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VANCOUVER B.C.

ASSESSMENT REPORT
on
DIAMOND DRILLING

McNEIL PROPERTY

Rabbit Foot Creek Area

FORT STEELE MINING DIVISION

NTS 82 G/5 W
TRIM 82G.031

UTM 5,465,000N 574000E

For

NATIONAL GOLD CORPORATION

By

PETER KLEWCHUK, P. Geo.

December, 2000

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

26,402

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1.00 INTRODUCTION

This report describes a program of diamond drilling completed on the McNeil property in the Rabbit Foot Creek drainage (tributary of Lamb Creek) during July, 2000.

1.10 Location and Access

The McNeil property, which includes the Claims is located about 20 to 25 kilometers southwest of Cranbrook, B.C., and is centered approximately at UTM coordinates 574000E, 5465000N (Fig. 1).

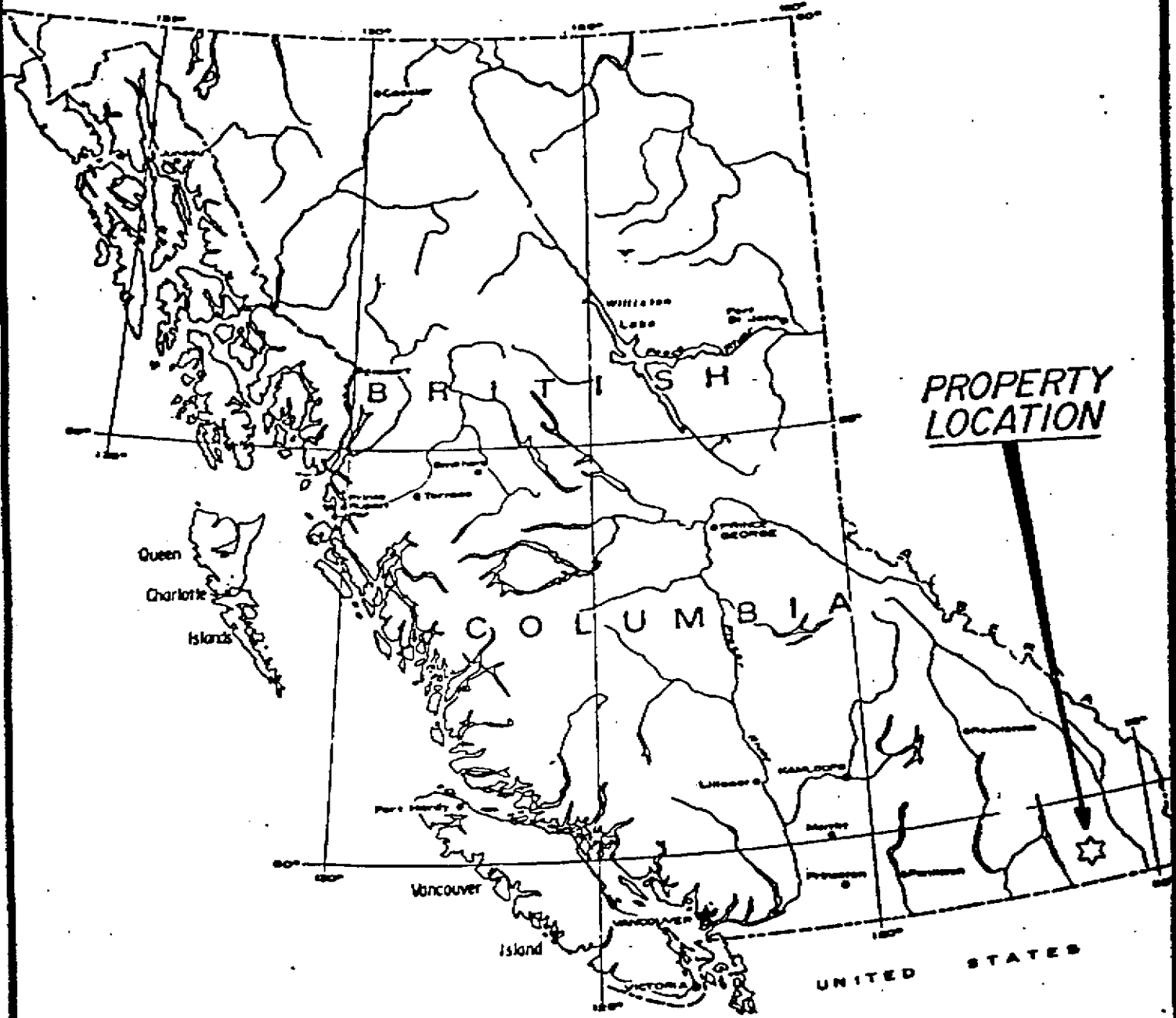
The property is readily accessible by road. The northern part of the property can be reached by taking the Lumberton Forest Service road which leaves Highway 3/95 approximately 11 km south of Cranbrook, and then the Semlin Creek and McNeil Creek Forest Service roads. The southern part of the property is accessible off the Monroe Lake / Lamb Creek Forest Service road which leaves Highway 3/95 approximately 18 km south of Cranbrook. The site of the drill hole reported on here is accessed by taking the Rabbit Foot Creek Forest Service road which leaves the Lamb Creek road at ~8.5 km. Logging activity on the southern part of the property occurred some time ago and the tributary roads here are in a deteriorated state.

1.20 Physiography

The McNeil property is located in the Purcell Range of the Columbia Mountains. Topography is moderately rugged with glacially rounded slopes; elevations range from 1370 to 2100 meters. Forest cover consists of Douglas fir, pine and larch at lower elevations with balsam and alpine fir at higher elevations. Forest fires which occurred in the past 60 years have resulted in local dense stands of immature Lodgepole pine. Parts of these stands have been bulldozed and burned and the cleared areas planted by the Ministry of Forests in the mid 1980's. Large portions of the McNeil property have been clear-cut logged, to elevations as high as 2000 meters.

