Diamond Drill Report,
Cruz property, southeastern British Columbia
Mineral tenures 513361, 513360

NTS map sheet 082G/4W
1:20,000 trim map sheet 082G021
centered at 49º13’56”N, 115º51’57”E

Fort Steele Mining Division

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Claim owner and operator:
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September 18, 2008

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Introduction

The Cruz property was drilled to test the Sullivan horizon for sedex-style lead-zinc-silver mineralization. The property is located immediately southwest of the southern end of Moyie Lake in the Purcell Mountains of southeastern British Columbia (Fig. 1). The claims are within the Fort Steele Mining Division. The diamond drill hole is collared on claim 513361, wholly owned by Abitibi Mining Corp. Other claims that comprise the Cruz property are listed in Appendix 1 and shown on Figure 2.

Diamond drill hole Cz-08-01 is located on a gravel road that follows the south side of Moyie River, southwest from Moyie Lake. The relief in the area is moderate, with generally only minor outcrop, and typically covered by a thick forest cover comprising mainly coniferous trees with lesser deciduous and sparse undergrowth. Logging activity has occurred through some of the property area.

History

Considerable work has been done by past operators on the Cruz property and immediately adjacent ground. Several past producers occur to the northeast, along the shores of Moyie Lake (St. Eugene, Guindron), and along Highway 3 just north of the property (Midway) (Figure 2). St. Eugene (Minfile no. 082GSW025) is a lead-zinc-silver vein system within mainly Middle Aldridge turbidites that produced approximately 78,846 grams of gold, 182,691 kg of silver, 113,034 tonnes lead and 14,483 tonnes of zinc from 1.47 million tonnes of ore. Although it closed in 1916 it has received new interest and exploration by St. Eugene Mining Corp. Ltd. Midway is a gold-quartz vein with intermittent production, from 1933 to 1962, that totalled 85,534 grams of gold, 2,549 kg of lead and 1,701 kg of zinc from 1106 total tonnes of ore.

Exploration on the Cruz property has included some geological mapping, soil surveys, geophysical programs and several drill exploration programs. The area has been mapped on a regional scale (1:50,000) as part of a regional provincial government mapping project of the Purcell Supergroup (Höy, 1993). The northern part of the property is located within the 1:50,000 compilation map of Brown (1998).

Approximately 4.5 km to the northeast, a 3476 meter oil-gas exploration well was drilled in 1987. It yielded chips collected over 3-meter intervals, including sulphide chips that probably were from the Sullivan horizon at the contact between the Lower and Middle Aldridge.

Diamond drilling on and immediately adjacent to the Cruz property has been directed to both a sedex target, similar to the Sullivan deposit, and to vein deposits. A fragmental unit, similar to that that hosts the Fors property, has also been drilled.

In 1995 and 1996 Chapleau Resources Ltd. drilled an exposures of fragmental rock located along Sundown Creek northeast of the 2007 Klondike Gold Corp. drill hole (Figure 2). The fragmentals are within the Middle Aldridge, approximately 2000 meters above the Sullivan horizon, but contains many similarities to the Fors fragmental, including tourmalinite alteration and a disseminated horizon of lead-zinc mineralization (Walker, 1997).

In 1999, Chapleau Resources drilled two holes, totalling 740 meters (Anderson, 2000). These holes also tested areas with sedimentary fragmentals and spotty tourmalinite alteration, but neither hole extended through the Middle Aldridge Formation into the Sullivan horizon.

