ASSESSMENT WORK REPORT FOR EXPLORATION LICENCES 06285 AND 6287, DEBERT LAKE PROPERTY FOR ALPHA URANIUM RESOURCES INC.

By Denis F. Walsh, P.Geo

For Alpha Uranium Resources

of Halifax, Nova Scotia

9 October 2010

TABLE OF CONTENTS

FIGURES

TABLES

PLATES

APPENDICES

WP

Summary

Prospecting and geochemical evaluation of the Debert Lake property yielded results of sufficient merit to warrant continued exploration of the property for rare earth elements (REE). Further work should focus on exploration for the rare earth element potential of the property, however the possibilities for other IOCG hosted mineral commodities should be considered. A preliminary evaluation of core stored at the Department of Natural Resources Core Library in Stellarton, NS from diamond drillholes (DL01-22, DR01-05, SL01-04) located on Alpha Uranium Resources Inc. claims from campaigns conducted by Gulf Minerals Canada (1977 to 1981). Core was analyzed with a hand held X ray fluorescence (XRF) machine, which revealed anomalous levels of niobium, yttrium, zircon, thorium, and phosphorous. These elements are often indicative of rare earth elements.

Of 68 samples, selected using the XRF portable analyzer, that were submitted to Activation Laboratories of Ancaster, Ontario for geochemical analyses 25 samples reported elevated rare earth element geochemistry. These results warrant further trenching, and field sampling and a diamond drilling program in areas outlined in this assessment report.

Field traverses also indicate areas of anomalous counts per second (CPS) readings using a handheld scintillometer that are earmarked for further work.

Introduction

Alpha Uranium Resources Inc. of Halifax has acquired by option from Elk Exploration 32 claims on 2 licenses (EL 6285 and EL 6287) in the Debert Lake area in the Cobequid Highlands of Nova Scotia as shown on figure 1.

The property was staked by Lindsay J. Allen of Elk Exploration, Nova Scotia for base and precious metals potential as a result of stream sediment surveys by the Nova Scotia Department of Natural Resources that show anomalous metals in streams to both the north and south of Debert Lake (see Map# OFM86-10, NS/GSC Co-operative Mineral Program 1981-84).

Also, Dave Gower's Thesis (Gower D.P. 1988, unpublished M.Sc. theses Memorial University of Newfoundland) showed potential for Rare Earth Element (REE) mineralization, particularly in DDH DL-16 (Gulf Minerals Ltd drilling, 1976-1981).

Subsequent work by Lindsay Allen and Alpha around the area of DDH DL-16, along with current ongoing NSDNR studies in the area, has led to discovery of an area that shows REE mineralization in intrusive veins and dykes of what appears to be a shallowly dipping (south) sheeted system of veins and dykes. Work to date shows several outcrop occurrences of intrusive REE mineralization and veining of 1 to 50 centimeter width over a wide area of about one square kilometer.

Re-inspection and sampling by Alpha of the 30 DDH cores from the property, stored at the DNR facility at Stellarton, also show other anomalous REE zones in drill core, with some occurring at the bottom of drill holes.

A Scintillometer has proven to be a very useful exploration tool in the field to identify areas of increased Counts Per Second (CPS) using the Total Count setting that would appear to be related to REE mineralization. REE signals are subtle (about 400-800 CPS). Field traverses identified zones and areas for further work (see Figure 6).

Assay Results show a good 'mix' of both heavy and light REE's. Information gathered to date would suggest excellent exploration potential, with more field mapping/sampling and trenching/sampling required, that will lead to drill targets.

Advantages of Exploration on the Debert Lake property.

- Access to the area has recently been opened up with new pulp roads and the property is just 35 km north of Truro.
- The lack of homes, cottages or tourist resorts in the area reduces potential for land use conflicts.
- Inexpensive exploration and acquisition costs make this one of the most cost—effective areas for mineral exploration in Canada.

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Alpha Claims
EL-6287 & EL-6285
Pugwash
Truro
Halifax
Sydney
Yarmouth
N
0 50 100
kilometres

Alpha Uranium Resources	
Property Location Map	
1:2 500 000 Base layers from NSDNR	
UTM Zone 20, Nad 83	Oct 28th, 2010
Map prepared by: Alex MacKay	
Figure 1	

Location and Access

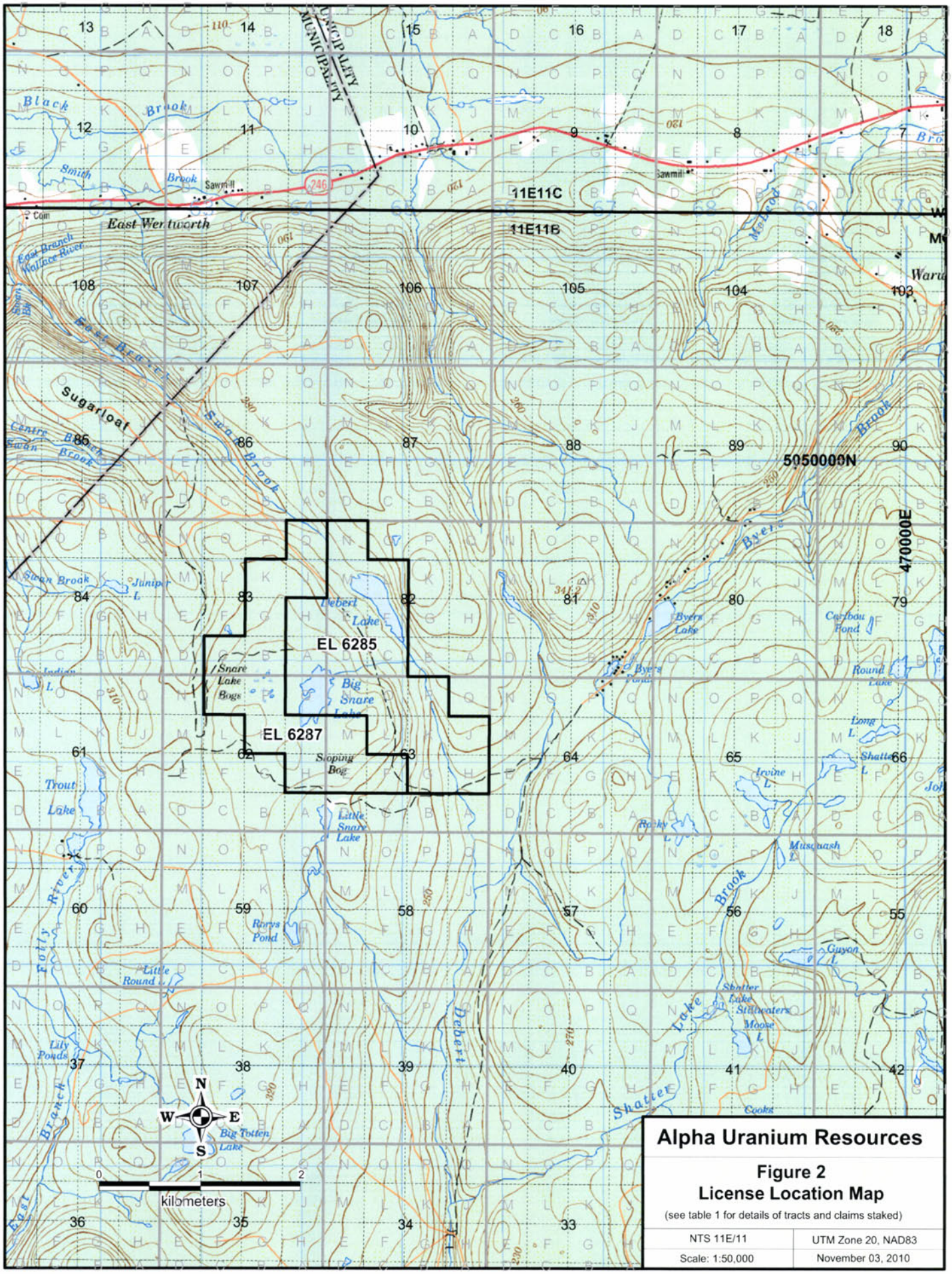
The property is located in the Cobequid Mountains near the boundary between Cumberland and Colchester Counties. Road access to the property is excellent as the Trans-Canada Highway passes within 25 to 30 kilometers to the south of the property. (Please see figure 1 and 2). Provincial highways 102, 104, and 4 provide access the property from Halifax and Truro. Halifax is approximately 150 kilometers south of the property and Truro is approximately 50 kilometers to the south. Highway 246, is off highway 4, and connects Wentworth Center to East Earltown is approximately 4 kilometers north of the northern boundary of the property and a well maintained bush road, which serves as provincial snow mobile trail 306 N, runs approximately through the center of the property and is passable, when clear of snow, without the need of four wheel vehicle. However, care should be taken to avoid large sharp rocks which can cause difficulties.

License Tabulation

Alpha Uranium Resources Inc. is a privately held company with an office at 2672 Robie Street, Halifax, Nova Scotia, B3J 3R1, Canada.

Exploration Licenses Numbered 06285 (18 Claims) and 06287 (14 Claims) on Reference Map 11E 11 B are held by Alpha Uranium Resources Inc. The licenses are tabulated below and are shown on figure 2.

Licence No.	NTS Sheet	Tracts	Claims	Dates of Issue
6285	11 E 11	62 ✓	Q	Sept 16, 2005
6285	11 E 11	63 ✓	H,G,J,K,L,P,O,N	Sept 16, 2005
6285	11 E 11	82 ✓	C,D,E,F,L,M,N	Sept 16, 2005
6285	11 E 11	83 ✓	A, H,	Sept 16, 2005
6287	11 E 11	62 ✓	H,J,K P,O	Sept 19, 2005
6287	11 E 11	63 ✓	E, F, M	Sept 19, 2005
6287	11 E 11	83 ✓	B, C, G, K, J O	Sept 19, 2005



Alpha Uranium Resources

Figure 2
License Location Map

(see table 1 for details of tracts and claims staked)

NTS 11E/11	UTM Zone 20, NAD83
Scale: 1:50,000	November 03, 2010

Previous Work

From 1976-1981, Gulf Minerals Ltd. carried out exploration work for uranium in the property area and surrounding terrains in the eastern Cobequid Mountains. This work consisted of geological mapping, soil sampling with analysis for Cu, Pb, Zn, and U, airborne gamma ray spectrometer surveys, ground gamma ray spectrometer work, VLF-EM-magnetometer surveys, trenching, and the drilling in several areas held on licenses held by that company. 31 of those diamond drillholes are on the property now held by Alpha Uranium Resources Inc.

In 1988 D.P. Gower completed a M.Sc. thesis at Memorial University of Newfoundland based on work done while employed by Gulf Minerals in the early 80's. Gower (1988) suggested anomalous rare earth mineralization in the area particularly from core selected from drillhole DL-16.

In 2005 the Cobequid Mountains Gold Venture (Cobequid Gold Corporation for Avalon Ventures Ltd.) explored the area for gold-silver mineralization. The program consisted of prospecting and stream sediment sampling and re-examination of core from the Gulf Resources drillholes.

In 2007 Capella Resources, through its subsidiary Tripple Uranium Resources Inc. performed airborne geophysical exploration surveys in the areas surrounding the Alpha properties.

In 2008 and 2009 Elk Exploration conducted research and rock sampling programs to ascertain the potential for Rare Earth Elements. Outcrops were scanned with gamma rock scintillometer to determine the radioactivity in total counts per second (CPS). Samples showing elevated CPS were then examined under ultra-violet lamp and binocular microscope a crushed to -45 mesh and the heavy minerals were separated and retained for future analysis.

Since 2008 the Nova Scotia Department of Natural Resources, Mineral Resources Branch has been examining the potential for Iron Oxide Copper Gold (IOCG) deposits in the areas along the Cobequid Chedabucto fault zone. This program has covered the area of the licenses that are held by Alpha Uranium Resources and is a continuing program (McHattie, 2010).

General Geology

The following discussion is from MacHattie 2010.

Late Devonian to Early Carboniferous mafic-felsic volcanic and plutonic rocks dominate the crust exposed in the eastern Cobequid Highlands between the Rockland Brook Fault and the unconformably overlying Late Carboniferous sedimentary rocks of the Cumberland Basin (Fig. 3). The core of this volcano-plutonic complex includes the ca. 362 Ma Hart Lake-Byers Lake (HLBL) granite and ca. 358-355 Ma felsic volcanic and volcaniclastic rocks of the Byers Brook Formation. The HLBL granite is dominated by medium- to coarse-grained, hornblende-biotite-magnetite-bearing alkali-feldspar granite (Pe-Piper, 1996).

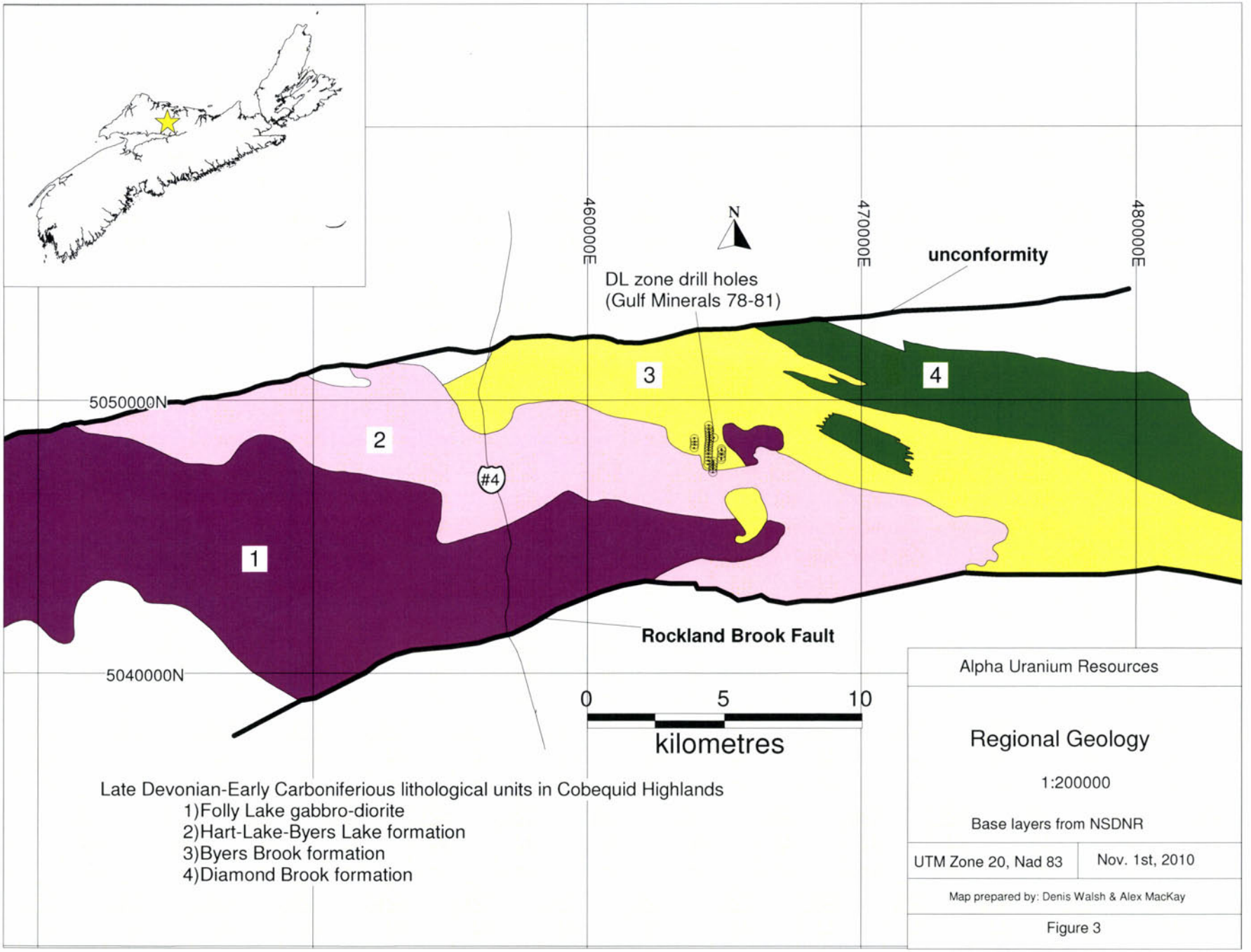
See figure 4 for spacial relationship of lithological units to each other and those within the license boundaries.

The Byers Brook Formation and the Hart Lake Granite are situated in the Cobequid Highlands of northern Nova Scotia. The anorogenic granite and bimodal volcanic rocks are comagmatic and are suggested to be products of extensional tectonism. The granite has ma Rb/Sr whole-rock age of 339 ± 4 Ma and the rhyolites 343 ± 5.Ma

The Byers Brook Formation is a generally, east-west (110-120º az.) striking, steeply dipping 70ºN. sequences of rhyolite, pyroclastic flow and volcaniclastic rocks intercalated with a relatively minor volume of basaltic flows. All units are cut by an abundance of diabase and composite dikes with the highest density of dikes associated with rhyolite dome/flow complexes. Rhyolite dikes are restricted to these complexes.

The Rockland Brook fault is a significant splay off the Cobequid- Chedabucto fault zone (CCFZ) which separates the Avalon and Meguma Zones in Nova Scotia.

The CCFZ represents a fundamental break in the earth's crust of a type which elsewhere has proven to be an important structure in the development of large orebodies. (Olympic Dam IOCG deposits.) There other well known such relationships in Canada (e.g. the Abitibi belt in Ontario and Quebec; the Baie Verte Brompton line in Newfoundland).


460000E
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unconformity
DL zone drill holes
(Gulf Minerals 78-81)
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Rockland Brook Fault
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5
10
kilometres
Late Devonian-Early Carboniferious lithological units in Cobequid Highlands
1)Folly Lake gabbro-diorite
2)Hart-Lake-Byers Lake formation
3)Byers Brook formation
4)Diamond Brook formation
Alpha Uranium Resources
Regional Geology
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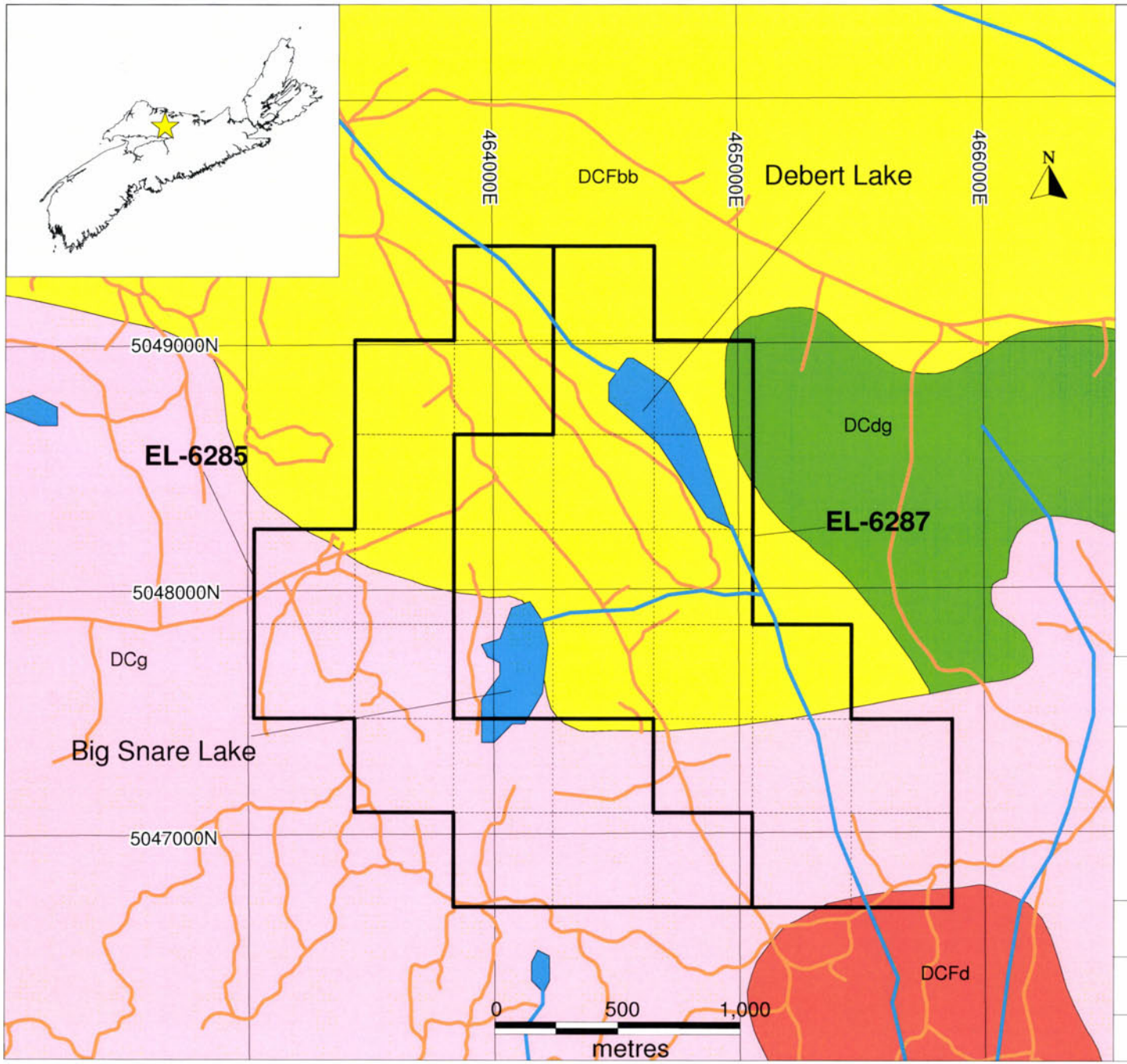
Base layers from NSDNR
UTM Zone 20, Nad 83
Nov. 1st, 2010
Map prepared by: Denis Walsh & Alex MacKay
Figure 3



Legend

- Access Roads
- Streams
- Claim Boundary
- License Boundary

Geological Units

- DCdg-Devonian-Carboniferious Mafics -Diorite - grabbro
- DCFd-Diamond Brook Formation -basalt, wacke, siltstone, rhyolite
- DCFbb-Byers Brook Formation -felsic volcanics, siltstone, wacke
- DCg-Hart Lake Granite

Source:NSDNR

Alpha Uranium Resources

Geology Map

1:25 000

UTMZone 20,NAD 83	Oct 28th, 2010

Map Prepared by: Alex MacKay

Figure 4

Mineral Deposits, Prospects, Occurrences and Geochemical Anomalies

The following notes are from *T. G. MacHattie and G. A. O'Reilly (2009)*

Numerous mineral deposits, occurrences, geochemical anomalies and alteration zones are found along the CCFZ (Cobequid Chedabucto Fault Zone), which are now collectively considered to be indicative of IOCG-style deposits (O'Reilly, 1996; O'Reilly, personal communication). Notable hydrothermal mineral deposits, prospects and occurrences from west to east include: (1) the Bass River magnetite prospect, (2) the Londonderry iron deposits, (3) the Brookfield barite deposit, (4) the Mount Thom Cu-Co-Au prospect, (5) the Bridgeville iron deposits, (6) the College Grant Cu deposit, (7) the Copper Lake Cu-Au deposit and (8) the South Manchester iron deposit. Geochemical anomalies in stream sediment heavy mineral separates, particularly for Cu, Co and Ni, are also very prominent along the CCFZ.

See figure 5 (adapted from MacHattie and O'Reilly 2009) for locations of mineral occurrences as mentioned above.

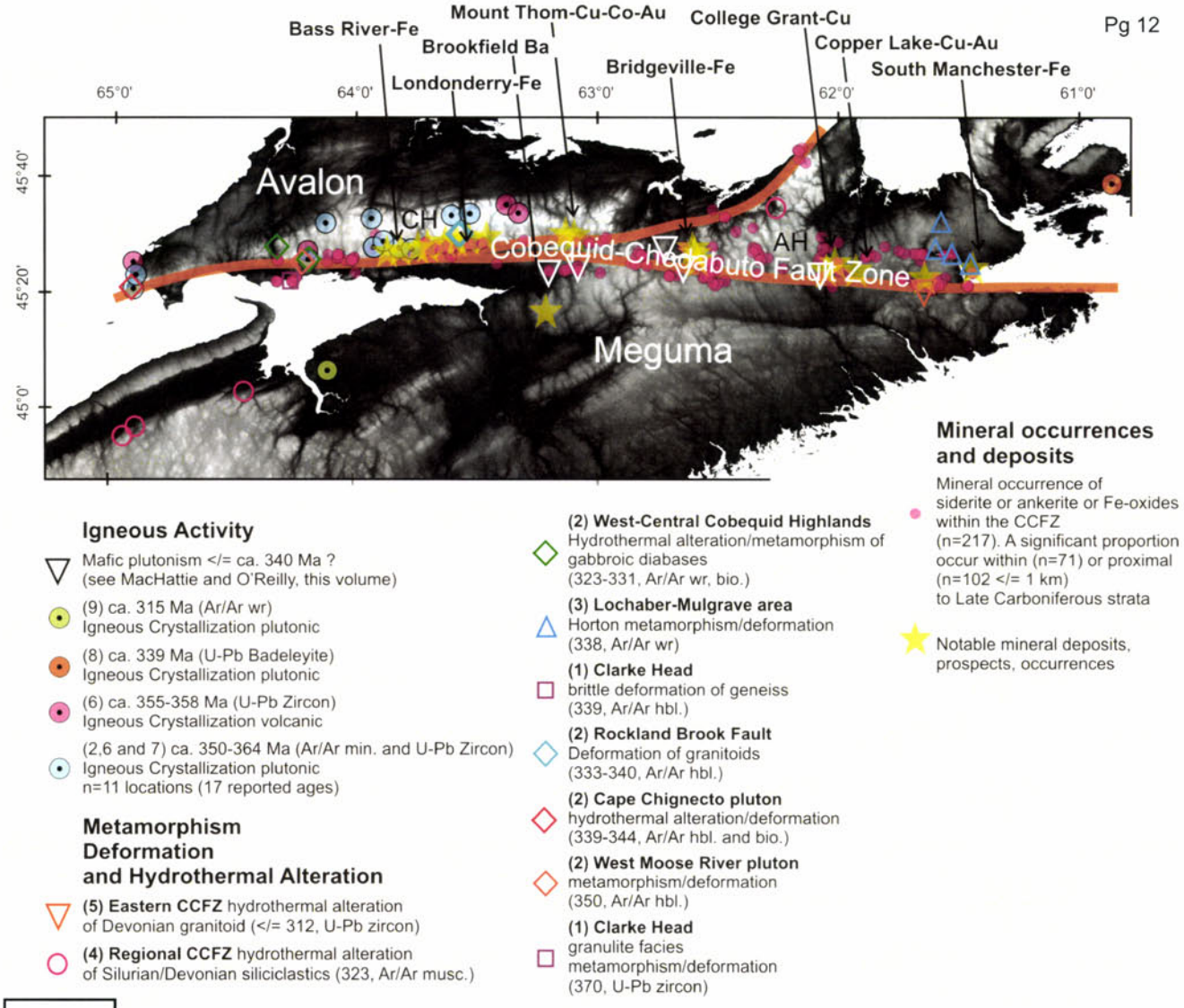


Figure 5 Digitial elevation map of the Cobequid-Cedabucto Fault Zone (CCFZ), which forms the Avalon-Meguma terrane boundary in mainland Nova Scotia. Displayed are the locations of geochronological and geochemical samples (also see Fig. 2), Fe-carbonate and -oxide occurrences, and notable prospects and deposits of Fe, Cu, Au, Ba, Co, and Ni discussed in the text. CH Cobequid Highlands, AH Antigonish Highlands. Heavy lines denote prominent splays of the CCFZ. References for geochronology include: (1) Gibbons *et al.* (1996); (2) Pe-Piper *et al.* (2004); (3) Reynolds *et al.* (2004); (4) Murphy and Collins (2007); (5) MacHattie *et al.* (in preparation); (6) Dunning *et al.* (2004); (7) Doig *et al.* (1996); (8) Barr *et al.* (1994); (9) Kontak *et al.* (2000); (10) Giles and Utting (1999); (11) Giles (2008).

Purpose of Work

To try to identify anomalous REE zones in the area of the Debert Lake property:

- by examination of diamond drill core from the Gulf Minerals Canada drilling campaign of 1978 to 1981, which is in storage at the drill core library at Stellarton by use of a portable X ray fluorescence (XRF) machine.

- by field traversing and probing of outcrops and boulders with handheld gamma-ray spectrometer for total counts per second of radioactivity with greater than 500 cps considered anomalous.(please see figure 6 for locations of scintilometer sampling points).

- by excavation of shallow trenches (see the inset in Figure 6) with a small mechanical excavator over the more anomalous zones and where veins with potential for rare earth element mineralization were exposed by grub-hoeing.

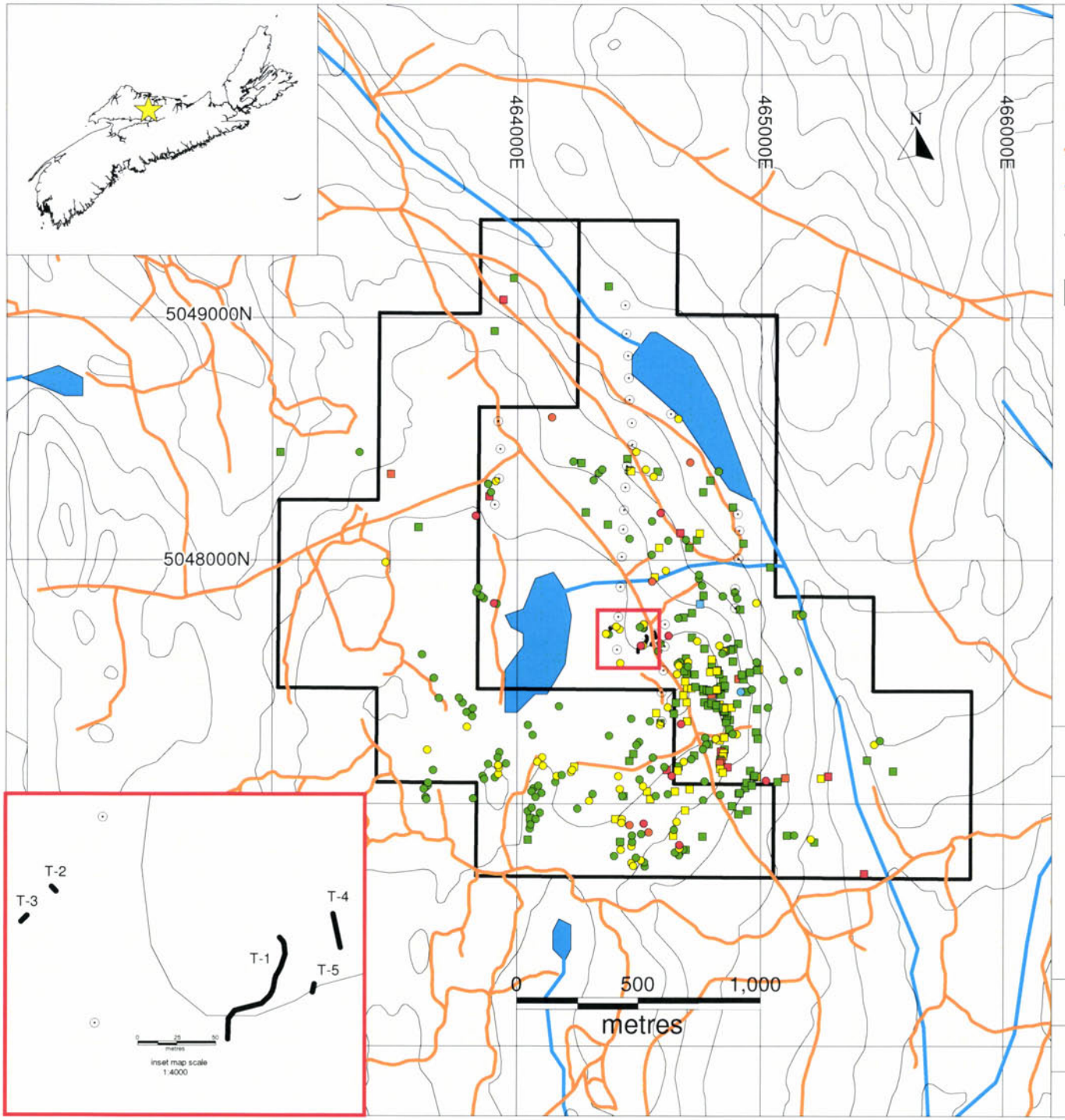
Work Performed

Prospecting and surveying with a handheld scintillometer (Urtec Miniscint UG130) was carried out on roads, trails, streams and along the shores of Debert Lake. This work was completed by Alex Debay, a Nova Scotia prospector, and Raoul Tanyan, a third year geology student, under the supervision of Lindsay Allen. Prospecting was largely carried out on a roaming basis and was concentrated along the contact zone between the Hart Lake granite and the Byers Brook Formation. Locations showing a total count greater than 300cps were recorded using a Garmin GPSmap 76S GPS receiver. Locations with CPS readings are plotted on Figures 6b and 6c (in rear pocket), while field notes of each point are available in appendix F. General trends are schematically displayed in Figure 6 on pg 15b.

Concurrently, the author and Alex MacKay (B.Sc Geology) completed a thorough examination of drill core from30 historic diamond drill holes located on the property. Holes were drilled by Gulf Minerals Canada in 1978 through 1981. Visual examination of the core revealed the validity of the existing drill hole logs. The core was also photographed for reference when future drilling is undertaken by Alpha Uranium Resources Inc. (Logs with photographs are presented in Appendix D). Core was also scanned with a portable XRF analyzer (see Appendix E for XRF theory and specifications) and anomalies from XRF analysis were sampled and sent to ActLabs for ICP-fusion geochemical analysis with 4 Litho suite (see Appendix C).

Core sampling procedures included completing between 40 and 80 XRF point scan locations for each drill hole. Point locations were chosen by taking a reading on each geological unit encountered on each hole. If REE indicators (Y, Nb) values were over ~3000ppm (see Appendix A for discussion accuracy of XRF results) in a particular unit was analyzed more thoroughly. Core that produced XRF values greater then 10000ppm was split and between 20-50g was sent to ActLabs for analysis. For the most part XRF readings 10000ppm and over were limited to granitic dykes. For holes where granitic dykes were not observed, the area(s) of the particular hole with the highest readings was sampled.

Upon completion of the scintillometer survey and drill core study, a small trenching program was undertaken (Excavation Permit EX-056). Excavator was operated by Alex Debay under the guidance of Lindsay Allen. In total 120 meters of trenching were completed over 5 trenches in the vicinity of DL-16/DL-19. This area was chosen because of elevated CPS readings, observation of several outcrops and boulders of granitic dyke material and holes DL-16 & 19 displayed the largest abundance of granitic dykes at depth. See Figure 6 inset trench locations and orientations. These trenches will be mapped and sampled for the next reporting period.



Legend

- Gulf Drill Holes (approx. locations)
- 15m Contour
- Roads
- Stream
- 2010 Trenchs (approx. locations)
- License Boundary

Scintillometer Readings

(counts per second)

Outcrop		Boulders	
200	(1)	200	(1)
300	(116)	300	(102)
400	(51)	400	(41)
500	(5)	500	(6)
600	(5)	600	(5)
700	(3)	800	(1)
800	(1)	1,400	(1)
1,000	(1)	1,900	(1)

Base layers from NSDNR

Alpha Uranium Resources

2010 Field Work Map

1:25 000

UTM Zone 20, NAD 83 | Oct 28th, 2010

Map prepared by: Alex MacKay

Figure 6

Please see FIGURE 5a in Back Pocket for Diamond Drill Hole Location Map

Table 1 Drill Hole Collar Locations geo referenced from Gower 1988							
Company	Hole ID	X	Y	Elevation	Depth	Azimuth	Dip
Gulf	DL_01	464448	5048931	268	140.82	180	45
Gulf	DL_02	464455	5048840	267	132.59	180	45
Gulf	DL_03	464458	5048749	268	137.16	180	45
Gulf	DL_04	464461	5048659	273	106.68	180	45
Gulf	DL_05	464470	5048564	280	125.79	180	45
Gulf	DL_06	464473	5048475	285	135.33	180	45
Gulf	DL_07	464451	5048386	290	138.29	180	45
Gulf	DL_08	464445	5048298	304	126.31	180	45
Gulf	DL_09	464633	5048601	269	118.02	180	45
Gulf	DL_10	464440	5048205	304	153.31	180	45
Gulf	DL_11	464609	5047737	316	126.49	180	45
Gulf	DL_12	464437	5048126	319	138.32	180	45
Gulf	DL_13	464608	5047646	324	162.49	180	45
Gulf	DL_14	464430	5048013	315	131.7	180	45
Gulf	DL_15	464425	5047889	321	132.28	180	40
Gulf	DL_17	464412	5047633	325	78.3	180	43
Gulf	DL_18	464603	5047548	328	144.51	180	45
Gulf	DL_20	464596	5047458	331	162.31	180	45
Gulf	DL_21	464596	5047339	332	91.2	180	41
Gulf	DL_22	464444	5049049	272	173.31	180	40
Gulf	DR_01	464912	5048121	274	148	180	45
Gulf	DR_02	464908	5048005	278	155	180	45
Gulf	DR_03	464895	5047880	284	151	180	45
Gulf	DR_04	464895	5047803	290	144.3	180	45
Gulf	DR_05	464906	5048188	271	164	180	45
Gulf	SL_01	463925	5048335	315	136.04	180	45
Gulf	SL_02	463930	5048457	312	160	180	45
Gulf	SL_03	463907	5048227	309	148.45	180	45
Gulf	SL_04	463920	5048571	318	121	180	45

Results of Work

The 2010 work program has produced encouraging results from both the drill core study as well as field campaigns. Results continue to be analyzed in conjugation with the planning of the 2011 field season.

The scintillometer and prospecting work has produced several interesting regions which are slated for follow up work as part of the 2011 field season. Interesting regions are displayed in figure 6 as red and orange points. These points represent cps reading of 500 cps or higher. Of particular interest are the red and orange circles which represent outcrops as opposed to the squares which represent boulders.

Elevated readings are mixed between all rock types encountered on the property. This is evidenced by the fact that the geological unit contacts, as displayed in figure 4 are not discernable in the colour coded plot of the scintillometer survey in figure 6.

The XRF scans as mentioned in the work preformed section of this report were used as an exploratory too to assist Alpha staff to identify REE bearing rock. It is known that XRF results cannot be relied upon to be accurate at this time as correction factors have never been put into the analyser due to lack of having a known sample to compare results to. However the XRF is precise as it will reproduce similar results from several shots on the same location. Therefore Alpha used the analyser only to identify drill core locations with elevated REE indicators(Y, Nb).

This approach has turned out to be successful as all drill core sample results were well elevated when compared with crustal REE averages in granites(see table 2). Highlights of the drill core sampling program are the observation of over %0.1 TREO being observed in the cluster of holes DL-11,16,17 and 19.

Table 2-Comparison of Drill core averages to Crustal averages		
element	crustal average in granites(ppm)*	Drill core sample average (ppm)
Y	40	330
Nb	20	143
La	25	131
Ce	46	301
Pr	4.6	36
Nd	18	138
Pm	not available	not available
Sm	3	37
Eu	not available	1.6
Gd	2	41
Tb	0.05	8.13
Dy	0.5	54
Ho	0.07	11
Er	0.2	35
Tm	not available	5.4
Yb	0.06	36
Lu	0.01	5.6

* Crustal averages as taken from Berkman, 2001

The analytical results as received from the XRF machine are presented in Appendix A,

Samples (sent for assay) photos are presented in Appendix B,

and the Results for the laboratory rare earth element analysis are presented in Appendix C, with Quality Assurance/ Quality Control and a description of analytical methods used.

Preliminary work by Trevor MacHattie of the Nova Scotia Department of Natural Resources and the writer indicates southerly dipping vein sets of the type previously analyzed by Gower (1988). One of these is shown in the photo below.
Note the vein between the white marks.

Plate 1.
Shallow trenching by Alpha Uranium Resources has uncovered the rare earth element bearing veins as best shown by the photographs here. Location at the north end of Alpha Uranium Resources # 1 trench. Showing REE bearing vein.

Plate 2
Note the off-setting of the vein material. This occurs in other localities signifying potential for breccia type deposits.

Plate 3
Note a different type below and another dark vein at the bottom of the frame. Those below show the brittle deformation pene-contemporeous or concurrent with infusion of these veins.

Plate 4

Granitic REE veins intruding dioritic host. Note also off-shootng smaller and vein disruption.

Conclusions and Recommendations

Potential for significant rare earth element deposits in the Debert Lake area exists. Rare earth element bearing veins have been uncovered in trenches excavated by Alpha Uranium Resources and other veins have been found in outcrop and boulders elsewhere on the property.

More detailed fieldwork is required including sampling of veins which were uncovered in trenches that were excavated at the end of the 2010 field program. This should be followed by a drill program with shallow holes dipping to the north at approximately 45^0 to optimize the potential to intersect the southerly dipping rare earth element bearing veins.

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MacHattie, T.G. 2010 in Mineral Resources Branch, Report of Activities 2009; Nova Scotia Department of Natural Resources, Report ME 2010, pgs 65-75

CERTIFICATE of QUALIFICATIONS

I, Denis F. Walsh, P.Geo. of Paradise, Newfoundland and Labrador do hereby certify:

- That I am a graduate of Memorial University of Newfoundland, St.John's Newfoundland B.Sc. in Geology (1974)
- I have been employed continually as a geologist since graduation. (36 years).
- That I am a member Professional Engineers and Geoscientists Newfoundland and Labrador, (PEGNL). Member Registration Number 03280.
- That the information, conclusions and recommendations in this report are based on field work undertaken by the author and on a review of the literature stated in the reference list.
- This report may be used for the promotion of the property, provided that no portion will be used out of context in such a manner as to convey meanings different from that set out in the whole.

Dated 30 Oct 2010 **Signed DENIS F. WALSH, P.Geo**

Denis F.Walsh, P.Geo.

APPENDIX A

Appendix A UNCALIBRATED XRF Results

The Innov-X Delta 90 portable XRF analyzer offers a quantitative elemental analysis using empirical methods or fundamental parameters (see Appendix E for more details). The empirical method requires inputting calibration curves obtained from testing known samples into the machine. The Fundamental parameters mode is more of a "point and shoot" set up which allows the user to quickly start analyzing. This is the mode used by Alpha Resources thus far.

Several other options are available on the analyzer including, settings for, soil modes, 2 mining modes, steel analysis, food analysis and more. Each mode has further breakdown into how many shots are taken, how long each shot is taken and elements displayed in results.

Alpha has gone with the manufacturers recommendations up to this point and used the 3 beam soils mode for analyzing whole rock samples. Alpha used a setting of 10 seconds analysis for each of the three beams. The 10 seconds for each beam was chosen as the optimal balance between accuracy (when compared with a 5 min analysis with NSDNR desktop XRF analyzer) and time.

The Delta 90 is capable of analyzing approximately 75 elements which have Kα, Kβ, Lα or Lβ lines between 5keV and 40keV with the highest accuracy around 25keV. The analyzer scans for all elements with each shot, but only elements prechosen to be in the results output table will be presented to the user. In the interest of keeping things as simple a possible, given the high technical level and abundance of data available, Alpha has chosen to focus only on REE earth indicators (P, Y, Zr, Nb, Th). The results presented here are further limited to uncalibrated XRF results with greater than 3000ppm Nb or Y. The >3000 ppm XRF limit was qualitatively chosen as anomalous by Alpha staff through trials run on REE mineralized granitic veins vs. the different rock types encountered in the drill holes.

This brief discussion is meant to be a brief introduction to the basics of the XRF and its capabilities. Further information about the Delta 90 is available in Appendix E or on Innov-X's website at www.innovx.com.

Results from scanning with portable XRF on DL-01

Hole_ID	Depth	Rock_Type	P	Y	Zr	Nb	Th
DL-01	11.7	rhyolite	471	3466	176	1725	138
DL-01	24.9	rhyolite		3296	738	1825	118
DL-01	54.3	other	3012	3600	1718	3084	174
DL-01	80.2	other	6356	3553	1116	1698	188
DL-01	80.6	rhyolite	5471	4141	1364	2608	224
DL-01	82.9	rhyolite	5008	4101	1413	2589	255
DL-01	83.5	rhyolite		3616	1271	2169	195
DL-01	86.2	rhyolite	5914	3455	1137	2116	207
DL-01	86.9	rhyolite	5086	4088	1361	1872	233
DL-01	88.9	rhyolite	3581	3504	1173	1479	289
DL-01	90.0	rhyolite	6621	5157	1677	2627	267
DL-01	90.5	rhyolite	13351	3207	580	1243	111
DL-01	91.7	rhyolite	77	3379	1253	1626	188
DL-01	94.9	rhyolite	4686	3405	1134	1773	232
DL-01	96.4	rhyolite	7175	3582	1327	2073	229
DL-01	97.2	rhyolite	1433	4057	818	755	24
DL-01	97.8	rhyolite	4359	3288	1154	1839	226
DL-01	99.4	rhyolite	5684	3051	809	1362	164
DL-01	104.5	rhyolite	5474	4171	1392	2538	201
DL-01	105.5	rhyolite	3999	3063	1104	2233	311
DL-01	107.2	rhyolite		3486	1207	2333	200
DL-01	109.6	rhyolite		3269	1036	1670	180

Results from scanning with portable XRF on DL-02

Hole_ID	Depth	Rock_Type	P	Y	Zr	Nb	Th
DL-02	58.1	other	7449	8235	1248	2428	350
DL-02	15.7	rhyolite	5906	5607	376	752	89
DL-02	49.9	other	927	5177	2044	3590	186
DL-02	42.4	rhyolite	6544	4594	1530	2962	356
DL-02	39.8	rhyolite		4402	1357	3029	276
DL-02	43	rhyolite	4272	4267	1189	3227	82
DL-02	45.6	other	7704	3643	2360	1995	175
DL-02	38.1	rhyolite	168	3545	1268	2277	208
DL-02	114.3	other	6663	3476	1425	1759	257
DL-02	83.9	other	3125	3312	969	2015	160
DL-02	116	other	6664	3282	1576	1354	196
DL-02	114	other		3278	1362	2129	211
DL-02	69.5	mafic	7425	3016	1578	2420	127

Results from scanning with portable XRF on DL-03

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-03	6.8	Sedimentary	7184	3828	2065	1438	158
DL-03	7.2	Sedimentary	2282	3525	2173	1271	231
DL-03	9.1	Sedimentary	1264	3206	1815	1412	138
DL-03	27.3	Sedimentary	8764	3564	2526	1561	204
DL-03	28.2	Sedimentary	7217	3093	2314	1317	235
DL-03	30.2	other	3958	4629	1524	753	138
DL-03	32.2	other	ND	3582	1757	1113	178
DL-03	33.2	other	189	3677	2017	1468	239
DL-03	33.8	other	ND	3035	2006	1087	238
DL-03	36.1	other	1748	4333	2703	1852	342
DL-03	60.9	rhyolite	1141	3099	2751	1163	116
DL-03	65.6	rhyolite	15068	4118	3932	458	96
DL-03	67.4	rhyolite	2254	3513	2014	299	149
DL-03	88.2	rhyolite	ND	3048	375	96	110
DL-03	97.2	rhyolite	ND	4208	1434	1003	103
DL-03	99.1	rhyolite	4822	3477	2314	1287	185
DL-03	99.8	rhyolite	568	3457	1433	1281	279
DL-03	101.1	rhyolite	5831	3376	2497	1298	294
DL-03	106.6	rhyolite	8695	3573	2148	1800	364
DL-03	107.4	rhyolite	6964	3726	2538	1572	224
DL-03	108.3	rhyolite	7207	3691	3208	1666	354
DL-03	112.2	rhyolite	1761	17020	10221	3098	321
DL-03	113	rhyolite	5598	3667	2469	1767	316
DL-03	115.2	rhyolite	5351	4445	3088	1796	206
DL-03	116.8	rhyolite	ND	4513	2376	1785	243
DL-03	117.7	rhyolite	9020	4488	2959	2056	378
DL-03	118.9	rhyolite	3657	4045	2536	1716	287
DL-03	119.9	rhyolite	ND	6326	4143	1551	288
DL-03	120.9	rhyolite	4058	4092	2354	1812	384
DL-03	122.5	rhyolite	1797	3864	2675	1628	318
DL-03	123.8	rhyolite	11581	4913	4977	1729	443
DL-03	124.6	rhyolite	2510	4779	3649	1832	780
DL-03	125.7	rhyolite	ND	3162	4051	1149	422
DL-03	125.8	dyke	2292	5013	3099	1920	342
DL-03	126.4	rhyolite	6875	3590	1869	1548	499
DL-03	126.7	dyke	8017	3819	2408	1604	653
DL-03	128.1	other	5795	4698	2813	2293	323
DL-03	128.7	other	1913	3922	2893	1518	268
DL-03	129.2	other	10106	4742	3232	2114	322

Results from scanning with portable XRF on DL-04

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-04	12.2	rhyolite	6140	5149	4284	1659	213
DL-04	14	rhyolite	5972	3502	2074	1023	197
DL-04	15	rhyolite	1829	3016	1919	1034	190
DL-04	16.1	rhyolite	28131	6121	4571	2033	307
DL-04	19.2	rhyolite	1451	3259	2036	956	228
DL-04	20.2	rhyolite	8066	3368	2089	840	134
DL-04	28.9	rhyolite	4480	3189	2075	905	187
DL-04	32.7	rhyolite	17757	5253	3680	2046	180
DL-04	39.3	rhyolite	1252	3059	964	1070	137
DL-04	48.3	other	ND	3184	1931	1124	166
DL-04	62.2	rhyolite	17044	7393	4159	2123	211
DL-04	75.9	rhyolite	3621	3893	2648	1676	187
DL-04	97.9	mafic	6347	3516	2087	1400	96
DL-04	99.1	mafic	7164	3626	1983	1528	192
DL-04	100.7	mafic	5504	3512	2104	1644	234
DL-04	103.5	mafic	5435	3996	2648	1549	197
DL-04	104.9	mafic	ND	4310	2392	1692	248
DL-04	106.7	mafic	ND	4286	2672	1692	213

Results from scanning with portable XRF on DL-05

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-05	15.3	rhyolite	2186	3307	2039	1465	255
DL-05	18.2	rhyolite	ND	3414	3456	1210	243
DL-05	32.2	other	262	3988	2469	1517	204
DL-05	32.7	other	6209	3210	2214	1480	229
DL-05	34.4	ignimbrite	7005	3982	2381	1651	282
DL-05	35.4	ignimbrite	7224	7248	5327	2751	349
DL-05	35.6	ignimbrite	11113	3637	2905	1602	208
DL-05	36.7	ignimbrite	5485	4357	2540	1236	203
DL-05	37.6	ignimbrite	9760	3647	2505	1548	197
DL-05	38	ignimbrite	5847	3267	1947	1453	245
DL-05	39.8	mafic	6164	4268	2948	1975	241
DL-05	40.8	ignimbrite	2454	4728	3214	2062	376
DL-05	41.1	ignimbrite	2535	3962	3140	1611	217
DL-05	41.2	ignimbrite	13265	4613	3025	1706	215
DL-05	44.8	ignimbrite	4804	3576	2471	1632	289
DL-05	45.4	ignimbrite	6919	4680	3060	1957	263
DL-05	46.2	ignimbrite	8744	4002	2245	1578	195
DL-05	75.9	rhyolite	766	3010	2116	1207	126
DL-05	122	rhyolite	4982	3773	2307	1111	119
DL-05	122.4	rhyolite	4393	3229	2000	994	126
DL-05	123.3	rhyolite	6767	3621	2601	1062	139
DL-05	124	rhyolite	13829	4741	1885	997	67
DL-05	125.8	rhyolite	ND	8577	1430	736	119

Results from scanning with portable XRF on DL-07

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-07	10	rhyolite	8880	10646	891	83	81

Results from scanning with portable XRF on DL-08

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-08	31.3	rhyolite	ND	4938	3753	94	199
DL-08	33.8	rhyolite	2272	3406	1291	79	144
DL-08	37.8	rhyolite	2683	4816	4744	178	341
DL-08	42	rhyolite	2044	3904	2057	140	191
DL-08	47.1	rhyolite	2700	4100	2144	163	288
DL-08	72.4	other	4989	6311	955	162	186

Results from scanning with portable XRF on DL-09

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-09	30.4	rhyolite	3314	4997	2117	152	256
DL-09	33.5	rhyolite	ND	3073	1043	108	173
DL-09	87.6	ignimbrite	1898	3314	1475	940	100

Results from scanning with portable XRF on DL-10

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-10	29.7	other	ND	7279	126	ND	161
DL-10	122.9	ignimbrite	11833	3413	2432	337	230
DL-10	144.6	agglomerate	864	3410	208	103	96

Results from scanning with portable XRF on DL-11

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-11	42.5	mafic	ND	4655	3145	104	87
DL-11	45.5	rhyolite	3066	3166	1386	190	142
DL-11	83.2	rhyolite	5998	4165	696	73	114
DL-11	96.4	rhyolite	ND	3100	2300	186	301
DL-11	106.5	rhyolite	4123	3581	628	106	337
DL-11	109	dyke	5584	16402	20030	3663	1014
DL-11	109.7	rhyolite	6033	4779	1436	222	204
DL-11	112.1	mafic	ND	5646	852	168	1621
DL-11	114.4	other	8475	8102	718	115	155
DL-11	122.2	dyke	4783	14116	7090	1974	1205
DL-11	123.35	dyke	11216	13970	45938	1706	1605
DL-11	124.4	dyke	25893	28759	24258	10569	1462
DL-11	124.45	dyke	173	35791	20250	1817	1570

Results from scanning with portable XRF on DL-12

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-12	11.7	rhyolite	ND	3124	2170	341	126
DL-12	119.7	other	ND	3246	704	321	205

Results from scanning with portable XRF on DL-13

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-13	100.2	other	714	3082	2172	144	179
DL-13	105.2	other	2836	4522	2482	207	194
DL-13	125.3	other	ND	3289	2633	597	99
DL-13	125.5	other	ND	3225	2442	604	262
DL-13	129.5	rhyolite	ND	3060	944	118	100
DL-13	132.6	Granite	2830	3536	1998	697	66
DL-13	135.8	Granite	11256	10952	3107	639	295
DL-13	137	Granite	4191	3744	2739	431	144
DL-13	141	Granite	805	3757	2333	404	185
DL-13	141.5	Granite	ND	5879	6468	503	186
DL-13	142.8	Granite	3352	3764	3077	553	296
DL-13	144.1	Granite	1675	4244	3142	530	428
DL-13	146	Granite	2165	4649	2643	509	197
DL-13	148.3	Granite	4118	4735	3054	397	171
DL-13	153.3	other	1733	5210	2268	601	249
DL-13	156.6	Granite	4297	4055	3010	472	143
DL-13	162.5	Granite	11931	10263	5031	341	358

Results from scanning with portable XRF on DL-14

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-14	72.6	ignimbrite	ND	10971	147	45	89

Results from scanning with portable XRF on DL-15

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-15	43.7	other	4438	3320	272	43	61
DL-15	67.8	rhyolite	ND	3878	2938	190	199
DL-15	75	rhyolite	2804	3769	2599	175	172
DL-15	76.5	rhyolite	ND	3672	1948	147	151
DL-15	78.3	rhyolite	14153	4789	3305	249	231
DL-15	80.3	rhyolite	11192	3313	3522	174	144
DL-15	83.6	rhyolite	ND	1888	3664	133	146

Results from scanning with portable XRF on DL-16

Hole_ID	Depth	Rock Type	P	Y	Zr	Nb	Th
DL-16	45.3	rhyolite ignimbrite	ND	3169	94	793	133
DL-16	64.8	Gowers hotzone, k-alt DG-84-9, possible dyke	ND	320611	10387	25918	2958
DL-16	64.8	Gowers hotzone k-alt DG-84-9	185	317643	10497	25418	3083
DL-16	64.8	Gowers hotzone k-alt	11885	4643	166	1390	583
DL-16	67.4	Gowers hotzone, k-alt DG-84-10	1463	12948	324	2579	1925
DL-16	69.3	rhyolite, fractures, k-alt	2542	3032	214	1153	524
DL-16	129.9	dyke	11707	20637	4887	47789	1141
DL-16	139.8	.5 cm quartz vein, minor magnetite, in agglomerate	11956	24535	4248	31476	1167

Results from scanning with portable XRF on DL-17

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-17	3.3	Granite	4217	2760	3360	893	380
DL-17	4.3	Granite	2331	8074	2291	603	198
DL-17	5.3	Granite	3212	6227	1827	368	104
DL-17	6.2	Granite	10060	15991	18040	3387	404
DL-17	7.4	Granite	1420	3030	1019	243	74
DL-17	8.8	Granite	2698	8786	4223	526	269
DL-17	15.4	Granite	4002	3758	3035	601	154
DL-17	18.1	Granite	5132	27594	2838	385	170
DL-17	21	Granite	2300	3501	1379	385	209
DL-17	22.6	Granite	1586	8518	3653	902	212
DL-17	26.6	Granite	ND	5019	3979	502	176
DL-17	30.9	Granite	1818	3399	3448	814	365
DL-17	38.8	Granite	771	3188	3506	522	220
DL-17	44.6	Granite	4424	4312	2456	376	91
DL-17	48.6	Granite	3480	6915	7831	1578	472
DL-17	54.3	Granite	9216	7800	3984	779	255
DL-17	74.5	rhyolite	6886	4864	1581	232	226
DL-17	77.9	other	1163	4551	747	150	158

Results from scanning with portable XRF on DL-18 no Y or Nb values greater than 3000 ppm.

