

**DIAMOND DRILLING**  
**TECHNICAL REPORT ON THE**  
**ISKUT PROPERTY**  
LIARD MINING DIVISION, BRITISH  
COLUMBIA  
NTS MAP SHEET 104B/11E  
TRIM MAP SHEETS: 104B055, 104B065

Latitude: 56° 37' 21.9" N,  
Longitude: 131° 04' 3.7" W  
373,135 m E, 6,277,305 m N  
(UTM NAD 83, Zone 9)

Event Number 4186933. Work performed on Tenure Numbers: 523334,  
523339, 517750, 523337

OWNER	OPERATOR
Skyline Gold Corporation	Spirit Bear Minerals Ltd
212-10451 Shellbridge Way	310-505 8 <sup>th</sup> St SW
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by

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## **1.0 Summary**

Spirit Bear Minerals Ltd (SBM) has an option to acquire a 70% interest in the Iskut Property from Skyline Gold Corporation, subject to the issuance of cash, shares and work commitments. Spirit Bear's remaining obligations are to expend \$4,300,000 in exploration on the property by 31<sup>st</sup> March, 2011.

The Property comprises 19 contiguous mineral claims totalling 6,400 hectares, located in the metallogenically rich Stewart-Iskut camp of northwest British Columbia, 100 km northwest of Stewart, 210 km southwest of Dease Lake and 80 km east of Wrangell, Alaska. Past producing deposits in the area were supplied by air from Wrangell or from Terrace and Smithers, 280 and 320 km to the south, respectively.

The past-producing Stonehouse vein-type gold deposit (which produced 2870 kg gold, 4,510 kg silver and 1,030,000 kg copper) is located at the centre of the property and the past-producing Snip shear-hosted gold vein deposit (which produced 32,100 kg gold, 12,100 kg silver, 250,000 kg copper) is 500 m north of the Property boundary. The past production of this area is indicative both of its high mineral potential and the technical viability of mining. The isotopic signature of lead in these deposits and in almost all other Au-bearing showings on the Property is consistent with an Early Jurassic age for the Au mineralization.

The immediate area of the Property is underlain by volcanic and volcanosedimentary rocks of the Triassic Stuhini Group, unconformably overlain by Lower Jurassic volcanic and volcanosedimentary rocks of the Lower Hazelton Group. These layered rocks are intruded by monzonitic and related rocks of the Early Jurassic Texas Creek Plutonic suite, associated with the nearby Lehto Batholith. These intrusions include the Red Bluff K-feldspar-megacrystic plagioclase monzonite, exposed northeast of the Property and are assumed to be the metallogene for the Snip deposit. Northeast-dipping weakly K-feldspar megacrystic plagioclase porphyry dykes, coeval with the Red Bluff Porphyry, are genetically associated with Au veins at the Stonehouse deposit.

Exploration work by Spirit Bear Minerals prior to 2007 comprised 2005 resampling of trenches at the SMC showing in the northern part of the Property, and a 2006 airborne electromagnetic-magnetic (EM-mag) survey over all but its extreme southern part, augmented by a 2,350 sample MMI soil survey, geological mapping and rock sampling. The cost of the 2006

program was \$400,000 and the results were used to identify drill targets for 2007 and subsequent years. A priority exploration target was the projected extension onto the Property of the moderately and southwesterly-dipping biotite altered shear zone hosting the Snip gold-silver deposit.

A five-hole 3,139 m drill program was carried out in 2007. Two holes directed at the deep Snip Structure did not achieve their target owing to technical problems, including pronounced clockwise deviation of the holes. Nevertheless, Hole SB-07-02 passed through a structural domain boundary into intensely biotite-altered wackes similar to those encountered in the hanging wall of the Snip deposit itself. Deepening of this hole and drilling of a third hole is recommended for this target.

Two holes were drilled beneath the Stonehouse gold deposit to locate the feeder zone for the deposit. Neither intersected the brittle, K-feldspar alteration and quartz sulphide veins characteristic of that deposit. Each hole passed into the sedimentary sequence underlying the Lower Hazelton volcanosedimentary Mine Series. Hole SB-07-03, collared with westward azimuth and steep dip intersected massive stratabound, probably stratiform pyrrhotite mineralization with minor copper and gold values, at roughly the same stratigraphic level as the Besshi style volcanogenic sulphide mineralization at the past producing Granduc Mine, north of Stewart. Both holes intersected chert, also indicative of an exhalative environment.

Hole SB-07-04, collared with westward azimuth and moderate dip, intersected a series of biotite-bearing shear zones not encountered in SB-07-03 and therefore probably westerly or southwesterly dipping, in the same sense as the Snip structure. Anomalous gold values were associated with these biotite-bearing shear zones. This is the first clear evidence of the widespread occurrence of Snip-style structure and alteration on the Property.

A single hole directed beneath the SMC structure returned neither grade encouragement nor evidence of continuity of either structure or mineralization, probably owing to a fault offset. It is recommended that no further immediate work be carried out here.

Several other underexplored targets require further work. At the Burnie Showing, a northwest striking quartz-flooded shear zone with as much as 15.4 gm/t Au and 47 gm/t Ag across 0.5 m has been traced by mapping for 300 m. Mineralized boulders with as much as 96.8 gm/t Au extends this zone another 400 m. At the C-1 showing, three veins are exposed in a creek

bed with grades as high as 60.9 gm/t Au and 520 gm/t Ag over 0.7 m, 5.3 gm/t Au over 0.9 m, and 45.8 gm/t Au and 101 gm/t Ag over 0.8 m. Single drill holes at both these showings did not intersect high grade portions of the veins, but additional holes will be required to test these adequately. An untested area of multi-element MMI anomalies is located in the northwestern corner of the Property. Most importantly, flat-lying mineralization observed during early trenching of the Stonehouse veins may represent venting of an ore-forming fluid through a sediment-water interface, within the Lower Hazelton volcanosedimentary strata.

The authors consider the Iskut Property to be highly prospective for high-grade, shear-hosted precious metal deposits and moderately prospective for Subaqueous Au-rich Hot-Spring style, Besshi-style and Kuroko-style volcanogenic massive sulphide (VMS) deposits. A Phase 1 program of 2600 m of NQ2 diamond drilling in five holes, with down-hole EM surveying, geological mapping, and MMI geochemical surveying is proposed, at an estimated total cost of \$2,100,000.

Three target areas are recommended for drilling. Deepening of SB-07-02 by approximately 500m and drilling of one additional hole to approximately 1,300 m depth are recommended to test the Snip structure. One 300 m hole followed by a downhole EM survey is recommended as a first test for precious metal-rich subaqueous hot spring style VMS which may occur within Lower Hazelton rocks south of the Stonehouse deposit. Two 250 m holes followed by a down-hole EM survey are recommended as an initial test for precious metal rich Kuroko-style VMS that may have formed within rhyolite in the northwestern part of the Property.

A success-contingent Phase 2 program consisting of 2,300 m of NQ2 diamond drilling is estimated to cost \$1,400,000 and will further test targets identified by the Phase 1 program..

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#### **4.0 *Introduction and terms of reference***

The management of Spirit Bear Minerals Ltd. requested a Technical Report be written under guidelines of National Instrument 43-101 as a requirement of becoming a reporting issuer in British Columbia, Alberta., and Ontario. This report describes relevant exploration work conducted by Skyline Gold Corporation since their acquisition of the property in 1980, exploration work conducted by Spirit Bear Minerals Ltd in October 2005 and in the summers of 2006 and 2007, and makes conclusions and recommendations for further work.

Since 1980, Skyline and several companies working under joint venture and option agreements with Skyline have conducted extensive mapping, rock and soil geochemical sampling, trenching, numerous geophysical surveys and diamond drilling of selected showings, in addition to the development and mining of the Stonehouse Gold Deposit (also referred to as Johnny Mountain Mine). Targets selected for drilling are considered to have excellent potential for discovery of high-grade precious metal deposits.

Some of the information provided in this report came from voluminous files of previous work held in Skyline's office in Richmond, B.C. as well as summer 2006 exploration work by Spirit Bear Minerals Ltd. Mr. David A. Yeager, a previous director of Skyline, geological supervisor of much of Skyline's previous exploration work, and Chief Mine Geologist at the Johnny Mountain Mine provided the writers with indispensable guidance to the files and an overview of the history of the property. His assistance is gratefully acknowledged.

Richards visited the property October 26-28, 2005 in order to acquaint himself with the property setting and to collect samples to verify previous assay results collected from the SMC Showing, an occurrence with volcanogenic massive sulphide (VMS) affinities. That visit was the site visit for a Technical Report on the property dated December 28, 2005. Richards worked on the property during July and August 2006, supervising a helicopter-supported airborne electromagnetic-magnetic (EM-mag) survey, collection of 2,350 mobile metal ion (MMI) soil samples throughout three areas on the property and geological mapping, prospecting and rock sampling throughout these three areas. A four-man crew, including Richards, completed the field work from the Riverswest Camp. Results of that work was provided in a Technical Report dated April 13, 2007 and amended May 11, 2007. Richards supervised a five-hole 3,139 m diamond drill program from July 6 to Oct 1, 2007 and was assisted by Metcalfe from September 4th to



October 1st, 2007. Minor mapping and soil and rock chip sampling was also completed. A seven-man crew including the authors completed the field work from Bronson Camp at the lower (Bronson) airstrip.

## **5.0**            ***Disclaimer***

The writers are not licensed to provide statements of legal title. Claims included in the Property and area of the Property have been taken directly from Schedule A to the Mineral Property Option & Joint Venture Agreement between Skyline Gold Corporation and Spirit Bear Minerals Ltd. which has been reviewed by Company's lawyers.

Monetary amounts referred to herein are expressed in Canadian dollars unless otherwise stated. Maps of the property in this report are based upon a Universal Transverse Mercator (UTM Zone #9) projection using the 1983 North American datum for Canada (NAD83 Canada).

## **6.0**            ***Property description and location***

The property consists of 15 mineral cell claims and 7 internally contained Crown granted mineral claims in the Liard Mining Division of British Columbia. It is centred on 131°04'3.7" West longitude and 56°37'21.9" North latitude on National Topographic Series (NTS) map sheet 104B/11E and on the B.C. government's Terrain Resource Integrated Management (TRIM) map sheets 104B055 and 104B065. The equivalent co-ordinates using a Universal Transverse Mercator (UTM) Zone 9 projection and the 1983 North American Datum (NAD'83) are 373,135 m E, 6,277,305 m N. The property lies 110 km northwest of Stewart, B.C., 280 km northwest of Terrace, B.C., 80 km east of Wrangell, Alaska and 70 km west of Bob Quinn airstrip on the Stewart-Cassiar Highway.

All previous legacy mineral claims held by Skyline Gold Corporation have been converted to mineral cells under the British Columbia Ministry of Energy, Mines and Petroleum Resources' mineral selection and conversion process. Crown Grants are administered by the Mineral, Oil and Gas Revenue Branch of the British Columbia Ministry of Small Business and Revenue. The legacy mineral claims around Stonehouse (precursors of Skyline's present core claims), the Snip mineral claims to the north of the Property and many of the Crown Grants were surveyed in 1987 under the supervision of and by J.W.P. Matthews, a British Columbia Land Surveyor of Vancouver, B.C. Therefore the writers believe that the conversion process to be accurate. As of

January 1st, 2008 the position of mineral cell claims cannot be challenged on the basis of errors in plotting of the original legacy claims, which position, upon conversion, determined the location and size of the mineral cell claims.

Table 1 provides a summary of pertinent claim information. Skyline Gold Corporation is the registered owner of all mineral cell claims. Tuksi Mining and Development Co Ltd., a wholly owned subsidiary of Skyline Gold Corporation, is the registered owner of the crown granted mineral claims. Mineral cell claims are contiguous and overlap the earlier acquired crown granted mineral claims. The Crown grants take precedence to title due to their earlier acquisition.

Two one-cell claims were acquired over the crown grants by a third party immediately after the introduction of the mineral cell staking system on January 12th, 2005, presumably for nuisance value. Skyline's crown grants hold title to all minerals but excludes coal, petroleum and natural gas (personal communication, clerk at Mineral, Oil and Gas Revenue Branch). The occurrence of any of these commodities in the Stuhini Group underlying the Crown Grants is less than likely.

The cost of holding title to ground held by mineral cell claims is \$4.00 of exploration work per hectare for each additional year plus \$0.40/hectare to record such work totalling \$28,200 per year. Under previous rules the cost would be \$8.00/hectare of exploration work and could increase to this figure in the near term thereby requiring \$56,400 of assessment work to extend mineral title for each additional year. Regardless of whichever figure is used, exploration work contemplated in this report could be used to advance the expiry date and would require the \$0.40/hectare/year filing fee be paid and work statement filed prior to one year after the termination of work with a report describing the work submitted within 90 days of filing.

Crown granted mineral claims are assessed for taxes on May 1st of every year with notices sent to registered owners in May and taxes due July 2. Using the 2005 assessment rate of \$1.25 per hectare the seven crown grants will require that \$176.68 taxes be paid by July 2, 2008.

Table 1. Claims list and expiry dates.

<b>Tenure Number</b>	<b>No. of Hectares</b>	<b>Expiry Date</b>
508278	409.547	December 31, 2015
508279	356.247	December 31, 2015
508280	356.325	December 31, 2015
508282	124.635	December 31, 2015
517738	178.046	December 31, 2015
517750	409.107	December 31, 2015
517756	427.192	December 31, 2015
517757	195.970	December 31, 2015
517759	53.428	December 31, 2015
523329	178.100	December 31, 2015
523331	124.650	December 31, 2015
523334	622.647	December 31, 2015
523335	1353.509	December 31, 2015
523337	1263.601	December 31, 2015
523339	355.767	December 31, 2015
	<b>Total 6408.771 hectares</b>	
<b>Crown Grant Lot No.</b>	<b>No of hectares</b>	<b>Taxes Due Date</b>
2863	18.84	July 2, 2008
2865	20.7	“
2866	20.7	“
2867	19.55	“
2868	19.75	“
2869	20.9	“
2870	20.9	“

Proposed exploration work in the Province of British Columbia must receive prior approval by issuance of a work permit by the Ministry of Energy, Mines and Petroleum Resources. Such approval is routinely given and is expected to be obtained with no difficulty in the areas to be explored subject to normal reclamation and environmental guidelines. A work permit application will be submitted in early 2008 to the Ministry and is expected to be granted by early June. A reclamation bond of about \$20,000 is estimated using government guidelines. The reclamation bond is to ensure compliance with regulations and will be refunded if reclamation is properly completed upon completion of the exploration program.

There are numerous mineral showings throughout the property some of which have been explored by trenching and limited diamond drilling. These are described below. There are no known mineral reserves or resources remaining on the property. There is a mill and one building at the old Johnny Mountain Mine millsite. The building is in poor condition, musty from mildew and fungus growth and therefore not recoverable. Considerable light and heavy equipment and supplies, all unserviceable, are scattered around the millsite and mine openings. All three portals have partially collapsed entrances. A tailings pond exists, 200 m north of the millsite, in good condition but in need of reclamation. Spirit Bear Minerals must pay one-half of all annual Mine Site Maintenance Costs at the closed Johnny Mountain Mine to an annual maximum amount of \$37,500. Reclamation costs at the Mine Site are the sole responsibility of Skyline Gold Corporation. Reclamation was initiated in 2007 by Skyline tearing down and burning several old buildings and burying the remains and other miscellaneous debris.