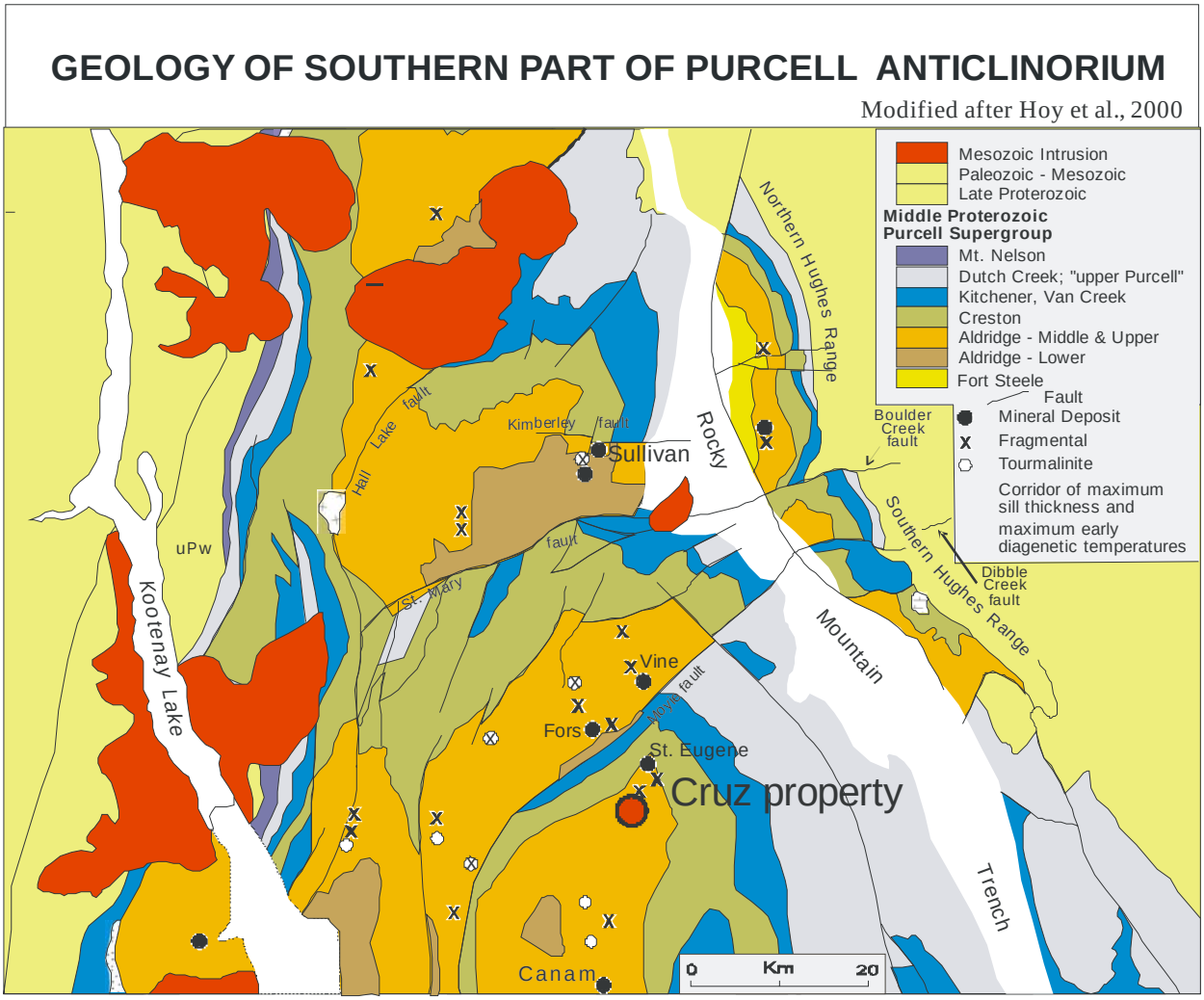

Figure 1: Location map of Cruz property in the Moyie Lake area, southeastern B.C., showing regional geology (after Höy, 2000).