Results from scanning with portable XRF on DL-19

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-19	20.8	ignimbrite	757	3728	867	181	200
DL-19	73.2	other	ND	5576	880	92	147
DL-19	104	rhyolite	5082	3037	2530	149	162
DL-19	106.9	rhyolite	ND	3833	2011	133	197
DL-19	114.8	rhyolite	1725	3990	936	106	138
DL-19	117.9	dyke	443	6620	908	174	916
DL-19	128.6	dyke	25142	48532	43745	5623	7288
DL-19	133.4	rhyolite	36697	21723	49226	19540	1286
DL-19	133.55	rhyolite	47665	21448	76448	17320	1180
DL-19	134.2	other	2726	6832	1175	75	85

Results from scanning with portable XRF on DL-20

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-20	116.8	other	34626	39981	2917	345	362
DL-20	115.7	other	14122	34663	289	163	274
DL-20	160.2	Granite	62305	32793	12672	28585	3042
DL-20	115.9	other	30246	30869	1208	971	340
DL-20	161.4	Granite	6318	10169	31896	914	716
DL-20	161.5	Granite	4747	6117	10190	2128	248
DL-20	57.6	other	12961	5384	498	71	111
DL-20	152.5	Granite	5565	3604	3100	337	253
DL-20	84.2	ignimbrite	7133	2796	3013	351	227

Results from scanning with portable XRF on DL-21

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DL-21	32.5	Granite	6996	5906	1852	410	1084
DL-21	34.4	other	11304	4641	2078	839	236
DL-21	43.15	Granite	1185	3493	2619	428	195
DL-21	49.4	other	ND	4534	6889	2051	221
DL-21	56.2	Granite	4408	4896	2687	399	186
DL-21	57.2	Granite	18595	8880	19386	5674	886
DL-21	59.6	Granite	6697	8383	3403	341	209
DL-21	60.5	Granite	3775	4009	2693	1123	216
DL-21	63.7	other	5953	3590	3395	385	253
DL-21	66.1	Granite	4415	4379	3790	652	134
DL-21	67.1	Granite	2202	4571	3772	209	205
DL-21	67.7	Granite	5425	4586	2872	522	448
DL-21	68.45	Granite	1522	6882	5537	1267	566
DL-21	68.9	Granite	2274	4019	2438	471	422
DL-21	69.5	Granite	3729	9171	4722	670	380
DL-21	70.1	Granite	5607	4098	8865	2146	352
DL-21	71.7	Granite	2949	4385	2633	868	174
DL-21	72.6	Granite	1483	3760	2599	197	152
DL-21	74	Granite	9028	3828	2783	1023	324
DL-21	75.3	Granite	1127	4145	2974	333	179
DL-21	77	Granite	1846	5061	2314	354	135
DL-21	81.5	Granite	1371	4967	3153	150	177
DL-21	82.7	Granite	2694	3443	4671	689	134
DL-21	84.1	dyke	3671	2757	3428	736	259
DL-21	88.4	Granite	5427	2116	4722	700	251
DL-21	89.5	Granite	3619	1869	4969	1670	246

Results from scanning with portable XRF on DL-22

Depth	Rock type	P	Y	Nb	Zr	Th
71.4	other	3165	3075	1864	1231	154
131.8	other	3068	3264	2275	1028	168
141.7	other	5244	3272	1895	1287	191
141.9	ignimbrite	2129	3358	1941	1080	179
142.8	ignimbrite	5387	3240	1472	998	258
145.1	ignimbrite	2070	3072	1874	1107	249
145.9	ignimbrite	10183	3406	2243	1446	214
150.3	ignimbrite	5099	3653	1714	1134	101
152.9	ignimbrite	5380	3095	1530	1288	139
154	ignimbrite	ND	3624	1674	896	171
154.3	ignimbrite	7948	3282	1781	840	121
156	ignimbrite	7170	3739	1794	1097	58
159.6	ignimbrite	4204	3437	1939	1098	166
161.6	ignimbrite	2988	4142	1868	936	168
163.9	ignimbrite	4655	3950	2245	1138	267
165.3	ignimbrite	ND	6201	1976	1079	136
166.1	ignimbrite	2974	4159	2682	1101	103
166.5	ignimbrite	15983	5002	2959	1511	316
167.3	ignimbrite	1013	6196	2437	1728	321
167.9	ignimbrite	3501	3398	2474	1165	154
170.8	ignimbrite	6256	7842	1759	1307	141
171	ignimbrite	4543	3432	1693	1021	179

Results from scanning with portable XRF on DR-01

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DR-01	3.1	dyke	3960	3416	2053	1270	143
DR-01	3.7	tuff	6289	4007	1921	1525	306

Results from scanning with portable XRF on DR—02

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DR-02	25.2			3422	2105	1191	163
DR-02	59		ND	3055	2011	1358	164
DR-02	71.1		23715	7094	3235	360	329

DR-03 no Y or Nb values greater than 3000 ppm.

DR-04 no Y or Nb values greater than 3000 ppm.

Results from scanning with portable XRF on DR-05

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
DR-05	8.7	ignimbrite	4047	3088	2063	1303	276
DR-05	11.4	ignimbrite	6109	3278	2397	1500	170
DR-05	15.1	ignimbrite	703	4075	3094	1685	319
DR-05	19.9	ignimbrite	ND	6063	2409	1104	155
DR-05	20	ignimbrite	5572	3281	1728	1143	198
DR-05	20.2	ignimbrite	2319	3304	1935	1187	205
DR-05	21.1	ignimbrite	6088	4485	2302	1973	209
DR-05	21.1	ignimbrite	4055	3604	2802	1853	256
DR-05	23.5	ignimbrite	6202	5902	6540	1303	193
DR-05	25.2	ignimbrite	2789	4092	2871	1658	270
DR-05	25.7	ignimbrite	158	3475	2069	1473	276
DR-05	26.4	ignimbrite	6263	3402	2112	1425	334
DR-05	63.6	other	3427	4465	812	303	13
DR-05	150.1	rhyolite	ND	3950	430	82	80

Results from scanning with portable XRF on SL-01

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
SL-01	25.2	rhyolite	14274	11978	4866	223	441
SL-01	31.9	rhyolite	3690	3265	2759	152	197
SL-01	35.1	rhyolite	1820	4076	1413	89	134
SL-01	57.5	rhyolite	ND	4979	2192	85	164
SL-01	116.8	rhyolite	11874	6766	1900	852	187
SL-01	117.6	rhyolite	4327	3127	1934	894	169
SL-01	123.5	rhyolite	ND	3670	1625	844	66
SL-01	129	rhyolite	5928	3192	1849	1012	116
SL-01	132	rhyolite	3934	4581	1945	944	77
SL-01	136.04	rhyolite	3621	6226	1361	593	144

Results from scanning with portable XRF on SL-02

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
SL-02	5	tuff	4293	3148	1952	915	163
SL-02	5.5	tuff	915	3696	1516	748	43
SL-02	9.9	tuff	2814	7107	2576	1210	301
SL-02	11.8	tuff		8850	1305	706	157
SL-02	12.9	tuff	2826	3027	2054	1067	154
SL-02	13.6	tuff	10423	7952	6246	2960	393
SL-02	15.6	tuff	4511	3422	2564	1059	217
SL-02	17	tuff	4721	3326	2232	1065	162
SL-02	18.2	tuff		8230	1069	149	313
SL-02	19.2	tuff	2879	3211	3655	1016	142
SL-02	20.3	tuff		4670	2659	857	194
SL-02	77.4	rhyolite	2543	3620	180	25	88
SL-02	108.7	other	6536	3369	455	54	46

Results from scanning with portable XRF on SL-03

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
SL-03	11.5	ignimbrite	11842	3652	629	110	90
SL-03	20.3	ignimbrite	4392	3537	775	89	112
SL-03	68.9	ignimbrite	ND	3085	671	31	21
SL-03	125.6	ignimbrite	ND	3013	864	89	148

Results from scanning with portable XRF on SL-04

Hole_ID	Depth	Rock_Type	P	Y	Nb	Zr	Th
SL-04	41.1	rhyolite	ND	41995	1339	57	77
SL-04	42.1	rhyolite	4340	4874	1775	114	221
SL-04	43.7	rhyolite	ND	3246	870	52	64
SL-04	47.5	rhyolite	10132	4050	1484	102	117
SL-04	52.4	rhyolite	7412	5304	1590	107	260

APPENDIX B

Appendix B: Photographs of samples sent for geochemical analysis to Activation Laboratories with descriptions and selected geochemical analyses. .....35 pages

List of samples sent for lab analysis from drill core, by Alpha Uranium Resources, 2010.

HOLE #	DEPTH (meters)	BOX #	Sample #
DL-13	119.6	23	119004
DL-13	135.7	25	119005
DL-13	146.8	27	119006
DL-13	153.4	28	119007
DL-13	162.5	30	119008
DL-10	29.6	5	119009
DL-11	124.4	22	119010 & 119011
DL-11	124.5	22	119012 &119013
DL-11	124.35	22	119014
DL-21	32.5	5	119015
DR-05	19.9	3	119016
DR-05	23.5	4	119017
DR-05	21.1	4	119018
DR-05	151.95	28	119019
DL-21	63.6	11	119020
DL-21	68.7	11	119021
DL-21	41.35	7	119022
DL-21	52.5	9	119023
DL-21	60.6	10	119024
DL-09	117.5	20	119025
DL-20	57.6	10	119026
DL-20	115.8	20	119027
DL-20	160.3	28	119028
DL-05	36.1	6	119029
DL-05	41.2	7	119030
DL-05	124.5	22	119031
DL-14	76.2	13	119032
DL-08	31.3	4	119033
DL-08	52.8	8	119034
DL-08	72.4	11	119035
DL-07	1	1	119036
DL-22	144.5	23	119037
DL-22	161.5	27	119038
DL-22	171	29	119039

HOLE #	DEPTH (meters)	BOX #	Sample #
DL-02	49.7	7	119041
DL-02	112.1	17	119042
DL-03	30.2	5	119043
DL-03	66.3	11	119044
DL-03	106.6	18	119045
DL-03	112.5	19	119046
DL-03	124.6	22	119047
DL-04	62.4	3	119048
DL-04	106.1	17	119049
DL-01	89.9	15	119050
SL-01	25.3	5	119051
SL-01	136	26	119052
SL-03	11.5	3	119053
SL-04	41.1	8	119054
SL-02	11.9	2	119055
SL-02	18	3	119056
SL-02	77.5	13	119057
DL-17	4.3	1	119058
DL-17	18.1	3	119059
DL-17	61.3	11	119060
DL-16	40.0 - 40.3	9	119061
DL-16	66.1- 67.0	12	119062
DL-16	99.8	19	119063
DL-16	129.8	24	119064
DL-12	119.7	22	119065
DL-12	11.7	2	119066
DL-19	128.6	22	119067
DL-19	135.5	23	119068
DL-15	78.3	15	119069
DR-01	3.7	1	119070
DR-02	71.1	14	119071

Sample 119004 DL-13 at 119.6 m

DIORITE dark green, fine to medium grained and porphyritic. It is strongly fractured - frequently becoming mylonitic. Epidotization of fractures is prevalent with minor white carbonate.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119004	46.11	0.36	4.3	36	157	56.3	121	14.8	60	16.5	2.47	464.1

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
18.6	3.7	23.6	4.9	15	2.21	14.5	2.25	84.76	548.83	601	1149.83	90	18.8

Sample 119005 DL-13 at 135.7 m

GRANITE red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119005	77.15	0.01	0.39	< 1	188	48.3	112	14.2	54.8	16.6	0.67	434.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
19.4	4.1	26.9	5.7	17.8	2.86	19.4	3.1	99.26	533.83	692	1225.83	132	32.1

Sample 119006 DL-13 at 146.6 m

GRANITE red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite. Feldspar grains are dark red.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119006	78.18	< 0.01	0.62	< 1	342	70.4	174	22.5	87.1	28.3	1.15	725.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
34.6	7.4	49.6	10.2	31	4.85	32.4	5.01	175.06	900.51	1095	1995.51	167	50.5

Sample 119007 DL-13 at 153.4 m

GRANITE red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119007	74.86	< 0.01	0.49	< 1	156	29.8	70.9	8.52	32.4	10	0.44	308.1

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
12.3	2.7	19.5	4.4	14.5	2.34	16.2	2.59	74.53	382.59	502	884.59	119	18.1

Sample 119008 DL-13 at 162.5 m
GRANITE red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119008	70.82	0.06	0.95	4	195	87.8	205	25.6	96.9	25.5	1.4	641.2

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
27.6	5.4	34.6	7	21	3.25	21.9	3.42	124.17	765.37	567	1332.37	127	31.3

Sample 119009 DL-10 at 29.6 m

RHYOLITE
red to reddish-brown and strongly porphyritic with euhedral, orange to pink feldspar phenocrysts up to 5 mm. and round quartz phenocrysts up to 3 mm. in size. It carries abundant mafic clots, possibly fragments (?) They are moderately to strongly chloritized with indistinct boundaries. Some contain quartz phenocrysts within their borders. The rock is weakly fractured becoming moderately fractured locally. Fractures are epidotized with minor limonite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119009	55.2	0.01	5.36	< 1	159	45.9	96.5	10.7	38.1	10.8	0.13	361.1

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
13.8	3	21	4.8	14.9	2.25	14.5	2.29	76.54	437.67	111	548.67	56	22.4

Sample 119010 DL-11 at 124.4 m

RHYOLITE
NOTE grey material at top of core reddish-grey with red mottling, very fine grained and porphyritic with round quartz grains up to 2 mm. and euhedral feldspar phenocrysts up to 3 mm. Fractures often have red reaction halos.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119010	74.67	< 0.01	0	< 1	896	347	792	103	375	112	4.17	2629

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
125	25.2	168	34.6	104	16.3	106	15.8	594.9	3224.07	5249	8473.07	905	196

Sample 119011 DL-11 at 124.4 m
RHYOLITE same as sample 119010.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119011	69.82	0.01	0.26	< 1	2548	854	2010	264	999	305	11.7	6992

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
355	71	458	93.2	279	42.6	278	41.6	1618.4	8610.1	10000	18610.1	1000	369

Sample 119012 DL-11 at 124.5 m
RHYOLITE small fractures filled with epidote.

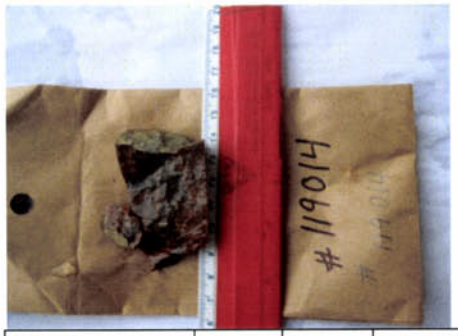
Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119012	66.04	< 0.01	0.36	< 1	1673	707	1700	220	851	249	9.37	5409

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
277	49.8	300	58.7	166	23.8	149	21.9	1046.2	6455.57	6544	12999.57	1000	259

Sample 119013 DL-11 at 124.5 m
RHYOLITE small fractures filled with epidote & calcite.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119013	77.89	< 0.01	0.17	2	74	58.3	125	14	48	10.5	0.21	332

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
10	1.8	11.4	2.3	7	1.07	7.2	1.15	41.92	373.93	322	695.93	43	22.9



Sample 119014 DL-11 at 124.35 m
RHYOLITE Note red and black components some epidote.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119014	76.7	0.01	0.1	2	78	51	111	12.2	42.8	9.6	0.15	306.8

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
9	1.7	11.1	2.4	7.5	1.21	8.3	1.3	42.51	349.26	211	560.26	37	24.3

Sample 119015 (DR -04?)DL-21 at 32.5 m
Felsic Agglomerate - brick-red altered zones are found associated with strongly fractured zones Note also black chloritic areas?

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119015	75.03	0.04	0.54	< 1	567	141	319	40.4	155	45	1.79	1269

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
51.2	10.6	73.3	16.9	58.3	10.9	74.3	10.8	306.3	1575.49	1487	3062.49	204	280

Sample 119016 DR-05 at 19.9 m
DARK IGNIMBRITE

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119016	78.37	< 0.01	1.06	< 1	231	176	378	43.3	161	35.8	1.72	1027

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
35.5	6.4	39.3	8	23.7	3.59	24.1	3.81	144.4	1171.22	2096	3267.22	137	42.6

Sample 119017 DR-05 at 23.5 m
DARK IGNIMBRITE

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119017	72.89	0.01	0.8	< 1	277	221	444	52.9	193	41.4	2.11	1231

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
40.4	7.6	48.2	9.7	29.1	4.38	29.1	4.63	173.11	1404.52	2129	3533.52	147	58.3

Sample 119018 DR-05 at 21.1 m
DARK IGNIMBRITE

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119018	78.85	< 0.01	0.72	< 1	213	177	378	43.6	162	36	1.73	1011

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
33.8	6.1	37.4	7.7	22.9	3.45	23.1	3.7	138.15	1149.48	1949	3098.48	125	38.4

Sample 119019 DR-05 at 151.95 m
Spherulitic Rhyolite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119019	63.31	0.01	2.88	9	127	81.5	166	19.2	66.9	16.4	0.23	486.2

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
17.4	3.5	23	4.7	13.7	2.04	13.2	2.01	79.55	565.78	237	802.78	48	23.3

Sample 119020 DL-21 at 63.6 m
DIABASE note somewhat coarser phases and filled fractures. (calcite)

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119020	56.6	< 0.01	8.08	< 1	281	65	169	21.5	85.9	27.8	1.12	651.3

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
32.9	6.7	44.7	9.3	28.2	4.27	28.7	4.46	159.23	810.55	1696	2506.55	243	31.7

Sample 119021 DL-21 at 68.7 m
Granite - pinkish-red becoming pink locally, medium to coarse grained. Composition is variable but approximately 55% - 70% feldspar, 25% - 40% quartz and 10% - 15% hornblende

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119021	75.45	< 0.01	0.32	< 1	692	149	353	45.1	176	56.1	2.28	1473

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
69.2	15.2	107	23.1	69.3	10.2	61.6	8.77	364.37	1837.85	2097	3934.85	306	152

Sample 119022 DL-21 at 41.35 m

Granite

Medium to coarse grained and reddish-pink to red in color. Composition is about 60% - 70% feldspar, 25% - 35% quarts and up to 15% hornblende. Weakly fractured with minor epidote and hematite along some fractures

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119022	75.68	< 0.01	0.17	< 1	324	99.4	230	27.7	108	31.3	1.34	821.7

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
35.9	7.4	50	10.4	31.3	4.67	31.3	4.95	175.92	997.66	911	1908.66	183	29.1

Sample 119023 DL-21 at 52.5 m

Spherulitic section of granite? Centers of spherules are generally feldspars and/or magnetite.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119023	85.44	0.03	0.27	< 1	387	201	525	66.5	235	60.7	3.86	1479

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
62.1	12.1	76.2	14.3	38.7	5.56	36.8	5.85	251.61	1730.67	463	2193.67	625	25.9

Sample 119024 DL-21 at 60.6 m
Darker phase of granite.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119024	71.64	< 0.01	2.14	< 1	352	78.9	196	24.2	94.3	30.6	1.3	777.3

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
37	7.8	54.3	11.9	37.5	5.88	38.2	5.79	198.37	975.67	1784	2759.67	256	58

Sample 119025 DL-09 at 117.5 m
RHYOLITE note separate quartz and feldspar sections near middle of photo.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119025	55.92	0.05	1.48	1	204	254	537	62.7	237	45.3	3.24	1344

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
37.6	6.2	37.1	7.6	22.3	3.38	22.7	3.93	140.81	1485.05	2815	4300.05	166	29

Sample 119026 DL-20 at 57.6 m
IGNIMBRITE Chlorite and epidote veins in fractures.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119026	39.39	0.09	9.42	13	70	26.2	54.8	6.23	24.8	6.5	2.39	203.9

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
9.5	1.4	8.2	1.6	4	0.48	2.8	0.44	28.42	232.34	158	390.34	21	10.3

Sample 119027 DL-20 at 115.8 m
Rhyolite (Ignimbrite) – light to medium grey, aphanitic and contains abundant angular to sub-angular, pink aphanitic fragments

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119027	77.16	< 0.01	0.28	3	116	45.5	92.1	9.75	32.1	6.8	0.48	305.7

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
6.7	1.5	11.6	2.8	9.4	1.41	8.4	1.19	43	348.73	159	507.73	24	20.7

Sample 119028 DL-20 at 160.3
Granite - medium to coarse grained and reddish-pink to red. Composition is approximately 60% - 70% feldspar, 25% - 35% quartz and 10% hornblende with up to 15% hornblende locally. The rock is weakly fractured with minor epidote along some fractures.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119028	75.88	0.01	0.33	< 1	369	91	232	29.4	113	34.2	1.42	870

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
39.9	8.5	61	13.2	42.4	7.09	49.1	7.68	228.87	1098.89	2706	3804.89	266	88.8

Sample 119029 DL-05 at 36.1 m
Rhyolite & Ignimbrite - Dark red to greenish-red and porphyritic with abundant 1 – 2 mm. quartz phenocrysts and 1 -3 mm. Epidotized feldspar phenocrysts. The matrix is weakly laminated.. The bands are frequently lensitic with red laminated bands set in a green matrix,

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119029	73.35	0.02	3.05	< 1	275	185	445	49.3	182	42.8	2.09	1181

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
41.7	7.6	48.7	10	30.5	4.82	32.4	5.22	180.94	1362.13	2458	3820.13	159	58.3

Sample 119030 DL-05 at 41.2 m
Rhyolite
Rhyolite resembles broken brecciated units

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119030	78.91	0.02	0.77	< 1	236	144	347	38.5	144	34.6	1.67	945.8

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
34.4	6.5	40.9	8.4	25.2	3.81	25.6	4.05	148.86	1094.63	2144	3238.63	118	45.5

Sample 119031 DL-05 at 124.5 m
Rhyolite
brick red, aphanitic and porphyritic

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119031	77.13	0.02	0.17	< 1	162	83.1	197	24.3	96	24.8	1.01	588.2

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
25.3	4.6	29	6	17.9	2.65	17.8	2.79	106.04	694.25	1204	1898.25	108	24.8

Sample 119032 DL-14 at 76.2 m
Felsic Agglomerate - pink and grey ignimbrite and rhyolite fragments up to 5 cm. in size and generally well rounded to sub-angular set in a predominately grey aphannitic groundmass. pink euhedral feldspar phenocrysts up to 3 mm. in size. moderately to highly fractured.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119032	81.62	0.02	1.13	2	42	43.9	79.8	10.1	34.6	6.9	0.2	219.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
6.1	1.1	7	1.4	4.2	0.64	4.3	0.67	25.41	244.91	134	378.91	26	16

Sample 119033 DL-08 at 31.3 m
Rhyolite porphyry - reddish - pink to red, aphanitic and moderately to strongly porphyritic. Pink to cream, 1 - 3 mm. Euhedral, locally epidotized feldspar phenocrysts and 1 - 2 mm. Round quartz phenocrysts are common. Massive and non-banded.Weakly to moderately fractured. Epidote and minor chlorite coat most fracture surfaces.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119033	77.43	< 0.01	0.2	1	114	50	109	11.6	38.7	10.5	0.07	334.9

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
11.6	2.5	17.5	3.8	12.2	1.95	13.3	2.06	64.91	399.78	154	553.78	76	33.7

Sample 119034 DL-08 at 52.8 m
Rhyolite porphyry - reddish - pink to red, aphanitic with epidote and minor chlorite coating most fracture surfaces.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119034	67.58	0.02	1.05	3	83	74.9	146	16	54.2	11.7	0.8	389.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
11.5	2.2	14.1	2.9	8.2	1.22	8.2	1.27	49.59	439.19	188	627.19	37	21.8

Sample 119035 DL-08 at 72.4 m

Altered Rhyolite amorphous whitish material pervasive.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119035	75.66	< 0.01	0.31	3	74	68.1	140	15.4	55.2	13	0.14	368.8

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
11.9	2.3	13.7	2.7	7.8	1.14	7.2	1.1	47.84	416.68	150	566.68	30	17.3

Sample 119036 DL-07 at 10.0 m

Rhyolite - reddish-pink to pinkish-red and strongly porphyritic. abundant dark green, sub-round to sub-angular chloritized fragments (andesite?, up to 2 cm. Fractures are filled with chloritize.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119036	79.52	0.02	0.5	2	111	49.2	102	11	36.4	9.5	0.14	321.2

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
10.6	2.4	16.3	3.5	10.6	1.68	11.2	1.73	58.01	379.25	125	504.25	52	24.8

Sample 119037 DL-22 at 144.5 m

Rhyolite Ignimbrite - dark burgundy red and aphanitic with abundant 1-3mm quartz and orange feldspar phenocrysts. It is well flow banded. Individual flow laminations are lensitic and irregular - often discontinuous. The rock is weakly to moderately fractured. Abundant epidote at original local.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119037	76.53	0.01	1.07	< 1	187	98.5	220	27	104	25.8	1.09	663.4

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
25.9	4.9	31.7	6.7	20	2.99	20.1	3.19	115.48	778.87	1426	2204.87	97	29.6

Sample 119038 DL-22 at 161.5 m

Rhyolite Ignimbrite - burgundy red, with olive green flow laminations aphanitic in the groundmass but strongly porphyritic with 1-2mm quartz phenocrysts and 1-3mm orange feldspar phenocrysts moderately fractured with chlorite and white carbonate in fractures.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119038	74.93	< 0.01	1.92	< 1	238	118	231	32.8	127	33	1.49	781.3

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
37.3	7.1	43.6	8.4	23.6	3.49	22.7	3.6	149.79	931.08	1436	2367.08	84	32.2

Sample 119039 DL-22 at 171 m

Rhyolite Ignimbrite - burgundy red, with olive green flow laminations aphanitic in the groundmass but strongly porphyritic with 1-2mm quartz phenocrysts and 1-3mm orange feldspar phenocrysts moderately fractured with chlorite and white carbonate in fractures.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119039	74.04	< 0.01	2.04	< 1	221	88.8	202	24.7	96.7	25.1	1.05	659.4

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
26.9	5.3	35.8	8.1	25.5	3.89	25.4	4.06	134.95	794.3	1310	2104.3	95	28

Sample 119040 DL-02 at 42.2 m

Rhyolite -Brick red, aphanitic and porphyritic with 1 - 2 mm. quartz and feldspar phenocrysts. The zone is highly brecciated and fractured. Moderately to strongly hematized.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119040	77.89	< 0.01	2.24	< 1	197	93.8	208	26.3	99.7	24.1	1.05	650

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
24	4.7	30.8	6.6	21	3.3	22.3	3.57	116.27	766.22	1519	2285.22	107	29.9

Sample 119041 DL-02 at 49.7 m
Siltstone - Brick red, and apple green to greenish pink, fine to very fine grained and moderately hematized. In darker red zones, hematization may be quite strong. Some epidotization of fractures occurs and spotty epidote alteration gives the core a mottled appearance.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119041	64.26	0.05	3.54	3	275	169	396	46.1	176	41.1	1.94	1108

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
41.7	7.9	49	9.8	28.7	4.22	28.1	4.5	173.92	1282.06	2409	3691.06	169	49.8

Sample 119042 DL-02 at 112.7 m
Fragmental Intrusive flow?- Pale green-grey with darker mottling becoming pink with dark green mottling. Fine grained to aphanitic. Flow(?) laminated in the upper zone is non-laminated in the pinkish zone. Fragments are stretched along the foliation and are moderately to strongly chloritized. Abundant pyrite is found finely disseminated in the rock locally.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119042	78.02	< 0.01	1.91	1	210	166	351	41.9	154	34.1	1.72	959.7

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
32.2	5.9	36.2	7.4	22.3	3.38	22.6	3.59	133.57	1093.29	1833	2926.29	110	38.9

Sample 119043 DL-03 at 30.2 m
Porphyritic siliceous flow light to medium grey becoming grey-green with depth fine grained to aphanitic, red mottling in feldspathic or weakly hematized zones, rounded quartz grains (phenocrysts) 1-2 mm

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119043	75.02	0.02	1.18	2	207	189	370	44.9	167	35.2	1.8	1017

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
32.4	5.7	35.7	7.3	21.7	3.21	21.4	3.43	130.84	1147.74	1769	2916.74	123	37.3

Sample 119044 DL-03 at 66.3 m
Rhyolite -greyish pink aphanitic & porphyritic round 1-2 mm quartz phenocrysts & 1-3 mm pink euhedral feldspar, tectonically brecciated and silicified.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119044	78.03	< 0.01	0.53	< 1	122	50.8	117	14.4	53	15.6	0.09	372.9

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm	
16.9	3.3	21.7	4.4	12.9	1.96	13	2.01	76.17	449.06	425	874.06

Sample 119045 DL-03 at 106.6 m
Rhyolite -reddish brown pink aphanitic & porphyritic feldspar phenocrysts 1-2 mm epidotized &/or kaolinized & 1-3 mm quartz phneo 1-2 mm chloritized amygdules vague lamination

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119045	75.9	0.03	0.97	< 1	206	170	374	41.5	163	35.5	1.7	991.7

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
33.5	5.8	34.6	7.1	21.3	3.16	21.1	3.38	129.94	1121.64	1808	2929.64	110	46.8

Sample 119046 DL-03 at 112.5 m
Rhyolite - reddish brown pink aphanitic & porphyritic feldspar pheno 1-2 mm epidotized &/or kaolinized & 1-3 mm quartz phneo 1-2 mm chloritized

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119046	75.45	0.03	1.5	< 1	308	200	449	49.9	186	40.7	2.24	1236

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
41	7.9	51.2	10.6	32.2	4.92	32.6	5.25	185.67	1421.51	2246	3667.51	160	49.3

Sample 119047 DL-03 at 124.6 m

Rhyolite -deep red w dark green banding aphanitic & porphyritic bands vary & reflect alteration feldspar phenocrysts 1-2 mm epidotized &/or kaolinized epidotized zones surrounded by dark pinkish red halos

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119047	81.85	0.03	1.28	< 1	288	194	377	49.5	186	41.3	2.04	1138

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
39.5	7.1	45.5	9.6	29.7	4.46	29.6	4.78	170.24	1308.08	2231	3539.08	137	99.2

Sample 119048 DL-04 at 62.4 m

Quartz- Feldspar Porphyry Flow Rhyolite -Medium to dark grey, aphanitic and porphyritic. Quartz and feldspar phenocrysts are up to 3 mm. weakly to moderately laminated by flowage and some dark pink banding occurs locally fragmental. Blocks up to 3 cm. In size are common. They are round to sub-round in outline.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119048	73.16	0.02	2.68	< 1	131	99.9	243	26.4	98.8	23.2	1.27	623.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
21.7	3.8	23	4.7	13.8	2.06	13.7	2.23	84.99	708.56	1193	1901.56	78	25.5

Sample 119049 DL-04 at 106.1 m

Mafic flow - Dark green, fine to medium grained and carrying rounded fragments up to 1 cm. in size. The rock is locally laminated at 50° to the core axis. The unit is finely fractured. The wider fractures are quartz-carbonate filled. Abundant finely disseminated pyrite and minor chalcopyrite occur along laminations and throughout the rock. Weak to moderate chloritization is widespread.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119049	76.15	< 0.01	1.9	< 1	241	182	408	44.3	173	37.7	1.8	1088

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
36.6	6.3	38.9	8.1	24.5	3.7	24.3	3.86	146.26	1234.06	2144	3378.06	125	46.5

Sample 119050 DL-01 at 89.9 m

Rhyolite brick red hematite alteration, fractured with white minerals infilling, feldspar phenocrysts.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119050	77.26	< 0.01	0.63	< 1	239	108	275	30.7	120	30.6	1.33	804.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
32.3	6.1	39.7	8.3	25.1	3.8	25.5	4.08	144.88	949.51	1756	2705.51	109	38.3

Sample 119051 SL-01 at 25.3 m

Rhyolite porphyrytic pink strongly fractured epidote infilling. Very small fluoride veinlet

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119051	75.79	< 0.01	0.4	1	108	45.5	101	10.4	36.1	9.9	0.1	312

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
10.9	2.3	16.4	3.6	11.6	1.86	12.9	2.02	61.58	373.58	141	514.58	62	30

Sample 119052 SL-01 at 136 m
Rhyolite red to darker brownish red aphanitic &strongly porphyritic round quartz weak to moderate fractures epidote on fracture surfaces.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119052	76.43	0.01	0.64	< 1	203	88.5	203	26.1	103	26.8	1.14	651.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
28	5.3	33.6	6.8	19.6	2.84	18.3	2.84	117.28	768.82	1338	2106.82	103	24.4

Sample 119053 SL-03 at 11.5 m

Ignimbrite - Groundmass light orange to pink Strongly chloritized, epidotized, or hematized. Sample taken from along a fracture with elevated yttrium.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119053	71.67	< 0.01	3.05	2	69	43.9	102	10.4	39.1	8.5	0.06	275

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
8.2	1.5	9.3	1.9	5.9	0.92	6.1	0.98	34.8	309.76	164	473.76	28	18.2

Sample 119054 SL-04 at 41.1 m
Porphyritic rhyolite abundant quartz and feldspar phenocrysts. Grey and white mineral on fracture. 42220 ppm yttrium. By portable XRF.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119054	77.36	< 0.01	0.41	1	137	40.9	86.8	9.85	32.8	9.2	0.08	317.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
10.5	2.4	17.3	3.9	12.9	2.03	13.7	2.14	64.87	382.5	155	537.5	56	30.1

Sample 119055 SL-02 at 11.9 m

Rhyolite porphyry with epidote seam elevated Yttrium low Niobium

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119055	78.03	< 0.01	0.81	< 1	182	84.4	197	23.2	101	27.9	1.67	617.2

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
32.3	5.9	34.7	6.4	15.1	1.9	11.6	1.75	109.65	726.82	644	1370.82	53	13.9

Sample 119056 SL-02 at 18.0 m

Porphyritic rhyolite with epidote veinlets throughout elevated yttrium by portable XRF.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119056	73	< 0.01	2.16	< 1	182	78.3	171	21.4	83.9	21.3	1.48	559.4

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
23.4	4.6	30	6.1	16.3	2.23	13.7	2.12	98.45	657.83	873	1530.83	70	17.4

Sample 119057 SL-02 at 77.5 m

RHYOLITE light to moderate greenish-grey and light to moderate reddish hematized. fractured with infilling epidote note visible on core surface.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119057	64.28	0.01	0.71	2	104	36.2	76.2	8.41	33	8.5	0.26	268.6

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
9.9	2.1	14.7	3.2	9.5	1.42	8.8	1.25	50.87	319.44	84	403.44	16	10.2

Sample 119058 DL-17 at 4.3 m

Granite -Red to pinkish-red, medium to coarse grained 20 - 30% quartz, 60 - 70% feldspar and 5 - 15% hornblende. Quartz grains interstitial to feldspar. Fracturing is strong with black minerals infilling.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119058	76.21	< 0.01	0.93	< 1	544	109	234	33	130	42.6	1.85	1094

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
56.1	11.8	80.6	17.2	51.9	7.62	47.4	6.94	279.56	1374.01	1592	2966.01	149	32.4

Sample 119059 DL-17 at 18.1 m

Granite - Red to pinkish-red, medium to coarse grained 20 - 30% quartz, 60 - 70% feldspar and 5 - 15% hornblende. Quartz grains interstitial to feldspar. Fracturing is strong with black minerals infilling.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119059	77.57	< 0.01	0.79	< 1	393	53.6	119	16.7	67.3	22.2	0.94	672.7

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
30.6	6.7	47.7	10.9	33.8	4.96	31.2	4.88	170.74	843.48	779	1622.48	119	34.2

Sample 119060 DL-17 at 61.3 m

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119060	57.83	0.25	1.18	14	638	152	394	46.4	188	60	4.61	1497

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
73	15.4	106	24.2	82.3	13.8	98.9	16	429.6	1926.61	9162	11088.61	418	261

Sample 119061 DL-16 at 40.0 – 40.3 m

Dark ryholite

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119061	74.41	0.02	1.41	6	107	65.8	136	16.3	59	13.6	0.15	403.9

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
13.2	2.5	16.4	3.4	10.6	1.6	10.6	1.65	59.95	463.8	188	651.8	35	22.8

Sample 119062 DL-16 at 66.1 – 67.0 m

Ignimbrite- Bright red grading to pinkish grey aphanitic and moderately to strongly porphyritic with 1-2mm quartz phenocrysts and 1-3 mm feldspar phenocrysts well flow banded with bands up to 1 cm in thickness-possibly ignimbrite. **Grab samples collected over the length of D.P.Gower's REE anomalous samples**.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119062	76.04	0.02	0.24	1	322	65	147	15.5	58.6	14.9	0.3	624.3

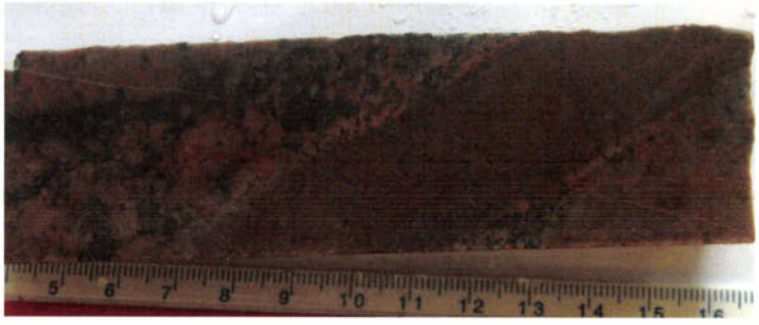
Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
15.7	3.9	30.5	7.7	31	6.21	48.6	7.59	151.2	775.5	275	1050.5	68	349

Sample 119063 DL-16 at 99.8 m

Felsic Agglomerate - Pinkish-grey becoming pink locally, aphanitic and porphyritic. Quartz phenocrysts up to 2 mm are common. A few chloritized and epidotized feldspar phenocrysts are found. Epidote is the major fracture filling.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119063	74.28	< 0.01	0.32	3	104	53.5	115	13	44.1	9.8	0.11	342.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
9.6	2	13.7	3.1	10	1.63	10.8	1.71	52.54	395.05	223	618.05	40	29.2



Sample 119064 DL-16 at 129.8 m

Vein of material found in outcrop. note pegmatitic at margins of dyke.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119064	72.8	0.01	0.76	2	1204	205	576	68.7	278	92.9	3.42	2430

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
114	26.2	191	43.3	142	22.3	143	20.7	702.5	3132.52	5943	9075.52	1000	169

Sample 119065 DL-12 at 119.7 m

Rhyolite - Dark dark red to reddish-brown and banded Fractures are strongly epidotized

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119065	74.3	0.02	1.07	1	144	60.3	136	17.1	66.5	17.6	1	443.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
19.1	3.7	23.9	5	14.2	2.01	12.6	1.95	82.46	525.96	651	1176.96	63	18.9

Sample 119066 DL-12 at 11.7 m

Rhyolite brownish red with quartz and feldspar phenocrysts. Massive and non-structured. Fractured with limonite and epidote on fracture surfaces..

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119066	78.18	0.01	0.37	< 1	117	56.8	130	16	60	16.6	0.13	396.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
16.9	3.2	20.3	4.1	12.2	1.83	12.1	1.86	72.49	469.02	404	873.02	73	20.2

Sample 119067 DL-19 at 128.6 m

Ignimbrite brick red with small grayish veinlet.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119067	77.92	0.02	0.52	1	1016	110	277	38.4	138	50.6	1.65	1633

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
64.8	19.2	158	38.3	137	22.1	141	19	599.4	2232.05	4999	7231.05	789	668

Sample 119068 DL-19 at 135.5 m

Rhyolite Pinkish-red to brick red with epidote on fracture surface.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119068	68.73	< 0.01	0.64	< 1	1434	403	1100	116	408	128	5.09	3594

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
152	31.7	216	47.3	156	26.4	202	34.6	866	4460.09	10000	14460.09	1000	200

Sample 119069 DL-15 at 78.3

Porphyritic rhyolite pinkish-red to brownish-red, aphanitic and strongly porphyritic with 1- 2 mm. Round quartz phenocrysts which have frequently been penetrated by the groundmass. Feldspar phenocrysts up to 4 mm.are pink and euhedral. Epidotization of fractures is prevalent.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119069	80.28	< 0.01	0.35	< 1	148	38.9	82.3	9.43	32.1	9.7	0.08	320.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
11.9	2.9	20.9	4.6	15	2.45	17	2.71	77.46	397.97	273	670.97	117	26

Sample 119070 DR-01 at 3.7

Tuff light grey groundmass may be strongly chloritized, both lithic and crystal fragments range from ash to medium lapilli.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119070	75.74	0.03	2.22	< 1	222	168	365	41.3	165	36.5	1.73	999.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
35.3	6.1	38.2	7.9	23.5	3.49	23.1	3.68	141.27	1140.8	1941	3081.8	132	54.5

Sample 119071 DR-02 at 71.1

Spherulitic Rhyolite - Reddish to orange groundmass, quite massive, Spherulites and/or lithophysae up to 50%, shape ranges from oblate, deformed, broken partial spheres. sericite, kaolin, epidotization, siliceous and calcite veining.

Analyte Symbol	SiO2	P2O5	LOI	Sc	Y	La	Ce	Pr	Nd	Sm	Eu	TLREE
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
119071	76.86	< 0.01	0.55	< 1	236	163	315	42	159	35.8	1.73	952.5

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	THREE	TREE	Zr	TREE + Zr	Nb	Th
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			ppm		ppm	ppm
33.8	6.1	39	8.1	24.1	3.6	23.8	3.78	142.28	1094.81	1976	3070.81	127	52.8

APPENDIX C

ANALYTICAL TECHNIQUE

4Litho - Lithium Metaborate/Tetraborate Fusion - ICP and ICP/MS

A combination of packages Code 4B (lithium metaborate/tetraborate fusion ICP whole rock) and Code 4B2 (trace element ICP/MS)

Fused sample is diluted and analyzed by Perkin Elmer Sciex ELAN 6000, 6100 or 9000 ICP/MS. Three blanks and five controls (three before sample group and two after) are analyzed per group of samples. Duplicates are fused and analyzed every 15 samples. Instrument is recalibrated every 40 samples.

For accurate levels of base metals (Cu, Pb, Zn and Ni) option 4B1 (see below) is recommended. Option 4B-INAA (see below) is recommended for As, Bs, high W >100 ppm and Cr > 1,000 ppm. Code 5D is recommended for Sn >50 ppm. Mineralized samples should have the "Quant" option (see below) selected or request assays for values which exceed the range of option 4B1.

Fusion ICP

Oxide	Detection Limit (%)
SiO_2	0.01
Al_2O_3	0.01
Fe_2O_3	0.01
MgO	0.01
MnO	0.001
CaO	0.01
TiO_2	0.001
Na_2O	0.01
K_2O	0.01
P_2O_5	0.01
Loss on Ignition	0.01

Trace Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit	Reported By
Ag	0.5	100	ICP/MS
As	5	2,000	ICP/MS
Ba	3	500,000	ICP
Be	1	-	ICP
Bi	0.4	2,000	ICP/MS
Ce	0.1	3,000	ICP/MS
Co	1	1,000	ICP/MS
Cr	20	10,000	ICP/MS
Cs	0.5	1,000	ICP/MS
Cu	10	10,000	ICP/MS
Dy	0.1	1,000	ICP/MS
Er	0.1	1,000	ICP/MS
Eu	0.05	1,000	ICP/MS
Ga	1	500	ICP/MS
Gd	0.1	1,000	ICP/MS
Ge	1	500	ICP/MS
Hf	0.2	1,000	ICP/MS
Ho	0.1	1,000	ICP/MS
In	0.2	200	ICP/MS
La	0.1	2,000	ICP/MS
Lu	0.04	1,000	ICP/MS
Mo	2	100	ICP/MS
Nb	1	1,000	ICP/MS

Element	Detection Limit	Upper Limit	Reported By
Nd	0.1	2,000	ICP/MS
Ni	20	10,000	ICP/MS
Pb	5	10,000	ICP/MS
Pr	0.05	1,000	ICP/MS
Rb	2	1,000	ICP/MS
Sb	0.5	200	ICP/MS
Sc	1	-	ICP
Sm	0.1	1,000	ICP/MS
Sn	1	1,000	ICP/MS
Sr	2	10,000	ICP
Ta	0.1	500	ICP/MS
Tb	0.1	1,000	ICP/MS
Th	0.1	2,000	ICP/MS
Tl	0.1	1,000	ICP/MS
Tm	0.05	1,000	ICP/MS
U	0.1	1,000	ICP/MS
V	5	10,000	ICP
W	1	5,000	ICP/MS
Y	2	10,000	ICP
Yb	0.1	1,000	ICP/MS
Zn	30	10,000	ICP/MS
Zr	4	10,000	ICP

Code 4Litho - Options

4LithoQuant

A 1 g sample is digested with aqua regia and diluted to 250 ml volumetrically. Appropriate international reference materials for the metals of interest are digested at the same time. The samples and standards are analyzed on a Thermo Jarrell Ash ENVIRO II simultaneous and sequential ICP , Varian Vista 735 ICP or Thermo 6500 ICP.

4B1

A 0.25 g sample is digested with four acids beginning with hydrofluoric, followed by a mixture of nitric and perchloric acids, heated using precise programmer controlled heating in several ramping and holding cycles which takes the samples to dryness. After dryness is attained, samples are brought back into solution using hydrochloric acid. With this digestion certain phases may be only partially solubilized. These phases include zircon, monazite, sphene, gahnite, chromite, cassiterite, rutile and barite. Ag greater than 100 ppm and Pb greater than 5,000 ppm should be assayed as high levels may not be solubilized. Only sulphide sulfur will be solubilized.

An in-lab standard (traceable to certified reference materials) or certified reference materials are used for quality control.

Samples are analyzed using a Varian Vista 735 ICP.

Option 4B1 Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit
Ag	0.5	50
Cd	0.5	5,000
Cu	1	10,000
Ni	1	10,000
S	0.001%	20%
Zn	1	10,000

4B-INAA

An approximately 30 g aliquot if available is encapsulated and weighed in a polyethylene vial and irradiated with flux wires and an internal standard (1 for 11 samples) at a thermal neutron flux of 7 x 10^{12} n cm^{-2} s^{-1}. After a seven day decay to allow Na-24 to decay the samples are counted on a high purity Ge detector with a resolution of better than 1.7 KeV for the 1332 KeV Co-60. Using the flux wires the decay corrected activities are compared to a calibration developed from multiple certified international reference materials. The standard present is only a check on accuracy of the analysis and is not used for calibration purposes. From 10-30% of samples are rechecked by re-measurement.

Further details are available on isotopes and gamma-ray energies used in Hoffman, E.L., 1992. Instrumental Neutron Activation in Geoanalysis. Journal of Geochemical Exploration, volume 44, pp. 297-319.

Option 4B-INAA Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit
As	0.5	-
Au	2 ppb	30,000 ppb
Br	0.5	-
Cr	5	100,000
Ir	5 ppb	-
Sb	0.2	10,000
Sc	0.1	-
Se	3	-

STANDARDS

Report: A10-6022						Final Report											
						Activation Laboratories											
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	3	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
WMG-1 Meas																	
WMG-1 Cert																	
DH-1a Meas																	
DH-1a Cert																	
TAN-1 Meas																	
TAN-1 Cert																	
NIST 694 Meas	11.42	1.88	0.74	0.009	0.35	43.85	0.87	0.56	0.116	30.2					1677		
NIST 694 Cert	11.2	1.8	0.79	0.0116	0.33	43.6	0.86	0.51	0.11	30.2					1740		
DNC-1 Meas	46.69	18.54	9.92	0.148	10.04	11.17	1.96	0.24	0.486	0.08			31		155	103	141
DNC-1 Cert	47.15	18.34	9.97	0.15	10.13	11.49	1.89	0.234	0.48	0.07			31		148	118	144
LKSD-3 Meas																	
LKSD-3 Cert																	
NIST 1633b Meas	48.2	28.04	11.05	0.019	0.77	2.12	0.26	2.33	1.294	0.55			41		304	689	1037
NIST 1633b Cert	49.2	28.4	11.1	0.02	0.8	2.11	0.27	2.35	1.32	0.53			41		296	709	1040
W-2a Meas	52.14	15.22	10.74	0.168	6.27	10.87	2.17	0.63	1.084	0.12			36	< 1	281	171	193
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.13			36	1.3	262	182	190
SY-4 Meas	49.94	20.8	6.26	0.107	0.51	7.95	6.93	1.71	0.289	0.13			1	3	7	339	1208
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.1	1.66	0.287	0.131			1.1	2.6	8	340	1191
CTA-AC-1 Meas																	
CTA-AC-1 Cert																	
BIR-1a Meas	47.95	15.48	11.31	0.174	9.6	13.2	1.81	0.02	0.97	0.02			44	< 1	339	8	106
BIR-1a Cert	47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.03	0.96	0.05			44	0.58	313	7	108
NCS DC86312 Meas																	
NCS DC86312 Cert																	
NCS DC70014 Meas																	
NCS DC70014 Cert																	
NCS DC86316 Meas	70.51	13.38	0.4	0.02	0.07	0.67	4.07	3.86	0.683	0.05							
NCS DC86316 Cert	70.73	14.57	0.38	0.021	0.079	0.63	4.2	3.9	0.64	0.04							
NCS DC70009 (GBW07241) Meas																	
NCS DC70009 (GBW07241) Cert																	
OREAS 100a (Fusion) Meas																	
OREAS 100a (Fusion) Cert																	
OREAS 101a (Fusion) Meas																	
OREAS 101a (Fusion) Cert																	
JR-1 Meas																	
JR-1 Cert																	
NCS DC86318 Meas	65.9	13.65	2.31	0.055	0.08		0.58	5.6	0.174	0.02							
NCS DC86318 Cert	66.9	14.26	2.24	0.052	0.11		0.66	5.52	0.17	0.02							
SARM 3 Meas																	4571
SARM 3 Cert																	4565
USZ 44-2007 Meas																	
USZ 44-2007 Cert																	
119010 Orig	74.82	10.23	5.88	0.045	0.05	0.5	1.45	6.6	0.262	< 0.01	0	99.85	< 1	36	5	110	44
119010 Dup	74.52	10.02	5.94	0.046	0.05	0.5	1.45	6.65	0.257	< 0.01	0	99.44	< 1	36	< 5	109	44
119027 Orig	76.79	11.24	1.55	0.025	0.14	0.26	0.81	8.63	0.147	< 0.01	0.28	99.88	2	11	10	366	47
119027 Dup	77.52	11.14	1.55	0.026	0.14	0.26	0.82	8.63	0.147	< 0.01	0.28	100.5	3	11	10	368	47
119044 Orig	78.06	10.86	2.01	0.029	0.04	1.11	2.25	5.71	0.105	< 0.01	0.53	100.7	< 1	7	< 5	32	17
119044 Dup	78	10.7	1.95	0.029	0.04	1.09	2.23	5.68	0.102	< 0.01	0.53	100.4	< 1	7	< 5	32	17
Method Blank Method Blank																	

Report: A10-6022							Final Report										
							Activation Laboratories										
Analyte Symbol	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	4	20	1	20	10	30	1	1	5	2	1	2	0.5	0.2	1	0.5
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas			760	206	2670	5890	110	10		9		5	< 2	1.5		3	
WMG-1 Cert			770	200	2700	5900	110	10.3		7		6	1.4	2.7		2.2	
DH-1a Meas																	
DH-1a Cert																	
TAN-1 Meas											> 1000						
TAN-1 Cert											2700						
NIST 694 Meas																	
NIST 694 Cert																	
DNC-1 Meas	15	35	260	56	250	100	60										0.9
DNC-1 Cert	18	38	270	57	247	100	70										0.96
LKSD-3 Meas			70	30	40	30	150			27	76		< 2	2.6		2	1.3
LKSD-3 Cert			87	30	47	35	152			27	78		2	2.7		3	1.3
NIST 1633b Meas																	
NIST 1633b Cert																	
W-2a Meas	19	89	80	43	70	100	80	17	2	< 5	20	7	< 2	< 0.5			0.9
W-2a Cert	24	94	92	43	70	110	80	17	1	1.2	21	7.9	0.6	0.046			0.79
SY-4 Meas	119	520															
SY-4 Cert	119	517															
CTA-AC-1 Meas				< 1		60	< 30										
CTA-AC-1 Cert				2.72		54	38										
BIR-1a Meas	13	15	380	53	170	130	80	16	2	< 5	< 2	< 1	< 2	< 0.5		< 1	1.2
BIR-1a Cert	16	16	382	51.4	166	126	71	16	1.5	0.44	0.25	0.6	0.5	0.036		0.65	0.58
NCS DC86312 Meas																	
NCS DC86312 Cert																	
NCS DC70014 Meas				26	70	2630	7400	25					> 100	16.7			180
NCS DC70014 Cert				26.2	70.9	2600	7400	25.2					270	16.7			180
NCS DC86316 Meas		> 10000															
NCS DC86316 Cert		34666															
NCS DC70009 (GBW07241) Meas			30	3	< 20	1000	100	17	11	69	506			1.9	1.3	> 1000	3.5
NCS DC70009 (GBW07241) Cert			30	3.7	2.8	960	100	16.5	11.2	69.9	500			1.8	1.3	1701	3.1
OREAS 100a (Fusion) Meas				18		180							23				
OREAS 100a (Fusion) Cert				18.1		169							24.1				
OREAS 101a (Fusion) Meas				50		440							20				
OREAS 101a (Fusion) Cert				48.8		434							21.9				
JR-1 Meas			< 20	< 1	< 20	< 10	< 30	17	3	17	247	13	3	< 0.5	< 0.2	3	1.8
JR-1 Cert			2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	15.2	3.25	0.031	0.028	2.86	1.19
NCS DC86318 Meas	> 10000																
NCS DC86318 Cert	17010																
SARM 3 Meas		> 10000										977					
SARM 3 Cert		11119										978					
USZ 44-2007 Meas	1173	> 10000															
USZ 44-2007 Cert	1102	15800															
119010 Orig	908	5307	< 20	1	< 20	40	50	30	5	< 5	469	908	4		< 0.2	173	< 0.5
119010 Dup	884	5190	< 20	1	< 20	40	50	29	5	< 5	462	902	5		< 0.2	178	0.6
119027 Orig	116	158	30	2	< 20	10	< 30	16	1	< 5	413	24	3	1	< 0.2	3	< 0.5
119027 Dup	117	160	30	2	< 20	10	< 30	15	1	< 5	397	23	3	0.9	< 0.2	3	< 0.5
119044 Orig	123	429	< 20	< 1	< 20	< 10	90	32	2	< 5	289	83	43	2.5	< 0.2	11	1.7
119044 Dup	121	421	< 20	< 1	< 20	< 10	90	32	2	< 5	286	85	42	2.3	< 0.2	11	1.7
Method Blank Method Blank			< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5

