1	0.9	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1017.0	1020.0	3.0	2.8	1	0.7	0	4
1020.0	1023.0	3.0	3.2	1	1.9	1	4
1023.0	1026.0	3.0	2.9	1	1.8	1	4
1026.0	1029.0	3.0	3.3	1	1.5	1	4
1029.0	1032.0	3.0	2.9	1	1.6	1	4
1032.0	1035.0	3.0	3.2	1	0.9	0	4
1035.0	1038.0	3.0	2.7	1	1.0	0	4
1038.0	1041.0	3.0	3.1	1	0.5	0	3
1041.0	1044.0	3.0	3.2	1	0.9	0	3
1044.0	1047.0	3.0	3.0	1	0.2	0	3
1047.0	1050.0	3.0	2.6	1	0.4	0	3
1050.0	1053.0	3.0	3.1	1	0.3	0	3
1053.0	1056.0	3.0	3.1	1	0.0	0	3
1056.0	1059.0	3.0	2.7	1	0.0	0	3
1059.0	1062.0	3.0	3.2	1	0.8	0	3
1062.0	1065.0	3.0	3.3	1	1.5	0	4
1065.0	1068.0	3.0	3.0	1	1.5	1	4
1068.0	1071.0	3.0	3.1	1	0.8	0	4
1071.0	1074.0	3.0	3.0	1	1.5	0	4
1074.0	1077.0	3.0	3.2	1	0.8	0	4
1077.0	1080.0	3.0	2.9	1	0.7	0	3
1080.0	1083.0	3.0	3.1	1	1.3	0	3
1083.0	1086.0	3.0	2.7	1	0.5	0	3
1086.0	1089.0	3.0	2.9	1	1.0	0	3
1089.0	1092.0	3.0	3.2	1	1.8	1	3
1092.0	1095.0	3.0	3.1	1	1.1	0	3
1095.0	1098.0	3.0	3.0	1	1.0	0	3
1098.0	1101.0	3.0	3.0	1	0.8	0	3
1101.0	1104.0	3.0	3.0	1	1.2	0	3
1104.0	1107.0	3.0	3.2	1	1.5	1	3
1107.0	1110.0	3.0	2.9	1	1.5	0	3
1110.0	1113.0	3.0	3.1	1	1.4	0	3
1113.0	1116.0	3.0	3.0	1	1.5	1	3
1116.0	1119.0	3.0	3.2	1	1.5	0	3
1119.0	1122.0	3.0	2.7	1	1.0	0	3
1122.0	1125.0	3.0	3.3	1	0.7	0	3
1125.0	1128.0	3.0	2.9	1	1.7	1	3
1128.0	1131.0	3.0	3.2	1	0.9	0	3
1131.0	1134.0	3.0	2.9	1	1.7	1	3
1134.0	1137.0	3.0	3.2	1	1.6	1	3
1137.0	1140.0	3.0	2.9	1	1.5	1	3
1140.0	1143.0	3.0	3.2	1	2.1	1	3

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1143.0	1146.0	3.0	3.0	1	2.3	1	3
1146.0	1149.0	3.0	3.1	1	2.2	1	3
1149.0	1152.0	3.0	2.8	1	1.6	1	3
1152.0	1155.0	3.0	3.2	1	1.2	0	3
1155.0	1158.0	3.0	3.0	1	1.6	1	4
1158.0	1161.0	3.0	3.2	1	1.7	1	4
1161.0	1164.0	3.0	2.8	1	1.9	1	4
1164.0	1167.0	3.0	3.1	1	2.0	1	4
1167.0	1170.0	3.0	2.8	1	2.0	1	4
1170.0	1173.0	3.0	3.2	1	1.4	0	4
1173.0	1176.0	3.0	2.9	1	1.4	0	4
1176.0	1179.0	3.0	3.1	1	1.4	0	4
1179.0	1182.0	3.0	2.9	1	0.4	0	3
1182.0	1185.0	3.0	2.9	1	1.8	1	4
1185.0	1188.0	3.0	3.2	1	2.0	1	4
1188.0	1191.0	3.0	2.9	1	1.8	1	4
1191.0	1194.0	3.0	3.2	1	0.2	0	3
1194.0	1197.0	3.0	2.8	1	0.4	0	3
1197.0	1200.0	3.0	2.4	1	0.8	0	3
1200.0	1203.0	3.0	3.2	1	1.2	0	3
1203.0	1206.0	3.0	2.9	1	0.5	0	3
1206.0	1209.0	3.0	3.3	1	1.2	0	4
1209.0	1212.0	3.0	2.9	1	2.1	1	4
1212.0	1215.0	3.0	3.2	1	2.3	1	4
1215.0	1218.0	3.0	2.7	1	2.2	1	4
1218.0	1221.0	3.0	3.3	1	2.0	1	4
1221.0	1224.0	3.0	2.9	1	2.1	1	4
1224.0	1227.0	3.0	3.2	1	2.2	1	4
1227.0	1230.0	3.0	2.9	1	2.2	1	4
1230.0	1233.0	3.0	3.2	1	1.9	1	4
1233.0	1236.0	3.0	3.0	1	2.5	1	4
1236.0	1239.0	3.0	2.8	1	1.7	1	4
1239.0	1242.0	3.0	3.2	1	2.3	1	4
1242.0	1245.0	3.0	2.9	1	2.7	1	4
1245.0	1248.0	3.0	3.2	1	2.6	1	4
1248.0	1251.0	3.0	2.8	1	2.3	1	4
1251.0	1254.0	3.0	3.2	1	1.8	1	4
1254.0	1257.0	3.0	2.9	1	2.6	1	4
1257.0	1260.0	3.0	3.2	1	2.3	1	4
1260.0	1263.0	3.0	2.9	1	1.2	0	4
1263.0	1266.0	3.0	3.1	1	1.4	0	4
1266.0	1269.0	3.0	3.0	1	2.6	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-24					
Drilled 2007	340	-90	1348.00	11693.64	16364.09

