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Diamond drilling (K97-2) and geology in the Kidd Creek area, Nelson Mining Division, Southeastern British Columbia

NTS 082F/8: 49°16'N; 116°07'W

(Thea 11 claim)

Claim owners: Sedex Mining Corp.
Operator: Klondike Gold Corp.

by:

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Super Group Holdings Ltd.
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and

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Nelson Mining Division
Southeastern British Columbia

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Introduction

The claim area lies within the Purcell Mountains approximately 35 kilometers southwest of Cranbrook in southeastern British Columbia (Figure 1). The area is readily accessible by a well-maintained gravel road that follows Kidd Creek north from Highway 3, and then a power-line road along the east branch of Kidd Creek. This power-line continues north into the drainage of the Moyie River, providing an alternate access route from the north.

Topography throughout the area is moderate, with relief ranging from approximately 1200 meters in the Kidd Creek valley in the south to 2029 meters on a ridge north-northeast of the Thea 11 claim and diamond drill hole K97-2 (Figure 2). A thin layer of glacial till covers most of the area, and vegetation in the form of conifer forests is heavy in the lower slopes and subalpine at the highest elevations.

Considerable past geological work has been done in the claim area, largely spurred by the success of the world-class Sullivan sedex deposit at Kimberley, and by the occurrence of a number past-producing lead-zinc-silver mines in the area, including the St. Eugene and the Estella (Figure 1). The immediate claim area has been mapped at 1:50,000 scale by Brown (1998) and in more detail (1:20,000) by D. Pighin and D. Anderson (personal communication, 2002). A large area, including the Kidd Creek area, was staked by Sedex Mining Corp. from 1994 through to 1997. The property was optioned to Kennecott Canada Exploration Inc., and an exploration program including geological mapping, diamond drilling, gravity, soil geochemical, and magnetic geophysical surveys was conducted in 1996 and 1997.

Drilling in the immediate claim area is very limited. Diamond drill hole K97-2 was drilled by Kennecott in 1997, under an option with Sedex Mining Corp., to test a large gravity anomaly. The hole was stopped at 762.2 meters after intersecting a thick gabbro dike near the top of the hole that was interpreted to be the cause of the anomaly. Klondike Gold Corp. extended the hole in the fall of 2002 in order to (1) test the possibility that the anomaly may rather result from an underlying massive sulphide deposit, (2) better understand regional stratigraphy and the outlines of an inferred Middle Proterozoic structural basin, and (3) hopefully provide a test of the Sullivan horizon.

Several holes were also drilled by Kennecott in 1997, 3.5 kilometers east of K97-2, near the headwaters of Lewis Creek (Figure 3). These holes had encouraging results, with one intersection (DDH K97-3) of semi-massive sulphides that averaged 5.82 percent lead, 9.65 percent zinc and 49.4 g/tonne silver across 2.55 meters. Although parallel to layering, this intersection was interpreted to be a vein. The underlying Sullivan horizon in this hole was also anomalous, containing 168 ppm lead and 477 ppm zinc across a 3.0 meter interval.