Report: A10-6022							Final Report										
							Activation Laboratories										
Analyte Symbol	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	< 0.5					2.4	0.72			2.4	0.5		0.21	1.4	0.19	1.4	0.4
WMG-1 Cert	0.48					2.3	0.82			2.8	0.5		0.2	1.3	0.21	1.3	0.5
DH-1a Meas																	
DH-1a Cert																	
TAN-1 Meas																	> 500
TAN-1 Cert																	2360
NIST 694 Meas																	
NIST 694 Cert																	
DNC-1 Meas		3.7			5.2		0.56							1.9			
DNC-1 Cert		3.6			5.2		0.59							2			
LKSD-3 Meas	2.3	51	91.5		43.3	7.6	1.35			4.7				2.6	0.39	4.7	0.7
LKSD-3 Cert	2.3	52	90		44	8	1.5			4.9				2.7	0.4	4.8	0.7
NIST 1633b Meas																	
NIST 1633b Cert																	
W-2a Meas	0.9	11.3	24.5		12.3	3.1	1.05		0.6	3.7	0.8	2.3	0.28	2	0.28	2.3	0.5
W-2a Cert	0.99	10	23		13	3.3	1		0.63	3.6	0.76	2.5	0.38	2.1	0.33	2.6	0.5
SY-4 Meas																	
SY-4 Cert																	
CTA-AC-1 Meas		> 2000	> 3000		1110	163	44.4	124	13					10.7	1.18		2.7
CTA-AC-1 Cert		2176	3326		1087	162	46.7	124	13.9					11.4	1.08		2.65
BIR-1a Meas	< 0.5	0.7	2	0.39	2.4	1.1	0.56	2	0.4		0.6	1.6	0.29	1.7	0.28	0.6	< 0.1
BIR-1a Cert	0.005	0.62	1.95	0.38	2.5	1.1	0.54	1.85	0.36		0.57	1.7	0.26	1.65	0.26	0.6	0.04
NCS DC86312 Meas		> 2000	191		1580			227	35.1	184	35.7	96.4	14.4	87.6	12.1		
NCS DC86312 Cert		2360	190		1600			225	34.6	183	35.7	96.2	15.1	87.79	11.96		
NCS DC70014 Meas		45	88	10.8	39	7.8	1.64	7	1	6.5	1.3	3.6	0.56	3.6	0.51		
NCS DC70014 Cert		45.3	87	10.8	39.9	8	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.5		
NCS DC86316 Meas																	
NCS DC86316 Cert																	
NCS DC70009 (GBW07241) Meas	42.6	23.9	61.1	7.64	31.2	12.3		14	3.4	20.4	4.2	12.5	2.3	15.9	2.25		
NCS DC70009 (GBW07241) Cert	41	23.7	60.3	7.9	32.9	12.5		14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4		
OREAS 100a (Fusion) Meas		272	444	46.3	148	24.1	3.62	20.6	3.5	22.7	4.9	14.3	2.38	15.3	2.15		
OREAS 100a (Fusion) Cert		260	463	47.1	152	23.6	3.71	23.6	3.8	23.2	4.81	14.9	2.31	14.9	2.26		
OREAS 101a (Fusion) Meas		802	1390	127	401	49.2	7.83		5.5	30.8	6.3	18.6	2.89	17.9	2.44		
OREAS 101a (Fusion) Cert		816	1396	134	403	48.8	8.06		5.92	33.3	6.46	19.5	2.9	17.5	2.66		
JR-1 Meas	21	20.3	49.2	5.52	22.8	5.8	0.27	5.4	0.9	6.2	1.2	3.9	0.69	4.7	0.69	4.5	1.9
JR-1 Cert	20.8	19.7	47.2	5.58	23.3	6.03	0.3	5.06	1.01	5.69	1.11	3.61	0.67	4.55	0.71	4.51	1.86
NCS DC86318 Meas																	
NCS DC86318 Cert																	
SARM 3 Meas																	
SARM 3 Cert																	
USZ 44-2007 Meas																	
USZ 44-2007 Cert																	
119010 Orig	2.9	340	781	101	372	111	4.11	124	25.1	168	34.5	105	16.3	106	15.7	186	91.9
119010 Dup	3	354	804	104	378	113	4.23	126	25.3	169	34.6	104	16.2	107	15.8	183	90.6
119027 Orig	3	46.2	94	10	32.8	7	0.5	6.8	1.6	12	2.8	9.6	1.44	8.6	1.22	4.8	1.7
119027 Dup	2.9	44.8	90.3	9.49	31.4	6.5	0.47	6.5	1.5	11.2	2.7	9.1	1.37	8.1	1.15	4.7	1.6
119044 Orig	2.3	51.4	118	14.6	53.8	15.8	0.1	16.9	3.4	21.8	4.4	13	1.98	13.2	2.01	15.9	6.7
119044 Dup	2.3	50.2	116	14.2	52.2	15.3	0.09	16.8	3.3	21.5	4.3	12.8	1.94	12.8	2	15.6	6.6
Method Blank Method Blank	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.04	< 0.2	< 0.1

Report: A10-6022						
Analyte Symbol	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	2		20		1.3	
WMG-1 Cert	1.3		15		1.1	
DH-1a Meas					921	
DH-1a Cert					910	
TAN-1 Meas						
TAN-1 Cert						
NIST 694 Meas						
NIST 694 Cert						
DNC-1 Meas						
DNC-1 Cert						
LKSD-3 Meas	4		33		10.6	4.5
LKSD-3 Cert	2		29		11.4	4.6
NIST 1633b Meas						
NIST 1633b Cert						
W-2a Meas		< 0.1	10	< 0.4	2.2	0.5
W-2a Cert		0.2	9.3	0.03	2.4	0.53
SY-4 Meas						
SY-4 Cert						
CTA-AC-1 Meas					22.8	4.2
CTA-AC-1 Cert					21.8	4.4
BIR-1a Meas	< 1	< 0.1		< 0.4	< 0.1	< 0.1
BIR-1a Cert	0.07	0.01		0.02	0.03	0.01
NCS DC86312 Meas					25.6	
NCS DC86312 Cert					23.6	
NCS DC70014 Meas			> 10000	80.3		
NCS DC70014 Cert			27200	80.3		
NCS DC86316 Meas						
NCS DC86316 Cert						
NCS DC70009 (GBW07241) Meas	2200	2.1			27.9	
NCS DC70009 (GBW07241) Cert	2200	1.8			28.3	
OREAS 100a (Fusion) Meas					51.5	143
OREAS 100a (Fusion) Cert					51.6	135
OREAS 101a (Fusion) Meas					35	419
OREAS 101a (Fusion) Cert					36.6	422
JR-1 Meas		1.5	21	0.7	27.1	9.5
JR-1 Cert		1.56	19.3	0.56	26.7	8.88
NCS DC86318 Meas						
NCS DC86318 Cert						
SARM 3 Meas						
SARM 3 Cert						
USZ 44-2007 Meas						
USZ 44-2007 Cert						
119010 Orig	6	2.5	59	1.1	197	95.2
119010 Dup	6	2.4	56	0.9	196	92.3
119027 Orig	< 1	3.1	48	< 0.4	21.3	6.3
119027 Dup	< 1	3	45	< 0.4	20	6
119044 Orig	< 1	1.6	65	< 0.4	21.8	6.7
119044 Dup	< 1	1.6	64	< 0.4	21.4	6.6
Method Blank Method Blank	< 1	< 0.1	< 5	< 0.4	< 0.1	< 0.1

ASSAYS

Appendix C: Geochemical Analysis of Samples from Gulf Minerals diamond drillhole core ..... 23 pages

Report: A10-6022						Final Report Activation Laboratories					
Report Date: 10/13/2010											
Analyte Sym	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%
Detection Li	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
119004	46.11	15.57	14.35	0.262	4.44	8.79	1.96	1.22	2.248	0.36	4.3	99.62
119005	77.15	10.56	4.06	0.126	0.09	0.44	3.55	4.21	0.109	0.01	0.39	100.7
119006	78.18	10.26	3.8	0.06	0.04	0.36	3.43	4.07	0.133	< 0.01	0.62	100.9
119007	74.86	11.02	3.77	0.307	0.21	0.38	3.44	4.6	0.141	< 0.01	0.49	99.22
119008	70.82	12.98	4.57	0.298	0.27	0.85	4.2	5.01	0.401	0.06	0.95	100.4
119009	55.2	8.52	23.94	0.75	0.11	0.45	3.35	2.08	0.062	0.01	5.36	99.82
119010	74.67	10.12	5.91	0.046	0.05	0.5	1.45	6.63	0.259	< 0.01	0	99.64
119011	69.82	9.98	8.28	0.07	0.06	1.52	3.78	2.3	0.465	0.01	0.26	96.54
119012	66.04	13.95	5.34	0.064	0.06	2.42	4.35	3.72	0.339	< 0.01	0.36	96.64
119013	77.89	11.16	1.48	0.031	0.09	0.64	0.61	8.54	0.088	< 0.01	0.17	100.7
119014	76.7	10.93	1.37	0.034	0.1	0.38	0.54	8.35	0.085	0.01	0.1	98.61
119015	75.03	9.36	7.37	0.065	0.12	0.7	3.55	2.71	0.285	0.04	0.54	99.77
119016	78.37	8.25	3.46	0.102	0.18	1.14	0.11	6.33	0.181	< 0.01	1.06	99.19
119017	72.89	11.47	4.92	0.176	0.33	0.85	0.13	8.29	0.225	0.01	0.8	100.1
119018	78.85	8.11	4.4	0.139	0.31	0.44	0.09	5.79	0.181	< 0.01	0.72	99.02
119019	63.31	12.02	11.92	0.904	3.22	4.61	0.35	1.25	0.125	0.01	2.88	100.6
119020	56.6	11.66	4.68	0.097	0.17	10.36	4.33	3.44	0.138	< 0.01	8.08	99.55
119021	75.45	10.46	5.15	0.069	0.04	0.72	3.87	3.7	0.135	< 0.01	0.32	99.9
119022	75.68	10.69	4.75	0.062	0.06	0.6	3.76	4.33	0.167	< 0.01	0.17	100.3
119023	85.44	4.44	7.21	0.1	0.17	0.43	2.45	0.12	0.187	0.03	0.27	100.8
119024	71.64	9.23	7.22	0.238	0.35	2.62	3.34	3.23	0.137	< 0.01	2.14	100.1
119025	55.92	16.97	8.6	0.206	0.29	1.22	0.85	11.18	0.734	0.05	1.48	97.49
119026	39.39	9.51	5.05	0.113	1.89	26.8	1.27	3.81	0.71	0.09	9.42	98.05
119027	77.16	11.19	1.55	0.025	0.14	0.26	0.82	8.63	0.147	< 0.01	0.28	100.2
119028	75.88	10.89	3.65	0.081	0.04	0.51	4.14	4.35	0.178	0.01	0.33	100.1

Report: A10-6022					Final Report Activation Laboratories							
Report Date: 10/13/2010												
Analyte Sym	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%
Detection Li	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
119029	73.35	9.33	6.46	0.056	0.48	0.75	0.31	5.58	0.217	0.02	3.05	99.6
119030	78.91	8.8	4.7	0.056	0.5	1.98	1.35	3.51	0.188	0.02	0.77	100.8
119031	77.13	10.74	3.12	0.029	0.05	0.3	3.23	4.44	0.181	0.02	0.17	99.41
119032	81.62	8.57	1.27	0.021	0.13	1.98	1.47	4.14	0.052	0.02	1.13	100.4
119033	77.43	11.34	1.26	0.017	0.06	0.75	3.19	4.62	0.089	< 0.01	0.2	98.95
119034	67.58	13.77	4.94	0.122	0.4	6.03	0.62	5.85	0.092	0.02	1.05	100.5
119035	75.66	12.93	1.36	0.021	0.04	1.7	3.57	4.26	0.068	< 0.01	0.31	99.9
119036	79.52	10.69	1.96	0.032	0.16	1.3	3.12	3.53	0.1	0.02	0.5	100.9
119037	76.53	10.17	3.88	0.057	0.18	0.54	1.58	4.74	0.192	0.01	1.07	98.94
119038	74.93	10.36	4.01	0.066	0.14	1.43	1.15	4.91	0.204	< 0.01	1.92	99.13
119039	74.04	9.91	3.5	0.078	0.15	2.38	1.63	5.26	0.187	< 0.01	2.04	99.17
119040	77.89	9.63	2.82	0.053	0.37	1.71	0.87	5.06	0.199	< 0.01	2.24	100.8
119041	64.26	16.67	4.82	0.083	2.16	0.64	0.63	5.92	0.499	0.05	3.54	99.27
119042	78.02	10.15	5.23	0.072	0.55	1.36	0.06	2.89	0.287	< 0.01	1.91	100.5
119043	75.02	10.44	5.56	0.084	0.66	1	0.44	5.83	0.318	0.02	1.18	100.5
119044	78.03	10.78	1.98	0.029	0.04	1.1	2.24	5.69	0.103	< 0.01	0.53	100.5
119045	75.9	10.06	5.12	0.049	0.23	0.35	1.37	4.2	0.223	0.03	0.97	98.51
119046	75.45	9.69	6.29	0.113	0.37	1.14	0.1	5	0.23	0.03	1.5	99.9
119047	81.85	7.92	5.67	0.091	0.23	0.67	0.05	2.7	0.207	0.03	1.28	100.7
119048	73.16	10.97	6.26	0.066	0.36	0.32	0.11	5.89	0.314	0.02	2.68	100.1
119049	76.15	9.14	5.43	0.076	0.46	0.57	0.06	3.73	0.199	< 0.01	1.9	97.71
119050	77.26	10.05	4.69	0.134	0.25	0.75	2.26	4.13	0.21	< 0.01	0.63	100.4
119051	75.79	11.54	1.51	0.018	0.09	0.65	3.6	4.79	0.081	< 0.01	0.4	98.48
119052	76.43	10.63	2.96	0.142	0.16	1.1	3.16	4.21	0.181	0.01	0.64	99.62
119053	71.67	10.87	1.11	0.036	0.24	5.03	0.95	6.09	0.073	< 0.01	3.05	99.13

Report: A10-6022						Final Report Activation Laboratories						
Report Date: 10/13/2010												
Analyte Sym	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%
Detection Li	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
119054	77.36	11.58	1.48	0.01	0.09	0.62	3.55	4.75	0.078	< 0.01	0.41	99.93
119055	78.03	7.71	3.96	0.048	0.13	4.73	0.52	2.07	0.106	< 0.01	0.81	98.13
119056	73	9.66	3.84	0.097	0.14	5.74	1.3	3.55	0.137	< 0.01	2.16	99.62
119057	64.28	15.44	5.2	0.199	0.05	8.62	3.04	1.02	0.046	0.01	0.71	98.63
119058	76.21	11.09	2.29	0.289	0.09	0.49	3.45	4.76	0.142	< 0.01	0.93	99.73
119059	77.57	10.05	3.1	0.225	0.06	0.34	3.51	3.67	0.092	< 0.01	0.79	99.39
119060	57.83	15.5	7.62	0.247	1.86	3.44	4.76	5.43	1.107	0.25	1.18	99.23
119061	74.41	11.91	5.9	0.062	0.5	0.13	0.48	5.21	0.087	0.02	1.41	100.1
119062	76.04	12.4	0.57	0.017	0.07	0.32	1.81	7.86	0.104	0.02	0.24	99.45
119063	74.28	13.35	0.56	0.007	0.05	0.24	0.4	10.82	0.101	< 0.01	0.32	100.1
119064	72.8	11.16	5.34	0.129	0.54	0.44	1.11	7.29	0.218	0.01	0.76	99.8
119065	74.3	10.73	4.27	0.046	0.07	5.99	0.69	3.41	0.155	0.02	1.07	100.8
119066	78.18	11.54	2.08	0.037	0.16	0.49	3.39	4.57	0.119	0.01	0.37	100.9
119067	77.92	10.43	1.06	0.045	0.05	0.35	1.25	7.31	0.215	0.02	0.52	99.17
119068	68.73	7.73	7.19	0.074	0.03	0.99	2.34	3.52	0.573	< 0.01	0.64	91.82
119069	80.28	12.03	0.72	0.005	0.01	0.56	6.66	0.08	0.078	< 0.01	0.35	100.8
119070	75.74	8.57	4.51	0.067	0.17	0.27	0.11	6.51	0.176	0.03	2.22	98.38
119071	76.86	8.57	4.83	0.067	0.17	0.28	0.11	6.5	0.181	< 0.01	0.55	98.11

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	3	2	2	4	20	1	20	10	30
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119004	36	19	267	72	432	157	601	120	38	40	10	290
119005	< 1	23	< 5	36	21	188	692	< 20	1	< 20	< 10	620
119006	< 1	29	6	34	23	342	1095	50	< 1	< 20	10	430
119007	< 1	13	5	63	25	156	502	< 20	2	< 20	10	290
119008	4	17	13	217	33	195	567	< 20	3	< 20	10	480
119009	< 1	22	< 5	21	35	159	111	< 20	5	< 20	10	< 30
119010	< 1	36	< 5	110	44	896	5249	< 20	1	< 20	40	50
119011	< 1	117	18	28	112	2548	> 10000	< 20	1	< 20	200	80
119012	< 1	95	29	65	175	1673	6544	< 20	1	< 20	40	60
119013	2	3	9	154	53	74	322	< 20	< 1	< 20	< 10	< 30
119014	2	4	< 5	136	43	78	211	< 20	1	< 20	< 10	< 30
119015	< 1	18	11	53	19	567	1487	< 20	1	< 20	150	100
119016	< 1	7	8	87	54	231	2096	30	2	< 20	20	150
119017	< 1	6	19	160	91	277	2129	< 20	2	< 20	70	100
119018	< 1	5	10	103	48	213	1949	< 20	3	< 20	20	100
119019	9	3	87	21	109	127	237	< 20	< 1	< 20	< 10	780
119020	< 1	23	11	120	233	281	1696	< 20	3	< 20	< 10	90
119021	< 1	23	< 5	20	16	692	2097	< 20	1	< 20	10	150
119022	< 1	18	< 5	11	22	324	911	< 20	2	< 20	10	280
119023	< 1	9	5	8	25	387	463	60	4	< 20	10	330
119024	< 1	31	< 5	18	32	352	1784	< 20	6	< 20	< 10	90
119025	1	6	7	819	71	204	2815	< 20	2	< 20	10	220
119026	13	7	83	273	122	70	158	60	12	< 20	30	100
119027	3	11	10	367	47	116	159	30	2	< 20	10	< 30
119028	< 1	46	< 5	12	9	369	2706	< 20	1	< 20	20	360

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	3	2	2	4	20	1	20	10	30
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119029	< 1	7	15	127	55	275	2458	30	2	< 20	30	2010
119030	< 1	6	31	182	134	236	2144	< 20	1	< 20	< 10	110
119031	< 1	10	< 5	37	18	162	1204	< 20	< 1	< 20	< 10	40
119032	2	2	19	329	124	42	134	80	1	< 20	50	< 30
119033	1	10	6	38	74	114	154	< 20	< 1	< 20	10	< 30
119034	3	5	82	174	461	83	188	< 20	2	< 20	< 10	40
119035	3	7	12	130	218	74	150	< 20	< 1	< 20	< 10	< 30
119036	2	12	14	46	95	111	125	40	2	< 20	< 10	100
119037	< 1	8	< 5	83	36	187	1426	< 20	1	< 20	< 10	210
119038	< 1	18	< 5	194	31	238	1436	30	< 1	< 20	< 10	80
119039	< 1	16	< 5	229	29	221	1310	< 20	< 1	< 20	< 10	70
119040	< 1	7	10	237	41	197	1519	< 20	1	< 20	10	120
119041	3	12	54	354	49	275	2409	< 20	10	< 20	30	160
119042	1	16	13	124	38	210	1833	30	2	< 20	10	370
119043	2	6	28	362	84	207	1769	< 20	4	< 20	50	210
119044	< 1	7	< 5	32	17	122	425	< 20	< 1	< 20	< 10	90
119045	< 1	11	< 5	31	30	206	1808	< 20	< 1	< 20	< 10	150
119046	< 1	13	7	53	83	308	2246	< 20	2	< 20	10	470
119047	< 1	10	6	25	33	288	2231	< 20	< 1	< 20	< 10	260
119048	< 1	6	10	91	29	131	1193	< 20	2	< 20	30	180
119049	< 1	9	7	71	31	241	2144	< 20	1	< 20	120	150
119050	< 1	9	5	73	79	239	1756	< 20	< 1	< 20	< 10	90
119051	1	11	7	80	81	108	141	20	1	< 20	20	< 30
119052	< 1	12	< 5	34	83	203	1338	< 20	< 1	< 20	20	370
119053	2	4	6	734	41	69	164	< 20	< 1	< 20	210	400

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	3	2	2	4	20	1	20	10	30
Analysis Me	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119054	1	12	< 5	28	31	137	155	< 20	< 1	< 20	10	60
119055	< 1	5	11	42	715	182	644	< 20	< 1	< 20	330	420
119056	< 1	5	5	66	664	182	873	< 20	< 1	< 20	40	80
119057	2	9	100	35	444	104	84	< 20	< 1	< 20	< 10	< 30
119058	< 1	28	< 5	97	12	544	1592	40	1	< 20	50	500
119059	< 1	25	< 5	22	25	393	779	< 20	< 1	< 20	< 10	270
119060	14	24	97	725	169	638	9162	< 20	16	< 20	90	310
119061	6	11	15	84	20	107	188	30	3	< 20	20	170
119062	1	32	7	146	46	322	275	< 20	< 1	< 20	30	< 30
119063	3	7	< 5	1048	100	104	223	< 20	1	< 20	10	50
119064	2	33	< 5	54	27	1204	5943	< 20	2	< 20	20	250
119065	1	3	10	112	699	144	651	< 20	< 1	< 20	< 10	< 30
119066	< 1	6	7	56	47	117	404	< 20	< 1	< 20	50	100
119067	1	93	9	155	46	1016	4999	30	1	< 20	190	< 30
119068	< 1	24	< 5	49	49	1434	> 10000	< 20	2	< 20	180	100
119069	< 1	20	< 5	7	15	148	273	20	< 1	< 20	20	< 30
119070	< 1	7	< 5	176	47	222	1941	< 20	1	< 20	130	1480
119071	< 1	7	< 5	179	48	236	1976	< 20	< 1	< 20	90	1250

Report: A10-6022					Final Report Activation Laboratories							
Report Date:												
Analyte Sym	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119004	61	5	5	67	90	< 2	2	< 0.2	27	2.5	1.6	56.3
119005	50	3	< 5	373	132	< 2	3.8	< 0.2	31	< 0.5	4.6	48.3
119006	50	3	< 5	405	167	5		< 0.2	40	< 0.5	3	70.4
119007	45	2	< 5	309	119	2	1.7	< 0.2	22	< 0.5	10	29.8
119008	43	3	< 5	319	127	3	3	< 0.2	30	< 0.5	8.8	87.8
119009	18	< 1	< 5	105	56	4	< 0.5	< 0.2	8	0.6	0.9	45.9
119010	30	5	< 5	465	905	5		< 0.2	176	< 0.5	2.9	347
119011	63	10	12	194	> 1000	4		0.4	515	1.8	1.5	854
119012	57	6	7	282	> 1000	2		0.3	322	2	2	707
119013	21	2	< 5	509	43	5	1.4	< 0.2	9	< 0.5	3.6	58.3
119014	17	1	< 5	436	37	12	0.7	< 0.2	6	< 0.5	3.5	51
119015	49	4	8	157	204	21		< 0.2	89	< 0.5	1.3	141
119016	27	2	53	341	137	12		< 0.2	18	2.3	3.7	176
119017	37	2	14	433	147	17		< 0.2	28	1.1	3.1	221
119018	28	2	11	314	125	< 2		< 0.2	20	1.2	3.2	177
119019	84	4	< 5	58	48	2	1.2	< 0.2	18	1.3	4.4	81.5
119020	39	2	< 5	239	243	6		< 0.2	43	< 0.5	7.9	65
119021	50	4	< 5	299	306	5		< 0.2	38	< 0.5	5.3	149
119022	42	3	< 5	316	183	< 2	3.2	< 0.2	34	< 0.5	1.8	99.4
119023	30	5	6	18	625	11	2.9	< 0.2	19	< 0.5	6.9	201
119024	41	3	< 5	244	256	2		0.3	43	0.6	9.2	78.9
119025	43	2	11	488	166	30		< 0.2	15	1.5	3.7	254
119026	19	1	< 5	170	21	< 2	0.6	< 0.2	5	0.7	1.3	26.2
119027	16	1	< 5	405	24	3	0.9	< 0.2	3	< 0.5	2.9	45.5
119028	51	4	< 5	400	266	2		< 0.2	38	< 0.5	2.2	91

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119029	40	2	18	381	159	8		< 0.2	21	< 0.5	3.9	185
119030	33	3	7	171	118	< 2		< 0.2	19	1.6	1.3	144
119031	30	1	< 5	207	108	< 2		< 0.2	16	0.5	1.9	83.1
119032	15	2	< 5	180	26	6	0.7	< 0.2	5	< 0.5	1.2	43.9
119033	17	1	< 5	227	76	< 2	0.6	< 0.2	14	< 0.5	1.3	50
119034	44	5	< 5	267	37	< 2	0.9	< 0.2	38	2	1.3	74.9
119035	21	2	< 5	180	30	< 2	0.5	< 0.2	14	1.1	1.9	68.1
119036	34	2	< 5	198	52	3	0.9	< 0.2	14	< 0.5	0.9	49.2
119037	33	1	5	260	97	2		< 0.2	17	1.1	5.3	98.5
119038	41	2	< 5	321	84	3		< 0.2	19	0.7	5.3	118
119039	33	1	< 5	267	95	< 2		< 0.2	16	1.2	4.2	88.8
119040	35	2	< 5	345	107	< 2		< 0.2	16	0.8	6.9	93.8
119041	43	2	< 5	535	169	< 2		< 0.2	27	1.4	20.1	169
119042	43	2	7	216	110	4		< 0.2	17	0.6	5.1	166
119043	36	2	< 5	254	123	< 2		< 0.2	21	0.8	3.1	189
119044	32	2	< 5	288	84	42	2.4	< 0.2	11	1.7	2.3	50.8
119045	41	3	< 5	290	110	< 2		< 0.2	20	0.7	6.1	170
119046	42	3	5	329	160	< 2		< 0.2	32	< 0.5	5.1	200
119047	42	2	< 5	281	137	< 2		< 0.2	26	< 0.5	6.9	194
119048	36	1	29	328	78	13		< 0.2	12	< 0.5	6.8	99.9
119049	43	2	9	275	125	< 2		< 0.2	22	0.6	6.2	182
119050	33	2	< 5	178	109	< 2		< 0.2	21	< 0.5	2	108
119051	23	2	< 5	236	62	4	< 0.5	< 0.2	6	0.6	1.4	45.5
119052	33	2	< 5	195	103	< 2		< 0.2	19	< 0.5	5.1	88.5
119053	15	2	< 5	321	28	< 2	0.6	< 0.2	4	1	5	43.9

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119054	25	1	< 5	259	56	< 2	< 0.5	< 0.2	8	< 0.5	1.3	40.9
119055	46	4	< 5	91	53	< 2	1.6	0.3	23	0.6	0.7	84.4
119056	37	3	< 5	153	70	< 2	2.9	< 0.2	20	< 0.5	2	78.3
119057	81	12	7	43	16	< 2	< 0.5	< 0.2	68	7.4	1.6	36.2
119058	36	3	< 5	377	149	5		< 0.2	34	< 0.5	6.8	109
119059	38	2	< 5	275	119	4	2.4	< 0.2	31	< 0.5	4.5	53.6
119060	47	5	7	276	418	3		< 0.2	130	1.7	4	152
119061	32	1	< 5	361	35	4	0.6	< 0.2	15	< 0.5	8.9	65.8
119062	23	2	< 5	595	68	3	0.7	< 0.2	15	0.6	4.8	65
119063	15	< 1	< 5	528	40	38	0.7	< 0.2	4	< 0.5	6.5	53.5
119064	58	5	7	507	> 1000	3		< 0.2	98	1	9	205
119065	29	2	< 5	133	63	4	1.9	< 0.2	16	< 0.5	1.3	60.3
119066	21	1	< 5	165	73	2	1.1	< 0.2	10	< 0.5	1.4	56.8
119067	18	2	< 5	429	789	4		< 0.2	20	< 0.5	4.6	110
119068	48	8	14	379	> 1000	3		0.5	844	4.9	5.3	403
119069	35	1	< 5	< 2	117	2	0.7	< 0.2	12	< 0.5	< 0.5	38.9
119070	30	3	85	349	132	7		< 0.2	20	5.3	5.2	168
119071	23	2	53	332	127	6		< 0.2	17	2.7	5.2	163

Report: A10-6022					Final Report Activation Laboratories							
Report Date:												
Analyte Sym	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119004	121	14.8	60	16.5	2.47	18.6	3.7	23.6	4.9	15	2.21	14.5
119005	112	14.2	54.8	16.6	0.67	19.4	4.1	26.9	5.7	17.8	2.86	19.4
119006	174	22.5	87.1	28.3	1.15	34.6	7.4	49.6	10.2	31	4.85	32.4
119007	70.9	8.52	32.4	10	0.44	12.3	2.7	19.5	4.4	14.5	2.34	16.2
119008	205	25.6	96.9	25.5	1.4	27.6	5.4	34.6	7	21	3.25	21.9
119009	96.5	10.7	38.1	10.8	0.13	13.8	3	21	4.8	14.9	2.25	14.5
119010	792	103	375	112	4.17	125	25.2	168	34.6	104	16.3	106
119011	2010	264	999	305	11.7	355	71	458	93.2	279	42.6	278
119012	1700	220	851	249	9.37	277	49.8	300	58.7	166	23.8	149
119013	125	14	48	10.5	0.21	10	1.8	11.4	2.3	7	1.07	7.2
119014	111	12.2	42.8	9.6	0.15	9	1.7	11.1	2.4	7.5	1.21	8.3
119015	319	40.4	155	45	1.79	51.2	10.6	73.3	16.9	58.3	10.9	74.3
119016	378	43.3	161	35.8	1.72	35.5	6.4	39.3	8	23.7	3.59	24.1
119017	444	52.9	193	41.4	2.11	40.4	7.6	48.2	9.7	29.1	4.38	29.1
119018	378	43.6	162	36	1.73	33.8	6.1	37.4	7.7	22.9	3.45	23.1
119019	166	19.2	66.9	16.4	0.23	17.4	3.5	23	4.7	13.7	2.04	13.2
119020	169	21.5	85.9	27.8	1.12	32.9	6.7	44.7	9.3	28.2	4.27	28.7
119021	353	45.1	176	56.1	2.28	69.2	15.2	107	23.1	69.3	10.2	61.6
119022	230	27.7	108	31.3	1.34	35.9	7.4	50	10.4	31.3	4.67	31.3
119023	525	66.5	235	60.7	3.86	62.1	12.1	76.2	14.3	38.7	5.56	36.8
119024	196	24.2	94.3	30.6	1.3	37	7.8	54.3	11.9	37.5	5.88	38.2
119025	537	62.7	237	45.3	3.24	37.6	6.2	37.1	7.6	22.3	3.38	22.7
119026	54.8	6.23	24.8	6.5	2.39	9.5	1.4	8.2	1.6	4	0.48	2.8
119027	92.1	9.75	32.1	6.8	0.48	6.7	1.5	11.6	2.8	9.4	1.41	8.4
119028	232	29.4	113	34.2	1.42	39.9	8.5	61	13.2	42.4	7.09	49.1

Report: A10-6022						Final Report Activation Laboratories						
Report Date:												
Analyte Sym	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119029	445	49.3	182	42.8	2.09	41.7	7.6	48.7	10	30.5	4.82	32.4
119030	347	38.5	144	34.6	1.67	34.4	6.5	40.9	8.4	25.2	3.81	25.6
119031	197	24.3	96	24.8	1.01	25.3	4.6	29	6	17.9	2.65	17.8
119032	79.8	10.1	34.6	6.9	0.2	6.1	1.1	7	1.4	4.2	0.64	4.3
119033	109	11.6	38.7	10.5	0.07	11.6	2.5	17.5	3.8	12.2	1.95	13.3
119034	146	16	54.2	11.7	0.8	11.5	2.2	14.1	2.9	8.2	1.22	8.2
119035	140	15.4	55.2	13	0.14	11.9	2.3	13.7	2.7	7.8	1.14	7.2
119036	102	11	36.4	9.5	0.14	10.6	2.4	16.3	3.5	10.6	1.68	11.2
119037	220	27	104	25.8	1.09	25.9	4.9	31.7	6.7	20	2.99	20.1
119038	231	32.8	127	33	1.49	37.3	7.1	43.6	8.4	23.6	3.49	22.7
119039	202	24.7	96.7	25.1	1.05	26.9	5.3	35.8	8.1	25.5	3.89	25.4
119040	208	26.3	99.7	24.1	1.05	24	4.7	30.8	6.6	21	3.3	22.3
119041	396	46.1	176	41.1	1.94	41.7	7.9	49	9.8	28.7	4.22	28.1
119042	351	41.9	154	34.1	1.72	32.2	5.9	36.2	7.4	22.3	3.38	22.6
119043	370	44.9	167	35.2	1.8	32.4	5.7	35.7	7.3	21.7	3.21	21.4
119044	117	14.4	53	15.6	0.09	16.9	3.3	21.7	4.4	12.9	1.96	13
119045	374	41.5	163	35.5	1.7	33.5	5.8	34.6	7.1	21.3	3.16	21.1
119046	449	49.9	186	40.7	2.24	41	7.9	51.2	10.6	32.2	4.92	32.6
119047	377	49.5	186	41.3	2.04	39.5	7.1	45.5	9.6	29.7	4.46	29.6
119048	243	26.4	98.8	23.2	1.27	21.7	3.8	23	4.7	13.8	2.06	13.7
119049	408	44.3	173	37.7	1.8	36.6	6.3	38.9	8.1	24.5	3.7	24.3
119050	275	30.7	120	30.6	1.33	32.3	6.1	39.7	8.3	25.1	3.8	25.5
119051	101	10.4	36.1	9.9	0.1	10.9	2.3	16.4	3.6	11.6	1.86	12.9
119052	203	26.1	103	26.8	1.14	28	5.3	33.6	6.8	19.6	2.84	18.3
119053	102	10.4	39.1	8.5	0.06	8.2	1.5	9.3	1.9	5.9	0.92	6.1

Report: A10-6022					Final Report Activation Laboratories							
Report Date:												
Analyte Sym	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119054	86.8	9.85	32.8	9.2	0.08	10.5	2.4	17.3	3.9	12.9	2.03	13.7
119055	197	23.2	101	27.9	1.67	32.3	5.9	34.7	6.4	15.1	1.9	11.6
119056	171	21.4	83.9	21.3	1.48	23.4	4.6	30	6.1	16.3	2.23	13.7
119057	76.2	8.41	33	8.5	0.26	9.9	2.1	14.7	3.2	9.5	1.42	8.8
119058	234	33	130	42.6	1.85	56.1	11.8	80.6	17.2	51.9	7.62	47.4
119059	119	16.7	67.3	22.2	0.94	30.6	6.7	47.7	10.9	33.8	4.96	31.2
119060	394	46.4	188	60	4.61	73	15.4	106	24.2	82.3	13.8	98.9
119061	136	16.3	59	13.6	0.15	13.2	2.5	16.4	3.4	10.6	1.6	10.6
119062	147	15.5	58.6	14.9	0.3	15.7	3.9	30.5	7.7	31	6.21	48.6
119063	115	13	44.1	9.8	0.11	9.6	2	13.7	3.1	10	1.63	10.8
119064	576	68.7	278	92.9	3.42	114	26.2	191	43.3	142	22.3	143
119065	136	17.1	66.5	17.6	1	19.1	3.7	23.9	5	14.2	2.01	12.6
119066	130	16	60	16.6	0.13	16.9	3.2	20.3	4.1	12.2	1.83	12.1
119067	277	38.4	138	50.6	1.65	64.8	19.2	158	38.3	137	22.1	141
119068	1100	116	408	128	5.09	152	31.7	216	47.3	156	26.4	202
119069	82.3	9.43	32.1	9.7	0.08	11.9	2.9	20.9	4.6	15	2.45	17
119070	365	41.3	165	36.5	1.73	35.3	6.1	38.2	7.9	23.5	3.49	23.1
119071	315	42	159	35.8	1.73	33.8	6.1	39	8.1	24.1	3.6	23.8

Report: A10-6022						Final Report Activation Laboratories			
Report Date:									
Analyte Sym	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119004	2.25	16.9	6.2	11	0.4	76	1	18.8	11
119005	3.1	24.8	11.5	< 1	0.9	48	0.9	32.1	9.2
119006	5.01	38.6	15.3	2	1	36	0.5	50.5	13.4
119007	2.59	16.3	7.7	3	1.1	49	1.6	18.1	8.8
119008	3.42	19.5	9.7	< 1	1.3	55	12.1	31.3	10.3
119009	2.29	5.1	4.8	3	0.6	32	< 0.4	22.4	12.4
119010	15.8	185	91.2	6	2.4	57	1	196	93.7
119011	41.6	562	158	14	1	68	1.5	369	169
119012	21.9	242	97.4	12	1.6	62	1	259	103
119013	1.15	9.5	3.6	< 1	3.2	28	< 0.4	22.9	5.5
119014	1.3	7.3	2.9	2	2.7	35	< 0.4	24.3	4.8
119015	10.8	50.5	17.6	5	0.9	162	< 0.4	280	16.8
119016	3.81	44.9	9.6	4	2.2	79	1	42.6	27.5
119017	4.63	49.9	11.6	< 1	3.3	97	1.2	58.3	70.5
119018	3.7	42.5	9.2	4	2.2	73	0.5	38.4	13.6
119019	2.01	8.6	2.9	< 1	0.9	41	0.6	23.3	74.1
119020	4.46	53.6	20.1	6	1	18	0.9	31.7	18.3
119021	8.77	73.2	25.7	5	1.2	19	< 0.4	152	27.2
119022	4.95	29.7	13.9	2	1.2	16	0.5	29.1	12.2
119023	5.85	16.9	61.4	7	< 0.1	244	2.9	25.9	51.6
119024	5.79	57.7	19	4	0.8	12	< 0.4	58	16.7
119025	3.93	51.5	8.4	2	2.5	44	< 0.4	29	7.9
119026	0.44	4.1	1.2	3	1.4	24	< 0.4	10.3	4.3
119027	1.19	4.8	1.6	< 1	3.1	46	< 0.4	20.7	6.1
119028	7.68	86.9	23.9	2	1.2	24	0.6	88.8	27

Report: A10-6022						Final Report Activation Laboratories			
Report Date:									
Analyte Sym	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119029	5.22	54.5	11.4	< 1	1.6	152	0.8	58.3	13.9
119030	4.05	48.7	10.2	< 1	0.9	30	0.4	45.5	11.5
119031	2.79	29.1	7.1	2	1	18	< 0.4	24.8	7.3
119032	0.67	4.8	2.5	< 1	1.6	54	< 0.4	16	7.5
119033	2.06	7.5	7.2	2	1.2	25	< 0.4	33.7	9.5
119034	1.27	7.4	3.2	< 1	1.6	9	< 0.4	21.8	6.5
119035	1.1	5.8	2.1	4	1.2	22	< 0.4	17.3	5.7
119036	1.73	5.7	5.5	< 1	0.9	23	< 0.4	24.8	8.4
119037	3.19	33.5	7.3	3	0.8	125	< 0.4	29.6	8.5
119038	3.6	36.1	8.1	2	0.9	13	< 0.4	32.2	7.7
119039	4.06	31	6.7	2	1	27	< 0.4	28	8.1
119040	3.57	34.9	7.6	< 1	1.5	45	< 0.4	29.9	11.7
119041	4.5	54.9	11.6	3	1.8	20	< 0.4	49.8	16.9
119042	3.59	40.4	8.6	< 1	0.7	66	< 0.4	38.9	8.3
119043	3.43	37.2	7.9	< 1	1.5	224	0.5	37.3	6.4
119044	2.01	15.8	6.7	< 1	1.6	64	< 0.4	21.6	6.7
119045	3.38	39.8	8.8	1	1	33	< 0.4	46.8	7.9
119046	5.25	46.7	10.7	< 1	1.2	123	2.8	49.3	17.2
119047	4.78	44.3	9.9	< 1	0.8	53	0.6	99.2	12.2
119048	2.23	25.7	5.8	< 1	1.4	284	< 0.4	25.5	11.8
119049	3.86	45.2	9.9	1	1.1	254	0.4	46.5	11
119050	4.08	37.7	8.3	< 1	0.7	27	< 0.4	38.3	11.9
119051	2.02	6.9	6.2	1	1.3	25	0.4	30	8.6
119052	2.84	28.9	7.3	< 1	1.1	32	< 0.4	24.4	7.2
119053	0.98	6.1	2.2	< 1	2	153	< 0.4	18.2	5.1

Report: A10-6022					Final Report Activation Laboratories				
Report Date:									
Analyte Sym	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Li	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Me	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
119054	2.14	6.3	6.6	< 1	1.1	21	< 0.4	30.1	8.9
119055	1.75	16.2	4	< 1	0.5	74	< 0.4	13.9	5
119056	2.12	20.4	5.1	< 1	0.8	321	1	17.4	5.6
119057	1.25	3.2	1.2	< 1	0.2	31	1.2	10.2	4.3
119058	6.94	38.7	11.7	< 1	1.2	33	0.5	32.4	14.8
119059	4.88	24.5	10.1	< 1	0.9	26	< 0.4	34.2	12
119060	16	319	34.9	4	2.2	169	1.9	261	45.8
119061	1.65	7.3	2.1	< 1	2	33	< 0.4	22.8	5.6
119062	7.59	13.2	3.7	16	3.1	27	< 0.4	349	6.8
119063	1.71	8.2	2.9	< 1	3.4	35	0.5	29.2	6.1
119064	20.7	190	131	23	2.5	86	< 0.4	169	135
119065	1.95	16.8	4.9	< 1	0.8	13	< 0.4	18.9	6.1
119066	1.86	13.9	5.9	< 1	1.3	58	< 0.4	20.2	5
119067	19	167	81.3	5	2.7	56	< 0.4	668	73.5
119068	34.6	> 1000	375	15	1.4	128	3.8	200	352
119069	2.71	12.3	10.4	< 1	0.2	< 5	< 0.4	26	8
119070	3.68	43.4	10	2	2	862	0.5	54.5	14
119071	3.78	42.8	9.9	15	1.8	699	< 0.4	52.8	13.9

APPENDIX D

Appendix D Gulf Canada Minerals diamond drillhole logs with photographs

DIAMOND DRILL HOLE DL-01

Overburden **(0.00 to 6.71m)** **6.71m**

Boxes 1 to 6 (6.71m to 40.2 m)

Diabase **(6.71 to 8.84 m)** **2.13 m**

Dark to very dark green, fine grained, moderately chloritized and possibly serpentinized. Strongly epidotized fractures are common. The intrusive is frequently micro-faulted at various angles and amounts of displacement are unknown (e.g. 7.77m). It is weakly to moderately magnetic and the basal zone contains abundant rhyolite xenoliths, 1 - 1.5 cm in size, from 9.75 -10.97.

Felsite//Granite **(8.84 to 9.30m)** **0.46m**

In this zone the diabase is intruded by a felsic, possibly granitic, pink, equigranular, medium grained dyke. The contacts are indistinct and some feldspar-flooding of the mafic rock has occurred. It contains numerous magnetic diabase xenoliths up to 3 cm in size.

Rhyolite trachytic? **(10.98 to 50.76 m)** **39.79m**

Dark pink to reddish pink becoming greyer and darker hued with depth. Minor orange alteration zones are found locally. The rock is aphanitic and porphyritic. Quartz-eyes, probably quartz phenocrysts, are roundish and 1 - 2 mm in size. These quartz growths are frequently surrounded by thin, light pink to orange reaction rims, indicating transport after formation. Flow laminations are uncommon but are found locally to consist of alternating 1 - 3 mm grey and pink bands which frequently wrap around quartz phenocrysts. Flow banding cuts the core axis at 15.24 -21.33. Near diabase dykes, the rhyolite (which may be trachytic in composition) is a deeper red hue and is frequently strongly fractured in these zones. Typically, the fractures adjacent to diabase are common. Some fractures are filled with quartz and white carbonate. No primary brecciation is apparent in the upper hole but several zones occur below 30.15m. As a whole, the rock is realatively fresh near surface but at 30.85 m some degree of kaolinization of feldspar may be present. The degree of alteration is also widespread in this zone. Numerous diabase dykes are present. They are typically dark green, fine to medium grained, moderately chloritized and possibly serpentinized. They are equigranular, and weakly to locally moderately magnetic.

Laminated Zone **(10.98 to 13.11 m)** **2.13 m**

Moderatly to strongly laminated zone. Flow banding cuts the core axis at 65° - 70 °, and the zone is cut off at 13.14m by diabase.

Orange altered rhyolite **(16.31 to 16.62m)** **0.30 m**

finely fractured, possibly weakly kaolinized, silicified.

Diabase **(17.38 to 24.39 m)** **6.01m**

Diabase **(24.39 to 28.66 m)** **4.27m**

Vaguely laminated zone - dark greyish red to dark greyish pink - flow banding cuts the core axis at 45° - 50 °

Diabase **(25.30 to 25.76 m)** **0.46m**

Diabase (28.66 to 30.49 m) 1.83m
Contains an intensely fractured and epidotized rhyolite xenolith at 28.80 – 28.95 m

Porphyritic Rhyolite (30.49 to 32.21 m)
Reddish pink rhyolite, porphyritic:quartz eyes have reddish reaction rims giving zone its colour - actually a grey rhyolite zone is well laminated at 32.30 – 32.61 m.

Grey rhyolite (32.62 to 33.54 m)

Reddish-pink zone (33.54 to 34.15 m)

Grey to Pink Rhyolite (34.15 to 37.35 m)
Rhyolite is greyish to greyish pink, locally porphyritic with 1 - 3 mm quartz eyes, and possibly coarsely laminated locally. Intense tectonic brecciation occurs at 35.96 to 36.27 m and 36.57 to 36.87 m.

Diabase (37.35 to 38.87 m)
Lower contact is highly altered and fractured - small fault is located at 38.70 m ' cutting the core axis at 70° with 5 cm displacement.
Alteration is fracture controlled - epidote and hematite

Porphryritic Rhyolite (38.87 to 44.97 m)
Light pinkish grey, aphanitic, porphyritic locally with some intensely tectonically brecciated rock locally. Some degree of clay alteration (kaolinization) of feldspar is present. Fractures are chloritized or epidotized.

Diabase (44.97 to 50.97 m)
Fractures are epidotized, chloritized and hematized.

DL-01 Boxes 7 to 12 (40.2 to 76.3 m)

Alteration Zone (50.76 to 77.59 m)
Reddish-pink to reddish-brown to grey, aphanitic and finely fractured. At the edges of the zone, the alteration consists primarily of epidotization, chlorite development and irregular hematization along fractures. The rhyolite itself may also be weakly hematized in the more reddish zones. The centre section of the zone is more intensely fractured and in addition to the other alteration, the rhyolite is moderately and possibly strongly kaolinized. Degree of clay alteration may vary according to feldspar content, the more strongly altered zones being trachytic in composition. The rhyolite is also commonly porphyritic; quartz-eyes and occasional feldspar phenocrysts are present. Several diabase dykes cut this zone. They are typically fine to medium grained and moderately to strongly chloritized.

Alteration Fracture Controlled (50.76 to 53.20 m)
Alteration is fracture controlled-epidote and hematite

Diabase (53.20 to 53.66 m)

Rhyolite **(53.66 to 56.71 m)**

Diabase **(56.71 to 58.68 m)**
Pink to reddish rhyolite, moderately to strongly kaolinized, weakly to moderately hematized locally weakly porphyritic - 1-2mm. quartz phenocrysts locally

Pink Rhyolite **(58.54 to 67.53 m)**
Pink rhyolite near diabase contact, becoming greyer with depth - the zone is intensely tectonically brecciated, weakly silicified, hematized, kaolinized and epidotized. Fracturing frequently becomes mylonitic.

Diabase **(67.53 to 68.75 m)**
Very highly chloritized and contains abundant altered rhyolite xenoliths. Intrusive contacts are intensely altered.

Fractured & Altered Rhyolite **(68.60 to 70.12 m)**
Rhyolite is highly fractured and altered

Mylonitic Rhyolite **(70.12 to 76.83 m)**
Rhyolite is mylonitic, intensely kaolinized, and hematized locally. It is porphyritic and abundant breccia is present in several quartz carbonate filled fracture zones. Numerous diabase dykes are present

Diabase **(71.04 to 71.49 m)**
Highly chloritized.

Diabase **(72.26 to 72.56 m)**

Mafic ++ **(72.87 to 73.78 m)**
Very mafic zone - possibly near a diabase contact.

Fractured Rhyolite **(76.83 to 77.59 m)**
Rhyolite becomes less intensely fractured. Several diabase stringers are present and 10 – 15 cm zones of moderate hematized locally. It is porphyritic. 1-2mm quartz phenocrysts are common.

Rhyolite Trachytic **(77.59 to 93.14 m)**
Dark red to dark reddish-brown becoming reddish green at base, aphanitic and porphyritic. The rock is flow laminated locally at varying angled to the core axis. Frequently the bands wrap around the 1 - 2 mm. quartz phenocrysts. Generally the zone is not intensely fractured and only weakly to moderately hematized. Numerous diabase dykes are found. They are dark green and fine to medium grained, and are usually weakly magnetic.

Porphyritic Rhyolite **(77.59 to 78.35 m)**
Dark red, porphyritic, few fractures, highly hematized locally.

Diabase **(78.35 to 82.93 m)**
Possibly mafic gabbro - dark green with olive - green mottling, fine to medium grained, and the pyroxene crystals may be weakly uralitized. The rock is weakly magnetic locally and contacts are moderately chloritized. Contains some rhyolite xenoliths up to 25 cm in size (e.g. 81.98 – 82.28 m)

DL-01 Boxes 13 to 18 (76.3 to 112.4 m)

Rhyolite Trachytic (82.93m to 111.13m)

Dark red to dark reddish-brown becoming reddish green at base,aphanitic and porphyritic. The rock is flow laminated locally at varying angles to the core axis. Frequently the bands wrap around the 1 - 2 mm. quartz phenocrysts. Generally the zone is not intensely fractured and only weakly to moderately hematized. Numerous diabase dykes are found. They are dark green and fine to medium grained, and are usually weakly magnetic.

DL-01 Boxes 19 to 24 (112.4 to 140.86 m)

Diabase (111.13 to 122.41 m)

Dark green, fine to medium grained, moderately chloritized at contacts: numerous lighter green zones are located throughout the dyke - possibly spotty epidotization. The intrusive contains some rhyolite fragments, (e.g. 119.16 – 119.31 m and 119.46 – 119.76 m)

Conglomerate (122.41 to 130.18 m)

Light to dark grey-green, fine to very fine grained with pebbles and granules up to 1cm. in size. These larger fragments are well rounded and an abundance of red, possibly volcanic, type is common. A number of pebbles are weakly epidotized. The matrix is fine sand and silt. Locally the zone is foliated and some pebbles are orientated along the laminations. Dip averages 45° to the core axis. Some alteration occurs locally. Moderate hematization is present at 127.08 – 127.23 m and a strongly epidotized zone is located at 111.43 m.

Hybrid Intrusion (130.18 to 140.86 m)

Dark green becoming very dark green, medium grained becoming finer grained with depth. The upper zone 130.13 – 130.43 m is highly chloritized and resembles an intrusive contact. The zone, 130.43 -131.65 m is porphyritic and the rock remains more vaguely porphyritic to 134.09 m. Numerous epidote-filled fractures are found in this unit and toward the base of the hole, alteration consists of spotty epidotization and weak chloritization. This causes the core to appear mottled light green on dark green ground mass. Minor chalcopyrite is found locally as a fine dissemination.

140.86m END OF HOLE

DIAMOND DRILLHOLE DL-02

Overburden **(0.00 to 13.72 m)**

Boxes 1 to 5 (13.7m to 42.7 m)

Rhyolite Trachytic **(13.72 to 36.59 m)** **22.87m**
Dark pink to pinkish red becoming greenish red locally and aphanitic. This zone is predominately intensely tectonically brecciated and it is moderately kaolinized. Clay alteration of feldspar is stronger in the finely brecciated. Fragments are angular and up to 2 cm. in size. The matrix to the fragments is very fine breccia and silica cement, which is weakly epidotized and chloritized.

Diabase **(21.49 to 23.17 m)** **1.68 m**
Strongly to moderately chloritized.

Diabase **(29.73 to 31.55 m)** **1.83. m**
Contains rhyolite fragment at 99 - 100'. (30.12 m to 30.47 m.)
(30.18 to 30.49m) 0.30m

Diabase **(33.08 to 35.06 m) 1.98 m**
Contacts are intensely chloritized and ground - rhyolite fragments at 110 - 111' (33.52 to 33.82m) and 112.5' - 144'. (34.28 to 44.83m)

Rhyolite **(36.59 to 43.14 m)** **6.55m**
Brick red, aphanitic and porphyritic with 1 - 2 mm. quartz and feldspar phenocrysts. The zone is highly brecciated and fractured. The rock is moderately to strongly hematized and in the zone 120 - 132.5', it is strongly kaolinized. Alteration decreases in intensity with depth. Few diabase dykes are present.

Diabase **(40.24 to 41.62 m) 1.37m**
Moderately chloritized.

Rhyolite mixed with diabase. **(41.62to 42.38m)** **0**.76m

Boxes 6 to 11 (42.8 to 77.7 m)

Diabase (43.14 to 43.45m) 0.30m
Dark green, intensely chloritized.

Siliceous Sediment(43.45 to 43.90m) 0.46m
Dark pink, aphanitic and finely fractured. Numerous epidote stringers along fracture networks.

Diabase (43.90 to 44.51m) 0.61m
Dark green, intensely chloritized, some uralitization of pyroxene crystals.

Conglomerate (44.51 to 49.54m) 5.03m
Light grey and pink, with a fine sandy matrix surrounding 1 -4 cm. pebbles of varying composition. The pebbles are rounded and a red variety is common, (possibly hematized volcanic). Some fragments are epidotized. A foliation is present and dips 35° on the core axis. Elongated pebbles foliated minerals are weakly chloritized.

Siltstone (49.54 to 53.66m) 4.12m
Brick red, and apple green to greenish pink, fine to very fine grained and moderately hematized. In darker red zones, hematization may be quite strong. Some epidotization of fractures occurs and spotty epidote alteration gives the core a mottled appearance locally. Some micro-faulting is present at 168' dipping 60° to the core axis. A diabase is present at 166' - 168'. An alteration zone of unknown type is located at 174 - 176'.

diabase	(50.61 to 51.22m)	0.61m
alteration zone of unknown type	(53.05 to 53.66m)	0.61m

Diabase (53.66 to 54.27m) 0.61m
Strongly chloritized.

Box 8 (54.4 to 60.2 m)

Rhyolite Flow Breccia (?) (54.27 to 54.88m) 0.61m
Orange altered zone - moderately kaolinized. Rock appears to consist of rounded fragments in a thinly laminated matrix. Fragments are 1 - 1.5 cm. in size. Foliation dips 30° on the core axis. Some fractures epidotized.

Diabase (54.42 to 54.57m) 0.15m
Rhyolite (?) (54.88 to 58.38m) 3.51m
Pink with black mottling, fine grained to aphanitic. Black mottling may be chloritized amygdules. Rock becomes more strongly mottled and becomes medium grained towards the base of the unit. At the base, the texture is granitic.

Porphyritic Intrusive (58.38 to 59.60m) 1.22m
Pink to reddish pink, aphanitic and porphyritic with 1 - 2 mm. quartz eyes. A fragmental zone is present at the contact. Mafic fragments, 105 mm. in size are present in this zone.

Diabase (59.60 to 66.62m) 7.01m
Dark green, fine grained and weakly to moderately chloritized. At 200' the rock is weakly laminated and more highly chloritized. Some spotty epidote alteration is also present.

Xenolith (59.91 to 60.06m) 0.15m
Xenolith of altered, mafic, porphyritic medium grained rock.

Amygdaloidal Zone (60.98 to 66.31m) 5.34m
Dark green with light green to white mottling, fine to medium grained (locally). Mottling is the result of chlorite and white carbonate filling amygdules. They are up to 1.5cm in size. Some are elongated along a weak foliation, which cuts the core axis at 80°. The rock is moderately to strongly chloritized. Mottling is weaker and less distinct below 210'. The rock may become porphyritic at 213.5'

Porphyritic (64.02 to 65.09m)

Dark green, fine grained ophitic texture.(?) 66.31 to66.62m) 0.30 m

(66.62 to 70.73m) 4.12m
Dark pink to pinkish-red mottled with dark grey hazy patches, fine grained to aphanitic.

(70.73 to 82.01m) 11.28m
Dark pink with white to pale pink 1-5 mm. feldspar phenocrysts. Composition is probably diabasic. Contact zones are non-porphyritic. The rock is foliated locally at 40° to the core axis 232' - 234' - foliated – porphyritic 263' - 269' - foliated - non-porphyritic. Numerous epidotized fracture zones are present and the rock is moderately chloritized overall.
(70.73 to 71.34m) 0.61m
foliated locally at 40° to the core axis foliated – porphyritic
(80.18 to 82.01m) 1.83m
foliated - non-porphyritic.

Boxes 12 to 16 (77.7 to 106.6 m)

(?) (82.01 to 83.23m) 1.22m
Pale green to greenish orange alteration zone. The rock is well laminated and well brecciated, silicified and epidotized. Fracture planes are weakly chloritized and hematized.