1.30 Property

The McNeil property is comprised of 299 claim units with 14 four-post claims and 54 two-post claims (Fig. 2). Included claims are: Lewis 1 to 11, Moyie 7 to 10, 15 to 17, 22 to 24, 27, 50 and Moyie 9 Fr, Henny 1 to 8, MCL 38 to 57, RNG 1, PP 1 to 10, GMC 5 & 6, and Mar 3.



M^CNEIL CREEK PROPERTY

FORT STEEL MINING DIVISION
LOCATION MAP

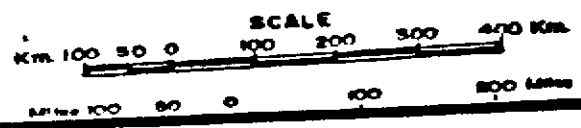


FIG. 1

1.40 History of Previous Exploration

Logging activity exposed lead and zinc-mineralized quartz veins on what is now the McNeil property in the late 1970's; prospector Ed Frost made the initial discovery in 1979. That year the St. Eugene Mining Co. (Falconbridge Ltd.) conducted a geochemical survey on the property (Assessment Report 7660 by J.R. Wilson, Oct. 30, 1979). During the next few years Frost trenched and sampled the veins.

In 1988 the McNeil property was optioned to South Kootenay Goldfields Inc. who drilled a number of holes on vein, stratiform sedex and geophysical targets (Lloyd, 1988, AR 18,117; Bapty and Klewchuk, 1989, AR 19277; Daignault et al, 1990, AR 19,989).

1.50 2000 Program

In July, 2000 a single diamond drill hole was completed on the MCL 57 mineral claim in the upper part of Rabbit Foot Creek. The hole was drilled to test the lower-middle Aldridge Formation contact, stratigraphy that hosts the world-class Sullivan SEDEX zinc-lead-silver deposit just north of Kimberley, B.C.

2.00 GEOLOGY

2.10 Regional Geology

Bedrock on the McNeil property is part of the Mesoproterozoic Purcell Supergroup, a thick succession of fine-grained terrigenous clastic and carbonate sedimentary rocks exposed in the core of the Purcell Anticlinorium in southeast British Columbia. The Purcell basin was formed by block faulting in an intracratonic setting on the western margin of the Precambrian North American Craton.

The oldest known member of the Purcell Supergroup is the Aldridge Formation, a thick sequence of fine-grained siliciclastic rocks deposited largely by turbidity currents. Reesor (1958) has divided the Aldridge Formation in the Purcell Mountains into three informal units: rusty weathering siltstone, quartzitic wacke and argillite of the lower Aldridge Formation; grey weathering quartz wacke and siltstone of the middle Aldridge Formation; and laminated argillite of the upper Aldridge Formation.

The lower Aldridge Formation, whose base is not exposed, has a maximum known thickness of about 1500 meters within southeastern British Columbia. The middle Aldridge is about 2500 meters thick and includes periodic inter-turbidite intervals of thin bedded, rusty-weathering argillites some of which form finely laminated marker beds that are time stratigraphic units and which can be correlated over great distances within the Aldridge basin and equivalent

stratigraphy in the United States. The upper Aldridge Formation is about 300 meters thick.

The lower and middle units of the Aldridge Formation are host to a proliferation of gabbroic to dioritic composition Moyie Intrusions, predominantly as sills. These intrusions are interpreted to be penecontemporaneous with deposition of their host sediments (Hoy, 1989).

The Aldridge Formation is gradationally overlain by shallower-water deltaic clastics of the Creston Formation. The Creston Formation is in turn overlain by predominantly dolomitic siltstones of the Kitchener Formation.

The Purcell Anticlinorium is transected by a number of steep transverse and longitudinal faults. The transverse faults appear to have been syndepositional (Lis and Price, 1976) and Hoy (1982) suggests a possible genetic link between sedex style base metal mineralization and syndepositional faulting.

Longitudinal faults which more closely parallel the direction of basin growth faults may have played a similar role. The world class zinc-lead-silver SEDEX Sullivan orebody, which occurs at the upper contact of the lower Aldridge Formation, is part of a NNE oriented structural corridor that hosts extensive evidence of disturbed sedimentation and hydrothermal vent products as well as base metal sulfides. This corridor is parallel to longitudinal basin growth faults and is probably related to such a structure.

2.20 Property Geology

The McNeil property is underlain by the lower and middle informal members of the Aldridge Formation. Bedrock exposure is limited to about 15% of the surface area and consists of argillites, siltstones and quartz wackes, along with a series of gabbroic intrusions which appear to be mainly sills. Mapping by Hoy and Diakow (1982) has defined a gently NNE-plunging syncline which is centered in the south part of the property.

Lower Aldridge Formation rocks have been mapped on the east limb of the syncline, immediately east of the northeast-trending Moyie Fault. The lower-middle Aldridge contact is projected by Hoy and Diakow (1982) to subcrop in the extreme southeast corner of the claim block. This contact, which hosts the Sullivan orebody at Kimberley, should be present across all of the property at depths ranging up to about 1500 meters.

The west limb of the syncline is cut by the north-trending McNeil Creek Fault, a major steeply west-dipping normal fault with vertical displacement in the order of 1000 meters. The east limb of the McNeil syncline is cut by the northwest-trending Little Lamb Creek Fault just east of the McNeil property. This near-vertical fault is east side down with vertical displacement in the order of 300 meters. A fault of similar orientation occurs across the southwest corner of the McNeil property extending into Rabbit Foot Creek. This fault is inferred

to be of similar east-side down movement but with minimal displacement.

