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Ontario

2014 Regional Diamond Drill Exploration Assessment Report

The Superior Project

(Ryan and Kincaid Townships)

January 30, 2015

Superior Copper Corporation
141 Adelaide Street West, Suite 301
Toronto, Ontario
M5H 3L5

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INTRODUCTION

The Mamainse Point area, Ontario has a long history of copper exploration and mining including two past producing deposits: the Coppercorp Mine (1965-1972) and the Tribag Mine (1965-1973). Following closure of the mines, the original properties were closed to staking and exploration for 30 years becoming available again in 2002. The area has since been recognized for its potential to host Iron-Oxide-Copper-Gold type ("IOCG-type") deposits, however, no previous work had tested more than 225m below surface.

Between June 10, 2014 and November 9, 2014 Superior Copper Corporation completed a total of 12,516 metres in 20 diamond drill holes on the Superior Project as a part of a new regional exploration drilling initiative. This report describes the results of this drill program.

LOCATION and ACCESS

The Superior Project is located at Mamainse Point which is 85 kilometres north-west of Sault Ste. Marie, and approximately 160 kilometres south of Wawa, Ontario. The Trans-Canada Highway (Highway 17) crosses the westernmost portion of the property. A network of logging roads provides access throughout the area from Highway 17, including numerous bush roads and overgrown skidder trails. The main access routes for the western portion of the property are the historical Coppercorp Mine Road and a major logging road 2.5 km to the northeast.

Figure 1 – Location of the Superior Project

REGIONAL GEOLOGY

The Superior Project is situated on the eastern edge of the Late Proterozoic (1050-1115 Ma) Midcontinent Rift ("MCR"), most of which now lies beneath Lake Superior. An assumed mantle plume likely produced the large volumes, up to 40 kilometres, of mafic volcanic and sedimentary rocks that formed during this period. The rift is bound by normal and reverse faults and can be traced geophysically for over 2000 km making it one of the largest intracratonic rifts in the world.

Numerous past-producing and present deposits have been discovered and mined around Lake Superior associated with the MCR, including the prolific native copper deposits of the Keweenawan Peninsula, MI. More recent discoveries include Copper-Nickel-PGE deposits such as the Twin Metals, Marathon PGM, Thunder Bay North and Eagle deposits (Figure 2).

Refer to Miller and Nicholson (2013) for more information regarding geology and deposits of the Mid Continent Rift.

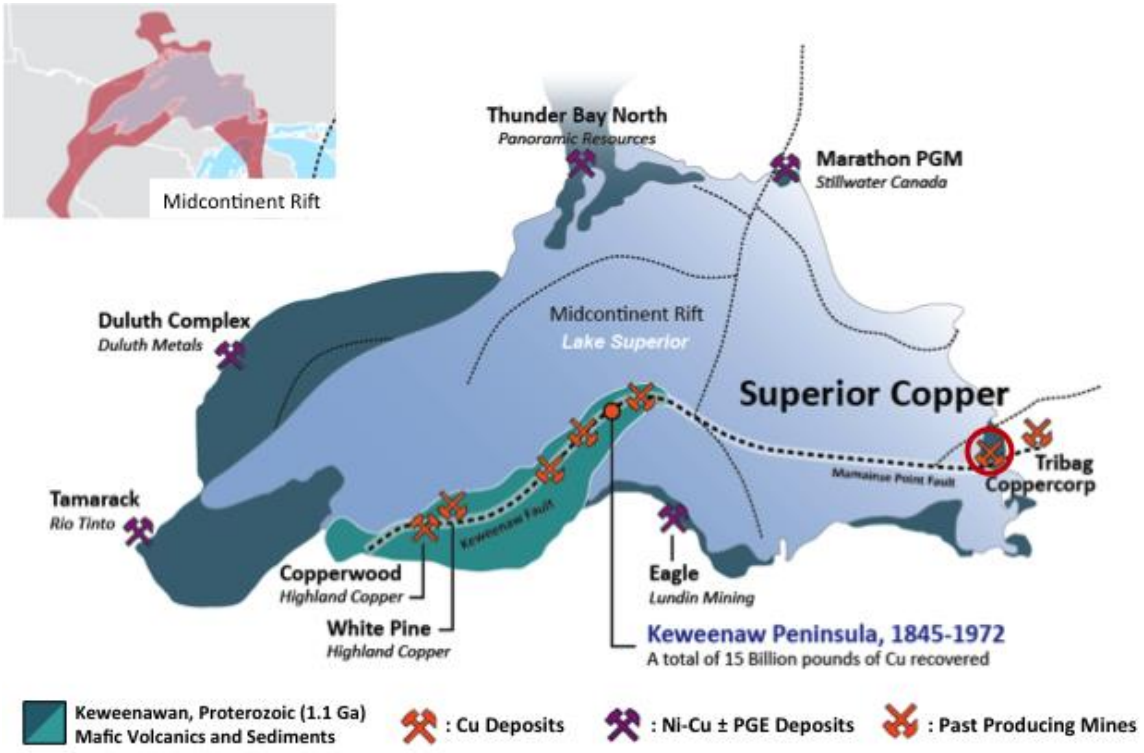

Figure 2 – Deposits of the Mid Continental Rift.

LOCAL GEOLOGY

The Superior Project is situated within the Mamainse Point Formation of the Keewenawan Group within the Proterozoic Southern Province, on the eastern edge of the Mid Continental Rift. The property straddles the NNW trending unconformity between the Mamainse Point Formation and rocks of the

Batchawana Greenstone Belt of the Archean Superior Province. The Keweenawan Group stratigraphy is characterized by sub-aerial flood basalts and intercalated conglomerates intruded by felsic sub-volcanic intrusives and breccias. The formation is divided into Upper and Lower formations by a 550m thick unit of polymictic conglomerate, referred to as the Great Conglomerate. The entire formation is cut by vein breccias that host high-grade copper mineralization. Mineralized Proterozoic-age breccias and felsic porphyries are also found intruding the Archean greenstones east of the unconformity. Refer to Annells (1972) for more detailed local geological descriptions.

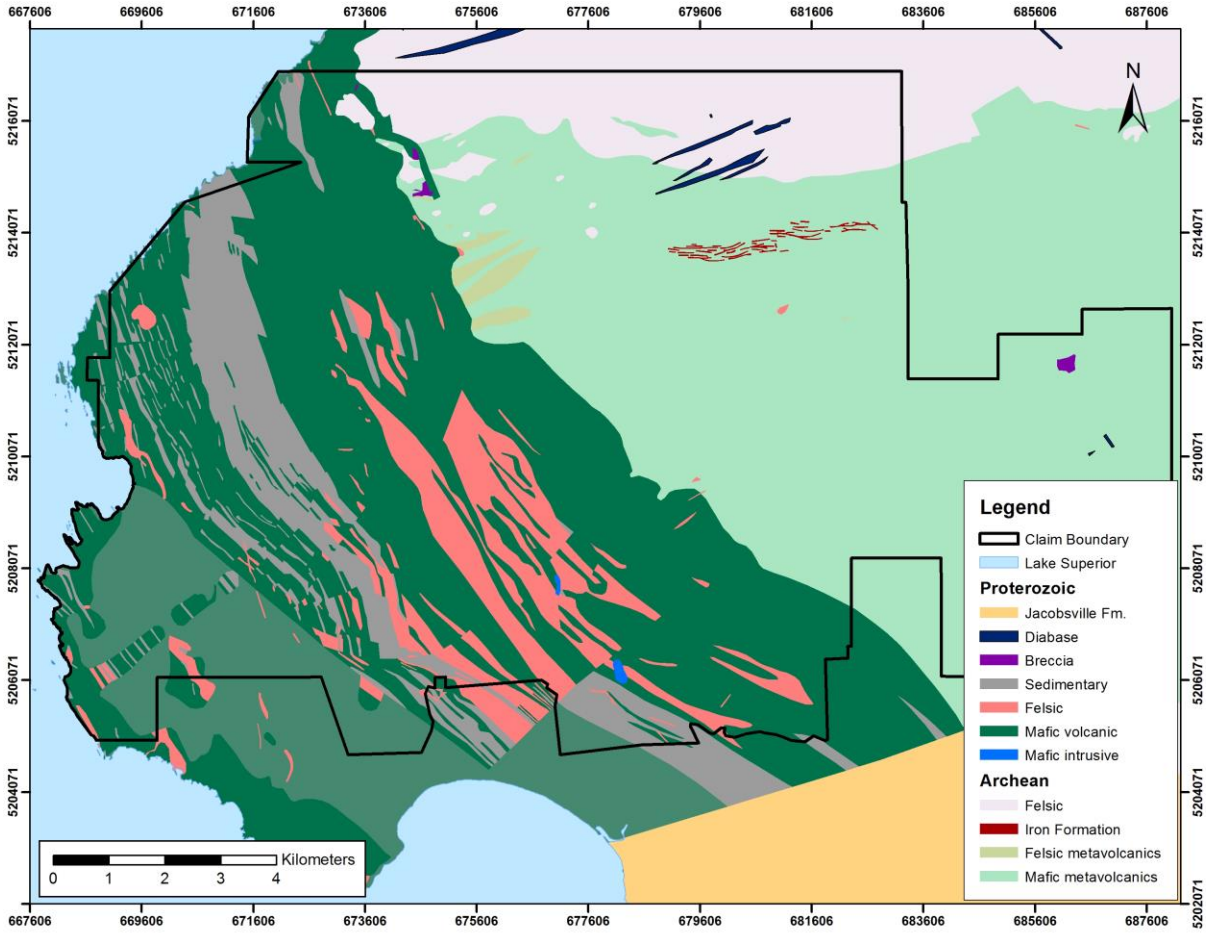

Figure 3 – Geologic Map of Mamainse Point, Ontario. After Giblin (1969).

A prominent 5 kilometre by 5 kilometre high magnetic anomaly (the "Regional Mag-High") exists within the Project area (Figure 4), the origin of which is poorly understood. Regardless, the increase in magnetite within the anomaly likely represents is considered to be an excellent trap for copper mineralization.

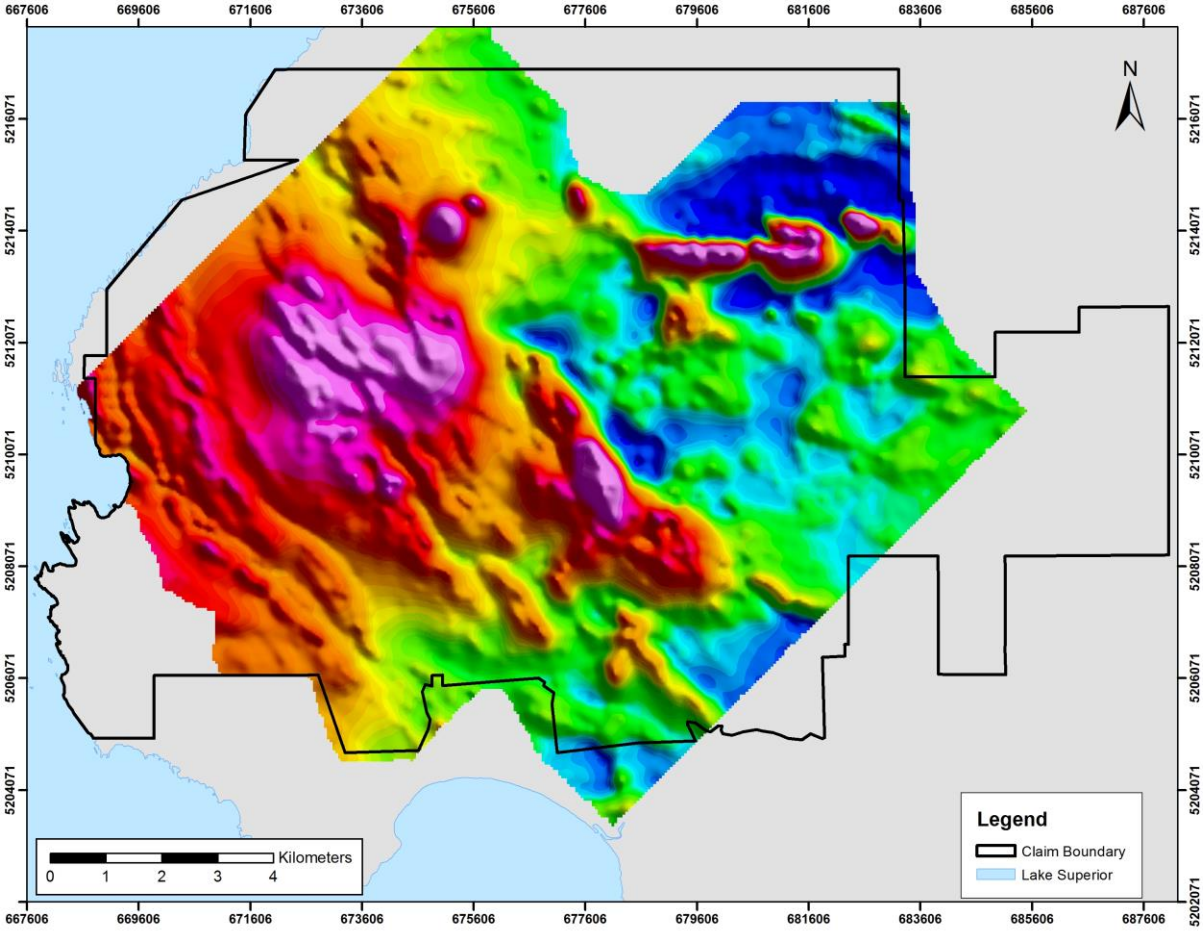

Figure 4 – Regional Mag-High. Displayed as total magnetic intensity (Pink: strong magnetic intensity, Max = 62697nT; Blue = weak magnetic intensity, Min = 55371n !

T) after Geotech Ltd., (2014) !

PREVIOUS WORK

The Mamainse Point area has a long history of prospecting, exploration and mining activity dating to the mid-1800's. Most of the previous efforts focused on discreet prospects within the current property by competing operators. The Superior Project represents an aggregate of the majority of those prospects including the Montreal Mining Sand Bay Location, Baseline Prospect, Pall Mall, Kincaid Breccia, Jogran Porphyry and Richards Breccia, and Glenrock prospects. The work from the drill program in 2014 was carried out on the portion of the property west of the unconformity which includes the Montreal Mining Sand Bay Location, Baseline, and Pall Mall prospects. The following is a summary of work carried out at these locations. For more detailed descriptions of historical work, please refer to the AFRI files provided with each individual prospect.

Montreal Mining Sand Bay Location !

1856-1857	*The Montreal Mining Company* owned the property; the location became known as the Montreal Mining Sand Bay Location. Historical records unavailable.
1871	*Ontario Mineral Lands Co.* held ownership. Historical records unavailable.
1882-1884	*Silver Islet Consolidated Mining and Lands Co.* held ownership. Historical records unavailable.
1890	*Canada Lands Purchase Syndicate* held ownership. Historical records unavailable.
1892	*Nipigon Mining Co.* held ownership. Historical records unavailable.
1906-1908	*Calumet and Hecla Co.* held ownership. Historical records unavailable.
1948-1949	*Macassa Mines* examined and drilled of old copper showings; optioned the property to C. C. Huston and Associates
1949-1952	*C. C. Huston and Associates* completed 33,400 feet of diamond drilling; outlined copper mineralization in the area of the Coppercorp Mine, including the C, D, SB, and Silver Creek Zones.
1954-1957	*Coppercorp Ltd.* sunk a shaft to 550 feet; developed 14,000 feet of drifts; 60,000 tons of ore was stockpiled on surface (due to falling copper prices).
1962-1964	*Vauze Mines Ltd.* completed surface exploration comprised of geology, geophysics and geochemical sampling as well as additional diamond drilling.
1965	*Vauze Mines Ltd.* dewatered workings, re-opened mine, deepened shaft to 629 feet; Production rate of 500 tons of copper concentrate per day with over 90% recovery. Pre-production ore reserve estimate of 1.54 million tons @ 2.1% copper (historical, non 43-101 compliant).
1965-1972	*Vauze Mines Ltd.* produced over 1,000,000 tons of milled ore for almost 24 million pounds of copper, 238,000 ounces of silver and 1,964 ounces of gold from the Coppercorp Mine.
1972-2002	Mine shut down; Property remained closed to staking.
1991-1992	*J.F. Paquette* carried out a self-potential survey, prospecting and sampling at the Lutz Vein and L Zone.
1993	*Cominco Ltd.* completed mapping, soil and humus geochemistry, electromagnetic (UTEM) and magnetic surveys at the Lutz Vein and L Zone.
2002	*Terry Nicholson and William Gibbs* staked the original Coppercorp property and optioned the claim group to Amerigo Resources Ltd.
2003	*Amerigo Resources Ltd.* completed an airborne magnetic survey; mapping and sampling on select areas; detailed mapping on 16 line-kilometre grid over Silver Creek area.
2004-2007	*Nikos Explorations Ltd.* completed detailed mapping, sampling, and geophysics over the Beaver Pond grid and over the Regional Mag High grid; 3,733m of diamond drilling in 23 holes along strike southeast of the Coppercorp Mine.
2009	*First Minerals Explorations Ltd.* optioned property; Sampling at the B Zone returned an assay of 51.8% copper.
2010	*Superior Copper Corp. (formerly Cenit Corporation)* optioned a 50% interest in the property; completed mechanized stripping/trenching over select areas; prospecting, mapping, and sampling.
2011	*Superior Copper* completed 887.5 meters of diamond drilling in 13 holes at the B zone; mapping and

	sampling on claim 3015689.
2012	*Superior Copper* carried out prospecting, stripping, mapping and sampling over select areas of the property; Ground magnetics, gravity and IP on 41 line-kilometre grid over Regional Magnetic High.
2013	*Superior Copper* completed 1319 metres of diamond drilling in 6 holes on on the historical SB Zone, the B-Zone and C-Zones.

Baseline Prospect !

1952	*C.C. Huston and Associates* discover Baseline Prospect.
1962	*Coppercorp Ltd.* conducted diamond drilling. Historical records unavailable.
2003-2004	*D. Tortosa* conducted detailed geologic mapping, prospecting and sampling.
2011	*Superior Copper* acquired property.
Associated AFRI Files:	41N02SE0014; 41N02SE0026; 41N02SE0033; 41N02SE0037; 41N02SE2013.

Kincaid Area !

1952	*C.C. Huston and Associates* discover Kincaid Breccia.
1962	*Coppercorp Ltd.* conducted diamond drilling. Historical records unavailable.
1999	*A. Gasparetto and R. Fenlon* completed geological mapping, VLF-EM and ground magnetic surveys.
2002-2003	*Intrepid Minerals Corporation* completed mapping, regional gravity survey, prospecting and sampling, and diamond drilling.
2011	*Cenit Corporation (now Superior Copper Corporation)* completed a reconnaissance geological and sampling survey.
2012	*Superior Copper Corp.* completed 1015m of diamond drilling in 11 holes.
Associated AFRI Files:	41N02SE0043; 41N02SE0044; 41N02SE0048; 41N02SE0049; 41N02SE0050; 41N02SE2006.

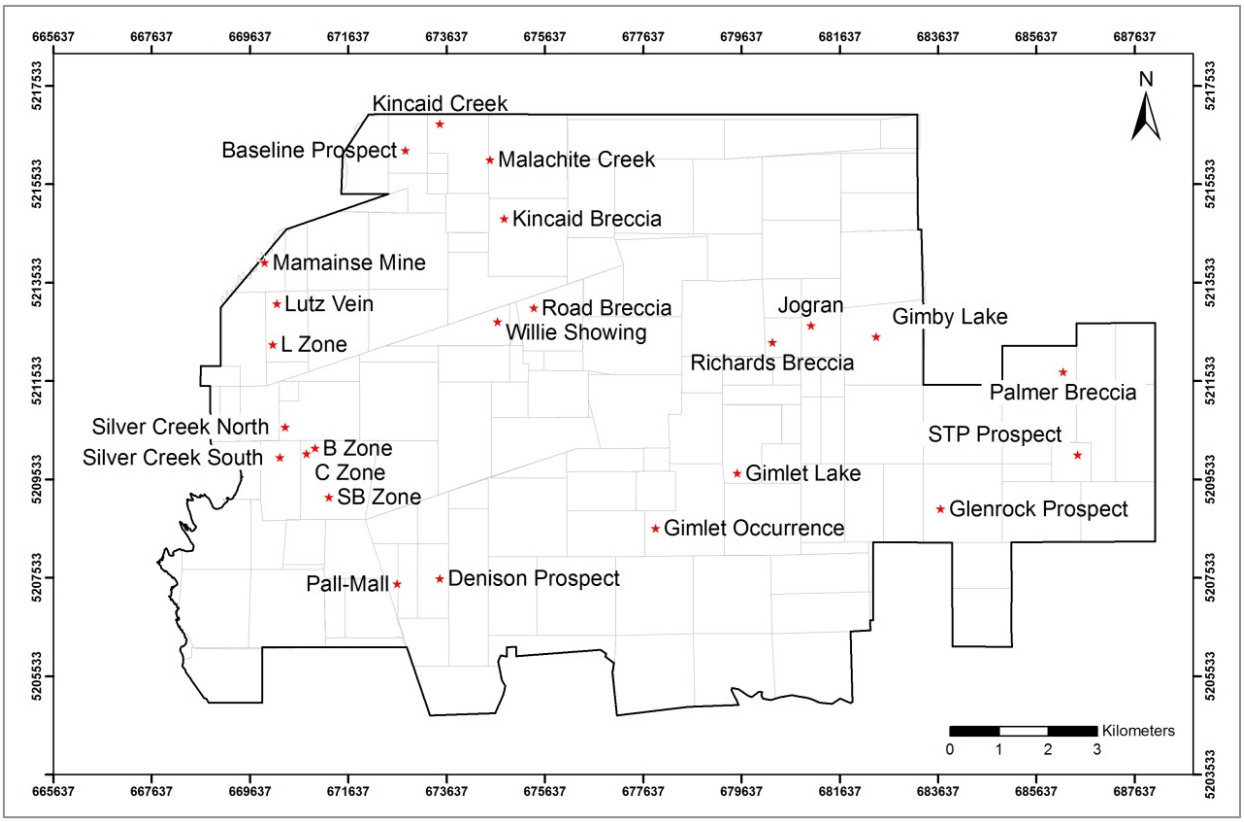

Figure 5 – Historic prospects with in the Superior Project

DIAMOND DRILLING

Between June 10, 2014 and November 9, 2014 Superior Copper Corporation completed a total of 12,516 metres in 20 diamond drill holes on the Superior Project as a part of a new regional exploration drilling initiative. Of the 20 drill holes, 11 drill holes were carried out to test regional geophysical anomalies ("Regional" drilling) and the remaining 9 holes were drilled to follow up high-grade mineralization discovered in SPC-14-01 (the "3M Zone").

Orbit Garant Inc. of Val d'Or was the drilling contractor for 17 of the 20 holes including all Regional drill holes. Superior Diamond Drilling Ltd. was contracted for 3 holes at the 3M Zone. The project was overseen, managed, and logged by Mike Kilbourne, P.Geo and Morgan Quinn, P.Geo. Miron Genik-Sas-Berezowski, P.Geo acted as Senior Geological Consultant and carried out detailed logging and interpretation of mineralized zones.

The drill hole data for all 20 drill holes is summarized in Table 1. Figure 6 shows the collar locations and drill hole traces projected to surface in plan view. A large scale (1:5000) map can be found in Appendix B.

Table 1 – Diamond drill hole information

Hole ID	Date Started	Date Completed	Easting	Northing	Azimuth	Dip	Length
SPC-14-01	06/10/14	07/02/14	671750	5212800	0	-90	952
SPC3M-14-01	07/24/14	08/10/14	671763	5212807	65	-83	312
SPC3M-14-02	08/11/14	08/20/14	671763	5212807	65	-74	310
SPC3M-14-03	08/11/14	08/16/14	671710	5212781	0	-90	416
SPC3M-14-04	08/16/14	08/19/14	671776	5212749	65	-82	299
SPC3M-14-05	08/20/14	08/22/14	671776	5212749	65	-72	296
SPC3M-14-06	08/21/14	08/31/14	671763	5212807	65	-61	402
SPC3M-14-07	08/22/14	08/24/14	671776	5212749	65	-61	287
SPC3M-14-08	08/22/14	08/24/14	671740	5212853	65	-82	30
SCP3M-14-08a	08/27/14	08/31/14	671740	5212853	65	-75	350
SPC-14-02	07/02/14	08/01/14	674800	5211600	0	-90	977
SPC-14-03	08/01/14	08/04/14	674800	5211600	265	-60	243
SPC-14-04	08/04/14	08/08/14	673816	5212171	208	-85	554
"	11/06/14	11/11/14	Delay due to lack of water				
SPC-14-05	08/16/14	09/16/14	674850	5210510	58	-60	775
SPC-14-06	08/30/14	09/22/14	673222	5213952	0	-90	1,047
SPC-14-07	09/16/14	10/17/14	671810	5210318	225	-70	1,441
SPC-14-08	09/23/14	10/10/14	673000	5214550	225	-70	1,007
SPC-14-09	10/10/14	10/25/14	673573	5207496	0	-90	723
SPC-14-10	10/17/14	11/06/14	670821	5209250	0	-90	1,070
SPC-14-11	10/25/14	11/09/14	671075	5207925	225	-74	920
						Total	12,516

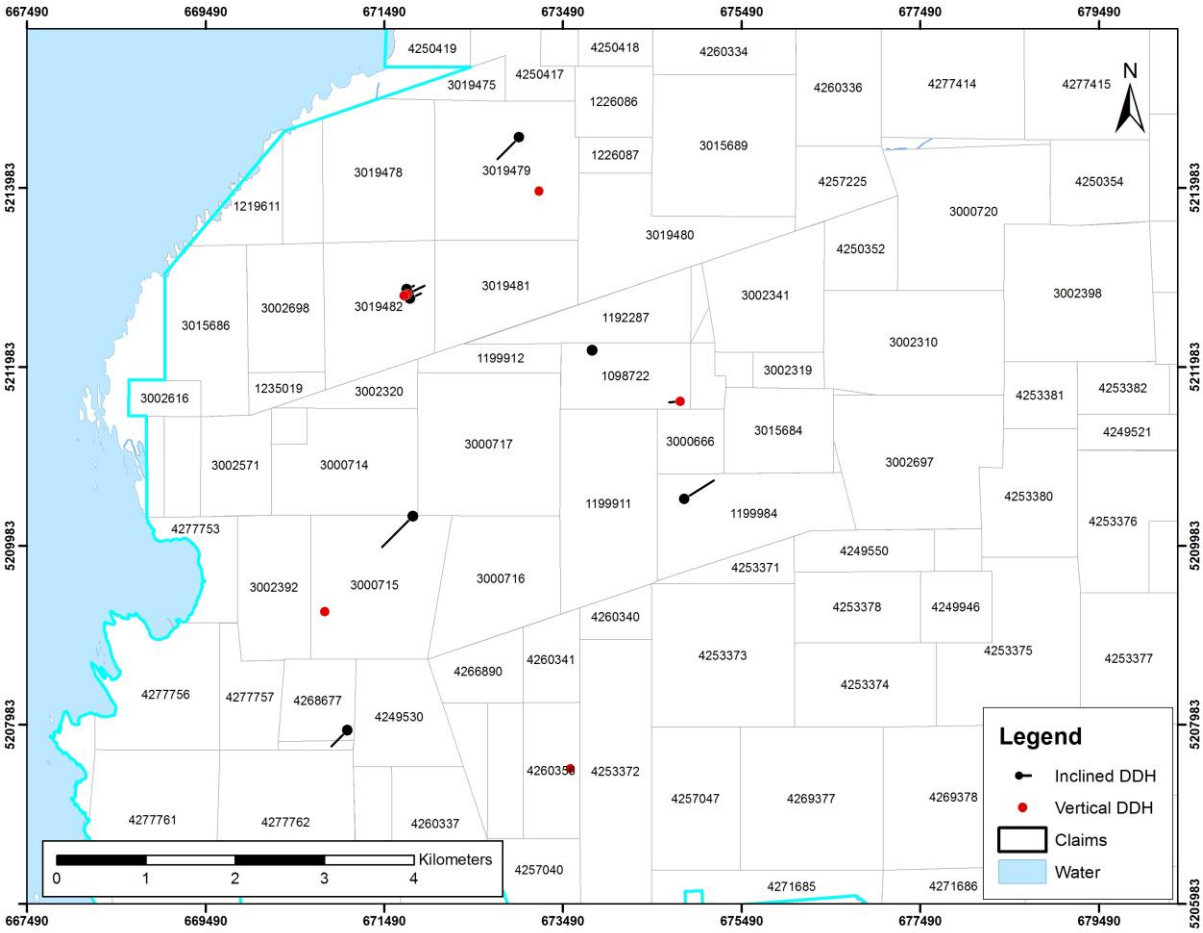

Figure 6 – Collar locations and drill hole traces projected to surface.

RESULTS

Diamond drill logs for all holes can be found in Appendix C.

REGIONAL DRILLING

The objective of the 2014 Regional Drill Program at the Superior Project was to test significant geophysical anomalies and coincidences with an emphasis on magnetic, gravity, and resistivity data. This effort led to the discovery of new zones of significant mineralization.

SPC-14-01 was set to test a gravity anomaly, identified from Intrepid Minerals' 2002-2003 regional ground gravity survey, that occurred at the northwest margin of the Regional Mag-High. A zone of high-grade chalcocite +/- bornite mineralization (1.26% Cu, 9.89 gpt Ag, and 0.10 gpt Au), named the 3M Zone, was intersected from 315.37 metres to 320.87 metres. More details about this zone and additional work can be found in *3M Zone Drilling*.

SPC-14-06 and SPC-14-08 were set to test a low resistivity anomaly, identified from Superior Copper's 2014 ZTEM survey, semi-coincident with an area of lower magnetic intensity. The low resistivity anomaly measures approximately 2.5 kilometres long by 500-600 metres wide and calculated to be at depths of 800-900 metres below surface. The drill holes intersected broad intervals (50-80m) of low-grade (0.04-0.12% Cu) chalcopyrite-bornite mineralization that appears to coincide with the resistivity low. Additionally, hole SPC-14-08 intersected 0.5 metres of massive to semi-massive chalcopyrite mineralization that returned 16.4% copper, 3.11 gpt gold, and 11.20 gpt silver from 944.0 metres to 944.50 metres.

SPC-14-07 was set to test the Coppercorp Mine structure where it is projected to occur lower in the stratigraphy than the Great Conglomerate. A broad zone of low-grade mineralization with anomalous copper was encountered between 1155.88metres and 1213.00metres, which roughly coincides with the Coppercorp Mine structure projected to these depths. Mineralization occurs as chalcopyrite +/- bornite +/- pyrite as fracture fillings, in narrow quartz veins, as replacements, and in minor stockwork/breccia zones.

3M ZONE DRILLING

Diamond drill hole SPC-14-01 intersected a new zone of copper-silver-gold mineralization that was named the "3M Zone". The mineralized zone was intersected between 315.37 metres to 320.87 metres and returned 1.26% copper, 9.89 gpt silver, and 0.10 gpt gold. Follow up drilling was carried out on 50m sections along a baseline at 335° with the origin, or section +0m, located 50m northeast (065°) of SPC-14-01. The zone was intersected again in SPC3M-14-01 and SPC3M-14-04. Correlation of high-grade intersections from thee three holes strongly supports the interpretation that mineralization is stratiform, illustrated by the cross section in Figure 4. A summary of significant results from the 3M Zone drilling can be found in Table 2.

High-grade mineralization within the 3M Zone occurs as disseminated to semi-massive chalcocite in a fault bounded hydrothermally altered Keweenawan basalt unit. Copper mineralization outside the 3M Zone is dominantly chalcocite with bornite and rare chalcopyrite occurring as fill in amygdules, quartz and/or carbonate veins, and as fracture fill.

Visible copper mineralization was intersected in all drill holes, but no significant results were returned from the remaining drill holes.

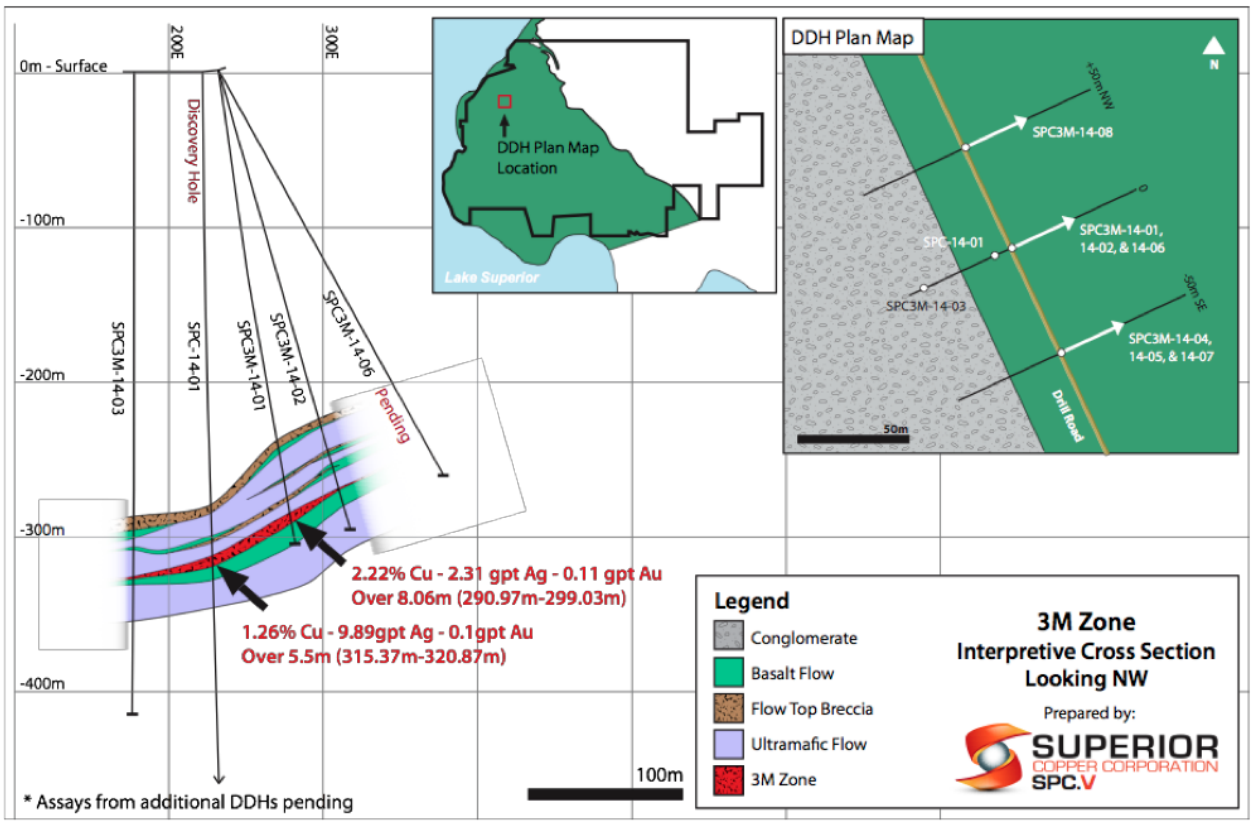

Figure 7 – Interpretitve cross section of 3M Zone, Section +0m looking northwest

Table 2 – Summary of significant results from 3M Zone drilling.

Hole No.	Az	Dip	From	To	Interval	Copper (%)	Silver (gpt)	Gold (gpt)
SPC-14-01	-	-90	315.37	320.87	5.50	1.26	9.89	0.10
SPC3M-14-01	065	-82	290.97	299.03	8.06	2.22	2.31	0.11
SPC3M-14-04	065	-82	258.31	259.80	1.49	0.94	3.4	0.11

DISCUSSION and CONCLUSIONS

3M ZONE

Observations made from drill core at the 3M Zone support the interpretation that mineralization is conformable to stratigraphy along a flow top breccia. Following the discovery of the 3M Zone in SPC-14-01, additional drilling to extend the dip and strike of the mineralized zone was mostly unsuccessful. This suggests that the zone occurs as a discreet lens with limited strike and depth potential. However, it is reasonable to assume that additional lenses could be discovered in this area of the project. Furthermore, the most likely source of mineralizing fluids is thought to be a vertical structure feeding pre-existing fractures or areas of increased porosity.

REGIONAL MAG-HIGH !

A key feature of the geological theory that led Superior Copper and others to believe that an IOCG-type deposit lay within the Proterozoic rocks of Mamainse Point was a large regional magnetic high with coincident regional gravity signatures. This type of geophysical signature and coincidence led to many IOCG deposit discoveries in SE Australia.

Magnetic susceptibility and specific gravity measurements were taken at regular intervals during the drill program. These measurements were modeled and compared with the lithologies encountered down hole. The data and observations support the suggestion that the regional magnetic high and other magnetic trends on the property are a result of magnetite rich mafic volcanic layers. The dip of the stratigraphy creates a stacking effect resulting in a cumulative, net positive, magnetic high against the regional background magnetic signature. It has also been suggested that the net cumulative effect of even small amounts of magnetite in the basaltic flows can produce regional, albeit weak, coincident gravity anomalies.

The above observations do not necessarily preclude that an IOCG-type deposit does not exist on the Superior Copper property, it merely suggests that the regional coincidence of magnetic highs and gravity can and has been explained by the magnetite content and orientation of the rocks.

LOW-RESISTIVITY ANOMALIES

A general observation is that large broad ZTEM low-resistivity anomalies, occurring west of the Great Conglomerate, tested in drill holes SPC-14-07, SPC-14-09, SPC-14-10 and SPC-14-11 are responses related to rock composition, porosity, alteration, late structures, and/or combinations thereof. The corridor, referred to as the Mine Trend, is still considered very prospective. It hosts the past-producing Coppercorp Mine along with several other high-grade prospects, and the above geological features are often associated with mineralization.

It is inconclusive at this point whether that the low resistivity ZTEM trend is due to the broad mineralization encountered in SPC-14-06 and SPC-14-08. An alternative interpretation is that the anomaly represents a structural feature, possibly related to the unconformity that has provided the necessary pathways for mineralizing fluids.

RECOMMENDATIONS

3M ZONE

Future exploration should test for vertical, strike extensive structures that acted as conduits for the mineralizing fluids. An alternative exploration strategy would be to test for additional lenses of high-grade mineralization. Regardless of which approach is used, acquisition of additional data is recommended to assist in any future drill targeting. The authors recommend the use of induced polarization techniques given that the observed mineralization should be strongly chargeable.

REGIONAL MAG-HIGH

There are still many unanswered questions about the Regional Mag-High, and is still considered prospective for IOCG-type targets. One such question is why the beds are more magnetic at this location and less magnetic along strike?

Assuming that magnetic peaks within the Regional Mag-High are representative of magnetite rich mafic volcanic layers, future exploration should investigate areas where the magnetic signature does not coincide with the stratigraphy.

REGIONAL EXPLORATION

Occurences of copper sulphide minerals across the project exhibits a rough zonation. Copper most commonly occurs as chalcopyrite marginal and to the east of the Archean-Proterozoic unconformity where a source of sulphur is present in Archean greenstones. To the west of the unconformity, in sulphur-poor Proterozoic basalts, copper minerals grade from chalcopyrite +/- bornite, to chalcocite, and finally native copper. Exploration for large volume deposits should focus on areas marginal or east of the unconformity.

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AUTHOR QUALIFICATIONS

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Email: mquinn.geo@gmail.com

I, Donald Morgan Quinn do hereby certify that:

1) I am a graduate of Dalhousie University, Halifax, Nova Scotia, Canada, with an Honours B. Sc. (2009) in Geology.

2) I have 5 years of relevant experience.

3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of Ontario, registration number 2423.

4) I have had prior involvement with the property that is the subject of this Report, having visited the property on numerous occasions over the past four years.

5) I acted as Project Supervisor of this Diamond Drill Program which was completed on November 9, 2014.

PROFESSIONAL GEOSCIENTIST
DONALD QUINN
PRACTISING MEMBER
2423
ONTARIO

D. Morgan Quinn (Honours BSc., P. Geo.)
Consulting Geologist

01/30/2014
Date

AUTHOR QUALIFICATIONS

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Email: mkilbourne@outlook.com

I, Michael Kilbourne do hereby certify that:

1) I am a graduate of the University of Western Ontario, London, Ontario, Canada, with an Honours B. Sc. (1985) in Geology.

2) I have 30 years of relevant experience in the exploration and mining industry.

3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of Ontario, registration number 1591.

4) I acted as Project Supervisor of this Diamond Drill Program which was completed on November 9, 2014.

Michael Kilbourne (Honours B.Sc., P. Geo.)

JAN 24/15
Date

APPENDIX A

TENURE AND EXPENDITURES

APPENDIX A.1

LIST OF UNPATENTED MINING CLAIMS

Township	Claim #	Claim Units	Acquisition Date	Due Date	Permit
KINCAID	1098722	8	1-Sep-2010	2015-Aug-05	PR-13-10038
KINCAID	1192281	3	1-Sep-2010	2015-Jul-21	PR-13-10038
KINCAID	1192284	3	1-Sep-2010	2015-Jun-25	PR-13-10038
KINCAID	1192287	7	1-Sep-2010	2015-Oct-02	PR-13-10038
KINCAID	1192312	4	13-Jul-2012	2015-Feb-25	PR-13-10349
KINCAID	1192314	4	13-Jul-2012	2015-Feb-25	PR-13-10349
KINCAID	1192315	8	10-Apr-2013	2015-Jul-02	PR-13-10349
KINCAID	1192316	4	25-Jun-2012	2015-Aug-06	PR-13-10038
KINCAID	1199911	15	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	1199912	4	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	1199984	14	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	1219611	6	5-Jan-2012	2016-Jan-05	PR-13-10038
KINCAID	1234880	4	10-Apr-2013	2015-Jul-02	PR-13-10349
KINCAID	1235019	3	1-Sep-2010	2015-Feb-26	PR-13-10038
KINCAID	3000666	4	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	3000714	11	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	3000715	15	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	3000716	13	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	3000717	16	1-Sep-2010	2015-Jun-26	PR-13-10038
KINCAID	3000718	1	1-Sep-2010	2015-Jun-26	PR-13-10038
NICOLET	3000720	15	1-Sep-2010	2015-Jun-26	PR-13-10038
NICOLET	3002310	15	1-Sep-2010	2015-Jun-26	PR-13-10038
NICOLET	3002319	2	1-Sep-2010	2015-Jun-26	PR-13-10038
NICOLET	3002320	3	1-Sep-2010	2015-Jun-10	PR-13-10038
PALMER	3002341	11	1-Sep-2010	2015-Jun-26	PR-13-10038
PALMER	3002342	1	1-Sep-2010	2015-Jun-10	PR-13-10038
PALMER	3002392	8	1-Sep-2010	2015-Jun-26	PR-13-10038
PALMER	3002398	16	1-Sep-2010	2015-Jun-26	PR-13-10038
PALMER	3002570	3	1-Sep-2010	2015-Dec-05	PR-13-10038
PALMER	3002571	6	1-Sep-2010	2015-Dec-05	PR-13-10038
PALMER	3002577	1	1-Sep-2010	2015-Jul-19	PR-13-10038
PALMER	3002616	2	1-Sep-2010	2015-Dec-05	PR-13-10038
PALMER	3002697	13	1-Sep-2010	2015-Jun-26	PR-13-10038
PALMER	3002698	6	1-Sep-2010	2015-Jun-10	PR-13-10038
PALMER	3015684	10	1-Sep-2010	2015-Jul-21	PR-13-10038
PALMER	3015686	7	1-Sep-2010	2015-Jun-11	PR-13-10038
PALMER	3015687	2	1-Sep-2010	2015-Aug-28	PR-13-10038
PALMER	3015689	16	1-Sep-2010	2015-Dec-03	PR-13-10038
PALMER	3019475	3	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019477	3	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019478	15	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019479	16	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019480	9	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019481	10	1-Sep-2010	2015-Jul-09	PR-13-10038
PALMER	3019482	14	1-Sep-2010	2015-Jul-09	PR-13-10038

PALMER	4219698	15	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4219783	16	10-Apr-2013	2015-Feb-25	PR-13-10349
RYAN	4219784	16	10-Apr-2013	2015-Feb-25	PR-13-10349
RYAN	4219798	16	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4242596	9	12-Nov-2012	2015-Jun-15	PR-13-10038
RYAN	4243491	8	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4249505	2	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4249511	9	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4249513	8	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4249517	8	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4249518	4	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4249520	8	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4249521	4	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4249522	2	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4249526	3	21-Jun-2012	2015-Aug-20	PR-13-10038
RYAN	4249530	8	1-Sep-2010	2015-Sep-08	PR-13-10038
RYAN	4249550	4	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4249946	4	20-Jun-2013	2015-Jun-20	PR-13-10038
RYAN	4250352	5	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4250353	12	10-Apr-2013	2015-Jun-01	PR-13-10349
RYAN	4250354	9	10-Apr-2013	2015-Jun-01	PR-13-10349
RYAN	4250355	16	10-Apr-2013	2015-Jul-28	PR-13-10349
RYAN	4250356	4	21-Jun-2012	2015-Jul-28	PR-13-10038
RYAN	4250358	8	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4250368	12	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4250370	12	25-Jun-2012	2015-Feb-13	PR-13-10038
RYAN	4250371	12	25-Jun-2012	2015-Feb-13	PR-13-10038
RYAN	4250372	10	25-Jun-2012	2015-Feb-13	PR-13-10038
RYAN	4250374	2	25-Jun-2012	2015-Feb-13	PR-13-10038
RYAN	4250375	2	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4250376	8	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4250380	4	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4250381	4	10-Apr-2013	2015-Jul-02	PR-13-10349
RYAN	4250417	4	8-Nov-2011	2015-Dec-31	PR-13-10038
RYAN	4250418	10	8-Nov-2011	2015-Dec-31	PR-13-10038
RYAN	4250419	8	8-Nov-2011	2015-Dec-31	PR-13-10038
RYAN	4250420	6	8-Nov-2011	2015-Dec-31	PR-13-10038
RYAN	4250444	16	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4250449	3	10-Apr-2013	2015-Feb-25	PR-13-10349
RYAN	4250450	3	25-Jun-2012	2015-Aug-06	PR-13-10038
RYAN	4253370	1	10-Apr-2013	2015-May-31	PR-13-10349
RYAN	4253371	4	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253372	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253373	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253374	9	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253375	16	9-Jan-2014	2016-Jan-09	PR-14-10541

RYAN	4253376	12	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253377	15	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253378	8	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4253380	8	10-Apr-2013	2015-May-31	PR-13-10349
RYAN	4253381	4	10-Apr-2013	2015-May-31	PR-13-10349
RYAN	4253382	4	10-Apr-2013	2015-May-31	PR-13-10349
RYAN	4257040	5	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4257047	10	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4257224	1	20-Jun-2013	2015-Jun-20	PR-13-10038
RYAN	4257225	5	1-Sep-2010	2015-Aug-04	PR-13-10038
RYAN	4260334	16	1-Sep-2010	2015-Jul-07	PR-13-10038
RYAN	4260336	10	1-Sep-2010	2015-Aug-04	PR-13-10038
RYAN	4260337	8	1-Sep-2010	2015-Sep-08	PR-13-10038
RYAN	4260340	3	1-Sep-2010	2015-Apr-07	PR-13-10038
RYAN	4260341	4	1-Sep-2010	2015-Apr-07	PR-13-10038
RYAN	4260342	3	1-Sep-2010	2015-Apr-07	PR-13-10038
RYAN	4260356	8	5-Jan-2012	2016-Jan-05	PR-13-10038
RYAN	4266890	4	21-Jun-2012	2015-Jul-28	PR-13-10038
RYAN	4267177	10	5-Mar-2014	2016-Mar-05	PR-14-10541
RYAN	4267178	2	5-Mar-2014	2016-Mar-05	PR-14-10541
RYAN	4267563	6	24-Oct-2012	2015-Oct-24	PR-13-10038
RYAN	4267564	1	5-Mar-2014	2016-Mar-05	PR-14-10541
RYAN	4268677	4	30-Jul-2012	2015-Jul-30	PR-13-10038
RYAN	4269377	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4269378	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4269379	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4271684	10	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4271685	8	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4271686	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4271687	16	9-Jan-2014	2016-Jan-09	PR-14-10541
RYAN	4274737	10	9-Jan-2014	2016-Apr-30	PR-14-10541
RYAN	4277411	16	8-Jul-2014	2016-Jul-08	N/A
RYAN	4277412	16	8-Jul-2014	2016-Jul-08	PR-14-10612
RYAN	4277413	4	8-Jul-2014	2016-Jul-08	PR-14-10612
RYAN	4277414	16	8-Jul-2014	2016-Jul-08	PR-14-10612
RYAN	4277415	12	8-Jul-2014	2016-Jul-08	PR-14-10612
RYAN	4277753	8	4-Jul-2014	2016-Jul-04	N/A
RYAN	4277755	4	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277756	16	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277757	7	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277758	1	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277761	16	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277762	16	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277763	3	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277766	12	7-Jul-2014	2016-Jul-07	N/A
RYAN	4277782	15	9-Jan-2014	2016-Jan-09	PR-14-10541

APPENDIX A.2

SUMMARY OF EXPENDITURES

Drill Hole	Claim No.	Start	Completed	Drill Days	Total Meters	Drilling Cost	Geology	Camp	Travel	# of Assays	Calculated Assay Cost	Total Cost
SPC-14-01	3019482	06/10/14	07/02/14	23	952	$83,200.45	$14,859.91	$19,415.77	$1,305.91	122	$4,393.13	$123,175.17
SPC3M-14-01	3019482	07/24/14	08/10/14	18	312	$22,854.96	$11,629.49	$15,194.95	$1,022.02	71	$2,556.66	$53,258.08
SPC3M-14-02	3019482	08/11/14	08/20/14	10	310	$22,760.22	$6,460.83	$8,441.64	$567.79	1	$36.01	$38,266.48
SPC3M-14-03	3019482	08/11/14	08/16/14	6	416	$33,454.77	$3,876.50	$5,064.98	$340.67	76	$2,736.70	$45,473.63
SPC3M-14-04	3019482	08/16/14	08/19/14	4	299	$24,400.26	$2,584.33	$3,376.66	$227.12	47	$1,692.43	$32,280.80
SPC3M-14-05	3019482	08/20/14	08/22/14	3	296	$23,051.85	$1,938.25	$2,532.49	$170.34	186	$6,697.72	$34,390.65
SPC3M-14-06	3019482	08/21/14	08/31/14	11	402	$28,483.11	$7,106.91	$9,285.80	$624.57	10	$360.09	$45,860.49
SPC3M-14-07	3019482	08/22/14	08/24/14	3	287	$22,350.95	$1,938.25	$2,532.49	$170.34	0	$0.00	$26,992.03
SPC3M-14-08	3019482	08/22/14	08/24/14	3	30	$2,412.60	$1,938.25	$2,532.49	$170.34	0	$0.00	$7,053.68
SCP3M-14-08a	3019482	08/27/14	08/31/14	5	350	$27,257.26	$3,230.41	$4,220.82	$283.89	22	$792.20	$35,784.59
SPC-14-02	1098722	07/02/14	08/01/14	31	977	$85,187.16	$20,028.57	$26,169.08	$1,760.14	126	$4,537.17	$137,682.12
SPC-14-03	1098722	08/01/14	08/04/14	4	243	$23,042.09	$2,584.33	$3,376.66	$227.12	12	$432.11	$29,662.30
SPC-14-04	1098722	08/04/14	08/08/14	5	317	$25,493.18	$3,230.41	$4,220.82	$283.89	0	$0.00	$33,228.31
"	1098722	11/06/14	11/11/14	6	237	$19,658.35	$3,876.50	$5,064.98	$340.67	Delayed, lack of water.		$28,940.50
SPC-14-05	1199984	08/16/14	09/16/14	32	775	$69,123.16	$20,674.65	$27,013.24	$1,816.92	2	$72.02	$118,700.00
SPC-14-06	3019479	08/30/14	09/22/14	24	1047	$107,657.05	$15,505.99	$20,259.93	$1,362.69	336	$12,099.11	$156,884.77
SPC-14-07	3000715	09/16/14	10/17/14	32	1441	$140,882.95	$20,674.65	$27,013.24	$1,816.92	539	$19,408.99	$209,796.76
SPC-14-08	3019479	09/23/14	10/10/14	18	1007	$87,177.60	$11,629.49	$15,194.95	$1,022.02	242	$8,714.24	$123,738.30
SPC-14-09	4260356	10/10/14	10/25/14	16	723	$61,689.44	$10,337.33	$13,506.62	$908.46	14	$504.13	$86,945.98
SPC-14-10	3000715	10/17/14	11/06/14	21	1070	$90,270.57	$13,567.74	$17,727.44	$1,192.36	86	$3,096.80	$125,854.90
SPC-14-11	4268677	10/25/14	11/09/14	16	605	$51,327.29	$6,797.92	$8,882.07	$597.41	141	$5,077.30	$72,682.00
SPC-14-11	4277758	Crossed claim boundary at deptl			315	$26,724.13	$3,539.41	$4,624.55	$311.05	22	$792.20	$35,991.34
			Totals	**291**	**12,411**	**$1,078,459.41**	**$188,010.12**	**$245,651.68**	**$16,522.65**	**2055**	**$73,999.01**	**$1,602,642.87**

Hole drilled by Orbit Garant Inc. !

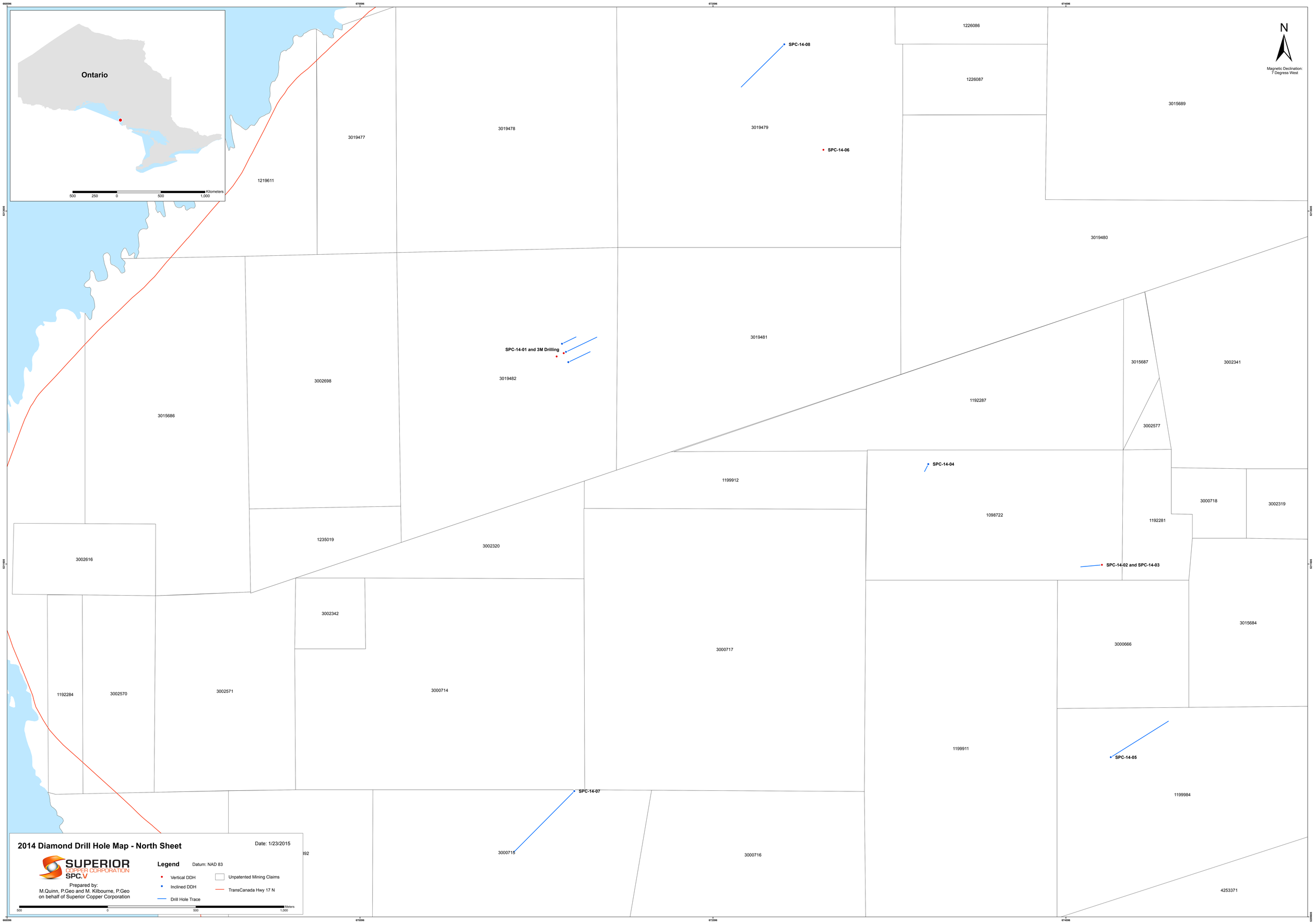
Holes drilled by Superior Diamond Drilling Ltd. All consumables were distributed on a ! weighted basis. !

Assay invoices represent samples from various holes. Assay cost per hole calculated as ! percentage of Assay and Shipping total. !

Distribution of costs weighted by number of drill days. !

APPENDIX B

1 : 5,000 SCALE DRILL HOLE LOCATION MAP


Ontario
Kilometers
500 250 0 500 1,000
N
Magnetic Declination:
7 Degress West
SPC-14-08
SPC-14-06
SPC-14-01 and 3M Drilling
SPC-14-04
SPC-14-02 and SPC-14-03
SPC-14-05
SPC-14-07
1226086
1226087
3015689
3019477
3019478
3019479
1219611
3019480
3019481
3019482
3002698
3015686
1192287
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1098722
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1192281
1235019
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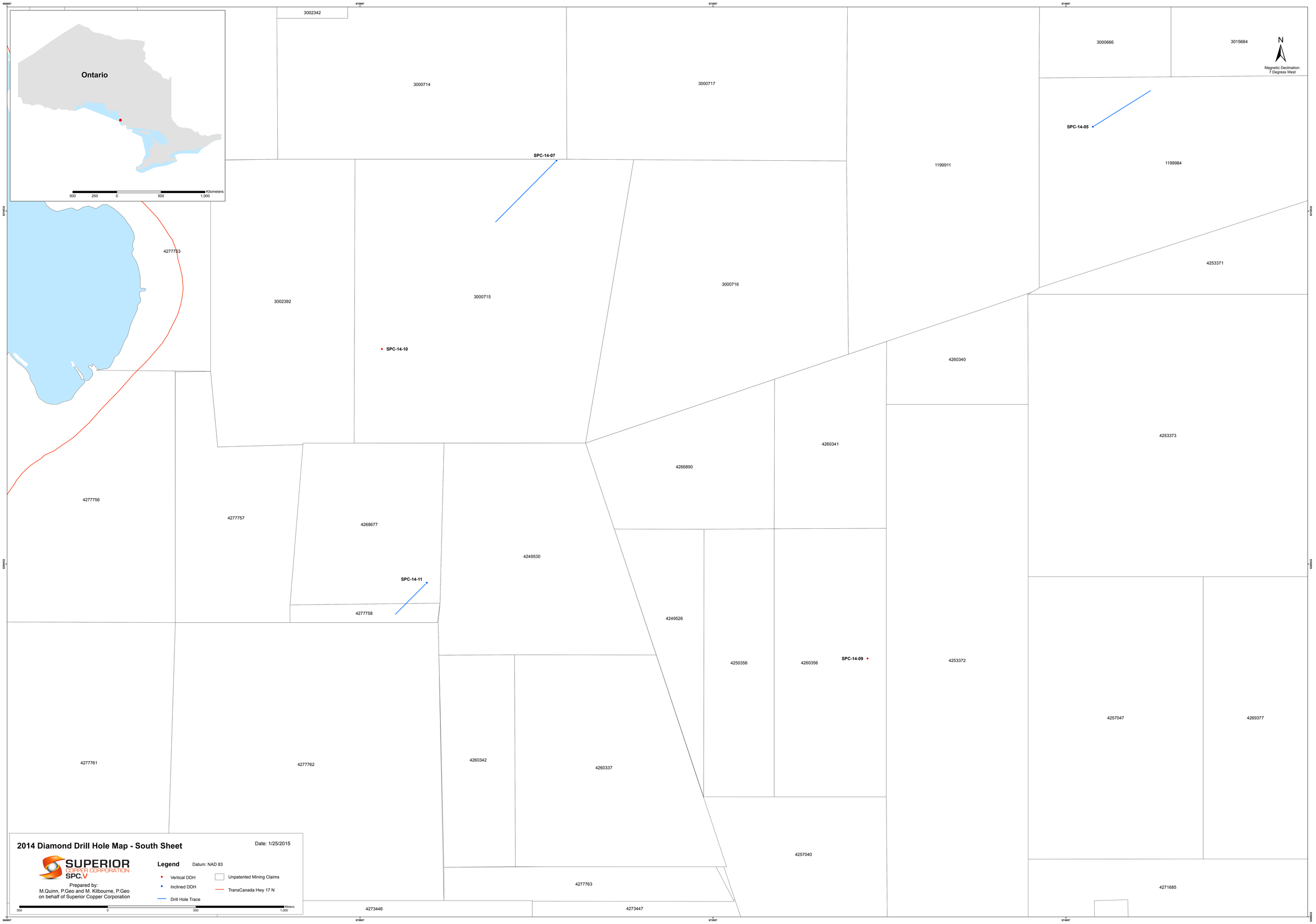
3002342
3000717
3015684
3000666
3000714
1192284
3002570
3002571
1199911
1199984
3000715
3000716
4253371
2014 Diamond Drill Hole Map - North Sheet
Date: 1/23/2015
SUPERIOR
COPPER CORPORATION
SPC.V
Prepared by:
M.Quinn, P.Geo and M. Kilbourne, P.Geo
on behalf of Superior Copper Corporation
Legend
Datum: NAD 83
Vertical DDH
Inclined DDH
Drill Hole Trace
Unpatented Mining Claims
TransCanada Hwy 17 N
Meters
500 0 500 1,000


666697
670697
672697
674697
5279403
5268403
5258403
5248403
Ontario
500 250 0 500 1,000 Kilometers
N
Magnetic Declination:
7 Degress West
3002342
3000714
3000717
3000666
3015684
SPC-14-05
SPC-14-07
1199911
1199984
4277753
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SPC-14-10
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4250356
4260356
SPC-14-09
4253372
4257047
4269377
4277761
4277762
4260342
4260337
4257040
4277763
4271685
4273446
4273447
2014 Diamond Drill Hole Map - South Sheet
Date: 1/25/2015
SUPERIOR
COPPER CORPORATION
SPC.V
Prepared by:
M.Quinn, P.Geo and M. Kilbourne, P.Geo
on behalf of Superior Copper Corporation
Legend
Datum: NAD 83
Vertical DDH
Inclined DDH
Drill Hole Trace
Unpatented Mining Claims
TransCanada Hwy 17 N
500 0 500 1,000 Meters

APPENDIX C

DIAMOND DRILL LOGS

APPENDIX C.1

LIST OF ABBREVIATIONS

Lithology Codes)

CODE	LEGEND
	PROTEROZOIC
8	**MAFIC INTRUSIVES- undivided**
8a	Mafic (diabase?)sill/dyke; highly magnetic
8b	Pyroxenite-gabbro - highly magnetic, chilled margins
8c	Mafic Feldspar Porphyry Dyke
7	**FELSIC INTRUSIVES- undivided**
7a	Feldspar Porphyry
7b	Quartz Feldspar Porphyry
7c	Felsite
7d	Granodiorite
6	**Mixed Sediments & Volcanics Contact Zone (flow top breccia)**
5	**CLASTIC SEDIMENTS - undivided**
5a	Chert
5b	Siltstone
5c	Sandstone
5d	Interbanded Siltstone & Sandstone
5e	Pebble Sandstone
5f	Conglomerate - Polymictic
5g	Conglomerate - Basalt clasts
4	**FELSIC VOLCANICS - undivided**
3	**INTERMEDIATE VOLCANICS - undivided**
2	**MAFIC VOLCANICS - undivided**
2a	amygdaloidal
2b	sparsely amygdaloidal
2c	chlorite flecked/amygdaloidal
2d	massive, aphanitic to fine grained
2e	ophitic - Ca-plagioclase dominant, fg-mg
2f	ophitic- patchy (<5%) pegmatoidal
2g	gabbroic; mg-cg massive flow
2h	volcanic fragmental
2i	daisey stone (glomeroporphyritic)
2p	porphyritic
1	**ULTRAMAFIC VOLCANICS - undivided**
1a	massive, cummulate

ARCHEAN

a8 Archean Mafic Dyke- undivided
a2 Archean Felsic Intrusive- undivided
a1 Archean Mafic Volcanics- undivided

Shorthand	Longhand

Mineralization

cpy, cp	chalcopyrite
cc	chalcocite
bn	bornite
py	pyrite
nc	native copper
Cu	copper
Mo	molybdenite
hem	hematite
spec hem, spec H	specular hematite
epd, ep	epidote
qtz	quartz
carb, cb, c	carbonate
calc	calcite
qch	quartz-carbonate-hematite
chl, chlor	chlorite
alt	alteration
sil	silica
mt	magnetite
kspar	potassium feldspar
ferro mag, fe-mg's	ferro-magnesium minerals
plag	plagioclase
alb	albite
amph	amphibole
act	actinolite
lim	limonite

Structure

CBrFZ, CBrZ	calcitic brittle fracture zone
DZ	damage zone
CZ	core zone
FZ, FrZ	fracture zone
vnlt	veinlet
vn, v	vein
jt	joint
TCA	to core axis
ca	core axis
sub //	sub-parallel
//	parallel
x, x-cutting	cross-cutting to bedding
(ok)	along bedding
bx, bxa	breccia, brecciated
ff	fracture fill

hl	hairline width
frac	fracture
str	stringer
stwk	stockwork
V1	generation of veins
S0	first order structure (bedding)
lc	lower contact
uc	upper contact
qv, qtz vn	quartz vein

Descriptive

wk	weak
mod	moderate
str	strong
fg	fine grained
mg	medium grained
cg	coarse grained
pk	pink
brn	brown
gn, grn	green
amy, amyg	amygdule
seds	sediments
wr	wallrock
tw	true width
tr	trace
diss, dss	disseminated
mag, mt	magnetic
dk	dark
cgl	conglomerate
rx, rk	rocks
pheno	phenocryst
predom	predominantly
inc	increased
dissems	disseminations
perv	pervasive
incl	included
irr	irregular
frags	fragments
v	very

APPENDIX C.2

3M ZONE DIAMOND DRILL LOGS

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-01	3M Zone	Orbit Garant Inc.	MGB

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	July 24, 2014	August 10, 2014	311.53

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212807	671763	270.5

DEPTH	DIP	AZIMUTH
COLLAR	-83	65
200	-79.8	65.2
310	-79.9	69.4

COMMENTS

Up-dip follow-up to SPC-14-01

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	6.40		Overburden
6.40	14.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
14.00	20.35	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal, pillowed?
20.35	76.20	Mafic Volcanic, 2a	Basalt, amygdaloidal
76.20	90.00	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
90.00	94.80	Mafic Volcanic, 2a	Basalt, amygdaloidal
94.80	99.65	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
99.65	105.06	Mafic Volcanic, 2a	Basalt, amygdaloidal, weak S0 foliation
105.06	106.54	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
106.54	116.14	Mafic Volcanic, 2a	Basalt, amygdaloidal
116.14	118.00	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
118.00	122.83	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
122.83	166.84	Mafic Volcanic, 2a	Basalt, amygdaloidal
166.84	175.76	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
175.76	182.71	Mafic Volcanic, 2a	Basalt, amygdaloidal
182.71	184.16	Sandstone, 5c	Sandstone
184.16	192.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
192.00	194.69	Mafic Volcanic, 2e	Basalt ophitic - Ca-plagioclase dominant, fg-mg
194.69	203.94	Ultramafic, 1a	Ultramafic, massive, cumulate
203.94	208.68	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
208.68	210.20	Sandstone, 5c	Sandstone
210.20	219.47	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
219.47	227.41	Mafic Volcanic, 2d	Basalt, massive, braided, magnetic
227.41	228.31	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
228.31	243.68	Mafic Volcanic, 2g	Gabbroic, massive
243.68	249.06	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
249.06	252.82	Mafic Volcanic, 2a	Basalt, amygdaloidal
252.82	267.95	Ultramafic, 1a	Ultramafic, massive, cumulate
267.95	269.35	Mafic Volcanic, 2a	Basalt, amygdaloidal
269.35	270.40	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
270.40	280.62	Ultramafic, 1a	Ultramafic, massive, cumulate
280.62	283.70	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
283.70	291.00	Ultramafic, 1a	Ultramafic, massive, cumulate
291.00	298.26	Mixed Seds/Volcanics,	Mixed Sediments & Volcanics Contact Zone
298.26	311.53	Mafic Volcanic, 2a	Basalt, amygdaloidal with subordinate 2c

From	To	STRUCTURES & MINERALIZATION
12.80	13.25	weak breccia by qc +/- epd fractures/vnlts 30 TCA
32.35	32.80	moderately brecciated (bx) by qcv +/- chl
44.35	46.00	DZ-, weak bx 30 TCA, fractured/veined up to 2.5 cm wide both ok and (x)
46.00	70.00	weakly fractured qc hosted both ok (x) with intermittent interbedded red siltstone and and siltstone rafts
70.34	70.44	qcv moderate bx 90 TCA, 40% qc
71.79	72.00	1 x 3cm qcv 15 TCA
75.37	**76.52**	**strong DZ** 75.37-75.8 strong bx with minor fault gouge at upper contact, qc-hem-epd dominant 75.87-76.12 22cm qcv +/- epd + hem 50 TCA 76.12-76.52 weakly fractured by qcv
80.86	80.94	1 x 2.5cm qcv +/- chl +/- epd 55 TCA
82.22	82.45	1 x 10cm qc with chl, epd and hem, some hem alteration lath-like
91.00	**102.70**	**moderate DZ** broken, fractured, intermittent weak bx, weak s0 100-102.7, 2 x 6-10cm fault gouge between 94-97 no markers for 2 boxes
160.00	165.30	**weak DZ**, fractured, broken
188.50	190.23	moderately fractured, intermittent weak to moderate bx over 5-15cm sections by qtz-carb+/- hem 30 TCA (x)
198.52	**200.32**	**weak to moderate DZ** moderate bx by qtz-carb-hem fractures generally 30 TCA
202.00	202.50	weak DZ, weak bx by qtz-carb
212.80	213.50	weak DZ, intermittent strong bx by qtz-carb, minor qtz-epd vnlts 2mm - 1 cm
215.35	**219.47**	**moderate DZ** weak to strong bx by qtz-carb-hem, intermittent strong, mostly 30-35 TCA 217.34-217.47 4 cm vn with qtz-epd-hem+/- chl

From	To	STRUCTURES & MINERALIZATION
12.80	13.25	weak breccia by qc +/- epd fractures/vnlts 30 TCA
256.53	**257.26**	**weak DZ**
		wk bx by qtz-carb+/-hem+/-epd 40 TCA
258.75	258.91	weak bx with 1 x 0.5cm qtz-carb-hem vn 45 TCA

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Magnetite	Other
6.40	78.00	patchy	strong		
78.00	90.00	patchy to weak	moderate		
90.00	91.00	strong	strong		
91.00	116.00	weak	strong		
116.00	127.00	moderate	moderate		
127.00	149.00	strong	weak		
149.00	176.00	weak	moderate		
176.00	182.71	weak			
182.71	191.00	strong	weak		
191.00	197.00	strong			
204.00	208.68	strong			
208.68	210.20		strong		
210.20	219.47		strong		
219.47	227.41			moderate	
228.00	235.00	strong			
235.00	243.00		moderate, patchy		
249.06	252.82	moderate-strong			
268.00	275.00	weak, amy filled or around sed frags			
275.00	290.50		weak in cumulate, strong in groundmass	moderate	
290.50		intense			

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948625	152.64	152.94	0.30
P	948626	152.94	153.24	0.30
P	948627	153.24	154.24	1.00
P	948628	154.24	155.24	1.00
P	948629	CM-36		
P	948630	155.24	155.54	0.30
P	948631	155.54	155.84	0.30
P	948632	155.84	156.14	0.30
P	948633	156.14	156.44	0.30
P	948634	156.44	156.74	0.30
P	948635	156.74	157.34	0.60
P	948636	157.34	157.84	0.50
P	948637	157.84	158.18	0.34
P	948638	158.18	158.48	0.30
P	948639	101b		
P	948640	158.48	158.88	0.40
P	948641	158.88	159.45	0.57
P	948642	159.45	159.87	0.42
P	948643	159.87	160.17	0.30
P	948644	160.17	160.47	0.30
P	948645	160.47	161.15	0.68
P	948646	161.15	161.45	0.30
P	948647	161.45	161.75	0.30
P	948648	1/4 Dup	1/4 Dup	1/4 Dup
P	948649	161.75	162.05	0.30
P	948650	162.05	162.6	0.55
P	948001	162.6	162.9	0.30
P	948002	162.9	163.2	0.30
P	948003	163.2	163.5	0.30
P	948004	163.5	163.8	0.30
P	948005	163.8	164.15	0.35
P	948006	Blank		
P	948007	164.15	164.45	0.30
P	948008	164.45	164.8	0.35
P	948009	164.8	165.67	0.87
P	948010	165.67	165.98	0.31
P	948011	165.98	166.28	0.30
P	948012	166.28	166.63	0.35
P	948013	166.63	166.93	0.30

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948014	CM-36		
P	948015	166.93	167.23	0.30
P	948016	167.23	167.53	0.30
P	948017	167.53	168.09	0.56
P	948018	168.09	168.54	0.45
P	948019	168.54	168.84	0.30
P	948513	290	290.6	0.6
P	948514	290.6	290.97	0.37
P	948515	290.97	291.28	0.31
P	948516	291.28	291.59	0.31
P	948517	291.59	291.96	0.37
P	948518	cm-36		
P	948519	291.96	292.53	0.57
P	948520	292.53	293.13	0.6
P	948521	293.13	293.64	0.51
P	948522	293.64	294.1	0.46
P	948523	294.1	294.58	0.48
P	948524	294.58	295.36	0.78
P	948525	295.36	295.81	0.45
P	948526	295.81	296.48	0.67
P	948527	296.48	296.93	0.45
P	948528	101b		
P	948529	296.93	297.26	0.33
P	948530	297.26	297.57	0.31
P	948531	297.57	297.86	0.29
P	948532	297.86	298.26	0.4
P	948533	298.26	298.62	0.36
P	948534	298.62	299.03	0.41
P	948535	299.03	299.67	0.64
P	948536	299.67	300.16	0.49
P	948537	1/4 dup		
P	948538	b1		

SUPERIOR COPPER CORPORATION SPC.V

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-02	3M Zone	Orbit Garant Inc.	MKW

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 11, 2014	August 20, 2014	310

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212807	671763	270.5

DEPTH	DIP	AZIMUTH
COLLAR	-74	65
310	-74	65

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	6.00	OVB	Overburden
6.00	19.75	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
19.75	39.46	Mafic Volcanic, 2a	Basalt, amygdaloidal
39.46	52.33	Ultramafic, 1a	Ultramafic, massive, cumulate, very hematized. Could be very tightly packed amy's or cumulate texture
52.33	70.84	Mafic Volcanic, 2a	Basalt, amygdaloidal
70.84	72.57	Mafic Volcanic, 2h	Basalt, fragmental?
72.57	85.81	Mafic Volcanic, 2a	Basalt, amygdaloidal
85.81	93.57	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 10% seds
93.57	96.80	Mafic Volcanic, 2a	Basalt, amygdaloidal
96.80	98.63	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 20% seds
98.63	100.04	Sandstone, 5c	Sandstone
100.04	101.95	Mafic Volcanic, 2a	Basalt, amygdaloidal
101.95	103.67	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 20% seds
103.67	109.84	Mafic Volcanic, 2c	Basalt, amygdaloidal, chlorite flecked
109.84	111.00	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 60% seds
111.00	128.27	Mafic Volcanic, 2a	Basalt, amygdaloidal
128.27	128.97	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 90% seds
128.97	132.54	Mafic Volcanic, 2a	Basalt, amygdaloidal
132.54	134.33	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 60% seds
134.33	142.07	Mafic Volcanic, 2a	Basalt, amygdaloidal
142.07	144.87	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
144.87	155.52	Mafic Volcanic, 2a	Basalt, amygdaloidal
155.52	165.00	Mafic Volcanic, 2d	Basalt, massive
165.00	166.08	Mafic Volcanic, 2a	Basalt, amygdaloidal
166.08	167.40	Mafic Volcanic, 2d	Basalt, massive
167.40	172.82	Mafic Volcanic, 2a	Basalt, amygdaloidal
172.82	174.10	Sandstone, 5c	Sandstone
174.10	177.94	Mafic Volcanic, 2g	Basalt, gabbroic
177.94	178.88	Mafic Volcanic, 2a	Basalt, amygdaloidal
178.88	179.61	Mafic Volcanic, 2g	Basalt, gabbroic; mg
179.61	181.37	Mafic Volcanic, 2a	Basalt, amygdaloidal
181.37	185.43	Mafic Volcanic, 2g	Basalt, gabbroic; mg
185.43	187.40	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
187.40	192.04	Mafic Volcanic, 2g	Basalt, gabbroic; mg
192.04	195.88	Mafic Volcanic, 2a	Basalt, amygdaloidal
195.88	200.25	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 15% seds
200.25	217.58	Ultramafic, 1a	Ultramafic, pseudo-cumulate, fg-mg, mod magnetic
217.58	218.35	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 15% seds
218.35	235.95	Ultramafic, 1a	Ultramafic,cumulate, fg-mg, wkly magnetic
235.95	239.94	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone 35% seds
239.94	241.47	Mafic Volcanic, 2a	Basalt, amygdaloidal
241.47	256.33	Ultramafic, 1a	Ultramafic, pseudo-cumulate, fg-mg, mod magnetic
256.33	258.05	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
258.05	260.60	Mafic Volcanic, 2a	Basalt, amygdaloidal
260.60	265.43	Ultramafic, 1a	Ultramafic, pseudo-cumulate, fg-mg, mod magnetic
265.43	267.05	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
267.05	267.93	Mafic Volcanic, 2a	Basalt, amygdaloidal
267.93	267.05	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
267.05	267.90	Mafic Volcanic, 2a	Basalt, amygdaloidal
267.90	268.53	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
268.53	272.02	Mafic Volcanic, 2c	Basalt, amygdaloidal/chlorite flecked
272.02	282.41	Ultramafic, 1a	Ultramafic, pseudo-cumulate, fg-mg, mod magnetic
282.41	283.71	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
283.71	288.09	Mafic Volcanic, 2a	Basalt, amygdaloidal

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
288.09	294.31	Mafic Volcanic, 2c	Basalt, amygdaloidal/chlorite flecked
294.31	310.00	Ultramafic, 1a	Ultramafic, pseudo-cumulate, fg-mg, mod magnetic

From	To	STRUCTURES & MINERALIZATION
17.76	18.00	**1 x** 1cm qtz-carb-hem vn 20 TCA
20.26	20.30	1 x 4cm qtz-carb-hem vn with mnr hematitic fragments 80 TCA
21.53	21.93	1 x 3mm qtz-carb vnlt 15 TCA
23.00	24.00	weak bx by qc fractures
28.00	37.00	intermittent qc vnlts/fractures, 33+
37.90	38.53	weak intermittent bx/vn by qtz-carb-hem, largest section 8 cm
39.12	39.43	strong bx, angular frags, bx matrix qc + epd + hem
40.57	42.23	intermittent str bx by qc + hem + epd +/- chl, largest section 20cm across
43.00	43.20	str bx, 90% frags, some sub-rounded (flow top?)
44.10	45.00	intermittent str bx by qc + hem + epd +/- chl, largest section 27cm across
45.47	46.20	wk fracture/vnlts, qc, 7+
46.20	47.36	str bx by qc, 47-47.36 95% qc +/- blue mineral
48.66	48.86	mod bx 30 TCA
49.00	55.00	intermittent qc +/- chl vnlts up to 0.5cm, intermittent qc masses
59.00	59.20	mod bx by qc +/- epd
63.12	63.24	str bx by qc, angular frags of seds
70.84	72.57	str bx by qtz-carb+epd+hem+ grey blue mineral
72.57	84.00	strongly fractured/vn'd and intermittent bx (79.8-80.74) with qc + epd+ blue gy min
85.81	86.13	healed fault gouge? Or fragmental?
103.00	104.00	blocky, broken
107.00	112.00	blocky, broken
131.14	131.40	1 x 2cm qv 20 TCA
165.57	165.66	1 x 1cm qtz-carb-hem vn 30 TCA
181.77	181.87	1 x 3cm qcv/bx 35 TCA
188.40	189.11	1 x 3mm epd vn 5 TCA
194.80	195.36	moderate breccia with intense epd-sil-kspar? alteration, chaotic unit
198.50	199.25	broken, crumbly
	202.97	speck **chalcocite** in qtz-carb-epd amygdaloid
	204.56	speck **chalcocite** in qtz-carb-epd mass, probably just clipped a vein
205.49	206.20	qtz-kspar-epd-carb vn/mass, 5cm wide with a 1 cm epd vn branch, mnr small blebs/specks of **chalcocite**, orientation 30-30 both x and ok, smaller vnlet sub// TCA
243.86	244.55	weak DZ

From	To	STRUCTURES & MINERALIZATION
17.76	18.00	**1 x** 1cm qtz-carb-hem vn 20 TCA
		244 1x0.5cm qcv 30 TCA
		244.17-244.35 1 x 2mm qtz-carb+epd vnlt 15 TCA with speck of **chalcocite**
		244.46 qtz-carb-epd mass/vn with speck of **chalcocite** 80 TCA

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Magnetite	Other
6	11		strong		
11	16.5		patchy strong hem around pillow rims?		
16.5	37.9	strong			qc of amy's, fracs, vnlts
37.9	38.53	strong	weak		
39.12	39.43	strong	weak of fragments		
40.57	43	strong			
43	85.5		strong		qc of amy's, fracs, vnlts
85.5	86.74	moderate	weak		
86.74	93.57		strong hem of groundmass		
93.57	96.80		strong		
96.80	98.63		strong		
98.63	100.04		moderate		
100.04	101.95		strong		
101.95	103.67		strong		
103.67	109.84				chlorite
109.84	111.00		moderate		
111.00	115.00	weak			
119	139.00	strong			118.4-118.56 seds
142.07	144.87	weak	weak		119.53-119.77 85% seds with bedding 70 TCA
144.87	155.52	moderate	weak		126.47-126.5 85% seds
155.52	165	weak	weak		126.65-126.77, seds with bedding
165	166.08	moderate			
166.08	167.4		moderate		
172.82	174.10	strong			
174.10	177.94	patchy strong			
177.94	178.88	patchy strong			
178.88	179.61	moderate			
179.61	181.37	moderate			
181.37	185.43	weak	moderate of groundmass		

185.43	187.40	moderate	weak	
187.40	192.04	weak	weak of groundmass	
192.04	195.88	moderate		
218.35	235.95	strong	patchy moderate of groundmass	chl replacement of ferro-mags, weakly magentic
235.95	239.94	moderate	moderate of seds	
239.94	241.47	patchy strong		
241.47				

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P 948544	205.49	206.2	0.71

SAMPLE FOOTAGE			SAMPLE
Sample No.	FROM	TO	LENGTH
948544	205.49	206.2	0.71

SAMPLE FOOTAGE			SAMPLE
Sample No.	FROM	TO	LENGTH

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-03	3M Zone	Orbit Garant Inc.	MGB

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 11, 2014	August 16, 2014	416

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212781	671710	269

DEPTH	DIP	AZIMUTH
COLLAR	-90	65
200	-89.3	65
400	-89.5	65

COMMENTS

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	14.83	OVB	Overburden
14.83	26.86	Conglomerate, 5f	Conglomerate - Polymictic
26.86	27.62	Pebble Sandstone, 5e	Pebble Sandstone, bedding 70 TCA
27.62	32.73	Mafic Volcanic, 2a	Basalt, amygdaloidal
32.73	33.81	Sandstone, 5c	Sandstone
33.81	39.05	Mafic Volcanic, 2d	Basalt, massive (tiger rock)
39.05	44.48	Mafic Volcanic, 2a	Basalt, amygdaloidal
44.48	44.93	Sandstone, 5c	Sandstone, bedding 70 TCA
44.93	49.26	Mafic Volcanic, 2a	Basalt, amygdaloidal
49.26	50.46	Conglomerate, 5f	Conglomerate - Polymictic
50.46	52.18	Mafic Volcanic, 2a	Basalt, amygdaloidal (50.83-51.26, 85% seds)
52.18	56.56	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal, subordinate 2a
56.56	59.60	Mafic Volcanic, 2a	Basalt, amygdaloidal with subordinate seds <10%
59.60	60.09	Sandstone, 5c	Sandstone
60.09	83.6	Ultramafic, 1a	Mafic Intrusive. Chl fleck clusters intermitent throughout. Grain size increases downhole.
83.6	87.92	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal-Chl-Qtz
87.92	88.66	Sandstone, 5c	Sandstone. Bedding at 60deg to CA. Medium grain.
88.66	90.2	Mafic Volcanic, 2a	Amygdaloidal Basalt. Dense amyg (50%). Sediment layers throughout (15%)
90.2	90.57	Sandstone, 5c	Sandstone. Fine grain.
90.57	101.28	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal-Chl-Qtz. Amyg dense and small at top of unit.
101.28	103.7	Mixed Seds/Volcanic, 6	Mixed Mafic Volcanic and Sedimentary. Calcite nodules/clasts (10%) concentrated in center of unit.
103.7	119.77	Mafic Volcanic, 2b	Sparsely Amygdaloidal Basalt. Amyg fill Ep-Cal-Chl-Qtz. Dominant Ep, minor chl. "Nebulous" texture.
119.77	120.53	Felsite7a	Felsic Volcanic. Felsite dyklet
120.53	127.2	Mafic Volcanic, 2d	Massive Basalt.
127.2	137.42	Mixed Seds/Volcanic, 6	Mixed Mafic Volcanic and Sedimentary. Top 3m contains 1% seds, the rest is approx 50-50 seds/volc.
137.42	144.65	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal with minor soft blue grey mineral (talc?). Ep rims. Dense amyg at top, grades to massive (2d)
144.65	148.2	Mafic Volcanic, 2a	Amygdaloidal Basalt. Same as previous
148.2	157.46	Mafic Volcanic, 2a	Amygdaloidal Basalt. Same as previous
157.46	160.72	Mafic Volcanic, 2a	Amygdaloidal Basalt. Same as previous

160.72	162.3	Mafic Volcanic, 2a	Amygdaloidal Basalt. Same as previous
162.3	164.56	Mafic Volcanic, 2a	Amygdaloidal Basalt. Same as previous
164.56	169.79	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg throughout. Ep-Cal-Pk Cal-Chl
169.79	171.62	Mixed Seds/Volcanic, 6	Mixed Mafic Volcanic and Sedimentary. Minor seds
171.62	176.27	Mafic Volcanic, 2b	Sparsely Amygdaloidal Basalt. Amyg fill Chl-Cal-Ep-Qtz
176.27	180.75	Mafic Volcanic, 2c	Basalt with Chlorite Flecks. Amyg at top of flow
180.75	180.93	Sandstone, 5c	Sandstone. Fine grain. Bedding at 50deg to CA.
180.93	190.25	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal-Pk Cal-Chl-Qtz
190.25	190.38	Sandstone, 5c	Sandstone. Fine Grain. Undulated contacts.
190.38	192.42	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal-Pk Cal-Chl-Qtz
192.42	192.49	Sandstone, 5c	Sandstone. Fine Grain. Undulated contacts.
192.49	205.23	Mafic Volcanic, 2c	Basalt with Chlorite Flecks. Intercalated fine/medium grain. Flow banding (?).
205.23	209.56	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Cal
209.56	212.05	Mafic Volcanic, 2b	Sparsely Amygdaloidal Basalt. Amyg fill Ep-Cal
212.05	215.23	Mafic Volcanic, 2d	Massive Basalt. Some chl fleck near bottom.
215.23	221.7	Ultramafic, 1a	Mafic Intrusive. Cumulates upto 0.5.
221.70	222.88	Mafic Volcanic, 2c	Basalt with Chl flecks. CC at lower contact. 40 TCA.
222.88	225.48	Mafic Volcanic, 2d	Massive Basalt. Discreet bands of amygdules with Ep-Calc-CC fill.
225.48	228.52	Mafic Volcanic, 2a	Amygdaloidal Basalt. CC in amyg. at top of flow. Amyg fill Ep-Calc-Qtz (+ Pk calc increasing downhole)
228.52	236.23	Mafic Volcanic, 2d	Massive Basalt. Variable hem alt.
236.23	239.69	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg. fill Ep-Qtz-Calc. Occasional amyg core is void.
239.69	242.71	Mafic Volcanic, 2d	Massive Basalt.
242.71	249.58	Mafic Volcanic, 2a	Amygdaloidal Basalt. Intermittent zones of reduced amyg. (2b)
249.58	250.69	Sandstone, 5c	Sandstone. Grains size decreases downhole
250.69	251.61	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary.
251.61	254.13	Mafic Volcanic, 2d	Massive Basalt. Mafic Intrusive? Coarse grained. Cut by Calc-Clay structures.
254.13	257.64	Mafic Volcanic, 2a	Amygdaloidal Basalt.
257.64	259.57	Mafic Volcanic, 2d	Massive Basalt. Coarse grained.
259.57	270.83	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary. Highly altered. CBrZ in core of unit.
270.83	272.20	Mafic Volcanic, 2a	Amygdaloidal basalt. Amyg fill Ep-Calc-Qtz or Chl.
272.20	277.72	Ultramafic, 1a	Ultramafic. Medium grain, cumulate texture.

277.72	283.19	Mafic Volcanic, 2b	Sparsely amygdaloidal basalt. Amyg fill Ep-Calc-Qtz-Chl
283.19	283.95	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary. Soft grey mineral (clay?) in occasional amyg.
283.95	288.38	Mafic Volcanic, 2b	Sparsely amygdaloidal basalt. Amyg fill Ep-Calc-Qtz-Chl +/- CC
288.38	296.88	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary. CC in sediments (288.52m-288.80m). CC in Amyg with Ep-Calc-Qtz.
296.88	298.75	Mafic Volcanic, 2a	Amygdaloidal basalt.
298.75	299.24	Mafic Volcanic, 2a	Amygdaloidal basalt. Flow top. Bleached.
299.24	299.35	Sandstone, 5c	Sandstone Bedding 60 TCA. Bleached.
299.35	303.17	Mafic Volcanic, 2a	Amygdaloidal basalt. 10-60cm bands of bleached basalt (flow tops?). CC disseminated in bleached band (300.63-301.24). Amyg fill Ep-Pk Calc-Chl. Bleached.
303.17	308.14	Ultramafic, 1a	Ultramafic. Medium grain, cumulate texture. Non-magnetic. Chl flecks.
308.14	310.05	Mafic Volcanic, 2c	Basalt with Chl flecks. Flow fabric. Chl fleck. Narrow band of sediments at 308.49-308.51.
310.05	327.60	Ultramafic, 1a	Ultramafic. Coarse grain, cumulate texture. Moderately magnetic. Contains autoliths/xenoliths (?)
327.60	328.88	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary. Dominantly volcanics.
328.88	332.56	Mafic Volcanic, 2a	Amygdaloidal basalt. Amyg fill Ep-Pk Calc-Calc-minor Qtz.
332.56	355.79	Ultramafic, 1a	Ultramafic. Moderately magnetic. Very coarse grain. Cumulate texture.
355.79	362.11	Mafic Volcanic, 2a	Amygdaloidal basalt. Amyg fill Ep. Intermitent coarse grain zones. Abundant amyg.
362.11	363.15	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary.
363.15	364.48	Mafic Volcanic, 2a	Amygdaloidal basalt. Amyg fill Ep-Calc-Chl-Pk Calc.
364.48	367.74	Mafic Volcanic, 2d	Massive basalt Fine to medium grained.
367.74	369.74	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary.
369.74	383.31	Ultramafic, 1a	Ultramafic. Moderately magnetic. Medium grained. Autoliths/xenoliths (?) moderately abundant. Felsite dykelet cutting Ep-Qtz vn (379.57m-379.79m), CC in both.
383.31	384.37	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary.
384.37	387.71	Mafic Volcanic, 2a	Amygdaloidal basalt.
387.71	390.26	Mafic Volcanic, 2d	Massive basalt
390.26	395.32	Sand/Siltstone, 5d	Sandstone Mixed sedimentary. Medium to fine grained sandstone, red-green colour. Siltstone, grey.
395.32	404.05	Mixed Seds/Volcanic, 6	Mixed mafic volcanic and sedimentary.
404.05	414.13	Mafic Volcanic, 2d	Massive basalt Ep stockwork at top and bottom of unit. CBrZ in core.
414.13	416.00	Pebble Sandstone, 5e	Pebble sandstone.

EOH

From	To	STRUCTURES & MINERALIZATION
43.00	43.27	qtz-carb-chl-hem vn/bx 30-40 TCA
46.07	**51.27**	**weak CBrZ**
46.07	48.06	DZ, 12+ qc-hem fractures/vnlts with mnr wk bx
48.06	49.27	CZ, 4 x 0.5-1cm qtz vns ~ 40TCA with mnr wall rock bx
		48.95-49.26 str bx by qc, angular hem fragments
49.27	51.27	DZ, wk bx 49.6-50 by qtz-carb
		50.3-50.46 1 x 8mm qtz-carb vn 30 TCA
		50.09-50.23 1 x 4mm qtz-carb vn 30 TCA
58.70	58.90	strong breccia (bx) by qtz-carb-chl+/-epd
63.94	64.10	strong breccia (bx) by qtz-carb-chl+/-epd
71.05	**78.70**	**Ep-Amph-CO**
		Ep-Amph-Cal +/- Pk Cal +/- Talc (?). weak-moderate bleaching proximal to vein
71.05	78.52	DZ - weak. Vn/frac spacing 20 cm. 0.1-1.5 cm. Vn material 2-3%
78.52	78.70	CZ - 55 TCA
87.92	88.66	Bedding at 60 TCA
103.70	**117.10**	**Ep-CO**
		Ep-CO-Spec Hem. Ep often crystalline in Vn core. Weak bleaching proximal to vns.
103.70	114.80	DZ - moderate. Vns 0.1-2.0 cm. 5-20 cm spacing. Vn material 3-5%. Larger Vns (>1cm) contain more calc. stock work, no dominant orientation (x).
114.80	115.32	CZ - Ep at Vn edges, calc in core, spec hem throughout. 50 TCA (x)
115.32	117.10	DZ - weak. Vns 0.1-0.5cm. <1% Vn material.
119.77	120.53	Felsic dykelet, 3-4cm TW. Weakly Bx, Ep-Calc matrix (?). Pervasive Ep alteration proximal to dykelet. 15 TCA.
197.55	204.12	Fractures, 0.1-1.0cm, 60 TCA (x). Ep-Chl fill, weakly bleached halo. 32 fracs over 6.5m.
210.50	210.56	Ep-Qtz-CC Vn. 0.5cm TW. 40 TCA.
210.11	**219.45**	**Mx Zone**
210.11	219.14	Ep ff with blebs of CC.
219.14	219.45	CZ - 50 TCA.

From	To	STRUCTURES & MINERALIZATION
		219.14m-219.27m - Pervasive strong Ep alt.
		219.27m-219.30m - Calc-Pk Calc vn. Pk Calc at edges, does not react to acid.
		219.30m-219.45m - Increased Qtz, Qtz-Ep vn hosts CC. Disseminated blebs of CC upto 0.7cm. Increased Ep at edges of Qtz vn. Red hem sometimes rims CC.
231.13	231.32	Vn/frac. Fill Ep-Qtz-CC. CC blebs upto 1cm. Multiple fracs, no orientation.
235.19	235.34	Ep-Calc-Qtz Vn. Ep at edges. Qtz in core. Sharp contacts at 20 TCA. 0.5cm TW.
251.64	251.72	Ep-Calc-Qtz vn. Moderate-strong clay development. Talc?. Contacts heavily altered.
252.05	252.38	Ep-Calc-Qtz vn. Moderate-strong clay development. Talc?. Contacts heavily altered.
252.48	252.54	Ep-Calc-Qtz vn. Moderate-strong clay development. Talc?. Contacts heavily altered.
285.75	285.82	Qtz-Ep-CC vn. 50 TCA (x). 1.5cm TW. Hem at edges. CC finely disseminated.
272.09	272.20	Qtz-Ep-Calc vn bx. 45 TCA, 6cm TW. Resembles CBrZ at upper contact. Blocky core.
273.42	273.53	CBrZ. 50 TCA, 1cm TW. Ep-Qtz vn.
322.17	322.34	Felsite dikelet. Flow banding. 30 TCA (x), 2cm TW. Grey, FG, some pink. Sharp contact.
314.93	315.05	Felsite dikelet. Buff-pink, FG. Ep alt WR. 30 TCA. 1cm TW.
327.00	327.16	Felsite dikelet. Grey, slight pink-red hue. 20 TCA. 1cm TW.
332.26	**332.43**	**Ep-Qtz vn. 20 TCA, 1.5cm TW. Strong WR alt, Ep.**
335.94	336.11	Felsite dikelet. 10 TCA, 1.5TW. Green, pervasive ep alt.
354.65	354.73	Ep-Qtz vn/ff. 1790ppm Cu, XRF. 30 TCA, 0.3cm TW.
358.93	358.98	Ep-Qtz-Kspar. 50 TCA, 0.4cm.
373.93	374.01	Ep-Qtz. 30 TCA, 0.5cm TW.
376.37	376.70	Felsite dikelet. Buff-pink, FG.
379.57	379.79	Felsite dikelet cutting ep-qtz vn. CC in both. 15-20 TCA.
402.70	**413.13**	**CBRZ. 30 TCA.**
402.70	407.44	DZ - Calc vns. Sub-CZ at 404.60m-404.96m: fault gouge at top of breccia. Slickenslides. Vn increase from 407.00m-407.44. 5-10% vn material.
407.44	409.92	CZ - Bx with calc +/- qtz matrix. Clasts of [2d] upto 5cm. Hem alt.
499.92	413.13	Weak calc vns.