(?) (83.23 to 85.37m) 2.13m
Brick red with some dark green banding, aphanitic, well laminated at 45° to the core axis at the upper boundary. Grey-green bands increase in number and thickness towards the base.

(?) (83.99 to 85.06m) 1.07m
light green and orange alteration bands

(?) (85.06 to 85.21m) 0.15m
conglomerate xenolith or fragment (boulder?)

Conglomerate Sandstone & Siltstone (85.37 to 98.48m) 13.11m
Conglomerate matrix is light grey with dark green and red pebbles and granules up to 3 cm. in size. The matrix is slightly epidotized. Siltstone and sandstone are alternating light grey and yellow or pink in colour. Some fine red grains may be seen in the sandstone. Banding cuts the core axis at 45 - 60°.

Conglomerate **(85.37 to 86.28m) 0.91m**

Diabase **(85.98 to 87.96m) 1.98m**

Siltstone and Sandstone **(87.96 to 88.41m) 0.46m**
Conglomerate **(88.41 to 89.02m) 0.61m**

Diabase **(89.02 to 89.33m) 0.30m**
Several conglomerate xenoliths

Conglomerate **(89.33to 89.79m) 0.46m**
Very mafic matrix

Siltstone and Sandstone **(89.79 to 90.24m) 0.46m**

Diabase **(90.24 to 91.46m) 1.22m**

Siltstone and Sandstone **(91.46 to 92.84m) 1.37m**
Alternating 1-2cm bands of siltstone and fine sandstone.

Siltstone and Sandstone Conglomerate (92.84 to 93.45m) 0.61m
Fine conglomerate and conglomeratic sandstone.

Alteration Zone **(94.21 to 94.82m 0.61m**
Medium grey, fine to aphanitic, laminated chloritized - abundant 1-2mm pyrite cubes.

Diabase **(94.82 to 97.26m 2.44m**

Siltstone and Sandstone **(97.26 to 97.41m 0.15m**

Fine sandstone and silty - sandstone **(97.41 to 98.48m) 1.07m**

DIABASE **(98.48 to 103.81m) 5.34m**
Dark green with light green mottling, fine to medium grained. Amygdaloidal - amygdules are epidotized to produce mottling. The rock is moderately epidotized and chloritized overall.

Boxes 17 to 21 (106.6 to 132.6m)

Sandstone & Siltstone (103.81 to 111.59m) 7.77m
Dark brick red becoming dark green at 353'. Greenish rock has minor orange altered bands. The rock is foliated or thinly banded throughout at 50 - 60° to the core axis. The red zones are moderately hematized. Minor conglomerate occurs locally (361.5 - 363) and pebbles up to 1.5 cm are present. Numerous quartz veins also are found at 344' - 345', 346 - 347', 347.5 - 347.6' and 348 - 348.5'. They are typically surrounded by orange or green alteration halos.

QUARTZ VEINS	(104.88 to 105.18m)	0.30m
QUARTZ VEINS	(105.49 to 105.79m)	0.30m
QUARTZ VEINS	(105.95 to 105.98m)	0.03m
QUARTZ VEINS	(106.10 to 106.25m)	0.15m
RED ZONES HEMATIZED	(110.21 to 110.67m)	0.46m
Contact Zone	(110.67 to 111.59m)	0.91m

Dark green with light green mottling, strongly chloritized.

Fragmental Intrusive flow? (111.59 to 132.62m) 21.04m
Pale green-grey with darker mottling becoming pink with dark green mottling. Fine grained to aphanitic. Flow(?) laminated in the upper zone is non-laminated in the pinkish zone. Fragments are stretched along the foliation and are moderately to strongly chloritized. Abundant pyrite is found finely disseminated in the rock locally.

(111.59 to 123.78m) 12.20m
Pale green-grey, dark green mottling, aphanitic

(123.78 to 132.62m) 8.84m
Increasingly pink coloured and grain size increasing - becomes granitic textured

(125.00 to 128.05m) 3.05m
Diabase . 1.5 mm amygdules.

132.6m END OF HOLE

DIAMOND DRILL HOLE DL-03

Overburden **(0.00 to 5.18m)** **5.18m**
Blocky, bouldery sand, casing reamed from 15-17 ft

Boxes 1 to 6 (5.2 to 39.8 m)

Sandstone **(5.18 to 10.06m)** **4.88m**
Light grey-green fine grained with granules up to 2mm. Composition of grains variable as indicate by different coloration green, grey, red, pink and cherty

Conglomerate **(10.06 to 13.56m)** **3.50m**
light to medium grey becoming beige coloured with light green and pink rounded pebbles up to 3 cm matrix is fine sand beds indicate by colour differences with sharp breaks. "CONTACT" weak and possibly hematized

Mafic Intrusion **(13.56 to 20.57m)** **7.01m**
Dark green with light green alteration zones. Black chloritized amygdules

(?) **(15.85 to 16.76m)** **0.91m**
black fine grained chloritized Epidote alteration in strongly amygdaloidal zones

Sedimentary xenoliths **17.37m**

Sedimentary xenoliths **17.68m**

Sedimentary xenoliths **19.20m**

Fine sandstone & siltstone **(20.57 to 23.47m)** **2.90m**
light green and pink, fine & very fine grained with fine conglomerate beds foliation at 75deg TCA ripple marks & convoluted micro-faulted, load casts flame structures

Mafic Intrusion **(23.47to 25.60m)** **2.13m**
dark green with light green alteration zones. fine grained, chloritized

Siltstone?? **(25.60 to 27.43m)** **1.83m**
dark green to dark grey green, fine grained to aphanitic pink fragments or pebbles up to 2 cm rounded quartz grains \ (phenocrysts)

Porphyritic siliceous flow **(27.43 to 36.72m)** **9.29m**
light to medium grey becoming grey-green with depth, fine grained to aphanitic. Red mottling in feldspathic or weakly hematized zones. Rounded quartz grains (phenocrysts) 1-2 mm

Boxes 7 to 12 (39.8 to 71.5m)

Mafic Intrusion (foliated) (36.72 to 49.83m) 13.10m
medium to dark green, aphanitic well foliated, finely disseminated pyrite blebs laminations form by wispy, indistinct light and dark green bands curving around elongate 1-5 mm pink felsic patches. Numerous pink & light green round xenoliths up to 3 cm dot the unit. Finely disseminated pyrite blebs.
Less foliated, more massive at 41.14 m

Rhyolite (49.83 to 65.67m) 15.85m
greyish pink aphanitic & porphyritic. Round 1-2 mm quartz phenocrysts & 1-3 mm pink euhedral feldspar best observed near upper contact tectonically brecciated and silicified. Flow foliation very poorly developed and vague matrix to breccia fragments strongly epidotized, zone more mafic in places finely disseminated pyrite & chalcopyrite

Rhyolite (65.67 to 85.33m) 19.66m
dark reddish brown gradational from above, aphanitic & porphyritic, quartz phenocrysts up to 3 mm fine cream coloured speckled kaolinized feldspars, spherulites but hazy & indistinct. Massive non brecciated non fractured hematization and silicification weak .
rounded sediment fragment at 80.76m
flow lamination at 81.67m

Boxes 13 to 18 (71.5 to 106.8 m)

Rhyolite 85.33 to 122.81m 37.48m
reddish brown pink, aphanitic & porphyritic feldspar phenocrysts, 1-2 mm epidotised &/or kaolinized & 1-3 mm quartz phenocrysts, 1-2 mm chloritized amygdules, vague lamination, chalcopyrite & pyrite disseminations & along foliation planes.

94.47 m flow breccia
rounded 1.5 cm fragment close to same composition as matrix increased fragments

100.57m olive green , dark green & red flow laminated

106.05m very fine, moderately developed non-porphyritic very deep red few fragments

108.19m weakly amygdaloidal

Boxes 19 to 24 (106.8 to 137.1 m)

Rhyolite 122.81 to 128.91m 6.09m
deep red w dark green banding, aphanitic & porphyritic bands vary & reflect alteration, feldspar phenocrysts 1-2 mm epidotized &/or kaolinized epidotized zones surrounded by dark pinkish red halos

Mafic Intrusion 128.91 to 137.14m 8.23m
dark green, fine to medium grained finer at base. Weakly porphyritic with light green sauseritized feldspar

Contact Zone 128.91 to 129.67m 0.76m
dark green, fine grained abundant 1-2 cm volcanic fragments

Glomeroporphyritic 134.70 to 137.14m 2.44m
sauseritized feldspars, fine grained chloritized matrix

137.14m END OF HOLE

DIAMOND DRILL HOLE DL-04

Overburden **0.00 to 10.37m** **10.37m**
Blocky Bouldery Sand

Boxes 1 to 6 (10.4 to 44.6 m)

Quartz- Feldspar Porphyry Flow Rhyolite? 10.37 to 60.06m **49.70m**
Dark pink to reddish-pink with orange and white mottling grading to greyish pink at 70' and grey below 73'. The rock is aphanitic and porphyritic. The mottling represents 1 – 2 mm. quartz phenocrysts and 1 – 3 mm. euhedral feldspar phenocrysts. Some quartz phenocrysts are surrounded by thin, orange coloured reaction halos. The rock is generally equigranular and locally may approach a granitic texture. The unit is generally massive but some epidotized fractures occur locally. Abundant finely disseminated pyrite and minor chalcopyrite are found throughout the rock. Numerous dark green, fine to medium grained diabase dykes cut this unit. They are typically, weakly magnetic and moderately chloritized. Where many diabase dykes are present, the flow rocks are more intensely fractured and silicified.

Orange white mottling at 70 ft, grey below 73 ft (21.34 to 22.26m) 0.91m

Diabase **(24.54 to 24.85m)** **0.30m**

Diabase **(28.20 to 28.96m)** **0.76m**
Includes volcanic xenolith from 93ft to 93.5 ft

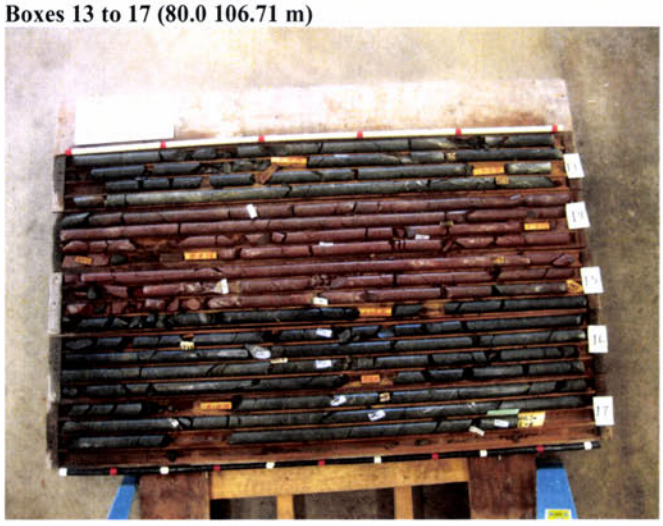
Boxes 7 to 12 (44.6 to 80.0m)

Diabase **(45.27 to 50.91m)** **5.64m**
A volcanic xenolith is located at 151 – 151.5ft and the zone 152.5ft and 153.5ft is very dark grey-green intrusive within the diabase. - the diabase is surrounded by a pink alteration halo in the porphyry.
Volcanic Xenolith (46.04 to 46.19m) 0.15m
Very dark grey-green intrusive (46.49 to 46.80m) 0.30m

Diabase **(56.71 to 59.45m)** **2.74m**

Quartz- Feldspar Porphyry Flow Rhyolite **(60.06 to 83.38m)** **23.32m**
Medium to dark grey, aphanitic and porphyritic. Quartz and feldspar phenocrysts are up to 3 mm. In size and overall texture is similar to the upper unit. The rock is weakly to moderately laminated by flowage and some dark pink banding occurs locally. From 204' – 215', the rock is fragmental. Blocks up to 3 cm. in size are common. They are round to sub-round in outline.

Boxes 13 to 17 (80.0 106.71 m)



Fragmental Rock **(62.20 to 65.55m)** **3.35m**
Unit becomes paler coloured and slightly pinker.

77.74m Rock is medium grey, and moderately to strongly chloritized abundant finely disseminated pyrite and minor chalcopyrite are found in this zone.

Hybrid Agglomerate (83.38 to 85.98m) 2.59m
Medium green mottling on a dark green and white background. The mottling consists of mafic growths, possibly spherulites, which occurs as 3 – 7 mm. individual round balls set in a medium to coarse grained, moderately chloritized, porphyritic matrix. Quartz and feldspar phenocrysts up to 3 mm. in size are common. Minor disseminated pyrite is common locally as intergranular blebs.

Rhyolite - Trachytic **(85.98 to 96.04m) 10.06m**
Dark pink and brick red with some light pink mottling, aphanitic. The rock is highly feldspathic and probably trachytic, and the mottling is due to 1 – 2 mm. Feldspar phenocrysts. The unit is highly fractured, sillicified and chloritized. Chlorite is found on fracture surfaces.

Diabase **(96.04 to 96.34m) 0.30m**
Dark green, fine grained, moderately chloritized.

Mafic flow **(96.34 to 106.71m)** **10.37m**
Dark green, fine to medium grained and carrying rounded fragments up to 1 cm. in size. The rock is locally laminated at 50° to the core axis. The unit is finely fractured. The wider fractures are quartz-carbonate filled. Abundant finely disseminated pyrite and minor chalcopyrite occur along laminations and throughout the rock. Weak to moderate chloritization is widespread.

106.71m **END OF HOLE**

DIAMOND DRILL HOLE DL-05

Overburden **(0.00 to 5.70m)** **5.70m**

Boxes 1 to 6 (5.7 to 37.9 m)

Rhyolite **5.70 to 18.66m** **12.96m**
The rock is greenish-grey becoming pinkish-grey locally, aphanitic and strongly porphyritic with 1 – 3 mm. round quartz phenocrysts and 1 – 4 mm. Light green, epidotized feldspar phenocrysts. A few 1 – 4 mm. black, chloritized glass shards are found locally. Some weak foliation, possibly flow banding is found near 35.8'. It is generally lensitic and discontinuous, and may contain porphyritic rhyolite fragments up to 1 cm. locally, (eg. 46.8'). Up to 1% disseminated pyrite blebs is common. The rock is weakly fractured near mafic intrusives. Some fractures are strongly chloritized with light green secondary patches.

Rhyolite **5.70 to 6.71m** **1.01m**
Strongly to moderately chloritized

Rhyolite **6.71to 18.66m** **11.95m**
Fresh to weakly chloritized locallty

Diorite **18.66 to 25.95m** **7.29m**
Dark green, fine to medium grained abundant light green 0.5 – 2.0 cm. epidotized rhyolite xenoliths near the contacts. These zones are located at 61.7' – 64.6' and 82.8' – 85.1'. The intrusive becomes gradually porphyritic at 74.5' – 82.8'. Abundant 1 – 2 mm. black chloritized glass shards are found throughout the zone. The rock is weakly to moderately fractured with epidote and white carbonate fracture fillings. It carries a 7 cm red rhyolite xenolith at 83.5'.

Rhyolite & Ignimbrite 25.95 to 46.10m **20.15m**
Dark red to greenish-red and porphyritic with abundant 1 – 2 mm. quartz phenocrysts and 1 -3 mm. Epidotized feldspar phenocrysts. The matrix is weakly laminated locally. The bands are frequently lensitic with red laminated bands set in a green matrix, (eg. 121') Abundant fiammi are located at 93.5'. To a depth of 100.4', the fractures are open and white carbonate filled. Fracturing is weak to moderate but strong locally especially near zone of tectonically brecciated and mylonitic rock (e.g. 95.0' and 95.5').

Mylonite **29.54 to 29.76m** **0.21m**
The rock is strongly tectonically brecciated with minor mylonite. The rhyolite fragments are angular and set in a carbonated matrix.

Diorite **30.61 to 32.20m** **1.59m**
Dark green, strongly chloritized, weakly porphyritic with minor graphite. It carries some altered rhyolite xenoliths.

Fault zones **32.20 to 38.51m** **6.31m**
The rock is strongly fractured, frequently mylonitic (105.6' – 108.3') equivalent of the zone from 96.9' – 100.4'. Up to 2% finely disseminated pyrite is common. Fragments are angular and up to 3 cm. in size. They are set in a light green, epidotized, possibly kaolinized finely ground matrix. Some fault planes are located at 111.3' and 115.2' which are sub-parallel to the core axis. Slickensides pitch at 5° across the fault planes.

Boxes 7 to 12 (37.9 to 71.6)

Diorite **38.51 to 40.55m** **2.04m**
Dark green, fine grained and porphyritic with feldspar phenocrysts.

Rhyolite **40.55 to 41.95m** **1.40m**
Rhyolite resembles broken brecciated units above.

Diorite **41.95 to 45.15m** **3.20m**
Faults are sub-parallel to the core axis – rock is porphyritic.

Rhyolite **45.15 to 46.10m** **0.95m**
Brick red rhyolite with grey bands and carrying rhyolite fragments. Ignimbrite.

DIABASE **46.10 to 95.03m** **48.93m**
The rock is dark green and fine grained, moderately to strongly chloritized with abundant epidotized rhyolite fragments up to 1 cm. In size. Numerous fine, black specks up to 2 mm. Dot the core. They are probably strongly chloritized glass shards. Epidote is found rimming the shards as well as on fractures, which are weakly developed. Below a contact at 185', the rock is moderately to strongly fractured and strongly epidotized.

Rhyolite 69.02m
A 10" epidotized rhyolite xenolith

72.26 to 73.99m 1.74m
The rock becomes strongly fragmental with zones epidotized rhyolite xenoliths averaging 1 -2 cm. in size. Zonation is a result of rim alteration.

Boxes 13 to 18 (76.6 to 100.5 m)

Rhyolite **73.99 to 84.42m** **10.43m**
Rhyolite is light green becoming pinkish-green locally and grading to a green tinted variety at 274.1'. The rock is aphanitic and porphyritic with 1 -2 mm. Quartz phenocrysts and 1 – 5 mm. Red fractured feldspar crystals. Abundant pyrite is found in clots up to 1 cm. In size. The rock is well laminated locally (e.g. 252.8') It is weakly epidotized and silicified and as mafic intrusives are approached, the rhyolite becomes darker green and more strongly fractured.

Mafic intrusion **84.42 to 84.73m** **0.30m**
Chloritized mafic intrusive.

84.73 to 85.55m **0.82m**
Reddish-green rock – same as 242.7' – 276.9'

Mafic Intrusion **85.55 to 86.01m** **0.46m**
Chloritized mafic intrusive

Rhyolite **86.01 to 86.55m** **0.55m**
Chloritzed red rhyolite as zone 277.9' – 280.6'

Mafic iIntrusion **86.55 to 87.41m** **0.85m**
Chloritized mafic intrusive

Rhyolite **87.41 to 88.26m** **0.85m**
Rhyolite chloritized close to intrusives

Rhyolite **88.26 to 89.73m** **1.46m**
Light yellow green to white rhyolite, strongly epidotized and fractured. Abundant pinkish-red felsic seams. It is tectonically brecciated strongly.

Mafic intrusion **89.73 to 90.82m** **1.10m**
Chloritized mafic intrusive with 10" rhyolite xenolith

Rhyolite **90.82 to 93.63m** **2.80m**
Light yellow green to white rhyolite, strongly epidotized and fractured. Abundant pinkish-red felsic seams. It is tectonically brecciated strongly.

Diorite **93.63 to 95.03m** **1.40m**
Chloritized Diorite – rhyolite xenoliths.

Boxes 18 to 22 (100.5 to 125.82 m)

Rhyolite **95.03 to 125.82m** **30.79m**
The rock consists of alternating light green and pink to pinkish-red zones. The light green zones frequently have dark green mottling. Pink zones are porphyritic with 1 – 3 mm. Round quartz phenocrysts and minor 1 -2 mm. Light pink, euhedral feldspar phenocrysts.

Rhyolite **95.03 to 111.68** **16.65**
Light green, mottled becoming pink locally, fine grained and possibly spherulitic locally (e.g. 316.3') It is massive and unfractured becoming weakly fractured locally. Fractures are chloritized. Feldspar grains may show variable epidotization locally. The degree of fracturing increases below 330.6' as well as the degree of alteration. Some magnetite seams are present below 340.6'. At 332' and 334' are several oppositely dipping flow contacts.

Rhyolite **111.68 to 119.12m** **7.44m**
Rhyolite sharply becomes pinkish-red and aphanitic

Rhyolite **119.12 to 122.10m** **2.99m**
Greenish-pink zone becoming redder with depth. The rhyolite is strongly fractured and moderately chloritized. Abundant pyrite seams up to 1 cm. Numerous chloritized tectonic breccia zones are found locally, (e.g. 398')

Rhyolite **122.10 to 125.82m** **3.72m**
The rhyolite is brick red, aphanitic and porphyritic.

125.82m **END OF HOLE**

DIAMOND DRILL HOLE DL-06

NO CORE AVAILABLE

DIAMOND DRILL HOLE DL-07

Overburden **0.00 to 6.49m** **6.49m**

Boxes 1 to 6 (6.49m to 39.3m)

Rhyolite **6.49 to 21.86m** **15.37m**

The rock is reddish-pink to pinkish-red and strongly porphyritic. Light pink,1 - 3 mm. Feldspar phenocrysts and 1 - 2 mm. Round quartz phenocrysts are set in an aphanitic groundmass. This unit carries abundant dark green, sub-round to sub-angular chloritized fragments (andesite?), up to 2 cm. in size. The rock is moderately fractured. Fractures are epidotized and chloritized 65.9' - 71.7' The rock is strongly broken and chloritized in the zone bordering the mafic intrusive.

Diorite **21.86 to 28.99m** **7.13m**

The rock is dark green, medium grained and fresh to weakly chloritized. Fracturing is weakly to moderately developed and cracks are epidotized. More open cavities along fractures are filled with white carbonate. The contacts are fine grained and moderately altered. The zone is 76.4' - 89.2' is porphyritic with abundant light green, euhedral feldspar phenocrysts up to 2.5 cm in size. Abundant finely disseminated pyrite is found through the intrusive.

Rhyolite **28.99 to 42.26m** **13.26m**

This unit is light grey with pink mottling, aphanitic and weakly porphyritic with 1 - 2 mm. round quartz phenocrysts. Pink mottling is found around the flow banding zones and along silicified fractures. These fractures are open and filled with quartz phenocrysts and both rhyolitic and mafic rock fragments up to 2 cm. in size. Phenocrysts are commonly penetrated by the matrix. Minor tectonic breccia, possibly kaolinized, is found locally. Chloritized mafic intrusives are located at 111.5', 112.7' & 117.1'- 118.4'. Fracturing increases with depth, particularly near intrusives. With the fracturing, the rock becomes redder in colour. Flow laminations 127.2' contact 70° to the core axis or a flow contact is located at 127.2'. A quartz vein is located at 140.1' to 142'.

Boxes 7 to 12 (39.3 to 72.3m)

Rhyolite Spherulite 42.26m to 55.21m 12.96m

Zones of pink spherulitic rhyolite alternate with brecciated fragmental horizons. Spherules are up to 5 mm. in size but may be up to 1 cm locally. The breccia is tectonic in origin and fragments are similar in type and composition. The spherulitic horizons are located at 142.9' - 147.5', 150.7' and 160.9' - 163.5'. The zone from 165.7' to 181.1' is moderately to strongly spherulitic and is less fractured. Minor amounts of chloritized tectonic breccia is present locally (e.g. 167.3' - 173.9'). Fractures and breccia have minor amounts of dark blue fluorite present locally, (e.g. 180.4').

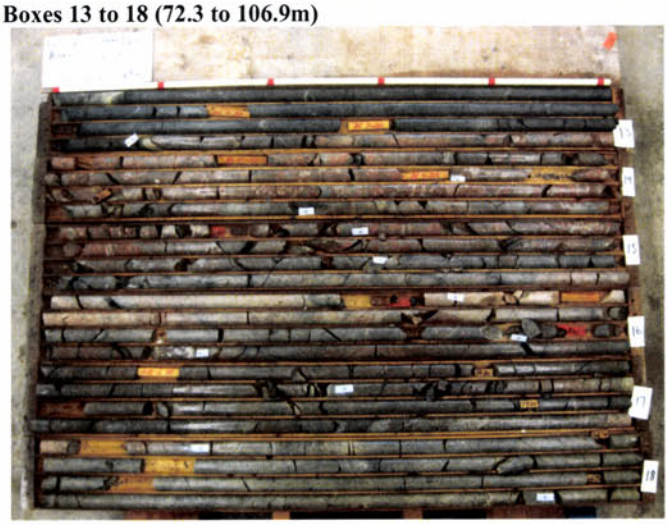
Rhyolite Ignimbrite 55.21 to 62.65m 7.44m

The rock is grey red to grey pink, aphanitic, and strongly fractured, with tectonic breccia found locally. Fragments up to 2 cm. are common. Some flow banding may be observed locally. It is lensitic and irregular - ignimbrite. Strongly epidotized fractures and chloritized breccia increase in number with depth. Some white carbonate is found filling voids.

Diorite 62.65 to 76.98m 14.33m

The intrusive is dark green, fine to medium grained with abundant 1 - 2 mm. Black, devitrified glass shards. The zone 209.3' - 212.3' is porphyritic with light green, euhedral feldspar phenocrysts up to 1.5 cm. in size. The rock grades to fine grained by 215.2'. Two fault planes, at 215.2' and 216.1' cut the core axis at 40 ° and sharply change the grain size. In the zone below the faults (216.1' - 252.5', the rock is fine grained and non-porphyritic. Occasional feldspar phenocrysts may be found locally.

Boxes 13 to 18 (72.3 to 106.9m)



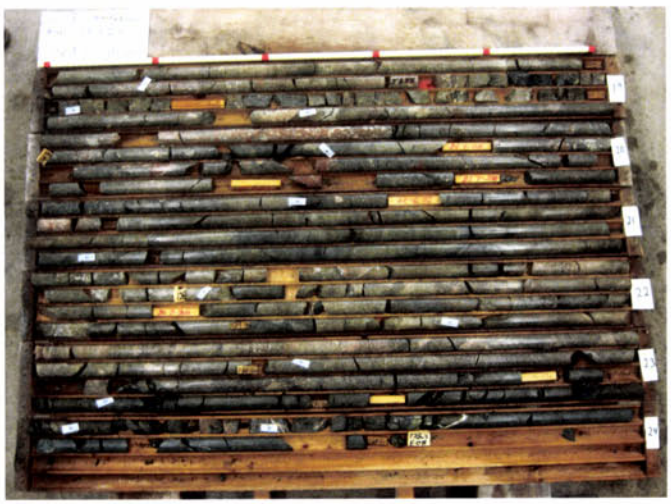
Rhyolite **76.98 to 79.66m** **2.68m**
This zone is one of tectonically brecciated, flow brecciated rhyolite with round red pinkish-red fragments set in often strongly chloritized, finely fragmental matrix. Some grey fragments are found in a pink matrix. Fragments have altered rims.

Rhyolite & Ignimbrite **79.66 to 89.24m** **9.57m**
Light grey rounded fragments up to 2 cm. with red rims are set in a light pinkish-red, aphanitic, locally, well laminated groundmass. A few scattered quartz and feldspar phenocrysts up to 2 cm. in size are found locally.

265.3' : minor purple fluorite in a weakly fractured zone.
270.8' : the rhyolite becomes sharply greyer at this point to at least 50% grey. Minor pink fragmental material is found locally. It is weakly flow banded but becomes more strongly laminated with depth. The rock is more strongly porphyritic below 275.6'.
288.7' - 292.7' : the rock grades from grey to light pink.

Rhyolite & Ignimbrite **89.24 to 101.86m** **12.62m**
The rock is light pink, aphanitic and weakly porphyritic locally. At 302.8' the zone grades to light grey section. Rounded to sub-rounded rhyolite fragments up to 2 cm are set in a matrix of similar colour to the fragments. The groundmass is often flow banded and may be moderately porphyritic. Minor amounts of dark red (flow breccia?) may be found locally (e.g. 301.6'). This fragmental becomes better developed and more porphyritic with depth. At 329.5', the unit becomes weakly flow laminated. Some intervals of tectonic breccia are found at 319.1' - 323' and 329.6' - 330.8'. The matrix to the breccia is often epidotized with white carbonate filling the voids

Boxes 19 to 24 (106.9m to 138.32m EOH)



Felsic Agglomerate **101.86 to 120.40m** **18.54m**
Brick red, light to dark green, and burgundy fragments up to 1 cm in size are located in medium (waxy) green, aphanitic and locally, weakly porphyritic groundmass. Round quartz phenocrysts are up to 1 mm in size. The matrix is weakly epidotized. Fragments up to 4 cm. are found locally and represent flow banding and porphyritic varieties (e.g. 358.4'). Below 367.5', a few 8 cm. fragments are found, and the matrix becomes dark green in colour. The unit is weakly fractured. Open cracks are white carbonate filled. Some foliation is observed locally (e.g. 352.7'). Fracturing and a pale green to cream coloured alteration increase below 355.8'.

Mafic Intrusive **109.63m**
359.6' : 10" chloritized mafic intrusive (109.63m)
370.6' - 373.1' : spherulitic rhyolite (xenolith?) (112.99-113.75m)
386.3' - 387' : foliation dark green, epidotized rhyolite xenolith (117.77 -117.99m)

Rhyolite **112.99 to 113.75m**

Rhyolite epidotized **117.77 to 117.99m**

Rhyolite **120.40 to 129.24m** **8.84m**

The rock is light waxy green, with some pink zones often with dark green seams. The rhyolite is aphanitic and weakly porphyritic. Feldspar phenocrysts 1 - 3 mm in size and quartz phenocrysts up to 2 mm increase in number below 413.4'. Feldspars are light green, euhedral and many strongly epidotized. At 416.7' to 423.9' the rock is cut by abundant tectonically brecciated zones. Fragments are angular to sub-angular and are in contact with each other. Little matrix is found. Epidotized mylonitic material fills voids between fragments.

Felsic Agglomerate **129.24 to 136.95m** **7.71m**

The rock is light green, well foliated and moderately to strongly epidotized. It carries abundant very fine fragments which increase in number at 429.3'. At this point the light green rhyolite fragments up to 1 cm in size. The unit is porphyritic with pink 1 - 3 mm. euhedral feldspar phenocrysts and 1 - 2 mm. round quartz phenocrysts. Rock texture and colour are extremely variable across sharp contacts. Minor zones of tectonic breccia are found over short intervals (e.g. 442.9' - 443.6'). Minor amounts of pink rhyolite are found in the vicinity of the lower intrusive at 449.2'.

Diabase (Diorite?) **136.95 to 138.32m** **1.37m**

The rock is dark green, fine to medium grained and moderately to strongly chloritized. Abundant 1 - 2 mm. Black specks dot the rock. These are probably devitrified glass shards. The rock is weakly fractured. Epidotization of fractures is widespread, cavities also being filled with white carbonate.

138.32m **END OF HOLE**

DIAMOND DRILL HOLE DL-08

Overburden **0.00 to 13.54m** **13.54m**
esker complex - sandy

Boxes 1 to 6 (13.54m to 44.2 m)

Diorite **13.54 to 19.27m** **5.73m**
The intrusive is dark green, fine to medium grained and porphyritic with 1 - 3 mm light green euhedral feldspar phenocrysts. The rock is weakly to moderately fractured. Breaks are strongly epidotized and some shears are chloritized. Voids and cavities are white carbonate filled. Pink rhyolite xenoliths are located at 51.9' - 55.5', 58.1' - 58.9' - 59.6' and 62.2' - 62.9'.

Rhyolite Agglomerate **19.27 to 23.20m** **3.93m**
The rock is light green, aphanitic and very weakly porphyritic with 1 mm quartz phenocrysts. Light green to red rhyolitic fragments of varying composition are found in several tectonic breccia and agglomerate zones. The agglomerate fragments are up to 3 cm. in size. The breccia fragments are angular and smaller on average. The matrix to breccia fragments is dark green.

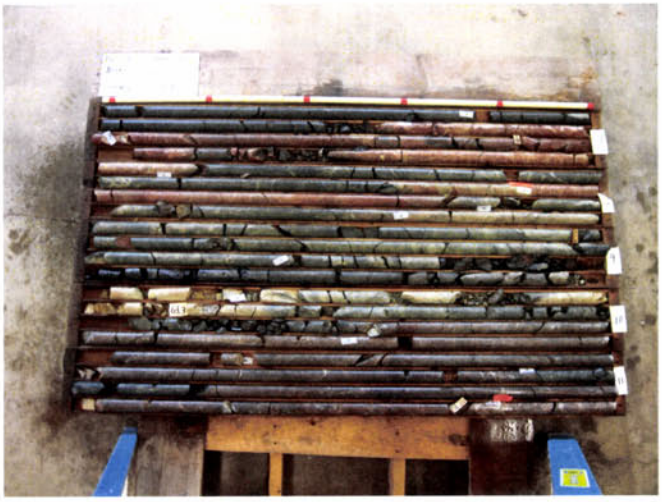
Diorite (Diabase?) **23.20 to 25.61m** **2.41m**
The rock is dark green with 1 - 2 mm black blebs, fine grained and moderately to strongly chloritized. The black specks are probably glass fragments. 78.2' - 80.1' : dark red, porphyritic rhyolite fragment from the zone at 84' - 144'.

Rhyolite **25.61 to 55.98m** **30.37m**
The rock is reddish - pink to red, aphanitic and moderately to strongly porphyritic. Pink to cream, 1 - 3 mm euhedral, locally epidotized feldspar phenocrysts and 1 - 2 mm round quartz phenocrysts are common. The rock is massive and non-banded. It is weakly to moderately fractured becoming intensely fractured and mylonitic locally. Epidote and minor chlorite coat most fracture surfaces. Near mafic intrusives chloritization is stronger.

94.5' - 95.1' :
chloritized diabase seam. 130.4' : 4 cm.,
diabase (?) seam - intensely chloritized 144' - 152.2' :

DIABASE - dark green, fine to medium grained with black specks up to 3mm and moderately chloritized.
152.2' - 165.4' : Strongly to intensely fractured rhyolite - mylonitic locally - chloritized seams are located at 157.2' - 157.8', 159.8' - 160.1' and 160.4' - 161.7', 165.4' - 172.1' :
DIABASE - dark green, fine to medium grained and moderately chloritized with black blebs.
172.1' - 177.5' : Same as 152.2' - 165.4' - intensely fractured, mylonitic and strong epidotized.
177.5' - 181.1' : DIABASE - Strongly chloritized.
181.1' - 183.6' : Strongly epidotized mylonitic rhyolite (xenolith?)

Boxes 7 to 11 (44.2 to 72.8m)



Diabase **55.98 to 58.54m** **2.56m**
The rock is moderately epidotized and chloritized.

Rhyolite **58.54 to 63.26m** **4.73m**
The rock is shattered, dark green, medium grained as a result of brecciation and silicification, and is intensely chloritized. Locally the rock is mylonitic. Feldspar phenocrysts have partially survived brecciation and alternation but quartz phenocrysts are undisturbed.

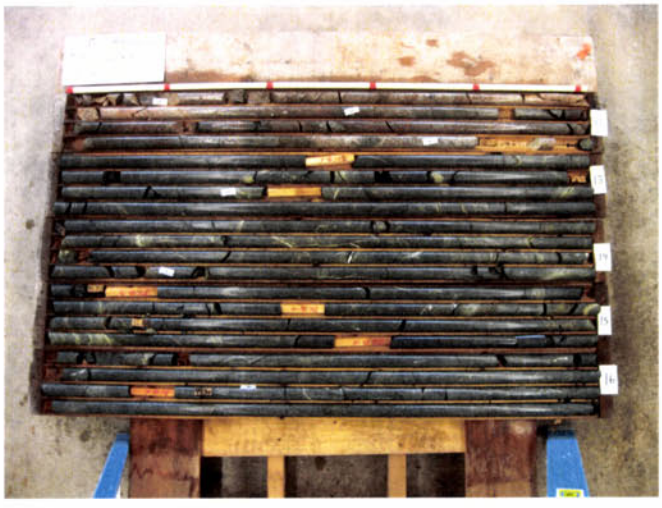
Mylonitic **61.62 to 61.95m** **0.34m**
mylonitic rhyolite

Diabase **61.95 to 62.77m** **0.82m**
DIABASE - dyke cuts along core axis

Rhyolite **62.77 to 63.26m** **0.49m**
epidotized, mylonitic rhyolite.

Diabase **63.26 to 64.70m** **1.43m**
The rock is dark green, fine grained with moderately to strongly developed chloritized and epidotized fracture systems.

Boxes 12 to 16 (72.8 to 101.8 m)



Rhyolite 64.70 to 78.35m 13.66m

The rock is greenish-pink to reddish-green with white mottling. Free quartz, often found as 1 - 4 mm bands is causing the mottled appearance. The rock is weakly flow banded locally (e.g. 226.4'). Quartz and feldspar phenocrysts up to 2 mm in size are common. It is weakly spherulitic. Spherules are up to 1 cm. in size, and are often nucleated on phenocrysts. At 226.4', the rock becomes fragmental locally, as a result of tectonic brecciation. Angular rhyolite fragments are up to 4 cm. in size.
228.2' -230.1' : Diabase - dark green fine grained and strongly chloritized.
240' - 241' : the rock is weakly flow banded and contains some dark spherulitic growths up to 1 cm. in size.

72.30 to 72.50m 0.20m

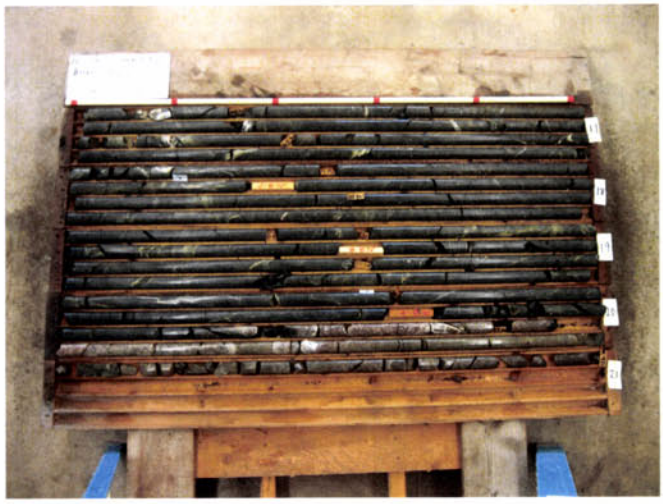
Small black crystals on epidote on fracture surfaces (POSSIBLE ALLANITE)

Diorite 78.35 to 118.11m 39.76m

The intrusive is dark green, medium grained becoming finer at the upper and lower contacts. It is moderately to strongly porphyritic with light green, euhedral feldspar phenocrysts up to 6 mm in size. It is massive to weakly fractured becoming moderately fractured locally. Fractures are epidote and white carbonate filled. Some wider fractures up to 2 cm. are quartz-carbonate filled. Some localized zones of feldspar enrichment in the matrix are observed to contain pink feldspar up to 50% of the rock volume, (e.g.292').

Diabase dykes are located at 312.2' - 314.5', 348' - 350.7', 374.9' - 375.8', 380.6' - 385.8'. These are intrusive into the diorite and are dark green, fine grained and weakly chloritized. They contain minor pyrite blebs up to 3 mm. in size.

Boxes 17 to 21 (101.8 to 126.3 m)



Diabase 118.11 to 122.62m 4.51m

Similar to the above diabase swarm. - fine grained weakly chloritized to moderately altered at the contact.

Rhyolite 122.62 to 126.34m 3.72m

The rock is pinkish-red at the contact becoming waxy-green at 406.2'. It is porphyritic with quartz phenocrysts up to 2 mm, and euhedral pink feldspar crystals of similar size, which are set in an aphanitic matrix. The rock is moderately to strongly epidotized.

411.1' : a 2 cm. calcite stringer contains a few galena crystals up to 3 mm. in size and 1 - 2 mm. chalcopyrite blebs.

126.34m END OF HOLE

DIAMOND DRILL HOLE DL-09

Overburden **0.00 to 6.49m** **6.49m**

Boxes 1 to 5 (21.3 to 112.1 ft)

Tuff **6.49 to 13.54m** **7.04m**

The rock is medium grey to grey-green with green bands, aphanitic to medium grained and contains fragments up to 4 cm in size locally. The rock fragments are of rhyolitic composition. Most grains are in the sand sized category. Fractures are weakly developed and filled with white carbonate and quartz.

Diabase **13.54 to 16.16m** **2.62m**

The intrusive unit is dark to very dark greyish-green, fine grained and weakly to moderately fractured. Locally the unit contains fragments of volcanic rock up to 2 cm in size. These fragments are strongly epidotized. Above 50.6' the rock is moderately epidotized and chloritized. Below this point alteration is weaker. Spotty epidote alteration is prevalent in the lower section. The rocks are weakly fractured. Fractures are white carbonate and epidote filled.

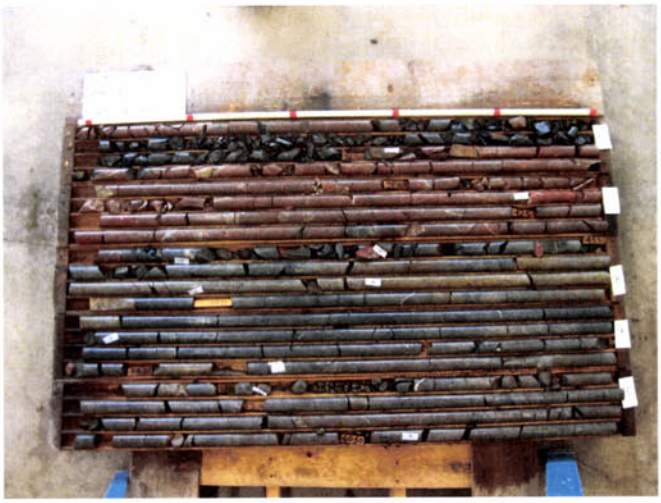
Rhyolite **16.16 to 44.27m** **28.11m**

The rock is red, very fine grained to aphanitic and porphyritic with 1 -3 mm euhedral orange feldspar phenocrysts and 1 - 2 mm. round quartz phenocrysts. The rhyolite is massive and non-structured. Locally, it is moderately fractured. Fracture surfaces are epidotized. Near the lower contact, the rhyolite is less reddish coloured; feldspar phenocrysts are less euhedral and become weakly epidotized. Diabase dykes are located at 66' - 72.9', 84.6' - 86.5', and 115' - 120'. These intrusives are dark grey-green fined grained and weakly to moderately chloritized. They are weakly to moderately fractured.

Diabase dykes are located at 66' - 72.9', 84.6' - 86.5', and 115' - 120'.

Diabase dyke	**20.12 to 22.23m**	**2.10m**
Diabase dyke	**25.79 to 26.37m**	**0.58m**
Diabase dyke	**35.06 to 36.59m**	**1.52m**

Boxes 6 to 10 (121.1 to 201.2 feet)



Diorite **44.27m to 46.16m** **1.89m**
The rock is dark greyish-green and fine grained with epidotized feldspar phenocrysts up to 2 mm in size. The phenocrysts (?) are rounded instead of the normal euhedral variety. Some banding within the unit is found locally - possibly as a segregation formed at the time of intrusion. Devitrified glass blebs are common in the unit. Fractures are moderately hematized.

Rhyolite Ignimbrite & Agglomerate **46.16 to 70.12m** **23.96m**
The rock is greenish -grey to pink becoming dark grey locally. It is aphanitic but contains minor zones of porphyritic rhyolite. Some sections contain angular and rounded fragments up to 4 cm. in size. These zones are non-banded and unfoliated agglomerate but grade into zones of thinly banded ignimbrite. These bands are rippled, discontinuous and contain fiammi up to 5 cm in length and 1 cm. in thickness, (e.g. 223'). Ignimbrite is also porphyritic. Zones of epidotized tectonic breccia are found locally. The rock is weakly fractured. Fractures are epidotized with white carbonate filling voids.

Diorite **62.16 to 63.66m** **1.49m** 203.9' - 208.8' :
Diorite - dark green, fine to medium grained and porphyritic with 1 - 2 mm. epidotized feldspar phenocrysts.

Boxes 11 to 15 (201.2 to 294.4 feet)

Diabase **70.12 to 73.93m** **3.81m**
The rock is greyish-green, fine grained and weakly to moderately fractured. The inclusive is moderately chloritized and fractures are strongly epidotized. Chloritized amygdules or vesicles increase in size and number toward the base of the unit indicating an overturned structure.

Rhyolite Ignimbrite 73.93 to 90.52m 16.59m
The rock is light to medium waxy green and fine to medium grained. The unit is similar to the section at 151.4' - 230' except that it contains no agglomerate. The rock is strongly porphyritic and contains a few fiammi and rhyolite fragments locally. Fiammi are found with flow laminated sequences (e.g. 293'). Pyrite is found locally filling voids up to 2 cm. in size.

Boxes 16 to 20 (294.4 to 387.2 feet)

Diabase 90.52 to 108.02m 17.50m
The rock is greyish-green, medium grained becoming fine grained locally. It contains abundant 1 - 2 mm. Black chloritized glass shards which increase in number toward the contacts. Pyrite is found on some fractures as thin plates and occurs as 1 - 2 mm. blebs throughout the unit.

Rhyolite Ignimbrite 108.02 to 118.02m 10.00m
The section is dark grey to greenish-grey, aphanitic and strongly porphyritic with vague 1 - 3 mm. Quartz and feldspar phenocrysts. The rock contains some fiammi locally but the lower part of the unit may be rhyolite flow. The rock is weakly fractured. Fractures are epidotized with some chlorite near mafic intrusives.

Rhyolite 116.04 to 117.29m 1.25m 380.6' - 384.7' :
pinkish, aphanitic, well banded section with minor feldspar phenocrysts. Phenocrysts have settled within the laminations producing load casts. However, tops determinations from point to point are contradictory. (e.g. 383')

118.02 m END OF HOLE

DIAMOND DRILL HOLE DL-10

Overburden **0.00 to 6.49m** **6.49m**

Boxes 1 to 5 (6.49 to 40.87m)

Rhyolite- Ignimbrite **6.49 to 10.70m** **4.21m**
The rock is brownish-orange and light green, aphanitic and porphyritic with euhedral feldspar phenocrysts up to 3 mm and round quartz phenocrysts up to 2 mm in size. The unit is well banded, pink and grey, and the individual laminations are lensitic and discontinuous. The rock is weakly to moderately fractured with epidote and locally hematite on the fracture surfaces. Minor zones of tectonic brecciation are strongly epidotized.

Lapilli Tuff **10.70 to 14.79m** **4.09m**
The rock is light greenish-grey, aphanitic to fine grained with 30 - 40% by volume composed of angular lithic fragments encompassing a wide range of rhyolitic compositions. These fragments are grey, black and red and may be up to 3 cm in size. Some feldspar crystal fragments up to 1 cm. in size are found locally. The rock is weakly fractured with hematite and limonite on breakage surfaces.

Rhyolite- Ignimbrite **14.79 to 18.11m** **3.32m**
The rock is reddish-brown, aphanitic and strongly porphyritic with euhedral pink feldspar phenocrysts up to 4 mm, and 1 - 3 mm round quartz phenocrysts. Minor fiammi up to 2 cm. are present locally. Local zones of tectonic brecciation are strongly epidotized. Angular breccia fragments are often red in colour. The lower contact zone is weakly chloritized.

Rhyolite **18.11 to 32.71m** **14.60m**
The rock is red to reddish-brown and strongly porphyritic with euhedral, orange to pink feldspar phenocrysts up to 5 mm. and round quartz phenocrysts up to 3 mm. in size. It carries abundant mafic clots, possibly fragments (?) They are moderately to strongly chloritized with indistinct boundaries. Some contain quartz phenocrysts within their borders. The rock is weakly fractured becoming moderately fractured locally. Fractures are epidotized with minor limonite. The basal zone from 104' -107.3' is mylonitic. The zone is green and strongly altered with chlorite and epidote.

Diorite **32.71 to 35.21m** **2.50m**
The rock is dark green, medium grained becoming fine grained locally and is generally porphyritic with light green feldspar phenocrysts up to 2 cm. Locally. The rock is weakly chloritized and fractures are filled by epidote and white carbonate. Shear surfaces are strongly chloritized. Minor amounts of finely disseminated pyrite in blebs up to 2 mm. are common.

Porphyry **35.21 to 37.26m** **2.04m**
Porphyritic with light green epidotized feldspar phenocrysts up to 2 cm

Porphyry **37.26 to 50.37m** **13.11m**
the rock becomes sharply fine grained at this point and then slowly grades back to a medium grained porphyritic variety the same as 115.5' - 112.2'.

Boxes 7 to 12(40.96 to 74.60 m)

Felsic Agglomerate **50.37 to 111.34m** **60.98m**
The rhyolite agglomerate unit is greenish-grey to light waxy green with several pinkish sections. It is locally porphyritic and short sections may well be flow laminated. A small amount of ignimbrite may be found locally. Agglomerate fragments are typically representative of several rhyolitic lithologies including massive porphyritic rhyolite and banded ignimbrite, and, may average 3 - 6 cm. in size, although larger and smaller fragments have been observed. These fragments are usually rounded to sub-rounded. The unit is frequently intruded by diabase and diorite dykes. The former variety may locally intrude the diorite as well.

Rhyolite Agglomerate **50.37 to 56.89m** **6.52m**
165.2' - 186.6' : Rhyolite agglomerate - greenish-grey, weakly fractured with ignimbrite and rhyolite fragments up to 5 cm. The lower 4' may be tuffaceous.

Diorite **56.89 to 67.68m** **10.79m**
186.6' - 222' : Diorite - the unit is dark green to dark greyish-green, fine to medium grained and weakly to moderately fractured. Epidote and white carbonate are found in the fractures. Traces of disseminated pyrite are found locally.

Rhyolite agglomerate **67.68 to 72.04m** **4.36m**
222' - 264.8' : Rhyolite agglomerate - light waxy green, with rhyolite and ignimbrite fragments up to 5 cm. Most fragments are rounded and retain sharp boundaries. The rock is weakly fractured with epidotized fracture surfaces.

Diabase dyke **72.04 to 72.68m** **0.64m**
chloritized

Agglomerate **72.68 to 80.73m** **8.05m**

Diorite **80.73 to 81.80m** **1.07m**
Diorite - dark green, fine to medium grained - coarser grain sizes found in the upper half. The intrusive is weakly fractured with epidote and white carbonate fracture filling.

Diabase dyke **81.80 to 82.59m** **0.79m**
It is intruded by diabase

Diorite **82.59 to 92.68m** **10.09m**
Diorite - dark green, fine to medium grained - coarser grain sizes found in the upper half. The intrusive is weakly fractured with epidote and white carbonate fracture filling.
Agglomerate **92.68 to 94.27m** **1.59m**

Rhyolite agglomerate - the rock is green with more larger fragments than the agglomerate horizons above. Fragments are sub-rounded to round and up to 5 cm. in size. The rock is weakly fractured

Boxes 13 to 18 (74.6 to 109.8 m)

Diabase **94.27 to 104.48 m** **10.21m**
grey-greenish, fine grained and weakly fractured with white carbonate and epidote veining.

Brecciated Rhyolite xenolith **100.46m** **0.58m**
brecciated rhyolite xenolith.

Diabase **104.48m** **4.02m**

Agglomerate **111.34m** **6.86m**

Rhyolite agglomerate - dark green becoming orange locally with a few 5 - 8 cm. rhyolite flow fragments. The rock is fresh to very weakly altered

Boxes 19 to 24 (109.8 to 145.12 m)

Rhyolite-Ignimbrite **111.34 to 120.67m** **9.33m**
The rock is light pinkish-green, and moderately porphyritic with 1 - 2 mm. quartz and epidotized feldspar phenocrysts. The upper contact dips at 20° to the core axis. The ignimbrite is well banded and the individual laminations intersect sharply with this contact. Bands are discontinuous and locally may be lensitic or rippled. At 395.2' feldspar phenocrysts are 1 - 3 mm. in size, strongly epidotized and are more common.

Diabase **120.67 to 120.79m** **0.12m**
A diabase stringer is located at 395.8' - 396.2'.

Rhyolite- Ignimbrite **120.79 to 127.23m** **6.44m**
The rock is light pinkish-green, and moderately porphyritic with 1 - 2 mm. quartz and epidotized feldspar phenocrysts. The upper contact dips at 20° to the core axis. The ignimbrite is well banded and the individual laminations intersect sharply with this contact. Bands are discontinuous and locally may be lensitic or rippled. At 395.2' feldspar phenocrysts are 1 - 3 mm. in size, strongly epidotized and are more common.

Rhyolite Agglomerate **127.23 to 130.61m** **3.38m**
The rock is light waxy green and aphanitic with 4 - 5 cm. Rounded fragments of various lithic types. The rock is non-laminated.

Diorite **130.61 to 132.01m** **1.40m**
The intrusive is dark green, fine to medium grained with feldspar phenocrysts up to 7 mm. in size. The crystals are light green and euhedral. The rock is weakly to moderately fractured. White carbonate and epidote are found on fracture surfaces.

Rhyolite Xenolith **132.01m to 132.47m** **0.46m**
A rhyolite xenolith is located at 433' - 434.5'.

Diorite **132.47m to 140.09m** **7.62m**
The intrusive is dark green, fine to medium grained with feldspar phenocrysts up to 7 mm. in size. The crystals are light green and euhedral. The rock is weakly to moderately fractured. White carbonate and epidote are found on fracture surfaces.

Rhyolite Agglomerate **140.09m to 153.35m** **13.26m**
The rock is green with generally greenish fragments but acquires reddish fragments with depth. Generally, fragments are sub-round up to 8 cm. in size and represent porphyritic rhyolite and ignimbrite varieties of volcanics. Some fragments are strongly epidotized. Tectonic breccia is found locally, particularly toward the base of the hole.

Diabase **144.76m to 144.91m** **0.15m**
474.8' - 475.3' : Diabase - dark green, fine to medium grained moderately chloritized.

Boxes 25 & 26 (145.2 to 153.35)

Rhyolite Agglomerate **144.91 to 148.48m** **3.57m**

Diabase **148.48 to 152.59m** **4.12m**
487' - 500.5' : Diabase stringer

153.35m **END OF HOLE**

DIAMOND DRILL HOLE DL-11

Overburden **0.0 to 5.3m** **5.3m**

Boxes 1 to 6 (5.3m to 40.53 m)

Diorite **5.3 to 21.5m** **16.2m**
dark green, medium grained becoming fine grained at the contact, and weakly porphyritic with scattered light green 1- 3 mm. euhedral feldspar phenocrysts. Weakly to moderately fractured with epidote and white carbonate fillings.

Rhyolite **21.5 to 22.8m** **1.3m**
greyish-red and red, aphanitic and porphyritic with 1 - 3 mm., white and pink feldspar phenocrysts and round quartz phenocrysts up to 2 mm. Massive and non-structured. The unit is weakly fractured with epidote coating and filling fractures. Some white carbonate is found near mafic intrusives.

Diabase **22.8 to 24.8m** **2.0m**
dark green, fine grained, strongly fractured and highly chloritized. Some shearing is apparent. Fractures are epidote- carbonate filled.

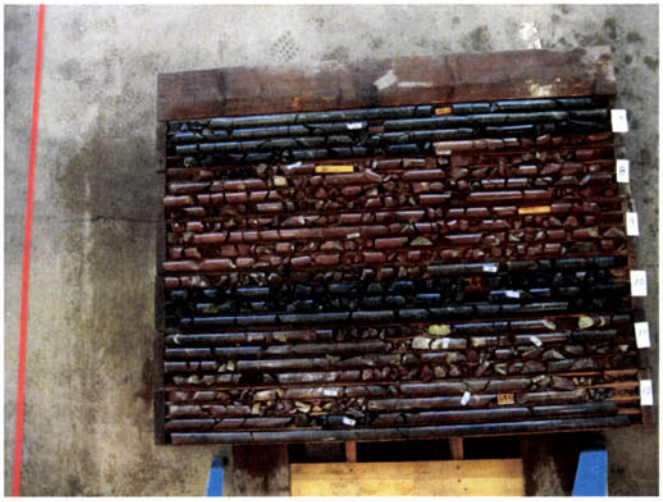
Rhyolite **24.8 to 38.9m** **14.1m**
pinkish-grey, aphanitic and porphyritic. Feldspar phenocrysts are pink and up to 3 mm. in size. Quartz phenocrysts are 1 - 2 mm. in size. The zone becomes reddish-pink at 91.2' and remains porphyritic. Round spherulitic growths, 1 - 2 mm. in size give the rock its colour. The zone becomes greyer and locally becomes crudely banded at 108.3'. 109.1' : diabase stringer chloritized. 111.4' - 112' : diabase dyke - strongly chloritized, epidote and white carbonate fractures.