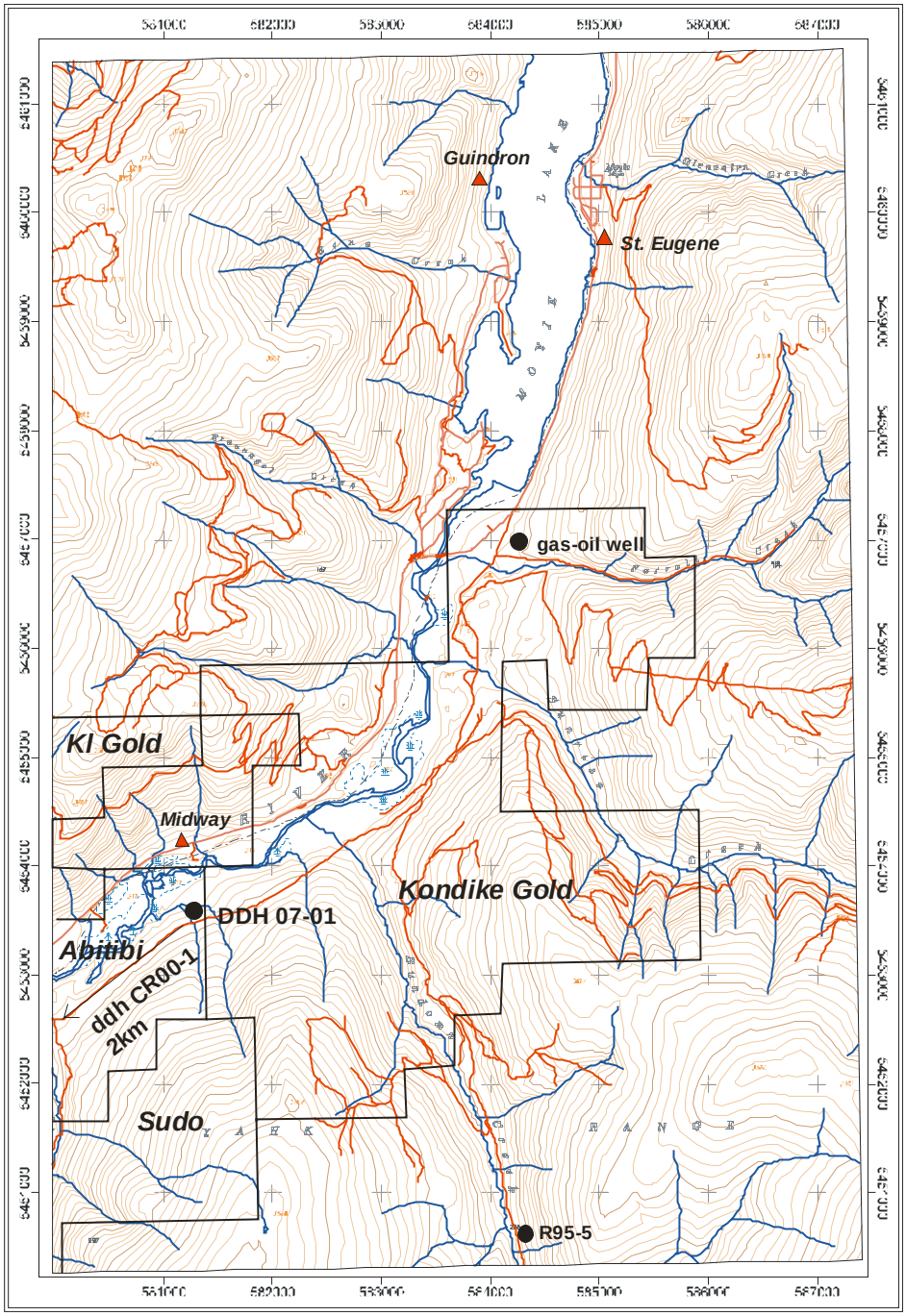

Figure 2: Map showing Cruz property claims, owned by Klondike Gold Corp., Abitibi Mining Corp. and Robin Sudo (details of claims are shown in Appendix 1); also shown are locations of past producing mineral properties and drill holes referred to in text. Regional geology is shown on Figure 1.

In 2000, Chapleau Resources drilled hole CR00-1 in order to test the Sullivan horizon at the Lower-middle Aldridge contact. Prior to the current drill program, this hole is the only diamond drill test of the Sullivan horizon in the immediate Cruz property area. CR00-1 is located approximately 2 km southwest of the Cruz 2007 drill hole. It essentially cored Middle Aldridge metasediments to 675.3 meters, a Moyie gabbro sill from 675.3 to 888.0 meters, and the Sullivan horizon from 888 to 916.5 meters.

The 2007 drill hole was intended to test the Sullivan horizon, 2 km to the northeast, between the 2000 drill test of Chapleau Resources and the 1987 gas-oil exploration well.

Geology – Regional

The regional geology in the area of the Cruz property (see Figure 1) has been described by Höy (1993) and this description is largely summarized from that report. The Cruz property is within the core of the Purcell anticlinorium, a broad generally north plunging structure that is cored by Middle Proterozoic Purcell Supergroup rocks and surrounded by overlying Late Proterozoic Windermere Group rocks and younger Paleozoic metasedimentary rocks. Several large prominent northeast-trending faults cut the Purcell anticlinorium, and these faults have been the loci of repeated normal movements through Middle Proterozoic to early Paleozoic time. In Mesozoic time, they were reactivated as regional tear faults that tied with the thrust faulting in the Rocky Mountains to the east.

These faults controlled, in large part, the distribution of mineralization in southeastern B.C. They define a broad east-northeast trending structural zone that crosses the western ranges of the Rocky Mountains, the Purcell anticlinorium, and extends westward to the carbonate-hosted lead-zinc mineralization in the southern Kootenay Arc and the copper-gold vein deposits of the Rossland camp (Höy, 1982; 1993; Höy et al., 2000). The Cruz area lies along the southern edge of this structural zone, south of the Moyie fault.

The Purcell Supergroup comprises a thick succession of typically thin bedded siltstones and argillites of the Lower Aldridge Formation, and overlying quartz wackes and quartzites of the Middle Aldridge. The Sullivan horizon, at the transition between the Lower and Middle Aldridge, typically comprises several 10s of meters of pyrrhotite-rich argillite, thin bedded siltstone and, locally, dominantly quartz wackes and arenites, with lesser siltstone and argillite, and crudely bedded to massive conglomerate or wacke with small, isolated sedimentary clasts. Several thick gabbroic sills, referred to as the Moyie intrusions, occur throughout the Middle and Lower Aldridge, and these can be crudely used as marker horizons. As well, more than a dozen horizons within the Middle Aldridge contain distinctive, dark-light laminated siltstone layers that can be correlated across many tens to hundreds of kilometers. The Upper Aldridge is an argillite unit that grades upward into dominantly shallow-water, green to white to mauve siltstone-quartzite beds of the Creston Formation. The Aldridge Formation is a synrift succession, developed in a Proterozoic craton, whereas overlying, dominantly shallow water to subaerial successions, locally including basaltic lavas, are interpreted to be post-rift basin fill deposits.

Geology – Property

The Cruz property is underlain by mainly Middle Aldridge quartzite and wacke, interpreted to be dominantly turbidite deposits (Figure 1). Exposures of intraformational conglomerate, similar to that at the Fors property 13 km to the north, are exposed near the north end of the property. As well, tourmalinite alteration, a characteristic of the footwall alteration at the Sullivan deposit, occurs locally throughout the property.

The purpose of the 2007 drill program was to locate and test the Sullivan horizon northeast of drill hole CR00-1 and southwest of the oil-gas exploration well at the south end of Moyie Lake. A distinctive Moyie intrusion, commonly referred to as the Sullivan "sill" immediately overlies the Sullivan horizon in hole CR00-1, but occurs beneath the horizon in the oil-gas well to the northeast. Hence, the sill is interpreted as arching, or jumping stratigraphy, in a similar manner as at the Sullivan mine where it occurs above the horizon west of the deposit, but below the horizon farther east. This was one of several important similarities with the Sullivan deposit area, and a compelling reason to test the Sullivan horizon for similar type mineralization here.