South of the McNeil property, the Aldridge Formation is cut by the major regional northeast-trending Moyie Fault which juxtaposes Precambrian Kitchener Formation rocks on the south against lower Aldridge Formation rocks on the north, giving a vertical displacement of over 5000 meters in this area.

3.00 DIAMOND DRILLING

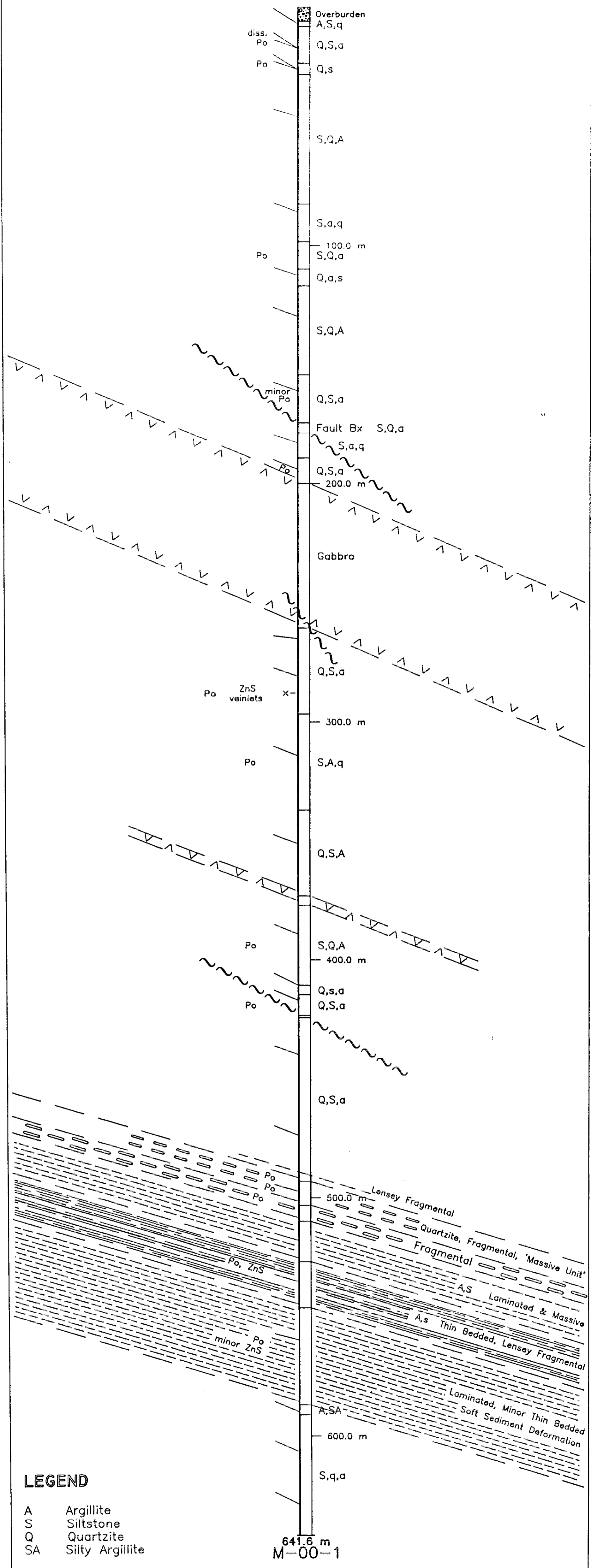
3.10 Introduction

Diamond drill hole M-00-1 was drilled to test "lower-middle Aldridge contact" stratigraphy in an area of the property where favorable alteration had been earlier identified by surface prospecting. The vertical hole, NQ in size (7.3 cm in diameter) was collared on the MCL 57 mineral claim July 10, 2000 and completed to 641.6 meters on July 26. The hole is located approximately at UTM coordinates 572820E, 5464430 N and an elevation of 1960 meters (Fig. 2). Drilling was carried out by LeClerc Diamond Drilling Ltd. of Cranbrook B.C. The program was funded by National Gold Corporation of Vancouver, B.C. Drill core was logged by the author and is stored at Vine Properties, off Hidden Valley road, 19 km south of Cranbrook, B.C. A diamond drill hole log is provided as Appendix 1 and Figure 3 is a graphic log .

3.20 Results

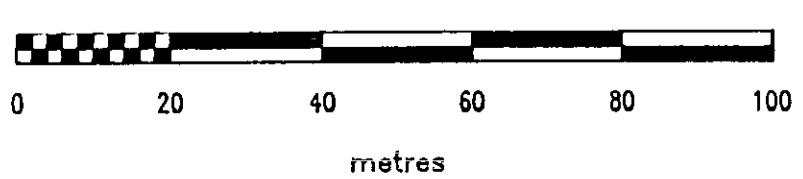
Drill hole M-00-1 collared in middle Aldridge Formation rocks after penetrating 6.1 meters of overburden. Middle Aldridge Formation lithologies encountered are typical siltstones, quartzites and argillites, commonly medium and thin bedded with some thicker-bedded quartzites. Bedding style is common for the Aldridge with mostly planar bedding. Two intrusive gabbro bodies were encountered, from 200.0 m to 259.9 m and from 373.0 to 376.6 m (Appendix 1 and Figure 3). From contact relationships, these are both interpreted to be sills. Proximal middle Aldridge Formation stratigraphy is only weakly altered at sill margins.

At 493.0 m the hole encountered a quartzite / fragmental package which is developed in the hangingwall of the "lower-middle Aldridge contact" stratigraphy. Minor sulfides are present within this fragmental. Between 509.8 m and 587.1 m the hole passed through a relatively thick interval of laminated to thin bedded argillites, silty argillites and minor siltstones which represents the lower-middle Aldridge contact. Minor sulfides, including scattered sphalerite, are present in this interval.