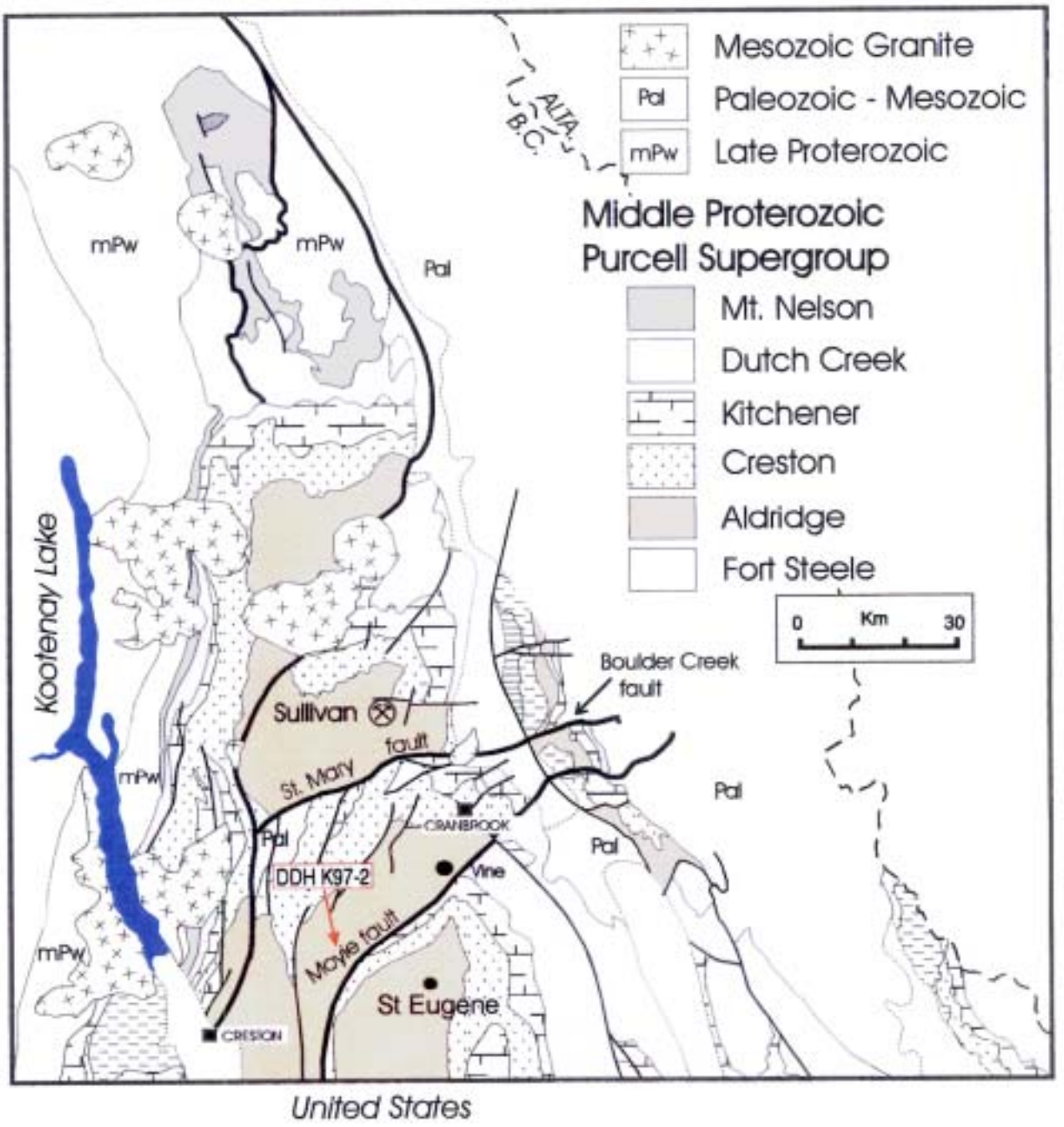

Figure 1: General location map showing regional geology

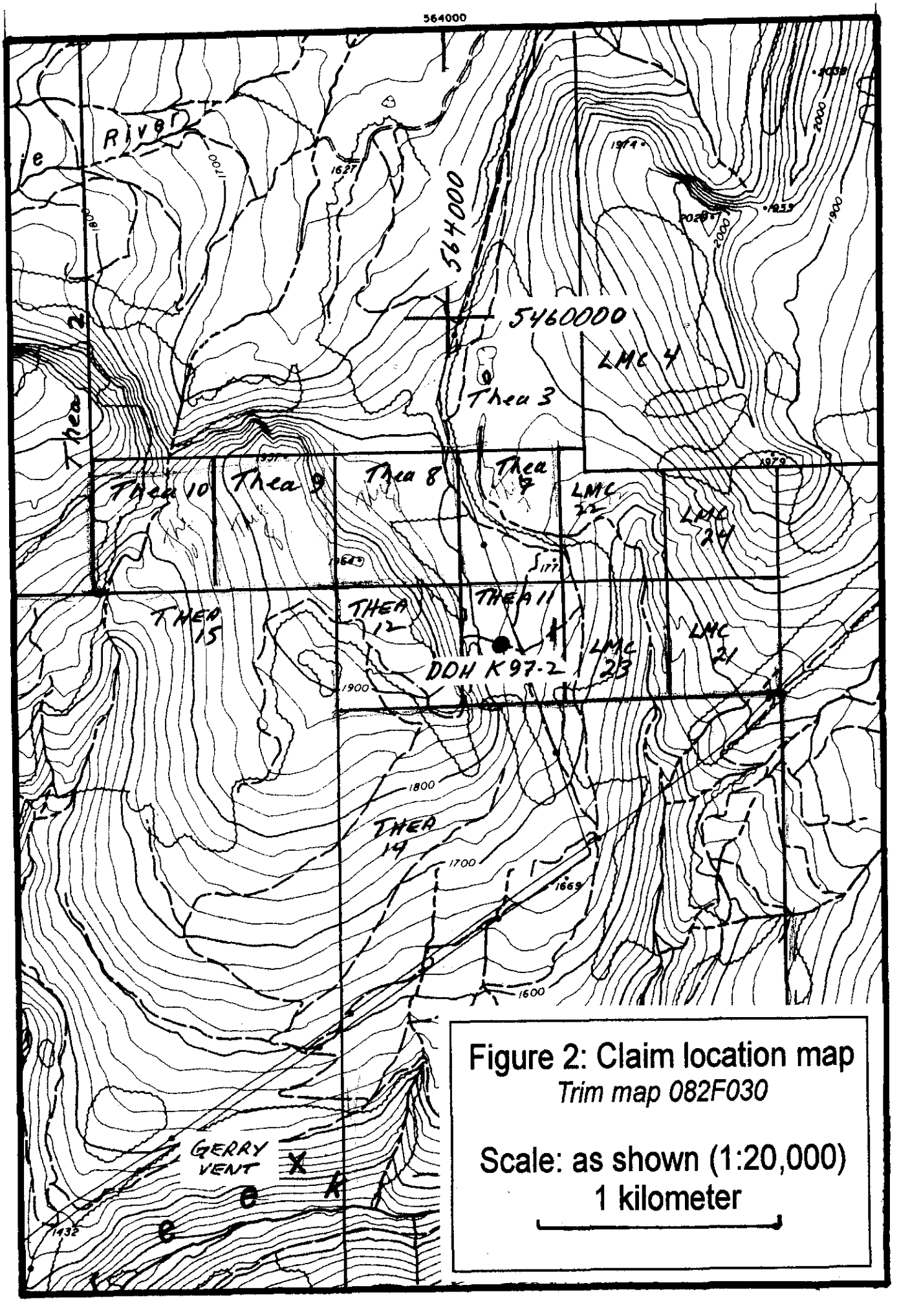

Figure 2: Claim location map

Trim map 082F030

Scale: as shown (1:20,000)

1 kilometer

A deep hole was drilled seven kilometers north of K97-2 by Sedex Mining Corp. in 1995, and also intersected an anomalously thick Sullivan horizon with elevated lead and zinc values. These encouraging drill results in the Moyie West block, as well as the discovery of a large vent complex just to the south, the Gerry vent (Figure 3), led to the decision to deepen drill hole K97-2.

Work this past summer and fall by Klondike Gold Corp. and Super Group Holdings Ltd. consisted of geological mapping, prospecting, and the deepening drill hole K97-2 to 1546.3 meters.

Regional Geology

The area is near the center of the Purcell anticlinorium, a broad generally north-plunging structure in southeastern British Columbia that is cored by Middle Proterozoic Purcell Supergroup and flanked by Late Proterozoic Windermere Group or Paleozoic sedimentary rock. It lies west of the Rocky Mountain trench, in the hanging wall of the Moyie fault, a northeast trending right-lateral tear fault that is part of the Rocky Mountain fold and thrust belt. The Moyie fault follows earlier structures that have documented movements extending back to the Middle Proterozoic, and that partly controlled the distribution of the Middle Proterozoic through lower Paleozoic paleogeography.

The Purcell Supergroup comprises an early synrift succession, the Aldridge Formation, and an overlying generally shallow water post-rift or rift fill sequence, including the Creston and Kitchener Formations, and younger Purcell rocks (Höy, 1993; 2001).

The exposed part of the Aldridge Formation comprises more than 3000 meters of mainly turbidite deposits and numerous, laterally extensive gabbroic sills referred to as the Moyie intrusions. The Aldridge Formation has been subdivided into a three informal, but well-established members. The lower sequence, the Lower Aldridge, comprises mainly thin to medium-bedded, pyrrhotite-rich, distal argillaceous turbidites. The Middle Aldridge comprises more than 2400 meters of medium-bedded quartzitic turbidites with prominent intervals of inter-turbidite laminated siltstone. These laminated siltstone units are markers that allow correlation of Middle Aldridge stratigraphy throughout the Purcell basin. The Upper Aldridge comprises approximately 500 meters of thin-bedded to laminated, pyrrhotite-rich argillite and siltstone.