Diamond Drill Hole Cr-07-01

Drill hole Cr-07-01 was collared at UTM coordinates 0581250E and 5453276N. Its total length was 843.9 meters, with a collar dip of -75 degrees at an azimuth of 227 degrees. A detailed core log is given in Appendix 4 and description of samples submitted for analyses given in Appendix 5. A schematic log of the drill hole is shown in Figure 3.

The main purpose of drill hole Cr-07-01 was to locate the Sullivan horizon and to test for sedex style mineralization. Only two holes have been drilled through the Sullivan horizon in the Cruz area, a diamond drill hole located 2 km to the southwest and an oil-gas exploration hole, yielding only chips, located 4.5 km to the northeast.

Drill hole Cr-07-01 initially cored dominantly Middle Aldridge turbidites through to 788.0 meters. These included medium to thick bedded quartz wackes, thin bedded wackes, quartzite with some siltstone and generally minor interbedded argillite. The wackes and quartzites have many features typical of turbidite deposits, including basal scours, cross laminations and ball-and-pillow structures. Sericite and biotite alteration are typical throughout, and disseminated pyrrhotite is also common. Small disseminated garnets occur in some beds. The core to bedding angle is generally fairly high, typically ranging from 65-85 degrees. Faulting, either gouge or brecciation and disrupted bedding, occurs at 134 meters and 250 meters.

Several of the marker units of the Middle Aldridge were cored. Hiawatha marker occurred between 168 and 190 meters, Lois Creek marker at 407 and 421 meters, and Fringe marker at 570 meters.

The Sullivan horizon was intersected from 788.0 to 815.2 meters. As described in Appendix 4, it consists of approximately 13 m of laminated wacke with minor interbedded argillite, then 6.4 meters of fragmental, comprising wacke, argillite, pyrrhotite and quartzite clasts in a wacke matrix. This is underlain by 4.4 meters of quartz wacke and interbedded argillite, then 4 meters of fragmental rock. Minor disseminated pyrrhotite occurs throughout the Sullivan horizon, and occasional specks and grains of sphalerite occur in both wacke and fragmental units.

