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Klondike Gold Corp.
Suite 711 675 W. Hastings Street
Vancouver, B.C.
V6B 1N2

**Geology of the McNeil Creek area,
Fort Steele Mining Division,
Cranbrook area
Southeastern British Columbia**

NTS 082F/8 and 082G5/W: 49°20'N; 115°59'W

(Phantom 1, Mar 3, MCL 54, 55, 56, 57 and RNG 1)

Claim owners: F. O'Grady and Sedex Mining Corp.
Operator: Klondike Gold Corp.

by:

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and

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December 13, 2002

GEOLOGICAL SURVEY BRANCH
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**Geology of the McNeil Creek area,
Fort Steele Mining Division, Cranbrook area
Southeastern British Columbia**

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**Geology of the McNeil Creek area,
Fort Steele Mining Division,
Cranbrook area, Southeastern British Columbia**

Introduction

The claim area lies within the Purcell Mountains approximately 25 kilometers southwest of Cranbrook in southeastern British Columbia (Figure 1).

Most of the claim group lies east of McNeil Creek and south of the Moyie River. The area is readily accessible by a network of logging roads that extend south from the main Moyie River road.

Topography throughout the area is moderate, with relief ranging from approximately 1400 meters in the McNeil Creek valley in the west to 2100 meters near the center of the claim group. 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 above approximately 2000 meters.

The claims include Phantom 1, Mar 3, MCL 54, MCL55, MCL56, MCL57 and RNG 1, owned by F. O'Grady. and Sedex Mining Corp (Figure 2). These claims were grouped on September 11, 2002.

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. The area has been mapped at 1:50,000 scale by Höy and Diakow (1982) and more recently by Brown (1998). A large area, including the McNeil Creek area, was staked by Sedex Mining Corp. from 1994 through to 1997. The property was optioned to Kennecott in early 1997, and an exploration program including geological mapping, gravity, soil geochemical, and magnetic geophysical surveys was conducted in 1996 and 1997.

A number of shallow (several hundred meter) holes were drilled near the center of the claim group in 1988, including a deep hole (DDH M88-7) that penetrated through to the most prospective horizon, the Sullivan horizon, at a depth of approximately 825 meters. A second deep hole south of M88-7 was drilled by Sedex Mining Corp. in 2000 (DDH M-00-1). It also intersected the Sullivan horizon, at a depth of approximately 510 meters. Both these holes had anomalous thicknesses of Sullivan horizon stratigraphy as well as anomalous base metal concentrations. DDH M88-7 intersected approximately 24 meters of argillite and argillaceous siltstone, including a 6-meter interval that assayed 230 ppm Zn and 27 ppm Pb, and DDH M-00-1 intersected 74 meters of similar rock, with a 4-meter interval of 324 ppm Zn and 110 ppm Pb.

Work this past summer by Klondike Gold and Super Group Holdings consisted of geological mapping with the primary aim of identifying key marker units throughout the area (see Figure 3).