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
1269.0	1272.0	3.0	3.2	1	2.6	1	4
1272.0	1275.0	3.0	2.9	1	1.5	0	4
1275.0	1278.0	3.0	3.0	1	1.5	1	4
1278.0	1281.0	3.0	3.1	1	1.3	0	4
1281.0	1284.0	3.0	3.2	1	2.2	1	4
1284.0	1287.0	3.0	2.9	1	2.1	1	4
1287.0	1290.0	3.0	3.2	1	2.2	1	4
1290.0	1293.0	3.0	2.8	1	2.6	1	4
1293.0	1296.0	3.0	3.2	1	2.3	1	4
1296.0	1299.0	3.0	2.9	1	1.9	1	4
1299.0	1302.0	3.0	3.3	1	1.6	1	4
1302.0	1305.0	3.0	2.8	1	1.6	1	4
1305.0	1308.0	3.0	3.3	1	2.5	1	4
1308.0	1311.0	3.0	2.8	1	1.8	1	4
1311.0	1314.0	3.0	3.2	1	1.7	1	4
1314.0	1317.0	3.0	3.1	1	1.4	0	4
1317.0	1320.0	3.0	3.2	1	1.8	1	4
1320.0	1323.0	3.0	2.8	1	0.6	0	4
1323.0	1326.0	3.0	3.1	1	2.0	1	4
1326.0	1329.0	3.0	2.9	1	1.2	0	4
1329.0	1332.0	3.0	3.1	1	2.0	1	4
1332.0	1335.0	3.0	2.9	1	2.7	1	4
1335.0	1338.0	3.0	3.2	1	2.6	1	4
1338.0	1341.0	3.0	3.0	1	2.5	1	4
1341.0	1344.0	3.0	2.8	1	2.3	1	4
1344.0	1348.0	4.0	3.6	1	2.8	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
0.0	6.0	6.0	0.0	0	0.0	0	4
6.0	9.0	3.0	2.6	1	0.3	0	4
9.0	12.0	3.0	2.7	1	0.4	0	4
12.0	15.0	3.0	2.8	1	1.1	0	4
15.0	18.0	3.0	2.8	1	0.9	0	3
18.0	21.0	3.0	3.0	1	1.7	1	3
21.0	24.0	3.0	3.0	1	1.9	1	3
24.0	27.0	3.0	2.9	1	1.5	1	3
27.0	30.0	3.0	2.9	1	1.5	1	3
30.0	33.0	3.0	2.9	1	1.9	1	3
33.0	36.0	3.0	3.0	1	1.3	0	3
36.0	39.0	3.0	2.8	1	1.3	0	3
39.0	42.0	3.0	3.0	1	2.3	1	3
42.0	45.0	3.0	2.9	1	0.8	0	3
45.0	48.0	3.0	3.0	1	1.3	0	3
48.0	51.0	3.0	2.7	1	1.0	0	3
51.0	54.0	3.0	2.7	1	0.9	0	3
54.0	57.0	3.0	2.8	1	1.1	0	3
57.0	60.0	3.0	3.1	1	1.0	0	3
60.0	63.0	3.0	2.9	1	0.6	0	3
63.0	66.0	3.0	2.9	1	1.7	1	3
66.0	69.0	3.0	3.0	1	1.2	0	3
69.0	72.0	3.0	3.0	1	1.6	1	3
72.0	75.0	3.0	2.9	1	1.3	0	3
75.0	78.0	3.0	2.9	1	2.3	1	3
78.0	81.0	3.0	3.0	1	1.5	1	3
81.0	84.0	3.0	3.0	1	1.2	0	3
84.0	87.0	3.0	2.7	1	0.8	0	3
87.0	90.0	3.0	3.0	1	0.9	0	3
90.0	93.0	3.0	2.9	1	0.8	0	3
93.0	96.0	3.0	3.0	1	0.6	0	3
96.0	99.0	3.0	2.9	1	1.1	0	3
99.0	102.0	3.0	3.0	1	1.2	0	3
102.0	105.0	3.0	2.9	1	0.6	0	3
105.0	108.0	3.0	3.0	1	0.8	0	4
108.0	111.0	3.0	2.9	1	1.7	1	4
111.0	114.0	3.0	2.8	1	1.7	1	4
114.0	117.0	3.0	2.9	1	1.1	0	4
117.0	120.0	3.0	3.1	1	1.2	0	4
120.0	123.0	3.0	2.5	1	0.5	0	4
123.0	126.0	3.0	2.7	1	0.9	0	4
126.0	129.0	3.0	2.6	1	0.8	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
129.0	132.0	3.0	2.7	1	0.9	0	4
132.0	135.0	3.0	3.0	1	0.5	0	4
135.0	138.0	3.0	2.8	1	0.3	0	4
138.0	141.0	3.0	2.9	1	0.8	0	4
141.0	144.0	3.0	2.8	1	0.6	0	4
144.0	147.0	3.0	2.9	1	0.5	0	4
147.0	150.0	3.0	2.9	1	1.1	0	4
150.0	153.0	3.0	2.9	1	1.5	1	4
153.0	156.0	3.0	2.9	1	1.9	1	4
156.0	159.0	3.0	2.8	1	1.0	0	4
159.0	162.0	3.0	3.0	1	1.7	1	4
162.0	165.0	3.0	3.0	1	1.2	0	4
165.0	168.0	3.0	3.0	1	2.0	1	4
168.0	171.0	3.0	3.0	1	2.4	1	4
171.0	174.0	3.0	2.8	1	1.1	0	4
174.0	177.0	3.0	3.0	1	2.4	1	4
177.0	180.0	3.0	3.0	1	1.8	1	4
180.0	183.0	3.0	3.0	1	2.1	1	4
183.0	186.0	3.0	3.0	1	2.0	1	4
186.0	189.0	3.0	3.0	1	2.4	1	4
189.0	192.0	3.0	3.0	1	2.1	1	4
192.0	195.0	3.0	2.9	1	1.9	1	4
195.0	198.0	3.0	3.1	1	1.5	1	4
198.0	201.0	3.0	3.0	1	1.5	1	4
201.0	204.0	3.0	2.9	1	1.6	1	4
204.0	207.0	3.0	2.8	1	1.8	1	4
207.0	210.0	3.0	3.2	1	1.9	1	4
210.0	213.0	3.0	3.0	1	1.3	0	4
213.0	216.0	3.0	3.0	1	0.5	0	4
216.0	219.0	3.0	2.9	1	1.3	0	4
219.0	222.0	3.0	2.8	1	1.9	1	4
222.0	225.0	3.0	3.0	1	2.4	1	4
225.0	228.0	3.0	3.0	1	2.0	1	4
228.0	231.0	3.0	3.0	1	2.0	1	4
231.0	234.0	3.0	2.9	1	2.0	1	4
234.0	237.0	3.0	3.0	1	1.8	1	4
237.0	240.0	3.0	2.7	1	0.5	0	4
240.0	243.0	3.0	3.0	1	1.6	1	4
243.0	246.0	3.0	2.7	1	1.0	0	4
246.0	249.0	3.0	2.8	1	0.7	0	
249.0	252.0	3.0	3.5	1	2.6	1	
252.0	255.0	3.0	2.8	1	2.2	1	