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding

From	To	STRUCTURES & MINERALIZATION
	TW	true width
	V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
14.83	60.09		Strong	qtz-carb+/- epd filled amy's
60.09	83.6	Moderate	Weak	
83.6	87.92		Strong	
87.92	90.57		Weak	
90.57	101.28		Strong	
101.28	103.7	Moderate		
103.7	117.5		Weak	
117.5	119.77		Weak	
119.77	120.53	Strong		
120.53	121	Moderate		
121	137.42	Weak	Weak	
137.42	156		Strong	
156	157		Weak	
157	158.9		Moderate-Strong	
160.5	169.72		Moderate	
177.5	180.75		Weak	
184.5	190.25		Weak	
192.7	198.75	Moderate		
198.75	205.25	Moderate-Strong	Weak	
206	208		Moderate	
212.25	214		Moderate	
214	215.25	Weak-Moderate		
215.25	221.7		Weak	
221.7	222.8	Weak		
222.88	224.35		Weak-Moderate	
228.55	232.8		Weak	
232.8	236.2		Moderate	
239.3	242.65		Weak-Moderate	
244	249		Weak	
249.5	250.6	Moderate-Strong	Weak	
250.6	253.3	Moderate		
253.3	254.2	Weak		
	270	Moderate-Strong		
270	272.2		Moderate-Strong	
272.2	277.7		Moderate	
277.7	284.2		Strong	
278.1	278.35	Strong		
284.2	285.5		Weak	
303.1	310	Moderate		
310	313.25		Moderate	
314	316	Weak		
318.5	324.75		Weak-Moderate	
324.75	326.25		Weak	
327.5	330	Moderate	Weak-Moderate	
330	342		Moderate-Strong	
354	355.75		Moderate	
355.75	364.5	Moderate	Moderate-Strong	
364.5	366.5		Moderate	
367.75	369.75		Strong	
373.9	379.8	Weak		
382.25	383.25		Weak-Moderate	
383.25	387.75	Weak-Moderate		
390.25	402	Weak-Moderate	Weak-Moderate	
402	402.75		Strong	
403.75	404.4	Strong		
404.4	412.5		Moderate	

SAMPLE FOOTAGE			SAMPLE LENGTH
Sample No.	FROM	TO	
P948539	217.84	218.14	0.30
P948540	218.47	219.14	0.67
P948541	219.44	220.46	1.02
P948542	1/4 dup		
P948543	219.14	219.44	0.30
P948544	205.49	206.20	0.71
P948545	209.47	210.11	0.64
P948546	210.11	210.50	0.39
P948547	210.50	210.96	0.46
P948548	210.96	211.62	0.66
P948549	211.62	212.04	0.42
P948550	b1		
P948551	212.04	212.67	0.63
P948552	212.67	213.31	0.64
P948553	213.31	213.67	0.36
P948554	222.81	223.19	0.38
P948555	223.19	224.24	1.05
P948556	224.24	225.00	0.76
P948557	225.00	225.48	0.48
P948558	cm-36		
P948559	225.48	225.90	0.42
P948560	225.90	226.46	0.56
P948561	231.00	231.34	0.34
P948562	235.12	235.42	0.30
P948563	260.63	260.93	0.30
P948564	260.93	261.53	0.60
P948565	261.53	261.83	0.30
P948566B	261.83	262.13	0.30
P948567	262.13	262.49	0.36
P948568	101b		
P948569	262.49	263.49	1.00
P948570	263.49	264.49	1.00
P948571	264.49	264.89	0.40
P948572	264.89	265.19	0.30
P948573	265.19	265.81	0.62
P948574	265.81	266.50	0.69
P948575	266.50	267.10	0.60
P948576	267.10	268.10	1.00
P948577	1/4 dup		
P948578	268.10	268.50	0.40
P948579	268.50	268.90	0.40
P948580	268.90	269.95	1.05
P948581	269.95	270.55	0.60
P948582	270.55	271.55	1.00

SAMPLE FOOTAGE			SAMPLE LENGTH
Sample No.	FROM	TO	
P948583	283.18	283.55	0.37
P948584	283.55	283.92	0.37
P948585	283.92	284.42	0.50
P948586	b1		
P948587	284.42	285.04	0.62
P948588	285.04	285.64	0.60
P948589	285.64	285.94	0.30
P948590	288.52	288.90	0.38
P948591	288.90	289.68	0.78
P948592	289.68	290.35	0.67
P948593	290.35	291.00	0.65
P948594	cm-36		
P948595	291.00	291.35	0.35
P948596	291.35	292.06	0.71
P948597	292.06	292.70	0.64
P948598	292.70	293.25	0.55
P948599	293.25	293.80	0.55
P948600	293.80	294.80	1.00
P948601	294.80	295.11	0.31
P948602	295.11	296.13	1.02
P948603	296.13	296.88	0.75
P948604	101b	101b	101b
P948605	296.88	297.78	0.90
P948606	297.78	298.75	0.97
P948607	298.75	299.45	0.70
P948608	299.45	300.00	0.55
P948609	300.00	300.63	0.63
P948610	300.63	301.24	0.61
P948611	301.24	301.78	0.54
P948612	301.78	302.08	0.30
P948613	1/4 Dup		
P948614B	302.08	302.70	0.62
P948615	302.70	303.20	0.50

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-04	3M Zone	Orbit Garant Inc.	MQ, MWK

CLAIM NO.			TOTAL METERAGE
3019482	August 16, 2014	August 19, 2014	299

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212749	671776	270.5

DEPTH	DIP	AZIMUTH
COLLAR	-82	65
200	-82.6	65
299	-81.6	65

COMMENTS

Follow up to 3M Zone 50m to the southwest

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	6.00	OVB	Overburden/Casing
6.00	19.23	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal (tiger rock)
19.23	21.36	Mafic Volcanic, 2a	Basalt, amygdaloidal
21.36	22.23	Sandstone, 5c	Sandstone, bedding 65 TCA
22.23	28.80	Mafic Volcanic, 2a	Basalt, amygdaloidal
28.80	41.16	Mafic Volcanic, 2d	Basalt, massive, m-cg, chl flecks, non-mt
41.16	67.39	Mafic Volcanic, 2a	Basalt, amygdaloidal
67.39	91.65	Ultramafic, 1a	Ultramafic, f-mg cumulate, wkly-mod mt
91.65	94.00	Mixed Seds/Volcanic, 6	Mixed Seds & Volcanics Contact Zone, 5% seds
94.00	101.25	Mafic Volcanic, 2a	Basalt, amygdaloidal
101.25	104.28	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
104.28	115.21	Mafic Volcanic, 2a	Basalt, amygdaloidal
115.21	120.28	Mafic Volcanic, 2d	Basalt, massive,
120.28	125.33	Mixed Seds/Volcanic, 6	Mixed Seds & Volcanics Contact Zone, 5% seds 122.42-123.69 v. strong epidote + qtz-carb alteration with minor **chalcocite** specks, looks like a 3M zone
125.33	128.62	Ultramafic, 1a	Ultramafic, fg, str-mod mt, chl flecked
128.62	129.84	Mafic Volcanic, 2a	Basalt, amygdaloidal
129.84	130.49	Siltstone, 5b	Siltstone, bedding @ 75 TCA, 130.09-130.22 2a
130.49	131.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
131.00	132.90	Ultramafic, 1a	Ultramafic, fg, str-mod mt, chl flecked
132.90	134.50	Mafic Volcanic, 2a	Basalt, amygdaloidal
134.50	136.36	Ultramafic, 1a	Ultramafic, fg, str-mod mt, chl flecked
136.36	139.87	Mixed Seds/Volcanic, 6	Mixed Seds & Volcanics Contact Zone, 5-7% seds
139.87	150.13	Ultramafic, 1a	Ultramafic, f-mg, chl flecked, cumulate texture intact
150.13	152.95	Mafic Volcanic, 2a	Basalt, amygdaloidal
152.95	167.78	Mafic Volcanic, 2d	Basalt, massive, str mt, weak braided look
167.78	170.15	Mafic Volcanic, 2a	Basalt, amygdaloidal, vuggy amy's near upper contact
170.15	171.03	Mafic Volcanic, 2a	
171.03	175.85	Mafic Volcanic, 2d	
175.85	178.47	Mafic Volcanic, 2a	
178.47	180.87	Mafic Volcanic, 2d	
180.87	187.52	Mafic Volcanic, 2a	
187.52	188.10	Sandstone, 5c	
188.10	191.34	Mafic Volcanic, 2a	
191.34	198.55	Ultramafic, 1a	
198.55	200.53	Mafic Volcanic, 2a	
200.53	201.79	Mafic Volcanic, 2d	
201.79	203.32	Mafic Volcanic, 2a	
203.32	204.66	Mafic Volcanic, 2c	
204.66	213.39	Mafic Volcanic, 2d	
213.39	214.28	Sandstone, 5c	
214.28	218.26	Mafic Volcanic, 2b	
218.26	232.32	Mafic Volcanic, 2d	
232.32	235.60	Mafic Volcanic, 2a	
235.60	248.16	Mafic Volcanic, 2c	
248.16	249.59	Mafic Volcanic, 2a	
249.59	251.80	Mixed Seds/Volcanic, 6	
251.80	254.54	Mafic Volcanic, 2d	
254.54	256.68	Mafic Volcanic, 2a	
256.68	260.16	Mixed Seds/Volcanic, 6	
260.16	272.79	Ultramafic, 1a	
272.79	273.85	Mafic Volcanic, 2a	
273.85	274.52	Mixed Seds/Volcanic, 6	
274.52	275.63	Ultramafic, 1a	

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
275.63	276.00	Mixed Seds/Volcanic, 6	
276.00	278.05	Ultramafic, 1a	
278.05	278.72	Mixed Seds/Volcanic, 6	
278.72	284.84	Ultramafic, 1a	
284.84	285.86	Mixed Seds/Volcanic, 6	
285.86	286.27	Mafic Volcanic, 2a	
286.27	286.73	Mixed Seds/Volcanic, 6	
286.73	289.10	Mafic Volcanic, 2a	
289.10	289.95	Mixed Seds/Volcanic, 6	
289.95	291.08	Mafic Volcanic, 2a	
291.08	292.50	Mixed Seds/Volcanic, 6	
292.50	297.06	Mafic Volcanic, 2a	
297.06	299	Ultramafic, 1a	

EOH

From	To	STRUCTURES & MINERALIZATION
25.95	**30.55**	**moderate CBrZ**
25.95	29.30	DZ- 17+ hairline fractures to 1-2mm qtz-carb fractures/vnlts 0-30 TCA
29.30	30.55	CZ- broken core, 29.4-29.49 str bx, hem healed fault gouge
		29.67- 1 x 2cm qtz-carb-hem vn 30 TCA
		30-30.4 mod bx by qtz-carb vn/fracs + hem ~ 30 TCA with perpendicular conjugate fracs/vnlts
		33.12-35.55 qtz-carb-epd-chl +/- hem vn 2-3mm wide // TCA, patchy weak bx
37.18	43.10	20+ qtz-carb+/-epd+/-hem fracs/vnlts, hairline to 2-3mm generally 30-40 TCA
49.91	50.30	1 x 1cm qtz-carb-hem vn 15 TCA, sinuous crack and seal
60.22	**63.70**	**moderate DZ**
		60.46-60.96 broken crumbly
		61-62.25 mod bx by qtz-carb vnlts/fracs sub// to 15 TCA
		62.25-62.88 mottled masses of qtz-carb-chl-epd
		62.88-63.7 10+ qtz-carb fracs/vnlts 30-45 TCA
101.56	106.75	moderately broken, wkly fractured, v. wk DZ
154.00	156.35	v. wk fracturing/vnlts 30 TCA, v. wk patchy bx, 1 x 1cm qcv 25 TCA @ 155m

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
0.00	19.23			
19.23	21.36		mottled hem alteration	
21.36	22.23		strong	
22.23	28.80		strong	
28.80	41.16		strong alt of groundmass	epd-chl of ferro magnesians
41.16	61.00	patchy strong	strong	
61.00	67.39		strong	
67.39	91.65		moderate	
91.65	94.00		strong	
94.00	101.25		strong	
101.25	104.28		strong	
104.28	108.00		strong	
108.00	115.21	weak	weak	
115.21	120.28	moderate	mottled weak	
120.28	125.33	very strong		
125.33	128.62		mottled patchy strong	
139.87	150.13	patchy strong	weak to moderate of groundmass	chl flecks
150.13	152.95		weak	
152.95	167.78	weak	strong along braids	
167.78				
0.00				

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
948616	120.25	121	0.75
948617	121	121.5	0.50
948618	121.5	122	0.50
948619	122	122.42	0.42
948620	122.42	123	0.58
948621	b1		
948622	123	123.69	0.69
948623	123.69	124.69	1.00
948624	124.69	125.33	0.64
948068	232.33	232.63	0.30
948069	232.63	232.98	0.35
948070	232.98	233.38	0.40
948071	233.38	233.78	0.40
948072	233.78	244.49	10.71
948073	244.49	244.81	0.32
948074	244.81	245.31	0.50
948075	Blank	Blank	Blank
948076	254.07	255.07	1.00
948077	255.07	255.38	0.31
948078	255.38	256.38	1.00
948079	256.38	256.79	0.41
948080	256.79	257.07	0.28
948081	257.07	257.38	0.31
948082	257.38	257.71	0.33
948083	CM-36		
948084	257.71	258.01	0.30
948085	258.01	258.31	0.30
948086	258.31	258.74	0.43
948087	258.74	259.04	0.30
948088	259.04	259.34	0.30
948089	259.34	259.8	0.46
948090	259.8	260.1	0.30
948091	260.1	260.4	0.30
948092	260.4	260.8	0.40
948093	101b		
948094	260.8	261.29	0.49
948095	261.29	261.59	0.30
948096	261.59	262.32	0.73
948097	262.32	262.62	0.30
948098	262.62	262.92	0.30
948099	262.92	263.22	0.30

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
948100	263.22	263.9	0.68
948101	263.9	264.2	0.30
948102	1/4 Dup		
948103	264.2	264.5	0.30
948104	264.5	264.8	0.30
948105	264.8	265.3	0.50

SUPERIOR COPPER CORPORATION SPC.V

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-05	3M Zone	Orbit Garant Inc.	MQ

CLAIM NO.			TOTAL METERAGE
3019482	August 20, 2014	August 22, 2014	296

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212749	671776	270.5

DEPTH	DIP	AZIMUTH
COLLAR	-72	65
200	-72.5	65

COMMENTS

Follow up to 3M Zone 50m to the southwest

FOOTAGE		
FROM	TO	ROCK TYPE
0.00	6.00	OVB
6.00	17.42	Mafic Volcanic, 2b
17.42	17.98	Mafic Volcanic, 2a
17.98	23.65	Mixed Seds/Volcanic, 6
23.65	29.95	Mixed Seds/Volcanic, 6
29.95	40.36	Mafic Volcanic, 2d
40.36	60.07	Mafic Volcanic, 2a
60.07	68.40	Mafic Volcanic, 2b
68.40	80.39	Mafic Volcanic, 2d
80.39	80.89	Felsite7a
80.89	85.85	Mafic Volcanic, 2d
85.85	86.65	Mixed Seds/Volcanic, 6
86.65	104.53	Mafic Volcanic, 2a
104.53	106.12	Mafic Volcanic, 2d
106.12	109.34	Mafic Volcanic, 2a
109.34	111.50	Mixed Seds/Volcanic, 6
111.50	113.98	Mafic Volcanic, 2a
113.98	114.20	Sandstone, 5c
114.20	117.80	Mafic Volcanic, 2a
117.80	118.22	Sandstone, 5c
118.22	123.45	Mafic Volcanic, 2a
123.45	124.97	Mafic Volcanic, 2d
124.97	128.77	Mixed Seds/Volcanic, 6
128.77	138.87	Mafic Volcanic, 2c
138.87	139.21	Sandstone, 5c
139.21	141.83	Mafic Volcanic, 2a
141.83	143.65	Mixed Seds/Volcanic, 6
143.65	145.31	Mafic Volcanic, 2d
145.31	148.74	Mixed Seds/Volcanic, 6
148.74	150.50	Mafic Volcanic, 2a
150.50	151.14	Mafic Volcanic, 2d
151.14	152.00	Mafic Volcanic, 2c
152.00	153.85	Mafic Volcanic, 2a
153.85	155.65	Mafic Volcanic, 2b
155.65	165.71	Mafic Volcanic, 2d
165.71	166.06	Mafic Volcanic, 2a
166.06	169.30	Mixed Seds/Volcanic, 6
169.30	171.27	Mafic Volcanic, 2a
171.27	183.56	Mafic Volcanic, 2d
183.56	184.14	Mixed Seds/Volcanic, 6
184.14	185.44	Mafic Volcanic, 2a
185.44	192.53	Mafic Volcanic, 2d
192.53	192.73	Mixed Seds/Volcanic, 6
192.73	194.36	Mafic Volcanic, 2a
194.36	195.32	Mafic Volcanic, 2d
195.32	196.45	Mafic Volcanic, 2a
196.45	199.29	Mixed Seds/Volcanic, 6
199.29	203.96	Mafic Volcanic, 2b
203.96	216.05	Mafic Volcanic, 2d
216.05	216.79	Mixed Seds/Volcanic, 6
216.79	217.87	Mafic Volcanic, 2a
217.87	233.00	Mafic Volcanic, 2c
233.00	234.15	Mafic Volcanic, 2d
234.15	236.63	Mixed Seds/Volcanic, 6
236.63	240.44	Mafic Volcanic, 2c

FOOTAGE		
FROM	TO	ROCK TYPE
240.44	253.48	Ultramafic, 1a
253.48	257.43	Mixed Seds/Volcanic, 6
257.43	265.98	Mafic Volcanic, 2b
265.98	267.00	Mixed Seds/Volcanic, 6
267.00	270.64	Mafic Volcanic, 2b
270.64	281.23	Mixed Seds/Volcanic, 6
281.23	283.29	Mafic Volcanic, 2a
283.29	283.61	Mixed Seds/Volcanic, 6
283.61	292.34	Mafic Volcanic, 2c
292.34	296.00	Ultramafic, 1a
EOH		

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948106	20	20.85	0.85
P	948107	20.85	21.6	0.75
P	948108	21.6	21.89	0.29
P	948109	21.89	22.19	0.30
P	948110	Blank		
P	948111	22.19	22.49	0.30
P	948112	22.49	22.79	0.30
P	948113	22.79	23.19	0.40
P	948114	23.19	23.49	0.30
P	948115	23.49	23.79	0.30
P	948116	23.79	24.09	0.30
P	948117	24.09	24.39	0.30
P	948118	CM-36		
P	948119	24.39	24.9	0.51
P	948120	24.9	25.4	0.50
P	948121	25.4	25.82	0.42
P	948122	25.82	26.12	0.30
P	948123	26.12	26.62	0.50
P	948124	26.62	27.12	0.50
P	948125	27.12	27.64	0.52
P	948126	27.64	28.18	0.54
P	948127	28.18	28.64	0.46
P	948128	101b	101b	101b
P	948129	28.64	29.15	0.51
P	948130	29.15	29.65	0.50
P	948131	29.65	29.95	0.30
P	948132	29.95	30.25	0.30
P	948133	30.25	30.69	0.44
P	948134	30.69	113.78	83.09
P	948135	113.78	114.2	0.42
P	948136	114.2	114.6	0.40
P	948137	1/4 Dup	1/4 Dup	1/4 Dup
P	948138	114.6	114.97	0.37
P	948139	114.97	115.33	0.36
P	948140	115.33	115.63	0.30
P	948141	115.63	116.12	0.49
P	948142	116.12	116.64	0.52
P	948143	116.64	117.05	0.41
P	948144	117.05	117.79	0.74
P	948145	Blank		
P	948146	117.79	118.23	0.44

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948147	118.23	118.53	0.30
P	948148	118.53	118.83	0.30
P	948149	118.83	119.14	0.31
P	948150	119.14	119.5	0.36
P	948151	119.5	119.8	0.30
P	948152	119.8	120.1	0.30
P	948153	CM-36		
P	948154	120.1	120.4	0.30
P	948155	120.4	120.7	0.30
P	948156	120.7	121.12	0.42
P	948157	121.12	121.52	0.40
P	948158	121.52	122	0.48
P	948159	122	122.52	0.52
P	948160	122.52	122.82	0.30
P	948161	122.82	123.12	0.30
P	948162	123.12	123.62	0.50
P	948163	101b		
P	948164	123.62	123.92	0.30
P	948165	123.92	124.22	0.30
P	948166	124.22	124.53	0.31
P	948167	124.53	125.11	0.58
P	948168	125.11	125.61	0.50
P	948169	125.61	126.05	0.44
P	948170	126.05	126.35	0.30
P	948171	126.35	126.87	0.52
P	948172	1/4 Dup		
P	948173	126.87	127.13	0.26
P	948174	127.13	128.17	1.04
P	948175	128.17	128.77	0.60
P	948176	128.77	129.77	1.00
P	948177	129.77	130.06	0.29
P	948178	130.06	130.36	0.30
P	948179	144.97	145.31	0.34
P	948180	Blank		
P	948181	145.31	145.9	0.59
P	948182	145.9	146.35	0.45
P	948183	146.35	146.86	0.51
P	948184	146.86	147.35	0.49
P	948185	147.35	148.04	0.69
P	948186	148.04	148.74	0.70
P	948187	148.74	149.45	0.71

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948188	CM-36		
P	948189	149.45	150.14	0.69
P	948190	150.14	150.49	0.35
P	948191	150.49	150.79	0.30
P	948192	150.79	151.7	0.91
P	948193	151.7	152	0.30
P	948194	152	152.53	0.53
P	948195	152.53	152.83	0.30
P	948196	152.83	153.13	0.30
P	948197	153.13	153.5	0.37
P	948198	101b		
P	948199	153.5	153.85	0.35
P	948200	153.85	154.43	0.58
P	948201	154.43	154.93	0.50
P	948202	154.93	155.94	1.01
P	948203	155.94	156.35	0.41
P	948204	156.35	156.65	0.30
P	948205	156.65	166.07	9.42
P	948206	166.07	166.86	0.79
P	948207	1/4 dup		
P	948208	166.86	167.2	0.34
P	948209	167.2	167.5	0.30
P	948210	167.5	168.14	0.64
P	948211	168.14	168.67	0.53
P	948212	168.67	169.29	0.62
P	948213	169.29	169.76	0.47
P	948214	169.76	170.68	0.92
P	948215	Blank		
P	948216	170.68	170.98	0.30
P	948217	170.98	171.29	0.31
P	948218	246.26	246.85	0.59
P	948219	246.85	247.39	0.54
P	948220	247.39	247.85	0.46
P	948221	247.85	248.67	0.82
P	948222	248.67	248.97	0.30
P	948223	CM-36		
P	948224	262.17	262.47	0.30
P	948225	262.47	262.77	0.30
P	948226	262.77	263.07	0.30
P	948227	263.07	263.6	0.53
P	948228	263.6	263.9	0.30

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948229	263.9	264.9	1.00
P	948230	264.9	265.7	0.80
P	948231	265.7	266.5	0.80
P	948232	266.5	267	0.50
P	948233	101b		
P	948234	267	268	1.00
P	948235	268	268.37	0.37
P	948236	268.37	269.11	0.74
P	948237	269.11	269.41	0.30
P	948238	269.41	270.33	0.92
P	948239	270.33	270.63	0.30
P	948240	270.63	271.13	0.50
P	948241	271.13	271.47	0.34
P	948242	1/4 dup		
P	948243	271.47	271.77	0.30
P	948244	271.77	272.57	0.80
P	948245	272.57	272.92	0.35
P	948246	272.92	273.6	0.68
P	948247	273.6	273.98	0.38
P	948248	273.98	274.29	0.31
P	948249	274.29	274.63	0.34
P	948250	Blank		
P	948251	274.63	275.03	0.40
P	948252	275.03	275.37	0.34
P	948253	275.37	275.71	0.34
P	948254	275.71	276.11	0.40
P	948255	276.11	276.64	0.53
P	948256	276.64	277	0.36
P	948257	277	277.3	0.30
P	948258	CM-36		
P	948259	277.3	277.7	0.40
P	948260	277.7	278.1	0.40
P	948261	278.1	278.4	0.30
P	948262	278.4	278.7	0.30
P	948263	278.7	279.09	0.39
P	948264	279.09	279.46	0.37
P	948265	279.46	279.84	0.38
P	948266	279.84	280.15	0.31
P	948267	280.15	280.58	0.43
P	948268	101b		
P	948269	280.58	281.04	0.46

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948270	281.04	281.63	0.59
P	948271	281.63	281.93	0.30
P	948272	281.93	282.43	0.50
P	948273	282.43	282.88	0.45
P	948274	282.88	283.29	0.41
P	948275	283.29	283.6	0.31
P	948276	283.6	284.53	0.93
P	948277	1/4 dup		
P	948278	284.53	285.06	0.53
P	948279	285.06	285.53	0.47
P	948280	285.53	285.83	0.30
P	948281	285.83	286.39	0.56
P	948282	286.39	287.3	0.91
P	948283	287.3	287.86	0.56
P	948284	287.86	288.36	0.50
P	948285	288.36	289.02	0.66
P	948286	Blank		
P	948287	289.02	289.32	0.30
P	948288	289.32	289.63	0.31
P	948289	289.63	290.22	0.59
P	948290	290.22	290.52	0.30
P	948291	290.52	291.08	0.56

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-06	3M Zone	Orbit Garant Inc.	MGB

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 21, 2014	August 31, 2014	402.42

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212807	671763	270.5

DEPTH	DIP	AZIMUTH
COLLAR	-63	65
200	-63.8	65
400	-62.2	65

COMMENTS

Follow up to 3M Zone 50m up dip

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	5.68	OVB	
5.68	8.23	Mafic Volcanic, 2a	Basalt, amygdaloidal
8.23	19.32	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal (tiger rock)
19.32	24.70	Mafic Volcanic, 2a	Basalt, amygdaloidal
24.70	28.00	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 20% seds
28.00	44.12	Mafic Volcanic, 2a	Basalt, amygdaloidal
44.12	52.40	Ultramafic, 1a	Ultramafics, cumulate, massive
52.40	72.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
72.00	84.00	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
84.00	95.63	Mafic Volcanic, 2d	Basalt, massive
95.63	101.00	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 10% seds
101.00	102.90	Mafic Volcanic, 2d	Basalt, massive
102.90	104.70	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
104.70	119.80	Mafic Volcanic, 2a	Basalt, amygdaloidal
119.80	122.66	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 5% seds
122.66	134.84	Ultramafic, 1a	Ultramafics, f-mg cumulate, chl flecked
134.84	138.90	Mafic Volcanic, 2a	Basalt, amygdaloidal
138.90	151.73	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal (weak tiger rock)
151.73	155.82	Mafic Volcanic, 2a	Basalt, amygdaloidal
155.82	158.90	Mafic Volcanic, 2d	Basalt, massive
158.90	168.15	Mafic Volcanic, 2a	Basalt, amygdaloidal, seds 160.5-160.82
168.15	169.00	Sandstone, 5c	Sandstone
169.00	177.38	Mafic Volcanic, 2a	Basalt, amygdaloidal
177.38	177.92	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 8% seds
177.92	183.48	Ultramafic, 1a	Ultramafics, cumulate, massive
183.48	185.62	Mafic Volcanic, 2a	Basalt, amygdaloidal
185.62	187.70	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 3% seds
187.70	191.05	Mafic Volcanic, 2d	Basalt, massive, wkly mt, mnr subordinate cum texture, 3 siltstone bands, 80 TCA
191.05	192.07	Sandstone, 5c	Sandstone
192.07	192.42	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 60% seds
192.42	196.26	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
196.26	199.70	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 50% seds
199.70	207.94	Mafic Volcanic, 2d	Basalt, massive, rare rounded clump of cg material
207.94	209.40	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 60% seds
209.40	223.45	Ultramafic, 1a	Ultramafics, cumulate, massive
223.45	225.63	Mixed Seds/Volcanic, 6	Mixed Sedimentary and Mafic Volcanic. 30% seds, fg-mg. Mafic volcanics are variably bleached.
225.63	228.47	Mafic Volcanic, 2d	Massive Basalt. 1a? Mg.
228.47	231.25	Mixed Seds/Volcanic, 6	Mixed Sedimentary and Mafic Volcanic. 60% seds, fg. Weak argillic alteration of mafic volcanics.
231.25	245.56	Ultramafic, 1a	Ultramafic. Mostly Cg, grades to Fg at margins.
245.56	247.39	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep (often crystalline).
247.39	251.15	Mafic Volcanic, 2d	Massive Basalt. Amyg fill Ep with minor Chl. Mg, with auto/xenoliths (?)
251.15	260.15	Mixed Seds/Volcanic, 6	Mixed Sedimentary and Mafic Volcanic. 30% seds, fg, bedded. Weak-moderate argillic alteration of mafic volcanics.
260.15	262.57	Mafic Volcanic, 2c	Basalt with Chlorite Flecks.
262.57	263.91	Felsite7a	Felsic Intrusive. Felsite dikelet, fg. 15 TCA, 3cm TW.
263.91	272.54	Ultramafic, 1a	Ultramafic. Cg.
272.54	281.70	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep (sparsely crystalline).
281.70	286.12	Mafic Volcanic, 2c	Basalt with Chlorite Flecks. Variable denisty of chl flecks.
286.12	299.54	Ultramafic, 1a	Ultramafic. Mg-cg. Between 286.65-287.53m amyg fills/replacements (?) of Ep-Chl + pink mineral rims/replacements. Kspar?
299.54	305.12	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep (sparsely crystalline).
305.12	325.80	Ultramafic, 1a	Ultramafics, cumulate, massive

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
325.80	333.53	Mafic Volcanic, 2a	Basalt, amydaloidal
333.53	336.65	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
336.65	351.30	Ultramafic, 1a	Ultramafics, cumulate, massive
351.30	352.65	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
352.65	357.33	Sandstone, 5c	Sandstone
357.33	361.66	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 50% seds
361.66	366.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
366.00	374.21	Mafic Volcanic, 2d	Basalt, weakly braided, 75 TCA
374.21	375.70	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 20% seds
375.70	377.08	Mafic Volcanic, 2a	Basalt, amygdaloidal
377.08	379.67	Sandstone, 5c	Sandstone
379.67	380.59	Siltstone, 5b	Siltstone
380.59	385.54	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 10% seds
385.54	401.42	Mafic Volcanic, 2d	Basalt, massive

EOH

From	To	STRUCTURES & MINERALIZATION
34.30	43.00	well fractured/vn'd, intermittent bx, all qcv, generally 90 TCA
72.00	83.00	intense breccia/veining by qc +/- epd +/- chl +/- blue grey mnieral, veining/bx up to 1 m wide
87.48	89.30	8+ fractures with qtz-carb, epd rich ones too, all mostly 20 TCA
91.00	91.50	felsite, qc-epd vn/structure sub// TCA
106.76	108.00	vn'd/bx'd by qc +/- epd +/- hem with fine disseminated spec, widest vn 3 cm 25 TCA
115.75	116.13	qc + epd vn'd, 1x 2cm crack and seal, rest is bx by qc vn 25 TCA
121.20	121.56	epd + qc masses/alteration in 6 similar to 3M zone, no chalcocite
126.40	127.00	1 x 3cm qtz-carb-epd-kspar? Vn plus masses, vn 20 TCA, mass just cliiped by drill
146.00	151.73	mnr qtz-carb-epd-hem fracs/vnlts <2mm plus hairline with rare chalcocite, 30-40 TCA both (x) and ok, **chalcocite at 146.6, 147.2, 147.55, 151**
151.73	155.82	amy's filled with qtz-carb-epd, mnr chalcocite associated with qtz-carb alteration with mnr spec also
156.11	156.40	strong bx with qtz-carb-epd, epd rimming fragments, minor diss **spec**
156.54	156.80	sections of qtz-carb-epd vning/bx with rare **chalocite** 30-45 TCA (x)and ok
	159.20	2 large amygdules with qtz-carb-epd and rare **chalcocite** specks
174.55	175.05	str bx by epd-qtz-carb, wkly vuggy
176.00	176.43	moderate bx by epd-qtz-carb
187.26	187.70	2 thin 1-5mm sinuous vuggy qtz-carb vnlts with minor **chalcocite**
191.05	192.07	Fg-Mg. CC follows bedding at 191.38m.
211.35	211.5	Ep-Qtz-Calc vn. 10 TCA. 0.5cm TW.
262.57	263.91	Felsite dikelet, fg. 15 TCA, 3cm TW.

From	To	STRUCTURES & MINERALIZATION
233.15	233.34	Ep-Qtz-Calc. 20 TCA, 1cm TW.
236.61	236.65	Qtz-Ep-minor Calc Vn. 60 TCA.
284.73	285.19	Qtz-Ep-Chl-Pk Mineral (Kspar?) vn. 5 TCA, 0.5cm TW.
288.15	288.39	Felsite dikelet. Ep at margin. 20 TCA, 1.5cm TW.
363.00	366.00	**mod DZ**, broken core, minor qtz-carb veining/fracturing,
		365.33-366 qch vn/breccia, 75% qch, 20 TCA
385.00	385.40	epd-sil-carb vein system 2cm wide 20 TCA

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
5.68	8.23		strong	
8.23	19.32		mottled patchy strong	
19.32	24.70		strong	
24.70	28.00	very weak	strong	
28.00	44.12	patchy strong	strong	
44.12	52.40		strong from 39.6	
52.40	72.00	strong	strong	
72.00	84.00		strong	intense qtz-carb
84.00	95.63		strong	
95.63	101.00		strong	
101.00	102.90		strong	
102.90	104.70	local strong		
104.70	119.80		strong	
119.80	122.66	weak		
122.66	134.84	moderate	patchy strong	
134.84	138.90			
138.90	151.73		strong	
151.73	155.82	strong		
155.82	158.90		strong	
158.90	168.15	weak	weak	
168.15	169.00	strong		
169.00	177.38	strong	patchy strong	
177.38	177.92	strong		
177.92	183.48	weak		
183.48	185.48	strong		
185.48	185.62	strong		
185.62	187.70			weak intermittent argillic
187.70	191.05			
191.05	192.07	weak	moderate	

From	To	Epidote	Hematite	Other
192.07	192.42			moderate argillic
192.42	196.26	patchy strong	patchy strong	
196.26	199.70	moderate		moderate argillic
199.70	207.94		patchy strong	
207.94	209.40	strong		
209.4	223.47	strong	patchy strong	
325.8	333.53	strong	strong	
333.53	336.65	moderate		weak argillic
336.65	351.3	patchy strong		
351.3	352.65	strong		
352.65	357.33	weak	weak	
357.33	361.66	moderate		v weak argillic
361.66	366		strong	
366	374.21	weak	weak	
374.21	375.7	weak		
375.7	377.08		moderate	
377.08	379.67		moderate	
379.67	380.59		strong	
380.59	385.54	strong		
385.54	401.42	very weak		

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948292	151.73	152.56	0.83
P	948293	152.56	153.24	0.68
P	948294	153.24	153.89	0.65
P	948295	CM-36		
P	948296	153.89	154.67	0.78
P	948297	154.67	155.3	0.63
P	948298	155.3	155.82	0.52
P	948299	155.82	156.14	0.32
P	948300	156.14	156.83	0.69
P	949552	187.26	187.7	0.44

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-07	3M Zone	Orbit Garant Inc.	MWK

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 22, 2014	August 24, 2014	287

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212749	671776	270

DEPTH	DIP	AZIMUTH
COLLAR	-61	65
200	-61.5	65
287	-60.7	65

COMMENTS

Follow up to 3M Zone 50m to the southwest

No Samples Taken.

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	4.69	OVB	
4.69	17.40	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal (tiger rock)
17.40	19.24	Mafic Volcanic, 2a	Basalt, amygdaloidal
19.24	20.43	Sandstone, 5c	Sandstone
20.43	34.58	Mafic Volcanic, 2a	Basalt, amygdaloidal
34.58	45.17	Ultramafic, 1a	Ultramafics, cumulate, massive
45.17	59.33	Mafic Volcanic, 2a	Basalt, amygdaloidal
59.33	84.17	Mafic Volcanic, 2d	Basalt, massive wk intermittent braided look, blobs of coarse grained cumulate?
84.17	107.25	Mafic Volcanic, 2a	Basalt, amygdaloidal
107.25	108.36	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 25% seds
108.36	110.67	Mafic Volcanic, 2a	Basalt, amygdaloidal
110.67	111.73	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
111.73	123.90	Mafic Volcanic, 2a	Basalt, amygdaloidal, intermittent 2c
123.90	134.87	Ultramafic, 1a	Ultramafics, f-mg cumulate, chl flecked
134.87	137.70	Mafic Volcanic, 2a	Basalt, amygdaloidal
137.70	153.34	Mafic Volcanic, 2d	Basalt, massive, rare amy, str mt
153.34	156.40	Mafic Volcanic, 2a	Basalt, amygdaloidal
156.40	159.40	Mafic Volcanic, 2d	Basalt, massive, rare amy, mod mt
159.40	166.59	Mafic Volcanic, 2a	Basalt, amygdaloidal, 5-7% seds
166.59	169.00	Sandstone, 5c	Sandstone
169.00	178.96	Mafic Volcanic, 2d	Basalt, massive, mnr cum texture
178.96	181.05	Mafic Volcanic, 2a	Basalt, amygdaloidal
181.05	186.12	Ultramafic, 1a	Ultramafics, m-cg cumulate
186.12	187.34	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,6-7% seds
187.34	192.93	Ultramafic, 1a	Ultramafics, m-cg cumulate
192.93	196.51	Sandstone, 5c	Sandstone
196.51	197.50	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 30% seds, clay alt
197.50	199.73	Mafic Volcanic, 2a	Basalt, amygdaloidal
199.73	199.97	Sandstone, 5c	Sandstone
199.97	207.60	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal (tiger rock)
207.60	210.20	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,60% seds, mod argillic alt
210.20	224.00	Mafic Volcanic, 2a	Basalt, amygdaloidal, intermittent 2c
224.00	231.13	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,20% seds, strong argillic alt
231.13	246.24	Ultramafic, 1a	Ultramafics, cg cumulate
246.24	249.70	Mafic Volcanic, 2a	Basalt, amygdaloidal
249.70	256.27	Mafic Volcanic, 2d	Basalt, massive, vfg
256.27	258.10	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,10-15% seds, wk argillic alt
258.10	260.00	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal , str mt
260.00	265.77	Ultramafic, 1a	Ultramafics, fg cumulate, str mt
265.77	269.91	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,15% seds, one large clot of **CC**
269.91	273.73	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal, chl filled, 2% seds
273.73	281.31	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone,15-20% seds, small bleb of **CC** at 281.07
281.31	287.00	Ultramafic, 1a	Ultramafics, fg cumulate
263.91	272.54	Ultramafic, 1a	Ultramafic. Cg.
272.54	281.70	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep (sparsely crystalline).
281.70	286.12	Mafic Volcanic, 2c	Basalt with Chlorite Flecks. Variable denisty of chl flecks.
286.12	299.54	Ultramafic, 1a	Ultramafic. Mg-cg. Between 286.65-287.53m amyg fills/replacements (?) of Ep-Chl + pink mineral rims/replacements. Kspar?

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
299.54	305.12	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep (sparsely crystalline).
305.12	325.80	Ultramafic, 1a	Ultramafics, cumulate, massive
325.80	333.53	Mafic Volcanic, 2a	Basalt, amydaloidal
333.53	336.65	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
336.65	351.30	Ultramafic, 1a	Ultramafics, cumulate, massive
351.30	352.65	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone
352.65	357.33	Sandstone, 5c	Sandstone
357.33	361.66	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 50% seds
361.66	366.00	Mafic Volcanic, 2a	Basalt, amygdaloidal
366.00	374.21	Mafic Volcanic, 2d	Basalt, weakly braided, 75 TCA
374.21	375.70	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 20% seds
375.70	377.08	Mafic Volcanic, 2a	Basalt, amygdaloidal
377.08	379.67	Sandstone, 5c	Sandstone
379.67	380.59	Siltstone, 5b	Siltstone
380.59	385.54	Mixed Seds/Volcanic, 6	Mixed Sediments & Volcanics Contact Zone, 10% seds
385.54	401.42	Mafic Volcanic, 2d	Basalt, massive

EOH

From	To	STRUCTURES & MINERALIZATION
34.30	43.00	well fractured/vn'd, intermittent bx, all qcv, generally 90 TCA
72.00	83.00	intense breccia/veining by qc +/- epd +/- chl +/- blue grey mnieral, veining/bx up to 1 m wide
87.48	89.30	8+ fractures with qtz-carb, epd rich ones too, all mostly 20 TCA
91.00	91.50	felsite, qc-epd vn/structure sub// TCA
106.76	108.00	vn'd/bx'd by qc +/- epd +/- hem with fine disseminated spec, widest vn 3 cm 25 TCA
115.75	116.13	qc + epd vn'd, 1x 2cm crack and seal, rest is bx by qc vn 25 TCA
121.20	121.56	epd + qc masses/alteration in 6 similar to 3M zone, no chalcocite
126.40	127.00	1 x 3cm qtz-carb-epd-kspar? Vn plus masses, vn 20 TCA, mass just cliiped by drill
146.00	151.73	mnr qtz-carb-epd-hem fracs/vnlts <2mm plus hairline with rare chalcocite, 30-40 TCA both (x) and ok, **chalcocite at 146.6, 147.2, 147.55, 151**
151.73	155.82	amy's filled with qtz-carb-epd, mnr chalcocite associated with qtz-carb alteration with mnr spec also
156.11	156.40	strong bx with qtz-carb-epd, epd rimming fragments, minor diss **spec**
156.54	156.80	sections of qtz-carb-epd vning/bx with rare **chalocite** 30-45 TCA (x)and ok
	159.20	2 large amygdules with qtz-carb-epd and rare **chalcocite** specks
174.55	175.05	str bx by epd-qtz-carb, wkly vuggy
176.00	176.43	moderate bx by epd-qtz-carb
187.26	187.70	2 thin 1-5mm sinuous vuggy qtz-carb vnlts with minor **chalcocite**
191.05	192.07	Fg-Mg. CC follows bedding at 191.38m.
211.35	211.5	Ep-Qtz-Calc vn. 10 TCA. 0.5cm TW.
262.57	263.91	Felsite dikelet, fg. 15 TCA, 3cm TW.

From	To	STRUCTURES & MINERALIZATION
50.90	51.13	1 x 4cm qcv + hem + epd with wall rock bx 30 TCA
55.69	55.77	fault gouge
55.90	56.00	fault gouge
64.64	65.20	2 x 3cm qcv sub// TCA
138.45	138.50	vuggy qcv+epd with speck of **chalcocite**
139.61	139.79	1-2 cm (varies) vn with center felsite plus qtz-carb-epd along edges with several blebs of **bornite** in qtz-carb matrix, vn @ 20 TCA (ok)
138.87	141.50	11+ hairline to 2mm fractures/vnlts 20 TCA (x) qc+epd filled but no bornite **note**: bn in vein that was not x-cutting bedding
154.83	154.87	1 x 2cm qcv +/- epd with minor **spec**
155.00	155.30	rare amy with **chalocite**, cc center rimmed by qc in turn rimmed by epidote
228.23	228.51	broken
229.08	229.50	broken

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
4.69	17.40		strong	
17.40	19.24		strong	
19.24	20.43			
20.43	34.58		strong	
34.58	45.17		strong	
45.17	59.33	strong 49.54-51.12	strong	
59.33	84.17		patchy strong	
84.17	107.25		strong	
107.25	108.36	weak	moderate	
108.36	110.67	weak	weak	
110.67	111.73	strong	weak	
111.73	123.90	moderate	weak	
123.90	134.87		moderate patchy	wk mt
134.87	137.70			moderate mt
137.70	153.34			strong mt
153.34	156.40			weak mt
156.40	159.40			moderate mt
166.59	169.00	strong		
169.00	178.96	moderate		
178.96	181.05	moderate		
186.12	187.34	moderate		
192.93	196.51		moderate	
196.51	197.50			moderate clay
199.97	207.60		mottled patchy strong	
207.60	210.20	moderate		moderate argillic (clay)
210.20	224.00	strong		
224.00	231.13	remnent strong		strong argillic
246.24	249.70	strong		
249.70	256.27	patchy strong		
256.27	258.10	moderate		moderate argillic

From	To	Epidote	Hematite	Other
258.10	260.00			strong mt
260.00	265.77			strong mt
265.77	269.91			strong argillic of volcanics
273.73	281.31	moderate		strong argillic

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-08	3M Zone	Orbit Garant Inc.	MWK

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 22, 2014	August 24, 2014	30

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212853	671740	270

DEPTH	DIP	AZIMUTH
COLLAR	-82	65

COMMENTS

Follow up to 3M Zone 50m to the northeast

No samples taken.

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
SPC3M-14-08			
0.00	8.00	OVB	Overburden
8.00	9.80	Conglomerate, 5f	Conglomerate - Polymictic
9.80	15.35	Mafic Volcanic, 2d	Basalt, massive (tiger rock)
15.35	16.95	Sandstone, 5c	Sandstone
16.95	21.74	Mafic Volcanic, 2b	Basalt, sparsely amygdaloidal
21.74	26.87	Mafic Volcanic, 2a	Basalt, amygdaloidal
26.87	27.28	Sandstone, 5c	Sandstone
27.28	29.50	Mafic Volcanic, 2a	Basalt, amygdaloidal
29.50	30.00	Mafic Volcanic, 2d	Basalt, massive
	EOH		dip change

From	To	STRUCTURES & MINERALIZATION
16.13	**17.40**	**CBrZ, intense bx by qc, 40-50% qc, angular fragments**

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
8.00	9.80	weak	strong	
9.80	15.35		patchy strong	
16.95	21.74		strong	
21.74	26.87		strong	
27.28	29.50			7% seds
29.50	30.00			

EOH

From	To	Epidote	Hematite	Other
0.00	260.00			strong mt
260.00	265.77			strong mt
265.77	269.91			strong argillic of volcanics
273.73	281.31	moderate		strong argillic

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC3M-14-08a	3M Zone	Orbit Garant Inc.	MQ

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	August 27, 2014	August 31, 2014	350

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212853	671740	270

DEPTH	DIP	AZIMUTH
COLLAR	-75	65
200	-76.3	65

COMMENTS

Follow up to 3M Zone 50m to the northeast

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	7.90		Overburden
7.69	14.35	Mafic Volcanic, 2b	Sparsely amygdaloidal basalt. Amygdaloidal fills of Qtz-Calc.
14.35	15.54	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanics. 25% seds, intercalated.
15.54	16.75	Mafic Volcanic, 2b	Sparsely amygdaloidal basalt. Amygdaloidal fills of Qtz-Calc.
16.75	17.27	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanics. 60% seds, intercalated.
17.27	21.68	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc amygdules at sections
21.68	26.59	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amygdule fills of Qtz-Calc-Chl-Ser
26.59	26.79	Sandstone, 5c	Sandstone.
26.79	28.46	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amygdule fills of Qtz-Calc-Chl-Ser; noted pink-salmon rims on some qtz amygdules
28.46	29.78	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc amygdules at sections
29.78	30.35	Sandstone, 5c	Sandstone.
30.35	30.95	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc stringers
30.95	31.15	Sandstone, 5c	Sandstone. Sharp contact 20 TCA with massive basalt unit below.
31.15	32.23	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc stringers
32.23	32.45	Sandstone, 5c	Sandstone.
32.45	32.89	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc stringers
32.89	33.38	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanics. 30% seds, intercalated.
33.38	33.86	Mafic Volcanic, 2d	Massive Basalt. Fine-grained, minor Qtz-Calc stringers/veinlets
33.86	36.55	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amygdule fills of Qtz-Calc-Chl-Ser; sharp contact 85 TCA marked by 2cm thick sandstone with ultramafic units below
36.55	58.24	Ultramafic, 1a	Ultramafics. Massive, generally medium-coarse grained but fine grained with minor Qtz-Calc-Chl-Ep amygdules (transition) at base.
58.24	58.76	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amygdule fills of Qtz-Calc-Chl.
58.76	59.71	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanics. 25% seds, intercalated.
59.71	71.52	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amygdule fills of Qtz-Calc-Chl; minor massive, sparsely-amygduled basalt unit @ 63.20-63.60 m and 67.10-67.27 m
71.52	73.34	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanics. 30% seds, intercalated.
73.34	78.91	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Qtz-Calc-Chl-Ser (?, soft blueish, translucent mineral), pink-salmon rims. Pink-salmon alteration in mafic volcanics is down to 73.34m.
78.91	79.56	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 15% seds, intercalated.

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
79.56	84.3	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Qtz-Calc-Chl-Ser (?, soft blueish, translucent mineral), + pink-salmon fill. Pink-deep salmon fill is up to 73.34m. Grades into Ep-Calc-Qtz fill.
84.3	105.54	Mafic Volcanic, 2d	Massive Basalt. Intensely bx. Difficult to distinguish changes in units. See structural log.
105.54	112.57	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Qtz-Calc +/- Spec
112.54	114.32	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 30% seds.
114.32	117.32	Mafic Volcanic, 2b	Sparsely Amygdaloidal Amyg fill Ep-Calc, Chl.
117.32	118.75	Mafic Volcanic, 2d	Massive Basalt.
118.75	123.6	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 20% Seds.
123.6	123.96	Sandstone, 5c	Sandstone.
123.96	130.65	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Qtz-Calc + minor Ep.
130.65	132.32	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 15% Seds.
132.32	142.33	Mafic Volcanics, 2c	Basalt with Chlorite Flecks.
142.33	153.34	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 40% Seds, some bedding.
153.34	155.92	Mafic Volcanic, 2d	Massive Basalt.
155.92	157.6	Mafic Volcanic, 2a	Amygdaloidal Basalt. Mostly Ep. Some Ep-Calc-Qtz +/- Pk Calc +/- CC
157.6	168.9	Mafic Volcanic, 2d	Massive Basalt.
168.9	170.44	**Mixed Seds/Volcanics, 6**	Mixed Sedimentary and Mafic Volcanic. 10% Seds.
170.44	172.31	Mafic Volcanic, 2d	Massive Basalt.
172.31	176.08	**Mafic Volcanic, 2a**	Amygdaloidal Basalt. Amyg fill Ep-Qtz-Calc + Pk Calc.
176.08	179.35	Sandstone, 5c	Sandstone. So at 75 TCA. 29cm block of mafic volc. at 178.43-178.63m.
179.35	182.95	**Mixed Seds/Volcanics, 6**	Mixed Sedimentary and Mafic Volcanic. 15% Seds.
182.95	183.92	Mafic Volcanic, 2d	Massive Basalt.
183.92	185	**Mixed Seds/Volcanics, 6**	Mixed Sedimentary and Mafic Volcanic. 15% Seds.
185	200.26	Ultramafic, 1a	Ultramafic. Mg-cg.
200.26	203.79	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 65% Seds. Moderate argillic alteration.
203.79	221.79	Mafic Volcanic, 2d	Massive Basalt. Moderately abundant auto/xenoliths. "Tiger" texture in places.
221.79	241.86	Mafic Volcanics, 2c	Basalt with Chlorite Flecks. Variable mafic volcanic phases in spots, xenoliths? Bombs?
241.86	245.12	**Mixed Seds/Volcanics, 6**	Mixed Sedimentary and Mafic Volcanic. 65% Seds. Weak argillic alteration.

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
245.12	247.6	Mafic Volcanics, 2c	Basalt with Chlorite Flecks.
247.6	260.58	**Ultramafic, 1a**	Ultramafic. Mg-cg. Fg at base.
260.58	261.33	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. weak-moderate argillic alt.
261.33	266.24	**Mafic Volcanic, 2a**	Amygdaloidal Basalt. Similar to "nebulous" texture from SPC-14-01, but weaker alt.
266.24	273.5	Mafic Volcanic, 2d	Massive Basalt.
273.5	276.68	Mafic Volcanics, 2c	Basalt with Chlorite Flecks.
276.68	287.03	Mafic Volcanic, 2d	Massive Basalt. Mg.
287.03	288.36	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. weak-moderate argillic alt.
288.36	290.11	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill Ep-Chl + minor Ep-Qtz-Calc.
290.11	292.42	**Mafic Volcanic, 2d**	Massive Basalt.
292.42	293.08	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 70% seds.
293.08	301.09	Mafic Volcanics, 2c	Basalt with Chlorite Flecks. Fg, mg occasionally.
301.09	316.44	Ultramafic, 1a	Ultramafic. Mg-cg. Fg at base.
316.44	317.92	Mixed Seds/Volcanics, 6	Mixed Sedimentary and Mafic Volcanic. 15% Seds.
317.92	322.01	Mafic Volcanic, 2a	Amygdaloidal Basalt. Amyg fill dominantly Ep. Minor Ep-Qtz-Calc.
322.01	339.61	Ultramafic, 1a	Ultramafic. Mg-cg.
339.61	344.33	Mafic Volcanic, 2d	Massive Basalt. Mafic Dyke? Both contacts are sharp and appear to cut earlier features (i.e. amygdules and vns.) Best effort to orient indicates that contacts are (x). Ferro-mg's (amygs?) alt to ep. Contacts Upper: 50 TCA, Lower: 40 TCA.
344.33	350	Mafic Volcanics, 2c	Basalt with Chlorite Flecks.

From	To	STRUCTURES & MINERALIZATION
8.3	17.64	weak-moderate Qtz-Calc stringers mostly along TCA with minor Qtz-Calc vnlt @ 9.40-9.43 m (20 TCA, 2-3 cm thick TW); vn @ 12.40-12.44 m (20 TCA, 2.5 cm thick TW); vnlt @ 13.05-13.06 m (60 TCA, 1 cm thick TW); vnlt @ 15.49-15.495 m (5 TCA, 0.5 cm thick TW); and vnlt @16.78-16.785 m (10 TCA, 0.5 cm thick
29.5	29.6	massive Qtz vn (50 TCA, 7 cm thick TW)
38.1	38.12	Qtz-Calc vnlt (25 TCA, 1 cm thick TW); Calc with salmon pink stain
39.15	39.155	Qtz-Calc vnlt (20 TCA, 0.5 cm thick TW)
41.36	41.375	Qtz-Calc vnlt (70 TCA, 1.5 cm thick TW) with hem edges
42.32	44	weak Calc-Qtz strs dominant along TCA (0-5 TCA), 1-2 mm thick TW
50.26	50.275	Qtz-Calc vnlt (75 TCA, 1.5 cm thick TW)
53.25	53.27	Qtz-Calc str (10 TCA, 0.5 cm thick TW)
57.46	58.29	Calc stkwks (generally trending 10 TCA) at the base towards contact with amygdaloidal basalt unit below
62.12	62.34	Qtz Bxa. Moderate Calc-Qtz veining with brecciated frags of amygdulated basalt units; no preferred TCA
64.6	64.76	Qtz Bxa. Weak-moderate Calc-Qtz vng with brecciated frags of amygdulated basalt units; no preferred TCA
75.44	75.46	Qtz vnlt (20 TCA, 1 cm thick TW)
75.28	**105.43**	**Bx Zone (CBrZ + Ep Stkwk + Polymictic Bx)**
		75.28 - 81.32m - DZ - Weak-moderate calc vning (CBrZ), 1-2% vn material. Larger veins (3cm TW) weak bx, 10 TCA.
		81.32-82.00m - Cza - four 4cm Qtz-Calc-Pk Calc vns. Lower most is dipping opposite to the others (conjugate?). First 3: 40 TCA, #4: 20 TCA, each vn 3-4cm TW.
		82.00-85.36 - DZ - Weak-moderate Ep Stkwk + minor Qtz-Calc. No dominant orientation. Upto 1cm per vn.
		85.36-89.50m - CZb - Qtz-Calc-minor Pk Calc. Minor Bx, matrix supported, clasts mostly small, upto 2cm. 4 pricipal vns (or is it one Bx structure?). Can't determine true angle to core axis.
		89.50-94.00m - DZ - Weak-moderate vning both CBrZ/Ep Stkwk. Ep-Qtz vn at 93.27-93.51m 20 TCA, 1cm TW.
		94.00-94.55m - CZc - Bx, matrix grades to clast supported. Clasts subangular-subrounded, mafic volcanic, variably epidotized. Qtz-Calc matrix.
		94.55-97.55m - DZ - Moderate Ep Stkwk, Minor Calc vns.
		97.55-100.10m - CZd - Simlar to CZc. Clasts upto 10cm, remnant Ep Stkwk. Ep rims around most clasts, some smaller clasts are pervasive Ep alt.
		100.10-105.43 - Polymictic Bx, clast supported, sub-angular to rounded, 0.1-10.0cm. Cut by CBrZ vns, hem alt increased.
141.04	141.47	Qtz Vn. Massive, vitreous. Vuggy with Qtz crystal growth. Minor carbonate.
	146.4	CC (2cm bleb) occurs with pink-orange, zoned, irregular, mass + qtz. Zoning appears to follow edges of qtz in the core. Pink-orange mineral has grn-blk inclusions. Minor Ep at margins.
	156.73	0.5cm CC bleb in amygdule. Amyg fill Ep-Calc-Qtz + Pk Calc (similar to 146.4m mineral)
	156.79	1cm CC bleb in amygdule. Amyg fill Ep-Calc-Qtz + Pk Calc (similar to 146.4m mineral)

From	To	STRUCTURES & MINERALIZATION
	168.7	2cm CC bleb in Ep amyg.
180.13	180.29	Ep vn with Spec. 40 TCA (x).
187.74	187.2	Calc-Pk Calc vn bx. 35 TCA (x)
	188.62	Ep-Qtz-Calc + CC vn. 80 TCA, 3cm TW.
189.91	190.04	Ep-Qtz + CC/spec (?). Remnant felsite blocks. 30 TCA (x), 1.5cm TW.
190.1	190.35	Ep-Qtz-Calc. CC in vn and in proximal amyg. 10 TCA, 0.2cm TW.
192.14	192.26	Ep-Kspar(?) + CC.
207.14	207.4	Altered felsite? Argillic alteration. FF of gritty, red to green material. 25 TCA, 1cm TW.
207.5	**214.5**	**CBrZ**
		207.5-207.9m - CZ - Calc-Pk Calc vn. Sub paralelle TCA, 2cm TW.
		207.9-214.5m - DZ - Moderate calc vning/stkwk.
225	**240.05**	**CBrZ related Calc vns**
		Moderate vning, Vns 0.1-0.5cm on average. Stkwk, 45-sub paralelle TCA. Minor bx at 226.5 and 231.75.
230.67	231.14	Remnant Felsite dikelet (?), argillic alteration (?). 15 TCA (x), 1cm TW.
248.03	248.27	Qtz vn. Minor carbonate near margins. Relicts WR xenoliths now comped of beige needley mx and silica. Minor vugs with Qtz crxtal growth. Minor yellow mx, occurs more commonly with carbonate, xrf returned minor Cu. 25 TCA.
249.68	250.75	strong ep vning + qtz-calc. Strong ep alteration. Overall orientation 20 TCA.
261.3	266.24	Ep Stkwk. 0.5-1.0cm vn widths. Vn spacing 20cm. Weakly bleached WR. Minor bx at 261.8-262.0m and 263.05-263.15m. No dominant orientation.
267.95	282.5	Felsite dikelets. Dominant orientation 30 TCA, 1cm TW each. Some are cut by Ep-Qtz-Pk Calc vns. At: 267.95m, 268.10m, 268.94m, 273.42m, 271.95m, 282.5m.
299.16	300.12	Felsite Dikelet with splays, 0.5-1.0cm each. Low angle TCA.
300.5	300.68	Ep vn, remnant felsite dikelet. 30 TCA. CC Proximal.
	328.72	Felsite dikelet, cut by ep vns. 25 TCA (x), 4cm TW.
	329.86	Felsite dikelet cut by Ep vns. 20 TCA (x) 2cm TW.
339.61	344.33	Mafic Dyke? Both contacts are sharp and appear to cut earlier features (i.e. amygdules and vns.) Best effort to orient indicates that contacts are (x). Ferro-mg's (amygs?) alt to ep. Contacts Upper: 50 TCA, Lower: 40 TCA.

From	To	STRUCTURES & MINERALIZATION
340.9	341.07	Ep-Qtz-Kspar + Mt-Cpy-Bn-CC. Vn/FF. Vn changes orientation. Mt is massive 0.5-1.0cm TW. (
341.39	341.58	Ep-Qtz-Kspar-minor Calc. CC. 20 TCA (x), 1.5cm TW. Wavy contacts. 1cm TW. (
341.71	342.03	Ep-Qtz-Kspar-minor Calc. CC. 30 TCA (x). (
342.39	342.59	Ep-Qtz-Kspar-Calc. CC. 20 TCA (x). 0.5cm TW. (
342.93	343.08	Ep-Qtz-Kspar-Calc. CC. 20 TCA (x), 0.5cm TW. (
343.08	343.12	Ep-Qtz. CC. 20 TCA (x), 0.5cm TW. (
343.58	343.68	Ep-Qtz-Kspar. CC. 30 TCA, 0.5cm TW. (
343.93	344.05	Ep-Qtz-Kspar. CC. 30 TCA, 0.5cm TW. (
344.39	344.52	Ep-Qtz-Kspar. CC. 30 TCA, 0.5cm TW. (
345.33	345.59	Ep-Qtz. CC. Splays, 0.5cm each. Overall low angle TCA. (
345.72 (	345.92	Ep-Qtz. CC. Splays, 0.5cm each. Overall low angle TCA. (
EOH		

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	949553	339.5	339.9	0.40
P	949554	339.9	340.8	0.90
P	949555	101b		
P	949556	340.8	341.1	0.30
P	949557	341.1	341.4	0.30
P	949558	341.4	341.7	0.30
P	949559	341.7	342.03	0.33
P	949560	342.03	342.33	0.30
P	949561	342.33	342.63	0.30
P	949562	342.63	342.93	0.30
P	949563	342.93	343.45	0.52
P	949564	1/4 Dup		
P	949565	343.45	343.75	0.3
P	949566	343.75	344.05	0.30
P	949567	344.05	344.35	0.30
P	949568	344.35	344.65	0.30
P	949569	344.65	345.33	0.68
P	949570	345.33	345.68	0.35
P	949571	345.68	345.98	0.30
P	949572	Blank		
P	949573	345.98	346.98	1.00
P	949574	346.98	347.55	0.57

APPENDIX C.3

REGIONAL DIAMOND DRILL LOGS

SUPERIOR COPPER CORPORATION SPC.V

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-01	Regional gravity-mag	Orbit Garant Inc.	Miron Berezowski

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019482	June 5, 2014	July 3, 2014	951.72

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212800	671750	270

DEPTH	DIP	AZIMUTH
COLLAR	-90	245
200	-88.4	245
400	-88.4	245
600	-88.3	245
800	-87.6	245

COMMENTS

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
0.00	8.80		OVB- casing to 9 m
8.80	9.30	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
9.30	12.50	Mafic Volcanic, 2a	Basalt- amyg
12.50	16.32	Mafic Volcanic, 2b	Basalt- spase amyg
16.32	16.34	Conglomerate5b	Siltstone bed
16.34	17.85	Mafic Volcanic, 2b	Basalt- spase amyg
17.85	17.86	Conglomerate5b	Siltstone bed
17.86	20.75	Mafic Volcanic, 2b	Basalt- spase amyg
20.75	26.50	Mafic Volcanic, 2a	Basalt- amyg
26.50	28.75	Mafic Volcanic, 2b	Basalt- spase amyg
28.75	29.50	Mafic Volcanic, 2a	Basalt- amyg
29.50	30.20	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
30.20	31.15	Mafic Volcanic, 2a	Basalt- amyg
31.15	31.45	Sandstone, 5c	Sandstone beds
31.15	35.00	Mafic Volcanic, 2a	Basalt- amyg
35.00	52.55	Mafic Volcanic, 2c	Basalt -chl flecks, massive
52.55	54.09	Mafic Volcanic, 2a	Basalt- amyg
54.09	54.29	Sandstone, 5c	Sandstone beds
54.29	56.55	Mafic Volcanic, 2a	Basalt- amyg
56.55	58.55	Mafic Volcanic, 2d	Basalt -massive, fg
58.55	69.25	Mafic Volcanic, 2a	Basalt- amyg
69.25	97.75	Mafic Volcanic, 2d	Basalt -massive, mt-rich
97.75	108.25	Mafic Volcanic, 2a	Basalt- amyg
108.25	116.75	Mafic Volcanic, 2d	Basalt- massive
116.75	125.00	Mafic Volcanic, 2a	Basalt- amyg
125.00	130.65	Mafic Volcanic, 2c	Basalt -chl flecks, massive
130.65	132.40	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
132.40	136.85	Mafic Volcanic, 2c	Basalt -chl flecks, massive
136.85	138.35	Mafic Volcanic, 2a	Basalt- amyg

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
138.35	142.35	Mafic Volcanic, 2c	Basalt -chl flecks, massive
142.35	154.10	Mafic Volcanic, 2a	Basalt- amyg
154.10	166.16	Mafic Volcanic, 2e	Basalt - ophitic/gabbroic
166.16	166.48	Conglomerate5b	Siltstone
166.48	166.80	Mafic Volcanic, 2a	Basalt- amyg
166.80	171.15	Mafic Volcanic, 2d	Basalt- dominantly massive
171.15	172.15	Mafic Volcanic, 2a	Basalt- amyg
172.15	174.40	Mafic Volcanic, 2d	Basalt- dominantly massive
174.40	178.32	Mafic Volcanic, 2a	Basalt- amyg
178.32	183.25	Mafic Volcanic, 2d	Basalt- dominantly massive
183.25	184.50	Mafic Volcanic, 2a	Basalt- sparsely amyg
184.50	200.10	Mafic Volcanic, 2d	Basalt -massive, mt-rich
200.10	201.10	Mafic Volcanic, 2a	Basalt- amyg
201.10	202.25	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
202.25	203.60	Mafic Volcanic, 2a	Basalt- amyg
203.60	207.90	Mafic Volcanic, 2d	Basalt- dominantly massive
207.90	220.75	Mafic Volcanic, 2c	Basalt -dominantly chl flecks
220.75	226.75	Ultramafic1a	Ultramafic - massive, 1 mm
226.75	228.05	Mafic Volcanic, 2a	Basalt- amyg
228.05	233.62	Mafic Volcanic, 2d	Basalt- dominantly massive
233.62	234.30	Sandstone, 5c	Sandstone beds
234.30	239.70	Mafic Volcanic, 2c	Basalt -dominantly chl flecks
239.70	255.05	Mafic Volcanic, 2d	Basalt -massive, mt-rich
255.05	255.66	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
255.66	281.30	Mafic Volcanic, 2e	Basalt - ophitic/gabbroic
281.30	286.75	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
286.75	301.10	Ultramafic1a	Ultramafic - massive, 1-3 mm
301.10	303.80	Mafic Volcanic, 2a	Basalt- amyg
303.80	305.80	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
305.80	314.25	Ultramafic1a	Ultramafic - massive, 1-3 mm
314.25	326.00	Mafic Volcanic, 2a	Basalt- amyg
326.00	329.85	Mafic Volcanic, 2d	Basalt- dominantly massive
329.85	337.65	7a7a	Feldspar Porphyry
337.65	347.20	Ultramafic1a	Ultramafic - massive, 1-2 mm
347.20	348.30	Mafic Volcanic, 2a	Basalt- amyg
348.30	348.47	Sandstone, 5c	Sandstone beds
348.47	353.00	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
353.00	359.92	5d5d	Sandstone, Siltstone, Chert
359.92	360.60	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
360.60	360.80	Sandstone, 5c	Sandstone
360.80	362.75	Mafic Volcanic, 2a	Basalt- amyg
362.75	364.40	Mafic Volcanic, 2c	Basalt -dominantly chl flecks
364.40	367.25	Mafic Volcanic, 2a	Basalt- amyg
367.25	367.60	Mafic Volcanic, 2d	Basalt massive, chilled margin
367.60	382.00	Mafic Volcanic, 2e	Basalt - ophitic/gabbroic
382.00	382.25	Mafic Volcanic, 2d	Basalt massive, chilled margin
382.25	383.30	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
383.30	385.65	5e5e	Siltstone, Sandstone, pebbles
385.65	391.34	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
391.94	398.25	Mafic Volcanic, 2a	Basalt- amyg - flow top
398.25	415.30	Mafic Volcanic, 2d	Basalt -massive, mt-rich
415.30	416.00	Mafic Volcanic, 2a	Basalt- amyg - flow bottom
416.00	425.98	5e5e	Sandstone, pebbles, cobble
425.98	426.26	5a5a	Chert, Siltstone
426.26	430.15	5e5e	Siltstone, Sandstone, pebbles
430.15	430.58	5a5a	Chert, Siltstone
430.58	430.80	5d5d	Sandstone
430.80	431.10	5a5a	Chert, Siltstone

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
431.10	431.42	5e5e	Siltstone, Sandstone, pebbles
431.42	431.46	5a5a	Chert, Siltstone
431.46	436.17	5e5e	Siltstone, Sandstone, pebbles
436.17	438.30	5a5a	Chert, Siltstone
438.30	441.75	5e5e	Siltstone, Sandstone, pebbles
441.75	458.01	Conglomerate, 5f	Conglomerate
458.01	460.25	Mafic Volcanic, 2a	Basalt- amyg - flow top
460.25	467.35	Mafic Volcanic, 2e	Basalt -ophitic, massive, mt-rich
467.35	470.90	Mafic Volcanic, 2d	Basalt- with V1s, chalcocite
470.90	471.31	5e5e	Pebbly sandstone
471.31	471.62	5d5d	Siltstone& sandstone, S0=60
471.62	474.37	5e5e	Pebbly sandstone
474.37	474.55	Conglomerate5b	Siltstone, S0=55 to ca
474.55	479.00	Mafic Volcanic, 2c	Basalt 40 cm flow bx
479.00	482.10	Conglomerate, 5g	Conglomerate-basalt cobbles
482.10	484.75	Conglomerate, 5f	Conglomerate -polymictic; vol, seds
484.75	491.45	Mafic Volcanic, 2e	Basalt- finely ophitic
491.45	494.10	Mafic Volcanic, 2d	Basalt- massive
494.10	495.04	Mixed Sed/Volcanic6	Mixed Sed/Volc CZ
495.04	496.10	Mafic Volcanic, 2d	Basalt- massive; uc=55 S0,lc=30
496.10	516.30	Conglomerate, 5g	Conglomerate-bas (epid) cobbles
516.30	524.31	Mafic Volcanic, 2e	Basalt -1,2 mm ophitic, massive, mt-rich
524.31	535.15	Mafic Volcanic, 2a	Basalt- amyg
535.15	537.50	Mafic Volcanic, 2d	Basalt- dominantly massive
537.50	541.25	Mafic Volcanic, 2c	Basalt -dominantly chl flecks
541.25	553.55	Conglomerate, 5g	Conglomerate-bas (epid) cobbles
553.55	562.53	Mafic Volcanic, 2d	Basalt- dominantly massive, mt, wk hem
562.53	606.41	Conglomerate, 5g	Conglomerate-bas (epid) cobbles
606.41	606.42	Sandstone, 5c	Sandstone, pebble sandstone at 60 to ca

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
606.42	632.32	Conglomerate, 5g	Conglomerate-bas (epid) cobbles
632.32	633.47	Mafic Volcanic, 2a	Basalt- amyg epid, weak hem; up cont: 55
633.47	634.40	Conglomerate, 5f	Conglomerate -polymictic; vol, seds
634.40	634.44	Conglomerate5b	Siltstone -grey-brwn at 60 to ca
634.44	635.01	5e5e	Conglomerate- pebble; at 60 to ca
635.01	635.19	Conglomerate5b	Siltstone - bedding at 60 to ca
635.19	635.33	Mafic Volcanic, 2a	Basalt- amyg epid, weak hem;
635.33	635.38	Conglomerate5b	Siltstone - bedding at 60 to ca
635.38	635.56	Mafic Volcanic, 2a	Basalt- amyg epid, weak hem;
635.56	635.62	Conglomerate5b	Siltstone - bedding at 60 to ca
635.62	637.02	Mafic Volcanic, 2a	Basalt- amyg epid, weak hem;
637.02	637.10	Conglomerate5b	Siltstone - incl 1 cm calc vnlt at 637.08 at 60
637.10	638.20	Conglomerate, 5f	Conglomerate -polymictic; vol, seds
638.20	638.54	Conglomerate5b	Siltstone - bedding at 60 to ca
638.54	638.80	5e5e	Conglomerate- pebble; at 60 to ca
638.80	639.14	5d5d	Siltstone& sandstone, S0=60
639.14	639.25	5e5e	Conglomerate- pebble; at 60 to ca
639.25	639.30	Conglomerate5b	Siltstone - bedding at 60 to ca
639.30	642.75	Mafic Volcanic, 2a	Basalt- coarse, coalesing amyg, epid, hem
642.75	651.85	Mafic Volcanic, 2c	Basalt -dominantly chl flecks; hem ovrprnt
651.85	654.60	Mafic Volcanic, 2d	Basalt, massive, str mag; silica bx at up cntct
654.60	658.30	Mafic Volcanic, 2c	Basalt- massive, green flecks, sparse amyg
658.30	688.50	Mafic Volcanic, 2e	Basalt-ophitic, mt, 1-2 mm; hem, epid zones
688.50	692.82	Mafic Volcanic, 2a	Basalt- amyg; Frct Zone & alteration
692.82	693.85	Mafic Volcanic, 2d	Basalt-massive, wk hem, wk mt
693.85	695.45	Mafic Volcanic, 2a	Basalt- amyg, hem epid, chl, Frct Zone
695.45	698.10	Mafic Volcanic, 2d	Basalt-massive, sparse amyg near contacts
698.10	702.00	Mafic Volcanic, 2a	Basalt- amyg, hem epid, chl, Frct Zone
702.00	710.69	Ultramafic1a	Ultramafic, massive, wk perv hem, no-mag

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
710.69	711.06	Mafic Dyke, 8a	Mafic Intr. sill?; both contacts: 65; aphanitic
711.06	722.45	Mafic Volcanic, 2f	Basalt-ophitic-pegmatoidal, mag, trs sulphs
722.45	726.56	Mafic Dyke, 8a	Mafic Intr. sill?; chilled cntcs: 70; hi mag, py
726.56	744.00	Mafic Volcanic, 2f	Basalt-ophitic-pegmatoidal; mag; trs sulphs
744.00	752.95	Mafic Volcanic, 2g	Basalt-gabbroic, mg, massive, strgly mag
752.95	771.50	Mafic Volcanic, 2d	Basalt- fg, massive, very strgly magntc ;lc 70
771.50	773.05	Conglomerate?5b?	Metaseds? Strly hemtized & mod fract'd
773.05	788.42	Gabbro, 8b	Px-Gb? massive, mg- cg, v str mag, u+lc: 60
788.42	790.20	Conglomerate5b	Sltstne?, chrt? strly fract'd, hmtzd; perv sil?
790.20	795.92	Conglomerate, 5f	Congl Polymctc; strly bx'td; silic/alb? matrix; wk hem
795.92	800.64	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag; chilled mrgns; lc 65
800.64	805.00	Conglomerate, 5f	Congl Polymctc; silic/alb? matrix; wk hem
805.00	808.10	Conglomerate, 5g	Congl - mostly amyg basalt clasts; wk silic or epid/chl
808.10	811.22	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag; chilled mrgns; uc 75
811.22	812.06	Conglomerate, 5g	Congl - mostly amyg basalt clasts; wk silic or epid/chl
812.06	812.50	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag;
812.50	813.07	Conglomerate, 5g	Congl - mostly amyg basalt clasts; wk silic or epid/chl
813.07	814.38	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag; reaction margins
814.38	815.06	Conglomerate, 5g	Congl - mostly amyg basalt clasts; wk silic or epid/chl
815.06	815.59	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag; reaction margins
815.59	837.97	Conglomerate, 5g	Congl -mostly amyg, mass basalt clasts; epid/chl mtrx
837.97	841.76	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, massive, mag; chilled shrp mrgns;
841.76	843.55	Conglomerate, 5g	Congl - mag,rounded alt. basalt clasts; mnr hem epd
843.55	844.82	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, mass., mag; chilled mrgns 70, 40;
844.82	845.83	Conglomerate, 5g	Congl - mag,rounded alt. basalt clasts; mnr hem epd
845.83	847.72	Mafic Dyke, 8a	Mafic Sill/Dyke? fg, mass., mag; chilled mrgns 60, 60;
847.72	849.40	Mafic Volcanic, 2a	Basalt-amyg, nebulous textured: 848-849
849.40	855.40	Mafic Volcanic, 2c	Basalt- with sparse green chl flecks, amyg
855.40	856.20	Mafic Volcanic, 2a	Basalt-amyg;

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
856.20	857.18	Mafic Volcanic, 2c	Basalt- with sparse green chl flecks, amyg
857.18	859.90	Mafic Volcanic, 2d	Basalt- narrow, massive portion of flow; fg; non-mag
859.90	861.35	Mafic Volcanic, 2a	Basalt-amyg;
861.35	865.06	Mafic Volcanic, 2c	Basalt- with sparse green chl flecks, amyg
865.06	867.85	Mafic Volcanic, 2a	Basalt-amyg;
867.85	870.40	Mafic Volcanic, 2d	Basalt- narrow, massive portion of flow; fg; non-mag
870.40	873.00	Mafic Volcanic, 2a	Basalt-amyg;
873.00	874.00	Mafic Volcanic, 2c	Basalt- with sparse green chl flecks, amyg
874.00	882.45	Mafic Volcanic, 2d	Basalt- massive, minor amyg, chl, epid flw bx 878-879
882.45	883.95	Mafic Volcanic, 2a	Basalt-mixed amyg and amyg green flecks (2a, 2c)
883.95	885.37	Mafic Volcanic, 2d	Basalt-massive
885.37	899.30	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg; mnr 2d, massive
899.30	901.65	Mafic Volcanic, 2b	Basalt- mostly sparsely amyg; mnr green flecks (2b,c)
901.65	903.00	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
903.00	904.00	Mafic Volcanic, 2a	Basalt- mostly amyg; mnr green flecks (2a,c)
904.00	906.65	Mafic Volcanic, 2d	Basalt-massive
906.65	908.65	Mafic Volcanic, 2a	Basalt- amyg
908.65	911.45	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
911.45	913.70	Mafic Volcanic, 2a	Basalt- amyg
913.70	916.25	Mafic Volcanic, 2d	Basalt-massive
916.25	917.41	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg
917.41	923.40	Mafic Volcanic, 2d	Basalt-massive
923.40	923.70	Mafic Volcanic, 2a	Basalt- amyg
923.70	925.19	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg
925.19	925.30	Sandstone, 5c	Sandstone; red; contacts at 50 and 75 to ca
925.30	926.00	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg
926.00	926.60	Mafic Volcanic, 2a	Basalt- amyg
926.60	927.75	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg
927.75	936.80	Mafic Volcanic, 2p	Basalt- porphyritic, 15-20% subhedral, 1-2 mm plag

FOOTAGE			
FROM	TO	ROCK TYPE	DESCRIPTION
936.80	941.82	Mafic Volcanic, 2c	Basalt- mostly green flecks, amyg
941.82	942.16	Mafic Volcanic, 2	Basalt- mottled alteration zone
942.16	949.65	Mafic Volcanic, 2d	Basalt-massive with aligned hem ferromags
949.65	950.40	Mafic Volcanic, 2a	Basalt- amyg
950.40	951.20	Mafic Volcanic, 2	Basalt- mottled alteration zone
951.20	951.45	Mafic Volcanic, 2a	Basalt- amyg
951.45	951.72	Mafic Volcanic, 2	Basalt- mottled alteration zone
951.72			EOH

From	To	STRUCTURES & MINERALIZATION
11.55	**15.00**	**weak Calcite Brittle Fracture Zone (CBFrZ): thin, 1-2 mm, jnt fract vnlts at 10-30 to ca; across $S_{0;}$ < 5% vein material overall**
11.55	13.35	DZ
13.35	13.90	CZ
13.35	15.00	DZ
16.75	**21.25**	**moderate CBFrZ: jnt fract vnlts at 10-15 to ca; across S0; < 10% vein material**
16.75	19.25	DZ
19.25	20.35	CZ 15-20% calc bx matrix for hem, angular to subangular wllrk frags
20.35	21.25	DZ
44.19	**46.80**	**well-developed CBFrZ: 40% vein breccia material; across S0; sharp upper contact at 20 to ca**
44.19		4-5 cm TW vein bx band
44.67	45.10	~90% calcite vein matrix material
45.56	45.95	~40% matrix vein bx along ca - with variably altered wllrk frags, hem, chl, calc, epid, qtz +/- creamy pink mineral (jasper, albite?)
46.12	46.58	~90% calcite vein material
46.58	46.80	shear at 12-15 to ca with 25% vein material
51.35	**52.55**	**weak CBFrZ with thin calcite filled fract/jt vnlts; several narrow intense bands: < 2% vein material**
52.10	52.35	20% vein material
52.49	52.55	20% vein material
97.70	**100.15**	**weak CBFrZ developed marginal to 2-3 cm TW ductile-brittle shear band along ca from 98.95 to 99.30; with 25-50% patchy alteration bleaching of bugundy hematized, folded amyg basalt to pinkish, pink, flesh, + epid, calc;**
98.95	99.30	2-3 cm TW shear/briitle fault band along ca
102.20	104.00	FrZ ; mostly empty fjnt fractures, but with zoned calc, epid amygdules elongated at 45-60 to ca
106.50	**122.25**	**weak FrZ developed from a combination of high angle joints and low angle fract/joints (near vertical) but no filling material**
110.00	113.00	LOST CORE (23 inches within 3 m)
113.00	116.00	LOST CORE -100% = 3 m
117.50	122.25	well developed in this interval
121.50	122.25	main fracture band at 25 to 10 to ca

From	To	STRUCTURES & MINERALIZATION
125.75	**131.75**	**CBFrZ includes zoned chalcedonic silica veinlets, bx veins**
127.55	127.58	chalcedonic (silica), calc, hem vnlt at 75 to ca
128.40		two bx vnlts, 2 cm, 1 cm : silica, calc & angular wllrk frags; at 45 to ca
135.48		1.5 cm calc-hem-epid vnlt at 10 to ca from 135.33 to 135.60
140.00		good banding/bedding (S0) = 45 to ca
160.00	160.33	3 cm TW zoned SHEAR **VEIN** at 10 to ca; calc, epid, silica (jasper/chalcedony) & angualr wll rk frags
176.10	**191.50**	**BRITTLE DEFORMATION ZONE -all damage zone (DZ) material cored by two intervals of Tectonic Bx; FrZ includes both empty and thin, < 1 mm to 1-2 mm jnt/fractures at low angles to ca**
176.10	175.32	FrZ with thin epid, calc, hem, geothite, spec, clay vnlts
176.65	176.95	two , 5-6 mm, zoned epi, calc, spec X-cutting vnlts
177.32	177.42	two 3-4 mm, calc-spec H-epid fract vnlts
178.20		1 cm calc-spec H-epid fract vnlt
180.00	183.25	LOST CORE : < 5% CORE RECOVERY
184.55		2-3 cm calc-qtz-spec H Bx vnlt
184.75		1 cm calc-qtz-spec H Bx vnlt
188.05	188.68	TECTONIC BRECCIA - calc, spec H (up to 15%) as matrix to subrounded wllrk frags, 1 mm to 1 cm; incl. At 188.42: 3-4 mm white qtz vein with upper contact at 30 to ca & lower contact at 35 to ca; with thin calc fractures in upper margin for 75 cm and for 25 cm in lower margin
191.00	191.35	TECTONIC BRECCIA - calc , spec H as matrix to angular , hem, epid altered wllrk frags
227.75	228.25	weak FrZ
223.20	**226.40**	**weak CBFrZ - scattered, 1 mm, intermittent, calc fractures along ,5-10 to ca; include three (3) V1 veinlets with chalcocite blebs**
224.96	225.03	**V1 vnlt:** 1-2 mm at 30 to ca, hem, epid, silca, calc; hem at margins; with blebs **chalcocite**
255.24	225.40	**V1 Vnlt** : 1-4 mm; at 25 to ca (X-cutting , thus conjugate to previous vnlt), epid, silica, calc, hem, **chalcocite** blebs; epid altered wllrk
225.57	225.83	**V1 Vnlt** : 2-4 mm; at 12 to ca, epid, silica, calc, hem, **chalcocite blebs**; epid altered wllrk
243.85	**247.50**	**weak CBFrZ - mostly DZ; 1-2 mm calc fract vnlts at low angles; includes 20 cm CZ with seven (7) 1-2 mm cal bx fract vnlts**
252.98	253.06	7 cm calc bx (white, pinkish tinge) ; wllrk frags
254.00	254.50	calc bx; very irregular, 10% calc material
255.16	255.30	5-10 mm TW Bx V at 25 to ca

From	To	STRUCTURES & MINERALIZATION
255.30	255.44	1-7 mm TW Bx V at 15 to ca
256.35	256.45	1-10 mm TW Bx V at 30 to ca
257.16	257.28	irregular mass; 5% calc Bx & wllrk frags
257.58	257.74	0.5 -1.0 cm Bx V
258.00	258.82	V1 - 3 mm, folded, with thick hem and epid alt margins
259.11	259.22	5 cm (TW) Bx band
262.10	**273.65**	**Main CBFrZ -Damage Zone characterized by 1- 3mm, calc jnt/fract vnlts at a variety of angles to ca; 3 Core Zones and one V1**
262.36	262.64	**V1;** ragged, irregular vein, 2.5 cm to 1 mm (TW), zoned/banded irregular mass of chacedonic silica trending along 20 to ca along same trend as late CBFZ vnlts, and cut by calc fract vnlt at similar angle
267.05	267.07	CZ: 2 cm TW Calc Bx & angular wllrk frags vn at 55-60 to ca, but X-cutting S0.
267.52	267.77	CZ: 25 cm Calc Bx - hem, epid, alt wllrk frags at 50 to ca = S0
268.90	**272.10**	**CZ: Calc Bx with epid, hem alt subangular-subrounded wllrk frags marginal to 3-4 cm (TW) undulating Calc Shear Veinlet at 5 to ca, at 269.00 to 269.15 & 269.85 to 270.60**
288.00	**288.70**	**weak CBFrZ: DZ is a series of regular, 1-4 mm calc jt fractures at 60 to ca = S0; marginal to narrow CZ of calc-qtz bx; less than 2% vein material.**
288.53	288.55	CZ: calc-qtz & wllrk frags Bx band - broken contavts, slikensides, but at 35 to ca
286.63	286.65	**trace specks chalcocite**
298.60	**301.30**	**weak CBFZ: DZ is a series of undulating 1-3 mm, calc-filled fractures and 1-2 mm jt fractures at 5-15 to ca ; marginal to CZ; less than 2% vein material**
300.63	300.65	CZ: 1.5 cm calc & wllrk frags Bx band at 50 to ca; = to S0?
306.88		3 mm calc bx band
308.10	308.15	3.5 cm calc bx band
310.90	**314.40**	**HW to MINERALIZED ZONE: weak CBFrZ: Not at Low Angle, but at 30-40 to ca, closer to S0; DZ is scattered calc fract/jnt fillings marginal to three CZs**
311.45	311.75	CZ: 16-20, 1-2 mm wide, parallel, calc fract on both margins of a 2 cm chl FAULT GOUGE at 30-35 to ca
312.45	312.65	CZ: calc bx
314.25	314.40	CZ: FAULT GOUGE - incl 6 cm calc bx at 35 to 40 to ca
315.33	**320.87**	**MINERALIZED (CHALCOCITE) ZONE - mostly in FW to Fault BX -see more detailed notes in adjoining section**
308.00	314.60	outer halo of hematite alteration in HW to shear/thrust
314.25	314.40	CZ: FAULT GOUGE - incl 6 cm calc bx at 35 to 40 to ca; moderate hematite
314.60	315.33	calc, epid +/- with hem tinge
315.33	315.37	bleached interval with calc, epid, hem assemblage as irregular masses and patches

From	To	STRUCTURES & MINERALIZATION
315.37	315.77	CZ: **MINERALIZED FAULT BX:** incl 25-40% **chalcocite** **ONLY in the first 10 cm (315.37 to 315.47), & followed by** semi-massive hematite from 317.47 to 315.57 with rare blebs chalcocite; very sharp upper and lower contacts: 60 and 50 to ca; =S0; followed by 20 cm of Hematite rich breccia with a few % chalcocite and subrounded and alt, amyg Basalt wllrk fragments up to 1 cm.
315.77	316.15	host for chalcocite mineralization is a mottled, scattered assemblage of small irregular masses and patches of green chl, grey (silica) qtz, white calcite, white albite?, green-yellow epid, an unidentified brownish orange mineral perhaps an Fe carb? after epid?, second unidentified mineral, hard, perhaps jasper? or albite? that showsprogressive bleaching from near burgundy to pink to pale grey-white
315.77	318.15	interval with the most intense bleaching (see photo); chalcocite occurs in 4 formats: i. as partial replacement of chlorite; ii. As clusters of blebs marginalto epidote with unidentified brown orange mineral rich areas(as partial replacement of these two?) ; iii. Along fractures; within or marginal to 0.5 cm boudinaged qtz veinlet at 40 to ca at 318.65 m
315.77	316.15	rare chalcocite blebs
316.15	316.75	epid dominant (~25%); scattered chalcocite blebs
316.75	317.2	calc, unidentified brownish orange mineral, hematite blades, scattered chalcocite blebs
317.2	317.38	epid dominant; scattered chalcocite blebs
317.38	318.15	pink (jasper?), albite? Progressively altered from burgundy & brick red, epid alteration as clusters of amydules; rare chalcocite
318.15	318.73	epid, burgundy to brick red to pink (jasper?), albite?; rare chalcocite; qtz veinlet
318.73	319.75	epid dominant & rare chalcocite
319.75	320.15	brick red to pink (jasper?), albite?, epid ; & chalcocite blebs
320.15	320.35	epid & scattered chalcocite blebs
320.35	320.87	brick red to pink (jasper?), albite?, epid ;
320.87	324	pervasive, moderate hematite
324	328	weak hematite and epid as amygdules
326.75	329.65	weak CBFrZ: irregular, calc fract vnlts and trace of scattered **chalcocite** blebs 329.23 to 329.34 in an area with calc fract vnlts
340.55		4 cm TW calc Bx band
351.75	354.00	CBFrZ: three or four , 1-2 mm calc jnt fract vnlts < 5 along ca
373.85	**382.30**	**CBFrZ: characterized by jnt fracture vnlts in 2 directions: normal low angle calc vnlts & set of conjugate, but nearly empty, joints at 30 to 55 to ca some with chl slikensides**
373.85	376.80	< 2% irregular masses, irr fract vnlts of cal, epid, hem; includes 375.35 to 375.65: 4-8 mm wide zoned hem, calc, epid fract vnlt at 10 to ca which merges into 2.5 cm zoned calc, hem fract vnlt with epid margins at 375.65 at 55 to ca=S0.
376.68		1 -2 mm calc-hem low angle vnlt
378.60		1.5 cm TW calc, chl. Hem, epid Bx Vn at 35 to ca
378.79		0.5 cm calc, chl, epid Bx Vn at 30 to ca
379.52	379.66	CZ: calc, epid Bx Vn with angular wllrk frags at 40 t0 50 to ca

From	To	STRUCTURES & MINERALIZATION
380.80	380.92	CZ: calc Bx Vn at 30-40 to ca
382.30		CZ: 3 cm TW calc BxVn at 30 to ca
392.60	397.60	very weak CBFrZ : several 1 mm calc jt/fract vnlts along ca
394.20	394.97	**V1 vnlt**: 4 mm epid, hem at 30 to ca
398.12		**V1 vnlt**: 2 mm epid, hem at 45 to ca (x-cutting)
398.73		**V1 vnlt**: 1 mm epid, spec hem vnlt & **tr chalcocite** at 47 to ca
399.47		**V1 vnlt**: 5 mm calc, epid vnlt at 55 to ca & blebs **chalcocite** (1 mm by 3 mm) - not X-cutting
399.80		1.5 cm by 5 cm calc epid amygule with a bleb of **chalcocite**
399.85		possible chalcocite bleb in calc, epid amydule
400.60		possible chalcocite bleb in calc, epid amydule
		2 cm X-cutting felsite dykelet? At 50 to ca (x-cutting)
401.25	401.40	**V1 vnlt**: 4 mm epid, hem at 30 to ca
		V1 vnlt: 1 mm zoned epid calc vnlt at 38 to ca as a spur veinlet of the former
404.60	406.75	slight bleaching - medium green, marginal to **cluster of V1 veinlets** as noted:
404.82	405.98	**V1 vnlt**: 8-10 mm zoned, epid, calc at 30 to ca & blebs **chalcocite**; & bifurcating, 2nd **V1 vnlt**
405.05	405.18	**V1 vnlt**: irregular fractured interaval with multiple epid V1 fillings
406.26	406.42	**V1 vnlt**: 6 mm TW epid, calc vnlt & 4 coarse blebs **chalcocite**
406.63	406.74	**V1 vnlt**: 3 mm TW epid, calc vnlt at 25 to ca (X-cutting)
407.04		4 mm calc epid amygule with a bleb of **chalcocite**
407.88	407.89	**V1 vnlt**: 2 mm at 50 to ca
407.90	407.96	**V1 vnlt**: 2 mm at 40 to ca
408.36	408.44	**V1 vnlt**: 2 mm at 40 to ca
408.41		1 cm calc epid amygule with a bleb of **chalcocite**
408.51	408.58	1mm calc, epid X-cutting at 35-40 to ca
408.75	408.81	1mm calc, epid X-cutting at 35-40 to ca
409.03	409.10	1mm calc, epid X-cutting at 35-40 to ca
409.27	409.33	1mm calc, epid X-cutting at 35-40 to ca
409.46	409.53	1mm calc, epid X-cutting at 35-40 to ca
409.67	409.74	1mm calc, epid X-cutting at 35-40 to ca
410.10	410.16	1mm calc, epid X-cutting at 35-40 to ca

From	To	STRUCTURES & MINERALIZATION
410.25	410.50	cluster of calc, epid fractures
411.37	411.48	1 mm epid X-cutting at 30 to ca
411.46	411.49	1 mm epid X-cutting at 30 to ca
411.51	411.57	1 mm epid X-cutting at 30 to ca
411.73	411.87	1 mm epid X-cutting at 30 to ca
412.89	413.05	1 mm epid X-cutting at 30 to ca
414.42	414.92	CBFrZ - weak fracture zone with hair thin calc fractures & 1 cm TW epid, hem, chl at 40 to ca & 0.5 cm epid, hem, calc BxVns
438.60	440.00	LOST CORE (1.4 m)
447.00	448.70	CBFrZ: combination of low angle frcture vnlts and higher angle joint vnts of 1mm or thinner calc+/- epid +/- hem; often with slikensides
449.75	450.40	CBFrZ as for 447.00 to 448.70
451.30	453.55	CBFrZ as for 447.00 to 448.70
454.00	**461.55**	**CBFrZ: set of ~20 , hair thin to 3 mm , more regular, calcitic fracture vnlts at higher angles; calc+hem at 5-10 to ca, wider veinlets up to 5-6 mm, with silica (chalcedonic); ragged vnlts in seds and more regular in volcanics and pinkish (hem)**
455.60	456.00	cluster of 3 wider nlts; middle vnlt has one bleb of **chalcocite** at 455.88
464.64	**470.95**	**V1 Veinlet Cluster (~ 15 to 20) 2 mm to 1.5 cm TW & 4 veinlets with chalcocite as noted; trend is from upper left to lower right on the aligned core as for S0, but at much lower angles**
464.64	464.89	**V1 vnlt:** at 15 to ca & bleb **chalcocite**
465.14	465.31	**V1 vnlt:** at 10 to ca
465.35	465.76	**V1 vnlt:** 35% irregular mass of fracture veinlets
467.00	**485.00**	**CBFrZ OVERPRINTING the V1 vnlts: very weak, approx. one 1mm calc vnlt at 10 to ca, per core metre with largest two : 484.25 to 484.50: 3mm, at 10 to ca, and 484.70 to 485.00: 2-4 mm calc, epid, vnlt at 15 to ca.**
467.10	467.30	**V1 vnlt:** thin at low angle
467.35	467.55	**V1 vnlt:** thin at low angle
467.85	468.09	**V1 vnlt:** at low angle with **chalcocite** blebs
469.04	469.20	**V1 vnlt:** at low angle with **chalcocite** blebs
470.28	470.60	**Principal V1 vnlt:** 1.5 cm TW, at 20 to ca, zoned epid, calc, +/- blebs of unidentified orange mineral, with **chalcocite** blebs marginal to epidote and orange mineral
482.00	490.50	**V1 Veinlet Cluster:** combination of irregular masses of vein epidote -rich material and more regular, thin fracture veinlets at low angles, 10-15 (X-cuuting) S0, and wider veinlets close to S0 at 45 to 55 to ca; **2 veinlets with chalcocite** as noted; V1 Veins are in both FW and HW of FLT Bx/Shear along the contact of subunits 5f and 2e

From	To	STRUCTURES & MINERALIZATION
485.59	485.63	**V1 vnlt:** 5 mm at 10 to ca & blebs **chalcocite**
487.08		3 cm TW **V1 vnlt** at S0= 45-60
487.41		3 cm TW **V1 vnlt** at S0= 45-60
487.68	488.05	**V1 vnlt:** 3-4 mm **zoned** at 10 to ca & blebs **chalcocite at 487.80**
488.50		8 cm TW **V1 vnlt** + hem at S0= 45-60
486.70	**492.00**	**CBFrZ: Damage and Core Zones as noted**
486.82	488.82	Damage Zone (DZ)(fractures) - hematized
488.82	490.35	Core Zone (CZ): chl, calc, epid fract/shear zone; hematized
488.90		**5 cm shear band** at 35 to ca, with calc vnlt
489.50	490.00	**50 cm brittle fracture zone/breccia** with 5 cm TW calc Bx band and hematized shear bands at 35, 40, 55 to ca
490.25	490.35	**Fault Breccia**
490.35	492.00	Damage Zone: hematized includes chloritic fault breccia band at 490.50 to 490.75
502.30	504.30	CBFrZ: weak: series of deformed, thin, calc +hem vnlts, folded and marginal to 1 cm TW calc vnlt
502.65	502.80	1 cm TW cal vnlt at 30 to ca
506.70	**511.35**	**CBFrZ - series of seven (7) main, thin, ragged, 1-5 mm calc stringer fracture veinlets occassionally chalcedonic, along at 5 to 25 to ca; with epid margins and within a heavy epid altered area as noted below:**
506.90	507.15	1 mm, calc, hem
508.60	508.85	1-2 mm, calc, hem, and qtz vein frag/boudins? thus overprinting an earlier qv?
509.12	509.28	2-3 mm zoned chalcedonic, epidote at 15 to ca
509.30	509.40	80% irregular mass - chalcedonic, spec hem
510.25	510.65	1-8 mm irr calc at 5-10 to ca
510.70	510.94	2-5 mm calc irr, (junction of a conjugate fract/jnt set) at 15 to ca
511.00	511.32	1-2 mm ragged calc stringer veinlet
516.26	**518.25**	**CBFrZ: DZ and CZ**
516.30	517.40	CZ: 8 cm TW **calc bx - shear bx** at 35 to ca, thus not the same attitude as S0 at 50-60; with low angle calc vnlts to 517.40; strong hematite alteration
517.20	517.45	Qtz Vn- grey qtz, 8-10 mm, boudinaged and folded along ca
517.40	518.25	DZ with 2-3 , 1 mm calc fracture stringers at 5-10 to ca and slikemsidess at 50, or =S0
517.60	517.69	Qtz Vn- grey qtz, 5 mm at 30 to ca

From	To	STRUCTURES & MINERALIZATION
524.12	**525.35**	**moderate CBFrZ : collection of 1-3 mm calc and calc + silica vnlts and bx vnlts with various orientations and compositions and 2 regular epid-calc vnlts at 30 to ca**
524.40		unit 2e/2a contact at 40 along shear
528.40	**531.40**	**CBFZ - six (6) 1 mm, stringer calc vnlts at 0 to 5 along ca that cut two (2) older 1-2 mm, epid-calc vnlts at 20 to ca, at 528.76 and 528.94**
535.00		**V1 vnlt** 3 mm calc, epid, hem at 40 (X-cutting S0)
555.00		**V1 vnlt** 4 mm calc, epid, hem at 40 (X-cutting S0)
555.80		**V1 vnlt** 5 mm calc, epid, hem at 40 (X-cutting S0) & bleb **chalcocite**
556.20	556.55	strong epid alteration
556.38		**V1 vnlt** 2 cm TW qtz-calc BxV mm calc, epid with epid-rich wllrks & a few blebs **chalcocite**
559.18		**V1 vnlt** 5 mm qtz, chl, calc, epid, hem at 25 (X-cutting S0)
559.10	**592.15**	**CBFrZ: white or pinkish calc +/-hem as stringer jnt/fracture vnlts at 10-15 to ca; marginal to CZs as noted; much broken core; overprints an older silica qtz veinlet event from 571.22 to 584.90**
560.15		CZ: 1 cm TW calc shear Bx at 25 to ca within a 20 cm fractured CZ
560.42		CZ: 0.5 cm TW calc shear Bx at 40 to ca
		NOTE: only the larger calc hem veinlets or clusters of veinlets are listed below:
563.10	563.44	2 cm (TW) wide cluster of calc, hem vnlts 15 to 30 to ca
564.42	564.70	cluster of four (4), 1-4 mm calc, hem vnlts 30 to 50 to ca
565.00	565.15	cluster of three (3) calc, hem vnlts, 2mm
568.82	568.98	5-7 mm calc hem vnlt at 30 to ca
569.18	569.45	6 mm calc hem vnlt at 15 to ca
569.49	569.59	2-3 mm calc hem vnlt at 30 to ca
572.15	572.80	five (5) 1-3 mm calc hem vnlts at 30 to ca
575.06	575.15	3 mm to 2 cm, boudinaged, calc hem vnlt at 30 to ca
576.68	579.38	5 mm to 1.5 cm calc hem that follows same structure as the # 5 QV along ca; possibly 1 tiny fleck of malachite or chlorite?
590.45	590.70	ragged 2 mm calc hem vnlt at 20 to ca
591.63	591.96	3 cm calc hem vnlt at 30 to ca
571.22	**584.90**	**Older Silica Event: Qtz Veinlets & irregularly shaped Chalcedonic Silica matrix for basalt conglomerate, subunit 5g, composed of 6 items as follows:**
571.22		#1 - ~ 2 cm long white qtz lense: part of matrix?
574.11	574.25	#2 colour banded, zoned chacedonic silica material as matrix for basalt cobbles

From	To	STRUCTURES & MINERALIZATION
574.85		#3 colour banded, zoned chacedonic silica material (< 3 cm) as matrix for basalt cobbles
576.05	576.15	#4 colour banded, zoned chacedonic silica material as matrix for basalt cobbles
576.68	579.38	#5 pair of 0.5 cm, or one , 1 cm, bifurcating, grey qtz veinlet at 0-5 along ca with thin bleached reaction margins; boudinaged as overprinted by younger calc-hem veinlet exploiting same structure
584.65	584.95	#6 -2 mm grey-white qtz veinlet at 10 to ca
608.90	**611.60**	**very weak CBFrZ - as a series of ~ twelve (12), < 1 mm to 2 mm, most 1 mm thin calc stringer veinlets; ragged at 20-30 to ca and X-cutting S0**
614.70	615.85	very weak CBFZ - as a series of ~ nine (9), 1 mm calc stringer fracture vnlts, ragged at 40-45 to ca
640.95	XXX	weak FrZ: mostly sparse, hair-thin, ragged, epidote stringers both a low angles and some cross-cutting & includes wider pair of conjugate more regular veinlets
642.34	642.47	2-3 mm zoned, epid, hem vnlt at 20 to ca
642.64		1-1.5 cm zoned, sheared, epid-rich with 2-3 mm silica band, hem, calc, vnlt at 10 to ca
644.95	645.47	weak FrZ: scattered stringer calcite vnlts; with more fracturing marginal to 2 cm Qtz Bx band +/- hem, chl, albite? At 80 to ca at 645.41-645.43
647.43	647.53	1 cm TW, zoned, boudinaged, epid, chl, +/- hem, qtz vnlt at 30 to ca,
648.10	648.70	set of conjugate 1-2 mm, epid, calc, chl vnlts at low angles
649.58	649.72	2-3 mm qtz,chl,epid vnlt at 30 to ca
649.77	649.87	2 cm TW -reddish-brn (hem) stained Qtz Bx vnlt with epid, hem, and angular wllrk frags at 30 to ca
649.88	649.94	3 mm patchy brick-red stained qtz vnlt at 35 to ca (same trend on core as S0=60)
651.83	652.28	**Contact Breccia**: between sububits 2c - green flecks, and 2d, massive, magnetic; 10% light grey **chalcedonic (not calcitic as higher up in the hole and stratigraphy)** matrix for cg to fg hematized (brownish), & epid altered, angular to subangular wllrk frags ; some strongly magnetic; no calcite
653.34	653.43	epid, chl, calc alteration marginal to 8-9 mm TW weakly zoned, calc-chl-epid vnlt at 35, where **bornite** appears as semi-massive patchy lenses up to 1.0 cm long as it replaces the formr along a 5 mm wide chl rich zone along the vnlt margin
652.35	665.25	v wk Fr Z: mostly fresh-looking, "unaltered " & "undeformed" except for sparse, thin pinkish- brick-red calc-hem fracture-filling at both 35 to ca and at the low angle, 10 to ca (x-cutting structures) with wider vnlts as floows:
657.54	657.60	4 mm calc-hem jnt vnlt at 40 to ca
658.51	658.55	3 mm calc-hem jnt vnlt at 40 to ca
659.47	659.52	3 mm calc-hem jnt vnlt at 40 to ca
661.36	661.41	8-10 mm calc-hem jnt vnlt at 38 to ca

From	To	STRUCTURES & MINERALIZATION
665.25	672.25	weak FrZ within a moderately and pervasively and fracture altered hem, epid interval of 665.25 to 673.50m; combination of thin hem-calc fractures and 1 mm epid-calc hem jt vnlts at 10-15 to ca and as jnts at 65 to ca and as conjugate jnts at 35 to ca; epid also as felds replacement and pervasive in groundmass; very low mag
675.96		1.5 cm TW vnlt at 30 to cac; zoned chl, epid, hem alt but no metallics replacing the chl as per 653.34-653.43
676.90	677.25	3 mm hem, calc vnlt undualting at 15 to ca
677.63	677.83	weak FrZ with 3 mm calc, epid, chl (slikensided) vnlt at 30 to ca and several thin hem, calc fract vnlts
683.29	683.49	3-4 mm cacl, epid vnlt at 10-15 to ca
681.00	686.60	weak pervasive and fract calc + hem associated with DZ & vnlts as noted:
684.81	**688.00**	**Brittle FrZ- all DZ (Damage Zone - fracture/jnt veinlets - many are silica and not calcite)**
684.81	684.91	V2- 5 mm, brick-red to pink silica/jasper , chl vnlt t 40 to ca
685.04	684.13	2 mm white qtz-chl vnlt (x-cutting at 30 to ca)
685.33	685.73	V2- 9-10 mm, brick-red-pink silica/jasper, chl vnlt X-cutting at 10 to ca)
686.22	686.30	V2- 8 mm, brick-red to pink silica/jasper , chl + epid vnlt at 40 to ca
686.52	686.65	2mm qtz, hem, chl. Epid vnlt at 15 to ca
686.74	686.84	2 mm brick red -hematitzed calcite vnlt (X-cutting at 25 to ca)
686.93	687.05	2 mm brick red -hematitzed calcite vnlt (X-cutting at 25 to ca)
687.46	687.65	1 mm chl-epid vnlt X-cutting at 20 to ca)
688.05	688.30	1 mm epid, chl, hem vnlt (X-cutting at 20 to ca)
688.50		2e/2a contact is broken
688.95	689.00	1 mm epid, chl, hem vnlt (X-cutting at 20 to ca)
689.00	**692.35**	**FrZ & Alteration developed on a narrow 2a subunit: CZ as noted**
689.31	689.56	CZ: FLT Gouge/ Bx - chl, epid, slikensides
690.12	690.15	CZ: FLT Gouge/ Bx - chl, epid, slikensides
692.00	692.20	CZ: more intense fracturing
692.40		1-2.5 cm (TW) , iregular., chl, hem,albite? Silica? FLT Veinlet at 70
694.10	694.20	bleaching of irregular patch "pink" towards white of a hard, aphanitic mineral silica? albite

From	To	STRUCTURES & MINERALIZATION
694.50	694.80	bleaching of irregular patch "pink" towards white of a hard, aphanitic mineral silica? albite
694.30	695.25	**FrZ & Alteration developed on a narrow 2a subunit: sharp lc at 30 to ca;** combination of jnts and low angle fractures with slikensides and perv burg, hem alt
711.06	716.40	epidotized plagioclase of ophitic basalt
711.24	711.30	3 mm calc, chl vnlt (x-cutting at 35 to ca)
716.04	716.09	3 mm calc, chl vnlt (x-cutting at 35 to ca)
715.50	737.90	**weak-moderate pervasive hematite alteration zone associated with series of 15 gabbroic pegmatoidal intervals (excluding Mafic Intrusive which may be post-hematite alteration)**
716.95	717.55	**weak FrZ** developed marginal to 8 cm fracture vnlt with with weak bxed/fracterd interval , at 25 to ca, slight bleaching, pinkish hem, chl, epid
721.30	721.37	**Gabbroic Pegmatoid #1:** 6 cm TW band,highly magnetic, (X-cutting at 55 to ca) with up to 4 mm pinkish feldspars + partially chloritized, rectangular, black, ferromagnesian mineral (hornblende?); often with scattered tiny irregular patches of white, chalcedonic interstial silica,: with two oval, 1 cm clots of zoned chl, epid, alb? And trace blebs **chalcocite**
721.53		**Gabbroic Pegmatoid #2:** 0.5 cm TW at 70 to ca
		Gabbroic Pegmatoid #3: scattered, small pegmatoidal patches, one chl, alb?calc ovoid with trace blebs **chalcocite**
722.45	726.56	Mafic Intrusive unit (Diabase) is clearly intrusive, likely as a flat sill; has sharp contacts; well developed chilled margins; is almost jnt/fract-free; strongly magnetic and with (<1%) aggregates of specks of fine py replacing magnetite forming scattered 1-4 mm clots thruout
727.58	727.73	50% of interval is **Gabbroic Pegmatoid #4:** as three bands, at high ca; one band with bleb **chalcocite** at 727.71; interval incl 2, thin cross-cutting calc vnts at 30 to ca
728.20	728.25	**Gabbroic Pegmatoid #5** is developed marginal of a 0. 5 cm wide grey-beige silica vnlt (X-cutting at 30-35 to ca) with 3-4 cm pegmatoidal alteration margins
728.97	729.15	**Gabbroic Pegmatoid #6** is developed marginal of a 0. 5 cm wide grey-beige silica vnlt at 40 to ca with 4 -5 cm pegmatoidal alteration margins
732.40		**Gabbroic Pegmatoid #7** is a 1.5 cmTW band at 60 to ca, with trace blebs **bornite** and **chalcocite**
733.18	733.36	**Gabbroic Pegmatoid #8** is 16 cm TW band at 65-70 to ca cut by a pair of 1 mm calc vnlts at 25, 30 to ca; with mostly tr- 1% blebs py +/- cpy? As partial replacement of chl ferromagnesians, magnetite
733.39	733.41	**Gabbroic Pegmatoid #9** is a 1.5 cmTW band with trace blebs py? Cpy?
735.21	735.24	**Gabbroic Pegmatoid #10** is a 2.0 cmTW band with trace blebs py? Cpy? At 50 to ca
735.97	736.38	**Gabbroic Pegmatoid #11**is approx. 25 cm TW band at 60 to ca; cut by a 1 mm epid calc vnlt at 10 to ca with chl-epid slip plane and ; with 1-2 cm wide epid alteration margin developed marginal to the low angle 1 mm vnlt as it passes thru across the width of the pegmatiod band; trace blebs py, cpy?
736.54	736.60	**broken core with pieces of Gabbroic Pegmatoid #12** with chl, epid on slip plane

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736.83		**Gabbroic Pegmatoid #13:** 1.5cm TW
736.90		**Gabbroic Pegmatoid #14:** 1.0 cm TW
737.10		**Gabbroic Pegmatoid #15:** 2.0 cm TW
739.38	739.70	1mm calc chl vnlt at 10 to ca
740.05	740.18	1mm calc chl vnlt at 15 to ca
740.45	740.63	1mm calc chl vnlt at 25 to ca
742.12	742.43	1mm calc chl vnlt at 25 to ca - undulating
742.56	742.75	1mm calc chl vnlt at 10 to ca - undulating
743.50	744.00	core is 100% angular fracture chips-rubble
744.30	744.62	V2- 5-6 mm zoned, albite, jasper bx vnlt, tr py at 10 to ca
745.30	745.48	V2- 1-2 mm zoned, silica-chert-jasper vnlt, tr py along 1 margin; at 10 to ca
747.50	748.15	V2- 3-4 mm zoned, silica, chl, epid, hematitic margins withtiny py specks after hematite at 5 to ca
748.60	748.84	pair of 1 mm irregular silica, hematite vnlts
749.90	750.00	1 mm thin hem, silica vnlt
752.75	752.84	1-2 mm thin silica albite? Epid, chl at 25 to ca
754.22	754.45	1 mm white qtz vnlt at 25 to ca
756.00	756.30	three (3) 1 mm white qtz vnlt at 25 to ca
757.18	757.42	1 mm white qtz vnlt at 15 to ca; 2nd 1-2 mm white qtz epid vnlt at 20 to ca
758.03	758.15	1 mm white qtz vnlt at 25 to ca
759.12	759.57	two 2 mm zoned white qtz, epid vnlt at 25 to ca; wider one appears to be bx vnlt
		after 755 to 771.50 m, rock has a dense, "baked" appearance where many of the vnlts have been "absorbed" into the wallrocks, thus difficult to pick-out
760.23	760.36	3-4 mm silica, epid, chl vnlt at 20 to ca
760.59	760.68	2 mm silica, epid vnlt at 30 to ca
762.46	762.55	2 mm silica, epid, chl vnlt at 30 to ca
762.86	762.91	3 mm zoned silica, epid, chl vnlt at 40 to ca
763.47	763.58	2 mm wht qtz epid, chl vnlt at 30 to ca
764.76	765.02	3-4 mm zoned silica, epid, chl vnlt at 10-15to ca
764.50	767.05	weak perv hemtite alteration associated with FrZ.