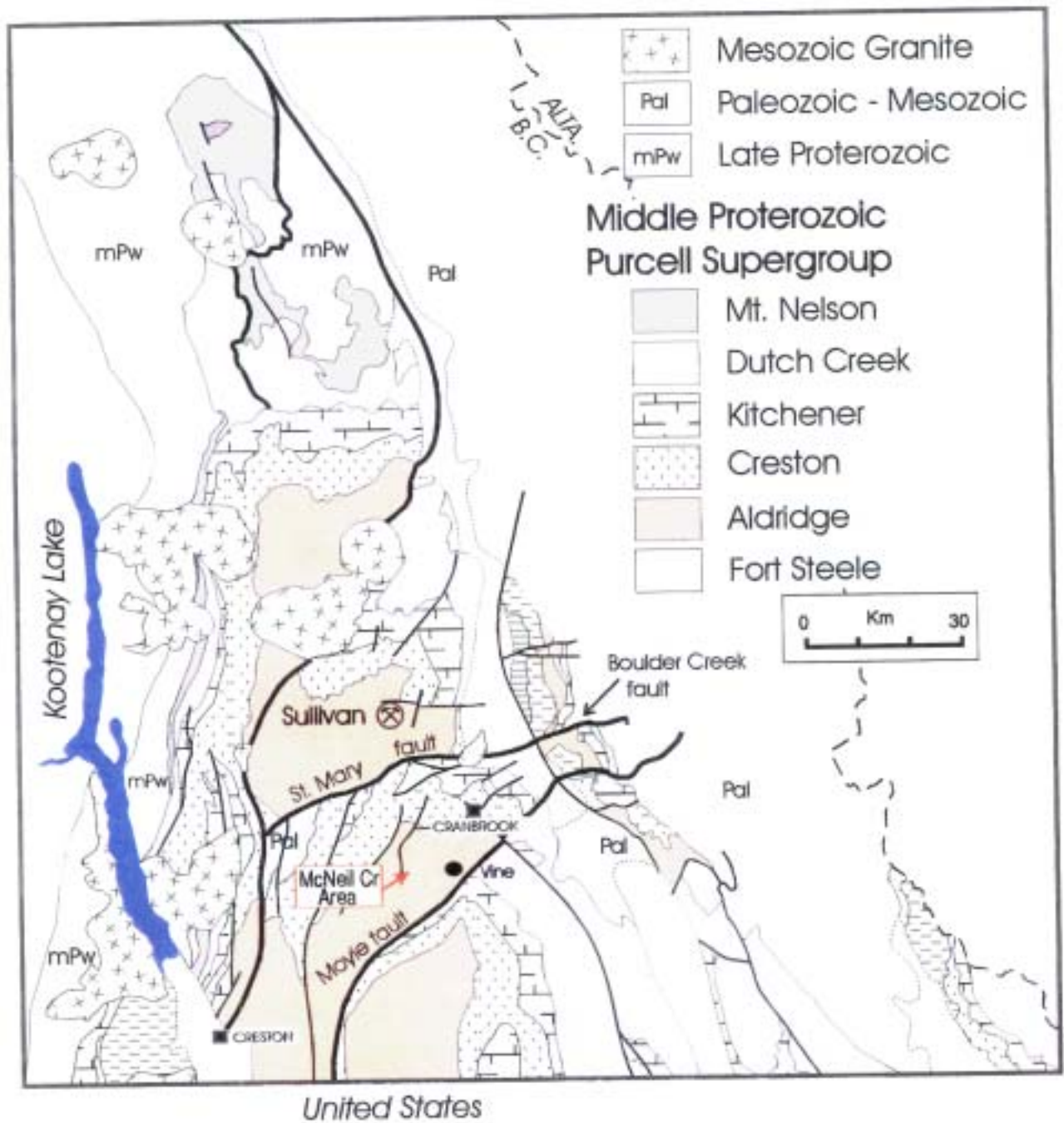


Figure 1: General location map showing regional geology

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 McNeil Creek area is entirely underlain by the Aldridge Formation (Figure 3). Lower Aldridge Formation is exposed in the southern part of the area, and Middle Aldridge throughout most of the claim area. A number of Moyie sills cut Lower Aldridge stratigraphy just south of the claim area, and a prominent sill, referred to as the Hiawatha sill, cuts Middle Aldridge stratigraphy throughout the claim area.

Stratigraphy

The Lower Aldridge comprises thin-bedded, typically rusty-weathering siltstone and argillaceous siltstone. A sequence of thicker bedded quartzitic units, similar to those that dominate the Middle Aldridge, occur within the Lower Aldridge succession just

south of the claim area. 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 were identified in the claim area. 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 provide a better understanding of the structure of the area and allow estimates of depth to the Sullivan horizon at the Lower-Middle Aldridge contact. The Hiawatha marker was recognized in outcrop along the east margin of the claim area, just north of the most northern gabbroic sill. It was also recognized farther southwest, south of this intrusion, indicating that the intrusion is cutting stratigraphy at a shallow angle to the northeast. The stratigraphically higher Munroe marker was identified approximately 1 kilometer north of the Hiawatha marker. One exposure of the Falls marker was also discovered (Figure 3). Farther north, near the Moyie River valley, the Sundown marker confirms the interpretation that the stratigraphy is essentially homoclinal, younging to the north.