The gabbroic sills are laterally extensive sills, typically up to several hundred meters thick, that can be traced over hundreds of square kilometers. Locally, particularly in areas of growth faulting, they cut across stratigraphy as dykes. Many of the Moyie sills have contact features that suggest intrusion into wet and partially consolidated sediments (Höy, 1989). Hence, a U-Pb age date of 1468 Ma (Anderson and Parrish, 2002) from one of these sills provides a minimum age for the Aldridge Formation and Sullivan sedex deposit.

Property Geology

The area in the vicinity of Kidd Creek is underlain by the Aldridge Formation in the hangingwall of the Moyie fault (Figure 3). Lower Aldridge Formation is exposed in the southeastern part of the area, and Middle Aldridge throughout most of the claim area. A number of Moyie sills, and a prominent north-trending dike, cut Aldridge stratigraphy throughout the claim area. These sills, as well as diagnostic Middle Aldridge marker units, allow correlation of drill intersections in the Middle and Lower Aldridge.

Stratigraphy

The Lower Aldridge comprises thin-bedded, typically rusty-weathering siltstone and argillaceous siltstone. The Middle Aldridge comprises several thousand meters of quartzitic turbidites with minor but prominent intervals of argillaceous siltstone. In general, the Middle Aldridge appears to become thinner bedded and less arenaceous up section.

Several Middle Aldridge marker units have been identified in the claim area and in drill hole K97-2. These markers are dark-light laminated siltstone units, from a few to more than 10 meters thick, that can be correlated with a standard Middle Aldridge marker sequence developed throughout the Middle Aldridge succession. They allow correlation of drill intersections and estimates of depth to the Sullivan horizon which occurs at the Lower-Middle Aldridge (lmc) contact.

Mineralization

Numerous small lead-zinc-silver veins have been discovered in the claim area. Most of these are several kilometers to the southeast, in the vicinity of 1997 drilling by Kennecott (e.g. K97-3). This area also is marked by anomalous soil geochemistry, sedimentary fragmental units, and concentrations of tourmalinite. Similar features in the Sullivan camp, located 45 kilometers to the north, are known to be diagnostic indicators of growth faulting and development of a structural basin or graben. Hence, it is suggested that the Kidd Creek area is also within a north-trending structural basin, extending from this area to the region of the Moyie River fault in the north.

The Gerry vent, located less than 2 km south of DDH K97-2, was discovered in the late 1990s, but not explored or mapped until this past season. The vent is exposed on the steep north slope of Kidd Creek and therefore provides a naturally exposed section through a vertical relief of nearly 200 meters. The vent is funnel shaped, flaring upward from a pipe a few meters in thickness to a discordant zone several 10s of meters thick in the highest exposures. Minor dispersed galena, sphalerite, pyrrhotite and tourmaline occur in a sandy matrix in the lower part of the vent complex. A wide zone of massive siltstone with scattered sedimentary clasts and minor to semi-massive pyrrhotite occurs in the upper part of the vent. A soil survey indicates that an anomalous geochemical zone extends several hundred meters north of the highest exposures of the Gerry vent.

Both stratiform and discordant fragmental units occur approximately 2 km northeast of K97-2. These are referred to as the Big Lewis fragmentals and provide additional evidence for the existence of structural basin or graben in the area.

Drill results

Diamond drill hole K97-2 was extended from a depth of 762.2 meters to 1546.3 meters. A detailed log of the extension of the hole is given in Appendix 1. It was stopped above Sullivan time, due to an unexpectedly thick Middle Aldridge succession caused by (1) sedimentary thickening of the standard Middle Aldridge succession, (2) structural repetition and (3) the introduction of a gabbroic sill. Hence, the Sullivan horizon has not been tested at this location.

Detailed logging of K97-2 (extension) indicates features both typical and anomalous for Middle Aldridge stratigraphy in the Purcell basin farther north and east. The most noticeable difference is the considerable thickening, described below, in the lower part of the Middle Aldridge. This thickening also occurs in drill hole SMC 95-1 located to the north (Figure 4) supporting a model for a north-trending structural basin in Middle Aldridge time. As there were no recognized marker units in K97-3, it is not known the extent of thickening here.

Mineralization in K97-2 comprises widely disseminated pyrrhotite. Pyrrhotite is also commonly concentrated in diffuse albite-garnet zones, referred to as "concretions" (Appendix 1). These concretions may be calcareous, and contain additional minerals such as biotite, chlorite, rarely quartz? and sphalerite. Sphalerite also occurs in rare fault breccia zones (1289 m), veins (1210 m) and notably disseminated with pyrrhotite in a thin siltstone layer at 1075 meters. Tourmalinite, typical of the footwall alteration of the Sullivan deposit, was not noted in K97-2 extension.

Three large gabbroic bodies are recognized in K97-2. A gabbro dyke, several hundred meters thick, was intersected by the original Kennecott drilling in 1997 (Figure 4). Two sills were intersected during 2002 drilling. The upper sill has been correlated with the Hiawatha sill, and a lower sill, probably repeated and thickened by a reverse fault, occurs near the bottom of the hole. Both these sills are regional markers in this area (the Moyie West block) and allow correlation of drill sections where markers were not recognized (Figure 4).

A laminated marker unit, the Hiawatha marker, was intersected at a depth of 650 meters. Comparison with the standard Sullivan and Middle Aldridge successions to the east suggested that this marker unit occurs approximately 475 meters above Sullivan horizon. The underlying Fringe marker was recognized at a depth of approximately 1130 meters, and by comparison with the standard Middle Aldridge succession, suggested the Sullivan horizon should be approximately 185 meters deeper. However, the interval between the Fringe marker and the Sullivan horizon (lmc) has been considerably thickened in K97-2 (extension). Approximately 350 meters of Middle Aldridge sediments and 95 meters of gabbro, the Hiawatha sill, were drilled below the lowest Fringe exposure. Correlating the level of the Hiawatha sill with intersections to the north and east suggests that drill hole K97-2 may have to be extended several hundred meters to the Sullivan horizon (Figure 4).