Spirit Bear Minerals Ltd has optioned the Iskut Property from Skyline Gold Corporation, the Owner, with the right to acquire an undivided 70% right, title and interest in and to the Property in accordance with certain terms. Cash and share payments were made in 2005, 2006 and 2007 under terms of the original agreement. The original agreement was terminated on March 31, 2007 and replaced by a new agreement also dated March 31, 2007. Under terms of the new agreement, Spirit Bear Minerals Ltd was required to fund \$385,000 of field work on claims covering the Red Bluff Porphyry, a Cu-Au porphyry occurrence being developed by Skyline Gold Corporation adjacent to the Iskut Property. Spirit Bear Minerals Ltd must spend \$6,500,000, which includes the \$385,000 mentioned above, over four years on claims described in this report as the Iskut Property. Excess expenditures made in any year can be carried forward to subsequent year's requirements. \$2,200,000 was spent in 2007. These work commitments are as follows: \$1,000,000 by March 31, 2008 (already fulfilled), an additional \$1,000,000 by March 31, 2009 (already fulfilled), an additional \$1,500,000 by March 31, 2010 (\$200,000 spent), and an additional \$3,000,000 by March 31, 2011. Upon all work requirements being met, Spirit Bear Minerals Ltd will have earned its 70% interest in the Property.

## **7.0 Access, climate, physiography and local resources**

The Iskut Property lies within the metallogenically important Stewart-Iskut River area, northwestern British Columbia (Figure 3), and is 110 km northwest of Stewart, B.C., 280 km northwest of Terrace, B.C., 80 km east of Wrangell, Alaska and 70 km west of Bob Quinn airstrip on the Stewart-Cassiar Highway.

The Property is situated south of the Iskut River between the Craig River and its tributary Jekill River to the west and Bronson Creek to the east (Figure 2). To the south, the property covers glaciers and mountainous terrain including the peak of Johnny Mountain and other higher peaks. The north property boundary is 500m immediately south of the closed Snip Mine, immediately south of the Iskut River.

Elevations range from 100 m along Craig and Iskut Rivers to 1966 m on Mount Johnny and 2280 m on the peak of Johnny Mountain, the highest point on the Property. Below treeline, topography is moderate to very steep. Forest cover comprises hemlock, spruce and fir with an undergrowth of alders and devils club. Above treeline topography is flat to very steep with several cirque glaciers leading off high arêtes and peaks. Vegetation above treeline varies from the lush alpine pasture of Johnny Flats to high tundra with felsenmeer where only lichen and moss campion grow.

Temperatures during both winter and summer are moderate. Annual precipitation averages a minimum of 200 cm. Below treeline snow accumulations are typically less than three metres and usually present from November through May. Above treeline, deeper snow, wind and avalanches make exploration work impractical in some areas for part of the year. Work in the alpine can be done safely from late June to the end of September and at lower elevations from late May to late October.

Two airstrips suitable for Hercules aircraft or equivalent are located on or adjacent to the Property. One is located at 100m elevation near Bronson Camp which is at the old (closed and rehabilitated) Snip minesite. The second airstrip is located in the alpine at 1000m elevation beside the closed Johnny Mountain minesite in the centre of the property. In recent years helicopters based at Bob Quinn airstrip have been available for mineral exploration work in the area.

Access to the Property is possible only by air, from Smithers and Terrace, B.C., both 280 km to the southeast or from Wrangell, Alaska, 80 km to the west, using the airstrips mentioned above. Bob Quinn airstrip is accessible by road (see above); vehicles can be left there while the property is accessed by air. A private mine access road, maintained by Barrick Gold, leads from Bob Quinn 40 km southwesterly down the south side of Iskut River to its confluence with Forest Kerr Creek. The road then turns south to the Eskay Creek gold-silver mine. The Volcano Creek Turn, opposite Forest Kerr Creek, is only 30 km from the Property and is useful for shortening flight times when slinging gear by helicopter. The Eskay Creek mine will close in 2008 but the road will remain open to Forest Kerr to service a run of river hydroelectric development nearby on the Iskut River.

A 10 km road connects the two airstrips through the centre of the Property, providing vehicle access to much of it. A Jeep, pickup truck and two All Terrain Vehicles (ATVs) have been flown on to Bronson airstrip for exploration work. Old drill roads shown on Figure 4 lead north and northeast from the Johnny Mountain airstrip and could be rehabilitated if needed. Machinery of Skyline Gold Corporation is available for rent by SBM. This equipment includes a Caterpillar 235 backhoe suitable for trenching, a D8K tractor crawler equipped with dozer blade suitable for road building and repair, a D8L tractor crawler equipped with dozer blade, and a Mack truck suitable for moving equipment. A trapper, living year round on nearby Craig River is making regular visits to the storage buildings over the winter to look after the equipment.

A seasonal camp, catering to the mining industry, is operated by Riverswest Adventures Ltd at the lower airstrip beside the Iskut River. The SBM tent camp and vehicles are stored in weatherproof buildings left standing near the lower airstrip since the time of operation of the Snip Mine.

## **8.0**            ***Property history (after Yeager 1991)***

In 1907, a prospecting party from Wrangell, Alaska recorded claims on Bronson Creek. These claims were later Crown Granted and remain in existence today. In the period 1911 to 1920 the Iskut Mining Company reported drifting, trenching and stripping a number of gold bearing veins on the Red Bluff and Iskut claims immediately north of the property.

From 1954 to 1960 Hudson Bay Mining and Smelting Co. Ltd. completed exploration drilling, resulting in the discovery of copper prospects at the location of the Johnny Mountain Gold Mine. In 1964, Cominco Ltd. optioned claims from Tuksi Mining Company and Jodi Explorations Ltd. and in 1965 completed drilling on the Red Bluff claim north of the property for its copper content. In 1973 and 1974 the property was examined by Texas Gulf Sulphur Inc. for its copper and base metal content.

In 1980, Skyline staked the claims that form most of the present claim block, covering ground previously held by Texas Gulf. Skyline initiated exploration on the Pickaxe Vein and adjacent area to define its gold potential. In 1981, the nearby Discovery Vein was discovered and drilling initiated. In 1982 Skyline continued drilling the Discovery Vein and other targets resulting in the discovery of a high grade gold vein known as the '16' Vein.

In late 1982, Skyline entered into an agreement with Placer Development Ltd. to explore the property. Placer in turn entered into a joint venture with Anaconda Canada Exploration Ltd. and the joint venture completed exploration during 1983 and 1984. During these years the gold-rich McFadden float train was relocated, sampled and tested by geophysics and drilling.

In late 1984, Skyline completed deep drilling on the '16' Vein and established depth continuity to this gold bearing quartz sulphide vein. From 1985 to 1988 Skyline continued surface and underground exploration and development on the several veins that comprise the Stonehouse Gold Deposit (Johnny Mountain Mine).

In August 1988, the Johnny Mountain Gold Mine commenced production. During the period August 1988 to September 1990 a total of 207,058 short tons were milled at an average rate of 323 tons per day grading 0.474 ounces gold per ton. A total of 84,806 ounces of gold, 133,039 ounces of silver and 2,163,000 pounds of copper were produced. The gold recovery averaged 86.4%. Operations were suspended owing to declining gold grades at the end of September 1990.

The mine was restarted in 1993 for three months resulting in the milling of an additional 23,700 short tons. This brought the total metals produced to 92,500 ounces of gold, 145,000 ounces of silver and 2,300,000 pounds of copper.

Androne Resources Ltd. (later Pezgold Resources Ltd.) performed exploration programs in 1987 and 1988 on a block of claims to the south of the mine. Work comprised geochemistry, prospecting, trenching and geologic mapping. A number of areas with anomalous gold in rocks and soils were discovered.

In addition, Skyline completed large geochemical, geophysical and prospecting programs during 1988, 1989 and 1990 between the mine and the northern and northeastern portion of the claims. These programs resulted in reconnaissance diamond drilling of numerous promising gold targets as well as drilling of the Road Show gold vein in 1988, the Bronson Slope copper-gold porphyry target in 1988 (just north of the Iskut Property) and the C-3 shear-hosted gold prospect in 1990. Several million dollars of flow-through exploration funds were spent on these programs.

Skyline also completed exploration programs on behalf of Placer Dome Inc. in 1990 and 1991 on an optioned block of claims known as the Bronson Creek Project northeast of the Iskut Property. The purpose of the joint venture was to explore for the southeastern extension of the then-producing Snip Gold Mine that adjoins the northern boundary of the Iskut Property. This extension underlies a small block of Skyline's claims excluded from the present option agreement, before crossing the northeastern part of the optioned ground described in this report. In excess of one million dollars was spent on geophysical, geochemical, trenching, prospecting, geologic mapping and diamond drilling programs.

During 1991, Adrian Resources Ltd. carried out exploration work on the northwest portion of the claims under an earn-in option agreement. The work comprised geophysics, geochemistry, prospecting, geologic mapping, trenching and diamond drilling. Numerous targets were identified. The SMC Zone, thought to be either a precious metal enhanced volcanogenic massive sulphide deposit or a gold and base metal, shear hosted deposit, received the bulk of the drilling. Expenditures were reported to be 1.3 million dollars.

During 1990 and 1991, Skyline carried out prospecting, geological mapping, trenching and drilling on shear-hosted gold targets on the Burnie claims to the south of the ground optioned by



Adrian. This work was based on the earlier work by Androne/Pezgold that had discovered numerous interesting targets.

In 1993, Skyline signed an exploration agreement with Cominco Ltd. in which Cominco carried out exploration on that portion of Skyline's claims presently retained by Skyline immediately north of the Iskut Property. Cominco's interest was in finding a deposit similar to the Snip Gold Mine. During the period 1993 to 1995, Cominco spent approximately \$1.4 million on geological mapping and diamond drilling.

Skyline carried out a limited program of Induced Polarization (IP) and diamond drilling on the Red Bluff (Bronson Slope) gold-copper porphyry system in 1993 (north of the Property). This led to an extensive program of advanced exploration and a feasibility study during the period 1994 to 1997. Field work was stopped in 1998 owing to declining metal prices and loss of investor confidence due to the Bre-X scandal.

In 1999, Skyline reached an agreement with Homestake Canada Inc. whereby Skyline was given controlled access to the Snip Mine workings to perform underground exploration on an area of Skyline's ground immediately adjacent to the Snip workings (off the present Property). Homestake acted as mining and drilling contractor to Skyline. A revenue sharing agreement was agreed upon should Homestake elect to participate in the mining and milling of any ore developed on the claim. Homestake retained a production royalty on the ground from an earlier agreement. Financing for the work was provided by Royal Gold, Inc. of Denver Colorado in exchange for a royalty on any gold produced from the property. The cost of the program was \$ 300,000.

From 1999 to 2005, Skyline's activities on the property comprised a number of small reclamation programs as well as an examination of the tailings at the Johnny Mountain Gold Mine for their gold content and the recoverability of the gold. In 2006 and 2007 Skyline drilled several thousand m of core to measure a Cu-Au-Mo resource on the Red Bluff Porphyry with the goal of producing a positive feasibility study. This work is ongoing at the time of writing.

## **9.0 Geological setting**

### **9.1 General**

The Iskut River region is within the Intermontane Belt of the Canadian Cordillera on the western margin of the Stikine terrane (Stikinia). More specifically, it lies within an area of Mesozoic arc-related volcanic and volcanosedimentary rocks identified as the Stewart Complex (Grove 1971). The boundaries of the Complex are defined to the southwest and east, respectively by the Coast Batholith and the western edge of the post-Hazelton rocks of the Bowser Basin. The less-well defined northern boundary is at the east-west structural zone of the Iskut River.

The abundance of mineral occurrences in this area were the source of the name “Golden Triangle” for the crudely defined area with apices at the Stewart-Anyox camp to the south, Sulphurets to the northeast and Snip and Stonehouse to the northwest. This area was subsequently redefined to include Eskay Creek, then again to include the developed porphyry prospects of Galore Creek and Schaft Creek (Fig.3).

Four distinct stratigraphic elements are recognized in the western portion of the Stewart Complex (Anderson, 1989):

1. Upper Palaeozoic schists, argillites, coralline limestone and volcanic rocks of the Stikine Assemblage;
2. Triassic Stuhini Group volcanic and sedimentary arc related strata;
3. Lower to Middle Jurassic Hazelton Group volcanic and sedimentary arc related strata and;
4. Uppermost Lower Jurassic to Cretaceous overlap assemblages of the Bowser Lake and Sustut basins.

The Stuhini and Hazelton Groups are separated by a flat-lying to moderately dipping regional unconformity exposed approximately one kilometre to the northeast of and immediately south of the Johnny Mountain Gold Mine. The Middle Hazelton stratigraphy which hosts the Eskay Creek subaqueous hot spring style deposit has not been identified in the western Iskut.

Intrusive rocks in the Stewart Complex comprise five plutonic suites:

1. Early to Late Devonian McClymont and Forrest Kerr plutonic suites;
2. Middle to Late Triassic Stikine plutonic suite, comprising calc-alkaline intrusions coeval with Stuhini Group strata;
3. Latest Triassic to Early Jurassic Copper Mountain Suite, Early Jurassic Texas Creek Suite and Three Sisters plutonic suites, variable in composition and roughly coeval and cospatial with Hazelton Group volcanic strata and;
4. Post-accretionary late Mesozoic to Tertiary intrusions of the Coast Plutonic Complex, represented by predominantly granodioritic to monzonitic Eocene intrusions. Included are the intrusions of the Hyder plutonic suite, exposed 12 kilometres south of the Bronson Slope deposit (Britton et al. 1990).

The age, mineralogy and texture of the Red Bluff porphyry stock (associated with the Bronson Slope deposit), suggest that it belongs to the metallogenically important Early Jurassic Texas Creek plutonic suite (Alldrick, 1985; Alldrick et al, 1987; Brown, 1987). Intrusions of this suite are widespread in the Stewart, Iskut River region and range in age from 196 to 185 million years (Anderson, 1993; MacDonald et al., 1992).

## **9.2 Stuhini Group**

The Stuhini Group comprises folded turbiditic greywackes with interbedded siltstones, mudstones, andesitic and rhyolitic tuffs, volcanic conglomerate and rare lenses of carbonate rocks. In the northwest part of the property, a lower section of rhyolite overlain by argillite and siltstone, then by andesitic tuffs, rhyolitic tuffs and more siltstone, argillite and wacke occurs as shown on Figures 4 and 9. In the lowermost part of this section a two km long by as much as one km wide outcrop pattern of rhyolite underlies argillite within the Stuhini Group. The rhyolite occurs along a northwesterly trending, west facing slope and includes several Au-Ag-base metal showings described below. The rhyolite extends further southeast along Dogleg Creek where it is interfingering and in fault contact with argillite.

Along Bronson Ridge, the Stuhini Group succession is characterized by argillite, siltstone, wacke with minor limestone to calcareous mudstones. Dacite mapped by Skyline and Cominco geologists and noted by Richards occurs on the north end of Bronson Ridge. Its extent is poorly

understood. This dacite is commonly clay altered and contains as much as three percent disseminated and fracture controlled pyrite. The dacite may be an altered volcanic sedimentary rock derived from dacite rather than a primary dacite. The northeast trending Big Gully Fault, described below, may truncate the unit's exposure along Bronson Ridge by downthrowing rocks on its southeast side.

The Stuhini Group is weakly to moderately metamorphosed (lower greenschist facies). Alteration ranges from weak to strong silicification, sericitic-clay and K-feldspar alteration in the vicinity of mineral prospects.

### **9.3 Hazelton Group**

Hazelton Group rocks have been identified and mapped by the senior author at two locations. The airborne Mag-EM survey described below provided strong support for correlating widely separated rock units with similar geology. What is described as the Hazelton lower sedimentary sequence below is assigned to the Hazelton Group because of its conformity with overlying Hazelton volcanic rocks and its discordance with the underlying Stuhini Group rocks.