LEGEND

- A Argillite
 - S Siltstone
 - Q Quartzite
 - SA Silty Argillite
- a,s,q minor component



MCNEIL PROPERTY

DDH M-00-1
Graphic Drill Log
Figure 3

Drawn by: P. Kiewchuk	Date: Dec. 5, 2000.
Drafted by: REA	Scale: 1:1,000

The lower portion of the hole, to the final depth of 641.6 m, consists of thin and medium bedded siltstone, argillite, minor quartzite and rare fragmental, and is interpreted to be lower Aldridge Formation stratigraphy.

Three bedding-parallel and sub-parallel minor faults were encountered in the middle Aldridge stratigraphy (see Figure 3 and Appendix 1). Numerous narrow (cm to mm scale) bedding-parallel crush zones are interpreted to be minor bedding-parallel slips.

Patchy, relatively weak alteration through most of the drill hole includes albitization, mainly in bedding-parallel zones which are probably concretionary in character; these commonly contain minor biotite, chlorite, pink garnet and sometimes pyrrhotite and / or pyrite. Bleaching in the form of silicification and sericitic alteration is present through much of the hole and is usually developed along healed fractures. Concentrations of small dark brown tourmaline needles are developed with some quartz veins and in altered argillaceous zones in the lower part of the drill hole.

4.00 CONCLUSIONS AND RECOMMENDATIONS

Diamond drill hole M-00-1 successfully tested the lower-middle Aldridge Formation contact, stratigraphy which at Kimberley hosts the world-class Sullivan SEDEX zinc-lead-silver orebody. The strata which characterizes this contact is thicker in drill hole M-00-1 than in previous drill holes that intersected this strata on the McNeil property.

Although drilled in an area where gabbroic intrusions appear more common near the lower-middle Aldridge Formation contact at surface, DDH M-00-1 only encountered two gabbro sills, both within the middle Aldridge.

Base metal concentrations in the lower-middle Aldridge Formation contact stratigraphy is very low however the thick intersection of this stratigraphy in drill hole M-00-1 is a favorable indication that the sea-floor environment had some complexity to it. This evident basin complexity supports the opportunity for base metal to be concentrated at the lower-middle Aldridge contact elsewhere on or near the McNeil property. Furthermore, the gabbros which on surface are present close to the lower-middle Aldridge contact but in DDH M-00-1 are only in the middle Aldridge, support complexities in structure which may be favorable for proximal concentration of base metal sulfides.

5.00 REFERENCES

- Bapty, M., and Klewchuk, P., 1988 Summary of the geological, geochemical, geophysical, diamond drilling and physical work programs on the McNeil Creek property, Fort Steele Mining Division. British Columbia Ministry of Mines Assessment Report 19,277.
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- Lloyd, J., 1988 A geophysical report on a ground magnetometer, VLF-EM and horizontal loop EM survey on the McNeil Creek property, Fort Steele Mining Division, B. C. British Columbia Ministry of Mines Assessment Report 18,117.
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6.00 STATEMENT OF EXPENDITURES

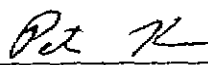
Drill Contractor: LeClerc Drilling Ltd., Cranbrook, B.C. One hole, DDH M-00-1, 641.6m	\$43,987.75
Contractors: Super Group Holdings Ltd. P. Klewchuk, P. Geo. 19 days @ \$330.00/day Site preparation, -drill supervision, haul core, log core	6,270.00
B. Collison, Labourer 8 days @ \$198.00/day Haul core, Prepare and sample core	1,584.00
Transportation: 10 days @ \$45/day + 1346.6 km @ \$0.35/km	741.13
Total Cost	\$52,583.06

7.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, B.C.
2. I am a graduate geologist with a B.Sc. degree (1969) from the University of British Columbia and an M.Sc. degree (1972) from the University of Calgary.
3. I am a Fellow of the Geological Association of Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 26 years.
5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 8th day of December, 2000.



 Peter Klewchuk
 P. Geo.

Appendix I. DIAMOND DRILL LOG

Property: McNeil **Hole Number:** M-00-1 **Depth:** 641.6m
Core Size: NQ **Location:** 572820E 5464430N **Elevation:** 1960m
Collar Bearing: - **Collar Dip:** -90° **Casing:** 6.1m
Commenced: July 10, 2000 **Completed:** July 26, 2000 **Core Storage:** Vine
Logged By: P. Klewchuk, P. Geo. **Date:** July 13-31, 2000
Drill Contractor: LeClerc Drilling Ltd., Cranbrook, B.C.