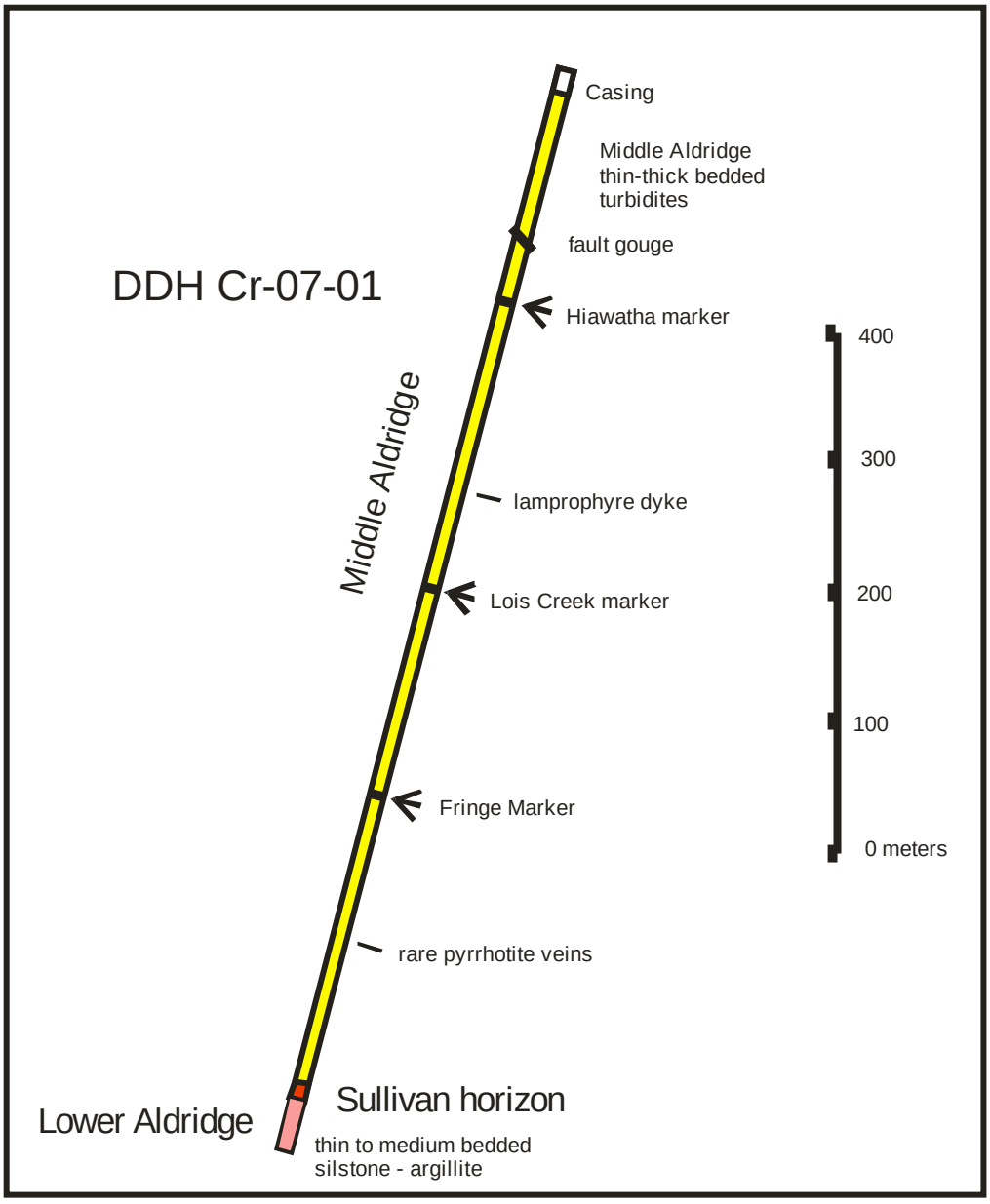

Figure 3: Schematic section showing drill hole Cz-08-01

The Sullivan horizon is underlain by typical Lower Aldridge metasediments, comprising medium to thin bedded quartz wacke and argillite, typical of turbidite and interturbidite deposition. These were cored from 815m to the end of the hole at 843.9 meters.

Sampling

The Sullivan horizon was sampled at 1 meter intervals through its entire length and submitted for analyses. One-meter samples were sawn at the Vine core facilities on Peavine Road, Cranbrook area, and half the core was bagged and mailed to Acme Laboratories Vancouver where they were analyzed by 54-element ICP-MS. A brief description of samples is given below in Appendix 5. Analytical results have not been received to date (September 18, 2008).

Summary and Conclusions

The hole was successful in intersecting the target Sullivan horizon, at a depth of 788 to 815.2 meters. A Moyie sill that elsewhere in the Purcell Mountains occurs just below or just above the Sullivan horizon was not intersected, indicating that here the sill must have jumped stratigraphy, from above the hole 2 km to the southwest to below the horizon at drill hole Cz-08-01.

The lack of a substantially thickened Sullivan horizon, only minimal zinc mineralization, and general lack of alteration or structural disturbance in overlying Middle Aldridge stratigraphy, suggests that the Cruz drill hole is not located in a structural sub-basin or graben. Hence, no further drilling to the Sullivan horizon in the immediate area is recommended.

References

Anderson, D. (2000): Diamond drilling assessment report on the Cruz claims, Cruz 31, 32, 39; *B.C Ministry of Energy and Mines,* Assessment report 26,202.

Brown, R.L. (1998): Geological compilation of Grassy Mountain (East half) and Moyie Lake (west half) map areas, southeastern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources,* Geoscience Map 1998-3/

Hoy, T. (1982): Stratigraphic and structural setting of stratabound lead-zinc deposits in southeastern British Columbia; *Canadian Institute of Mining and Metallurgy,* Bulletin, Volume 70, pages 114-134

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Pighin, D. (2000): Diamond drill report, Gas 9 &10 claims, NTS 82G/4E; *B.C. Ministry of Energy and Mines,* Assessment report 26,318.

Walker, R.T. (1997): Assessment report on the Cruz property, Fort Steele Mining Division; *B.C. Ministry of Energy and Mines,* Assessment report 24,772.

Appendix 1: List of claims, Cruz property

NAME	OWNER	CLAIM NAME	BLOCKS	HECTARES	RECORD	EXPIRY DATE
Cranbrook JV	Klondike Gold	SUN	1	84.369	506538	02/09/2018
Cranbrook JV	Klondike Gold	SUN	2	63.283	506539	02/09/2018
Cranbrook JV	Klondike Gold	SUN	9	63.288	506540	02/09/2018
Cranbrook JV	Klondike Gold	SUN	10	42.191	506541	02/09/2018
1290	Klondike Gold	SUN	3	21.095	506543	02/09/2018
1290	Klondike Gold	SUN	4	21.096	506544	02/09/2018
1290	Klondike Gold	SUN	5	63.288	506546	02/09/2018
1290	Klondike Gold	SUN	6	42.196	506547	02/09/2018
1290	Klondike Gold	SUN	7	21.098	506549	02/09/2018
1290	Klondike Gold	SUN	8	42.200	506550	02/09/2018
1290	Klondike Gold	SUN	11	21.098	506551	02/09/2018
1290	Klondike Gold	SUN	12	42.196	506552	02/09/2018
1290	Klondike Gold	SUN	13	21.100	506553	02/09/2018
1290	Klondike Gold	SUN	14	21.100	506555	02/09/2018
1290	Klondike Gold	SUN	15	42.203	506556	02/09/2018
1290	Klondike Gold	SUN	16	21.102	506557	02/09/2018
1293	Klondike Gold	AUS	1	84.384	506558	02/09/2018
1293	Klondike Gold	AUS	2	42.187	506560	02/09/2018
1293	Klondike Gold	AUS	3	42.192	506561	02/09/2018
1293	Klondike Gold	AUS	4	21.093	506563	02/09/2018
1293	Klondike Gold	AUS	5	42.191	506564	02/09/2018
1293	Klondike Gold	AUS	6	21.093	506565	02/09/2018
1293	Klondike Gold	AUS	8	21.093	506566	02/09/2018
1293	Klondike Gold	AUS	10	21.091	506570	02/09/2018
1293	Klondike Gold	AUS	11	63.269	506571	02/09/2018
1293	Klondike Gold	AUS	12	63.264	506572	02/09/2018
1292	Klondike Gold	FAR	1	105.435	506573	02/09/2018
1292	Klondike Gold	FAR	2	63.257	506576	02/09/2018
1292	Klondike Gold	FAR	3	42.171	506578	02/09/2018
1292	Klondike Gold	FAR	4	42.166	506579	02/09/2018
1292	Klondike Gold	FAR	5	42.171	506580	02/09/2018