On the lower slopes of the Johnny Ridge, one km northeast of the Johnny Mountain Mine, is a section of thin-bedded argillite and siltstones with lesser tuffs and a section of variably dolomitized limestone to calcareous sedimentary rocks. At the top of this section is a felsic buff-colored fine tuff (rhyolite) with a maximum thickness (where examined) of ten metres. The rhyolite tuff unit is exposed in the four small creeks that were mapped just below a thick undifferentiated section of dacite and andesite with minor argillaceous interbeds, informally-named the Bench formation (Metcalf, unpubl. data 1990) and correlated with the dacite capping Snippaker Mountain, north of Bronson Creek (Metcalf and Moors 1993). Dacite is the most common lithology and contains about 3% <1 mm magnetite grains, which produces a strong magnetic high on the aeromagnetic survey, beginning at the contact with underlying sedimentary rocks and extending well beyond the high mountain peaks to the south. A sample of the Bench Formation, collected in 1992 by Metcalfe on Snippaker Ridge north of Inel returned a U-Pb zircon date of  $193 \pm 1$  Ma (Lewis et al. 2001).

The sedimentary rocks are associated with a pronounced magnetic low not only relative to the dacite unit but also relative to the lowermost part of this Hazelton sedimentary section and the underlying Stuhini sedimentary rocks further north. It forms a pronounced crescent-shaped

pattern concave to the east and following the topography of the lower part of Johnny Ridge on the aeromagnetic map of Figure 5.

Both the sedimentary rocks and the dacitic unit are considered part of the Lower Jurassic Lower Hazelton Group strata. Their common contact is considered a disconformity within the Hazelton (as explained below), with no obvious angular discordance of bedding attitudes.

A swarm of northeast trending linear EM anomalies occurs along Bronson Ridge over a 3 km length within Stuhini Group rocks and extends southeastwards into the lower sedimentary section of Hazelton rocks but stops abruptly at the disconformity with the overlying dacitic unit. This may be partly a result of change in rock type. However no faults were seen crossing the massive dacite or andesite beds and a zone of quartz was seen to stop abruptly at the contact at one location. Thus mineralization related to the EM anomalies is interpreted to have been emplaced after deposition of the Hazelton lower sedimentary section and rhyolite and prior to deposition of the dacitic Bench formation. This suggests that this contact represents a significant time interval.

In this area the contact with underlying Stuhini Group rocks, although generally flat-lying, shows marked angular discordance of bedding attitudes (Figure 7). The base of the Lower Jurassic sedimentary sequence observed at one locality has large angular blocks of wacke, wacke-breccia and argillite as large as 2 m in diameter, in a matrix of clay-rich wacke and coarse clastic sedimentary rocks. The unconformity in this area is irregular, with palæosurface relief of roughly 20 m.

The Bench formation is overlain by a volcanic and volcanosedimentary fragmental unit of dominantly rhyolitic composition, informally named the Skyline formation (Atkinson et al. 1991). A sample collected from an extensive welded unit in the formation returned a U-Pb zircon date of  $194 \pm 3$  Ma. (Lewis et al. 2001). These two dates constrain the respective ages of Bench and Skyline formations to 194-192 Ma and 193-191 Ma. This is in agreement with a U-Pb zircon date of  $192 \pm 3$  Ma returned from a sample of a feldspar porphyry dyke in the hanging wall of the Discovery vein taken by Metcalfe in 1990 (Lewis et al. 2001). The feldspar porphyry dyke is compositionally very similar to the volcanic rocks of the Skyline formation (Metcalfe unpubl. data 1993) and is probably a feeder.

The Skyline formation is overlain in turn by a series of basalt or basaltic andesite flows and an uppermost coarse volcanic sedimentary unit, preserved in a small inlier on the crest of Johnny Ridge on the downthrown side of the Snippaker Fault.

Thus the age of the mineralized structures associated with the swarm of EM anomalies along Bronson Ridge, (pre-Hazelton volcanic suite) appear to be older than the mineralization at Johnny Mountain Mine, the latter being within and contemporaneous with Lower Hazelton rocks.

Immediately south of the Johnny Mountain Mine, Richards mapped a sequence of rock strikingly similar to the lowermost Hazelton sedimentary section described above. Felsic tuffs to fine rhyolitic tuff overlie thin-bedded fine-grained siltstone-argillite with a section of variably dolomitized limestone to calcareous sedimentary rocks which in turn overlies wackes, and then argillite containing several one to two metre thick beds of rhyolitic tuff. There is no angular discordance of bedding attitudes throughout this section. However a large intense magnetic low is associated with the whole section identical to the first section described above. The unconformity with underlying Stuhini Group rocks is inferred to lie further southwest, in an area of poor exposure.

Up-section from the upper band of rhyolite, outcrops are volcanic tuffs and wackes of the mine-sequence that host the Johnny Mountain Mine veins. The largely volcanic mine-sequence rocks display an aeromagnetic high similar to that of the Hazelton volcanic rocks in the first section described.

The large aeromagnetic high in the whole area east and southeast of the Johnny Mountain Mine is believed to be a good approximation of the limit of the volcanic units of the Hazelton Group. Some of the margins of the magnetic high overlie a stratigraphic contact with basal Hazelton sedimentary rocks described above but some contacts are probably faulted. One significant fault contact is the northern limit of aeromagnetic high just north of the mill site where a fault has been described by others along Johnny Creek to the northeast and Stonehouse Creek to the southwest as shown on Figure 4 (Yeager, 1992).

Two km south of the Johnny Mountain Mine, five weak EM anomalies define a linear pattern in one area of intense aeromagnetic low adjacent to the aeromagnetic high correlated with Hazelton volcanic rocks. Outcrops are rare in this area but included rhyolite, wacke and siltstone. This

section is probably another basal Hazelton sedimentary section in contact with overlying Hazelton volcanic succession. Dacite was mapped midway between this location and Johnny Mountain Mine. This dacite occurred in contact with sedimentary rocks at the limit of the Hazelton volcanic succession and is interpreted as a fault contact. A pronounced gully trends north from this point down a cliff face and probably represents a fault trace.

#### **9.4 Intrusions**

Triassic to Tertiary dykes and stocks intrude the Triassic and Jurassic rocks of the property. These include:

1. A heterogeneous Late Triassic medium-grained equigranular diorite stock (Bronson Stock), exposed north of the Snip Mine, but not on the Property;
2. The Early Jurassic (U-Pb zircon age of  $195 \pm 1$  Ma) Red Bluff K-feldspar megacrystic monzonitic plagioclase porphyry, exposed to the east of the Snip Mine;
3. Early Jurassic plagioclase porphyry dykes (U-Pb zircon age of  $192 \pm 3$  Ma, within error of the age of Red Bluff), contemporaneous with the Skyline formation (see above), which intrude the Jurassic layered rocks at the Stonehouse deposit and are related to the Au mineralization and;
4. Several small stocks, sills and dykes of unknown age and intermediate to mafic composition that intrude the western side of Johnny Mountain.

The pervasively hydrothermally altered Red Bluff porphyry stock intrudes the Stuhini Group on the southwest side of Bronson Creek immediately south of Bronson airstrip. The stock is approximately 2.0 kilometres long, as wide as 0.3 kilometres and trends southeast. Contacts of the stock with country rocks observed in drill core or underground workings are not well defined and include both faulted and intrusive types. Their geometry is not well known, but contacts appear to be southwesterly dipping.

Lamprophyre dykes of probable Jurassic age have been mapped at numerous locations on the property and in addition lower Jurassic feldspar porphyry dykes and Tertiary intrusive stocks have been noted. Basalt dykes, correlative with Quaternary volcanism (Mount Hoodoo suite), have also been observed.

## 9.5 Structure

At Snip, the vein-shear direction of 120/55°SW is probably related to northeast-vergent regional folds in Stuhini Group rocks that vary in intensity from small open fold belts to anticline-syncline pairs that can result locally in overturned bedding. The axial planar cleavage developed in these folds has created weakness in the rock and these zones of weakness have created conditions favourable for shearing in a northwest-southeast direction. The Snip veins are emplaced in a shear zone that has apparently developed in the axial plane of an anticline interpreted from mapping of the sedimentary rocks on Skyline ground further southeast along the Bronson Creek valley (Atkinson et al. 1991). The Red Bluff porphyry may be emplaced along the axial plane of the corresponding syncline lying just to the northeast of the Bronson anticline. Structures parallel to the Snip structure (of which there are many) could provide targets for deposits similar to Snip. Rhys (1993) notes that shear zones in the immediate hanging wall of the main Snip structure are barren of all but geochemically anomalous Au, while those in the footwall often contained economic Au.

The veins composing the Stonehouse deposit are oriented roughly parallel to the Jurassic feldspar-porphyry dykes (060-065/65°-70° NW). Their orientation is therefore roughly perpendicular to the Snip structure. The only apparent explanation for the disparity between the Stonehouse veins and that of Snip is the presence of these dykes, presumably intruded along pre-existing faults; the few bedding surfaces visible at Stonehouse are shallowly dipping. The dykes themselves are contemporaneous, (within the error envelope of isotopic analysis) both with the Red Bluff Porphyry and with the age of Pb in the Au-bearing mineralization.

The Zephrin K-feldspar alteration zone is 150 m wide, bounded by two north-striking, east-dipping faults and contains broken and rotated mine veins. Its central location in the deposit suggests that it may represent the upper levels of a feeder system.

Faults with Snip shear directions, but with strain release expressed as brittle fracturing rather than ductile shearing, crosscut the mine veins and stratigraphy. During the period between mine closure and the present, several discussions between Metcalfe, David A. Yeager and Michael J. Moore took place. It was suggested that these brittle southwest-dipping faults at Stonehouse, roughly a kilometre higher in stratigraphy than Snip and cutting more brittle volcanic rocks, might differ significantly in their mode of strain release at depth and within the less competent



Triassic sedimentary package. The major feeder system for the Johnny Mountain Deposit could be a Snip-style ductile shear, possibly with a 120 strike. Drilling of mine veins has hitherto been along sections sub-parallel to the Snip structural direction and to levels still within the brittle Lower Hazelton volcanosedimentary rocks, providing no previous test of this model.

## **9.6 Geomorphology**

The Johnny Mountain area has been deeply incised by glaciation, a process which continues to the present, albeit with greatly deflated levels of the glaciers (Johnny Glacier has deflated by roughly 50 m in overall elevation of its surface in the last 15 years). The style in the area is that of valley glaciation; individual mountain ranges have crudely radial ice movement, outward from their recharge areas, rather than the large-scale consistency of a continental ice sheet. Nevertheless, in the central part of the Iskut property, the most recent glacial transport has taken place from the southeast to the northwest, parallel to and down the Jekill and Craig Rivers, Bronson Creek and downhill from the two cirque glaciers (Johnny and Camp Glaciers). Aerial photographs display scour features confirming the northwesterly ice transport direction over much of the property. Ice direction is important in evaluating the previous soil geochemical anomalies and mineralized boulder trains present on the property. Some of the previous soils were collected from basal tills deposited from glaciers and somewhat modified by more recent downhill slides and creep.

Much of the property except within cirques and elevations over about 1200 m are covered with a metre thick blanket of tephra derived from the Quaternary tuya (subglacial volcano) of Hoodoo Mountain north of Iskut River. This soil provided many problems with collecting and interpreting previous soil sample results. MMI soil sampling was conducted in summer 2006 to overcome these problems and is discussed further under Exploration.

## **10.0 Deposit types**

### **10.1 Mineral deposit models for the property**

#### ***General***

The Iskut property lies within the Mesozoic arc-related volcanic and volcanosedimentary rocks of the Stewart Complex and was the northwestern apex of the popularly defined and precious metal-rich “Golden Triangle”. The discovery of the world-class Eskay Creek Au deposit, 30 km

east of the property, prompted redefinition of the “Triangle” and it was subsequently expanded to include the developed porphyry prospects of Galore Creek and Schaft Creek (Fig.3). With the closure of the Eskay Creek Mine this February, the Stewart Complex will have produced at least 100 tonnes of Au and 3,500 tonnes of Ag. Well over half this production came from Eskay Creek.

The area hosts roughly 1000 mineral occurrences, more than 700 of which are showings. The more advanced prospects are almost all magmatic-hydrothermal deposits, and mainly of vein-type, porphyry-related, volcanogenic massive sulphide and epithermal types in that order of abundance. Skarn-type mineralization is common in the Stewart Complex, but occurrences are small in size and few have advanced in development beyond the status of showings. It is also significant to note that none of the true porphyry-style deposits in the area have achieved production despite their large size. The expense of mining a deposit in this remote area requires that it be of exceptional grade in order to carry the costs of development and production. The recent suspension of the development of the Galore Creek porphyry Au-Cu deposit is evidence of this.

Vein-type deposits are more abundant than volcanogenic massive sulphide deposits but, with the exception of the Snip/Stonehouse, camp, every part of the Complex contains past producing deposits with affinities to volcanogenic massive sulphide deposits. In particular, the Eskay Creek deposit, which produced 60% of all the gold hitherto mined from the Stewart Complex, is identified as a subaqueous Au rich hot spring environment.

Deposit types occurring in the general area of the property are exclusively associated with volcanic arc strata and related intrusions of the early Jurassic period. These include quartz-sulphide vein deposits, copper gold porphyry deposits, and volcanogenic massive sulphide deposits of three types: subaqueous Au-rich hot spring, Kuroko and Besshi.

### ***Quartz-sulphide vein deposits***

The most notable quartz sulphide vein deposits include the Snip mine (MINFILE 104B 250), 500 m north of the property, the Johnny Mountain mine (Stonehouse deposit, MINFILE 104B 107), central to the property, and the Inel deposit (MINFILE 104B113), 5 km southeast of the property. The Snip mine produced 32,000 kg of gold, 12,200 kg of silver and 249,000 kg of

copper from about 1.2 million tonnes of ore. This deposit is a Au-Ag-Cu (Pb-Zn-As-Sb-Bi) bearing mesothermal quartz-sulphide vein system localized along a steeply dipping, northwest trending shear zone. The Stonehouse deposit processed 207,000 tonnes grading 15 gm/t gold, 30 gm/t silver and 1.5% copper from silica flooded veins containing pyrite, chalcopyrite, sphalerite, galena, pyrrhotite and trace quantities of electrum and gold. These veins are associated with an east-northeasterly trending set of plagioclase porphyry dykes. The Inel deposit is 12 km southeast of the Snip deposit and consists of a swarm of quartz-sulphide veins that contain pyrite, sphalerite, galena and chalcopyrite. Precious metal values are highest in the hanging wall of northwest trending, southwest dipping shear zones where K-feldspar alteration is predominant.

### ***Gold copper porphyry deposits***

The only porphyry deposit in the immediate area is the Red Bluff alkalic gold-copper porphyry deposit (MINFILE 104B 077), The deposit is hosted by a hydrothermally altered, intermittently K-feldspar-megacrystic monzonitic plagioclase porphyritic intrusion immediately northeast of the property, corellated with the Early Jurassic Texas Creek Plutonic Suite. In an unaltered equivalent of the Red Bluff, exposed on Snippaker Ridge, the K-feldspar phenocrysts contain vermiform inclusions of sulphide and hornblende phenocrysts are commonly altered to magnetite, hæmatite, pyrite, biotite and chlorite.