Recognition of these markers in the two deep drill holes, and correlation of the Hiawatha sill in drill sections to the southwest, allows correlation of these drill intersections. These are shown in Figure 4. DDH L80-1 was initially drilled by Cominco Ltd. in the Lewis Creek valley southwest of the claim area. It was extended by Sedex Mining Corp. in 1999 but, as indicated in Figure 4, was stopped well short of Sullivan time. DDH SMC 95-1 is located 6 kilometers due west of the claim area; it was drilled by Sedex Mining Corp. in 1995 and intersected approximately 17 meters of laminated argillaceous siltstone at Sullivan time, with 1 meter intersections containing up to 1471 ppm Zn and 782 ppm lead.

Structure

The area lies between the Moyie thrust fault in the south and the Moyie River normal fault in the north. The area is cut by a number of late north-trending faults, with probable west-side down displacement. The most prominent of these, the McNeil fault, follows approximately McNeil Creek along the western edge of the area. In the south, the McNeil fault cuts several northwest-trending faults; these have inferred south-side down displacement of several hundred meters.

A broad, northeast-trending syncline dominates the structure of the immediate area. Aldridge stratigraphy in the southeast limb dips at low angles to the north whereas in the west limb, stratigraphy dips to the northeast. A Moyie sill clearly defines this fold closure in the claim area.

Mineralization

A number of lead-zinc-silver veins occur near the center of the claim group. These and stratabound mineralization were the focus of considerable exploration and