Diorite **38.9 to 45.5m** **6.6**
dark green, fine to medium grained and strongly porphyritic. Light green, euhedral feldspar phenocrysts up to 1 cm. in size are common throughout dyke. Weakly fractured with white carbonate and minor epidote in fractures.

Rhyolite **45.5 to 58.4m** **12.8**
red to pinkish red becoming pink at the upper contact and aphanitic with round quartz phenocrysts up to 3 mm. in size. These crystals are frequently penetrated by the ground-mass. Feldspar phenocrysts are not apparent. At the lower contact greyish-red with minor purple fluorite in some fractures. The unit is weakly to moderately fractured. Diabase stringers are found locally.

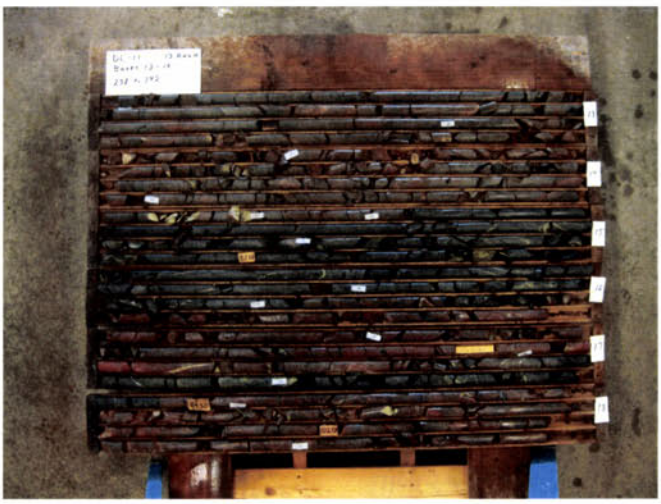
Diabase **58.4 to 62.2m** **3.8m**
dark green and fine grained. It is weakly to moderately fractured with epidote and minor white carbonate as a fracture filling. Where highly fractured locally, strongly epidotized. Weakly chloritized.

Boxes 7 to 12 (40.53 to 70.40 m)



Rhyolite **62.2 to 83.7m 21.5m**
grey with red mottling and contains abundant 1 - 3 mm. round quartz phenocrysts set in aphanitic ground-mass. Feldspar phenocrysts are not distinguishable. Moderately fractured with minor localized zones of tectonic brecciation. Breaks are strongly epidotized and cavities are white carbonate filled.

Boxes 13 to 18 (70. 40 to 104.22m)



Diabase **83.7 to 91.9m 8.2m**
dark green, fine grained and fractures moderately developed and are epidote and white carbonate filled.

Rhyolitic Intrusive **91.9 to 97.9m 6.1m**
dark red to greyish-red aphanitic and porphyritic with euhedral pink feldspar phenocrysts up to 3 mm. and round quartz phenocrysts up to 4 mm. in size. The unit is unstructured but contains abundant mafic fragments up to 4 cm. in size. They are typically dark green, chloritized, fine grained and may be porphyritic with light green feldspar phenocrysts up to 3 mm. The fragments are especially noticed below 312'. Weakly to moderately fractured. Fractures are epidotized. The contact with the underlying intrusive is very broken and carbonate filled cavities are common.

Diabase **97.9 to 99.4m 1.5m**
dark green, fine grained and moderately to highly fractured. Breaks are strongly epidotized with minor white carbonate and chlorite.

Boxes 18 to 23 (104.22 to 126.47 m)

Rhyolite **99.4 to 126.5m** **27.1m**

reddish-grey with red mottling, very fine grained and porphyritic with round quartz grains up to 2 mm. and euhedral feldspar phenocrysts up to 3 mm. in size. Some spherulites may be nucleated on quartz phenocrysts moderately fractured. Fractures often have red reaction halos and are commonly epidotized. The rock becomes less fractured toward the base of the hole. The rhyolite becomes indistinctly flow banded at 350.2' and may include some ignimbrite locally (e.g. 372.4').

126.5 **END OF HOLE**

DIAMOND DRILL HOLE DL-12

Overburden **0.00 to 2.04m** **2.04m**

Boxes 1 to 6 (2.04m to 34.44 m)

Diorite **2.04m to 10.79m** **8.75m**
The intrusive is dark greyish-green, fine to medium grained and porphyritic with scattered light green feldspar phenocrysts up to 4 mm. Feldspars are euhedral as are most grains. The rock is weakly fractured and breaks are epidotized, locally chloritized and cavities as well as wider fractures may be white carbonate filled. Some fractures are limonite coated.

Rhyolite Xenolith **8.87m to 9.45m** **0.58m**
A massive pink rhyolite xenolith is located at 29.1' - 31.0'. It is strongly fractured and epidotized.

Rhyolite **10.79m to 19.42m** **8.63m**
The rock is pinkish-grey to pinkish-red locally, aphanitic and porphyritic with cream to pink, euhedral feldspar phenocrysts up to 4 mm and a few quartz phenocrysts up to 1 mm. The rock is massive and non-structured. It is moderately to highly fractured with limonite and epidote on fracture surfaces. Some fluorite is noticed near 63.7' in fractured rhyolite.

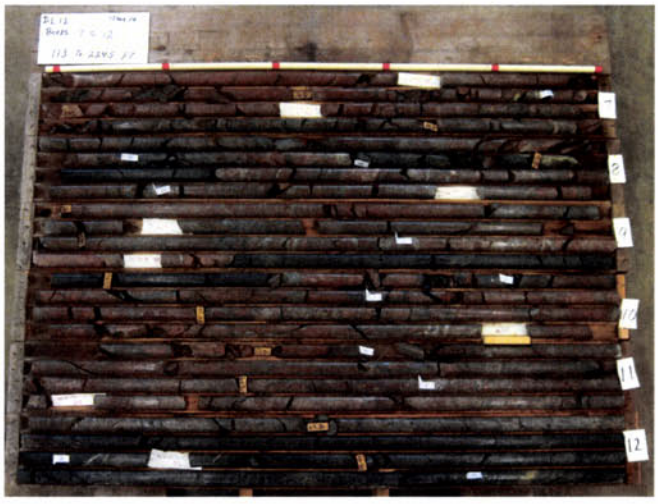
Diorite **16.10m to 18.35m** **2.26m**
52.8' - 60.2' : Diorite - dark green, fine grained and porphyritic with feldspar phenocrysts up to 1 cm. It contains an epidotized rhyolite xenolith at 54.2' - 55.4'.

Rhyolite Xenolith **16.52m to 16.89m** **0.37m**

Diorite **16.10m to 18.35m** **2.26m**

Diorite **19.42m to 22.44m** **3.02m**
The intrusive rock is dark greyish-green, medium grained and porphyritic with euhedral, light green feldspar phenocrysts up to 1 cm. in size. It is weakly to moderately fractured with white carbonate and epidote found in fractures.

Boxes 7 to 12 (34.44m to 68.42 m)



Rhyolite Ignimbrite **22.44m to 64.15m** **41.71m**
The rock is reddish-pink with grey bands and laminations, aphanitic and porphyritic. The bands are lensitic, rippled and often discontinuous. No fiammi were observed. A few quartz phenocrysts up to 2 mm. in size are observed in the upper part of the zone, but below 140.4', pink euhedral feldspar phenocrysts up to 3 mm. as well as abundant quartz phenocrysts may be observed. Phenocrysts have typically settled within laminations producing load casts. A few massive to poorly banded zones are found locally. Angular to sub-angular, pink rhyolitic fragments up to 1 cm. are found throughout the zone. Typically, they are set in aphanitic grey matrix. Often the fragments may be surrounded by cream coloured reaction rims. The rock is weakly to moderately fractured. Locally, zones of tectonic brecciation are common. Fractures and breccia matrix are epidotized. Below 140.8' some increase in fracturing and fragment size may be observed.

Diorite **25.30m to 28.05m** **2.74m**
83.0' - 92.0' : Diorite - dark green, fine to medium grained porphyritic with euhedral to anhedral, light green, feldspar phenocrysts up to 6 mm. in size.

Breccia **33.23m**
109' : Abundant tectonic breccia around this point.

Diabase **41.25m to 41.52m** **0.27m**
135.3' - 136.2' : chloritized diabase - diorite dips along the core axis.

Diabase **41.86m to 42.80m** **0.95m**
137.3' - 140.4' dark green, fine to medium grained, highly fractured and epidotized.

Increase in fracturing **42.68m**

Ignimbrite Breccia **48.35m to 51.19m** **2.84m**
158.6' - 167.9' : ignimbrite breccia - angular ignimbrite fragments are set in a light grey quartz matrix - may be genetically related to intrusive at 167.9'

Tectonic breccias **49.00m**

Diabase **51.19m to 51.83m** **0.64m**
167.9' - 170.0' : Diabase - dark green, fine grained, weakly fractured.

Rhyolite Fragmental **51.83m to 54.27m** **2.44m**
170.0' - 178.0' : The volcanic rock seems to carry abundant light red to pink rhyolite fragments.

Ignimbrite **54.27m to 64.15m** **9.88m**
178.0' - 210.4' : light pinkish-red rhyolite and ignimbrite fragments are set in light grey siliceous ground-mass. The rock is weakly banded locally. It carries abundant cream, euhedral feldspar phenocrysts up to 3 mm. in size.

Boxes 13 to 18 (68.42 to 102.55 m)

Diorite **64.15m to 78.63m** **14.48m**
The rock is dark green, medium to coarse grained with black chloritized glass shards up to 4 mm. and euhedral, light green feldspar phenocrysts up to 7 mm. The rock is weakly fractured with epidote and white carbonate fracture filling. A rhyolite xenolith is located at 215.4' The fragment is strongly fractured and epidotized.

Rhyolite Agglomerate **78.63m to 85.79m** **7.16m**
The rock is greenish-grey with dark grey and pink rhyolite fragments. These fragments are rounded, up to 3 cm. in size, and represent both ignimbrite and rhyolite units. The zone is weakly fractured with minor epidotized tectonic breccia locally. Below 276.9' is a spherulitic zone. Spherulites are olive green, round and up to 1 cm. in size.

diorite **82.99m to 84.42m** **1.43m**
272.2' - 276.9' : Diorite - the rock is dark greyish-green, fine to medium grained with 1 - 2 mm. black chloritized glass shards. Pyrite is found as 1 - 2 mm. blebs scattered throughout the zone.

Diorite **85.79m to 108.14** **m22.35m**
The intrusive is dark green, medium to coarse grained and weakly to moderately fractured. White carbonate with minor epidote fills fractures and openings. Minor disseminated pyrite is found in the unit. The rock is moderately chloritized. 309.6' - 313.6' : Diabase - dark green, fine to medium grained, moderately chloritized.
330.5' - 336.3' : Diabase - same as above.

Diabase **108.14m to 118.32m** **10.18m**
The rock is dark green, fine grained, moderately chloritized with minor finely disseminated pyrite as 1 - 2 mm. blebs.

Rhyolite Ignimbrite **118.32m to 120.95m** **2.62m**
The rock is dark red to reddish-brown and banded. Individual laminations are rippled and discontinuous. A few phenocrysts of quartz and feldspar are observed - up to 2 mm. In size, and are set in an aphanitic matrix. The unit is highly fractured. Fractures are strongly epidotized. Minor tectonic breccia is found locally. The rock is redder in colour towards 396.7'.

Diabase **120.95m to 123.26m** **2.32m**
The intrusive is dark green, fine grained and moderately fractured. Epidote and white carbonate fill openings and coat fractures. Overall the rock is moderately chloritized.

Diorite **123.26m to 130.76m** **7.50m**
The rock is dark green, medium to coarse grained and weakly to moderately fractured. Fractures are epidotized with white carbonate filling cavities. Abundant disseminated pyrite is found as 1 - 2 mm. Blebs and occasional clots up to 1.5 cm. The intrusive is weakly chloritized.

Boxes 19 to 25 (102.55 to 138.26 m)

Diabase **130.76m to 137.44m** **6.68m** Same as 396.7' - 404.3'
The intrusive is dark green, fine grained and moderately fractured. Epidote and white carbonate fill openings and coat fractures. Overall the rock is moderately chloritized.

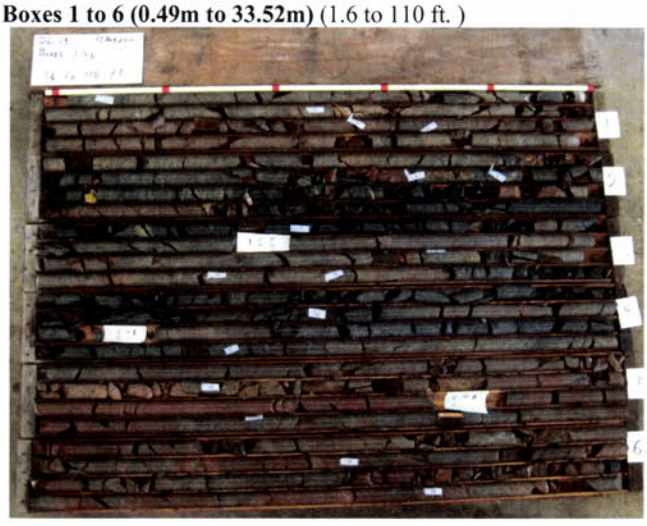
Diorite **137.44m to 138.32m** **0.88m** Same as 404.3' - 428.9'
The rock is dark green, medium to coarse grained and weakly to moderately fractured. Fractures are epidotized with white carbonate filling cavities. Abundant disseminated pyrite is found as 1 - 2 mm. Blebs and occasional clots up to 1.5 cm. The intrusive is weakly chloritized.

138.32m **END OF HOLE**

DIAMOND DRILL HOLE DL-13

Overburden **0.49m**

Boxes 1 to 6 (0.49m to 33.52m) (1.6 to 110 ft.)



Rhyolite **0.49m to 16.97m** **16.49m**
The rock is light green to light greyish-green becoming pinkish-green or dark grey locally (eg 24.6'). It is weakly porphyritic with 1 - 2 mm. round quartz phenocrysts, often surrounded by red halos. With depth is found an increase in the number of feldspar phenocrysts

Rhyolite **1.10m to 2.26m** **1.16m**
The zone is crudely and coarsely flow banded locally (eg. 3.6' - 7.4') and at 9.8' the zone carries several rounded rhyolitic fragments up to 2 cm. in size. In the lowermost 2' are several coarsely porphyritic green zones which are strongly chloritized.

Diabase **9.90m to 13.13m** **3.23m**
32.5' - 43.1' : Diabase - the intrusive is dark green to black, fine grained, moderately fractured and weakly to moderately chloritized.

Rhyolite **13.13m to 16.97m** **3.84m**
The zone is crudely and coarsely flow banded locally (eg. 3.6' - 7.4') and at 9.8' the zone carries several rounded rhyolitic fragments up to 2 cm. in size. In the lowermost 2' are several coarsely porphyritic green zones which are strongly chloritized.

Rhyolite **16.97m to 19.20m** **2.22m**
The rhyolite is dark to medium grey and aphanitic. Over short intervals the colour may be greenish-grey with pink mottling (eg. 63' - 70') or reddish pink (eg. 80.4' - 87.9' and 103.7' - 109.8'). It becomes porphyritic at 74.6' with euhedral pink feldspar phenocrysts up to 4 mm. and round quartz phenocrysts up to 2 mm. Fracturing is variable but is usually silicified with minor epidote and, locally white carbonate filling. Minor very finely disseminated pyrite is found throughout the zone.

Rhyolite **19.20m to 21.33m** **2.13m**
Over short intervals the colour may be greenish-grey with pink mottling or reddish pink (eg. 80.4' - 87.9' and 103.7' - 109.8').

Rhyolite **21.33m to 24.50m** **3.17m**

Rhyolite **24.50m to 26.79m** **2.29m**
greenish-grey with pink mottling or reddish pink

Rhyolite **26.79m to 31.60m** **4.82m**

Rhyolite **31.60m to 33.46m** **1.86m**
greenish-grey with pink mottling or reddish pink

chloritized seam **32.18m**

Boxes 7 to 12 (33.52m to 66.70m) (110 to 218.9 ft)

Rhyolite **33.46m to 34.35m 0.88m**

Granular porphyritic **34.35m to 35.11m 0.76m**
the rock becomes granular in appearance, is greenish-grey in colour and is porphyritic with mostly quartz phenocrysts.

Rhyolite **35.11m to 36.60m 1.49m**

Rhyolite **36.60m to 38.64m 2.04m**
120.1' - 126.8' : the rock grades sharply to grey at 120.1' and then back to pink at 126.8'
126.8' : the rock is more highly fractured and develops a weak flow banding which is coarse and crude at best.

Rhyolite **38.64m to 45.10m 6.46m**

Diabase **45.10m to 46.87m 1.77m**
148' - 153.8' : Diabase - dark green, fine grained and weakly chloritized. Weakly developed fracturing is epidotized and cavities are carbonate filled.

Rhyolite **46.87m to 52.54m 5.67m**
153.8' - 172.4' : the rhyolite is grey to reddish-grey and appears to be fragmental (agglomeratic?). Hazy patches which resemble fragments are common and usually very similar in colour to the matrix. The ground-mass is weakly porphyritic becoming moderate with depth. Round quartz phenocrysts up to 2 mm. and pink euhedral 1 - 3 mm. feldspar phenocrysts are common. The rock is flow banded locally and development of laminations is poor to fair.

Rhyolite **52.54m to 56.84m 4.30m**
172.4' -186.5' : generally pink in colour - possibly flow contact at 186.5'.

Felsic Agglomerate **56.84m to 77.50m 20.66m**
The rock is grey, aphanitic with abundant round to sub-round red, pink and grey fragments. These fragments are representative of rhyolite flow and ignimbrite units and are up to 2 cm. In size set in an aphanitic groundmass. Fragment size increases down the hole and some up to 8 cm. are observed below 209'.
Fracturing is weakly developed but increases with depth, particularly below 212.6'.

Below this point the rock becomes moderately and then strongly fractured with increasing tectonic brecciation. Tectonic breccia is composed of bright red, angularly fractured and shattered agglomerate fragments set in an aphanitic grey very siliceous matrix, (eg. 217').
A green, weakly chloritized and possibly sericitized zone is located at 222.9' - 223.7'.
At approximately 246', the agglomerate unit may grade to an ignimbrite. Because of brecciation and the presence of ignimbrite fragments in the agglomerate, the exact contact is not apparent.

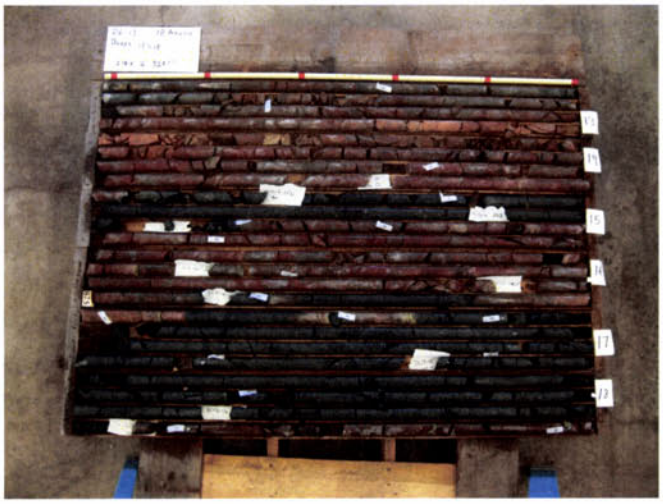
Rhyolite **63.69m to 66.13m 2.44m**

Fragment size increases down the hole and some up to 8 cm. are observed below 209'. fracturing is weakly developed but increases with depth, particularly below 212.6'.

Rhyolite **66.13m**

Tectonic breccia is composed of bright red, angularly fractured and shattered agglomerate fragments set in an aphanitic grey very siliceous matrix, (eg. 217')

Boxes 13 to 18 (66.70m to 100.26 m) (218.5 to 329 ft)



Rhylotie **66.13m to 67.93m 1.80m**

Rhyolite **67.93m to 68.17m 0.24m**

A green, weakly chloritized and possibly sericitized zone is located at 222.9' - 223.7'.

Rhyolite **68.17m to 74.97m 6.80m**

Ignimbrite **74.97m to 77.50m 2.53m**

At approximately 246', the agglomerate unit may grade to an ignimbrite. Because of brecciation and the presence of ignimbrite fragments in the agglomerate, the exact contact is not apparent.

Diorite **77.50m to 80.76m 3.26m**

the rock is dark green, fine to medium grained and fresh to weakly chloritized. Fracturing is weakly developed. Cracks are epidotized with minor white carbonates.

Rhyolite Ignimbrite **80.76m to 87.83m 7.07m**

The rock is bright red and aphanitic. Where strongly tectonically brecciated, angular red fragments are set in a grey matrix. The rock is well banded locally but brecciation has confused and masked it. Some laminations are convolute and recumbently folded (eg. 283.8'). The rock is intensely broken and fractured along the intrusive contact at 265'. Overall, the rock is moderately fractured with epidote and locally, carbonate on fracture surfaces.

Diabase **87.83m to 98.95m 11.12m**

The rock is dark green, fine grained and weakly chloritized. Abundant 1 - 2 mm. black devitrified glass shards are found throughout the intrusive. Rhyolite xenoliths are found at 289.1', 290.8' - 293.1' and 294.1' - 295.2'. They are strongly fractured and epidotized. The diabase contains abundant 1 -2 mm. blebs of pyrite.

Boxes 19 to 24 (100.26m to 131.80m) (329 to 432.5 ft)

Rhyolite Intrusive **98.95m to 113.37m 14.41m**
The rock is red to brownish-red, aphanitic and strongly porphyritic with 1 - 3 mm. quartz phenocrysts and 1 - 2 mm. euhedral pink feldspar phenocrysts. The rock is massive and unstructured and carries abundant chloritized dioritic (?) fragments up to 3 cm. in size. The fragments are well rounded but not sharply defined. The unit is weakly to moderately fractured. Fractures are strongly epidotized. The rock becomes greyish-pink below 172' at which point it seems to grade into the underlying diorite. This may be a result of re-melting at the contact. Abundant finely disseminated pyrite is found locally.

Diorite **113.37m to 125.59m** **12.22m**
The rock is dark green, fine to medium grained and porphyritic. It is strongly fractured - frequently becoming mylonitic. Epidotization of fractures is prevalent with minor white carbonate. A rhyolite xenolith is located at 410.8' - 412.1'.

Rhyolite **125.59m to 131.71m** **6.13m**
The rock is red to reddish-pink aphanitic and moderately porphyritic with 1 - 2 mm. Quartz phenocrysts and 1 mm. red feldspar phenocrysts. The rock is moderately to strongly fractured (eg. 412.1' - 412.6') locally with chlorite found in fractures near mafic intrusives. Epidote is also common on breaks. The rock is mylonitic and very strongly epidotized locally, (eg 428.1').

Granite **131.71m to 162.46m** **30.75m**
The rock is red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite. Feldspar grains are dark red. Quartz grains are interstitial to the feldspar. The rock is moderately to strongly fractured. Fractures are weakly epidotized and coated with limonite. Specular hematite is the dominant fracture filling mineral. Minor pyrite and white carbonate are found in the fractures.

Diorite **150.09m to 151.52m** **1.43m**
492.5' - 500.1' : Diorite - dark green, fine grained and porphyritic with light green, sauseritized feldspar phenocrysts up to 6 mm. in size

Granite **151.52m to 151.64m** **0.12m**
The intrusive is cut by a granite stringer at 497.2' - 497.6'

Diorite **151.64m to 152.40m** **0.76m**
492.5' - 500.1' : Diorite - dark green, fine grained and porphyritic with light green, sauseritized feldspar phenocrysts up to 6 mm. in size

Boxes 25 to 30 (130.80m to 162.46 m) (432.5 to 533.1 ft)

Granite **152.40m to 155.79m** **3.38m**
The rock is red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite. Feldspar grains are dark red. Quartz grains are interstitial to the feldspar. The rock is moderately to strongly fractured. Fractures are weakly epidotized and coated with limonite. Specular hematite is the dominant fracture filling mineral. Minor pyrite and white carbonate are found in the fractures.

Diorite **155.79m to 156.49m** **0.70m**
511.2' - 513.5' : diorite - as above - feldspar phenocrysts up to 1 cm. in size.

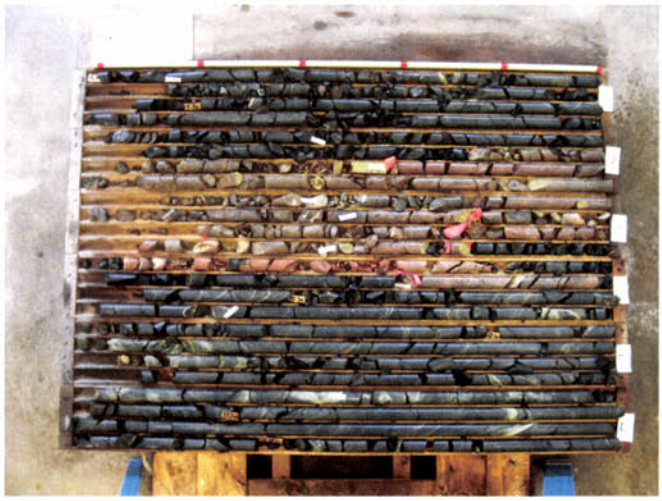
Granite **156.49m to 162.46m** **5.97m**
The rock is red to pinkish-red, medium to coarse grained and is composed of 20 -30% quartz, up to 80% feldspar and minor amounts of hornblende, magnetite and chlorite. Feldspar grains are dark red. Quartz grains are interstitial to the feldspar. The rock is moderately to strongly fractured. Fractures are weakly epidotized and coated with limonite. Specular hematite is the dominant fracture filling mineral. Minor pyrite and white carbonate are found in the fractures.

162.46m **END OF HOLE**

DIAMOND DRILL HOLE DL-14

Overburden **0.00 to 6.31m** **6.31m**

Boxes 1 to 6 (6.31m to 37.3m)



Diabase **6.31m to 13.66m** **7.35m**
The intrusive is dark green, fine grain and moderately to highly fractured. Fractures are epidotized and cavities are white carbonate filled. The rock is moderately sheared and chloritized.

Rhyolite Ignimbrite **13.66m to 24.42m** **10.76m**
the rock is red to pinkish-red, aphanitic with euhedral, pink to orange feldspar phenocrysts up to 2 mm. and round quartz phenocrysts of similar size. The rock is well banded, pink and grey to a depth of 60'. The bands are lensitic, rippled and discontinuous. The rock is moderately to highly fractured with minor zones of tectonic brecciation. Below 60', the ignimbrite is non-banded to locally banded and becomes increasingly brecciated and fractured. Below 70.5' the rock is less intensely broken.

Diabase Dyke **20.64m to 21.25m** **0.61m**
chloritized, dark green diabase dyke

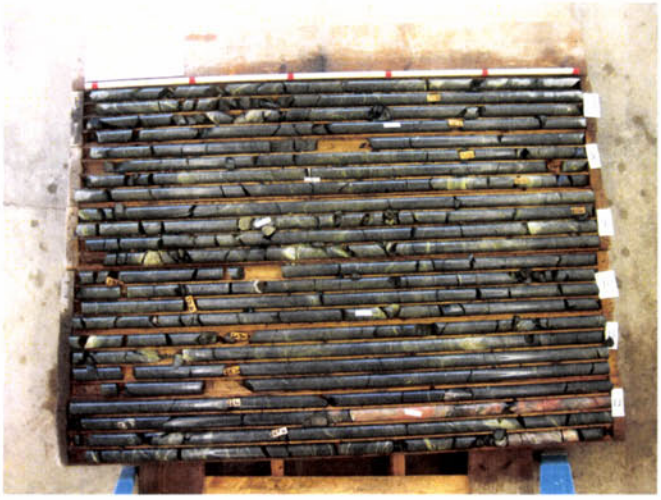
Chloritized Seam **21.25m to 21.43m** **0.18m**

Diabase Dyke **21.43m to 23.48m** **2.04m**
chloritized, dark green diabase dyke

Rhyolite Ignimbrite **23.48m to 24.42m** **0.95m**

Diorite **24.42m to 71.37m** **46.95m**
The intrusive rock is dark green, fine to medium grained and porphyritic with euhedral, light green feldspar phenocrysts up to 1 cm. in size. Minor zones of pink bladed feldspar crystals are found over short intervals. The rock is weakly fractured with epidote and white carbonate fracture fillings. Locally, fracturing may be quite strong with an increase in epidote alteration. Minor disseminated pyrite is found locally.

Boxes 7 to 12 (37.3m to 71.8 m)



Diabase **26.22m to 40.67m** **14.45m**
Diabase - dark green, fine grained and weakly to moderately fractured with epidote fracture filling. The rock is moderately chloritized. Some blue stain (chlorite?) in fractures at 88.6'

Rhyolite xenolith **68.05m to 68.81m** **0.76m**
rhyolite xenolith - strongly fractured and epidotized.

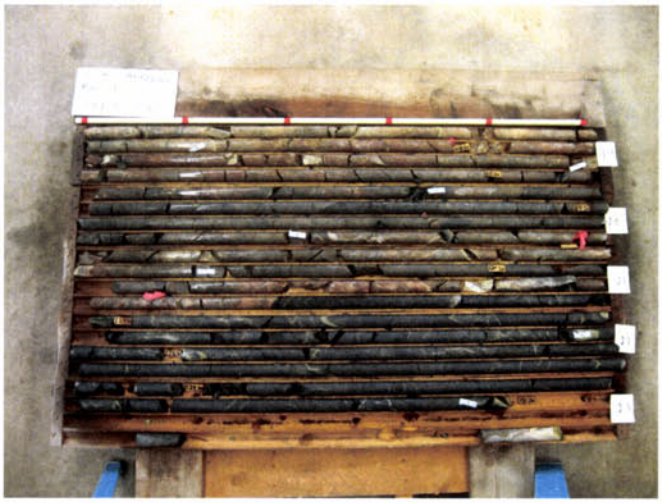
Boxes 13 to 18 (71.8m to 105.97m)

Felsic Agglomerate **71.37m to 82.84m** **11.46m**
The rock is composed of pink and grey ignimbrite and rhyolite fragments up to 5 cm. in size and generally well rounded to sub-angular set in a predominately grey aphanitic groundmass. The rock is porphyritic with pink euhedral feldspar phenocrysts up to 3 mm. in size. The agglomerate is moderately to highly fractured.

Diorite **82.84m to 95.88m** **13.05m**
It is dark green, medium grained, and weakly to moderately fractured. White carbonate and epidote are found in fractures. The intrusive is weakly chloritized. 3.11.4' - 314.5' : a zone of up to 50% rhyolite xenoliths dips along the core axis.

Rhyolite **95.88m to 104.51m** **8.63m**
The rock is composed of (up to 50% of rock volume). Reddish-pink to grey, angular rhyolite fragments in a hard, greenish-grey possibly silicified, aphanitic groundmass. The matrix is frequently cut by chloritized seams. The rock is moderately to strongly fractured. Fractures are chlorite and epidote filled. As a whole this unit is a tectonically brecciated rhyolite flow.
327.9' – 331.2' : Diabase - dark green, fine grained, chloritized contains abundant intensely fractured rhyolite xenoliths.

Boxes 19 to 23 (105.7m to 131.74m)



Rhyolite **104.51m to 112.93m** **8.41m**
The rock is pink and aphanitic with abundant light green tectonically brecciated and mylonitic zones. Mylonite zones are strongly epidotized. The rock is strongly fractured but becomes less fractured below 355'. Fractures are strongly epidotized.

Felsic Agglomerate **112.93m to 122.35m** **9.42m**
The rock is composed of red to pink and minor grey ignimbrite and rhyolite fragments set in a pinkish-grey groundmass. The fragments are vaguely outlined, and are probably well rounded. Fragments may be up to several centimetres in size. The zone is weakly tectonically brecciated and fractured. The rock is redder towards the lower contact.

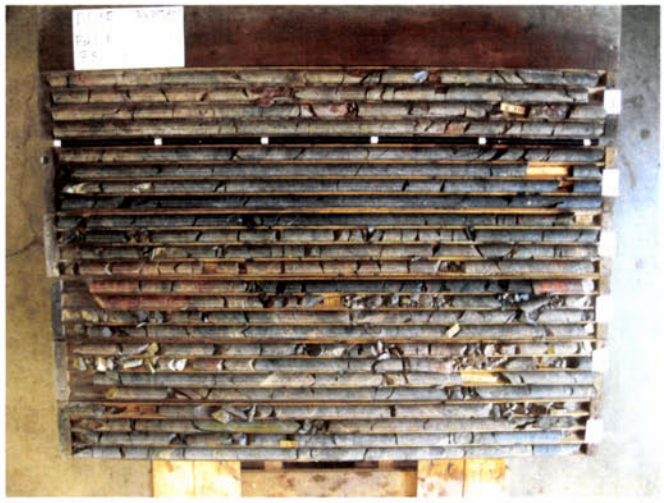
Diabase **122.35m to 131.74m** **9.39m**
The intrusive is dark green, fine to medium grained and moderately chloritized. Fracturing is weakly developed becoming moderate locally. Epidote and white carbonate fill fractures.

131.74m **END OF HOLE**

DIAMOND DRILL HOLE DL-15

Overburden **0.00 to 2.29m** **2.29m**

DL-15 Boxes 1 to 6 (2.29m to 35.67m)



Felsic Agglomerate **2.29m to 44.98m** **42.70m**
The rock is light to medium waxy green, becoming pinkish red to red near mafic intrusives, and is aphanitic with rhyolite and ignimbrite fragments up to 4 cm. The fragments are generally rounded and encompass a wide range in colour and texture. Locally, the groundmass is porphyritic with 1 - 4 mm. pink feldspar phenocrysts and 1 - 2 mm. round quartz phenocrysts. Over short intervals the matrix may be weakly flow banded (eg. 7.5' - 9.5'). The zone is weakly fractured becoming moderately and strongly fractured below 51' - probably due to the mafic intrusive at 67'. Blue fluorite is found filling fractures at 59.5' and 58.6'. Epidote is the dominant fracture filling.

Chloritized seam **12.59m to 12.80m** **0.21m**

Diorite **14.26m to 14.54m** **0.27m**
dark green, fine grained, light green feldspar phenocrysts, moderately chloritized, highly fractured.

Chloritized seam **15.30m to 15.51m** **0.21m**

Agglomerate **17.86m to 19.93m** **2.07m**
agglomerate becomes pink with an increase in fracturing and minor tectonic brecciation.

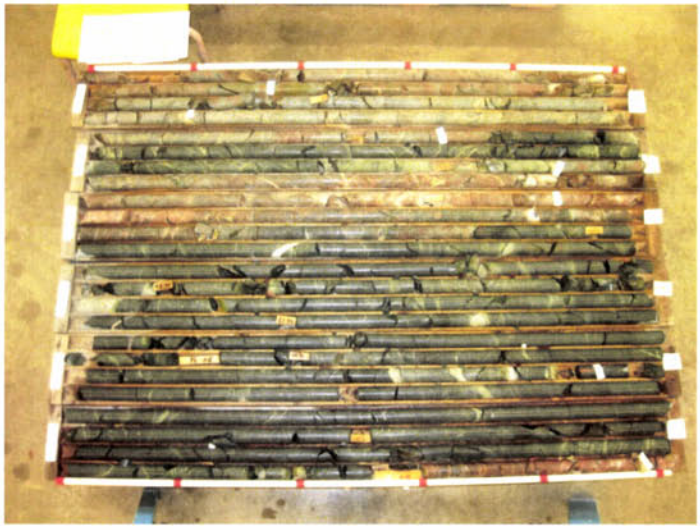
Agglomerate **19.93m to 21.00m** **1.07m**
the agglomerate is red to pinkish-red

Diabase seam **21.45m to 21.64m** **0.18m**
Diabase seam - strongly chloritized.

Chloritized seam **26.51m to 26.79m** **0.27m**
intrusive (?) - contains angula rhyolite fragments

Felsic Volcanic **34.04m to 35.96m** **1.92m**
the felsic volcanic becomes non-fragmental but the groundmass remains the same as higher in the hole light greenish-grey.

Boxes 6 to 11 (33.0 to 64.00 m) (108.24 to 209.9 ft)



36.17m the rock contains an 8 cm. reddish-pink, porphyritic rhyolite fragment. It is well rounded and found with several small angular chips which originated as part of the larger block.

Diorite **36.66m to 39.56m** **2.90m**
the intrusive is dark green, fine to medium grained and weakly porphyritic with light green euhedral feldspar phenocrysts up to 3 mm. in size. The rock is moderately to strongly fractured and is sheared locally. Epidote coats fractures and shear surfaces are strongly chloritized. Below 129' are abundant rhyolite fragments.

Felsic Agglomerate **39.56m to 42.85m** **3.29m**
the rock is light grey with reddish-pink mottling and minor red fragments. It is porphyritic with 1 - 3 mm. pink feldspar phenocrysts. The agglomerate is moderately to strongly fractured.

Rhyolite **42.85m to 44.98m** **2.13m**
dark grey and aphanitic with pink, red and grey rounded fragments up to 2 cm. in size. Fragments are massive porphyritic and ignimbrite. The groundmass is frequently porphyritic with 1 - 2 mm. cream feldspar phenocrysts and 1 mm. round quartz phenocrysts. The matrix is mixed locally with pink fine grained material (eg. 139.1'). The rock is weakly to moderately fractured. Fragments are redder towards the intrusive at 147.6'.

Diorite **44.98m to 63.27m** **18.28m**
The intrusive is dark green, fine to medium grained with minor coarse grained pinkish-green feldspathic zones, (eg. 160.1' - 161.3'). The rock is weakly to moderately porphyritic with scattered 1 - 5 mm. Light green sausauritized feldspar phenocrysts. The unit is weakly to moderately fractured becoming highly broken locally. Epidote and minor white carbonate are found as fracture fillings.'. This is the same seam in each case. It has been faulted at 85° to the core axis. the upper fault as a displacement of 1 cm. The lower fault displaces the seam 3 - 4 cm.

48.58 m
Dark green diabase seams cut the core axis at 159.4'

48.64m
Dark green diabase seams cut the core axis at 159.6'

48.73m
Dark green diabase seams cut the core axis at 159.9'

Boxes 11 to 16 (58.07m to 90.55m) (190.5 to 297 ft)

Rhyolite **63.27m to 83.99m** **20.72m**

The rock is pinkish-red to brownish-red, aphanitic and strongly porphyritic with 1- 2 mm. round quartz phenocrysts which have frequently been penetrated by the groundmass. Feldspar phenocrysts up to 4 mm. are pink and euhedral. The rock is weakly to moderately fractured, but locally fracturing may be strong. Epidotization of fractures is prevalent. At 273' the rock becomes darker with more chloritized fractures.

79.48m to 80.30m **0.82m**

The rock becomes greyish-red at the upper intrusive contact and also in zones at 260.8' - 263.5'

81.55m to 82.59m **1.04m**

The rock becomes greyish-red at the upper intrusive contact and also in zones at 267.6' - 271'.

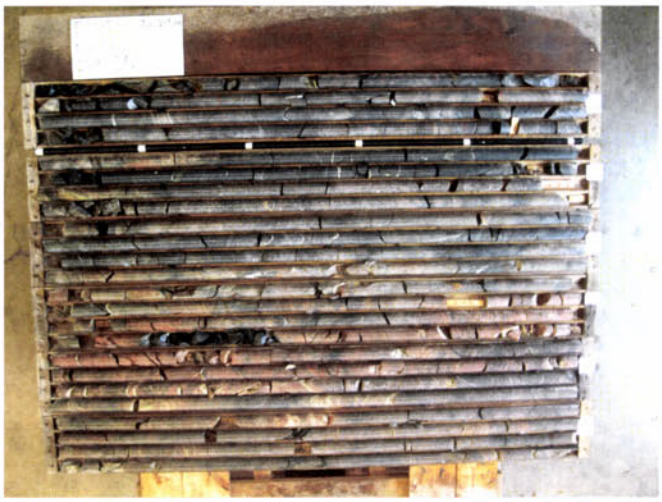
Diabase **83.99m to 85.21m** **1.22m**

The intrusive is dark green, fine grained and contains abundant 1 - 2 mm. black, chloritized glass shards. It is weakly fractured with white carbonate as a fracture filling.

Felsic Agglomerate **85.21m to 90.94m** **5.73m**

The rock is dark grey-green, aphanitic to fine grained and carries rounded fragments up to 1 cm. in irregular zones. The groundmass is porphyritic locally with 1 - 2 mm. quartz phenocrysts and may be well flow banded (eg. 283.6') Abundant chloritized amygdules dot the zone. Those are typically surrounded by reddish reaction halos.

Boxes 16 to 21 (85.06m to 119.46m) (279 to 392 ft)

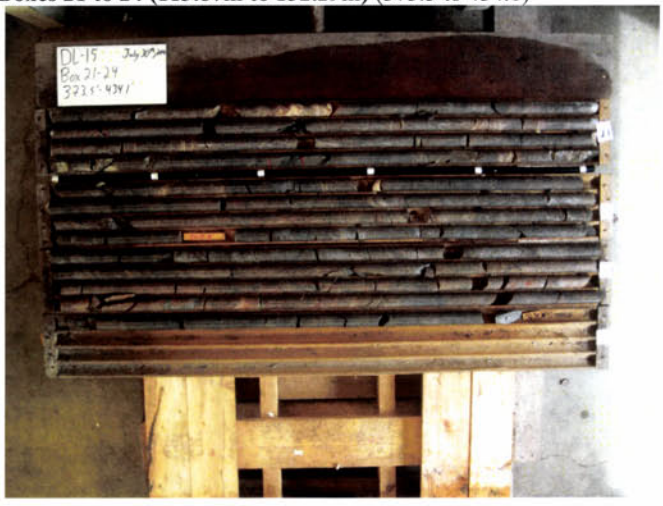


Diorite **90.94m to 93.34m** **2.41m**
The intrusive is dark green, fine grained and wekly porphyritic with scattered light green euhedral feldspar phenocrysts up to 1 cm. Phenocrysts are concentrated in the centre of the dykes. The rock is weakly to moderately fractured with epidote and white carbonate filling breaks. Generally, the rock is weakly to moderately chloritized.

Rhyolite (Spherulite) **93.34m to 96.39m** **3.05m**
The rock is light to medium grey-pink, and fine grained. The zone is porphyritic locally with 1 mm. Quartz phenocrysts. Pink, round but distorted spherulites are found thoughout the zone. They are up to 1 cm. In size and give the rock a pink colour. The zone is weakly fractured becoming moderately fractured locally.

Felsic Agglomerate **96.39m to 112.57m** **16.18m**
The rock is medium to dark grey, becoming pink locally, fine grained with a few rounded fragments up to 3 cm. Scattered quartz and feldspar phenocrysts are up to 2 mm. in size. Towards the base of the unit, the rock is redder and more strongl porphyritic. Fractures are surrounded by red reaction halos. At 343.2' the rock becomes pink to reddish-pink.

Boxes 21 to 24 (113.87m to 132.29m) (373.5 to 434.1)



Rhyolite (Spherulite) **112.57m to 132.29m** **19.72m**
The rock is pinkish-grey, frequently mottled grey and pink, aphanitic, and contains pink and green spherulites up to 1 cm. in size. Quartz and feldspar phenocrysts are 1 - 2 mm. in size. The rhyolite is weakly to moderately fractured. Epidote fills fractures. Minor intensely broken, epidotized zones are found locally, (eg. 375.7') Below 404.9', spherulite size increases and occurrences up to 3 cm. in diameter are observed locally (eg. 407.3'). The rock is weakly spherulitic below 416.7'.

132.29 **END OF HOLE**

DIAMOND DRILL HOLE DL-16

Overburden **0.00 to 2.71m** **2.71m**

Boxes 1 to 6 (2.71 to 32.16m)

Rhyolite **2.10 to 6.89m** **4.78m**

The rock is pinkish red aphanitic and porphyritic with 1-2 mm quartz phenocrysts and minor 1 mm feldspar phenocrysts. The rock is massive and unstructured. It is moderately fractured becoming strongly shattered locally with limonite and epidote on fracture surfaces.

Diabase **6.89 to 10.48m** **3.60m**

The intrusive is dark green, fine grained, weakly to moderately chloritized and fractured with epidote and minor carbonate on fractures.

Felsic Agglomerate **10.48 to 33.80m** **23.31m**

The volcanic is pink to greyish pink and aphanitic with 1-2 mm, quartz phenocrysts and 1 mm feldspar phenocrysts. The rock is weakly agglomeratic locally with rounded porphyritic rhyolite fragments up to 2 mm in size. The fragments are very similar in composition to the groundmass. A 5 cm rhyolite fragment is located at 65.1'. Generally fragments are not sharply defined. The rock is moderately, fractured becoming strongly fractured at 57.4-69.9'. Below 74.5' are numerous chloritized fractures and patches which are usually moderately magnetic. Below 94.3' the rock is a darker greyish-red and carries small chloritized mafic fragments up to 2 cm in size as well as abundant grey rhyolite fragments.

Boxes 7 to 11 (28.04 to 60.67 m)

Rhyolite Ignimbrite **33.80 to 37.88m** **4.08m**
The rock is reddish pink becoming pinkish -red with depth, aphanitic and porphyritic. Round, quartz phenocrysts up to 2 mm in size and 1 mm strongly epidotized feldspar phenocrysts are common. The rock is weakly to moderately flow laminated and contains a few rounded grey rhyolite fragments up to 2 cm in size. The zone is weakly fractured. Epidotization of fractures is prevalent except close to mafic intrusives where chloritized fractures are common.

Diorite **37.88 to 43.85m** **5.97m**
The intrusive is dark green, fine to medium grained and contains a pinkish-green, feldspathic central zone. This zone is medium grained and contains abundant fine grained mafic seams and fragments. The feldspathic zone is a result of segregation within the intrusive. The dark green border phases are porphyritic with 1-5 mm light green euhedral feldspar phenocrysts.

Rhyolite Xenolith **40.17 to 41.17m** **1.01m**
Dark red intensely broken and epidotized.

Rhyolite Ignimbrite **43.85 to 81.73m** **37.88m**
The rock is dark pinkish red, aphanitic and porphyritic with 1mm quartz phenocrysts and 2 mm fractured epidotized feldspar phenocrysts and 2 mm fractured epidotized feldspar phenocrysts. Phenocrysts are common surrounded by red to pink reaction rims. The unit is weakly flow banded becoming well laminated locally. Bands are irregular and lensitic, frequently discontinuous and consist of alternating red and grey laminations. The rock is weakly to moderately fractured. Breaks are silicified and epidotized.

Ignimbrite **48.18 to 50.37m** **2.19m**
highly fractured, moderately to strongly chloritized ignimbrite with several chloritized seams (eg. 164.2')

Diabase **50.37 to 52.60m** **2.22m**
Dark green, fine grained, moderately to strongly developed fractures are epidotized with minor white carbonate. Rhyolite xenoliths are located at 166.1-161.3' and 167.9-168.1'.

Porphyry **52.60 to 62.32m** **9.72m**
Pinkish-grey as a result of pink halos around fractures, moderately porphyritic, quartz phenocrysts and weakly banded locally becoming moderately banded at 200.1'. A chloritized seam is located at 197.9'.

Boxes 11 to 16 (55.34 to 88.57 m) (181.5 to 290.5 ft)

Fault **62.32m**
Fault cuts the core axis at 55 deg

Ignimbrite **62.32 to 63.60m** **1.28m**
Bright red moderately well banded ignimbrite

Granite **63.30m**
5 cm fine grained, red, granite stringer

Rhyolite **63.60m**
The rock becomes redder in color and flow banding is well developed locally. Fracturing is more pronounced below 208.7 and they are surrounded by reddish halos. The rock is moderately porphyritic with 1 - 2mm quartz phenocrysts and 1 - 3mm epidotized feldspar phenocrysts.

Diorite **65.22 to 66.28m** **1.07m**
The intrusive is dark green, fine grained and porphyritic with light green euhedral feldspar phenocrysts up to 4 mm in size. The rock is weakly to moderately fractured with epidote and white carbonate filling fractures.

Rhyolite Xenolith **66.28 to 66.34m** **0.06m**
Similar to rhyolite at 226'

Mixed zone **66.34 to 66.80m** **0.46m**
mixed chloritized intrusive, granite, and rhyolite fragments

Ignimbrite **66.80 to 74.63m** **7.83m**
bright red grading to pinkish grey aphanitic and moderately to strongly porphyritic with 1-2mm quartz phenocrysts and 1-3 mm feldspar phenocrysts well flow banded with bands up to 1 cm in thickness-possibly ignimbrite. The zone is weakly to moderately fractured

Diabase **67.17 to 67.56m** **0.40m**
strongly chloritized diabase

Porphyry **74.63 to 75.27m** **0.64m**
pinkish grey, moderately porphyritic and very well flow banded locally(eg 250.8 & 262.2'). Banding is irregular. Abundant chloritized seams are found in fracture zones, generally magnetic.

Rhyolite (Ignimbrite?) **81.73 to 90.21m** **8.47m**
The rock is grey with red sinues surrounding grey aphanitic patches. These patches are rounded and form 80-90% of the rock volume. They may reflect pseudo flow brecciation. Generally the rock is porphyritic with 1-2 mm quartz phenocrysts and few phenocrysts. The zone is weakly to moderately fractured. Below 293' the rock is highly fractured. Fractures are silicified and surrounded by red halos. Minor tectonic breccia is found locally (eg. 295.8 - 296.6')

Boxes 16 to 21 (82.62 to 116.46 m) (271 to 382 ft)

Felsic Agglomerate **90.21 to 108.67m** **18.47m**
The rock is pinkish-grey becoming pink locally, aphanitic and porphyritic. Quartz phenocrysts up to 2 mm are common. A few chloritized and epidotized feldspar phenocrysts are found. Below 324.8 are found abundant 1-2 mm green rounded, chloritized fragments vugs are observed which may be fragments as well. The rock is weakly fractured becoming moderately fractured locally. Epidote is the major fracture filling.

100.29m
a fault zone with abundant epidotized mylonite dips along the core axis at 5° - 10°.

Diorite **108.67 to 116.75m** **8.08m**
The intrusive is dark green fine to medium grained and porphyritic with scattered light green, euhedral feldspar phenocrysts up to 5 mm in size. The rock is weakly to moderately fractured. Epidote and minor white carbonate fill fractures.

Boxes 21 to 26 (110.67m to 144.02m) (363 to 472.4 ft)

Rhyolite Agglomerate? **116.75 to 123.03m** **6.28m**
The rock is dark red with grey mottling and aphanitic. It is porphyritic with 1-2 mm round quartz phenocrysts. The flow contains a few rounded grey and light pink rhyolitic fragments up to 2 cm in size. They are not generally well defined.

Dyke **116.99 to 117.15m** **0.15m**
chloritized dykes
Dyke **117.72 to 117.94m** **0.21m**
chloritized dykes

Dyke **118.70 to 118.97m** **0.27m**
chloritized dykes

Mylonite **119.52 to 120.04m** **0.52m**
chloritized seams in fractures, with chloritized mylonite- fault zone

Fractures **121.87 to 122.48m** **0.61m**
chloritized fractures

Diorite **123.03 to 126.32m** **3.29m**
The rock is dark green, fine grained and porphyritic with a few light green, euhedral 1-3 mm feldspar phenocrysts. The intrusive is weakly fractured becoming strongly broken locally. Epidote and white carbonate are found in fractures. Shear surfaces are strongly chloritized with minor graphite.

Rhyolite **126.32 to 136.77m** **10.45m**
The rock is pinkish-red grading to pink and then to greyish-pink away from the overlying intrusive. The zone contains abundant chloritized clots and seams up to 3 cm in size. The rock is weakly fractured becoming moderately shattered locally. Fractures are silicified and epidotized.

Rhyolite Flow Breccia? **136.77 to 143.96m** **7.19m**
The rock consists of pink to pinkish-red aphanitic rhyolite fragments set in a black to dark grey, fine grained to aphanitic, hard groundmass. The fragment are rounded and up to 4 cm in size. The rock becomes more massive with less fragmental at 468.5. It is porphyritic with quartz feldspar phenocrysts up to 2 mm in size. Some weak flow banding is observed locally. The volcanic flow is intruded locally by granite stringers and dykes. The granite is pinkish-red fine grained and very fresh.

Granite **138.02 to 138.39m** **0.37m**
granite stringers & dykes

Granite **141.04 to 141.10m** **0.06m**
granite stringers & dykes

Granite **143.02 to 143.08m** **0.06m**
granite stringers & dykes

Rhyolite Flow Breccia? 143.08 to 144.02m 0.94m

144.02m **END OF HOLE**

DIAMOND DRILL HOLE DL-17

Overburden **0.00 to 1.58m** **1.58m**

Boxes 1 to 6 (1.58 to 34.89m)

Rhyolite **1.58 to 2.65m** **1.07m**
The rock is brownish-pink and cream coloured, aphanitic and porphyritic with anhedral, light pink feldspar phenocrysts up to 4mm and 3mm round quartz phenocrysts. The rock is weakly fractured. Breaks are chloritized locally with minor epidote.

Granite **2.65 to 57.29m** **54.64**
The rock is red to pinkish-red, medium to coarse grained and is composed to 20 - 30% quartz, 60 - 70% feldspar and 5 - 15% hornblende. Quartz grains up to 2cm are interstitial to feldspar. Feldspar grains are to 1.5cm are euhedral to anhedral. Fracturing is weakly developed becoming moderate locally. Epidote and limonite coat fracture surfaces.

Diorite Xenoliths **9.14 to 9.29m** **0.15**
Dark green, fine to medium grained and weakly to moderately porphyritic.

Diorite Xenoliths **54.40 to 54.55m** **0.15**
Dark green, fine to medium grained and weakly to moderately porphyritic.

Boxes 6 to 11(32.90 to 63.39 m)

Diorite **57.29 to 68.05m** **10.76m**
The rock is dark green, fine grained and porphyritic with light green, euhedral feldspar phenocrysts up to 4mm. The rock is weakly to moderately fractured with epidote and white carbonate filling breaks and cavities. The intrusive is weakly chloritized.

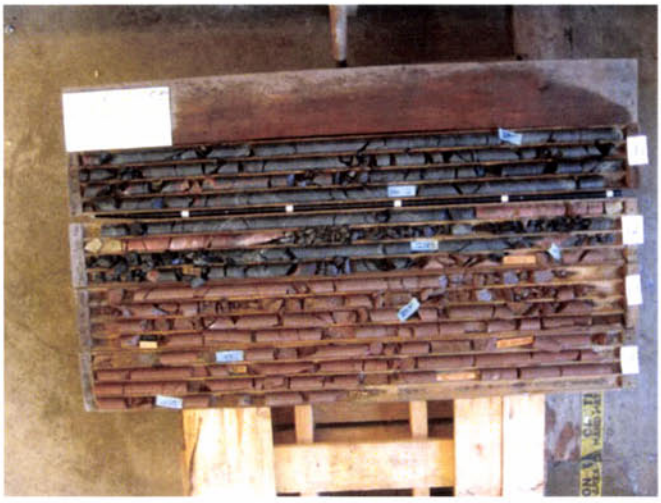
Stringer **60.34 to 60.77m** **0.43m**
1.5cm wide stringer runs along the core axis

Granite **64.45 to 65.43m** **0.98m**
Abundant granite stringers of varying grain and size.

Granite **67.23 to 67.38m** **0.15m**
Abundant granite stringers of varying grain and size.

Granite **67.75m**
Abundant granite stringers of varying grain and size.

Boxes 11 to 14 (59.73 to 78.30m)



Granite **68.05 to 78.29m** **10.24m**
The plutonic rock is red to pinkish red, fine to medium grained and is similar in composition to the upper granite unit. Hornblende content is 1 - 3%, however with the balance being made up mostly by feldspar. Quartz content is 25 - 30%.

78.29 m **END OF HOLE**

DIAMOND DRILL HOLE DL-18

Overburden **0.00 to 2.86m** **2.86m**

Boxes 1 to 6 (2.86 to 36 m)

Diorite **2.86 to 41.51m** **38.64m**

The rock is dark green, fine to medium grained and weakly porphyritic with a few scattered light green feldspar phenocrysts up to 4mm in size. Fractures are weakly to moderately developed with epidote and white carbonate found on all fracture surfaces. Localized shear planes are strongly chloritized. Overall, the rock is weakly to moderately chloritized and good dioritic texture is exhibited only locally (eg. 97.1'). Weak uralitization of pyroxene is evident. Spotty epidote alteration is common below 99.7'. Round epidotized amygdules are up to 5mm in size. Minor finely disseminated pyrite as well as blebs up to 2mm are common.

Diabase **34.99 to 35.53m** **0.55m**

Dark green, fine grained and strongly chloritized; the rock is weakly fractured.