There is a close spatial association of the Snip gold deposit with the Red Bluff copper-gold porphyry that combined with metal and alteration zoning consistent with porphyry systems, suggests that the mineralization for both deposits were synchronous Early Jurassic deposits. The Galore Creek deposit, 50 km north of the property, is a copper-gold porphyry that is brecciated and faulted within a sub-volcanic environment of deposition and overprinted by extensive potassic, propylitic and pyrometasomatic alteration. The complex is hosted by the Texas Creek-Galore Creek plutonic suite. Other copper-gold porphyry systems in the area include the Khyber Pass (MINFILE 104B138) and Sericite Ridge (MINFILE 104B 318).

### ***Subaqueous Au-rich hot spring VMS deposits***

Gold and silver-rich bedded volcanogenic massive sulphide occurs at Eskay Creek (MINFILE 104B 008). It is also described as “Subaqueous Hot Spring Au-Ag” (D.J.Aldrick, 1996). At Eskay Creek mineralization occurs as vein stockworks, major breccia veins, and strataform

sulphide lenses and layers formed by “hot spring” fluids vented into a shallow water environment. A near surface subvolcanic magma body is considered an essential source of metals, fluids and heat. Most of the ore lies within stratiform lenses of precious metal rich sulphides and sulphosalts overlying rhyolite domes in a volcanogenic massive sulphide setting. High-grade footwall veins were the focus of exploration for 50 years leading up to the discovery of the main zone. Production and reserves total 4.0 million ounces gold and 153 million ounces silver at grades of 1.4 oz/T Au and 63 oz/T Ag. (MINFILE 104B008). The age of the mineralizing intrusion is about 173 Ma, whereas the age of mineralizing intrusions at the Property is about 194 Ma.

### ***Kuroko style VMS deposits***

One significant Kuroko style volcanogenic massive sulphide occurrence is the Palaeozoic Tulsequah Chief deposit (MINFILE 104K 002), 220 km north of the property. It was mined by Cominco during 1951-1957, processing 933,000 tonnes at 1.59% Cu, 1.54% Pb, 7.0% Zn, 3.77 gm/t Au, and 126.5 gm/t Ag. Current resources under development by Redfern Resources are 5.38 million tonnes at 1.41% Cu, 1.32% Pb, 6.73% Zn, 2.73 gm/t Au, and 100.8 gm/t Ag. Mineralization occurs near the base of a large lenticular mass of dacite-rhyolite pyroclastic rocks.

### ***Besshi style VMS deposits***

An important Besshi style volcanogenic massive sulphide occurrence is the past producing Granduc Mine (MINFILE 104B 021), 60 km southeast of the property. Newmont Mining and Granby Consolidated Mining described ore reserves (historic, pre-N.I.43-101) before production, which occurred intermittently during the years 1971 to 1984, of 39 million tonnes grading 1.73% Cu (Granduc Mines Ltd. Annual Report 1969). The mineralization occurs as a series of concordant massive sulphide lenses localized within a complex sequence of deformed volcanosedimentary rocks of Lower-Middle Jurassic Hazelton Group and uppermost Triassic Stuhini Group. Individual ore zones up to tens of metres thick extend laterally up to hundreds of metres.

Ten km northwest of the property is the Rock and Roll prospect that is described as volcanogenic massive sulphide hosted within structurally deformed silicified mudstone to graphitic argillite units at or near tuff contacts all of probable Triassic age (Stuhini Group). (MINFILE 104B 377).

## **10.2 Geological concepts used for exploration of the property**

The past-producing Snip Deposit is a mesothermal shear-hosted gold vein deposit lying within 500 m of the Red Bluff Porphyry along a major southeast-striking structure, the Snip Structure, with an average dip of 45 degrees southwest under the Property. The structure can be followed southeast for 10 km through several showings to the Inel deposit and beyond.

Mesothermal veins are known for consistency and persistence of grade over great vertical extent. Diamond drilling will be used to test for a re-occurrence of Snip style mineralization along the Snip Structure about one km southeast of the Snip Mine and about three hundred metres below the bottom of the Snip deposit.

The Johnny Mountain Mine gold veins occurring within Hazelton Group rocks may have vented onto the seafloor and deposited precious metal rich massive sulphide mineralization similar to Eskay Creek mineralization although 20 Ma earlier than at Eskay Creek. If this occurred on the Property, the position of such mineralization would be up-section from the highest level of gold veining. Mapping will be used to select exploratory drill holes followed by down-hole EM geophysical surveys to aid in locating subsequent drill holes.

A Kuroko style VMS target is indicated in the area of the Cliff Showings where rhyolite containing footwall style mineralization is greater than 100 m thick and is overlain by unaltered argillite. The area has been mapped and MMI soil sampled. Drill holes will be located to drill through the argillite and rhyolite and with the assistance of the geophysicist to provide good locations for downhole geophysical surveys.

A Besshi-style VMS target under the Stonehouse Deposit will be evaluated by down-hole EM geophysical surveys (using 2007 drill holes) to identify future drill targets.

Mapping and MMI soil sampling should be done in selected areas to continue developing geological/geochemical models for future drill programs.

## **11.0 Mineralization**

The prospects are subdivided into four areas as shown on Figures 4, 7, 8 and 9. They are the Johnny Mountain Mine Area, Bronson Ridge Area, Craig River Area, and Jekill River Area. Descriptions of showings from previous operators are so noted as are those corroborated by 2006 and 2007 SBM work.

Snip vein-shear mineralization extends for three km to the southeast of Snip Mine and includes the CE, Bonanza, Stairway and Ladder Showings, none of which are described in this report as they lie just east of the Property.. These showings contain much lower gold grades (< 3 gm/t Au) with little untested room for developing significant sized orebodies of better grade near surface. Vertical zoning from high Pb-Zn in some of these showings to precious metal enriched Au-Cu-Ag veins and shears at much greater depth than tested to date remains a possibility.

### **11.1 Johnny Mountain Mine area (Figure 7)**

#### ***Johnny Mountain Mine (after Yeager and Metcalfe 1990, Yeager 1991, Rhys, 1994)***

Extensions of gold vein mineralization at Johnny Mountain Mine have been explored in detail with numerous drill holes along strike but somewhat fewer to any great depth. Reactivation of the mine in 1993 after its closure since September 1990 failed to find sufficient mill feed to keep the mine open beyond three months of operation. As a result no significant resources (and certainly none that are 43-101 compliant) are believed to lie within or near the mine workings.

The Johnny Mountain Mine veins lie within intermediate volcanic sedimentary rocks including massive coarse-grained volcanic and volcanosedimentary rocks. These are intruded by a series of southwesterly striking steeply northwesterly dipping plagioclase  $\pm$  K-feldspar porphyry dykes that are up to 20 m in thickness. A U-Pb zircon date of 194  $\pm$ 3 Ma was obtained from a thick feldspar porphyry dyke in the hanging wall of the Discovery Zone (Bevier 1990, published in Lewis *et al.* 2001).

Steeply dipping tabular to irregular intrusive-breccia units are locally cut by feldspar porphyry but are difficult to map in the volcanic section due to similar textures. Steep northwest dipping auriferous quartz-pyrite veins (25% pyrite) and related potassium feldspar alteration envelopes are superimposed on all of the lithologies described above. The veins are subparallel to but slightly steeper than the north dipping porphyry units and where mined were typically 0.5 – 2

metres wide. Mining widths up to 8 m existed locally. Grades of mill feed were 14.7 gm/t Au, 27 gm/t Ag, and 0.7 %Cu (J.M. Britton et al, 1989).

Late fresh basalt dykes intrude the mine workings.

***McFadden and Surrounding Area (after Young, 1985, MEMP O.F. 1990-19, Rhys 1994)***

The McFadden Gold Float Zone is an exceptional geochemical anomaly that has been explored previously but without success. It was discovered in 1960 by Hudson's Bay Mining and Smelting prospectors but not worked on again until the early 1980s. *"In 1982, assays from 13 samples taken from the zone averaged 2.88 oz/ton of Au"* (Gordon, 1985). *"Apparently, all of the altered, mineralized material, including jarositic fines, carries significant gold values. A number of samples of massive sulphides average better than 75 ppm; altered siliceous material without massive sulphide assayed 3.90 ppm in one sample only. Also, in one sample only, the jarositic fines assayed 5 ppm"* (Young, 1984). Seven samples of massive sulphide collected by Richards in 2006 assayed >100 gm/t Au in three samples and 98.9, 67.9, 13.4, and 4.2 gm/t Au in the four other samples with anomalous Cu (104 to >10,000 ppm), Zn (275 to 653 ppm), Pb (104 to 2553 ppm) and Ag (10.0 to 53.5 ppm).

The float zone is part of a moraine along the west side of Johnny Glacier containing a persistent amount of highly altered and mineralized material which is noticeably limonite stained. Much of this material was collected and placed in drums for feed for the mill (D. Yeager, pers. comm.). Perhaps 50 to 100 mineralized boulders remain to make up the mineralized float zone. 50 metres of moraine between the glacier and the float zone contain no sulphide boulders. Here the boulders are somewhat rounded whereas all the boulders within the mineralized float zone are noticeably more angular. The unmineralized portion of the moraine consists of volcanic material like that exposed on adjacent hillsides. Massive sulphide mineralization makes up a high portion of the altered and mineralized float. Mineralization comprises pyrite with minor chalcopyrite and traces of galena and sphalerite. Young (1984) describes thrust planes in the toe of Johnny Glacier that contain jarositic material also anomalous in gold.

The float zone occurs on the upslope and up-ice end of an intense >500 ppb Au in soil anomaly that extends from the toe of Johnny Glacier for about one km to the northwest. This strong Au in

soil anomaly is encompassed within a much larger multi-element (Au,Ag,Pb,Zn,Cu,As) soil anomaly that extends from the leading edges of Camp and Johnny Glaciers downslope across the surface traces of Johnny Mountain Mine veins to the base of slope. The general limits of this larger soil anomaly are shown on Figure 4.

The source of the gold-bearing float was considered to be a gold vein system buried beneath Johnny Glacier and till. Several interpretations of the source of the boulders place it somewhere near an ice-fall that lies about 500 m southeast of the uphill end of the sulphide bearing float. However, other samples of sulphide bearing float collected by Richards in other localities nearby were also anomalous in gold though not with such high values. Samples collected at “ARKTE” on Figure 7 contained gold values as high as 2,679 ppb with 9,159 ppm Cu, 124 ppm Pb, 388 ppm Zn and 25 ppm Ag. These were samples somewhat similar in mineralization to the McFadden boulders although considerably smaller. They were sitting in a lateral moraine between Camp and Johnny cirques and some could be from much higher in the cirque than the ice-fall. Three samples collected from the long float train on Johnny Glacier east of the McFadden Float train, labelled “GLACIER FLOAT ZONE” on Figure 7, were of siliceous rhyolite with quartz veinlets and limonitic stained surfaces and fractures. One sample assayed 1,638 ppb Au, 232 ppm Cu, 4,948 ppm Pb, >10,000 ppm Zn and 1.6 ppm Ag. These samples were collected on the surface of Johnny Glacier from a boulder train containing abundant similar material stretching down-ice to the toe of the glacier and out onto moraine and up-ice hundreds of metres out of sight over a swale in the glacier. Similar material was noted within till below the toe of Johnny Glacier. Rusty cliff faces at the top of Johnny Glacier appeared to be the source of these last named boulders but these cliffs were sampled by Skyline personnel years ago with no encouragement (D. Yeager, personal communication).

The age of mineralization at Stonehouse is  $194 \pm 3$  Ma compared with roughly 175 Ma at Eskay Creek. The two deposits formed in different metallogenic events within the Hazelton, precluding any direct correlation between them. However, preliminary work elsewhere in the Stewart Complex (Metcalf unpubl. data) strongly suggests that subaqueous hot spring related mineralization similar to that at Eskay Creek occurs in the earlier (Lower Hazelton) metallogenic period. If the Stonehouse vein system did indeed vent onto a sea-floor, there is excellent potential for deposition of precious-metal rich massive-sulphide rich sediment. This target could



be concealed within the Hazelton Group section of rocks exposed on both sides of Johnny Glacier.

A VMS style of mineralization was described near the original Pickaxe vein showing by Bob Gifford, an experienced and well known geologist who worked on the property in the early 1980s. (D. Yeager, pers. comm.). This showing was apparently a small occurrence dipping parallel to the hill slope and destroyed by subsequent trenching.

Precious metal rich sediment could only be deposited if the veins vented into water. Lower Hazelton sedimentary rocks are subaqueous in origin and the existence of argillite within the dacite unit indicates that this environment of deposition persisted through at least some of the overlying units.

### ***Reg 7 Gossan (after Burgoyne, 1992)***

The Reg 7 Gossan Showing is shown on Figure 4. The only description of this gossan found in Skyline records was that included in a report by A Burgoyne in 1992 on work compiled by M Moore as follows. *“A large gossan exists partly on the REG 7 (owned 100% by Skyline) and partly on the GOSSAN 17 claim of Cathedral Gold. This mineral occurrence has not been observed in the field by any Skyline geologists. Work done by the author on the Bronson Glacial moraine in 1987 for Cominco Ltd. was successful in outlining a large area of massive sulphide boulders. These boulders of massive sphalerite and galena are of economic significance. It was felt at the time the likely source of this massive sulphide float was gossans outcropping on west side of the Bronson Glacial valley. Conceivably the float may be related to this large gossan on Skyline ground. It is recommended that a visit to the gossan be made in the 1992 field season if conditions allow. Of extreme importance are safety considerations. The author witnessed several ice avalanches during the course of his short morainal (sic) prospecting work.”* There was no reference to what ‘economic significance’ meant nor to whether or not the gossan was examined in 1992 as recommended. Mr D Yeager states that this follow-up was not done.

In 2007 SBM personnel found massive galena-sphalerite vein mineralization with anomalous values for Ag (highest values >100ppm) and Au (up to 363 ppb) over a few hundred metres and open along both ends. This occurrence is in the area described for Reg 7 and on strike with the major Snip Structure that extends from Snip to Inel.

***Cornice (after A. Burgoyne, 1992 and Yeager, personal communication)***

Two hundred metres south of the southwest end of the mine veins, Skyline Gold drilling encountered massive sphalerite and galena in sandstone with some associated K-feldspar alteration. Six holes were drilled in the area in 1988. Hole S-464 returned grades of 0.033 oz/T Au, 3.14 oz/T Ag, 6.81% Zn, 2.21% Pb, and 0.07% Cu over 35.5 feet. Holes S-460 to S-463 and S-465 were not analyzed for base metals but contained significant sphalerite mineralization. The mode of deposition of this mineralization is unknown. Mr D Yeager describes much of the mineralization as occurring as breccias. Core from these holes was located in 2007 in the core storage area east of the old mill. Core was not examined.

Thin “beds”, a few cm thick, of massive sulphide were traced by Richards intermittently across about 200m of outcrop within the Hazelton lower sedimentary succession in this area. The Cornice mineralization could be volcanogenic massive sulphide mineralization distal to significant sized bodies of similar or higher grade.

***AQ Showing***

The AQ Showing is a poorly exposed fragmental massive pyrite “bedded” occurrence 15 cm thick found in 2006 by prospecting along five linear weak airborne EM anomalies identified by the 2006 Aeroquest airborne mag-EM survey. The anomalies were so weak that only one of them was eventually picked by Aeroquest as a significant anomaly, not an unusual occurrence because of the abundance of such weak anomalies.