1292	Klondike Gold	FAR	6	42.166	506581	02/09/2018
Cranbrook JV	Sedex	ROBE	3	42.045	508655	20/07/2011
Cranbrook JV	Abitibi	GAS	1	42.195	513360	02/09/2018
Cranbrook JV	Abitibi	GAS	2	42.190	513361	02/09/2018
Cranbrook JV	Abitibi	GAS	3	42.195	513362	02/09/2018
Cranbrook JV	Abitibi	GAS	1	21.097	513363	02/09/2018
Cranbrook JV	Abitibi	GAS	5	63.298	513364	02/09/2018
Cranbrook JV	Abitibi	GAS	7	21.102	513365	02/09/2018
Cranbrook JV	Abitibi	GAS	8	42.195	513366	02/09/2018
Cranbrook JV	Abitibi	GAS	9	63.303	513367	02/09/2018
Cranbrook JV	Abitibi	GAS	10	21.098	513368	02/09/2018
Cranbrook JV	Abitibi	GAS	11	84.407	513369	02/09/2018
Cranbrook JV	Abitibi	GAS	12	21.098	513370	02/09/2018
Cranbrook JV	Abitibi	GAS	13	42.204	513371	02/09/2018
Cranbrook JV	Abitibi	GAS	14	21.099	513372	02/09/2018
Cranbrook JV	Abitibi	GAS	15	42.204	513373	02/09/2018
Cranbrook JV	Abitibi	GAS	16	21.099	513374	02/09/2018
1111	Klondike Gold	MIDWAY	1	63.276	534309	23/06/2018
1294	Klondike Gold	MIDWAY	11	63.271	534310	23/06/2018
7010	Klondike Gold	MIDWAY 5-8	1	84.353	534315	23/06/2018
7010	Klondike Gold	MIDWAY	1	21.090	534316	23/06/2018
Cruz	Sudo, Robin	Cruz 1		485.390	544789	02/11/2009
Cruz	Sudo, Robin	Cruz 2		527.740	544792	02/11/2009
Cruz	Sudo, Robin	Cruz 3		295.410	544794	02/11/2009
Cruz	Sudo, Robin			105.540	544795	02/11/2009

Appendix 2a: Statement of Qualifications – Trygve Höy

Statement of qualifications: Trygve Höy

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

1. I am an independent project geologist, with a business office at 2450 Dixon Road, Sooke, B.C., Canada, V9Z 0X6.
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 33 years: 27 years as a project geologist with the British Columbia Geological Survey Branch, and approximately 6 year as an independent consultant.
8. I have been involved in the supervision of this exploration program, am familiar with the geology of the Cruz property, and am the coauthor of this report, entitled “Diamond drill report, Cruz property, southeastern British Columbia”

……..

Trygve Höy, P.Eng, Ph.D.
Consulting Geological Engineer
September 18, 2008

Appendix 2b: Statement of Qualifications – D. Anderson

1. I, Douglas Anderson, Consulting geological engineer, have my office at 3205 6th Street S, Cranbrook, B.C., V1C 6K1
2. I graduated from the University of British Columbia in 1969 with a Bachelor of Applied Science in Geological Engineering
3. I have practiced my profession since 1969, predominantly with one large mining company (Cominco Ltd.), in a number of capacities all over Western Canada, and currently in southeastern B.C. as a mineral exploration consultant.
4. I am a registered Professional Engineer and a member of the Association of Professional Engineers and Geoscientists of B.C., and I am authorized to use their seal.
5. I am a Fellow of the Geological Association of Canada
6. I have been involved in the supervision of this exploration program, am familiar with the geology of the Cruz property, have been involved in logging core and am the coauthor of this report, entitled "Diamond drill report, Cruz property, southeastern British Columbia"

……

D. Anderson, P.Eng.
Consulting Geological Engineer
September 18, 2008

Appendix 2c: Statement of Qualifications – D. Pighin

Statement of Qualifications: Dave Pighin

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., 301 8th Street S., Cranbrook, B.C.
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 38 years,
   27 years as an exploration geologist with Cominco Ltd.
   12 years as an independent consultant and with Super Group Holdings Ltd.
4. The field work and drilling for this report, entitled "Diamond drill report, Cruz property, southeastern British Columbia", was carried out in the fall and winter of 2007-2008, and was written in collaboration with Trygve Höy and D. Anderson.