Felsic Agglomerate **41.51 to 57.72m** **16.21m**

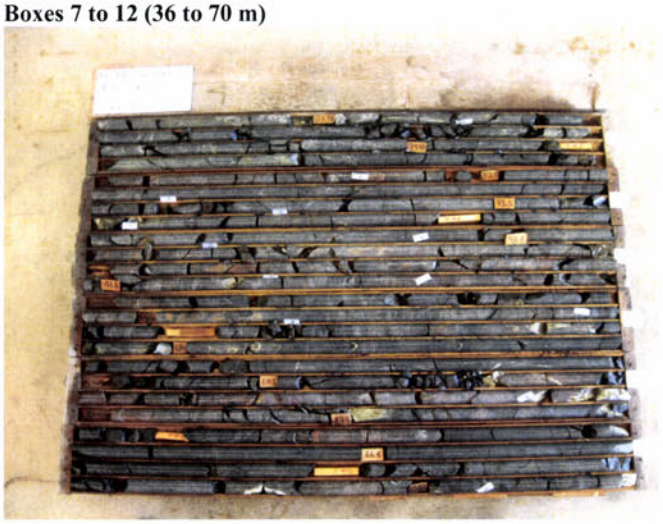
The rock is medium to dark grey with red, pink and grey rounded to sub-angular rhyolite fragments. The fragments are up to 5cm in size and are set in an aphanitic groundmass. The matrix is weakly porphyritic with a few 1 - 2mm quartz phenocrysts. The fragments represent massive rhyolite and ignimbrite lithologies. The larger fragments are better rounded. Many smaller, more angular fragments appear to have been broken from larger fragments. The rock is weakly fractured becoming moderately fractured locally. Epidote is the pervasive fracture filling mineral. Locally the matrix to fragments is weakly chloritized.

Non-fragmental chloritized zone. **54.73 to 55.25m** **0.52m**

Weakly and irregularly flow banded. **54.89m**

Chloritized intrusive - seam. **57.23 to 57.38m** **0.15m**

Boxes 7 to 12 (36 to 70 m)



Diorite **57.72 to 60.89m** **3.17m**
The intrusive is dark green, fine to medium grained and porphyritic with 1 - 4mm light green and pink feldspar phenocrysts. The diorite is weakly fractured with epidote and white carbonate in fractures.

Rhyolite Xenoliths **57.75m**
Up to 4cm in size.

Rhyolite Xenoliths **57.84m**
Up to 4cm in size.

Rhyolite Xenoliths **57.96 m**
Up to 4cm in size.

Rhyolite Ignimbrite **60.89 to 69.18m** **8.29m**
The rock is pinkish-grey to grey, aphanitic and porphyritic with 1-2mm quartz phenocrysts. The rock is well flow banded locally. The individual laminations are irregular, rippled, discontinuous and locally lensitic. The rock contains numerous partly absorbed and poorly defined rhyolitic fragments up to 1cm in size. Structure suggestive of ignimbrite become more poorly defined towards the base of this section.

Diorite **65.25 to 67.50m** **2.26m**
Dark green, medium grained and non-porphyritic. The intrusive contains abundant 1-2mm black blebs - chloritized glass.

Rhyolite **69.18 to 80.88m** **11.70m**
The rock is generally pinkish-grey but is frequently pink or waxy-green. It is aphanitic, massive and unstructured. A vague grey mottling is apparent locally. This may be the result of brecciation and re-melting. The rhyolite may contain 3-5cm rounded fragments at 261.5'. The rock is weakly to moderately fractured. Epidote fills many fractures and many are silicified or poorly cemented. The more strongly fractured zones are often pinkish-red to brick red.

Boxes 13 to 18 (70 to 104.5 m)

Diabase ? **75.94 to 76.49m** **0.55m**
The rock is dark green, fine grained and strongly chloritized.

Rhyolite Xenolith **76.25 to 76.34m** **0.09m**

Diorite **80.88 to 92.46m** **11.58m**
The intrusive rock is dark greyish-green, medium to coarse grained and porphyritic with light green, sauseritized feldspar phenocrysts up to 1cm in size. Abundant 1-2mm chloritized glass blebs dot the zone. The rock is weakly fractured with epidote and white carbonate on fracture surfaces. The rock is weakly chloritized, weakly sauseritized and uralitized.

Rhyolite **87.74 to 89.05m** **1.31m**
Xenolith of rock similar to the zone at 227' - 265.4'

Diorite **89.05 to 92.46m** **3.41m**
Non-porphyritic

Rhyolite **92.46 to 95.63m** **3.17m**
The rock is pinkish-grey to grey with pink mottling. This zone is the same as the zone above 265.4'. It is generally unstructured with no distinct recognizable features. Fracturing is weakly to moderately developed with either epidote or chlorite on fractures. At 303.4' the rhyolite is locally stopped by the diorite.

Rhyolite Ignimbrite **95.63 to 120.62m** **24.99m**
The rock is light grey to pinkish-grey becoming dark grey and red with depth. It is porphyritic with 1-2mm quartz and pink feldspar phenocrysts set in an aphanitic groundmass. The zone is well flow banded. Individual laminations are irregular, discontinuous and rippled. Flow banding is frequently obscured by tectonic brecciation. The breccia fragments are angular and set in a white silicified matrix. Fragments average 1.5cm but some up to 3cm are found locally.
Well developed tectonic breccia is found locally (eg. 344.8' - 347.4'). Below 347.4', the rock has undergone general tectonic brecciation weak to moderate in strength. At 369.1', the rock becomes brick red where broken. The rock is chloritized locally (eg. 393.4' - 394.3').

Boxes 19 to 25 (104.5 to 144.48 m)

Fault **120.16m**
Epidotized mylonite zone - 1cm thick, at 40° to the core axis.

Rhyolite **120.44 to 128.57m** **8.14m**
The rock is dark grey to greenish-grey, aphanitic and non-structured. It carries occasional pink to red, sub-round to sub-angular fragments of Rhyolite. Minor widespread chloritization of the rock has produced an overall greenish hue. The rock is weakly fractured. Fractures are epidotized and chloritized. Some are silicified. Abundant disseminated chalcopyrite locally on fractures.

Rhyolite Ignimbrite **128.57 to 139.27m** **10.70m**
The zone is medium to light grey, aphanitic and weakly porphyritic with 1-2mm quartz phenocrysts. The Ignimbrite is weakly to moderately flow banded. Laminations are irregular and discontinuous, and are not usually well developed. One well developed, recognizable band may be observed every 3-5cm. The rock contains occasional angular red rhyolitic fragments up to 2cm in size. The rock is weakly chloritized becoming strong locally (eg. 430.4' - 431.3'). The degree of chloritization of the groundmass may increase towards the base of this unit.

Breccia **134.67 to 136.50m** **1.83m**
Tectonic breccia zones - red. Angular Rhyolite and Ignimbrite fragments up to 3cm in a light grey to white matrix.

Breccia **136.98 to 139.27m** **2.29m**
Tectonic breccia zones - red. Angular Rhyolite and Ignimbrite fragments up to 3cm in a light grey to white matrix.

Rhyolite **139.27 to 144.48m** **5.21m**
The rock is grey with numerous pink and reddish pink zones. Coloration locally is closer to mottling than to separate distinct zones. The rock is aphanitic and non-porphyritic. It is non-structured and massive. Fracturing is moderately to strongly developed. Fractures are poorly cemented with epidote and chlorite. Cavities along some fractures are strongly chloritized. The rock is generally weakly chloritized.

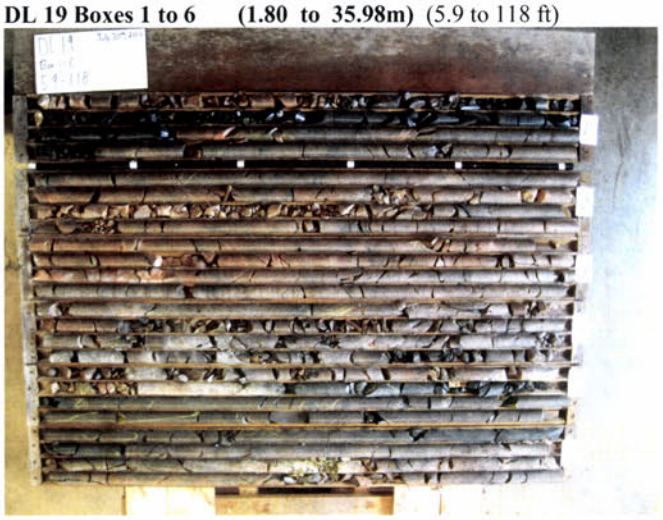
144.48 m **END OF HOLE**

NOTE: In this hole, Ignimbrite units appear to grade down hole into unstructured, generally massive Rhyolitic units. The point of gradation is typically strongly tectonically brecciated. The underlying Ignimbrite begins at a well defined point although sharp contacts are absent.

DIAMOND DRILL HOLE DL-19

Overburden **0.00 to 1.80m** **1.80m**

DL 19 Boxes 1 to 6 **(1.80 to 35.98m)** (5.9 to 118 ft)



Rhyolite **1.80 to 2.56m** **0.76m**
The rock is pink to reddish-pink, aphanitic and porphyritic with 1-2mm round quarts phenocrysts and 1mm euhedral cream colored feldspar phenocrysts. The rock is massive and unstructured. It is moderately fractured. Near mafic intrusives, the rhyolite is strongly broken with epidote, chlorite and white carbonate on fractures.

Diabase **2.56 to 4.69m** **2.13m**
The intrusive is dark green, fine grained and weakly to moderately chloritized. Fracturing is weakly developed but becomes moderate to strong locally with epidote and minor carbonate in fractures.

Rhyolite Ignimbrite **4.69 to 26.76m** **22.06m**
The rock is grey to pinkish-grey becoming red locally (eg. Near mafic intrusives), aphanitic and weakly to moderately porphyritic with 1-2mm quartz phenocrysts and minor 1-3mm pink clots which may represent cumulative feldspar growths. Rounded greyish patches appear to be similar to those found as pseudo-fragments in Ignimbrite units (eg. 30.9'). Locally, the rock is very weakly flow banded (eg. 20.8' and 46.3'). Alteration consists of chloritization of small 1mm blebs - possibly glass shards and epidotization of some feldspar phenocrysts. The rock is epidotized along weakly to moderately developed fracture systems. Some fluorite is found locally in fractures (eg. 40').

Epidotized, carbonated tectonic breccia zone **19.53 to 20.17m** **0.64m**
- possible fault zone

Chloritized seam **4.17 to 24.35m** **0.18m**

Rhyolite **25.39m**
The Rhyolite becomes greyish-pink, then pinkish red as the intrusive contact at 87.8' is approached. The rock is more strongly fractured and epidotized.

Diorite **26.76 to 31.97m** **5.21m**
The intrusive is dark green, fine grained and weakly porphyritic with light green, euhedral feldspar phenocrysts up to 1.5cm in size. The central zone is feldspathic and pinkish-green. This zone contains mafic fragments of the border phases of the intrusive.

27.49 to 31.18m **3.69m**

Medium grained feldspathic zone.

Boxes 6 to 11 (35.98 to 63.69 m)

Rhyolite Ignimbrite **31.97 to 57.63m** **25.66m**

The rock is grey to greyish-pink and red locally, aphanitic and weakly to moderately porphyritic with 1-2mm quartz and minor 1-2mm epidotized feldspar phenocrysts. The rock is very weakly flow banded locally, and contains rounded pseudo-fragments similar to the zone at 15.4' - 87.8'. Fractures are weakly to moderately developed and are epidotized and chloritized. Vugs are chloritized as are many blebs up to 2mm in size. The rock may be generally chloritized as it has an overall greenish hue. A 10cm chloritized seam is located at 187'.

Diabase **57.63 to 59.33m** **1.71m**

The intrusive is dark green and fine grained. It is epidotized along weakly developed fractures and is chloritized weakly overall. Minor finely disseminated pyrite is found locally.

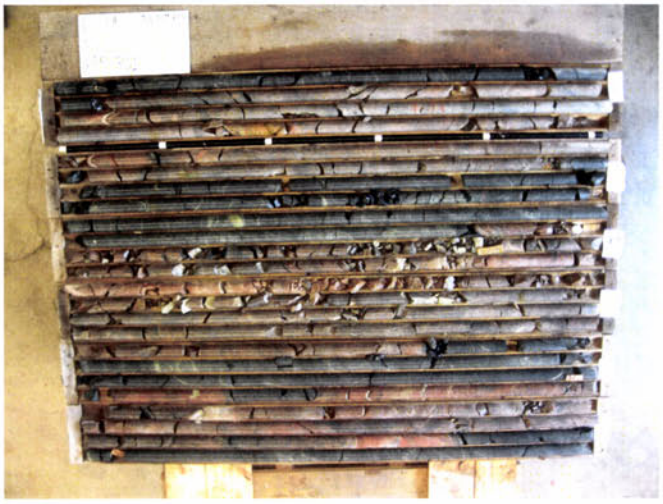
Rhyolite **59.33 to 66.34m** **7.01m**

The rock is pinkish-grey becoming pink with depth, aphanitic and moderately porphyritic with 1-3mm quarts and minor epidotized feldspar phenocrysts. The rock is weakly to moderately fractured. Breaks are epidotized and near mafic intrusives, they are strongly chloritized. Several chloritized seams are surrounded by red reaction halos.

Diorite **66.34 to 71.98m** **5.64m**

The intrusive unit is dark green, fine to medium grained and moderately to strongly fractured. Epidote and minor white carbonate are found in fractures. The rock is weakly to moderately chloritized. Abundant mylonitic zones are intensely epidotized, probably along shear zones (eg 226.4'). **(68.99 m)**

Boxes 11 to 16 (49.69 to 79.18 m)



Rhyolite Ignimbrite **71.98 to 81.09m** **9.11m**

The rock is pink to pinkish-red, aphanitic and moderately to strongly porphyritic with 1-2mm quartz and 1-3mm fractured feldspar phenocrysts. The rock is weakly flow banded locally. Single laminations tend to be discontinuous. The rock is weakly ignimbritic locally with some pseudo-fragments which are probably an indistinct micro-zonation of the groundmass to produce rounded greyish patches (eg. 259.2'). **(78.99 m)** Fractures are strongly developed and are epidote and chlorite filled. The more strongly fractured zones are light pink in color.

Diorite **81.09 to 84.38m** **3.29m**

The rock is dark green, fine grained and weakly porphyritic with a few scattered light green, euhedral, sauseritized feldspar phenocrysts up to 6mm in size. The groundmass is weakly chloritized.

Boxes 16 to 21 (85.94 to 118.70 m)

Rhyolite Breccia **84.38 to 99.29m** **14.90m**

The rock is red with abundant grey zones, aphanitic and porphyritic with 1-3mm quartz phenocrysts. The grey material is restricted to an aphanitic groundmass which surrounds sub-round to sub-angular red rhyolite fragments. The matrix is very hard and siliceous. The fragments tend to be ignimbritic but lack any conclusive evidence. The fragments were formed through combination of tectonic brecciation followed by some flow brecciation. The zone is strongly fractured. Fractures are strongly epidotized with minor white carbonate.

Chloritized stringer **84.75 to 84.99m** **0.24m**

Diorite **89.84 to 93.89m** **4.05m**
Dark green, fine grained and porphyritic with scattered light green feldspar phenocrysts up to 5mm in size. The intrusive is weakly fractured.

97.98 to 99.29m **1.31m**
Rock is weakly tectonically brecciated locally and is moderately to strongly fractured.

Diabase **99.29 to 100.20m** **0.91m**
The intrusive is dark green, fine grained and weakly fractured. The rock is moderately chloritized. Fractures are weakly to strongly chloritized and epidotized.

Granite **100.20 to 108.98m** **8.78m**
The rock is reddish-pink to pinkish-red, and is fine to medium grained. Quartz grains are up to 2mm in size. Cream colored euhedral, often accicular, feldspar grains up to 5mm are common. Rock has a general porphyritic appearance due to the interstitial nature of the quartz. Abundant fluorite is found on fractures at 355.3'. The granite carries several rounded fragments of diorite in a 1' zone bordering the upper contact.

Rhyolite **108.98 to 109.53m** **0.55m**
This zone is the same as the zone below 362.5'. **(95.04 m).** It is cut by several granite stringers.

Diorite **109.53 to 110.47m** **0.94m**
The intrusive is dark green, fine grained and very weakly porphyritic with scattered 1-3mm light green, sauseritized feldspar phenocrysts. The unit contains a 3cm fractured rhyolite xenolith at 361' **(110.01 m).** A granite stringer is located at 359.6' (94.28 m).

Boxes 21 to 25 (113.06 to 138.26 m)

Rhyolite Ignimbrite **110.47 to 125.07m** **14.60m**
The volcanic rock is grey to pinkish-grey, aphanitic and porphyritic with 1-3mm quartz phenocrysts and 1-2mm feldspar phenocrysts. The rock contains dark grey rounded and indistinct pseudo-fragmental patches up to 1cm in size. They are surrounded by wispy pink zones similar to the rock at 104' - 189'. **(31.67 - 57.59 m)** Fractures are weakly developed becoming moderately developed locally. Epidote is found as a pervasive fracture filling.

Diorite **119.19 to 120.92m** **1.74m**
Dark green, fine grained, weakly chloritized and weakly fractured with epidote and white carbonate fracture filling.

Rhyolite **120.92 to 122.05m** **1.13m**
Brick red, aphanitic rhyolite with 1-2mm quartz and feldspar phenocrysts. Contains hazy grey patches - ignimbrite.

Diorite **122.05 to 125.07m** **3.02m**
As diorite above - weakly to moderately porphyritic with light green, sauseritized feldspar phenocrysts.

Rhyolite Ignimbrite **125.07 to 138.26m** **13.20m**

The rock is brick red at the intrusive contact at 410.4' **(124.96 m)** but turns greyish-pink and then pinkish-grey to grey at 415.4' **(126.59 m)**. The rock becomes bright red locally and exhibits a fragmental texture similar to fragmental zones within some ignimbrites. These fragments are masked in the greyer rock but are apparent in red zones near minor intrusives. The rock is moderately to strongly fractured. Fractures are epidotized and chloritized with minor white carbonate.

Granite **133.27 to 133.63m** **0.37m**

Pinkish-red, medium grained, massive.

138.26 **END OF HOLE**

DIAMOND DRILL HOLE DL-20

Overburden **0.00 to 3.14m** **3.14m**

Boxes 1 to 6 (3.14 to 35.7 m)

Diorite **3.14 to 4.21m** **1.07m**
The intrusive rock is dark green, fine to medium grained and porphyritic with light green, euhedral feldspar phenocrysts up to 1cm in size. The rock is weakly fractured. Epidote is found in fractures with minor white carbonate. The rock is weakly chloritized and feldspars are sauseritized.

Rhyolite Ignimbrite 4.21 to 87.98m **83.78m**
The rock is medium grey with pink fractured zones occasionally cream coloured and frequently brick red near mafic intrusives. The volcanic is aphanitic and porphyritic with 1-2mm round quartz phenocrysts and occasional 1-2mm chloritized feldspar phenocrysts. The rock is well flow banded. Individual laminations are usually red in color, and are discontinuous, locally lensitic and may be rippled. In the upper zone above 49.8', the laminations are more regular and continuous. Locally, the rock becomes very dark to charcoal grey and flow banding is present but indistinct. Abundant zones of tectonic brecciation are found throughout the unit. These zones consist of angular, red, ignimbrite fragments set in an aphanitic grey siliceous matrix. These fragments are usually 2-4cm in size but a few up to 6cm are found locally. Fracturing of the rock is varied from weak to strong. Fractures are epidotized and may be chloritized near mafic intrusives. Chloritized fractures are surrounded by red reaction halos. Near these intrusives, the rock is softer and a chloritized aureole is evident. The intrusives are generally dioritic although narrow seams are too strongly chloritized to make identification possible. The diorite is dark green, fine to medium grained and is frequently porphyritic with sauseritized feldspar phenocrysts.

Ignimbrite **7.19 to 10.09m** **2.90m**
Tectonically brecciated ignimbrite

Ignimbrite **10.79 to 15.18m** **4.39m**
Tectonically brecciated ignimbrite

Chloritized seam **13.65 to 14.05m** **0.40m**
Strongly chloritized seam

Diorite **15.18 to17.25m** **2.07m**
Euhedral light green feldspar phenocrysts up to 1.5cm and abundant 1-2mm black chloritized specks. The intrusive is weakly fractured with chlorite epidote and white carbonate in fractures.

Ignimbrite **17.25 to 22.06m** **4.82m**
Tectonically brecciated ignimbrite - red near intrusive at 55'.

Ignimbrite **27.09 to 27.76m** **0.67m**
Dark charcoal grey, aphanitic, flow banded ignimbrite

Ignimbrite **30.29 to 30.38m** **0.09m**
Tectonically brecciated ignimbrite

Flow banding **31.69 to 32.30m** **0.61m**
Flow banding is folded and convolute

Rhyolite **35.99m**
Several epidotized and chloritized rhyolite fragments: up to 2cm in size

Boxes 7 to 11 (35.7 to 63.7m)

Ignimbrite **37.18 to 38.58m** **1.40m**
Tectonically brecciated ignimbrite

Rhyolite **40.29m**
Rhyolite fragments

Ignimbrite **40.44 to 40.99m** **0.55m**
Tectonically brecciated ignimbrite

Fault zone **40.99m**
Fault plane at 35° to the core axis - sharply defined; 1cm wide, mylonitic and epidotized.

Poorly banded **42.39 to 43.00m** **0.61m**
Irregular, poorly banded zone - weakly brecciated.

Ignimbrite **43.79 to 45.65m** **1.86m**
Tectonically brecciated ignimbrite

Ignimbrite **46.05 to 46.90m** **0.85m**

Tectonically brecciated ignimbrite

Ignimbrite **47.08 to 47.60m** **0.52m**
Tectonically brecciated ignimbrite

Load casting **47.81m**
Load casting and settling of small fragments (Phenocrysts?) within laminations suggests that this sequence is overturned.

Ignimbrite **48.49 to 55.80m** **7.31m**
The ignimbrite is strongly brecciated with accompanying silicification and the rock is weakly to moderately fractured. Epidote is found to coat most fractured surfaces. Most fragments are brick red and angular. The groundmass is aphanitic and grey.

Chloritized Seam **49.64 to 49.80m** **0.15m**
Chloritized seam.

Dyke **51.53 to 51.84m** **0.30m**
A chloritized dyke dips along the core axis at 30°

Chloritized Seam **52.14 to 52.26m** **0.12m**
Chloritized seam.

Diorite **53.94 to 54.76m** **0.82m**
Chloritized diorite - minor 1-2mm pyrite blebs

Diorite **55.80 to 57.66m** **1.86m**
Dark green, fine to medium grained with light green feldspar phenocrysts up to 1cm in size. Weakly to moderately fractured.

Breccia **57.66 to 59.09m** **1.43m**
Tectonically brecciated ignimbrite - same as zone 159.1' (48.49 m) - 183.1 (55.80 m)

Ignimbrite **59.09 to 59.61m** **0.52m**
Massive, well banded ignimbrite

Breccia **59.61 to 64.45m** **4.85m**
Tectonically brecciated ignimbrite

Boxes 13 to 18 (63.7 to 106.4m)

. **Breccia** **64.45 to 75.24m** **10.79m**
Tectonically brecciated ignimbrite - fragments are strongly silicified and show little flow banding.

Chloritized Zone **75.24 to 76.52m** **1.28m**
Chloritized zone, possibly intrusive; the lower contact is sharp and epidotized.

Rhyolite **81.25 to 84.87m** **3.63m**
The rock is brick red, aphanitic and exhibits no flow banding.

Fault zone **84.87 m**
Fault zone - the rock is mylonitic and strongly epidotized over a 10cm width

Breccia **84.87 to 87.98m** **3.11m**
Tectonically brecciated ignimbrite with brick red angular ignimbritic fragments in a grey aphanitic matrix. The fragments are well banded locally and weakly porphyritic with occasional 1-2mm quartz phenocrysts.

Diorite **87.98 to 111.57m** **23.59m**
The intrusive is dark green, fine to medium grained and weakly porphyritic. Feldspar phenocrysts are light green, euhedral and up to 1cm in size. The rock is weakly fractured with epidote and minor white carbonate in fractures. The rock is weakly chloritized and carries occasional grey, well rounded, silicified rhyolite fragments. The diorite carries minor finely disseminated pyrite.

Boxes 19 to 24 (106.4 to 140.1m)

Rhyolite **107.61 to 109.77m** **2.16m**
Possibly ignimbrite - brick red, aphanitic, strongly broken and epidotized.

Diorite **109.77 to 110.44m** **0.67m**
Chloritized and non-porphyritic

Rhyolite **110.44 to 111.11m** **0.67m**
Possibly ignimbrite - brick red, aphanitic, strongly broken and epidotized.

Diorite **111.11 to 111.57m** **0.46m**
Chloritized moderately to strongly and non-porphyritic.

Rhyolite Ignimbrite **111.57 to 123.91m** **12.34m**
The rock is light to medium grey, aphanitic and contains abundant angular to sub-angular, pink aphanitic fragments. Some fragments are well flow banded but most are massive. They may be up to 5cm in size but average 2-3cm. The matrix to the fragments is aphanitic and very weakly porphyritic locally with 1mm quartz phenocrysts. Fragments occur up to 50% of the rock volume. Locally fragments may comprise 75% of the rock volume (eg. 389.4' - 394.4'). (118.67 to 120.19 m) Locally the rock is well flow banded (eg. 398'). (121.28 m) The rock becomes redder in color below 394', 9(120.34 m) possibly due to a chloritized string which partly cuts the core axis at 394.7' - 395'. (120.28 to120.38 m) The zone from 399.6' - 406.6' (121.78 to 123.91 m) is strongly broken and chloritized.

Mafic Flow **123.91 to 158.47m 34.56m**

The rock is dark charcoal grey to black, very fine grained to aphanitic and weakly chloritized locally. It is primarily equigranular with little textural change between contacts. Near the contacts, there are abundant strongly fractured and epidotized rhyolitic fragments. There are also abundant light pinkish, glassy zones which may represent absorbed xenoliths or chill margin material possibly related to pillow formation. The rock is vesicular with abundant light green, frequently epidotized rounded vesicles up to 2cm in size. Often, they are oblate in shape. Some banding, perhaps related to flowage, is observed locally (eg. 455.4').(138.73 m) The zone from 403.9' - 467.8' (123.09 to 142.46 m) is free of xenoliths. It contains a few 1-2mm pyrite cubes locally. The rock is weakly to moderately fractured. Fractures are coated with blue and green chlorite with minor white carbonate and epidote.

Boxes 25 to 28 (140.1 to 161.5 m)

Granite **146.89 to 147.01m 0.12m**

Granite stringers

Granite **150.27 to 151.37m 1.10m**

Granite stringers

Granite **158.47 to 162.28m 3.81m**

The rock is medium to coarse grained and reddish-pink to red. Composition is approximately 60% - 70% feldspar, 25% - 35% quartz and 10% hornblende with up to 15% hornblende locally. The rock is weakly fractured with minor epidote along some fractures.

Diabase **161.27 to 161.43m 0.15m**

Chloritized diabase dyke

161.5m **END OF HOLE**

DIAMOND DRILL HOLE DL-21

Overburden **0.00 to 3.30m** **3.30m**

Boxes 1 to 6 (3.3 to 33.7 m)

Mafic Flow **3.29 to 20.51m** **17.22m**
The rock is dark grey to greenish-grey and aphanitic to very fine grained. Abundant vessicules are found throughout the zone and are commonly round to oblong and weakly chloritized. Minor, poorly developed flow banding is found locally. The rock is moderately fractured and weakly chloritized. The lower contact is sharp.

Granite Dyke **16.06 to 16.33m** **0.27m**
narrow, unaltered, granite dyke.

Granite **16.58m**
2 cm granite stringer

Felsic Agglomerate **20.51 to 37.70m** **17.19m**
The rock is greenish-grey and aphanitic. Abundant brick-red altered zones are found associated with strongly fractured zones. The zone carries rounded, indistinct, light grey fragments. They are rhyolitic in composition and are partially absorbed by the groundmass. The rock is porphyritic locally becoming more strongly porphyritic with depth. Quartz phenocrysts are up to 2mm in size. Feldspar phenocrysts are up to 4mm in size, euhedral and usually pink to cream in color. The rock is weakly flow banded locally. The zone is weakly to moderately fractured with abundant chloritized amygdules.

Fracturing **22.31 to 22.89m** **0.58m**
Pronounced fracturing parallel to the core axis

Granite **22.58 to 23.01m** **0.43m**
Fine to medium grained granite stringers

Diorite **23.86 to 26.94m** **3.08m**
Dark green, fine grained and porphyritic with 1.5cm feldspar phenocrysts; weakly fractured and moderately chloritized

Granite **32.36 to 32.49m** **0.12m**
Coarse grained granite

Boxes 6 to10 (33.7 to 62.9 m)

Diorite **37.09 to 37.70m** **0.61m**
Dark green, fine grained and weakly porphyritic with 1.5cm feldspar phenocrysts; weakly fractured and moderately chloritized.

Granite **37.70 to 43.58m** **5.88m**
The rock is medium to coarse grained and reddish-pink to red in color. Composition is about 60% - 70% feldspar, 25% - 35% quarts and up to 15% hornblende. The rock is weakly fractured with minor epidote and hematite along some fractures.

Rhyolite Ignimbrite **43.58 to 52.14m** **8.56m**
The zone is light to medium grey and aphanitic with 1-2mm quartz phenocrysts and minor 1mm feldspar phenocrysts. The rock carries a few 1-2cm rounded rhyolite fragments. Locally, the rock is well flow banded (eg 153.4' - 155.3'). Abundant very finely disseminated pyrite is found throughout the zone. The rock is weakly fractured becoming moderately broken locally. It is moderately chloritized along most fracture surfaces.

Rhyolite Ignimbrite **48.58m**
The rock becomes greyish-pink to reddish-pink

Diorite **49.19 to 52.14m** **2.96m**
The intrusive is dark green, fine to medium grained and weakly fractured with abundant 1-2mm chloritized glass blebs. The intrusive is cut by granite stringers at 162.2' and 168.6'.

Boxes 11 to 15 (62.9 to 91.2 m)

Granite **52.14 to 91.18m** **39.04m**
The rock is pinkish-red becoming pink locally, medium to coarse grained. Composition is variable but approximately 55% - 70% feldspar, 25% - 40% quartz and 10% - 15% hornblende. The rock is weakly fractured becoming moderately fractured near mafic intrusives. Fractures are carbonate and chlorite filled locally.

Diabase **61.10 to 65.06m** **3.96m**
The intrusive is dark green, fine to medium grained and weakly to moderately fractured. Fractures are carbonate filled. A 1.5cm granite zenolith is located at 209.1'. Abundant 1-2mm pyrite blebs dot the intrusive.

Chloritized **78.38m**
Narrow chloritized seam

Granite **78.38 to 78.66m** **0.27m**
Strongly fractured and chloritized granite

Diabase **78.66 to 79.84m** **1.19m**
Dark green, fine grained weakly to moderately chloritized and fractured

Granite **83.29 to 87.19m** **3.90m**
The granite is strongly fractured locally. The fractures are well cemented with silica and specular hematite with minor magnetite

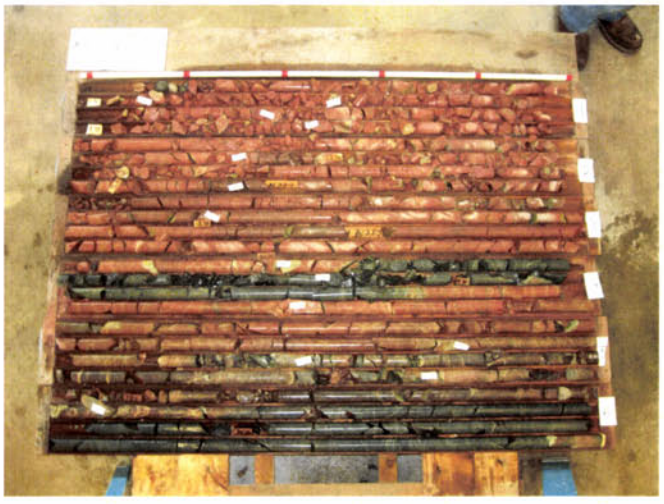
Chloritized Seam **87.04m**
A 10cm chloritized seam - granite is strongly fractured and chloritized with sperular hematite in fractures

91.18m **END OF HOLE**

DIAMOND DRILL HOLE DL-22

Overburden **0.00 to 3.99m** **3.99m**

Boxes 1 to 6 (3.99 to 38.4 m)



Rhyolite **3.99 to 30.38 m** **26.39m**
The rock is pinkish-red, fine to medium grained becoming coarse grained locally and composition is approximately 10% - 15% quartz, up to 85% feldspar and less than 1% hornblende and other accessories. Grain boundaries are often indistinct. The granite is moderately to strongly fractured. Fractures are epidotized. (Rock previously described as rhyolite)

Diabase **22.95 to 25.54m** **2.59m**
The intrusive is dark green, fine grained, strongly chloritized and moderately to strongly fractured. A granite xenolith is located at 80.5' - 80.9' (24.56 to 24.65 m)

granite xenolith **24.53 to 24.65m** **0.12m**
darker colour **27.31 to 30.38m** **3.08m**
The granite becomes darker in color and becomes locally mylonitic.

Fault Zone **30.38 to 30.75m** **0.37m**
The rock is light green with angular mylonitic rhyolite, granite and mafic intrusive fragments. The matrix is intensely chloritized.

Granite **30.75 to 32.30m** **1.55m**
The rock is red and fine to medium grained, the same as the uppermost section in this hole. It is intensely fractured to mylonitic.

Diabase **32.30 to 32.55m** **0.24m**
The intrusive is dark green, fine grained and strongly fractured. The rock is strongly chloritized. Fractures resemble shear planes and are strongly chloritized.

Rhyolite Ignimbrite **32.55 to 34.80m** **2.26m**
The rock is dark burgundy red, aphanitic and porphyritic with 1-2mm quartz phenocrysts. Locally, the rock is well flow banded. Single laminations are lensitic and irregular. Flow banding is often obscured by fracturing which may locally be very strong. Darkening of the rock near mafic intrusives also hides flow structures.

Diorite **34.80 to 38.55m** **3.75m**
The rock is dark green, fine to medium grained and weakly porphyritic with 1-2mm light green feldspar phenocrysts. The intrusive is weakly to moderately fractured. Breaks are epidote filled with minor white carbonate.

Boxes 7 to 12 (38.4 to 73.5 m)

Rhyolite Ignimbrite **38.55 to 40.07m** **1.52m**
The rock is brick red, aphanitic, strongly fractured. Fractures are strongly epidotized and a mylonitic zone at 126.5' - 127.8' (38.55 to 38.95 m) is strongly epidotized and chloritized.

Mylonite Zone **38.55 to 38.95m** **0.40m**

Diorite **40.07 to 43.24m** **3.17m**
The rock is dark green, fine grained and weakly porphyritic with 1-2mm light green feldspar phenocrysts. The intrusive is weakly to moderately fractured. Breaks are epidote filled with minor white carbonate.

Rhyolite Ignimbrite **43.24 to 63.84m** **20.60m**
The rock is brick red to dark burgundy red, aphanitic and weakly flow banded locally. The rock is moderately to strongly fractured. Epidote and minor chlorite are found on fracture surfaces. Locally, the rhyolite is mylonitic (eg. 174.6' - 175.2'). (53.21 to 53.39 m) Towards mafic intrusives the rock is darker in color.

Mylonite Zone **53.21 to 53.39m** **0.18m**

Diorite **51.84 to 53.21m** **1.37m**
The intrusive is fine to medium grained with generally pink unaltered feldspar. The mafic minerals are uralitized and chloritized.

Rhyolite **53.73m**
The rhyolite becomes medium grey in color and is weakly flow banded locally.

Diorite **63.84 to 68.14m** **4.30m**
The intrusive is dark green, fine to medium grained and moderately chloritized. The rock Is weakly to moderately fractured. Chlorite and epidote with minor white carbonate are found in fractures.

Flow banded rhyolite xenoliths **66.95 to 67.20m** **0.24m**
Flow banded rhyolite xenolith

Diabase Dyke fine grained **67.29 to 67.44m** **0.15m**

Rhyolite xenoliths **67.78 to 68.14m** **0.37m**

Zone abundant rhyolite xenoliths

Rhyolite Ignimbrite **68.14 to 92.25m** **24.11m**
The rock is pinkish-red, aphanitic and moderately to strongly porphyritic with 1mm feldspar and 2mm quartz phenocrysts. The rock is well flow banded but becomes more weakly flow banded with depth. Fracturing is extremely variable.

Diorite **70.43 to 70.98m** **0.55m**
The intrusive is dark green, fine to medium grained and weakly porphyritic with a few 3-4mm light green feldspar phenocrysts. The rock is weakly to moderately fractured.

Rhyolite **70.98 to 71.49m** **0.52m**
Possible xenolith in surrounding diorite.

Diorite **71.49 to 74.85m** **3.35m**
The intrusive is dark green, fine to medium grained and weakly porphyritic with a few 3-4mm light green feldspar phenocrysts. The rock is weakly to moderately fractured.

Boxes 12 to 18 (73.5 to 107.8 m)

Rhyolite xenoliths **74.27 m**
Contains a number of rhyolite xenoliths

Rhyolite xenoliths **74.85 to 75.09m** **0.24m**
Contains a number of rhyolite xenoliths

Rhyolite xenoliths **75.24 m**
Contains a number of rhyolite xenoliths

Rhyolite **74.85 to 79.78m** **4.94m**
Greyish-pink, strongly to intensely fracture, minor chloritized mylonite.

Diorite **81.61 to 83.04m** **1.43m**
Non-porphyritic equivalent of above intrusives at 232' (70.70 m) and 240' (73.14 m)

Non porphyritic **70.70 to 73.14 m** **2.44m**

Flow banding **83.99 m**
Flow banding in rhyolite is indistinct but appears to be at 10° to 15° to the core axis.

MAFIC INTRUSION **88.29 to 88.59m** **0.30m**
Mafic intrusive - diorite or diabase.

CHLORITIZED **91.91 to 92.00m** **0.09m**
Narrow chloritized seams.

Diorite **92.25 to 98.71m** **6.46m**
The intrusive is dark green, fine to medium grained and moderately to intensely fractured. The rock is strongly chloritized. Fractures are hematized and locally epidotized.

Rhyolite **98.71 to 105.29m** **6.58m**
The rock is red, aphanitic and porphyritic with 1-2mm quartz phenocrysts. It is intensely fractured and mylonitic. Structure is not determinable.

Diorite **105.29 to 108.43m** **3.14m**
The rock is dark green, fine grained and mylonitic to intensely fractured. The intrusive is strongly chloritized.

Boxes 19 to 24 (107.8 to 145.3 m)

Rhyolite **108.43 to 109.77m** **1.34m**
A mylonitic zone is found here similar to the rhyolite at 323.9' - 345.5' (98.71 to 105.29 m)

Mylonite Zone **98.71 to 105.29m** **6.58m**

Diorite **109.77 to 113.52m** **3.75m**
Dark green, fine grained, strongly fractured and chloritized intrusive rock.

Rhyolite **113.52 to 116.29m** **2.77m**
The rock is reddish-pink to greyish-pink, aphanitic and porphyritic with quartz phenocrysts up to 2mm in size. The rock is strongly fractured and locally mylonitic.

Diorite **116.29 to 122.08m** **5.79m**
The rock is dark green, fine to medium grained and contains abundant 1-3mm rhyolite xenoliths. Larger xenoliths are found at 400.8' - 401.7'. (122.14 to 122.42) The rock is intensely fractured and mylonitic. Epidotization and chloritization are moderate to strong.

Xenolith **122.14 to 122.42m** **0.27m**

Rhyolite **122.08 to 137.47m** **15.39m**
The rock is reddish-pink and aphanitic. Quartz and feldspar phenocrysts are found scattered throughout the zone. The rhyolite is intensely fractured and mylonitic. Fractures and ground rock are epidotized and chloritized. Abundant hematite is found on fractures.

Chloritized **132.02 to 132.78m** **0.76m**
Chloritized intrusive

Chloritized **136.47 to 137.47m** **1.01m**
Chloritized intrusive - 30% - 40% xenoliths

Rhyolite Ignimbrite **137.47 to 148.96m** **11.49m**
The rock is dark burgundy red and aphanitic with abundant 1-3mm quartz and orange feldspar phenocrysts. It is well flow banded. Individual flow laminations are lensitic and irregular - often discontinuous. The rock is weakly to moderately fractured. Locally the rock may be strongly fractured with chlorite on the fracture surfaces (eg. 476.4' - 478.5' (145.18 to 145.82 m) and 479.5' - 485.3') (146.13 to 147.89 m).

Boxes 26 to 30 (145.3 TO 173.35m)

Strongly fractured **145.18 to 145.82m** **0.64m**

Strongly fractured **146.13 to 147.89m** **1.77m**

Diabase **148.96 to 149.88m** **0.91m**
The intrusive is dark green, fine grained and moderately chloritized. It is weakly to moderately fractured with epidote and carbonate in fractures.

Rhyolite **149.88 to 155.45m** **5.58m**
The rock is light green, becoming pinkish-green with depth and aphanitic. It is porphyritic with 1-3mm quartz phenocrysts, commonly penetrated by the groundmass. The rock is dotted with abundant 1-3mm chloritized blebs possibly devitrified volcanic glass.

Feldspar phenocrysts **152.98 m**
Below 502', (153.05) feldspar phenocrysts are observed. They are generally orange-pink and euhedral. They average 2mm in size. Abundant finely disseminated pyrite is found throughout the zone. Some weak flow banding is observed locally which becomes better developed with depth.

Flow Contact **155.45m**
Possible flow contact at 30° to the core axis.

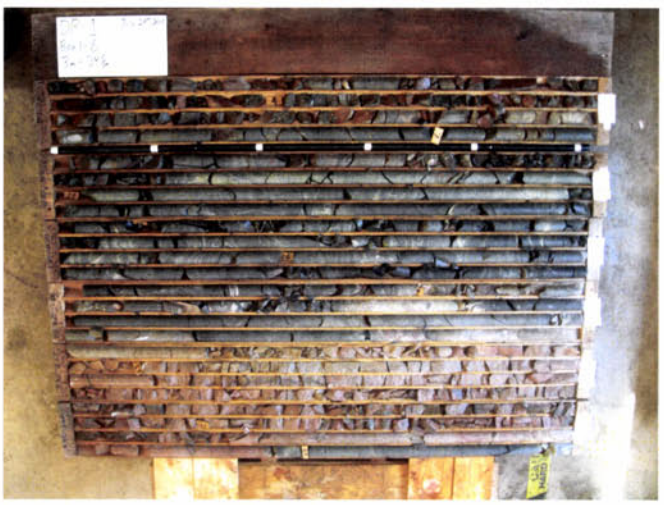
Rhyolite Ignimbrite **155.45 to 173.28m** **17.83m**
The flow is burgundy red, with olive green flow laminations and becomes light pick locally. It is aphanitic in the groundmass but strongly porphyritic with 1-2mm quartz phenocrysts and 1-3mm orange feldspar phenocrysts. Flow banding is lensitic and irregular. Abundant lensitic features are observed below 531.5'. (161.97 m) The rock is moderately fractured with chlorite and white carbonate in fractures. Fracturing is stronger below 539.7'. (164.47 m) Abundant finely disseminated pyrite is found throughout the zone. The rock is very similar to the ignimbrite at 451.1' - 488.8'. (137.47 to 148.96 m)
Lenses abundant **161.97 m**

173.28m **END OF HOLE**

DIAMOND DRILL HOLE DR-01

Overburden **0.0 to 3.0m** **3.0m**

Boxes 1 to 6 (3.0 to 34.8 m)



Tuff **3.0 to 8.7m** **5.7m**

Light greenish to white, locally becoming reddish or pink, groundmass may be strongly chloritized, both lithic and crystal fragments range from ash to medium lapilli size showing increase in size with depth. Abundance variable often producing lens like appearance (pods of coarse fragments in fine matrix) bedding from obscure to lacting. Lithics dominated by sub-angular to sub-rounded white to red, pink or brown rhyolite, often porphyritic, may have altered rims, crystal fragments of quartz 1-2mm winded to dipyramidal, 10% feldspar orange to white, subhedral to anhedral. 1-3mm may be sauseritized, 10% - 15% small streaks (pumice fragments?) locally abundant. Below 4m, layering locally well developed, may be ignimbritic, layering slightly warped. Pyrite abundant as rims around fragments, replacement of pumice fragments and also disseminated within groundmass. Locally may be disseminated magnetite. Below 8m some chloritized fragments of basalt present.

Basalt **8.7 to 17.9m** **9.2m**

Light to dark bluish grey, upper zone lightly epidotized, vesicular zone with infiltering of calcite and possibly zeolites (8.7 - 10.5m), gradually decreasing in abundance with depth. Size of vesicles to 6mm may be slightly deformed or broken, often oblate to elliptical, often epidotized rims, flow generally massive, non-porphyritic with silty intergrowth of mafic and felsic crystals locally, finer grained in basal section, shearing moderate with calcite and epidote veinlets, moderate to strong pervasive chloritization.

Tuff **17.9 to 20.0m** **2.1m**

Waterlain light to dark green, massive near upper contact becoming slightly bedded with depth. Crystal fragments light greenish to whitish, often with fuzzy boundaries and epidote rims, ash size, may be small shard shaped vitric fragments, fine ash to fine lapilli size, very thin and stringy, chloritic rims abundant, may be crudely bedded. Shearing locally strong, alteration by chlorite, calcite veining, Fe staining.

Agglomerate **20,0 to 20.3m** **0.3m**

Sub-angular to rounded fragments of porphyritic to massive reddish brown rhyolite, ignimbrite, average size 2-5mm maximum 2cm, sharp upper contact. Lower contact gradational. Groundmass lightly to totally epidotized, unsorted, non-bedded, minor fracturing with chlorite, epidote filling.

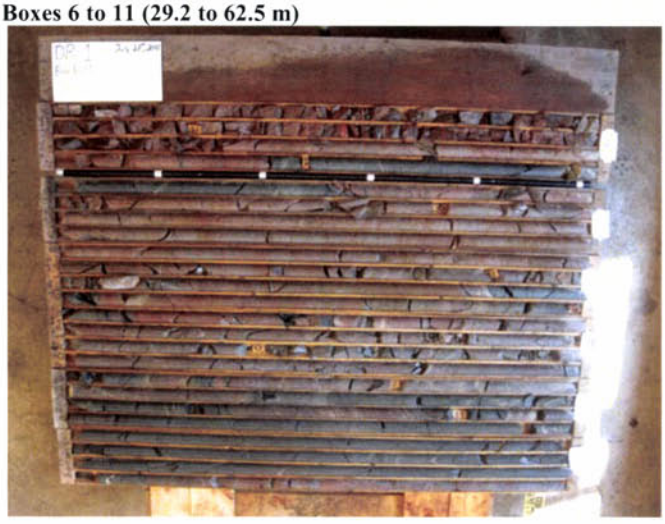
Tuff **20.3 to 22.1m** **1.8m**

Light to dark green, often intensely epidotized, lithic fragments less than 4mm often strongly altered by chlorite, clay, sub-rounded to sub-angular, fuzzy boundaries. Groundmass massive non-bedded lower few cm are bedded (flaser type), altered layers, fracturing minor, silica stringers, calcite.

Ignimbrite 22.1 to 46.2m 24.1m

Light pinkish, greenish or grey groundmass, may be altered reddish or darker greenish, hematization, pyritic often strong, lithic and crystal fragments are generally abundant, pumice fragments locally abundant. All fragments abundance increases with depth. Lithic fragments ash to fine lapilli, locally larger, sub-angular, locally sub-rounded, abundance up to 20%, red, orange, brown rhyolites, crystal fragments quartz, 1-3mm feldspar (orange) 1-3mm, subhedral to broken, to 30%. Feldspars may show chloritic cent or rims, lithic fragments may show fuzzy boundaries, chloritized pumice fragments showing bifurcated edges increase in abundance below 40m, may be wispy, distorted by crystal and lithic fragments, Bedding gets better with depth, flattening ratio of pumice increasing steadily, groundmass of fiammi often dark reddish-brown, size up to 1cm X 2-3mm. Often 1mm wide. Below 45.5m becomes highly chloritized and hematized. Layering more streaky, fragments are lapilli size. Over lower 25cm very ashy, fine grained, basal ash fall tuff. Shearing of entire unit varies from low to locally mylonitic. Crosscut by several diabasic stringers, generally fine grained to aphanitic, dark greenish, weakly porphyritic.

Boxes 6 to 11 (29.2 to 62.5 m)



Diabase 33.9 to 35.4m 1.5

Mylonite 43.2 to 43.4m 0.2

Diabase 44.5 to 44.8m 0.3

Ignimbrite 46.2 to 55.4m 9.2

Second flow unit. Highly hematized dark brick reddish to brownish groundmass, may be massive, but bedding becomes more evident with depth. Pumice and lithic fragments also more abundant with depth. Quartz crystals 1-4mm welded to dippyramidal 10% - 20%, feldspars 1-6mm orange to buff euhedral to anhedral, may be broken 10% - 25%, lithic fragments 1-5mm rhyolitic porphyritic, sub-angular to sub-rounded, 10% - 30% crystal fragments decrease with depth. Fiammi are highly flattened, black, probably chloritized, gradational from the angular grey shards found higher in the unit local kaolinization, hematization, silica, chloritic surfaces, a moderately developed shear.

Diabase 50.1 to 50.4m 0.3m
Diabase 50.6 to 50.7m 0.1m
Diabase 53.0 to 543m 1.3m
Diabase 55.0 to 55.1m 0.1m

Diorite 55.4 to 61.1m 5.7m

Light bluish grey, locally fine to medium grained, generally aphanitic very weakly porphyritic, feldspars 1-4mm, euhedral to subhedral, orange or pink, may be whitish, diabase texture found locally. Minor chloritic clots. Shearing low to minor, chloritic surfaces, patchy epidotization.

Boxes 11 to16 (56.7 to 89.6 m)

Vitric Tuff **61.1 to 66.2m** **5.1m**
Massive bright red groundmass, highly abundant glassy, translucent shard-like fragments often showing bifurcated, cusp or lense shaped edges lack alterations, also highly abundant quartz crystals 1-5mm often dipyramidal, may be broken and angular, 10% - 20%, vitric fragments 15% - 50%, may be up to medium lapilli size, some greenish altered rhyolite fragments up to 3cm. Groundmass locally altered whitish, may be chloritized, shearing minor, epidote and silica stringers common.

Diabase **63.8 to 64.2m** **0.4m**

Rhyolite **64.2 to 64.8m** **0.6m**
Highly altered by diabase

Diabase **64.8 to 65.4m** **0.6m**

Diabase **66.2 to 66.5m** **0.3m**
Dark greenish, fine grained to aphanitic, moderate pervasive chloritization, mainly porphyritic with subhedral feldspars, shearing minor to moderate calcite, chlorite, epidote common.

Tuff **66.5 to 76.3m** **9.8m**
The zone is subdivided into several different zones. Groundmass veins from light greyish, yellowish, to reddish or pink, may be variably hematized, kaolinized or chloritized. Lithic and crystal fragments range from ash size to medium lapilli, most 4mm. May show local size gradations. Lithic fragments dominated by brown to orange porphyritic to bedded rhyolite, sub-angular to sub-rounded, quartz and feldspar crystals 3mm may be abundant. Pumice fragments found between 68m - 69.6m may show variable degrees of flattening. Very streaky layering locally. Fragments are usually jagged, cusp shaped, may be lightly chloritized. Hematitic rims often seen on both fiammi and lithic fragments. Bedding generally indistinct below 70m. May include some 2-3cm lithic fragments. Shearing varies from low to moderate; silicate, epidote, calcite stringers locally. The individual units in the zone appear to be wedging or interfingering with each other.

Tuff **76.3 to 84.9m** **8.6m**
Light greyish, grading downward to reddish brown often showing streaky reddish to buff coloration over 2m transition zone. Lithic fragments quite abundant locally (up to coarse lapilli size), most are ash to fine lapilli size, sub-angular, some may be shards. Crystal fragments of quartz and feldspars (1-5mm, sharp orange, may be hematized). May include some lithic fragments of underlying flow. Shearing minor to low, chloritic surfaces.

Rhyolite Flow **84.9 to 91.9m** **7.0m**
Light reddish to greyish, porphyritic with 1-5mm orange to buff, euhedral to subhedral, slightly resorbed feldspars, approximately 15%. Quarts crystals 1-5mm welded to dipyramidal 10-20%, layering only very locally developed with flowage layers between 1 and 2mm, i.e. flow sections 15-20mm wide. Continuity of layering increases with depth. Upper and lower fragmental zones are both visible, 84.9m to 87.2m and 91.1m to 91.9m, respectively.

Boxes 16 to 21 (84.3 to 117.7 m)

Tuff **91.9 to 94.6m** **2.7m**

Light to dark greenish groundmass, strongly chloritized and/or epidotized. The upper zone is very ashy, massive, grading quickly into more laminated zone and grading slowly into a lower fragment rich horizon. Fragments are ash to fine lapilli, highly altered, angular, 5-30%. Very few crystal fragments. Bedding much less than 1mm wide to 2mm wide, beds may be contorted. May be altered, shards present, very jagged. Local fragmental zone has altered fragments, ignimbrite, red rhyolite and spherulitic rhyolite. Locally kaolinized shearing low with chloritic surfaces.

Spherulitic Rhyolite **94.6 to 103.7m** **9.1m**

Groundmass whitish to orange, greenish zones may be chloritization, may be sericitized. Quite massive, may show very indistinct layering. Spherulites and lithophysae often parallel arrangement with corresponding barren zones, significant destruction of original texture. Spherulites or lithophysae may be radial, concentric or massive, broken into chunks, 1-10mm diameter, round to oblate, may be distorted, may have chloritic centers. Lithic and/or pumice fragments locally visible, sub-angular, less than 2mm size pumice fragments. 1cm X 2mm silicic veinlets abundant.

Diabase stringer. **99.3 to 99.7m** **0.4m**

Composite Intrusive **103.7 to 120.8m** **17.1m**

Outer edges are diabasic with a fairly felsic central core. Upper contact fairly sharp but lower is quite transitional over 50cm from diorite to felsic intrusive. Diabase is dark green, highly chloritized, very weakly porphyritic (1-4mm, subhedral, whitish feldspar), fine to medium grained, chloritic clots locally abundant, felsic zone is reddish brown, massive aphanitic, highly porphyritic (1-8mm feldspars), euhedral to subhedral, resorbed, 10-15%, quartz crystals 1-4mm, rounded, both may have hematitic rims. Local microshpherulitic growths strongly hematite rich. Shearing light to locally moderate. Minor calcite, silica, epidote.

Felsic Zone **105.2 to 119.3m** **14.1m**

Felsic zone

Boxes 21 to 27 (112.1 to 148.0 m)

Tuff **120.8 to 125.7m** **4.9m**
Reddish brown groundmass, chloritization strong to pervasive, especially at mafic contacts, may include quartz and feldspar fragments, both decreasing in abundance with depth, usually 1-4mm, often altered to chlorite, sericite, magnetite. Some lithic fragments also present and increase with depth, chloritized, ash size, bedding very crude, discontinuous, found only near contacts where chloritization strongest, shearing minor to moderate; epidote, chlorite, calcite present.

Diorite **125.7 to 146.2m** **20.4m**
Moderate to dark greenish, fine to medium grained aphanitic, often chilled at contacts, may show diabasic texture, porphyritic with 1-3mm sauseritized euhedral to subhedral feldspars. Locally have disseminated pyrite along shears, minor chlorite, calcite. Chloritic clots (1-2mm) locally abundant.

Xenolith **139.3 to 142.0m** **2.7m**
Altered rhyolite xenolith
Xenolith **142.7 to 143.2m** **0.5m**
Altered rhyolite xenolith
Xenolith **145.0 to 145.2m** **0.2m**
Altered rhyolite xenolith

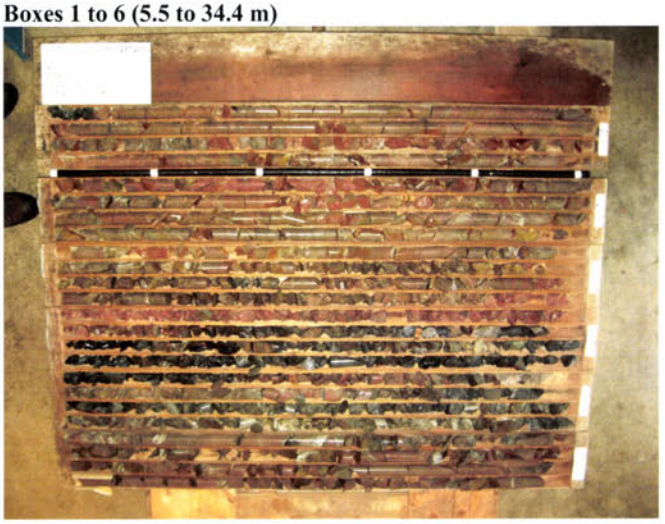
Rhyolite Tuff **146.2 to 148.0m** **1.8m**
Light to moderate reddish brown groundmass, lithic and crystal fragments 1-4mm, indistinct, 1-2mm epidotized fragments, orange to white most common, groundmass may be strongly hematized, calcite, silica stringers also abundant. Diabase dykes crosscut at 146.7m and 148m.