The showing was within a few metres of one of the EM anomalies. Other anomalies were covered by glacial drift. Samples collected from the showings were low in base and precious metals, weakly anomalous for Sb and contained slightly elevated values for As and Ag. Four MMI soil lines completed in 2006 over the EM anomalies contained numerous samples anomalous for Au as shown on Figure 7 and strongly anomalous for Zn-Pb-Ag-Ba-Ca and less so for As. High Ca probably reflects the calcareous nature of some of the Hazelton lower sedimentary units believed to underlie the area. Other anomalous elements are commonly associated with volcanogenic massive sulphide deposits. The MMI soil survey was expanded in 2007 around the 2006 survey but samples were mislaid en route to the analytical laboratory. Completion of the survey is recommended for 2008.

The geology of this area relates well with the section in the bottom of hole SB-07-03, described below, that contains mineralization interpreted as Besshi-style VMS.

## 11.2 Bronson Ridge area (Figure 8)

The numerous showings in this area are zoned from Au-Cu-Ag-Mo-Bi in the north proximal to the metallogenic Red Bluff Porphyry and extend southwest 1500 m southeastward to Zn-Pb-Ag enriched showings distal to the Red Bluff Porphyry. *“The distribution and abundance of biotite in areas distal to the Red Bluff Porphyry along the west side of Johnny Mountain and the huge area containing mineralized veins argues against an origin related solely to the Red Bluff hydrothermal system and suggest a larger fluid source, possibly an underlying batholithic parent to the Red Bluff Porphyry. Sills and dikes similar in age, mineralogy and texture to the Red Bluff Porphyry (e.g. Stonehouse dikes) that lie within or just east of the zone of biotite development and the phyllic alteration zone on Sky Creek may represent the effects of dikes and cupolas derived from a hypothetical buried pluton that also may be the ultimate source of hydrothermal fluids. A cupola underneath the Sky Creek alteration zone may also explain why the distribution of veins with potassic alteration is skewed to the southwest of the Red Bluff Porphyry.”* (Rhys, 1994). A subdued magnetic high seen on the 2006 aeromagnetic survey under this last described area could be related to just such a buried intrusion.

Vertical movement along northeasterly striking cross faults with apparent southeast side down movement has preserved Pb-Zn-Ag mineralization that could have formed high (>1 km) above precious metal enriched portions of the same shears seen at surface to the northwest. Following the mineralized shears southeasterly they stop abruptly at the contact with volcanic rocks of the Hazelton Group, which is interpreted to indicate that the volcanic rocks are post mineral cover and that the shears continue southeasterly under Mount Johnny.

The following occurrences are described from northwest to southeast.

### ***Sky (after Burgoyne 1992)***

This showing crosses a 1,500 m long strong rusty clay-pyrite alteration zone trending 120 along Sky Creek. Disseminated to massive pyrite and chalcopyrite mineralization is localized along 025 shears on the steep south slope of Sky Creek. These shears lie along the projection of Lamp Fault, a mineralized fault containing a late lamprophyre dyke. Grades of 0.17 oz/T Au and 1.5%

Cu were obtained from a 018 striking, wide shear zone at the 650 m elevation. The width was not specified.

Drilling by Cominco in 1994 crossed the Sky Creek Structure 300 m northwest of Sky Showing. Drill hole 16 intersected a 0.35 m shear vein that assayed 0.50 gm/t Au, 54.1 gm/t Ag and 1.2 % Cu. Similar gold grades were reported in the other two holes crossing the structure 200 and 400 m further northwesterly with much lower Ag and Cu grades.

***Lamp (after Burgoyne, 1992 and Yeager, personal communication)***

A wide pyrite zone occurs within a 025 trending fault. Wide auriferous sulphide mineralization was encountered in 1986 drilling of the Lamp Structure with hole 86-7 returning 9 gm/t (0.264 oz/T) Au over 11.8 m and hole 86-12 returning 20 gm/t (0.586 oz/T) Au over 17.0 metres. Lamprophyre dikes also intrude this structure. The drill holes were drilled by Cominco in 1986, an estimated 350 m north of the Iskut Property. It is important to realize that the Snip shear-vein crosses the Lamp Fault with ore mined up to the fault but not on its southeast side, where grades were considerably lower. The Lamp Fault is on strike with the Sky Showing described above.

***Mike (after Burgoyne, 1992, D Yeager, Personal communication)***

A grade of 0.380 oz/T Au over 1.1 metre was obtained from the Mike Showing trench from a massive pyrite vein with traces of chlorite, galena, and chalcopyrite within a dacitic tuff. Soils in the area are high in Au, Cu, Pb and Zn. Nine holes drilled in 1988 and four holes in 1989 intersected pyrite mineralization with anomalous Au and Cu in a few holes. Mineralization appears structurally controlled.

***Boundary (after Burgoyne, 1992, SBM, 2006)***

A massive pyrite vein with minor sphalerite and galena associated with auriferous quartz and K-feldspar-rich hangingwall breccia occurs in altered rhyolite tuff. High (>200ppb) Au in soils led to trenching which uncovered the vein with a grade of 0.146 oz/T Au over 0.6 m and the breccia with a grade of 0.898 oz/T Au over 1.3 m. The one hole drilled, 89-910, intersected a 0.3 m massive pyrite vein that assayed 0.034 oz/T Au over 1.1 m.

The trenches were visited by Richards in 2006. Best Au grade was 1.8 gm/T from a pyrite vein measuring 0.50 to 0.70 m wide. The attitude appeared to be 130 with a moderate NE dip. A drill hole was found with an attitude of 200/45°.

***OSC (after Burgoyne, 1992)***

Quartz, K-feldspar, pyrite, chalcopyrite breccia mineralization occurs on a cliff face within dacitic tuffs and lapilli tuffs. Anomalous Au samples were taken at the showing ranging from 0.02 to 0.09 oz/T Au. One drill hole tested the mineralization in 1989 giving no Au grade encouragement.

***C-3 (after Burgoyne, 1992 and Yeager, personal communication)***

The C-3 Showing was diamond drilled in 1989 and 1990. Hole 89-908 returned a grade of 0.60 oz/T Au over 4.0 m from two consecutive two metre samples. Close inspection the following year showed the high assay to be due to very high gold contained within a 0.10 metre interval straddling the boundary between the two sample intervals. Trenching in 1990 revealed the existence of two cross-cutting structures. Ten drill holes in 1990 tested the 023/90° and the 110-120/40°NE structures. Gold values were uniformly low. The 110 structure is comprised of strongly sheared quartz and feldspar altered tuffs with disseminated to semi-massive pyrite, pyrrhotite, chalcopyrite and sphalerite with traces of galena. Sporadic gold mineralization was limited to the 110 structure. The high grade 1989 intercept was explained as a gold enriched pod occurring at the intersection of the two structures.

***Two Bit and Old Pit (after Burgoyne, 1992, SBM 2007)***

Massive and disseminated pyrite, pyrrhotite and sphalerite ± galena occurs in calcareous sandstones and siltstones. Hole 85-61 intersected 1.66% Zn over a 2.6 m interval and 1.02 oz/T Ag over 1.8 m. Thirty seven rock chip samples collected by SBM in the area of these showings were anomalous for Pb, Zn, Ag and Au in more than half the samples with highs of >100 ppm Ag, 457 ppb Au, >10,000 ppm Pb and >10,000 ppm Zn.

***George (SBM, 2006)***

A poorly exposed outcrop of massive sphalerite-galena with pyrite, found in a small creek near the top of a hill, returned chip sample values of >10,000 ppm for Zn and Pb with 60.3 ppm Ag

and 156 ppb Au over about one m and 6,573 ppm Pb, 3,028 ppm Zn, 22.9 ppm Ag and 27 ppb Au over an adjacent metre. The showing occurs at a pronounced break in the most pronounced magnetic linear defined by the Aeroquest Mag-EM survey, possibly indicating magnetite destructive alteration associated with a more significant showing than indicated by the sampling. High MMI soil response ratios for Pb, Zn, Ag, and Au form a linear pattern across four soil lines from here 800 m northwest. The showing lies within the area of numerous northwest trending Aeroquest EM anomalies.

### ***Blue Grouse (SBM 2006)***

A 28 m wide siltstone and limestone section is cut by numerous 290/70 NE to 301/60 NE high sulphide structures measuring two m, one m and one m wide. Intervening rock contains one to 25 percent fracture and disseminated sulphide with some strong clay alteration. Sphalerite and galena were noted in most samples. Eight chip samples were collected across structure. One of the better assays was 1,900 ppm Pb, 8,772 ppm Zn, 10.9 ppm Ag, 163 ppb Au, >10,000 ppm As, 21.1 ppm Sb and 38.8 Bi over 5 m. Other samples were similar in base metal grade with better gold and silver values of 685 ppb Au with 15.5 ppm Ag over 1 m, 716 ppb Au with 18.4 ppm Ag over 4 m and 334 ppb Au with 6.9 ppm Ag over 3 m.

High MMI soil response ratios for Au, Ag and Pb occur as a linear pattern across three soil lines from the showing to the northwest over a 400 m distance. The showing lies within the area of numerous northwest trending Aeroquest EM anomalies.

### ***Silver Dollar (after Burgoyne, 1992 and SBM, 2006)***

Massive pyrrhotite and pyrite occupy a 288/50° N 0.5 m wide structure in argillite. Clay alteration of argillite up to two m away from the structure contains 1-5% sulphide. The structure is exposed in a trench over a 30 m length and is coincident with a strong EM anomaly 1,200m long. Anomalous but variable Ag, Pb and Au MMI soil values are associated with the structure. Base and precious metal values of the sulphide mineralization are low.

***Silver Tip, Zinc Trench, Windsock, Black Cat and Two Barrel. (after Burgoyne,1992 and SBM, 2006)***

All these showings occur near the northwest end of the airstrip in argillites and wackes with very minor calcareous sections. All are high sulphide veins controlled by a strong northwest shear direction. All veins are less than a metre in width and pinch to much narrower widths over short distances. Variable amounts of clay alteration and minor quartz veins are associated. Au grades are low. Four holes drilled in the area as well as trenches over the showings failed to produce any high gold values and only anomalous Zn with a few silver values to a high of 2.6 oz/T Ag.

Very few anomalous MMI soil values occur in the area with no discernible pattern. All these showings lie within the area of numerous northwest trending EM anomalies.

**11.3 Craig River area (Figure 9)**

The SMC and Cliff Showings have features similar to Kuroko style volcanogenic massive sulphide deposits and also shear-veins making evaluation difficult.

***Cliff. (after Forbes, 1992 & SBM 2006,2007)***

The Cliff Showings, A, B, C, D on Figure 9 returned the highest values of 2.2, 2.3, 3.6, and 8.0 gm/t Au respectively with most other anomalous values in the 50 to 700 ppb Au range. The host rock is rhyolite that has been locally silicified, weakly brecciated and veined with quartz veinlets up to one cm wide but generally much less than this value. Galena and pyrite with minor sphalerite and chalcopyrite occurs as veinlets with quartz and as disseminations near these veinlets. The rhyolite is overlain by unaltered argillite except along High Gold Creek and its tributaries where clay altered sedimentary rocks with local biotite hornfels is exposed. This alteration is probably related to a small diorite plug along the northern claim boundary near High Gold Creek.

A linear pattern of highly anomalous Au, Pb, Ag  $\pm$  Zn in MMI soil samples overlies the rhyolite over a one km length. The anomalous soil pattern occurs over a west-facing slope, with a pronounced northwest linear at the base. Alteration within the rhyolite could be footwall mineralization to a massive sulphide occurring either within the rhyolite or at its contact with overlying argillite. It is equally possible that the mineralization is related to a Au-Ag shear-vein lying along the linear at the base of slope.

*SMC (after Forbes, 1992, SBM, 2006)*

The SMC Showing was discovered in 1988 during construction of the road leading from Bronson Airstrip to the Johnny Mountain Mine. A single drill hole was completed at that time. Showing exposures were increased in size by four back-hoe trenches. Twelve diamond drill holes were completed on a very tight grid along 40m of strike length in 1991. Drill results yielded many mineralized sections with grades similar to the trench samples and better grades shown in Table 3. Figure 12 is a good summary of the northeasterly dipping mineralization as defined by previous drilling and associated with felsic and andesitic volcanic rocks.

Mineralization has been described by various geologists as volcanogenic massive sulphide but also as shear-hosted. Mineralization has been traced over a 160m strike length in the trenches and follows a NNW trend. Rock types described include intermediate to felsic tuffs to lapilli tuffs within more extensive wackes and siltstones. Massive sulphides are well laminated within the tuffs. Sphalerite and pyrite are the dominant sulphides with lesser galena and chalcopyrite. Sulphides also occur as veinlets within brecciated felsic tuff subparallel to foliation/bedding. Silicification is strong where metal grades are highest. Foliation and shearing attitudes are highly variable but drilling shows bedding and mineralization to be dipping moderately northeast.

One hundred and twenty-five channel samples were collected by Adrian Resources Ltd in 1991 by making two cuts about 5 cm apart with a carbide blade across outcrops and chiselling out the intervening rock. Sample lengths were from 0.8 m to 1.8 m long but most were 0.9 m to 1.1 m long. 15 of these samples returned grades greater than 0.1 oz/T Au (3 gm/t) with a high of 0.243 oz/T Au (7.5 gm/t). Silver grades were 0.5 to 2.5 oz/T, lead 0.2 to 5.7 %, zinc 0.38 to 19.4 %, and Cu 0.07 to 0.56 %. Many of the lower grade gold samples were also similarly anomalous for these other metals. Orientation of the samples was in general across structure although not all. Resampling of many of the channel samples in Oct 2005 by Richards and described below showed good correlation of previous assay results with current assay results. Grades from trenches were similar to grades of mineralization in drill holes.

Diamond drilling by SBM in 2007 and described below failed to show continuity of mineralization to depth, probably as a result of fault complications.



### ***Tillerman (after Forbes, 1992)***

The Tillerman Showing was discovered in 1991, 300m east of the SMC Showing by follow-up prospecting from soil and VLF (very low frequency)-EM surveys. Two drill holes were completed in 1991 with low results. Hand trenching returned high zinc and locally high lead and copper values.

Mineralization consists of pods, lenses and stringers of massive to semi-massive sulphides hosted by a locally brecciated and silicified intermediate volcanic. Pyrite is the dominant sulphide (up to 40%) with lesser sphalerite, chalcopyrite and galena. Gold and silver values are typically low (<0.5 gm/t Au). The best sample assayed 0.6 gm/t Au, 32.6 gm/t Ag, 3.03% Pb, 9.11% Zn, and 1.14% Cu. Of 22 trench samples, 3 were over 1.0% Pb, 14 were over 1.0% Zn, and one was over 1% Cu.

The soil anomaly is much bigger than the showing. Overlapping anomalous patterns of individual metals measures roughly 200m by 500m based on >100ppb Au, >5ppm Ag, >800ppm Zn, >300ppm Pb, and >300ppmCu with less anomalous support from adjacent samples.

The showing is located at the southeastern limit of a 700m long VLF-EM anomaly and is also associated with a weak HLEM (horizontal loop electromagnetic geophysical survey) anomaly approximately 100m long.

### ***Road Show (after Burgoyne, 1992)***

The showing is a massive pyrite and chalcopyrite vein in wackes. One trench (1989) encountered well distributed Au values of 0.61 oz/T Au across an average 0.5 m width over a 50 m strike length. Fourteen holes were drilled in 1988 (3,681 ft). No mineralization was encountered. Attitude of vein could have been misread. Showing was relocated in 2006 but no sampling undertaken.

## **11.4 Jekill River area**

This is a loose geographic term that describes an area south of Craig River Area and includes some showings with high gold potential. No work was done on these prospects in 2006 and 2007.