Depth, m

From To

Description

- 6.1 8.2 ARGILLITE & SILTSTONE, minor QUARTZITE
 Medium gray to medium and dark blue-gray. Thin bedded, few medium thick beds, bedding at 65° to core axis (c/a). Mostly planar bedded, minor lensey bedding. Few bedding-parallel fractures, typically at 40° to c/a. One cm wide chloritic shear at 7.9m. at 25° to c/a. Limonitic oxidation from surface weathering.
- 8.2 23.8 QUARTZITE & SILTSTONE, minor ARGILLITE
 Mainly medium to dark blue-gray, locally lighter gray-green. Medium and thin bedded, bedding typically at 70° to c/a. mostly planar-bedded, rarely wavy. Scattered bedding-parallel fractures with a few as steep as 20° to c/a. Healed breccia at 15.4m in narrow zones over 20 cm of core, with fracture-displaced bedding planes, angular clasts (mostly sub-cm size), light gray-green sericite-altered. Pervasive silicification is present on healed fractures, locally with minor biotite, pyrrhotite. Patchy bedding-parallel light gray-green sericite (+/- chlorite) alteration in zones up to ~15cm wide. Few patches (concretions?) of light gray albite-biotite-garnet alteration up to 15 cm wide. Minor dissem. po is present locally.
- 23.8 28.55 QUARTZITE, minor SILTSTONE
 Mainly medium-dark blue-gray. Medium bedded, few thick and thin beds. Bedding at 65° - 80° to c/a. Few lensey, bedding-parallel clasts. A few bedding-parallel fractures are present, along with a few high-angle fractures at 0° to 20° to c/a. Weak pervasive silicification (+sericite?) Along healed fractures, pale gray-green color. One irregular quartz vein at 26.8m with coarse irregular patchy po, very minor cpy, minor biotite.
- 28.55 82.0 SILTSTONE, QUARTZITE & ARGILLITE: mixed lithologies
 Mainly medium to dark blue-gray, locally brownish, locally lighter gray-green. Medium and thin bedded. Mainly planar-bedded, locally wavy. Flaser bedding, flame structures and rounded lensey rip-up clasts are present. Fracturing includes bedding-parallel fractures and a few higher-angled fractures at 0° to 20° to c/a. At

45.1m, 5mm wide quartz vein/fracture at 15° to c/a. 61.8-62.35 is broken, rubbly core with fractures at ~5° to 20° to c/a, brecciation and calcite matrix - a minor fault zone.. Scattered thin quartz veins are commonly at 15° to 30° to c/a. Weak pale bleaching/silicification on healed fractures. Rare small patches of albitization with minor disseminated biotite and chlorite. Local disseminated pink garnets. Quartz veins commonly carry minor chlorite.

- 82.0-98.5 SILTSTONE, minor ARGILLITE, minor QUARTZITE
 Mainly dark blue-gray with medium-light gray beds. Thin and medium bedded. Bedding at 65° to c/a, mainly planar bedded. Small lode cast structures and flame structures locally. Fractures are most commonly bedding-parallel, with a few at ~40° to c/a, mainly chloritic, few with pyrite. Pervasive weak to moderate silicification exists as pale gray and gray-green bleaching, along healed cross-cutting fractures and thin bedding-parallel lensey bands. Isolated bedding-parallel patches (concretions?) of more intense, light gray colored albitization, typically with disseminated biotite, chlorite, few pink garnets. At 80.2m 1-2cm wide light blue-gray quartz vein, at 10° to 15° to c/a, with scattered small patches of pyrite.
- 98.5 109.74 SILTSTONE & QUARTZITE, minor ARGILLITE
 Medium to dark blue-gray. Few beds are lighter gray to slightly gray-green. Medium and thin bedded. Mainly planar bedded, some wavy, lensey beds, few rip-up clasts. A few thin healed fractures occur at 20° to c/a. There is pervasive weak to moderate silicification, bleaching (sericitization?) Along healed fractures. Few bedding-parallel light gray to pale brown albitic altered zones, with disseminated biotite, chlorite, pyrrhotite, rare pink garnets. 108.3 to 108.6 is a larger quartz vein, irregular (contacts at ~25° to c/a but not parallel to each other) with coarse patches of dark brown biotite and po; QV is within a more strongly albite-altered zone.
- 109.74 116.8 QUARTZITE, minor ARGILLITE, SILTSTONE
 Medium and dark blue-gray to gray-brown. Mainly thick bedded, few medium thick quartzite beds, ~15% zones of laminated gray-brown argillite, mostly in the lower half of the interval. Some irregular, lensey bedding with rip-up clasts in argillite sections. Bedding at 70° to c/a. A few bedding-parallel and cross-cutting fractures are present. Weak to moderate silicification; patches of albitization.
- 116.8 154.5 SILTSTONE, QUARTZITE & ARGILLITE; zone of mixed lithologies.
 Medium to dark blue-gray, some light-medium gray bands, locally brownish. Medium to thin bedded, quite consistently at 70° to c/a. Typically planar bedded with narrow zones of lensey, more disrupted bedding. Few isolated rounded to elongate rip-up clasts. Fractures are mainly bedding-parallel, few cross-cutting at 25° to 40° to c/a. At 124.2m a 10cm zone of deformed, folded argillite may be

soft sediment deformation. Small (up to 12cm thick) bands (concretions?) of lighter gray albite are scattered through the interval. Disseminated biotite, chlorite, light pink garnet, po and py can be present. At 130.8m, thin discontinuous chloritic fractures are encrusted with pyrite. Numerous quartz-calcite veinlets are present, mostly near-vertical, a few as flat as bedding (70° to c/a). Pyrite encrusts chloritic fractures at 130.8m.

154.5 174.8 QUARTZITE & SILTSTONE, minor ARGILLITE

Medium to dark gray and blue-gray, variably altered to shades of gray-green. Medium and thin bedded, bedding at 65° to 75° to c/a. Most bedding planes are sharp, planar. Some argillite zones have more lensey, irregular bedding. At 154.8m a 3cm wide bedding-parallel crush zone is present; a very minor fault. Other similar, narrower zones at 169.5m, 170.7m, 178.3m & 174.8m. Fractures are mostly bedding-parallel, few are 40° to 50° to c/a, rarely at 0° to 5° to c/a. Stronger alteration exists in this interval: pale gray-green silicification (sericitization?) is mixed with patchy albite alteration (with typical disseminated biotite, chlorite, pink garnets and po). Minor disseminated po is scattered throughout.