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
255.0	258.0	3.0	3.5	1	1.5	1	
258.0	261.0	3.0	2.8	1	1.2	0	
261.0	264.0	3.0	2.7	1	0.3	0	
264.0	267.0	3.0	2.7	1	0.2	0	
267.0	270.0	3.0	3.0	1	0.7	0	
270.0	273.0	3.0	3.0	1	0.5	0	
273.0	276.0	3.0	3.0	1	1.7	1	
276.0	279.0	3.0	2.9	1	2.3	1	
279.0	282.0	3.0	3.0	1	1.0	0	
282.0	285.0	3.0	3.0	1	0.5	0	
285.0	288.0	3.0	2.7	1	0.9	0	
288.0	291.0	3.0	2.9	1	0.7	0	
291.0	294.0	3.0	2.8	1	0.7	0	
294.0	297.0	3.0	3.0	1	0.8	0	
297.0	300.0	3.0	2.9	1	1.3	0	
300.0	303.0	3.0	2.9	1	1.4	0	
303.0	306.0	3.0	3.0	1	0.5	0	
306.0	309.0	3.0	3.0	1	1.5	1	
309.0	312.0	3.0	2.8	1	1.1	0	
312.0	315.0	3.0	3.1	1	0.2	0	
315.0	318.0	3.0	2.7	1	0.9	0	
318.0	321.0	3.0	3.1	1	1.5	1	
321.0	324.0	3.0	2.8	1	2.0	1	
324.0	327.0	3.0	3.3	1	1.1	0	
327.0	330.0	3.0	3.0	1	0.6	0	
330.0	333.0	3.0	3.0	1	1.3	0	
333.0	336.0	3.0	3.0	1	1.0	0	
336.0	339.0	3.0	3.2	1	2.1	1	
339.0	342.0	3.0	2.9	1	1.5	1	
342.0	345.0	3.0	3.1	1	1.7	1	
345.0	348.0	3.0	2.8	1	2.1	1	
348.0	351.0	3.0	3.1	1	2.5	1	
351.0	354.0	3.0	2.9	1	2.3	1	
354.0	357.0	3.0	3.1	1	2.8	1	
357.0	360.0	3.0	2.9	1	1.6	1	4
360.0	363.0	3.0	3.1	1	2.0	1	4
363.0	366.0	3.0	2.8	1	2.3	1	4
366.0	369.0	3.0	3.1	1	2.5	1	4
369.0	372.0	3.0	2.9	1	2.5	1	4
372.0	375.0	3.0	3.2	1	2.4	1	4
375.0	378.0	3.0	2.8	1	2.5	1	4
378.0	381.0	3.0	3.0	1	2.2	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
381.0	384.0	3.0	2.8	1	1.2	0	4
384.0	387.0	3.0	2.9	1	2.0	1	4
387.0	390.0	3.0	2.9	1	2.0	1	4
390.0	393.0	3.0	2.8	1	1.3	0	4
393.0	396.0	3.0	3.1	1	1.9	1	4
396.0	399.0	3.0	2.9	1	2.3	1	4
399.0	402.0	3.0	3.0	1	2.5	1	4
402.0	405.0	3.0	3.0	1	1.9	1	4
405.0	408.0	3.0	3.1	1	1.6	1	4
408.0	411.0	3.0	2.7	1	2.0	1	4
411.0	414.0	3.0	3.0	1	2.3	1	4
414.0	417.0	3.0	2.7	1	1.6	1	4
417.0	420.0	3.0	3.1	1	1.7	1	4
420.0	423.0	3.0	3.1	1	2.3	1	4
423.0	426.0	3.0	3.0	1	2.0	1	4
426.0	429.0	3.0	2.8	1	0.9	0	4
429.0	432.0	3.0	2.8	1	1.1	0	4
432.0	435.0	3.0	3.0	1	1.0	0	4
435.0	438.0	3.0	3.0	1	1.3	0	4
438.0	441.0	3.0	2.9	1	1.4	0	4
441.0	444.0	3.0	2.8	1	2.2	1	4
444.0	447.0	3.0	3.1	1	1.6	1	4
447.0	450.0	3.0	3.0	1	1.9	1	4
450.0	453.0	3.0	3.0	1	2.0	1	4
453.0	456.0	3.0	2.8	1	2.4	1	4
456.0	459.0	3.0	3.0	1	2.3	1	4
459.0	462.0	3.0	3.1	1	2.4	1	4
462.0	465.0	3.0	2.9	1	2.4	1	4
465.0	468.0	3.0	3.2	1	2.3	1	4
468.0	471.0	3.0	2.8	1	1.5	1	4
471.0	474.0	3.0	3.2	1	2.8	1	4
474.0	477.0	3.0	3.3	1	2.3	1	4
477.0	480.0	3.0	2.8	1	1.3	0	4
480.0	483.0	3.0	3.0	1	2.6	1	4
483.0	486.0	3.0	2.9	1	1.6	1	4
486.0	489.0	3.0	3.3	1	1.8	1	4
489.0	492.0	3.0	3.1	1	2.0	1	4
492.0	495.0	3.0	2.8	1	1.4	0	4
495.0	498.0	3.0	2.8	1	1.4	0	4
498.0	501.0	3.0	3.1	1	0.7	0	4
501.0	504.0	3.0	3.0	1	1.5	1	4
504.0	507.0	3.0	2.7	1	0.9	0	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
507.0	510.0	3.0	3.1	1	1.7	1	4
510.0	513.0	3.0	3.1	1	1.2	0	4
513.0	516.0	3.0	2.9	1	1.1	0	4
516.0	519.0	3.0	2.9	1	1.4	0	4
519.0	522.0	3.0	2.8	1	1.5	1	4
522.0	525.0	3.0	3.1	1	1.1	0	4
525.0	528.0	3.0	2.8	1	0.8	0	4
528.0	531.0	3.0	3.3	1	1.9	1	4
531.0	534.0	3.0	2.9	1	1.8	1	4
534.0	537.0	3.0	2.8	1	1.5	1	4
537.0	540.0	3.0	2.9	1	1.2	0	4
540.0	543.0	3.0	3.0	1	1.7	1	4
543.0	546.0	3.0	2.8	1	1.4	0	4
546.0	549.0	3.0	3.1	1	2.0	1	4
549.0	552.0	3.0	3.0	1	1.1	0	4
552.0	555.0	3.0	3.1	1	0.7	0	4
555.0	558.0	3.0	3.0	1	0.7	0	4
558.0	561.0	3.0	3.0	1	1.0	0	4
561.0	564.0	3.0	2.5	1	0.4	0	4
564.0	567.0	3.0	2.7	1	0.2	0	4
567.0	570.0	3.0	2.8	1	0.2	0	4
570.0	573.0	3.0	3.2	1	0.8	0	4
573.0	576.0	3.0	3.0	1	1.1	0	4
576.0	579.0	3.0	2.9	1	1.9	1	4
579.0	582.0	3.0	3.0	1	2.4	1	4
582.0	585.0	3.0	1.2	0	0.0	0	4
585.0	588.0	3.0	1.0	0	0.0	0	4
588.0	591.0	3.0	2.9	1	1.9	1	4
591.0	594.0	3.0	3.1	1	2.0	1	4
594.0	597.0	3.0	2.8	1	1.4	0	4
597.0	600.0	3.0	1.8	1	0.2	0	4
600.0	603.0	3.0	2.8	1	0.5	0	4
603.0	606.0	3.0	2.4	1	0.0	0	4
606.0	609.0	3.0	2.4	1	0.6	0	4
609.0	612.0	3.0	2.4	1	0.3	0	4
612.0	615.0	3.0	2.2	1	0.2	0	4
615.0	618.0	3.0	3.3	1	2.2	1	4
618.0	621.0	3.0	3.2	1	2.5	1	4
621.0	624.0	3.0	2.8	1	2.1	1	4
624.0	627.0	3.0	3.2	1	2.1	1	4
627.0	630.0	3.0	2.9	1	1.9	1	4
630.0	633.0	3.0	3.1	1	1.9	1	4