### ***Burnie (after Yeager, 1991)***

The Burnie vein systems are hosted by a penetrative northwesterly trending shear zone approximately 35 m thick, the core 10m of which is so intensely deformed as to be called a mylonite. The zone is also intruded by two megacrystic plagioclase phyric dykes which have themselves been sheared and silicified. Similar mylonites have been identified in outcrop 350 m along strike to the northwest where quartz flooding was also noted. This structure is likely to be large enough to have considerable strike and dip potential and by virtue of its width could develop thick ore shoots. Identical mylonite was reported by two prospectors and supported by photographs in Skyline's records 3km on strike southeast of the Burnie, demonstrating the expected continuity of such a strong structure.

The quartz flooded shear zone contains gold, silver and traces of lead and zinc. Previous trenching exposed the zone for over 12 m of thickness. Individual quartz veins within the structure contained as much as 15.4 gm/t Au and 47 gm/t Ag across 0.5m. A single drill hole beneath the trenches encountered 1.15 gm/t Au across 2.8 m. at the projected location of the Burnie-1 vein. A second quartz vein system was intersected uphole from the Burnie-1 system and is correlated with either an overburden covered vein or a vein exposed in a second trench.

The best gold values recovered to date in the Burnie area are from quartz float boulders found in the streambed of the next creek to the south of the Burnie trench area. Samples of numerous quartz boulders contained high grade gold mineralization with as much as 96.8 gm/t Au and 212 gm/t Ag.

The Grace Two silicified shear prospect lies about 1,200m southeast of the Burnie prospect slightly off trend with the trend of the Burnie structure. A select sample contained 11.0 gm/t Au.

### **C-1 (after Yeager, 1991)**

The C-1 prospect occurs in Stonehouse Creek as quartz veins containing high grade gold and silver with galena, sphalerite and chalcopyrite. Three mineralized veins have been exposed by trenching. Previous detailed sampling of these veins yielded grades as high as 60.9 gm/t Au and 520 gm/t Ag across 0.9 m as well as 45.8 gm/t Au and 101 gm/t Ag across 0.8 m. A single drill hole drilled beneath two of the trenches encountered low grade gold quartz veining. A third vein

discovered just downhill from the drill pad after drilling was completed, yielded a grade of 45.8 gm/t Au over 0.8 m.

The C-1 prospect lies two km due north of the Burnie prospect, about a km off the projection of the structure that controls the Burnie vein system. It is thus considered part of a separate vein system. The C-1 prospect lies fairly close to the northeasterly trending major Johnny Creek Fault but any relationship to this fault has not been demonstrated.

## **12.0 Exploration**

Work on the property by Spirit Bear Minerals began with Richards making a visit in Oct 2005 to resample the trench on the SMC Showing. A review of all data in the winter of 2005-2006 led to a two month long exploration program in summer 2006. This was followed up by a five hole, 2,139 m diamond drill program in 2007. The 2006-2007 work comprised the following:

1. A helicopter borne Mag-EM survey over the whole property conducted by Aeroquest Limited of 4-845 Main Street East, Milton, Ont., L9T 3Z3. (2006)
2. An MMI soil survey involving the collection of 2,350 samples over three areas by Spirit Bear Minerals personnel.(2006)
3. Prospecting, geological mapping and rock chip sampling within the same three areas by a prospector and Richards. (2006)
4. Diamond drilling of 3,139 m in five holes on two targets. (2007)

## **12.1 Mag-EM survey**

Aeroquest Limited conducted a helicopter-borne magnetometer-electromagnetic (Mag-EM) survey using their “*exclusive AeroTem II time domain helicopter electromagnetic system which is employed in conjunction with a high-sensitivity cesium vapor magnetometer. Ancillary equipment includes a real-time differential GPS navigation system, radar altimeter, video recorder, and a base station magnetometer. Full-waveform streaming EM data is recorded at 38,400 samples per second. The streaming data comprise the transmitted waveform, and the X and Z component of the resultant field at the receivers. A secondary acquisition system (RMS) records the ancillary data.*” (Aeroquest Limited, 2007).

The survey was flown with a line spacing of 100 m. The control (tie) lines were flown perpendicular to the survey lines with a spacing of 1 km. The nominal Mag-EM bird terrain clearance was 30 m, but could have been higher in portions of the survey with more rugged terrain owing to safety considerations and the capabilities of the aircraft.

A more complete detail of the survey specifications are provided in Aeroquest's final report which has been filed with the B.C. Ministry of Energy and Mines as assessment work on the property (AR 28745).

The data was processed using Aeroquest's proprietary software algorithm and later was reprocessed by Spatial Vision Group Inc using their algorithm on the advice of Mr Phil Mudry, consulting geophysicist. This reprocessing provided a sharper definition of many of the anomalies.

The magnetic data provided a high resolution map of the distribution of the magnetic mineral content of the survey area which has been used to interpret the location of geological contacts and other structural features such as faults and zones of magnetic alteration. Magnetite is the predominant mineral causing a magnetic response, but pyrrhotite on the property is also strongly magnetic.

The EM anomalies are picked and classified by conductance and also by the thickness of the source. The AeroTEM system provides discrimination of thin and thick sources and this distinction is indicated on the EM anomaly symbols.

### ***Results***

The survey results have been extremely useful in interpreting geology and mineralization targets (Figures 4, 7-9).

Magnetic results show an expected high magnetic response over the south extension of the Red Bluff Porphyry. The proximity of the Snip shear-hosted vein to this porphyry, interpreted as the source of the precious metals implies a close genetic relationship between the two (Rhys 1993). Showings in this area are of greater interest because of their proximity to the porphyry and their concomitant enrichment in gold.

There is a weak but easily discernable positive magnetic anomaly approximately one km wide extending southwest from the Red Bluff Porphyry for a distance of 1,500 m. This may be caused

by an underlying intrusion which might in turn be a source for the gold-enriched showings identified in the area. This interpretation puts even greater importance to these showings; if true, the mineralization exposed at surface has excellent potential to increase in grade and thickness with depth.

Two northeasterly-trending, parallel, linear, positive magnetic anomalies seen on the Total Magnetic Intensity (TMI) map (Figure 5) are better delineated on the Magnetic Tilt Derivative (TDR) grid (not shown). These are interpreted as cross-faults occupied by younger mafic dykes. The more northwesterly anomaly coincides with previously mapped Big Gully Fault. The other trends through the new George Showing and is named the George Fault.

Mafic dykes with similar attitudes are known in the Red Bluff Porphyry. About 600 m northwest of Big Gully Fault a lamprophyre dyke has intruded along a gold-mineralized cross structure known as the Lamp Fault. The Snip structure crosses the Lamp Fault but gold grades fall abruptly across the fault. Mining of the Snip deposit was discontinued at the fault, which constrained the ore deposit on its southeast side. The Lamp Fault is subparallel to the Big Gully and George Faults and also hosts a late lamprophyre dyke, but lacks the strong linear magnetic signature associated with the other dykes. The Lamp Fault has been mapped for several hundred metres and the Sky Showing lies along its projection to the southwest. Breaks in the two strong linear magnetic patterns of Big Gully and George Faults could be caused by destruction of magnetite by alteration associated with mineralizing events. Replacement of magnetite by late pyrite was observed in diamond drill core at Red Bluff (Metcalf 1988). Other less pronounced interruptions of magnetic strength along these features may also reflect underlying alteration and mineralization.

The Big Gully Fault is a boundary to strongly anomalous values for Au-Ag-Cu in MMI soil samples northwest of the fault and to strong northwest trending EM anomalies southeast of the fault. Dacite occurs on the ridge northwest of the fault and changes abruptly to argillite-wackes southeast of the fault. The George Fault is associated with a rapid truncation of the conductivity pattern from 2 km wide southeast of the fault to a one km pattern northwest of the fault.

A northwesterly-trending EM response indicative of high conductivity is shown on Figure 6 and 8. This anomalous pattern is composed of four or five strong linear anomalies each up to 2 km long, within an area containing a large number of shorter linear anomalies that cross from two to

ten lines (150m to 1 km long). This pattern of EM anomalies is attenuated and terminated against the George and Big Gully Faults. To the southeast, this pattern of EM anomalies terminates abruptly against the contact with the Hazelton volcanic rocks coincident with the positive magnetic anomaly.

The positive magnetic anomaly associated with the Hazelton volcanic succession has been most useful in helping to map the extent of the Hazelton volcanics over the property south and east of the mine site. An intense negative magnetic anomaly correlated with Hazelton lower sedimentary rocks in two areas described in this report commonly occurs around the periphery of (i.e. downslope from) the positive magnetic anomaly.

At the rhyolite-related Cliff and SMC Showings of the Craig River Area, rhyolite can be correlated with negative magnetic anomalies using the Tilt Derivative of the magnetic field. The upper contact of the SMC rhyolite is also defined by a strong positive magnetic anomaly. The cause of this is unknown.

## **12.2 MMI Soil Survey**

The Iskut property is blanketed with a recent ash layer about one metre thick sourced from a volcano north of Iskut River. This ash occurs up to an elevation of about 1,200 m. The ash has caused difficulty with soil sampling in the past as it was not recognized in earliest soil sampling programs. Eventually, augers were used to try and collect soil samples below the ash layer.

The Mobile Metal Ion (MMI) method of soil sample analysis provides a unique way of dealing with such problems. It is a proprietary method developed by Wamtech of Australia. SGS Minerals Services in Toronto provides analyses in Canada. MMI Analysis uses a weak partial extraction scheme. The process measures the mobile metal ions from mineralization, which have moved toward the surface and become loosely attached to surface soil particles. Its effectiveness has been documented in over 1,000 case histories on six continents and includes numerous commercial successes. The anomalies are sharply bounded and in most cases directly overlie and define the extent of the surface projection of buried primary mineralized zones.

MMI analysis is used to “look through” deep overburden including such problematic materials as ash, clay-silt, and till layers and into bedrock over variable depths. The depth from which information can be returned is determined by substrate permeability and the amount of water

available to flow through bedrock and colluvium from the anomalous source of the metal ions. Transported anomalies are largely “ignored” by the method.

Lines were run by two Spirit Bear Mineral employees in July and August 2006 using hip chain and compass with a few GPS stations recorded along lines for control. Sample intervals were 20 m. Line spacing was generally 100 or 200 m. Watch and ring were removed prior to sampling. Pits were dug by shovel to a depth of 30 cm in order to expose the soil profile for sampling. The profile was scraped clean with a plastic scoop to remove any metal effect from the digging shovel. A continuous strip of soil was collected by plastic scoop from 10 to 25 cm depth below the top of true soil regardless of soil type, placed in a pre-numbered Ziploc™ bag and placed in an 11 inch by 20 inch 2 mil plastic bag. An appropriately numbered survey ribbon was hung on nearby vegetation. Soil type was recorded along with slope and dampness. Samples were kept cool and shipped to SGS Minerals Services in Toronto for analyses.

In the lab, samples are not dried or prepared in any way. The MMI process includes analyses of a 50-g sample. Multi-component extractants are used and metals are determined by ICP/MS in the part per billion range. Several element packages are available. Method code MMI-M, the exploration suite of 40 elements was used on all samples from this survey.

Response ratios are calculated for each element And the average value for results of the lower quartile is calculated for each element. One-half of detection limit is used for those samples with less than detection values. Each result is then divided by the lower quartile average to obtain its response ratio, rounding to the nearest whole number. Response ratios of 10 or greater for an individual element are considered significantly anomalous by experts in the MMI field. Response ratios can best be thought of as a multiple of background values and were calculated for Au, Ag, Cu, Pb, Zn, As, Ba, Ca, Bi, Mo and Ni. Sample sites were plotted using MapInfo software on TRIM data topographic base. Response ratios for Au are shown on Figures 7 to 9.

## ***Results***

Results for the three survey areas are discussed below. A geochemical signature involving Au-Ag-Pb-Zn-Ba+Cu is common from the surveys but it is difficult to differentiate mineralization styles underlying geochemical anomalies based solely on their signature. Mo and Bi could be more indicative of proximity to an intrusion than the other elements. High Au-Cu-

Mo values in veins have been shown to be related to proximity to the Red Bluff Porphyry (Rhys, 1994).

#### *Johnny Mountain Mine Area (Figure 7)*

At the Johnny Mountain Mine Area two strong multi-element anomalies and a number of less persistent anomalies occur. Beyond the western limit of the Stonehouse veins, two lines returned numerous samples with a strong, >10 response ratio (RR), for Au, Ag, Cu, Pb, Zn and Mo. The strongest responses correlate with the projection of the veins but the anomalies do not continue further west onto the next lines 150 m distant. The veins either die out or are terminated by cross-faulting. Interestingly the limit of the geochemical anomalous pattern corresponds with the limit of Hazelton volcanic rocks as defined by the high positive magnetic anomaly.

Two km south of the Stonehouse veins, four MMI lines placed over weak EM anomalies of the AQ Showing returned numerous soil samples highly anomalous in Au, Ag, Zn, Pb, Ba and Ca. Soils in this area consisted of till. A bed of fragmental massive pyrite 20 cm thick was found on the easternmost line near its south end. The geochemical-EM anomaly probably coincides with the Hazelton lower sedimentary succession and offers an excellent target for additional soil sampling, mapping and ultimately drilling. Several other multi-element anomalies occur along the soil lines and need more definition and prospecting to relate them to mineralization.

#### *Bronson Ridge Area (Figure 8)*

Twenty-one soil lines were sampled across Bronson Ridge in the area of numerous showings described above. Geochemical results are grouped into two distinct populations.

Northwest of Big Gully Fault over half the soil samples have a response ratio for Au of greater than 10 and half of these greater than 20 with many greater than 40. This is a highly anomalous pattern. OSC, Boundary, and Mike Showings occur within this area. Other elements associated with the gold are Ag and, to a lesser extent, Cu, Pb, Bi and Zn. High Bi and some high Mo is interpreted to indicate proximity to an intrusion and thus a likely shear-vein source and not a volcanogenic massive sulphide source.

There are two populations of anomalous values north of the Big Gully Fault. High on the hill between and around OSC and Boundary Showings is a discrete pattern of high response ratios for Au-Ag-Pb-Bi-Zn. Au is the most widespread anomalous element, merging with the other



pattern of anomalous metals lower on the hill. Along Sky Creek, the four lines northwest of Big Gully Fault have high response ratios for Au, Ag and Cu, particularly close to Sky Creek. High Pb and Zn occur in a few samples adjacent to Sky Creek; rocks along the creek in this area are altered to clay-pyrite. Since Sky Creek parallels the Snip structure (120/45°SW) and a brittle fault is exposed along the creek (Atkinson et al. 1991),; it is possible that the high response ratios reflect a mineralized structure at depth, possibly a shear-hosted vein. Mineralized Lamp structures (020 /steep) may cross this area as well.

Between Big Gully Fault and the unconformity with Hazelton volcanic rocks is a swarm of northwest trending airborne EM anomalies with overall size 1.5 km wide and 2.0 km long. Only one anomaly can be traced over the full 2.0 km length. Several others can be traced for 500 to 1,500 m. Many weaker ones can be traced from 100 to 800 metres. Mineralized structures found in outcrop and trenches have been described. All are Au poor and most are narrow with widths commonly less than a metre. Pb-Zn-Ag are noticeably abundant in some of these structures. Many of these showings have one or two anomalous MMI samples on strike. Anomalous metals include Pb-Ag-Zn+As+Cu+Au. Most prominent MMI Au anomalies lie near Old Pit to George Showings and southwest of here in an area of poor exposure. A second area of prominent but spotty MMI Au anomalies lies along the unconformity between Hazelton volcanic rocks and underlying Hazelton lower sedimentary rocks. Sample sites with these high gold response ratios should be investigated further for mineralization.