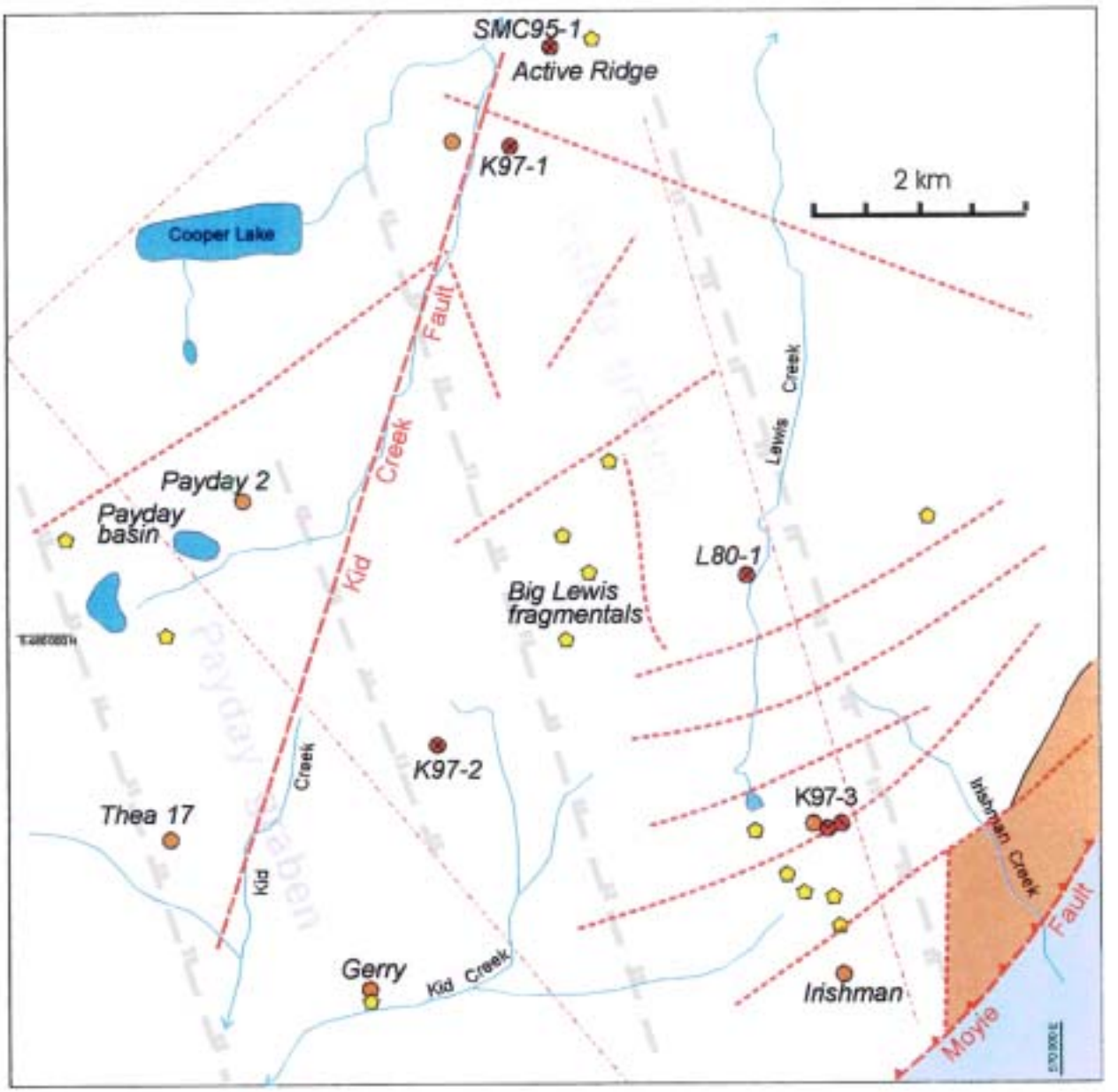

Figure 3: Simplified geology and location of drill holes in the Moyie West block.