174.8 178.7 BRECCIATED SILTSTONE, QUARTZITE, minor ARGILLITE: FAULT ZONE

Light and medium gray to medium and dark blue gray. Rare bedding at 70° to c/a. Fault cleavage/shearing is at 45° to 55° to c/a. Cleavage is sub-parallel to bedding and mostly destroys bedding. Cleavage is mostly healed with some open fractures. Irregular, lensey white quartz-calcite veinlets are developed at $\sim 70^\circ$ to c/a (30° to 40° to fault cleavage), through most of the interval but more concentrated over ~ 20 cm at 175.9m. Quartzitic portion is lighter gray colored and may be somewhat silicified; siltstone-argillite zone has fine, disseminated biotite. Minor po is disseminated through the interval and occurs locally as very small cleavage-parallel lenses.

178.7 189.3 SILTSTONE, minor ARGILLITE & QUARTZITE

Light and medium gray to medium and dark blue-gray. Medium bedded, few thin beds. Bedding mostly planar and at 70° to c/a. Most fractures are bedding-parallel, few are at 45° to 60° to c/a. Pervasive fine biotite 'spotting' is common in more argillaceous sections. Thin bands of light gray albitization host disseminated biotite, pink garnets, chlorite and po. Albitic zones are bedding-parallel. Minor disseminated po is present through parts of the interval.

189.3 200.0 QUARTZITE & SILTSTONE, minor ARGILLITE

Light gray, gray-green; light, medium and darker blue-gray. Medium bedded, few thin beds. Mostly planar bedded with minor wavy, slightly irregular beds. Bedding at 65° to 70° to c/a. Open fractures are bedding-parallel and sub-parallel, up to $\sim 60^\circ$ to c/a. More intense bleaching (silicification and sericitic alteration) to

light gray and gray-green tones, along healed fractures, and quite extensively developed along cm scale bedding-parallel bands. Fine chlorite +/- biotite spotting is common in more argillaceous bands. A few narrow light gray albite-altered bands have disseminated chlorite, biotite and very minor disseminated po. Pyrrhotite is concentrated in near-vertical quartz-chlorite veinlets and is also present in very minor concentrations, disseminated in albitic zones and elsewhere in the core.

200.0 259.9 GABBRO

Gray-green. Contact at 200.0m is at 70° to c/a, parallel to bedding. Texture is quite massive, medium-grained. Upper contact is fine-grained for ~70cm. Contact at 259.9m is a sheared, minor fault zone at 25° to c/a; "fault" zone is <2cm wide. Gabbro is fine-grained for ~1.5m above lower contact. At 202.2m, 2cm wide quartz-chlorite vein curves through core at ~0° to c/a. 209.5-213.6 is variably foliated at 50° to 60° to c/a with numerous small, lensy white quartz-calcite veinlets; minor fault zone. 214.8 to 218.5 includes 5 quartz veins up to 1.2m thick, at 20° to 60° to c/a, associated with chlorite, coarse patchy pyrite; includes a 20cm wide breccia / fault zone at 215.7m with quartz-calcite matrix, thin pyrite veins. Scattered quartz and quartz-calcite veins. More biotite-rich in foliated zones. Thin quartz veins, 0.5 to 4.0cm wide, near both contacts are at 50° to 70° to c/a. There is patchy local veining of pyrite, disseminated po.

259.9 296.2 QUARTZITE & SILTSTONE, minor ARGILLITE

Color variable from gray-green to light, medium and dark blue-gray. Medium bedded, few thick and thin beds. Bedding is ~85° to c/a below gabbro, more commonly at 70° to c/a elsewhere. Minor offset of bedding (few mm to 1.0cm) occurs along a few high angle (0° to 45° to c/a) healed discontinuous fractures. A few narrow fracture / fault zones are present: at 261.8m healed and open fracture, 2 cm wide, 30° to c/a; at 265.0m 4 cm wide ribboned chloritic quartz vein at 30° to c/a; at 275.0m 10 cm wide chloritic, sheared, brecciated zone at 40° to c/a - minor fault; at 276.9m, 20 cm wide healed weaker breccia / shear zone at 45° to c/a, some vuggy QV, albitic altered; at 290.1m healed 1 cm wide sheared zone within gray bleached zone, 30° to c/a. Bleaching, silicification and patchy light gray albitic zones are common. Chlorite is common in some zones; many 'argillaceous' zones have fine biotite spotting. Alteration diminishes gradually downward. At 287.8m small patch of reddish ZnS veinlets with minor pyrite. At 274.2m one coarse 2 cm wide blotch of po in a biotite-altered patch. Very minor disseminated po occurs throughout.

296.2 336.7 SILTSTONE & ARGILLITE, minor QUARTZITE

Medium to dark blue-gray, locally medium gray and gray-green. Medium and thin bedded, few thick beds. Bedding consistently at ~68° to c/a. Narrow zone (10-15 cm) of soft sediment deformation at 313.2 m. Scattered small lensy bedding-

parallel rip-up clasts are scattered through the interval. Most fractures are bedding-parallel, a few are sub-parallel, a few are at 0° to 15° to c/a. Narrow 1-2 cm wide bedding-parallel crush zones occur at 300.8m, 301.6m, 303.0m, 307.3m, 309.9m, 312.2m, 320.4m and 332.2m. Much less altered than the overlying interval. Scattered patches of light to medium gray-green bleaching (silicification, sericitization) and light gray-green albitic alteration with disseminated biotite, chlorite, pink garnets and minor po. Most argillaceous zones have biotite spotting. At 322.9m, 10 cm zone of disseminated to near massive pink garnet. A few weakly chloritic fractures, some partially healed, are encrusted with disseminated, euhedral pyrite.

336.7 373.0 QUARTZITE, SILTSTONE & ARGILLITE; Zone of mixed lithologies with quartzite and siltstone predominating.