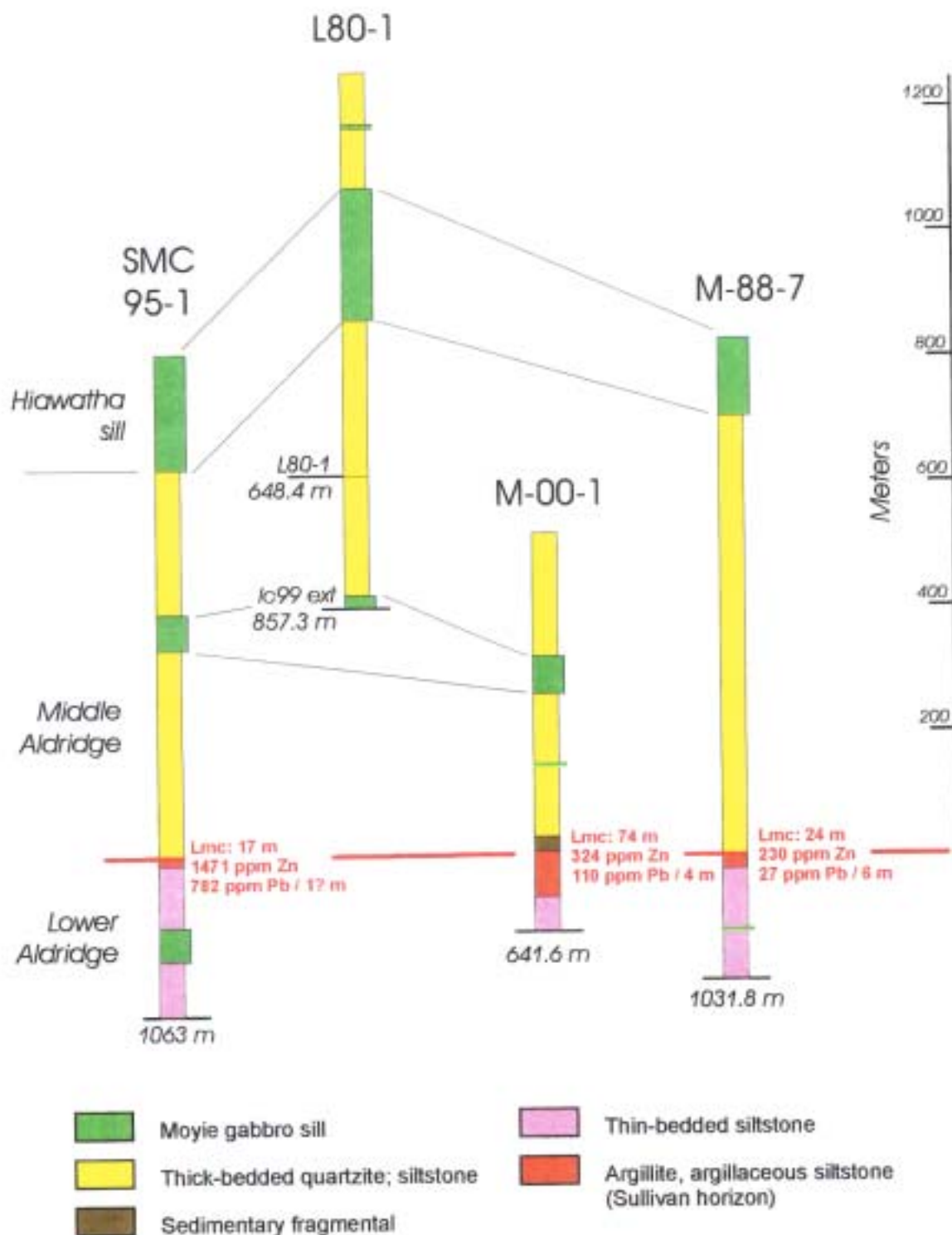


Figure 4: Correlation of drill intersections from McNeil Creek area to those in the Moyie West block: drill hole locations: SMC95-1: 565579E, 5465432N; L80-1: 5679400E, 5460980N; M 00-1: 572820E, 4564430N; M 88-7: 572920E, 5467350N.

drilling carried out on the claim group by South Kootenay Goldfields Inc. in the late 1980s.

The McNeil occurrence (Minfile Nos. 082FSE109 and 082GSW024) consists of a series of mineralized quartz veins near the contact of the Hiwatha gabbro sill and Middle Aldridge metasediments. The veins range in thickness up to 1.5 meters, and contain galena, chalcopyrite, sphalerite and pyrite in mainly a quartz-chlorite gangue (Assessment report 19989).

Discussion and summary

The current exploration in the McNeil Creek area targets mainly stratabound Sullivan style mineralization. Re-evaluation of the area has identified a number of key marker units that allow correlation of the stratigraphic succession with the Sullivan succession to the north. This has allowed construction of a geological map that can be used to determine depth to the Sullivan horizon throughout the area.

Correlation of two deep drill holes in the area to holes drilled to the west allows comparisons of the Sullivan horizon. Both holes have anomalous concentrations of base metals at the Sullivan horizon, and one hole (M-00-1) contains a very thick laminated argillite-siltstone package at Sullivan time. This suggests that the McNeil Creek area may be within a third-order structural basin. Furthermore, comparison with other basins in the Purcell Supergroup, including the Sullivan-North Star graben, suggests that the McNeil Creek basin may trend northerly, parallel to the considerably younger McNeil Creek fault.

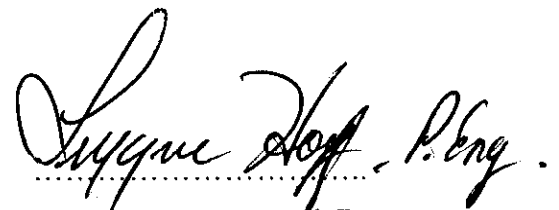
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Statement of qualifications: Trygve Höy

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.



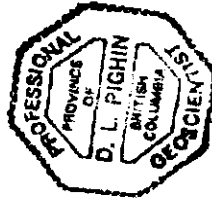
Trygve Höy, P.Eng, Ph.D.
Project geologist
December 13, 2002