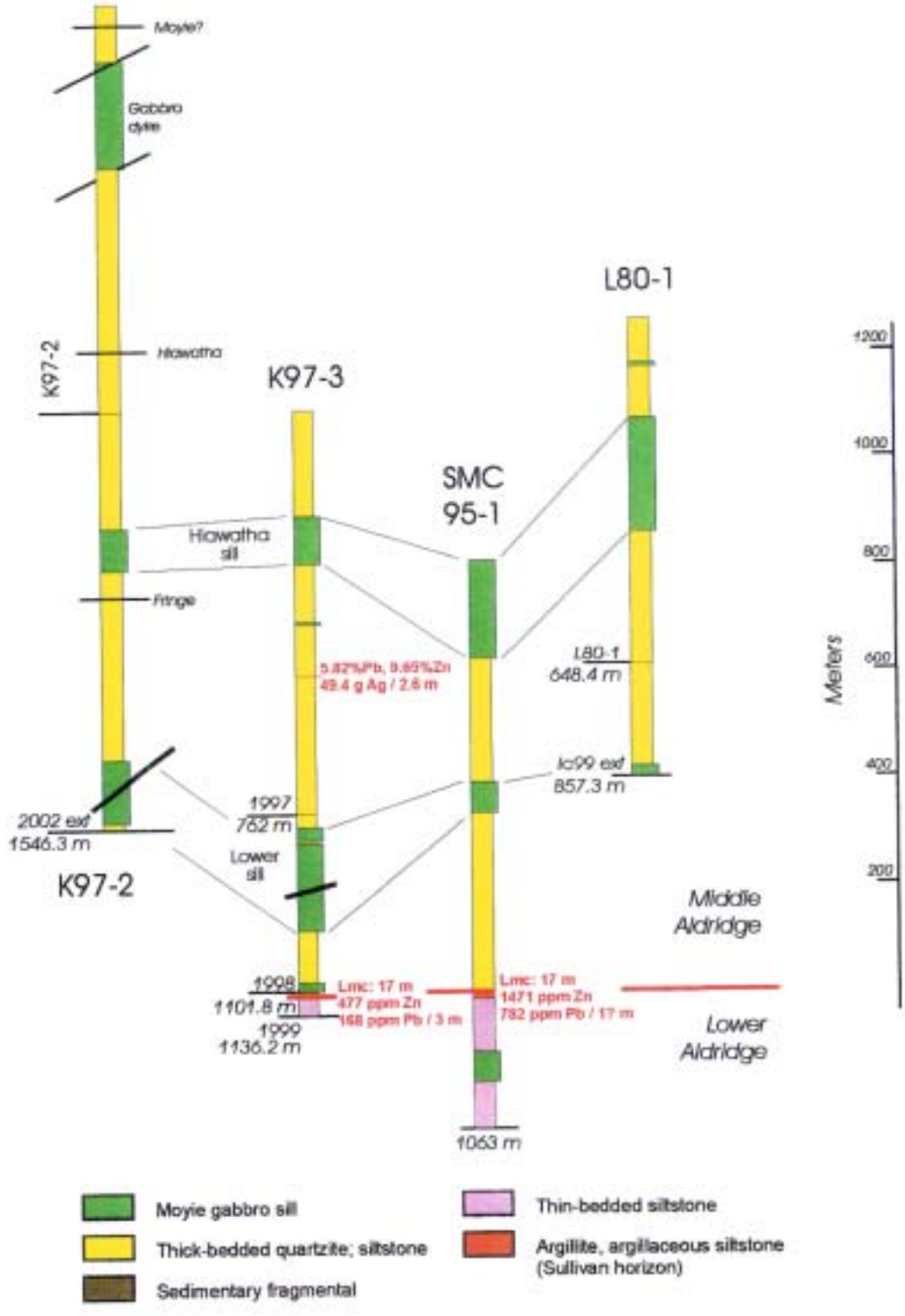

Figure 4: Correlation of drill intersections in the Moyie West block, Kidd Creek and Irishman Creek areas: drill hole locations: K97-2: 564220E, 5458640N; SMC95-1: 565579E, 5465432N; L80-1: 5679400E, 5460980N; K97-3: 5678000E, 5457870N. See Figure 3 for locations.

Regional drill hole correlations: summary

Drill hole K97-2 can be readily correlated and compared with other holes in the Moyie West block (Figures 3 and 4). Drill hole K97-3 was drilled approximately 3.5 kilometers to the east. It intersected a semi-massive concordant sulphide vein in the Middle Aldridge that assayed 5.82 % Pb, 9.65 % Zn and 49.4 g/tonne Ag across 2.6 meters. The Sullivan horizon in this hole consisted of approximately 17 meters of laminated, pyrrhotite-rich argillite and argillaceous siltstone (lmc) that included a 3-meter interval containing 477 ppm Zn and 168 ppm Pb. Regionally, the Sullivan horizon (lmc) is typically less than 10 meters in thickness.

Drill hole SMC 95-1, located 7 kilometers north of K97-2, also contained an anomalously thick lmc intersection, with an interval (1 meter?) that graded 1471 ppm Zn and 782 ppm Pb. A second hole in this area (P02-1), completed late in 2002, contained a 25-meter lmc intersection, also with highly anomalous lead-zinc values.

The thickened Sullivan sections, as well as the anomalous lead and zinc content, indicate that the structural basin recognized in overlying Middle Aldridge stratigraphy, appears to have been present at the end of Lower Aldridge time as well. Further drilling would be required to more accurately vector the source of the anomalous base metal mineralization in the two northern drill holes (SMC 95-1 and P02-1).

The only other deep drilling in the Moyie West block, L80-1 and its extension in 1999, failed to reach the Sullivan target depth.

Summary

Diamond drill hole K97-2 was extended in 2002 in order to confirm the source of a gravity anomaly, test a model for an Aldridge-age graben in the area, and hopefully intersect the prospective Sullivan horizon. The hole was stopped considerably short of the Sullivan target depth, due in part to limitations in the drill rig. However, the target depth was deeper than originally estimated, due to an anomalous thickening of the Middle Aldridge stratigraphy.

The presence of a north-trending structural basin or graben is supported in the Kidd Creek area. It is recognized by anomalous concentrations of tourmalinites and fragmentals in Middle Aldridge stratigraphy. These appear to trend northward from approximately the headwaters of Lewis Creek and the Irishman River area in the south to east of Cooper Lake in the north. The considerable thickening of the lower part of the Middle Aldridge succession, recognized in drill hole K97-2, supports the model of a graben throughout this area.

The extent of alteration and amount of disruption of bedding, both characteristics of an active Middle Proterozoic (Aldridge-age) basin are considerably more pronounced in holes in the south (K97-3 area) and in the northern (SMC 95-1) drill hole. Both these areas are closer to major east or north-east trending offset faults than is drill hole K97-2. The Irishman Creek area is located approximately 2 km north of the northeast trending Moyie fault, and SMC 95-1 is close to the Moyie River fault, both known to be important Middle Proterozoic growth faults. In contrast, K97-2 appears to be near the western margin of the Panda graben, considerably removed from any known east-trending offset

or transverse faults. This may account for the limited amount of alteration and disruption in this drill hole, and suggests that future exploration should be directed to areas in structural basins, but closer to their intersections with transverse faults.

References

Anderson, H.E. and Parrish, R.R. (2001): U-Pb geochronological evidence for the geological history of the Belt-Purcell Supergroup, southeastern British Columbia; in The Geological Environment of the Sullivan Deposit, British Columbia; *Geological Association of Canada, Mineral Deposit Division*, Special Publication No. 1, J.W. Lydon, T. Höy, J.F. Slack and M.E. Knapp (*Editors*), pages 113-126.

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Höy, T. (2001): Tectonic, magmatic and metallogenic history of the early synrift phase of the Purcell basin, southeastern British Columbia; in The Geological Environment of the Sullivan Deposit, British Columbia; *Geological Association of Canada, Mineral Deposit Division*, Special Publication No. 1, J.W. Lydon, T. Höy, J.F. Slack and M.E. Knapp (*Editors*), pages 32-60.

Statement of qualifications: Trygve Höy

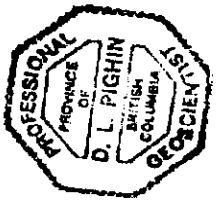
I, Trygve Höy, of the town of Sooke, province of British Columbia, do hereby certify that:

1. I am a an independent project geologist, with a business office at 2450 Dixon Road, Sooke, B.C., Canada, V0S 1N0.
2. I am a graduate in geology, with a BSc in geology from The University of British Columbia (1968).
3. I received my Masters degree in geology from Carleton University, Ottawa, Ontario in 1970.
4. I received my PhD in geology from Queens University, Kingston, Ontario in 1974.
5. I am a registered member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia (No. 10,342).
6. I am a fellow of the Geological Association of Canada and a member of the Society of Economic Geologists.
7. I have practiced my profession as a geologist for 28 years: 27 years as a project geologist with the British Columbia Geological Survey Branch, and approximately 1 year as an independent consultant.
8. I am the project geologist supervising exploration programs for Klondike Gold Corp. in the Purcell Mountains of southeastern British Columbia. The data of this report was collected by myself, my coauthor, and other qualified geologists employed by Super Group Holdings Ltd. of Cranbrook, British Columbia.