#### *Craig River Area (Figure 8)*

Response ratio results in this area are difficult to interpret because of scattering of anomalous samples. An exception occurs along the western edge of the survey area where high MMI Au anomalies form a nearly solid pattern in an area of locally silicified rhyolite. These contain Au values in rock commonly in the 50 to 700 ppb range four separate areas having highs of 2.2, 2.3, 3.6, and 8.0 gm/t Au. The high gold occurs within an area of elevated Ag-Pb+Cu+As in rocks and soils; high Zn values are scattered across the whole area.

Soil samples collected over the SMC showing by Adrian Resources were not anomalous for any metals. MMI samples show a crude pattern of high Zn, Ag + Cu + Au associated with a rhyolite unit that extends 500 m south-southeasterly of SMC parallel to mineralization at the showing

(Figure 9). The important hanging wall contact of the rhyolite was not traversed by the soil sample lines. These should be extended uphill to cover this contact.

### **12.3 Geology and rock sampling**

During July and August 2006 Richards mapped geology along creeks and ridges within the three areas of MMI soil sampling shown on Figures 7 to 9. Much of the results of that work have already been described above. The SMC Showing was sampled on October 27th, 2005 and prospected along strike in 2006.

#### ***Johnny Mountain Mine and Bronson Ridge areas***

Immediately southwest of Johnny Mountain Mine at the southeast end of Bronson Ridge, Hazelton Group volcanic rocks conformably overlie sedimentary rocks and tuffs. These lower sedimentary rocks are believed to be the lowermost part of the Hazelton Group. They are composed of fine-grained sedimentary rocks with a local minor felsic tuff component and a section of variably dolomitized limestone and calcareous sedimentary rocks. A ten m thick unit of rhyolite tuff occurs at the top of these sedimentary rocks immediately underlying dacite and andesite at the base of the mainly volcanic section of the Hazelton Group exposed on the property. This whole sedimentary package measures approximately 80 metres thick. The lower contact of the sedimentary sequence is not exposed, but Stuhini Group sedimentary rocks are exposed about 20 m away, with bedding in considerable discordance with the fine-grained Hazelton sedimentary rocks. Sedimentary breccia with angular fragments also displaying breccia textures occur up to several metres diameter and grades into the fine-grained sedimentary section over a few metres. The breccia is believed to occur along an unconformity between the lower sediment section of Hazelton Group and underlying Stuhini sediments.

A similar section of Hazelton lower sedimentary rocks was also mapped south of the Johnny Mountain Mine except for the sedimentary breccia on the unconformity with Stuhini Group rocks.

At the north end of Bronson Ridge, north of Big Gully Fault, clay-pyrite altered dacite is common in the several exposures examined and also as angular float. Southeast of Big Gully Fault, only wacke and argillite were observed on the ridge, but some dacite is present at lower elevations near Sky Creek. This dacite-wacke pattern implies that the Big Gully Fault is

downthrown to the southeast, moving any potential precious metal rich zone to greater depth. A similar movement is inferred along the George Fault.

### ***Craig River area***

At the Cliff Showings in the Craig River Area, a large area of altered rhyolite containing a few percent pyrite, with minor fracture controlled galena and sphalerite occurs in association with silicification and quartz microveining. The area has an associated Pb, Ag, Zn, and Cu MMI soil anomaly. Highest rock chip assays are 8.0, 3.6, 2.3, and 2.3 gm/t Au. These anomalies lie on a steep slope which approximates the Snip structural attitude of 120/45°SW. A pronounced northwest linear structure occurring at the base of this slope could be the locus of strong Au-Ag vein mineralization. The rhyolite is overlain by argillite and then a mixture of siltstone, sandstone, wacke and argillite before passing upsection into the SMC section of rhyolite, andesite and pelitic sedimentary rocks.

At the SMC Showing, samples were collected on October 27th, 2005 to confirm the tenor of mineralization reported by Adrian Resources Ltd (name since changed to Petaquilla Minerals Ltd.). Trenches sampled by Adrian Resources' personnel in 1991 were fairly open with only minor cleaning of the outcrops necessary to reveal the easily recognizable old sawcut channel samples. Many of the old assay numbers were found in locations as indicated on previous maps of the trenches. Fourteen samples were collected in areas of some of the higher grade assays. Results reported in Table 2 below are correlated to results from the 1991 sampling of Adrian Resources. Adrian Resources samples were collected by making two cuts about 5 cm apart with a carbide blade across outcrops and chiselling out the intervening rock. Samples were obtained by chiselling off one shoulder from the previous channel sample and collecting chips in a marked bag using one tag from a triple tag assay book. One tag was left at the north end of the sample under a rock. Each sample weighed about one kg.

Correlation of sample intervals shown in Table 2 is not exact because of inability to locate in the field the exact start and stop points of Adrian Resources' sample intervals. However it is believed that the approximations are correct to within 0.3 m. The two set of results correlate well, except for the two high gold values from Richard's samples in sample numbers 212207 and 212213. Sample 212207 returned 16.3 gm/t Au and a re-assay of 14.7 gm/t Au over 0.85m versus 5.7 gm/t Au from the Adrian results. Sample 212213 returned 14.7 gm/t Au and a re-assay

of 14.4 gm/t Au over 1.0m versus 6.2 gm/t Au from the Adrian results. Good correlation between these two sample sets exists for all the other elements (Ag, Pb, Zn, Cu). The higher gold values described from the current sampling cannot be explained other than the possibility of a nugget effect. All samples were collected from trenches that occur over a 160 m strike length.

Twelve diamond drill holes were drilled by Adrian with hole spacings of 15 to 25 m. Some of the better results of this drilling, shown in Table 3 below, indicates that 8 of 12 holes intercepted significant base and precious metal mineralization. All mineralized intercepts were shallower than 35 m due to the tight grouping of the holes and the moderate dip to the mineralized horizon.

Massive sulphide mineralization with anomalous Zn-Pb-Cu and precious metals is associated with a contact between several felsic tuffs and andesite lapilli tuffs as shown on Figure 10. The felsic tuffs have not been found north of the showings although bedrock exposures are fairly good. Extensive prospecting in 2006 for continuation of the showing was unsuccessful. Footwall-style mineralization in rhyolite was traced for several hundred metres southeast of the showings but the important upper contact of this unit was not prospected comprehensively and further work is needed. Drilling by SBM in 2007, described below, failed to demonstrate continuity of mineralization to depth. This could be caused by unrecognized faulting as rhyolite was not observed north of the showings.

The mineralization-geology relationship certainly fits a volcanogenic massive sulphide origin for this showing. However, elsewhere on the property the Bonanza Showing was originally thought to be a volcanogenic massive sulphide occurrence, but after extensive drilling it ultimately proved to be a continuation of the Snip shear-vein system. It is possible that mineralization at SMC is a precious metal rich vein-shear similar to Snip.

Table 2. Comparison of 2005 and 1991 assays at SMC

Richards' results 2005							Adrian Resources results 1991						
#	Width (m)	Au gm/t	Ag gm/t	Pb%	Zn%	Cu%	#	width (m)	Au gm/t	Ag gm/t	Pb%	Zn%	Cu%
212201	1.0	5.5	42.4	.63	8.38	.33	6924	1.0	6.6	46.3	.19	17.8	.56
212202	1.0	2.2	22.7	.04	1.84	.46	6923	1.0	3.9	48.5	.15	19.4	.56
212203	1.0	2.4	22.1	.26	2.42	.20	6833	0.5	6.2	23.9	.24	1.06	.47
212204	1.0	0.7	1.0	.02	.09	.03	6834	1.0	0.4	2.5	.02	.06	.03
212205	1.0	2.3	11.6	.67	1.51	.09	6835	0.9	3.8	11.2	.95	1.47	.12
212206	1.0	1.3	5.5	.16	.15	.16	6836	0.9	1.1	6.2	.27	.17	.16
212207	0.85	16.3 (14.7)	18.1	.97	1.05	.20	6837	0.9	5.7	12.4	.64	.62	.34
212208	1.0	0.8	11.6	.16	.26	.16	6838	1.2	4.0	13.1	.30	.38	.27
212209	1.0	6.6	34.8	.65	1.33	.20	6839	1.0	1.4	18.3	.44	.94	.12
212210	1.0	0.1	10.0	.15	.35	.03	6840	0.9	0.5	26.1	.62	1.56	.12
212211	1.0	0.2	16.4	.07	.15	.16	6841	0.9	0.6	6.2	.02	.08	.09
212212	1.0	0.8	25.1	.17	.72	.12	6842	1.0	0.4	18.3	.11	.57	.17
							6843	0.9	0.8	9.3	.06	.98	.10
212213	1.0	14.7 (14.4)	16.4	.93	1.77	.09	6901	0.8	6.2	18.3	1.01	1.40	.07
212214	1.0	6.9 (5.8)	12.0	.67	1.14	.13	6902	0.9	4.4	17.4	.82	1.83	.17

Sample intervals from 2005 and 1991 do not correspond exactly.  
 Brackets indicate duplicate gold assay in gm/t (on three samples).

Table 3. 1991 SMC drill results

Hole	Depth (m)	Width (m)	Au (oz/t)	Ag (oz/t)	Pb (%)	Zn (%)	Cu (%)
91-01	2.0-7.7	5.7	0.063	0.61	0.89	1.93	0.08
	38.0-42.4	4.4	0.105	0.62	0.39	2.30	0.06
91-02	5.0-7.0	2.0	0.106	0.55	0.15	4.66	0.11
	7.7-15.0	7.3	0.137	0.65	0.55	3.72	0.15
	33.2-36.9	3.7	0.08	0.42	0.36	2.26	0.12
91-03	17.1-23.0	5.9	0.107	0.52	0.71	2.77	0.18
91-04	19.2-34.0	14.8	0.133	0.94	0.17	5.74	0.13
91-05	22.0-32.0	10.0	0.083	0.59	0.17	2.01	0.11
91-09	20.0-21.0	1.0	0.113	0.29	0.36	1.46	0.16
91-10	24.0-26.0	2.0	0.105	0.45	1.18	2.43	0.17
91-11	20.0-22.0	2.0	0.107	0.87	0.20	5.94	0.10

Summary of reported mineralized sections by Adrian Resources from their 1991 drilling. Widths are not true thickness.

## **13.0 Drilling**

### **13.1 Drilling previous to SBM**

Hundreds of drill holes have been completed on the Johnny Mountain Mine and to a lesser extent the Snip Extension. A few tens of drill holes have been completed on a few other showings as described under Section 11, Mineralization. Drilling was carried out by Anaconda, Placer Development, Adrian Resources, Cominco and Skyline Gold Corporation using then-accepted best practices guidelines with assaying carried out either at accredited labs or at the Stonehouse Mine assay lab, the latter during the years of mine operation. All work carried out was prior to March 1997 and was therefore before the introduction of NI 43-101 policies. Nevertheless, the work carried out by partners of Skyline Gold was reported in a professional manner, therefore no reason for discrediting any of these former drill-hole results could be found. Exploration work carried out by Skyline Gold from 1988 to 1991 and from July to September 1993 was under the supervision of David A. Yeager P.Geo. Skyline Gold's standard operating procedure for diamond drilling and underground sampling was specifically designed for the purpose of resource measurement, which measurement was subsequently reviewed by Robertson and Associates of Toronto. While non 43-101 compliant, the work of the junior company was nevertheless subject to the same scrutiny as would similar work performed by a major mining company.

Results from trench results collected by Richards in 2005 at SMC showed a good correlation with results by Adrian Resources samples collected in 1991 and were similar to reported grades in drill holes. This positive correlation of trench results helps to substantiate the nearby drill results.

Three target areas are recommended for drilling below. The Cliff Target area has had no previous drilling. The Hazelton Target is based on data collected around the Johnny Mountain Mine from underground workings and hundreds of drill holes. This drilling was carried out primarily by Skyline Gold with minor drilling by joint venture partners Placer and Anaconda. The Snip Extension Target is based on geological mapping, from underground mining at Snip Mine and shallow diamond drilling (<600 m depth) by Cominco on ten holes, reported in Skyline Files and in AR 24,621.

## 13.2 SBM 2007 drilling procedures

In 2007, Blackhawk Drilling Ltd of Smithers B.C. was contracted to conduct diamond drilling on the Iskut property with a B20 Fly Drill using NQ2 drill steel. Five holes totaling 3,139 metres were completed on the property. A helicopter based at Riverswest's Camp was used to support two 12-hour shifts at three drill holes. A jeep, and to a lesser extent, a helicopter, were used to support drilling at the other two holes. The helicopter was changed several times throughout the summer and included Bell 206, A-Star B2 and Bell Long Ranger.

Drilling conditions were exceptionally good with ten foot runs the norm in all five holes. Core was produced at a rate of 250m/day at the start of holes to 50m/day at depths of 600m or greater. Core was lidded, stacked and flown on a daily basis in an aluminum cage from the drillsite to Bronson Camp where it was offloaded in front of the core shack. The core shack was a building remaining from the Snip Mine that was cleaned out and built up to include benches for displaying core, a photographic stand, a core box stacking stand, core splitting bench with hydraulic splitter, and lockable storage for core samples. The core shack itself was lockable and never left unlocked when SBM personnel were absent.

At the core shack, core was measured for recovery, logged by Richards or Metcalfe, marked for splitting, wetted and photographed and finally split with one-half of split core returned to the core box and one-half placed into sample bags for shipping. Core sample lengths were 1.5 m in weakly mineralized core but 0.3 m where structures and stronger mineralization necessitated. A triple tag assay book was used with one tag remaining in the assay book, one tag placed at the end of the sample interval in the core box and one tag placed in the plastic bag containing the split core. Each sample bag was folded over and closed with a zip tie. Six sample bags were placed together in numerical order in one rice bag, which was numbered for shipping and stored in a cabinet. Boxes of split core were stored in Korax core racks at Bronson Camp beside the road leading south of the airstrip as shown on Figure 4.

Six shipments of core were made by a fixed wing Islander aircraft of Tsayta Air from Bronson airstrip to Bob Quinn airstrip. Four of the shipments were met by SBM's expediter, Nugget Expediting, of Smithers B.C. and taken directly to the Acme preparation lab in Smithers. Two shipments were left in a locked sea container at Bob Quinn, picked up by Bandstra Trucking and delivered to the Acme prep lab.



### 13.3 SBM 2007 diamond drilling results

#### *SB-07-01*

Hole SB-07-01 was drilled to 506 m at an azimuth of 024 and dip of  $-60^{\circ}$  to intersect the Snip Structure at a projected depth of 950 m and -150 m elevation assuming continuation of the Snip Structure at  $-45^{\circ}$  from the bottom of the Snip Mine. The hole went through a 2 m cave at 185 m and could not be re-entered on the first bit change. The hole was abandoned at 506 m. Casing was left in the hole. Results of SB-07-01 are similar to the results of the top 500 m of hole SB-07-02 described below as the two holes were drilled from the same set-up at  $-10^{\circ}$  dip difference.

#### *SB-07-02*

Hole SB-07-02 was drilled to repeat hole SB-07-01 with the same deep Snip Structure target. An azimuth of 020 and dip of  $-70^{\circ}$  was used with a projected target depth of the Snip Structure at 1,050 m and -300 m elevation. This hole steepened to  $-77.3^{\circ}$  at the bottom of the hole at 1,032m and veered  $35^{\circ}$  to the east (clockwise from above), This resulted in the hole being about 250 m short of the deep projection of the Snip Structure when it was stopped by the drill contractor due to instability of the set-up. The attitude of the hole at the bottom is such that strengthening or rebuilding the set-up to allow re-entry and deepening of the hole would be favourable for drilling through the projected target. Refer to Figure 10.