From	To	STRUCTURES & MINERALIZATION
765.60	767.05	weak FrZ: bleached & hematized; several empty low angle fractures
767.47	767.55	1 cm TW grey silica/cherty vnlt - aphanitic at 35 to ca
767.55	767.75	1.5 cm TW grey silica/cherty vnlt - aphanitic at 25 to ca
767.75	767.82	0.5 cm TW grey silica/cherty vnlt - aphanitic at 45 to ca cut by low angle, 1 cm TW vnlt form 764.76 to 767.05
767.83	767.86	1 cm TW grey silica/cherty vnlt - aphanitic at 55-60 to ca
767.87	767.98	3 cm TW grey silica/cherty vnlt - aphanitic at 60 to ca
769.08	769.32	2 mm zoned, calc, epid, silica, chl vnlt at 10 to ca
769.45	769.57	2 mm zoned, calc, epid, silica, chl vnlt at 10 to ca
771.15	**773.05**	**moderate FrZ & with moderate, irregular patches of a brick-red, pervasive hematite alteration overprint alternating with 5-6 cm intervals of irregular beige/silicified? & weakly chl patches; both are developed on generally a fine metasedimentary subunit; the fracture-related alteration gives the rock a "quasi-fragmental" appearance; curvature to some altered entities suggest pebbles of amyg basalt with remnant, altered, but recognizable clusters of small amyg; 771.57-771.65: deformed cherty beds with primary? layering at 70 to ca; fracturing is focussed on the intersections of low angle facture vnlts and the higher angle joint set that are both developed in this unit and in 790.20 to 793++.**
771.15	771.50	DZ: - mainly fractures
771.50	773.05	CZ: brittle fracturing and alteration
771.95		single speck or several fine specks **chalcocite**
772.23		single speck or several fine specks **chalcocite**
772.27		single speck or several fine specks **chalcocite**
772.28		single speck or several fine specks **chalcocite**
772.44		single speck or several fine specks **chalcocite**
772.46		single speck or several fine specks **chalcocite**
772.96		single speck or several fine specks **chalcocite**
788.42	**794.80**	**moderate FrZ: moderate to strong hematite overprint & prominent bleaching (silicification &/or albitization of matrix), and fracturing; broken core**
		SEE Notes for 771.15 to 773.05 & supplementary notes as follows:
788.25	790.20	DZ: moderately fractured & altered fine sediments; patchy hematite alteration of variable intensity: burgundy to brick-red, to creamy with pinkish tinge; < 10% remnant , less altered chl-epid patches.

From	To	STRUCTURES & MINERALIZATION
790.20	**792.50**	**CZ: curvature to some altered entities suggest pebbles and cobbles of amyg basalt, and a wide assortment of altered clasts reminisant of less altered intervals of conglomerate thereby suggesting a polymictic conglomerate protolith; more intense grey-white bleaching (albite? Silica?) of matrix; fracture and alteration zone is developed over the intersections of a set of generally empty, or hematized, clayey, chloritic , higher angle joint fractures. and a set of thin, but zoned, silica, epid, chl, low angle vnlts**
790.30	790.70	3 mm, zoned, undulating , silica, epid, chl vnlt at 5 to ca; other similar vnlts noted in small pieces of broken core
790.00	795.92	pervasive grey silicification of matrix; mottled assemblage of clasts have been re-brecciated/fractures and mostly now annealed; a few recognizable narrow intervals of less deformed, brick-red, bedded hematitic siltstones at 792.75 and also at 793.20 to 793.25 with bedding at 60 to ca
792.50	794.80	DZ: mostly a weak fracture zone over the intersection of 2 directional jnt /fracture sets
795.80		a single tiny speck of **chalcocite** (as per M. Quinn)
795.82		a single tiny speck of **bornite** (as per M. Quinn)
797.62	797.65	2-3 mm, ragged, partially obliterated, chl, epid vnlt at 30 to ca;
797.05	797.65	4-5 mm, ragged, partially obliterated, chl, epid vnlt at 5 to ca; 3 tiny specks of py along margins
800.64	802.50	moderate to weak patchy silicification: NOTE: pervasive silicification of the matrix has developed marginal to the group of 6 magnetic mafic intrusive entities and in some of the intervening areas; silicification has partially penetrated and altered some of the clasts as evidenced by zoned reaction margins; s ubsequently, annealing has occurred, and some brittle re-brecciation (FrZ)has followed from 788.42 to 794.80, but without any significant hydrothermal alteration.
800.64	802.00	deformed clasts to 802; then undeformed and thus subangular to subrounded thereafter;
809.05	809.25	two conjugate? altered V1- 2 mm, sil, epid, chl vnlts at 10-15 to ca, with offset along one;
810.95	811.02	altered V1 , 2mm silica, epid, chl vnlt, (X-cutting at 40 to ca)
812.38	812.42	altered V1 , 2mm silica, epid, chl vnlt, (X-cutting at 40 to ca)
813.11	813.17	altered V1 , 2mm silica, epid, chl vnlt, (X-cutting at 40 to ca)
813.24	813.41	altered V1 , 1-3 mm silica, epid, chl vnlt, at 30 to ca
816.00	820.00	the altered matrix of the conglomerate subunits undergoes a transition from dominantly silicification to epidote-chlorite resulting in a mixed, patchy interval
816.60	817.02	V1 , 2-3 mm, zoned epid, silics, chl at 10 to ca
820.00	830.00	moderate epid-chl alt in matrix; no silicification; majority (or all) of clasts are basalt types
830.00	835.80	moderate hematite overprint; mostly in clats and patchy in matrix
833.00	833.16	1 mm calc,hem vnlt @ 15 TCA (x-cutting)
833.61	833.70	1 mm calc,hem vnlt @ 25 TCA (x-cutting)
835.85	837.10	lt olive green str epd fracture zone with 7 fractures 20-50 TCA
837.40	847.80	moderate mag associated with the three mafic intervals and includes intervening intervals of conglomerate with basalt clasts
837.73	837.95	1 mm calc, hem vnlt @ 15 TCA
838.08	838.15	2 cm chl, sil vn @ 45 TCA
838.20	838.35	1 cm chl, epd, wk calc vnlt @ 50 TCA (x-cutting)

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838.84	838.93	2 mm chl, epd, wk calc, @ 30 TCA
842.45	842.65	1 mm calc, hem vnlt @ 10 TCA (x)
843.45	843.56	1 mm calc, hem vnlt @ 25 TCA (x)
844.45	844.67	0.5 cm chl, sil,epd @ 10 TCA (x) with conjugate splay
844.81	844.90	1 mm calc, hem vnlt @ 30 TCA
842.50	843.00	local weak epidote interval in matrix and clasts
847.34	847.38	1 cm chl, epd, sil fracture-vnlt @ 65TCA
847.90	848.03	1 cm red (albite?), sil, epd frac-vn @ 40 TCA (x), appearance of red mineral, not sure what it is….not hem…hard
848.06	848.10	0.5cm chl,epd,sil
849.30	849.53	1 mm red, sil vnlt 20 TCA
849.42	849.60	1 mm red, sil vnlt 20 TCA
851.10	851.16	1 cm red, chl, epd vnlt plus minor bx over 7 cm (x)
853.17	853.37	1 mm red, epd vnlt @ 10 TCA (x)
854.07	854.47	10 cm frac-vein system with epd, sil, rare red, chl.. Wispy appearance, wk bx, 30 TCA
856.20	856.30	3 mm chl, mnr epd vnlt 25 TCA (x)
857.87	857.92	1 mm calc, mnr red vnlt 50 TCA (x)
857.96	858.00	0.5 cm cherty, mnr red, chl, 60 TCA
862.33	862.58	1 mm calc, red, sil vnlt 10 TCA
863.10	863.16	0.5 cm chl, sil vn 15 TCA (x)
866.50	866.75	1-2 mm chl, sil vnlt 15 TCA (x)
868.10	868.15	1-5 cm blobby irregular chl, sil mass with 1-3cm bleached halo, perp-70 TCA
869.55	869.65	as above, mnr bx 70 TCA
873.29	873.45	1 mm red, sil vnlt 15 TCA (x)
873.66	873.80	1 x 3mm, 1x1cm chl, sil both 45 TCA rare red mineral, wk bx from similar vn material 873.46-873.6
878.00	878.10	3 mm white, qtz (no calc) vnlt 25 TCA
880.79	880.91	hairline pk calc, sil vnlt 15 TCA
887.80	887.93	hairline pk calc, sil vnlt 25 TCA (x)
898.60	899.30	"layering" defined by thin, wavy, aligned, hematite slips (after magnetite) at 50 to ca
891.75	891.89	1 mm pk calc, sil vnlt 15 TCA
896.25	**907.75**	**Brittle Fracture Zone (BFrZ) assemblage of about 40 low angle (<5 to 30 to ca) stringer fracture vnlts; some empty fractures, but most with thin, ~ 1 mm pink/red (hematitic tinge) calcite fillings, or chl-calc-hem slips; also two (2) wider, 0.5 cm zoned cal-silica fract vnlts; DZs and CZ as noted.**
896.25	899.80	DZ: includes , 12 thin, stringer, fracture vnlts at low angles and 0.5 cm zoned calc-silica vnlt at 10 to ca at 896.35 to 896.65

From	To	STRUCTURES & MINERALIZATION
899.80	904.20	CZ: 4.4 core meters or ~1.5 m TW; includes 17 thin stringer,fract vnlts at 5 to 30 to ca; and one 0.5 cm zoned calc-silica vnlt 903.05 to 903.30 at 10 to ca, with thin chl-clayey hematitic margin
904.20	907.75	DZ: includes 12 thin, stringer, fracture vnlts at low angles as for upper DZ
914.65	915.00	wk bx by pink calc, epd, sil +/- chl generall 60 TCA (x)
915.18	915.26	0.5 cm sil, epd vn sub-parallell (2-3 TCA) TCA
915.84	916.00	wk bx as above with pk calc plus cm long ruby-red lath-like mineral, bx generall 60 TCA
		FOR ALTERATION SUBSECTION:
		magnetism: MAGNETITE
<874	878.00	v v weak
878.00	898.00	nd (not detected with hand held swing magnet)
898.00	900.65	v v weak
900.65	901.70	nd
901.70	904.00	wk/mod
904.00	904.25	mod
904.25	906.40	weak
906.40	909.75	mod
909.75	913.80	weak
913.80	916.10	mod
916.10	918.75	weak
918.75	924.25	mod
924.25	925++	weak
		HEMATITE
<874	899.80	v weak to weak; patchy pervasive in groundmass & fracture type with calcitic fractures until the CZ of the BFrZ (899.80 to 904.20)
899.80	904.20	moderate as pervasive brown and reddish-brown Basalt amyg groundmass and brick reddish tinge with calcitic fract vnlts;
904.20	910.00	as pr <874 to 899.80
910.00	925++	present but weak, patchy as vnlt tinge material and as faint pinkish tinge of groundmass; but moderate brick red in 21 cm of sandstone from 925.19 to 925.30

From	To	STRUCTURES & MINERALIZATION
		EPIDOTE
<874	895.00	very weak overall with no appreciable development except as patches with chl and hem as flow features within amyg flow subsections to 895 m
878.00	879.10	amyg + flow bx with strong chl+epid

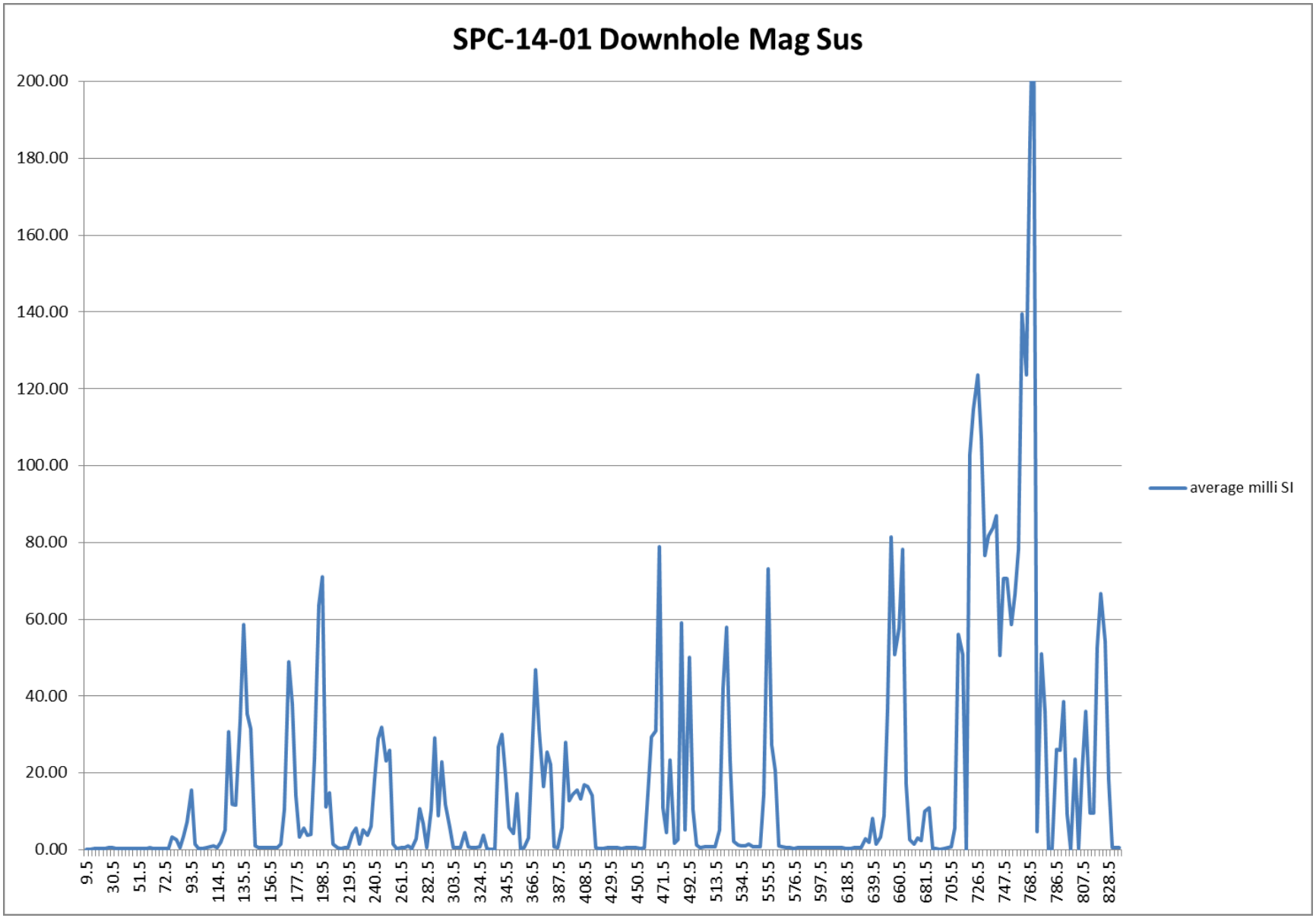
CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948020	170.82	171.32	0.50
P	948021	171.32	171.62	0.30
P	948022	171.62	171.92	0.30
P	948023	171.92	172.4	0.48
P	948024	101b		
P	948025	172.4	172.7	0.30
P	948026	172.7	173.68	0.98
P	948027	173.68	174.18	0.50
P	948028	174.18	174.49	0.31
P	948029	174.49	174.79	0.30
P	948030	174.79	175.24	0.45
P	948031	175.24	175.54	0.30
P	948032	175.54	175.84	0.30
P	948033	1/4 Dup		
P	948034	175.84	176.14	0.30
P	948035	176.14	176.44	0.30
P	948036	176.44	176.68	0.24
P	948037	176.68	177	0.32
P	948038	177	177.3	0.30
P	948039	177.3	177.6	0.30
P	948040	Blank		
P	948041	177.6	177.9	0.30
P	948042	177.9	178.18	0.28
P	948043	178.18	178.48	0.30
P	948044	178.48	178.78	0.30
P	948045	178.78	179.42	0.64
P	948046	179.42	183.05	3.63
P	948047	183.05	183.45	0.40
P	948048	CM-36		
P	948049	183.45	183.93	0.48
P	948050	183.93	184.23	0.30
P	948051	184.23	184.53	0.30
P	948052	184.53	184.83	0.30
P	948053	184.83	185.38	0.55
P	948054	185.38	185.78	0.40
P	948055	185.78	186.78	1.00
P	948056	186.78	187.61	0.83
P	948057	187.61	188.03	0.42
P	948058	101b		
P	948059	188.03	188.37	0.34
P	948060	188.37	188.7	0.33

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948061	188.7	189.08	0.38
P	948062	189.08	190.08	1.00
P	948063	190.08	190.54	0.46
P	948064	190.54	190.94	0.40
P	948065	190.94	191.34	0.40
P	948066	191.34	192.34	1.00
P	948067	1/4 Dup		
P	948301	312.8	314.25	1.45
P	948302	314.25	315.37	1.12
P	948303	315.37	315.73	0.36
P	948304	315.73	316.73	1.00
P	948305	316.73	317.34	0.61
P	948306	317.34	318.15	0.81
P	948307	318.15	318.57	0.42
P	948308	b1		
P	948309	318.57	318.87	0.30
P	948310	318.87	319.46	0.59
P	948311	319.46	320	0.54
P	948312	320	320.87	0.87
P	948313	320.87	321.9	1.03
P	948314	464	464.6	0.60
P	948315	464.6	465.17	0.57
P	948316	cm-36		
P	948317	465.17	465.59	0.42
P	948318	465.59	466.45	0.86
P	948319	466.45	467.45	1.00
P	948320	467.45	467.85	0.40
P	948321	467.85	468.5	0.65
P	948322	468.5	469.4	0.90
P	948323	469.4	470.25	0.85
P	948324	470.25	470.58	0.33
P	948325	470.58	470.95	0.37
P	948326	101b		
P	948327	470.95	471.5	0.55
P	948328	485	486	1.00
P	948329	486	487	1.00
P	948330	487	488	1.00
P	948331	488	488.82	0.82
P	948332	488.82	490	1.18
P	948333	490	491	1.00
P	948334	491	491.75	0.75

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948335	1/4 dup		
P	948336	651.1	651.7	0.60
P	948337	651.7	652.01	0.31
P	948338	652.01	652.33	0.32
P	948339	652.33	652.78	0.45
P	948340	652.78	653.22	0.44
P	948341	653.22	653.52	0.30
P	948342	653.52	654.12	0.60
P	948343	b1		
P	948344	720.95	721.28	0.33
P	948345	721.28	721.73	0.45
P	948346	721.73	722.03	0.30
P	948347	722.03	722.45	0.42
P	948348	722.45	723.05	0.60
P	948349	723.05	723.65	0.60
P	948350	723.65	724.25	0.60
P	948351	cm-36		
P	948352	724.25	724.85	0.60
P	948353	724.85	725.45	0.60
P	948354	725.45	726.05	0.60
P	948355	726.05	726.56	0.51
P	948356	727.56	728.12	0.56
P	948357	728.12	728.42	0.30
P	948358	728.97	729.29	0.32
P	948359	731.82	732.15	0.33
P	948360	732.15	732.45	0.30
P	948361	101b		
P	948362	732.45	733.16	0.71
P	948363	733.16	733.46	0.30
P	948364	735.18	735.96	0.78
P	948365	735.96	736.4	0.44
P	948366	736.4	736.7	0.30
P	948367	736.7	737	0.30
P	948368	737	737.3	0.30
P	948369	770.5	771.5	1.00
P	948370	1/4 dup		
P	948371	771.5	772.32	0.82
P	948372	772.32	773	0.68
P	948373	773	773.35	0.35
P	948374	773.35	774	0.65

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH


SPC-14-01 Downhole Mag Sus
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
9.5
30.5
51.5
72.5
93.5
114.5
135.5
156.5
177.5
198.5
219.5
240.5
261.5
282.5
303.5
324.5
345.5
366.5
387.5
408.5
429.5
450.5
471.5
492.5
513.5
534.5
555.5
576.5
597.5
618.5
639.5
660.5
681.5
705.5
726.5
747.5
768.5
786.5
807.5
828.5
average milli SI

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-02	Ground gravity anomaly, mag high	Orbit Garant Inc.	MGB, MWK

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
	July 7, 2014	July 21, 2014	977

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5211600	674800	253

DEPTH	DIP	AZIMUTH
COLLAR	-90	265
200	-87.8	245
400	-87.5	245
600	-87.2	245
800	-87.6	245
977	-87.1	265

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	3.80		OVB- casing to 4.5 m
3.80	11.45	Mafic Volcanic, 2c	Chl flecks, amyg, varies between 2c>2b (no contacts)
11.45	13.85	Mafic Volcanic, 2b	Sparse Amyg, gradational contact.
13.85	16.10	Mafic Volcanic, 2c	Chl Flecks, amyg, varies between 2c>2b (no contacts). Sharp contact at top of unit (?), marked by bands of chl+Ep (V?)
16.10	18.05	Mafic Volcanic, 2d	Massive basalt. Occasional amyg.
18.05	32.32	Mafic Volcanic, 2c	Chl flecks, amyg, varies between 2c>2b (no contacts)
32.32	35.15	Mafic Volcanic, 2d	Massive basalt. Occasional amyg.
35.15	43.53	Mafic Volcanic, 2c	Chl flecks, amyg, varies between 2c>2b (no contacts)
43.53	46.28	Mafic Volcanic, 2d	Massive basalt, m-s hem alt, upper contact 30deg to CA
46.28	48.63	Mafic Volcanic, 2c	chl flecks, amyg. Amyg (upto 2mm) occur in discrete zones, tight density, ep fill. M-S hem alt, perv.
48.63	49.74	Mafic Volcanic, 2d	Massive basalt, gradtional contacts. No alt.
49.74	52.50	Mafic Volcanic, 2c	chl flecks, amyg. M-S hem alt, Ep amyg fill.
52.50	55.47	Mafic Volcanic, 2d	Massive basalt. Strong Ep alt in top 70cm.
55.47	56.88	Mafic Volcanic, 2c	Chl flecks, amyg.
56.88	56.95	Ultramafic Dyke/Sill1a	Mafic Dyke/Sill. Non-mag, black. Very FG, remnant 1mm grains gone to hem + (?). Slightly undulating contact at 60deg to CA
56.95	59.86	Mafic Volcanic, 2c	Chl flecks, amyg. W-M hem, patchy. M Ep, patchy.
59.86	61.39	Mafic Volcanic, 2a	Amyg basalt. Smaller, tighter amyg at top, dom ep fill. Mixed amyg fill: chl, hem/qtz (? Red, but white streak), ep.
61.39	66.81	Mafic Volcanic, 2c	Chl flecks, amyg. Flowtop at 64.15 (?), both 2c.
66.81	66.91	Ultramafic Dyke/Sill1a	Mafic Dyke/Sill. Non-mag, black. Very FG, remnant 1mm grains gone to hem + (?). Slightly undulating contact at 60deg to CA
66.91	70.07	Mafic Volcanic, 2c	Chl Fleck, amyg. Strong hem alt at bottom of unit.
70.07	73.95	Ultramafic Dyke/Sill1a	Mafic Dyke/Sill. FG, strong mag, cpy veins (1mm). Bx at upper and lower contacts.
73.95	82.48	Mafic Volcanic, 2c	Highly altered, bx and qtz/calc/orange-red mineral (qtz, ank?). Alt is mixed bleaching + hem + chl. Bottom meter is strongly belached to tan/green (ser?)
82.48	83.00	Feldspar Porphyry, 7a	FG, strong alt, tan/green. Chill Margin?
83.00	131.00	Feldspar Porphyry, 7a	Kspar phenocrysts 1mm-1.0cm, subhedral. Quartz eyes up to 0.5cm. Aphantic GM. CC in fractures with clay (+Ser?) alteration.
131.00	138.27	Mafic Volcanic, 2c	chl fleck, amyg
138.27	139.65	Mafic Volcanic, 2d	massive basalt
139.65	141.59	Ultramafic Dyke/Sill1a	UM Sill/Dyke. FG. 25-30deg to CA
141.59	143.94	Mafic Volcanic, 2a	Amyg basalt. So: 45deg to CA

143.94	144.07	Ultramafic Dyke/Sill, 1a	UM Sill/Dyke. FG. 45deg to CA
144.07	144.32	Mafic Volcanic, 2a	Amyg basalt
144.32	144.64	Ultramafic Dyke/Sill, 1a	UM sill/dyke. 25deg to CA. Contact not paralelle.
144.64	145.10	Mafic Volcanic, 2d	Massive basalt. Albite alteration.
145.10	145.25	Ultramafic Dyke/Sill, 1a	UM dyke/sill
145.25	146.44	Mafic Volcanic, 2d	massive basalt, weak albite alt. Contact at 65deg to CA.
146.44	147.05	Mafic Volcanic, 2c	chl fleck, amyg
147.05	148.75	Mafic Volcanic, 2d	Massive basalt. Blocky upto 147.75m (no mag). Many high angle Qtz/calc/o-r veins
148.75	149.61	Mafic Volcanic, 2d	Bx (see struct)
149.61	150.65	Mafic Volcanic, 2d	Massive Basalt
150.65	152.90	Feldspar Porphyry, 7a	QFP. FG GM, Phenos upto 3mm. Contact at 40deg to CA (ok). Breccia, chl matrix, clasts supported.Bleaching at clast edge. Late Qtz/Calc/O-R Vn Bx at 151.82-152.63m at 35 deg.
152.90	155.64	Mafic Volcanic, 2b	Sparse Amyg. Amyg have calcondic fill + chl.
155.64	156.84	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
156.84	162.12	Mafic Volcanic, 2a	Basalt- amyg
162.12	164.37	Mafic Volcanic, 2c	Basalt -chl flecks, massive
164.37	171.95	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
171.95	177.46	Siltstone, 5b	Basalt- spase amyg
177.46	201.90	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
201.90	212.40	Mafic Volcanic, 2d	Basalt -massive, fg
212.40	226.32	Feldspar Porphyry, 7a	Feldspar Porphyry-bleached, foliated, contact orientation ?
226.32	227.00	Mafic Volcanic, 2a	Basalt -massive, fg
227.00	228.88	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
228.88	229.52	Feldspar Porphyry, 7a	Feldspar Porphyry-fg
229.52	231.15	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
231.15	240.05	Mafic Volcanic, 2p	Basalt- porphyritic, 10-15% subhedral, 1-2 mm plag
240.05	241.23	Mafic Volcanic, 2c	Basalt -chl flecks, massive, gradational contacts
241.23	242.25	Mafic Volcanic, 2p	Basalt- porphyritic, 10-15% subhedral, 1-2 mm plag
242.25	245.88	Mafic Volcanic, 2c	Basalt -chl flecks, massive
245.88	249.00	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
249.00	254.12	Mafic Volcanic, 2d	Basalt -massive, fg

254.12	257.30	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
257.30	260.60	Mafic Volcanic, 2d	Basalt -massive, fg
260.60	262.25	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
262.25	262.88	Mafic Volcanic, 2d	Basalt -massive, very broken
262.88	264.52	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
264.52	268.22	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
268.22	277.50	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
277.50	287.15	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
287.15	290.00	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
290.00	301.00	Mafic Volcanic, 2c	Basalt -chl flecks, massive
301.00	315.14	Mafic Volcanic, 2a	Basalt- amyg
315.14	319.05	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
319.05	323.23	Mafic Volcanic, 2a	Basalt- amyg
323.23	334.92	Mafic Volcanic, 2d	Basalt -massive, fg
334.92	338.43	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
338.43	341.91	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
341.91	346.70	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
346.70	375.18	Mafic Volcanic, 2d	Basalt -massive, fg, lower contact 70 TCA
375.18	376.47	Mafic Volcanic, 2h	Hybrid volcanic fragmental - clasts & matrix; alt rims
376.47	397.30	Mafic Volcanic, 2b	Basalt-sparsely amydaloidal
397.30	423.75	Feldspar Porphyry, 7a	Feldspar Porhyry -fg FP, upper contact fault bounded with 3cm qtz-carb with hem+pk calc and aquamarine mineral (soft…sericite?) -variably bleached/altered from dark red (hem) to light tan to olive green (bleached, epd) colour -moderately veined/fractured with talc, qtz, carb and a black mineral (not chalcocite) and pk calc -5-10% fine micaceous ferromagnesia mineral (musco/bio?) that have replaced feldspar pheno's -no Cu by xrf gun, 2 out of 10 readings only 100 ppm Cu
423.75	465.80		Basalt-sparsely amydaloidal

465.80	473.25	Massive basalt. K-alt rims.
		- Bn replacing cpy at 465.1m
		- Py from 471.10m to 472.63m
473.25	481.13	Felpspar Porphyry
		- Qtz eyes up to 0.5cm, subhedral feldspar upto 1cm.
		- Brick red GM going to green near center, variably bleached to salmon.
		- Contacts bounded by Qtz-calc-pink calc veins/bx
481.13	482.63	Chl Fleck. No Amyg.
482.63	489.27	Sparse Amyg - chl amyg fill - upper contact is a flt contact
489.27	497.15	chl fleck, amyg
497.15	498.83	Sparse Amyg. Amyg appear to be assimilating with rock
498.83	502.30	chl fleck, sparse amyg
502.30	503.00	Massive basalt
503.00	514.47	chl fleck, sparse amyg
514.47	533.90	Sparse amyg
533.90	539.00	chl fleck, amyg
539.00	550.31	Sparse amyg. Amyg filled with chl.
550.31	552.00	massive basalt
552.00	554.05	Chl fleck, amyg
554.05	570.52	massive basalt
570.52	584.08	Basalt-sparsely amydaloidal
584.08	589.40	Basalt, massive
589.40	591.35	Basalt-sparsely amydaloidal
591.35	592.52	Basalt, porphyritic
		grey to brown to red hue (potassic or hem?) in colour, vfg with
		tiny 0.5mm 1-3% white to pinkish lath-like pheno's, contacts appear
		sharp, upper 60 TCA and lower 35 TCA, is this sill?, dyke?, very hard
		to scratch, red alteration mostly associated with fractures/vnlts.
		Greater density more prevasive in wall rock
592.52	600.68	Basalt-sparsely amydaloidal
600.68	604.74	Basalt, massive

604.74	607.57	Basalt, porphyritic fg to aphanitic, 5% small feldspar pheno's, strong hairline fractures qith qtz, pk cc (dominant) and hem?, fracturing gives weak bx appearance generally 90 TCA another set of fractures 2 x 2mm qtz dominant with pk cc 20 and 30 TCA sharp, upper 30 TCA and lower 45 TCA, is this sill?, dyke?, very hard mnr blebs of py along upper contact
607.57	608.80	Basalt-sparsely amydaloidal
608.80	608.90	Basalt, massive, aphanitic, cherty, sharp contacts, magnetic (IF?)
608.90	626.51	Basalt, daisyrock strong to weak porphyroblast growth, daisies up to 2-3cm across, weakly magnetic, patchy epidote alteration 613.88-615.05- possible 2a interflow, very magnetic and biotitic? bottom contact gradational
626.51	634.81	Basalt, ophitic….could be a 2g (gabbroic) massive, medium grained, very magnetic, visible magnetite (flaky appearnace) weak patchy hem alteration, chlorite-silica-ferromag matirx SG 3.09 @ 629
634.81	640.39	Basalt-sparsely amydaloidal 636.67-636.84 fg 2p, sharp contacts 35 TCA, 2-3 blebs pyrite, amy replacement?
640.39	710.39	Basalt, ophitic….could be a 2g (gabbroic), mnr intermittent 2a
710.39	722.66	Basalt, amygdaloidal
722.66	787.00	Basalt, massive, minor intermittent 2a
787.00	**809.55**	**ARCHEAN MAFIC VOLCANICS; foliated, altered**
804.25	809.55	moderate biotite oveprint +/- mt; as bands of alternating biot and chl
809.55	**822.18**	**QUARTZ FELDSPAR PORPHYRY (809.55-889.74)**

		QFP records multiple events of alteration, deformation (ductile & brittle), and intrusion (as mafic dykes- likely feeders to overlying Keweenawan flows); (i) imposes K-alteration onto adjacent Archean basalt wallrocks in the from of biotite; (ii) bleaching event unknown; (iii) foliation fabric expressed as chl/biot braiding is likely due to intrusion of mafic (flow feeder) dykes (iv) hematization of groundmass and feldspar phenos likely also due to intrusion of mafic (flow feeder) dykes; altered and deformed groundmass; and phenos; bleached creamy grey; qtz, felds phenos, remnant biot or chl phenos(?) partly altered either chloritized or biotitized; foliation defined by braiding; cut by rare qtz-chl veinlets
		altered and deformed groundmass; and phenos; bleached creamy grey; qtz, felds phenos, remnant biot or chl phenos(?) perhaps originating from ferromags, and now partly altered, either chloritized or biotitized; foliation (ductile)defined by braiding; cut by rare qtz-chl veinlets
809.55	816.00	ductile deformation along the margin: expressed as chlorite braiding; likely developed as compression from intruding mafic dykes
816.00	817.00	transition from ductile to brittle - with chl+/- py fracture filings
817.00	822.18	brittle deformation; chl +/- qtz fractures, but no sulphides; chl component could be from mafic dykes
815.95	816.00	trace py
816.05	816.20	Mafic Dykelet (10-12 cm)
822.18	**838.65**	**MAFIC DYKE -** could be a (multiple pulse) feeder to overlying Keweenawan mafic flows;
833.50	837.30	lower contact zone characterized by approx 60% QFP xenoliths caught up in Mafic Dyke; good fabric in QFP may indicate multiple pulses of mafic material along with QFP margin
838.65	**848.30**	**QUARTZ FELDSPAR PORPHYRY**
838.65	848.30	brittle fracturing and bleaching; hematite tinge oveprint to 845; chloritic fractures, but no sulphides; after 845 patchy bleaching/grey/silicification; both brittle fracture and ductile braiding after 847.50 to 848.30
840.16	840.28	Mafic Dykelet with 5-6 cm altered QFP margins and 1-2 % fracture blebs py, **cpy** replacing chlorite
842.30	843.00	Mafic Dykelet 3 cm at low angle; with altered QFP margins and 1-2 % fracture blebs py, **cpy** from 842.38 to 842.92 marginal to dykelet

844.00	844.05	Mafic Dykelet 3 cm at 45 to ca
	848.28	1 bleb py
848.30	**850.00**	**ARCHEAN MAFIC (Biotite) VOLCANICS; foliated, altered; py tr cpy**
848.38	848.95	1-2% py as 1-3 mm aggregates of fine blebs, specks; **tr cpy**
849.12	849.30	1-2% streaks py; **tr cpy** across foliation fabric, appearing like miniature extension gashes
849.35	850.00	1-2% streaks of very fine py; **tr cpy** as replacement of bitote-rich bands
850.00	**851.30**	**QUARTZ FELDSPAR PORPHYRY**
		continued bleaching, silicification; low angle deformation.
851.30	**854.85**	**ARCHEAN MAFIC (Biotite) VOLCANICS; foliated, altered; py tr cpy**
851.35	851.95	tr to 1% streaky py
853.25	853.50	rare, hair-thin py fractures
854.85	**860.08**	**QUARTZ FELDSPAR PORPHYRY**
854.85	860.08	continued bleaching, silicification; low angle (ductile- compressive) deformation; biotite braiding; crenulation
857.50	857.90	2-3 cm (TW) zoned chl-feld-silica fracture veinlet along ca at 5-10 to ca
858.00		crenulated, folded, boudinaged qtz+/- biot/chl veinlets
860.08	**861.85**	**MAFIC DYKE -** aphanitic with 5-10% 1-2 mm feld phenos
861.85	**866.00**	**QUARTZ FELDSPAR PORPHYRY**
861.85	864.00	bleaching/silicification; and mostly ductile deformation at 10-20 to ca; crenulations at 862.75; brittle as multiple qtz veinings;
864.00	866.00	hematite overprint; brittle fractures with qtz, mt, biot/chl, tr py
866.00	**867.50**	**MAFIC DYKE -** aphanitic; upper contact at 20 to ca; brittly fractured; 867.16 to 867.35; appears "unlatered"

867.50	**870.28**	**QUARTZ FELDSPAR PORPHYRY**
		hematite overprint; cpy, mt in fracture veinlets
870.28	**872.00**	**MAFIC DYKE -** up cntc: 35 to ca; lwr cntc: 30 to ca
872.00	**880.87**	**QUARTZ FELDSPAR PORPHYRY**
872.00	880.87	brittle defr; fracture vnlts; + hematite overprint
874.00	878.10	deformed qtz vnlt cluster : white qtz, chl/- mt;
880.87	**882.05**	**ARCHEAN MAFIC (Biotite) VOLCANICS**
		foliated at 30 to ca
		sharp up cnct: 40 to ca
		sharp lwr cnct: 35 to ca
882.05	**889.74**	**QUARTZ FELDSPAR PORPHYRY**
		brittly deformed; pervasive hematite oveprint & qtz-chl fract vnlts
866.35	889.74	5-25% deformed qtz vnlt cluster : white qtz, chl/- mt;
889.74	**977.00**	**MAFIC DYKES?/FLOWS? -** "mafic igneous unit" could be a composite of aphanitic Archean flows and Keweenawan mafic dykes that in turn could be multiple pulse feeders to the overlying Keweenawan mafic flows;
889.74	895.00	fine grained margin to 895, then fg to mg to 907.25
895.00	907.38	fine to medium (2-3 mm) grained, massive, magnetic, "gabbroic"; undulating, low angle, but sharply distinct contact (907.28-907.38) with aphanitic unit
907.38	977.00	mostly aphanitic to fine grained
		qtz-chl+/- fine cpy as "circular, pegmatitic entities" at 911.24 (3 cm); 915.20 (4 cm); 916.43 (1cm); 916.60 (3-4 cm)
		948-977 fine grained to aphanitic, massive, dark green, weakly to non-magnetic; weakly fractured with hair-thin pink (hemtized) calcite fillings, and 1-5 mm wide chlorite fracture veinlets; rare sulphides as noted;

EOH

From	To	STRUCTURES & MINERALIZATION
23.86	**27.67**	**Strong Calcitie Brittle Fracture Zone (CBrZ). Zoned Qtz + Calc frac, vn fillings, slight pink. Quartz at edge, quartz+bladed carbonate in center. Strong hem clasts and WR in CZ. Frac+vnlts <1mm in DZ, high angle, and discontinuous. Slikenslides in joints. Fault gouge at edges of CZ, stronger at top. Frac, vein, flt at 25-30deg to CA.**
23.86	25.79	DZ
25.79	26.91	CZ
26.91	27.67	DZ
28.85	**29.90**	**CBrZ. Qtz + Calc frac/vn filling. Qtz + Calc (Pink) occurs in alternating bands + minor hem + minor bluish, soft mineral (ser? talc?). Frac/vn 0.2-0.5 cm in DZ. 30deg to CA.**
28.85	29.55	DZ
29.55	29.90	CZ
33.84	**40.25**	**CBrZ. Qtz + Calc + ser (?) frac/vn filling. Orange-pink material, not calc. 0.5cm frac/vn in DX and 1.0cm frac/vn in CZ. 20deg to CA in DZ, 5deg to CA in CZ.**
33.84	35.05	DZ
35.05	36.22	CZ
36.22	40.25	DZ
	45.38	Qtz/Calc + Ep vn/frac. 1.5cm. 30deg to CA. Appears Ep 1st - qtz/calc 2nd. Sharp contact, no WR alt.
	48.17	Qtz + Ep Vn. 0.5cm. 40deg to CA. Weak Ep WR alt.
	48.77	Ep + Chl FF. 0.5cm. 40deg to CA
	50.48	Qtz/Calc. 1.0cm. 30deg to CA
	52.76	Qtz/Calc. 2.0cm. 30deg to CA
	53.15	Qtz/Calc + Orange-Red mineral (Barite? "O-R"). 0.5cm. 25deg to CA
	55.80	Qtz/Calc + Orange-Red mineral (Barite? "O-R"). 0.5cm. 25deg to CA
	57.16	Calcadonic, qtz outter/red mineral inner. Sinuous contact. 3.0cm 80-90-deg to CA.
	58.36	Qtz/Calc/O-R. 0.5-1.0cm. 30deg to CA
	62.13	Qtz/Calc/O-R. 0.3cm. 10deg to CA
	62.68	Qtz/Calc/O-R. 3.0cm. 40deg to CA
	62.78	Qtz/Calc/O-R. 0.5cm. 30deg to CA
	66.04	Qtz/Calc/O-R. 0.2cm. 20deg to CA. Congugate FF @ 66.27
	66.27	Qtz/Calc/O-R. 0.2cm. 20deg to CA. Congugate FF @ 66.04
	69.88	Ep. 1.0cm. 35deg to CA
	69.98	Qtz/Calc/O-R. 1.0cm. 40deg to CA
	70.65	Qtz/Calc + Ep. Braided, 0.1-0.3cm. 30deg to CA
	70.85	Ep + Chl + Cpy/Py Vn. 0.1-0.2cm. 25deg to CA.

From	To	STRUCTURES & MINERALIZATION
	71.47	Ep + Chl + Cpy/Py Vn. 0.1-0.2cm. 10deg to CA. WR alt 0.1cm. Splays (follows jnt) at 71.43m 35deg to CA
	72.12	Ep + Chl + Cpy/Py Vn. 0.2cm. 70deg to CA.
	73.45	Ep + Chl + Cpy/Py Vn. 0.1cm. 40deg to CA.
73.97	**82.48**	**CBrZ. Core Zone: Qtz/calc/O-R vn bx, matrix supported, vn edge (up/low contact oppose, U: 35deg, L: 15deg). Upper DZ: strongly fractured (many 0.1-1.0cm qtz/calc/O-R) above core zone, estimated vn material 2-3%, dominant orientation: 40deg to CA. Flt gouge + Bx (73.97m-74.15m). Clast supported, chl matrix Bx (75.92m-76.02m) at 35deg to CA. Mixed bleach+hem alt (73.97-76.02), strong hem alt (76.02m-77.36m). Lower DZ: Larger but less frequent (?-?cm qtz/calc/O-R) fractures below core zone. More sinous/briaded.**
73.97	77.36	DZ
77.36	77.90	CZ
77.90	82.48	DZ
82.48	131.00	QFP. CC in clay altered vns/jnts. Follow up characterization.
131.00	**154.55**	**CBrZ. Core Zone: High angle, Qtz/calc/O-R, 0.1-6.0cm. Some Bx, matrix supported. Many discontinuous vns and vn fragments, 2-3% vn material, Dominant vn orientation: 20-**
131	135.9	CZ
135.90	154.50	DZ
148.75	149.61	Bx. Matrix-Clast supported. Intersection is half breccia along the CA. Clasts are MV + FV. Matrix is Chl.
150.65	152.90	
155.64	162.12	minor hairline fractures with hem, calc, rare pk calc +/- epd
162.12	164.36	weak dz ,moderately broken and hairline fractured core with hem, calc, epd on fracture planes
164.48	164.63	moderately brecciated (bx) with hem, epd, sil,chl 60 Tca
168.00	168.20	moderately brecciated (bx) with hem, epd, sil,chl 60 Tca
177.46	**197.00**	**moderate to strong CBrZ**
177.46	185.09	DZ
185.09	188.00	CZ
188.00	197.00	DZ
		180.3 3mm hem,qtz-calc, pk calc vn 10 TCA (ok)
		180.84 3cm hem,qtz-calc , pk calc vn 20 TCA (ok)
		181.4 5cm crack and seal qtx-carb, hem, pk carb vn 15 TCA (ok)
		relatively weak damage to 185.09 with only minor hairline fracs (calc, hem, qtz)
		186.55 3 cm sil, calc hem 15 TCA (ok)
		187.62 1-2 cm sil, calc, hem vnlt 25 TCA (ok) with intermittent weak bx qtx-carb to 188.0
		188-193.12 moderately fractured, weakly blocky, patchy qtz-carb bx, multiple epd-filled

From	To	STRUCTURES & MINERALIZATION
		fractures both 30 TCA (ok)
193.12	197.00	weakly fractured, hairline with calc, epd, hem, patchy v, wk bx
212.40	226.32	upper and lower contact orientation questionable due to core orientation, v. broken 213-214
		weak S1 fabric 60 TCA to 224.0
		strongly farctured 224-224.5, broken core
		lower contact gradational with small rafts (cm's) of basalt close to contact
		rare chalocite along fractures, only one hit of 224ppm
226.32	227.00	2 x 5mm sil,calc +/- hem vnlts 20 TCA (ok)
227.00	228.88	1 x 3mm sil, calc, sil vnlt 30 TCA (ok)
228.88	229.52	upper contact 40 TCA and strong bx by qtx-carb, pk calc for 7cm, fault contact
		lower contact broken and lost
229.52	231.15	low angle hairline fractures with hem, calc
231.15	240.05	minor epd-chl vnlts-fractures, very competent rock
240.05	241.23	faint gradational contacts
	244.40	3mm qtz-carb vnlt with hem 20 TCA (ok)
244.40	249.00	
249.00	254.12	faint S1 foliation at 70 TCA
260.60	**265.00**	**weak CBrZ**
		DZ really, brecciated at top contact (fault contact), core moderately to weakly broken and
		fractured with hem, chl +/- epd along fractures
275.00	**285.00**	**moderate CBrZ**
		5 x 1-5 cm qtz-carb-hem vnlts 10-20 TCA
		283.0 1 x 3cm qtz-carb-hem +/- epd vn 20 TCA

From	To	STRUCTURES & MINERALIZATION
		core broken
306.00	**317.86**	**strong CBrZ with core characterized by strong epidote alteration and qtz-carb veining with abundant specularite mineralization**
306.00	309.00	DZ, broken core, intermittently fractured by hariline qtz-carb-hem
309.00	310.76	CZ
		308.75-308.82 3mm qtz-carb-epd vnlt with lath-like specularite, vn @ 45 TCA (x)
		308.96-309.18 3mm qtz-carb vnlt sub-patallel TCA with abundant spec
		309.41 5mm qtz-carb-chl crack and seal vnlt 20 TCA with spec
		309.72-309.98 2 x 1mm qtz-carb fractures
		310.24-310.76 3mm qtz-carb-hem+/-epd vnlt sub// TCA with spec
310.76	317.86	DZ. Fractured, 4 hairline f ractures sub// TCA with qtz-carb-hem
		315-315.18 1 cm qtz-carb vn 25 TCA with bladed spec
		315.42-315.47 3-4mm qtz-carb vnlt 70 TCA (x) with spec
		315.57- 315.8 wk breccia by qtz-carb fractures/vnlts with needle spec
		317.77- 317.86 4 cm qtz-carb vn 50 TCA with minor spec
325.57	**327.78**	**moderate CBrZ**
		325.8-326.5 1 cm qtz-carb-epd-chl-hem vnlt sub// TCA
		326.93-327.05 moderate qtz-carb-hem breccia sub// TCA
		327.05-327.28 qtz-carb-epd-hem fractured, broken core
337.50	**341.90**	**weak CBrZ**
		337.5-339.5 multiple hairline qtzz-carb-hem fractures sub//TCA
		339.85-341.2 1 x 3mm qtz-carb-hem vnlt // TCA
		341.3-341.9 1 x 3mm qtz-carb-hem vnlt 5 TCA
348.44	348.50	5mm qtz-carb-epd+/-chl 45 TCA (x)
352.70	352.85	hairline fracture with qtz-carb-epd 20 TCA
360.00	361.87	weak DZ, broken core, qtz-carb-hem along fractures + pk calc, 361.8 1 cm qtz-carb-pk calc +/- hem

From	To	STRUCTURES & MINERALIZATION
		30 TCA
371.71	**388.50**	**intense CBrz characterised by core of intense qtz-carb veining and brecciation**
371.71	380.60	DZ, 30+ hairline qtz-carb fractures mostly at low angles TCA but multiple directions to form a a weak breccia look
		378.5-375.8 5mm qtz-carb-hem vn 15 TCA
		378.85-378.9 5mm qtz-carb-epd vn 20 TCA (x)
380.60	385.75	CZ, prevasive intense qtz-carb veining-brecciation generall 10-20 TCA made up of hairline fractures to veining up to 6 cm across, crack and seal features, 30% overall qtz-carb
385.75	388.50	DZ, 6+ thin 1mm qtz-carb-pk calc-hem fractures/vnlts 20-30 TCA
389.83	**397.30**	**intense CBrz characterised by core of intense qtz-carb veining and brecciation**
389.83	393.74	DZ, fairly broken core, 10+ hairline fractures with qtz-carb-hem-pk calc both V1 and (x)
393.74	394.50	CZ, intense qtz-carb veining/brecciation generally 40-50 TCA
394.50	397.30	DZ, fractured, veined, patchy weak brecciation by qtz-carb, broken core
		3 cm qtz-carb vn 20 TCA with hem and blue mineral
397.30	420.00	weak DZ
		40+ qtz-carb hairline fractures to vnlts < 5mm throughout, grouping intermittently for a weak breccia appearance genrally sub// TCA to 10-35 TCA
423.60	424.30	DZ associated with 7a-2b lower contact, qtz-carb-hem conjugate veining/fracturing 30 TCA and 30 TCA (x), weak bx appearance
425.00	425.30	broken core
425.30	425.50	wk bx qtx-carb-hem, 1 x 3mm 30 TCA, 1 x 3mm 75 TCA (x)
426.70	427.40	2-3 mm qtz-carb vnlt 10 TCA
433.75	437.00	weak DZ
		434-434.5 moderate bx by qtz-carb-pk calc-hem, broken core to 436.5
		436.72-438.86 2 cm qtz-carb vn 60 TCA
439.30	442.30	moderate DZ, 10+ qtz-carb-hem fractures both 30 TCA and 30 TCA (x)
444.65	447.30	moderate DZ, 10+ qtz-carb-hem fractures both 20-30 TCA
	450.69	3mm Qtz-carb-pk calc vn 70 TCA

From	To	STRUCTURES & MINERALIZATION
	455.05	1 cmQtz-carb-pk calc vn 70 TCA
459.00	461.25	weak DZ, somewhat broken core, 6+ fractures/vnlts with qtz-carb-hem-pk calc 30-40 TCA
	462.55	Blebs of **Bn** rimmed by Mt
	465.10	**Bn rimming cpy**. Blebs and parts of veins at 35 and 60 TCA (x)
	469.50	So at 50 TCA
472.63	**473.25**	**Moderate CBrz at contact with Felspar Porphyry**
		- Weak DZ
		- high angle qtz-carb-pk calc at 10 TCA
		- older qtz-carb-pk calc at 70 TCA
		- CZ, bx - clasts are also bx. Qtz at vein edges and in center. Qtz at edge contains CC
480.58	**481.13**	**Moderate CBrz at contact with Felspar Porphyry**
		- Similar to upper CBrz
		- weak upper contact
		- main strucutre at 40 TCA (x)
		- qtz-calc-pk calc veins at 20 TCA (ok)
		- cc in Qtz veins at edges.
483.35	484.00	Stockwork with weak potassic alt proximal to frac.
	489.75	2cm chl-ep vn with lath of spec hem up to 1cm. 80 TCA (x)
	497.95	So at 55 TCA
500.45	501.00	1mm qtz-ep-ab-mt vn at <5 TCA
503.5	504.10	Bx or edge of structure. Chl matrix/fill
	504.70	0.5cm vn chl-mt. Mt occurs as needles upto 2mm long. 30 TCA (x)
	518.35	2cm vn at 70 TCA. Coarse black-green platey minerals (act?, bt?, chl?) and mt. Cpy replacing mt proximal to hairline qtz vn 20 TCA (ok)
	526.60	1cm CG blk-grn vein at 20 TCA (x)
	519.90	1cm CG blk-grn vein at 50 TCA (x)
	519.95	0.5cm CG blk-grn vein at 30 TCA (x)
	526.50	2mm qtz-chl at 45 TCA (x)
	532.00	2mm qtz-chl at 45 TCA (x)
	540.16	1mm chalcedonic qtz vn 40 TCA (x)
	542.86	3mm qtz-ep/chl 40 TCA (x)
	542.97	3mm qtz-ep/chl 40 TCA (x)
543.65	544.10	DZ, very contained. Main structure - 0.5cm - at 544.92m - 40 TCA (x). Bx, Qtz-ep/chl

From	To	STRUCTURES & MINERALIZATION
	544.60	So at 50 TCA
	545.85	So at 50 TCA
	548.75	So at 60 TCA
	549.90	So at 60 TCA
	552.00	So at 50 TCA
	541.35	2cm banded qtz-chl-ep at 30 TCA
553.30	554.50	Fault? Sharp contacts. Rock is intact but friable and porous. A network of more competent rock is holding it together. Pervasive dark green alt, chl?. Bounded by weak K-alt proximal to chl vns. Also high angle ep vns <5 TCA. Contacts at 25 TCA (X)
	561.05	1cm chl +/- (bt or act?). Buff to salmon mineral (Kspar? Ab?). 15 TCA
577.00	**590.52**	**moderate CBrZ**
577.00	586.60	DZ- 20+ qtz-carb vnlts/fractures 20-40 TCA, very weak bx appearance 580.8-583.6 extremely broken fractured core, rubble, evidence of thin 1-2mm qcv with pk cc, weak intermittent bx, also 588-590
586.60	589.40	CZ- highlighted by 2 sections of qcv veining/bx 586.8-587 3 x 0.5cm and 1x5cm qcv +/- pk cc 30 TCA and mulitple qcv 1-2mm 20 to 90 TCA 588.72-589.05 qcv bx/veining 60-70% qtzz-carb with strongly hem altered fragments, fault gouge at lower contact, very borken core, fractured
589.40	590.53	DZ- broken and fractured as above by 3-4 hairline qcv's at 591.68 and 591.80, brown cherty swirly mass/break/vn? First one 60 TCA, second one 30 TCA with minor blebs of **chalcopyrite**
593.24	593.35	fracture/vnlt with radiating discontinous fractures perpendicular to main vein 25 TCA (x)
593.53	593.63	3 x 1-2mm qc fractures 45 TCA
603.57	603.64	1 cm dark quartz vn with mnr carb + chl, cherty?, minor blebby **pyrite,** 40 TCA
603.89	603.94	1 cm dark quartz vn with mnr carb + chl, cherty?, minor blebby **pyrite, 6**0 TCA
608.20	608.40	2 x 1mm fractures with **chalcopyrite,** fractures are discontinuous and offset by opposing small scale slips, fractures are separate and opposing at 45 TCA, same piece of core
611.72	611.82	qcv fractures with hem and k-spar? 45 TCA (x)
621.10	621.30	qcv with chl, vuggy, 25 TCA
621.55	621.70	3mm qcv + pk cc 30 TCA (x), conjugate hairline fractures (5+) 30-40 TCA

From	To	STRUCTURES & MINERALIZATION
621.92	622.00	2cm qcv with chl, pk cc 45 TCA (x)
624.88	625.00	1 x 2mm + 1 x 1mm qcv with pk cc, 80 and 45 TCA (x)
626.51	634.81	**magnetite mineralization,** strong mag sus in the 350's
		627.75-627.85 blebby **pyrite** along faint foliation? 40 TCA
628.40	628.80	4 cm qcv + pk cc 45 TCA
629.85	630.10	4 qcv fractures generally sub-parallel and 20 TCA (X)
631.73	631.93	4 mm qcv with chl 30 TCA (x)
632.70	633.00	30 cm veined section with wk possible potassic alt, one 1mm fracture 35 TCA with 10% **chalcopyrite**
		2-3 mm blebs of **bornite** also spatially assocaited with qcv + pk cc vnlt
635.05	635.15	3 x 1mm qc fractures 35 TCA
	635.32	small bleb of pyrite-**chalcopyrite** 1-3mm across
	637.53	1 cm long bleb of **chalco** in this cherty swirly mass 203 cm wide 75 TCA (x)
640.26	**645.20**	**weak DZ**
		fractured, broken core, 7+ hairline frsactures with qc and pk cc 20-45 TCA, one @ 20 TCA (x)
		640.58 1 cm qcv 40 TCA
		643.85 1 x 8cm qcv + pk cc + hem crasck and seal (laminated) 50 TCA
		643.95-644 1.5cm qcv as above
661.70	661.90	1 hairline fracture 30 TCA with second order fractures also 30 TCA, 2 clots of **chalco** with one clot rimmed
		partially by **bornite** near qcv
	652.20	1 cm qcv 45 TCA
	667.70	1.5 cm qv, weak carb, 70 TCA (x)
670.57	670.64	1 cm qcv with pk cc and chl, 45 TCA with conjugate 30 TCA (x)
682.00	682.85	1 x 1mm qcv 60 TCA, 1 x 2mm qcv 30 TCA, 1 x 1cm qcv 45 TCA
684.77	684.88	2mm qcv 35 TCA
687.70	687.30	1 x 3mm qcv 20 TCA (x)
688.05	688.40	1 cm qcv 20 TCA
689.95	690.10	1 x 0.5cm qcv, offset by slip only mm's
697.30	697.83	1 x 0.5cm qcv sub// TCA, one speck of **chalco** in amygdule near veinlet
725.82	**744.40**	**moderate CBrZ**
725.82	732.62	DZ- up to 729m abundant veining/fractures with chlorite and serpentine, serp veins mm's to 1 cm

From	To	STRUCTURES & MINERALIZATION
		thick, no general oreintation, both ok and (x), well developed slickenlides
		729-732.62 fractured and very broken, 2 sections 20 and 30 cm long with evidence of qc-hem-mnr serp along fractures, plus a light blue-green chl?
		732.17- 1 x 1cm qcv-hem 60 TCA, slickenslides
732.62	743.10	CZ- highlighted by very broken core, multiple qcv's with light blue-green chl?-hem veins and fracturing generally // TCA or 50 TCA, intermittent bx
		733.0-733.24 4 cm qcv 20 TCA, laminated
		734.0-734.15 8 cm qcv-hem, laminated veining
		735.2-735.7 qc-hem bx 10 TCA
		736.0-736.7 broken, qc vn chunks, qtx-carb-hem+blue-green chl
		737.5-739.65 very broken, ~1.5m ground or missing
		740.1-740.2 1x 3cm qcv+hem 50 TCA
		740.2-743.1 fractured, broken by qc hairline fractures sub// TCA
743.10	744.40	DZ- weakly fractured, 1 x 0.5cm qcv 60 TCA
749.55	749.74	1 x 2mm qcv+hem 15 TCA (x)
753.35	753.45	section of chl +mt 50 TCA, swirly appearance yet sharp contacts, vn? interflow bed?, mt in clots with fine hematite
755.80	768.20	**weak DZ**
		30+ fractures generall 20-30 TCA with qtz-carb+pk cc +hem ok and (x) TCA
		761.08-761.22 pegmatoidal vein section with mnr qtz-chl-mt-**chalco**-hem-kspar? Some chalco is replacing mt clots and appears some mt destruction by hematite
		largest clot of chlaco about 1 x 0.5 cm, structural layout about 70 TCA (x)
		762.17-762.24 abundant fine **chalco** associated with a 1 cm silica filled fracture/vein with abundant wall-rock chl and minor mt, 45 TCA
		769.3-769.34 1 x 3cm silica-chl-hem-kspar? Vnlt with pegmatoidal look, possibly fine mt but visible mt clots and abundant chl invading wall rock for cm's
773.82	**787.00**	**intense CBrZ, less carb more silica rich (UNCONFORMITY)**
773.82	776.68	DZ- 13+ hairline silica+pk cc + hem fractures mostly 60 to 90 TCA
776.68	784.29	CZ- highlighted by silica (wk carb) very strong hematitic breccia (bx) from 776.68-780.3, upper contact 35 TCA

From	To	STRUCTURES & MINERALIZATION
		779.5-780 brecciated altered ultra mafic with hem fractures and mottled silica-feldpsar clots (20%) in
		780-784.29 broken, fractured, wk to mod bx, mt blobs cm's across at 784.3
784.29	787.00	DZ- 10+ hairline fractures all angles, qtz-pk cc
		785.8-786.02 silica-hem bx/veining 30 TCA
797.00	804.00	weak s0 35 TCA, foliation/pseudo-banding defined mostly by pegmatoidal wisps/bands/clots
		coarse **magnetite** (mt) up to 5 cm at 797.5
		3 fracture sets
		1) // to bedding
		2) 20-70 TCA (x)
		3) 60-80 (ok)
		802.5 fine **pyrite** in foliation and in fracture x-cutting foliation spatially associated with 1 x 2mm
		qcv +/- chl 30 TCA
		803.42 coarse **mt** in crude clotty massses 70 TCA with fine **chalco** and abundant chl, spatially associated
		with pegmatoidal clots/masses
804.00	809.53	strong s0 foliation 35-65 TCA defined by biotite-chlorite alteration with qtz-plag? And pegmatoidal
		clots/masses
		800-800.2, cave/blocky
		803 10 cm fracture zone
		808.22 1 cm band with coarse **mt** // s0
		808.44 fine **chaclo** in fracture
		808.94 fine **mt**
809.53	817.00	weak to moderate s0 35-45 TCA in feldspar porphyry defined by chl +/- fine qtz, minor fracturing
		with qtz-pk cc-chl
		816-816.3 broken core, rubble, probably a 2d
817.00	822.18	more massive, strained/foliated at lower contact for 20cm
		819.7-820.35 broken core
822.18	824.00	strong s0 35 TCA defined by pseud pegmatoidal banding and chl alteration
		11+ hairline fractures 70 TCA (x) with qtz-weak carb-chl-pk cc
		823.45 coarse clotty **mt** with chl
838.67	848.33	strongly fractured with qtz-hem-chl-pk cc, one set 50-70 TCA and other 45-50 TCA (x)
		weakly foliated 30 TCA, most x-cutting fractures/vnlts with qtz-carb-chl

From	To	STRUCTURES & MINERALIZATION
		mafic raft @ 842.-, minor diss **py, cp** on edges
		842.68 fine cp in fracture 40 TCA (x) offset by joint/frac 60 TCA
848.33	849.95	0.5% disseminated **cp-py** (85-15) or in discontinuous 1-2 cm wisps 90 to foliation, particularly more sulphides 849.1-849.3
	851.24	D2 90 TCA
		chalco specks @ 851.37, 851.56, 851.87
	852.00	minor diss **cp**
	853.33	**cp** in fracture
855.34	**859.10**	**moderate DZ**
		D1 // TCA to 30 TCA, weak D2 90 TCA in places
		DZ fractured, blocky with chl-talc in fractures sub// TCA
		857.4-857.85 2-3mm qtz-carb-chl vnlt 15 TCA
		856.8 couple of specks of **cp** in fracture
861.81	**866.00**	**moderate DZ**
		strongly foliated 35 TCA, weakly crenulated in places by D2 90 TCA, strongly fractured/veined both 40-65 TCA and 10-50 TCA (x) with qtz-chl-hem-carb +/- epd
		863.88-864.15 mod bx by qtz-chl
		864.66-864.9 0.5cm qtz-chl vn 15 TCA (x) with minor fine **py**
		865.1-865.2 qtz-chl vn 1 x 2cm 55 TCA with mt offset by joint/frac 60 TCA (x) and 1 x 2cm 40 TCA (x) with mt and mnr fine **py**
		the more mt-rich veinlets are x-cutting foliation
866.00	867.24	8+ fractures
	867.70	2mm qtz-chl vnlt with **mt** and rare speck of **cp**
867.24	870.25	weakly foliated, moderately fractured/broken
		868.76 2mm qtz-chl vnlt with **mt** and rare fine **cp-py**
		869.03 coarse clot of **mt** associated with wk qtz-chl bx
873.00	874.00	moderately fractured, broken, DZ
874.00	**880.59**	**moderate DZ**
		well fractured/veined feldspar porphyry, weakly foliated

From	To	STRUCTURES & MINERALIZATION
		875.2-875.4 1 x 1.5 cm qtz-chl vn 20 TCA
		876.3-877.45 qtz-chl vn system 0-35 TCA (x) up to 2 cm in places, weak bx appearance, rare mt
		879 1 x 0.5 cm qtx vein 40 TCA
880.59	882.05	weakly foliated 60 TCA
882.20	**889.78**	**moderate DZ**
		highlighted by qtz-chl veining and qtz-chl-carb-pk cc fractures
		882.2-886 15+ hairline fractures mostly 30 TCA (x) but some 30 TCA ok
		882.2-883 1x3mm qtx vein 10 TCA (x)
		886.3-887 qtz-chl vn 1 x 2 mm // TCA
		887.4-888.75 strongly qtz-chl veined/brecciated //TCA
		889.3-889.78 fractured, broken, rubble, fault contact with 1 x 0.5cm qcv 30 TCA
895.60	895.72	1 x 2cm laminated qcv-hem 30 TCA
896.80	896.90	1 x 2cm qtz-chl vn 45 TCA, weak carb
907.70	908.00	1 x 2mm plus 2 fractures with qtz-carb 30 TCA
908.80	909.00	mnr diss **cp** and **py**
909.18	909.28	1 x 2mm qcv with mnr pk cc 30 tca
	909.44	1 x 2mm qcv 40 TCA
909.81	909.88	1 x 0.5 cm qv 30 TCA weak carb
911.19	911.27	1 x 5cm qtz-chl vn 60 TCA with mnr **cp** and **mt**
915.18	915.26	1 x 4 cm qtz-chl vn/clot section
916.45	916.70	qtz-chl clots with mnr **cp-py**
917.40	917.50	qtz-carb-chl fracture/wk bx 30 TCA (x)
	920.00	1 x 2cm qtz-carb-hem-wk epd vnlt 20 TCA
923.30	923.40	qtz-chl vn/sweat 45 TCA (x)
	926.60	fine **py**
926.84	927.06	qtz-chl- albite? Alteration in patches/vns/fractures mostly 30-60 TCA
932.66	932.80	qtz-chl-albite? Patches/clots ~ 30 TCA
	948.00	1 mm **py** streak
	951.80	2 mm x 1 mm **cpy+ py** streak

From	To	STRUCTURES & MINERALIZATION
	951.83	4 mm x 1 mm **cpy+ py** streak
	952.32	1 mm calc-**py** fract vnlt
	956.25	1.5 cm cluster of fine **py**
954.15	**957.20**	**Damage Zone (DZ)**
	954.32	1 cm calc/hem shear bx vnlt at 40 to ca with marginal chl, hem alteration from 954.15 to 954.32
954.32	957.20	5-10% chl, calc fractures with patchy biotite-calc-chl 956.30-956.50
959.60	**968.25**	**Damage Zone -very weak**
959.60	963.20	with ~ 20 low angle, 1 mm, pink calc fract vnlts , very regular at 10-30 to ca and thicker ones as noted:
	960.04	1 cm calc-chl at 45 to ca
961.50	962.25	pink, 3-5 mm calc-qtz shear vnlt at 10 to ca
	963.20	2 cm zoned, pink calc, qtz,chloritic clayey shear vnlt at 10 to ca
963.20	968.25	with ~ 9 low angle, 1 mm, pink calc fract vnlts;
964.88	965.06	4 cm chl/hem shear band with two-three, 2-3 mm qtz + pink calc fract vnlts at 30 to ca
	967.40	4 cm TW alt shear band, zoned, chl, hem pink/red calc, chl margins at 35 to ca
	967.71	4 cm TW alt shear band, zoned, chl, hem pink/red calc, chl margins at 30 to ca
	972.38	1 cm TW alt shear band, zoned, chl, hem pink/red calc, chl margins at 30 to ca
	974.48	3 cm TW alt shear band, zoned, chl, hem pink/red calc, chl margins at 30 to ca
		Biotite Alteration:
971.95	972.07	streaky, patchy biotite alteration overprint
973.48	973.30	5% streaky, patchy biotite alteration overprint
974.67	974.82	5% streaky, patchy biotite alteration overprint at 35 to ca

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

From	To	Epidote	Hematite	Other
155.64	156.84		moderate	
156.84	162.12	weak	patchy weak	
162.12	164.37		weak	
164.37	171.95	patchy weak	patchy weak	
171.95	177.46	weak	weak	
177.46	201.90		associated with CBrZ	
201.90	212.40			
212.40	224.00	weak		5-10% mucovite-biotite(?) specks, talcy fractures weak calc along fractures, strongly bleached
224.00	226.32		strong	
226.32	227.00		weak	
227.00	228.88	weak	moderate	strong chl in patches and in amy's
228.88	229.52		strong	
229.52	231.15	weak	weak along fractures	
231.15	237.00		pheno's hematized	
240.05	241.23	strong	weak	
241.23	242.25			
242.25	245.88	weak	hem on fractures	
245.88	249.00			mottled altered unit with large light colored hard (albite?) frags/clasts with chlorite amy's? that are rimmed aith magnetite clasts in altered section hard and pinkish with the magnetite being replaced by spec-hem all in a mish-mashed matrix of chl, epd,sil and secondary mt
249.00	254.12	very weak		
254.12	257.30			
257.30	260.60	very weak		
260.60	262.25	strong	strong at contact	
262.88	264.52	strong	mottled hem clasts?	

From	To	Epidote	Hematite	Other
264.52	268.22			brownish biotite in wisps along weak S1 fabric?
268.22	277.50	variably moderate	moderate	anomalous **Ni (400ppm xrf)** in places
277.50	287.15		strongest along fractures	
287.15	290.00	weak	patchy strong	
301.00	308.40		v weak, along fractures	moderate to strong chl
308.40	311.00	strong	moderate	
311.00	315.00		weak	
315.00	315.75	strong		
315.75	319.10	patchy strong		**10% specularite**
319.10	324.20			strong chl
325.70	327.80	strong	moderate	
335.00	344.00	very weak		moderate to strong chl, in fractures and amy's
346.70	375.18	weak		weak chl
375.18	376.46	moderate	moderate	
380.70	385.75		very strong	weak carb in alteration of wall rock, no sulphides, patchy **diss spec**
385.75	393.74		moderate	strong chl along fractures
393.74	394.30		strong	aquamarine mineral in fractures
394.50	397.30		moderate	aquamarine mineral in fractures
423.00	423.50		strong	
428.00	431.00			strong chlorite, all through unit
458.60	459.00	strong		
465.00	466.00	weak		
586.30	587.00		strong	qtx-carb
588.00	589.50		strong	qtx-carb
613.85	615.05			sstrongly magnetic, biotite alteration also?
615.05	616.00	weak	weak	
616.00	617.50	moderate	weak	
617.50	618.00	strong, vuggy		weak carb
621.00	621.40	strong		moderate carb

From	To	Epidote	Hematite	Other
621.40	622.00		moderate	
725.82	729.00			strong chlorite and serpentine in veins/fractures
729.00	743.10		moderate to strong	strong chl, strong fine silica-feldspar +/- hem bx, very mottled looking
743.10	770.00		weak (patchy)	sense of increasing chlorite intensity, weak hem and minor potassic (biotite?) enrichment
787.00	800.67			strong chlorite
800.67	809.53			strong biotite, chlorite
809.53	822.18			chloritic along s0, hem-rich fractures, intermittently bleached
822.18	832.03			patchy strong chl +/- coarse magnetite
838.67	848.33		moderate patchy, variably bleached	
848.33	849.95			moderate biotite
849.95	850.12			bleached?
850.12	850.27			strong biotite
861.81	866.00		patchy strong	strong chlorite
867.24	870.25		moderate	
872.00	880.59		strong	
880.59	882.05			weak biotite
882.05	889.78		moderate	
971.95	972.07			streaky, patchy biotite alteration overprint
973.48	973.30			5% streaky, patchy biotite alteration overprint
974.67	974.82			5% streaky, patchy biotite alteration overprint at 35 to ca

Hematite Alteration

<874 899.30 very weak to weak ; patchy to pervasive groundmass + along calcitic joint fractures until the DZ & continues mod/weak & within CZ as pervasive reddish/brown-burgundy

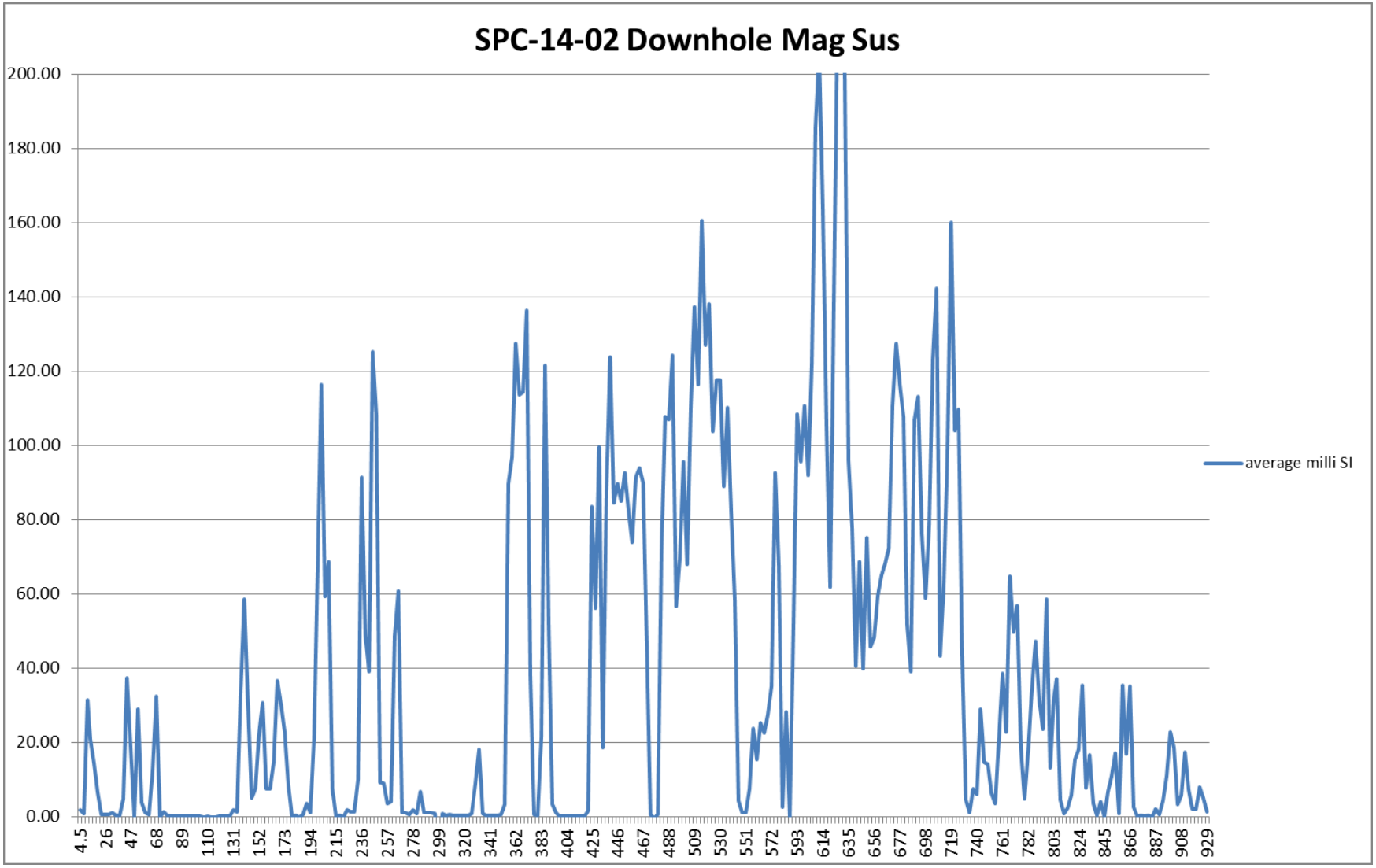
From	To	Epidote	Hematite	Other
		weak to moderate; partly as a pervasive reddish/brown-burgundy groundmass and partly along calcite fracture vnlt		
899.30	*910.00*	*fillings*		
910.00		*present, but weak as patchy vnlt material and as faint reddish brown to pink tinge in the groundmass; but brick red in the 15 cm of sediments*		
		Magnetism:		
<874	*878.00*	*very, very weak*		
878.00	*898.00*	*nil*		
898.00	*900.65*	*very, very weak*		
900.65	*901.70*	*nil*		
901.70	*904.00*	*weak-moderate*		
904.00	*904.25*	*moderate*		
904.25	*906.40*	*weak*		
906.40	*909.75*	*moderate*		
909.75	*913.80*	*weak*		
913.80	*916.10*	*moderate*		
916.10	*918.75*	*weak*		
918.75	*924.25*	*moderate*		
924.25	930.75	*weak*		
930.75	935.25	*moderate*		
935.25	936.00	*weak*		
936.00	951.72	*nil*		

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948375	80.8	82	1.20
P	948376	82	82.47	0.47
P	948377	82.47	83	0.53
P	948378	b1		
P	948379	83	84	1.00
P	948380	84	84.77	0.77
P	948381	84.77	85.69	0.92
P	948382	85.69	86.38	0.69
P	948383	86.38	87.33	0.95
P	948384	87.33	88.36	1.03
P	948385	88.36	88.88	0.52
P	948386	cm-36		
P	948387	88.88	89.18	0.30
P	948388	89.18	90.04	0.86
P	948389	90.04	91	0.96
P	948390	91	92	1.00
P	948391	92	93	1.00
P	948392	93	94	1.00
P	948393	94	95	1.00
P	948394	95	96	1.00
P	948395	96	97	1.00
P	948396	101b		
P	948397	97	98	1.00
P	948398	98	99	1.00
P	948399	99	100	1.00
P	948400	100	101	1.00
P	948401	101	102	1.00
P	948402	102	103	1.00
P	948403	103	104	1.00
P	948404	104	105	1.00
P	948405	1/4 dup		
P	948406	105	105.94	0.94
P	948407	105.94	106.72	0.78
P	948408	106.72	107.28	0.56
P	948409	107.28	108	0.72
P	948410	108	109	1.00
P	948411	109	110	1.00
P	948412	110	110.71	0.71
P	948413	b1		
P	948414	110.71	111.2	0.49
P	948415	111.2	111.93	0.73

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948416	111.93	113	1.07
P	948417	113	114	1.00
P	948418	114	115	1.00
P	948419	115	116	1.00
P	948420	116	117	1.00
P	948421	cm-36		
P	948422	117	118	1.00
P	948423	118	119	1.00
P	948424	119	120	1.00
P	948425	120	121	1.00
P	948426	121	122	1.00
P	948427	122	123	1.00
P	948428	123	123.52	0.52
P	948429	123.52	124.35	0.83
P	948430	124.35	125	0.65
P	948431	101b		
P	948432	125	126	1.00
P	948433	126	127	1.00
P	948434	127	128.12	1.12
P	948435	128.12	129	0.88
P	948436	129	130	1.00
P	948437	130	130.93	0.93
P	948438	130.93	132	1.07
P	948439	222	223	1.00
P	948440	223	224	1.00
P	948441	380.56	381.46	0.90
P	948442	381.46	382.3	0.84
P	948443	382.3	383	0.70
P	948444	383	383.63	0.63
P	948445	383.63	384.4	0.77
P	948446	b1		
P	948447	384.4	385	0.60
P	948448	590.63	591.35	0.72
P	948449	591.35	591.9	0.55
P	948450	591.9	592.52	0.62
P	948451	592.52	593.64	1.12
P	948452	607.65	608.14	0.49
P	948453	608.14	608.45	0.31
P	948454	cm-36		
P	948455	608.45	609	0.55
P	948456	629	630	1.00

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948457	847.5	848.33	0.83
P	948458	848.33	849	0.67
P	948459	849	849.31	0.31
P	948460	849.31	849.95	0.64
P	948461	849.95	850.33	0.38
P	948462	850.33	851.31	0.98
P	948463	851.31	852	0.69
P	948464	101b		
P	948465	852	853	1.00
P	948466	853	854	1.00
P	948467	854	854.64	0.64
P	948468	854.64	855.36	0.72
P	948469	840.12	840.52	0.40
P	948470	864.62	865	0.38
P	948471	865	865.6	0.60
P	948472	868.68	869.25	0.57
P	948473	1/4 dup		
P	948474	908.28	908.9	0.62
P	948475	908.9	909.2	0.30
P	948476	909.2	910	0.80
P	948477	910	910.8	0.80
P	948478	910.8	911.29	0.49
P	948479	911.29	912	0.71
P	948480	912	913	1.00
P	948481	b1		
P	948482	913	914	1.00
P	948483	914	915	1.00
P	948484	915	916	1.00
P	948485	916	916.7	0.70
P	948486	916.7	917.19	0.49
P	948487	917.19	917.51	0.32
P	948488	917.51	919	1.49
P	948489	cm-36		
P	948490	919	920.4	1.40
P	948491	920.4	920.7	0.30
P	948492	920.7	921.4	0.70
P	948493	935.9	936.5	0.60
P	948494	936.5	936.85	0.35
P	948495	936.85	937.44	0.59
P	948496	937.44	938	0.56
P	948497	938	938.87	0.87

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948498	938.87	939.8	0.93
P	948499	101b		
P	948500	939.8	941	1.20


SPC-14-02 Downhole Mag Sus
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
4.5
26
47
68
89
110
131
152
173
194
215
236
257
278
299
320
341
362
383
404
425
446
467
488
509
530
551
572
593
614
635
656
677
698
719
740
761
782
803
824
845
866
887
908
929
average milli SI

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-03	Ground gravity and magnetic high	Orbit Garant Inc.	M. Kilbourne

CLAIM NO.				TOTAL METERAGE
1098722		July 22, 2014	July 25, 2014	243

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5211600	674800	253

	DEPTH	DIP	AZIMUTH
	COLLAR	-60	265
	200	-57	265

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	8.50		Overburden - casing
8.50	11.50	Mafic Volcanic, 2a	Basalt- amygdaloidal, dominantly chlorite
11.50	12.50	Mafic Volcanic, 2p	Basalt- randomly scattered, 1mm, feldspar;, porphyritic
12.50	19.85	Mafic Volcanic, 2a	Basalt- amygdaloidal to sparse; dominantly chlorite
19.85	21.90	Mafic Volcanic, 2b	Basalt- sparsely amygdaloidal
21.90	25.15	Mafic Volcanic, 2c	Basalt- sparse, small, amyg, dominantly chl, epid
25.15	34.50	Mafic Volcanic, 2a	Basalt- amygdaloidal, dominantly chlorite
34.50	39.42	Mafic Volcanic, 2c	Basalt- sparse, small, amyg, dominantly chl, epid
39.42	40.50	Mafic Volcanic, 2a	Basalt- amygdaloidal, dominantly chlorite
40.50	51.43	Mafic Volcanic, 2c	Basalt- sparse, small, amyg, dominantly chl, epid
51.43	57.68	Mafic Volcanic, 2e	Basalt- hi mag, fg, mass, no amyg
57.68	57.78	Mafic Dyke, 8a	Mafic Dyke: sharp at 70 to ca
57.78	60.35	Mafic Volcanic, 2e	Basalt- hi mag, fg, mass, no amyg
60.35	62.10	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl; magnetic
62.10	64.38	Mafic Volcanic, 2e	Basalt- hi mag, fg, mass, no amyg
64.38	65.88	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl
65.88	67.90	Mafic Volcanic, 2d	Basalt-massive, magnetic
67.90	71.47	Mafic Volcanic, 2c	Basalt- amyg, chl; strongly & weakly magnetic
71.47	72.50	Mafic Volcanic, 2b	Basalt- sparsely amygdaloidal; strongly magnetic
72.50	76.55	Mafic Volcanic, 2c	Basalt- amyg, chl; magnetic
76.55	77.25	Mafic Volcanic, 2d	Basalt-massive
77.25	81.65	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl
81.65	82.90	Mafic Volcanic, 2b	Basalt- sparsely amygdaloidal
82.90	87.88	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl
87.88	90.45	Mafic Volcanic, 2e	Basalt- magnetic
90.45	106.60	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl
106.60	109.90	Mafic Volcanic, 2d	Basalt-massive, magnetic
109.90	123.00	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl, epid
123.00	124.00	Mafic Volcanic, 2d	Basalt-massive, magnetic

124.00	134.75	Mafic Volcanic, 2c	Basalt- amyg, dominantly chl
134.75	139.14	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
139.14	140.74	Mafic Dyke, 8a	Mafic dyke; up cnt ragged at 10
140.74	141.40	artz Feldspar Porphyry,	Quartz Feldspar Porphyry - alt xenolith
141.40	149.10	Mafic Dyke, 8a	Mafic dyke; up cnt ragged at 10
149.10	159.77	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
159.77	165.71	: Feldspar Porphyry Dyl	Mafic Feldspar Porphyry Dyke
165.71	184.05	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
184.05	186.39	: Feldspar Porphyry Dyl	Mafic Feldspar Porphyry Dyke
186.39	191.25	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
191.25	192.00	Mafic Volcanic, 2a	Basalt- amyg
192.00	194.00	artz Feldspar Porphyry,	Quartz Feldspar Porphyry - mixed contact zone
194.00	198.92	: Feldspar Porphyry Dyl	Mafic Feldspar Porphyry Dyke
198.92	203.38	Mafic Volcanic, 2	Basalt- altered contact zone?
203.38	203.95	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
203.95	204.35	: Feldspar Porphyry Dyl	Mafic Feldspar Porphyry Dyke
204.35	206.10	artz Feldspar Porphyry,	Quartz Feldspar Porphyry
206.10	206.50	: Feldspar Porphyry Dyl	Mafic Feldspar Porphyry Dyke
206.50	207.10	artz Feldspar Porphyry,	Quartz Feldspar Porphyry- altered contact zone
207.10	219.75	Felsite, 7c	Felsite - pink-brick red (hem) overprint; feldspathic (small phenos?), no qtz eyes; 10% alt/bleached chl ferromags; non-mag; clay altered (argillic?)
219.75	220.37	Mafic Volcanic, 2a	Basalt- subordinate 2c
220.37	221.10	Mafic Dyke, 8a	Mafic Dyke - str magnetic
221.10	229.00	Mafic Volcanic, 2a	Basalt- subordinate 2c
229.00	231.30	Mafic Volcanic, 2h	Flow Top Bx
231.30	243.00	Mafic Volcanic, 2d	Basalt- very magnetic; mostlt massive, subordiante 2b
	243.00		EOH

From	To	STRUCTURES & MINERALIZATION
17.85	**27.00**	**CBrZ**
17.85	18.51	DZ: numerous thin,1-2 mm, brd/pk hem calc vnlts marginal to CZ
18.51	19.10	CZ; strong, perv. brick red, hem, epid, calc shear/fracture zone at 55-60 to ca developed marginal to a 20 cm wide cluster of grey, boud, fract, qtz vnlts or patchy, perv silic'tion at 18.99-19.10
191.00	27.00	DZ: more than 20 thin, 1-2 mm, brd/pk hem calc vnlts incl 26.26-26.42: 1 cm bkrd/pk (hem)cal shear vnlt at 20 to ca & 2 narrow CZ's at 19.45 to 19.58 & 19.80 to 19.85
33.75	**36.40**	**CBrZ**
33.75	36.40	DZ: fractured interval developed as a result of multiple intersections of both clusters of low angle, thin,1-2 mm, bkrd (hem) calc fracture vnlts and high angle bkrd (hem) joint fractures.
46.20	**47.00**	**CBrZ**
46.20	47.00	DZ: fractured interval developed as a result of multiple intersections of both clusters of low angle, thin,1-2 mm, bkrd (hem) calc fracture vnlts and high angle bkrd (hem) joint fractures.
48.70	**50.45**	**CBrZ**
48.70	50.45	DZ: fractured interval developed as a result of multiple intersections of both clusters of low angle, thin,1-2 mm, bkrd (hem) calc fracture vnlts and high angle bkrd (hem) joint fractures.
60.80	**62.25**	**CBrZ**
60.80	62.25	DZ: fractured interval developed as a result of multiple intersections of both clusters of low angle, thin,1-2 mm, bkrd (hem) calc fracture vnlts and high angle bkrd (hem) joint fractures.
63.60	66.60	**CBrZ**
63.60	66.60	DZ: weak; low angle, thin,1-2 mm, bkrd (hem) calc fracture vnlts and high angle bkrd (hem) joint fractures developed marginal to three wider vnlts: 63.75-64.40: 1 cm jnt vnlt at 10 to ca; 65.84-65.93: 5 cm TW shear band at 40 to ca; 66.00-66.06: 1.5 cm TW shear band at 50 to ca.
64.90	64.94	1-3 mm bkrd hem, chl calc vnt at 40 to ca
65.01	65.08	1-3 mm bkrd hem, chl calc vnt at 30 to ca
66.14	66.20	two, 1 mm jnt fract vnlts at 50 to ca
69.50		alignment/elongation? of amygdules at 40 to ca
71.20	71.25	3.5 cm TW , irregular pegmatiodal patch of silica, chl, epid, spec hem
73.40	73.90	1-10 cm TW irr chl fract vnlt along ca with hem, epid chl alt.
74.24	74.31	2 cm TW Semi-massive (25% as matrix) Magnetite Band at 30-40 to ca
77.56	78.14	Frcatured Interval with moderate to heavy magnetite as matrix and 6 cm magnetite breccia band; tr specularite

From	To	STRUCTURES & MINERALIZATION
17.85	**27.00**	**CBrZ**
79.10	79.60	very high mag in matrix
84.00	**88.40**	**CBrZ**
84.00	88.40	DZ: bkrd hem calc vnlts & epid, hem alterated interval
93.81	93.87	5-8 cm TW , irregular pegmatiodal patch of bkrd hem calc; chl, epid.
96.00	**99.25**	**CBrZ**
96.00	99.25	DZ: bkrd hem calc vnlts & epid, hem alterated interval
107.36	107.47	highly magnetic; 2-3 cm TW , irregular pegmatiodal patch of silica, chl, epid.
111.02	111.57	highly magnetic; altered & sheared zone at 80-90 to ca; epid, mt, calc, chl, spec hem; incl 5 cm massive magnetite
117.57	117.70	3-4 ,mm, bkrd hem calc fract vnlts with epid at 20 to ca
123.35	123.50	three or four, hair-thin fractures with **py** at 20 to ca
123.00	124.20	magnetic
127.50	**134.20**	**CBrZ**
127.50	134.20	DZ: 5% bkrd hem calc vnlts, up to 5-6 mm, at low angles to ca & mod-angle bkrd hem jnts
129.58	129.63	3.5 cm TW QV at 70 to ca with marginal alteration of epid, hem, calc, chl
134.20	134.75	7 cm TW calc Bx fault contact + chl at 10-20 to ca
134.20	**139.80**	**CBrZ**
134.20	139.80	CZ: network of 10-15% bkrd hem calc fracture vnlts
142.20	143.20	clusters of fractures with tr **py, cpy** along planes
145.31		tr **cpy** slips along frct
146.10	146.50	tr **cpy** slips along frcts
162.94		tr tiny **cpy** specks in amyg along fract planes
163.32	163.82	tr tiny **cpy** specks in amyg along fract planes
185.00	185.60	tr tiny **cpy** specks in amyg + in plag phenos + smeared along fract planes
185.90	186.45	tr tiny **cpy** specks in amyg + in plag phenos + smeared along fract planes

From	To	STRUCTURES & MINERALIZATION
17.85	**27.00**	**CBrZ**
195.90	**196.30**	**CBrZ**
195.90	196.30	DZ: fractured interval with calc vnlts
197.40	197.50	tr tiny **cpy** specks in amyg + in plag phenos + smeared along fract planes; incl 1-2 mm fract with streaks **cpy**
195.90	196.30	Silica altered CZ
229.00	231.30	weak DZ developed in flow top Bx as a result of intersections of low angle fractures with higher angle joints ets

CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

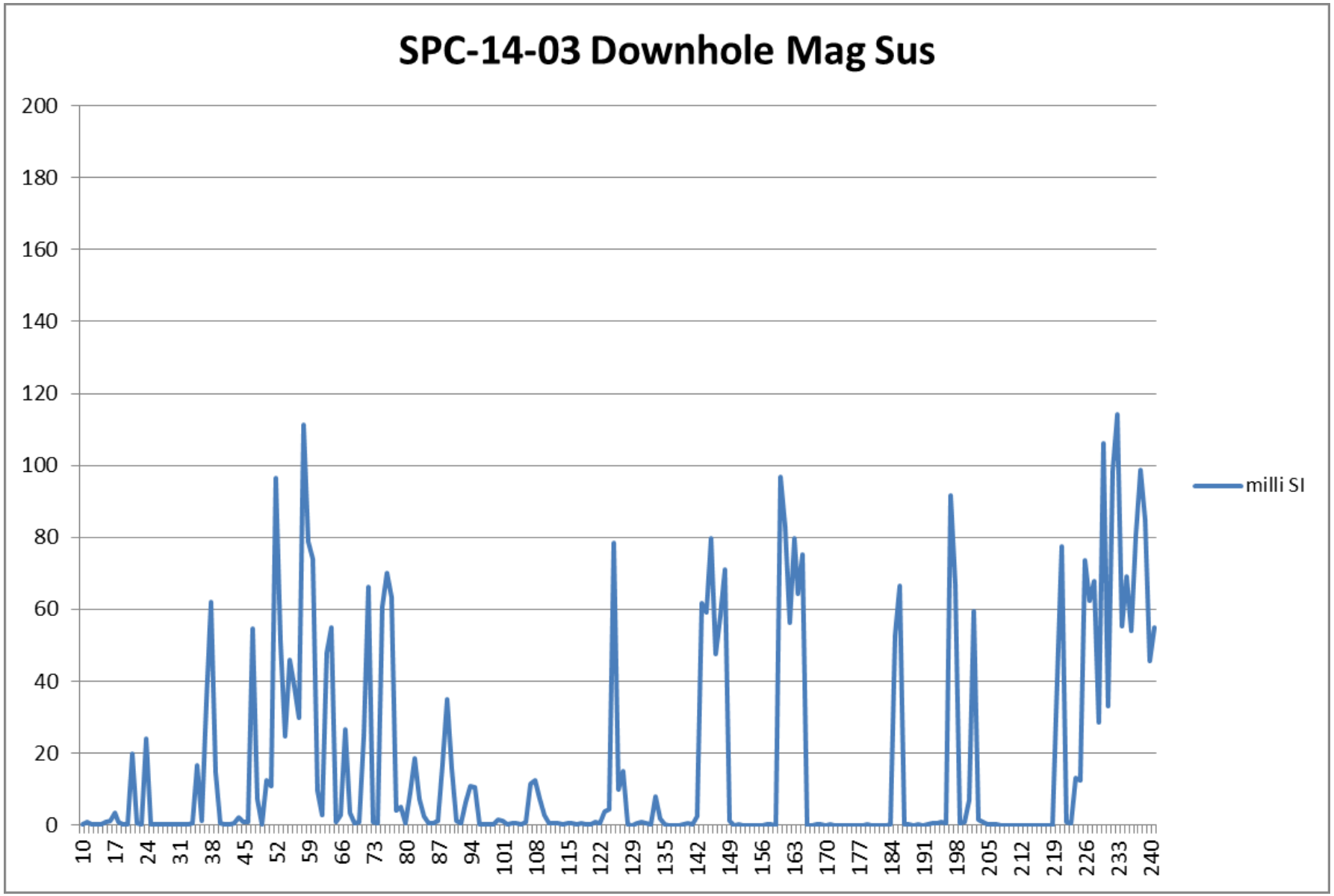
EPIDOTE ALTERATION			pervasive in	amyg	fracture	plag	
From	To	intensity	groundmass	fillings	fillings	phenos	other
8.50	13.25	moderate		x		x	
13.25	13.45	moderate	x				
13.45	19.10	moderate		x		x	
19.10	25.40	weak		x			
25.40	33.80	moderate		x			
33.80	51.43	weak/moderate		x	x		
51.43	60.35	weak			x		
60.35	62.15	moderate	x	x			
63.60	64.90	moderate	x		x		
64.90	68.00	weak		x			
68.00	71.50	moderate/weak					patchy
72.50	78.15	moderate/weak		x			
78.15	80.50	moderate/weak	x				
80.50	84.20	moderate/weak		x			
84.20	87.88	moderate	x				
87.88	91.45	very weak		x		x	
91.45	92.00	moderate	x				
92.00	99.75	very weak		x		x	
102.60	105.55	weak/moderate	x	x	x	x	
105.55	109.06	very weak			x		
109.06	113.00	moderate	x				
117.45	118.25	strong/moderate					coarse, irregular patches
127.35	134.70	moderate to strong	x	x			

EPIDOTE ALTERATION			pervasive in	amyg	fracture	plag	
From	To	intensity	groundmass	fillings	fillings	phenos	other
134.70	139.44		x			x	bleaching with serc+/- hem
149.10	159.77		x			x	bleaching with serc+/- hem
165.71	184.05		x			x	bleaching with serc+/- hem
186.39	194.00		x			x	bleaching with serc, clay (illite?)
198.92	203.38						cont zn: patchy with hem, calc, silica
202.85	203.38						10% silica veining
203.38	206.70		x			x	bleaching with serc+/- hem
205.50	206.00						cont zn: silica
207.10	219.75		x			x	highly bleached; clayey- "argillic type" & hem overprint
215.00	218.00		x				waxy-yellowish -serc

HEMATITE ALTERATION From	To	intensity	pervasive in groundmass	amyg fillings	with calcite fracts/jnts	plag phenos	other
8.50	18.25	weak	x		x		
18.25	19.85	strong	x		x		
19.85	27.00	weak	x		x		
27.00	32.50	weak	x				patchy
32.50	47.00	weak/moderate	x	x	x	x	mod patchy perv; others weak
48.70	50.85	weak/moderate	x	x	x	x	mod patchy perv; others weak
50.85	60.35	nil - magnetite-rich					
60.35	62.15	moderate/weak	x				
63.60	66.85	moderate/weak	x		x		& in shear bands
66.85	83.50	weak	x		x		patchy perv intervals; scattered fract
83.50	99.50	weak/moderate	x		x		patchy perv intervals; scattered fract
102.50	105.35	weak/moderate	x	x			patchy perv
109.50	127.35	weak/moderate	x				patchy perv
127.35	134.70	moderate to strong	x	x			
134.70	139.44						as overprinting of altered QFP
149.10	159.77						as overprinting of altered QFP
159.77	165.71			x		x	
165.71	184.05						as overprinting of altered QFP
184.05	186.39					x	
186.39	194.00						as overprinting of altered QFP
194.00	198.92					x	
198.92	203.38						patchy with other alteration
203.38	206.70						as overprinting of altered QFP
207.10	219.75						as overprinting of altered Felsite

HEMATITE ALTERATION			pervasive in	amyg	with calcite	plag		
From	To	intensity	groundmass	fillings	fracts/jnts	phenos		other
219.75	220.37	mod mag						
220.37	221.10	str mag						
221.10	225.70	mod mag						
225.70	229.00	very str mag						
229.00	231.30	moderate/weak	x				hematitic flow top bx frags	
231.30	243.00	weak	x		x			patchy

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P	948501	111	111.6	0.60
P	948502	141.3	142.1	0.80
P	948503	142.1	142.77	0.67
P	948504	142.77	143.18	0.41
P	948505	143.18	144	0.82
P	948506	146.5	147	0.50
P	948507	163.32	163.82	0.50
P	948508	185	185.5	0.50
P	948509	185.5	185.9	0.40
P	948510	185.9	186.35	0.45
P	948511	197.4	197.9	0.50
P	948512	209	210	1.00


SPC-14-03 Downhole Mag Sus
200
180
160
140
120
100
80
60
40
20
0
10
17
24
31
38
45
52
59
66
73
80
87
94
101
108
115
122
129
135
142
149
156
163
170
177
184
191
198
205
212
219
226
233
240
milli SI

SUPERIOR COPPER CORPORATION SPC.V

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-04	Ground gravity and mag high	Orbit Garant Inc.	M. Kilbourne

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
1098722	July 28, 2014	November 10, 2014	555.5

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5212171	673816	282

DEPTH	DIP	AZIMUTH
COLLAR	-83	208
200	-82.9	208
400	-83	208
554	-83.5	208

COMMENTS

No Samples Taken

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	2.50		Overburden - casing to 3.0m
2.50	16.30	Mafic Volcanic, 2a	Basalt- amyg
16.30	17.14	Mafic Volcanic, 2h	Basalt- flow top bx?
17.14	21.00	Mafic Volcanic, 2a	Basalt- amyg
21.00	24.15	Mafic Volcanic, 2b	Basalt- sparsely amyg
24.15	27.50	Mafic Volcanic, 2a	Basalt- amyg
27.50	31.50	Mafic Volcanic, 2b	Basalt- sparsely amyg
31.50	38.55	Mafic Volcanic, 2a	Basalt- amyg
38.55	41.80	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
41.80	46.55	Mafic Volcanic, 2b	Basalt- sparsely amyg
46.55	46.95	Mafic Volcanic, 2a	Basalt- amyg
46.95	48.60	Mixed Seds/Volc 6	mixed seds + volc = flow top?
48.60	50.00	Mafic Volcanic, 2a	Basalt- amyg
50.00	52.90	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
52.90	55.20	Mafic Volcanic, 2a	Basalt- amyg
55.20	56.75	Mafic Volcanic, 2g	Basalt-gabbroic
56.75	61.10	Mafic Volcanic, 2a	Basalt- amyg
61.10	61.70	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
61.70	62.10	Mafic Volcanic, 2a	Basalt- amyg
62.10	63.16	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
63.16	64.00	Mafic Volcanic, 2a	Basalt- amyg
64.00	64.70	Mafic Volcanic, 2c	Basalt- chl amyg; 1 cm shear contact at 50
64.70	66.05	Mafic Volcanic, 2a	Basalt- amyg
66.05	67.75	Mafic Volcanic, 2p	Basalt- porphyritic
67.75	74.90	Mafic Volcanic, 2a	Basalt- amyg
74.90	76.50	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
76.50	79.00	Mafic Volcanic, 2d	Basalt-massive
79.00	81.50	Mafic Volcanic, 2b	Basalt- sparsely amyg
81.50	85.60	Mafic Volcanic, 2d	Basalt-massive

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
85.60	85.80	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
85.80	86.11	Mafic Volcanic, 2a	Basalt- amyg
86.11	92.52	Mixed Seds/Volc? 6?	highly altered, epid, sil, cal, hem ;bx or congl, subrounded to angular clasts; clast supported; Flow top Bx?
92.52	93.95	Mafic Volcanic, 2d	Basalt-massive
93.95	96.25	Mafic Volcanic, 2h	Fragmental; Flow top?
96.25	99.65	Mafic Volcanic, 2a	Basalt- amyg
99.65	101.72	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
101.72	102.44	Mafic Volcanic, 2h	Fragmental; Flow top?
102.44	104.24	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
104.24	105.42	Mafic Volcanic, 2h	Fragmental; Flow top?
105.42	107.88	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
107.88	109.30	Mafic Volcanic, 2d	Basalt-massive
109.30	111.00	Mafic Volcanic, 2a	Basalt- amyg
111.00	111.45	Mafic Volcanic, 2b	Basalt- sparsely amyg
111.45	116.70	Mafic Volcanic, 2a	Basalt- amyg
116.70	117.25	Mafic Volcanic, 2d	Basalt-massive
117.25	125.15	Mafic Volcanic, 2a	Basalt- amyg
125.15	129.25	Mafic Volcanic, 2d	Basalt-massive
129.25	132.83	Mafic Volcanic, 2a	Basalt- amyg
132.83	152.22	Mafic Dyke 8a	Mafic Dyke "unaltered"; shp chiiled cntcs at 40 &50; aphanitic margins, then fg, massive, uniform
152.22	159.75	Mafic Volcanic, 2a	Basalt- amyg
159.75	160.08	Mafic Volcanic, 2h	Flow top Bx?
160.08	161.50	Mafic Volcanic, 2a	Basalt- amyg
161.50	164.71	Mixed Seds/Volc 6	coarse subhedral to angular 2a clasts in 10-15% reddish 5b, 5c & inlc 15 cm of 5b 164.10-.25 with bedding at 65
164.71	169.55	Mafic Volcanic, 2b	
169.55	170.54	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
170.54	171.00	Mixed Seds/Volc 6	50% reddish 5b matrix for 2c
171.00	171.95	Mafic Volcanic, 2h	Flow top Bx; altered interval
171.95	173.27	Mafic Volcanic, 2p	Basalt- porphyritic

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
173.27	173.45	Mafic Volcanic, 2h	Flow top Bx; altered - good example; no seds; at 60 to ca
173.45	182.54	Mafic Volcanic, 2c	Basalt-good chlorite flecks, amyg; lc 60
182.54	182.60	Mafic Volcanic, 2p	Basalt- porphyritic
182.60	183.94	Mafic Volcanic, 2h	Flow top Bx; eoid, chl altered interval in 2p
183.94	185.10	Mafic Volcanic, 2p	Basalt- porphyritic
185.10	187.00	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
187.00	191.60	Mafic Volcanic, 2p	Basalt- porphyritic
191.60	195.31	Mafic Volcanic, 2h	Flow top Bx; burg (hem) altered angukar clast; lc 60 to ca
195.31	202.60	Mafic Volcanic, 2p	Basalt- porphyritic; 2p. 2d, massive, uniform
202.60	219.17	Mafic Volcanic, 2d	Basalt- massive, minor 2c
219.17	222.60	Mafic Volcanic, 2h	Flow top Bx; hem, chl, epid altered after 2a
222.60	229.70	Mafic Volcanic, 2d	Basalt- massive, subordinate 2c
229.70	235.52	Mafic Volcanic, 2p	Basalt- porphyritic
235.52	243.45	Mafic Volcanic, 2a	Basalt- amyg, subordinate 2c
243.45	246.59	Mafic Volcanic, 2p	Basalt- porphyritic
246.59	246.95	Mafic Volcanic, 2a	Basalt- amyg
246.95	247.75	Mafic Volcanic, 2h	Flow top Bx; altered interval
247.75	248.35	Mafic Volcanic, 2a	Basalt- amyg
248.35	251.50	Mafic Volcanic, 2d	Basalt- massive, ophitic? 2e
251.50	253.25	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
253.25	254.05	Mafic Volcanic, 2p	Basalt- porphyritic
254.05	258.63	Mafic Volcanic, 2b	Basalt- sparsely amyg; subordinate 2c
258.63	261.20	Mafic Volcanic, 2p	Basalt- porphyritic
261.20	266.45	Mafic Volcanic, 2a	Basalt- amyg
266.45	274.75	Mafic Volcanic, 2c	Basalt-chlorite flecks, amyg
274.75	364.67	Mafic Volcanic, 2d	Basalt, dominantly massive to sparsely amygdaloidal
364.67	366.96	Feldspar Porphyry 7a	Feldspar Porphyry
366.96	369.74	Mafic Volcanic, 2d	Basalt, massive
369.74	372.85	Mafic Volcanic, 2h	Basalt, volcanic fragmental

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
372.85	376.06	Mafic Volcanic, 2a	Basalt, amygdaloidal
376.06	408.97	Mafic Volcanic, 2d	Basalt, predominantly massive
408.97	414.86	Mafic Volcanic, 2h	Basalt, volcanic fragmental
414.86	417.77	Mafic Volcanic, 2d	Basalt, predominantly massive
417.77	420.15	Mafic Volcanic, 2h	Basalt, volcanic fragmental
420.15	425.77	Mafic Volcanic, 2d	Basalt, predominantly massive
425.77	427.70	Mafic Volcanic, 2h	Basalt, volcanic fragmental
427.70	469.40	Mafic Volcanic, 2d	Basalt, predominantly massive
469.40	498.00	Mafic Volcanic, 2a	Basalt- amygdaloidal with massive sections
498.00	514.80	Feldspar Porphyry 7a	Feldspar Porphyry
514.80	555.50	Mafic Volcanic, 2d	Basalt, massive
	EOH		

From	To	STRUCTURES & MINERALIZATION
		CBrZ: in this ddh are characterized by clusters of ragged, thin, generally 1-3 mm, but may be up to 10 mm, white calcite fracture veinlets, that are commonly overprinted by a brick red hematitic tinge and +/- epidote; generally at low angles, < 5-20 to ca; wider veinlets tend to be zoned suggesting open space filling; CZ are often formed where these fracture clusters intersect a high density of joints, or conjugate joint sets with or without calcite fillings, and similarly overprinted by brick red hematitic tinge, and with +/- chl, epid, silica; wider joint veinlets are often zoned, and may display shearing
5.58	6.91	CBrZ: cluster of vnlts at 15-20 to ca: 5.58, 5.84, 6.05, 6.38, 6.62, 6.91
10.00		colour (mineral) banding at 50 to ca
21.00	27.00	DZ: defined by a set of (12-13), low angle (5-10 to ca), calc fract vnlts, 1-5 mm that are marginal to 1 principal , 4 cm wide calc bx vnlt at 35 to ca from 23.45 to 23.65
32.10	32.23	calc vnlt at 23 to ca
34.90	35.30	2 cm calc fract vnlt & 2 mm calc fract vnlt at 20 to ca
35.27	35.62	1-2 mm calc fract vnlt at 15 to ca
35.80	36.16	1-2 mm calc fract vnlt at 10 to ca
40.44	47.10	weak DZ: defined by four(4), 1-3 mm, enechelon, calc fract vnlts at 5 to ca
48.00	59.60	CBrZ: two CZs separated by DZs.
48.00	53.42	Upper DZ:
48.00	48.85	cluster of 1- 3mm calc+silica vnlts
52.15	53.42	numerous, 1-2 mm fract vnlts + two 0.5 cm and 0.5-1.0 cm ragged, bkrd hem calc vnlts along ca 0-at 10 to ca, that are undulating and marginal to a principal, 5-6 cm white calc vnlt at 53.42 to 53.90.
53.42	53.90	CZ: as described above
53.90	58.25	Central DZ: set of 10-12, 1-10 mm, ragged, calc vnlts along ca - between two principal vnlts
58.25	59.00	CZ: 4-5 cm TW bkrd hem, calcitic shear Bx vein at 10 to ca with multiple extension veinlets
59.00	59.60	Lower DZ:
64.70	71.75	CBrZ:
64.70	68.10	Upper DZ: series of subparallel, irregular, ragged, calc fract vnts, 1 mm to 10 mm at 10-15 to ca at: 64.75 to 65.26, 65.75 to 65.95, 66.00 to 66.40, 67.15 to 67.70.

From	To	STRUCTURES & MINERALIZATION
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68.10	70.15	CZ: higher intensity of fracturing with 5 clusters of DZ type fract vnts and principal vnlts at: 69.28: 2 cm TW cacl shear vnt at 35 to ca; 69.60: 6 cm TW bx interval at 35 to ca X-cut by 2 cm calc vnlt; 69.40 to 70.15: calc bx (60% matrix) with subangukar wallrock frags; some hematitic and possibly some bkrd hem patchy sediments.
70.15	71.75	Lower DZ: 5 cm TW calc jnt vnlt at 70.42; 71.40 to 71.17: several, hairthin fracture vnlts extending form a 4 mm wide calc, jnt bx vnlt at 45 to ca
72.70	73.12	DZ: cluster of calc fract vnlts incl one 1.5 cm TW
76.00	76.45	1 cm TW calc vnlt at 10 to ca
76.69	76.80	1.2 cm TW calc vnlt at 30 to ca
77.05	77.50	1 cm calc vnlt at 30 then at 10 to ca
77.50	77.55	2-3 cm TW calc at 40 & 60 to ca
80.10	81.30	altered fracture zone with bkrd hem calc fractures, bx, gouge 81.10 to 81.30 at 30 to ca
84.00	84.50	calc bx - with 30-40% subangular wallrock fragments aligned at 30-50 to ca
104.23	105.40	altered (chl, epid) fracture zone associated with multiple jnt intersections
136.35	140.45	CBrZ:
136.35	138.10	DZ: thin calc frac vnlts at low angles
138.10	140.45	CZ: moderately fractured interval with bkrd hem calcitic (20-25%) fault breccia /shear and angular hem wallrock fragments
145.70	147.85	CBrZ:
145.70	146.20	DZ: series of thin, 1-2 mm, calc frac vnts
146.20	147.40	CZ:: bkrd hem alt; 2-4 cm TW calc bx vnlt along ca at 5-10 to ca & marginal extension veinlets
147.40	147.85	DZ: bkrd hematite altered margin
193.15	193.85	weak fracture zone developed at intersections of conjugate joints and low angle calc fract vnlts

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202.75	204.80	series of 8 low angle bkrd hem calc frac vnlts at 15 to ca
208.90	210.68	4-5 mm bkrd hem,chl, epid, calc fracture vnlt at 10 to ca
214.00	217.58	CBrZ:
214.00	216.21	DZ: series of 12, 1-3 mm low angle, bkrd hem calc, conjugate frac vnlts at 15 to ca
216.21	216.45	CZ: white calcite bx with angular, epid, bkrd hem, chl altered wallrock frags
216.45	217.58	DZ: series of 4 or 5, 1 mm low angle, bkrd hem calc frac vnlts at <10 to ca
221.00	224.80	weak DZ: approx 15, thin, 1 mm, bkrd hem calc fract vnlts at 10-15 to ca
227.80	230.50	weak DZ: 5, thin, 1-4 mm, bkrd hem calc, chl fract vnlts at 10-15 to ca
237.05	237.45	2 mm , calc fract vnlt, undulating along ca
240.15	240.65	fractured interval (jnts and low angle fract vnlts
244.68	246.42	weak DZ: 4, thin, 1-4 mm, bkrd hem & white calc, chl fract vnlts at 5-15 along ca
247.75	254.00	CBrZ:
247.85	249.40	DZ: 3-4 mm undulating- low angle, bkrd hem calc fract vnlt along ca and 2nd 3 mm en echelon 249.14 to 249.52 at 15 to ca
249.40	250.73	CZ: brittle fracturing (pseudo-bx) along ca with 10% epid (no calc) fract vnlt filling
250.73	254.00	DZ: series of 7 or 8, ragged, low angle, epid, calc frac vnlts along ca
270.00	278.00	CBrZ:
270.00	271.55	DZ: four or five, 1-3 mm low angle, bkrd hem calc fract vnlt along ca and some jnt fracts
271.55	271.90	CZ: 85-95% Calc Shear Bx Vein at 40 to ca;

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271.90	273.10	DZ: see DZ below
273.10	273.52	CZ: series of six, 1-3 mm calc shear vnlts at 25-30 to ca
273.52	278.00	DZ: series of 10 (3 cm, 1 cm, 6 mm, 5 mm and rest 1-2 mm) bkrd hem calc vnlt between the two CZs.
284.00	286.70	CBrZ:
284.00	285.60	DZ: series of thin, low angle, bkrd hem calc fract vnlt at 30 ca marginal to CZ
285.60	285.75	CZ: 6 cm TW Calc Shear Bx Vein at 30 to 45 to ca;
285.75	286.70	DZ:
289.60	293.72	CBrZ:
289.60	293.66	DZ:
293.66	293.72	CZ: 3 cm TW Calc Shear Veinlet at 50 to ca
298.66	305.58	series of joint veinlets as follows:
298.66	298.72	4 mm calc jnt vnlt at 30 to ca
299.16	299.26	4 mm calc jnt vnlt at 25 to ca
300.48	300.56	1 mm calc jnt vnlt at 20 to ca
301.77	301.87	1 mm calc jnt vnlt at 20 to ca
302.22	302.28	4 mm calc jnt vnlt at 45 to ca
303.70		1.5 cm calc jnt vnlt at 30-40 to ca
305.54	305.58	two , 3 mm, 1 mm calc jnt vnlt both at 40 to ca
331.00	336.85	**DZ** moderate damaged zone with late qtz-carb-hem veins/fractures sub// TCA up to 30 TCA strong hem alteration associated with late fractures/jts, broken core
359.81	362.60	strong **DZ** highlighted by a 40 cm qtz-carb-hem vein, strongly hem throughout, broken, subordinate thinner qch fractures, also 1 x 4cm qch vein 30 TCA
369.53	369.74	weak **DZ** highlighted by 1 x 6cm crack and seal qch vein 25 Tca, strong hem alteration with DZ, lower

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		contact has a healed fault gouge about 15cm across, minor qtz-carb with it, broken core
439.26	443.17	1 x 2mm epd-chl-qtz-carb veinlet in and out of core with fine spec hem with it

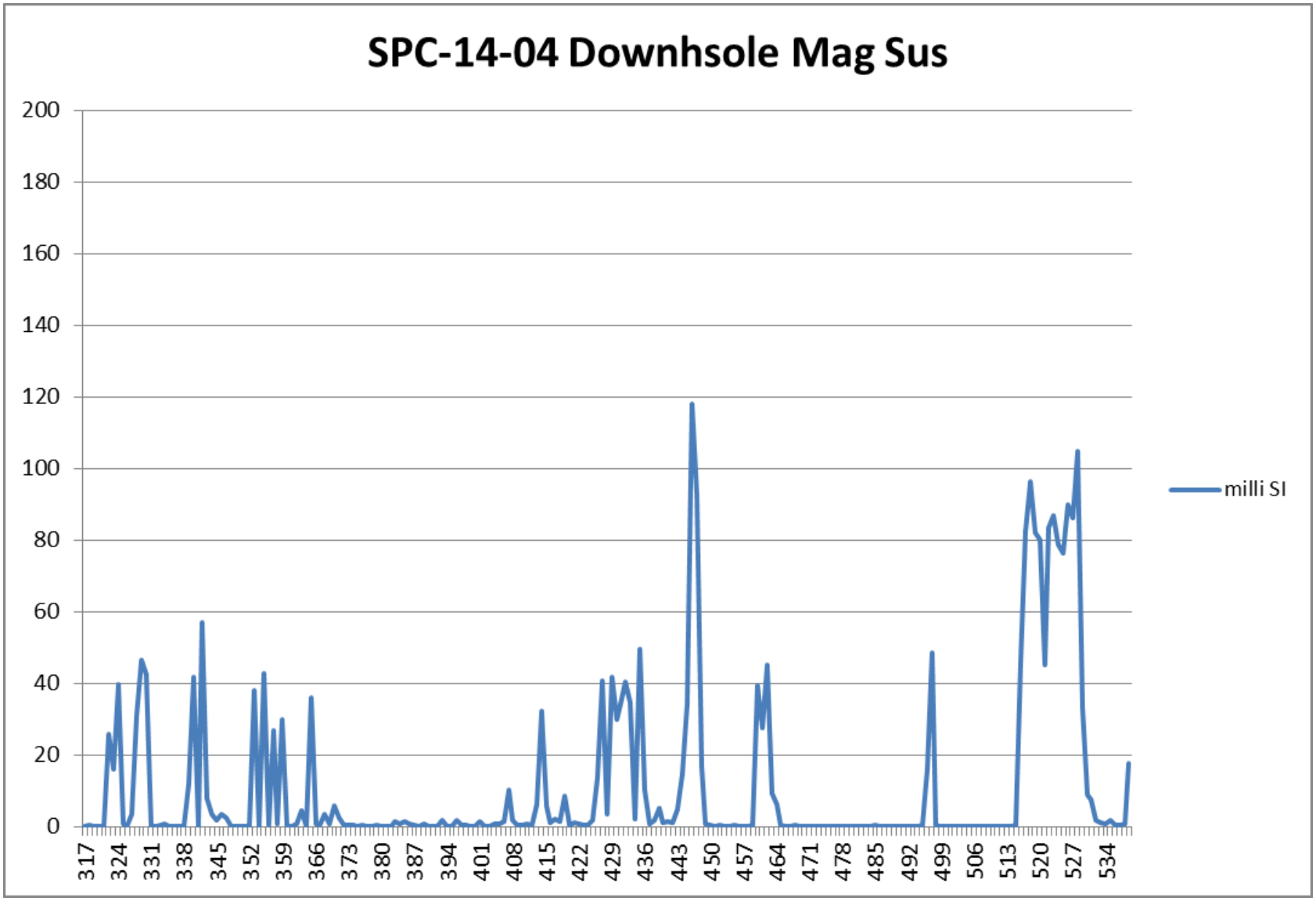
CODE	LEGEND
CBrZ	Calcitic Brittle Fracture Zone: characaterized by a series of thin, calcite filled joints and fractures at low angle to the core axis, thus near vertical
DZ	Fault Damage Zone ; peripheral to CZ; mainly fractures
CZ	Fault Core Zone ; mainly bands of fault breccia, shears, gouge, mylonite
S0	primary bedding
TW	true width
V1	Vein Set - epid, calc, +/- hem, often zoned and occassionally with blebs chalcocite

EPIDOTE ALTERATION			pervasive in	amyg	fracture	plag	
From	To	intensity	groundmass	fillings	fillings	phenos	other
2.50	8.00	moderate	x	x			
8.00	21.00	moderate/strong	x	x			
21.00	32.00	weak		x			
32.00	38.00	moderate	x	x			
38.00	40.75	weak		x			
40.75	45.10	weak/moderate	x	x			
45.10	46.95	weak		x			
46.95	49.60	weak/moderate		x			
49.60	52.95	weak		x			
52.95	61.00	moderate	x	x			
61.80	65.80	moderate	x	x			
65.80	68.00	weak		x			
68.00	69.75	moderate/weak	x	x			
69.75	86.00	very weak		x			
86.00	91.75	moderate/strong	x	x			and clasts
92.22	92.44	moderate/strong	x	x			breccia matrix
92.44	97.80	weak		x			
97.80	98.90	strong - heavy	x	x			
98.90	101.60	weak					
101.60	102.60	moderate	x	x			
102.60	111.00	weak to moderate	x	x			patchy moderate
111.00	122.50	weak		x			
122.50	123.15	moderate	x	x			
129.60	132.83	weak		x			
155.25	155.70	moderate	x				patchy

EPIDOTE ALTERATION			pervasive in	amyg	fracture	plag		
From	To	intensity	groundmass	fillings	fillings	phenos		other
156.95	159.00	moderate to strong	x				strongly perv groundmass/matrix	
159.00	161.40	weak		x				
161.40	219.17	NIL - negligible						
219.17	220.80	weak	x				patchy in Flow Top Bx	
224.75	235.00	weak	x	x	x		patches	
235.00	243.12	weak/moderate		x				
243.12	243.40	strong	x					
243.40	245.80	weak/moderate		x				
245.80	248.25	moderate to strong	x					
248.25	253.25	weak		x	x			
262.00	262.40	moderate	x					
263.85	269.00	moderate & weak					patchy	
269.00	288.90	very weak		x				
288.90	296.00	weak	x	x		x		patchy perv
313.40	313.75	moderate	x					
313.75	364.67	weak		x	x			
369.74	372.85	strong	x					
372.85	376.06		x	x				
376.06	408.97	weak	x				talc (?) of chl flecks	
408.97	414.86	moderate	x					
425.77	427.20	moderate	x					
427.20	469.40	weak		x				
514.80	555.50	weak	x					

HEMATITE ALTERATION From	To	intensity	pervasive in groundmass	amyg fillings	with calcite fracts/jnts	plag phenos	other
2.50	21.00	weak	x				patchy
21.00	24.00	weak	x		x		
24.00	31.00	very weak					
31.00	33.40	weak	x				patchy
33.40	37.20	very weak					
37.20	38.75	weak	x				
40.00	44.00	weak	x	x			
44.00	46.95	moderate	x				
46.95	48.60	moderate					
52.95	61.00	moderate	x		x		
61.00	61.80	weak					
61.80	86.00	moderate	x		x		narrow weak intervals
86.00	91.75	weak					mostly as small irr scattered alt clots perhaps of chl in matrix, or chl amyg
91.75	102.50	very weak					patchy
102.50	111.00	weak to moderate	x				
111.00	126.00	weak to moderate	x				
126.00	129.25	very, very weak					
129.25	132.83	moderate	x				
138.10	140.45	moderate	x		x		& marginal to low angle calc vns
146.20	147.85	moderate			x		& marginal to low angle calc vns
147.85	155.25	weak	x	x			
158.35	164.71	weak/moderate	x				patchy; moderate perv in seds & where forms bx matrix 161.70 to 162.15& 163.15 to 163.40 & 163.60 to 164.71
164.71	170.54	weak	x				

HEMATITE ALTERATION			pervasive in	amyg	with calcite	plag		
From	To	intensity	groundmass	fillings	fracts/jnts	phenos	other	
170.54	171.00	weak	x				in sedimentary bx matrix	
171.00	173.45	weak	x			x		
173.45	182.45	very weak				x		
182.45	185.10	weak/moderate	x				patchy in 2h, but burg groundmass in 2p	
185.10	191.83	very weak				x		
191.83	199.00	moderate	x				burgundy groundmass of 2h, 2p	
199.00	219.17	weak	x		x	x		patchy perv
219.17	224.50	moderate	x				burgundy flow top bx	
224.50	231.20	weak	x		x	x		
231.20	259.00	weak to moderate	x		x	x		
259.00	261.50	weak				x		
261.50	265.40	moderate	x					
265.40	274.80	weak/moderate	x		x	x	patchy	
277.80	278.25	moderate	x		x	x	patchy	
278.25	288.90	weak		x				
288.90	293.80	weak/moderate	x				patchy	
293.80	302.15	very weak	x			x	patchy	
302.15	306.40	weak	x			x	patchy	
306.40	308.10	NIL to negligible						
308.10	364.67	weak/moderate	x			x	patchy	
364.67	366.96	strong	x			x		
366.96	372.85	moderate					of possible fragments in 2h	
372.85	408.97	weak	x					
425.77	427.20	moderate					of possible fragments in 2h	
469.4	498.00	weak	x				patchy	
498	514.80	moderate	x			x		


SPC-14-04 Downhsole Mag Sus
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PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	**SPC-14-05**	Regional ZTEM M1-Z1	Orbit Garant Inc.	M. Kilbourne

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
1199984	August 19, 2014	September 17, 2014	774.5

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5210454	674850	228

DEPTH	DIP	AZIMUTH
COLLAR	-60	58
200	-61.1	58
400	-60.5	58
600	-60	58
M	°	°

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0	38.67	Overburden/Casing	**This hole is a repeat of SPC-14-05 for the first 105m. Casing broke in the overburden and hole was re-started.**
38.67	45.21	**Felsic Vocanics, 4**	Intensely silicified and hematized to a blood red colour, banding visible 25-50 TCA, large clots/masses of epd-chl-sil+/- carb 5-10% by volume, sometimes the masses have what looks like unaltered basaltic rims, core is very broken, banding not apparent everywhere
45.21	55.17	**Feldspar Porphyry, 7a**	Qtz-eye feldspar porphyry, variable alterd from strong hem to strongly bleached to locally moderate epdotitic of groundmass pheno's have been either hematized or epidotized in varying intensities, ferro-mags almost completely gone to hem +/- epidote, sharp upper contact ~ 75 TCA but wkly broken, fine to medium grained, core still very borken 50.1-52.0 weak DZ, fractured/broken, minor qtz-carb vnlts/fractures, moderately brecciated 50.1-50.5 by qcv
55.17	57.89	**Mafic Dyke, 8a**	Dark green, fine grained, massive, strongly magnetic
57.89	58.38	**Felsite, 7c**	Aphanitic, strongly hematized, broken
58.38	59.76	**Mafic Dyke, 8a**	Fine grained, weakly porphyritic, semi-intact lower contact 80 TCA, strongly magnetic
59.76	61	**Felsite, 7c**	Aphanitic, strongly hematized, broken core, minor specks of specularite on fractures/slickenslides
61	67.67	**Feldspar Porphyry, 7a**	Coarse grained, strongly heamtitic, minor rounded rafts of country rock up to 5cm across, pheno's variably epidotized lower contact less hematitic next to mafic dyke, broken core
67.67	70	**Mafic Dyke, 8a**	dark green, very fine grained, weakly porphyritic, strongly magnetic
			NOTE: Series of felsic intrusives and mafic dykes. Mafic dykes have intruded the altered felsic volcs who were in turn intruded by the felsic intrusives.

70	81	**Felsic Vocanics, 4**	very siliceous and hematitic flow banded rhyolite, banding @ 60 TCA, fractures/joints/vnlts host light olive green mineral (sericite?), which is soft, possible epidote but not that typical epidote colour, broken core, 72.65- minor blebs of **cpy** associated with jt/fracture with sericite-chl-qtz, v fg. **cpy** in wall rock
81	84.05	**Mafic Dyke, 8a**	Fine grained, strongly magnetic, weeakly gabbroic look, rare hairline fractures/joints with hem +/- qtz-carb 25 TCA upper contact sharp @ 90 TCA, sharp lower contact 70 TCA but assimilated by intruding feldspar porphyry
84.05	87.16	**Feldspar Porphyry, 7a**	Quartz-eye feldspar porphyry, strongly hematitic to blood red in colour, 5-10% pheno's where some are stongly epidotized sericitic coated joints
87.16	92.08	**Mafic Dyke, 8a**	same as above unit, strongly magnetic, lower contact 90 TCA
92.08	102	**Felsic Vocanics, 4**	Strongly hematitic flow banded rhyolite, aphanitic near upper contact, banding alternates between dark brown and red alternating bands, banding disturbed in places but generally 50 TCA, minor masses of sericite-epd+/- chl +/- qtz-carb, also in wisps, clots and in hairline fractures, bedding crenulated in places? **NOTE:** Rods lost. Hole started again a few meters away.
102	133.54	**Felsic Vocanics, 4**	strongly hematitic flow-banded rhyolite, banding visibly intermittent and variable from 0-80 TCA, looks porphyritic in places very brittle broken core, minor hairline qtz-carb fractures at various angles with +/- sericite +/- epidote, minor weak bleaching around joints/fractures 84.69-84.80 of twinned hole is 1 x 10 cm qtz-carb breccia with blebs/disseminations of **chalcocite** and rare specks of **cpy** vn/bx along contact of mafic dyke/seds at about 45 TCA, angular rafts of altered seds/felsite in bx with epidote alteration of fringe wallrocks 104.13-104.32 qtz-carb bx with tr **cpy**, angular wall rock fragments, possible orientation 35 TCA 125.17-125.62 odd bedding/banding features, circular in nature, flow banding doubling effect 129.92-130.8 epd-sericite-talc-qtz-carb vnlt // TCA unit has a spotted appearance in places that makes it look porphyritic but I think it may be just an alteration effect

			sharp lower contact that is variable but generally 60-80 TCA
133.54	141.4	**Feldspar Porphyry, 7a**	Strongly hematitc to bleached, medium grained qtz-eye feldspar prophyry, bleached around fractures/jts which are consistent around 30 TCA, intermitent destruction of chlorite to biotite or ferro-mag minot hairline qtz-carb fractures, fine grained to aphanitic near lower contact at 80 TCA 139.53-140.65 weak **DZ** with weak bx of unit by qtz-carb vnlts 1-3mm both 20-30 TCA x and (ok), finely tightly fractured
141.4	160.66	**Felsic Vocanics, 4**	weakly to strongly banded hematized silicified rhyolite, banding 75 TCA, banding intermittently destroyed/altered out, minor qtz-carb fractures and minor epdidote dominant fractures/vnlts/masses 143-145.57 intense **CBrZ** highlighted by intense breccia from 143.23-145.26, 143.23-143.6 vuggy qtz-carb vn 30 TCA with minor hematite 143.6-144.75 intense qtz-carb-+/- hem breccia with trace very fine cpy 144.75-145.26 vuggy qtz-carb+/-hem vein with minor blebs 1-2% chalcocite 144.35-144.56 weak qtz-carb bx 20 TCA with rare speck of cpy

			148.45-148.7 epd dominant 2mm vn 20 TCA, wall rock epidotized several mm, cross-cutting qtz-carb-hem vnlt some of the dark bands replaced by qtz-carb or epd-qtz-carb sharp lower contact 90 TCA
160.66	167.7	**Feldspar Porphyry, 7a**	dark red hematitic to weakly bleached medium grained qtz-eye feldspar porphyry, mostly bleached weakly epidotized around rare vnlt/fracture, minor fine chl flecks or ferr0-mags
167.7	179.55	**Felsic Vocanics, 4**	dark red strongly hematitic flow banded rhyolite, intermittent strong banding 90 TCA, finely porphyritic mostly where banding is absent, moderately fractured mostly hairline with qtz-carb +/-epd minor intermittent bleaching/wk epditozation
179.55	187.25	**Feldspar Porphyry, 7a**	light olive green-tan to patchy weak red hematitic medium grained qtz-eye feldspar porphyry, 3-5% minute chl flecks, locally 10%, rare rounded raft of wall rock, sharp lower contact 40 TCA, bleaching to light olive green colur from weak epidote alt
187.25	221.81	**Felsic Vocanics, 4**	blood red fine to medium grained strongly hematitic very hard and siliceous rhyolite weak porphyritic appearance to it with pinkish altered pheno's in a aphanitic hematitic weakly chloritic(?) groundmass intermittent weak banding, Possible fold of bands at 208.8, oval concentritic banding moderately fractured with most fractures/vnlts hosting a light green epidote + silica +/- carb +/- chl patchy bleaching of wall rock to a light pink around fine joints and fractures 187.7-187.9 mafic dyke, contacts 75 TCA 213.2-213.6 2-3mm fracture/vnlt with micro bx filled with qtz-carb-chl-talc-sericite sub// TCA
221.81	226.72	**Breccia**	strongly siliceous hematitic coarse breccia, angular to sub-rounded rafts of country rock, most rafts strongly hematitic some are weakly altered and appear to be amygdaloidal basalts, this unit could be the top of the feldspar porphyry down to 225, rock is less hematitic to a purply light olive grren hue, groundmass and pheno's more epidotized and chlorite

			going to fine muscovite, still a breccia appearance to it
226.72	231.2	**Feldspar Porphyry, 7a**	medium grained massive light olive green qtz-eye feldspar porphyry, strongly epidotized to weakly hematitic closer to lower contact, groundmass and pheno's epidotized +/- muscovite, where feldspar porphyry is dominantly hematitic pheno's are hematized +/- ferro mags, upper contact maybe 70 TCA, lower 90 TCA
231.2	231.36	**Siltstone, 5b**	light tan colored fine grained finely bedded silicified siltstone, 5% small pheno growth (or fg rhyolite?)
231.36	233.61	**Felsic Vocanics, 4**	blood red strongly hematitic siliceous weak breccia? Intermittent banding/foliation? Quartz-hematite groundmass, very chaotic unit, looks fragmental in places to a strongly altered foliated porphyry, 232.44 large mass of fine spec, mnr mt
233.61	243.08	**Breccia**	strongly to moderately hematitic breccia with angular to sub-rounded rafts of country rock, more mafic rafts are epidotitic and bleached, angular rafts strongly hematitic, quartz silica groundmass, some variolitic rafts also, intermittent banding/foliation which was probably the host rock before brecciation 235.25-235.36 1x 3cm qtz-carb-chl-sericite vn 30 TCA
243.08	251.2	**Feldspar Porphyry, 7a**	moderately hematitic, strongly silicified brecciated altered what once was a feldspar porphyry? Fine hematitic-chl-ferro mag(?) clots . I have no idea what this is or once was

251.2	251.66	**Mafic Dyke, 8a**	dark green, aphanitic, strongly magnetic, upper contact 80 TCA, lower 60 TCA
251.66	269.65	**Feldspar Porphyry, 7a**	pinkish-light purple to pale olive green coarse grained quartz-eye feldspar porphyry, strongly bleached/epidotitic adjacent to qtz-carb-talc fractures and veining, feldspars altered to a hematite-chl-epidote combinations 256 5cm breccia vein with qtz-carb-talc 45 TCA 255.0-258.5 14+ fractures/vnlts with qtz-carb-talc-sericite mostly 45-80 TCA, more epidotitic in this section
269.65	269.92	**Mafic Dyke, 8a**	Small section of mafic dyke, contacts 80 TCA
269.92	279.7	**Felsic Vocanics, 4**	Light tan to dark red (hem alt) freckled rhyolite, patchy bleaching (silicification), minor epidote masses, qtz-eyes
279.7	281.77	**Felsic Vocanics, 4**	Light cream to olive green (epd) to red (hem) flow banded rhyolite (or sil seds?), sharp contacts 70-80 TCA, 5-10% qtz-eyes and pheno's which are altered to epd +/- hem +/- chl
281.77	283.45	**Breccia**	felsic breccia, intermittent rounded varioles?, strongly hematitic, angular to sub-rounded fragments, banding from <1cm to >2cm mostly 90 TCA
283.45	286.47	**Felsic Vocanics, 4**	strongly hematitic flow banded rhyolite to intermediate volcanics, some bands have qtz-carb alteration along them
286.47	288.19	**Felsic Vocanics, 4**	Massive aphanitic variably bleached (sil) to olive green (epd) to pinkish red (hem) rhyolite with intermittent flow bands 80 TCA
288.19	295.23	**Intermed Volcanics,3**	chaotic intermediate volcanic, core very broken, talcy along joints/fractures, weak bx appearance in places, minor epd\ masses/fracture fillings, strongly hematitic, sharp lower contact 50 TCA
295.23	308.76	**Mafic Volcanics 2g**	Grey, medium grained massive gabbro, strongly magnetic, non-altered except around qtz-carb-hem late veins 296.85-296.94 1 x 4cm vn, 299.29 1 x 2cm, and 1cm veins at 299.43, 304.38 and 307.33 generally 1-5cm 30-70 TCA 297.7 core break with large clots of **cpy**

			296.53-298 minor diss **cpy**
308.76	310.16	**Felsic Vocanics, 4**	strongly hematitic, fine grained red rhyolite, very broken core
310.16	310.6	**Mafic Dyke, 8a**	aphanitic
310.6	313.8	**Felsic Vocanics, 4**	strongly hematitic, fine grained red rhyolite, very broken core, minor mafic dyke
313.8	314.32	**Flow Top Breccia, 6**	very silicified but sediment rafts still visible
314.32	315.57	**Mafic Volcanics, 2b**	Green, fine grained, sparsely amygdaloidal, patchy epidote alteration, strongly hematitic
315.57	379.44	**Conglomerate, 5f**	Polymictic conglomerate, upper contact looks around 25 TCA, strongly hematitic around qtz-carb-hem veining minor rare epidote masses/alteration of matrix, minor spec asociated with qcv's, unit v.wk-str mt, very fine mt observed 323.61 1x 2cm qch vn 50 TCA, epd alteration in wall rock 327.13 1x 2cm qch (qtz-carb-hem) vn 45 TCA 328.88-330.6 moderate **CBrZ** highlighted by 12 cm qtz-carb vein, vuggy, plus minor bx y qtz-carb veins in wall rock, 30 TCA 330.15-333.93 mod **DZ** with 21+ qc vns/fractures generally 30-45TCA with mod qcv bx 332.29-332.41 339-340 moderately epidotitic, 1x 0.5cn epd-qtz-chl-hem vnlt 20 TCA @ 339.7

348.6-348.82 15cm banded qch crack and seal vn 45 TCA
352.21-352.36 1x 7cm banded crack and seal qch 30 TCA
353.24 1 x 6cm qch vein, banded, 45 TCA
354.21 1x 2cm qch 45 TCA
364.04-364.4 broken core, str hem, 1 x 4cm qch at upper section, 1 x 3cm qch at lower section, rest of core broken chunks
371.65-378 strong **DZ**, moderate bx/veining 371.8-372.9, qtz-carb, srong hrem ateration throughout, intermittent broken core, 1x 12 cm qch @ 377.9

379.44	381.43	**Mafic Volcanics, 2b**	light green, sparsely amygdaloidal, transitional contacts between volcs and seds

381.43	470.23	**Conglomerate, 5f**	above cgl unit cont'd, fine spec intermittent ,variable fine hematite and/or epd alteration of matrix and in fine fractures

383.69-384.1 strongly epd alteration, 1x 5mm qc vn 50 TCA
385-385.9 strrong epd-hem alteration, one large qtz-carb-hem dominant mass @ 385.41, wk qc bx 385.66-385.81
387.87-391.73 strong **CBrZ** highlighted by a wide platy qtz-carb-hem2 vein 390.67-391.39 (87cm qcv, 95% qc)
strong qch bx 387.87-388.85, multiple other qch vns 2-5cm throughout, strong bx 391.57-391.73
strongly hem alt throughout, veining 30-80 TCA
397.72-397.92 qch bx/veining strong hem alt, veining 70-80 TCA
398.65-398.77 1 x 5cm qch weakly banded vein system
400.5-400.9 strong qch bx 25 TCA
402.33 1x 2cm qch 70 TCA
402.5-402.6 strong hem alt with mod qch bx
406 1x 1.5 cm qch 25 TCA
407-408.05 strong qch bx/veining sub// TCA , minor epdidote alteration around veins
409.4 1 x 3mm qch vn 25 TCA
409.7-410 broken core, but 1 x 5xm qch vein/bx 25 TCA, plus q x 2mm qch vn cros-cutting 20 TCA (x)
410.1-410.37 strong epd alt, 1x 3mm qch 40 TCA weak hem alt also
420.67 1x 3cm qch 50 TCA, strong hem alt
421 1 x 1cm qch vn 35 TCA

427.5-427.7 str qch bx 70-80 TCA 80% qc
428-428.7 strong qch bx generally 45 TCA, strong hem alt
429.53-429.83 broken core, 3 x 3mm qch vnlts
430-430.4 3 x 0.5cm qch vns 45 TCA
432.2-432.6 1 3cm qch vn 30 TCA plus hairline qc fracturees
435.8-436.6 strong qch breccia, str hem alt,
438.5-439.7 broken core, multiple qch vns sub// TCA and at 30 TCA
440.9-441 1x 8cm qc vn 80 TCA
442.52.442.64 1 x 10 cm qch vn 80 TCA
443.54-443.65 1 x 10 cm qch vn 80 TCA
449.67-450.85 mod hematized, very fine grained intermittnetly banded rhyolite, minor qcv's, contacts 90 TCA as banding
446-460.5 strong **CBrZ**, section veined, brecciated and intermittently broken, too many veins/fractures to document
10-15% qch veining/fractures and bx sections, generally 45-70 TCA
possible flow top breccia (6) 460.95-461.3

461.61-461.82 qch bx/vning 30 TCA
466.23-466.75 strong qch breccia/vein set 35 TCA 80% qch

470.23	471.25	**Feldspar Porphyry, 7a**	fine grained red hematitic fp with 15% plag pheno's/qtz eyes, strongly jointed and broken, rare qc vnlt, sharp contacts 70

471.25	478.88	**Conglomerate, 5f**	coninuation of above unit
478.88	480.97	**Siltstone, 5b**	dark brown, weakly bedded very fine mudstone, bedding 90 TCA, minor fine spec, epidotized green pebblestone 480.17-480.35, contacts 90 TCA, mudstone micro-fractured, 1 x 7cm qch bx, broken core unit
480.97	481.25	**Mafic Dyke, 8a**	fg, green, str mt
481.25	482.45	**Flow Top Breccia, 6**	mixed unit of brown mudstone and epd altered 2
482.45	483	**Siltstone, 5b**	dark brown mudstone, minor spec, bedding appears more like 65 TCA
483	492.81	**Conglomerate, 5f**	strongly epidotitic conglomerate with minor intercalated amydaloidal basalt, contacts more or less transitional 485.5-485.77 weak qch+epd bx 30 TCA 486.45-486.54 weak qch+epd bx 80 TCA 487.47-487.72 weak qch+epd bx 80 TCA 488.88-489.07 multiple qch vns 80 TCA
492.81	513.42	**Flow Top Breccia, 6**	mixed unit of sedimentation (conglomerate) and amygdaloidal basalt, strong patch epidote alteration mostly of matrix in cgl, and pf amygdules, cgl clasts getting more angular in places, fine weak to strong hematite alt of matrix in places too 495.56-496 1 x 11 cm qch bx plus 1 x 10 cm qch bx 80 TCA 498 broken core, qch pieces over 20 cm 498.76-498.84 1x 8cm qc vn 80 TCA 501.68-502.6 intense qch breccia 40 TCA, 65% qc+hem 506.09-508.86 strong ribbon veining/bx with largest vn 5cm across, 55 TCA, strong hem alt 507.3-507.45 thick qch vein weak bx 80 TCA 509.85-510.17 1 x 12cm qch vn 70 TCA plus wall rock qch bx 510.46-510.68 strong qch bx 20-70 TCA

513.42	524.8	**Mafic Volcanics, 2g**	light grey green medium grained massive epidote flecked gabbroic mafic flow, weak to strong hem alteration moderately-strongly magnetic, periodic relic cumulate texture possibly with total olivine replacement by epd and stong hem alteration of groundmass 520.3-522 **mod DZ** with 5 sections of qch veining/wk bx 70 TCA up to 7 cm across, section somewhat broken, talcy along joints/fracs 524.5-525 strong **DZ** with qc veining/bx and broken fractured core
524.8	529.2	**Feldspar Porphyry, 7a**	light cream bleached to light olivine green (epod alt) to pink red (hem alt) feldspar porphyry , massive to a weak banded appearance @ 525.5, very broken jointed and fractured core mostly // TCA, minor thin qch vnlts along core axis also
529.2	531.62	**Flow Top Breccia, 6**	mixed red seds and dark black volcanics unit, flow top? Breccia, core very broken most of it, fractured with minor qch vnlts, minor talc along planes
531.62	534.66	**Mafic Volcanics, 2d/2p**	light green, massive, fine to medium grained, moderate chl alt of groundmass, weak porphyritic look in places, epd flecked 532.65-533.2 strong **DZ** by qch veining/bx 534 1 x 5cm qch bx 70 TCA 534.5-534.65 qch ribbon veining/bx 75 TCA

534.66	546.45	**Volcanic Fragmental, 2h**	weak mafic volcanic fragmental unit, fragments periodically visible, other fragment-like masses have been altered to a red hematite in a chl-epd matrix, very weird looking unit, possible weak sedimentation like a flow top @ 540.4 545.6-546.45 strong epd alteration 4 qch vns from 3mm to 2cm genrally 45 TCA in unit
546.45	552	**Mafic Volcanics, 2p**	light grey green fine grain weakly porphyritic mafic flow, strongly hem around fractures/vns, wall rock penetration of hem dependent on widtg of frac/vn/jt, 5-10% pheno's 550.65-551.4 **DZ** with multiple qch veins and minor brecciation, qch vn up to 7cm wide, strongly hematitic wallrock
552	558.24	**Volcanic Fragmental, 2h**	strongly epidotized hemattitc mafic fragmental, periodic 2p as above, fragments and matrix strongly altered almost beyond recognition 553.65-554.54 intense qtz-veined brecciated zone starting out // TCA and then into large 25cm qtz-csarb-hem vein section strongly hematized, weak purply colour 555.9-556.1 1 x 10cm qch vn 40 TCA
558.24	579.6	**Mafic Volcanics, 2p**	grey green weakly porphyritic mafic flow, periodically fragmental, patch epd-hem alt in fragmental sections of matrix intense hem alteration around qch veins and breccia's, strongly mt 564 broken, crumbly with thin qch in chunks 564.55-564.9 mod qch bx 60 TCA with strong hem alt and chl-epd alteration of wallrock 568.57-569.06 intense qch bx 45 TCA, strong hem alteration 569.69-570.22 broken core, but strong qch bx 60 TCA 571-571.26 strrongly ribboned veined by qch 70 TCA 576.2-579.6 strong DZ with intermittent qch veining/bx up to 15-20cm wide, fractured and broken core, strongly hematized around vn'd/bx sections
579.6	583.53	**Volcanic Fragmental, 2h**	strongly epidotized and hematitic mafic fragmental 579.6-580.56 mod **DZ** with sections of qch vning *ribbon) and wk bx, 65 TCA, largest section 30 cm across

strongly hem alteration around vn/bx sections

583.53	679	**Mafic Volcanics, 2d/2p**	fine grain mostly massive mafic flow, grey-green in colour, peridocally weakly porphyritic in places, mod chl alt 587.32-588.41 **strong DZ** with qch ribbon veining and weak bx, strong hem alt, mostly 60 TCA 590.55-590.88 weak bx/qch ribbon vning 60 TCA, strong hem 591.17-591.81 intense bx-qch veined section, strrong hem, 75% qch, generally 70 TCA periodically framgmental and medium grained gabbroic looking, strongly magnetic, rare coarse mt clots 2 specks of **chalcocite** at 593m in small hairline fracture in fragmental (592-593.5) 1 x 7cm qch ribbon vein 70 TCA 602.65, 1 x 2 cm qc vn 65 TCA 615.1, 619.2, 627.13, 628.3, 628.56, 5-8cm sections of qch ribbon veining and strong hem alteration 45-65 TCA 622.2-622.63 1 x 3mm qtx-carb vnlt 10 TCA 623.66-624 1 x 4mm qtz-carb vnlt 20 TCA 637.5, 1 4cm qch ribbon veining 65 TCA 638.5, 1 13cm qch bx 644.62, 1 x 3cm qch vein 70 TCA intermittent silica-chl masses/mottles with +/- red hard mineral (kspar?)(hematized albite?) 648.5-650 fragmental, weakly epidotized, coarse magnetite 650.3, 1 x 6cm qtz-carb-hem vein 45 TCA

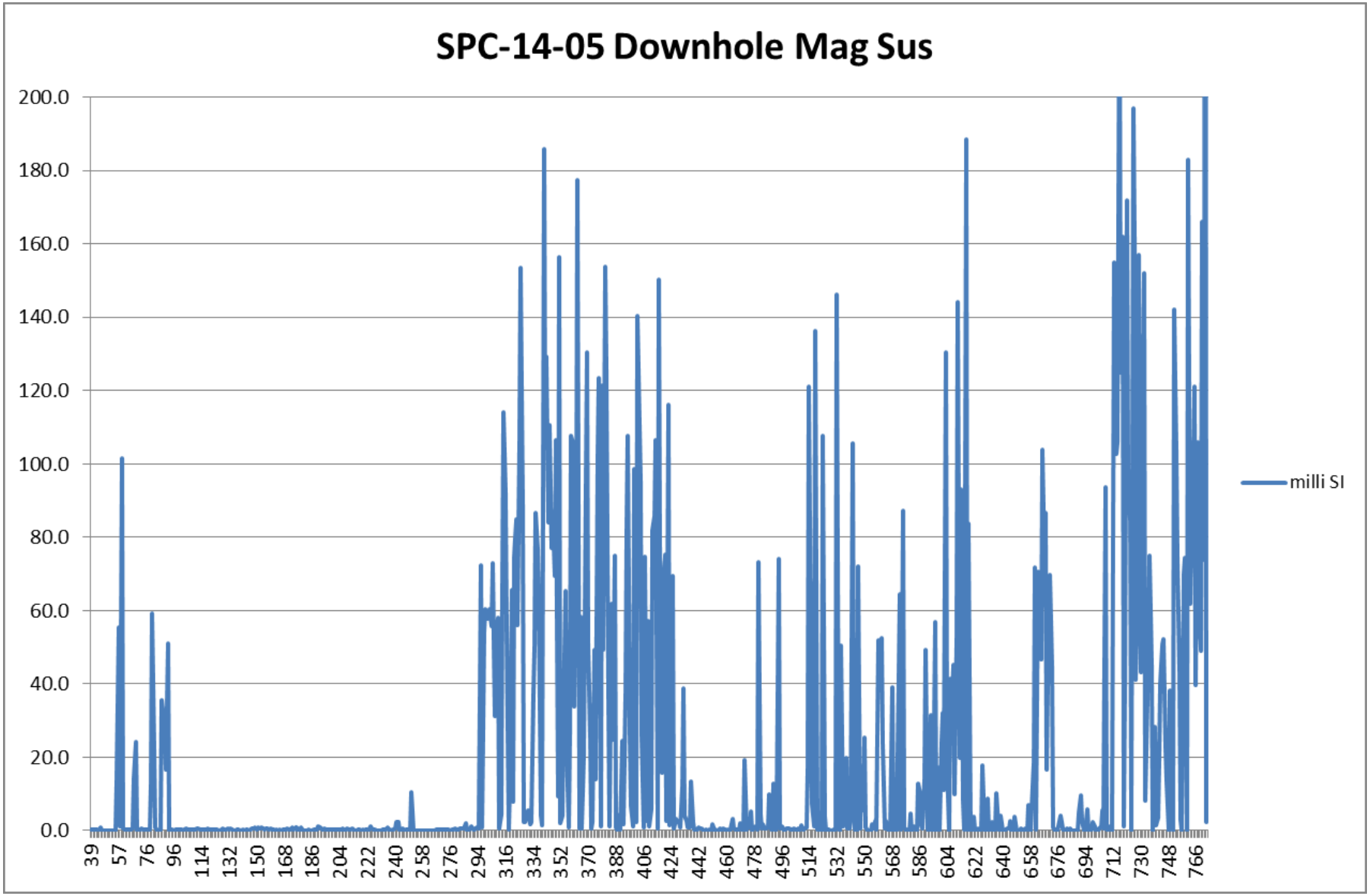
			650.81-650.94 and 651.36-651.49 qtx-carb-epd-sericite-chl altered sections 656.2-656.4 strong hem zone with 8cm qch vn 65 TCA 661.96-662.3 intense hem alt with thin rintermittent ribbon veining 90 TCA 669.4-669.55 strong hem alt with 1 x 4cm qch vn
			670.5-670.94 intense epd alt with 1 x 12cm silica-carb-epd-chl vein/mass, vuggy 675.36-675.48 1 x 12cm vuggy qtz-carb-epod-chl vn 80 TCA
679	681.32	**Feldspar Porphyry, 7a**	679-681.32 hematized dark red aphanitic feldspar porphyry, 10% small mm pheno's, broken brittle core, lower contact brecciated, possible 30 TCA lower, upper contact sharp at 70 TCA
681.32	707.66	**Mafic Volcanics, 2d** continuation of previous	686.13-688.4 strong **CBrz**, strongly hematitic, very broken core, qtz-carb veining/brecciation up to 6-7cm across generally 30 TCA, talc-serpentine-chl along fractures/jts 692.5 1 3mm qch 25 TCA 697.15-698 1x 1cm qtz-carb-hem vnlt with subordinate wall rock fractures/bx mostly sub// TCA 704.26-702.61 broken core, minor thin qch vnlts
707.66	711.9	**Feldspar Porphyry, 7a**	red, strongly hematized, weakly porphyritic felsite/fp or rhyolite, weak bnanded appearance in places that could be alteration 5-10% mm pheno's and minor qtz-eyes, brittle jointed broken core, sharp upper contact 70TCA, lower 90 TCA
711.9	774.5	**Mafic Volcanics, 2d** continuation of previous	medium-fine grain dark green massive mafic volcanics, strongly magnetic, moderate chl alteration of olives? Gabbroic texture in places, patch strong epd alteration, rare qtz filled amygdule, strong hem alt around late qtz-carb veining
			718.85-719.2 broken, minor qch bx 30 TCA 719.75-720 broken, 1x 5cm qc vein, orientation unknown 723.94-724.17 qch ribbon veining 45 TCA 733.4-733.7 broken, strong bx by qc 65 TCA 737.7-738.3 strong epidote alteration and hem filled fractures 738.6-738.64 1x 4cm qch ribbon veining 70 TCA

748.05-748.24 1 14cm qch ribbon veining 40 TCA
750..85-751.1 1 x 12cn qch veining/wk bx 50 TCA
755.6 1x 4cm qch vein 45 TCA, broken core
756.7-756.95 strong qc breccia 30 TCA
759.63-759.8 2 x 2cm qc veins 60 TCA , strong hem
765.15 1x 3cm qch vn 45 TCA
773 2 x 1cm qch veins 45 TCA

EOH

SPC-14-05 SAMPLES

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
P 949551	84.58	84.88	0.30
P 949595	296.53	298.00	1.47


SPC-14-05 Downhole Mag Sus
200.0
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
39
57
76
96
114
132
150
168
186
204
222
240
258
276
294
316
334
352
370
388
406
424
442
460
478
496
514
532
550
568
586
604
622
640
658
676
694
712
730
748
766
milli SI

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-06	Regional ZTEM Low Resistivity	Orbit Garant Inc.	Mike Kilbourne

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3019479	August 27, 2014	September 23, 2014	1047

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5213952	673222	321

DEPTH	DIP	AZIMUTH
COLLAR	-90	30
200	-89.2	30
400	-88.8	30
600	-88.5	30
766	-88	30
Wedge	-	-
W-663	-86.3	30
W-843	-85.9	°
W-1000	-85.1	°
M	°	°
M	°	°

COMMENTS

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
0	5.5	OVB	
5.5	35.88	**Conglomerate, 5f**	Polymicitc conglomerate, matrix strongly epidotized, minor carbonate alteration, specularite common throughout often in relic amy's or associated with qtz and a yellow mineral (limonite?)
35.88	40.36	**Mafic Volcanics, 2d**	Fine grained ferro-magnesian altered mostly to chlorite, red hematitic near contacts, rare amy's with epd +/- carb+/- spec minor epd filled fracturing
40.36	40.76	**Flow Top Breccia, 6**	possible
40.76	53.2	**Mafic Volcanics, 2a**	Amydaloidal basalt with amy's filled with epd or epd-qtx-carb-limonite, possible limonite rusty and has similar habit to spec epd alteration increases towards base, fractures 0.1 cm across filled with epd 40 TCA x and ok
53.2	56.34	**Flow Top Breccia, 6**	possible flow top breccia, overall colour yellowish-green, minor carbonate alteration, strongly epidotitic
56.34	62.56	**Mafic Volcanics, 2d**	Fine grained dark green-black, epd alteration throughout, rare amy's filled with epd-chl, anhedral-diffuse grains up to 1mm
62.56	92	**Mafic Volcanics, 2a**	Overall colour green from epd alteration, patchy red (hem) to grey-black unaltered, variably amydaloidal to massive, amy's filled with epd +/- qtz+/- chl. 71.65-74.69, qtz-carb vn sub// TCA, qtz vns/nodules have moderate spec hem and limonite, most notably at 67 and 69.66m Gouge at 88.82m slickenslides, strongly hematite alteration, 45 TCA
92	95	**Flow Top Breccia, 6**	Green, strongly epd, clasts are mafic volvanics, matrix from 93.55-95 has abundant white, very soft massive mineral
95	109.13	**Mafic Volcanics, 2d**	fine grained, weak hem alteration, patchy epd alteration, intermittent amygdaloidal, mostly filled with chl epd-qtz-carb vnlts (5+) 50 TCA, moslty 0.5cm wide, weak clay alteration along fractures
109.13	128.05	**Mafic Volcanics, 2a**	Intermittently massive with possible flow tops (10cm) (different flows?) moderate epd alteration to 120.5m, weak hematite alteration from 123.5, chlorite flecked near base
128.05	137.68	**Mixed Mafic Volcs, 2**	(?) very fine grained amygdaloidal basalt or mudstone matrix (?), dark reddish brown, aphanitic, fills around irregular shaped mafic volcanic contacts. Mafic vlocanics clasts (?) are amydaloidal to massive, 3cm -80cm

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			128.05-128.44 and 129.63-129.89 is strongly bleached, possobly pebbly sandstone (?), 5 cm band of conglomerate at base (?). Strong epd vning/FF/Amy. Speck of (<1mm) of **native copper** at 133.04
137.66	178	**Mafic Volcanics, 2b**	fine grained massive to sparsely amygdaloidal to chl flecked to a weak gabbroic look, contacts if any are very gradational as this unit goes in and out of different phases, variable epd alteration mostly around fractures/jts/vnlts, variable weak to moderate hem alteration 156.15-156.36 weak fault gouge/vn, strongly hematitic, weak qtz-carb bx 60 TCA 156.77-157.5 1.5-3cm hem-epd-sil-caarb vn sub//TCA, very blood red hematitic clots/masses in vein 160.49 1 x 3cm hem-epd-sil-carb vn/shear 70 TCA 174-174.42 moderate bx zone by qtz-carb +/- hem with minor blebs of **chalcocite** in qtz-carb 176.8-177.1 qtz-carb-epd masses in a weak bx appearance
178	193.76	**Mafic Volcanics, 2c**	chl flecked amygdaloidal basalt with some amy's either filled with chl or epd or a combination 193-193.76 possible flow contact with strong epd alt and moderate hem alt, disturbed chaotic section
193.76	217	**Ultramafic Volcs, 1**	again no apparent contact but rock grades into dark black green chl flecked/amydaloidal unit, strong blood red hem alteration rimming chl flecks/amys or fully replacing, unit strongly mt, anomalous in Ni 400-800 ppm xrf gun
217	257.15	**Mafic Volcanics, 2c/2d**	fine grained, lighter green, chl flecked/filled amy's which are sparse 219.5-220.32 coarse masses of epd-qtz-weak carb-chl 220.32 1 x 3cm qtz-carb-epd-chl vn 40 TCA 224.8-226.87 **wk DZ** highlighted by moderate bx by qtz-carb section 224.8-225.04, multiple hairline fractures either epd dominant or qtz-carb dominant throughout 225.92-226.25 hem fault gouge with minor qtz-carb vning, vuggy with clear qtz crystal growth or red hem-qtz xtl growth, geode like feature 231.2-234.77 nebulous space epd+/- chl+/- qtz-carb alteration
257.15	260	**Ultramafic Volcs, 1**	darker green-black medium grained chl-hem flecked, mod-strong mt, massive, no cumulate texture

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
260	267.19	**Mafic Volcanics, 2b**	very fined grained chl filled amy/flecked basalt, very minor hem flecks, 4 large angular up to 5-6 cm sub-rounded to sub-angular light vream coloured fragments/clasts at upper contact, 260-260.3
267.19	269.32	**Ultramafic Volcs, 1**	coarse grained chl-hem flecked volcanics, 1x4cm chl-epd-serpentine vn 30 TCA at possisble upper contact hematite alteration occurs as blood red rimming chl flecks/amy's, some total replacement, some angular pheno's (at one time?) fractured by blood red hematite, chl-serp vn at possible lower contact
269.32	281.64	**Mafic Volcanics, 2b/2c**	massive, intermittent nebulous epd alteration, amy's filled with epd or chl or a combination 272.43-273.19 **weak DZ** highlighted by epd-qtz-hem-carb micro breccia and 1 x 5cm qtz-carb vn
281.64	284	**Ultramafic Volcs, 1**	xrf gun puts this unit anomalous in Ni, Cr and Ti, coarse grained look, chl flecked, moderately mt, massive
284	295	**Mafic Volcanics, 2a/2c**	moderately epidotitic in amy's and fractures, weak hematite al of groundmass 289-294 **moderate DZ** with thick up to 10-15cm qtz-carb-hem veining/bx sub// to 25 TCA, minor late felsite intrusive activity in bx, weak to moderate patchy epd alt 291.4-291.95 1 x 3cm vn sub// TCA to 20 TCA with fesite core (2cm across) with qtz-carb-hem along edges
295	297.15	**Ultramafic Volcs, 1**	hematitic blood red flecked and strong hem alt of groundmass, rare periwinkle coloured blebs (sericite?), strongly mt anomalous Ni, Cr, Ti
297.15	313.4	**Mafic Volcanics, 2a/2c**	massive, fine grained, chl+/-epd flecked 309.8-310.62 **weak DZ** highlighted by qtz-carb-hem vn/bx sub// to 50 TCA, minor post-felsite intrusive, large angular 1-4cm wall rock fragments, mnr epd masses
313.4	320.86	**Ultramafic Volcs, 1**	transition from fine grained to coarse grained light to dark black-green, strong mt, anomalous in Ni, Cr, Ti, intermittent chl or hem flecked, minor serpentine-chl along fractures/jts with slickenslides
320.86	323.24	**Mafic Dyke, 8a**	very fine grained, massive, sharp contacts, upper 80 TCA
323.24	350.3	**Ultramafic Volcs, 1**	as above, less hem flecks, strongly mt, very transitional from a 2c to a coarse grained looking ultramafic, weakly epidotitic chl-serp fractures/jts throughout

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			343.16-345.39 **weak DZ** , qtz-chl-serp vns/jts plus weak bx by qtz-carb hairline fractures 334.4-334.74 weak fault gouge
350.3	358.84	**Mafic Volcanics, 2b**	grey-green, fine grained, sparsely amy, massive, weak to strong epd alteration 350.3-350.47 weak sil-epd-+/-hem bleached bx section with 1x 0.5cm qtz-carb-hem vnlt 70 TCA 351.95-352.05 wk breccia made of chl-epd-sil with minor blebs of **chalcocite** mostly associated with qtz-carb clots
358.84	365.9	**Volcanic Fragmental, 2h**	dark green brown mafic fragmental, strong chl-epd alteration of matrix,non-mt, minor weak hem alt of matrix, 2 x 3cm qtz-carb veins 40 TCA @ 364,
365.9	368.9	**Mafic Volcanics, 2c**	green fine grain mod mt chl flecked mafic volcanics, rare chl filled amygdule, mod patchy epd alteration, minor cg gabbro clots
368.9	387.68	**Mafic Volcanics, 2g**	massive medium-coarse grain gabbroic textured mafic volcanic, finer grain on the margins, strongly mt, moderate chl alteration and v weak epd on joints/ fractures, quiet undisturbed unit
387.68	398.09	**Mafic Volcanics, 2c**	light green, fine grain chl flecked mafic flow, weakly mt, weak epidote alteration, fragmental looking in places, strong hem alteration around qch veins @ 393.3 (1 x 6cm 35 TCA) and 394 (1 x 1.5cm qch vn 70 TCA)
398.09	404.29	**Volcanic Fragmental, 2h**	weak variably epidotitic mafic fragmental, chl flecked intermittently, minor silica sweats at 403.15, moderately mt
404.29	410.95	**Mafic Volcanics, 2b**	massive fine grain sparsely amygdaloidal flow, intermittent chl flecked, amy's chl filled, weak epd alt 408-409 4 x 2mm qch vnlts 15 TCA
410.95	427.89	**Daiseyrock, 2i**	strongly epidotitc weakly to strongly porphyroblastic 'daiseyrock', daisey's are generally epidotitzed and rarely hematized weakly amgdaloidal looking in places 411.6-411.83 hem-epd-chl-silica vein/section 65 TCA with blebs of **cpy** and rare bleb of **bornite, bornite** seen also to rim **cpy** blebs, weakly carbonatized one cpy bleb in epd-qtz-carb amygdule @ 412.14 415.25-415.85 weak bx by qtz-carb vnlts/fractures sub// TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			minor spec hem at 420m
427.89	434.5	**Mafic Volcanics, 2c**	medium grain weakly ophitic massive mafic volcanics, 10% chl flecks and rare chl filled amygdul, weak hem alt of some pheno's, minor epd swirls/masses periodically
434.5	454.48	**Mafic Volcanics, 2g**	grey-green massive gabbroic textured flow, periodically chl flecked and v weakly amnygdaloidal, patchy strong pevasive epd alteration, hem alteration of plag pheno's fairly prevalent, weakly magnetic 446.15-446.35 sil-epd-chl-bio? Vein/sectiuon with rare **bornite** specs,vn 65 TCA, late hairline qtz-carb fractures x-cutting along core axis that also has rare spec of **bn**, wall rock for metres strongly epidotitic
454.48	464.09	**Volcanic Fragmental, 2h**	intense epidotized pervasively moderately carbonatized mafic volcanic, possible weak fragmental, sharp upper contact suggesting different unit, variably intensely silicified/sheared in a general orientation of 0-45 TCA, slight mottled appearance, upper portion close to upper contact hematized and silicified to 454.75, possible 2g unit strongly silicified, hematized with minor epd wisps, chl and a light tan mineral, **0.5% chalcocite blebs** moderately silicified, hematized, epd more pervasive, some late qtz-carb-chl alteration variably silicified, one thin shear 25 TCA strongly epidotized, pervasive mod carb to 460 1 x 2cm shear/vn 25 TCA with few blebs of spec assoc with qtz-carb clots strongly epidotized, pervasive mod carb to 461.78 beginning of a sicified shear/vn parallel TCA, thickness unknown, no visible sulphides strongly epidotized, pervasive mod carb, upper contact 35 TCA, lower contact 50 TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
464.09	466.42	**Mafic Dyke, 8a**	v fine grain, strongly magnetic, sharp contacts, upper 50, lower variavle, minor late qch vnlts
466.42	474	**Volcanic Fragmental, 2h**	continuation of strongly epidotized unit above, pervasive weak carbonatization, variable patchy hem alt of groundmass this section looks more like an very altered 2g, 471.3-472.9 intense silicified shear, strongly epidotitic, dark purple hematite, chl masses and flecks, general orientation 25 TCA, no visisble sulphides, rare spec
474	478	**Daiseyrock, 2i**	strongly epidotitic, porphyroblasts epidotized or varably hematized, unconsistent daisey growth
478	488.7	**Mafic Volcanics, 2p**	strongly epidotized weakly porphyroblastic mafic volcanics, rare daisey, minor singular porphyroblasts, mod carbonatization of groundmass, varably strongly patch hem alt of groundmass also
488.7	490.17	**Daiseyrock, 2i**	overerall good developed daisies that are varaibly altered weak epidote and hem or both
490.17	545.45	**Mafic Volcanics, 2c**	fine to medium grain massive volcanics, weak gabbroic look, weak to moderate hematite alteration, patchy weak epidote alteration, fairly quiet undisturbed unit, non mt 503-513 mod-strong hem alt of groundmass 509.86-510.5 weak DZ with qch bx/vning 35 TCA, strong hem section, periwinkle mineral association with qc alt 538.8-539 broken core 539.75-545.45 strong pervasive epd alt 540.6-545.45 crackled appearance with hem-chl in thin crackle fractures, weak fragmental?
545.45	550.1	**Volcanic Fragmental, 2h**	sort of a mixed unit of volcanic fragmental and chl flecked mafic volcanics, strong chl-ep alteration of matrix and strong hem alt of fragments? Lower contact 40 TCA
550.1	558.12	**Mafic Volcanics, 2d**	moderately to strongly epidotized and weakly hem alt mafic volcanics, fairly massive except for local crackle appearance and masses of stronger hem and/or epd alteration
558.12	562.5	**Volcanic Fragmental, 2h**	strongly hematitic and epidotized volcanic fragmental, possible intermediate volcanic flow at 561 or just strongly silicified fragmental/volcs, 1 x 5xm fault gouge at 559m 562 to contact is crumbly with minor qc v weak bx, large masses of chl, str hem/epd, lower contact 40 TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
562.5	570.86	**Mafic Volcanics, 2d**	medium grain chl/epd flecked massive volcanics, non-mt, rare amygdule, mod epd/hem alteration of groundmass
570.86	578.06	**Mafic Volcanics, 2g**	medium grain, green to green black gabbroic looking mafic to ultramafic volvanic, in and out, strongly chl, minor wisps and discontinous fractures filled with cgl +/- weak serpentine? Talcy-soapstone feel @ 574.4
578.06	581.39	**Mafic Volcanics, 2d**	strongly epdidotitic-hematized crackled mafic volcs, hem dominant filled fractures/crackles, subordinate possible fragmental
581.39	585.08	**Volcanic Fragmental, 2h**	fragmental appearance by chl-epd matrix around hem altered sub-angular to roundish looking masses minor seds like a flow top breccia at 585m
585.08	592.4	**Mafic Volcanics, 2d**	medium grain mod epidotized weakly hematized massive mafic volcs, periodic weak fragmental look, non-mt possible altered 2g with relic weak gabbroic texture
592.4	662	**Mafic Volcanics**	mixed unsubdivided mafic volcanic unit that is in places fragmental looking, massive, amydaloidal, porphyritic, ultra-mafic gabbroic looking andchl flecked, variably altered from weak to strong patchy epdidote alteration, variable hem alteration to strong pervasive groundmass alteration to hem alt of matrix around fragments to possible alt of fragmnet looking masses unit variably chloritic also from weak to prevasive 622-629 strong vsariable hem alteration and patchy blobby intense epidote alteration 638-642 strong hem alt of groundmass, strong wispy clotty chl alteration, variable epidote
662	674.6	**Volcanic Fragmental, 2h**	intense altered fragmental? Very strong hematite, epdidote and chlorite alteration, very little associated carbonate, intermittently well mineralized with **chalcopyrite, bornite and coarse chalcocite** (last 1.5m for chalcocite) strongly hematized amygdaloidal basalt from 670.8-673.6 mafic dyke from 667.83-668.72 alteration in swirls, masses, clots, veinlets, fractures, joints, amygdules and in groundmass strong hematitie alteration of groundmass and possible fragmental matrix bornite mineralization associated with dark red hematite alteration **chalcocite** associated with intense epidote shear zone(?) from 672.73-674.6, **chalcocite** appears to be replacing hematite and weak magnetics in this area may suggest hem replacing magnetite, lower contact 20 TCA apparently and associated with 1x2cm qtz-carb-epd vein

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			blebby and disseminated **cpy** and **py**, rare **bn** mafic dyke minor **bn** associated with hematite alteration spec of **bn** in discontinuous fracture
			minor blebs of **chalcocite** fine and coarse blebs/clots of **chlacocite** associated with hem alteration, largest cc clot 2cm across coarse **chalcocite** associared with hem/epd alteration in shear minor fine **chalcocite** in chl-sil-epd shear, minor late felsite (epd altered) and late qtz-carb-epd-hem vein
674.6	736.75	**Diorite, 3**	medium to coarse grain hematitic diorite, unit is still quite mafic but has a granite like texture, massive, no visible amygdules so I doubt it is a flow, plag feldspars hematized, fairly hard, variable patchy strong epidote alteration of groundmass or along fractures/vnlts along with chl +/- silica and hrematite, very minor late qtz-carb fractures or veins, from about 703m, unit has 1-2% disseminated pyrite and chalcopyrite in epdidote dominant fractures, **pyrite** also associated with very fine fractures as coarse clots, **chalcopyrite** also occurs as coarse clots assoicated with epidote alteration/fractures/vnlts, rare **bornite** associated with epidote alteration,

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			cpy in thin fractures and as 2 coarse clots in epidote mass, clots up to 2 cm long by 1 cm wide
			diss py
			rare diss py
			minor corse blebs of cpy
			large clot of cpy in epd/chl vn/mass
			minor diss py, rare cpy
			minor cpy and one large py mass 2 x 7cm in a sil-hem-chl vein, minor cpy with it
			minor diss py
			minor diss py
			minor diss py
			minor diss py and rare coarse cpy
			large 1x3cm clot of cpy, strong epidote alteration
			rare diss py
			rare diss py
			strongly hematized, minor qtz-carb-chl-hem vns 50 TCA
			strongly hematized, broken core, 1 8cm qtz-carb vein 45 TCA
			strongly epidotized, one spec of bornite
			broken core
			rare diss py
			rare diss py
			rare diss py
			rare diss py
			rare py in fracture

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			rare py and cpy in fracture
			coarse py with subordinate cpy in qtz-0carb-epd vnlt 40 TCA
			cpy in discontinuous stringer/fracture
736.75	751.5	**Felsic Vocanics, 4**	grey-green-weakly pikish aphanitic rhyolite, intensely fractured to micro-brecciated, fractures/vnlts/masses/swirls dominated by epd-chl with subordinate hem-sil and weak carb, minor 1-2%, locally 3-4% blebby fine **pyrite**, minor **chalcopyrite** associated with epd-chl vnlts/fractures abundant **bornite** near lower contact in micro epidote breccia, unit also strongly hem in places with possible associated kspar(?) diss py and fine py in fractures minor diss py minor diss py and in fractures, one vnlt with corse clot of cpy 3% diss py 3% diss py, minor coarse cpy minor diss py and in fractures
			strong epd shear with corse clots of cpy
			minor diss py rare diss py rare diss py rare diss py abundant bornite in epidote matrix of micro-breccia 3 blebs of chalcocite in strong hematite mass
751.5	766.36	**Volcanic Fragmental, 2h**	ambiguous contact into strongly hematitic altered volcanic fragmental, actual breccia from 762.47 to 766.36 weak qtz-carb and epidote dominant and chl fracturing/matrix fill, strong hematite alteration of groundmass and fragments 755.85 1 x 3mm late qtz-carb 80 TCA with minor cpy 764.85 qtz-carb-hem vn clipped by drill // TCA lower possible contact at 40 TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			Note: rods broke. Wedge at 650m.
650	656.55	**Volcanic Fragmental, 2h**	mafic volcanic fragmental, periodically fragmental/amygdaloidal looking, chl flecked, strong chl alteration in fractures, clots, and masses minor weak epidote alteration, weak to mod hem alteration of groundmass
656.55	667.32	**Mafic Volcanics, 2a**	this could be a mixed unit, mostly amygdaloidal looking, amy's filled with chl, sometimes rimmed by qtz-carb, subordinate fragmental volcanics patchy strong hem alteration, overall strong chl alt and weak epidote alteration
667.32	671.48	**Volcanic Fragmental, 2h**	moderately chaotic volcanic fragmental looking volcanic, moderately epidotized and hematized, strong chl alteration and possible albite hem alteration mostly of frag looking pieces but in groundmass too, minor chalcopyrite minor coarse chalcopyrite at 667.42 and diss **cpy**, doesn't seem to be associated with anything
			speck of **cpy**
			speck of **cpy** (671.26-671.48 rubble)
671.48	675	**Mafic Dyke, 8a**	aphanitic, grey, strongly magnetic, sharp contacts, broken core, lower contact 45 TCA
675	678.54	**Volcanic Fragmental, 2h**	this could be a fragmental or just a high angle shear that's intensely altered the next unit that makes it appear like a fragmental shear/breccia highlighted by qtx-carb + blue gy mineral+ chl veining/brecciation from 676.94-678.14 @ 25-30 TCA unit is strongly hematized and strongly epidotized in places, alteration appears to have obliterated primary textures fine **chalcocite** associated with intense hem alteration as well as the qtz-carb vein (unusual since we see so many of these) fine **chalcocite** up to 3-4% in patches, most abundant near lower contact which is at 40 TCA few speck of chalcocite few specks of chalcocite 0.5% chalcocite minor fine chalcocite minor specks of chalcocite 3-4% fine chalcocite

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
678.54	745.12	**Diorite, 3**	medium to coarse grain diorite as per before the wedge, variable hematization of plagioclase to dark red, moderate to strong chlorite alteration of ferro-mags, unit is varaibly magnetic with coarse magnetite grains noted (secondary?), patchy strong epidote alteration, unit is variably fractured and fractures are generally very thin hairline that contain qtz-epdidote-albite-hem and often fine **pyrite** and or **chalcopyrite,** very little secondary brecciation generally fracturing/veining/alteration patches/shearing 60-80 TCA, fine disseminated **pyrite** closer to fractures/veining, **cpy** can alos occur as small blebs out in host rock trace py tr cpy in blebs with hlf (hairline micro fracture) tr py in chl-epd-hem section 40 TCA broken core, strong hem coarse cpy 2cm across occupying discontinous frac/vn, strong hem tr py rare py rare bleb of cpy in fracture tr diss py and cpy blebs of cpy in fracture and diss blebs coarse py with chl-albite-weak carb clot bleb of py in fracture minor cpy-py inchl filled fracture minor cpy associated with 1cm chl vein 40 TCA and thin chl fracture cross-cutting

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			rare bleb of cpy in chl-qtz-albite vnlt
			minor fine cpy associated with chl vn and fine py in hlf
			tr fine py and cpy
			tr fine py and cpy and py in hlf
			bleb of cpy
			2 blebs of cpy plus 2% diss py over 5cm (separate)
			2% fine py
			rare bleb of cpy
			tr py in fine fracture and as blebs
			tr py
			cpy stringer 1-2mm wide associated with epd-alb-qtz
			intense epidote alteration, sharp lower contact with strongly epidote bx section
			strong hem-epd alteration, strongly fractured/weak bx, coarse cpy in clots and in bx matrix
			as above
			strong hem alt, minor cs cpy and py in epd-qtz fracture x-cutting chl vein/mass
			blebby cpy and py in hlf
			blebby cp,py in epd-qtz hlf
			blebby py and rare cpy in chl-epd vn/mass and fine py associated with hlf
			rarer bleb of cpy
			rare bleb of cpy
			blebby py associated with 6cm section of epd-qtz-albite altered section 45 TCA and coarse mt
			minor py in hlf, minor diss py
			very coarse up to 3cm of cpy with subordinate py in 30cm epd-qtz-carb-chl altered section 40 TCA, large clot of qtz-carb with ome of cpy
			rare diss py
			tr diss cpy

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			tr diss cpy and py in one hlf
			tr diss py
			tr diss cpy and py
			tr diss cpy and py
			tr diss cpy and py associated with qtz-epd vnlts 80 TCA
			tr py with 5cm epd-qtz-chl altered section/vn
			tr diss py, rare cpy
			tr diss py, rare cpy
			1% diss py and hlf py
			2-3% diss py and in hlf
			tr diss py
			strong epd and hem alt section with fine diss py
			intense hem alteration with late qtz-carb-blue sericite vn 40 TCA (2-3cm wide), xrf says anomalous Cu
			intense hem alteration with masses/vns of epd and dark fine bornite in hem mass
			intense hem alteration, xrf says anomalous Cu
			intense hem alteration, xrf says anomalous Cu
			strong epd and hem alt
			strong epd-hem alt
			tr diss py
			tr blebby cpy with epd-alb-hem fracture
			tr diss cp and py
			minor blebby py associated with intense hem shear/vn 35 TCSA
745.12	766.3	**Felsic Vocanics, 4**	grey green very fine grain felsic volcanics, sharp upper contact 45 TCA, above unit became finer grained near contact

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			unit is finely fractured in several different orientations hosting qtz+/-carb+/-epd+/-chl+/-hem, also thicker sections up to a meter where rock is strongly epidotized and/or hematized in swirls/masses and vein like sections with chl+/-qtz+/-albite hme alteration of grpoundmass strong but patchy, rare **cpy** filled fracture, <1mm and coarse blebby **py** associated chl-Qtz-carb vein like masses one thin fracture filled with **cpy**, minor coarse py in an epd-qtz-chl altered section 3 cm wide
			one fracture with blebby **cpy**, 1-2mm wide
			3 occurrences of **cpy** in qtz-epd fractures, widest 3mm, semi-discontiuous
			blebby **py** in fine fractures and in qtz-carb-chl clots, 1-2% overall
766.3	766.75	**Mafic Dyke, 8a**	fine to med grain, dark green, very chloritic, sharp contacts, non-magnetic, upper contact 90 TCA, lower 35 TCA
766.75	767.1	**Felsic Vocanics, 4**	wedged in between mafic dyke?, lower contact 35 TCA , opposing contacts
767.1	767.8	**Mafic Dyke, 8a**	as above, lower contact not as sharp
767.8	772.2	**Intermediate Volcanics,3**	Fine grain, herm altered red, minor pervasive fine qtz-carb-epd-alb(?) altered patches ,sytrong pervasive hem alt of groundmass 771.65-772.2 fairly high angle shear contact, rock weakly myloninized, shear 30 TCA, strong dark hem alteration in streaks
772.2	799	**Epidote Breccia,4**	impressive brecciated fine grain felsic volcanics, epidote dominant matrix, pervasive weak-mod hem alteration of non-matrix material (fragments) generally fine carbonate associated with epidote matrix, a few random xrf shows patch anomalous Cu (max 150ppm) 775-776.7 late 3-5cm wide qtz-carb-hem-blue sericite vein sub// TCA
			784-784.2 coarse **chalcocite** in matrix of breccia, coarsest piece 2x3cm large, why here? Strong hem alteration association in area
			786-786.44 1 x 4mm late qtz-carb-hem vnlt 10 TCA 787.25-787.52 1 x 2cm qch vnlt 25 TCA 791.4-791.9 weak bx by late qc

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
799	819.95	**Intermediate Volcanics,3**	intensely hematized dark red to 807m, original rock may have been more mafic volcanics, hard to tell now, very altered and weak shear look to it, 797.55-803 strong CBrZ highlighted by 3cm late qtz-carb-hem-blue sericite vein from 797.95-799.27 sub// TCA, core is broken along here 799.27-803 late qtz-carb-hem-blue sericite fracturing and moderate brecciation beyond 807m to 817m rock becomes more strongly epidotized while remaining moderately hematized, epidote dominant alteration as fractures/swirls/ and periodic breccia matrix, weak carbonate associated with epidote 810.58-810.71 fine **cpy** and **bornite** associated with qtz-epd-weak carb alteration and late 2-3mm qtz vnlt 70 TCA 813.54-813.69 fine to blebby **cpy** and **bornite** associated with late 2-3mm qtz vein and intense epidote alteration, vnlts 70 TCA 817-819.95 predominantly hem alteration or kspar?
819.95	821.59	**Mafic Dyke, 8a**	dark green, very fine grain, weakly to moderately magnetic, hem along fractures/jts,
821.59	824.07	**Feldspar Porphyry, 7a**	red, weakly porphyritic fine grain feldspar porphyry, epd alteration of small pheno's, epd dominant hairline fractures and chl dominant fractures 822-822.3 mottled qtz-weak carb-epd-weak hem altered section
824.07	832.76	**Mafic Volcanics, 2d**	grey-green massive mafic volcanics? Strongly epidotized in thick patches/swirls/masses and in along fractures, weak to moderate hem alteration of groundmass, minor qtz-carb associated with some of the epd alt sections with rare py blebs 832.44-832.76 weak shear look near lower contact which appears to be at 45 TCA, 1 x 5cm white qtz vn @ 832.62
832.76	833.94	**Feldsite, 7**	mixed unit of felsite and mafic volcanics with moderate epidote-chl alteration, minor qtz-carb clots/fractures, lower sharp contact 35 TCA
833.94	837.42	**Mafic Volcanics, 2d**	strongly epidotized and hematitic altered massive mafic volcanics? Appears like it has subordinate felsite/felsic volcs or is this just a result of hem alteration? Kspar alt? epidote in large masses and along fractures/vns, weak porphyritic look in places, pheno's have been carbonatized
837.42	837.87	**Mafic Dyke, 8a**	dark green, strongly magnetic, hem along fractures/jts/vns
837.87	860.06	**Mafic Volcanics, 2d**	strongly hematized massive mafic volcs?, moderate epidote alteration in masses/fractures, unit strongly qtz-carb veined 837.87-850.32 **strong CBrZ** highlighted by a solid (95%) qtz-carbhem2-blue sericite vn 847-850.32 (3.32m wide)

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			837.87-847, **DZ** multiple qtz-carb-hem2 veining/fracturing and brecciation 839.73-839.9 qtz-carb-weak sericite(?) vn 40 TCA 843.14-843.31 1x 3cm qtz-carb 35 TCA 844.5-845.1 3 x 2-3cm qcv 20-40 TCA and sub//TCA, wk bx 846.24-846.48 1x 5cm qtz-carb-sericite vn/bx 25 TCA 846.69-846.81 1 x 7cm qtz-carb-hem2 vn 45 TCA 847-850.32, **CZ** 95% solid, weakly vuggy, qtz-carb vein with minor subordinate hem and light blue sericite, one 17cm wallrock raft unit looks like it has subordinate felsite/felsic volcanics or another product of hem/silicification alteration
860.06	860.56	**Feldsite, 7**	red, aphanitic
860.56	863.3	**Intermediate Volcanics,3**	massive medium grain intermediate volcanics, weakly hermatized groundmass, thin chl dominant thin fractures generally 45-75 TCA weakly epidotized, minor qtz-carb veining 10-40 TCA
863.3	867.55	**Felsic Vocanics, 4**	red aphanitic flow banded(weakly) rhyolite, sharp contacts with upper at 45 TCA and lower @ 70 TCA, crackle appearance from weak pseudo brecciation with chl dominant fractures, minor weak epidote alteration along fractures and minor clots
867.55	873.14	**Intermediate Volcanics,3**	fine to medium grain massive intermediate volcanics, weak to moderate hem alteration of groundmass, minor hairline fractures with predominantly chl, lesser epd, lower gradational contact 822-822.57 strong epd-chl alteration is irregular mass and 1 x 8cm vein like structure
873.14	880.39	**Mafic Volcanics, 2d**	dark grey green very fine grained massive mafic volcs, non-magnetic, patchy weak epd alteration, verty weak hem alteration, very quiet unit compared to rest of hole
880.39	895.3	**Feldspar Porphyry, 7a**	faint red fine to medium grain, massive to porphyritic feldspar porphyry, pervasive mod hematization and stronger next to thin fractures/vns moderately overall fractured with epd dominant veins/fractures +/- chl, rare py bleb associated with epd vn, minor late sil veining/clots lower contact 45 TCA, sharp
895.3	902.13	**Mafic Volcanics, 2p**	dark green weakly porphyritic tp almost a gabbroic texture mafic volcanicsm nassive, non-magnetic, minor leucoxene fine xtls, 896-897.1 feldspar porphyry (broken core), mafic volcanics weakly epidotized and hematized in rare patches

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			lower contact 50 TCA, chill margin or chl mafic dyke (901.82-902.13) at lower contact, weakly mt
902.13	907.46	**Feldspar Porphyry, 7a**	as previous unit, mafic dyke/mafic volcanicraft 903.4-903.9 and 904.17-904.55 from 880.39-907.46 probably one large feldspar porphyry that intruded stratigraphy followed by intrusion by mafic dykes 905 1x 3cm qtz-carb-chl-hem2 vein 45 TCA
907.46	933.68	**Felsic Vocanics, 4**	rock changes, gradationally looking anyways, to a grey aphanitic felsic volcanics intensely crackled veined from 907.46-909.58 with chl dominant +/- white silica 907.84-908 weak shear/vn sysyem with white qtz +/-chl with rare py 911.3-912.3 varaibly strongly bleached/silicified pink along thin fractures probably due to a 2mm qtz-chl vnlt // TCA other additional pink bleaching along fine fractures/vnlts in unit 912.17-912.32 white qtz+chl vn 2cm wide with rare py bleb, vn 30 TCA 913.23 1 x 3cm white qtz-chl vn 30 TCA with rare py 914.8 1 x 3cm white qtz vn 45 TCA 922.43-922.57 2 x 2cm white qtz vns 30-60 TCA 922.95 1x 3cm white qtz vn 35 TCA at 923.94 2cm section of thin breccia with cs py in matrix, plus diss py up to 1% from 924.2-924.42 924.71 fine py in hairline fracture
933.68	959.7	**Mafic Dyke, 8a**	very fine grained, massive, uniform, undisturbed, moderately to strongly magnetic, upper contact 60 TCA
959.7	964.7	**Felsic Vocanics, 4**	cherty, siliceous, mostly aphanitic with a conchoidal fracture except where densely packed 1mm rounded light grey feldspars; mottled light grey, buff with irregular patches with pinkish tinge and up to 5% irregualt coarse patches of chl+/-epd; thinly laminated or massive, with narrow fractured intervals; lamination defined by thin mafic "fracture" bands of chlorite? 959.7-959.8 brecciated lower contact 35-40 TCA 960.18-960.45 tr fine py, cpy associated with irregular patches of epd, chl 960.91-961.06 irregualr mass of milky white qtz (+albite?) 963.55 laminations at 35 TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			963.75-963.88 irregualr mass of milky white qtz (+albite?); tr py
964.7	965.35	**Mafic Dyke, 8a**	or basaltic xenolith?; dark grey green; upper contact undulating at 15-20 TCA; lower contact sharper at 25 TCA; pervasive biotite in lower 15 cm and 5 cm oval biotitic xenolith in the top of the next unit
965.35	969.37	**Felsic Vocanics, 4**	felsite; ith intense silicification (bleaching) of groundmass resulting in a ghosted appearance of a formerly "biotitic unit"? With remnants of chl-epd fracture and joint fillings and with large patches of a brownish mineral, remnant biotite (or hematite?) in the siliceous goundmass between fractures, joints; good laminations at 30 TCA 965.33-967.11 weakly mineralized interval tr finely diss py+po+rare cpy as very fine diss, fractures tr finely diss py+po+rare cpy as very fine diss, fractures tr finely diss py+po+rare cpy as very fine diss, fractures 968.62-968.88 milky white qtz with thin chl fractures, tr py as a 1 cm vnlt and a 3 cm irregular mass or boudin lower contact sharp @ 30 TCA
969.37	972.1	**Mafic Volcanics, 1a**	Archean; aphanitic to fine grained, massive, subconchoidal fracture with traces of py, po, rare cpy as hair-thin fractures, flecks or wider bandss of bleb aggregates
972.1	975.8	**Fault Zone**	mostly occupied by two types of dykes within an altered, foliated interval 972.17-972.6 sheared interval with coarse boudins (clasts) of qtx-carb as 'ductile cataclasite' at 50 TCA Dyke #2; lamprophyre? Grey with brownish tinge, pervasively calcitic groundmass with scattered 1-2 mm green ferromagnesian pheno's; lower contact 80 TCA (972.6-972.92) Dyke #1; Felsite Dyke; siliceous, grey groundmass with brick red hematitic tinge; with randomly scattered 10-15% 1 mm feld pheno's and 15% 1-1.5 mm dark green chl pheno's; brittley fractured with regualr, thin, chl fractures; lower contact 70 TCA (972.92-975.03) Dyke #2; lamprophyre? Grey with brownish tinge, pervasively calcitic groundmass with 10-15% scattered 1 mm green (chloritized) ferromagnesian pheno's; upper contact 30 TCA, lower 80 TCA (975.47-975.7)
975.8	983.02	**Mafic Volcanics, 1a**	Archean; fine grained, massive- featureless; dark grey-green; subconchoidal fracture; weakly fractured with hairline calcite fillings; and 1-2 cm py, chl jt/vnlets

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			982.15-982.26 xenolith of feldspar porphyry or dyklet
983.02	990.85	**Feldspar Qtz Porphyry, 7a**	5 cm sheared (calc, chl) upper contact at 30 TCA brittley fractured, variable altered with least altered as a grey brown biotitic groundmass with randomly scattered, 10-15%, 1-5 mm subhedral creamy light grey feldspar pheno's & <5% <1-2mm bluish-white qtz pheno's; laced with 5-10%, 1-5mm wide, chl fracture fillings and occassionally wider; chl fractures often accompanied by marginal pinkish-flesh coloured bleaching extending inward into interfractures areas for mm to several cm resulting in an overall mottled appearance, traces of very fine diss of py, po, rare cpy throughout 985.4-985.45 oval boudin of milky white qtz with chl fractures 985.6-985.89 solid, milky white qtz with chl fractures traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy traces of very fine diss of py, po, rare cpy
990.85	1047	**Mafic Volcanics, 1a**	Archean; as for 975.8 to 985.03 but now mappable intervals of variable grain size alternating between aphanitic and fine to medium grained 'gabbroic' areas; and with traces of scattered py, po, rare cpy as dissmeninations and thin fractures; and with narrow pervasive biotite alteration, both noted as below; 990.85-1002.25 generally aphanitic interval 991.55-994.62 trace fracture and diss py, po 993.2-993.45 altered interval: cal, chl, epd, 2-3% py, tr cpy 994.2-995.1 interval with 60% pervasive biotite overprint 996.12-996.22 interval with 80% pervasive biotite overprint 996.4-996.6 interval with 20% pervasive biotite overprint 1002.25-1007.95 generally fine-medium grained- i.e a "gabbroic flow'; occassionally almost pegmatoidal with randomly oriented 2-3 mm chl amphiboles and with tr py, po as for example 1002.25-1003.25 1004.06-1004.1 scattered patches of minor diss blebs or streaks or fractures of py

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1004.86-1004.87 scattered patches of minor diss blebs or streaks or fractures of py
			1006.5-1007 scattered 3-5% py, po
			1006.6-1006.86 shear band at 45 TCA; vuggy with epd, calc, chl and scattered 3-5% py,po
			1006.9 scattered patches of minor diss or blebs or streaks or fractures of py
			1007.45 scattered patches of minor diss or blebs or streaks or fractures of py
			1007.91-1007.95 scattered patches of minor diss or blebs or streaks or fractures of py
			1007.95-1011 fine grained to aphanitic
			1009.5-1009.54 scattered minor diss blebs or streaks or fractures of py
			1011-1013 coarser flow; 'gabbroic'
			1011.75-1012.2 interval with 80% pervasive biotite overprint at 50-55 TCA
			1013-1018 aphanitic flow
			1013.6-1014.25 tr to 1% po, py as diss blebs, aggregates of blebs, fractures
			1015.33-1016.2 tr to 1% po,py as diss, blebs, aggregates of blebs, fractures including 5% across 10 cm
			1018-1021.5 coarser flow; 'gabbroic'
			1018.6-1019.75 brittle, calcitic (with hematite tinge) fracture zone consisting of three, high angle 55 TCA 1-3cm shear bands and several low angle fracture vnlts
			1021.5-1031 aphanitic flow
			1021.5-1021.8 altered interval with 70% biotite and 5% calcite at 35 TCA
			1021.95-1022.03 3-5% po, tr cpy
			1023.8-1030.38 tr to 1% py,po as diss, blebs, aggregates of blebs, fractures
			1031-1038.8 coaser spotted flow with 1-2mm rounded chl clots
			1033.25-1034.5 chl, calc +/- py,po alteration marginal to thin calc fracture/vnlts 10 TCA
			1036.55-1038.45 chl, calc altered interval with <1% po,py, tr cp overall but up to 5% over cm intervals