Trygve Höy, P.Eng, Ph.D.
Project geologist
December 30, 2002

I, Dave Pighin, of the town of Cranbrook, province of British Columbia, do hereby certify that:

1. I am a project geologist with Super Group Holdings Ltd., 1805 13th Ave S., Cranbrook, B.C., V1C 5Y1.
2. I am a registered member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
3. I have practiced my profession as a geologist for approximately 35 years:
   27 years as an exploration geologist with Cominco Ltd.
   8 years as an independent consultant, and with Super Group Holdings Ltd.
4. The field work for this report was carried out in the summer of 2002, and was written in collaboration with Trygve Höy.



Dave Pighin
Exploration geologist
December 13, 2002

Statement of expenditures

Geology and mapping:	
Trygve Höy (geologist):	$1316.31
Dave Pighin (geologist) and Super Group staff	$3245.00
Travel costs	$320.71
Site administration	$230.23
Drilling costs	$125,275.15
Equipment	$922.24
Supplies	$778.89
Food costs	$27.05
Report preparation	$800.00
Administration (15%)	$19,937.34
Total	**$152,852.92**

Appendix 1

Drill hole record: K97-2 extension

Hole No.:	K97-2 extension
Property:	Payday-Irishman
District:	Nelson
Claim:	Thea 11
Location:	Power-line road, 2.5 km north of Kidd Creek
Coordinates:	564220 East; 5458640 North
Elevation:	1775 meters
Commenced:	Aug 27, 2002
Completed:	Oct 14, 2002
Length of hole:	1546.3 meters
Collar dip:	90 degrees
Bearing:	
Dip test results:	none
Core size:	NQ
Objective:	To test for stratiform mineralization at the Sullivan horizon
Logged by:	Dave Pighin
Location of core:	Super Group Holdings field office (Vine property)
Drill contractor:	Lone Ranger Drilling Ltd.
Drill type:	Longyear 44

Drill Log:

Meters	Description
(note this is an extension of DDH K97-2, drilled in 1997)	
762.2 – 768.3	Siltstone interbedded with silty argillite and argillite; medium bedded to thick bedded; parallel laminated; bedding/core angle = 86°; biotite and sericite in sediments; tiny wisps and specks of pyrrhotite in argillaceous beds.
768.3 – 786.2	Quartzite interbedded with silty argillite and siltstone; medium bedded to thin bedded; rare thick beds; commonly graded; soft sediment structures in fine-grained beds; biotite and sericite alteration; some concretions with albite, biotite and calcite; trace disseminated pyrrhotite.
786.2 – 790.7	Siltstone; thick bedded to very thick bedded; bedding indistinct; silicified, some biotite, quartz, albite and garnet concretions; rare disseminated pyrrhotite.
790.7 – 802.3	Siltstone interbedded with silty argillite and minor quartzite; medium bedded to thin bedded; some thick bedded; argillaceous beds have slump folds, ball and pillow structures; biotite; late albite, biotite, garnet concretions; rare disseminated pyrrhotite.
802.3 – 809.0	Siltstone interbedded with quartzite and lesser argillite; medium bedded to thick bedded; siltstone is generally fine grained; biotite throughout; 804 m: clear quartz veins with biotite, sericite and pyrrhotite cut core at 10°.
809.0 – 815.0	Siltstone interbedded with silty argillite and argillite; thin bedded to very thin bedded; sharp, flat bedding planes; commonly graded; slump structures as above; biotite; concretions; weakly disseminated pyrrhotite.
815.0 – 837.9	Siltstone interbedded with silty argillite and rare quartzite; medium bedded to thick bedded; siltstone is fine to medium grained; bedding/core = 89°; biotite throughout; concretions common, consisting of albitized siltstone matrix with coarse biotite, large pink garnet and pyrrhotite; weakly disseminated pyrrhotite, but fairly abundant in concretions (to 25%).
837.9 – 845.3	Siltstone interbedded with argillite and silty argillite; medium bedded to thin and very thin bedded; flame structures common as are slump folds; argillite is finely laminated; alteration as above; rare disseminated pyrrhotite.
845.3 – 849.0	Quartzite, minor siltstone; medium bedded; concretions common and contain minor pyrrhotite; minor calcite;
849.0 – 854.0	Siltstone interbedded with silty argillite and argillite; medium bedded to thin and very thin bedded; argillaceous beds are

	finely laminated; biotite throughout, rare concretions; trace pyrrhotite.
854.0 – 861.0	Quartzite, with minor siltstone and argillite; medium bedded to thick bedded; silicified, sericite throughout; concretions common; rare pyrrhotite in concretions.
861.0 – 866.6	Siltstone interbedded with silty argillite and argillite; medium bedded to very thin bedded; commonly graded beds; slump structures in argillites; bedding/core = 90°; rare disseminated pyrrhotite.
866.6 – 875.0	Quartzite, rare argillite interbeds; at 871 meters: possible section of Lois Creek marker bed?; quartzite is thick to very thick bedded; some graded, some rip-up clasts; typical alteration; weakly disseminated pyrrhotite in concretions.
875.0 – 878.83	Quartzite, with some brownish argillite beds; medium bedded; thin bedded argillites; minor clasts in quartzite; concretions with garnet; biotite, albite and minor pyrrhotite.
878.83 – 880.1	Argillite; silty argillite; thin bedded; laminated; pervasive biotite.
880.1 – 892.2	Quartzite; minor argillite; thick bedded; some concretions, minor disseminated pyrrhotite.
892.2 – 899.6	Quartzite; as above; minor fragmentals in argillaceous intervals; concretions as above; 895.5m: 1.5 cm quartz vein at 15° to core.
899.6 – 905.5	Argillite interbedded with quartzite; typical turbidites; thin bedded to medium bedded; some disrupted bedding; bedding/core = 87°; pyrrhotite with trace chalcopyrite in rare fractures.
905.5 – 911.2	Argillite with minor quartzite; argillite is finely laminated; quartzite is medium bedded; fine biotite throughout.
911.2 – 923.7	Siltstone and quartzite; typical ACE and AE graded turbidite beds; medium bedded; concretions with chlorite, albite biotite, quartz, pyrite and pyrrhotite; rare fractures with pyrrhotite.
923.7 – 927.25	Quartzite with minor intervals of argillite; medium to thick bedded; typical turbidites; wavy to planar bedded; typical concretions as above; quartzite appears to be mottled; 1 cm quartz vein at 15-20° to core.
927.25 – 933.8	Quartz wackes (quartzite) with approx. 40% argillite; typical turbidites; lenticular to planar bedded; rare clasts; bedding/core = 85-90°; minor pyrrhotite in fractures.
933.8 – 937.0	Siltstone interbedded with argillite; typical medium bedded; with very thin bedded section from 933.8 to 934.8; scattered