Geotechnical Log

Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
633.0	636.0	3.0	2.8	1	2.2	1	4
636.0	639.0	3.0	3.2	1	2.4	1	4
639.0	642.0	3.0	2.9	1	2.3	1	4
642.0	645.0	3.0	3.2	1	2.6	1	4
645.0	648.0	3.0	2.8	1	2.3	1	4
648.0	651.0	3.0	3.1	1	2.7	1	4
651.0	654.0	3.0	2.6	1	1.0	0	4
654.0	657.0	3.0	3.2	1	1.1	0	4
657.0	660.0	3.0	2.8	1	2.3	1	4
660.0	663.0	3.0	3.1	1	2.3	1	4
663.0	666.0	3.0	3.0	1	2.3	1	4
666.0	669.0	3.0	2.9	1	2.0	1	4
669.0	672.0	3.0	3.0	1	1.4	0	4
672.0	675.0	3.0	2.8	1	1.4	0	4
675.0	678.0	3.0	3.0	1	2.2	1	4
678.0	681.0	3.0	2.7	1	1.8	1	4
681.0	684.0	3.0	3.1	1	2.2	1	4
684.0	687.0	3.0	3.0	1	2.2	1	4
687.0	690.0	3.0	3.1	1	2.6	1	4
690.0	693.0	3.0	3.2	1	2.6	1	4
693.0	696.0	3.0	2.8	1	2.3	1	4
696.0	699.0	3.0	3.2	1	2.2	1	4
699.0	702.0	3.0	2.9	1	1.8	1	4
702.0	705.0	3.0	3.1	1	1.2	0	4
705.0	708.0	3.0	2.9	1	1.6	1	4
708.0	711.0	3.0	3.3	1	0.9	0	4
711.0	714.0	3.0	2.3	1	0.7	0	4
714.0	717.0	3.0	3.2	1	2.2	1	4
717.0	720.0	3.0	3.3	1	1.5	1	4
720.0	723.0	3.0	3.2	1	2.1	1	4
723.0	726.0	3.0	3.0	1	0.9	0	4
726.0	729.0	3.0	3.1	1	0.7	0	4
729.0	732.0	3.0	3.1	1	1.2	0	4
732.0	735.0	3.0	2.9	1	1.5	1	4
735.0	738.0	3.0	3.1	1	2.0	1	4
738.0	741.0	3.0	3.0	1	0.6	0	4
741.0	744.0	3.0	3.1	1	0.8	0	4
744.0	747.0	3.0	2.7	1	0.4	0	4
747.0	750.0	3.0	3.3	1	0.3	0	4
750.0	753.0	3.0	3.3	1	0.8	0	3
753.0	756.0	3.0	2.7	1	0.8	0	3
756.0	759.0	3.0	2.7	1	0.8	0	3

Geotechnical Log

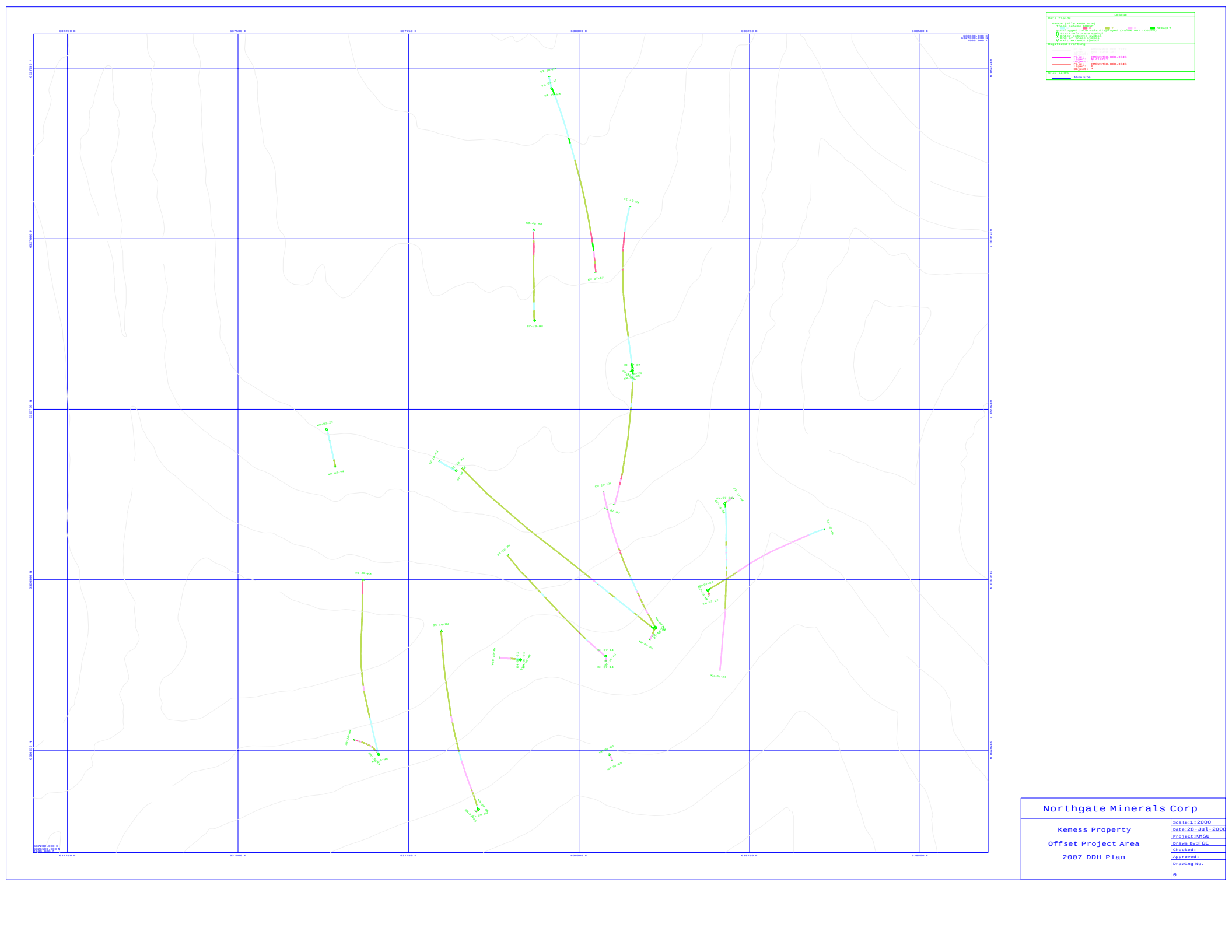
Northgate Minerals Corp.