148.0m **END OF HOLE**

DIAMOND DRILL HOLE DR-02

Overburden **0.0 to 5.5m** **5.5m**

Boxes 1 to 6 (5.5 to 34.4 m)



Tuff **5.5 to 29.0m** **23.5m**

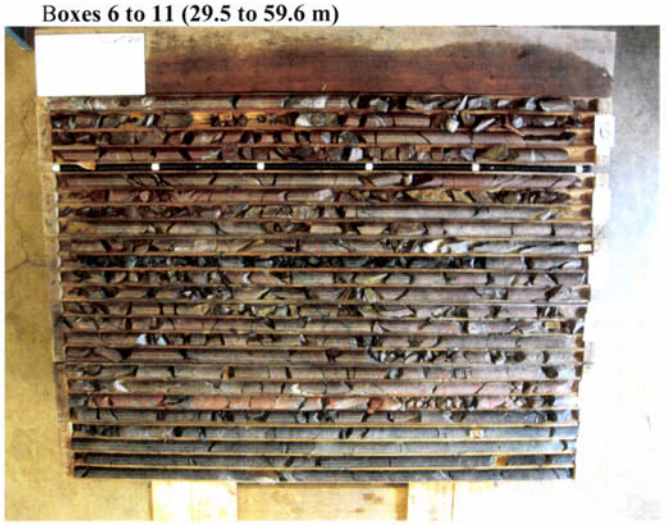
Groundmass generally reddish to grey-red, locally brownish, often strongly hematized, lithic and crystal fragments abundant, sub-angular to sub-rounded, lithic fragments ash to medium lapilli size. The large lapilli fragments are quite indistinct. Fragments become larger with depth, often are chloritized. Some pumice fragments are visible locally, may show bifurcated edges, 1-2mm thick, maximum 3-4cm thick, good bedding trend. Crystal fragments quartz 1-2mm. 5-15% feldspars, 1-4mm euhedral to subhedral, often broken and angular, may be white, but often chloritized or hematized. Locally graded bedding with local concentrations of coarse fragments. Groundmass quiet pyritic from extremely abundant decreasing with depth except high from 25-27m. also found filling shears. Fe staining. Chlorite, hematite in moderately to strongly developed shear.

Diabase **21.6 to 23.0m** **1.4m**
Diabase stringer

Diabase **23.3 to 24.9m** **1.6m**
Diabase stringer

Diabase **27.8 to 28.0m** **0.2m**
Diabase stringer

Boxes 6 to 11 (29.5 to 59.6 m)



Rhyolite Flow **29.0 to 50.6m 21.6m**
Reddish brown, groundmass, locally hematized, generally quite massive with rarely visible layering, only in two places near lower part of unit. Weakly to moderately porphyritic with quartz 1-4mm 10-15%, feldspar 1-6mm orange, euhedral to subhedral, hematite and kaolin rims 10-20%, often strongly chloritized. Few lithic fragments less than 4mm found near the base. Upper zone is highly veined by silica. Lower contact of flow seems to be cut off by shear. Searing stronger with depth accompanied by Fe staining and chlorite.

Diabase **40.0 to 40.8m 0.8m**
Diabase dyke

Ignimbrite **50.6 to 53.9m 3.3m**
Red to orange brown, may be strongly hematized, lithic fragments 1-4mm highly chloritized, indistinct, crystal fragments rare, quartz 1-3mm less than 5%, pumice fragments black to brownish, may be strongly chloritized, may show bifurcated edges, may be strongly flattened, flattening stronger with depth. Shearing moderate to mylonitic, often large vug like spaces, Fe staining.

Tuff **53.9 to 54.4m 0.5m**
Zone of several rhyolite tuffs and agglomerate faulted together. Greenish highly altered rhyolite covers upper 10cm. A dark black unit with large fragments covers next 20cm. The lower 20cm is a well bedded grey tuff.

Rhyolite Flow **29.0 to 50.6m 21.6m**
Reddish brown, groundmass, locally hematized, generally quite massive with rarely visible layering, only in two places near lower part of unit. Weakly to moderately porphyritic with quartz 1-4mm 10-15%, feldspar 1-6mm orange, euhedral to subhedral, hematite and kaolin rims 10-20%, often strongly chloritized. Few lithic fragments less than 4mm found near the base. Upper zone is highly veined by silica. Lower contact of flow seems to be cut off by shear. Searing stronger with depth accompanied by Fe staining and chlorite.

Diabase **40.0 to 40.8m 0.8m**
Diabase dyke

Ignimbrite **50.6 to 53.9m 3.3m**
Red to orange brown, may be strongly hematized, lithic fragments 1-4mm highly chloritized, indistinct, crystal fragments rare, quartz 1-3mm less than 5%, pumice fragments black to brownish, may be strongly chloritized, may show bifurcated edges, may be strongly flattened, flattening stronger with depth. Shearing moderate to mylonitic, often large vug like spaces, Fe staining.

Tuff **53.9 to 54.4m 0.5m**
Zone of several rhyolite tuffs and agglomerate faulted together. Greenish highly altered rhyolite covers upper 10cm. A dark black unit with large fragments covers next 20cm. The lower 20cm is a well bedded grey tuff.

Boxes 11 to 16 (53.3 to 87.6 m)

Ignimbrite **54.4 to 60.6m 5.2m**

Dark to moderately greenish coloured, grades from ashy with very few lithic fragments and non-bedded to a bedded highly pumice fragment and lithic fragment rich zone. Chloritization and epidotization quite strong. Lithic fragments sub-angular to sub-rounded, 1-7mm, massive pink or brown rhyolite, pumice fragments become abundant below 56.8m, bifurcated, highly chloritized, wispy, often distorted by lithic fragments. Spherulitic rhyolite fragments found near base. Shearing low, Fe staining chloritic surfaces, quartz, calcite, fluorite veining. Often strongly pyritic.

Spherulitic Rhyolite **60.5 to 79.7m 19.2m**

Reddish to orange groundmass, quite massive, locally abundant crystal fragments 1-3mm, euhedral to subhedral, most other fragments indistinct, but are rhyolitic. Spherulites and/or lithophysae up to 50%, shape ranges from oblate, deformed, broken partial spheres. Size from 1-5mm, averages 5mm, may show radial growths but are often massive, may be white with orange rims, often have chloritized centers, some have secondary growths. Shearing and fracturing grades from low to mylonitic with abundant sericite, kaolin, epidotization, siliceous and calcite veining.

Mylonite **62.4 to 64.7m 2.3m**
Mylonite **68.8 to 69.8m 1.0m**
Mylonite **76.8 to 77.8m 7.0m**
Mylonite **78.2 to 79.7m 1.5m**

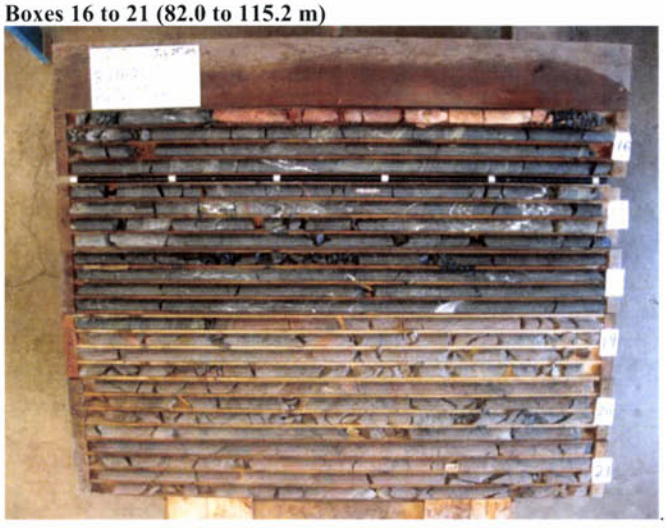
Diorite **79.7 to 99.6m 19.9m**

Light to medium greenish, fine to medium grained, locally coarse grained often aphanitic near contacts, alteration by chlorite extensive. May be moderately porphyritic 1-4mm subhedral white often light orange, 15-20%, local megacrysts up to 1.5cm. Tectonic brecciation locally mylonitic, calcite veining up to 3cm, small silica veinlets.

Xenolith **81.5 to 81.8m 0.3m**
Rhyolite xenolith

Xenolith **82.4 to 83.3m 0.9m**
Rhyolite xenolith

Boxes 16 to 21 (82.0 to 115.2 m)

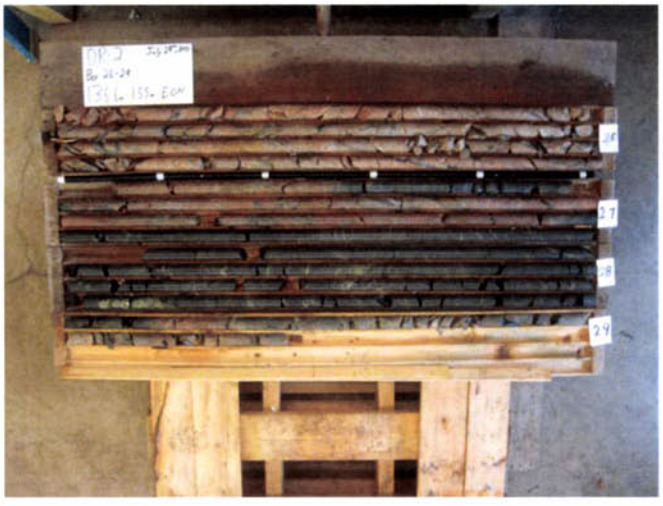


Boxes 21 to 26 (109.6 to 141.6m)

Tuff **99.6 to 155.0m 55.5m**

Whitish to buff groundmass, often yellowish locally becomes pinkish orange, may also be locally hematized. Both lithic and crystal fragments abundant. Feldspar abundant 10-30%, 1-5mm locally euhedral, often broken, pervasive chloritization, quartz less than 5% rounded. Lithic fragments highly variable sub-angular to sub-rounded, often indistinct, fuzzy boundaries, size from ash to medium lapilli. General increase in size with depth, color whitish, buff, pink, grey. Bedding visible very locally. Fairly consistent-variably coloured massive layer to wispy slightly laminated. Shearing low, local strong brecciation, epidotization, kaolinization, locally widespread hematization. Silica stringers common

Boxes 26 to 29 (136.6 to 155.0 m)



Diabase **142.4 to 143.3m 0.9m**

Diabase stringer

Diorite **146.0 to 153.4m 7.4m**

Moderate to dark greenish gradational to felsic intrusive center with reddish brown color, may be good diabasic texture, weakly porphyritic 1-3mm, orange feldspars.

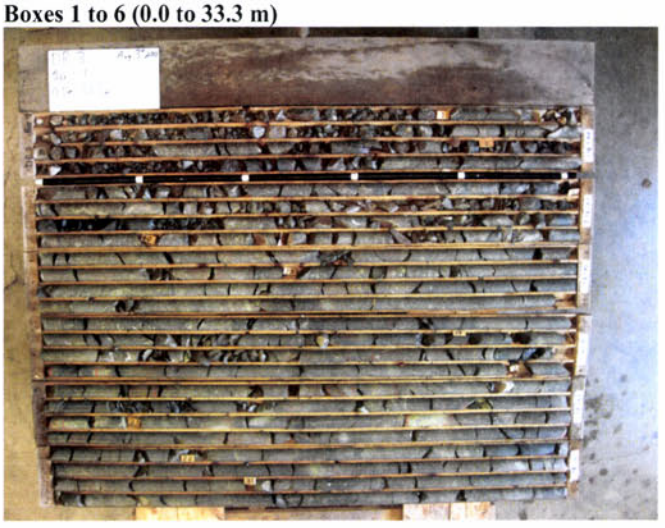
155.0m **END OF HOLE**

DIAMOND DRILL HOLE DR-03

Andesite (?) **0 to 42.5m 42.5m**

Reddish brown to dark greyish groundmass, may include some fragments of rhyolite in upper 1-2 m, usually 1-5 mm decrease rapidly with depth, sub-angular to sub-rounded, porphyritic with feldspar 1-4 mm subhedral to anhedral, whitish, but usually strongly altered by epidote, chlorite 1-2 mm epidote rims pervasive. Quartz crystals rounded to angular 1-3 mm 5-10% also rimmed by epidote. Chlorite and calcite filled, oblate to lenticular, often circular, void spaces very abundant. Often pervasive size 1-5 mm, up to maximum of 3 cm. Alteration by epidote abundant. Often appear to have followed parallel orientation by flowage. Shearing low to strong, usually less, abundant chlorite, epidote, Fe-staining, fluorite, calcite stringers.

Boxes 1 to 6 (0.0 to 33.3 m)



Boxes 6 to 11 (27.6 to 61.7 m)

Ignimbrite to Agglomerate **42.5 to 43.4m** **0.9m**

Groundmass grey to black, aphanitic to very fine grained, locally may be abundant crystal and lithic fragments, up to lapilli size lithic fragments, sub-angular, rhyolitic mainly locally the fragments are rounded to sub-rounded usually lense-like or beds isolated and reworked. Crystal fragments of quartz rounded 1-2 mm locally 1-3 mm sauseritized to whitish feldspars common abundant indistinct fine ash size fragments. Size of lithic fragments increases with depth to 4-5 cm, many of the indistinct grey highly angular and irregularly shaped fragments may be pumice. Bedding is variable from red to grey alternating bands to variations in grain size, small agglomerate lenses are abundant, beds usually 5 mm wide often quite indistinct, streaky pink layers locally (42.5-43.4) There are several small quite aphanitic and massive lenses also. Heatization, chloritization, epidotization often strong and patchy below 56.0 m. Locally siliceous coating on some fragments.

Diorite **43.4 to 48.6m** **5.2m**

Diorite dark greenish, fine to medium grained weakly to moderately porphyritic 1-5 mm feldspars.

Ignimbrite to Agglomerate **48.6 to 85.5m** **36.9m**

Groundmass grey to black, aphanitic to very fine grained, locally may be abundant crystal and lithic fragments, up to lapilli size lithic fragments, sub-angular, rhyolitic mainly locally the fragments are rounded to sub-rounded usually lense-like or beds isolated and reworked. Crystal fragments of quartz rounded 1-2 mm locally 1-3 mm sauseritized to whitish feldspars common abundant indistinct fine ash size fragments. Size of lithic fragments increases with depth to 4-5 cm, many of the indistinct grey highly angular and irregularly shaped fragments may be pumice. Bedding is variable from red to grey alternating bands to variations in grain size, small agglomerate lenses are abundant, beds usually 5 mm wide often quite indistinct, streaky pink layers locally (42.5-43.4) There are several small quite aphanitic and massive lenses also. Hematization, chloritization, epidotization often strong and patchy below 56.0 m. Locally siliceous coating on some fragments.

Tuff **85.5 to 96.5m** **11.0m**

Light to moderately grey groundmass, may be several small ash horizons (black shale beds) lithic fragments often difficult to distinguish due to strong chloritization irregularly shaped pumice or vitric fragments, flattening often streaky, highly chloritized, usually 1-2 cm by 3-6 cm small chloritized specks less than 1 mm, groundmass often shows mottled appearance. Crystal fragments 5-15% quartz and feldspar continues to pick some unaltered lithic fragments with depth. Gradational between overlying reworked zone and underlying ignimbrite, lithic fragments of grey flow rhyolite, tuff, ignimbrite.

Boxes 11 to 16 (56.4 to 90.3 m)

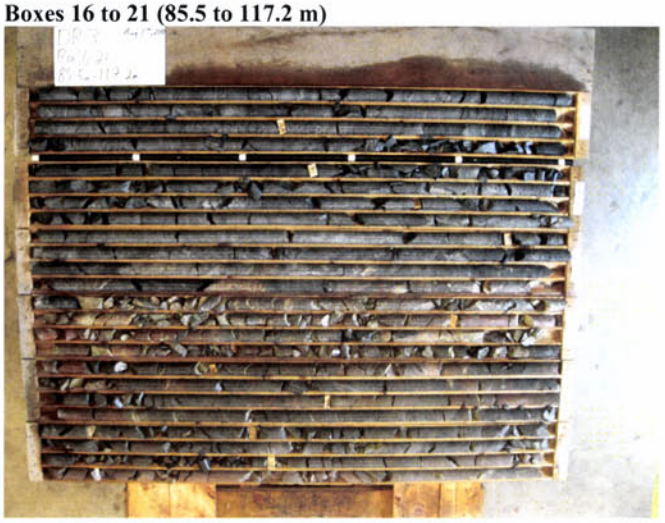
Ignimbrite **96.5 to 134.8m** **38.3m**

Groundmass generally greyish to greenish, may have localized bedding includes highly abundant lapilli to blocky fragments of ash fall tuff, flow rhyolite, ignimbrite, may be up to 30 cm wide. Crystal fragments may be abundant, quartz to 15%, feldspar 1-5 mm white to orange, sub-angular, often strongly chloritized 15-30%. The groundmass often light grey with very few fragments, patchy hematization and epidotization, groundmass often quite glassy, bedding raw and often distorted by large fragments. Many of the fragments below 129 m have spherulitic coating, the groundmass locally yellowish, locally chloritized below 145.8 this unit may grade into a light yellowish spherulite bearing tuff.

Diorite **134.8 to 145.8m** **11.0m**

Medium to dark green, fine to medium grained, may be strongly chloritized, very weakly porphyritic, small chloritic clots, minor disseminated pyrite includes a couple of rhyolite xenoliths.

Boxes 16 to 21 (85.5 to 117.2 m)



Boxes 21 to 26 (111.4 to 145.5 m)

Ignimbrite **96.5 to 134.8m** **38.3m**

Groundmass generally greyish to greenish, may have localized bedding includes highly abundant lapilli to blocky fragments of ash fall tuff, flow rhyolite, ignimbrite, may be up to 30 cm wide. Crystal fragments may be abundant, quartz to 15%, feldspar 1-5 mm white to orange, sub-angular, often strongly chloritized 15-30%. The groundmass often light grey with very few fragments, patchy hematization and epidotization, groundmass often quite glassy, bedding raw and often distorted by large fragments. Many of the fragments below 129 m have spherulitic coating, the groundmass locally yellowish, locally chloritized below 145.8 this unit may grade into a light yellowish spherulite bearing tuff.

Diorite **134.8 to 145.8m** **11.0m**

Medium to dark green, fine to medium grained, may be strongly chloritized, very weakly porphyritic, small chloritic clots, minor disseminated pyrite includes a couple of rhyolite xenoliths.

Boxes 26 to 28 (140.2 to 151.6 m)

Spherulitic Tuff **145.8 to 151.0m** **5.2m**
Many of the fragments below 129 m have spherulitic coating, the groundmass locally yellowish, locally chloritized below 145.8 this unit may grade into a light yellowish spherulite bearing tuff.

151.0m **END OF HOLE**

DIAMOND DRILL HOLE DR-04

Agglomerate **0.0 to 1.5m** **1.5m**
Light to moderately greenish, may show chloritization, contain abundant felsic fragments, rounded to sub-rounded, white to gray, also some intermediate fragments (similar to glow) with pinkish groundmass and straight epidotization, many little fragments are blow and lithophysae, may be kaolinized, felsic fragments 1-5mm, intermediate fragments 1-4 cm, lower contact quite sharp.

Ignimbrite **1.5 to 27.3m** **25.8m**
Light to dark grey groundmass, may be light to dark greenish due to strong local alteration by chlorite and epidote, most of this unit highly unsorted fragmental basal section. Lithic fragments 1-15mm, sub-angular to sub-rounded, often fuzzy boundaries, whitish to pinkish, may be epidotized, crystal fragments 1-5mm, euhedral to subhedral feldspar most abundant, white to light green 5-25% quartz crystals, 10%, 1-3mm, pumice fragments, irregular shape, often bifurcated edges, flattening increases with depth, good orientation visible, lower fragmental zone has abundant lithic fragments (21.6m - 27.3m) good bedding disappears below 23m, shearing low to minor with chlorite, Fe staining, may be siliceous, stringers are calcite, fluorite, partly epidote.

Boxes 1 to 6 (0.0 to 31.7 m)

Rhyolite **27.3 to 33.4m** **6.1m**
Light to dark grey green, fine to medium grained, aphanitic near contacts, nonporphyritic, locally diabasic texture, shearing low with chloritic and epidote includes several rhyolite serolites usually highly altered 28.7m - 29.5m, 31.9m - 32.8m

Rhyolite **33.4 to 34.7m** **1.3m**
Basal section of ignimbrite, highly altered by epidote, chlorite, contains abundant lithic fragments many from underlying basalt, groundmass quite pyritic, shearing, moderate calcite and fluorite veining, sharp contact with basalt.

Basalt **34.7 to 43.3m** **8.6m**
Light to dark grey groundmass, very fine grained to aphanitic, porphyritic with 1-3mm feldspars, euhedral to subhedral, orange to light greenish, 5-16% small chloritized vesicles filled with calcite, zeolites, epidote become quite abundant in lower part of unit, up to 10mm diameter, contains a few fragments of rhyolite, shearing low to minor with chlorite, epidote, calcite.

Boxes 7 to 12 (31.7 to 64.3 m)

Tuff **43.3 to 57.3m 14.0m**

Light to dark green groundmass, locally pale green to white, fine grained ash to aphanitic, abundant lithic and crystal fragments, locally minor pumice fragments, lithics white, green, pink, orange, highly chloritized, 1-4mm average, up to medium lapilli, local fragments of spherulites and lithophysae, crystal fragments quartz crystals 1-3mm, feldspar 1-4mm, euhedral to subhedral, may be slightly altered by chlorite, locally may be small shard like fragments, disseminated pyrite in groundmass and also small 1-2mm cubes, lower contact with diorite sharp with slight brecciation.

Boxes 13 to 19 (64.3 to 99.8 m)

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Diorite **57.3 to 75.6m 18.3m**

Light grey green, fine to medium grained, weakly porphyritic with 1-4mm plagioclase feldspar, locally shows good diabasic texture, zone include several crosscutting mafic intrusives, disseminated pyrite and magnetite present, shearing ranges from low to moderate with chl oritic surfaces, minor epidote and calcite stringers, small less than 1mm chloritic clots

Ignimbrite **75.6 to 99.1m 23.5m**

Groundmass greenish to grey or white, highly hematized, epidotized, generally unbedded may locally be black and quite massive, fine to medium lapilli size fragments, orange to green, sub-angular to sub-rounded, mainly rhyolitic, may be large blocks of tuff present, crystal fragments 1-5mm, euhedral to subhedral, less than 20%, locally spherulitic coatings in some fragments, shearing low to strong, may be local brecciation 82.8m - 83.8m, 84.3m - 85m, crude streaky bedding found near lower contact.

Boxes 20 to 26 (105.7 to 144.3 m)

Diorite **99.1 to 144.3m** **45.2m**

Light to dark grey green, fine to coarse grained, locally gabbroic, fine to aphanitic near contacts, main intrusive often crosscut by several other mafic intrusives usually porphyritic, often strongly 1-8mm feldspars, euhedral to subhedral, may form in clusters of up to five crystals, may be sauseritized, groundmass locally hematized.

144.3m **END OF HOLE**

DIAMOND DRILL HOLE DR-05

Overburden **0.0 to 6.0m** **6.0m**

Ignimbrite **6.0 to 28.7m** **21.7m**

Groundmass generally greenish grey becoming darker with depth, may be highly euhedral with depth also lithic, crystal and pumice fragments are highly abundant, lithics 1-5mm orange to white rhyolite sub-angular to sub-rounded, often fuzzy and hematitic boundaries, crystal fragments quartz 1-4mm rounded often broken 0-25%, feldspar 1-4mm euhedral to subhedral, orange, may be white, may be pervasively chloritized, pumice fragments brown to dark green often reddish brown becoming darker and more altered with depth, wispy, bifurcated, often distorted by fragments L/W ratio increases with depth 3:1 to 10:1 wide overlap, groundmass may be quite glossy shearing from nil to strong locally mylonitic with no to minor offset, strong local epidote.

Boxes 1 to 6 (6 to 36.5 m)

Diorite **28.7 to** **38.0m** **9.3m**

Light to moderate greenish, dark green to black near contacts, quite sharp, minor chell margin, weakly porphyritic 1-3mm euhedral to subhedral whitish, often sauseritized feldspars, no alteration of rhyolite at contacts, become medium grained and has poorly developed diabasic texture, shearing low locally strong, epidote, chlorite prominent.

34.0 to 34.7m **0.7m**

Gradational contacts, for diorite to felsic intrusive, light to moderate pinkish become fine to aphanitic contains rounded diorite fragments.

Boxes 7 to 12 (36.5 to 69.5 m)

Tuff and Agglomerate 38.0 to 85.9m 44.9m
Large unit is made up of several interfingering subunits, some are reworked:

Subunit 1: Reddish grey highly abundant crystal fragments, feldspar 1-3mm rare quartz, lithic fragments vary from 1mm to 25cm not abundant, usually at lower part of unit, made of brown, grey and pink rhyolite, many are chloritized, locally kaolinized groundmass locally hematized palely epidotic.

Subunit 2: Yellow brown groundmass, abundant highly chloritized feldspars 1-3mm about 30% lithic fragments brown to green (chloritic) sub-angular to sub-rounded may be very fine only zone with gradation to fragmental rich zones.

Subunit 3: Green highly chloritized groundmass, massive to nonbedded, highly pyritic, locally abundant indistinct fragments 1-10mm, light green (epidote) alteration abundant, often blotchy, locally hematized, altered feldspar crystals may be present, may be agglomeratic with rounded fragments.

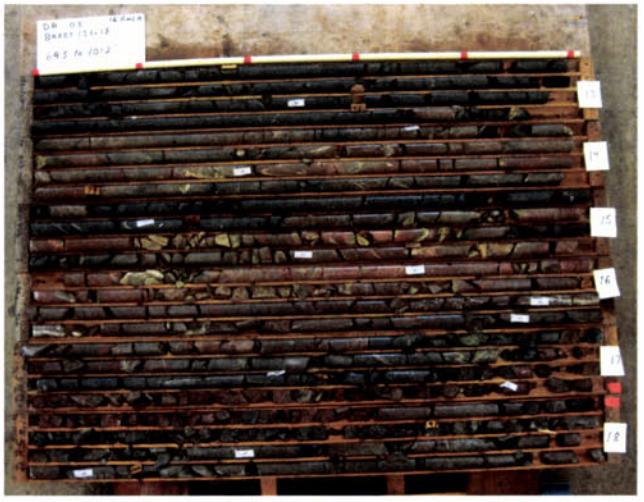
Diabase **38.6 to 39.3m 0.7m**
Diabase stringer

Diabase **42.4 to 42.5m 0.1m**
Diabase stringer

Diorite **46.0 to 51.0m 5.0m**
Fine to medium grained, light to dark grey, may show diabase texture

Diorite **55.6 to 69.5m 13.9m**
Gradational between 59.3m to 69.3m to a felsic intrusive centre, grades from quite dark green, fine to medium grained with diabasic texture and very weakly porphyritic with 1-2mm feldspars to a felsic reddish brown, quite glossy, aphanitic central zone which is also weakly porphyritic 1-8mm feldspars and resorbed quartz crystals, feldspars often chloritized.

Boxes 13 to 18 (69.5 to 101.2 m)



Diorite **69.5 to 74.7m** **5.2m**

Diabase **75.9 to 76.1m** **0.2m**
Diabase stringer

Diabase **80.4 to 82.2m** **1.8m**
Diabase stringer

Ignimbrite **85.9 to 94.3m** **8.4m**
Reddish brown to purplish brown groundmass, highly crystal and lithic fragment rich, abundant fiammi also somewhat fragmented by overlying tuff unit, fiammi present in various stages of flattening, increasing L/W ratio with depth, lithic fragment abundance increase with depth, feldspar 1-5mm euhedral to anhedral whitish to orange 5-35% may be hematized, quartz 1-5mm rounded to angular, 10-20% size decreases downward, bifurcated, wispy, lithic fragments rhyolitic red, brown, may be bedded up to medium lapilli size, groundmass may be quite glassy, shearing quite low to moderate with string epidote, calcite, may be strong hematized.

Diabase **91.5 to 91.9m** **0.4m**
Diabase stringer

Diabase **93.1 to 94.1m** **1.0m**
Diabase stringer

Vitric Tuff **94.3 to 97.2m** **2.9m**
Red, glassy, may be strongly hematized, massive, lightly crystal and fragment rich, quartz crystals 10-25% 1-6mm, small sheared richer fragments, most 1mm very angular, cusp shaped, 20-35%, minor chloritized fragments may be altered feldspars 1-3mm, groundmass may be brecciated and grades into underlying unit.

Tuff **97.2 to 103.9m** **6.7m**
Yellow to grey brown groundmass, nonbedded locally contains abundant crystal fragments, quartz 1-4mm rounded to angular, 5-20%, feldspar 1-3mm, usually chloritized, lithic fragments rhyolite red brown, sub-angular, 1-40mm average, 1cm increasing abundance with depth, several brecciated zones, groundmass may be slightly hematized, locally strong silica veining.

Diabase **100.6 to 100.7m** **0.1m**
Diabase stringer

Boxes 19 to 24 (102.2 to 133.6 m)

Diorite **105.2 to 118.4m** **13.2m**

Light to moderate greenish fine to medium grained, aphanitic and chloritized at contacts, weakly porphyritic 1-4mm feldspars euhedral to subhedral whitish, often light green (saussemitized) may be grouped into clusters diabasic texture locally, 2-3mm chlorite clots locally shearing low with chloritic surfaces, minor pervasive chloritization, minor epidote, calcite, pyrite, magnetite.

Tuff ? Flow ? **118.4 to 126m** **4.6m**

Reddish brown groundmass, fairly glassy, aphanitic, highly epidotized at upper contact, feldspars chloritized, groundmass may be locally hematized, moderately porphyritic with 1-4mm euhedral to subhedral orange feldspars, 10-20%, quartz crystals 1-3mm, 5-15%, feldspars may be hematized or chloritized as rims or altered centers, indistinct layering visible only near lower contact, lower zone 121.7m - 126m abundant primary brecciation, overall shearing increases with depth accompanied by epidote, clacite.

Ignimbrite **126 to 132.2m** **6.2m**

Groundmass grades with depth from reddish to yellow grey to greenish grey basal zone, becomes more welded with depth, upper zone indistinctly layered abundant crystal and lithic fragments bedding veined with depth also, lithic fragments generally white, light brown, grey, angular to sub-angular, often indistinct, large fragments of ignimbrite and aphanitic rhyolite at base, chloritized pumice fragments, shape irregular, L/W ratio increases with depth ash size crystal fragments, chloritized feldspars 5-10%, quartz, 10-15% less abundant with depth.

Boxes 25 to 30 (133.6 to 164.0m)

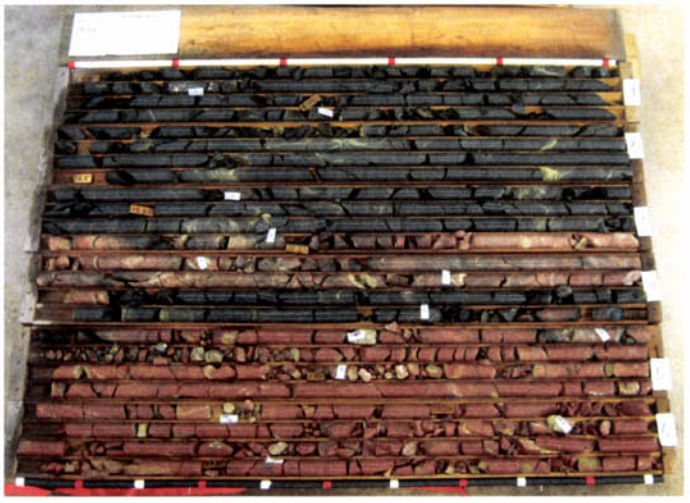
Spherulitic Rhyolite 132.2 to 164m 21.8m
Groundmass whitish to greenish (strongly chloritized), may be locally strongly hematized, spherulites highly abundant only decreasing slightly below 145m may be broken into pieces, show radial concentric or no zonation, colors red, orange, yellowish, white may be locally hematized, chloritized or kaolinized, often nucleated in the crystal and/or lithic fragments, crude bedding of only fragments 1-3cm zones generally devoid of spherulites, beds 1-20cm thick quite consistent orientations, shearing becomes stronger with depth, may be epidotization, chlorite.

164.0m END OF HOLE

DIAMOND DRILL HOLE SL-01

Overburden **0.00 to 2.99m** **2.99m**

Boxes 1 to 6 (2.99 to 34.5 m)



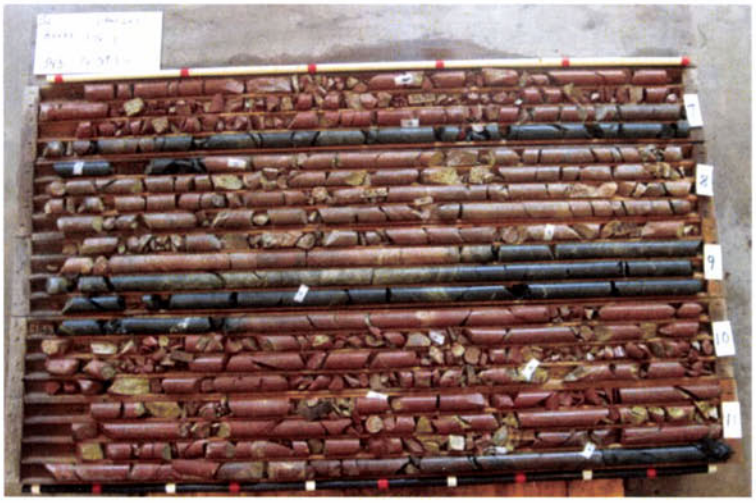
Diorite **2.99 to 18.02m** **15.03m**
Dark green, medium grained becoming fine grained locally. Weakly porphyritic locally, with 1-3 mm light green , euhedral feldspar phenocrysts. Some 1-2 mm, black blebs representing devitrified volcanic glass are found locally. Moderately fractured. Fracturing is epidotized and voids are white carbonate filled. Some localized shears are chloritized.

Rhyolite **18.02 to 22.00m** **3.98m**
Pink to reddish pink, aphanitic to porphyritic. Round, 1-2 mm quartz & euhedral feldspars 1-4 mm feldspar phenocrysts and orange pink, euhedral, 1-4 mm, feldspar phenocrysts are common. Feldspar crystals are epidotized locally. Weak to moderate fracture system are epidote filled.

Diabase **22.15 to 24.16m** **2.00m**
Dark green, fine grained, weakly to moderately chloritized. Fractures are epidote-carbonate filled. Abundant rhyolite xenoliths.

Rhyolite **24.50 to 38.20m** **13.70m**
Strongly porphyritic rhyolite, 30 to 40 % phenocrysts by volume, with crystal penetrated by the matrix. Fracturing, weak to moderate, epidote filled. Cavities along some fractures are epidotized and white carbonate filled. A few local chloritized mafic stringers and clots (e.g. 29.97 m). Obvious darkening of rhyolite to grey pink and brown near mafic intrusives.

Boxes 7 to 11 (34.5 to 59.3 m)



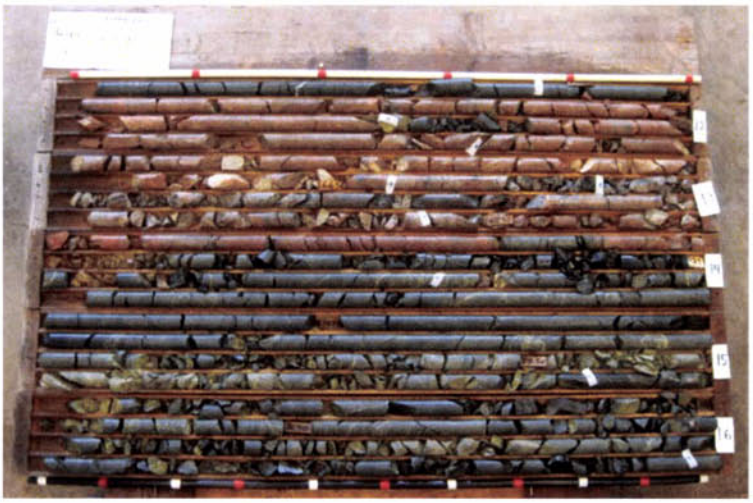
Diabase **38.18 to 39.64m** **1.46m**
Dark green, fine grained, weak to moderate fracturing filled with chloritized and epidote. Unit straddles contact between upper and lower rhyolites.

Rhyolite/Ignimbrite **39.66 to 46.52m** **6.86m**
Pink, aphanitic to porphyritic, rounded quartz phenocrysts. Locally flow banded. Thin laminations are rippled, lensitic and irregular in dip. Moderate fracturing becoming strong and tectonically brecciation locally, (e.g. 42.54 m) Angular to sub angular fragments up to 3 cm are set in a strongly epidotized groundmass. The matrix contains abundant 1-2 mm fragments of rhyolite and quartz phenocrysts of similar size.

Diabase **46.52 to 50.21m** **3.69m**
Dark green, fine grained, strong fracturing with epidote and white carbonate filling. Shear planes strongly chloritized. Rhyolite xenoliths from (46.5 to 47.78) are strongly fractured and epidotized and represent flow banded and porphyritic rhyolite.

Rhyolite Minor Ignimbrite **50.21 to 58.32m** **8.11m**
Pink, aphanitic to porphyritic, quartz phenocrysts 1-2 mm and round white feldspars 1-4 mm. Zones of tectonic brecciation at 50.59, 51.69, 54.28, 62.1-62.81. 4 cm angular fragments in moderately epidotized matrix.

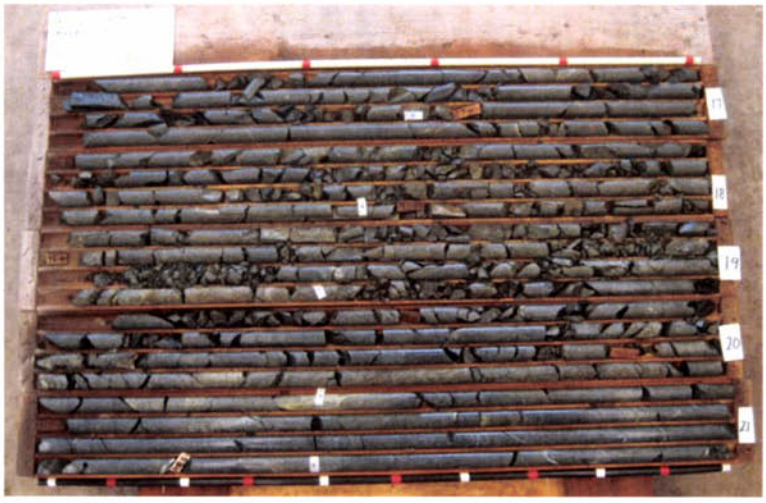
Boxes 12 to 16 (59.3 to 84.5 m)



Rhyolite **58.32 to 66.49m** **8.17m**
Brownish red with narrow diabase stringers flow banded ,below 64.73 m. bands rippled and lensoid. (rhyolite)

Rhyolite/Spherulitic **66.52 to 70.79m** **4.27m**
grey with pink bands, redder and more strongly fractured at depth. Cloudy pink to green zones mottle the core. Aphanitic with 1-3 mm white kaolinized spherulites. Spherulites average 2 cm to 2.5 cm. Porphyritic with quartz and feldspars phenocrysts. Quartz phenocrysts acted as nuclei for feldspar growth.

Boxes 17 to 21 (84.5 to 109.7 m)



Diorite **70.79 to 116.56m** **45.82m**
Dark grey green, fine to medium grained, with pink feldspar phenocrysts. Weak to moderate fracturing with epidote filling up to 5 mm. Minor pyrite and chalcopyrite disseminate on fractures and in blebs up to3 mm. Weak to moderately chloritized. Several sections are porphyritic with 1 to 4 mm feldspar phenocrysts.

Boxes 22 to 26 (109.7 to 136.04 m)

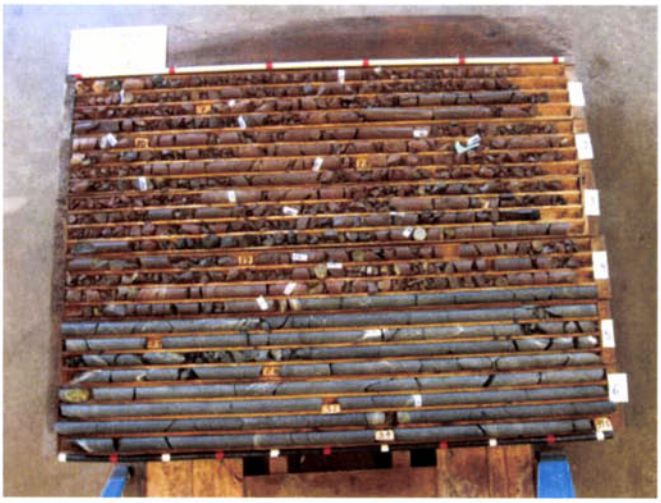
Rhyolite **116.56 to 136.04m** **19.48m**
Pinkish red to red to darker brownish red, aphanitic and strongly porphyritic, 1-2 mm round quartz phenocrysts and 1-4 mm pink euhedral feldspar phenocrysts. Weak to moderate fractures to mylonitic. Vuggy with white carbonate filling open fractures and cavities.

136.04m **END OF HOLE.**

DIAMOND DRILL HOLE SL-02

Overburden **0.00 to 3m** **3m**

Boxes 1 to 6 (3.00 to 34.60m)



Tuff **3.00 to 8.8m** **5.8m**
Reddish brown dark to brick red brown mottling aphanitic

mylonite **8.8m to 9.1m** **0.3m**

Tuff **9.1m to 22.6m** **13.5m**
Reddish brown

Diorite/Diabase **22.6m to 69.8m** **47.2m**
light to moderate grey-green, blacker near contacts
aphanitic to coarse grained

Boxes 7 to 12 (34.60 to 68.90m)

Boxes 13 to 18 (68.9 to 101.70m)

Rhyolite **69.8m to 70.4m** **0.6m**
xenoliths

Diorite/Diabase **70.4m to 71.7m** **1.3m**
light to moderate grey-green, blacker near contacts
aphanitic to coarse grained

Rhyolite **7 1.7m to 71.8m** **0.1m**
xenoliths

Diorite/Diabase **71.8m to 75.2m** **3.4m**
light to moderate grey-green, blacker near contacts
aphanitic to coarse grained

RHYOLITE **75.2m to 92.6m** **17.4m**
light to moderate greenish-grey, light to moderate reddish

DIORITE **92.6m to 107.4m** **14.8m**
moderate to dark green to black
aphanitic to medium grained

Boxes 19 to 24 (101.70 to 134.00m)

Rhyolite 107.4 to 108.7m **1.3m**
light to moderate greenish-grey, also dark red

Diabase 108.7 to 109.2m **0.5m**

Rhyolite 109.2 to 112.8m **3.6m**
light to moderate greenish-grey, also dark red

Mylonite 112.8 to 113.3m **0.5m**
highly altered

Rhyolite 113.3 to 116.4m **3.1m**
light to moderate greenish-grey, also dark red

Boxes 25 to 29 (134.0 to 160.0m)

Diorite/Diabase 116.4m to 160m **43.6m**
light to dark greenish tinge of blue, aphanitic to coarse grained

160m **END OF HOLE**

DIAMOND DRILL HOLE SL-03

Overburden **0.00 to 0.50m** **0.50m**

Lost Core **0.50 to 4.00m** **3.50m**

Ignimbrite **4.00 to 73.90m** **69.10m**
Groundmass light orange to pink . Strongly chloritized, epidotized, or hematized. Grades from non-bedded massive zones to highly pumice fragment rich zones to zones of well developed flow layering, the latter may be very distorted. Lithic fragments and crystal fragments are highly abundant, along with the pumice fragments. Feldspar crystals 1-5 mm, euhedral and anhedral, orange to whitish usually distinct10-20 % may show chloritic centres, kaolinitic rims, local hematization, locally they are strongly rimmed by dark green chloritic rims often producing large dark green clusters **(73.9 to 81.2m, see description below).**

Boxes 1 to 6 (4.0 to 32.7m)

Diabase **30.80 to 31.80m** **1.00m**

Boxes 7 to 12 (32.7 to 64.3m)

Diabase **35.4 to 36.20m** **0.80m**

Diorite **36.8 to 42.60m** **5.80m**
Aphanitic to medium grained, light greenish grey. Abundant epidotization. Bleb may be altered plagioclase. 1-4 mm 10-15% chloritic clots, less than 2 mm local.

Diabase **46 to 46.10m** **0.10m**

Diorite **48.9 to 60.50m** **11.60m**
Light to dark greenish, fine to medium grained, good diabasic texture, weakly porphyritic 1-4 mm euhedral to subhedral feldspars, whitish to light green (sauseritized) chloritic clots very abundant. Shearing low, with minor calcite, epidote.

Mylonite Zone **64 to 64.60m** **0.60m**

Boxes 13 to 17 (64.3 to 92.8 m)

Green Crystal Clusters **73.90 to 81.20m** **7.30m**
Quartz crystals, 1-3 mm, rounded to locally dipyramidal, less than 10%. Lithic fragments often indistinct dark greyish-purple (decreasing rapidly with depth) light grey, massive rhyolitic subangular. 1-3mm fine to medium lapilli sized but most ash size (decreasing in abundance with depth). Highly irregular shapes, good bifurcated edges often, range from uncrushed to moderately flattened, usually less than 2 cm in length X 1-4 mm in width. Degree of flattening variable depth due to structural movements.
Lithophysae and spherulites common.
Massive to radial or concentric growths, whitish to light grey or pink, quite abundant with crystal and/or lithic fragments as nucleation centres.
Often overgrowths of lithophysae max. Include several often earlier, often broken lithophysae and/or spherulites. Shapes are usually subrounded to rounded but abundance causes distortion of the plastic growths.
Locally the spherulites may be extensively chloritized.
Bedding often mashed and/or distorted by secondary growths. Often occur in parallel arrangements along bedding planes.
Size of lithophysae may reach several cm.
Spherulites generally less than 1 cm. Bedding and fiammi locally show good trends and/or secondary flowage.
Green wispy stringers locally common.
Shearing ranges from low to mylonitic with locally extensive alteration.
Silica, epidote, calcite, fluorite veinlets common

Diabase **76.9 to 78.60m** **1.70m**

Altered zone **81.2 to 82.30m** **1.10m**
Kaolin, epidote, calcite, fluorite, hematite.

Mylonite Zone **82.3 to 83.40m** **1.10m**

Diabase **85.4 to 85.50m** **0.10m**

Diorite **86.4 to 89.80m** **3.40m**

Boxes 18 to 22 (92.8 to 121 m)

Diorite	**99.1 to 105.50m**	**6.40m**

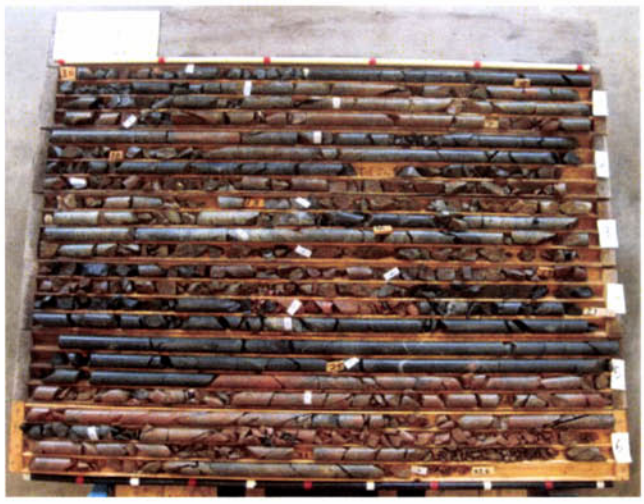
Boxes 23 to 27 (121 to 148.50m)

Diabase	**128.8 to 129.80m**	**1.00m**
Mylonitic	**134 to 135.90m**	**1.90m**
Locally Mylonitic	**141 to 144.50m**	**3.50m**
Ignimbrite	**81.20 to 148.50m**	**67.30m**
148.50	**END OF HOLE**	

DIAMOND DRILL HOLE SL-04

Overburden **0.00 to 3.00m** **3.00m**

Boxes 1 to 6 (3.0 to 32.5m)



Diabase **3.00 to 4.30m** **1.30m**
Dark greyish green aphanitic, fine grained, moderately pervasive chloritization, weak porphyritic, 1-8 mm euhedral to sub-hedral, sauseritized feldspars. Shearing low with calcite (up to 8mm veinlets). Small, less than 1 mm chloritic clots.

Lithic tuff **4.30 to 20.40m** **16.10m**
(Diabase **17.80 to 18.20m** **0.40m)**
Colour varies between light yellowish to light grey, but may be greenish due to strong local chloritization, or reddish (hematization). Groundmass is made up of very fine to moderate ash size lithic or crystal fragments, but there are several large blocky to coarser lapilli size fragments. Bimodally distributed fragments 9 less than 3 mm & near 5 cm) some overlap. Large fragments usually grey tuff . Several blocky fragments of ignimbrite and/or most smaller fragments, pink, red, brown, grey highly angular. Zones may be pyrite, non-, fragment abundance variable.

Diorite **20.40 to 26.00m** **5.60m**
Moderate to dark greenish, aphanitic to fine grained, diabasic texture, abundant (less than 2mm) chloritic clots, non-porphyritic, moderate pervasive chloritization, shearing low to moderate, minor epidote.

Rhyolite **26.00 to 29.70m** **3.70m**
Orange to pinkish ground mass, lithic fragments both white & grey, sub-angular to indistinct 10 to 15 % 1-8 mm several grey chloritized fragments to 12mm, no bedding visible, hematized crystal fragments abundant 1-3 mm feldspar & chloritized relicts of feldspars abundant. Below 29.2m is agglomerate.

Agglomeratic **29.20 to 29.70m** **0.50m**
Agglomerate with green groundmass and lapilli sized round rhyolite fragments. Sharp contact between agglomerate & underlying rhyolite.

Rhyolite **29.70 to 38.30m** **8.60m**
Diabase **38.30 to 38.90m** **0.60m**
Rhyolite **38.90 to 54.30m** **15.40m**

Boxes 7 to 12 (32.5 to 63.6 m)

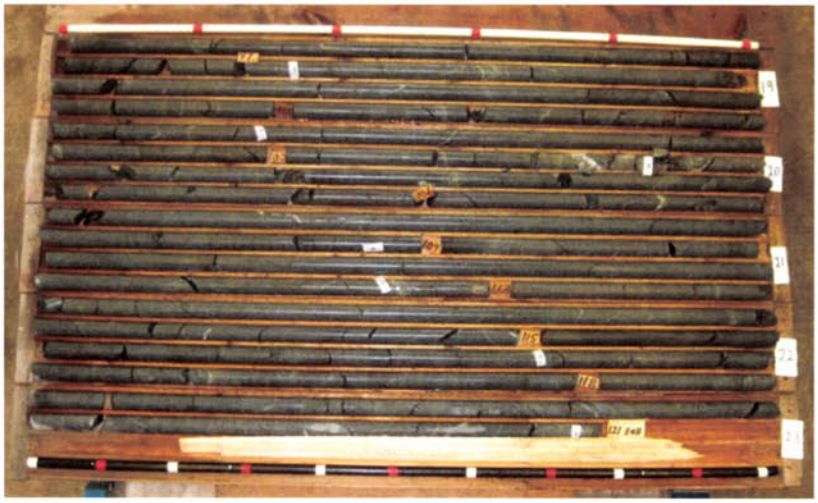
Diabase	**54.30 to 55.40m**	**1.10m**
Rhyolite	**55.40 to 78.60m**	**23.20m**

Boxes 13 to 18 (63.60 to 95.60m)

Diabase	**78.60 to 79.30m**	**0.70m**
Rhyolite	**79.30 to 80.90m**	**1.60m**
Diabase	**80.90 to 81.60m**	**0.70m**
Rhyolite	**81.60 to 87.80m**	**6.20m**

Light to moderate orange, locally hematized to brick-red colour or silicified, feldspar crystals less than 4mm, reddish to orange, becomes more common with depth, often chloritized. Quartz crystals 10-15 %, 1-3 mm, rounded consistent throughout unit. Lithic fragments pervasive, 2 to 15 mm, average 6 mm subangular to subrounded. Often indistinct boundaries, white or grey. May be chloritized.

Boxes 19 to 23 (95.6 to 121.0 m)



Diorite **87.80 to 121.00m** **33.20m**

Light to dark greenish grey colour, aphanitic to medium grained, locally coarse grained, strong alteration to chlorite and sauseritite, well developed diabasic textures, minor hematization at contacts. Locally weakly porphyritic, 1-3 mm slightly sauseritized feldspars, many local chloritic clots, shearing low to nil, minor epidote, calcite.

121.00m **END OF HOLE**

APPENDIX E

XRF Analyzer Specs and Theory

DELTA
Dynamic XRF

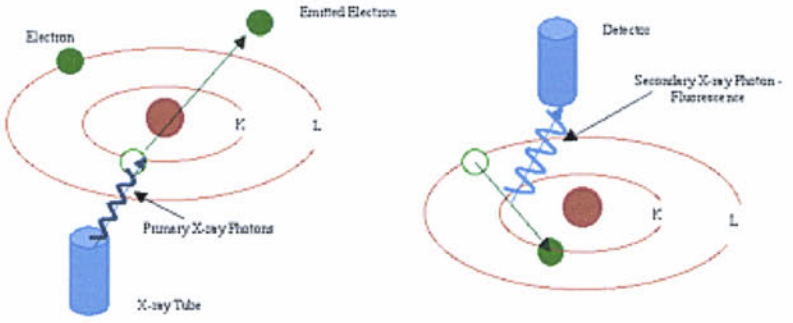
X-Ray Fluorescence (XRF) Spectrometry

BASIC THEORY

Although more popularly known for its diagnostic use in the medical field, the use of x-rays forms the basis of many other powerful measurement techniques, including X-ray Fluorescence (XRF) Spectrometry.

XRF Spectrometry is used to identify elements in a substance and quantify the amount of those elements present to ultimately determine the elemental composition of a material. An element is identified by its characteristic X-ray emission wavelength (λ) or energy (E). The amount of an element present is quantified by measuring the intensity (I) of its characteristic emission.

All atoms have a fixed number of electrons (negatively charged particles) arranged in orbitals around the nucleus. Energy Dispersive (ED) XRF and Wavelength Dispersive (WD) XRF Spectrometry typically utilize activity in the first three electron orbitals, the K, L, and M lines, where K is closest to the nucleus.



In XRF Spectrometry, high-energy primary X-ray photons are emitted from a source (X-ray tube) and strike the sample. The primary photons from the X-ray tube have enough energy to knock electrons out of the innermost, K or L, orbitals. When this occurs, the atoms become ions, which are unstable. An electron from an outer orbital, L or M, will move into the newly vacant space at the inner orbital to regain stability. As the electron from the outer orbital moves into the inner orbital space, it emits an energy known as a secondary X-ray photon. This phenomenon is called fluorescence. The secondary X-ray produced is characteristic of a specific element. The energy (E) of the emitted fluorescent X-ray photon is determined by the difference in energies between the initial and final orbitals of the individual transitions.

This is described by the formula

$$E=hc\lambda^{-1}$$

where h is Planck's constant; c is the velocity of light; and λ is the characteristic wavelength of the photon.

Energies are inversely proportional to the wavelengths; they are characteristic for each element. For example the Kα energy for Iron (Fe) is about 6.4keV. Typical spectra for EDXRF Spectrometry appear as a plot of Energy (E) versus the Intensity (I).

Elemental Analysis

XRF Spectrometry is the choice of many analysts for elemental analysis. XRF Spectrometry easily and quickly identifies and quantifies elements over a wide dynamic concentration range, from PPM levels up to virtually 100% by weight. XRF Spectrometry does not destroy the sample and requires little, if any, sample preparation. It has a very fast overall analysis turnaround time. These factors lead to a significant reduction in the per sample analytical cost when compared to other elemental analysis techniques.