……
Dave Pighin, PGeo.
Exploration geologist
September 18, 2008

Appendix 3: Statement of Costs

Direct drilling costs	
Black Hawk Drilling	$ 152,649
Rental (Low bed hauling, MOB costs)	25,712
(Invoices: Pighin Welding, Goodwin Lowbed)	
Core logging; geology	
D. Anderson	$ 6,280
T. Hoy	1,650
D. Pighin	6,695
Analyses	
Report preparation	
T. Hoy (3.3 days at $500)	$ 1,650
Total:	**$194,639**

Appendix 4: Diamond drill log, Cz-08-01

Property: Cruz **Company: Klondike Gold Corp.**
DDH: Cz-08-01 Length: 843.9 meters
Collar dip: -75 deg; Collar azimuth 227 deg
Location: East side of Moyie River, southwest of Moyie Lake
UTM coordinates: 0581250E; 5453276N
Date commenced: January 31, 2008
Logged by: Doug Anderson and Dave Pighin; core stored at Vine property, Peavine Creek

Depth (meters)	Description
0 – 21.34	casing
21.34 – 66.4	M Aldridge; thin bedded to med bedded, dark to tan argillite interbedded with Qtz wackes, fine to med grained; limonite fractures to 35 m.
	Bedding – core angle – 65-70 deg.; to 80 deg at 35 m; some flames and rip-ups; marker sequences at 57.3-57.9 m and 65.5-65.9 m (Falls)
66.4 – 75.9	quartzite, quartzite wacke; med to thick bedded; minor thin bedded argillaceous units; fine to med grained; grey to buff colour
	bedding – core angle 85 deg.; weak bi alteration
75.9 – 106.6	M Aldridge: thin bedded to thick bedded turbidites with 40% argillite only minor alteration: rare garnets
106.6 – 133.85	More quartzitic with 0.5 – 1.5 m argillite intervals moderate fracturing; minor silicification
133.85 – 143.7	Altered, broken, silicified quartzite; fault zone, fair core recovery; shattered quartzite 134.55: fault gouge, breccias; fault at 20 – 45 deg to core axis. silica and sericite alteration; minor garnets
143.7 – 168.4	Middle Aldridge; interbedded grey fine grained to med grained quartzite; thin bedded wacke bedding –core angle; 65-70 deg. Some marker unit at 162.8, 165, and 165.7 meters Sericite and minor biotite in argillite sections
	Minor pyrrhotite in argillaceous sections
168.4 – 189.64	More argillaceous, thin bedded; wacke; marker sections throughout, interrupted by intermarker turbidites
	Hiawatha Marker identified
	Only minor fracturing, minor fine pyrrhotite.
189.64–249.25	Thin bedded to weakly laminated wacke, quartz wacke. typical Middle Aldridge; 50% tan coloured argillite;
	Minor sericite and garnet; minor pyrrhotite
249.25–259.30	Light sandy coloured altered rocks; fault zone alteration? Shattered quartzite, brecciation; crush zones; disrupted bedding

Sericite alteration and minor pyrite in fractures.

259.3– 266.6 Quartzite and thick bedded darker wacke; grey to tan colour; bedding-core at 80 deg

Locally fractured; minor fine pyrite

266.6– 272.4 Thin-bedded wackes with some marker characteristics: black lens in light background.

Possible Fringe marker at 272.3m?

Minor sericite, minor pyrrhotite

272.4 – 325.5 Quartzite; wacke interbedded; light grey to brownish grey; med bedded to thick bedded; load casts, oscillation ripples, soft sediment structures

Some biotite; silicification; sericite

Rare diss pyrrhotite

325.5 – 330.8 M. Aldridge quartz wacke; abundant biotite, disseminate pyrrhotite in upper 5 meters

330.8 – 338.0 Lamprophyre dyke, with up to 75% biotite

338.0 – 406.9 Quartz wacke and quartzite; thick bedded, fine to medium grained; minor disseminated pyrrhotite; typically silicified

Lois Creek marker at 406.9 meters, 421.3 meters

406.9 – 409.0 Quartz wacke; thin bedded, commonly graded; includes sections that range up to massive and thick bedded.

409.0 – 436.0 Quartz wacke, quartzite; medium to thick bedded; minor gouge, faulting at 413-414 m and 430-431.8 meters

436.0-511.6 Quartz wacke, some thick bedded quartzite and minor argillite interbeds; disseminated pyrrhotite, disseminated biotite, variably silicified; bedding-core angle at 442.m, 485 m = 77 deg;
rare thin 2mm thick pyrrhotite veinlets.

511.6 – 518.3 Quartzite, thick bedded with minor biotite and sericite, and minor disseminated pyrrhotite.

518.3 – 548.0 Quartz wacke interceded with wacke and argillite; some massive quartzite sections. Biotite and sericite alteration throughout; some garnet, either disseminated or in concretions; disseminated pyrrhotite.