Hole ID	Azimuth	Dip	Depth	Easting	Northing
KH-07-25					
Drilled 2007	0	-80	857.00	12003.84	16513.55

From(m)	To(m)	Run(m)	Recov(m)	Recov(%)	RQD(m)	RQD(%)	Hardness
759.0	762.0	3.0	2.8	1	0.2	0	3
762.0	765.0	3.0	2.9	1	0.3	0	3
765.0	768.0	3.0	2.8	1	0.5	0	3
768.0	771.0	3.0	2.9	1	0.0	0	3
771.0	774.0	3.0	2.3	1	0.0	0	3
774.0	777.0	3.0	2.5	1	0.0	0	3
777.0	780.0	3.0	2.7	1	0.0	0	3
780.0	783.0	3.0	1.9	1	0.0	0	3
783.0	786.0	3.0	3.0	1	0.0	0	3
786.0	789.0	3.0	2.9	1	0.0	0	3
789.0	792.0	3.0	3.0	1	0.0	0	3
792.0	795.0	3.0	2.8	1	0.0	0	3
795.0	798.0	3.0	2.8	1	0.9	0	4
798.0	801.0	3.0	3.1	1	1.2	0	4
801.0	804.0	3.0	2.8	1	1.8	1	4
804.0	807.0	3.0	3.1	1	0.0	0	3
807.0	810.0	3.0	3.0	1	0.1	0	3
810.0	813.0	3.0	3.0	1	0.1	0	3
813.0	816.0	3.0	3.1	1	0.0	0	3
816.0	819.0	3.0	2.5	1	0.0	0	3
819.0	822.0	3.0	2.5	1	0.1	0	3
822.0	825.0	3.0	3.9	1	1.5	0	3
825.0	828.0	3.0	3.2	1	0.6	0	3
828.0	831.0	3.0	3.0	1	1.2	0	3
831.0	834.0	3.0	3.1	1	1.8	1	3
834.0	837.0	3.0	2.6	1	0.2	0	3
837.0	840.0	3.0	2.8	1	1.4	0	3
840.0	843.0	3.0	2.5	1	0.3	0	3
843.0	846.0	3.0	4.2	1	1.1	0	3
846.0	849.0	3.0	3.1	1	0.8	0	3
849.0	852.0	3.0	3.0	1	1.1	0	3
852.0	855.0	3.0	3.1	1	0.1	0	3
855.0	857.0	2.0	1.8	1	0.8	0	3

Appendix 2

Kemess East drill hole cross-sections



Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH Plan

Scale:	1:2000
Date:	28-Jul-2008
Project:	KMSU
Drawn By:	FCE
Checked:	
Approved:	
Drawing No.	0

Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH XS

Scale:1:2000	
Date:28-Jul-2008	
Project:KMSU	
Drawn By:FCE	
Checked:	
Approved:	
Drawing No. 638250	

LEGEND

Data fields

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Non-logged intervals displayed (Value NOT LOGGED)
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Enter extents symbol
End-of-trace symbol
Exit extents symbol

CU% (File KMSU.DDH)
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0.100 0.200
0.200 0.300
0.300 0.400
0.400 0.500
0.500 1.000
1.000 3.000
3.000 100.000
Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 99999.990
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

AU_PPM (File KMSU.DDH)
Annotation and tick scheme AU_PPM
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0.200 0.400
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0.600 0.800
0.800 1.000
1.000 1.500
1.500 3.000
3.000 100.000
Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 99999.990
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

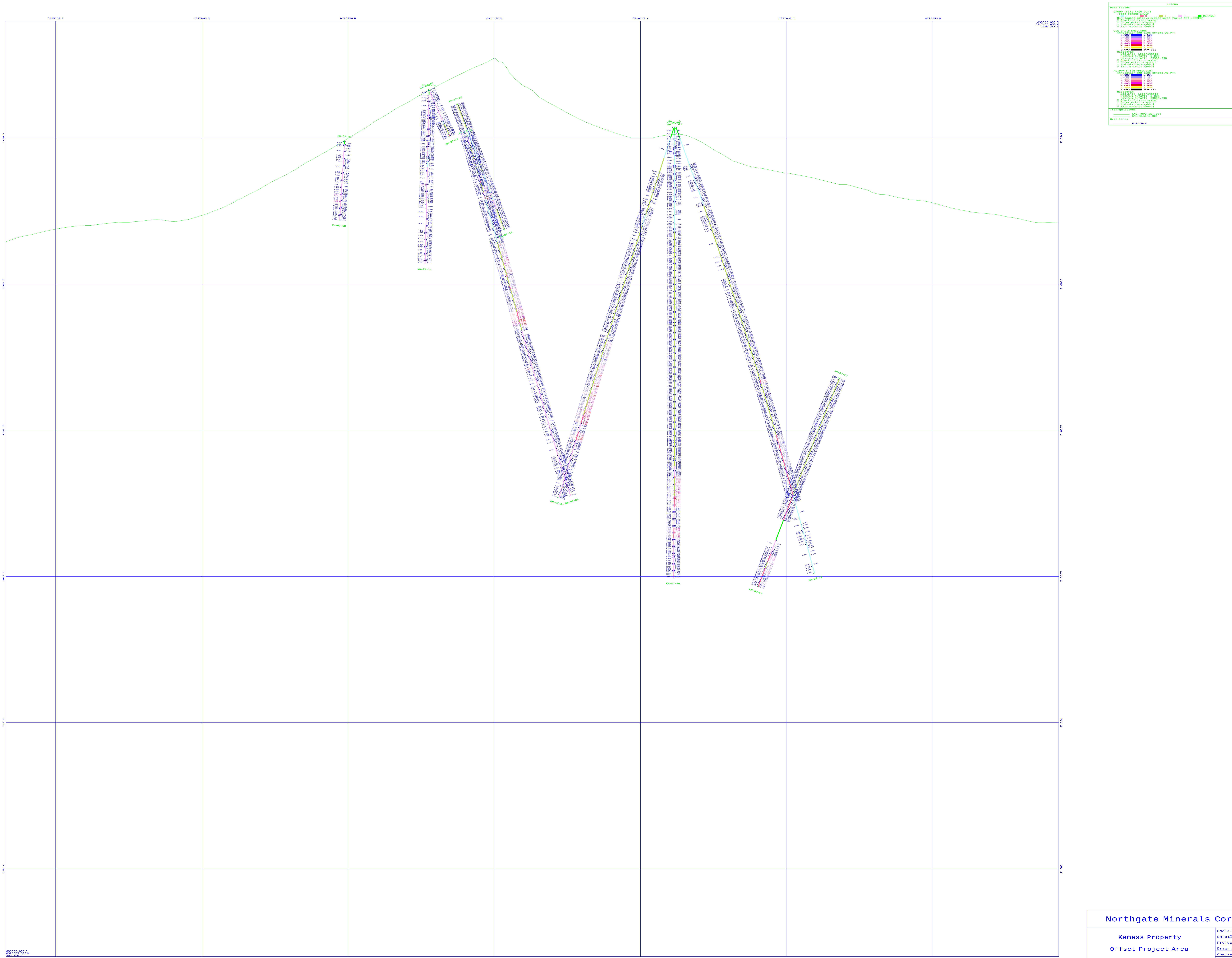
Triangulations
KMS_TOPO_DET.00T
KMS_CLAIMS.00T