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1038.8-1047 fine grained, massive, very uniform, fracture free
	1047	EOH	

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949575	142.00	143.00	1.00
P	949576	152.00	153.00	1.00
P	949577	169.00	170.00	1.00
P	949578	178.00	179.00	1.00
P	949579	202.00	203.00	1.00
P	949581	218.00	219.00	1.00
P	949582	243.00	244.00	1.00
P	949583	253.00	254.00	1.00
P	949584	283.00	284.00	1.00
P	949585	295.00	296.00	1.00
P	949586	308.00	309.00	1.00
P	949587	317.00	317.56	0.56
P	949588	334.24	334.60	0.36
P	949589	350.30	350.60	0.30
P	949591	350.60	351.00	0.40
P	949592	351.00	351.90	0.90
P	949593	351.90	352.20	0.30
P	949594	352.20	353.00	0.80
P	949596	411.00	411.60	0.60
P	949597	411.60	411.83	0.23
P	949598	411.83	412.25	0.42
P	949600	445.84	446.35	0.51
P	949601	453.75	454.48	0.73
P	949602	454.48	455.00	0.52
P	949603	455.00	455.69	0.69
P	949604	455.69	456.42	0.73
P	949606	456.62	457.00	0.38
P	949607	457.00	458.00	1.00
P	949608	458.00	459.00	1.00
P	949609	459.00	460.00	1.00
P	949610	460.00	460.33	0.33
P	949611	460.33	461.00	0.67
P	949612	461.00	461.78	0.78
P	949614	461.78	462.32	0.54
P	949615	462.32	463.07	0.75
P	949616	463.07	464.09	1.02
P	949617	471.30	471.77	0.47
P	949618	471.77	472.90	1.13
P	949619	662.00	662.50	0.50
P	949620	662.50	663.00	0.50
P	949621	663.00	663.50	0.50

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949622	663.50	664.00	0.50
P	949624	664.00	664.50	0.50
P	949625	664.50	665.00	0.50
P	949626	665.00	665.50	0.50
P	949627	665.50	666.00	0.50
P	949628	666.00	666.50	0.50
P	949629	666.50	667.34	0.84
P	949630	667.34	667.77	0.43
P	949631	667.77	668.72	0.95
P	949633	668.72	669.14	0.42
P	949634	669.14	669.46	0.32
P	949635	669.46	670.00	0.54
P	949636	670.00	670.50	0.50
P	949637	670.50	671.27	0.77
P	949638	671.27	672.00	0.73
P	949639	672.00	672.72	0.72
P	949641	672.72	673.33	0.61
P	949642	673.33	673.65	0.32
P	949643	673.65	674.21	0.56
P	949644	674.21	674.60	0.39
P	949645	674.60	675.37	0.77
P	949646	703.00	703.84	0.84
P	949647	703.84	704.47	0.63
P	949649	704.47	705.00	0.53
P	949650	705.00	706.00	1.00
P	949651	706.00	707.00	1.00
P	949652	707.00	708.00	1.00
P	949653	708.00	709.00	1.00
P	949654	709.00	710.00	1.00
P	949655	710.00	711.00	1.00
P	949656	711.00	712.00	1.00
P	949657	712.00	713.00	1.00
P	949659	713.00	714.00	1.00
P	949660	714.00	714.82	0.82
P	949661	714.82	715.24	0.42
P	949662	715.24	716.00	0.76
P	949663	716.00	717.00	1.00
P	949664	717.00	718.00	1.00
P	949665	718.00	719.00	1.00
P	949666	719.00	720.00	1.00
P	949668	720.00	720.80	0.80

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949669	720.80	721.55	0.75
P	949670	721.55	722.22	0.67
P	949671	722.22	723.00	0.78
P	949672	723.00	724.00	1.00
P	949673	724.00	725.00	1.00
P	949674	725.00	726.00	1.00
P	949676	726.00	727.00	1.00
P	949677	727.00	728.00	1.00
P	949678	728.00	729.00	1.00
P	949679	729.00	730.00	1.00
P	949680	730.00	731.00	1.00
P	949681	731.00	732.00	1.00
P	949682	732.00	733.00	1.00
P	949684	733.00	734.00	1.00
P	949685	734.00	735.00	1.00
P	949686	735.00	736.00	1.00
P	949687	736.00	736.75	0.75
P	949688	736.75	737.47	0.72
P	949689	737.47	738.00	0.53
P	949690	738.00	739.00	1.00
P	949691	739.00	739.70	0.70
P	949692	739.70	740.37	0.67
P	949694	740.37	741.00	0.63
P	949695	741.00	741.87	0.87
P	949696	741.87	742.19	0.32
P	949697	742.19	743.00	0.81
P	949698	743.00	744.00	1.00
P	949699	744.00	745.00	1.00
P	949700	745.00	746.00	1.00
P	949701	746.00	747.00	1.00
P	949703	747.00	747.80	0.80
P	949704	747.80	748.26	0.46
P	949705	748.26	749.00	0.74
P	949706	665.50	666.32	0.82
P	949707	666.32	667.72	1.40
P	949708	667.72	668.50	0.78
P	949709	668.50	669.00	0.50
P	949711	669.00	670.00	1.00
P	949712	670.00	670.76	0.76
P	949713	670.76	671.26	0.50
P	949714	675.00	675.50	0.50

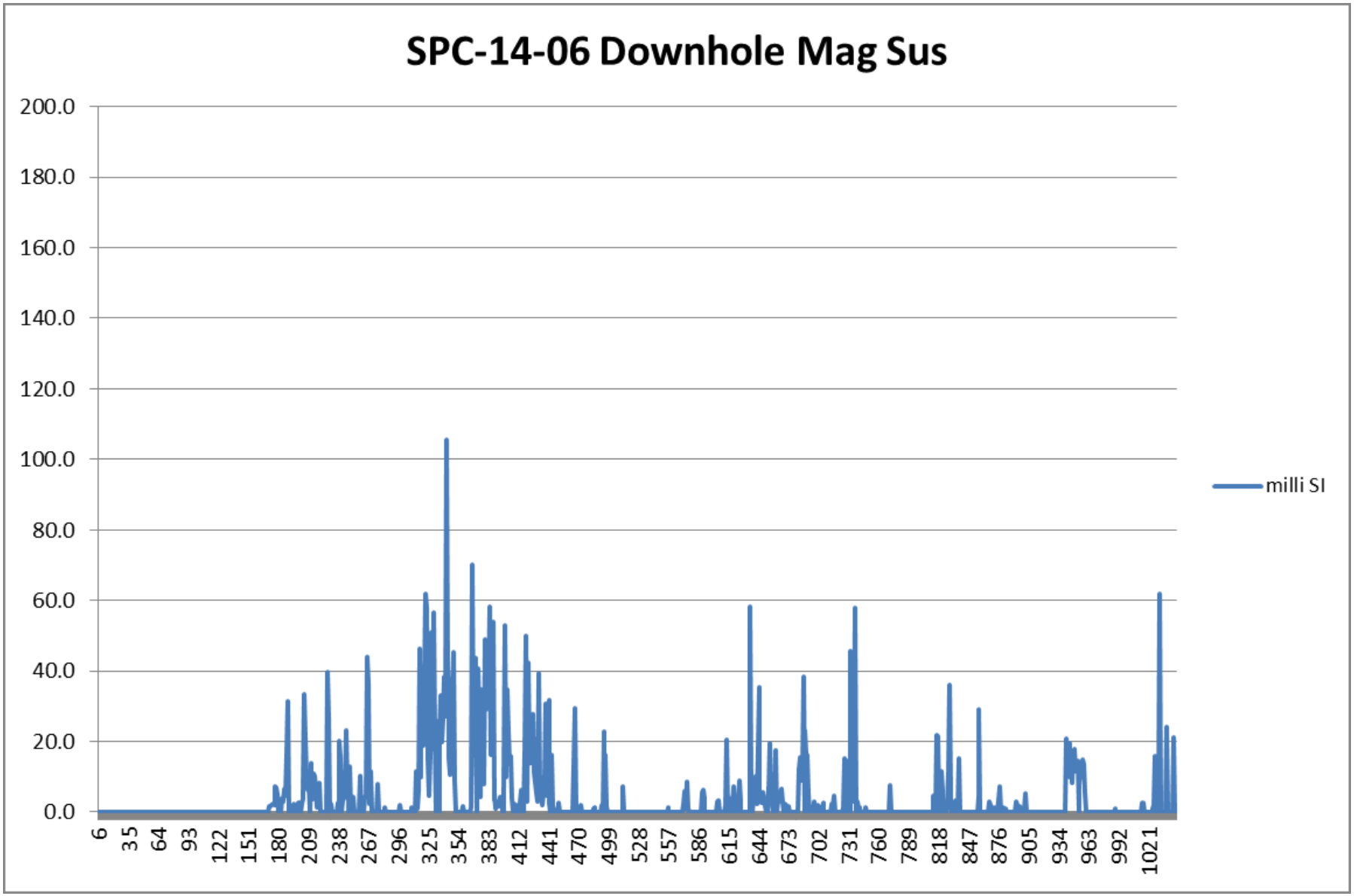
SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949715	675.50	676.00	0.50
P	949716	676.00	676.50	0.50
P	949717	676.50	676.93	0.43
P	949719	676.93	677.44	0.51
P	949720	677.44	678.00	0.56
P	949721	678.00	678.53	0.53
P	949722	678.53	679.00	0.47
P	949723	680.05	681.00	0.95
P	949724	681.00	681.78	0.78
P	949725	681.78	682.42	0.64
P	949726	682.42	683.00	0.58
P	949727	683.00	684.00	1.00
P	949729	684.00	684.52	0.52
P	949730	684.52	684.83	0.31
P	949731	684.83	685.50	0.67
P	949732	685.50	686.00	0.50
P	949733	686.00	687.00	1.00
P	949734	687.00	688.00	1.00
P	949735	688.00	689.00	1.00
P	949736	689.00	690.00	1.00
P	949738	690.00	691.00	1.00
P	949739	691.00	692.00	1.00
P	949740	692.00	692.58	0.58
P	949741	692.58	693.07	0.49
P	949742	693.07	694.00	0.93
P	949743	694.00	695.00	1.00
P	949744	695.00	696.00	1.00
P	949746	696.00	696.95	0.95
P	949747	696.95	697.36	0.41
P	949748	697.36	697.83	0.47
P	949749	697.83	698.40	0.57
P	949750	698.40	699.00	0.60
P	949751	699.00	700.00	1.00
P	949752	700.00	701.00	1.00
P	949754	701.00	701.36	0.36
P	949755	701.36	702.00	0.64
P	949756	702.00	703.00	1.00
P	949757	703.00	703.60	0.60
P	949758	703.60	704.00	0.40
P	949759	704.00	704.31	0.31
P	949760	704.31	705.00	0.69

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949761	705.00	705.50	0.50
P	949762	705.50	706.00	0.50
P	949764	706.00	706.30	0.30
P	949765	706.30	706.83	0.53
P	949766	706.83	707.26	0.43
P	949767	707.26	707.62	0.36
P	949768	707.62	708.12	0.50
P	949769	708.12	708.68	0.56
P	949770	708.68	709.18	0.50
P	949771	709.18	710.00	0.82
P	949773	710.00	711.00	1.00
P	949774	711.00	712.00	1.00
P	949775	712.00	713.00	1.00
P	949776	713.00	714.00	1.00
P	949777	714.00	715.00	1.00
P	949778	715.00	716.00	1.00
P	949779	716.00	716.87	0.87
P	949781	716.87	717.29	0.42
P	949782	717.29	718.00	0.71
P	949783	718.00	719.00	1.00
P	949784	719.00	720.00	1.00
P	949785	720.00	721.00	1.00
P	949786	721.00	722.00	1.00
P	949787	722.00	723.00	1.00
P	949789	723.00	724.00	1.00
P	949790	724.00	725.00	1.00
P	949791	725.00	726.00	1.00
P	949792	726.00	727.00	1.00
P	949793	727.00	727.40	0.40
P	949794	727.40	728.12	0.72
P	949795	728.12	728.61	0.49
P	949796	728.61	729.24	0.63
P	949797	729.24	730.00	0.76
P	949799	730.00	731.00	1.00
P	949800	731.00	731.42	0.42
P	949801	731.42	732.00	0.58
P	949802	732.00	732.71	0.71
P	949803	732.71	733.00	0.29
P	949804	733.00	734.00	1.00
P	949805	734.00	735.00	1.00
P	949806	735.00	736.00	1.00

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949808	736.00	737.00	1.00
P	949809	737.00	738.00	1.00
P	949810	738.00	739.00	1.00
P	949811	739.00	740.00	1.00
P	949812	740.00	741.00	1.00
P	949813	741.00	742.00	1.00
P	949814	742.00	743.00	1.00
P	949816	743.00	744.00	1.00
P	949817	744.00	745.12	1.12
P	949818	745.12	746.00	0.88
P	949819	746.00	747.00	1.00
P	949820	747.00	748.00	1.00
P	949821	748.00	749.00	1.00
P	949822	749.00	749.80	0.80
P	949824	749.80	750.54	0.74
P	949825	750.54	751.47	0.93
P	949826	751.47	752.21	0.74
P	323034	758.10	758.30	0.20
P	323035	772.35	772.65	0.30
P	949827	783.19	783.93	0.74
P	949828	783.93	784.25	0.32
P	949829	784.25	784.82	0.57
R	323036	810.50	810.80	0.30
R	323037	811.84	812.60	0.76
R	323038	812.60	813.40	0.80
R	323039	813.40	813.75	0.35
R	323040	813.75	814.25	0.50
R	323041	821.90	822.40	0.50
R	323045	826.30	827.00	0.70
R	323046	827.00	827.70	0.70
R	323047	827.70	828.40	0.70
R	323048	828.40	829.10	0.70
R	323049	829.10	829.80	0.70
R	323050	829.80	830.50	0.70
P	323053	830.50	831.40	0.90
P	949830	923.88	924.42	0.54
P	949885	965.33	965.93	0.60
P	949887	965.93	966.56	0.63
P	949888	966.56	967.11	0.55
P	949889	968.60	969.20	0.60
P	949890	982.95	983.80	0.85

SAMPLE #		SAMPLE METERAGE FROM	TO	SAMPLE LENGTH
P	949891	983.80	984.60	0.80
P	949892	984.60	985.40	0.80
P	949893	985.40	986.20	0.80
P	949895	986.20	987.00	0.80
P	949896	987.00	987.80	0.80
P	949897	987.80	988.60	0.80
R	323001	988.60	989.40	0.80
R	323002	989.40	990.20	0.80
R	323003	990.20	990.85	0.65
R	323004	1002.25	1003.25	1.00
R	323005	1006.50	1007.00	0.50
R	323006	1010.45	1011.00	0.55
R	323008	1011.00	1011.60	0.60
R	323009	1013.60	1014.25	0.65
R	323010	1015.33	1016.20	0.87
R	323011	1023.80	1024.60	0.80
R	323012	1024.60	1025.40	0.80
R	323013	1025.40	1026.20	0.80
R	323014	1028.52	1029.14	0.62
R	323015	1029.14	1029.64	0.50
R	323018	1029.64	1030.38	0.74
R	323019	1033.25	1033.85	0.60
R	323020	1033.85	1034.50	0.65
R	323021	1036.55	1037.15	0.60
R	323022	1037.15	1037.75	0.60
R	323023	1037.75	1038.45	0.70

SAMPLE #	SAMPLE METERAGE FROM	TO	SAMPLE LENGTH


SPC-14-06 Downhole Mag Sus
200.0
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
6
35
64
93
122
151
180
209
238
267
296
325
354
383
412
441
470
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586
615
644
673
702
731
760
789
818
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876
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934
963
992
1021
milli SI

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-07	M1'-Z1'	Orbit Garant Inc.	Morgan Quinn

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3000715	September 17, 2014	October 17, 2014	1441.35

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5210318	671810	275

	DEPTH	DIP	AZIMUTH
	COLLAR	-70°	225

COMMENTS

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	11.70	OVB	Casing
11.70	15.28	Sandstone, 5c	Bedding at 45 TCA. Fg-mg, overall green/red colour. Qtz-carb vns // to bedding, weakly vuggy, bladed calc, 5% vn material.
15.28	25.93	Conglomerate, 5e	Monomictic, basalt clasts with rare granitoid clast. Clasts 0.1-10.0cm, most ~1.0cm, sub-rounded. Carb-Ep matrix. Carb vns at 30-40 TCA.
25.93	30.25	Feldspar Porphyry, 7a	Brick red, Fg, dike. Irregular contacts at 20 TCA (?). Feldspar phenos avg 0.1-0.2cm, max 0.5cm. Matrix exhibits fabric (flow banding?) Small vesicles (0.2cm). Silica increases toward bottom. Qtz-Silca vns increase from 29.33-30.28m, weak-mod vuggy, weak crackle texture. Minor, very fg spec hem throughout.
30.25	43.10	Conglomerate, 5e	Monomictic, basalt clasts with rare granitoid clast. Clasts 0.1-10.0cm, most ~2-3cm, subangular to subrounded. Carb-Ep matrix. Qtz ff, with late carb in core, 38.72-38.79m, 50 TCA.
43.10	47.16	Mafic Dyke, 8a	Sharp contacts at 40 TCA (x). Chilled margins with qtz-carb ribbon vns between WR and dike. Black-red, fg-mg. Weak to moderate hem alteration. Chl flecks throughout. Weak calcite vns from 43.1-44.0m, 2.0cm at 40 TCA. Mod mag.
47.16	58.65	Conglomerate, 5e	Monomictic, basalt clasts with rare granitoid clast. Clasts 0.1-10.0cm, most ~2-3cm, subangular to subrounded. Carb-Ep martix. Zoned qtz-carb vn, chalcodonic appearance, from 52.24-52.32m, 1.0cm TW at 40 TCA.
58.65	76.37	Conglomerate, 5e	Polymictic, basalt-granitoid-felsic volc. clasts, 0.5-20cm, most 2-5cm, subangular to rounded. Ep-carb matrix.
76.37	80.32	Mafic Dyke, 8a	Contacts at 40 TCA (x?). Black-dark red. Mod mag. Weak hem alt. Weak carb vning, increases toward bottom.
80.32	147.54	Conglomerate, 5e	Polymictic, basalt-granitoid-felsic volc. clasts, 0.5-20cm, most 2-5cm, subangular to rounded. Ep-carb matrix. 91.6-107.7: Qtz-carb vn material intermittently diffuse throughout matrix. +/- Spec Hem +/- CC (1cm size blebs throughout)
147.54	163.89	Conglomerate, 5e	Polymictic, basalt-felsic volc. clasts. 0.2-5.0cm, subangular to rounded, rare large clast upto 25cm. Matrix dark green Ep with minor carb. Intermitent seams of pebbly sandstone. CC observed in Qtz-carb matrix material, and in clasts of basalt and sandstone.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
163.89	173.13	Flow Top Breccia, 6	Mixed seds and volcanics. Fg-mg sandstone and clasts of basalt and conglomerate. Bedding at 30 TCA. Minor spec of CC at 164.62m Pervasive Ep altered in porous areas. Sandstones a salmon colour. 25% fg, pink sandstone.
173.13	175.24	Mafic Volcanic, 2c	Massive, fg, with med-course chl flecks. Pink-red, pervasive hem alter. Contacts at 40 TCA.
175.24	177.04	Flow Top Breccia, 6	Mixed seds and volc. Rafts of basalt interlaced with bleached green-cream matrix. Basalt rafts have pink rim (hem alt). Last 20cm is a basalt flow, same as previous.
177.04	212.96	Conglomerate, 5e	Monomictic, basalt clasts both massive and amygdaloidal, 0.1-5.0cm, subangular-rounded. Pervasive Ep altered matirx. Specular hematite disseminated throughout. Qtz- carb veins occur at (interval/TW/angle TCA): 183.05-183.19/3/35, 185.10-185.20/5/70, 194.21-194.25/3/80, 199.92-199.99/4/80, 202.36-202.63/-/70 (diffuse vn material over interval), addtional minor Qtz-carb vns occur throughout, spec hem often associated with vns.
212.96	228.45	Pebbly Sandstone, 5c	Bedding at 40 TCA. Dominant mg-cg, thin beds of fg. Variable Hem/Ep alteration. 1-2cm beds of fg black and beige seds occur together creating distinct banding pattern, 6 occurences over interval. Flt at 224.67-225.0m, slickenslides, bedding //. Fg spec hem throughout.
228.45	232.68	Sandstone, 5c	+lesser intermittent pebbly sanstone. Bedding 40 TCA. Beds darker in general, rare lighter material. Some beds dark red (hem alt.) Occasional clast of felsite. Flt zone between 231.80-235.0, increased blockiness, slicken slides, gouge (core) at 232.50-232.68m.
232.68	259.63	Pebbly Sandstone, 5c	Bedding at 40 TCA, mg-cg, Pervasive Ep-Hem alteration. Ep dominant at top of unit, hem increases toward bottom. Occasional clast of basalt.
259.63	268.73	Sandstone, 5c	Fg. Weak-Mod silica alteration. Intermitent Hem alteration. Bedding at 45 TCA. Mix of red, beige and grn-blk colours. Alb-Ep (?) alteration, creamy-weakly grn clots overprinting bedding fabric, intensifies toward base.
268.73	276.49	Pebbly Sandstone, 5c	Strong Alb-Ep (?) overprint bedding fabric, cream-weakly grn clots and masses. Alb-Ep (?) veins at 273.4-273.6m, splays 0.5 TW,

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			total vn material 2cm TW, at 20 TCA. Ground mass is pervasive Hem alt.
276.49	308.42	Conglomerate, 5e	Monomitic. Basalt clasts, dominantly amygdaloidal, Subangular to rounded, 0.5-10.0cm. Strong Ep alt of matrix.
308.42	309.52	Carbonate Vein	Contacts at different orientations. At least 2 generations of veins 1) Marginal, larger volume (>90%), openspace filling, collorform textures, white with red colour. 2) Core, brittle, minor breccia (clasts of basalt), white with orange colour.
312.52	342.47	Conglomerate, 5e	Monomitic. Basalt clasts, dominantly amygdaloidal, Subangular to rounded, 0.5-10.0cm. Strong Ep alt of matrix.
342.47	354.56	Conglomerate, 5e	More matrix by volume (50%) plus increased alt intensity (?). Clasts are partially to completely altered. Monomitic. Basalt clasts, dominantly amygdaloidal, Subangular to rounded, 0.5-10.0cm. Strong Ep alt of matrix. Spec Hem disseminated thoughout, prefers alt clasts.
354.56	370.92	Conglomerate, 5e	More matrix by volume (75%) and/or increased alt intensity (?). Clasts are partially to completely altered. Monomitic. Basalt clasts, dominantly amygdaloidal, Subangular to rounded, 0.5-10.0cm. Strong Ep-Alb (?) alt of matrix, overall colour of rock less grn more cream.
370.92	371.71	Flow Top Breccia, 6	Mixed seds (70%) and amygdaloidal basalt (30%). Fg seds, buff-red, irregular bedding.
371.71	373.66	Mafic Volcanic, 2a	Abundant amyg, Ep-Qtz-carb fill.
373.66	375.00	Felsic Dike	Possible. Unit is bounded by tectonic breccia at upper contact and a shear zone at the lower contact. Increased fracturing within the unit suggesting it is more brittle. Amyg's absent. Fractures filled with open space carbonate. Clast supported bx with carb matrix from 374.46-346.73m at 80 TCA.
375.00	380.54	Mafic Volcanic, 2a	Intermittent, intense Ep alt. Patches of original texture almost completely destroyed. Moderately abundant spec hem, often occruing with red hem, in highly altered sections (may be filled remnant amygdules).
380.54	386.78	Conglomerate, 5e	Possibly? Strong hem alt. Ep flecks, remnant amyg in remnant clasts (?). At least one clast identified.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			No distinct fabric. Deep red colour with green flecks.
386.78	389.43	Mafic Volcanic, 2a	2a. Strong Ep alt, intensity increases toward bottom. Patchy/intermittent hem alt 386.8-388.0m, 388.0-388.5m Silica-Chl (ovrprt Ep ovrprt Hem?), 388.5-389.4 strong pervasive ep.
389.43	392.75	Mafic Volcanic, 2a	2a. Strong pervasive Hem alt. Ep alt in 1-3cm bands // to strat. Amyg fill Ep, Qtz-carb-spec (with Ep rims), and minor Chl.
392.75	395.24	Mafic Volcanic, 2a	2a. Moderate to strong Ep alt. Ep is pale in colour, occurs in amyg and frac fill, and weakly through our wall rock. Amyg fill Ep, zoned pk min (dol?)-chl-ep.
395.24	399.21	Mafic Volcanic, 2a	2a. Strong alteration. Hem ovrprt'd by patchy ep-alb (?, pale, slighly ylw-grn). Ep-alb occurs in zones close to frac. Moderately abundant hairline frac // to strat. Clots (remnant amygs?) of hem, chl, and qtz-carb.
399.21	400.22	Mafic Volcanic, 2a	2a. Moderate-Strong Ep alt. Amyg fill dominantly Ep, zone of Qtz-carb-spec from 399.3-399.8m.
400.22	402.09	Mafic Volcanic, 2d	2d. Patchy hem alt, ovrprt'd by moderate ep alt. Ep occurs in fracs, as 1mm clots, and intermitently pervasive.
	410.88	Mafic Volcanic, 2a	2a. Pervasive hem groundmass. Amyg fill dominantly Qtz-carb-spec rimmed by Ep. Minor pink, chalcodonic amyg fill. Massive 1cm spec hem vein 409.15-409.45m.
410.88	415.04	Mafic Volcanic, 2a	2a. Strong, pervasive pale grn Ep alt. Ep occurs as amyg fill, frac fill, and intermitent pervasive zones.
415.04	419.70	Mafic Volcanic, 2a	2a. Intermitent strong hem and strong ep alt. Spec hem occurs in ep altered zones.
419.70	421.92	Sandstone, 5c	Bedding at 30 TCA. Fg-mg.
421.92	428.15	Flow Top Breccia, 6	Mixed seds and mafic volc. Seds fg, weak hem alt, over all buff-slightly red in colour. Mafic clasts have irregular edges, variable Ep alt.
428.15	436.12	Mafic Volcanic, 2b	2b. Amyg fill Ep-Hem, Ep also occurs in frac fill. Groundmass relatively unaltered. Silica-hem-lim-chl vein with irregular contacts 433.85-343.20m.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
436.12	447.68	Mafic Volcanic, 2d	2d. Weak brittle frac with ep fill. 4-10cm mudstone beds and frac fill from 441-449.64m (5% mudstone).
447.68	449.64	Mafic Volcanic, 2d	2d. Increased brittle frac with ep fill, spaced 1cm apart.
449.64	450.40	Sandstone, 5c	Bedding at 40 TCA. Fg. Red-brown colour.
450.40	455.31	Mafic Volcanic, 2d	2d. Increased brittle frac with ep fill, spaced 1cm apart. Gradually fracs decrease in density.
455.31	477.02	Mafic Volcanic, 2d	2d. Fg. Moderately magnetic. Contains xeno/autoliths. Ep-qtz vns, orientation varies. 0.5-1.0cm, ~7 veins spaced evenly. CC observed in Ep-Qtz vn at 474m.
477.02	477.90	CBrZ	Carb-Qtz vn-bx. Weakly hem. 3 principal vns space 15cm apart, 1-2cm TW, 20 TCA (x)
477.90	483.11	Mafic Volcanic, 2d	2d. Fg. Moderately magnetic. Contains xeno/autoliths. Ep-qtz vns, 30 TCA. 0.5-1.0cm, vn/frac increase below 481.54m. 4 principal vns.
483.11	486.61	Flow Top Breccia, 6	Mixed seds and mafic volcanics. Fg seds, weak bedding, salmon-red/brown colour. Amygdaloid basalt clasts, irregular edges, strong Ep alt.
486.61	490.12	Mafic Volcanic, 2a	2a. Pervasive hem alt groundmass. Amyg fill Qtz-carb-spec hem, chl.
490.12	490.47	Mafic Volcanic, 2a	Vn/bx with silica matrix. Amygdaloidal basalt clasts.
490.47	508.49	Mafic Volcanic, 2a	Moderate Ep alt. Zoned amyg, commonly qtz-carb+/-spec hem laths in core, Ep rims. Pk silicate mineral less common amyg fill. Chl introduced toward bottom, ep dominant. Hem or alb alt from 499.73-500.03, amyg filled with creamy pink aggregate with spec hem.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
508.49	509.38	Mafic Dyke, 8a	Fg. dark brown-dark red. Blocky. Contacts at 30 TCA.
509.38	519.57	Mafic Volcanic, 2a	Abundant amyg., some open vesicles. Pervasive Ep alteration, occurs in amyg, frac, and intermittently in groundmass. Patchy pervaisve hem alt of groundmass. Strong EP with Qtz-carb-spec hem 513.28-513.79. Hem or alb alt 516.50-518.65m, hard creamy pink fill in frac and amgy, originally mud stone fill?.
519.57	521.98	Mafic Volcanic, 2d	Possilby? Overall fg, grey with slight pk and grn hues. Hard to scratch, silica? alb? Increased frac, filled with pale grn ep. Ep alt ovrprnt'd by grey alt. Core is blocky.
521.98	524.98	Mafic Volcanic, 2a	Moderate-strong pervasive Ep alt ovrprt hem alt. Py (0.5%) introduced at 522.78m, pref to amyg. Weak mag starts at 524.2m.
524.98	525.81	Flow Top Breccia, 6	50% Seds. Py (0.5%) pref to amyg in basalt clasts. Weak mag.
525.81	528.50	Mafic Volcanics, 2b	Py decreases to absent toward base, overall 0.1%. Moderate, pervasive Ep alt. Qtz vn 528.12-528.26, 7cm TW, 60 TCA minor carb in core, Hem at margins.
528.50	531.91	Mafic Volcanic, 2d	Protolith either massive or amygdaloidal basalt, original text obscured by alt. Grey "groundmass" spotted with pale brwn-grn rims around irregular red-brown clots.
531.91	534.04	Mafic Volcanic, 2a	Pervasive hem alt in groundmass. Minor flow top at 533.44-533.66m.
534.04	538.70	Mafic Volcanic, 2a	Strong intermitent Ep alt. Mod mag from 537.05-538.7m. Amyg fill chl.
538.70	541.12	Mafic Volcanic, 2d	Mod-Str mag. Blk-Red colour. Weak frac throughout with pale ep fill.
541.12	544.05	Mafic Volcanic, 2d	2c. Chl flecks. Mod pervasive Ep alt grades to Hem toward bottom of hole. Quartz-minor carb vn 541.72-541.82m, 3cm TW, 60 TCA.
544.05	548.05	Mafic Volcanic, 2d	Strucutural Zone. Moderate to strong brittle fracturing. Moderate pervasive bleaching over Ep alt. Qtz-minor carb vn at 546.85-546.95m, at 55 TCA, cubic pyrite at margin alt to hem.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
548.05	554.68	Mafic Volcanic, 2a	Qtz-py (0.5%) in vn/amyg and weak mag 548.05-548.25m, py partial decomposed going to hem, vn 2cm TW, 40 TCA. Ep and cream coloured alt (alb?) throughout. Spec hem 548.48-549.0m, and with qtz vn at 551.6-551.72m. Weak mag intermittently.
554.68	556.23	Mafic Volcanics, 2b	Strong mag. Mottled amyg fill Qtz-Ep-Chl-Hem (vibrant red-grn-blk-wht). Fine Py dss and ff, pref amyg, moderate mag, from 555.28-555.74m.
556.23	558.68	Mafic Volcanic, 2d	Weakly amygdaloidal. Weak frac, hem fill and weak alt at margins.
558.68	560.00	Mafic Volcanic, 2a	Moderate mag. Py (0.5%) from 558.98-559.13m, weak mag. Amyg fill qtz-ep-chl-hem. Spec hem rims around qtz or chl common.
560.00	561.32	Mafic Volcanic, 2d	Moderate mag. Py (0.5%) in thin frac, dominant orientation 60 TCA. Weak pervasive hem alt throughout groundmass.
561.32	565.56	Flow Top Breccia, 6	Mixed flow tops and thin amygdaloidal flows, moderately frac. Py (1%) pref basalt, occurs dss and in thin frac with qtz. Spec hem rims qtz in occasional amyg. Moderate hem alt ovrprt by weak bleaching. Bleached area geneally contain more py. Weak mag, except rare grain of Mt.
565.56	571.67	Mafic Volcanic, 2a	Amyg fill qtz-ep-chl-minor carb. Mod-strong mag. Patchy Ep alt (grey-grn clots). Weak-mod frac with Ep or carb fill.
571.67	577.54	Mafic Volcanic, 2a	Moderate pervasive ep alt, occurs in amgy and permeated throughout. Qtz-Mt+/-hem vns at 572m and 573.15-573.45m, 0.5cm TW, sub // TCA, Mt grains upto 2mm. Chl occurs as flecks and in amyg.
577.54	582.22	Mafic Volcanic, 2a	Possilby? Interval may also contain intermittent flow top. Strong pervasive ep alt. Spec hem in areas of increased alt (weak bleach) 0.5cm Qtz vns sub // TCA, qtz also occurs in adjacent amygdules. Rock is a dark green colour overall.
582.22	586.80	Mafic Volcanic, 2a	Possibly? Intense alt. Pale grn Ep (bleached?) and creamy pk (alb?). Original text almost destroyed. Amyg fill pale grn ep. Py (0.5%) in hairline frac, Minor spec hem. Qtz-chl-py vn 584.05-585.18m, uptot 50% Py in vn, 0.5-1.0cm TW, sub // TCA.
586.80	589.48	Mafic Volcanic, 2a	Strong pervasive hem has turned rock bright red. Remnant amyg identified. Py (1%) occurs in hairline frac.
589.48	593.29	Mafic Volcanic, 2d	2d. Dark green-red. Weak qtz-carb vning. Early 1cm Ep-Qtz-carb-Chl-Hem vns cut off by later movement. Py (0.1%) in frac and Qtz-carb veins.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
593.29	605.07	Mafic Volcanic, 2a	Structural Unit. Principal CBrZ vn at 597.07-597.18m, 4cm TW, at 35 TCA. Weak brittle frac with qtz-carb fill throughout. Dark green Ep alt, deep red hem alt (increases near CBrZ vns).
605.07	615.92	Mafic Volcanic, 2d	Moderate, pervasive, intermittent ep and hem alt. Moderate mag in less altered areas. Ep-Chl vns moderately abundant. 0.5-2cm, 35 TCA.
615.92	622.77	Mafic Dyke, 8a	Blk, fg. Principal CBrz vein at 617.68-617.90m, ~10cm TW, 35 TCA. CBrZ appears to have at least three phases: Wht-org-pk carb, wht-gry-red carb, bx with brn-red matrix. Weak damage zone, 0.2mm Carb vns throughout unit. Earlier Ep-chl vns, 1cm avg TW, 40 TCA. Mod mag in less frac areas.
622.77	628.41	Mafic Volcanic, 2a	No mag 623.77-627.0m, Moderate to strong mag 627-628.41m. Ep alt pervasive in non mag area, contained to amyg in mag zone.
628.41	630.14	Mafic Volcanic, 2a	Grn-red-gry colour, pervasive ep-hem alt. Weak-mod mag. Regular fract at 50 TCA (ok), ep fill. Sharp contacts (flt?) at 40 TCA.
630.14	632.22	Mafic Volcanic, 2a	Blk-red-grn colour. Intermitent, pervasive, weak hem alt. Ep in amyg.
632.22	632.52	Mafic Volcanic, 2a	Structural zone. Sharp contacts, very contained (post flt?). Abundant frac, slickenslides, Pervasive strong ep and minor hem.
632.52	641.19	Mafic Volcanics, 2b	Mod mag. Weak, pervasive hem alt. Ep in amyg and weak but regular frac (multi orientations)
641.19	643.92	Mafic Volcanic, 2a	Amyg fill Ep-carb-chl, Qtz. Carb-Spec hem vn 643.86-643.93m, 2cm TW, 60 TCA, Spec hem is semi massive.
643.92	652.91	Mafic Volcanic, 2d	Intermittently non-mag to mod-strong mag. Moderate frac with Ep fill, non mag zone perf to ep rich zones and prox to structure. Mag zones more red-purple in colour. Quartz vn-bx, milky wht qtz, minor carb, abundant WR inclusions, minor open space textures, 649.58-649.79m, 30 TCA. Small quartz vn at 645.21-645.36, Pinch/swell (boudinage?), 20 TCA. Overall hard to scratch, suggest silica alt.
652.91	654.35	Mafic Volcanic, 2d	Structural unit. Tectonic breccia, clast supported, ep matrix/ff. Minor qtz and carb.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
654.35	667.22	Mafic Volcanics, 2b	Amygdaloidal to massive. Amyg fill Ep, Qtz, Carb. Weak, regular frac with Ep fill.
667.22	672.65	Mafic Volcanic, 2a	Increased silica content 667.22-669.10m, in amyg and vns. Likely related to 0.5cm qtz vn, from 670.36-671.78m, sub paralelle TCA. Ep-chl-spec hem also in amyg. Possible flow top from 667.22-669.10. Semi massive spec-grey hem vn 671.77-671.81 0.5cm TW, 50 TCA.
672.65	676.55	Mafic Volcanic, 2a	Intense, pervasive Ep alteration. Original texture almost completely obscured. Abundant hem in groundmass. Pink-red alteration from 672.7m-674.0m, proximal to qtz-carb vns, 0.5cm TW, sub // TCA.
676.55	684.96	Mafic Volcanic, 2a	Intense Hem and Ep alt, patchy/intermittent, rock is grn-pk-blk. Pink hem rims surrounding grey-blue amyg fill (Hem leaching iron from chl?). Pink hem alt extends outward from Ep zones. Blk chl present in areas of weaker alt.
684.96	690.21	Mafic Volcanic, 2d	Structural unit, CBrZ. Intense frac/vn throughout unit. Strong hem alt of WR. Bx, bladed qtz-carb, pk carb (weak rx to acid), grey carb, milky wht qtz. 20% vn material, 30 TCA.
690.21	695.37	Mafic Volcanic, 2a	Rock is brn overall with grn-red patches. Moderate-strong hem and ep alt, pervasive. pink-red Hem surrounds amyg and vns. Ep increases toward bottom and into next unit.
695.37	702.88	Mafic Volcanic, 2a	Intense, pervasive ep alt. Strong frac. Possible flow top present. CBrZ vn at 696.18-696.45m, minor bx with ep calsts, ~12cm TW, 50 TCA. Qtz-carb-gry hem-mt vn (principal) and CBrz (subordinate) occur at 698.66-699.09m, semimassive hem, 20 TCA. Qtz-carb-gry hem-mt vn at 702.56-702.64m, 50 TCA.
702.88	707.99	Mafic Volcanic, 2d	Pervasive strong red hem alt, patchy ep alt. Moderate frac with ep fill. Qtz-carb-gry hem-mt vn at 706.60-706.84m, ~8cm TW, 40 TCA.
707.99	710.80	Flow Top Breccia, 6	Possibly. Strong-intense Ep overprinting pervasive hem. Mottled red and green rock. Carb-hem vn, zoned/ribbon red-wht sub paralelle TCA. Weaves in and out of unit.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
710.80	722.72	Mafic Volcanic, 2d	Fg-mg. Mostly blk with patches of dark red and grn. Weak patchy hem and ep alt. Carb-hem vn 713.46-715.51m, 1-2cm TW, sub // TCA. Likely a continuation of vn from previous unit.
722.72	723.80	Flow Top Breccia, 6	Possibly. Intense red hem alt overprinting ep alt. Rock is vibrant red-grn. Remnant seds (?) are black.
723.80	730.53	Conglomerate, 5e	Intense hem alt, rock is dominantly red. Some remnant clast have preserved ep alt. Fine grain metallics disseminated throughout (grey-spec hem?).
730.53	733.54	Mafic Volcanic, 2d	Possible mafic dyke, upper contact is broken, lower contact is gradational. Blk, fg with occasional chl clot. Weak-mod mag.
733.54	737.94	Mafic Volcanic, 2a	Pervasive, moderate hem alt. Intense Ep alt 733.54-734.20m out from purple-pink carbonate vn. Amyg fill ep-chl-carb, ep often rims chl. 736.95-737.85m Zoned/ribbon carb vn with minor hem and chl, 2cm TW, sub // TCA.
737.94	745.30	Mafic Volcanic, 2d	Fg, blk. Patchy, weak hem and ep alt. weak-mod mag. Moderate frac with strong pervasive ep alt 742.54-743.10m.
745.30	748.22	Fault Zone	Blk, fg, weak-mod mag. Metallic smears in slickenslide. Upto 300ppm from portable XRF.
748.22	750.59	Mafic Volcanic, 2d	Strong frac with ep-chl fill, dominant orientation 50 TCA. Ep overprinting hem alt. Moderate mag.
750.59	760.57	Flow Top Breccia, 6	strongly epidotized-hematized flow top; seds strongly hematitic while vlocanic matric strongly epd; seds comprise asbout 20-30%; minor late thin 1-2mm qtz-carb vnlts (756.67-757.62) sub// TCA 757.13-760.57 more amygdaloidal, very little relic seds but still rather chaotic looking appearance, could be the altered top of the next unit
760.57	778.46	Mafic Volcanics, 2g	dark black, coarse grain, massive, uniform, strongly magnetic, extended lower chill horizon from about 776.4 to contact mottled epd-chl alteration at upper flow to about 763m, almost a pseudo cumulate appearance, fresh unaltered * 766.57-767.15 fine sediments, wavy bedded to massive, weak epd-hem alteration

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
778.46	779.77	Flow Top Breccia, 6	very little relic sediments, mottled chaotic looking unit, fairly sharp contacts, possible fragments visible, epd alteration around hem frag looking pieces or vice versa gives mottled appearance
779.77	817.24	Mafic Volcanics, 2g	as above unit, 795.63 1 x 4cm qtz-carb vein 70 TCA 803.3 1 x 5cm section of seds with 2 qtz-carb-epd vnlts 90 TCA
817.24	821.44	Flow Top Breccia, 6	flow top breccia with 10-12% seds, upper contact sharp at about 25 TCA, mottled epd-hem alterration, seds generally hem altered, amy portion has both strong epd alteration and hem alteration of groundmass, lower contact gradational, sections of amygdaloidal section have strongly epd altered intervals over 5-10cm that look resemble a relic band of sediments although alteration diffuses into adjacent rock
821.44	829.32	Mafic Volcanics, 2b	mixed volcanic unit of sparsely amygdaloidal volcanics and weakly to unaltered gabbroic sections, most alteration in the amy volcanics most alteration patchy epd intervals, minor weak hem alteration of groundmass, non-magnetic, amy's mostly chl filled with minor epd filled 821.4-823 strong epd alteration 826.5-827.62 strong epd altersation of groundmass and intermittent hem alt of groundmassm minor filled epd-chl fractures/vns 828.4 7 cm strongly epd altered volcanic fragmental
829.32	860.94	Mafic Volcanics, 2g	coarse grain gabbro, moderately strongly magnetic, intermittent chl flecked volcanics, probably alteration effect of gabbro intermittent variable epd-hem alteration that makes the unit look broken up into different flows/sections but I'm treating all as one unit 834 1x 4cm qtz-carb vein 60 TCA with strong hem-epd alteration 10 cm into wall rock 834.33-843.49 volcanic fragmental interval, weak epd-hem alteration 843.49-843.76 modersate epd alteration 841.34.841.4 intense epd alteration 90 TCA, fracture/joint controlled 847.2-847.4 fragmental interval 850.2-850.27 weak epd alteration with weak bx by white qtz vnlts 852.9-854.5 moderate diffuse epd alteration

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
860.94	863.65	Flow Top Breccia, 6	weak flow top breccia? Amygdaloidal to weakly looking fragmental in places, moderate hem alteration of groundmass, non-magnetic, minor mottled epd alteration and brick red hem alteration of possible thin sediment wisps,
863.65	885.41	Mafic Volcanics, 2g	dark green-black coarse grained gabbro as before, massive and 95% uniform, non to very weakly magnetic to 867m, then strongly magnetic, minor intervals of strrong epd alteration 864.62 10cm interval of weak to strong epd alteration with clots/patches of white qtz + calcite 866.09- 866.27 intense epd alteration with qtz, calcite and minor chl 871.42-871.77 interval of fragmentally looking altered zone, possible frags altered to cream colored softer clay alteration, plus a 0.5cm vnlt of similar composition, minor hem alt of groundmass, opposing contacts, weird looking section 872-872.3 moderate epd alteration of groundmass lower contact has a 6cm platy looking qtz-carb-hem vein parallel to contact of 35 TCA
885.41	886.29	Felsic Vocanics, 4	red weakly porphyritic flow banded rhyolite, aphanitic groundmass, ragged upper contact 35 TCA, lower contact ragged but more steep at 80 TCA, banding 35 TCA upper to 80 TCA lower, weird circular banding just before 886 over 5 cm, < 5% tiny pheno's and qtz eyes
886.29	888.56	Mafic Volcanics, 2b	dark black aphanitic, strongly magnetic, rare chl amy, looks like a mafic dyke but upper contact suggests different, very weak bx appearance with white qtz matrix
888.56	889.03	Flow Top Breccia, 6	f;ow top breccia or volcanic fragmental, rounded large cobbly looking basalt clasts to small angular basalt fragments, strong epd alteration and weak

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			silicification
889.03	897.15	Felsic Vocanics, 4	brick red aphanitic, weakly porphyritic intermittently flow banded rhyolite, generally mostly massive, 2-3% minute pheno's/qtz eyes, minor micaceous alteration of minute ferro mags, weak banding 60 TCA, lower contact sharp 60 TCA 894.9-895.19 light tan-creamy colored section of flow banded rhyolite with large oval folded banding
897.15	912.64	Mafic Volcanics, 2g	coarse grain massive gabbroic volcanic, varaibly strong epd-hem alteration of groundmass, strongly magnetic 905.87-906.08 vein/fractured section of strong epd and cream colored mineral plus chl 906.78-907.4 possible section of flow top breccia, weakly vuggy, strong clay and epd alteration, minor qtz-carb weak brecciation 907.6-908.65 broken crumbly core lower gradational contact
912.64	916.08	Mafic Volcanics, 2a	strongly epidotized and moderate clay alteration, weak intermittent hem alt of groundmass 915.84-916.08 strong brecciated section, intense epd alteration, silica + white qtz-calcite matrix
916.08	918.00	Mafic Volcanics, 2g	medium-coarse grain gabbroic textured, strongly magnetic, sharp contacts suggest dyke (?), upper 90 TCA, lower 60 TCA
918.00	918.58	Flow Top Breccia, 6	strong epd alteration and a deep burgundy chert (?) silicification
918.58	925.70	Mafic Volcanics, 2e	fine to medium grain, strong pervasive hem alt of groundmass, 10% dominantly clay flecks which were once chl flecks, look like amygdules but I don't think they are 919.75-920.2 interval of intense epd alteration, weakly vuggy
925.70	931.22	Felsic Vocanics, 4	brick red weakly porphyritic, weak flow banded rhyolite, irregular upper contact, lower contact 60 TCA with 2 cm bladed qtz-carb-hem vein at contact, banding 75-80 TCA generally, 5-10% pheno's and 5% tiny ferro-mags 930.2-930.63 deep burgundy silicification giving weak mottled appearance, sharp alteration (?) contacts or cherty bed
931.22	942.68	Mafic Volcanics, 2e	fine-medium grain, ophitic, strong pervasive hem alteration of groundmass, sections of 10% chl+/-clay spots/flecks where some have been hematized also, massive, variably magnetic from non to moderate

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			933.7-934.48 moderate DZ with 7 qtz-carb-hem veins ranging in size from 5mm to 2cm, strong associate hem alteration, weak bx appearance veins 30-60 TCA
942.68	947.38	Mafic Volcanics, 2a	possible 10 cm flow top breccia at top; strong epd and hem alteration of groundmass, epd flecks/clots, weak broken unit
947.38	951.18	Flow Top Breccia, 6	strongly epd altered weak clay altered flow top with intermittent disseminated and/or bladed spec hem, flesh to red strongly hem possible relic seds and/or fragments, vuggy unit
951.18	959.68	Mafic Volcanics, 2g	dark green to black, medium grained gabbro, strongly magnetic, massive, intermittent 2b, minor weak hem alteration of groundmass
959.68	960.77	Flow Top Breccia, 6	strong epd alteration, 20% seds which are a variably epd-chl altered, minor fine disseminated spec hem
960.77	963.81	Mafic Volcanics, 2a	strong epd alteration of groundmass, amy's chl and/or epd fille, mod hem alt of groundmass
963.81	976.21	Mafic Volcanics, 2g	massive, dark, coarse grained, mod to strongly magnetic
976.21	978.30	Flow Top Breccia, 6	very hard, cherty (?) flow top breccia, strong brick red mottled hem alteration of relic seds (?), minor epd alteration, lower contact sharp at 60 TCA fragmentally appearance 976.83-977.6 mafic dyke, sharp contacts 60 TCA
978.30	986.64	Mafic Dyke, 8a	dark grey, aphanitic, very hard and siliceous, rare amygdule, strongly magnetic, looks like a mafic dyke to me, minor late epd+/-chl+/- white qtz fracture/veins, unit has minor chalcopyrite as small blebs along faint fractures or associated with rounded blobs (amy's) 2-5mm across faint bornite found in one place with cpy minor blebby cpy along faint fracture, 1 x 2cm clot (amy?) partially replaced by cpy minor blebby cpy along faint fracture
986.64	987.16	Sandstone, 5c	strong epd and hem alteration, bedded 60 TCA

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
987.16	988.13	Mafic Dyke, 8a	aphanitic, strongly magnetic, contacts 60 TCA
988.13	990.18	Sandstone, 5c	strong epd and hem alteration, bedded 60 TCA
990.18	999.37	Flow Top Breccia, 6	dark, cherty (?), very hard and siliceous, strongly magetic, 15-20% seds, matrix affected by local mafic dykes(?), only minor patchy sections of strong epd alteration, weak hem alteration of seds
999.37	1004.41	Mafic Volcanics, 2b	dark, aphanitic, sparsely amygdaloidal, very hard, amy's filled with chl +/- weak epd but these are very hard also, unit affected by mafic dyke activity (?), strongly magnetic
1004.41	1023.90	Mafic Dyke, 8a	dark black to dark grey, aphanitic, massive, strongly magnetic, contacts sharp 60-70 TCA
1023.90	1025.79	Flow Top Breccia, 6	very hard, cherty (?), 25% seds, minor epd-hem alteration of seds, amygdaloidal matrix, strongly magnetic 1025.3-1024.4 healed qtz-carb-hem fault gouge
1025.79	1030.11	Felsic Vocanics, 4	light red weakly flow banded rhyolite,
1030.11	1033.19	Mafic Dyke, 8a	as above
1033.19	1035.00	Mafic Volcanics, 2d	braided mafic volcanic, strongly magnetic, braiding 45 TCA
1035.00	1035.17	Flow Top Breccia, 6	
1035.17	1037.85	Sandstone, 5c	strongly hematized sediments, intermittently bedded, could be a weak flow top wbut with >90% sediments
1037.85	1046.08	Flow Top Breccia, 6	25% seds which are weakly hematized, minor weak epd alteration of interstitial mafic volcanics, not as hard as previous units, still quite magnetic, minor calcite associated with strong epd alteration and rare replacement of amy's

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1046.08	1056.13	Mafic Volcanics, 2b	green, fine grained, moderately magnetic, >1050m; weak braided appearance but still sparesely amygdaloidal; amy's chl and/or epd filled weakly epd alteration 1047.4-1047.82 intense epd (+ calc+ qtz) alteration; finely vuggy; 8cm clay altered section 1047.82-1047.9 1048.92-1049.14 moderate pervasive epd alt
1056.13	1057.20	Felsic Vocanics, 4	thin banded rhyolite, red to tan in colour, 5% faint minute pheno's; banding typically 1-3mm 70 TCA, upper contact undulates, lower contact in broken core
1057.20	1080.20	Mafic Volcanics, 2d	grey-green, very fine grained, moderately magnetic, consistently braided (tiger rock like around 3M zone, just no hem alteration) where braids appear to be more ferro-mag rich, a very weak pervasive hem alteration of groundmass, late qtz-carb veining where noted cross-cuts braids, braiding 45 TCA 1057.2-1058 CBrz highlighted by 15cm qtz-carb-hem intense breccia, other noted qch veining and bx but core is fairly broken up strong hem alteration zone 1058.4-1059.38 very broken core 1069.58 and 1069.64 2 x 0.5cm qtz-carb+/-epd vnlts cross-cutting braiding 40 TCA 1070.2 1 3cm qtz-carb-hem banded vn x-cutting braiding 60 TCA 1074-1074.25 1 x 0.5cm qtz-carb vn 20 TCA (x) with hem alteration cm's into wall rock
1080.92	1103.92	Pebblestone, 5e	pebblestone; very strongly hematized; patchy weak to moderate epd alteration, intercalated thin beds 10-30cm of fine grained siltstone; weak bedded appearance 50 TCA, minor interbedded coarse pebblestone almost conglomerate of up to 0.5m, sharp upper contact 45 TCA, rare late qtz-carb veining/fractures cross-cutting 30-60 TCA, unit is variably magnetic from non to weak to moderate, interstitial fine magnetite noted in places
1103.92	1106.40	Siltstone, 5b	bedded cherty siltstone, beds mm to several cm's across, 45 TCA, alternate between red hem chert and epdidotized silts (?) possible mafic volc flow 1104-1104.3, strongly epidotized possible mafic dyke 1106-1106.3, black, aphanitic, strongly magnetic, lower portions of banded seds moderately magnetic also, dyke affect ? undulating lower contact
1106.40	1111.23	Flow Top Breccia, 6	dark, hard, cherty flow top breccia, 10-15% seds, strongly magnetic, seds variably very weakly to non hematized, minor epd alteration of amys in volcanic matrix,

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1111.23	1136.33	Mafic Volcanics, 2d	very fine grained, massive, uniform, moderately to strongly magnetic, undisturbed
1136.33	1148.93	Conglomerate, 5e	Polymictic, clasts of mafic volcanics and QFP, sub-angular-rounded, dominantly 0.5-20cm. Weakly sorted, clast size increases downhole. Clasts are strongly hematized, common black chlorite altered matrix. Uncommon, weak or early epidote alteration. Weak carbonate throughout. Disseminated Py+/-Cpy intermittently, occurs as 0.1-0.5 cm blebs and as replacements in remnant amyg., often proximal to narrow qtz stringers. Variably non-magnetic to strongly magnetic. No definite association (i.e. mag with py/clasts/matrix, and no mag with py/clasts/matrix) 1137.57-1137.68m: 1-2% Py-Cpy, hosted in remnant basalt clast. Non-hematized. 1140.25-1140.30m: 1% Py, possible Bn. Hosted by remnant basalt clast, ep altered, not hematized. 1141.67-1141.79m: 0.5% Py. Proximal to qtz vein in chl matrix.
1148.93	1150.67	Felsic Vocanics, 4	Weakly flow banded rhyolite. Slightly porphyritic. Non magnetic. Undulated contacts roughly 90 TCA, flow banding at 60 TCA (?)
1150.67	1161.00	Conglomerate, 5e	Polymictic, clasts of mafic volcanics and QFP, sub-angular-rounded, dominantly 0.5-20cm. Variably non-strongly magnetic, no obvious control. Clasts are strongly hematized, common black chlorite altered matrix. Uncommon, weak or early epidote alteration. Weak carbonate throughout. Disseminated Py+/-Cpy intermittent. Occurs as blebs and replacements, occaionally cubic-subhedral aggregates. Occurs in clasts and chl matrix. 1156.0-1159.21m: CBrZ. Weak Dz and Cz. 5% vn material. Weak argillic alt WR. Increased disseminated Py throughout, patchy, up to 2%. Principal vns at 1155.35-1153.49m, 1.5cm TW, 30 TCA; 1158.37-1158.47m, 7cmTW, 60 TCA; 1158.63-1158.77m, bx (post CbrZ?), hem alt. roughly 60TCA; and 1159.06-1159.22m, no hem, blocky appearance. 1160.75-1160.82m Fg CC occurs in bedding plane. 50 TCA (ok).
1161.00	1164.42	Sandstone, 5c	Strongly hematized. Bedding at 60 TCA. Bleaching occurs proximal to occasional bedding plane. Non-magnetic.
1164.42	1171.75	Conglomerate, 5e	Strongly hematized, can't determine original clast composition. Clasts 0.1-2.0cm, subangular-rounded, chl matrix. Py disseminated, patchy, upto 1%. Variably magnetic. Grades from 1171m to siltstone at base. Tectonic breccia at base of unit.
1171.75	1173.55	Mafic Volcanic, 2d	Fg, grey, appears unaltered, strongly magnetic. Qtz-carb vn at 1173.13m, milky white, 1cm TW, 60 TCA.
1173.55	1175.37	Meta-siltstone, 5b	Strongly magnetic. Strongly altered (mag and qtz). Bedding at 45 TCA. Cpy in 3 thin fractures between 1174.90-1175.10m.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1175.37	1179.40	Mafic Volcanic, 2d	Fg, dark grey, strongly magnetic. Possible sparse, remnant amyg.
1179.40	1182.00	CBrZ	1179.4-1180.4m: Qtz-carb vn breccia, strong associated hematite alt. 2 phases are apparent, possilby up to four phases present A) at margins of core zone, course calcite, and associated CC+/-Bn mineralization. <5% vn material, 50 TCA. B) Bladed qtz-carb, strong hematite alt, strong breccia, little to no mineralization. 25% vn material. Country rock contains abundant laths of plag commonly red due to hem alt. Appearance similar to "daisy stone", but not as course. 1180.2-1180.4m: CC-Bn. CC occurs as blebs in calcite vein, rimmed by hem. CC-Bn occurs in wall rock marginal to vn. 1181.82m: CC blebs in early vn cut by CBrZ-style vein that is // TCA. Hem rims and appears to be replacing CC. (Bn -> CC+Hem?)
1182.00	1191.22	Mafic Intrusive, 8b	Cg, dark grey. Weak-mod magnetic. 1188.5-1190.0m Moderate-strong pervasive hem alt. 1188.5-1189.15m, CBrZ-style vein. 1.5 cm, sub // TCA. 1189.27-1189.4m, tectonic breccia with qtz-carb vn, 1-3mm TW, 35 TCA. with 1mm blebs of CC.
1191.22	1193.83	Mafic Dyke, 8a	Contacts roughly perpendicular TCA. Fg. Strong-intense frac, CbrZ style fill (carb+hem). Most intense from 1192.36-1193.83m.
1193.83	1198.65	Mafic Intrusive, 8b	Mg. Dark grey, weak-mod magnetic. Moderate CBrZ vning, regularly spread out over unit, 7 vns at 1-2cm TW, comon orientation 40 TCA.
1198.65	1203.59	Mafic Dyke, 8a	Contacts near perpendicular TCA. Strong-intense CBrZ vns. Unit is very blocky. Strong Hematite alt in areas of intense vning. 1202.8-1203.2m: silicified breccia with blood red matrix, Clasts are white-pale grey, possible flow fabric.
1203.59	1211.17	Mafic Volcanic, 2d	Multiple fracture sets/alteration ovrprts. Best guess order: 1) Chl fill with minor chl halos. Blends in with WR. 2) Chl fill with red hem alt developed up to 2cm out from vn. 3) Chl fill with Ep pervasive alt WR. 4) Late minor quartz stringers. Up to 0.5cm Blebs of Cpy (tr) sporadic throughout unit, no distinct association with alteration style. Fracturing intensity increases toward bottom and Hem then Ep alt increases toward base.
1211.17	1218.35	Conglomerate, 5e	Clasts completely altered to Ep or Hem, is dominantly chl. Ep alt ovrprts hem alt from top of unit to 1213.5m, below which Hem alt dominates. Cpy blebs occur sporadically throughout unit, more abundant near top of unit. Most abundant from 1211.69-1212.03m (3-5%) in strongly ep alt. 1216.21m: 1mm qtz vn with Bn, 30 TCA (x). 1216.36m: 1mm qtz vn with Cpy, 30 TCA (x).

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1218.35	1242.74	Meta-Pebblestone	Strong Chl (?, +amph?), Ep, or, Hem alt. Chl is early, hem ovrprt, last ep ovrprt. Cpy+/-Bn blebs occur sporadically throughout associated with hem and ep alt. From 1226-1236m, texture has been almost completely destroyed, pebbles/clast still identifiable. rock is dark green. Weak-mod mag. 1218.46m: 1cm qtz vn with Cpy (30%). Perpendicular TCA. 1220.82-1220.86: 2cm carb vn, with specks of Bn (tr). 1126.0-1226.4m: Bn-Cpy-Mt blebs, core is mostly broken in this interval. 1238.2-1238.7m: increased abundance of Cpy (1%)
1242.74	1245.50	Meta-Conglomerate, 5e	Strong Chl (?, +amph?) alt, original texture almost completely destroyed. Rock is dark green-grey. Remnant clasts still observed at close inspection. Moderate mag.
1245.50	1249.10	Meta-Basalt	Possible mafic dike. Strong chl (?, +amph?) alt. Original texture almost destroyed, possible amygdaloids still observable. Weak-mod mag.
1249.10	1255.00	Meta-Pebblestone	Strong Chl (?, +amph?) alt, original texture almost completely destroyed. Rock is mostly dark green-grey. Patchy hem alt has turned pebbles salmon-red, similar alt is found proximal to qtz vns that host Cpy. 1250.6/1250.7m: conjugate hairline frac/vns. No mineralization observed, but similar salmon-red alt associated with mineralized vns. 50/40 TCA. 1253.06m: Cpy blebs (5%) in qtz vn. 0.4cm TW. 70 TCA (x) 1253.95m: 1-2mm Cpy blebs, in 5cm band of strong hem alt that appears to follow bedding, 40 TCA. 1254.22m: 1mm qtz/cpy vn. 45 TCA.
1255.00	1256.40	Meta-Pebblestone	Intensely alt, cherty, deep pink-salmon and black coloured rock. Possible angular clasts, or possible pebble stone protolith. Appears strongly fractured, with black in fill. Possible fabric paralelle to contacts at 30 TCA. Non mag.
1256.40	1259.70	Meta-Pebblestone	Stong Chl (?, amph?) alteration. Rock is mostly dark green-grey. Pale pink-salmon pebbles are more abundant suggesting less intense alt. Thin quartz vns throughout, lacks red alt at margins and no mineralization identified. Brittle frac at lower contact. Mod mag.
1259.70	1259.93	Rhyolite Dike, 4	Fg, red colour. Undulating/irregular contacts. Disseminated Py+/-Cpy (1%) throughout.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1259.93	1260.90	Meta-Pebblestone	Strong Chl (?, +amph?) alt, original texture almost completely destroyed. Rock is dark green-grey. Remnant clasts still observed at close inspection. Brittle microfractures occur throughout unit.
1260.90	1268.68	Rhyolite Dike, 4	Fg, red with occasional weak green patches. Weak sericite alt in slightly more coarse sections. Silicious-cherty is completely aphanitic sections. Patchy Py (+/- Cpy?) disseminated throughout (0-3%), very fg (<1mm), appears to associated with micro quartz vns.
1268.68	1286.61	Meta-Pebblestone	Strong Chl (?, +amph?) alt, original texture almost completely destroyed. Rock is dark green-grey. Remnant clasts still observed at close inspection. Cpy occurs in thin qtz vns and as tr dss blebs througout. Siltstone occurs from 1271.28-1271.72m. Hem alt has turned clasts red from 1276.2-1285.8m. 1270.8-1270.84m: Cpy in 3 thin frac proximal to 0.3cm quartz vn. 20 TCA (x) 1271.72-1271.8m: Cpy blebs occur sub stratiform at base of siltstone bed. 30 TCA (ok) 1278.06m Coarse Cpy bleb associated with green-red 1280.2m: Cpy-qtz vn. 0.4cm, 30 TCA (ok)
1286.61	1288.72	Meta-siltstone, 5b	Strongly alt. Red-Green-black bedding at 40 TCA. Moderate brittle fracture-crackle breccia (?). Texture has been mostly destoryed by alteration.
1288.72	1289.11	Mafic Dyke, 8a	Black, aphanitic. Contacts at 80 TCA (x).
1289.11	1293.62	Mafic Volcanic, 2a	2a. Strong, dark grey-green chl alt (?, +amph?). Amyg. fill black chl. Intense ep-chl-hem+/-Cpy alt occurs at upper contact (1289.11-1289.31m), 40 TCA (x?). Intense Hem (kspar?) alt occurs proimal to black chl veins at 1291.42-1291.58m and 1292.24-1292.40m, 50 TCA (x). Cpy bleb in latter. 1292.43-1292.58m: white-grey quartz-albite vein, extremely hard. Brecciated contacts with cherty clasts at 1293.41-1293.65m. 1291.05m: 0.3cm Cpy-qtz vn, cpy as coarse blebs. Vn truncated/cut off. 50 TCA (x). 1291.99m: 0.3cm Cpy-qtz vn. Fine-Medium blebs of cpy. 50 TCA (x).
1293.62	1301.80	Meta-Conglomerate, 5e	Strong Chl (?, +amph?) alt, original texture almost completely destroyed, recrystallization?. Rock is dark green-grey. Remnant clasts still observable. non-moderately mag netic. Mag weaker around hematite and epitdote altered areas. Rare blebs of Cpy occur throughout unit. 1300.18m: 0.4cm Cpy-qtz vn. 5-10% Cpy in vn. Red hem alt upto 1mm marginal to vn. 30 TCA (x)

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1301.80	1303.48	Meta-Sandstone, 5c	Strong pervasive hematite alteration and silicification. Bedding at 60 TCA. Non magnetic. Py in micro fractures, that increase in density downhole upto 2%.
1303.48	1308.56	Meta-Conglomerate, 5e	Strong Chl (?, +amph?) alt, original texture almost completely destroyed, recrystallization?. Rock is dark green-grey. Remnant clasts still observable. Overall tr cpy-py occurs in either less intense chl alt or is hem overprint, remnant clasts are easier to distinguish, rock is has weak red hue. 1305.54-1305.75m: Diseminated Cpy-py, 0.5%, hem alt, 0.5cm Ep vn perpendicular TCA at 1305.70m. 1306.02m: tr disseminated Mo, appears to be with remnant granite pebbles. 1306.97m: 0.2cm qtz-carb vn, tr cpy, 60 TCA (x?) 1307.88-1308.35m: 1-2cm carbonante vn, has splays, truncates an ep-quartz-cpy vein, 30 TCA (x) 1308.13m: Ep-qtz-carb-cpy vn, truncated by late carb vn. 80 TCA (x) 1308.35-1308.56m: tr dss Cpy-Mo.
1308.56	1309.41	Mafic Volcanic, 2d	fg-mg.
1309.41	1311.66	Pebblestone, 5e	Pervasive hem-ep alt. Overall tr cpy-py occurs throughout, increases to 1% in sections. 1309.41-1309.89m: 1% dss cpy-py 1310.04-1310.19m: 1% dss cpy-py
1311.66	1318.73	Structural Unit	Host is indistinguishable. Possily conglomerate/pebblestone, basalt, or a variety. Interval is characterizted by Ep-Mica-carb vns, 5-10% vn material Vning is commonly intense-brecciated over ~10cm intervals. Mica is well developed in places. Overall tr cpy, occurs in thin, often discontinuous ff/vns. Abundant py mineralized proximal to some ep vns where mica is less developed. Mica is clear-white, likely muscovite. 1312.48-1312.65m: 0.1cm Cpy ff/vn. 20 TCA. 1316.51-1316.61m: Dss Py, 20%, proximal to ep vn breccia.
1318.73	1331.10	Meta-Mafic Volcanic	Massive to amygdalioidal. Original textures difficult to discern. Fg, overall colour is dark grey-black-slighly green. Tr cpy throughout occurs as belbs in amygdules (?) and in vns. Vns are generally 0.5-1.0 cm TW. Blebs of Cpy are sparsely disseminated throughout. Moderate-strong mag. 1320.47m: 1cm Qtz-ep-carb-cpy vn. Zoned/braided. 1% cpy, 40 TCA (x).

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1320.97-1321.30m: 0.5-1% dss cpy. 1321.30-1321.75m: Shear structure with well developed zoning. Strong chl alt extends 2cm at margins. Pervasive ep alt/ep vn over 2cm towards core, with 3-5% dss Py. Core is a strongly sheared hem-carb vn (CBrZ?) over 3cm TW. Possible 1cm qtz-ep vn in core. Core has 20% Py-Cpy-Bn mineralization. 1321.89m: 0.2cm Qtz-carb-cpy vn. Pink-red hem alt extends 0.3cm from margins. 40 TCA (x). 1323.12-1323.48m: Cpy in three 0.1 cm ff/vn. Hem and chl alt in WR. 1324.25m: 0.1cm Ep-qtz-Cpy vn. 2% Cpy. 55 TCA. Opposite dip direction to common vn dip direction. 1324.52m: 0.2cm Ep-qtz-Cpy vn. tr Cpy. 40 TCA. 1324.65m: 0.2cm Ep-qtz-Cpy vn. tr Cpy. 40 TCA. 1325.39m: 0.3cm Chl-Qtz-Cpy vn +/-Bn. Tr cpy, tr bn. 40 TCA. 1330.0-1331.1m: Numerous hairline fractures in all orientations, three 0.1cm vns. Cpy-py occurs throughout.
1331.10	1333.12	Meta-Sediments	Mg-Fg, possible flow top with narrow seam of siltstone. Ep-Hem alt gives unit a mottled green-red appearance. Mod-Strong mag. Cpy replacing Mt. Cpy mineralization (up to 3-5%) appears pref to more Ep alt zones. 1% Cpy throughout. 1331.15m: 0.2cm Cpy Vn. 30 TCA (x) 1331.20-1331.50m: 3-5% dss Cpy rplacing Mt in Strong Ep alt horizon (ok). 1332.52m: 1.0cm Qtz-Cpy Vn. 30% Cpy. 50 TCA (x)
1333.12	1338.50	Mafic Volcanic, 2b	Sparsely amygdaloidal. Moderate-strongly magnetic. 3 blocky fault zones spaced 1-3m apart. Moderate vning/frac throughout. Generally, Ep-hem alt developed marginal ff/vns. Tr-1% Cpy blebs/dss throughout. 1334.85-1335.25m: 5% dss Py-Cpy. Zone is very broken (previous CBrZ?). Interval is estimate. 1335.74m: 1.0cm Ep-Qtz-Act-Cpy Vn. 40 TCA (x). 1335.87m: HL frac with Cpy. 30 TCA (x). 1335.94m: 0.1cm Cpy vn, minor hem alt at margins. 40 TCA (x) 1336.08m: 0.1cm frac/vn with act (?)-hem-Cpy developed up to 0.5 cm on either side. Cpy coarse, up to 0.5cm. 20 TCA (x, but opposite to common orientation) 1336.22m: 0.1cm ff/vn, Ep alt and cpy up to 0.2cm marginal to vn. 1336.22-1336.61m: 1% dss cpy in strong, pervasive ep alt zone. 1336.61m: HL ff, with tr Cpy. 30 TCA (x) 1336.99m: Coarse blebs of Cpy aligned roughly flat TCA. Blebs up to 1.0cm.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1337.12m: HL Cpy ff. 10 TCA (x, but opposite to common orientation) 1337.22m: 0.1cm Cpy ff/vn. 40 TCA. 1337.41m: 0.1cm Cpy ff/vn, strong ep alt and cpy up to 1.cm marginal to vn. 40 TCA (x). 1337.52m: 0.1cm Cpy ff/vn, strong ep alt and cpy up to 1.cm marginal to vn. 40 TCA (x, but opposite to prevvious). 1337.88m: HL Cpy ff/vns. Conjungate set or two crossing at 10 TCA and 20 TCA in opposite orientations. 1337.96m: HL Cpy frac/vn at 40 TCA crosses remnant (?) 1.0cm Vn/bx at 80 TCA.
1338.50	1339.42	Meta-Sediments	Strong Chl alt obscures original texture.
1339.42	1344.10	Mafic Volcanic, 2b	Amygdaloids fill Qtz. Moderate qtz vning throughout. Weak-Moderate pervasive chl alt. Tr med-coarse cpy blebs in amyg throughout. No common vn direction Mod-strong mag, except mag gets weak around larger qtz vns with coarse Cpy. 1340.77m: 0.1cm Cpy Vn, 60 TCA 1340.84m: 0.1cm Cpy Vn, 45 TCA 1340.95m: 0.1cm Cpy Vn, 60 TCA 1341.08m: 0.1cm Cpy Vn, 50 TCA 1341.93m: 0.5cm Qtz-Cpy Vn, weak hem alt marginal to vn. 35 TCA. 1342.08m: 1.0cm Qtz-Cpy Vn. Cpy is med-coarse-semi massive (50%). 50 TCA (opposite to previous) 1342.24m: 0.3cm Qtz-Cpy Vn. 40 TCA (opposite to previous) 1342.58m: 0.1cm Cpy Vn 30 TCA. 1343.09m: 0.1cm Cpy FF/Vn, 40 TCA. 1343.44-1343.56m: minor stock work with Cpy FF. 0.5cm Qtz-Act-Cpy vn, 50 TCA. 1343.66-1343.81m: 1% dss Cpy
1344.10	1348.57	Meta-Sediments	Possible meta flow top breccia. Mottled dark green-dark brown. Rare coarse cpy bleb. Mod-strong mag. 1344.14m: 0.1cm Cpy Vn. 45 TCA. Runs into Ep-Cpy at 80 TCA. 1344.23m: 0.1cm Cpy Vn. 30 TCA (opposite to previous) 1344.35m: 0.1cm Ep-Cpy Vn. 80 TCA. 1344.84m: 1.5cm Cpy bleb / replacement

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1348.57	1355.30	Mafic Volcanic, 2b	Sparsely amygdaloidal with quartz fill. Weak-moderate qtz FF/vn throughout, sparse cpy. Moderate-strong mag. 1353.10m: 0.1cm Cpy Vn. 40 TCA. 1353.41m: 0.1cm Covellite bleb in qtz filled amyg. 1353.94m: 0.1cm Cpy Vn, 30 TCA. 1354.08-1354.52m: 1-3% Cpy in strong pervasive Ep alt zone. 1355.17m: 0.2cm Qtz-cpy vn. 80 TCA
1355.30	1356.77	Flow Top Breccia, 6	Strong chl alt turned entire unit dark grey-weak green. No mineralization observed.
1356.77	1362.37	Mafic Volcanic, 2b	Sparsely amygdaloidal. Amyg fill with qtz, chl mt, act, chalcondony, and tr fine-med Cpy. Weak qtz FF/vn throughout. Mod-strong mag. 1359.41m: 0.5cm qtz-cpy vn. Coarse tr Cpy. 55 TCA. 1361.79m: 0.5cm Qtz-Act-Cpy vn. 30% coarse Cpy. 45 TCA. 1362.18m: 0.5cm Qtz-Act-Cpy-Mo Vn. 30% coarse cpy, 10% coarse Mo. Vn appears to have remnant Ep margins. 45 TCA.
1362.37	1366.64	Porphyry, 7a	Black groundmass, pale white-slightly green phenocrysts. Phenos abundant (30%), subhedral, most 0.5cm, but can reach up to 1.0cm size. Mod mag. Possilbe mafic volcanic rafts, or units intermittent. 1362.66m: Rusty spots in mechanincal (drill or hammer) frac. 1363.02m: 0.1cm Qtz-act vn. Possible Cpy host. 45 TCA. 1364.08m: 0.1cm Qtz-Act-Cpy Vn. 20% med Cpy. 50 TCA. 1365.54m: 1.0cm Qtz-Ep vn, possilbe Cpy host. 45 TCA. 1365.64m: 0.5cm Qtz-Act-Cpy Vn. Cpy med-coarse 20%, 50 TCA. 1365.23m: FF with act and cpy. 70 TCA.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1366.64	1367.00	Meta-sediments	Possilbe meta-shear. Intensely Ep-silica alt with prominent clear-milky quartz vein at 40 TCA, (ok?, follows local fabric). Tr Cpy, myay be under estimated do to host colour obscuring cpy blebs.
1367.00	1369.56	Porphyry, 7a	As previous, except there are definitely no mafic volcanics in this interval. 1367.55m: 0.1cm Act-Cpy Vn. 60 TCA 1367.84m: 0.1cm Cpy-Mo-Act vn. 40 TCA. 1367.96m: 0.1cm Qtz-Act Vn. 30 TCA. 1368.91m: 0.2cm Qtz-Act-Cpy Vn, 45 TCA
1369.56	1370.19	Meta-Sediments	Possilbe meta-shear. Intensely Ep-silica alt with 1-2cm clear-white-light grey quartz-albite vns at 40 TCA (principal) and 20 TCA (dilation, opposite and X-cut). Principal vein follows local fabric, dilation vns at 60 to principal. Coarse blebs of Mo (0.5cm) occur in quartz vns. Cpy occurs in Ep alt zones.
1370.19	1375.32	Porphyry, 7a	As previous. 1370.57m: 0.2cm Cpy-Ep-Hem vn, 60 TCA. 1372.13m: 0.4cm milky white qtz-hem-Mo vn. 60 TCA. 1372.23m: 0.5cm milky white qtz-hem-Mo vn. Med Mo, 10%. 60 TCA. 1373.90m: 0.3cm Qtz vn. Weakly vuggy. 40 TCA.
1375.32	1384.82	Mafic Volcanic, 2a	Amyg fill Chl, Ep, and a pale pink-mily quartz. Tr py smear in frac. Cpy in qtz vns, and tr blebs/replacing mt in amyg. 1380.72m: 0.3cm Qtz-cpy vn. 40 TCA. Chl after amph in vn, and pale pink-red alt at vn margin upto 2mm each side. Tr Cpy. 1381.59m: 0.1 cm Qtz-cpy vn. 45 TCA. (x) 1382.12m: 0.2 cm Qtz-cpy vn. Chl after amph (?) in vn. Tr Cpy. 55 TCA. (x) 1382.74m: 1.0 cm Qtz-Cpy vn. 30% coarse Cpy. 45 TCA. (x) 1383.0m: 0.4 cm Qtz-cpy vn. Chl after amph (?). Unmineralized Carb vn in core. 10% Cpy. 25 TCA. (x) 1383.74m: Coarse Cpy in either truncated/boudin vn (1.0cm) or flat elongate amyg. 20% Cpy. Ep, Amph (act?), and qtz fill. 40 TCA.
1384.82	1386.68	Porphyry, 7a	As previous, except that the phenos are less abundant. 1384.86m: 0.1 cm Qtz-cpy vn. Tr Cpy. 40 TCA.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1386.20m: fg cpy observed associated with mirco vn or HL frac. Tr Cpy.
1386.68	1387.80	Mafic Volcanic, 2a	Mt-Chl-Cpy observed in amyg together. Mt and Cpy appear to occupy the core, with chl forming at the rims. Mt is forms in bladed/needle habit similar to Chl.
1387.80	1389.10	???	Fg, red, siliceous rock. Appears silica flooded as there is abundant quartz interstitial. Botroidal/Colloidal, red mineral surrounds qtz and feldspar (?) grains. Rock becomes less siliceous and more uniformly red toward base of unit. Upper contact is flat TCA, bottom contact is very irregular and at roughly at 10 TCA. Non magnetic. 1388.8-1389.1m: 1% cpy mineraliztion associated with chl (?, olive green, soft)
1389.10	1391.54	Mafic Volcanic, 2a	Moderate-Strongly magnetic.Coarse secondary magnetite in amyg associated with chl. (fe-mg's -> Mt). Minor cpy minerlaization.
1391.54	1395.54	Porphyry, 7a	As previous. Moderately Magnetic 1394.3m: 0.6cm Qtz-Cpy vn. 0.1cm carb vn cuts the core of vn. 5% Cpy. 40 TCA. 1395.0m: 0.5cm Qtz-Cpy vn. Minor carb in core. Cpy at margins. 5% Cpy. 45 TCA.
1395.54	1407.41	Mafic Volcanic, 2d	Fg, massive basalt. Moderate-strongly magnetic. Moderate vning throughout, evidence of early, strong frac. Amyg in first 1.5m of unit. Tr cpy in amyg.
1395.54	1407.41	Mafic Volcanic, 2d	Fg, massive basalt. Moderate-strongly magnetic. Moderate vning throughout, evidence of early, strong frac. Amyg in first 1.5m of unit. Tr cpy in amyg. Cpy in Qtz vns throughout. Weak bleaching and/or argillic alt intermittent throughout amyg flow top. 1398.13m: 0.1cm carb vn, with tr cpy. 80 TCA. 1401.86m: 0.5cm Ep-Qtz-cpy vn. Truncated by late carb vn. 50 TCA. 1405.90m: 0.1cm Qtz-Act-Cpy vn. 70 TCA. 1406.04m: 0.1cm Qtz-Act-Cpy-Mo vn/FF. 50 TCA and 10 TCA (two vns, or FF). 1406.37m: 0.3cm Qtz-Chl-Cpy vn. Chl replacing act. 70 TCA. 1406.43m: 0.3cm Qtz-Chl-Cpy vn. Chl replacing act. 50 TCA. 1406.47m: 0.3cm Qtz-Chl-Cpy vn. Chl replacing act. 50 TCA. 1406.56m: 0.2cm qtz-chl-cpy vn. Chl replacing act. 50 TCA.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
			1406.93m: 1.0cm Qtz-act-cpy vn. Act is coarse (up to 0.5cm) and cpy occurs in aggregates of act. Act is partially replaced by Cpy. 80 TCA.
			1407.0m: 0.2cm qtz-chl-cpy vn. Chl is replacing act. 70 TCA.
			1407.16m: 0.1cm Qtz-chl-cpy vn. 65 TCA.
			1407.28m: 0.5cm qtz-chl-cpy vn. 65 TCA.
			1407.38m: 0.1cm qtz-chl-cpy vn. 85 TCA.
			1407.58m: 0.1cm qtz-chl-cpy vn. 85 TCA.
			1408.28m: 0.1 cm qtz-chl-cpy vn. 80 TCA.
1408.41	1422.70	Mafic Intrusive, 8b	Mg, dark gray-dark green. Moderately magnetic. Fine dss magnetite (3%) and very fine dss cpy throughout (0.5%). Upper contact is gradational. Tr cpy in vns unless noted otherwise.
			Tr-1% cpy in vns unless noted otherwise.
			1408.55m: 0.2 cm qtz-chl-cpy vn.
			1408.74m: 0.1cm qtz-chl-cpy vn.
			1408.75-1408.85m: 3 interconnected ep-qtz-act/chl-Cpy vns. Bleaching/hem alt marginal to vns.. 2% Cpy over interval. Sub-perpendicular TCA
			1409.12-1409.22m: 3 Qtz-chl-cpy vns. Tr coarse Cpy. 70 TCA.
			1409.49m: 0.1 Qtz-act vn. 80 TCA.
			1409.74m: 0.2cm Qtz-chl-cpy vn. 70 TCA.
			1409.89m: HL chl-cpy vn. 70 TCA.
			1409.95m: HL chl-cpy vn. 70 TCA.
			1410.08m: 0.2cm qtz-ep-act vn. Sub-perpendicular TCA.
			1410.32m: 0.1cm qtz-act vn. 70 TCA.
			1410. 59m: 0.2cm qtz-act-cpy vn. 90 TCA
			1411.00m: 0.1cm qtz-act-cpy vn. 60 TCA.
			1411.06m: 0.2cm qtz-act-cpy vn. 70 TCA.
			1411.36m: 0.5 cm qtz-chl-cpy. Chl is after amph (act). 5% Cpy, occurs with chl. 85 TCA.
			1411.98-1412.05m: 3.0cm Qtz-chl-cpy-mo vn and 0.5cm semi-massive cpy vn.85 TCA
			1412.45m: 0.3cm qtz-chl-cpy-mo vn. 70 TCA.
			1412.48m: 0.4cm qtz-chl-cpy vn. 60 TCA.
			1418.31m: 0.4cm Qtz-act-chl-cpy vn. 75 TCA.
			1419.72-1419.79m: Ep-qtz-cpy/py vn. 60 TCA.

METERAGE FROM	TO	ROCK TYPE	DESCRIPTION
1422.70	1425.04	Flow Top Breccia, 6	Possibly (?). Strong chlorite alt. Medium-coarse cpy-py as replacements (and/or amyg fill). 1% cpy-py throughout unit. Strong-very strong mag occurs in bands. In between mag bands is weak mag. 1424.75- 1425.04m: Mag is weak. 1422.70-1424.00m: Strongest mag, and 2% cpy. 1424.86m: 1.0cm chl-cpy vn. 40% Cpy. 40 TCA.
1425.04	1428.17	Mafic Volcanic, 2b	weak Mag overall. Occasionaly localized increase in mag. Tr cpy throughout unit replacing amyg fill. 1427.98m: 0.5cm Magnetite vn. 90 TCA.
1428.17	1432.70	Mafic Volcanic	Possilby conglomerate. Original textures obscured by strong chl, ep alt increases toward base. Weak mag. Moderate to strong frac. Tr Cpy in frac. 1431.20-1432.40m: frac fill with yellow-orange mineral (lim?).
1432.70	1433.93	Meta-Conglomerate, 5e	Monomictic proto (?). Moderate-strong mag, mag pref to basalt clasts. Matriz is strongly chl alt. Strong pervasive ep from 1433.65-1433.85m
1433.93	1437.30	Mafic Intrusive, 8b	Structural Unit. 5-50 cm strongly frac zones of strong chl-chert-mt with minor hem, 35% vn/ff material, structures generally at 50 TCA. Tr cpy. Massive mt vns in stronly chl zones. Up to 1cm. 1434.69m: 0.4cm Mt vn. 40 TCA. 1434.79m: 0.5cm Mt vn. 30 TCA. 1435.13m: 0.5cm Mt vn. 90 TCA. 1436.75m: 1.0cm Mt vn. 30 TCA. 1437.03m: 0.5cm Mt vn with 2 cpy vnlets in core. 40 TCA.
1437.30	1441.35	Mafic Intrusive, 8b	Mg. Black. Little to no frac or deformation. 1440.75m: HL frac with Cpy fill. 30 TCA.

EOH

SAMPLE METERAGE				
	SAMPLE #	FROM	TO	SAMPLE LENGTH
P	949831	104.90	105.20	0.30
P	949832	106.75	107.05	0.30
P	949833	101b	101b	
P	949834	110.24	110.54	0.30
P	949835	112.26	112.56	0.30
P	949836	112.56	112.88	0.32
P	949837	112.88	113.18	0.30
P	949838	120.06	120.36	0.30
P	949839	121.00	121.30	0.30
P	949840	124.57	124.87	0.30
P	949841	129.69	129.99	0.30
P	949842	129.99	130.52	0.53
P	949843	1/4 Dup	1/4 Dup	
P	949844	130.74	131.04	0.30
P	949845	131.04	131.34	0.30
P	949846	131.34	131.64	0.30
P	949847	131.64	131.94	0.30
P	949875	143.27	143.57	0.30
P	949876	145.24	145.54	0.30
P	949877	146.40	146.80	0.40
P	949878	1/4 Dup	1/4 Dup	
P	949879	148.45	148.75	0.30
P	949880	149.73	150.03	0.30
P	949881	150.36	150.66	0.30
P	949882	151.92	152.22	0.30

SAMPLE METERAGE				
	SAMPLE #	FROM	TO	SAMPLE LENGTH
P	949883	159.00	159.30	0.30
P	949884	159.70	160.00	0.30
R	323025	164.47	164.77	0.30
R	323026	166.18	166.48	0.30
R	323027	168.18	168.48	0.30
R	323028	169.76	170.06	0.30
R	323029	170.06	170.36	0.30
R	323030	179.05	179.35	0.30
R	323031	183.00	183.30	0.30
R	323032	CM-36	CM-36	
R	323033	185.20	185.50	0.30
R	323054	402.56	402.86	0.30
R	323055	409.15	409.45	0.30
R	323056	425.17	425.47	0.30
R	323057	433.85	433.20	-0.65
R	323058	447.38	447.68	0.30
R	323059	Blank	Blank	
R	323060	448.61	448.91	0.30
R	323074	471.85	472.15	0.30
R	323075	481.54	481.84	0.30
R	323076	483.82	484.32	0.50
R	323077	101b	101b	
R	323078	484.32	484.78	0.46
R	323079	490.12	490.47	0.35
R	323080	492.25	492.55	0.30

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323081	499.80	500.10	0.30
R	323082	502.46	502.76	0.30
R	323104	CM-36	CM-36	
R	323105	522.77	523.46	0.69
R	323106	523.46	523.76	0.30
R	323107	523.76	524.88	1.12
R	323108	524.88	525.88	1.00
R	323109	525.88	526.60	0.72
R	323110	526.60	527.48	0.88
R	323111	528.07	528.37	0.30
R	323112	101b	101b	
R	323136	542.60	542.90	0.30
R	323137	544.66	545.16	0.50
R	323138	546.54	547.04	0.50
R	323139	548.04	548.34	0.30
R	323140	548.34	549.00	0.66
R	323141	551.50	551.80	0.30
R	323142	555.28	555.74	0.46
R	323143	558.90	559.20	0.30
R	323144	559.20	559.70	0.50
R	323145	559.70	559.94	0.24
R	323146	559.94	560.24	0.30
R	323147	101b		
R	323148	560.24	560.89	0.65
R	323149	560.89	561.29	0.40

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323150	561.29	562.01	0.72
R	323151	562.01	562.97	0.96
R	323152	562.97	563.97	1.00
R	323153	563.97	564.64	0.67
R	323154	564.64	565.15	0.51
R	323155	565.15	565.55	0.40
R	323156	1/4 Dup		
R	323157	571.85	572.15	0.30
R	323158	573.15	573.45	0.30
R	323159	574.80	575.10	0.30
R	323160	577.07	577.57	0.50
R	323161	580.70	581.00	0.30
R	323162	581.00	581.39	0.39
R	323163	581.39	582.22	0.83
R	323164	blank		
R	323165	582.22	583.00	0.78
R	323166	583.00	584.00	1.00
R	323167	584.00	584.50	0.50
R	323168	584.50	585.00	0.50
R	323169	585.00	585.30	0.30
R	323170	585.30	585.80	0.50
R	323171	585.80	586.80	1.00
R	323172	cm-36		
R	323173	586.80	587.80	1.00
R	323174	587.80	588.66	0.86

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323175	588.66	589.00	0.34
R	323176	589.00	589.48	0.48
R	323184	590.80	591.10	0.30
R	323185	593.50	594.10	0.60
R	323186	594.10	594.70	0.60
R	323187	594.70	595.46	0.76
R	323188	595.46	595.99	0.53
R	323189	600.14	600.44	0.30
R	323190	602.52	602.82	0.30
R	323191	1/4 Dup		
R	323192	610.14	610.44	0.30
R	323193	611.32	611.63	0.31
R	323194	612.73	613.09	0.36
R	323195	613.09	613.39	0.30
R	323196	615.95	616.25	0.30
R	323197	624.55	624.85	0.30
R	323198	624.85	625.44	0.59
R	323199	Blank		
R	323200			
R	323201	643.74	644.04	0.30
R	323202	649.52	649.82	0.30
R	323203	652.94	653.70	0.76
R	323204	653.70	654.54	0.84
R	323205	665.26	665.59	0.33
R	323206	668.23	669.23	1.00

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323207	cm-36		
R	323208	669.23	670.23	1.00
R	323209	670.53	671.53	1.00
R	323210	671.65	671.95	0.30
R	323211	672.87	673.48	0.61
R	323212	673.48	673.88	0.40
R	323213	676.57	677.57	1.00
R	323214	677.57	677.87	0.30
R	323215	677.87	678.87	1.00
R	323216	679.62	679.99	0.37
R	323217	101b		
R	323218	679.99	680.75	0.76
R	323219	680.75	681.75	1.00
R	323220	681.75	682.40	0.65
R	323221	682.40	683.40	1.00
R	323222	683.40	683.78	0.38
R	323223	683.78	684.08	0.30
R	323224	684.08	685.00	0.92
R	323225	689.11	690.00	0.89
R	323226	1/4 Dup		
R	323227	690.22	690.72	0.50
R	323228	690.72	691.65	0.93
R	323229	691.65	692.40	0.75
R	323230	692.40	692.85	0.45
R	323231	696.00	697.00	1.00

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323232	698.80	699.10	0.30
R	323233	701.00	701.30	0.30
R	323234	Blank		
R	323235	704.44	704.74	0.30
R	323236	706.55	706.85	0.30
R	323237	708.00	709.00	1.00
R	323238	709.00	710.00	1.00
R	323239	710.00	710.80	0.80
R	323240	654.40	654.70	0.30
R	323241	654.70	655.40	0.70
R	323242	CM-36		
R	323243	656.00	657.00	1.00
R	323244	657.00	658.00	1.00
R	323245	658.00	659.00	1.00
R	323246	722.80	723.80	1.00
R	323247	723.80	724.80	1.00
R	323248	724.80	725.79	0.99
R	323249	725.79	726.80	1.01
R	323250	726.80	727.80	1.00
R	323251	727.80	728.80	1.00
R	323252	101b		
R	323253	728.80	729.80	1.00
R	323254	729.80	730.53	0.73
R	323255	733.77	734.19	0.42
R	323256	742.66	743.80	1.14

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323257	745.80	746.80	1.00
R	323258	747.70	748.30	0.60
R	323259	748.30	749.30	1.00
R	323260	749.30	750.30	1.00
R	323261	1/4 Dup		
R	323297	947.38	948.00	0.62
R	323298	948.00	949.00	1.00
R	323299	949.00	950.00	1.00
R	323300	950.00	951.18	1.18
R	323301	959.68	960.25	0.57
R	323302	960.25	960.77	0.52
R	323303	981.82	982.30	0.48
R	323305	983.00	983.49	0.49
R	323528	1114.18	1114.63	0.45
R	323529	1114.63	1114.94	0.31
R	323530	1114.94	1115.24	0.30
R	323531	1115.24	1115.64	0.40
R	323532	101b		
R	323533	1115.64	1116.00	0.36
R	323534	1116.00	1116.30	0.30
R	323535	1116.30	1116.60	0.30
R	323536	1116.60	1117.00	0.40
R	323537	1117.00	1117.40	0.40
R	323538	1117.40	1118.00	0.60
R	323539	1118.00	1118.35	0.35

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323540	1118.35	1118.85	0.50
R	323541	1/4 Dup		
R	323542	1118.85	1119.35	0.50
R	323543	1119.35	1120.35	1.00
R	323544	1120.35	1121.00	0.65
R	323545	1121.00	1122.00	1.00
R	323546	1123.90	1124.25	0.35
R	323547	1125.00	1125.30	0.30
R	323548	1126.05	1126.55	0.50
R	323549	Blank		
R	323369	1136.25	1136.55	0.30
R	323370	1136.55	1137.46	0.91
R	323371	1137.46	1137.76	0.30
R	323372	1137.76	1138.26	0.50
R	323373	1140.07	1140.37	0.30
R	323375	1140.37	1141.22	0.85
R	323376	1141.22	1141.52	0.30
R	323377	1141.52	1142.82	1.30
R	323378	1141.82	1142.26	0.44
R	323379	1142.26	1142.56	0.30
R	323380	1142.56	1143.00	0.44
R	323381	1150.00	1155.41	5.41
R	323383	1155.41	1155.88	0.47
R	323384	1155.88	1156.88	1.00
R	323385	1156.88	1157.63	0.75

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323386	1157.63	1158.26	0.63
R	323387	1158.26	1158.80	0.54
R	323388	1158.80	1159.10	0.30
R	323389	1159.10	1160.04	0.94
R	323390	1160.04	1160.34	0.30
R	323391	1160.34	1160.84	0.50
R	323393	1164.10	1165.06	0.96
R	323394	1165.06	1165.57	0.51
R	323395	1165.57	1166.08	0.51
R	323396	1166.08	1166.38	0.30
R	323397	1166.38	1167.00	0.62
R	323398	1167.00	1167.88	0.88
R	323399	1167.88	1168.55	0.67
R	323400	1168.55	1169.55	1.00
R	323401	1/4 Dup		
R	323402	1169.55	1170.55	1.00
R	323403	1170.55	1171.49	0.94
R	323404	1171.49	1171.79	0.30
R	323477	1174.00	1174.82	0.82
R	323478	1174.82	1175.31	0.49
R	323479	Blank		
R	323480	1179.36	1180.19	0.83
R	323481	1180.19	1180.51	0.32
R	323482	1180.52	1180.87	0.35
R	323483	1180.87	1181.87	1.00

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323484	1181.87	1182.87	1.00
R	323485	1182.87	1185.87	3.00
R	323486	1183.87	1184.87	1.00
R	323487	Cm-36		
R	323488	1184.87	1185.80	0.93
R	323489	1185.80	1186.10	0.30
R	323490	1185.10	1187.10	2.00
R	323491	1189.02	1189.32	0.30
R	323492	1189.32	1189.52	0.20
R	323493	1204.53	1204.83	0.30
R	323494	1205.70	1206.00	0.30
R	323495	1206.00	1206.30	0.30
R	323496	1206.30	1207.11	0.81
R	323497	101b		
R	323498	1207.11	1207.41	0.30
R	323499	1207.41	1207.76	0.35
R	323500	1207.76	1208.52	0.76
R	323501	1208.52	1208.82	0.30
R	323502	1208.82	1209.22	0.40
R	323503	1209.22	1209.87	0.65
R	323504	1209.87	1210.46	0.59
R	323505	1210.46	1210.86	0.40
R	323506	1/4 Dup		
R	323507	1210.86	1211.16	0.30
R	323508	1211.16	1211.66	0.50

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323509	1211.66	1212.00	0.34
R	323510	1212.00	1212.50	0.50
R	323511	1212.50	1213.00	0.50
R	323512	1213.00	1213.60	0.60
R	323513	1213.60	1214.00	0.40
R	323514	Blank		
R	323515	1214.00	1215.00	1.00
R	323516	1215.00	1216.00	1.00
R	323517	1216.00	1216.50	0.50
R	323518	1216.50	1217.00	0.50
R	323519	1217.00	1218.00	1.00
R	323520	1218.00	1218.30	0.30
R	323521	1218.30	1218.60	0.30
R	323522	CM-36		
R	323523	1218.60	1219.00	0.40
R	323524	1219.00	1220.00	1.00
R	323525	1220.00	1220.70	0.70
R	323526	1220.70	1221.00	0.30
R	323527	1221.00	1221.40	0.40
R	323551	1225.26	1225.56	0.30
R	323550	1225.98	1226.40	0.42
R	323552	1238.10	1238.76	0.66
R	323553	1239.44	1239.94	0.50
R	323554	1239.94	1240.24	0.30
R	323555	1249.44	1249.74	0.30

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323556	1250.48	1250.78	0.30
R	323557	CM-36		
R	323558	1253.30	1253.60	0.30
R	323559	1253.60	1253.90	0.30
R	323560	1253.90	1254.20	0.30
R	323561	1254.20	1254.50	0.30
R	323562	1259.60	1259.90	0.30
R	323563	1261.14	1261.64	0.50
R	323564	1264.88	1265.18	0.30
R	323565	1267.00	1267.50	0.50
R	323566	1270.75	1271.05	0.30
R	323567	101b		
R	323568	1271.05	1271.43	0.38
R	323569	1271.43	1271.78	0.35
R	323570	1274.45	1274.75	0.30
R	323571	1274.75	1275.74	0.99
R	323572	1276.74	1277.14	0.40
R	323573	1277.14	1277.49	0.35
R	323574	1277.89	1278.19	0.30
R	323575	1277.49	1277.89	0.40
R	323576	1/4 Dup		
R	323577	1279.75	1280.05	0.30
R	323578	1280.05	1280.35	0.30
R	323579	1281.00	1282.00	1.00
R	323580	1285.00	1286.00	1.00

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323581	1286.70	1287.00	0.30
R	323582	1287.85	1288.22	0.37
R	323583	1288.22	1288.64	0.42
R	323584	Blank		
R	323585	1289.12	1289.42	0.30
R	323586	1290.90	1291.20	0.30
R	323587	1291.20	1291.80	0.60
R	323588	1291.80	1292.10	0.30
R	323589	1292.10	1292.69	0.59
R	323590	1294.34	1294.78	0.44
R	323591	1295.60	1296.00	0.40
R	323592	CM-36		
R	323593	1296.00	1296.50	0.50
R	323594	1296.50	1297.00	0.50
R	323595	1297.00	1297.35	0.35
R	323596	1297.35	1297.65	0.30
R	323597	1297.65	1298.05	0.40
R	323598	1298.45	1298.75	0.30
R	323599	1298.75	1299.16	0.41
R	323600	1299.16	1299.74	0.58
R	323601	1299.74	1300.04	0.30
R	323602	101b		
R	323603	1300.04	1300.34	0.30
R	323604	1300.34	1301.34	1.00
R	323605	1302.50	1303.00	0.50

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323606	1303.00	1303.72	0.72
R	323607	1303.72	1304.02	0.30
R	323608	1305.54	1305.84	0.30
R	323609	1305.84	1306.14	0.30
R	323610	1306.14	1306.96	0.82
R	323611	1/4 Dup		
R	323612	1306.96	1307.45	0.49
R	323613	1307.45	1307.85	0.40
R	323614	1307.85	1308.35	0.50
R	323615	1308.45	1308.75	0.30
R	323616	1309.15	1309.89	0.74
R	323617	1309.89	1310.27	0.38
R	323618	1310.27	1311.27	1.00
R	323619	Blank		
R	323620	1311.27	1311.66	0.39
R	323621	1311.66	1312.40	0.74
R	323622	1312.40	1312.70	0.30
R	323623	1312.70	1313.00	0.30
R	323624	1313.00	1313.54	0.54
R	323625	1313.54	1314.54	1.00
R	323626	1314.54	1315.54	1.00
R	323627	CM-36		
R	323628	1315.54	1316.13	0.59
R	323629	1316.13	1316.47	0.34
R	323630	1316.47	1316.77	0.30