548.0 – 621.8 Quartz wacke, interbedded with wacke and minor argillite; thin to thick bedded; considerable soft sediment deformation, including flame and ball and pillow structures; bedding-core angles = 75 deg.
614.5 – 618: widely spaced, thin 1 to 3 mm pyrrhotite veinlets

569.4: Fringe marker

621.8 – 706.6 Quartz wacke, minor interbedded argillite and wacke; generally med to thick bedded; pervasive biotite alteration, some sericite throughout as well as disseminated pyrrhotite.

682.9: 5cm thick pyrrhotite rich fragmental bed, with pebble to grit sized rounded clasts

Rare thin massive pyrrhotite veins to 4 mm thick cut core near 700 m.

706.6 – 712.5 Quartzite, thick to very thick bedded with disseminated sericite and late concretions.

712.5 – 780.0 Quartz wacke, interbedded with wacke and minor argillite; thin to thick bedded; local soft sediment deformation; biotite, sericite and silica alteration, minor disseminated pyrrhotite.

Occasional veins of massive pyrrhotite up to 5 mm thick;
715.5 m: 1cm quartz vein with arsenopyrite
740 m: 2 to 5 mm massive pyrrhotite veinlets
745.3 m: 1 cm quartz vein with sphalerite, subparallel to bedding
thin pyrrhotite veinlets and disseminated pyrrhotite continue to Sullivan horizon
787.6-788: abundant disseminated pyrrhotite and albite alteration

788.0 – 815.2 Sullivan horizon

788.0 – 797.8 Sullivan horizon: wacke with lesser interbedded argillite; massive to finely laminated wacke and argillite, rare but distinct bedding planes; generally very fine grained; fine biotite throughout
weakly disseminated pyrrhotite throughout, rare thin specks of sphalerite

797.8 – 803.2 Sullivan horizon: wacke with argillite

803.2 – 806.6 Sullivan horizon: fragmental unit consisting of wacke, argillite, pyrrhotite and quartzite clasts in a wacke matrix; clasts range in colour from black to light grey; fragmental is massive and matrix supported, with clasts ranging in size from 10 mm to rarely 40 mm. Matrix is fine biotite and fine sericite; quartzite clasts are strongly biotitic whereas argillite clasts are finely sericitic
Small pyrrhotite clasts are common; rare specks of sphalerite are noted adjacent to some clasts

806.6 – 811.0 Sullivan horizon: quartzite wacke interbedded with argillite; thin to very thin bedded; bedding is distinct but wavy and locally distorted due to soft sediment deformation, slumping: cross laminations
fine biotite and sericite throughout
rare disseminated pyrrhotite.

811.0 – 815.0 Sullivan horizon: fragmental unit similar to 803 to 806 meters.

815.0 – 843.9 Lower Aldridge: quartzite wacke interbedded with wacke and lesser argillite; medium to thin bedded with sharp, flat bedding planes; very fine grained; some parallel laminations; rare cross bedding, rip-up clasts; bedding to core angle = 64 deg.
biotite disseminated throughout; considerable sericite alteration; rare dolomite crystals
finely disseminated pyrrhotite throughout.

843.9 End of Hole.

Appendix 5: Sample Descriptions, Cz-08-01

Sample descriptions: Sullivan horizon, DDH Cz-08-01

Interval (from)	(to)	Length (m)	Sample Number	Description
788	789	1	53601	wacke, massive, some parallel laminations, weak diss po
789	790	1	53602	wacke, massive, some parallel laminations, weak diss po
790	791	1	53603	argillite, massive, some parallel laminations, weak diss po
791	792	1	53604	wacke, massive, some parallel laminations, weak diss po
792	793	1	53605	wacke, massive, some parallel laminations, weak diss po
793	794	1	53606	wacke, massive, some parallel laminations, weak diss po
794	795	1	53607	wacke, massive, some parallel laminations, weak diss po
795	796	1	53608	wacke, massive, some parallel laminations, weak diss po
796	797	1	53609	wacke, massive, some parallel laminations, weak diss po
797	798	1	53610	wacke, massive, some parallel laminations, weak diss po
798	799	1	53611	wacke, massive, some parallel laminations, weak diss po
799	800	1	53612	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
800	801	1	53613	fragmental - po clasts, diss po, rare sph
801	802	1	53614	fragmental - po clasts, diss po, rare sph
802	803	1	53615	fragmental - po clasts, diss po, rare sph
803	804	1	53616	fragmental - po clasts, diss po, rare sph
804	805	1	53617	fragmental - po clasts, diss po, rare sph
805	806	1	53618	fragmental - po clasts, diss po, rare sph
806	807	1	53619	fragmental - po clasts, diss po, rare sph
807	808	1	53620	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
808	809	1	53621	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
809	810	1	53622	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
810	811	1	53623	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
811	812	1	53624	wacke, interbedded qtzite, very thin bedded; weak diss po, trace sph
812	813	1	53625	fragmental - po clasts, diss po, rare sph
813	814	1	53626	fragmental - po clasts, diss po, rare sph
814	815	1	53627	fragmental - po clasts, diss po, rare sph
815	816	1	53628	fragmental and Lower Aldridge sediments

Notes: po – pyrrhotite; sph – sphalerite; qtzite – quartzite;