Grid lines
Absolute

Northgate Minerals Corp

Kemess Property
Offset Project Area
2007 DDH XS

Scale:1:2000
Date:28-Jul-2008
Project:KMSU
Drawn By:FCE
Checked:
Approved:
Drawing No.
638150



Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH XS

Scale:1:2000	
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Project:KMSU	
Drawn By:FCE	
Checked:	
Approved:	
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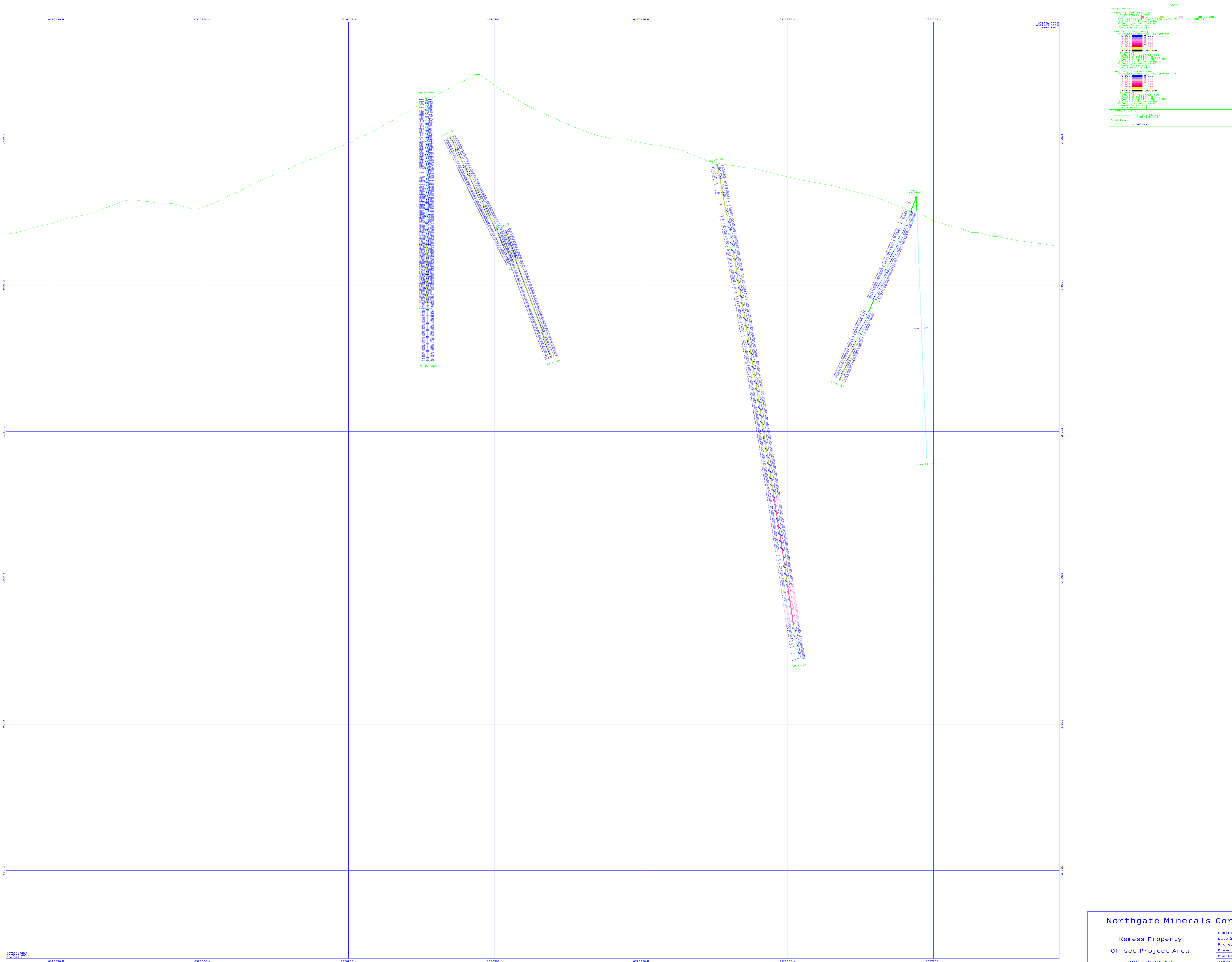

Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH XS

Scale:	1:2000
Date:	28-Jul-2008
Project:	KMSU
Drawn By:	FCE
Checked:	
Approved:	
Drawing No.	637950

LEGEND

Data fields

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V Entry extents symbol
V Exit extents symbol

CUN_(file KMSU_DDH)
Anodized
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0.200 0.300
0.300 0.400
0.400 0.500
0.500 1.000
1.000 100.000
Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 1,000,000.000
Start of trace symbol
End-of-trace symbol
V Exit extents symbol

AU_PPM (file KMSU_DDH)
Trace scheme: AU_PPM
0.000 0.200
0.200 0.400
0.400 0.600
0.600 0.800
0.800 1.000
1.000 3.000
3.000 100.000
Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 1,000,000.000
Start of trace symbol
End-of-trace symbol
V Exit extents symbol