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323631	1316.77	1317.17	0.40
R	323632	1317.17	1317.52	0.35
R	323633	1318.29	1318.59	0.30
R	323634	1319.56	1319.86	0.30
R	323635	1320.31	1320.61	0.30
R	323636	1320.93	1321.41	0.48
R	323637	101b		
R	323638	1321.41	1321.75	0.34
R	323639	1321.75	1322.05	0.30
R	323640	1323.00	1323.50	0.50
R	323641	1324.10	1324.40	0.30
R	323642	1324.40	1324.70	0.30
R	323643	1325.25	1325.55	0.30
R	323644	1326.10	1326.40	0.30
R	323645	1327.70	1328.00	0.30
R	323646	1/4 Dup		
R	323647	1328.00	1329.00	1.00
R	323648	1329.00	1329.50	0.50
R	323649	1329.90	1330.42	0.52
R	323650	1330.42	1331.10	0.68
R	323651	1331.10	1331.45	0.35
R	323652	1331.45	1332.20	0.75
R	323653	1332.20	1332.64	0.44
R	323654	Blank		
R	323655	1332.64	1333.12	0.48

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323656	1333.12	1333.57	0.45
R	323657	1334.37	1334.93	0.56
R	323658	1334.93	1335.30	0.37
R	323659	1335.30	1335.62	0.32
R	323660	1335.62	1336.24	0.62
R	323661	1336.24	1336.64	0.40
R	323662	CM-36		
R	323663	1336.64	1337.40	0.76
R	323664	1337.40	1337.70	0.30
R	323665	1337.70	1338.23	0.53
R	323666	1338.23	1339.30	1.07
R	323667	1339.30	1339.70	0.40
R	323668	1339.70	1340.73	1.03
R	323669	1340.73	1341.17	0.44
R	323670	1341.17	1341.80	0.63
R	323671	1341.80	1342.22	0.42
R	323672	101b		
R	323673	1342.22	1343.18	0.96
R	323674	1343.18	1343.64	0.46
R	323675	1343.64	1344.00	0.36
R	323676	1344.00	1344.48	0.48
R	323677	1344.48	1344.86	0.38
R	323678	1344.86	1345.20	0.34
R	323679	1351.35	1352.24	0.89
R	323680	1352.24	1353.00	0.76

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323681	1/4 Dup		
R	323682	1353.00	1354.00	1.00
R	323683	1354.00	1354.55	0.55
R	323684	1354.55	1355.30	0.75
R	323685	1359.25	1359.55	0.30
R	323686	1359.55	1360.00	0.45
R	323687	1360.00	1360.40	0.40
R	323688	1360.40	1360.70	0.30
R	323689	Blank		
R	323690	1360.70	1361.00	0.30
R	323691	1361.00	1361.32	0.32
R	323692	1362.37	1362.88	0.51
R	323693	1362.88	1363.20	0.32
R	323694	1363.80	1364.20	0.40
R	323695	1364.20	1364.50	0.30
R	323696	1364.50	1364.80	0.30
R	323697	CM-36		
R	323698	1366.70	1367.15	0.45
R	323699	1367.15	1367.50	0.35
R	323700	1367.50	1368.00	0.50
R	323701	1368.80	1369.00	0.20
R	323702	1369.54	1370.20	0.66
R	323703	1370.20	1370.70	0.50
R	323704	1372.80	1372.58	-0.22
R	323705	1372.80	1373.60	0.80

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323706	101b		
R	323707	1373.60	1374.00	0.40
R	323708	1375.40	1375.90	0.50
R	323709	1366.73	1377.13	10.40
R	323710	1380.25	1380.74	0.49
R	323711	1380.74	1381.15	0.41
R	323712	1381.44	1381.74	0.30
R	323713	1382.00	1382.30	0.30
R	323714	1382.60	1382.90	0.30
R	323715	1/4 Dup		
R	323716	1382.90	1383.19	0.29
R	323717	1383.19	1383.56	0.37
R	323718	1383.56	1383.94	0.38
R	323719	1383.94	1384.52	0.58
R	323720	1386.68	1387.80	1.12
R	323721	1389.60	1390.10	0.50
R	323722	1391.75	1392.05	0.30
R	323723	Blank		
R	323724	1393.77	1394.07	0.30
R	323725	1396.16	1396.46	0.30
R	323726	1396.46	1396.83	0.37
R	323727	1396.83	1397.12	0.29
R	323728	1397.78	1398.10	0.32
R	323729	1398.90	1399.40	0.50
R	323730	1399.40	1399.75	0.35

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323731	CM-36		
R	323732	1399.75	1400.45	0.70
R	323733	1401.00	1401.60	0.60
R	323734	1401.60	1402.55	0.95
R	323735	1402.55	1403.08	0.53
R	323736	1406.33	1406.63	0.30
R	323737	1406.63	1407.08	0.45
R	323738	1407.08	1407.40	0.32
R	323739	1407.40	1407.69	0.29
R	323740	1407.69	1408.69	1.00
R	323741	101b		
R	323742	1408.69	1409.00	0.31
R	323743	1409.00	1409.30	0.30
R	323744	1409.30	1410.26	0.96
R	323745	1410.26	1410.60	0.34
R	323746	1410.60	1411.30	0.70
R	323747	1411.30	1411.60	0.30
R	323748	1411.60	1411.90	0.30
R	323749	1411.90	1412.25	0.35
R	323750	1/4 Dup		
R	323751	1412.25	1412.75	0.50
R	323752	1412.75	1413.70	0.95
R	323753	1413.70	1414.60	0.90
R	323754	1417.68	1418.16	0.48
R	323755	1419.53	1419.83	0.30

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323756	1422.70	1423.25	0.55
R	323757	1423.73	1424.72	0.99
R	323758	Blank		
R	323759	1424.72	1425.07	0.35
R	323760	1425.07	1425.37	0.30
R	323761	1425.37	1426.30	0.93
R	323762	1426.30	1427.30	1.00
R	323763	1427.30	1428.17	0.87
R	323764	1428.17	1429.56	1.39
R	323765	1429.56	1430.56	1.00
R	323766	CM-36		
R	323767	1430.56	1431.30	0.74
R	323768	1431.30	1432.20	0.90
R	323769	1432.20	1432.50	0.30
R	323770	1432.50	1433.50	1.00
R	323771	1433.50	1433.93	0.43
R	323772	1433.93	1434.40	0.47
R	323773	1434.40	1435.05	0.65
R	323774	1435.05	1435.57	0.52
R	323775	1435.57	1435.87	0.30
R	323776	101b		
R	323777	1435.87	1436.60	0.73
R	323778	1436.60	1436.90	0.30
R	323779	1436.90	1437.20	0.30
R	323780	1437.20	1437.50	0.30

	SAMPLE METERAGE			
	SAMPLE #	FROM	TO	SAMPLE LENGTH
R	323781	1437.50	1438.50	1.00
R	323782	1440.61	1440.91	0.30

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-08	Regional ZTEM Low Res	Orbit Garant Inc.	MGB, MWK

CLAIM NO.			TOTAL METERAGE
3019479	September 24, 2014	October 12, 2014	1007

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5214550	673000	322

DEPTH	DIP	AZIMUTH
COLLAR	-70	245
200	-69.4	246.8
400	-69.7	254.9
600	-69	254.2
800	-68.6	252.9
1000	-67	256.7

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0	9	Overburden	
9	25.2	**Conglomerate, 5f**	all amygdaloidal basalt clasts, interbanded with narrow intervals of coarse sandstone which can be intensely hem or epd altered bedding 40 TCA
25.2	28.15	**Mafic Volcanics, 2a**	epd-calcite filled amygdules
28.15	29.06	**Mafic Volcanics, 2p**	masssive porphyritic flow, non-vesicular, 1 mm feldspars or aphanitic with brittle fractures and hem calc, epd fillings
29.06	35.1	**Mafic Volcanics, 2a**	as above
35.1	40.16	**Mafic Dyke, 8a**	very uniform, resembles 'diorite' in SPC-14-06; massive moderately brock red, hem alt groundmass with 15-20% 1mm chl flecks, both contacts marked by calcitic vnlts, upper contact 1 cm ragged vnlt 30 TCA whereas lower contact marked by 3 cm wide calc vnlt undulating along ca from 39.45-40.7
40.16	44.85	**Mafic Volcanics, 2a**	epd-calcite filled amygdules
44.85	48.15	**Mafic Dyke, 8a**	as above, upper contact broken, lower 10 TCA
48.15	49.5	**Flow Top Breccia, 6**	Flow top?, mottled interval of epd, hem and bleaching
49.5	59.1	**Mafic Volcanics, 2a**	amy alteration dominated by epid +/- chl, calc, very weak to nil pervasive hem alt of groundmass
59.1	59.65	**Flow Top Breccia, 6**	flow top? Bleaching of nmatrix to "flesh"; epd rich 30%
59.65	62.38	**Mafic Volcanics, 2a**	as above

62.38	62.52	**Flow Top Breccia, 6**	bleaching of matrix to light grey
62.52	63	**Mafic Volcanics, 2a**	as above, typical
63	64.25	**Flow Top Breccia, 6**	flow top? Patchy bleaching to flesh and light grey; strong epd alt
64.25	64.8	**Mafic Volcanics, 2a**	
64.8	65	**Flow Top Breccia, 6**	as above
65	72.63	**Mafic Volcanics, 2a**	sparsely amygdaloidal to massive and amy free
72.63	72.8	**Flow Top Breccia, 6**	as above
72.8	88.25	**Mafic Volcanics, 2a**	sparsely amygdaloidal to massive and amy free
88.25	91.5	**Flow Top Breccia, 6**	
91.5	93.5	**Mafic Volcanics, 2a**	
93.5	98.05	**Flow Top Breccia, 6**	multiple sub-angular basalt clasts; some altered and bleached pale green and grey clay-like; with 20-25% epd matrix and also with minor silica patches as matrix
98.05	127.5	**Mafic Volcanics, 2b**	sparsely amygdaloidal with chl dominant filled

			weak hem overprint and irregular fracture braiding etc from 114.2-114.8; 116.05-118; 119.05-119.85; 120.36-120.65; 121.07-121.6; 123.25-127.5
127.5	128.45	**Flow Top Breccia, 6**	mixed volcanics and brick reddish sediments with patch pervsavive silicification 127.8-128.15
128.45	134.43	**Mafic Volcanics, 2d**	massive flow- 'dioritic/gabbroic'- pervasively epd 50% with hem tinge to 133.45 then just pervasive hem alt to 134.43
134.43	137.25	**Flow Top Breccia, 6**	brick red red hem tinged sediments and epd matrix
137.25	140	**Mafic Volcanics, 2a**	chl filled amys
140	144.39	**Flow Top Breccia, 6**	10% sediments and 2b with small areas of very fine spec hem? 144.25-144.39 band of fault breccia 70 TCA
144.39	153	**Mafic Volcanics, 2g**	gabbroic, massive, little or no amys, moderately hem as pervasive groundmass and hem alteration of 1-2 mm chloritized amphiboles 144.39-148.1 **BCFrZ** laced with 5-8% calc fractures vnlts 1 mm to 1 cm in width at high angles 60-80 TCA, thus sub// to adjacent fault breccia band = ie fairly flat fault/shear 147-148.1 <5% calc fracts vnlts
153	162.7	**Mafic Volcanics, 2a**	amydaloidal with <5% to 10% epd and chl amygdules to 156m, then <5% as nearly massive
162.7	163.07	**Flow Top Breccia, 6**	epd matrix and 80% subangular fragments

163.07	187.8	**Mafic Volcanics, 2a**	upper contact marked by 5cm of pervasive hematite perhaps indiocating oxidized surface 163.07-173.5 alteration 5-20% epd overprint as amys and as pervasive groundmass; with higher levels of approx. 50-60% epd in narrower intervals at: 165.38-165.60; 166.05-166.35; 166.55-167; and 168.2-169.0 175.5-178.0 epd amy's; 176.3-177.95 30-40% sucrose, granular, epd +/- clay alteration and slight fracturing
187.8	188.25	**Flow Top Breccia, 6**	epd rich, mottled, chl-hem-calc-minor bleaching
188.25	189.95	**Mafic Volcanics, 2a**	188.5-189.4 massive with moderate hem overprint 188.85-189.55
189.95	191.85	**Flow Top Breccia, 6**	intense epd overprint, mottled with some flesh bleaching but no sediments; tr spec hem?
191.85	223.4	**Mafic Volcanics, 2a**	sparse to nicely amygdaloidal with epd and/or chl filled 210.31- 217.8 **BCFrZ** Brittle Calcitic Fracture Zone; at low angle to core as below 210.31-210.95 1-3mm hem calc frac/vnlts 10 TCA 212.13-212.25 1-2 mm hem calc frac/vnlt 15 TCA 212.67 3 cm hem calc joint/vn 25-40 TCA 213.3-213.8 0.5-2.0 cm, zoned hem calc, bx vnlt 15 TCAA 214.3-217.75 segmented 1-2cm hem calc vn undulating along the CA; vuggy, appears to cut through as possible shear/bx band trending 45 TCA 218.42-218.6 90% hem calc bx vein 50 TCA
223.4	224.55	**Flow Top Breccia, 6**	epd rich, vuggy, mottled with patchy flesh traces of light grey bleaching; 3 small (1-3mm) cluster of blebs of **chalcocite** at 223.5 and 2 small (2-4mm) clusters at 224.33; chalcocite appears to replacing small irregular ovals of a light grey clacite-silica mixture in the second cluster group; alteration continues weakly and intermittently to 225.8

224.55	236.1	**Mafic Volcanics, 2b/2d**	sparse, moslty chl amy filled but fairly massive 227.45-227.82 bifurcating hem tinged calcite fract vnlts 2mm and 3.5cm at 10 and 40 TCA respectively 234.15-236.1 5-10% epd overprint as wider fracture filling up to 1mm to 2cm in width and as irregualr patches, amygdules
236.1	240.03	**Mafic Volcanics, 2a**	chl dominant filled amy's with subordinate epd filled 239.77-240.03 mottled alteration zone 100% epd, calc, silica, tr py?
240.03	242	**Mafic Volcanics, 2b**	very sparse amy as traansitional into ophitic basalt unit that follows; coarse chl amy with epd rims to 242
242	254.62	**Mafic Volcanics, 2e**	ophitic, 1-3 mm oval hematite tinged feldspars; massive, uniform with faint brick reddish hematitic tinge; <3% epd as jt fractures 1-3 mm in thickness; and scattered, <1% spheres or ellipsoids of coarse pegmatoidal material up to 3-4cm in longest dimension 245.77-249.25 1.2 cm zoned vuggy epd calc frac/vnlt 20 TCA 248.9-249.25 interval with intense epd,clay, chl alteration and slightly vuggy 254.57 2.5 cm zoned vuggy, joint filling vnlt of epd, calc, chl, white silica and an undentified glassy, granular orange mineral 55 TCA, marks flow contact
254.62	256.68	**Mafic Volcanics, 2a**	chl filled amy's
256.68	260.08	**Flow Top Breccia, 6**	fragmental interval composed of slightly vuggy, <2cm breccia (joint) veins with epidote, chl, clay, unidentified glassy orange mineral and bleached fleshy coloured patches and pale green-blue mineral that also fills amys; one 4-5 cm brick red sed clast at 257m

260.08	263.6	**Mafic Volcanics, 2a**	
263.6	264.5	**Flow Top Breccia, 6**	fragmental interval composed of slightly vuggy, <2cm breccia (jt) veins with epd, chl, clay with subangular to subrounded clasts
264.5	276	**Mafic Volcanics, 2b**	grey-green, sparsely 5-10% amy, chl only or hem chl filled, intervals with pervasvie epd grpoundmass at: 265.36-265.6 (45 TCA) 270 3cm zoned silica-epd vnlt; 270.4-271.5; 271.44-271.8: vuggy and with 2.5cm zoned shear vnlt 266.41-266.58 altered shear band 45 TVA 275.1 1 cm zoned calc-epd-silica shear band 50 TCA and low angle, <1 cm vuggy fracture vnlt of same composition 15 TCA at 275.4
276	295.35	**Mafic Volcanics, 2e**	ophitic, very uniform, sparsely jointed with very dark chl and hematite tinge on slickenslided jts; very faint hem tinge of groundmass and ferro mags to 281m then essentially unaltered grey-green gabbroic to 289m 289-293 massive, sparsely jointed, faint hem tinge in both groundmass and chl ferromags 293-296.5 gradational into basalt 2b
295.35	296.5	**Mafic Volcanics, 2b**	moderately to intensely altered interval; likely altered amygdaloidal flow top or bottom; mottled, vuggy, epd, some bleaching over 2a
296.5	301.7	**Mafic Volcanics, 2b**	sparsely, chl filled
301.7	303.7	**Flow Top Breccia, 6**	or just an altered interval- mottle, weathered, clayey, vuggy, epd, chl, some creamy bleaching
303.7	308.1	**Mafic Volcanics, 2b**	sparsely, chl filled
308.1	313.58	**Ultramafic Volcs, 1**	1-2 tightly packed cumulates; slight red bricj hematitic tinge overall, massive, uniform

313.58	314.58	**Flow Top Breccia, 6**	intensely altered amys (>40%); mottled, epd, creamy bleaching, clay, chl; slighty hematized groundmass
314.58	318	**Mafic Volcanics, 2a**	amygdaloidal to gabbroic looking, moslty dark green chl, some epd; slightly hematitic groundmass and ferromags to 318 then both diminsihing in intensity; and gabbroic looking fg-mg with up to 20-30% amyg that resemble ferromags
318	325.32	**Mafic Volcanics, 2g**	gabbroic appearance
325.32	331.9	**Feldspar Porphyry, 7a**	very sharp contact at 40 TCA; aphanitic, slightly hematitic groundmass with sparse <5% subhedral rectangular pinkish feldspars up to 8-9mm; and amyg?; with xenolith of mg-cg, up to 5-6mm, gabbroic basalt from 328.11-329.02 with sharp contacts at 84 (upper) and 55 (lower)
331.9	343.25	**Mafic Volcanics, 2g**	gabbroic appearance 332.8-335.1 weak brittle fracture zone with a **DZ** of 1-2mm epd, clay fracture vnlts and a CZ: from 333.67-333.82 of an in-situ breccia with 10% epd calc filling 337.2 3 cm thick shear band of chl, epd 80 TCA 341.1-341.5 weak brittle fracture zone marginal to a CZ of a 2 cm thick zoned fracture/vnlt
343.25	448.87	**Mafic Volcanics, 2b**	sparse amygdaloidal to amygdaloidal; dominantly chl filled; massive, uniform, weak pinkish hem tinge groundmass to 356m then medium grey, aphanitic to 362m; <15% amys, 1mm to 1cm but most 1-2mm; very slight epd as amys and fractures 343.25-344 weak fracture zone with chl, epd, calc frac/vnlts and one 2mm wide pink (hem) calc fracture/vnlt at 10 TCA 348.19-348.28 7 cm TW band of mottled, zoned epd, silica and trace of the glassy orange mineral and with several 2-4mm blebs of **chalcocite** (3-5% over the 7 cm) 349.14-349.23 one 8cm oval patch of mottled epd alteration covering only part of the core with a single bleb of **chalcocite** 362-371.25 brittle fracture zone with epd, calc,clay fracture/vnlts, faintly hematitic groundmass and other features as noted below

365-371 moderatley brittley fractured

365.55-371.75 pervasive brick red hem tinge of groundmass

367.65-369.75 most intense alteration-burgundy hematitic groundmass, vuggy, marginal to 1 cm zoned calc fract/vnlt 369.75 10 TCA

375.28-376.8 mafic dyke

376.8-377.2 brecciated/fractured contact alteration zone

377.7-377.98 interval with pervasive chl, epd in groundmass

385.31 2 cm band of dark green chl fault bx along joint 70 TCA

386.61-386.72 interval with chloritic jt/fractureds

388.72-388.87 interval with chloritic jt/fractures

389.6-389.7 fractured interval with heavy dark green chl jt fillings

390.65-391.35 fractured interval with heavy dark green chl jt fillings

392.41 0.5 to 1.5 cm thick, zoned chl,epd,clay,silica with streaks 1mm wide **chalcocite** along margins 15 TCA

396.5-400 both chl and epd filled amys

396.5-397 broken core

403.4-404 broken core

402.6-406 interval of brittle fracture and chl, epd, clay alteration; with moderate pervasive hematitic overprint and 3 narrow intervals with irregular globules of silica from 404.25-404.5

406-418.6 massive, uniform, weak hem tinge

418.6-423 fracture and alteration zone; amy altered to epd, clay and other details below:

418.6-419.05 in-situ breccia with epd, clay matrix

419-420.05 brick red hematitic, vuggy groundmass marginal to CZ of two cals frac/vnlt, one 3-5 mm 10 TCA at 419.1-419.5 and second one 1-2 mm at 10 TCA from 419.7-419.95

422.45-422.82 several irregular dark green irrregular masses

448.87	455.76	**Conglomerate, 5e or 2h**	volcanic fragmental (or cgl?); rounded basaltic clasts in a basalt matrix, basalt clasts and matrix pervasively hematized with epd alteration in fractures/clots/specks, not all rounded; some clasts are sub-angular especially near lower contact which appears rather gradational, upper contact 45 TCA
455.76	459.87	**Mafic Volcanics, 2a**	grey-green fine grained amygdaloidal, chl dominant filled amys however some combination of epd-chl +/- hem, moderately fractured with epd dominant filled, epd also in in small cm intervals, minor late chl-sil-hem-epd veining <0.5cm possible small interval of epidotized flow top breccia near lower contact which appears sharp 50 TCA
459.87	460.86	**Mafic Dyke, 8a**	very fine grain, strongly magnetic
460.86	472.68	**Mafic Volcanics, 2p**	porphyritic mafic volcanics (dyke?), very fine grain, massive with about 5-10% pinkish hematitic pheno's; pheno's rather large commonly 2-5mm across but up to 1 -1.5 cm; some are rounded; unit strongly magnetic; pheno's contain fine blebs (not all) of **bornite** and rare **chalcopyrite**; disseminanted **chalcopyrite** also noted in groundmass; inconsistent mineralization; up to 1% at best in intervals but mostly trace
472.68	475.1	**Mafic Volcanics, 2g**	this unit could be a gabbroic mafic volcanic dyke or a mafic volcanic gabbroic looking raft if the above unit is a dyke instead of a flow; unaltered and has a coarse grained gabboric appearance; lower contact sharp 35 TCA, upper broken; grain size suggests some sort of raft, should be finer if a dyke, moderately magnetic, minor epd along very thin fractures
475.1	475.67	**Mafic Volcanics, 2p**	porphyritic mafic volcanics as above unit; what has intruded what here?; **bornite** and **cpy** still in pheno's

475.67	477.54	**Flow Top Breccia, 6**	strongly epidotized with weakly hematized sediments <10%, fine **chalcocite** and **bornite** associated with late silica-chl-epd alteration/flooding/frac/clot interval, some fragment looking chunks are very siliceous to cream colour at 416 m; unit has a weak breccia appearnace from abundant epd+/-chl filled fractures/pseudo-matrix
477.54	509.7	**Mafic Volcanics, 2a**	strongly amgdaloidal mafic volcanics; strong epd alteration to 482m, patchy weak hem alteration of groundmass to 482m also green usually chl filled amys are now light green epidotized, minor specks of **bornite** to 478.64 variably magnetic from weak to strong 499.5-500 small **DZ** interval, broken core but evidence of weak bx/veining by qtz-carb vein, shallow TCA 502.9 8 cm white-silica dominant +/- chl-epd with minor specs of **chalcocite** 504-504.34 altered interval with strong epd and a boudined qtz vein 0.5 cm wide, no mineralization 508.67-509.7 strongly hematized and minor late qtz-carb-hem-chl-epd fractures/vnlts
509.7	513.4	**Daiseyrock, 2i**	"daiseyrock"; large cm across porphyroblast daisies that are generally strongly hematized; epd altered matirx with minor chl flecks, fine intermittent **chalcocite** in groundmass, rare **cpy** along fracture/joint planes
513.4	524.65	**Mafic Volcanics, 2e**	medium grain ophitic; massive; strongly magentic, pervasive hematite alteration of groundmass, intermittent patchy epd alteration in fractures/vnlts, also chl dominant filled veins, upper contact 45 TCA
524.65	533.1	**Daiseyrock, 2i**	strongly developed daiseys either strongly hematized or epidotized 530.6-530.83 two late qtz-carb veins 1cm wide to a blow-out 3-5 cm wide 30 TCA, strong hem alt of adjacent wallrock

533.1	549.47	**Mafic Volcanics, 2a**	chlorite dominant filled amy's although minor epd filled or combo; pervasive moderate hem alteration of groundmass; unit is moderatley fractured/veined by qtz-carb dominant throughout 542.14 couple of small blebs of **chalcocite** in the middle of the host rock 543.54-543.94 mm to 1 cm white qtz vein with calcite varying 20 TCA to sub// TCA with minor blebs of **chalcocite**
549.47	554.13	**Flow Top Breccia, 6**	flow top breccia; evidence of strongly hematized sediments <10%; possible small intervals of relic bedding; unit intensely hematized or strongly epidotized; strongly damaged/veined/bx by qtz-carb-hem+/-sericite veins 549.47-552.78 **BCFrZ** brittle qtz-calcite fracture zone 549.47-549.67 fault gouge, crumbly core 549.67-550.1 qtz-carb vein/bx 10 TCA, 90% qc with subordinate hem,chl ribbons and fracture fills 550.1-550.45 intensely hem; minor qc fractures 550.45-551.3 strong epd alteration; 550.86-551.13, interval of shearing; hem alt and qc ribbon veining 30-70 TCA 551.3-552.24 intense hem; strong qc bx/veining 70 TCA from 551.66-551.92 552.24-552.78 strong silicification and hem alt with 1 x 4cm qc vein 30 TCA 552.78-554.13 strong epidote alteration, angular fragments near lower contact
554.13	579.6	**Mafic Volcanics, 2b/2d**	fine grain to medium grain, sparsely amygdaloidal to massive (ophitic?) to chl flecked; weakly to moderately magnetic from 563m on; variably strongly epidotized and hematized groundmass 554.13-556.7 sparse chl filled amy's 556.7-559.3 weakly chl flecked; chl alteration of ferromags, weakly fractured/broken; weak epd alt and/or hem alt of groundmass 559.3-561.36 very strong epd alteration of groundmass and minor fracture fills 561.36-562.46 strong hem alteration mostly asociated with minor qc fractures/vnlts with 1 x 11cm qtz-calc vein/altered interval 562.46-567.11 massive, uniform, weak ophitic appearance?, relatively unaltered 567.11-579.6 sparesly amygdaloidal to chl flecked, weak pervasive epd alteration of groundmass, intermittent hem alt of groundmass 574.1-575 12+ hairline to 5mm qtz+/- carb fractures/vnlts generally 30 TCA 576.3-577.3 10+ hairline to 2-3mm qtz-carb fractures vnlts 578.26-579.37 8+ qtz-carb+/- hem fractures/vnlts genrally 20-30 TCA 1 x 4cm qtz-carb vein at lower contact 50 TCA

579.6	585.68	**Mafic Volcanics, 2g**	medium grained gabbroic looking unit; strongly magnetic; massive; dark green to black in colour; chl +/- weak serpentine filled fractures/veins; 17 cm fragmental/breccia at lower contact with brick red hematite matrix, lower contact sharp @ 50 TCA very weak fine epd alteration of feldspars
585.68	590.53	**Mafic Dyke, 8a**	aphanitic to fine grain, strongly magnetic, sharp contacts, weak intermittent epd alteration, lower contact broken
590.53	596	**Mafic Volcanics, 2g**	as above unit; just got interupted by dyke; broken core at lower contact for 40 cm
596	606.09	**Mafic Volcanics, 2b/2d**	light grey-green sparsely amygdaloidal to chl flecked to massive; moderately magnetic where not strongly altered by epidote amy's generally chl filled or carb filled, patchy epd altered sections sometimes associated with fracture/jt planes 603.2-603.45 1 cm late white qtz plus calcite vein 10 TCA
606.09	607.6	**Flow Top Breccia, 6**	flow top breccia; contacts look sharp, weakly chaotic looking section, no relic sediments but weakly fragmental looking in places strong epd alteration, amy's filled with chl,carb,epd combinations, few late 2-5mm qtz-carb vein/fractures
607.6	619	**Mafic Volcanics, 2e**	light olive green (epd alt) to dark green black, massive, rare amygdule, moderately magnetic where not altered, minor chl+ serp filled fractures/veins, rare late qtz-calc-hem fracture/vnlt 607.6-611.3 moderately to strongly epidotized
619	652.52	**Mafic Volcanics, 2a/2e**	mixed mafic volcanic unit, mostly amygdaloidal to sparsely amygdaloidal plus chl flecked, massive ophitic sections which grade in and out, variably magnetic (mostly weak), generally pervasive weak epidote alteration of groundmass, amy's chl and/or epdidote filled 621.1-621.25 possible section of flow top breccia, strong silicification and epidote alt with chl, mottled hem(?) alteration 625.7-626.1 broken crumbly core 627.42-627.76 flow top breccia section with a 2 x 2-3mm blebs of **bornite** and smaller blebs of **chalcocite**, strong epd and minor silification with hem (?) (kspar?) mottles (relic seds?)

			631.5-632 broken core 643 1 x 5cm vein with hard red (hem) silica, light chl, clay and light colored epdidote 30 TCA 643.3-643.75 fragmentally/weak bx epidote/chl mottled section with 1 x 2cm vein-like break 644.7-645.62 fragmental/brecciated section, strongly hem alteration of groundmass and in matrix around fragments, matrix of breccia primarially chl-clay 651-652.52 strong epdidote alteration
652.52	671.42	**Mafic Volcanics, 2b**	this unit is hardly recognizable but it appears to be an intensely altered brecciated sparsely amygdaloidal basalt, strongly hematized and epidotized, matrix of breccia a mixture of hem, epd, chl, clay and silica, contacts are alteration controlled 656.4-656.55 2-4mm boudined branching qtz-carb vnlt, strong associated hem alteration 30 TCA 656.75-656.95 weak bx by qtz-carb vein 30 TCA 667.6-668 broken crumbly core
671.42	700.2	**Mafic Volcanics, 2a/2e**	mixed unit of mafic volcanics; massive fine grain ophitic textures to chl flecked sparsely amydaloidal moderately epidotized up to 681.5, strong chl alteration of groundmass and in fractures/vnlts, possible contact @ 681.5 into more massive ophitic with intermittent chl clecked sparsely amygdaloidal with chl filled weak serp and hem along fractures/jts 687.4-687.54 2 x 1 cm qtz-carb veins in a weak bx 45 TCA 690.5 weak be by qtz-carb, intense hem alteration 692.95 1 x 2cm qtz-carb crack and seal veining 30 TCA 695.85-700.2 **BCFrz** highlighted by large pink and white quartz vein +/- blue green sericite and a very light cream green weakly clayey mineral, 99% quartz and above minerals from 696.13-698.97 (2.84m vein) 698.97-700.2 30% qtz-carb in a weak to intense breccia, host rock intensely hematized veining and brecciation 45 TCA crumbly possible fault gouge 697.43-697.63
700.2	717.65	**Mafic Volcanics, 2b?**	sparsely amygdaloidal generally; weakly fragmentally looking intermittently, moderate epd-hem alteration of groundmass

			mottled looking unit 701.14-701.21 1x 7cm qtz-carb vein with hematized rim 703.35-703.68 minor white qtz + calcite veining/fracturing grazed by drill hole, // to 30 TCA 706.8-706.87 1 x 6cm qtx-carb vein 60 TCA 709-709.3 0.5 cm qtz vein with calc sub// TCA
717.65	719.62	**Flow Top Breccia, 6**	possible weak flow top breccia or weak volcanic fragmental; mod-strong hem alteration, weak-mod epd alteration, cream altered looking possible fragments, possible relic strongly hematized seds
719.62	732.2	**Mafic Volcanics, 2b**	fine grain sparsely amygdaloidal; genarally mod epidotized, intermittent strong hem alteration of groundmass, most amy's chl filled, 0.5 cm qtz-carb-hem vein at contact which appears 90 TCA
732.2	747.32	**Mafic Volcanics, 2e**	fine-medium grain, massive, dark green to lighter green where chl dominant alteration, gradational contact, couldn't really pick one out, very weak hem alt of groundmass, epd-strong chl alteration associated with fractures/veins
747.32	752.47	**Volc Fragmental, 2h?**	mottled fragmentally looking section, possible amy's still present which are chl +/- epd filled, generally mod hem alt of groundmass and in wisps/clots/masses, most strong epd alt associated with fine fractures or intermittnet strong groundmass
752.47	773.73	**Mafic Volcanics, 2b/ 2e**	mixed unit of medium grain ophitic volcanics and sparsely amygdaloidal; moderate pervasive hem alt of groundmass, amy's dominantly chl filled, epd alteration of ferro mags where ophitic texture, rare late thin 1-3mm qtz-carb veins/fractures
773.73	787.65	**Mafic Volcanics, 2e**	medium grain, massive, ophitic texture, moderately magnetic unless strongly hematized like 776-778m minor veins/fractures filled with light chl + silica +/- creamy colored very hard mineral (albite?) 784.15-784.39 strong bx by qtz-carb intermittent weak epd-blue sericite alteration of groundmass
787.65	798.35	**Mafic Volcanics, 2a**	strong pervasive hem alteration, amy's mostly filled with chl and/or weak epidote possible flow top 787.65-788m, broken core rare to minor late qtz-carb fractures/vnlts generally 45 TCA

798.35	803.4	**Mafic Volcanics, 2e**	fine grain, massive, weakly magnetic, weak epd alt of ferro mags
803.4	819.94	**Mafic Volcanics, 2a**	strong hem alt to 809m then scattered epd flecked to 811.3, still moderate hem alt of groundmass 811-820 very strong hem alteration of groundmass and of amygdules 813.26-818 moderate **DZ** 813-815 8+ qtz-carb +/- epd vnlts/fractures hairwidth to 1cm generally 45 TCA with a weak bx locally 815-815.6 moderate widely bx by qtz-carb with intense bx/vein 815.34-815.6 815.6-818 6+ qtz-carb +/- epd vnlts/fractures, broken core 817.2-817.85
819.84	832.41	**Mafic Volcanics, 2d**	green moderately epd altered massive volcanics, locally ophitic texture, locally chl or epd flecked, moderately magnetic, minor amygdules intermittently, genrally undisturbed with minor qtz-carb-hem filled fractures/vnlts, lower chill margin for 40 cm
832.41	852.43	**Mafic Volcanics, 2e**	fine to medium grained, dark green to black, massive, locally 'gabbroic appearance, minor fractures/vnlts filled with light coloured chl +/- weak serpentine with rare ones a white hard mineral (albite?) mineralization starting 842.38 consisiting of at first minor **py** blebs associated with chl dominant fractures/vnlts/masses coarse **bornite** with irregular hematite masses (2cm longest dimension) in a 10cm chl altered section 843.34-843.44 848.92-852.43 **bornite** and **chalcopyrite** mineralization associated with chl fractures/vnlts/wisps and as disseminations in host rock 2 coarse py blebs 3 clots/irregular masses of bornite and hematite in chl altered interval

			minor py associated with/next to 2-3 cm chl-qtz-albite fracture/vnlt minor blebs of cpy and bn in 2cm chl fracture and a bn-cpy filled fracture 20 TCA which cross-cuts former chl filled fractures blebby aggregates of cpy along chl filled fracture/vnlts as above plus minor disseminations in host rock cpy as disseminations and fracture associated
852.43	855.92	**Flow Top Breccia, 6**	strong fragmental look however minor <2% relic seds that have been hematized dark red, additional purply hematization in wisps and of amy's and fragment looking pieces, unit moderately to strongly epidotized, strong **chalcopyrite** mineralization in blebs, coarse masses and disseminations, some seen to partially fill amy's; some associated with irregular mottles of qtz-carb-hem coarse cpy associated with 5cm qtz-chl-albite(?) vein/shear
855.92	871.09	**Mafic Volcanics, 2d**	fine frained massive, sparsely amygdaloidal down to 860m, moderately magnetic, very weak poervasive hem alteration of groundmass, patchy strong epd alt, minor chl dominant filled fractures/vns 1 x 2cm clot of cpy associated with qtz-carb+/- clot (amy?) 861.9-862.24 strong epd alt 862.24-862.46 strong chl alteration with 2 blebs of cpy 867.37-867.53 interval of minor epd-chl-qtz-albite alteration 60 TCA
871.09	874.07	**Flow Top Breccia, 6**	mottley hem alterationv of frags? Bluey tinge alteration, visible fragments and possible pebbly seds, contacts 60 TCA intermittent **cpy** mineralization filling amy,s or associated with hem altered irregualr masses/frags? coarse cpy in blebs and bleb aggregates

874.07	907.32	**Granodiorite, 7**	or feldspar porphyry(?) coarse grained, 15-20% ferromags, weak hem alteration of feldspars, strongly fractured, possible weak porphyritc look but could be the coarse grained nature making it look this way, fractures/veins filled with milky white quartz and or chl +/- ferromags, minor py blebs and disseminations assoicated with both kinds of fractures/veins 874.07-877.16 strongly hematized, primary textures obliterated, upper contact to 875 brecciated and veined45-60 TCA by white qtz and minor calcite, ferromags altered to muscovite, all in all a fault bounded contact minor blebby pyrite in a 2cm milky white qtz vein 80 TCA 885.93-886.33 mafic dyke, contacts 35 TCA 887.66 minor py associated with 1.5 cm milky white qtz vein 891.8 blebby brassy pyrite occupying thin mm fracture 893.15-895.23 silicified interval with diss py 897.38-897.62 milky white qtz vein 897.26-897.9 discolouration to grey and destruction of texture 899-907.32 mod hem of feldspars that makes the granodiorite pinkish rough uneven lower contact at about 45 TCA
907.32	908.83	**Feldspar Porphyry, 7a**	grey, fine grained with 5-10%, white-pinkish feldspar pheno's, weak patchy hem alteration of groundmass 3 milky white qtz +albite (?) 35 TCA up to 2 cm wide, these have a slight offset 90 to this by later qtz-chl+/-carb thin 3mm vnlt
908.83	914.32	**Mafic Volcanics, 2g**	fine grained dark green to black, gabbroic texture, massive, strongly magnetic, fine 1-3% disseminated py 909m fine pyrite associated with hair width fracture 25 TCA, upper contact appears 90 TCA 913 10 cm interval of intense hem alteration 913.3-913.8 strong epd and mod hem alteration, coarse aggregates of py associated with irregular masses of strong hem alt

			lower contact 90 TCA
914.32	916.66	**Granodiorite, 7**	probably a branch off the main intrusive above, mostly strong hem of feldspars, late milky white qtz-albite flooding and one 1 x3cm qtz-albite vein 15 TCA 915.83-916.12 minor blebby py associated with ferromag dominant fractures lower contact 60 TCA
916.66	931.9	**Mafic Volcs, 2a/2d/2e/8a**	mixed volcanic unit with mafic dyke activity; massive, dark to lighter green, all fine grained; intermittent small vesicules; intermittnet fine ophitic texture; unit has been intruded by some mafic dyke but very hard to tell contacts which is unusual; evidence of dyke material is a 2 granitic xenoliths at 919m; 917.18 minor cm aggregates of fine pyrite 921.25 0.5cm purple qtz+hem+epd vein 45 TCA with rare bleb of cpy 928.68 thin fracture 25 TCA with fine py 930.3 thin jt/frac with minor fine py sharp lower contact 40 TCA; everything strongly magnetic
931.9	936.75	**Granodiorite, 7**	coarse grain, moderately hem feldspars to 936.2m, then sericitic with possible biotite overprint, unit displays a weak possible fabric in places, minor qtz-albite veins/fractures, lower contact broken off but appears around 35 TCA 933.82-934.15 strong hem alteration associated with a 3cm shear(?) with chl+epd with minor coarse clots of cpy
936.75	959.39	Quartz-Albite Breccia	since 875m it appears that a significant body of granodiorite has intruded the mafic volcanics with subordinate intruding mafic dyke; both grandiorite and mafic volcanics have now been intensely brecciated and flooded by milky white qtz-albite; there are remnant sections of intensely altered granodiortie and remnants/fragments of original mafic volcanics; in some places there is almost 100% white qtz-albite; remnant pieces of granodiorite are hematized to a light pink (feldspars) with further destruction of feldspars to a light creamy green clay mineral; scattered chalcopyrite occurs along breccia fractures, as disseminations spatially associated with chloritized ferro-mags; 944-944.5 has semi-massive to fracture controlled cpy that appears associated with a low angle contact-pseudo shear 936.75-941.8 80% quartz-albite with remnant brecciated mafic volcanic intervals; grey qtz breccia matrix with chlorite and

altered mafic volcs
minor cpy in chl dominant fracture/bx matrix
abundant cpy and py in breccia matrix
99% qtz-alb
90% qtz-albite
80% qtz-albite
tr cpy associated with chloritized ferromag clots
90% qtz-albite
fine cpy and coarse cpy associated with a granitized brecciated mafic volc xenolith
60% qtz-albite brecciation sub// TCA, upper contact with granodiorite interval 30 TCA
altered brecciated granodiorite interval with minor blebs of cpy
brecciated gd with tr cpy
brecciated mv with fracture hosted cpy and cpy blebs
brecciated gd, 60% qtz-alb, cpy associated with one thin fracture
semi-massive cpy in a white qtz-alb plus late grey qtz breccia, contact 30 TCA with next brecciated gd unit
weakly brecciated, strongly hem to pink gd interval; feldspars further reduced to creamy clay
50% qtz-alb + grey quartz in intensely altered gd, minor fracture hosted cpy
90% qtz-alb and grey qtz, tr cpy
brecciated gd with tr cpy, 75% qtz-alb-gy qtz
brecciated gd with tr cpy
brecciated gd with tr cpy
brecciated mafic volcanics, 30% qtz albite
949-957.14 intensely brecciated mafic volcanics with rare fragment of altered granodiorite; 60% qtz-albite with >1m sections of 95% qtz-albite, no visible mineralization
brecciated mafic volcanics; 60 % qtz-albite; no visible mineralization
brecciated mafic volcanics; 40 % qtz-albite
brecciated mafic volcanics; 20 % qtz-albite; sub-rounded to sub-angular chlor bxa frags; trace py
brecciated mafic volcanics; 95 % qtz-albite; purplish-grey altered frags noted
brecciated mafic volcanics; 100 % qtz-albite

			brecciated mafic volcanics; 60 % qtz-albite brecciated mafic volcanics; 25 % qtz-albite brecciated frags but weak to moderately silicified/chlor; sharp contact 40 TCA with granodiorite units below 957.14-959.39 strongly brecciated granodiorite section, 20% qtz-alb-grey qtz; contacts 45 TCA, purpley grey qtz alteration sections/intervals; no visible mineralization pink salmon to light brown colored rocks; weak to mod silicified rocks minor mafic volcanic inclusions purpish grey qtz altn noted at moderately silicified wallrock
959.39	964.3	**Mafic Volcanics, 2d**	decreasing intensity of silicification; minor py bleb @ 961.75 m; weak-mod py specks mostly on highly silcified sections; x-crossed by qtz-calc vnlts/strs along sections; minor inclusions of altered granodiorite units from above; generally fine-grained rocks; sharp contact 40 TCA with archean granite units below bands on silicified sections x-crossed by qtz-calc vnlts/strs are mostly concentrated with fine py dissems larger cubic py dissems <1 mm dia size
964.3	980	**Archean Granite, A2a**	moderate to highly silicified; predominantly pink salmon alteration of k-felds with chlorite-altered ferromags showing preferred crystal orientation mostly along TCA; noted cpy / py specks mostly along qtz-calc or qtz-chlor vnlts/strs qtz-calc vnlts/strs contains weak cpy but rare to weak Py dissems x-crossed by some qtz-calc vnlts and multiple hairline strs containing weak py and rare to weak cpy rare to weak py dissems trace py rare to weak py dissems inc occurrences of weak py dissems mostly on chlor phenos inc occurrences of chlor phenos dotting the pink salmon to light brown ground matrix possibly kfelds ? X-crossed mainly by qtz-calc vnlts/strs contains weak Py dissems weak Py dissems abrupt dec in py dissems; qtz bxa at onset where concentrations of weak cpy + py are observed; end of chloritized frags

			trace py dissems; noted metallic silvery-colored ? mnl @ 973.75 m qtz bxa still with trace py dissems; noted angular frags of kfelds? Within sections rare to weak py dissems minor vugs on sections but still trace Py trace py along sections; bull-white qtz bxa seems devoid of py dissems trace py; multi-directional qtz-calc vng @ 977.65-978.10 m but no visible mineralization trace py trace py
980	986	**Archean Mafics, A1a**	fine-grained rocks, greenish-gray colored, fabric preferred orientation along TCA with minor inclusions of altered archean granite units above; minor brecciated sections at depths 984.30-984.85 m where py specks / disseminations are observed along fabric orientation; rare cpy occurrence; noted vng at contacts with granite inclusions; weak-mod py occurrences noted inc in py (rare to weak) at onset but still generally trace py onwards noted sudden inc in py (wk) within moderately silicified archean granite inclusion contained within x-crossing hairline qtz-calc strs qtz-calc vng (at contact with granite inclusion) @ 982.70-982.82 m showed rare to weak py infills along fractures noted py +/- cpy at onset contact of granite inclusion with wallrock marked by 17 cm-thick bull milky white Qtz vn rare to weak py dissems especially at minor weak to moderately chloritized sections; fabric shows a 20 TCA flow trend noted fracture-infills of py trains roughly 25 TCA trend within shear / qtz bxa generally dark green colored; subrounded to sub-angiular py frags/dissems mostly along fabric altering ? phenos noted 3 cm qtz vn @ 30 TCA bounded by py fract infills
986	1000.23	**Archean Granite, A2a**	as 964.30-980 m; generally pink salmon altered groundmass (kfelds?) dotted with multiple phenos of chl-altered ferromags; qtz-calc vnlts/strs 30-40 TCA x-cross core with notable py blebs and py fracture- / vug-fills; py dissems are rare to weak while cpy is rare; minor archean mafic inclusions; sharp contact 35 TCA with archean mafic units below noted rare py dissems only on archean mafic inclusions wk pinprick py dissems possibly altering ? Chlor phenos

			rare to wk pinprick py dissems noted within vicinities of 2 mm thick qtz-calc vnlt running along TCA @ 988.55-989 m
			trace py
			minor pinprick py dissems at depth but weak py trains at minor chlor vnlts/strs trending 30 TCA
			still with pinprick dissems but rare to weak py dissems along qtz-chlor vnlts/strs
			trace pinprick py dissems; no visible mineralization on qtz and qtz-calc vnlts/strs
			noted py as fracture-infills but trace in amounts
			noted cpy + py blebs @ 2 cm thick qtz-calc vnlt and py blebs @ 2.5 cm thick qtz-chlor vnlt both cutting 2-3 cm qtz vnlt along TCA
			trace py dissems
			rare to wk pinprick py dissems
			wk pinprick py +/- cpy dissems along fabric
			noted py +/- cpy dissems mostly within vicinities of qtz-chlor-filled hairline fractures along TCA
			greenish-brown colored section where inc concentration of py dissems observed; noted blebs of py within 1.5 cm thick qtz vnlt
			rare to weak py dissems
1000.23	1000.92	**Archean Mafics, A1a**	as 980-986 m; fine-grained rocks, dark green-green colored, sharp contact 30 TCA with archean granite units below;
			minor qtz-calc vnlts/strs 20 TCA with no trace of py
			no visible mineralization
1000.92	1002.61	**Archean Granite, A2a**	as 986-1000.23 m; generally pink salmon altered groundmass (kfelds?) dotted with multiple phenos of chl-altered ferromags;
			rare py specks on single qtz-calc vnlt while py absent on a 2 cm thick milky white qtz-calc vn 20 TCA
			rare to weak py +/- rare cpy
			no visible mineralization
1002.61	1006.13	**Archean Mafics, A1a**	as 1000.23-1000.92 m; fine-grained rocks, dark green-green colored, sharp contact 30 TCA with archean granite units below;
			qtz bxa contact with above archean granite units at 60 TCA show micaceous fractures; minor qtz-calc vnlts/strs with py absent
			15 cm thick qtz bxa with weak py dissems within weak-moderately silicified / micaceous mafic unit
			noted 1.5-2 cm thick qtz-chlor vnlt containing rare to weak py dissems at its apex but still generally traced py
			generally aphanitic to fine-grained rxs
			noted sub-rounded to rounded phenos of kfelds ?; still trace py

			no visible mineralization no visible mineralization; noted inc in chlor phenos of ferromags ? no visible mineralization
1006.13	**1007** **EOH**	**Archean Granite, A2a**	as 1000.92-1002.61 m; generally pink salmon colored groundmass (kfelds?) dotted with multiple phenos of chl-altered ferromags at sections following trend along TCA; minor inclusions of archean mafic units above no visible mineralization noted py +/- cpy dissems mostly within vicinities of qtz-chlor-filled hairline fractures along TCA greenish-brown colored section where inc concentration of py dissems observed; noted blebs of py within 1.5 cm thick qtz vnlt rare to weak py dissems
1000.23	1000.92	**Archean Mafics, A1a**	as 980-986 m; fine-grained rocks, dark green-green colored, sharp contact 30 TCA with archean granite units below; minor qtz-calc vnlts/strs 20 TCA with no trace of py no visible mineralization
1000.92	1002.61	**Archean Granite, A2a**	as 986-1000.23 m; generally pink salmon altered groundmass (kfelds?) dotted with multiple phenos of chl-altered ferromags; rare py specks on single qtz-calc vnlt while py absent on a 2 cm thick milky white qtz-calc vn 20 TCA rare to weak py +/- rare cpy no visible mineralization
1002.61	1006.13	**Archean Mafics, A1a**	as 1000.23-1000.92 m; fine-grained rocks, dark green-green colored, sharp contact 30 TCA with archean granite units below; qtz bxa contact with above archean granite units at 60 TCA show micaceous fractures; minor qtz-calc vnlts/strs with py absent 15 cm thick qtz bxa with weak py dissems within weak-moderately silicified / micaceous mafic unit noted 1.5-2 cm thick qtz-chlor vnlt containing rare to weak py dissems at its apex but still generally traced py generally aphanitic to fine-grained rxs noted sub-rounded to rounded phenos of kfelds ?; still trace py no visible mineralization no visible mineralization; noted inc in chlor phenos of ferromags ? no visible mineralization

1006.13	**1007**	**Archean Granite, A2a**	as 1000.92-1002.61 m; generally pink salmon colored groundmass (kfelds?) dotted with multiple phenos of chl-altered ferromags at sections following trend along TCA; minor inclusions of archean mafic units above
	EOH		no visible mineralization

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R323061	106.7	107.1	0.4
R323062	107.6	108.1	0.5
R323063	127.1	127.73	0.63
R323064	127.73	128.4	0.67
R323065	135	135.75	0.75
R323066	135.75	136.5	0.75
R323068	136.5	137.15	0.65
R323069	141	141.75	0.75
R323070	141.75	142.5	0.75
R323071	142.5	143.25	0.75
R323072	143.25	144.25	1
R323073	144.25	145	0.75
R323083	187.8	188.25	0.45
R323084	189.95	190.9	0.95
R323085	190.9	191.85	0.95
R323086	1/4 dup		
R323093	215.25	215.85	0.6
R323094	Blank		
R323095	215.85	216.5	0.65
R323096	216.5	217.15	0.65
R323097	217.15	217.8	0.65
R323098	223	223.35	0.35
R323099	223.35	223.7	0.35
R323100	223.7	224.2	0.5
R323101	93.5	94.25	0.75
R323102	94.25	95	0.75
R323103	95	95.75	0.75
R323113	224.2	224.55	0.35
R323114	224.55	224.9	0.35
R323115	224.9	225.35	0.45
R323116	225.35	225.8	0.45
R323117	234.15	235	0.85
R323118	235	235.45	0.45
R323119	235.45	235.7	0.25
R323120	239.7	240.05	0.35
R323121	1/4 Dup		
R323122	256.68	257.4	0.72
R323123	257.4	258.1	0.7
R323124	258.1	258.8	0.7
R323125	258.8	259.5	0.7

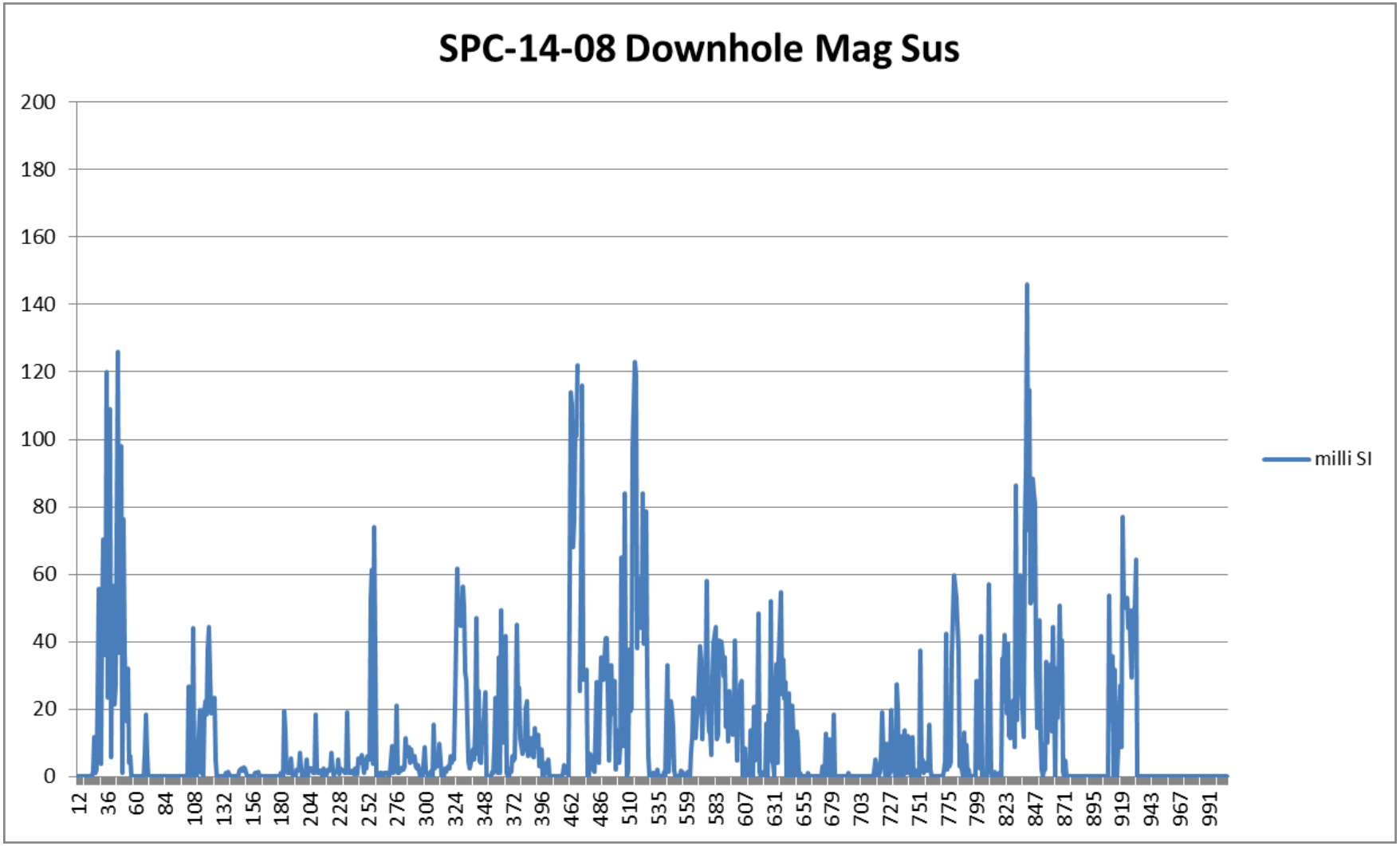
Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R323126	259.5	260.5	1
R323127	263.6	264.05	0.45
R323128	264.05	264.5	0.45
R323129	Blank		
R323130	295.35	296	0.65
R323131	301.7	302.4	0.7
R323132	302.4	303	0.6
R323133	303	303.7	0.7
R323134	313.28	313.93	0.65
R323135	313.93	314.58	0.65
R323177	347.65	348	0.35
R323178	348	348.35	0.35
R323179	348.35	349.15	0.8
R323180	349.15	349.5	0.35
R323181	349.5	349.85	0.35
R323866	363.11	363.76	0.65
R323867	365	365.3	0.3
R323868	370.34	371.07	0.73
R323869	371.07	371.57	0.5
R323870	372	373	1
R323871	373	374	1
R323873	374	375	1
R323874	375	375.4	0.4
R323875	375.4	375.75	0.35
R323876	375.75	376.7	0.95
R323877	376.7	377.2	0.5
R323183	392.25	392.5	0.25
R323262	460.86	462	1.14
R323263	462	463	1
R323264	463	464	1
R323265	464	465	1
R323266	465	466	1
R323267	466	467	1
R323268	467	467.5	0.5
R323269	Blank		
R323270	467.5	468	0.5
R323271	468	469	1
R323272	469	470	1
R323273	470	471	1
R323274	471	472	1

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R323275	472	472.68	0.68
R323276	475.1	475.67	0.57
R323278	475.67	476.09	0.42
R323279	476.09	476.61	0.52
R323280	476.61	477.54	0.93
R323281	477.54	478.05	0.51
R323282	478.05	478.64	0.59
R323283	478.64	479.32	0.68
R323284	509	509.7	0.7
R323285	509.7	510.34	0.64
R323286	510.34	511	0.66
R323288	511	511.5	0.5
R323289	511.5	512	0.5
R323290	512	512.5	0.5
R323291	512.5	513	0.5
R323292	513	513.4	0.4
R323293	513.4	513.95	0.55
R323294	543.54	543.94	0.4
R323295	627.42	627.76	0.34
R323296	1/4 Dup		
R323306	842.37	843.22	0.85
R323307	843.22	843.52	0.3
R323308	843.52	844.03	0.51
R323309	844.03	845	0.97
R323310	845	846	1
R323311	846	847	1
R323313	847	848	1
R323314	848	848.83	0.83
R323315	848.83	849.45	0.62
R323316	849.45	849.9	0.45
R323317	849.9	850.29	0.39
R323318	850.29	851	0.71
R323319	851	852	1
R323320	852	852.43	0.43
R323321	852.43	853	0.57
R323323	853	853.5	0.5
R323324	853.5	854	0.5
R323325	854	854.6	0.6
R323326	854.6	855.17	0.57
R323327	855.17	855.56	0.39

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R323328	855.56	855.92	0.36
R323329	855.92	856.47	0.55
R323330	856.47	858	1.53
R323331	1/4 dup		
R323332	862.24	862.54	0.3
R323333	870.6	871.09	0.49
R323334	871.09	871.64	0.55
R323335	871.64	872.3	0.66
R323336	872.3	873	0.7
R323337	873	873.53	0.53
R323338	873.53	874.07	0.54
R323783	874.07	875	0.93
R323339	Blank		
R323340	884.9	885.22	0.32
R323341	908.83	909.24	0.41
R323342	913.1	913.8	0.7
R323343	915.83	916.12	0.29
R323344	933.75	934.12	0.37
R323345	936.75	937.28	0.53
R323346	937.28	937.55	0.27
R323348	937.55	938	0.45
R323349	938	939	1
R323350	939	939.5	0.5
R323351	939.5	940	0.5
R323352	940	940.62	0.62
R323353	940.62	941.2	0.58
R323354	941.2	941.77	0.57
R323355	941.77	942.28	0.51
R323356	942.28	942.74	0.46
R323358	942.74	943.18	0.44
R323359	943.18	944	0.82
R323360	944	944.5	0.5
R323361	944.5	945.07	0.57
R323362	945.07	945.55	0.48
R323363	945.55	946.25	0.7
R323364	946.25	947	0.75
R323365	947	948	1
R323366	101b		
R323367	948	949	1
R323368	949	950	1

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R323405	950	951	1
R323472	1003.44	1004	0.56
R323473	1004	1005	1
R323474	1005	1005.6	0.6
R323475	1005.6	1006.13	0.53
R323476	1006.13	1007	0.87

Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH


SPC-14-08 Downhole Mag Sus
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PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-09		Orbit Garant Inc.	Rex Camit

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
4260356	October 12, 2014	October 26, 2014	723

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5207496 `		343

DEPTH	DIP	AZIMUTH
COLLAR	-90	245
600	-88.6	245
723	-88.7	245

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0	2.6	**Overburden**	
2.6	29.06	**Mafic Volcanics, 2c**	Light reddish-brown to light green colored rocks, predominantly chlor-flecked amygdaloidal rocks; also with epd-calc filled amygdules; noted generally chlor matrix with intermittent hem matrix altn at varying sections some as bands mostly along fractures; minor calc-qtz-chlor vnlts/strs 20-30 TCA @ 12-12.27 m; noted sharp contact 45 TCA with amygdulated mafic volcanics below; generally weak - mod magnetic
29.06	30	**Mafic Volcanics, 2a**	pale brown to brown colored amygdaloidal rxs; larger amygdules (1-2 cm dia size) mostly calc-epd-chlor filled; noted minor inclusions of flow top breccia @ 29.22-29.41 m at 85 TCA at both upper/lower contact;
30	45.82	**Mafic Volcanics, 2c**	as 2.60-29.06 m; minor calc vnlts/strs 55-60 TCA at depths; sharp contact 60 TCA with polymictic cgl units below
45.82	87.6	**Conglomerates, 5f**	polymictic; mixture of amygdulated basalts with bands of siltstone / sandstone beds and carb-cemented pebbly (subangular to subrounded) sediments at depth; basalt clasts variably epidotized / chloritized / carb / silicified; noted large qtz+/- calc clasts 3-4 cm dia size; noted inclusions of archean ? granite mottled clasts / rx units @ 67.69-68.36 m; noted carb vnlt running along TCA @ 52.90-53.35 m
87.6	93.64	**Mafic Volcanics, 2b**	Pale brown to light green colored rxs; sparsely amygdulated basalt rxs; amygd filled by calc-qtz-hem with some hem-rimmed; multi-directional hairline calc strs x-crossing core; gradational upper contact 50 TCA with conglomerate units above
93.64	95.2	**Siltstone, 5b**	Generally pale to light brown rocks; with clear bedding 55 TCA; x-crossed by calc stkwks but showing a general trend of 20 TCA; lower contact 30 TCA with feldspar porphyry units below
95.2	97.22	**Feldspar Porphyry, 7a**	Irregular sharp upper contact above disrupting siltstone bedding continuity; generally lt green colored rocks with abrupt inc occurrences of pinprick-like ? feldspar phenos altered completely to carb; some sections variably hematized near contact

			with mafic volcanic units below
97.22	114.73	**Mafic Volcanics, 2e**	Intensely hematized, weak to mod silicified, fine- to medium-grained, reddish brown-colored rocks; noted silhouette of amygdules and phenos ? completely altered to hem as well as complete matrix alteration; general trend of 50 TCA fractures carb-filled; no visible mineralization;
114.73	117.25	**Flow Top Breccia, 6**	Lt brown to brown-colored rxs; mod to intensely hematized; mixture of amygd basaltic units and siltstone/sandstone beddings at 40 TCA on lower sections; noted gradational contact 40 TCA with above mafic volcanic units
117.25	153.77	**Conglomerates, 5f**	as 45.82-87.60 m; noted inc occurrences of epidotized clasts and along insterstices; minor inclusion of seds/mafic volcs @ 128.26-128.88 m; predominantly large clasts (max @ 5.5-6 cm dia size) seds and mafic volcs at upper sections but grading to smaller clasts (0.5-1 cm dia size) towards lower contact 60 TCA with sandstone units below; minor layer bands of sandstone evident at transition zone
153.77	159.37	**Sandstone, 5c**	Reddish-brown colored, fine-grained, bedded 60 TCA rxs with minor interlayered sandy conglomerate bands at varying sections; predom carb vnlts/strs x-cross units while most sandy cgl units sub// to bedding are carb; rock is generally soft
159.37	287.31	**Conglomerates, 5f**	as 117.25-153.77 m; still with subrounded to rounded clasts of seds (sandstone and siltstone), mafic volcs and archean ? granite units; noted inc occurrences of carb-filled amygdules within mafic volc clasts; upper contact 50 TCA with bedded sandstone units; noted sandy conglomerate layers at depth; non-magnetic rxs; generally dark brown to dark green colored rxs noted flakes of micaceous biotite ? phenos mostly on archean granite clasts @ 201.02 m; granite clasts show ser +/- epd altering phenos and along insterstices / contacts with clastic seds (sandstones/siltstones); noted sub-rounded to rounded amygd / matrix alt to calc-qtz-chlor mainly on dark brown hem amygd basalt clasts @ varying depths 194-223 m Noted soft, clayey, **fault gouge** @ depths 229.51-229.83 m cutting 15 TCA to almost along TCA through conglomerate units; noted

			still sub-rounded to rounded cacl-qtz-chlor infills within hem amygd basalt clasts @ varying depths 227.30-278.22 m; some elongated amygd calc-qtz-filled also observed on hem amygd basalt clasts
287.31	297.88	**Feldspar Porphyry, 7a**	Pale green to lt. reddish-green colored rxs; ferromags phenos variably altered to qtz-calc+/-hem; minor calc vnlts/strs 50 TCA; noted hem bands near upper sharp contact 60 TCA @ 287.33-288.25 m and also at lower sharp contact 45 TCA @ 296.15-297.88 m with bounding conglomerate units; rock is generally moderately silicified
297.88	311.43	**Conglomerates, 5f**	as 159.37-287.31 m; noted interlayered predom strongly hem sandstone (bedding at 65 TCA) & minor sandy conglomerates at 307.78-311.43 m occur along depths towards lower contact 60 TCA with amygd basalt units below; but still with minor large clasts of amygd basalts, granite and seds dec amts
311.43	315.7	**Mafic Volcanics, 2a**	Combination of amygd and chlorite-flecked basalt units; chlor-qtz-calc filled amygd along sections; minor inclusions of ultramafic rx units approaching lower sharp contact 20 TCA; noted sections with matrix altd to carb at sections where hairline fract inc in occurrences; generally brown to greenish-brown colored rxs
315.7	321.47	**Ultramafic Volcs, 1**	Upper contact 20 TCA with mafic volcs marked by 1 cm thick (TW) calc-qtz vnlt; rocks generally greenish-brown colored with mottled appearance due to varying altd ferromag mnls; noted weak to mod hem matrix altn at depths; noted 2 cm thick calc-qtz vnlt @ 319.69-319.72 m showing wisps of epd and trace chalocite along fract/vn matls plus associated epd+/-calc strs @ 321.47 m along gradational lower contact 45 TCA; minor inclusions of mafic volcs at depths; weak to mod magnetic rxs
321.47	328.79	**Mafic Volcanics, 2a/2c**	as 311.43-315.70 m; predom chlorite-flecked @ 321.47-323.10 m with minor inclusions of ultramafic rx units at depth followed mainly by amygd basalts towards 328.79 m; calc-qtz filled amygdules predominantly observed; predominantly hairline strs of carb +/- hem with general trend 30 TCA; noted 2 cm hem band associated with calc hairline strs 45 TCA; weak magnetic rxs
328.79	330.17	**Sandstone, 5c**	as 153.77-159.37 m; predominantly sandstone units with bedding orientation 60 TCA containing minor lenses of conglomerate units and randon cgl clasts set on moderate to intensely hem sandstone matrix

330.17	337.61	**Conglomerates, 5f**	as 297.88-311.43 m; noted addition of brownish-green flow band-like large clasts prob of rhyolite ? hostrx but hem & carb-filled
337.61	347.53	**Sandstone, 5c**	as 328.79-330.17 m; still brown colored rxs with bedding oriented 45 TCA; noted carb wisps and carb +/- hem vnlts/strs distributed // bedding, along TCA and perp to bedding orientation
347.53	349.09	**Conglomerates, 5f**	sudden influx of fragmental clasts of flow banded volcs, amygd volcs and seds; noted elongated, angular clasts set within a sandstone hostrock; minor calc vnlts/strs at depth; minor rounded clasts;
349.09	351.05	**Sandstone, 5c**	as 337.61-347.53 m; predominantly dissected by carb vnlts/strs 30 TCA; matrix appears wk to mod carb;
351.05	354.43	**Mafic Volcanics, 2a**	Dark brown to dark reddish-brown rxs; mod to intensely hem matrix; mod silicified; noted amygd hem+/-qtz/calc -filled; fracture fills of predom calc/hem vnlt/strs 35 TCA; sharp upper contact 30 TCA with sandstone units
354.43	381.22	**Mafic Volcanics, 2b**	Lt brownish-green to pinkish-brown colored rxs; sparsely amygd hm/calc/chlor/qtz-filled at various depths; noted minor inclusions of bedded sandstone units @ 356.65-356.90 m 55 TCA; noted **slight deformation ?** evidences at depths 368-372 m; non-magnetic rxs; gradational upper contact 45 TCA with mafic volcs above; could be same unit but only mod to intensely hematized; vuggy at sections
381.22	391.57	**Feldspar Porphyry, 7a**	Pale yellowish-green rxs; mod silicified / chlor but cherty-textured @ 381.22-381.91 m @ broken upper contact with mafic volcs? above; pinkish-white qtz-calc+/-hem feldspar ? pheno altn distributed evenly at sections; weak to mod hem matrix @ 382-383 m near upper contacts; gradational ? lower contact with mod to intensely hem mafic volcs below; minor carb+/-hem vnlts/strs either along TCA and along fractures

391.57	464.17	**Mafic Volcanics, 2b**	as 354.43-381.22 m; still reddish-brown to dark brown colored rxs; brecciated section @ 397.29-397.43 m showing fragmented hem groundmass set in cemented carb 20 TCA; noted bleached ? lt brownish-green section @ 402.32-404.17 m where hem rimming is evident on amygd fills of chlor-qtz and also noticeable influx of dark green-colored amygd and as fracture-fills; noted fract-fills of carb 25-35 TCA along reddish-brown to dark brown colored mafic volcs ? @ 421.53-421.77 m noted qtz-calc-chlor fract infills / interstices tinged by epd altn at sections; epd altn inc in occurrences at depth from 429 m; calc-epd vnlt/strs cutting qtz-chlor strs at depth; predom qtz-chlor-calc-filled amygdules ? at varying depths large amygd (3.5-4 cm dia size) containing carb-qtz-chlor @ 447.49 m; 10 cm thick (TW) **chlorite breccia @ depths 463.93-464.17 m** containing angular to subangular frags of hem mafic ? volcs and qtz-calc within chlor-calc matrix altn @ lower contact 25 TCA with sandstone units below
464.17	476.29	**Felsic Volcanics, 4**	as 349.09-351.05 m; but int hematized sandstone units showing bedding orientation ranging 35-55 TCA suggesting **possible deformation ? zone** prob causing dilation along bedding containing qtz-calc infills general trend 45 TCA; noted inc occurrences of qtz-calc-epd fract infills 45 TCA @ 468.17 m onwards; noted sugary, purplish-tinge ? on qtz-calc-epd-hem infills (mk note: probably a flow banded rhyolite) noted qtz-calc+/-epd stkwks cutting calc-qtz infills along bedding 60 TCA @ 469.05-469.31 m
476.29	485.39	**Mafic Volcanics, 2b**	Pale pinkish-brown colored rxs; rxs generally weak to mod silicified; wk to mod hematized @ 476.29-479.80 m upon gradational upper contact with int hem sandstone units above; noted predom chlor-filled / hem-altd amygd at depths; minor inclusions of bedded / folded ? sandstone units 50 TCA @ 484.12-484.22 m
485.39	502.61	**Mafic Volcanics, 2a/2c**	Generally reddish-brown colored rxs; mod to int hematized / wkly silicified matrix; abrupt inc in predom chlor-filled / flecked amygd with varying qtz-chlor and hem-qtz amygd at depths; qtz-chlor+/-carb altd elongated phenos appear to follow a flow band ? trend of 50-60 TCA; noted fault ? **gouge @ 502.57-502.61 m** with conglomerate units at its lower contact 50 TCA

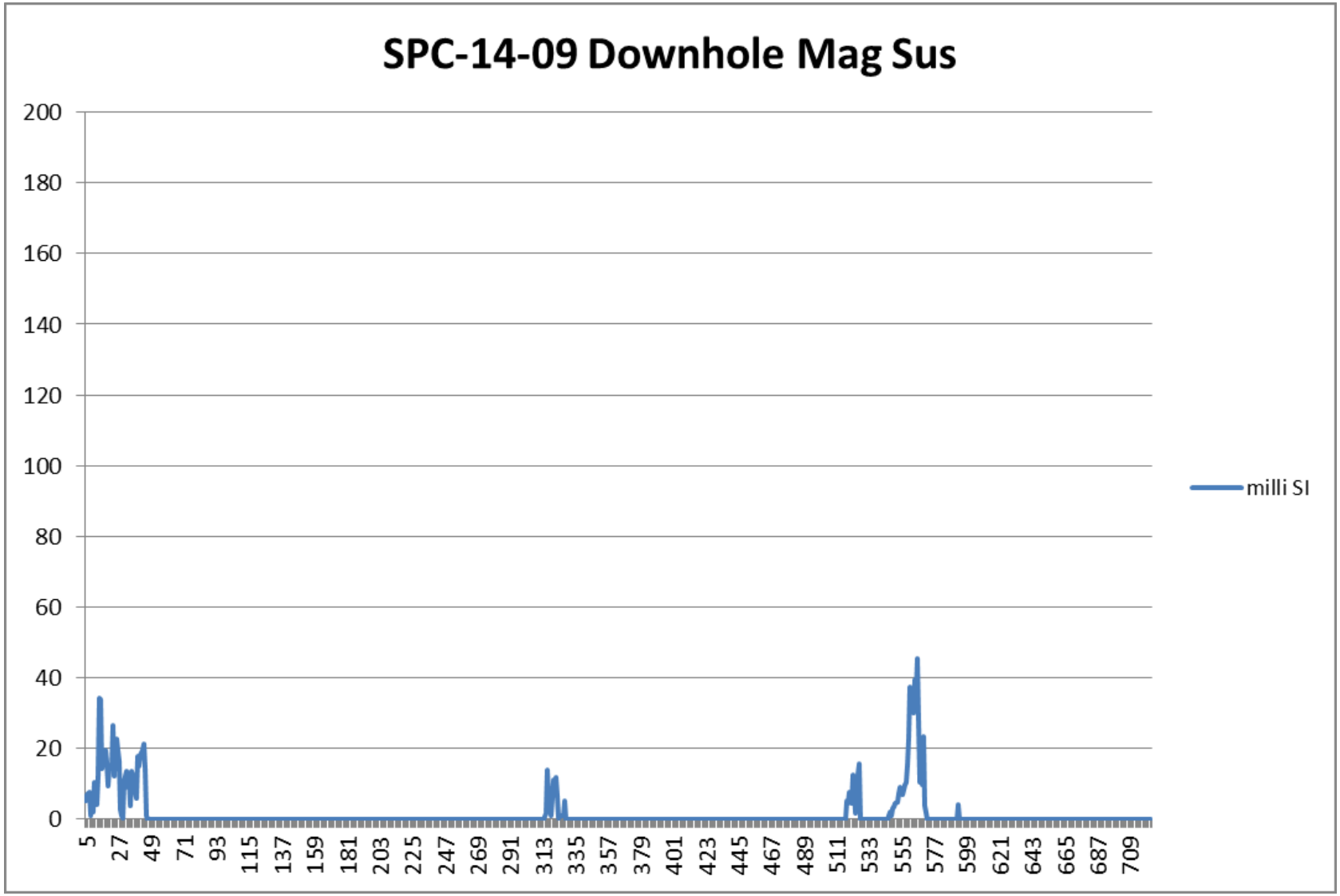
502.61	515.94	**Conglomerates, 5g**	Greenish-brown to brown colored rxs; predominantly amygd qtz-chlor filled basalt clasts; clasts are generally subrounded to rounded some elongated; matrix mod hem but interstices carb-filled +/- epd-altd; noted minor seds at depth; carb-qtz stkwks @ 515.25-515.55 m x-crossing core include a 4-cm thick (TW) qtz-calc-epd bxa; lower contact with mafic volcs marked by 2-cm qtz-calc-epd vnlt @ 25 TCA
515.94	526.87	**Mafic Volcanics, 2b**	Generally brown colored rxs; fine-grained to sparsely amygd basalt; **abrupt inc occurrence of spec hem** mainly on blebs of qtz-epd @ 516.92-517.13 m (0.5%) and also on young qtz-edp vnlts/strs as rim mnls associated with predom hairline epd strs 75 TCA @ 518.24-519.18 m; noted qtz-epd-calc+/-hem vnlts (0.5-1 cm) rimmed by **spec hem trains @ 523.78-524 m and 525.14-525.20 m**; minor qtz-hem-calc bxa section @ 526.55-526.70 m prior to broken lower contact with amygd basalt below
526.87	540.09	**Mafic Volcanics, 2c**	Brownish-green to brown colored rxs, amygd basalts; noted sections where chlorite-flecked; amygd filled variably by qtz-epd-calc-hem; no trace of spec hem mnls; gradational contact with amygd basalt units below
540.09	542.8	**Mafic Volcanics, 2a**	Greenish-colored rxs, coarse-grained to mottled features; feldspars variably altered to qtz-calc-epd; noted amygdules qtz-chlor-calc filled; minor hm+qtz strs;
542.8	571	**Mafic Volcanics, 2a/2d**	as 515.94-526.87 m; re-occurrence of spec hem within qtz-epd-hem blebs; some as trains along borders of qtz-epd-calc vnlts/strs; spec hem widely spaced at these sections; **first occurrence of cpy-py-bn dissems** w/in chlor-qtz bxa zone @ 567.80-567.94 m 543.73-544.28 mostly rimming blebs of qtz-epd-calc 545.13-545.16 1-1.5 cm qtz-epd-calc vnlts; 70 TCA 545.42mostly isolated within blebs of qtz-epd-calc 546.96-547.1 mostly rimming blebs of qtz-epd-calc; also at 547.95-548.12 m including 3.5-4 cm bleb assoc with qtz-edp-calc vn 25 TCA 549.54-550.88 mainly qtz-edp-calc blebs with rimmed spec hem including 3 x 0.5-2 cm qtz-epd-calc vnlts 45-55-80 TCA respectively 557.75-558 2 x 1 mm qtz-epd-calc hairline strs 35 TCA cutting through 1.5-3.5 cm hem-ct vnlts 35-40 TCA 560.76-560.89 mm-wide qtz-epd-calc vnlts sub// and bordering 1.5 cm thick (TW) hem-chlor-qtz vnlt 567.8-567.94 7 cm (TW) chlor-qtz bxa cemented in qtz-epd-calc consists cpy-bn-py dissems capped by 1.5 cm qtz-calc vnlt 55 TCA w/ bn wisps
4			
571	572.24	**Conglomerates, 5g**	as 502.61-515.64 m; greenish-brown colored rxs; mainly basalt clasts with minor seds; upper contact with mafic volcs @ 65 TCA

			and lower contact with siltstone/sandstone @ 35 TCA
572.24	580.05	**Felsic Volcanics, 4**	Interbedded layers of sandstone/siltstone 65 TCA; brown to reddish-brown colored rxs; intensely hematized; predom x-crossed by minor hairline calc+/-qtz strs (note mk: probably a flow banded rhyolite)
580.05	586.55	**Conglomerates, 5g**	as 571-572.24 m; brown to reddish-brown colored rxs; larger amygd basalt clasts interbedded with minor sandstone/siltstone beds gradational contact with siltstone/sandstone units below
586.55	597.94	**Felsic Volcanics, 4**	as 572.24-580.05 m; minor inclusions of conglomerates (5g) above @ depths 592.78-593.87 m and 594.80-595.23 m marked by euhedral py xstals / dissems (~1%) at its upper/lower contacts; rxs generally weak to mod hematized (note mk: probably a flow banded rhyolite)
597.94	608.92	**Felsic Volcanics, 4**	Pale reddish-brown to reddish-brown colored rxs; int hem flow banded rhyolite ?; aphanitic groundmass; shows faint banding 70 TCA; minor inclusions of interbedded siltstone/sandstone units @ 601.41-602.54 m; noted phenos altd to py @ depths 604.78-604.92 m prob associated with hairline qtz-calc strs; fract plane 50 TCA intersection with epd-chlor strs @ 606.84 m showing fine py dissems; chlor-epd-qtz stkwks generally trending 30 TCA @ 607.36-607.53 m showing inc py dissems (~ 1%); trace bn mnl
608.92	610.3	**Felsic Volcanics, 4**	as 586.55-597.94 m; bedding orientation 50 TCA; upper conact 75 TCA with felsic volcs above; rxs generally int hem
610.3	616.12	**Feldspar Porphyry, 7a**	Pale brown to reddish-brown colored rxs; predom subhedral phenos altd to qtz-chlor-hem; int hem grdmass; minor hem-qtz amygd at sections;
616.12	619.62	**Siltstone/Sandstone, 5c**	as 608.92-610.30 m; bedding orientation 60 TCA; noted minor qtz-chlor-calc vnlts/strs
619.62	623.35	**Flow Top Breccia, 6**	Brownish-green to reddish-brown colored rxs; mixed mafic volcs and sediments

623.35	642.85	**Felsic Volcanics, 4**	Lt brown to reddish-brown colored rxs; int hem grdmass; bedding orientation 50-70 TCA discernible at depths; rxs are visibly broken / fractured generally along bedding; minor inclusions of felsic porphyry units; noted lower contact 65 TCA with conglomerate units below (note mk: probably a flow banded rhyolite)
642.85	662.25	**Conglomerates, 5f**	as 347.53-349.09 m; polymictic conglomerates; large subrounded to rounded clasts 7-10 cm dia size basalt clasts until 653 m interbedded with sandstone and minor siltstone beds oriented generally 60 TCA; upper contact 70 TCA with seds (interbedded sandstone/siltstone units) show abrupt inc in massive / dissem py mnls; also pervasive massive / diss py (~ 15-20%) on same contact along TCA where seds extends towards brecciated section @ 643.10-643.23 m with py filling-up interstices and fractures; no visible mineralization 643.23 m onwards; XRF analyses show low Cu (~240 ppm) and low Mo (40 ppm); lower contact with mafic volcs 55 TCA
662.25	682.04	**Felsic Volcanics, 4**	as 597.94-608.92 m; Predom reddish-brown colored rxs; int hem flow banded rhyolite ?; aphanitic groundmass; faint band flow evidence on un-hematized section showing range 60-70 TCA; noted feldspar phenos altd to muscovite mica
682.04	686.14	**Mafic Volcanics, 2c**	as 526.87-540.09 m; but predom chlor?-flecked mafic volcs int hem matrix showing chlor altd to hem as silhouettes; lower contact 60 TCA with flow top bxa ? Below; rxs are generally brown to reddish-brown colored
686.14	691.13	**Flow Top Breccia, 6**	mixture of mafic volcs interbedded with seds (sandstone beds oriented 65 TCA); noted qtz-calc vnlts/strs 20 TCA and along TCA; 1 x 3.5 cm (TW) calc-qtz-hem vnlt @ 690.20-690.30 m; noted qtz-calc clast 3 cm dia size embedded within sandstone layer; also worm-like vnlts/strs of chlor-calc ? comp running along TCA @ 688.60-690.82 m; no visible mineralization; noted sharp contact 60 TCA with feldspar porphyry units below
691.13	695.16	**Feldspar Porphyry, 7a**	as 610.30-616.12 m; wk to mod hem / mod silicified rxs; lt brown to flesh to pinkish-brown colored rxs; abrupt occurrence of subhedral to subrounded feldspar phenos prob altd to qtz-chlor; several phenos observed altd to muscovite mica ?; minor qtz-calc

			hairline strs at sections; no visible mineralization
695.16	695.75	**Deformation Zone**	chilled contacts @ 695.16 m with feldspar porphyry units above; deformed unit chlor-hem altered; minor calc strs at its lower contact sections with conglomerate units below
695.75	700.72	**Conglomerates, 5f**	Polymictic conglomerates; noticeable subrounded clasts mainly of dark brown colored amygd basalts (large clast @ 11 cm dia size) containing qtz-epd amygd fills (same observation with mafic volcs at depths 515.94-526.87 m) show **acicular crystal dissems of spec hem** @ core; all mafic clasts / seds set in epd-hem altd matrix; 1 x 10 cm (TW) qtz vn 45 TCA prior to lower contact 60 TCA below with interbedded sandstone/siltstone units; non-magnetic rxs
700.72	715.92	**Felsic Volcanics, 4**	as 623.35-642.85 m; still interbedded sandstone/siltstone units with minor lens of polymictic cgl units above @ 705.32-705.82 m; minor polymictic clasts (small-medium size) of amygd basalts randomly distributed at depths; bedding orientation 70 TCA; gradational lower contact 80 TCA with mafic volc units below; non-magnetic rxs (note mk: probably a flow banded rhyolite)
715.92	**723**	**Mafic Volcanics, 2c**	Chlorite-flecked to massive, aphanitic textured rxs; lt-dark brown to mottled greenish-brown colored rxs; hem bands ? at sections; minor inclusions of interbedded sandstone/siltstone units near its upper contacts; hem-qtz-calc vnlts/strs follow trend 25-30 TCA; noted chlor-hem vnlt along TCA cutting // through hem bands ? 60 TCA; no visible mineralization
	EOH		

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323791	566.79	567.79	1.00
R	323792	567.79	568.09	0.30
R	323793	568.09	569.09	1.00
R	323810	695.16	695.75	0.59
R	323811	695.75	696.75	1.00
R	323813	696.75	697.46	0.71
R	323814	697.46	697.93	0.47
R	323815	697.93	698.23	0.30
R	323816	698.23	698.82	0.59
R	323817	698.82	699.30	0.48
R	323818	699.30	699.88	0.58
R	323819	699.88	700.72	0.84


SPC-14-09 Downhole Mag Sus
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511
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PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-10	M1'-Z1' ZTEM Anomaly	Orbit Garant Inc.	MQ, RC, MK

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
3000715	October 19, 2014	November 9, 2014	1070

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5209520	670800	285

DEPTH	DIP	AZIMUTH
COLLAR	-90	225
200	-88.9	225
400	-89.2	225
600	-88.6	225
800	-88.8	225

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0	4	OVB	Casing
4	17.35	**Mafic Volcanics, 2c**	Basalt with chl flecks. Weak pervasive hematite alt. Chl fleck are green. Moderate carbonate vning throughout. 7 principal carbonate vn/bx, over 5-25cm each, ranging from 30-90 TCA (x), at 5.9m; 10.7m; 11.25m; 11.6m; 12.6m; 13.9; 14.4m. Smaller 0.2-1.0 cm carb vns occur throughout. 10% Vn material. No mag.
17.35	26.07	**Mafic Volcanics, 2b**	Basalt with sparse amygdaloids. Amyg fill Carb, "Pk Carb", Chl. Weak Carb vning throughout. Weak-moderate pervasive hematite alt. No Mag.
26.07	31.37	**Mafic Volcanics, 2c**	Basalt with chl flecks. Chl flecks are green and black. Weak carb vning throughout (HL-0.2cm carb vns). No Mag.
31.37	37.46	**Mafic Volcanics, 2b**	Basalt with sparse amygdaloids. Amyg fill carb, "Pk carb", chl, Ep (prenite or pumpellite?). Weak-Moderate pervasive hem alt. No Mag.
37.46	39.13	**Mafic Volcanics, 2d**	Fg-Mg. Weak-Moderate pervasive hem alt. No Mag.
39.13	42.82	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill mostly carb, minor black chl. Weak-moderate pervasive hem alt. 39.95-40.33m: Carb vn-bx, slight increase in hem alt of WR/clasts, carb matrix contains ireegular patches of ep alt.
42.82	46.48	**Mafic Volcanics, 2b**	Basalt with sparse amygdaloids. Amyg fill carb, "pk carb, chl. Weak pervasive hem alt, Weak mag. 42.96m: Ep-qtz-chl-hem-CC vn. 30 TCA.
46.48	50.55	**Mafic Volcanics, 2g**	Mg basalt, slight gabbroic texture. Weak, spotted hem alt throughout. Increased mag, still weak.
50.55	57.17	**Mafic Volcanics, 2b**	Amyg fill black chl. Weak mag.
57.17	63.93	**Mafic Volcanics, 2g**	Weak-no alt. Weak mag.
63.93	69.1	**Conglomerate, 5f**	Polymictic. Clasts of mafic volc, and granite. No mag.
69.1	73.1	**Mafic Dyke, 8a**	Medium grey colour with fine black grains. Upper and lower contacts are faulted at 30 TCA (normal bedding/layering is at 50 TCA). Gouge at lower contact. Weak-moderate qtz-carb vning, 0.5-1.0cm, at 20 TCA (same direction as fault contacts). Weak-Moderate mag.

73.1	75.66	**Conglomerate, 5f**	As previous, but granite clast are turned green by ep alt. No Mag.
75.66	84.55	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill dominantly carb and non-magnetic 75.66-77.5m, 77.5-84.55m amyg fill dominantly black chl and weak-moderate mag.
84.55	102.57	**Mafic Volcanics, 2c**	Basalt with black chl flecks. Spec Hem 1-3% dss in groundmass. 95.3-99.93m: Carb vns. Simlar to CBrZ vns, but lack strong hem alt. Weak damage zones. Principal vns - 98.58m, 1% Bn, 3.0cm TW, 10 TCA; and 99.68m, 6.0 cm 10-20 TCA.
102.57	109	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb, chl, and minor "pk carb". Fault gouge at 106.16-106.30m.
109	121.09	**Mafic Volcanics, 2c**	Basalt with black chl flecks. Chl flecks are very coarse, up to 1cm, and have irregular shape. Moderate-strong, pervasive ep alt has turned groundmass green.
121.09	123.72	**Mafic Volcanics, 2a**	Amyg fill Carb-Ep. Non magnetic. Weak, pervasive hem-ep alt.
123.72	134.62	**Mafic Volcanics, 2c**	Basalt with black chlorite flecks. Modeate, pervasive hem alt with intermittent ep alt. Non mag. 126.59m: 1.0cm carb vn with coarse native copper, blebs up to 0.5cm, 3%. 40 TCA.
134.62	141.82	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb, chl, "pk carb". Weak-moderate ep alt that increases downhole. Non magnetic.
141.82	147.9	**Mafic Volcanics, 2c**	Basalt with black chlorite flecks. Moderate, pervasive ep alt. Non magnetic.
147.9	151.82	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb, minor ep, minor chl. Weak, patchy ep alt. Non magnetic. 148.25-148.70m: Tr CC in amyg with carb. Intervsal has increased ep and "pk carb" amyg fill.
151.82	168.05	**Mafic Volcanics, 2c**	Basalt with black chlorite flecks. Moderate pervasive Ep alt from 151.82-162.0m; moderate pervasive hem from 162-168.05. Non mag.
168.05	173.47	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb with ep rims, minor "pk carb". Weak pervasive hem alt. increases toward base. Non mag. 168.2m-168.7m: 1% CC as blebs hosted in amyg with carb rimmed by ep fill. Increased carb frac/vn.

			168.7-169.98m: Tr CC, as before. Less frac/vning.
173.47	177.6	**Mafic Volcanics, 2d**	Moderate pervasive hem alt. Fracturing increases in the last 60cm of Unit. 175.68m Qtz-carb-ep zoned vn with Spec hem at 30 TCA.
177.6	184.83	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amygdaloids less abundant (2b?). Amyg fill carb, minor chl. Weak-moderate pervasive hem alt. No mag. 178.85-179.6m: 3% CC associated with a carb vn-bx. Coarse blebs fil amyg, fractures proximal to main vn-bx. 179.23-179.6m: Carb vn-bx noted above. 15cm TW. 50 TCA. 180.58-181.32m: CC in carb-qtz-ep vn and proximal in amyg and fracs with carb.
184.83	193.43	**Mafic Volcanics, 2c**	Basalt with black chl flecks. Moderate pervasive ep-hem alt from 184.83-190.25m, weak-moderate pervasive hem from 190.25-193.43m. Non Mag. 190.20-191.12m: Series of 6 Carb-"pk calc" (barite?) vns. Top most, and bottom most vn are the thickest (8-10cm), most are ~1cm. Veins have ribbon appearance, could be sheared. 40 TCA.
193.43	200.77	**Mafic Volcanics, 2g**	Basalt with gabbroic texture. Mg-cg. Fe-mg's converted to black chl. Weak-moderately magnetic.
200.77	202.79	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb. Minor bx at upper contact with carb-ep fill and minor CC. Weak pervasive hem alt. Non mag. 200.77-200.82m: Minor bx at upper contact with carb-ep fill and minor CC-Spec Hem. 40 TCA.
202.79	207.13	**Mafic Volcanics, 2b**	Amyg fill carb, chl, and ep. Weak-moderate pervasive hem alt. Non mag.
207.13	209.6	**Mafic Volcanics, 2d**	Massive Basalt. Weak-moderate pervasive hem alt. Non mag.
209.6	210.76	**Mafic Volcanics, 2a**	Amygdaloidal basalt. Amyg fill carb, ep, minor chl. Weak pervasive hem alt. Non mag. 210.02-210.25m: Strong Ep alt proximal to vns. CC in vn that appears to have been cut by ep alt. Both ep alt and CC vn at 40 TCA, but opposite
210.76	214.92	**Mafic Volcanics, 2b**	Sparsely amygdaloidal basalt. Amyg fill carb, chl, minor ep. Weak pervasive hem alt. Non mag.