Medium to dark blue-gray; some lighter gray bands. some brownish, biotitic argillaceous bands common below 359m. Medium and thin bedded. numerous narrow laminated zones, few thicker quartzites. Mostly planar bedded with bedding at 65° to 70° to c/a. A number of laminated / thin bedded argillite zones are lensey bedded, a few have soft sediment deformation. A few small flame structures and one lode cast are present. Small lensey rip-up clasts occur in a few beds. Fractures range from bedding-parallel to 45° and 60° to c/a. Patchy albitization occurs throughout, typically with disseminated biotite, chlorite, pink garnet, po. Argillite bands are biotite-spotted. Medium-grained muscovite is concentrated in one 1.5 cm band at 369.8m. Pyrrhotite is common in albitic-altered zones. At 355.5m one 3-4 cm wide band carries abundant biotite and po. A few irregular blotches of po are present. Pyrite occurs with chlorite on some fractures. A few narrow bedding-parallel QV 5-8 mm wide carry po and biotite at 357.3m.

373.0 376.6 GABBRO

Medium gray-green. Bedding-parallel contacts; hangingwall at 68° to c/a, footwall at 65° to c/a. Massive, fine-grained texture. Few thin quartz veins: 1 to 3 mm wide at 30° to 45° to c/a; 1 to 1.5cm wide at 60° to c/a. Biotitic and brownish colored at both contacts. Coarse po occurs in two 1.5 cm wide QV at $\sim 60^\circ$ to c/a.

376.6 410.1 SILTSTONE, QUARTZITE & ARGILLITE; Mainly siltstone mixed with argillite, with scattered medium and thick quartzite beds.

Color ranges from medium and dark blue-gray to medium gray and gray-green to darker brownish-gray. Medium and thin bedded with scattered thick quartzite beds. Mainly planar-bedded from $\sim 60^\circ$ to 72° to c/a. Some lensey bedding in a few argillite zones. Fractures are both bedding-parallel and at $\sim 45^\circ$ to 55° to c/a. Few ~ 1 cm bedding-parallel QV, usually with biotite and po. A few bedding-plane zones are crushed or brecciated. At 385.9m a 2 cm wide healed sheared zone at 45° to c/a. Scattered narrow zones of healed 'crackle-type' brecciation are

present; at 395.5m thin hairline, discontinuous quartz veinlets and lenses form a matrix to one breccia. Scattered light gray albitic zones. Patches of brownish to light gray-green silicification / sericitization are common in the middle part of the zone. 2-3 cm wide bedding-parallel QV at 398.7m contains small TOURMALINE crystals. 402.5-404.5 is ~55% quartz veining with contacts at 15° to 40° to c/a with abundant disseminated biotite, chlorite and scattered coarse irregular patches of po. Fine-grained brown tourmaline crystals are mixed with biotite near 410.0m. Coarse po patches occur with minor cpy in QV at 404.8m.

410.1 414.3 QUARTZITE, minor SILTSTONE & ARGILLITE

Medium blue-gray and medium gray. Vaguely bedded at ~ 65° to c/a. Thick to very thick bedded. 6 cm wide QV at 25° to c/a at 412.3m. Scattered bedding-parallel fractures. Mottled silicification, local albitic zones with disseminated biotite, chlorite, muscovite.

414.3 423.0 QUARTZITE, minor SILTSTONE & ARGILLITE

Medium gray to medium and dark blue-gray. Thick, medium and thin bedded. Bedding at 65° to 70° to c/a. Planar bedded to slightly wavy bedded. 419.5 -420.4 hosts a series of 2-3 cm wide QV at 20° to c/a, with associated minor chloritic shearing, parallel to QV. QV contains abundant disseminated chlorite, local ragged coarse patches of po. Most fractures are bedding-parallel or at ~45° to c/a. Most of the interval is somewhat mottled with light gray silicification / sericitization. Fine-grained brown to locally almost black tourmaline needles are abundantly concentrated in narrow argillaceous bands. At 418.75m a near-massive 1 cm wide band of brown tourmaline crystals crosses core at 30° to c/a.

423.0 423.8 FAULT ZONE; SILTSTONE & QUARTZITE

Medium gray green to darker bluish-gray. Shearing at 25° to 35° to c/a through most of the interval. Weakly to moderately chloritic, few quartz lenses. Minor po occurs with quartz veining.

423.8 493.0 QUARTZITE & SILTSTONE, minor ARGILLITE, minor FRAGMENTAL

2-4m thick zones of dominantly quartzite are separated by generally thicker zones of medium and thin bedded siltstone-argillite. 491.3m to 492.0m is lensey fragmental with very ragged clasts, argillite and silty argillite composition, numerous small ragged po patches.

Medium and dark blue-gray to brownish-gray. Quartzites are medium and thick bedded, siltstones are medium and thin bedded, argillites are thin bedded and laminated. Bedding at 65° to 75° to c/a. Mostly planar bedded, few wavy beds. Some narrow argillite zones have lensey bedding. Fractures are mostly parallel to bedding or at ~45° to c/a, with a few higher angle fractures. Narrow bedding-parallel crush zones occur between 476.2m and 483.0m - probably minor bedding-parallel slips. There are scattered narrow light gray albitic zones with

disseminated biotite, pink garnets, po. Numerous quartz veins are present, typically at 20° to 40° to c/a. A few are more bedding-parallel and have tourmaline and po associated (eg. at 440.5m, 450.8m and 472.4m). Fine-grained brown tourmaline crystals are concentrated in narrow bands (usually in argillite beds) through much of the interval. Coarse patches of po occur with some QV. Pyrite occurs on some chloritic fractures. Po is common in fragmental from 491.3m to 492.0m.