Transparencies

KMS_TOPO_DET.DXF
KMS_CLAIMS.WAT

Grid lines

Absolute

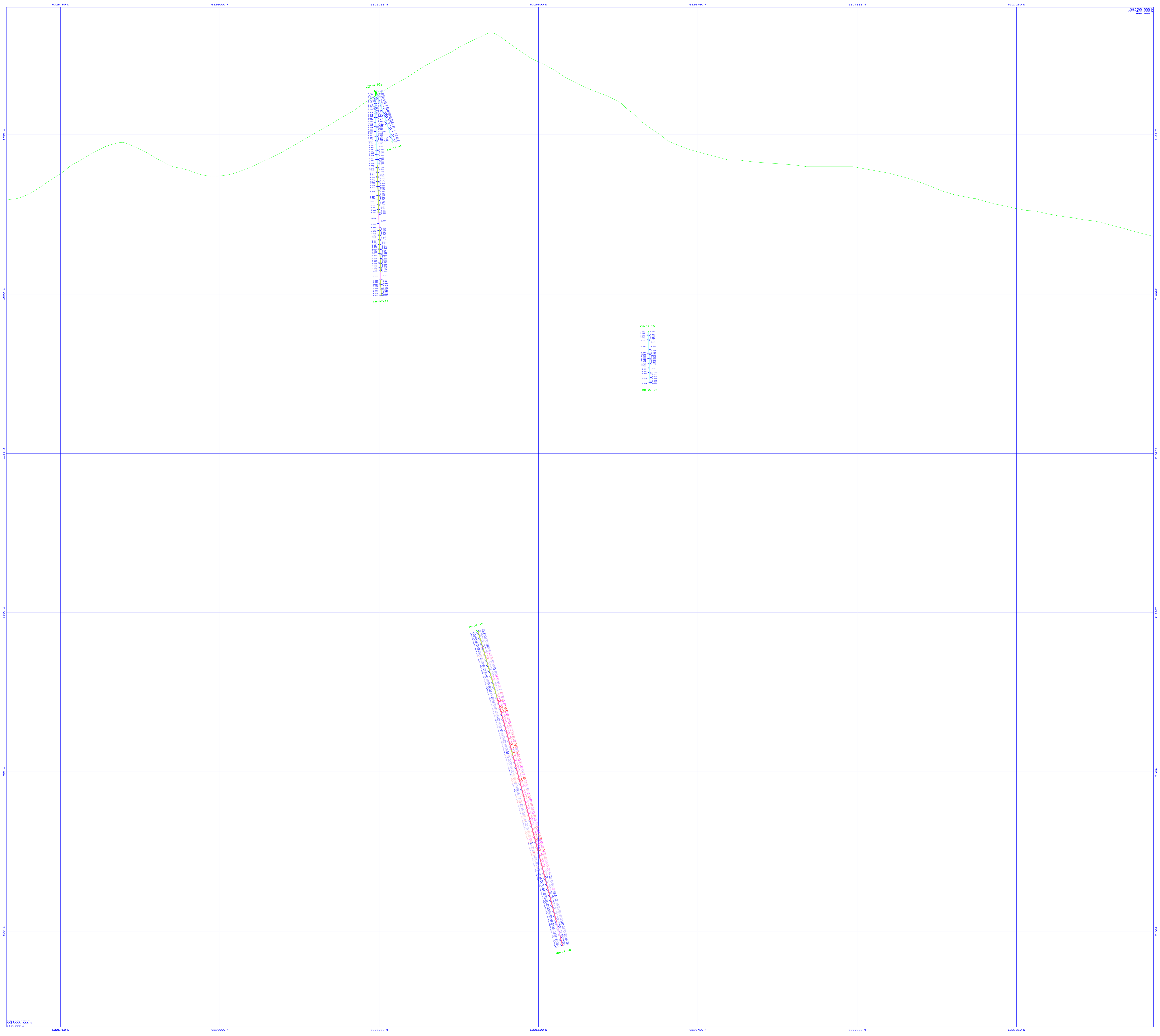
Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH XS

Scale:	1:2000
Date:	28-Jul-2008
Project	KMSU
Drawn By:	FCE
Checked:	
Approved:	
Drawing No.	637850



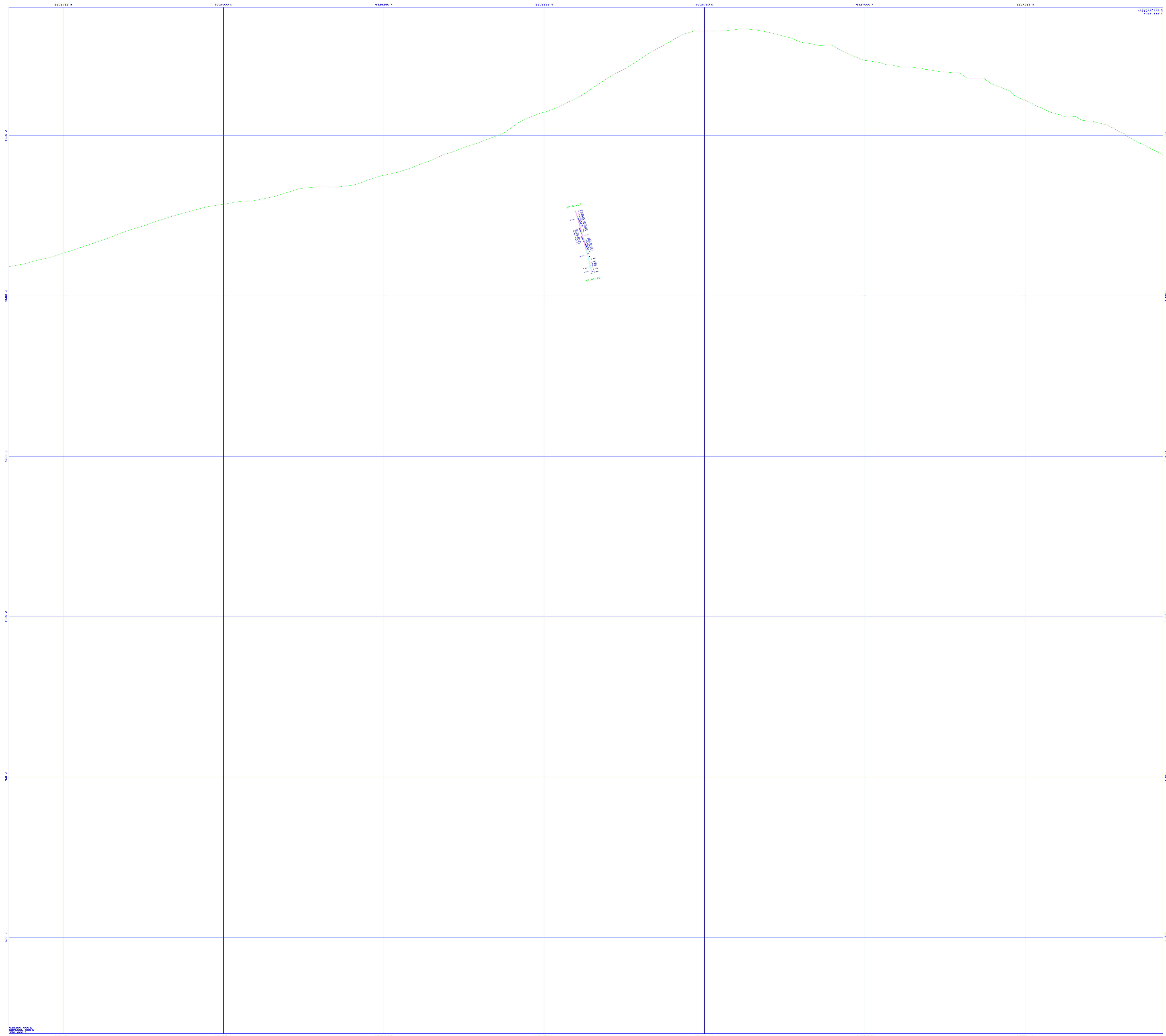
Northgate Minerals Corp

Kemess Property

Offset Project Area

2007 DDH XS

Scale:	1:2000
Date:	28-Jul-2008
Project:	KMSU
Drawn By:	FCE
Checked:	
Approved:	
Drawing No.	637750