Aqueous elemental analysis instrument techniques typically require destructive and time-consuming specimen preparation, often using concentrated acids or other hazardous materials. Not only is the sample destroyed, waste streams are generated during the analysis process that need to be disposed of, many of which are hazardous. These aqueous elemental analysis techniques often take twenty minutes to several hours for sample preparation and analysis time. All of these factors lead to a relatively high cost per sample. However, if PPB and lower elemental concentrations are the primary measurement need, aqueous instrument elemental analysis techniques are necessary.

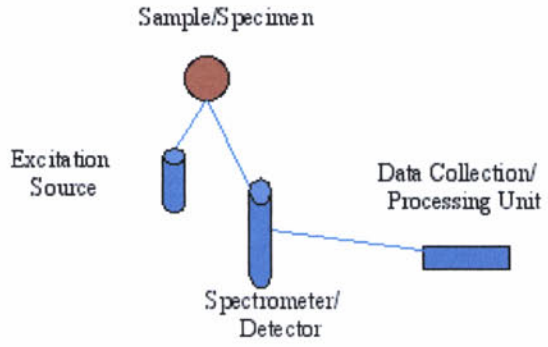
All elemental analysis techniques experience interferences, both chemical and physical in nature, and must be corrected or compensated for in order to achieve adequate analytical results. Most aqueous instrument techniques for elemental analysis suffer from interferences that are corrected for by extensive and complex sample preparation techniques, instrumentation modifications or enhancements, and by mathematical corrections in the system's software. In XRF Spectrometry, the primary interference is from other specific elements in a substance that can influence (matrix effects) the analysis of the element(s) of interest. However, these interferences are well known and documented; and, instrumentation advancements and mathematical corrections in the system's software easily and quickly correct for them. In certain cases, the geometry of the sample can affect XRF analysis, but this is easily compensated for by selecting the optimum sampling area, grinding or polishing the sample, or by pressing a pellet or making glass beads.

Quantitative elemental analysis for XRF Spectrometry is typically performed using Empirical Methods (calibration curves using standards similar in property to the unknown) or Fundamental Parameters (FP). FP is frequently preferred because it allows elemental analysis to be performed without standards or calibration curves. This enables the analyst to use the system immediately, without having to spend additional time setting up individual calibration curves for the various

elements and materials of interest. The capabilities of modern computers allow the use of this no-standard mathematical analysis, FP, accompanied by stored libraries of known materials, to determine not only the elemental composition of an unknown material quickly and easily, but even to identify the unknown material itself.

Spectrometers

Innov-X Systems utilizes the EDXRF Spectrometer technique for its mechanical simplicity and excellent adaptation to portable field use. An EDXRF system typically has three major components: an excitation source, a spectrometer/detector, and a data collection/processing unit. The ease of use, rapid analysis time, lower initial purchase price and substantially lower long-term maintenance costs of EDXRF Spectrometers have led to having more systems in use today worldwide than WDXRF Spectrometer systems. Handheld, field portable EDXRF units can be taken directly to the sample as opposed to bringing the sample to the analyzer and configuring it to fit in an analysis chamber. Innov-X Systems portable, handheld EDXRF units solve real 21 st century application problems: solving crimes, analyzing alloys, exposing pollution, preserving history, searching for WMD's, conserving art treasures, and a myriad of other elemental field-oriented analyses.



The Deltas' Cutting-edge features include:

- Exceptional speed and sample throughput due to state-of-the-art electronics, a floating point processor, and redesigned analytical geometry

- Ruggedized, weather and dustproof industrialized LEXAN housing – no PDA or movable screen – provides superior reliability

- Significant improvement in LODs and light element analysis resulting from the DELTA's unique 4W, 200μA (max) x-ray tube

- Advanced integrated technology including an accelerometer, barometer, true hot-swap battery capabilities, and other innovations
- Icon-driven UI via bright, Blanview ™ color touchscreen
    - brightens in sunlight – easy to read in all environments
- Available with fully integrated camera and X-ray spot collimation
    - crisp accurate sample images that can be archived into memory
    - small spot collimation for focusing the beam to a 3mm diameter spot.

Innov-X has reinvented on-site analysis with the DELTA line; a new breed of handheld XRF. We've redesigned our analyzers from the ground up to create instruments that are both analytically superior AND rugged enough for virtually any environment. The DELTA analyzers feature the very latest in large area silicon drift detector technology, and unique 4W, 200μA (max) x-ray tubes for maximized accuracy and precision.

DELTA analyzers are also fully industrialized tools, and offer unsurpassed testing speed; yielding significantly increased productivity and throughput for operators. Take hundreds more tests per day with the DELTA analyzer. Smart on the inside. Tough on the outside. **No compromises.**

The DELTA line of analyzers feature our signature upgradeability. Customers may purchase a value-leading **Classic** model and upgrade to the analytically best **Premium** model at any time as analytical needs change - all with the same hardware platform and intuitive, friendly user interface.

The Innov-X Handheld XRF for elemental analysis meets EPA Method 6200 for metals in soil, NIOSH Method 7702 for lead in air filters, and OSHA Methods OSSA1 and OSS1 for lead in air filters and dust wipes. The 8 RCRA Metals and Priority Pollutant Metals are easily monitored on-site with the Innov-X Handheld XRF.

The Innov-X Systems Materials Testing & Mining Analyzers include standard hardware and accessories. Capabilities available include Fundamental Parameters, Empirical Analysis, linear or quadratic calibration modes, LEAP for Light Element Analysis, and Single or Multi element analysis capability.

APPENDIX F

Field notes from

Scintillometer survey

with

UTM NAD83 Co-ordinates

Outcrops – see Figure 6b

Boulders – see Figure 6c

Map id#	X	Y	type	CPS	
1	464518	5047651	Outcrop	400	Outcrop on strike oriented 60° az, perpendicular outcrop 120° az in mixed diorite rock
2	464591	5047659	Outcrop	300	Mixed Diorite, Monzogranite, clasts of Qz, large outcrop of REE *lots of fallen trees
3	464624	5047691	Outcrop	600	Monzogranite, Diorite, mixed rock. Large outcrop, lots of vegetative cover poor REE representation.
4	464846	5047853	Outcrop	300	5m South of brook, Diorite with REE rock, large REE representation, many fallen trees medium vegetative cover
5	464894	5047867	Outcrop	300	Diorite, pink to brown good REE representation.
6	464903	5047843	Outcrop	300	Fine grain Diorite, weakly magnetic, steeply graded S, lots of fallen trees.
7	464865	5047682	Outcrop	300	Big Outcrop, measured between WPs good REE representation ~20 m diorite, light colour, ash tuff?
8	464833	5047651	Outcrop	350	Pegmatic dark crystals, Qz nodules abundant, ash tuff?
9	464581	5047628	Outcrop	300	Near Calibration site, diorite, good REE representation. Qz, Ash tuff, Fallen trees. Close to road
10	464742	5047669	Outcrop	350	Diorite, Ash tuff, vegetation overgrown, many fallen trees, weakly magnetic *Boulder nearby reading ~175 CPS
11	464776	5047272	Outcrop	300	Small outcrop, White to Pink to Brown, iron fine grain diorite
12	464818	5047268	Outcrop	400	White to pink to brown Fine grain small outcrop weakly magnetic
13	464902	5047286	Outcrop	400	Light brown to white, very dark nodules
14	464886	5047287	Outcrop	300	Light coloured, ash tuff, pegmatic
15	464780	5047244	Outcrop	300	Dark with patches of Pink and little pegmatite, less ash tuff
16	464919	5047461	Outcrop	200	Outcrop less than 300 cps but point taken for path followed. 3cm dark inclusions, minimal pegmatite, hard and weakly magnetic
17	464963	5047470	Outcrop	300	mostly Diorite, large Qz inclusions (2cm-3cm) Surrounded by boulders, weakly magnetic
18	465092	5047511	Outcrop	300	White ash tuff, pink, minimal Qz nodules, no pegmatite (not easily found)
19	465154	5047545	Outcrop	300	Qz Nodules, Small pegmatite, white ash tuff, boulder nearby ~200 CPS
20	465161	5047772	Outcrop	350	Dark, minimal pegmatite, qz nodules and fine grained.

21	465171	5047777	Outcrop	300	White ash tuff, small pegmatite, good REE representation *maybe connect to last outcrop.
22	464845	5047619	Outcrop	300	Less Pegmatite, pink to gray, some ash tuff
23	465029	5047396	Outcrop	300	White, minimal pegmatite, fine grained, Weathered
24	464705	5047584	Outcrop	350	White with dark nodules, no pegmatite, pink spots. Gray interior * Similar to calibration site
25	464659	5047534	Outcrop	350	Pink to dark gray, white ash tuff, Qz nodules, no pegmatite. *Similar to calibration site
26	464589	5047325	Outcrop	360	Silt on outcrop, dark nodules, small pegmatite crystals, pink sections with Qz nodules *Near boulders from last way pt 5~5m
27	464470	5047350	Outcrop	300	Pink, Qz nodules, pegmatite, slightly darker pink in spots to brown near rhyolite? inside is white/buff *Mostly still covered (only exposed small side)
28	464380	5047280	Outcrop	300	Big pegmatite crystals, Qz nodules, Diorite? Pink inside
29	464105	5047192	Outcrop	350	Pink, white little to no pegmatite, Qz nodules, dark nodules, fine grain, tightly packed.
30	464085	5047173	Outcrop	400	(continued outcrop) Increase in pegmatite, Qz veins and large Qz nodules, dark pink with finels packed grains *Dark thin veins all 400+ CPS
31	464108	5047157	Outcrop	350	Qz veins, ~1-5cm thick pink to gray, pegmatite, Qz nodules, dark nodules *Outcrop for last few way points line brook and contour N-W ->S-E
32	464160	5047090	Outcrop	320	Dark pink, large pegmatite, Qz nodules, coarsening grain size, dark nodules.
33	464165	5047115	Outcrop	350	Qz veins ~1-2 cm thick, dark nodules with pegmatite.
34	464186	5047119	Outcrop	300	Large Qz nodules, pegmatite, pink with green mineral, thin Qz veins ~0.5 cm thick, dark nodules
35	464224	5047131	Outcrop	400	Pink, Dark nodules, Qz nodules, Qz veins, coarsening veins, white ash tuff *Boulders nearby with ~250 CPS
36	464229	5047139	Outcrop	380	Gray, white ash tuff, dark nodules, pink with pegmatite, no veins, Qz nodules
37	464492	5047242	Outcrop	330	Fine grain, multiple Qz vein ~1 cm thick, Qz nodules, dark nodules, pegmatite
38	464503	5047254	Outcrop	305	Pink with dark nodules, Qz nodules, small pegmatite crystals, white ash tuff, weakly magnetic
39	464677	5047328	Outcrop	700	Dark nodules, Qz nodules, pegmatite, pink spots

40	464621	5047397	Outcrop	350	Mixed rock, diorite? Rhyolite? overlayed by silt, dark nodules, Qz nodules, minimal pegmatite *Boulder trail nearby ~15 cm boulders/potential old road
41	464547	5047340	Outcrop	300	Mixed diorite, white with brown to pink, weakly magnetic
42	464174	5047401	Outcrop	300	Pink to red/brown, Qz nodules, dark veins ~1 mm thick, green mineral nodules
43	464425	5047579	Outcrop	350	White with patches of Pink, lots of pegmatite, thin ~1mm veins, Qz nodules.
44	464521	5047722	Outcrop	300	Rhyolite, dark nodules, *Brook cutting through outcrop, weakly magnetic
45	464519	5047723	Outcrop	300	Continued from way pt 575
46	464521	5047738	Outcrop	350	Continued from way pt 576, Qz veins and pegmatite
47	464505	5047726	Outcrop	325	Rhyolite, Qz veins, dark nodules white ash tuff patches
48	464422	5047717	Outcrop	350	Rhyolite, Qz nodules, Qz veins dark inclusions *old road?
49	464409	5047729	Outcrop	350	Rhyolite, dark nodules, Qz nodules
50	464378	5047697	Outcrop	300	Rhyolite, mixed ash tuff, Qz nodules, ~2mm Qz veins
51	464367	5047699	Outcrop	400	*Pre dug hole, no exposed rock. upon further digging, shattered rock assemblage below
52	463465	5047991	Outcrop	375	Pink, Pegmatite, dark ~1 cm veins, fractured, hard, aphanitic.
53	463820	5047022	Outcrop	340	Aphanitic, granite, Qz nodules, minimal pegmatite, pink to brown, no veins *mostly still under moss, patches of white.
54	463909	5047109	Outcrop	300	Aphanitic, dark pink to brown, minimal pegmatite. ~2 cm thick Qz veins,
55	463924	5047123	Outcrop	350	Pink to brown, pegmatite, Qz nodules, slightly coarsening, some small ~1 mm veins
56	463926	5047149	Outcrop	350	Pink with patches of white, dark nodules, Qz nodules
57	463922	5047159	Outcrop	350	Pink to dark brown, ~1 cm Qz veins, *Continued from last way pt
58	463955	5047166	Outcrop	300	Pink, brown, aphanitic, Qz nodules, ~0.5 cm dark veins
59	464065	5047283	Outcrop	320	Pink to light gray, aphanitic, *Massive outcrop, dark nodules, Qz nodules, some pegmatite
60	464046	5047324	Outcrop	300	Pink with dark nodules, Qz nodules, patches of white ash tuff ~1 cm dark veins oriented N-S
61	463928	5047212	Outcrop	320	Pink with dark nodules, pegmatite, Qz veins, Qz nodules
62	463920	5047191	Outcrop	300	Pink with white patches, small pegmatite, dark veins, dark nodules, brown inside.
63	463881	5047164	Outcrop	300	Pink with patches of white, darknodules, dark veins ~2 cm thick, weakly magnetic
64	463660	5047140	Outcrop	320	Dark pink, some pegmatite, white patches, Qz veins ~1 cm thick

65	463859	5047115	Outcrop	300	Dark pink, small pegmatite, patches of white ash tuff, dark nodules, ~2cm dark veins								
66	463865	5047103	Outcrop	300	Dark pink, white ash tuff patches small pegmatite, Qz nodules, dark nodules.								
67	464054	5046897	Outcrop	300	Pink to brown, pegmatite, dark nodules, Qz nodules								
68	464057	5046914	Outcrop	300	Pink to white, pegmatite, Qz nodules								
69	464078	5046936	Outcrop	300	Pink to Brown with Qz nodules, dark nodules, white patches, dark brown to red inside, green minerals								
70	464096	5046963	Outcrop	300	Pink to white, dark nodules, Qz nodules, green mineralization, pegmatite								
71	464102	5047045	Outcrop	300	Pink to white, pegmatite, dark nodules, Qz nodules								
72	464069	5047064	Outcrop	330	Pink to white, Qz nodules, dark nodules, pegmatite, aphanitic								
73	464061	5047051	Outcrop	310	White with patches of Pink, dark veins ~ 1 mm thick, dark nodules, Qz nodules.								
74	464089	5047075	Outcrop	300	Pink patches of white, dark nodules, Qz nodules								
75	464077	5047029	Outcrop	300	Pink to White, dark nodules, white ash tuff, Qz nodules.								
76	464062	5046984	Outcrop	300	White with patches of pink, pegmatite, Dark nodules, Qz nodules								
77	464046	5046969	Outcrop	300	White to pink, dark nodules, Qz nodules, pegmattie *Large boulder S-E (~2m) ~350 CPS, magnetic								
78	463632	5047071	Outcrop	300	Pink with patches of white, pegmatite, Qz nodules.								
79	463638	5047077	Outcrop	300	Pink , white, Qz nodules, some pegmatite, aphanitic								
80	463639	5047087	Outcrop	300	Pink, white, dark nodules, dark ~1 cm veins, pegmatite, aphanitic								
81	463623	5047063	Outcrop	300	Pink , white, pegmatite, Qz nodules, dark nodules								
82	463630	5047028	Outcrop	300	Pink with white, small pegmatite, dark nodules, Qz nodules								
83	463633	5047019	Outcrop	300	White with pink, Qz nodules, some pegmatite, dark nodules *Continued from way pt 615								
84	463615	5047615	Outcrop	300	Pink with patches of white, pegmatite, Qz nodules, pink to gray inside								
85	463662	5047518	Outcrop	330	Pink with white , Qz nodules, dark nodules, pegmatite ~1 cm Qz veins								
86	463682	5047435	Outcrop	300	Pink, patches of white Qz nodules, pegmatite, dark nodules								
87	463777	5047416	Outcrop	300	Pink with patches of white, Qz nodules, dark nodules, pegmatite								
88	463762	5047436	Outcrop	300	Dark Pink, Dark gray, Qz nodules, Dark nodules, ~2 cm Qz veins, Pegmatite								
89	463793	5047378	Outcrop	310	Pink to white, with dark nodules, Qz nodules, Dark gray inside								
90	463818	5047393	Outcrop	320	Dark gray, pink, patches of white, Qz nodules, dark nodules, ~ 1 cm Qz veins, ~1 cm dark veins								

91	463816	5047360	Outcrop	320	Dark pink, white patches, Qz veins ~1 cm thick, Qz nodules, Dark nodules, Pegmatite
92	463794	5047317	Outcrop	350	Dark pink to brown dark nodules, Qz nodules, ~ 1 cm Qz veins
93	463636	5047223	Outcrop	350	Dark pink , patches of white, Qz nodules, dark nodules.
94	463915	5047822	Outcrop	330	Pink with patches of white, Qz nodules, Dark nodules
95	463904	5047824	Outcrop	550	Pink with white patches, Qz nodules, Dark nodules
96	463862	5047844	Outcrop	330	Pink with patches of white, Qz nodules, Dark nodules, Ash tuff
97	463851	5047854	Outcrop	330	Pink with patches of white, Qz nodules, dark nodules, pegmatite
98	463832	5047870	Outcrop	330	Pink with white patches, dark nodules, Qz nodules
99	463839	5047887	Outcrop	300	Pink with Qz nodules, dark nodules ~ 1 mm Qz veins
100	463891	5048280	Outcrop	330	White with patches of pink, dark nodules, ~ 1 mm dark veins, Qz nodules.
101	463879	5048313	Outcrop	330	Pink with patches of white, dark nodules, Qz nodules
102	463911	5048325	Outcrop	350	Pink with dark brown patches, dark nodules, Qz nodules
103	463356	5048445	Outcrop	340	Pink with white, pegmatite, aphanitic, dark nodules, Qz nodules,
104	464556	5047911	Outcrop	450	Pink with patches of white, ~ 1 mm dark veins, Dark nodules, Qz nodules
105	464612	5047956	Outcrop	390	Pink with patches of white, dark nodules, Qz nodules *Off old road
106	464829	5048365	Outcrop	300	Pink to brown, pegmatite, Aphanitic, Qz nodules, dark nodules, *Near East shore of Debert lake
107	464695	5048084	Outcrop	340	Pink with patches of white, pegmatite, Aphanitic, Qz nodules, Dark nodules,
108	464622	5048080	Outcrop	300	Pink with patches of white, pegmatite, Qz nodules, ~ 1 mm to ~ 5 mm thick veins of Qz, aphanitic
109	464554	5048022	Outcrop	310	Pink to white pegmatite, Qz nodules, Dark nodules, ~ 1 m Qz veins
110	464767	5047225	Outcrop	330	White with patches of brown and dark pink, dark nodules, aphanitic
111	464719	5047184	Outcrop	320	Pink to brown, aphanitic Qz nodules, pegmatite
112	464688	5047173	Outcrop	350	Pink to gray, pegmatite, Qz nodules, aphanitic, ~ 1 cm thick Qz vein, *Massive boulder to east (~ 1 m)
113	464639	5047115	Outcrop	550	Pink to brown with patches of white, Qz nodules, dark nodules, pegmatite, Gray inclusions... Qz?
114	464608	5047152	Outcrop	340	Pink to gray, pegmatite, aphanitic, Qz nodules, dark nodules ~ 1 cm dark veins
115	464551	5047142	Outcrop	320	Aphanitic, ~ 1 mm dark veins, dark nodules, Qz nodules, Pegmatite *On old road
116	464560	5047191	Outcrop	310	Pink to gray, aphanitic, Qz nodules, dark nodules

117	464505	5047100	Outcrop	310	Pink to gray, aphanitic, Qz nodules, dark nodules, ~ 1 mm Qz vein, pegmatite
118	464520	5047073	Outcrop	350	Pink to gray, aphanitici, dark nodules, Qz nodules, ~ 5 cm Qz veins *Continued outcrop?
119	464572	5047033	Outcrop	330	Pink to gray, pegmatite, aphanitic, dark nodules, Qz nodules
120	464622	5047040	Outcrop	345	Pink to white, pegmatite, dark nodules, ~ 1 mm dark veins, Qz nodules
121	464774	5047092	Outcrop	320	Pink with patches of white, pegmatite, dark nodules, Qz nodules, ~ 10 mm Qz veins, dark veins @ ~ 5 mm thickness
122	464433	5046936	Outcrop	375	White to gray, Qz nodules, patches of dark pink, dark gray nodules, pegmatite
123	464431	5046921	Outcrop	350	White ash tuf, with pink patches, pegmatite, Qz nodules, dark nodules ~ 1 mm dark veins
124	464428	5046810	Outcrop	375	Dark pink, pegmatite, aphanitic, Qz nodules, Dark nodules ~ 1 mm dark veins.
125	464402	5046784	Outcrop	300	Pink to brown, with pegmatite, Dark nodules, ~ 1 mm dark veins, Qz nodules.
126	464472	5046756	Outcrop	440	Pink to brown with patches of white, pegmatite, Qz nodules, dark nodules, ~ 1 mm dark veins
127	464480	5046743	Outcrop	350	Pink with patches of white, pegmatite, aphanitic, dark nodules, Qz nodules, ~ 1 mm dark veins
128	464527	5046741	Outcrop	300	Pink to brown, pegmatite, aphanitic, dark nodules, Qz nodules, ~ 1mm dark veins
129	464525	5046759	Outcrop	300	White with patches of pink, pegmatite, Qz nodules, Dark nodules
130	464510	5046767	Outcrop	350	Pink to brown, dark noduels, Qz nodules, *Lots of outcrop ridges nearby
131	464491	5046777	Outcrop	310	Pink to white with patches of gray, pegmatite, dark nodules, Qz nodules
132	464473	5046824	Outcrop	350	Pink with patches of white, Qz nodules, Dark nodules, Pegmatite
133	464476	5046842	Outcrop	300	Gray to pink with patches of white, aphanitic, dark nodules, Qz nodules, pegmatite
134	464475	5046869	Outcrop	340	White to gray, with patches of pink, lots of pegmatite, dark pink patches, Qz nodules, Dark nodules
135	464464	5046912	Outcrop	500	White with patches of pink, pegmatite, Qz nodules, Dark nodules, ~ 1 mm dark veins
136	464513	5046875	Outcrop	300	Gray to white, with patches of pink, pegmatite, Qz nodules, Dark nodules, ~ 2 mm dark veins
137	464543	5046882	Outcrop	500	White to gray, pink patches, Qz nodules, Dark nodules,
138	464523	5046918	Outcrop	600	Gray to white, pegmatite, pink patches, ~ 1 mm dark veins, Qz nodules, Dark nodules

139	464435	5047033	Outcrop	300	Pink with dark nodules, Qz nodules, pegmatite, ~ 1 mm dark veins									
140	464424	5047061	Outcrop	400	White with patches of pink, pegmatite, ~1 mm dark veins, Qz nodules, dark nodules									
141	464418	5047114	Outcrop	350	Dark pink, pegmattie, dark nodules, Qz nodules ~ 1 mm dark veins									
142	464299	5047012	Outcrop	400	Dark pink, pegmatite, dark ~ 1 mm veins, Qz nodules									
143	464313	5047041	Outcrop	320	Gray, pegmatite, dark nodules, Qz nodules, ~ 1 mm dark veins									
144	464251	5046979	Outcrop	320	Dark pink to pink, pegmatite, Qz nodules, dark nodules, lots of ~5 mm dark veins									
145	464509	5047649	Outcrop	800	Fine grain igneous host rock with epidote, Qz nodules, ~ 2.5 cm veins									
146	464687	5046811	Outcrop	333	Pink to white with patches of Gray, Qz nodules, dark nodules, ~ 3 cm dark veins									
147	464669	5046787	Outcrop	300	White with patches of pink, dark nodules, Qz nodules.									
148	464652	5046799	Outcrop	300	White with patches of pink, pegmatite, Qz nodules, dark nodules									
149	464671	5046815	Outcrop	350	Dark pink to gray, aphanitic, pegmatite, Qz nodules, dark nodules									
150	464671	5046830	Outcrop	650	Dark gray nodules, Qz nodules, ~ 2 cm dark pink vein, white patches									
151	464648	5046892	Outcrop	300	Gray to pink with Qz nodules, dark nodules ~ 1 cm thick dark pink veins									
152	464659	5046925	Outcrop	400	Pink with Qz nodules, pegmatite, aphanitic, dark nodules									
153	464768	5047015	Outcrop	300	Gray with patches of dark pink, pegmatite, dark nodules, Qz nodules, ~ 2 cm dark veins									
154	464315	5048329	Outcrop	300	Gray with patches of dark pink, Qz nodules, dark nodules.									
155	464336	5048359	Outcrop	300	Pink to gray with dark nodules, Qz nodules, aphanitic									
156	464350	5048373	Outcrop	330	Pink to brown with patches of white, dark nodules, Qz nodules									
157	464529	5048373	Outcrop	410	Pink to dark pink, patches of brown, pegmatite, Qz nodules									
158	464561	5048343	Outcrop	390	Outcrop continued from WP 736									
159	464713	5048402	Outcrop	450	Pink with patches of gray, Qz nodules, dark nodules ~ 2 cm dark brown veins									
160	464663	5048581	Outcrop	440	Pink with patches of white, dark nodules, Qz nodules, ~ 1 mm dark veins									
161	464591	5048193	Outcrop	650	Pink to brown, ~ 2 cm dark vins, dark nodules, Qz nodules									
162	464555	5048159	Outcrop	330	Pink to brown, dark nodules, Qz nodules, aphanitic, patches of gray and white									
163	464462	5048088	Outcrop	300	Pink to brown, patches of white, dark nodules, Qz nodules									
164	464143	5048588	Outcrop	530	Red to brown, patches of white, dark nodules									
165	464489	5048446	Outcrop	350	White to pink with patches of brown, dark nodules									
166	464232	5048406	Outcrop	300	White with dark nodules, and patches of brown, pink patches									
167	463829	5048182	Outcrop	1010	Pink to brown with dark nodules, Qz nodules									

Map ID#	X	Y	Type	total CPS	
1	464686	5047765	Boulder	300	Green Fine grained "20 ft" southside of brook *Surrounded by diorite reading ~150 CPS, small REE representation
2	464721	5047784	boulder	300	Series of Boulders along sides of brook. Fine grained pegmatic, brown, Qz nodules.
3	464754	5047821	Boulder	200	Pegmatic, Medium REE representation, weakly magnetic
4	464768	5047855	Boulder	300	Boulders lining brook, (S- side) 1/2 m to 2 m in diameter, from in brook to 5 m south, mild vegetative cover, fine grained, pegmatic boulders.
5	464916	5047798	Boulder	300	Light colour, fine grained range from 1m to 2 m diameter, found in various locations between WPs
6	464721	5047683	Boulder	320	Pegmatic Crystals, Qz, White ash Tuff, Good REE representation. *Surrounded by area of ~200 cps
7	464835	5047262	Boulder	350	Hornblende nodules, Qz, Monzogranite.
8	464853	5047273	Boulder	350	Hornblende nodules, Qz, Monzogranite.
9	464873	5047307	Boulder	300	Boulder, diorite, pink to white between fallen trees.
10	464875	5047346	Boulder	300	Dark Pink to Brown, ash tuff, Qz nodules
11	464860	5047337	Boulder	300	Dark Pink to Brown, ash tuff, Qz nodules Hornblende? Trees Growing between boulders
12	464863	5047363	Boulder	325	Ash tuff,approx 1.5 m diam. young trees surrounding boulder covered with moss
13	464863	5047372	Boulder	300	Ash Tuff, Qz, small Hornblende
14	464852	5047379	Boulder	300	Pegmatite, Diorite, White, Pink
15	464854	5047382	Boulder	300	White, Pegmatic crystals, surrounded by young trees, boulder covered in moss
16	464823	5047394	Boulder	300	Fine Grain Pink to White Qz, nodules, dark inclusions
17	464834	5047409	Boulder	350	Qz nodules White to Pink pegmatite
18	464839	5047449	Boulder	300	White, Ash Tuff, Pink colour.
19	464824	5047468	Boulder	350	1m diameter, pink, pegmatite and white ash tuff
20	464830	5047474	Boulder	325	2 m diam. Rock, Pink Pegmatite, surrounded by thick bush
21	464839	5047482	Boulder	325	Pegmatic crystals, white ash tuff, pink colour
22	464848	5047511	Boulder	300	Weakly Magnetic, Pegmatic crystals, white ash tuff and pink colour
23	464832	5047535	Boulder	325	Pegmatite, Diorite, White, Pink

24	464825	5047550	Boulder	300	Pegmatite, Diorite, White, Pink
25	464802	5047576	Boulder	325	Pair of boulders, Pink Fine grained, 3m diameter
26	464694	5047563	Boulder	320	Pegmatic crystals, white ash tuff, pink colour
27	464790	5047245	Boulder	300	Pink Pegmatite but with a dark colour, fine grained
28	464854	5047224	Boulder	320	~2m boulder diam. lots of pegmatite
29	464841	5047215	Boulder	600	Pink and White with nodules *Boulders surrounding in radius of 3 m with CPS @ ~350-600
30	464850	5047209	Boulder	400	Series of Boulders with less nodules lighter colour more white tuff, magnetism varied and pegmatite count was average. Boulder trail?
31	464848	5047196	Boulder	350	
32	464838	5047182	Boulder	300	
33	464842	5047175	Boulder	450	
34	464836	5047168	Boulder	500	
35	464867	5047151	Boulder	600	
36	464838	5047145	Boulder	350	
37	464847	5047129	Boulder	400	
38	464698	5047536	Boulder	300	Dark, some pegmatite, pink to dark brown, dark nodules. some Qz nodules.
39	464732	5047533	Boulder	300	Pink, Pegmatite, Qz Nodules, Weak magnetism 1m diam. ~1/2 uncovered
40	464855	5047485	Boulder	330	Pink to brown, pegmatite, ash tuff white, moss covered. Weakly magnetic
41	464941	5047461	Boulder	300	Qz nodules, dark brown, pink and pegmatite. At least 4 boulders ranging from 1m to 2 m diam. in 3 m radius.
42	465144	5047779	Boulder	300	White ash tuff, Qz nodules, small amount of pegmatite
43	464909	5047659	Boulder	300	White ash Tuff, grey inside, Qz nodules and pink with Pegmatite
44	464888	5047637	Boulder	300	Lots of pegmattie, White ash tuff, gra inside, not much pink. *Near basalt outcrop.
45	464878	5047633	Boulder	300	Qz nodules, Less ash tuff, more pink, some pegmatite.
46	464855	5047629	Boulder	300	Series of Boulders begins and goes to WP 503, Pink, with pegmatite and QZ nodules, gray inside.
47	464849	5047626	Boulder	400	
48	464802	5047594	Boulder	400	Pegmatite, White ash tuff, Not very pink more white.
49	464696	5047598	Boulder	300	Pair of boulders, white ash tuff not very pink with pegmatite. * Near outcrop ~180 CPS with Basalt outcrop to West
50	464689	5047546	Boulder	300	3m diameter boulder, white ash tuff, no pink, some pegmatite.

51	464772	5047418	Boulder	315	White ash Tuff, good pegmatite formation, white to gray, no pink. 1/2 uncovered
52	464788	5047404	Boulder	300	Pair of boulders, ~1m diam. Dark grey nodules, Qz nodules, Pink to white matrix
53	464801	5047413	Boulder	340	Pink with white ash tuff dark gray nodules, pegmatite
54	464820	5047406	Boulder	310	Field of Boudlers pink with pegmatite, dark nodules and Qz nodules. size range ~1m to ~2m
55	464848	5047397	Boulder	340	Under stump, dark pink big pegmatitte, no Qz nodules
56	464859	5047393	Boulder	350	Qz nodules, Pink, good pegmatite, gray to white matrix
57	464882	5047396	Boulder	400	White matrix with pegmatite, Qz nodules ~2m diam.
58	464905	5047411	Boulder	300	Dark pink, good pegmatite concentration, Qz nodules, dark inclusions.
59	464985	5047390	Boulder	330	Pink, abundant large pegmatite, qz nodules
60	464980	5047294	Boulder	300	Weakly magnetic, Qz nodules, pegmatite, pink and white ash tuff.
61	464988	5047268	Boulder	300	1/2 well mineralized, white ash tuff, minimal pegmatite representation. Weakly magnetic
62	464971	5047114	Boulder	350	Dark nodules, pink to white, ash tuff, good pegmatite formations. Fine grain, Qz Nodules
63	464958	5047136	Boulder	300	Lots of pegmatite, pink with dark nodules *Boulder series
64	464974	5047116	Boulder	315	Lots of Pegmatite, Pink with white ash tuff
65	464964	5047076	Boulder	300	Boulders in a radius of 5 m white, pink. lots of pegmatite granodiorite? Dark veins of 1cm diam.
66	464915	5047045	Boulder	300	Less pegmatite, bigger boulders, white to pink
67	464911	5046957	Boulder	300	Dark Nodules, Pink to white Qz Nodules
68	465427	5046712	Boulder	1900	Dark red to black, well mineralized
69	464701	5047477	Boulder	350	Pink to white, good pegmatite formation, dark nodules, ~2m diam, approx 4 boulders near ~250 CPS outcrop
70	464719	5047475	Boulder	400	Dark nodules, large pegmatite, Qz nodules, white ash tuff
71	464735	5047481	Boulder	300	~2m diam, dark nodules, pegmatite crystals in abundance.
72	464768	5047472	Boulder	300	White with good pegmatite formations, no pink, dark gray nodules
73	464768	5047462	Boulder	300	Pink to white, small pegmatite crystals, near boulders with ~250 CPS
74	464801	5047449	Boulder	500	Fine Grain, pink to gray, pegmatite and dark nodules, Qz nodules, near boulder with 300 CPS
75	464793	5047466	Boulder	300	Dark pink, dark nodules, Qz nodules, lots of small pegmatite crystals
76	464782	5047468	Boulder	300	Pink to White, dark nodules, Qz nodules, weakly magnetic
77	464822	5047470	Boulder	350	Dark Pink, dark nodules, Qz nodules, lots of small pegmatite

78	464827	5047473	Boulder	440	Well developed pegmatite, white ash tuff, Qz nodules, dark nodules, brown, pink inside
79	464853	5047475	Boulder	300	Pink to dark pink, pegmatite crystals, ~1 m diam.
80	464910	5047514	Boulder	520	Pink, small pegmatite, white ash tuff.
81	464929	5047513	Boulder	300	Well developed pegmatite, pink to gray with Qz nodules
82	464992	5047554	Boulder	350	Pink to white, covered in mass, small pegmatite, Qz nodules, weakly magnetic Coarser Grained?
83	464984	5047550	Boulder	300	~2m diam, white to pink, dark nodules, pegmatite, Qz nodules
84	464955	5047541	Boulder	300	White ash tuff, slight pink, less pegmatite. *Beside Basalt outcrop. Fine grain with Qz nodules.
85	464923	5047532	Boulder	300	Pink, Pegmatite, Qz nodules, Dark Nodules
86	464822	5047547	Boulder	350	Underground boulder/outcrop *uncovered 5cm of soil found small boulder 15 cm diam ~350 CPS, white ash tuff, pegmatite.
87	464772	5047638	Boulder	300	White, not much pegmatite, white ash tuff. Near very big dead tree
88	464693	5047504	Boulder	350	White, pink with pegmatite, brown to gray interior, weakly magnetic, *near road.
89	464647	5047370	Boulder	330	Abundant Pegmatite, pink/gray with White ash tuff, *Boulder ~90%covered with vegetation and Roots, surrounded by boulders ~250 CPS
90	464592	5047331	Boulder	300	Dark nodules, Pink with ~1 cm Qz veins, Qz nodules, *Earth surrounding ~250 CPS, Near Basalt outcrop *"holes" puddles all around
91	464463	5047176	Boulder	300	Qz nodules, Dark nodules, pegmatite, ~1m diam. *3 boulders 1 @ 300 CPS 2 @200 CPS
92	464480	5047205	Boulder	310	Lots of dark nodules, Qz nodules, lots of small pegmatite crystals, link pink to brown, weakly magnetic.
93	464701	5047340	Boulder	350	Lots of pegmatite, dark nodules, Qz nodules, ~2m diam, white ash tuff to pink
94	464699	5047418	Boulder	350	Pegmatite in white ash tuff with patches of pink and dark nodules.
95	464686	5047446	Boulder	350	White with patches of pink, Qz nodules, pegmatite, dark nodules 8Near road ad outcrop of mixed rock with ~250 CPS
96	464655	5047416	Boulder	300	Pegmatite, white with pink spots, dark nodules, Qz nodules *on outcrop of mix "contact" rock, diorite?
97	464573	5047373	Boulder	350	Pink to red brow, Qz nodules, Green minerals, pegatite crystals

98	464046	5046851	Boulder	330	Gray to pink Qz nodules, pegmatite, dark nodules, brown inside, coarse grain ~1 m diam. boulder
99	464055	5046940	Boulder	300	Dark pink, with patches of white, Qz nodules, dark nodules, Qz veins ~5 cm thick
100	463884	5048262	Boulder	750	Pink to brown, patches of white, dark nodules, Qz nodules, ~ 1 cm dark veins
101	463033	5048445	Boulder	320	Pink with patches of white, small amount of pegmatite
102	463487	5048354	Boulder	450	Pink with patches of white, dark nodules, Qz nodules ~ 1 mm thick Qz veins
103	463599	5048136	Boulder	300	Pink to gray aphanitic, dark nodules, Qz nodules, some pegmatite
104	464566	5047929	Boulder	400	Pink to white, dark ~ 1 mm veins, Qz nodules, Aphanitic, dark brown inside
105	464709	5048051	Boulder	320	Pink with patches of white, Qz nodules, Dark nodules, pegmatite
106	464740	5048083	Boulder	330	Pink with patches of white, pegmatite, Qz nodules, dark nodules
107	464753	5048110	Boulder	350	White with patches of pink, Qz nodules, pegmatite, coarse grained
108	464886	5048217	Boulder	330	White and pink, dark nodules, Qz nodules, pegmatite, weakly magnetic
109	464795	5048328	Boulder	310	Pink with lots of Qz nodules, Coarse grained, pegmatite, dark pink patches to brown *Weakly magnetic
110	464766	5048280	Boulder	300	Pink with dark nodules, patches of white.
111	464673	5048111	Boulder	1400	Red to brown, dark nodules, pegmatite, Qz nodules, aphanitic *weakly magnetic
112	464584	5048051	Boulder	370	Pink, dark nodules *Under lots of fallen trees, hard to get proper description
113	464374	5048146	Boulder	320	Pink with patches of black nodules, aphanitic
114	464284	5048196	Boulder	330	White with patches of pink, Dark nodules, *Very jagged, ~ 1 mm dark veins
115	464731	5047199	Boulder	300	White to pink, coarse grained with pegmatite, Large Qz grains
116	464667	5047154	Boulder	300	Pink to white, pegmatite, coarse grained, Qz nodules, dark nodules *Very jagged, close to point source *Digging around boulders, ground... bedrock? ~400 cps, magnetic
117	464663	5047136	Boulder	400	White to pink, pegmatite, coarse grained, dark nodules, Qz nodules
118	464618	5047139	Boulder	600	Pink to brown, white patches very big ~ 5 m diam. Very jagged... Outcrop? Pegmatite, Qz nodules, dark nodules
119	464536	5047051	Boulder	350	Pink to gray, pegmattie, dark nodules, Qz nodules *Massive boulder ~ 3 m diam.
120	464549	5047019	Boulder	400	Pink to gray, Qz nodules, pegmatite, ~ 1 mm veins, aphanitic, dark nodules
121	464652	5047051	Boulder	400	Gray with patches of pink, pegmatite, coarse grain *Massive jagged boulder
122	464713	5047060	Boulder	350	white to brown, patches of pink, Pegmatite, dark nodules, Qz odules, ~ 1 mm dark veins * Weakly magnetic

123	464237	5047153	Boulder	350	Pink to gray, aphanitic, Pegmatite, Dark nodules, Qz nodules
124	464407	5046936	Boulder	360	Pink to gray, white patches, dark nodules, Qz nodules, aphanitic.
125	464426	5046843	Boulder	320	Dark pink withp atches of white, pegmatite, dark nodules, Qz nodules
126	464440	5047032	Boulder	300	Gray with patches of pink, pegmatite, aphanitic
127	464766	5046864	Boulder	300	Dark gray, with patches of white and pink, Qz nodules
128	464697	5046810	Boulder	300	Gray with patches of white and pink, Qz nodules, dark nodules
129	464671	5046802	Boulder	300	Pink with patches of white, dark nodules, Qz nodules ~ 3 cm dark vein * similar to Outcrop @ WP720
130	464645	5046868	Boulder	350	White with patches of gray and pink, Qz nodules, pegmatite, dark nodules
131	464694	5046972	Boulder	400	Pink with patches of white, dark nodules Qz nodules
132	464463	5048369	Boulder	340	Pink to brown, white patches, Q nodules, dark nodules
133	464468	5048366	Boulder	430	Pink with patches of brown, dark nodules, Qz nodules
134	464577	5048364	Boulder	330	Pink with patches of white, dark nodules, Qz nodules,
135	464453	5048416	Boulder	300	White to pink with dark patches of brown, dark nodules
136	464265	5048400	Boulder	320	Pink to brown, Quartzite? dark nodules *Outcrop beneath? Boulders are jagged and large
137	464376	5049127	Boulder	300	Gray to brown with patches of red, dark nodules, Qs nodules
138	463985	5049162	Boulder	300	Gray to pink with patches of white, dark nodules, well mineralized
139	463942	5049073	Boulder	620	Dark gray to red, aphanitic, dark nodules
140	463905	5048944	Boulder	300	Dark gray, patches of dark pink, aphanitic
141	464912	5047043	Boulder	410	White to gray, patches of pink, fine to medium grain with sections of coarse grain, Qz phenocrysts, feldspar, hornblende
142	464937	5047066	Boulder	330	Pink to white, patches of light gray, medium to coarse grain, Qz, feldspar, hornblende
143	464944	5047087	Boulder	310	White to gray with patches of pink, medium to coarse grain, Qz, hornblende, feldspar * Weakly magnetic
144	464982	5047111	Boulder	430	White to gray, patches of pink, medium to coarse grain, Qz, hornblende, feldspar
145	465069	5047091	Boulder	300	Pink to white with patches of dark gray, fine to medium grain, Qz, feldspar, hornblende
146	465101	5047107	Boulder	500	White to pink with patches of gray, medium grained, Qz fragments, ~ 1 cm, feldspar, hornblende *Strongly magnetic
147	465248	5047105	Boulder	375	Pink to white, Qz fragments, fine to medim grain, hornblende *Strongly magnetic

148	465278	5047113	Boulder	620	Pink to white with patches of dark gray, fine grained Qz fragments, feldspar *Strongly magnetic
149	465438	5047179	Boulder	300	Pink to white, fine rained, feldspar
150	465545	5047134	Boulder	300	White to gray with patches of pink, fine grained, Qz feldspar, hornblende
151	465221	5046841	Boulder	330	White to gray with patches of pink, medium to coarse grain, Qz fragments, ~ 1 cm
152	465108	5046869	Boulder	300	Pink to gray, medium to coarse grained, Qz fragments, upto 0.5 cm feldspar, hornblende
153	464947	5046972	Boulder	310	White to gray, fine to medium grain, Qz fragments, feldspar, hornblende
154	464885	5046991	Boulder	315	Pink to gray with patches of white, fine to medium grained, Qz fragments, feldspar, hornblende
155	464928	5048068	Boulder	330	Pink to dark gray, iron, Qz fragments upto ~ 1 cm fine grain
156	465037	5047970	Boulder	330	Pink to white, Qz fragments upto 0.5 cm, feldspar, fine to medium grain *Highly fractured,
157	464887	5047586	Boulder	300	Gray to pink, patches of white, fine to medium grain, Qz fragments, Feldspar, hornblende
158	464796	5047543	Boulder	375	Dark pink aphanitic, feldspar, Qz Hornblende

NOVA SCOTIA
Natural Resources

Map 11E 11B
Refs.

Form 10 - Statement of Assessment Work Expenditure
(pursuant to the *Mineral Resources Act*, S.N.S. 1990, c. 18, s. 43(1))

(Complete as necessary to substantiate the total claimed.)
Re: Licence No. 06285 Date of issue SEPT 16, 2005

	Type of Work		Amount Spent
1.	Prospecting	20 days	10,000
2.	Geological mapping	2.5 days	3,600
3.	Trenching/stripping/refilling	____ m^2 / ____ m^3	
4.	~~Assaying & whole rock analysis~~ 2 SCINTILLOMETER RENTAL	____ #	2400
5.	~~Other laboratory~~ XRF RENTAL $2700	____ #	2700
6.	Grid:		
	(a) Line cutting	____ km	
	(b) Picket setting	____ km	
	(c) Flagging	____ km	
7.	Geophysical surveys		
	Airborne:		
	(a) EM/VLF	____ km	
	(b) Mag or Grad	____ km	
	(c) Radiometric	____ km	
	(d) Combination	____ km	
	(e) Other ____	____ km	
8.	Geophysical surveys		
	Ground:		
	(a) EM/VLF	____ km	
	(b) Seismic soundings	____ #	
	(c) Magnetic/telluric	____ km	
	(d) IP/resistivity	____ km	
	(e) Gravity	____ km	
	(f) Other RADIO METRICS 20 DAYS	100 km	30,000
9.	Geochemical surveys		
	(a) Lake, stream, spring		
	(i) Water	____ samples	
	(ii) Sediments	____ samples	
	(b) (i) Rock	____ samples	
	(ii) Core	7 samples	510
	(iii) Chips	____ samples	
	(c) (i) Soil	____ samples	
	(ii) Overburden	____ samples	
	(d) Gas	____ samples	
	(e) Biogeochemistry	____ samples	
	(f) Sample collection	____ days	
	(g) Other ____		
10.	Drilling:		
	(a) Diamond (# holes/m)	____ / ____ m	
	(b) Percussion (# holes/m)	____ / ____ m	
	(c) Rotary (# holes/m)	____ / ____ m	
	(d) Auger (# holes/m)	____ / ____ m	
	(e) Reverse circulation (# holes/m)	____ / ____ m	
	(f) RE- Logging, supervision, etc. + XRF + SAMPLE	12 days	6,000
	(g) Sealing (# holes)	____ #	
11.	Other (describe) MILEAGE 2518 KMS @ 49¢ = 1233·82 MOTEL 1260 MEALS 2360 (5 MEN) WAGES 28,340)	1233·82 1260·00 2360·00	4853·82
	Subtotal	4,853·82	60,063·82
Overhead costs	10% OVERHEAD	6006·38	6 006·38
12.	Secretarial services		
13.	Drafting services		
14.	Office expenses (rent, heat, light, etc.)		
15.	Field supplies		
16.	Compensation paid to landowners		
17.	Legal fees		
18.	Other (describe)		
	Subtotal		
	Grand total		66,070·20

DNRMPT NOV 16'10 10:01

List the names of the persons who conducted the work reported in the previous table and the dates during which the work was performed.

Name	Address	Dates Worked
DENIS WALSH P.GEO	PARADISE, NL 3 WEEKS THIS LICENSE	JUNE 1 – SEPT 12, 2010 ~~4~~ 3 WEEKS (3 WEEKS)
ALEX MACKAY BSC GEO	NEW GLASGOW, NS 1.8 WEEKS THIS LICENSE	JULY 15 – SEPT 12, 2000 8 WEEKS (1.8 WEEKS)
ALEX DEBAY PROSPECTOR	DARTMOUTH, NS 4 WEEKS THIS LICENSE	JULY 15 – SEPT 12, 2010 8 WEEKS (4 WEEKS)
RAGUL TANYAN 3rd YEAR GEO STUDENT	TORONTO, ON 2.5 WEEKS THIS LICENSE	JULY 15 – AUG 19 5 WEEKS (~~2.5~~ WEEKS)
LINDSAY ALLEN PROSPECTOR	TERENCE BAY NS 7 WEEKS THIS LICENSE	JUNE 1 – SEPT 12, 2010 14 WEEKS (7 WEEKS)

I hereby certify that the information in this form is true and correct, that it has not before been submitted for assessment work credit and that it is the total of all work conducted on the licence during the past licensed year.

As AUTHORIZED AGENT I am duly authorized to make this certification.
(position in company or licensee)

Dated at HALIFAX in the Province of NOVA SCOTIA on NOV 16, 2010.

Name and address of licensee: ALPHA URANIUM RESOURCES INC
C/O 2672 ROBIE ST, HALIFAX NS B3K 4N8

Signature

For further information, contact the Registrar of Mineral and Petroleum Titles at 1-902-424-4068.

NOVA SCOTIA
Natural Resources

Map 11E11B
Refs.

Form 10 - Statement of Assessment Work Expenditure

(pursuant to the *Mineral Resources Act*, S.N.S. 1990, c. 18, s. 43(1))

(Complete as necessary to substantiate the total claimed.)
Re: Licence No. 06287 Date of issue SEPT 19, 2005

	Type of Work		Amount Spent
1.	Prospecting	20 days	10,000
2.	Geological mapping	2.5 days	3,600
3.	Trenching/stripping/refilling	___ m^2 / ___ m^3	
4.	~~Assaying & whole rock analysis~~ 2 SCINTILLOMETER RENTAL 2400	___ #	2,400
5.	Other laboratory XRF RENTAL 15,300	___ #	15,300
6.	Grid:		
	(a) Line cutting	___ km	
	(b) Picket setting	___ km	
	(c) Flagging	___ km	
7.	Geophysical surveys		
	Airborne:		
	(a) EM/VLF	___ km	
	(b) Mag or Grad	___ km	
	(c) Radiometric	___ km	
	(d) Combination	___ km	
	(e) Other ___	___ km	
8.	Geophysical surveys		
	Ground:		
	(a) EM/VLF	___ km	
	(b) Seismic soundings	___ #	
	(c) Magnetic/telluric	___ km	
	(d) IP/resistivity	___ km	
	(e) Gravity	___ km	
	(f) Other RADIOMETRICS 20 DAY	100 km	30,000
9.	Geochemical surveys		
	(a) Lake, stream, spring		
	(i) Water	___ samples	
	(ii) Sediments	___ samples	
	(b) (i) Rock	___ samples	
	(ii) Core	~~261~~ samples	4,590
	(iii) Chips	___ samples	
	(c) (i) Soil	___ samples	
	(ii) Overburden	___ samples	
	(d) Gas	___ samples	
	(e) Biogeochemistry	___ samples	
	(f) Sample collection	___ samples	
	(g) Other ___	___ days	
10.	Drilling:		
	(a) Diamond (# holes/m)	___ / ___ m	
	(b) Percussion (# holes/m)	___ / ___ m	
	(c) Rotary (# holes/m)	___ / ___ m	
	(d) Auger (# holes/m)	___ / ___ m	
	(e) Reverse circulation (# holes/m)	___ / ___ m	
	(f) RE-Logging, supervision, etc. +XRF + SAMPLE	108 days	54,000
	(g) Sealing (# holes)	___ #	
11.	Other (describe) MILEAGE 2518 KM @ 49¢ = 1233.52 MOTEL 11041 MEALS 4035 (5 MEN) WAGES 56060	1233.52 11041.00 4035.00	16 309.82
	Subtotal	16309.82	126,199.82
	Overhead costs 10% OVERHEAD	+12619.98	12 619.98
12.	Secretarial services		
13.	Drafting services		
14.	Office expenses (rent, heat, light, etc.)		
15.	Field supplies		
16.	Compensation paid to landowners	EXEMPT NOV 15'10 10:01	
17.	Legal fees		
18.	Other (describe)		
	Subtotal		
	Grand total		138,819.80

List the names of the persons who conducted the work reported in the previous table and the dates during which the work was performed.

Name	Address	Dates Worked
DENIS WALSH P.Geo	PARADISE, NL 11 WEEKS THIS LICENCE	JUNE 1 – SEPT 12, 2010 14 WEEKS (11 WEEKS)
ALEX MACKAY BSc GEO	NEW GLASGOW, NS 6.2 WEEKS THIS LICENSE	JULY 15 – SEPT 12, 2010 8 WEEKS (6.2 WEEKS)
ALEX DEBAY PROSPECTOR	DARTMOUTH, NS 4 WEEKS THIS LICENSE	JULY 15 – SEPT 12 8 WEEKS (4 WEEKS)
RAOUL TANYAN 3RD YEAR GEOLOGY STUDENT	TORONTO, ON 2.5 WEEKS THIS LICENSE	JULY 15 – AUG 19 5 WEEKS (2.5 WEEKS)
LINDSAY ALLEN PROSPECTOR	TERENCE BAY, NS 7 WEEKS THIS LICENSE	JUNE 1 – SEPT 12, 2010 14 WEEKS (7 WEEKS)

I hereby certify that the information in this form is true and correct, that it has not before been submitted for assessment work credit and that it is the total of all work conducted on the licence during the past licensed year.

As AUTHORIZED AGENT *(position in company or licensee)* I am duly authorized to make this certification.

Dated at HALIFAX in the Province of NOVA SCOTIA on NOV 16, 2010.

Name and address of licensee: ALPHA URANIUM RESOURCES INC c/o 2672 ROBIE ST, HALIFAX, NS B3K 4N8

Signature L. Allen.

For further information, contact the Registrar of Mineral and Petroleum Titles at 1-902-424-4068.

Legend

- Gulf Minerals Diamond Drillhole (drilled 1978-1981)
- Colchester County Logging Rd
- Stream
- Licence Boundary

Note: Holes DL_16 and DL_19 share the same collar

Holes locations georeferenced from Gowers1988 M.Sc. thesis

Alpha Uranium Resources

Debert Lake Drillholes Location Map

1:10000

UTM Zone 20, NAD 83 | Jan 11th, 2010

Map prepared by: Alex MacKay

FIGURE 5a

ALPHA URANIUM RESOURCES INC.

DEBERT LAKE PROJECT

MAP SHOWING OUTCROP LOCATIONS with SCINTILLOMETER READINGS >299 CPS (TOTAL COUNT)

Please see Appendix for UTM NAD83 Locations & full Descriptions

WORK BY AM, AD	FIGURE 6b	SCALE 1:5,000
DRAWN BY LJA	CLAIM MAP 11E/11B	PROJECT No.10
DATE Sept 2010	N.T.S. 11E/11	Ex. Lic. 6285+6287

LEGEND

- CLAIM BOUNDARY
- 50 47 000 — UTM (NAD83) GRID
- WOODS ROAD
- LAKE
- STREAM
- CONTOURS (10m)
- 4 +300 — OUTCROP LOCATION No. + SCINTILLOMETER READINGS >299 CPS (Total Count) (Please see Appendix for full listing & rock outcrop description)

SCALE (METRES)

0 100 200 300 400 500m

N

EXPLORATION LICENSE 06287

CLAIMS MAP 11E11B TRACT 82 CLAIM M

EXPLORATION LICENSE 06285

CLAIM BOUNDARY

DEBERT LAKE

BIG SNARE LAKE

LOGGING ROAD

DEBERT RIVER

04 64 000

04 65 000

50 49 000

50 48 000

50 47 000

ALPHA URANIUM RESOURCES INC.

DEBERT LAKE PROJECT

MAP SHOWING BOULDER LOCATIONS
with
SCINTILLOMETER READINGS
>299 CPS (TOTAL COUNT)

Please see Appendix for UTM NAD83 Locations
& full Descriptions

WORK BY AM, AD	FIGURE 6c	SCALE 1:5,000
DRAWN BY LJA	CLAIM MAP 11E/11B	PROJECT No.10
DATE Sept 2010	N.T.S. 11E/11	Ex. Llc. 6285+6287

LEGEND

- CLAIM BOUNDARY
- 50 47 000 — UTM (NAD83) GRID
- WOODS ROAD
- LAKE
- STREAM
- CONTOURS (10m)
- 99 ⌀600 — BOULDER LOCATION No. + SCINTILLOMETER READINGS >299 CPS (Total Count) (Please see Appendix for full listing & boulder description)

SCALE (METRES)
0 100 200 300 400 500m

CLAIMS MAP
11E11B
TRACT 82
CLAIM M

EXPLORATION LICENSE 06287

EXPLORATION LICENSE 06285

CLAIM BOUNDARY

DEBERT LAKE

BIG SNARE LAKE

LOGGING ROAD

DEBERT RIVER

0 100 200
metres

AR2010-121