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

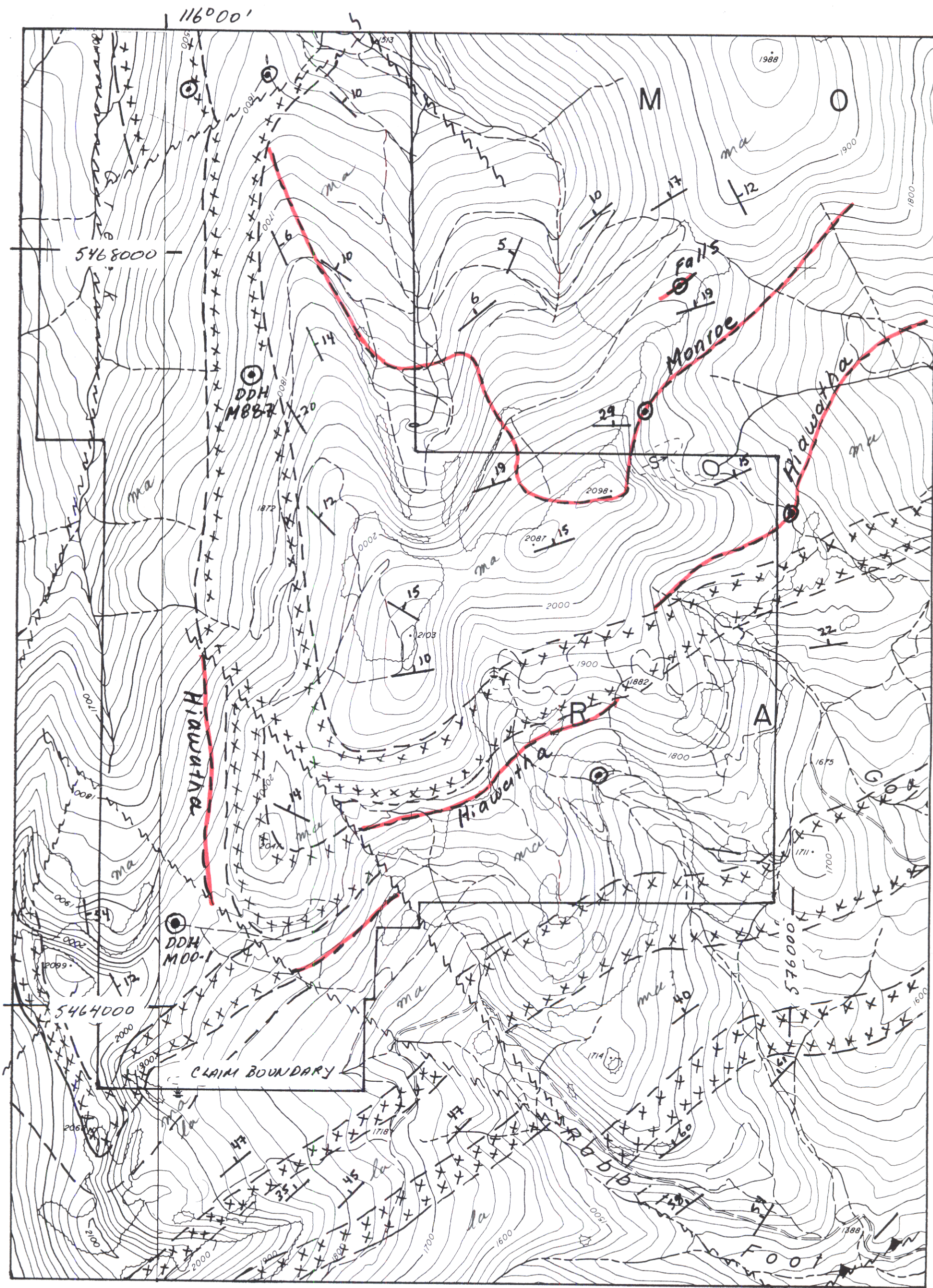
1. I am a project geologist with Super Group Holdings Ltd., 1805 13th Ave S., Cranbrook, B.C., V1C 5Y1.
2. I am a registered member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
3. I have practiced my profession as a geologist for approximately 35 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 Høy.




Dave Pighin
Exploration geologist
December 13, 2002

Statement of expenditures

Wages:	
Trygve Høy (geologist): 1 field day at \$400.00 per day.....	\$400.00
Dave Pighin (geologist): 5 field days (including marker identification) at \$330.00 per day.....	\$1650.00
Truck: 6 days at \$55.00 day.....	\$330.00
Report preparation.....	\$800.00
Total.....	\$3180.00



**Geology of the McNeil Creek area
Southeastern British Columbia
NTS 82F/8E and 82G/5W**

Geology by:
D.A. Pighin, T.Hoy
and references cited below:
(Hoy and Diakow, 1982; Brown, 1998)

Scale: 1:20,000

1 Km

Legend

Middle Proterozoic

xxx Moyie sill - gabbro

ma Middle Aldridge - thick-bedded
wacke, quartzite, siltstone

la Lower Aldridge - thin-bedded
siltstone, argillite

—●— stratigraphic marker location
— bedding

↗ ↘ fault, normal, thrust

⊙ diamond drill hole location