LEGEND

Data fields

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Enter extents symbol
End-of-trace symbol
Exit extents symbol

CU% (File KMSU.DDH)
Annotation and tick scheme CU_PPH

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0.100	0.200
0.200	0.300
0.300	0.400
0.400	0.500
0.500	1.000
1.000	3.000
3.000	100.000

Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 99999.990
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

AU_PPM (File KMSU.DDH)
Annotation and tick scheme AU_PPM

0.000	0.200
0.200	0.400
0.400	0.600
0.600	0.800
0.800	1.000
1.000	1.500
1.500	3.000
3.000	100.000

Histogram
Scaling: Logarithmic
Minimum cutoff: 0.000
Maximum cutoff: 99999.990
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

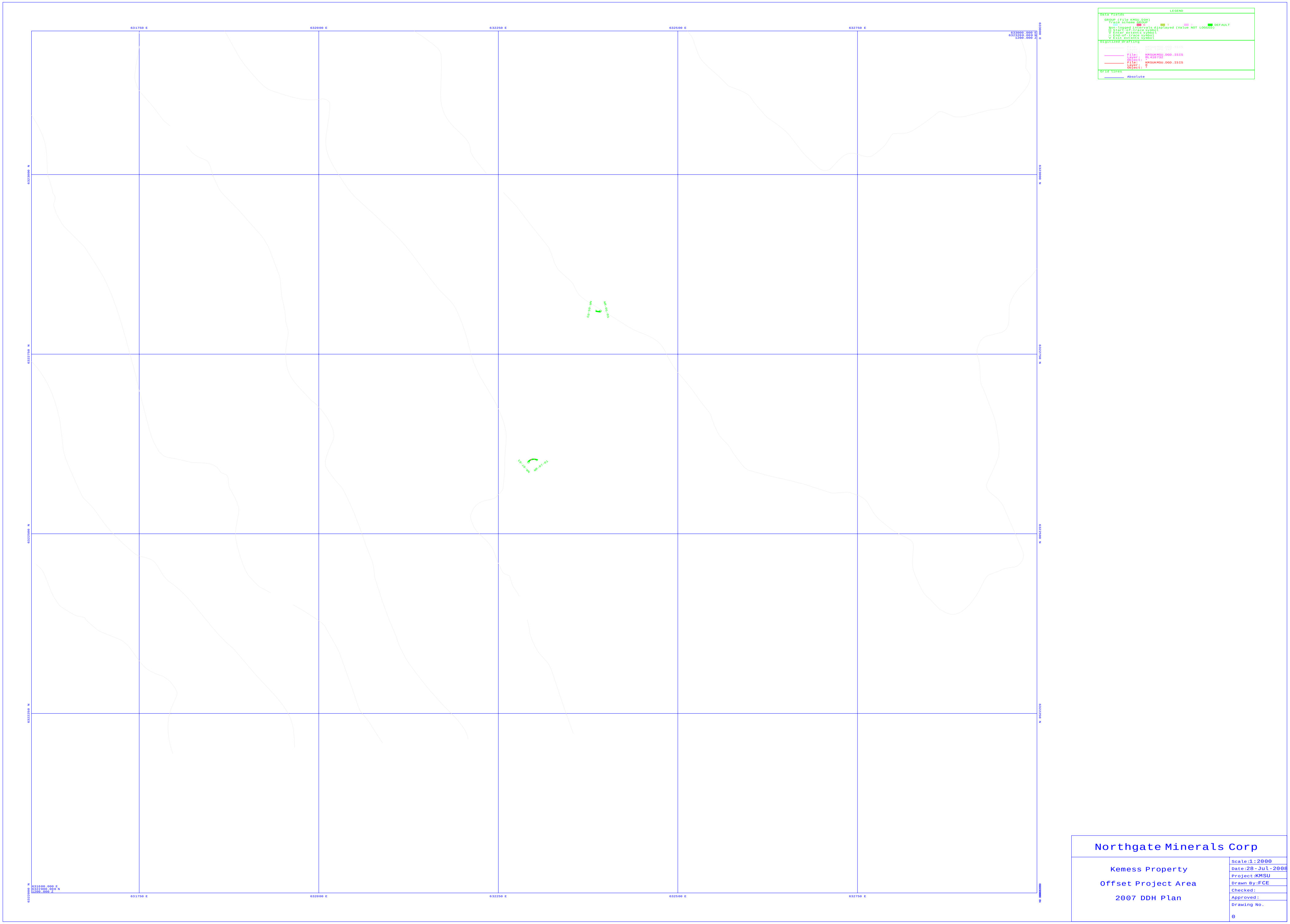
Triangulations
KMS_TOPO_DET.00T
KMS_CLAIMS.00T

Grid lines
Absolute

Northgate Minerals Corp

Kemess Property
Offset Project Area
2007 DDH XS

Scale:1:2000
Date:28-Jul-2008
Project:KMSU
Drawn By:FCE
Checked:
Approved:
Drawing No.
638350



LEGEND
Data Fields
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Trace scheme GROUP
B
T
P
DEFAULT
Non-logged intervals displayed (Value NOT LOGGED)
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol
Digitized drafting
File: KMSUKMSU.DGD.ISIS
Layer: ML410732
Object: *
File: KMSUKMSU.DGD.ISIS
Layer: 0
Object: *
Grid lines
Absolute
631750 E
632000 E
632250 E
632500 E
632750 E
633000.000 E
6323200.000 N
1200.000 Z
6323000 N
6322750 N
6322500 N
6322250 N
6322000 N
631600.000 E
6322000.000 N
1200.000 Z
NR-05-03
NR-07-01
Northgate Minerals Corp
Kemess Property
Offset Project Area
2007 DDH Plan
Scale:1:2000
Date:28-Jul-2008
Project:KMSU
Drawn By:FCE
Checked:
Approved:
Drawing No.
0


6321750 N
6322000 N
6322250 N
6322500 N
6322750 N
6323000 N
6323250 N
Northgate Minerals Corp
Kemess Property
Offset Project Area
2007 DDH XS
Scale:1:2000
Date:29-Jul-2008
Project:KMSU
Drawn By:FCE
Checked:
Approved:
Drawing No.
632300