214.92	217.5	**Mafic Volcanics, 2d**	Massive basalt. Very weak pervasive hem alt. Weak mag.
217.5	224.34	**Mafic Volcanics, 2c**	Sparsely amygdaloidal basalt. Amyg fill carb, ep, "pk calc". Weak-strong pervasive hem alt, alt strongest in core of unit. Strong pervasive ep alt 219.04-219.38m. predom chlor altn/flecks at 221.12-224.34 m; noted 2 x 5 cm (TW) qtz-calc vns 80-85 TCA @ 224-224.25 m
224.34	228.2	**Mafic Volcanics, 2g**	as 193.43-200.77 m; basalt with gabbroic texture; medium to coarse grained rxs; ferromags mainly altd to dark green to black chlor; some altd ferromags ? rimmed by qtz-chlor-hem; multiple later hairline calc+/-hem strs cutting through phenos and matrix mostly along TCA; wk mag
228.2	230	**Mafic Volcanics, 2a**	as 209.60-210.76 m; amygd basalt; predom calc-filled amygd; minor chlor; minor calc-hem hairline strs 30 TCA; weak mag
230	238.15	**Conglomerate, 5f**	Polymictic conglomerate; mixture of amygd basalt, archean granite and seds (sandstone) subrounded to rounded clasts; noted granite clasts (max @ 15 cm dia size) contain muscovite-rich mnls; some amygd basalt clasts are also spec hem-rich;
238.15	242.92	**Mafic Volcanics, 2c**	as 228.20-230 m; amygd to chlor-flecked basalt;
242.92	246.55	**Mafic Volcanics, 2d**	as 214.92-217.50 m; massive, aphanitic to fine-grained basalt; 2 x 1 cm calc vnlts 20 TCA @ 244.02-244.25 m hosting bxa frags containing >3 % (ave) cpy mnls mostly lined-up along vnlts/strs trend; lower contact 35 TCA with mafic volcs above marked by 10 cm gouge + chlor bxa containing rare bn mnl; wk to mod mag 2 x 1 cm calc vnlts with minor bxa containing mainly cpy dissems also distributed along assoc hairline strs minor calc-hem-qtz vnlts/strs 25 TCA 3 cm qtz-calc-hem bxa 30 TCA with hem rimming incl chlor bxa clasts calc-hem vnlts/strs 20 TCA; 2 cm (TW) hem gouge + 4 cm thick (TW) calc-hem-qtz bxa 35 TCA with rare bn
246.55	248.9	**Mafic Volcanics, 2a**	as 228.20-230 m; amygd basalt; qtz-calc stkwks @ 246.55-247 m containing cpy with general trend ranging 35-40 TCA; wk to mod mag (inc mag); 45 cm thick qtz-calc stkwks/bxa 35-40 TCA with wk cpy dissems / trains along trend assoc with 2 x 1-2 cm main qtz-calc vnlts hairline qtz-calc vnlts 40 TCA; some along TCA 2 x 0.5-1 cm qtz-calc vnlts 60-80 TCA assoc with 30 cm thick calc-qtz stkwks pervasively lined up with cpy mnls; shows low-angle reverse microfaults w/ displ minor calc hairline strs

			1 cm qtz-calc vnlt 80 TCA
248.9	258.35	**Mafic Volcanics, 2c**	noted additional qtz-calc stkwks @ 253.14-253.45 m consisting of mainly cpy with inc amts of bn+cc; also pervasive ep-altd section containing qtz-epd vn
			25 TCA hosting abundant cc trains (> 3 %)
			minor calc hairline strs
			minor calc-qtz stkwks mainly hairline strs 50 TCA containing cpy with rare cc
			3 x 1 qtz-calc vnlts (8-10 cm wide spacing)
			hairline calc hairline strs mostly along TCA
			hairline calc-hem hairline strs widely spaced
			main 1 cm calc-hem-qtz vnlt containing mainly cpy mnls; main 3 cm calc-qtz bxa/stkwks 55 TCA with cpy dissems; also showing low angle reverse microfaults
			closely-spaced (3-5 cm) calc-chlor hairline strrs
			4 cm thick (TW) calc-qtz vnlt/bxa with assoc hairline strs hosts mainly cpy dissems with inc occurrences of bn + cc
			pervasively epd-altd matrix containing 2 cm thick (TW) qtz-epd-calc vnlt/bxa 20 TCA with predom cc mnls bordering/rimming vnlt
			hairline calc-qtz + calc-hem strs stkwks
			1 cm qtz-calc vnlt 25 TCA consists rare to wk cc + spec hem
			widely-spaced calc-hem hairline strs predom
258.35	265.8	**Mafic Volcanics, 2a**	as 246.55-248.90 m; amygd basalt; predom chlor+calc-filled amygd but **abrupt occurrence of bn mnls / trains** altering chlor and associated with qtz-calc vnlt along TCA and at 10 TCA @ 261.13-263 m
			bn altering chlor-filled amygd
			0.5-1 cm calc-qtz vnlt/strs running 10 TCA and along TCA show **abundant bn** as vein-filling, rimmings & assoc amygd- & fract-fills; rare-wk bluish-tinge covellite ?
			predom bn-filled amygdules
			abrupt absence of bn-filled amygd
			calc-hem + calc hairline strs
			2 x 1 cm calc-hem-qtz opposite-dipping vnlts 30 TCA hosting re-occurrence of **cpy + bn mnls**; noted bn altd to cpy mnls; inc epd+qtz amygd-fills
			abrupt absence of bn-filled amygd; inc amts of chlor+qtz+calc amygd-fills; rare spec hem within calc-chlor amygd-fill

265.8	280.83	**Felsic Volcanics, 4**	Greenish-brown to brown rxs; weak to mod hem/silicified felsic volc rxs; predom vuggy qtz-calc-hem vnlts/strs along TCA; feldspar phenos predom altd to hem within a hem/chlor groundmass; noted irregular sharp ? int hematized (@ 275.59-280.83 m) contact 60 TCA with ophitic mafic volcs below
280.83	284.57	**Mafic Volcanics, 2e**	fine- to medium-grained, ophitic-textured mafic volcanics; ca-plag pred chlor-altd; predom x-crossed by calc-hem hairline vnlts/strs general trend 25 TCA; rare occurrence of 1 cm (TW) epd-hem vnlt 40 TCA @ 283.05-283.12 m; lower contact 60 TCA with amygd mafic volcs below
284.57	285.57	**Mafic Volcanics, 2a**	as 258.35-265.80 m; amygd basalt; predom calc-qtz-filled amygd with hairline calc strs x-crossing sections
285.57	303.43	**Felsic Volcanics, 4**	as 265.80-280.83 m; mod to int hematized rxs; inc occurrences of vuggy-, dog-toothed qtz-calc vnlts/strs trending 70-80 TCA; vugs are qtz-pink calc filled; gradational contact 50 TCA with amygd basalt units below
303.43	310.86	**Mafic Volcanics, 2a**	as 284.57-285.57 m; amygd basalts; brown- to greenish-brown colored rxs; qtz-calc-hem vnlts/strs/stkwks x-cross @ 304.51-306 m following a general trend 50-55 TCA; inc occurrences of pink calc + hem vnlts/strs at depth
310.86	328.55	**Mafic Volcanics, 2c**	Chlorite-fleck amygd basalts; chlor-flecks show partial altn to epd ? from depths 310.86-314.40 m; noted black ferromags altered to chlor; calc-hem vnlts/strs variably x-cross sections generally 70 TCA;
328.55	333.11	**Mafic Volcanics, 2a**	as 303.43-310.86 m; amygd basalts; predom calc-qtz amygd fills with minor chlor- and epd- amygd fills; marked at upper contact 65-70 TCA 9 cm thick (TW) qtz-calc bxa/vnlts
333.11	344.65	**Mafic Volcanics, 2c**	as 310.86-328.55 m; pervasive epd-altn (matrix and phenos) at depths; inc occurrences of epd-altd vnlts/strs; minor hem matrix at depths 341.15-341.84 m; rare cc occurrence @ 339.76 m within epd vnlt/strs
344.65	355.64	**Mafic Volcanics, 2g**	Massive, medium- to coarse-grained gabbroic-textured rxs; re-occurrence of cc with rare bn mnls; marked by chlor-epd-qtz-calc vnlts/bxa @ 344.65-345.03 m

			at its upper contact with chlor-flecked mafic volcs units; mod to int hem section @ 345.80-346.13 m containing 4 x 1-2 cm thick (TW) 5-cm spaced qtz-calc-hem vnlts; noted chilled contact section 355.58-355.88 m with lower contact 70 TCA amygd mafic volcs below; dk brown to greenish-brown rxs; wk mag chlor-epd-qtz-calc vnlts/bxa @ 344.65-345.03 m hosting inc in cc amts along epd vnlts and assoc strs 1 x 0.5 cm qtz-epd-calc vnlt/strs 55 TCA with assoc hairline hem-calc strs hosting mainly cc trains 1 x 1 cm qtz-epd-calc vnlt/strs 30 TCA & 1 x 1 cm qtz-calc-hem vnlt 90 TCA with assoc hairline hem-calc strs hosting mainly cc also as mx dissems mod to int hem section @ 345.80-346 m containing 3 x 1-2 cm thick (TW) 5-cm spaced qtz-calc-hem vnlts; abrupt inc amts in cc w/in vnlts and as mx dissems mod to int hem section @ 346-346.13 m containing 1 x 2 cm thick (TW) 5-cm spaced qtz-calc-hem vnlt 40 TCA cut by opposite dipping 1 cm qtz-calc-hem vnlt minor hem-calc hairline strs show rare cc ? with inc amts of spec hem as mx dissems (altering chlor ferromags?)
355.64	356.39	**Mafic Volcanics, 2a**	as 328.55-333.11 m; amygd basalt; predom epd-filled amygd with minor qtz-chlor filled amygd; predom hairline calc strs mainly along TCA; gradational contact 85 TCA with sparsely amygd basalt units below marked by 6 cm thick int hem x-crossed by calc-hem vnlts/strs
356.39	359.64	**Mafic Volcanics, 2b**	Sparsely amygd basalt; brown to greenish-brown rxs; chlor-qtz filled amygd; x-crossed by sets of 1-2 cm thick (TW) pink calc-qtz-hem vnlts 60-75 TCA widely spaced at 35 cm; gradational lower contact 75 TCA with polymictic cgl units below; no visible mineralization; weak mag
359.64	436	**Conglomerate, 5f**	Polymictic conglomerates; mixture of subrounded to rounded amygd mafic volcs, archean granite, and seds (sandstone) clasts cemented mainly in carb; noted some epd-altd mafic volcs clasts randomly distributed at depths; noted qtz-calc-hem bxa sections @ 394.98-394.17 m where vuggy / dog-toothed qtz occur;
436	437.12	**Sandstone/Siltstone, 5c**	Predominantly interbedded predom sandstone minor siltstone beds 55 TCA towards lower sections showing gradational contact 55 TCA with amygd basalt units below; minor inclusions of polymictic cgl at depths
437.12	439.82	**Mafic Volcanics, 2a**	as 355.64-356.39 m; predom qtz-calc amygd fills
439.82	452.64	**Mafic Volcanics, 2c**	as 333.11-344.65 m; noted inc amts **spec hem** as mx dissems and/or altering black to dk green chlor ferromags ?
452.64	468.36	**Conglomerate, 5f**	as 359.64-436 m; noted minor inclusions of thin interbedded sandstone/siltstone beds 55 TCA
468.36	476.6	**Sandstone/Siltstone, 5c**	as 436-437.12 m; interbedded predom sandstones minor siltstone bedding 50 TCA with minor inclusions of polymictic cgl units at depths

476.6	489.19	**Mafic Volcanics, 2c**	as 439.82-452.64 m; dark green colored rxs, chlor-fleck amygd basalts; noted some chlor altd to pink carb +/- rare epd altd amygd fills; 1 cm pink calc-qtz vnlt running along TCA from depths 478.90-481 m; minor 4 cm thick (TW) qtz-calc vnlt 35 TCA @ 481-481.05 m; gradational low contact 35 TCA with polymictic cgl units below; no visible mineralization; wk mag
489.19	551.16	**Conglomerate, 5f**	as 452.64-468.36 m; no evident occurrence of epd-altd clasts at depth
551.16	553.39	**Sandstone/Siltstone, 5c**	as 468.36-476.60 m; generally mod hem @ depths 551.165-552.90 m with cognizant bedding 65-70 TCA; minor chlor matrix
553.39	574.45	**Conglomerate, 5f**	as 489.19-551.16 m; dec clast sizes (ave @ 1 cm dia size; max @ 2-3 cm dia size) from 569.78-574.45 m; minor epd-altd clasts
574.45	579.44	**Sandstone/Siltstone, 5c**	as 551.16-553.39 m; minor inclusions of polymictic cgl units at depths;
579.44	582.45	**Mafic Volcanics, 2a**	as 437.12-439.82 m; amygd basalts; predom calc-qtz amygd fills with noticeable inc occurrences of epd altn / tinge on amygd fills; noted qtz-calc-hem vnlts/strs/ stkwks @ 579.64-581.90 m trending generally 60 TCA
582.45	583	**Mafic Volcanics, 2g**	as 344.65-355.64 m; greenish-brown colored rxs; non-mag
583	584.53	**Mafic Volcanics, 2c**	as 439.82-452.64 m; brown to dk brown colored rxs; noted predom qtz-calc strs 55 TCA (6-10 cm gaps); minor epd altn / vnlts/strs @ 584.25-584.40 m
584.53	586.18	**Mafic Volcanics, 2a**	as 579.44-582.45 m; amygd basalts; predom qtz-calc-chlor amygd fills
586.18	587.87	**Mafic Volcanics, 2g**	as 582.45-583 m; noted minor qtz-calc strs 65 TCA
587.87	596.61	**Mafic Volcanics, 2a**	as 584.53-586.18 m; noted epd tinge / hem altn of qtz-calc-chlor amygd fills
596.61	598.44	**Mafic Volcanics, 2g**	as 586.18-587.87 m; epd matrix / pheno altn until depth 597.61 m; hem altn @ 597.74-598.44 m
			5c
598.44	601.5	**Mafic Volcanics, 2c**	as 583-584.53 m; chlor-flecked basalts; hem altn variably at depths; inc epd matrix / amygd fill / vn altn @ 599-600 m and 601.30-601.50 m

601.5	609.23	**Mafic Volcanics, 2a**	as 587.87-596.61 m; inc intensity of epd altn of matrix, vnlts/strs/stkwks and amygd fills but no visible mineralization observed at depths 602.94-605.27 m
609.23	612.3	**Mafic Volcanics, 2g**	as 596.61-598.44 m; minor calc-hem and qtz-calc vnlts/strs trending 50 TCA
612.3	634.11	**Conglomerate, 5f**	as 553.39-574.45 m; inc intensity of epd matrix/clast (rim) altn at depths
634.11	640.26	**Feldspar Porphyry, 7a**	Moderate to int hematized rxs; lt reddish-brown to brown colored rxs; banding shown at chilled ? upper contact 80 TCA with polymictic cgl units above; most feldspar phenos altd to qtz-hem+/-epd; sharp contact 35 TCA with polymictic cgl units below
640.26	644.81	**Conglomerate, 5f**	as 612.30-634.11 m; with minor thin interbeds of sandstone units
644.81	646.21	**Sandstone, 5c**	Predom sandstone units with minor inclusions of polymictic cgl units above
646.21	651.67	**Mafic Volcanics, 2c**	as 598.44-601.50 m; noted epd rimming qtz-calc amygd fills from 649.24-651.67 m
651.67	655.41	**Feldspar Porphyry, 7a**	as 634.11-640.26 m; still with qtz eyes ?; some felds altd to hem+qtz; upper sharp contact 35 TCA with mafic volcs units above
655.41	661.6	**Mafic Volcanics, 2d**	Massive, aphanitic to fine-grained basalt rxs; generally dk greenish-brown rxs; pervasive epd altn showing banding ? orientation 45 TCA; x-crossed predom by hem-calc hairline strs 55 TCA; wk to mod mag
661.6	665.54	**Flow Top Breccia, 6**	mainly mixture of mafic volcs/seds; mainly contains subangular amygd basalt clasts & seds consisting of qtz-calc-epd amygd fills
665.54	674.62	**Mafic Volcanics, 2c**	as 646.21-651.67 m; noted 1 cm qtz-calc-hem vnlt/strs/stkwks running mainly along TCA @ 665.59-667.61 m; also noted amygd fills of epd-qtz-calc are rimmed at edges with **well-crystallized acicular spec hem mnls** observed from depths 669.36-674.62 m; lower contact 55 TCA with polymictic cgl units below
674.62	682.91	**Conglomerate, 5f**	as 661.60-665.54 m; qtz-chlor-hem bxa @ 674.80-675.06 m and 676.32-676.52 m containing vuggy/dog-toothed qtz occurrences; qtz-calc stkwks in between; some **weak spec hem** noted in some mafic volcs
682.91	684.44	**Siltstone, 5b**	fine-grained bedded siltstone beds 45 TCA

684.44	714.22	**Conglomerate, 5f**	as 674.62-682.91 m; pervasive epd altn of matrix at depths
714.22	715.25	**Sandstone, 5c**	as 644.841-646.21 m; bedding orientation 80 TCA; pervasive epd-hem mx altn
715.25	721.47	**Conglomerate, 5f**	as 684.44-714.22 m; still with pervasive epd altn of matrix/clasts; lower contact 70 TCA with felsic volcs below
721.47	723.23	**Felsic Volcanics, 4**	Banded rhyolite ? volc units; mainly reddish-brown to dk brown colored rxs; showing band orientation 50 TCA
723.23	724.24	**Sandstone, 5c**	as 714.22-715.25 m; predom epd matrix altn with bedding 65 TCA
724.24	749	**Felsic Volcanics, 4**	as 721.47-723.23 m; predom banded reddish-brown to dk brown colored rxs; int hem mainly on joints/fractures; dark brown hem altn might be due to higher titanium ? content in rxs; minor chlor-epd mx altn @ 727.57-729.78 m; noted **minor spec hem dissems** @ 728.90-729.10 m; some sections show irregular flow banding orientations; feldspar phenos appear to be altd to hem-qtz-epd; some as hem+epd rimmings of phenos; noted oxidized ? spec hem at edge of chlor-epd vnlt @ 745.64-745.72 m; minor hairline qtz-calc strs 70 TCA at depths; non-magnetic rxs
749	752.73	**Felsic Volcanics, 4**	Pale brownish-green rxs; predom weak to mod epd-altd banded rhyolite ? matrix with elongated hem-altd feldspar phenos following fabric ? trend 70 TCA; noted flow contact mainly along TCA with interbedded sandstone/siltstone bed @ depths 752.34-752.73 m
752.73	753.47	**Sandstone/Siltstone, 5c**	interbedded units predom chlor matrix; minor hem sections; gradational contact with felsic volcanic units below
753.47	812.32	**Felsic Volcanics, 4**	as 724.24-749 m; predom int hem units; inc occurrences of epd-chlor vnlts / hairline strs; gougy fracture planes 55 TCA @ 761.33 and 761.43 m within chlor-epd altd section at depths 761.27-761.55 m; noted fracturing @ 764.63-764.89 m geothite?-filled / calc-hem acicular xstals-filled bounded by 1-2 cm wide (TW) qtz-calc-hem vnlts / microbxas; observed orig flow banding 55 TCA show swinging along TCA at sections 766-767.26 m; non-magnetic rxs Int hem section until 784.15 m; noted int hem brecciated section 784.15-784.93 m; noted banding 55 TCA still evident @ 790.56-790.90 m and 800.65-801.97 m; **fault gouge @ 797.40-797.47 m** must have caused **highly fractured (damaged?) zones at depths 796.56-797 m and 797.47-797.80 m** where most int hem rocks and vicinities are concentrated Noted unaltered to wkly altered felsic rx section @ 803.62-806.46 m still show fractures/joints high to int hematized; noted **int hem highly fract** flow banding 60 TCA of felsic volcs at 807.40-812.32 m with gradational contact 60 TCA with fragmental volc units below

812.32	814.21	**Fragmental Volcanics, 2**	Hybrid volc clasts / matrix; predom angular volc clasts; wk to mod hem clasts / matrix; gradational contact 35 TCA with mafic volcs units below
814.21	814.77	**Mafic Volcanics, 2e**	Predom chlor-epd rxs; greenish colored rxs; minor hem but predom carb matrix following a fabric? trend 35 TCA; this unit hosts **calc-hem blebs** with rare to wk occurrences of cc mnls and minor spec hem mnls at edges with assoc calc-hem vnlts/strs at depths
814.77	834.89	**Flow Top Breccia, 6**	Mixture of mafic volcanics and seds; generally greenish-brown rxs with predom epd altn of clasts/amygd/matrix; noted **influx of spec hem mnls** (well-crystallized acicular features) within epd-calc vug-fills and vnlts/strs-fills 35-45 TCA at depths 819.10-820.25 m and at 820.69-822.14 m; in addition **inc cc mnl occurrences** observed @ 824.55-824.90 m; noted 15 cm thick **healed fault** containing brecciated frags of flow top bxa @ 825.69-825.84 m cc dissems @ depths 824.69-824.77 m assoc closely with opposite-dipping hairline hem-calc strs 20 TCA x-cutting mafic volc matrix / clasts Noted 2 x 1-3 cm chlor-epd-calc-qtz vnlts @ 825.84-826.37 m (20 cm wide gap) contain **rare to weak spec hem / cc dissems**; rare to weak occurrences of spec hem in mainly int hem amygd basalt clasts from 831 m; gradational contact 60 TCA with amygd basalt units below
834.89	854.34	**Mafic Volcanics, 2d**	Massive to fine-grained basalt with rare amygdules epd-calc-qtz filled; noted braided fabric 45 TCA at depths 843.50-848.54 m and 849.29-854.34 m; inc occurrences of epd vnlts/strs where assoc amygdules contain **rare cpy/cc/bn mnls @ depths 645.05-645.25 m**; minor inclusions of mod epd sparsely amygd basalt units @ 848.92-849.28 m; rxs are generally green to dk green colored and moderately magnetic **Damaged zone @ 848.54-848.92 m** characterized by highly fractured/int hem sections with numerous subparallel qtz-calc vnlts/strs 60-70 TCA 1-2 cm thick (TW) qtz-calc-epd vnlts/strs 35-40 TCA (~20 cm gap) x-cut by hairline calc-hem strs containing **rare-wk cc dissems** minor 1 cm thick (TW) qtz-calc-epd vnlt ; no visible mineralization small mm-wide amygd qtz-calc-epd fills containing **rare to wk cc-cpy-bn mnls** prob assoc with calc-hem hairline strs
854.34	861.74	**Flow Top Breccia, 6**	as 814.77-834.39 m; matrix / amygd are pervasively altd to epd; minor inclusion of bedded 50 TCA sandstone units @ 855.73-856.29 m; gradational contact 35 TCA with massive, fine-grained basalt below
861.74	874.74	**Mafic Volcanics, 2d**	as 834.89-854.34 m; still massive to fine-grained; mod to int chlor / wk to mod hem groundmass; generally greenish-brown colored rxs; sparsely epd-altd sections; noted epd vnlts/strs 40 TCA cut mainly by hem-calc vnlt/strs along TCA and sub// vnlts/strs; minor qtz-hem bxa section @ 872.45-872.55 m; gradational contact with flow top breccia units below
874.74	879.22	**Flow Top Breccia, 6**	as 854.34-861.74 m; with minor inclusions of bedded epd-altd sandstone units 45 TCA at 875.34-876.09 m; noted **rare to wk spec hem** mostly within

			epd-fill amygd rimmed by qtz-calc mnls; gradational contact 35 TCA with hostrxs
879.22	887.4	**Mafic Volcanics, 2d**	as 861.74-874.74 m; noted rare 3.5 cm dia size qtz-calc-epd amygd contain **wk spec hem mnls** @ 885.71 m; mod mag rxs
887.4	889.19	**Flow Top Breccia, 6**	as 874.74-879.22 m; noted hairline epd-calc hairline strs x-cuts predom these sections 15 TCA and along TCA
889.19	894.4	**Mafic Volcanics, 2c**	Chlorite-flecked amygd basalts; dk green colored rxs; generally fine-grained rxs; noted chlor-epd-qtz altd amygd fills; inc occurrences of **spec hem** assoc with chlor-epd and qtz-calc vnlts/strs from 889.19-892.19 m; 1-2 cm wide qtz-calc vnlt/strs mainly trending 10 TCA to along TCA @ 892.43-893.79 m (25-30 cm wide gaps) hosting predom **cpy-bn vnlts** and assoc strs sub// to said structure (max 1-2 cm **cpy vnlt** @ 893.66-893.74 m); mod mag rxs epd-chlor vnlts/strs predom 1-2 cm qtz-calc vnlt 30-45 TCA hosting assoc spec hem mnls 2 x 1 cm wide qtz-calc vnlts / assoc strs containing initially rare to wk bn altn mnls 1 cm wide qtz-calc vnlt / strs 10 TCA and along TCA lined-up by assoc cpy strs/wisps; noted 25-30 cm wide gap with vnlt sets 0.5 cm wide qtz-calc vnlt 10 TCA and along TCA with cpy fills and bn (alt cpy?) occurrences abrupt inc in cpy hairline strs / wisps assoc with qtz-calc strs/stkwks in-between 25-30 cm gap with vnlt sets; rare bn max 1-2 cm wide cpy vnlt 10 TCA @ 893.66-893.74 m + influx of assoc cpy strs/wisps/infills along hairline qtz-calc strs **bn** blebs containing **trace cpy** (replaced ? by bn) and **native copper** mnls @ 894.24-894.40 m assoc with hairline qtz-calc strs along TCA
894.4	895.5	**Felsic Volcanics, 4**	as 753.47-812.32 m; rhyolite banding still evident 30-40 TCA; minor hem-calc vnlts/strs at sections; lower section is marked by a **35 cm thick (TW) healed fault section at 895.50-895.85 m**; rxs are generally pinkish-brown colored minor hem-calc vnlts/strs fract subparallel to banding
895.5	895.85	**Healed Fault**	35 cm thick healed fault section; chlor-hem brecciated/altd rxs; containing influx of cpy blebs, wisps, strs at 70 TCA; gougy at lower contact 40 TCA with sparsely amygd basalt units below influx of cpy blebs, wisps and strs 70 TCA; fracture-fills of cpy 45 TCA noted @ 895.82 m
895.85	903.26	**Mafic Volcanics, 2b**	Sparsely amygd basalt units; flesh to pale greenish-brown rxs; predom x-crossed by hem-calc vnlts/strs 80-85 TCA; amygd with qtz-calc fills are rimmed by hem-chlor with wk occurrences of spec hem @ depths; noted occurrence of cpy alt ? by bn (as rimmings); lower contact 75 TCA marked by 9 cm thick chlor-hem bxa section

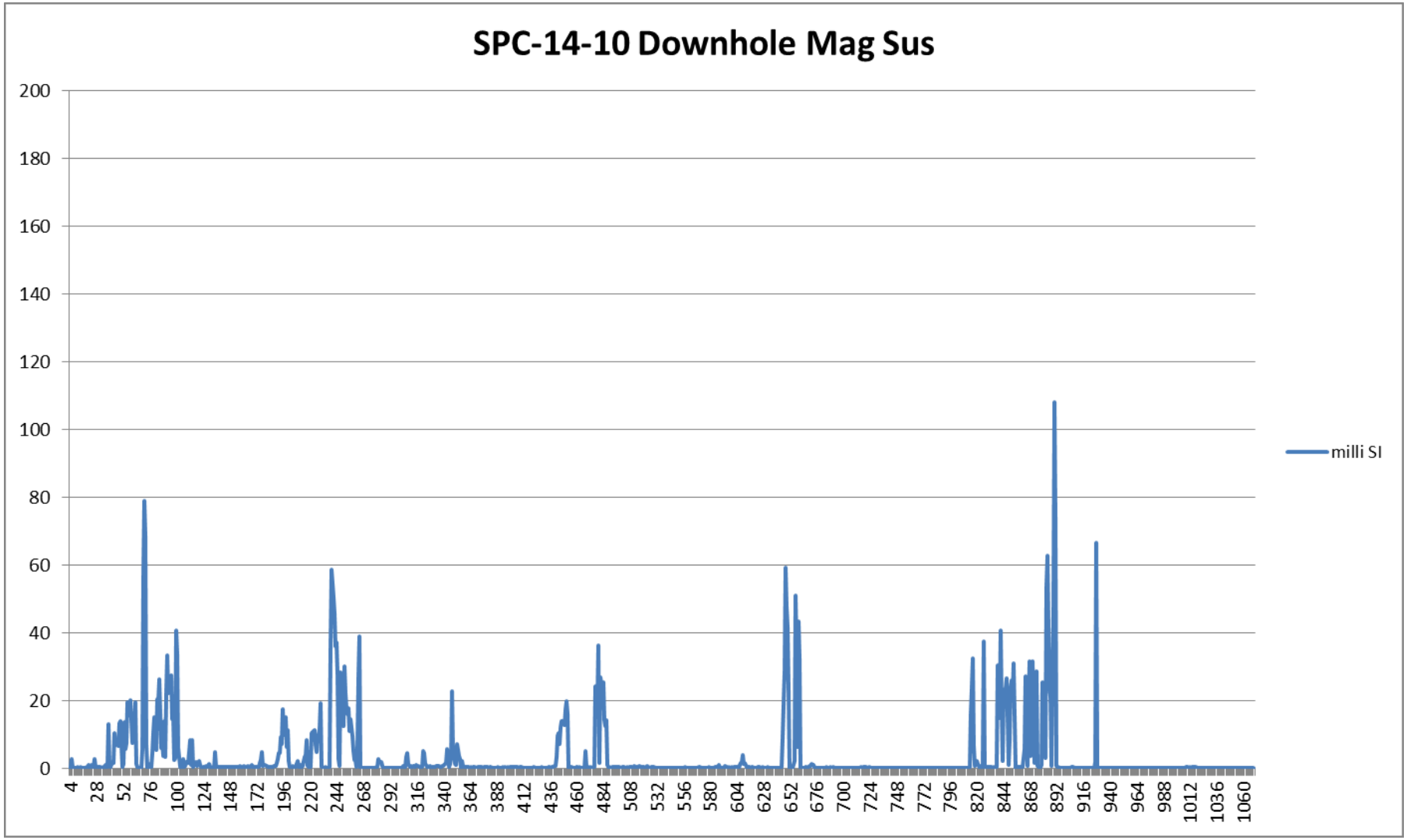
			blebs of cpy (altd by bn?) and assoc with 1-2 cm qtz-calc-hem vnlt/strs @ 895.85-896.08 m (23 cm) minor qtz-calc strs
903.26	907.42	**Mafic Volcanics, 2a**	Amygd basalt units; inc occurrences of mainly chlor-filled amygd; noted inc occurrences of spec hem mnls (alt chlor? infills); marked by 21 cm thick hem-qtz-calc section @ 907.21-907.42 m 40 TCA
907.42	918.72	**Felsic Volcanics, 4**	as 894.40-895.50 m; still with evident banding 45-60 TCA; rxs are generally int hem and predom pale reddish-brown colored; gradational contact 40 TCA with qtz-chlor porphryry ? units below fract 30 TCA with hem stains qtz-calc vnlt 75 TCA containing rare cc dissem and tr cpy lined-up within 0.5 cm qtz-calc vnlt 70 TC A bounded by bn mnls @ 908.93 m inc hem along banding 45 TCA
918.72	919.92	**Silica-chlorite vein**	Silica-chlor vein ? material with chlorite wraps; greenish-white colored intrusive ? rxs; matrix prevasively qtz-altd while phenos chlor-altd; no visible mineralization; minor felsite unit inclusions
919.92	935.16	**Altered Felsite, 4**	Altered felsic volcanics; relict wkly altered; some clasts pervasively altd to epd blebs of cpy alt ? by bn accompanied by native cu along 40 TCA chlor-hem vnlt/strs and assoc hairline qtz-calc
935.16	1008.51	**Felsic Volcanics, 4**	olive green to hem red weakly banded and porphyritic rhyolite, blotchy alteration in places like a weak bleaching, minor alteration of pheno's to chl banding 40 TCA strong hem to 943m, then strong epd to 947m 947-948m broken core 948-948.4m breccia zone 30 TCA cross-cutting banding orientation, strongly chloritic and hematitic section, minor qtz-carb strong epd alteration to 951.4m weakly banded red hematitic, weak epd alteration along bands in wisps and fractures // banding , strong hem alt to 955.8 mod epd and chl alteration from 955.8-958.3, weak hem of pheno's, minor late qtz-carb-hem fractures/vnlts 70 TCA x-cutting banding rest of volcanics are strongly hematized to brick red with epd pheno's and epd in wisps/fractures // to banding, weakly crackled 1x 3cm qch vein with chl 60 TCA (x) 1 x 5cm qch bx 60 TCA ok

965.73-966.57 breccia zone, fragmental with qtz-carb-chl-hem matrix, possible small section of brecciated mafic volcanics
972.6-976.55 **weak DZ** with 20+ late qtz-carb+/- hem fractures and veinlets mostly x-cutting banding, 1mm up to 2cm wide
975.53 large 5cm clot with silica-carb-epd-chl-hem and minor ascicular spec hem
982-984.32 **DZ**, moderately qtz-carb-hem veined/fractured and weakly locally bx, mod epd alt along finer fractures
15+ fractures veins, largest is 7cm 80 TCA,
985-985.7 strongly brecciated by qtz-carb , strong epd/hem alterration, 1 x 2cm qch vein 20 TCA
985.7-988.8 epd alteration more pervasive than hem alt
988.8-1008.51 pervasive dominant hem alteration, minor epd alt of pheno's and along fine fractures and in wisps
990m, 30cm interval of strong qtz-carb brecciation
993-998 broken chunky core, large 10cm oblong qtz-carb-hem-epd clot with coarse ascicular spec hem
998.5-1006.15 **Mod DZ**, strongly qtz-carb+/-hem veined anf fractured with multiple intervals of bx by qch, most veining generally sub// TCA and commonly 1-3cm wide,
1007.55-1008.15, sheared siliceous weakly fragmental contact zone @ 55 TCA

1008.51	1063.46	**Conglomerate, 5g**	basalt clast dominant conglomerate, moderately qtz-veined, small intervals where brecciated by quartz-carb, almost a pebble stone from upper contact to 1009.28, section is also strongly epidotized with 2-3% fine spec hem, strongly hem near lower contact strong hem alt associated with the thicker qtz-carb-hem veins, veining generally either sub// TCA, 30 TCA and 70 TCA weak to moderate epd alteration of matrix, loewer contact 60 TCA, fine bedded seds 1050.18-1051 @ 50 TCA
1063.46	1070	**Felsic Volcanics, 4**	aphanitic, masive, broken, light tan colour, minor qtz-carb-hem along fractures/jts 1064.72 1 x 9cm qtz-carb vein 75 TCA
	EOH		

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323784	70.64	70.94	0.30
R	323785	1/4 dup		
R	323786	96.28	97.28	1.00
R	323787	97.28	97.78	0.50
R	323788	97.78	98.25	0.47
R	323789	98.25	98.75	0.50
R	323790	98.75	99.25	0.50
R	323795	126.00	126.50	0.50
R	323796	126.50	126.80	0.30
R	323797	126.80	127.30	0.50
R	323798	148.25	148.70	0.45
R	323799	148.70	149.70	1.00
R	323800	168.20	168.70	0.50
R	323801	168.70	169.05	0.35
R	323803	169.05	169.67	0.62
R	323804	169.67	169.98	0.31
R	323805	169.98	170.98	1.00
R	323806	177.85	178.85	1.00
R	323807	178.85	179.60	0.75
R	323808	180.58	180.88	0.30
R	323809	180.88	181.32	0.44
R	323820	244.02	244.32	0.30
R	323822	244.32	245.32	1.00
R	323823	245.32	246.22	0.90
R	323824	246.22	246.55	0.33
R	323825	246.55	247.00	0.45
R	323826	247.00	247.48	0.48
R	323827	247.48	247.78	0.30
R	323828	247.78	248.39	0.61
R	323830	248.39	248.90	0.51
R	323831	248.90	249.17	0.27
R	323832	249.17	249.48	0.31
R	323833	249.48	250.48	1.00
R	323834	250.48	251.48	1.00
R	323835	251.48	252.00	0.52
R	323836	252.00	252.43	0.43
R	323838	252.43	253.13	0.70
R	323839	253.13	253.52	0.39
R	323840	253.52	253.82	0.30
R	323841	253.82	254.54	0.72
R	323842	254.54	254.84	0.30
R	323843	254.84	255.80	0.96
R	323844	261.12	261.42	0.30
R	323845	261.42	262.26	0.84

Sample No.		SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323846	262.26	262.97	0.71
R	323848	262.97	263.95	0.98
R	323849	263.95	264.85	0.90
R	323850	264.85	265.15	0.30
R	323851	265.15	265.80	0.65
R	323852	344.65	345.03	0.38
R	323853	345.03	345.33	0.30
R	323854	345.33	345.65	0.32
R	323855	345.65	346.00	0.35
R	323857	346.00	346.31	0.31
R	323858	346.31	347.00	0.69
R	323981	824.55	824.97	0.42
R	323982	844.27	844.66	0.39
R	323983	844.66	845.00	0.34
R	323984	845.00	845.39	0.39
R	319016	891.00	891.92	0.92
R	319017	891.92	892.45	0.53
R	319018	892.45	892.75	0.30
R	319019	892.75	893.05	0.30
R	319020	893.05	893.35	0.30
R	319021	893.35	893.66	0.31
R	319022	893.66	894.00	0.34
R	319023	894.00	894.40	0.40
R	319025	894.40	894.94	0.54
R	319026	894.94	895.50	0.56
R	319027	895.50	895.85	0.35
R	319028	895.85	896.15	0.30
R	319029	896.15	897.00	0.85
R	319030	908.00	908.78	0.78
R	319031	908.78	909.08	0.30
R	319032	909.08	909.44	0.36
R	319034	925.50	926.50	1.00
R	319035	926.50	927.15	0.65
R	301036	927.15	928.15	1.00


SPC-14-10 Downhole Mag Sus
200
180
160
140
120
100
80
60
40
20
0
4
28
52
76
100
124
148
172
196
220
244
268
292
316
340
364
388
412
436
460
484
508
532
556
580
604
628
652
676
700
724
748
772
796
820
844
868
892
916
940
964
988
1012
1036
1060
milli SI

PROJECT	HOLE NO.	TARGET NAME	DRILLING COMPANY	LOGGED BY
Superior Project	SPC-14-11	M1"-Z1" Geotech	Orbit Garant Inc.	MGB, MWK

CLAIM NO.	START DATE	END DATE	TOTAL METERAGE
4249530	October 26, 2014	November 12, 2014	920.24

TOWNSHIP	DISTRICT
Ryan	Sault Ste. Marie

DATUM/ZONE	UTM ZONE	NORTHING	EASTING	ELEVATION
NAD 83	16T	5207950	671160	213

DEPTH	DIP	AZIMUTH
COLLAR	-78	225
200	-76.3	222.1
400	-75.6	225.5
600	-75.7	229.8
800	-75.5	225.9

COMMENTS

FOOTAGE FROM	TO	ROCK TYPE	DESCRIPTION
0.00	49.00	Overburden	
49.00	54.93	**Mafic Volcanics, 2c**	dark green, fine grained, sparsely to medium amygdaloidal, blocky since top of hole, amygdules chl and/or qtz-carb filled massive 2d sections, very weak hem alteration of groundmass
54.93	55.56	**Flow Top Breccia, 6**	strongly hem flow top with 10% seds
55.56	62.07	**Mafic Volcanics, 2a**	strongly hematitic, amy's filled with chl and/or epd and/or calcite, weakly fractured/veined by late qtz-carb-hem veinlets
62.07	63.00	**Mafic Volcanics, 2b**	massive, medium to fine grained, weakly hem along jts/hair fractures, mostly chl filled rare amygdules
63.00	68.13	**Mafic Volcanics, 2a**	strongly hematitic, weakly to moderately fractured/veined by late qtz-carb-hem veinlets, blocky broken core
68.13	69.34	**Flow Top Breccia, 6**	strongly hematitic flow top breccia, 10% seds which are a tannish green colour (weak epd) 68-71.77 **DZ** weak to moderate qtz-carb brittle fracture zone, locally weakly brecciated, general veining 40-70 TCA
69.34	72.96	**Mafic Volcanics, 2a**	strongly to moderately hematitic, mostly chl filled amy's, 6 cm qtz-carb-hem breccia at lower contact which is gradational
72.96	78.77	**Mafic Volcanics, 2e**	medium grained, massive, ophitic texture, weakly to strongly hematitic, fairly borken core, weakly to strongly magnetic depending on amount of hem alteration 72.96-75.5 DZ moderate damaged zone with 5-15cm sections of micro-breccia by late qtz-carb-hem
78.77	81.55	**Mafic Volcanics, 2a**	strongly hematitic, possible flow top from 79.7-80.32, amy's mostly chl filled and/or calcite filled, possible healed fault gouge at lower contact which is a gradational one
81.55	102.00	**Mafic Volcanics, 2g**	medium to coarse grained, massive, gabbroic appearance, moderately to strongly magnetitc, minor chl alt of ferro mags to give it a chl flecked appearance locally, strongly hematritic to 86 which is the end of the DZ described below 78-86 CBrZ strong qtz-carb-hem brittle fracture zone highlighted by a qtz-carb-hem vein from 84.62-85.18 20 TCA section is strongly micro-brecciated by qch (qtz-carb-hem) and fractured, some minor thick up to 3cm qch vns

generally 75 TCA
rare amygdule in unit
89.52-90.22 weak DZ with minor weak bx by qtz-carb-hem fractures/vnlts
91.5-96 light coloured flaky micaceous miineral in groundmass, muscovite (?) alteration of ferro mags?
91.62-92 1 cm qtz-carb-chl +/- hem veinlet 15 TCA and 5 TCA cross-cutting other structure
93.6-93.83 dark brownish wispy seds (?) up to 1 cm wide
1-2 cm qtz-carb+/-chl-hem veins 35 TCA @ 93.07,93.57,94.93,
dark red-brown sed raft or fracture filled parallel TCA 99-99.35
99.71 1 x3cm red-brown sed filled interval 30 TCA which has been later qtz-carb veined 30 TCA
100.52 1 x 2cm dark red-brown sed filled crack/vein

102.00	103.72	**Flow Top Breccia, 6**	strongly hematitic flow top, 5-10% seds, minor weak qch fractures
103.72	108.04	**Mafic Volcanics, 2a**	chl filled amygdules, strong hem alteration 105.55-106 associated with minor qch fracturing/weak bx
108.04	108.14	**Siltstone, 5b**	fine bedded seds, siltstone-sandstone, contacts 70 TCA, mod epd and hem alteration, cross-cutting epd-qtz vnlt but its discontinous
108.14	109.24	**Mafic Volcanics, 2a**	chl filled amygdules, weak hem alteration of groundmass
109.24	109.40	**Siltstone, 5b**	fine bedded seds, contacts 70 TCA, mod epd alteration, finely crackled by hem-qtz-epd fractures
109.40	109.55	**Mafic Volcanics, 2a**	as above
109.55	109.66	**Siltstone, 5b**	looks like a sed raft invaded by a silica-epd vein 4cm across 20 TCA cross-cutting other bedding and contact measurements
109.66	109.96	**Mafic Volcanics, 2a**	as above
109.96	110.14	**Siltstone, 5b**	dark brown, strongly hem, contacts 70 TCA

110.14	111.56	**Mafic Volcanics, 2a**	as above
111.56	112.09	**Siltstone, 5b**	thinly bedded, strong epd alteration, 1x3cm qtz-epd-calc vein/bx section in middle of sed interval with fine **native copper** **native copper** also in adjoining wall rock as fine disseminations, overall 5-6% fine **native copper** upper sed contact 45 TCA, lower 55 TCA, overall unit carbonatized and epidotized and weakly hematized
112.09	113.30	**Mafic Volcanics, 2g**	gabbroic appearance, mod to weakly magnetic, massive, rare chl filled amy, weakly brecciated by thin hair width fractures filled with qtz-carb+/-hem, fine specs of **native copper** 112.6-112.68 in thin discontiuous qtz-carb fractures that radiate out obliquely (sub// TCA) from a hem dominant filled jt/vn (45 TCA) one speck of nc in thin fracture several fine specks of nc in discontinous qtz-carb fractures sub// TCA
113.30	113.41	**Siltstone, 5b**	strongly hem seds, moderately brecciated by qtz-carb-hem fractures/vnlts with one offset qtz-epd vnlt oblique to some bx/veining
113.41	114.53	**Mafic Volcanics, 2e**	massive, mod-strongly magnetic, minor sed rafts/intervals up to 15% by volume, intermittently bx/fractured by qch
114.53	114.81	**Siltstone, 5b**	intensely hematized bedded seds, contacts sharp @ 45 TCA
114.81	115.39	**Mafic Volcanics, 2e**	as above 2e, 5cm ribboned qtz-epd-chl-hem vein/fault contact @ 60 TCA
115.39	119.70	**Flow Top Breccia, 6**	weak flow top breccia, amydaloidal flow with 5% seds in wisps and rafts, amy's mostly chl filled and/or calc and/or kspar
			NOTE: From 108.14-119.7, this could be classified as a mixed sediment-volcanic unit, ie a 6 classification, but since the seds were bedded and over 10's of centimeters they were broken out into separate units
119.70	121.11	**Mafic Volcanics, 2a**	chl filled amygdaloidal flow
121.11	135.89	**Mafic Volcanics, 2e**	massive, moderately magnetic, gradational upper contact, ophitic to gabbroic to weak cumulate looking textures rare amy filled with qch
			125.4 1x 3cm qch 90 TCA

			126.9 1 x 3cm qtz-carb-chl-hem ribboned vein 20 TCA 130.77-131.09 1 x 0.5 cm qtz-carb-chl-hem vein 25 TCA patchy strong hem alteration of groundmass, generally assoicated with qch veining/fracturing/jts 133.89-134.84 weak bx by qch 135.53-135.78 broken, 0.5cm qch vein with kspar (?), minor subordinate weak bx
135.89	137.12	**Mafic Volcanics, 2a**	very weakly hematitic, amy's filled with chl and/or qtz-carb
137.12	139.41	**Mafic Volcanics, 2e**	mod hem alt of groundmass, rare amygdule, massive, mod magnetic
139.41	142.68	**Mafic Volcanics, 2a**	strong hem alt of groundmass, amy's mostly filled with qtz-carb +/- hem
142.68	149.25	**Mafic Volcanics, 2e**	mod-strong hem alt of groundmass, massive, weakly magnetic, very weakly damaged by late qch veins/fractures 20+ thin 1-2mm fractures/vnlts generally 75 TCA
149.25	154.55	**Flow Top Breccia, 6**	strongly hematitic weak flow top, only 5% seds, rest is 2a with amy's mostly filled with qc+/- chl one interval of weakly bedded seds 152.23-152.51
154.55	173.00	**Mafic Volcanics, 2e**	massive, ophitic, rare amygdule, weakly magnetic, medium grained, generally moderate hem alteration of groundmass minor weak intermittent epd alt of plagioclase, minor thin <10cm) strongly chl sections micro-bx by late qc weakly to locally mod damaged by late qch fractures/vnlts, 50+ qch fractures/vnlts/jts 80% of them steep to TCA 60-80 TCA, rest are 15-30 TCA
173.00	177.66	**Flow Top Breccia, 6**	moderately to strongly hematitic flow top, 5% seds, rest is 2a with 50% epd filled amy's, rest is qc filled, 1 x 1cm qch ribbon vein at lower contact 60 TCA
177.66	181.51	**Mafic Volcanics, 2a**	very weak hem alteration of groundmass, chl dominant filled amygdules, lower gradational contact
181.51	194.93	**Mafic Volcanics, 2e**	massive, ophitic, mod-strong hem alteration of groundmass increasing towards lower contact from 188m on, very weakly damaged by late qch veins/fractures, weakly magnetic

			couple of specls of chalcocite at lower contact in fine fracture, lower contact 90 TCA
194.93	221.11	Felsic Volcanics, 4	intensely epidotized, locally strongly hematitc altered felsite-mixed banded rhyolite unit, intense alteration has softened rock whereas it should be hard, intermittent banding that looks like primary sedimentart features however, the more aphanitic sections are crackled veined (hem dominant), other hem alteration of ferromag rich bands, other hem alteration of ferromag minerals to give it a spotted appearance in a epidote altered groundmass, relic possible quartz eyes and/or pheno's, strong hem alt to 195.9, then predominant epidote alteration felsite looking from 196.9-198, banded appearanceto 205.7m, possible intensely altered more mafic unit to 209.3 with mottled bleachy appearance, epidotized felsite appearance to 219.3 where there is a relatively sharp alteration contact 90 TCA, mottled strongly hematitic medium grained appearance to contact at 221.11, lower contact 45 TCA minor chalcocite and rare native copper in fine 1mm fracture sub// TCA from 207.68-208.33 minor chalcocite in discontinous fractures and as blebs from 209.3-209.72 intermittent chalcocite bleb replacing relic ferro-mags and/or quartz eyes
			few blebs of chalcocite associated with a strong epidote altered section brecciated by qtz-carb+/-hem vnlts/fractures
			brecciated and veined sub// TCA by quartz-carb-hem veins/fractures, no visible mineralization brecciated and veined sub// TCA by quartz-carb-hem veins/fractures, no visible mineralization
			rare speck of chalcocite and native copper small specks of chalcocite associated with thin 1mm qtz-carb-hem fracture sub// TCA small specks of chalcocite and rare specks of native copper in same fracture as above no visible mineralization, stronger hem altered section anomalous in Cu by xrf gun 2-3% chalcocite in thin 1mm discontinuous fractures and as isolated blebs
			rare bleb of chalcocite, majority in one 1.5cm qtz-hem-ferromag clot, cc with ferromags

			one visible speck cc in qtz-hem-ferromag clot from 219.3 to contact; mottled and strongly hematitic
221.11	228.45	**Mafic Volcanics, 2e**	moderately to strongly hematitic massive ophitic volcanic, strong hem alt of groundmass, weak alt of plag to weak epd? weakly magnetic, weak quartz-carb+/-chl veining/fracturing, qtz-carb dominant and rarely hematitic
228.45	232.12	**Mafic Volcanics, 2a**	strongly hematitic, qc dominant filled amygdules, rare late qc fracture/vnlt
232.12	234.44	**Mafic Volcanics, 2e**	massive, strongly hematitic, rare amy, as above 2e
234.44	236.70	**Mafic Volcanics, 2a**	as above 2a
236.70	238.74	**Flow Top Breccia, 6**	weak flow top breccia, strongly hematitic, 5% seds chl and/or qc filled amy's, lower contact 55 TCA
238.74	244.29	**Felsic Volcanics, 4**	tan to light olive green fine grained massive to weakly banded felsic volcanics, locally porphyritic with 2-3% minute pheno's and quartz eyes, hematization of pheno's (?) or relic ferro mags to hem, pervasive epidote alteration and hem alteration very rare speck of chalcocite
244.29	245.13	**Mafic Volcanics, 2a**	chl dominant filled amygdules, lower contact 60 TCA
245.13	250.36	**Felsic Volcanics, 4**	light red fine to medium grained felsic volcanics, banded at top of flow and bottom of flow, strong hem alteration of groundmass, epidotized feldspars, minor late qtz weak carb fractures/vnlts, lower contact broken, banding @ 60 TCA
250.36	256.38	**Mafic Volcanics, 2a**	chl dominant filled amygdules, moderate hem alteration of groundmass, lower contact 60 TCA, minor late qtz-carb fractures minor seds <5%, could be classified as a flow top
256.38	257.11	**Felsic Volcanics, 4**	flow banded rhyolite, striped appearance from alternating strong hem and epidote alteration of different bands, banding 90 TCA,
257.11	258.24	**Mafic Volcanics, 2a**	chl dominant filled amy's, weakly brecciated by late white qtz-carb vnlts/fractures, 258-258.4 intensely bx by silica-quartz-dark chl (?)-white soft talc (?) veining

258.24	261.15	**Mafic Volcanics, 2e**	massive, medium grained, weakly magnetic, minor seds, weakly brecciated by late white quartz-carb fractures/vnlts strong hem alteration 10-20cm from contacts, lower @ 60 TCA
261.15	277.04	Felsic Volcanics, 4	red fine grained weakly porphyritic to banded rhyolite, strongly hematized, strongly epidotized at contacts 265.24-265.59 more mafic section, separate flow (?) 265.59-269.2 medium grained strongly porphyritic with 50% altered plag pheno's, groundmass is strongly hematized while plag pheno's are weakly to strongly epidotized, 5% fero mag flecks, weakly locally banded 269.2-275.65 fine grained, massive, weakly porphyritic, strongly hematitic, qtz eyes and ferro mags altered to blood red hematite or partially altered and rimmed by hematite 275.65-277.04 weakly banded with 20-30% tiny epidotized plag pheno's, strong epd alteration last 30 cm
277.04	278.13	**Mafic Volcanics, 2e**	massive, medium grained, relatively unaltered, weakly magnetic, amydaloidal last 30cm
278.13	280.43	**Flow Top Breccia, 6**	strongly hematitic, 5% seds, qtz-carb dominant filled amydules, minor late quartz-carb fractures/vnlts upper contact at 60 TCA but offset by 2-3mm perpendicular to contact, discontinous tension gashes assoicated with offset filled with qtz-carb, small scale feature that could be replicated on a regional scale
280.43	283.27	**Mafic Volcanics, 2e/2g**	medium grained, mostly massive, chl flecked from alteration of larger ferro-mags (?), mod to strong hem alteration of groundmass
283.27	292.03	**Mafic Volcanics, 2a**	strangley amygdaloidal with large multi centimeter red hard clots and irregular masses, hematized clots or kspar (?) very hard, some rimmed with epidote, some amy's just epidote, some are a combination of red hem altered feldspar (?)-epidote and qtz-carb
292.03	301.45	**Felsic Volcanics, 4**	reddish coarsely porphyritic felsic volcanic, 5-10% large up to 1 cm angular to sub-rounded altered porphyroblasts, minor smaller qtz-eyes present, hematized groundmass, some of the pheno's are partially altered and rimmed by epidote locally trace fine pyrite, lpower contact 80 TCA

301.45	301.93	**Mafic Volcanics, 2a**	varable lower contact
301.93	308.10	**Felsic Volcanics, 4**	coarsely porphyritic to weakly banded felsic volcanics, 3-5% large porphyroblasts like above plus minor quartz eyes strongly hematized except for 304-305.66 where it is moderately epidotized to pale olive green, broken 304.86-305.1
308.10	309.04	**Mafic Volcanics, 2a**	chl dominant filled amy's
309.04	313.53	**Felsic Volcanics, 4**	prominantly banded rhyolite, banding 65 TCA, or could be a really altered sandstone, can't see any nicely formed pheno's however appears tp be minor quatz eyes, or are these little quartz rich pebbles? Both pervasive epidote and hematite alteration of groundmass
313.53	318.75	**Mafic Volcanics, 2a**	strongly hematitic, large amy's and irregular masses with hem+/-qtz+/-chl+/-epd like unit from 282.27-292.03
318.75	329.05	**Ultramafics, 1a**	gradational contact from 2a, coarse grain blotchy massive cumulte texture, non-magnetic, strong hematization of groundmass, weak epidotization of plagioclase and chl alterration of ferro-mags moderately qtz-carb+/-chl+/-chalcedony veining/fracturing, 23+ vns/fracs, largest is 4cm @ 323.52 with one small streak of chalcocite in a discontiuous fracture, vein at 45 TCA as are most in this unit
329.05	331.98	**Felsic Volcanics, 4**	upper contact 75 TCA, strongly banded to mottled massive, strongly altered by hematite and epidote, banding (or sed bedding?) 75 TCA, lower contact 80 TCA
331.98	334.10	**Ultramafics, 1a**	as above unit 318.75-329.05, upper contact 90 TCA, lower contact difficult to establish
334.10	335.00	**Mafic Volcanics, 2h**	not sure what this is, soft, teal green in colour, strong pervasive carbonate in groundmass and in fractures/vnlts/bx matrix hem and quartz other minerals in fractures/vns, micro-bx appearance by fractures/vns, fine fragmentally groundmass?
335.00	341.59	**Felsic Volcanics, 4**	massive weakly porphyritic to banded felsic volcanics, mostly a light olive green colour, sharp alteration contact at 336.85 from hematitic burgundy colour to tan-olive green epidote altered, rare angular relic pheno seen as well as minor qtz eyes, striped appearance from alternatinf epd-hem alt of different layers/bands 65 TCA

341.59	344.47	**Ultramafics, 1a**	massive medium grained mottled cumulate to weakly amygdaloidal, non-magnetic, strong hem alteration of groundmas, amy's with qtz-carb, chl or that light blue sericite filled, lower contact 85 TCA
344.47	347.02	**Felsic Volcanics, 4**	fine grained olive coloured epidotitic felsic volcanics, weakly banded to qtz-eye dominant (5-10%) porphyritic, other plag pheno's hematized to light red-purple, broken core at lower contact
347.02	354.30	**Mafic Volcanics, 2a**	massive to 348.3m, then to 350.5, amygdaloidal with qtz-carb+/- chl dominant filled amy's, clots and large irregular masses, strongly hematitic groundmass, lower gradational contact into next unit
354.30	379.65	**Ultramafics, 1a**	medium to coarse grained, crude cumulate, still weakly amygdaloidal to 370m but the whole unit is one flow, coarse chl flecks-clots (10-15%) to 370m, as well as qtz-carb-kspar (?) filled clots/amy's (?), fairly strong hem alteration of groundmass , weak intermittent fine qtz-carb+/-hem fractures/vnlts mostly 1-2mm, xrf gun says anaomalous in Ni thus it's origin may be more ultra-mafic, non-magnetic, noted alteration of ferro-mags to chl and/or blue sericite and/or white albite (?), doesn't seem to be white quartz, scratchable 2 minute specks of **chalcocite** at 358.47 in chl-blue sericite-albite clot 360.67-366 16+ thin quartz+/-carb+/-hem fractures, approaching weak pseudo-bx, 364.5 1 x 4cm ribbon qtz-carb-hem vein 60 TCA 365.26 small speck of **chalcocite** in grey qtz-carb vn 1cm wide 60 TCA 3 minute specks of native copper associated with qtz-very carb clot unit grades into a more massive coarse grained ophitic flow, almost a weak cumulate texture look, spotted with 5% white quartz-albite specks odd thin 1-2mm fracturesbetween 375 and 378.23m with rare fine native copper, qch filled fractures/vnlts trace speck of native copper trace speck of native copper in thin qtz-carb-burgundy hem fracture, another speck in host rock near fracture trace nc associated with hair width qtz-carb fracture

			trace nc with chl-qtz-carb small discontious fracture
			trace nc associated with 1mm qtz-carb-mem vnlt 60 TCA
			lower contact 55 TCA
379.65	382.75	**Siltstone, 5b**	bedded strongly hematitic silstone-sandstone with minor pebblestone, bedding 65 TCA
382.75	385.33	**Flow Top Breccia, 6**	strongly hem flow top, 7-10% seds, qtz-carb filled amy's in 2a parts
385.33	391.13	**Mafic Volcanics, 2a**	chl+/-qtz-carb filled amy's, strongly hematitic, minor <2% seds leftover from above flow top unit, minor thin 1-3mm late qtz-carb-hem fractures/vnlts
391.13	429.10	**Ultramafics, 1a**	medium grainedm massive, non-magnetic, pseudo-cumulate texture, strongly to intensely hematized groundmass where sometimes its just blood red hematite and chloritized ferromags, strongest hematite alteration contains very fine trace to 1-2% native copper, native copper also spatially assoicated with late quartz-weak carb+/-chl veinlets/fractures native copper really begins to pick up after an 8cm breccia at 396m which has been later intruded by a later qtz-carb vein 4cm wide, structure lies at 30 TCA, there is a definite correlation between the intensity of hematite alteration and fine native copper speck of nc **NOTE: THIS WAS NOT NATIVE COPPER BUT A COPPER COLOURED MICACEOUS MINERAL YET TO BE DETERMINED.** weakly fractured/veined by qtz-carb sub// TCA with 1 x 4cm qtz-carb vn 30 TCA 1 x 8cm breccia zone 30 TCA with epd,hemqtz-carb matrix, 1-2% diss nc in breccia and into wall rock trace trace native copper trace native copper trace native copper trace native copper trace native copper

trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper, 10cm of broken core and minor late qtz-carb fractures
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper, 1 x 5cm qtz-carb-chl vein 75 TCA with wall rock weak breccia radiating from it
trace native copper

trace native copper, 4cm weak breccia at 409.26
trace native copper, weak bx by qch over 10cm
trace native copper
trace native copper
trace native copper
trace native copper
trace native copper, 3 x 2mm qtz-carb vnlts 45 TCA @ 412
trace native copper
trace native copper

			trace native copper
			trace native copper
			trace native copper
			trace native copper
			pseudo daisey rock
			trace native copper
			trace native copper
			trace native copper
			trace native copper
			trace native copper
			trace native copper
			trace native copper
			trace native copper, weak bx by qch over 5cm
			trace native copper
			trace native copper, weak 2cm shear 15 TCA, multiple white qtz-carb clots
			trace native copper
			trace native copper, minor qtz-carb and/or chl filled clots
			trace native copper
			trace native copper
			trace native copper, very weakly bx by qch fractures
			trace native copper
			trace native copper
			trace native copper, 25cm of daiseyrock
429.10	435.46	**Felsic Volcanics, 4**	aphanitic weakly porphyritic olive green, intermittently banded, strong epidote alteration of groundmass, hem alteration of ferromags and pheno's, strong hem also in fractures/vnlts with qtz-carb 431.7-432.1 0.5cm-1cm qch vein sub// TCA, both contacts sharp @ 70 TCA
435.46	443.70	**Ultramafics, 1a**	as above unit, continuation of same flow epidotitic for top 20cm, also chilled and finer grained, trace nc trace native copper

			trace native copper trace to 1% native copper 1-2% native copper locally 1-2% native copper locally 1-2% native copper locally
			trace native copper trace native copper trace native copper trace native copper weak daiseyrock trace native copper trace native copper trace native copper
443.70	448.06	**Daiseyrock, 2i**	very weakly-strongly porphyroblastic, mod-strong hem alteration of groundmass, minor chl flecks and qtz-carb clots/filled amy's, minor spec hem throughout (<5%) , epd and hem alteration of porphyroblasts 445.9-447.05 strong to intense brecciation by hematized qtz-carb veins/fractures sub// to 35 TCA, strongly hem zone
448.06	453.59	**Ultramafics, 1a**	contuation of 2e above, very strongly hematized, only trace native copper, 448.45-449 strongly veined/fractured with white qtz-carb-hem veins plus 1 x1cn grey qtx vein at 65 TCA trace native copper trace native copper trace native copper trace native copper
453.59	455.27	**Daiseyrock, 2i**	coarse grained porphyroblastic mafic volcanic, daisies not formed into 'flowers', chl flecked, mod hem of groundmass, minor local epd alteration, 454.16 1x1cm qtz-carb vein 40 TCA
455.27	457.70	**Ultramafics, 1a**	as above, intensely hematized still, contacts with daiseyrock look gradational, they are not sharp

			1x 1cm qtz-carb-chl vein at 50 TCA with coarse native copper, 2 other vnlts also, trace to 1% nc in host rock
457.70	459.42	**Daiseyrock, 2i**	coarse grained, porphyroblastic, weak to non-existent daisey fomration, strong hem alt of groundmass, minor weak epd alteration, some chl filled large amy's (?)
459.42	463.50	**Ultramafics, 1a**	as above, only moderately hematized, rare native copper
463.50	465.16	**Daiseyrock, 2i**	as above 2i
465.16	551.75	**Ultramafics, 1a**	as above and contiuation, hematitie alteration strong to about 485m then becoming weaker, native copper harder to find, becoming rarer, only minor thin qtz-carb fractures, there is a fine micaeous mineral in these 1a units, in unaltered sections it looks almost like a fine muscovite, when intensely hematized it still reflects the light in a way that it looks metallic and is confused with native copper, however distinctly in places there is fine native copper with the intense hem alteration broken and weakly fractured 474.5-477, minor qch stringers/vnlts weakly hematitic from 485m to 493m 493.07-493.37m daiseyrock moderately to strongly hematitic again from 509-512 intensely hematitic from 513-519, minor qtz-carb-hem-weak serp veinlets/fractures moderately to strongly hematitic again from 519-525 intensely hematitic from 525-535, minor qtz-carb-hem-weak serp veinlets/fractures moderately hematitic to 551.75, cumulate texture becoming finer to 0.5cm cumulates instead of 1-1.5cm across 543.67-543.85 qtz-carb-chl-hem veining/brecciation 547.6-548 broken core 548.5-551 abundant thin 1mm-1cm qtz-carb-chl-weak serp vnlts/fractures/tension gashes generally 60 TCA lower contact 60 TCA, possible healed fault gouge
551.75	561.65	**Conglomerate, 5f**	very strongly hematized polymictic conglomerate, minor replacment of matrix by quartz-carb strongly epidotized 560-561.65m, lower contact 65-70 TCA

561.65	568.40	**Felsic Volcanics, 4**	light tan to olive green, banded to porphyritic, qtz-eyed, banding 70 TCA, pervasive epd alteration of groundmass except for 566.25-566.80 where it is strongly hematitic, lower contact 70 TCA, minor chalcocite in discontinuous fractures and as as specks and 1x 7mm massive chalcocite mass in vein/fracture at 567.69
568.40	576.60	**Conglomerate, 5f**	as above, moderately hematitic
576.60	578.35	**Mafic Volcanics, 2a**	fine grained groundmass, mod hem alteration, amy's filled with chl and/or qtz-carb and rarely chalcedony filled
578.35	584.85	**Mafic Volcanics, 2d**	fine grained, massive except for rare amygdule, moderatley finely veined/fractured with qtz-carb-hem, weak bx appearance 583.4-584m moderate hem alt of groundmass
584.85	586.40	**Flow Top Breccia, 6**	strongly hematitic, weak flow top, 5% seds, 2a for matrix
586.40	590.14	**Mafic Volcanics, 2a**	weakly amygdaloidal, chl filled and or qtz-chalecdony filled, zoned, large amy's though up to 4-5cm across, fine grained weakly hematitic groundmass
590.14	601.43	**Mafic Volcanics, 2d**	fine grained, weakly magnetic, strong pervasive hematite alteration, minor 1-3mm vnlts/ fractures with qtz-carb-hem+/-chl
601.43	604.24	**Flow Top Breccia, 6**	5-7% seds, strongly hematitic, amygdaloidal matrix, qtz-carb-hem-kspar (?) filled
604.24	607.32	**Mafic Volcanics, 2b**	rare large amygdule, 2-4cm common filled with qtz+/-carb+/- chalcedony, zoned sometimes, mod hem alteration of groundmass
607.32	608.23	**Flow Top Breccia, 6**	strongly hem, 10% seds, lower contact 90 TCA
608.23	614.83	**Felsic Volcanics, 4**	weakly porphyritic to weakly banded rhyolite, strong olive green epd alteration or strong hem lteration, places of mottled both, rare speck of chalcocite, minor qtz-eyes, banding 90 TCA

614.83	616.03	**Mafic Volcanics, 2a**	
616.03	621.40	**Flow Top Breccia, 6**	strongly hematitic, weak flow top, 5-7% seds, 2a matrix,
621.40	658.06	**Mafic Volcanics, 2d**	fine grained, variable hem alteration of groundmass from very weak to moderate, minor late white qtz-weak carb fractures and veinlets and intermittent thin 10-20cm weak bx sections, strongly magnetic, massive mostly but places wesakly braided as well as minor flow top and amygdaloidal, all one flow really, qtz veining commonly parallel TCA or 30 TCA very broken 627.8-628.58
658.06	708.71	**Mafic Volcanics, 2a/2c**	coarse grained, strongly epidotized groundmass, hem-chl alteration of ferromags, gives in a chl flecked look, massive, amydaloidal to 664m with amy's filled with chl and/or hard pink feldspar-hem (?), non-magnetic to weakly magnetic finer grained near lower contact from about 678m definely amygdaloidal from 683.3-685.4, section more hematitic than epidotitic not much late veining in this unit 696-696.4 strongly hematitic strong epidotization ends at 699.5, then modersate to strong hem alt of groundmass to contact 704.71 1 x 0.5cm qtz-carb-hem veinlet 30 TCA
708.71	710.30	**Flow Top Breccia, 6**	strong hem amygdsaloidal groundmass, amy's generall epidotized, 5 % seds
710.30	717.20	**Mafic Volcanics, 2a**	chl dominant filed amy's, strongly epidotized, massive, partially hem ferro-mags, weakly magnetic
717.20	724.57	**Mafic Volcanics, 2e**	medium to fine grained ophitic, mostly strongly epidotitic, hem altered ferro-mags, chl flecked appearance lower contact sharp @ 60 TCA, unit weakly magnetic
724.57	728.16	**Felsic Volcanics, 4**	banded, red hematitic, weaskly porphyritic with 5% minute pheno's and qtz-eyes
728.16	740.27	**Mafic Volcanics, 2e**	medium grained ophitic, moderately epidotized to 735m, then more hem alt of groundmass, very minor late qtz-carb vnlts 738m, 10cm mod bx section by white qtz-carb

			weakly magnetic
740.27	753.76	**Siltstone, 5b**	fairly well bedded siltstone, dark burgundy red colour from hem, relatively moderstely fractured and weakly brecciated by late white qtz-carb, intermittent fragmental disturbed bedding sections, some places beds are offset by cm's 90 degrees to bedding which is at 60 TCA bedding ends around 752, from there are very fine grained dark burgundy massive siltstone (?),
753.76	756.22	**Conglomerate, 5f**	weakly epidotic polymictic conglomerate, minor replacement of matrix by qtz-carb, upper contact 60 TCA lower contact 30 TCA
756.22	779.06	**Feldspar Porphyry, 7a**	pink to red, fine grained, massive, porphyritic with 5% qtz-eyes and 5% pheno's, weak local banding, strongly hematitic 776.77-777.5 DZ broken core, minor late qtz-carb veining/fractures lower contact 30 TCA
779.06	782.57	**Conglomerate, 5f**	polymictic, relatively unaltered, lower contact very variable and runs sub// TCA to about 35 TCA
782.57	800.71	**Felsic Volcanics, 4**	light tan-pink (hem alt) to olive green (epd alt), strongly banded to massive and weakly porphyritic with pheno's and qtz eyes hem alteration to 786.5 strong epidote to 798, then wek hem alteration to lower contact @ 90 TCA, rare late qtz-carb fracture/vn
800.71	810.41	**Conglomerate, 5f**	polymictic, abundant replacement of matrix by qtz-carb
810.41	823.69	**Felsic Volcanics, 4**	tan-red to olive green, locally banded 75-80 TCA, weakly finely porphyritic and minor minute qtz -eyes, pheno's altered sometimes by hem, strongly epd (olive green colour), stronger hem alt towards contact from 822m

from 822.26-823m fine chalcocite is associated with blotchy epd alteration with a fine qtz-carb-chl core

			at 823.6 minor chalcocite associated with thin hairline fractures +/- qtz-carb and with a hard fine black mineral in clots
823.69	824.00	**Conglomerate, 5f**	small section of conglomerate with chalcocite and bornite associated with a qtz-carb 2-4mm fracture and red hard kspar (?)
824.00	824.77	**Quartz vein**	95% qtz-carb vein with hem along fine fractures and as matrix of breccia, contacts 30 TCA
824.77	828.93	**Mafic Dyke, 8a**	strongly magnetic, aphanitic to weakly porphyritic looking, hard green-black, minor thin 1-3mm qtz-carb vnlts 30 TCA upper portion of dyke from contact to 825.5m is bleached to tan colour, crackled with soft hematite in fractures and minor fine chalcocite qtz-vein came in after the dyke
828.93	853.75	**Conglomerate, 5f**	polymictic, upper contact 30 TCA, lower 60 TCA, minor qtz-carb replacement of matrix 830.91-831.22 qtz-carb-hem vein 60 TCA, rare cc speck, fine rare cpy in one vug 831.42 1 x 4cm qch vein
853.75	860.27	**Felsic Volcanics, 4**	tan coloured, banded to weakly porphyritic, banding 80 TCA, minor chl of ferro-mags
860.27	887.29	**Conglomerate, 5f**	polymictic, minor replacement of matrix by qtz-carb, upper contact 60 TCA, lower 45 TCA
887.29	889.43	**Mafic Volcanics, 2a**	qtz-carb dominant filled amygdules
889.43	904.63	**Mafic Volcanics, 2g**	coarse grained, strongly epidotized, gabbroic appearance with rare amygdule, chl flcked appearance also where ferro-mags have been chloritized and/or qtz-carb altered, minor hem alteration of groundmass and/or along thin fractures/ vnlts borders, minor hem alt of ferro-mags too, rare late qtz-carb veining, weakly magnetic
904.63	908.65	**Mafic Volcanics, 2d**	massive fine grained to patchy 2a with chl filled smy's to finer grained gabbroic appearance as last unit, non-mt strong hem alteration of groundmass
908.65	920.24	**Mafic Volcanics, 2a**	strongly hem to epd alteration of groundmass, abundantly amygdaloidal at top of flow to lesser starting around 915m becoming more of gabbroic textured look after 915m. Chloritization of ferro-mags where some chl flecks have been

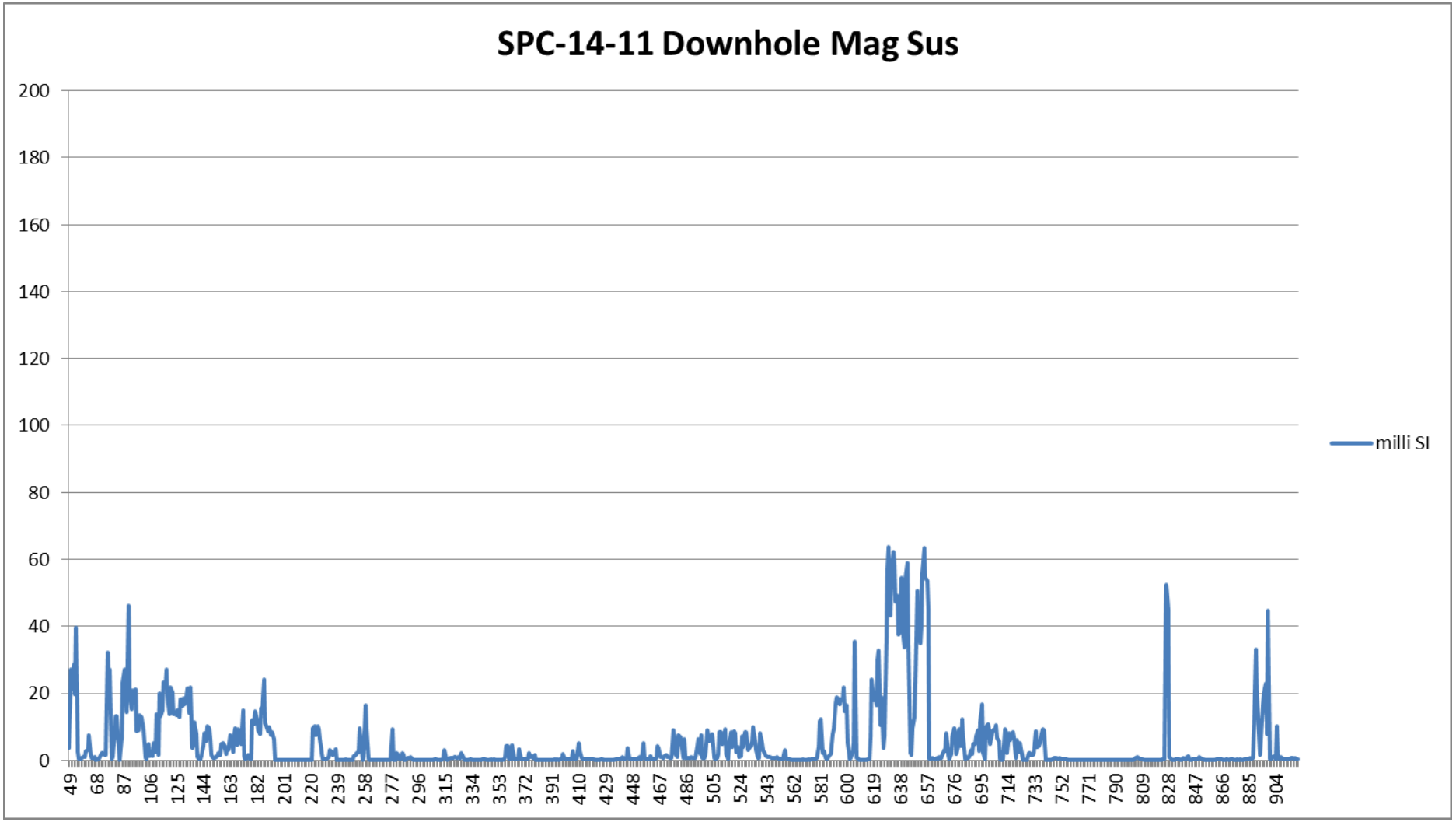
	replaced by a cream-yellow soft clayey mineral, finer disseminated 2-3% of spec hem starting around 915m, elevated anomalous Cu readings 200-600 ppm in stronger hematized-spec-hem sections as compared to stronger epd alt sections
	variable epd-hem alteration
	variable epd-hem alteration, but hem alteration 60%
	stronger epd versus hem
	stronger hem vs epd, hem altered sections 80%
	60/40 epd over hem
	50/50
	epd dpminant
	65/35 epd over hem, hem patchy
EOH	**Rods broke at 834m.**

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323859	110.57	111.56	0.99
R	323860	111.56	112.09	0.53
R	323861	112.09	112.45	0.36
R	323862	112.45	112.85	0.40
R	323863	112.85	113.30	0.45
R	323865	113.30	114.00	0.70
R	323878	201.33	201.68	0.35
R	323879	201.68	202.91	1.23
R	323880	202.91	203.55	0.64
R	323881	203.55	204.23	0.68
R	323883	206.85	207.20	0.35
R	323884	207.20	207.55	0.35
R	323885	207.55	207.91	0.36
R	323886	207.91	208.37	0.46
R	323887	208.37	209.30	0.93
R	323888	209.30	209.72	0.42
R	323889	209.72	210.25	0.53
R	323890	214.35	215.00	0.65
R	323892	219.00	219.30	0.30
R	323893	364.00	365.00	1.00
R	323894	365.00	365.33	0.33
R	323895	365.33	366.00	0.67
R	323896	366.00	367.00	1.00
R	323897	367.00	367.78	0.78
R	323898	367.78	368.09	0.31
R	323900	368.09	369.00	0.91
R	323901	374.50	375.00	0.50
R	323902	375.00	375.50	0.50
R	323903	375.50	376.00	0.50
R	323904	376.00	376.50	0.50
R	323905	376.50	377.00	0.50
R	323906	377.00	377.50	0.50
R	323907	377.50	378.00	0.50
R	323909	378.00	378.50	0.50
R	323910	378.50	379.00	0.50
R	323911	393.50	394.00	0.50
R	323912	394.00	394.50	0.50
R	323913	394.50	395.00	0.50
R	323914	395.00	395.85	0.85
R	323915	395.85	396.33	0.48
R	323916	396.33	397.00	0.67
R	323917	397.00	397.50	0.50
R	323919	397.50	398.00	0.50
R	323920	398.00	398.50	0.50

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323921	398.50	399.00	0.50
R	323922	399.00	399.50	0.50
R	323923	399.50	400.00	0.50
R	323924	400.00	400.50	0.50
R	323925	400.50	401.00	0.50
R	323926	401.00	401.50	0.50
R	323928	401.50	402.00	0.50
R	323929	402.00	402.50	0.50
R	323930	402.50	403.00	0.50
R	323931	403.00	403.50	0.50
R	323932	403.50	404.00	0.50
R	323933	404.00	404.50	0.50
R	323934	404.50	405.00	0.50
R	323935	405.00	405.50	0.50
R	323937	405.50	406.00	0.50
R	323938	406.00	406.50	0.50
R	323939	406.50	407.00	0.50
R	323940	407.00	407.50	0.50
R	323941	407.50	408.15	0.65
R	323942	408.15	408.50	0.35
R	323943	408.50	409.00	0.50
R	323945	409.00	409.50	0.50
R	323946	409.50	410.00	0.50
R	323947	410.00	410.50	0.50
R	323948	410.50	411.00	0.50
R	323949	411.00	411.50	0.50
R	323950	411.50	412.00	0.50
R	323951	412.00	412.50	0.50
R	323952	412.50	413.00	0.50
R	323953	413.00	413.50	0.50
R	323955	413.50	414.00	0.50
R	323956	414.00	414.50	0.50
R	323957	414.50	415.00	0.50
R	323958	415.00	415.91	0.91
R	323959	415.91	416.39	0.48
R	323960	416.39	417.00	0.61
R	323961	417.00	417.50	0.50
R	323962	417.50	418.00	0.50
R	323964	418.00	418.50	0.50
R	323965	418.50	419.00	0.50
R	323966	419.00	419.50	0.50
R	323967	419.50	420.00	0.50
R	323968	420.00	420.50	0.50
R	323969	420.50	421.00	0.50

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	323970	421.00	421.50	0.50
R	323972	421.50	422.00	0.50
R	323973	422.00	423.00	1.00
R	323974	423.00	424.00	1.00
R	323975	424.00	425.00	1.00
R	323976	425.00	426.00	1.00
R	323977	426.00	427.00	1.00
R	323978	427.00	428.00	1.00
R	323980	428.00	429.10	1.10
R	323985	435.46	436.00	0.54
R	323986	436.00	436.50	0.50
R	323987	436.50	437.00	0.50
R	323988	437.00	437.50	0.50
R	323990	437.50	438.00	0.50
R	323991	438.00	438.50	0.50
R	323992	438.50	439.00	0.50
R	323993	439.00	439.50	0.50
R	323994	439.50	440.00	0.50
R	323995	440.00	440.50	0.50
R	323996	440.50	440.92	0.42
R	323997	440.92	441.72	0.80
R	323999	441.72	442.30	0.58
R	324000	442.30	443.00	0.70
R	319001	443.00	443.70	0.70
R	319002	448.06	449.00	0.94
R	319003	449.00	450.00	1.00
R	319004	450.00	451.00	1.00
R	319005	451.00	452.00	1.00
R	319007	452.00	453.00	1.00
R	319008	453.00	453.59	0.59
R	319009	455.27	455.80	0.53
R	319010	455.80	456.50	0.70
R	319011	456.50	457.70	1.20
R	323012	566.80	567.70	0.90
R	323013	567.70	568.07	0.37
R	323015	568.07	568.40	0.33
R	319037	820.45	821.00	0.55
R	319038	821.00	821.45	0.45
R	319039	821.45	822.00	0.55
R	319040	822.00	822.35	0.35
R	319042	822.35	823.00	0.65
R	319043	823.00	823.41	0.41
R	319044	823.41	823.69	0.28
R	319045	823.69	824.00	0.31

	Sample No.	SAMPLE FOOTAGE FROM	TO	SAMPLE LENGTH
R	319046	824.00	824.77	0.77
R	319047	824.77	825.48	0.71
R	319048	825.48	826.05	0.57
R	319050	830.91	831.49	0.58
R	319051	915.00	916.09	1.09
R	319052	916.09	917.00	0.91
R	319053	917.00	917.52	0.52
R	319054	917.52	918.12	0.60
R	319055	918.12	918.44	0.32
R	319056	918.44	919.00	0.56
R	319057	919.00	919.50	0.50
R	319058	919.50	920.24	0.74
R	319059	101b	101b	101b

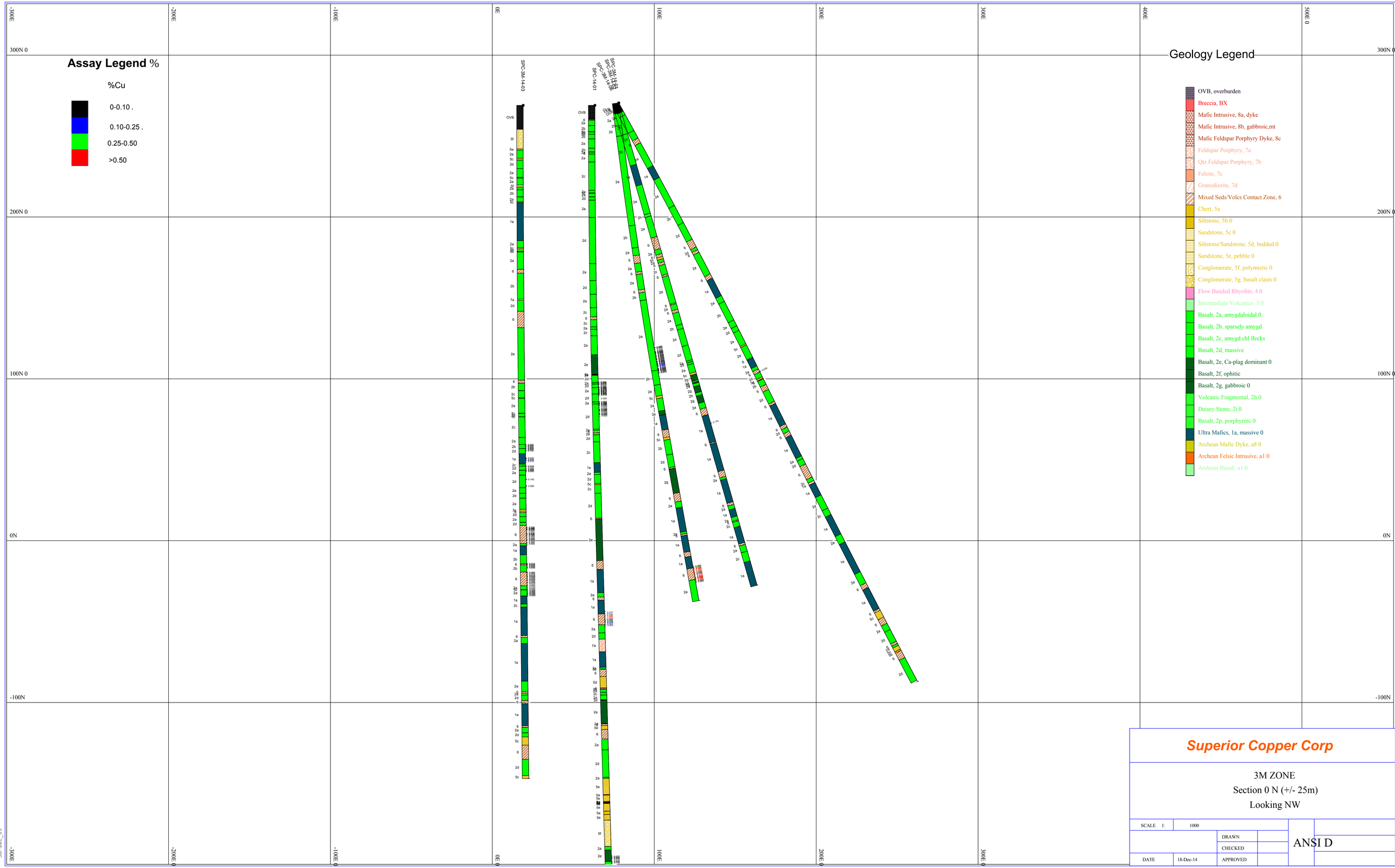

SPC-14-11 Downhole Mag Sus
200
180
160
140
120
100
80
60
40
20
0
49
68
87
106
125
144
163
182
201
220
239
258
277
296
315
334
353
372
391
410
429
448
467
486
505
524
543
562
581
600
619
638
657
676
695
714
733
752
771
790
809
828
847
866
885
904
milli SI

APPENDIX D

DIAMOND DRILL SECTIONS

APPENDIX D.2

3M ZONE DIAMOND DRILL SECTIONS



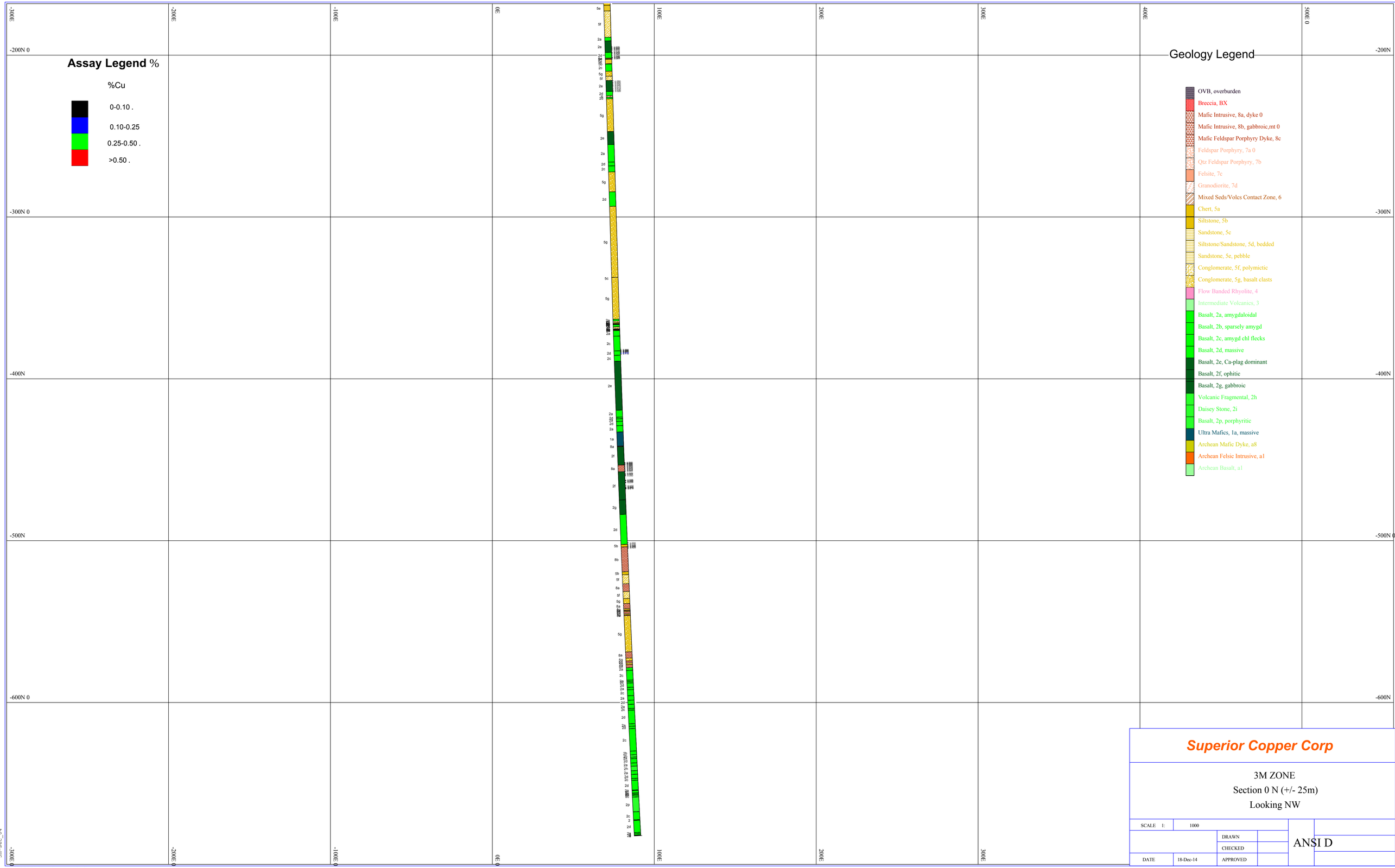
Superior Copper Corp

3M ZONE
Section 0 N (+/- 25m)
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	18-Dec-14	APPROVED	

3m-sec_03

XPLORPAC - Gemcom Software



Superior Copper Corp

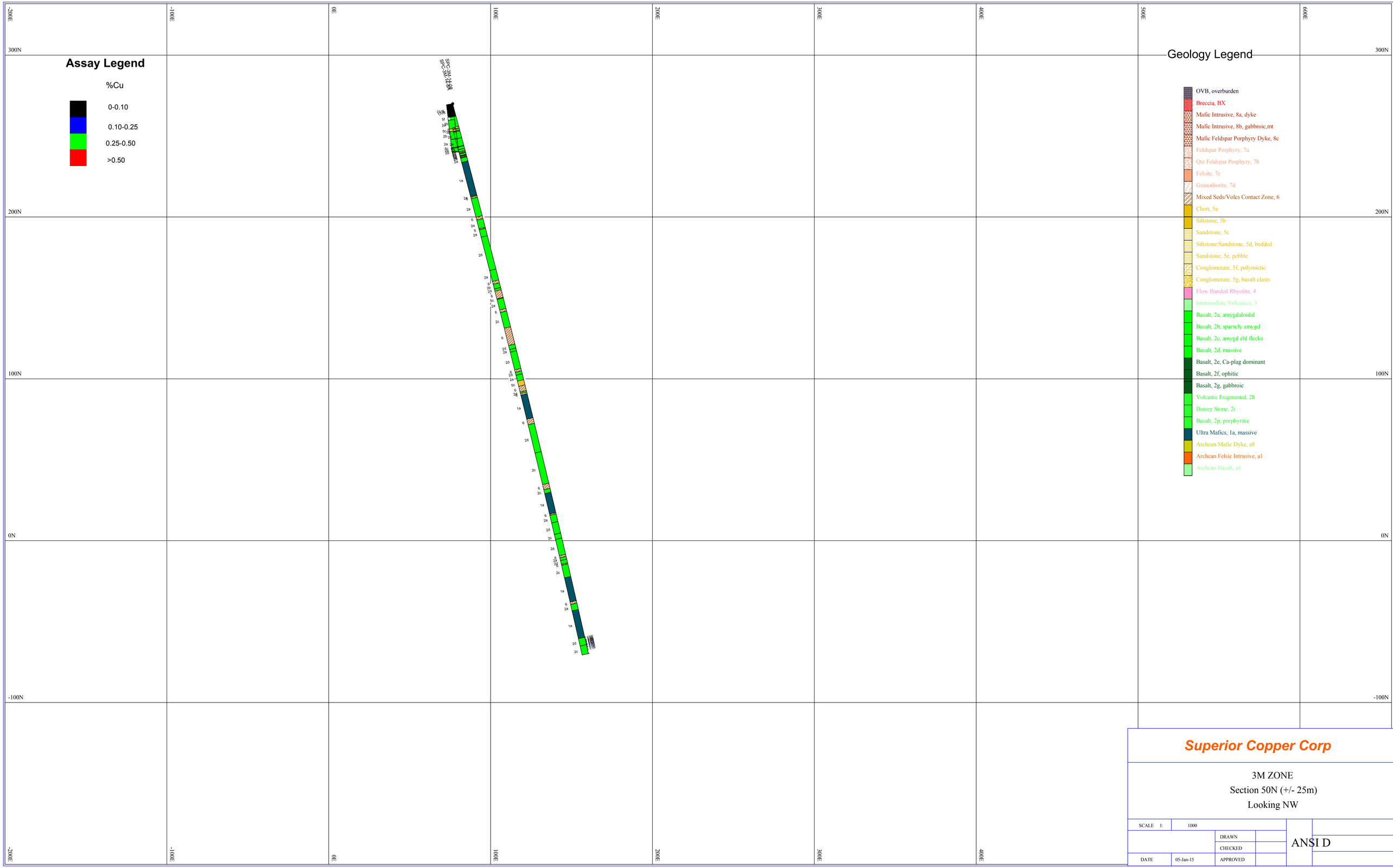
3M ZONE
Section 0 N (+/- 25m)
Looking NW

SCALE 1:	1000		
		DRAWN	
		CHECKED	
DATE	18-Dec-14	APPROVED	

ANSI D

3m-sec_04

XPLORPAC - Gemcom Software



Superior Copper Corp

3M ZONE
Section 50N (+/- 25m)
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	05-Jan-15	APPROVED	

3m-sec-50n

XPLORPAC - Gemcom Software

Superior Copper Corp

3M ZONE
Section 50 2 (+/- 25m)
Looking NW

SCALE 1:	1000		
		DRAWN	
		CHECKED	
DATE	05-Jan-15	APPROVED	

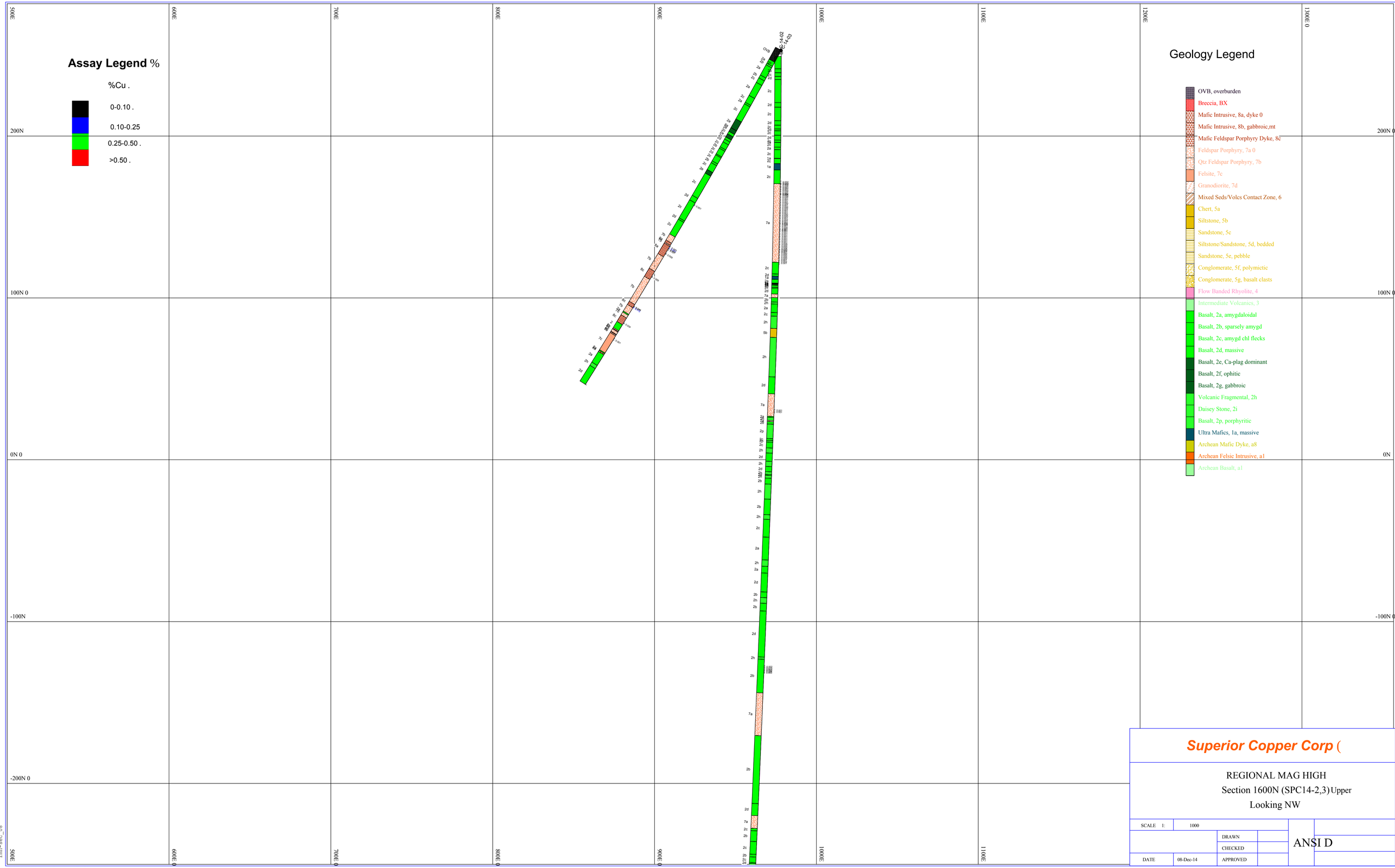
ANSI D

3m-sec-50s_02

XPLORPAC - Gemcom Software

APPENDIX D.1

REGIONAL DIAMOND DRILL SECTIONS

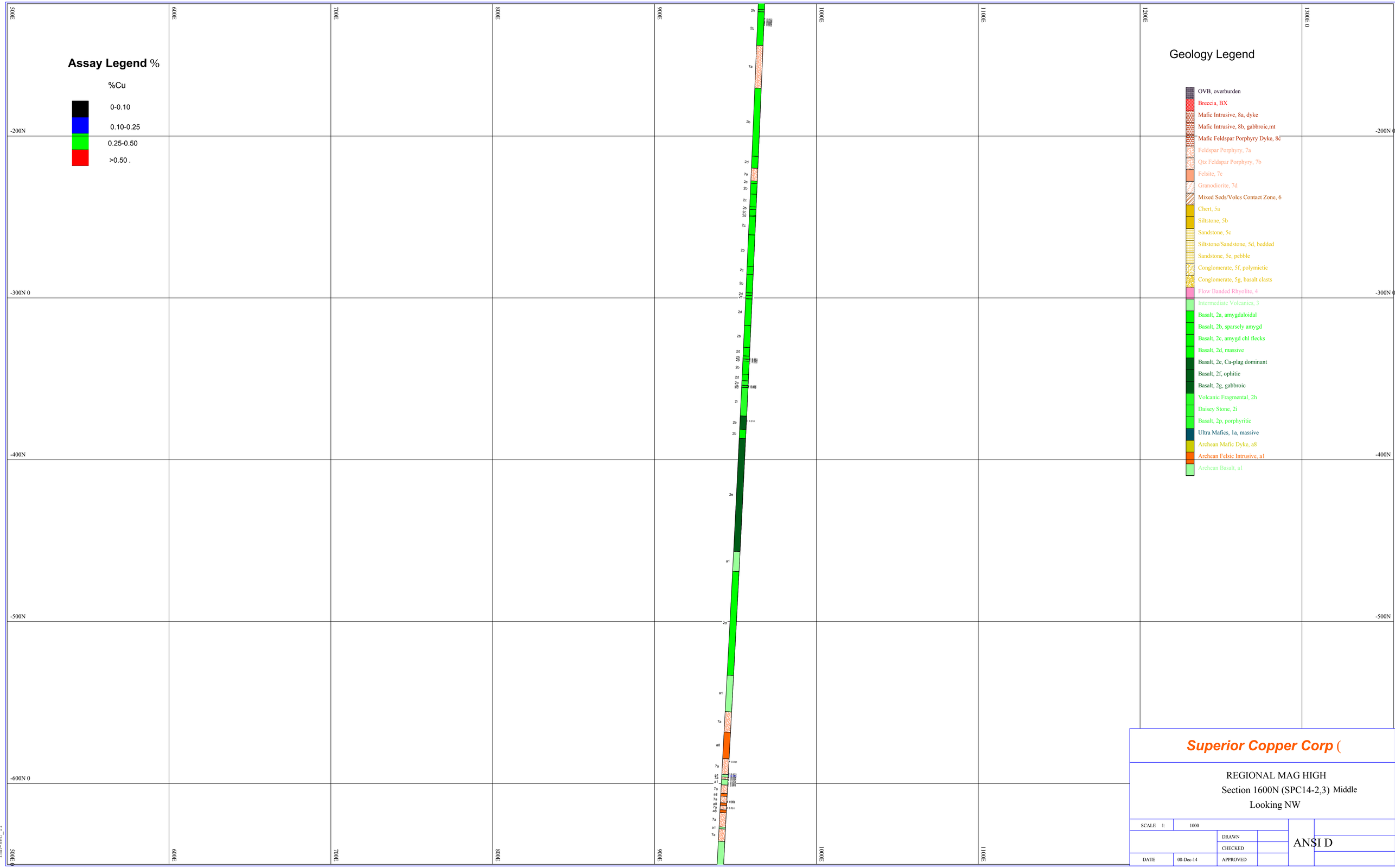


Superior Copper Corp (

REGIONAL MAG HIGH
Section 1600N (SPC14-2,3) Upper
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	08-Dec-14	APPROVED	

XPLORPAC - Gemcom Software



Superior Copper Corp (

REGIONAL MAG HIGH
Section 1600N (SPC14-2,3) Middle
Looking NW

SCALE 1:	1000		
		DRAWN	
		CHECKED	
DATE	08-Dec-14	APPROVED	

ANSI D

rmh-sec_11

XPLORPAC - Gemcom Software

500E 600E 700E 800E 900E 1000E 1100E 1200E 1300E 0

-600N 0 -600N

Assay Legend %

%Cu

- 0-0.10 .
- 0.10-0.25
- 0.25-0.50 .
- >0.50 .

Geology Legend

- OVB, overburden
- Breccia, BX
- Mafic Intrusive, 8a, dyke
- Mafic Intrusive, 8b, gabbroic,mt
- Mafic Feldspar Porphyry Dyke, 8c
- Feldspar Porphyry, 7a 0
- Qtz Feldspar Porphyry, 7b
- Felsite, 7c
- Granodiorite, 7d
- Mixed Seds/Volcs Contact Zone, 6
- Chert, 5a
- Siltstone, 5b
- Sandstone, 5c
- Siltstone/Sandstone, 5d, bedded
- Sandstone, 5e, pebble
- Conglomerate, 5f, polymictic
- Conglomerate, 5g, basalt clasts
- Flow Banded Rhyolite, 4
- Intermediate Volcanics, 3
- Basalt, 2a, amygdaloidal
- Basalt, 2b, sparsely amygd
- Basalt, 2c, amygd chl flecks
- Basalt, 2d, massive
- Basalt, 2e, Ca-plag dominant
- Basalt, 2f, ophitic
- Basalt, 2g, gabbroic
- Volcanic Fragmental, 2h
- Daisey Stone, 2i
- Basalt, 2p, porphyritic
- Ultra Mafics, 1a, massive
- Archean Mafic Dyke, a8
- Archean Felsic Intrusive, a1
- Archean Basalt, a1

-700N 0 -700N 0

-800N -800N

-900N -900N

-1000N -1000N

500E 600E 700E 800E 900E 1000E 1100E

Superior Copper Corp

REGIONAL MAG HIGH
Section 1600N (SPC14-2,3) Lower
Looking NW

SCALE 1:	1000		
		DRAWN	
		CHECKED	
DATE	08-Dec-14	APPROVED	

ANSI D

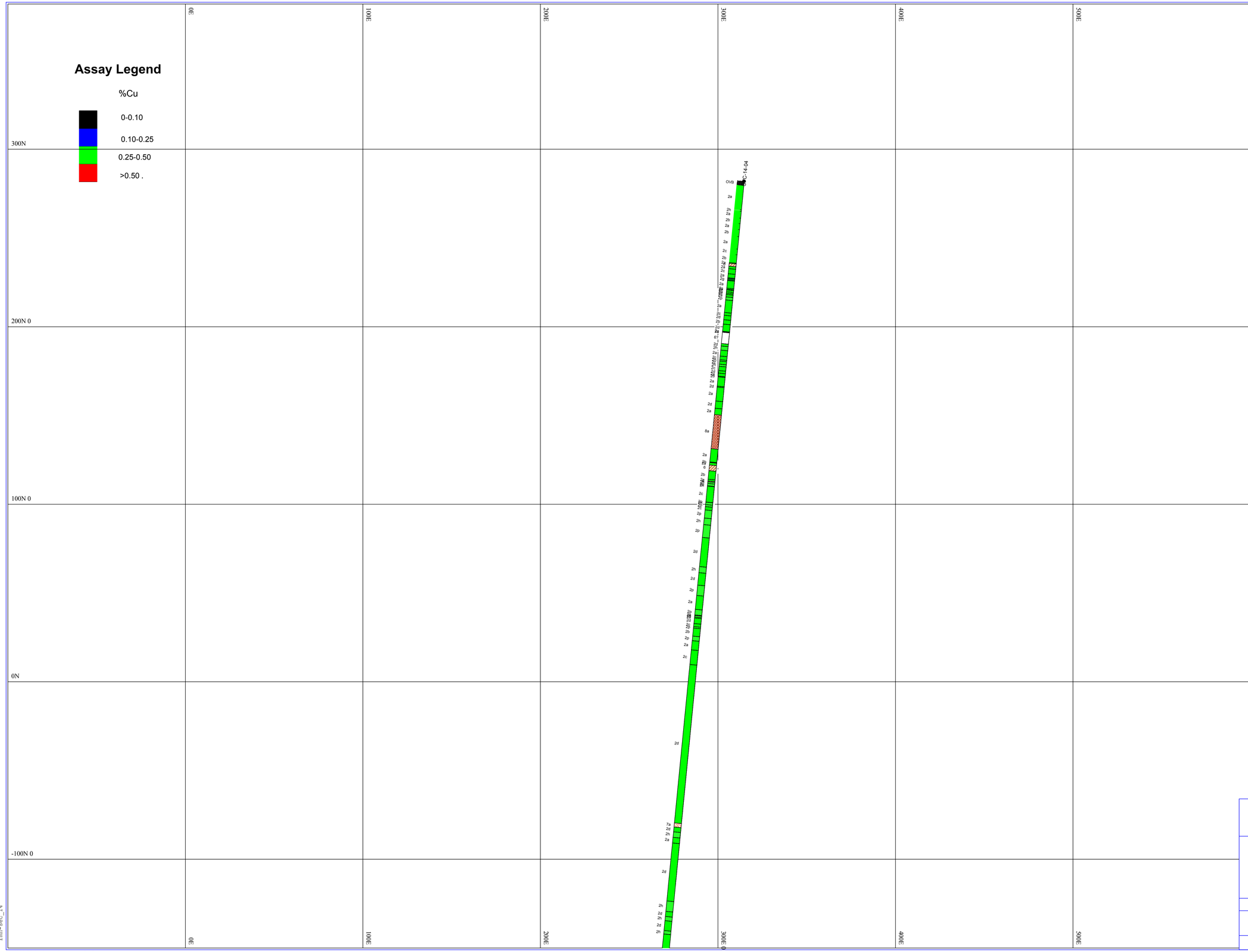
xmh-sec_12

XPLORPAC - Gemcom Software

Assay Legend

%Cu

- 0-0.10
- 0.10-0.25
- 0.25-0.50
- >0.50 .