	albite concretions with pink garnet and biotite; pyrrhotite relatively abundant in concretions; 936.6m: rare galena in siltstone.
937.0 – 942.0	Siltstone interbedded with argillite; thin to very thin bedded; flat to locally wavy bedding planes; some slump structures, minor cross-beds; fine biotite throughout; minor disseminated pyrrhotite.
942.0 – 954.8	Siltstone interbedded with quartzite and argillite; medium to thick bedded; minor thin bedded at 947-950m; silicified in part; abundant albite concretions; rare disseminated pyrrhotite; rare pyrrhotite veinlets cut core at 37°.
954.8 – 963.0	Siltstone interbedded with quartzite and argillite; as above.
963.0 – 973.8	Siltstone interbedded with argillite; mainly thin to very thin bedded; rare disseminated pyrrhotite. 970.2 – 971.5 m: gabbro dyke cuts core at 40°.
973.8 – 981.0	Quartzite interbedded with siltstone; thick to very thick bedded; bedding indistinct due to pervasive alteration; silicified and albitized; crackle breccias common, healed by coarse biotite; pyrrhotite blebs and disseminations with coarse biotite.
981.0 – 1073.4	Gabbro; upper contact cuts core at 40°; generally green amphibole in white feldspar matrix.
1073.4 – 1079.0	Quartzite with rare thin argillite interbeds; mainly thick to very thick bedded; at 1073 to 1075 m, some very thin bedded argillite; bedding/core = 85°; silicified; fine biotite and sericite; scattered garnet; 1075.2 m: strongly disseminated pyrrhotite and sphalerite in a 5 cm band parallel to bedding; pyrrhotite disseminated throughout.
1079.0 – 1112.7	Siltstone interbedded with argillite, silty argillite and quartzite; medium bedded to thin bedded; some very thin bedded intervals, to 30 cm thick, with flat, sharp bedding planes; siltstone is typically graded; typical turbidites; abundant soft-sediment structures; concretions abundant, consisting of albite, biotite, garnet, and rare calcite; rare concretions consist of a garnet core rimmed by albite and biotite; 1107.0 m: concretion with abundant pyrrhotite and sphalerite; generally pyrrhotite disseminated throughout, and in widely scattered hairline fractures Top segment of Fringe marker occurs at 1099.0 meters.
1112.7 – 1127.2	Siltstone interbedded with argillite and silty argillite; minor quartzite; mainly thin to very thin bedded; quartzite at approx. 1113 m; siltstones are generally flat bedded; argillite is finely laminated; some slump structures and minor cross-beds;

	bedding/core = 87°; fine biotite throughout; sericite in some argillite beds; concretions overprint biotite; weakly disseminated pyrrhotite throughout; pyrrhotite laminae in argillites (e.g., 1117.5 – 1118.0 m).
1127.2 – 1129.9	Quartzite interbedded with siltstone, rare argillite; medium to thick bedded; graded turbidite beds; biotite throughout; pink garnet and sericite associated with silicification; rare disseminated pyrrhotite.
	Probable Fringe marker segment 13 cm thick at 1128.5 m.
1129.9 – 1135.4	Siltstone interbedded with silty argillite, argillite and minor quartzite; mainly thin to very thin bedded; some soft sediment deformation; bedding/core = 86 deg; rare disseminated pyrrhotite.
	Base of Fringe marker at 1135.0 m.
1135.4 – 1141.9	Siltstone; medium to thick bedded; bedding indistinct; silicified; white albite, garnet, biotite concretions; rare disseminated pyrrhotite.
1141.9 – 1146.1	Argillite interbedded with siltstone and silty argillite; thin to very thin bedded; sharp bedding contacts; fine biotite; rare disseminated pyrrhotite.
1146.1 – 1150.4	Siltstone interbedded with argillite; medium bedded to thick bedded; minor very thin bedded; distinct bedding planes; biotite throughout; rare disseminated pyrrhotite.
1150.4 – 1159.9	Siltstone interbedded with argillite; thin to very thin bedded; argillite is finely laminated; some soft sediment structures; weakly disseminated pyrrhotite.
1159.9 – 1171.6	Siltstone interbedded with argillite; medium bedded to thick bedded; fine grained turbidites with argillite tops; biotite throughout; late silicification; overprinted by albite, biotite and garnet concretions; weakly disseminated pyrrhotite; 1169 m: smoky quartz, biotite veins with blebs of pyrrhotite cut core at 10 deg.
1171.6 – 1175.6	Siltstone interbedded with silty argillite and argillite; thin to very thin bedded; sharp bedding contacts; parallel laminations and cross-beds in argillite; biotite throughout; weakly disseminated pyrrhotite; quartz-biotite-pyrrhotite vein at 1173.8 meters.
1175.6 – 1182.8	Quartzite interbedded with siltstone and minor argillite; medium to thick bedded; common flame and load cast structures typical of turbidite beds; some amalgamated? turbidite beds up to 2.8 m thick; late albitic concretions; minor to rare disseminated pyrrhotite; 20 cm quartz vein at 1190.9 cuts core at 7 deg.

1182.8 – 1193.0 Siltstone interbedded with silty argillite and argillite; medium bedded to thin bedded; weak disseminated pyrrhotite.

1193.0 – 1198.0 Siltstone interbedded with argillite; medium bedded to thick bedded; distinct wavy bedding planes; typical turbidite beds with argillite tops; alteration as above with albitic-(biotite-pyrrhotite) concretions.

1198.0 – 1203.2 Siltstone interbedded with argillite and silty argillite; irregular banded grey, brownish grey and dark grey; medium bedded to thin bedded; biotite throughout; concretions common; rare disseminated pyrrhotite.

1203.3 – 1205.3 Quartzite; bluish grey; thick to very thick bedded; scattered pink garnet and sericite; rare disseminated pyrrhotite.