493.0 502.8 QUARTZITE & FRAGMENTAL

Medium and dark blue-gray. Quite massive; probably homogenized quartzites with vague bedding; very thick to thick bedded. Relatively narrow patches / bands within the interval are fragmental with mostly small, darker angular elongate clasts up to ~1 cm long. Clasts near 496.6 are sub-parallel to bedding; within one zone near 500.6m clasts are aligned at 0° to 30° to c/a; one 15 cm wide fragmental band at 498.1m is lensey 'bedded', at 75° to 80° to c/a. Some fragmental zones have fairly distinct boundaries, some are quite indistinct. Recognizable bedding is at ~75° to c/a. Alteration consists of a few light gray albitic patches with disseminated chlorite, pink garnet and po. One 30 cm QV just above 502.8m is 'bedding-parallel' at ~55° to c/a. Minor disseminated po is present within the interval.

502.8 509.8 FRAGMENTAL, minor SILTSTONE & QUARTZITE

Similar to overlying interval but fragmental comprises most of this interval. Dark gray-brown to medium and dark blue-gray. Massive to vaguely bedded. Generally small, darker blue-gray clasts in a medium-gray matrix; parts of the fragmental have texture which indicates that thin argillite beds are broken up to form fragmental; "bedding-parallel" fragmental 'trains' extend across the core. Some argillite beds are 'ptygmatically' folded and only partially disrupted. Fragments tend to be aligned at ~55° to c/a. A few fractures at 30° to 60° to c/a. Alteration consists of some pale gray and gray-green silicification / sericitization and few patches of light gray albite with disseminated chlorite, biotite, light pink garnet and po. Scattered fine brown tourmaline crystals are weakly concentrated over 10 to 15 cm of core near 502.9m. Minor disseminated po is common in the interval.

509.8 526.1 ARGILLITE & SILTSTONE

Dark gray to dark blue-gray. Laminated and massive, some medium thick beds, commonly with internal laminations. Bedding typically at 75° to c/a. Some bedding planes are cut by healed fractures and offset a few mm; this may be early, slump-related activity. A 3 cm wide bedding-parallel quartz vein occurs at 510.9m. 520.9-526.1 has numerous hairline to 2 mm wide white quartz veinlets, bedding-parallel and sub-parallel, some cross-cutting. Many are discontinuous within core. A few narrow bedding-parallel crush zones are present; at 521.8m a 2

cm wide band of fragmental appears to be a healed bedding-parallel 'fault' zone. Patchy light gray albitic alteration is present, with associated marginal 'silicification', above 514.2m Some light brown albite is present. Zones contain disseminated chlorite, biotite, po and pink garnet. Minor po is present, as isolated disseminations, small bedding-parallel lenses and discontinuous laminae. At 510.9m minor po and ZnS occur with streaks of brown-green tourmaline needles in a 3 cm wide bedding-parallel QV.

526.1 545.7 ARGILLITE, minor SILTSTONE

Medium and dark gray to medium and dark blue-gray. Thin bedded; beds are locally disrupted to form a fragmental texture with ragged, elongate clasts of darker fragments in a more medium gray-brown matrix. Bedding is typically at 65° to 75° to c/a. Bedding is commonly disrupted on a small scale, evidently due to slumping. Minor folding from soft sediment deformation is present. Numerous healed hairline fractures, generally at high angles to bedding and commonly irregular, cut and displace bedding slightly. These may be slump-related. Open fractures are mainly bedding-parallel; others are at 35° to 60° to c/a. A 3-4 cm wide QV at 15° to c/a at 539.7m hosts coarse ragged patches of po; adjacent core is albitic. A few light gray to brown albite patches are present, with disseminated biotite, chlorite and po. Minor po is common as disseminations, small bedding-parallel lenses and discontinuous laminations. Very minor ZnS is locally present.

545.7 587.1 ARGILLITE, SILTY ARGILLITE

Medium gray-brown to medium and dark blue-gray. Predominantly laminated, some thin bedded, some more massive (possibly homogenized laminated) units. Bedding typically at 65° to 70° to c/a. Numerous segments of the interval are folded, disturbed by soft sediment deformation. Fractures are bedding-parallel and sub-parallel (to 45° to c/a). At 568.0m and 568.6m narrow bedding-parallel crush zones indicate minor slips. Alteration consists of rare light gray albitic zones with disseminated biotite and po. Fractures are commonly chloritic. Minor po is common, disseminated as small bedding-parallel lenses and thin laminations. Po laminations are strongest from 582.8 to 584.0m.

587.1 590.9 ARGILLITE, SILTY ARGILLITE

Medium to dark gray and blue-gray. Thin and medium bedded, bedding at $\sim 68^{\circ}$ to c/a. Mostly planar bedded with some minor local waviness due to soft sediment deformation. 587.1-587.4 is a minor bedding-parallel fault zone with a series of narrow bedding-parallel clay gouge zones and cleavage nearly parallel to bedding. Fractures are mainly bedding-parallel; few cross-cut bedding at $\sim 50^{\circ}$ to c/a. Fracture surfaces tend to be chloritic.

590.9 641.6 SILTSTONE, minor QUARTZITE & ARGILLITE; rare FRAGMENTAL
Medium to dark gray and blue-gray with common narrow light gray bands.

Medium and thin bedded with a few thick beds. Bedding mostly at 65° to c/a. Fractures are mainly bedding-parallel; other cross-cutting fractures are mainly 30° to 60° to c/a. Narrow zone of broken core at 591m; chloritic fractures with minor pyrite; possible bedding-parallel fault; at 597.0m, 10 cm of broken core, bedding-parallel cleavage; minor fault. Narrow zones of light gray albitic alteration are present, usually with associated proximal 'silicification'. Disseminated biotite and po are usually present. Albite 'speckling' is present in numerous bands. Fine disseminated po is concentrated in numerous beds, aligned parallel to bedding.

641.6m End of Hole

Core stored at Vine Properties, off Hidden Valley Road, ~19 km south of Cranbrook, B.C.