Geology Legend

- OVB, overburden
- Breccia, BX
- Mafic Intrusive, 8a, dyke
- Mafic Intrusive, 8b, gabbroic,mt
- Mafic Feldspar Porphyry Dyke, 8c
- Feldspar Porphyry, 7a 0
- Qtz Feldspar Porphyry, 7b
- Felsite, 7c
- Granodiorite, 7d
- Mixed Seds/Volcs Contact Zone, 6
- Chert, 5a
- Siltstone, 5b
- Sandstone, 5c
- Siltstone/Sandstone, 5d, bedded
- Sandstone, 5e, pebble
- Conglomerate, 5f, polymictic
- Conglomerate, 5g, basalt clasts
- Flow Banded Rhyolite, 4
- Intermediate Volcanics, 3
- Basalt, 2a, amygdaloidal
- Basalt, 2b, sparsely amygd
- Basalt, 2c, amygd chl flecks
- Basalt, 2d, massive
- Basalt, 2e, Ca-plag dominant
- Basalt, 2f, ophitic
- Basalt, 2g, gabbroic
- Volcanic Fragmental, 2h
- Daisey Stone, 2i
- Basalt, 2p, porphyritic
- Ultra Mafics, 1a, massive
- Archean Mafic Dyke, a8
- Archean Felsic Intrusive, a1
- Archean Basalt, a1

Superior Copper Corp (

REGIONAL MAG HIGH
Section 2400N (SPC14-04)Upper
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	08-Dec-14	APPROVED	

rmh-sec_14

XPLORPAC - Gemcom Software

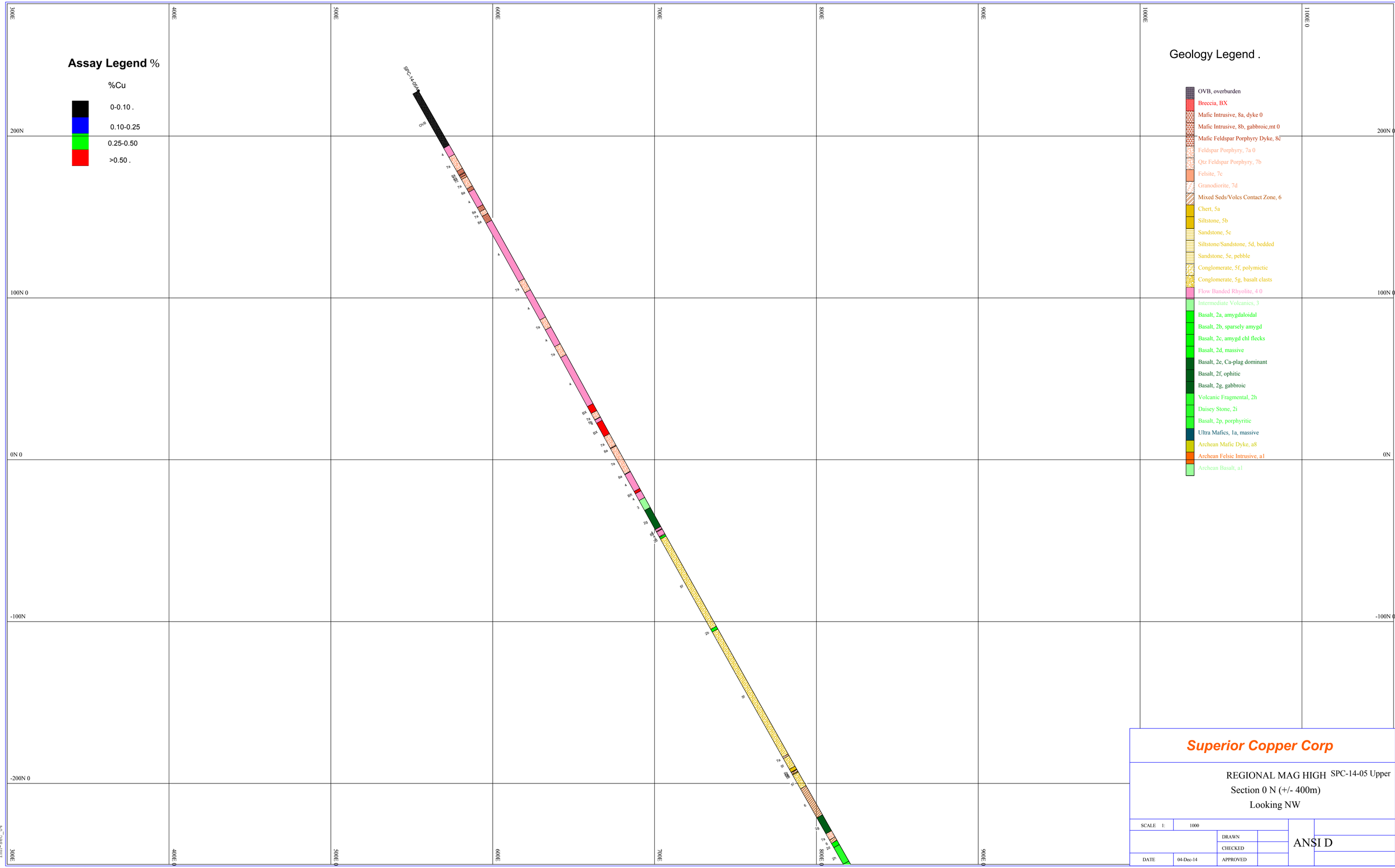
Superior Copper Corp

REGIONAL MAG HIGH
Section 2400N (SPC14-4)Lower
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	08-Dec-14	APPROVED	

rmh-sec_15

XPLORPAC - Gemcom Software



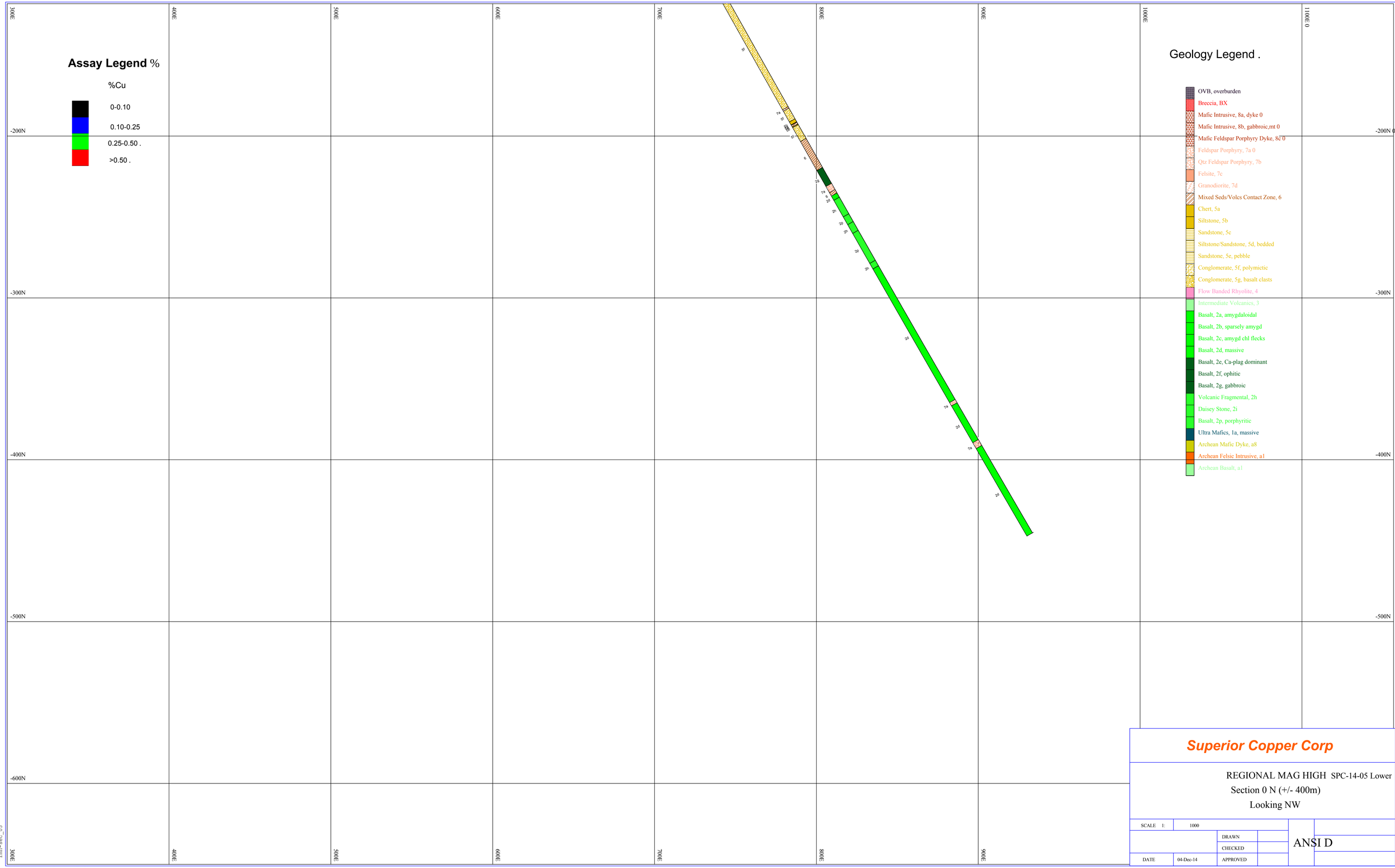
Superior Copper Corp

REGIONAL MAG HIGH SPC-14-05 Upper
Section 0 N (+/- 400m)
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	04-Dec-14	APPROVED	

xmh-sec_04

XPLORPAC - Gemcom Software



Superior Copper Corp

REGIONAL MAG HIGH SPC-14-05 Lower
Section 0 N (+/- 400m)
Looking NW

SCALE 1:	1000			ANSI D
		DRAWN		
		CHECKED		
DATE	04-Dec-14	APPROVED		

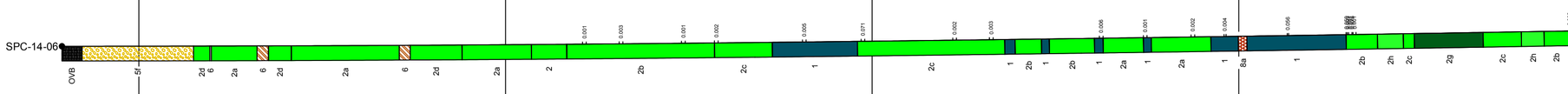
mm-sec_05

XPLORPAC - Gemcom Software

700E

600E

500E



400E

300E

200E

SPC-14-06

100E

300N

200N

100N

0N

Northwest

Assay Legend %

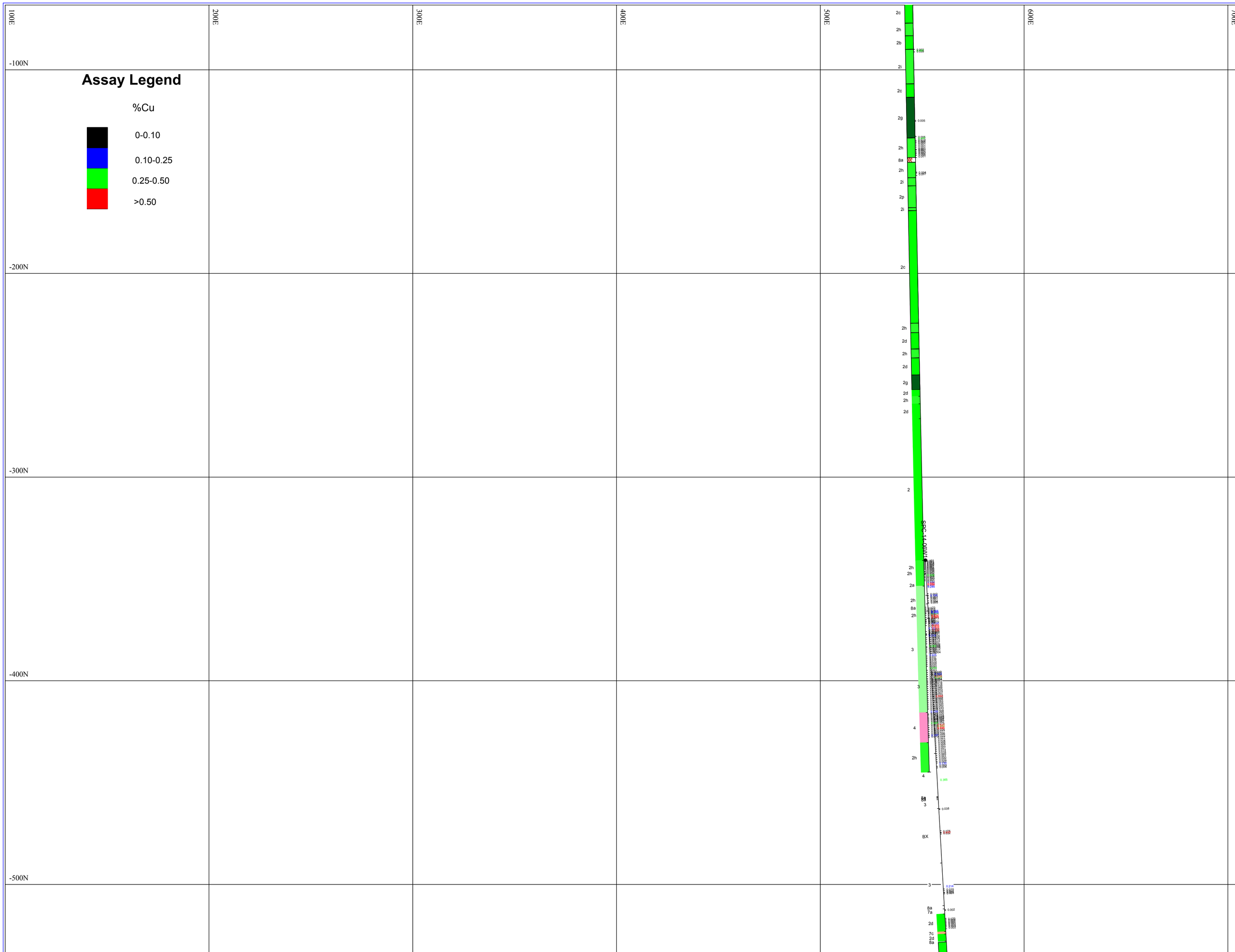
%Cu

0-0.10

0.10-0.25

0.25-0.50

>0.50


100E
200E
300E
400E
500E
600E
700E
-100N
-200N
-300N
-400N
-500N
Assay Legend
%Cu
0-0.10
0.10-0.25
0.25-0.50
>0.50
SPC-14-06W1
2c
2h
2b
2i
2g
8a
2p
2d
2a
3
4
BX
7a
7c

100E 200E 300E 400E 500E 600E 700E 800E 900E 0

-400N 0

Assay Legend %

%Cu

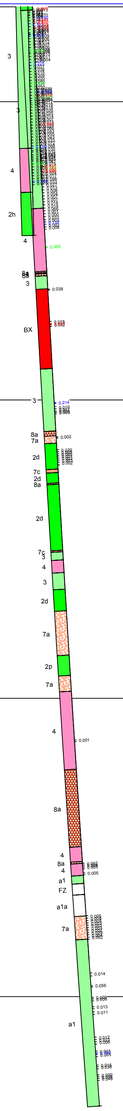
- 0-0.10 .
- 0.10-0.25 .
- 0.25-0.50 .
- >0.50 .

-500N 0

-600N 0

-700N 0

-800N



Geology Legend

- OVB, overburden
- Breccia, BX
- Mafic Intrusive, 8a, dyke 0
- Mafic Intrusive, 8b, gabbroic,mt
- Mafic Feldspar Porphyry Dyke, 8c
- Feldspar Porphyry, 7a 0
- Qtz Feldspar Porphyry, 7b
- Felsite, 7c
- Granodiorite, 7d
- Mixed Seds/Volcs Contact Zone, 6
- Chert, 5a
- Siltstone, 5b
- Sandstone, 5c
- Siltstone/Sandstone, 5d, bedded
- Sandstone, 5e, pebble
- Conglomerate, 5f, polymictic
- Conglomerate, 5g, basalt clasts
- Flow Banded Rhyolite, 4
- Intermediate Volcanics, 3
- Basalt, 2a, amygdaloidal
- Basalt, 2b, sparsely amygd
- Basalt, 2c, amygd chl flecks
- Basalt, 2d, massive
- Basalt, 2e, Ca-plag dominant
- Basalt, 2f, ophitic
- Basalt, 2g, gabbroic
- Volcanic Fragmental, 2h
- Daisey Stone, 2i
- Basalt, 2p, porphyritic
- Ultra Mafics, 1a, massive
- Archean Mafic Dyke, a8
- Archean Felsic Intrusive, a1
- Archean Basalt, a1

-400N

-500N 0

-600N

-700N 0

-800N

100E 200E 300E 400E 500E 600E 700E

Superior Copper Corp

KINCAID 8 SPC-14-06

Section 0 N (+/- 250m)

Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	03-Dec-14	APPROVED	

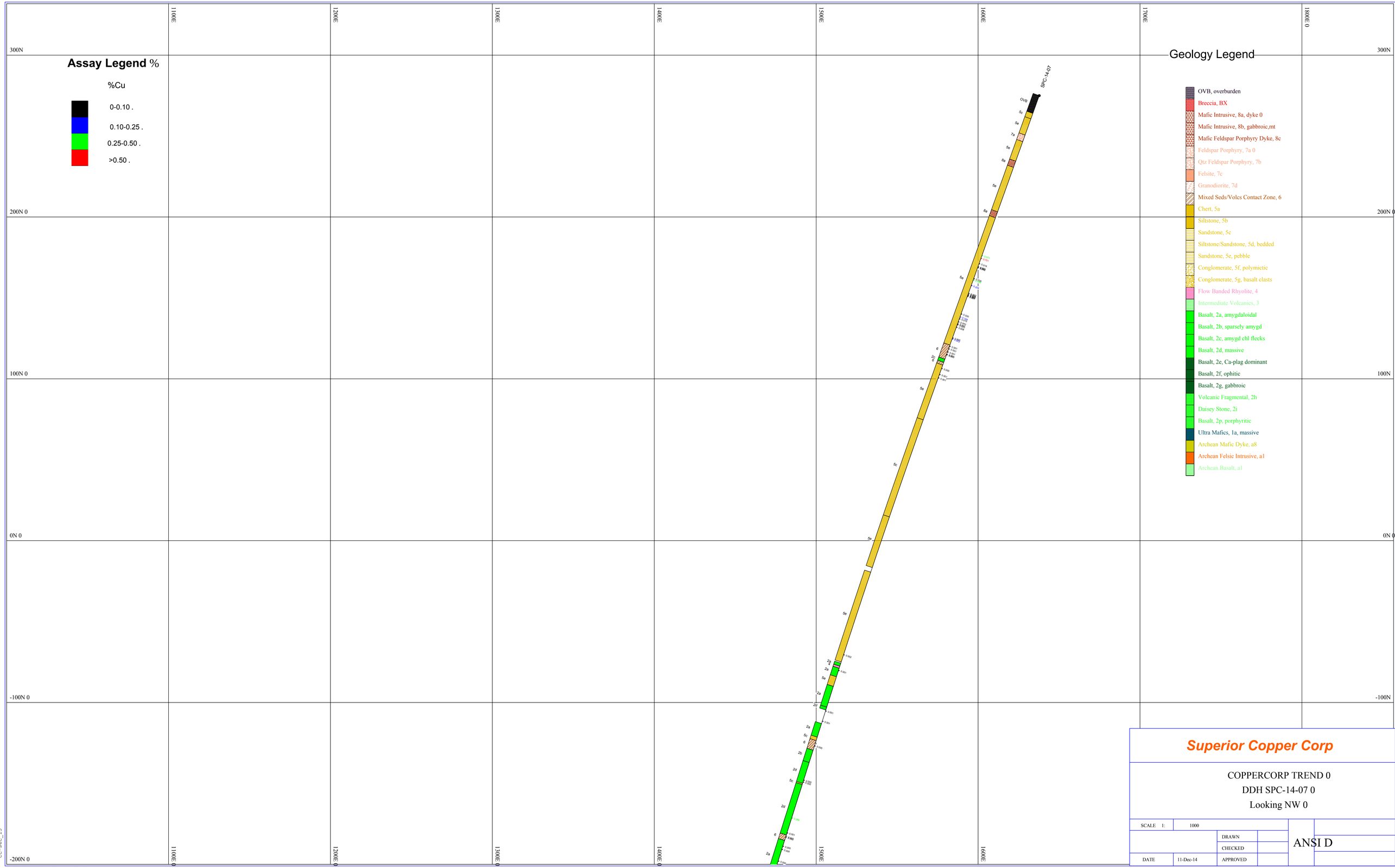
kin8-sec_10

XPLORPAC - Gemcom Software

Assay Legend %

%Cu

- 0-0.10 .
- 0.10-0.25 .
- 0.25-0.50 .
- >0.50 .



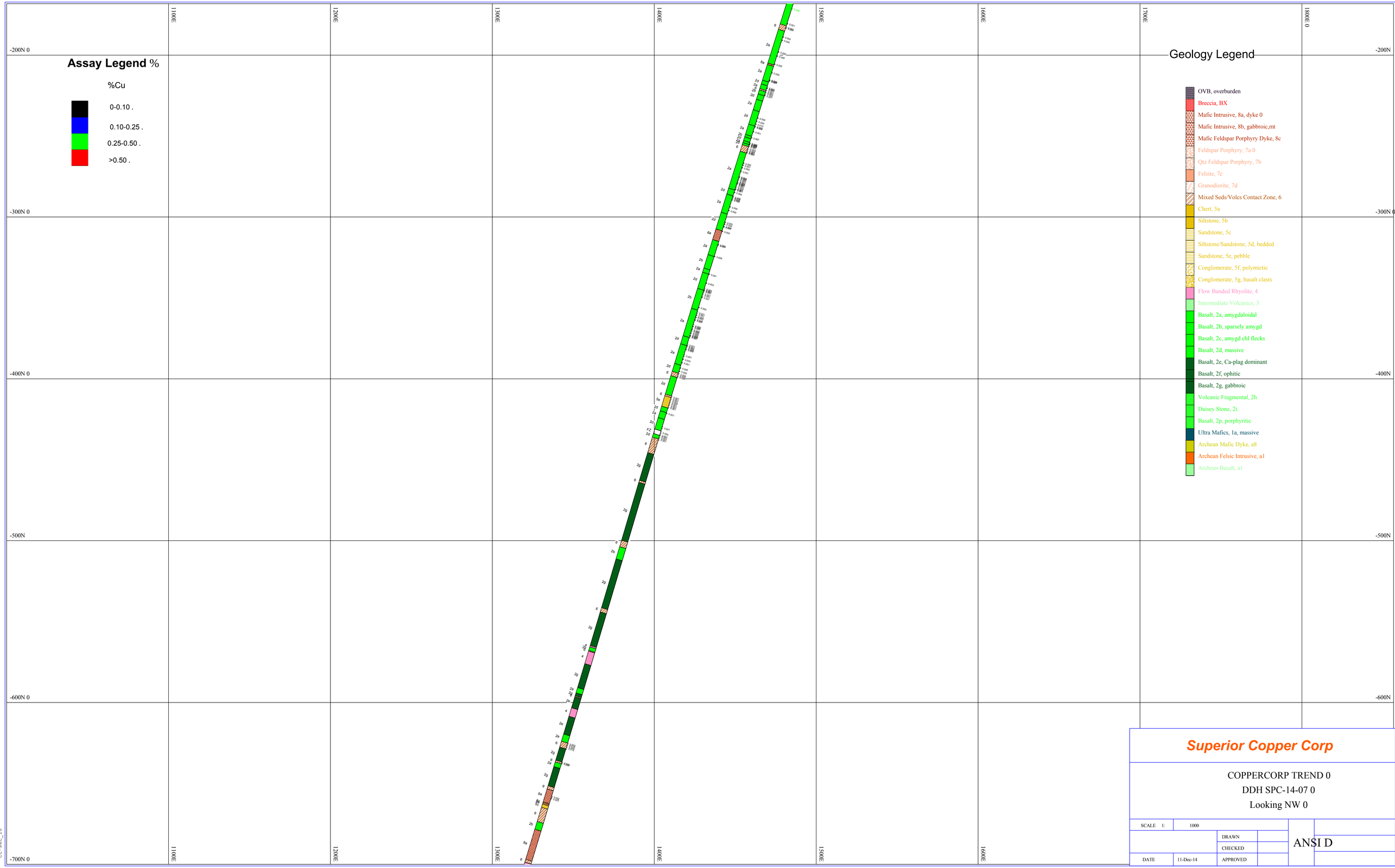
Superior Copper Corp

COPPERCORP TREND 0
DDH SPC-14-07 0
Looking NW 0

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	11-Dec-14	APPROVED	

cc-sec_15

XPLORPAC - Gemcom Software



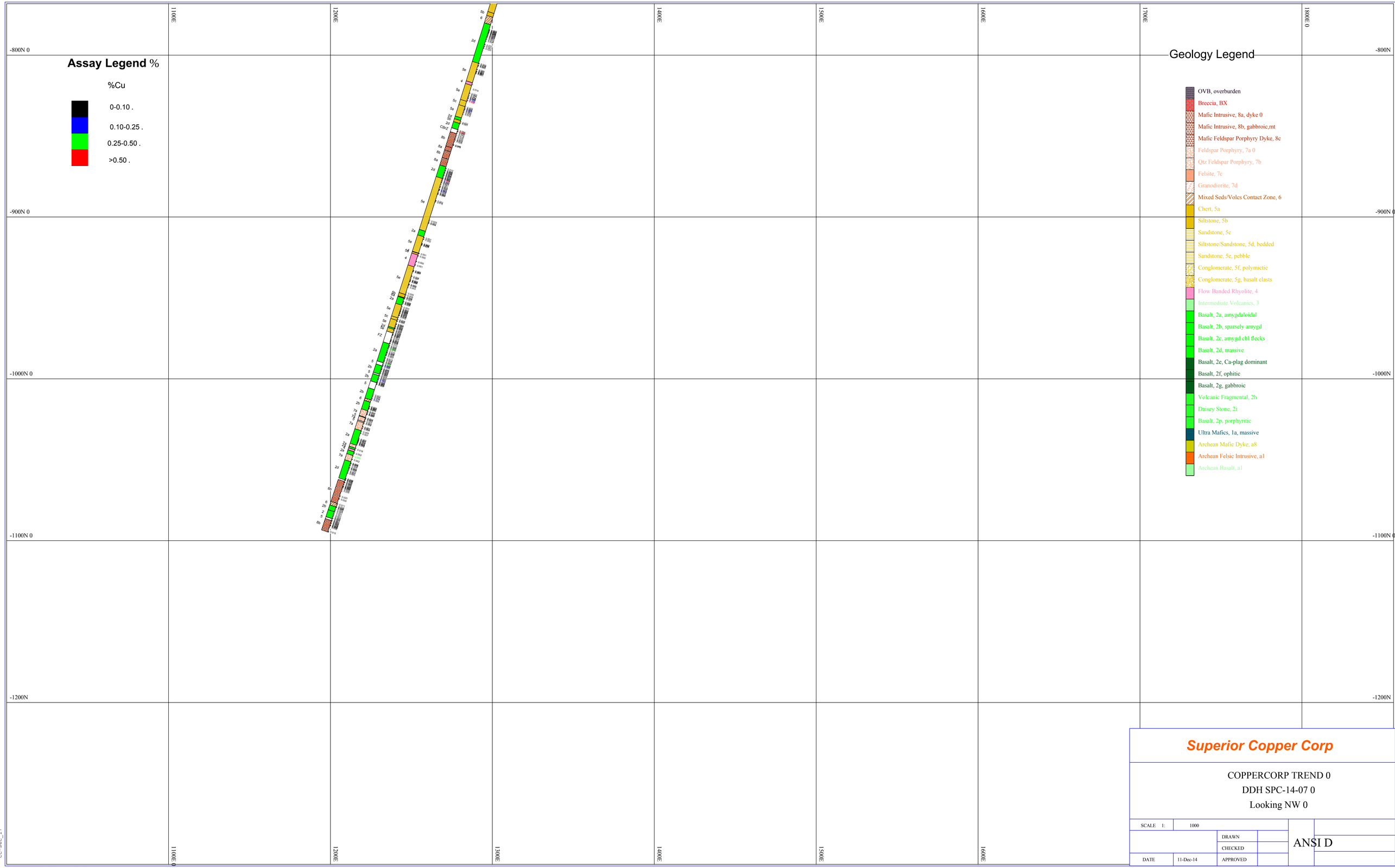
Superior Copper Corp

COPPERCORP TREND 0
DDH SPC-14-07 0
Looking NW 0

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	11-Dec-14	APPROVED	

cc-sec_16

XPLORPAC - Gemcom Software



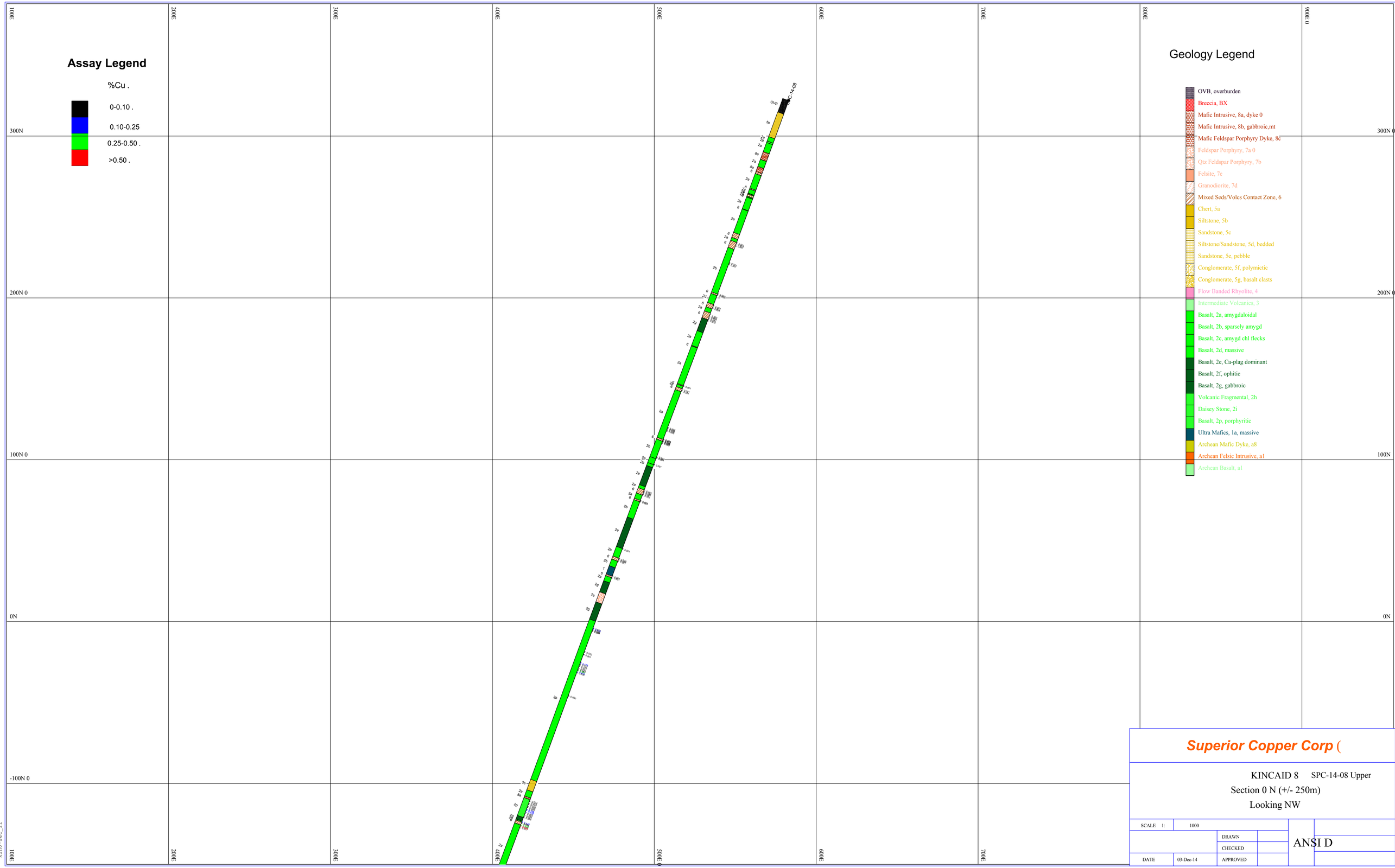
Superior Copper Corp

COPPERCORP TREND 0
DDH SPC-14-07 0
Looking NW 0

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	11-Dec-14	APPROVED	

cc-sec_17

XPLORPAC - Gemcom Software



Superior Copper Corp (

KINCAID 8 SPC-14-08 Upper

Section 0 N (+/- 250m)

Looking NW

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DATE	03-Dec-14	APPROVED	

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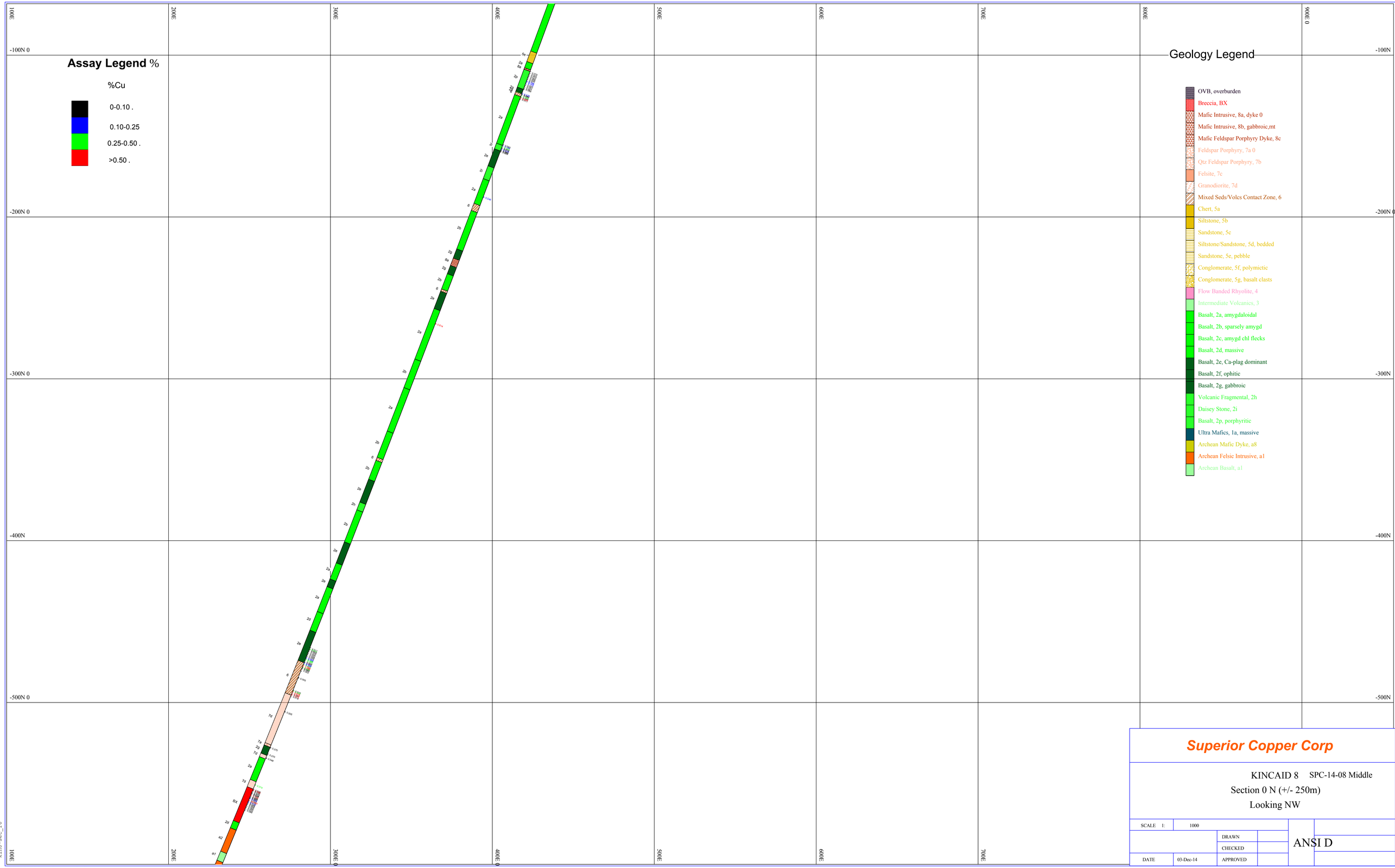

Superior Copper Corp

KINCAID 8 SPC-14-08 Middle

Section 0 N (+/- 250m)

Looking NW

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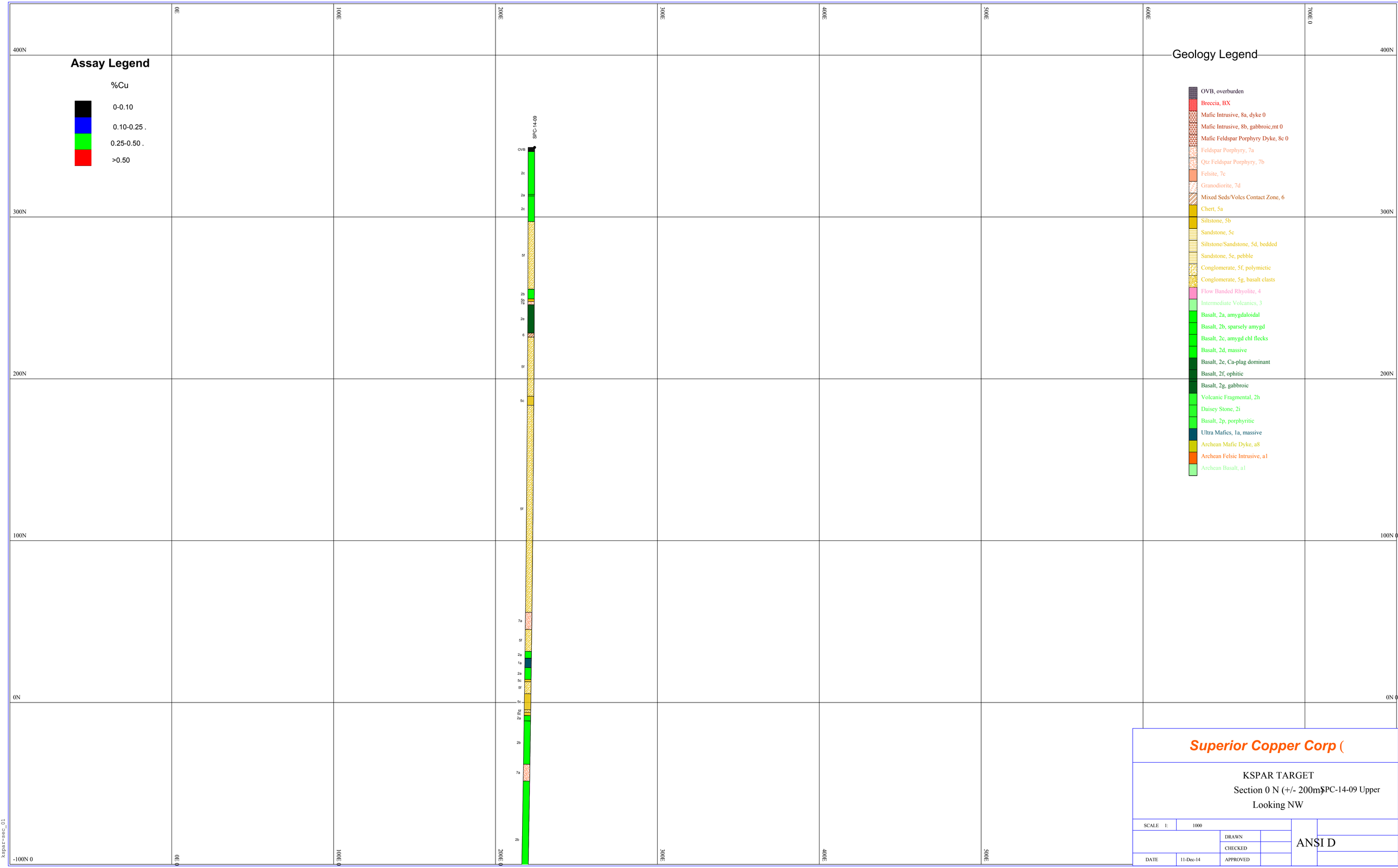

Superior Copper Corp (

KSPAR TARGET
Section 0 N (+/- 200m)SPC-14-09 Upper
Looking NW

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DATE	11-Dec-14	APPROVED		

kspar-sec_01

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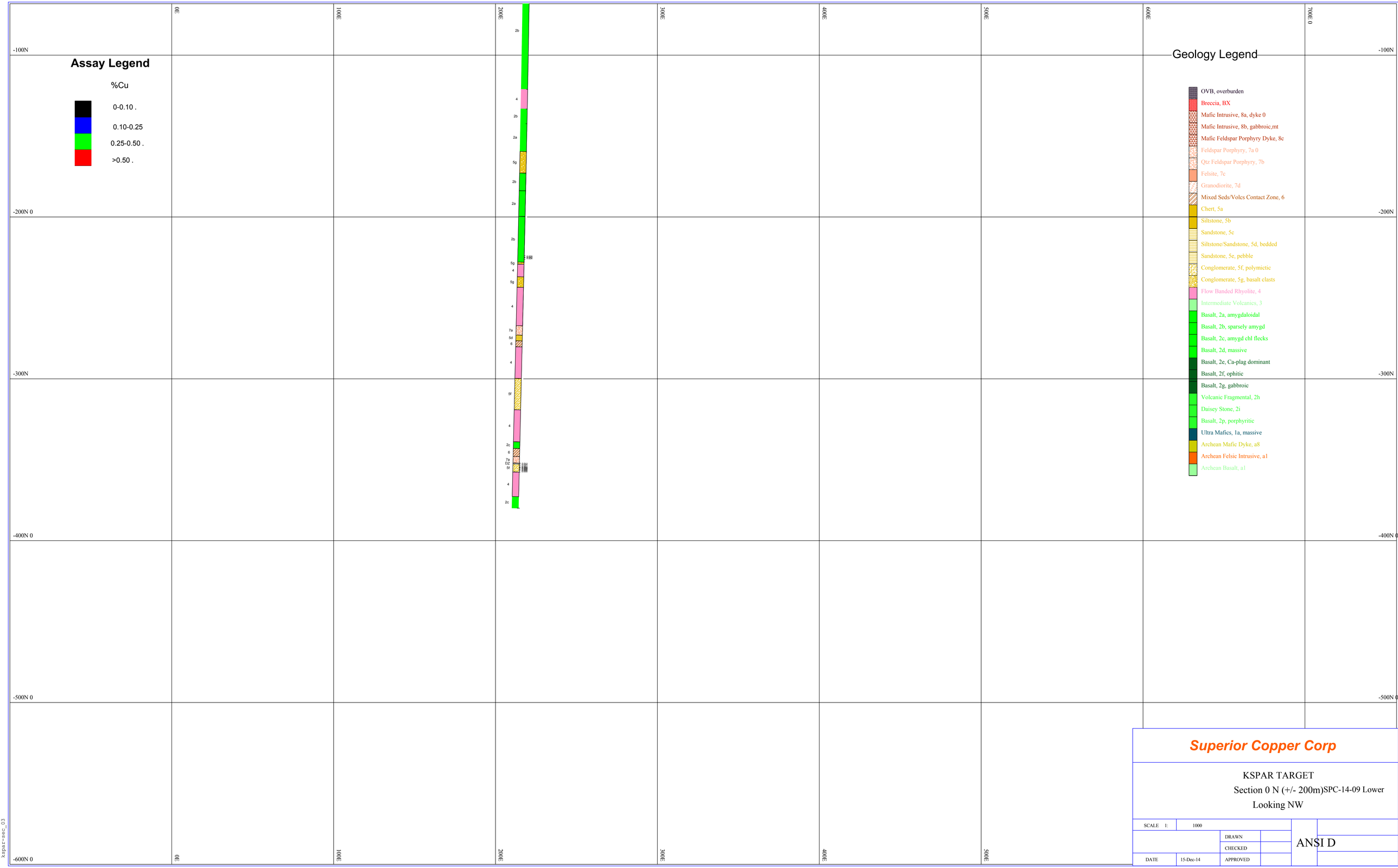
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300E
400E
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-200N 0
-300N
-400N 0
-500N 0
-600N 0
Assay Legend
%Cu
0-0.10 .
0.10-0.25
0.25-0.50 .
>0.50 .
Geology Legend
OVB, overburden
Breccia, BX
Mafic Intrusive, 8a, dyke 0
Mafic Intrusive, 8b, gabbroic,mt
Mafic Feldspar Porphyry Dyke, 8c
Feldspar Porphyry, 7a 0
Qtz Feldspar Porphyry, 7b
Felsite, 7c
Granodiorite, 7d
Mixed Seds/Volcs Contact Zone, 6
Chert, 5a
Siltstone, 5b
Sandstone, 5c
Siltstone/Sandstone, 5d, bedded
Sandstone, 5e, pebble
Conglomerate, 5f, polymictic
Conglomerate, 5g, basalt clasts
Flow Banded Rhyolite, 4
Intermediate Volcanics, 3
Basalt, 2a, amygdaloidal
Basalt, 2b, sparsely amygd
Basalt, 2c, amygd chl flecks
Basalt, 2d, massive
Basalt, 2e, Ca-plag dominant
Basalt, 2f, ophitic
Basalt, 2g, gabbroic
Volcanic Fragmental, 2h
Daisey Stone, 2i
Basalt, 2p, porphyritic
Ultra Mafics, 1a, massive
Archean Mafic Dyke, a8
Archean Felsic Intrusive, a1
Archean Basalt, a1
Superior Copper Corp
KSPAR TARGET
Section 0 N (+/- 200m)SPC-14-09 Lower
Looking NW
SCALE 1: 1000
DRAWN
CHECKED
DATE 15-Dec-14
APPROVED
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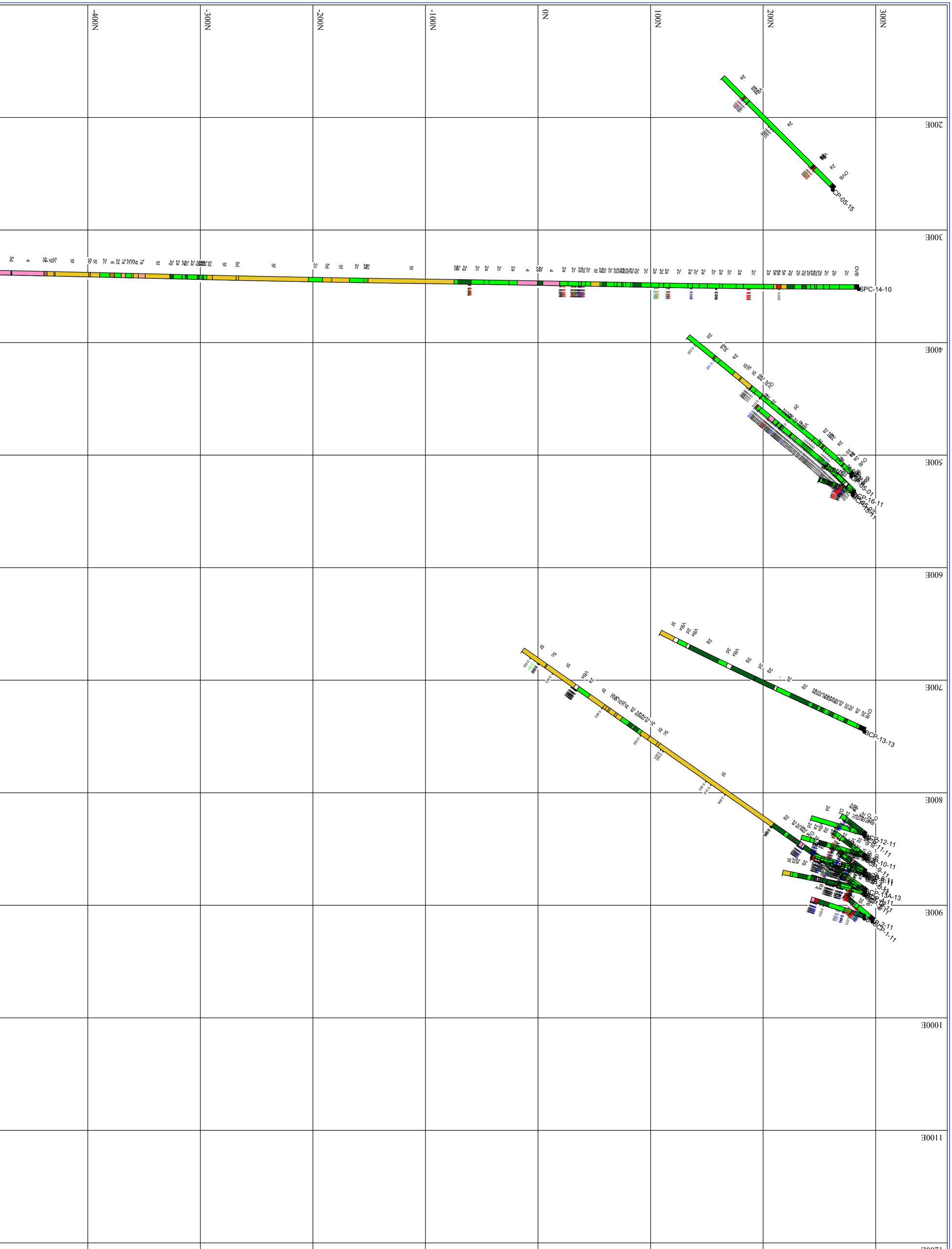
kspar-sec_03
XPLORPAC - Gemcom Software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900E
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1100E
SPC-14-10
CP-05-15
BCP-13-13
BCP-12-11
BCP-11-11
BCP-10-11
BCP-9-11
BCP-8-11
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BCP-1-11
BCP-16-11
BCP-5-21

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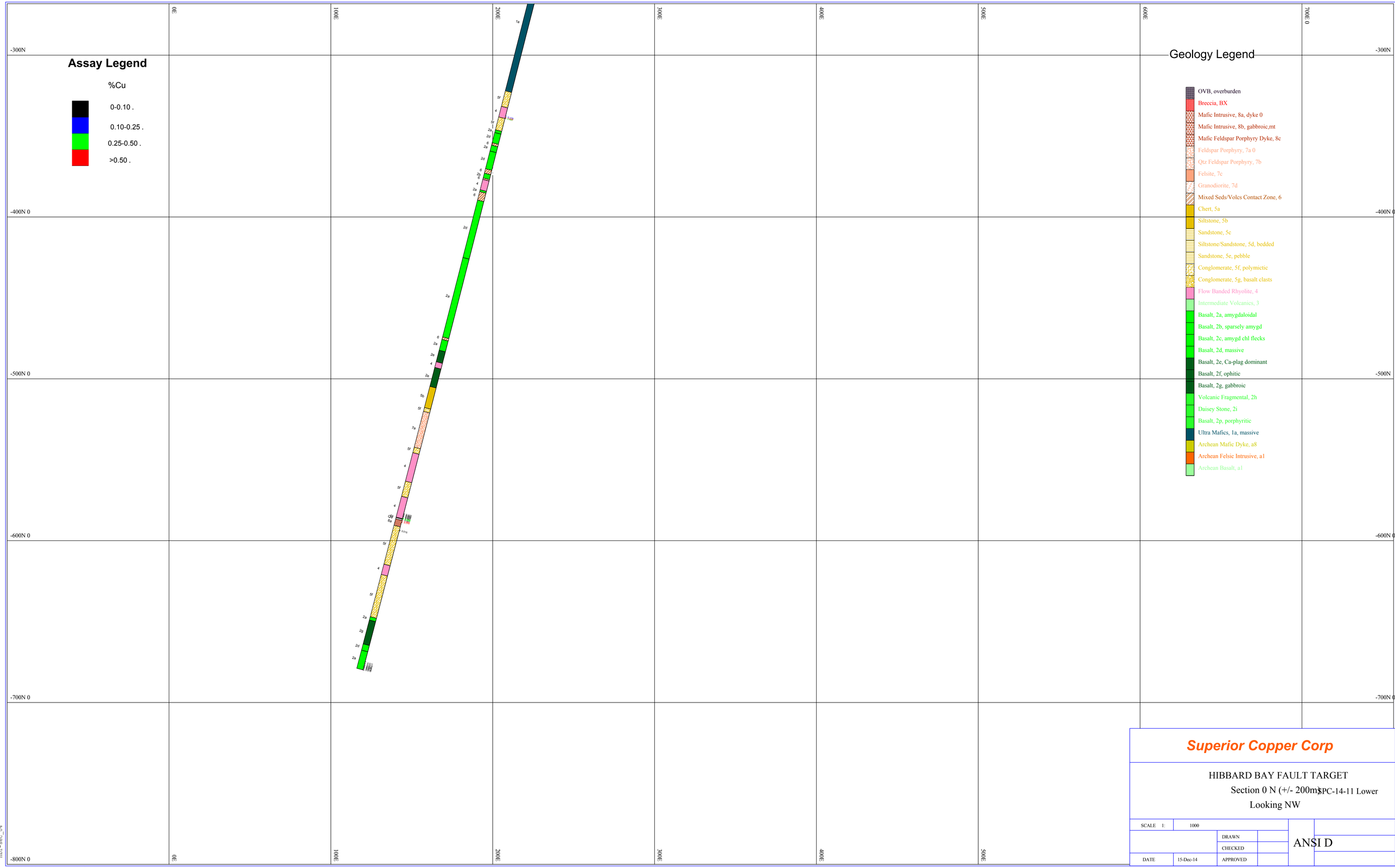

Superior Copper Corp

HIBBARD BAY FAULT TARGET
Section 0 N (+/- 200m)$PC-14-11 Lower
Looking NW

SCALE 1:	1000		ANSI D
		DRAWN	
		CHECKED	
DATE	15-Dec-14	APPROVED	

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APPENDIX E

QUALITY ASSURANCE/QUALITY CONTROL REPORT

MEMORANDUM

TO: Michael Kilbourne, Senior Geologist, Superior Copper

FROM: Tracy Armstrong, P. Geo.

DATE: December 8, 2014

SUBJECT: 2014 Quality Control Report for Mamainse Point Copper Project

This report describes the results for 59 batches, which were treated from June, 2014 through November, 2014, and are listed in Table 1. Note that Batches 41 and 42 were not sent for analysis, so the number of batches treated is 57. All samples were sent to ALS Minerals Laboratory ("ALS") in Sudbury, Ontario for sample preparation and forwarded to ALS in Vancouver, BC for analysis. The ALS quote number for the drill program is ALSM-CE14-041-SUPCOP. The analytical methods and codes are presented in Tables 2 and 3.

Table 1: List of Analytical Certificates Included in the 2014 QC Report

Batch no.	Lab Certificate #	Laboratory	No. of Samples	Date Approved
1	SD14097682	ALS	35	21-Jul
2	SD14098618	ALS	35	21-Jul
3	SD14108781	ALS	35	31-Jul
4	SD14108782	ALS	33	31-Jul
5	SD14115231	ALS	35	25-Aug
6	SD14115230	ALS	35	25-Aug
7	SD14125947	ALS	35	15-Sep
8	SD14125946	ALS	35	15-Sep
9	SD14123766	ALS	35	15-Sep
10	SD14131090	ALS	35	15-Sep
11	SD14131092	ALS	35	15-Sep
12	SD14122405	ALS	35	15-Sep
13	SD14130389	ALS	35	15-Sep
14	SD14121093	ALS	35	15-Sep
15	SD14131091	ALS	35	15-Sep
16	SD14138387	ALS	35	22-Sep
17	SD14138383	ALS	35	22-Sep
18	SD14138385	ALS	35	01-Oct
19	SD14138384	ALS	35	22-Sep
20	SD14138386	ALS	35	22-Sep
21	SD14138422	ALS	35	30-Sep
22	SD14138423	ALS	35	30-Sep
23	SD14147304	ALS	35	09-Oct
24	SD14147303	ALS	35	09-Oct

25	SD14147301	ALS	35	09-Oct
26	SD14147302	ALS	35	09-Oct
27	SD14153847	ALS	35	29-Oct
28	SD14153848	ALS	35	29-Oct
29	SD14154890	ALS	35	29-Oct
30	SD14153845	ALS	34	29-Oct
31	SD14153846	ALS	34	29-Oct
32	SD14153844	ALS	34	29-Oct
33	SD14153849	ALS	35	29-Oct
34	SD14153859	ALS	35	29-Oct
35	SD14153046	ALS	35	29-Oct
36	SD14160853	ALS	35	29-Oct
37	SD14160852	ALS	35	29-Oct
38	SD14163894	ALS	35	06-Nov
39	SD14163895	ALS	35	06-Nov
40	SD14160407	ALS	35	18-Nov
43	SD14160406	ALS	35	06-Nov
44	SD14160405	ALS	35	18-Nov
45	SD14167121	ALS	35	06-Nov
46	SD14165749	ALS	35	18-Nov
47	SD14167120	ALS	35	18-Nov
48	SD14167129	ALS	35	18-Nov
49	SD14167321	ALS	34	18-Nov
50	SD14167320	ALS	35	18-Nov
51	SD14161842	ALS	35	28-Nov
52	SD14161843	ALS	35	28-Nov
53	SD14161841	ALS	35	28-Nov
54	SD14169817	ALS	35	28-Nov
55	SD14169818	ALS	35	28-Nov
56	SD14175051	ALS	35	28-Nov
57	SD14171319	ALS	35	28-Nov
58	SD14175052	ALS	35	28-Nov
59	SD14175050	ALS	30	28-Nov

Table 2: ALS Services and Prices for 2014 Quote

SCHEDULE A
Services and Prices
ALSM-CE14-041-SUPCOP – Superior Copper Corporation

Analyte	Description	Range (ppm)	ALS Code	Quoted Price
	General and Setup			
Admin Fee	Workorder /administration fee applied per submittal.		BAT-01	$23.17
Webtrieve™	Webtrieve LIMS On-Line Data Access			No Charge
	Sample Preparation			
Sample Preparation Package	Standard Rock/Core Package: Crush entire sample to 70% passing -2mm, split off 250g and pulverize split to better than 85% passing 75 microns.		PREP-31	$5.22
	Crush per kilogram charge.			$0.49
	Misc and Optional QAQC			
Pulp Login	Login Pulp with Barcode		LOG-23	$0.42
Pulp Login	Login Pulp Samples		LOG-24	$0.84
Drying	Drying of excessively wet samples in drying ovens.		DRY-21	$1.72
	Dry per kg charge.			$0.34
Coarse Crush	Preliminary coarse crushing of rock chip and drill samples to 70% nominal -6mm. **Ony if necessary for large samples and whole NQ core		CRU-21	$1.96
	Crush per kilogram charge.			$0.34
Client Requested Pulp Split	Client to indicate which samples to be split or % frequency Client to provide written instructions for handling/processing of split pulps		SPL-34	$0.46
Client Requested Reject Duplicate	Reject Duplicate - 250g Client to indicate which samples to be split or % frequency Sample to be assayed by same method as original		LOG-21d SPL-21d PUL-31d	$4.76
	Split per kg charge.			$0.27
Pulp Retrieval	Client requested retrieval of prepared pulp sample for additional analysis or other		FND-02	No Charge
Reject Retrieval	Client requested retrieval of reject sample for additional analysis or other		FND-03	$3.85
	Analysis			
Au Assay-AA	Au by fire assay and AAS. 30g nominal sample weight **report Au in ppb	0.005-10	Au-AA23	$9.63
Multi-element, 48 Elements & REE	Four Acid / ICP-MS Multi-element Package of 48 elements plus Rare Earth Elements	See Chart 1	ME-MS61r	$18.93
	Over Limit Methods			
Ore Grade Au Assay Gravimetric	Over Limit Method for Au > 10 ppm from Au-AA23 Au by fire assay and gravimetric finish. 30g nominal sample weight	0.05-1,000	Au-GRA21	$12.63
Assay Grade Four Acid	Over Limit Method for ME-MS61r Assay Grade Four Acid Digestion, multi-element method base charge, ICP instrument determination.	See Chart 2	ME-OG62	$6.75
	Cost Per Sample - PREP-31 + Au-AA23 + ME-MS61r *****Based on 1kg sample***			**$34.27**

Analyte	Description	Range (ppm)	ALS Code	Quoted Price
	Other Methods - If Requested Discount Pricing Not Available			
Sulfur Isotopes	S isotopes performed by Queens University Specific to S minerals such as particular sulfides and sulfates. Determination using TC/EA and IRMS. Sample must be supplied as a single-mineral separate and price does not include mineral separation which is not performed by ALS Analytical Turnaround time 30 days.		S-ISTP01	$100.00

Table 3: ME-MS61r and ME-OG62 Methods

Chart 1 – ME-MS61r

ANALYTES & RANGES (ppm)							
Ag	0.01-100	Cu	0.2-10,000	Na	0.01%-10%	Sr	0.2-10,000
Al	0.01%-50%	Fe	0.01%-50%	Nb	0.1-500	Ta	0.05-100
As	0.2-10,000	Ga	0.05-10,000	Ni	0.2-10,000	Te	0.05-500
Ba	10-10,000	Ge	0.05-500	P	10-10,000	Th	0.2-10,000
Be	0.05-1,000	Hf	0.1-500	Pb	0.5-10,000	Ti	0.005%-10%
Bi	0.01-10,000	In	0.005-500	Rb	0.1-10,000	Tl	0.02-10,000
Ca	0.01%-50%	K	0.01%-10%	Re	0.002-50	U	0.1-10,000
Cd	0.02-1,000	La	0.5-10,000	S	0.01%-10%	V	1-10,000
Ce	0.01-500	Li	0.2-10,000	Sb	0.05-10,000	W	0.1-10,000
Co	0.1-10,000	Mg	0.01%-50%	Sc	0.1-10,000	Y	0.1-500
Cr	1-10,000	Mn	5-100,000	Se	1-1,000	Zn	2-10,000
Cs	0.05-500	Mo	0.05-10,000	Sn	0.2-500	Zr	0.5-500
Dy	0.05-1,000	Gd	0.05-1,000	Nd	0.1-10,000	Tb	0.01-1,000
Er	0.03-1,000	Ho	0.01-1,000	Pr	0.03-1,000	Tm	0.01-1,000
Eu	0.03-1,000	Lu	0.01-1,000	Sm	0.03-1,000	Yb	0.03-1,000

Chart 2 – ME-OG62

ANALYTES & RANGES (%)							
Ag	1-1,500ppm	Co	0.001-20	Mg	0.01-50	Pb	0.001-20
As	0.001-30	Cr	0.002-30	Mn	0.01-50	S	0.01-10
Bi	0.001-30	Cu	0.001-40	Mo	0.001-10	Zn	0.001-30
Cd	0.001-10	Fe	0.01-100	Ni	0.001-30		

A total of 1984 samples were analyzed at ALS. This number includes the QC samples inserted in each batch. Samples were assembled into batches of 35 samples, which included two certified

reference materials, one blank sample comprised of beach sand, one pulp duplicate, and one field (1/4 core) duplicate. All batches contained 35 samples apart from batches 4, 30, 31, 49 and 59.

The 2014 drill program completed at Mamainse Point was targeting an Iron Oxide Copper Gold ("IOCG") model, similar to Olympic Dam, Prominent Hill and Carrapateena in Australia. Mineral associations for this type of deposit include Cu, Au, ± U, LREE, Ag, CO_3, F, P, Ba, and Co. Cu-Fe sulfides & Au are typically spatially associated with abundant (>10%) magnetite and/or hematite.

The certified reference materials, ("CRM" or "standards") chosen for the drill program were done so with the IOCG mineral associations in mind.

CDN-CM-36 Reference Material

The standard CDN-CM-36 was purchased from CDN Labs in Langley, BC, and was prepared using ore from a project in the south-central Far East. The ore is from K-silicate, silicic and sericitic altered intermediate volcanic and related intrusive rocks exhibiting porphyry-style copper and gold mineralization. This material is certified for Au, Ag, Cu and S.

There were 58 data points available for this standard. Graphs of the performance for the four certified elements are pictured in Figures 1 to 4 below. Generally performance was satisfactory, albeit with a few failures exceeding three standard deviations. In the case of the failures for Cu, Ag and Au, all corresponding lab QC data were verified, as well as the values for the metals themselves in the certificate of analysis. There was no impact of the failures on the database and no further action was required.

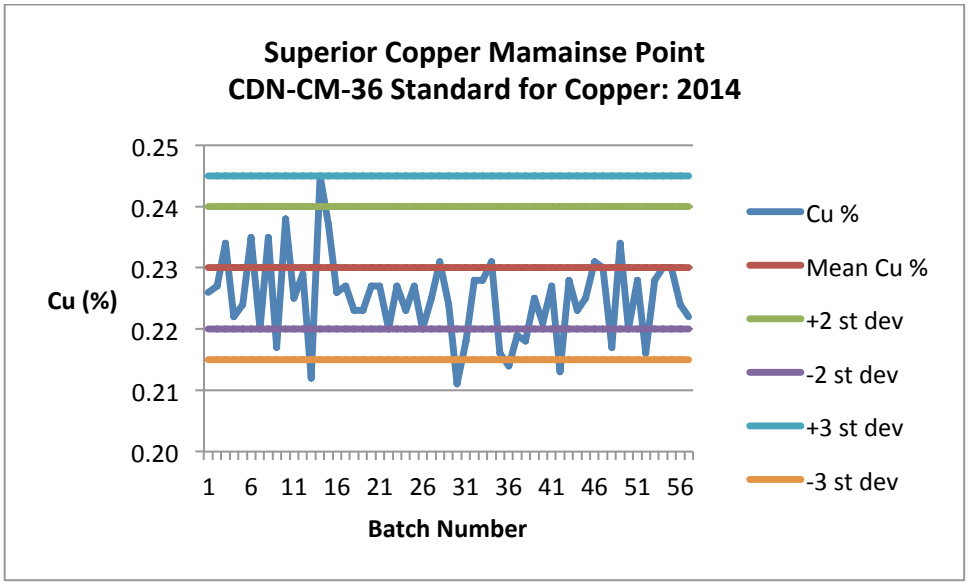

Figure 1: Performance of CM-36 for Copper

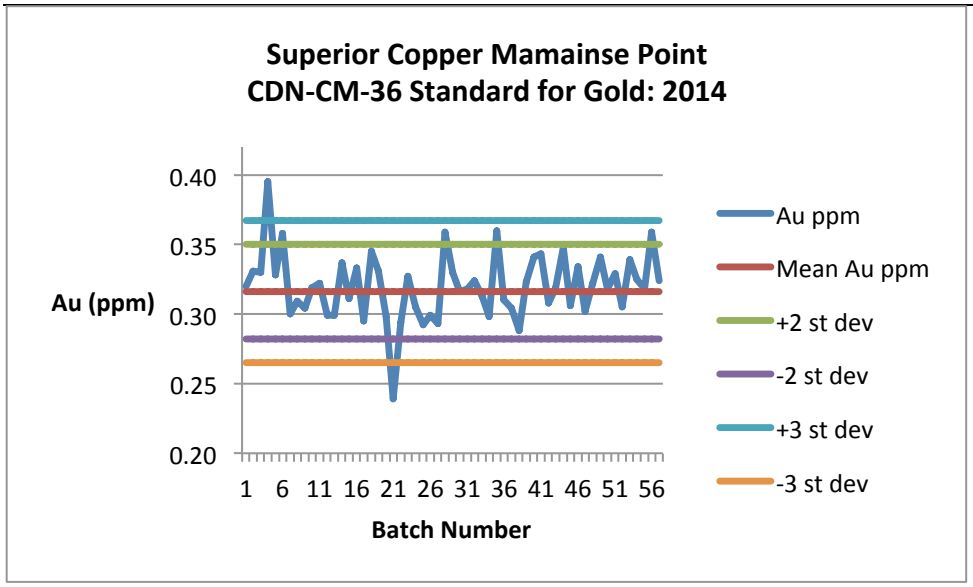

Figure 2: Performance of CM-36 for Gold

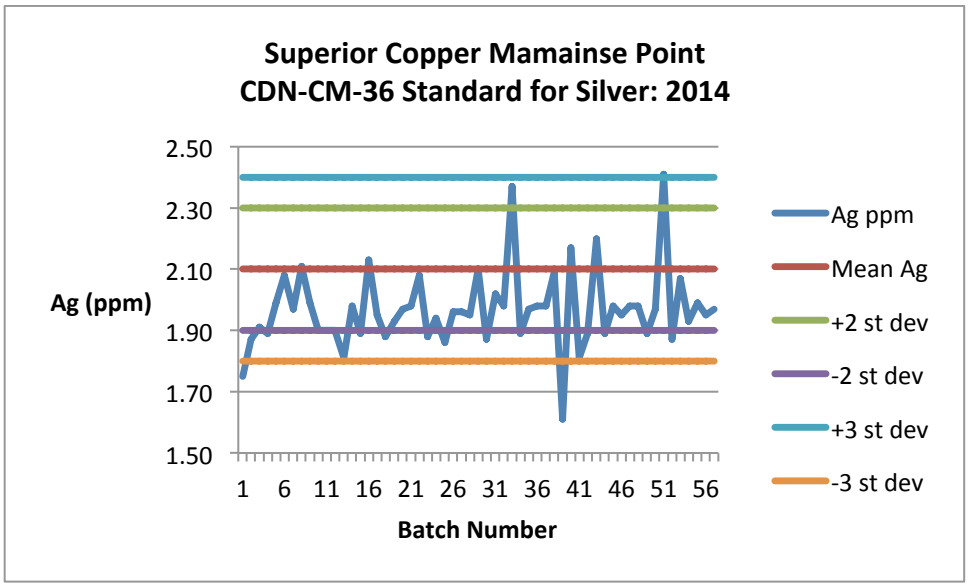

Figure 3: Performance of CM-36 for Silver

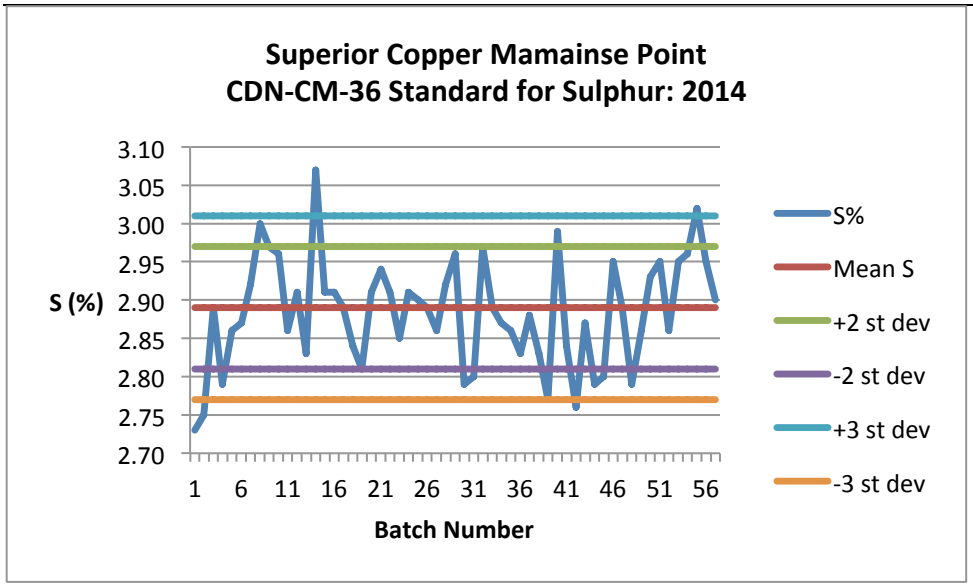

Figure 4: Performance of CM-36 for Sulphur

OREAS 101b Reference Material

The OREAS 101b certified reference material was purchased from Analytical Solutions Ltd. ("ASL") in Toronto, Ontario. The supplier is Ore Research & Exploration Pty Ltd., ("OREAS"), in Australia. OREAS 101b is one of four CRM's prepared by OREAS from material from the Proterozoic Mt. Gee uranium prospect, Mount Painter Inlier, South Australia. The mineralisation at Mt. Gee lies within the Paralana Mineral System, host to a number of granitic and hematitic breccia bodies extending northeasterly over a distance of 11km. Mt. Gee is believed to be of hydrothermal origin and has been described as an IOCG variant. This standard is certified for Uranium, Thorium, Cerium and Lanthanum.

There were 58 data points available for this standard. Cerium values in the standard exceeded the values reported by the method of analysis, therefore there were no Ce values available. Graphs of the performance for three of the four certified elements are pictured in Figures 5 to 7 below. Performance for La and Th was excellent, however U failed below 3 standard deviations from the mean for all data points, indicating either a differential settling of contents, poor homogenization by the supplier, or an under reporting of this element. There is no impact of these failures on the database.

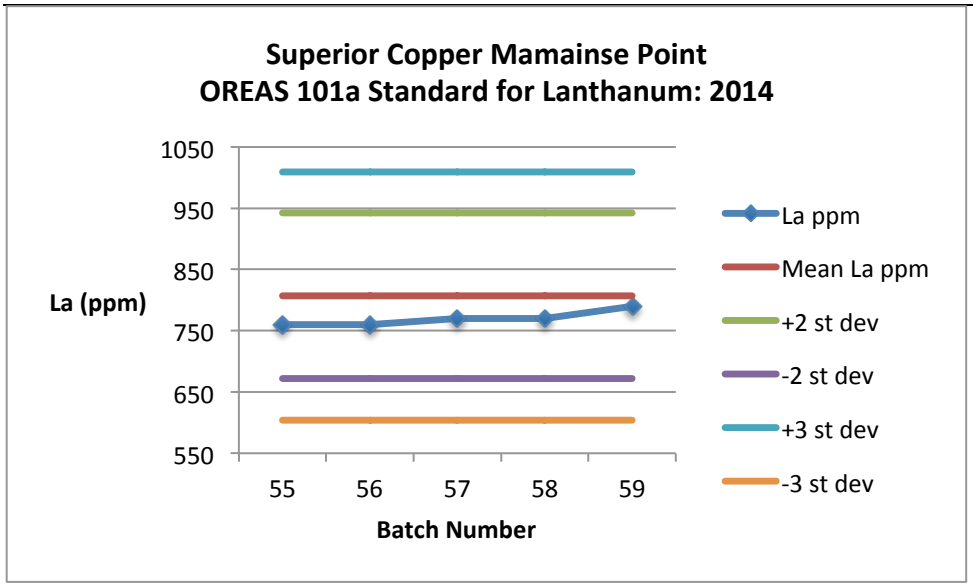

Figure 5: Performance of Oreas 101b for Lanthanum

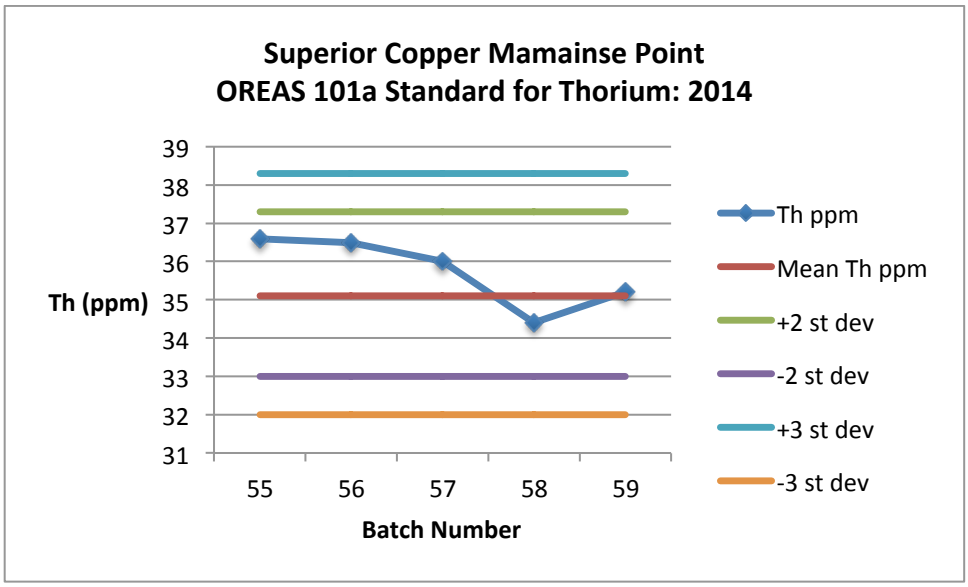

Figure 6: Performance of Oreas 101b for Thorium

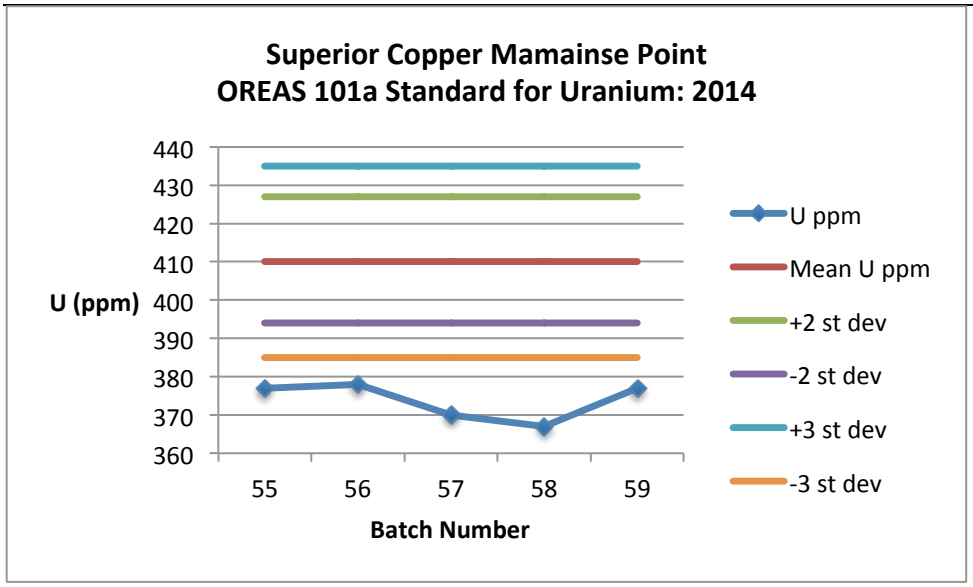

Figure 7: Performance of Oreas 101b for Uranium

OREAS 101a Reference Material

The 101b reference material was exhausted ¾ of the way through the drill program, and 101a was used as a replacement. The source material, as well as the elements for which it is certified were the same as 101b, with slightly different grades. There were five values returned for this standard. Performance is shown in Figures 8-10. Again, Uranium reported below three standard deviations for all data points. There was no impact to the database.

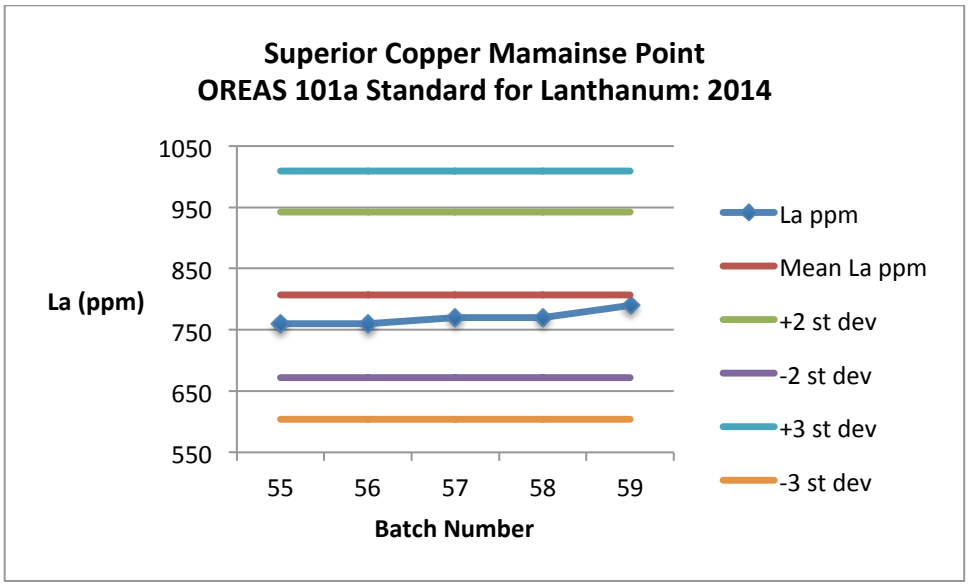

Figure 8: Performance of Oreas 101a for Lanthanum

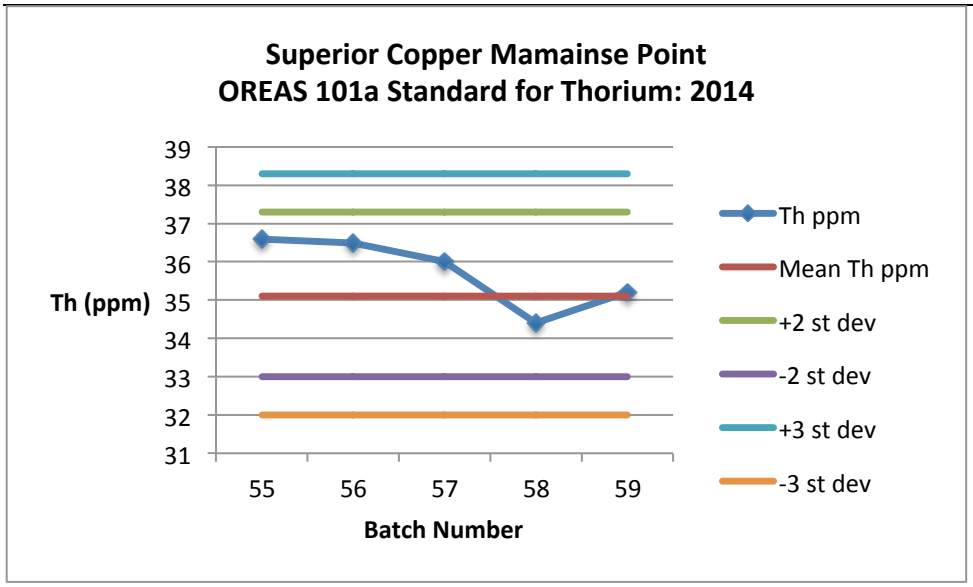

Figure 9: Performance of Oreas 101a for Thorium

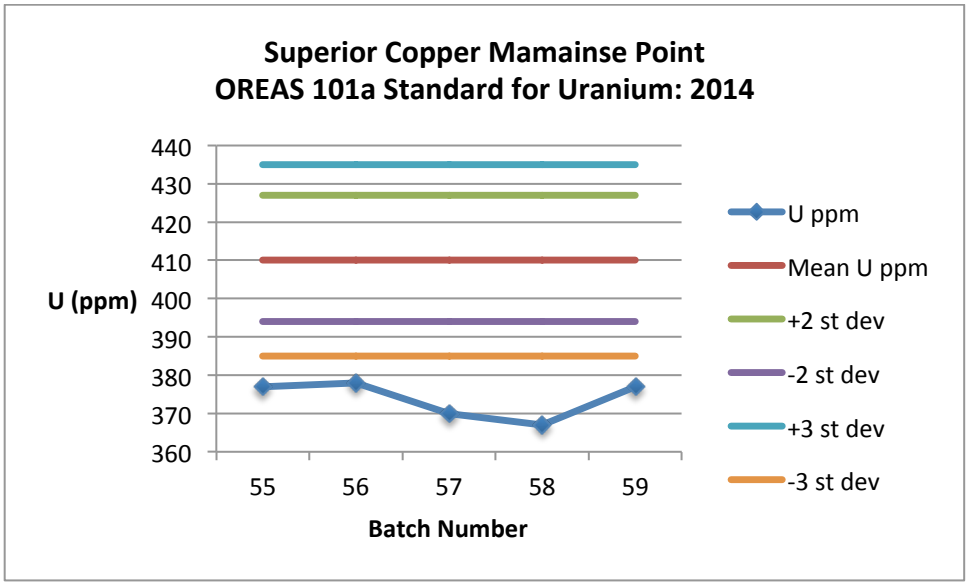

Figure 10: Performance of Oreas 101a for Uranium

Blanks

The blank material was locally sourced beach sand, which monitors possible contamination at the analytical level only, as it does not pass through the crushing and pulverizing stages. All blank data for Cu, Au and Ag were graphed. An upper tolerance limit of five times the detection limit was indicated for each element. If the assayed value in the certificate was indicated as being less than detection limit the value was assigned the value of half the detection limit for data treatment purposes.

There were 57 blank samples analyzed during the program. Graphs of the performance are pictured in Figures 11-13. All Au values reported less than detection limit ("DL"). Silver had an average grade of 0.04 ppm and a high value of 0.15 ppm. Copper had an average value of 13.95 ppm, and a high value of 177.5 ppm. The high value was verified to ensure there was no mix-up at the core shack or lab, and it appears that the value is truly reflecting the grade of the blank, which in this case indicates that there was Cu present in the blank material. There was no impact to the database and no action was required.

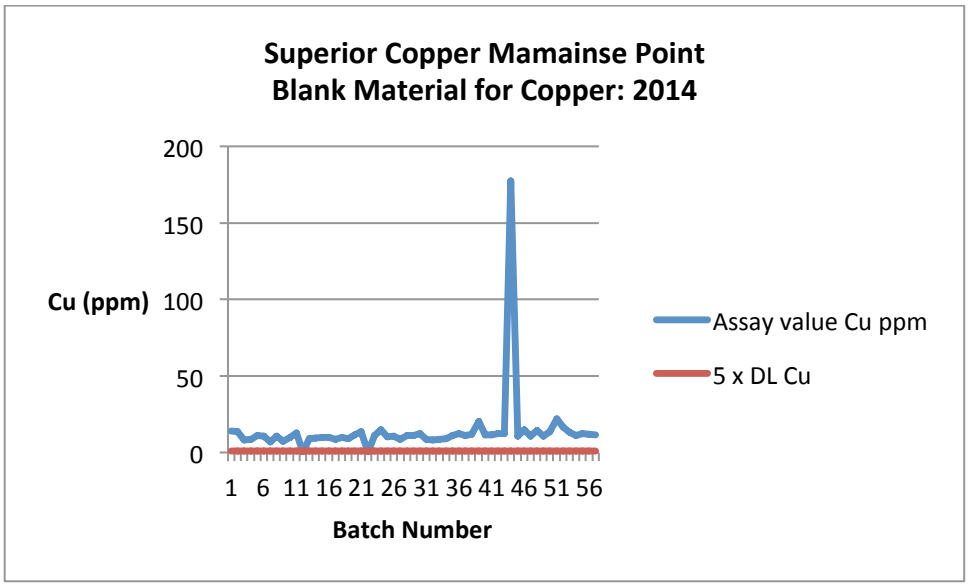

Figure 11: Performance of Blank Material for Copper

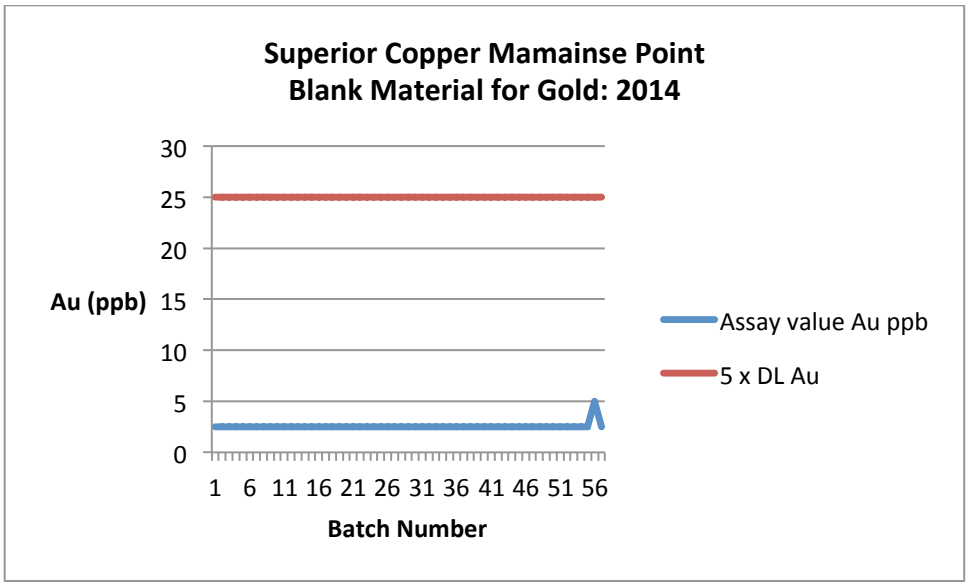

Figure 12: Performance of Blank Material for Gold

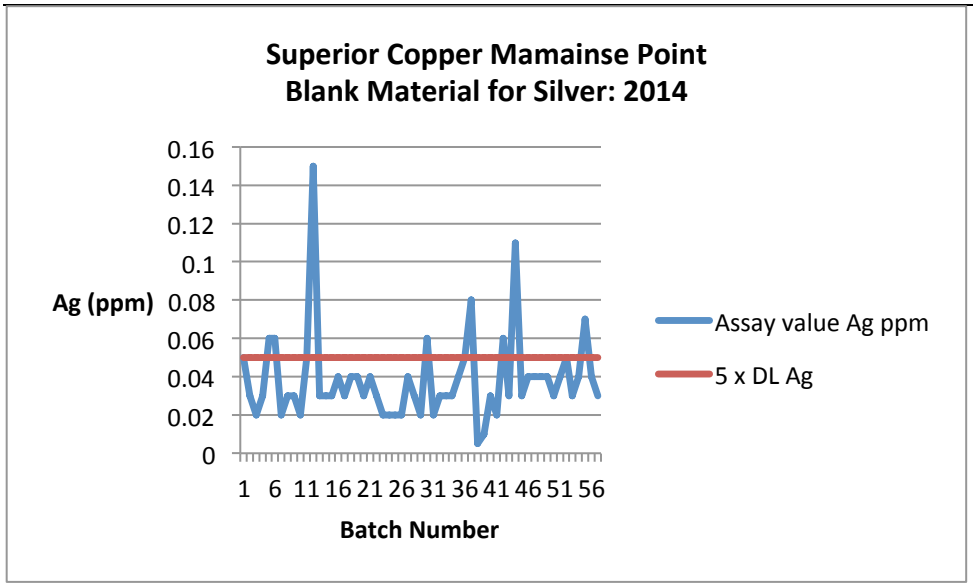

Figure 13: Performance of Blank Material for Silver

DUPLICATES

There were two types of duplicates prepared and analyzed during the drill program. Each batch contained a ¼ core duplicate, which was prepared by ¼ sawing the corresponding half core sample that was sent to the lab, thereby leaving ¼ core as a witness sample in the box. Each batch also contained a request for the lab to prepare a pulp duplicate of the first sample in the batch.

There were 58 pulp duplicate pairs and 56 core duplicate pairs analyzed. Simple scatter graphs were prepared for the core and pulp duplicates and are presented in Figures 14 to 19. The ¼ core duplicates indicated poor to fair precision, which can be expected, while the pulp duplicates indicated excellent precision for copper and silver (apart from 1 outlier), and fair precision for gold. Most of the gold values are very close to or below detection limit, and there is a great deal of imprecision at these low values.

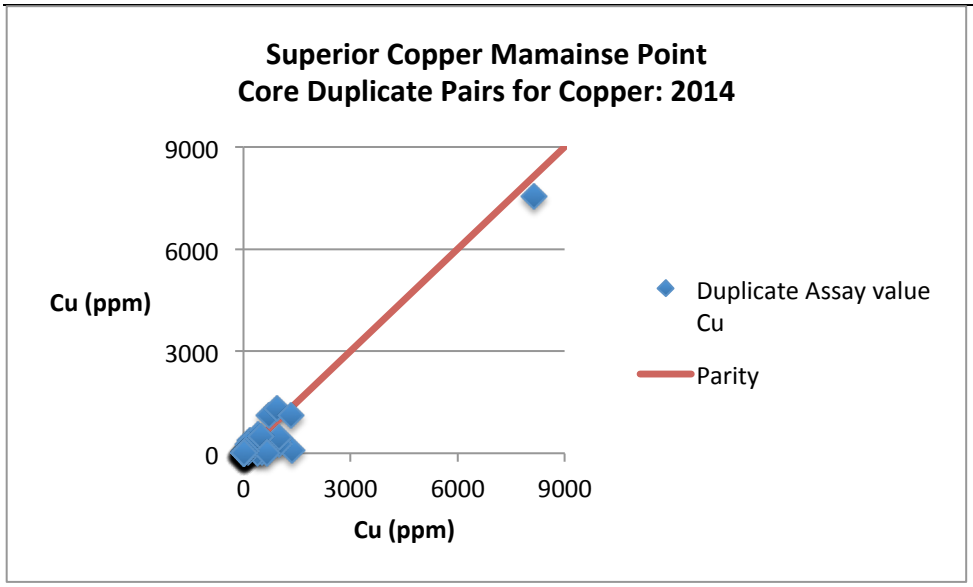

Figure 14: Performance of Core Duplicates for Copper

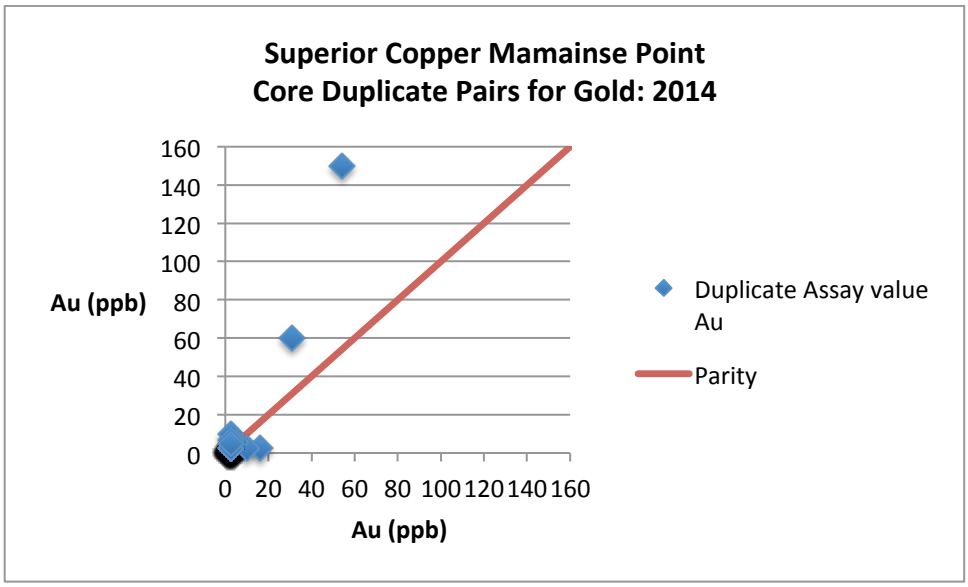

Figure 15: Performance of Core Duplicates for Gold

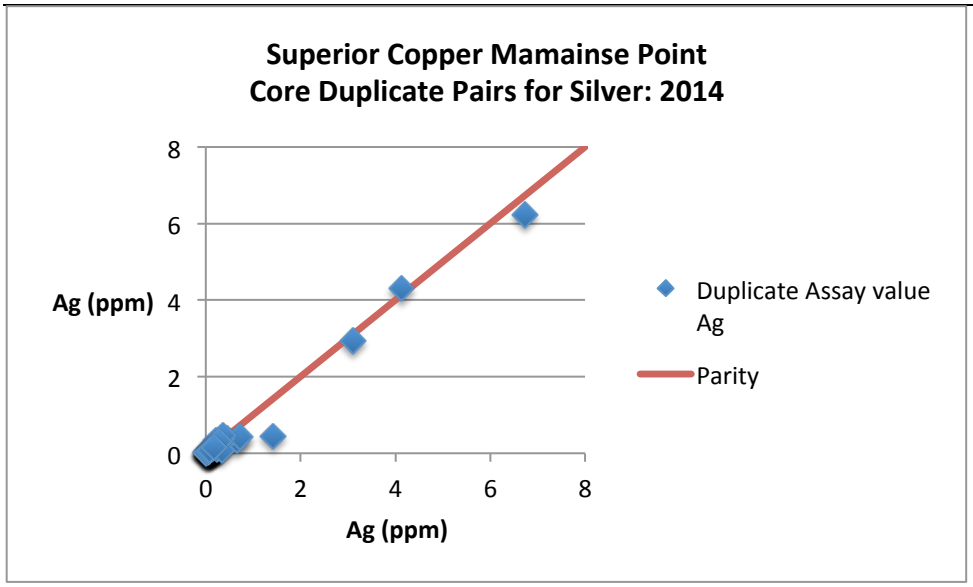

Figure 16: Performance of Core Duplicates for Silver

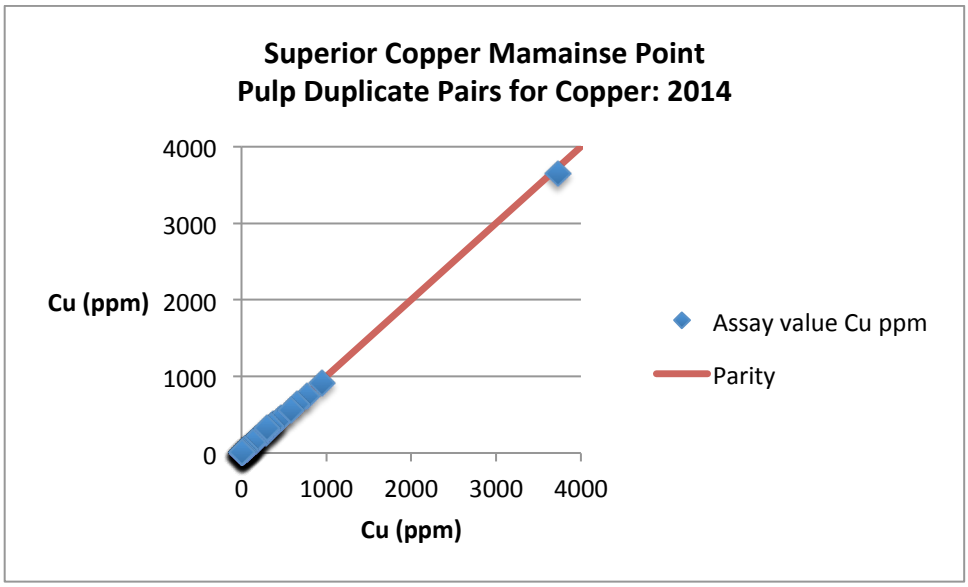

Figure 17: Performance of Pulp Duplicates for Copper

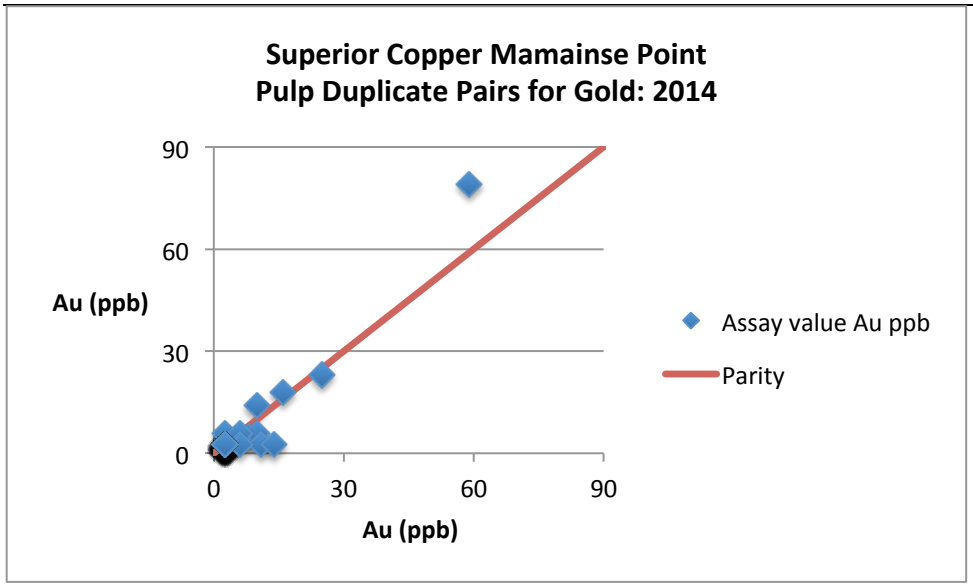

Figure 18: Performance of Pulp Duplicates for Gold

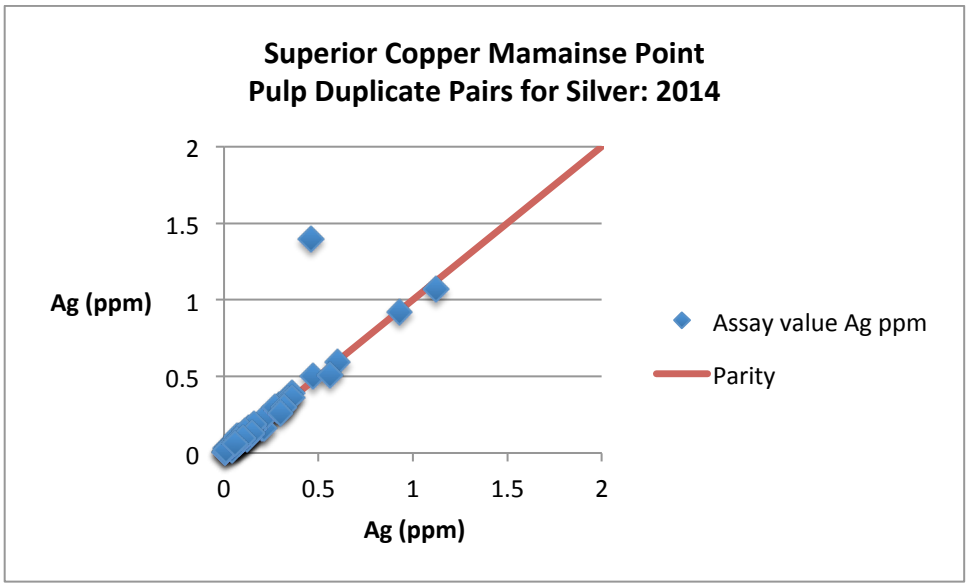

Figure 19: Performance of Pulp Duplicates for Silver

DISCUSSION OF QUALITY CONTROL RESULTS

Results of the QC program indicate that it was successful in providing a database with robust results. It is recommended to source a coarse blank material that necessitates crushing and pulverizing so as to measure possible contamination at all levels of sample reduction and analysis.

APPENDIX F

ASSAY CERTIFICATES