1205.3 – 1216.6 Siltstone interbedded with argillite; medium bedded to thin bedded; some very thin bedded; typical graded (fining-upward) turbidite beds; slump structures in argillite beds; also parallel laminated; fine biotite throughout; rare albite concretions; rare 1 cm layer-parallel quartz vein with chlorite, pyrrhotite and trace sphalerite.

1216.6 – 1220.7 Siltstone interbedded with argillite; medium bedded to thick bedded; rare garnet; rare disseminated pyrrhotite.

1220.7 – 1234.0 Siltstone interbedded with silty argillite and argillite; medium bedded to thin bedded; sharp, flat bedding planes; soft sediment deformation common in argillaceous beds; siltstones are typical graded turbidite beds;

1222.4 – 1230.0 m: typical Lower Aldridge-type sedimentation.

1234.0 – 1245.4 Quartzite; light grey; medium bedded to thick bedded; typically medium to fine grained; minor disseminated biotite; albitic concretions as above; trace disseminated pyrrhotite.

1245.4 – 1256.0 Siltstone interbedded with argillite and silty argillite; medium bedded to thin bedded; slumping in argillite beds; flames and load casts at bases of siltstone beds; typically graded; fine biotite throughout; weakly disseminated pyrrhotite throughout, and pyrrhotite in rare lamellae; pyrrhotite with trace chalcopyrite also occurs in rare bedding parallel quartz-biotite veins to 1 cm thick.

1256.0 – 1259.2 Quartzite; medium bedded to thick bedded; typical turbidites; silicified; albitic concretions; disseminated pyrrhotite in scattered patches.

1259.2 – 1269.3 Siltstone interbedded with argillite and silty argillite; medium bedded to thin bedded; rare thick beds; typical slump structures in argillite beds; rip-up clasts occur in siltstone; fine biotite

throughout; weakly disseminated pyrrhotite; widely scattered, rare quartz (-pyrrhotite) veins parallel bedding.

1269.3 – 1275.0 Siltstone; medium bedded to thick bedded; flame structures at bases of beds; argillite tops occur on some beds; bedding/core = 86°; fine biotite throughout; large albite concretions with quartz cores and abundant pink garnet and disseminated black biotite; disseminated pyrrhotite in concretions.

1275.0 – 1289.0 Siltstone interbedded with argillite, silty argillite; medium bedded to thin bedded; siltstone beds are medium grained to fine grained; commonly graded; biotite throughout; rare concretions; weakly disseminated pyrrhotite; also paper-thin pyrrhotite lamellae.

1289.0 – 1295.0 Quartzite interbedded with siltstone and argillite; medium bedded to thick bedded; very thin bedded argillite sequences; silicified and sericitic; widely disseminated pyrrhotite; 1289.0 – 1289.5: 5 cm crackle breccia zone parallel to bedding with quartz, chlorite, pyrrhotite and sphalerite.

1295.0 – 1301.7 Argillite interbedded with silty argillite and siltstone; thin bedded to very thin bedded; argillite beds commonly distorted; rip-up clasts common in siltstone; finely disseminated biotite throughout; pyrrhotite occurs disseminated in siltstone and argillite.

1301.7 – 1314.0 Siltstone; medium bedded to thick bedded; bedding is indistinct and wavy; typical turbidite beds; fine biotite throughout; late concretions; pyrrhotite most abundant in concretions; rare quartz veins with pyrrhotite and chalcopyrite parallel bedding.

1314.0 – 1323.7 Siltstone interbedded with argillite and silty argillite; medium bedded to thin bedded; some laminated argillite sequences; ball and pillow, boudinaged and slump folds may occur in thin argillaceous beds; biotite throughout; quartz (-pyrrhotite) vein parallel to bedding at 1321.5 m.

1323.7 – 1333.0 Siltstone beds with argillite tops; medium bedded to thick bedded, rare thin bedded; beds indistinct and wavy; argillite typically strongly deformed; rare quartz vein with pyrrhotite and trace chalcopyrite.

1333.0 – 1336.0 Argillite interbedded with silty argillite and siltstone; thin bedded to very thin bedded; rare thick beds; argillite is finely laminated; biotite; rare disseminated pyrrhotite.

1336.0 – 1340.0 Siltstone, interbedded argillite; medium bedded to thick bedded; generally fine grained; typical turbidite beds; scattered blebs of pyrrhotite; locally (1336.2 m) alteration zone with 25% pyrrhotite.

1340.0 – 1345.0	Siltstone interbedded with silty argillite; medium bedded to thin bedded; mainly flat, sharp bedding planes; finely laminated; graded beds; biotite throughout; rare bedding parallel quartz-biotite-pyrrhotite veins.
1345.0 – 1349.0	Argillite interbedded with silty argillite and siltstone; thin bedded to very thin bedded; some widely scattered massive pyrrhotite veinlets cut core at 30°.
1349.0 – 1356.0	Siltstone interbedded with argillite; medium bedded to thin bedded; some cross-beds; soft-sediment structures; fine biotite; rare disseminated pyrrhotite.
1356.0 – 1361.0	Siltstone interbedded with silty argillite; banded light and brownish grey; thin bedded to very thin bedded; distinct bedding planes; typically graded; some cross-beds; weakly disseminated pyrrhotite.
1361.0 – 1368.8	Siltstone interbedded with silty argillite and argillite; medium bedded to thin bedded; thin bedded quartzite at 1361.0 – 1363.2; bedding/core = 85°; biotite throughout; rare quartz tension cracks cut core at 5°; these locally contain pyrrhotite and rare chalcopyrite.
1368.8 – 1405.0	Siltstone interbedded with argillite, silty argillite; rare quartzite; generally medium bedded to thin bedded; some thin bedded silty argillite; minor disseminated pyrrhotite.
1405.0 – 1544.4	Gabbro sill; upper and lower contacts parallel core; medium to coarse grained; dominantly amphibole and plagioclase; 1460.0: 3.4 m fault zone cuts core at 45-50°; consists of sheared gabbro with abundant finely disseminated pyrite, less pyrrhotite, and rare chalcopyrite; 1484.3 – 1478.8: thin quartz veins with chlorite and rare pyrite.
1544.4 – 1546.3	Silty argillite interbedded with siltstone; thin bedded to very thin bedded; bedding planes are distinct, flat to locally wavy; bedding/core = 80°; biotite throughout; minor disseminated pyrrhotite.

End of hole at 1546.3 meters.