#### *Results*

Hole SB-07-02 intersected greywackes, siltstones, and volcanoclastic wackes with variable tuffaceous components. Five narrow (2-10m) mafic dykes occurred between 59 and 328 m, a composite mafic dyke from 807 to 897 m, and another from 998 to 1,002.2 m. Siltstones with very minor wackes occurred from surface to 260 m depth and included a 19 m section of rhyolitic tuff grading downward to rhyolitic lapilli tuff from 128 to 147 m. Below 260 m are mainly coarser units of wacke, volcanic fragmental rocks and volcanic wacke with only minor siltstone.

Lithology exerts some control on alteration. Pervasive hydrothermal biotite related to the Red Bluff porphyry and/or another unroofed intrusion occurs throughout the hole but is more abundant below 260 m in the coarser wackes, volcanic fragmental rocks and volcanic wackes than in the overlying siltstones. Biotite is also coarser in some of the high sulphide zones and

locally within and below the 807-897 m mafic dyke. Epidote forms as partial to near-complete replacement of fragments in the coarser unit described, particularly above the 807-897 m mafic dyke in sections as thick as 70 m.

Potassium feldspar alteration occurs in replacement zones 1-16 m wide but is much more prevalent and certainly forms wider zones at greater depth. Two zones of alteration occur in the interval 239-254 m, three occur within the interval 488-493 m, and nine occur within the interval 766-1,025 m. The first section, at the contact between the siltstone and the underlying coarser wackes and volcanic fragmental rocks, is associated with a significant fault breccia interpreted as a possible plumbing system for fluids causing the alteration. The second section of K-feldspar alteration is associated with strong shears and crackle-brecciated quartz and probably occurs adjacent to a significant fault also. The lowermost section of K-feldspar alteration occurs above, within, and below the 807-897 mafic dyke that includes intense shearing and fault breccia near the centre of the mafic dyke.

One to two percent crystalline pyrite with lesser pyrrhotite occurs throughout the hole except in some of the mafic dykes. Pyrrhotite is more common below 850 m. In addition, below 760 m, pyrite and pyrrhotite occur in background quantities as much as 3-7% over 50 m lengths. Zones of higher sulphide are overprinted onto the background sulphide concentration. The hole was collared on a blast pit of the C-3 Showing and contained 10-20 % crystalline pyrite with 3-5 % chalcopyrite from 3 to 9.5 m. Other higher pyrite-pyrrhotite zones occurred at 54-59.6 m (2-4%), 314.9-322.5 m (5%), 390-396 m (<5 cm seams and veins of 10-30 %), 608-624 m (2-6 %), 710-860 m (20% pyrite seams and veins common), 941.5-947.5 m (5%), 956.4-968.4 m (6%), and 976.4-985.2 m (5-8%). Chalcopyrite was noted in several of these higher sulphide zones and correlates well with reported higher Cu assays. The widest zone of high sulphide occurs from about 740 through to 860 m, which lies above and within the 807-897 mafic dyke.

A zone of disseminated and fracture controlled pyrite from 318.5-323.5 m averaged 113 ppb Au, 499 ppm Cu, 200 ppm Pb, and 5,433 ppm Zn. This zone appears to be aligned with the grades of 14.1 gm/t Au over 40 cm in hole SC-94-14 and 1.6 gm/t Au over 1.9 m in hole SC-94-14 as shown on Figure 10. This trend is parallel with and about 50 m in the footwall of a structure along Sky Creek, Sky Structure, parallel to Snip Structure as shown on Figure 10.

The 807-897 m mafic dyke includes a fault breccia from 868.6-887 m, a strong K-feldspar alteration zone from 859-868.6 m, high sulphide as seams, veins and disseminations above 860 m and strong biotite alteration throughout. Some of the dyke could include intensely and pervasively altered unrecognizable sedimentary protoliths. Strong shears and annealed breccia occur from 857-865 m. Mafic phenocrysts and clots have been altered to biotite, which composes as much as 20% of the rock from 850.5 m to 859 m, where potassium feldspar alteration begins. This texture is reminiscent of descriptions of the biotite spotted unit (Rhys, 1994), an altered lamprophyre dyke in the Twin Zone of the Snip Mine. It is possible this dyke with associated shearing and faulting, K-feldspar alteration, and high sulphide above and below the mafic dyke, is the Snip Structure even though it plots 250 m higher in the hole (see Figure 10) than expected from the projection of the Snip Structure from the Snip Mine. Considerable vertical movement on this fault is suggested by the change of structural deformation above and below the mafic dyke. Above the fault, brittle deformation and fracture-controlled mineralization is present whereas below the fault intense pervasive ductile shear-controlled mineralization occurs to the end of the hole at 1,032 m, a distance of 135 metres. Below the fault, biotite is particularly prevalent and commonly coarse-grained. This ductile deformation style is identical to that described for wall-rock to the Snip Deposit. Projection of the Snip Structure, containing the Snip Deposit, is estimated to be 200 to 250 m below the bottom of the hole assuming continuation of its average 45° dip. Deepening of this hole is an obvious proposal.

Most of this hole was sampled at 1.5 m intervals and yielded weakly anomalous gold throughout. Of 623 core samples, 59 were > 20 ppb Au. The highest Au values were 192 ppb over 1.5 m starting at 318.5m, 456 ppb over 1.5 m at 467.4 m, 600 ppb over 1.5 m at 524 m, 264 ppb over 1.5 m at 687.5 m and 206 ppb over 1.0 m at 835 m. All these higher Au values are associated with 1-5 cm thick pyrite-pyrrhotite seams or veins often with quartz and chlorite. Their distribution appears random over the length of the hole, except in the interval 720-860 m (within and above the major mafic dyke), where 24 of the 59 samples returned Au grades > 20 ppb.

Anomalous values of Zn and Pb were zoned over the length of the hole. Below 540m, 18 of 340 Zn values (5%) were >100 ppm. Above 540m, 215 of 283 Zn values (76%) were >100 ppm, 126 (45%) were > 200 ppm, 75 (27%) were > 400 ppm, 25 (9%) were >1,200 ppm, with 7 (2%) > 5000 ppm. Below 410m, 14 of 374 Pb values (4%) were in the range of 10-93 ppm Pb. Above 410 m, 77 of 249 Pb values (31%) were in the range 10 to 517 ppm Pb. No strong zoning of

copper is obvious. Higher copper values occur in the higher sulphide zones which appear structurally controlled. Higher Bi values occur with the higher gold values in association with high sulphide seams and veins. The Zn and Pb zoning is interpreted to reflect progression from a cooler depositional regime of sulphides higher in the hole to a deeper, hotter environment downhole, reflecting the proximity to the Red Bluff porphyry, the generally accepted mineralizer for the Snip deposit (Rhys, 1994).

#### *Interpretation and Summary*

Hole SB-07-02 steepened and veered considerably from its original attitude and most likely stopped short of its intended target, the deep Snip Structure, by approximately 250 m. Instability of the drill platform caused the drill contractor to stop the hole at 1,031 m, but it could easily be deepened by rebuilding the drill platform. A major fault at 860 m depth is occupied by a mafic dyke. The fault is believed to have considerable normal movement juxtaposing high-level brittle fracture controlled mineralization above the fault with deep-level ductile deformed mineralization, similar to that enclosing the Snip Mine workings below the fault. Zn and Pb zoning support this progression to higher temperatures of deposition at depth as do distribution of K-feldspar and epidote alteration. The deep Snip target could lie as little as 200 m below the bottom of the hole. Lack of higher gold values in this drill hole should not be taken as discouragement as the Snip Mine had sharp grade boundaries and peripheral mineralized structures lay mainly in the footwall of the deposit.

#### ***SB-07-03 and SB-07-04***

Diamond drill holes SB-07-03 and SB-07-04 were predicated on the inference made by Rhys (1993) that the commonality of mineralization, age and mineral paragenesis between the Snip and Stonehouse deposits indicated the presence of a single mineralizing system, albeit with different structural styles: ductile shear in Triassic metasedimentary rocks at Snip and brittle, fault hosted mineralization at Stonehouse. Circumstantial evidence of differing palæodepths is provided by the Au:Ag ratio of 0.25 at Stonehouse, compared with the “hotter” 2.00 ratio at Snip.

If this inference is correct, it is reasonable to make the further inference that conditions similar to those at Snip existed at depth beneath the Stonehouse deposit. As noted elsewhere in this report,

the vertical continuity of grade at Bralorne is remarkable. Nevertheless, diamond drill holes completed in the last decade and directed at deeper levels of the 065-striking '16' and Discovery veins at Stonehouse returned little grade encouragement.

The dominant structures in the Johnny Mountain massif have strikes which vary between 115 and 165. Examples of these are the Snip structure itself (Rhys 1993), the Bonanza structure (Atkinson et al. 1990), the Sky Creek Fault (Metcalf, unpubl. data; Atkinson et al. 1990) and the #5, #6 and #9 Faults in the Stonehouse deposit. Structures with strikes subparallel to those of the major structures but with steep, opposite (northeasterly) dips (the #1 and #2 faults) bound the core Zephrin Zone of intense K-feldspar alteration at Stonehouse (Yeager and Metcalfe 1990; Rhys unpubl. data 1993) and contain microcrystalline gold on Red Bluff (Metcalf 1988). These structures are interpreted as antithetic to the major, southwesterly dipping structures at Stonehouse. Both styles of structure are present at Stonehouse, although only the northeasterly-dipping faults are explicitly associated with K-feldspar alteration in the levels mined. The #5, #6 and #9 Faults are characteristically brittle structures, with clay gouge and sinistral sense of movement on historical maps of the mine. No slickenside data is available and it is possible that this fault set also incorporates normal movement, which would effect a sinistral displacement of the northeast-dipping Mine Veins. Given the occurrence of the Snip deposit at the base of the mountain, it is logical to infer that both these structural sets at Stonehouse undergo a transition from brittle fault to ductile shear at depth and are potential channels for the gold-bearing mineralization.

### ***SB-07-03***

Diamond drill hole SB-07-03 was collared at the extreme east end of the mine workings, near the old 1,175 m ('12' Level) portal (Figure#minemap). The hole was oriented to intersect the inferred extension of the #2 Fault at an elevation of between 600 and 700 m above sea level, roughly where the projected '16' East Vein (parallel to the section) intersects the fault. The collar azimuth and dip are 260 and  $-70^{\circ}$ , respectively.

### ***Results***

As shown on Figure#minemap, the hole deviated by more than  $30^{\circ}$  clockwise (north) and steepened by  $8^{\circ}$ . As a consequence the end of hole lies more than 250 m behind the vertical

cross section shown in Figure #minesect. This is a more severe deviation than experienced during diamond drilling during mine operation and may owe to the thin-walled, flexible NQ2 drill stem as much as to the enthusiasm of the drillers.

Notwithstanding its deviation, the diamond drill hole should still have intersected its intended targets, albeit not at their junction; the hole should have intersected the '16' Vein at a depth of 435 m and the # 2 Fault and Zephrin Zone at a depth of 515 m. Neither intersection was apparent, despite exceptionally good core recovery (see above).

The hole intersected a sequence of volcanosedimentary rocks intruded by feldspar porphyry dykes, passing downhole from the Mine series "volcaniclastic" pebble and cobble conglomerates to volcanic wackes of similar composition. At a depth of 441 m, the hole intersected a large quartz-filled shear with clay gouge, identical in style to the flat-lying "quartz faults" which displace the mine veins. The quartz fault is subparallel to bedding identified in the wackes; high core angles constrain the bedding attitude to near-horizontal or shallow northeastward dips.

Downhole from the quartz fault and apparently paraconformable with units uphole is a medium to fine-grained clastic sedimentary sequence, possibly of volcanic origin. Analyses returned from Hole SB-07-03 show a sharp rise in Ni and Sc at this depth, indicating a marked increase in ferromagnesian minerals downhole (Sc is a non-chalcophile element). This underlying sequence contains far fewer conglomerate beds and is interpreted as the top of the sedimentary unit exposed on Johnny Flats to the north and in the Skyline diamond drill holes S-218, S-219, S-225 and S-228 in the so-called "Spuzzum Zone" (D.Yeagher, pers. comm. to Metcalfe, October 1988).

Two vein-style intersections were returned from the upper part of Hole SB-07-03. Neither were of substantial thickness and each returned subeconomic gold. These intersections are of academic interest only, inasmuch as they appear to duplicate the north and south intersections in Skyline Gold's Hole U-1051, which returned neither economic grade, nor significant thickness.

It is questionable as to whether these intersections represent the '16' Vein itself, or the subeconomic Victoria vein, located roughly 50 m in the hanging wall of the '16' Vein. If they are splays of the '16' Vein, this would require that the vein shallow from the 65° dip recorded in the 1035 Level, to 50° between that level and the intersection at 930 m elevation. It is

noteworthy that the projected '16' Vein intersection at 435 m depth coincides with a wacke sequence displaced by a large quartz fault.

Early workers on the Snip and Stonehouse deposits noted their near-identical mineralogy and disparate ductile and brittle structural styles. Marsden and Britten (unpubl. data, 1990) noted that the Stonehouse Mine Series feldspar porphyries were dykes, suggesting that the better expression of the Stonehouse veins proximal to these dykes was owing to more efficient fracturing caused by differential strain. If this is the case, then the transition from the more felsic, volcanogenic Mine Series to the underlying, dyke-free intermediate wackes precludes the formation of large brittle fractures and veins (Rhys 1993). This may also account for the absence of the Zephrin-style massive K-feldspar alteration at the projected intersection at 515 m.

Faults hosting mafic dykes were intersected, their core angles consistent with northerly or north-northwesterly striking, westerly dipping faults (#5, #6, #9) noted in the Stonehouse Deposit. A large brittle fault zone healed by a Neogene basaltic dyke was intersected from 670.9-672.3 m; significant brittle fracturing occurs both uphole and downhole from the intersection. Late-stage clay in fractures, as well as the crackle brecciation in the Quaternary, Hoodoo Series dykes, indicates that the last phase of movement of these faults, postdated the Early Jurassic mineralization

Minor shearing, locally intense, is mainly bedding-parallel (where bedding was identifiable in the finer-grained assemblage downhole). In areas of K-feldspar alteration, these shears were healed with quartz and calcite, or by quartz alone. Subhorizontal structures such as these form in a compressional environment, although they may be remobilised in a subsequent event, whatever the stress field. A large quartz fault zone with a hanging wall at 443 m depth is noted above; a second of similar size was intersected at a depth of 733.4 m.

Neither the '16' Vein nor the Zephrin Zone were intersected as expected. Downhole from the base of the Mine Series, the Lower Sedimentary Series comprised dominantly wacke and siltstone, with coarser sections of conglomerate and, unexpectedly, sections of interbedded chert. In at least one intersection, the chert contains relic, angular fragments of feldspar phenocrysts and therefore formed by replacement of a very fine grained tuff. A stratabound chemical sedimentation of this style is evidence of hydrothermal activity at or near a sediment-water interface. Chert, or interbedded chert and fine clastic sedimentary rock occur in the intervals

543.8-546.2 m (chert), 593.0-598.9 m (interbedded chert and siltstone), 624.0-624.9 m (interbedded chert and wacke), 633.6-670.9 m (interbedded chert and siltstone) and 692.8-696.0 m (chert), bracketing zones of sulphide mineralization in the lower part of the hole. Thin intersections of chert-bearing conglomerate were also intersected from 510.0-518.8 m and 681.4-682.3 m.

Further evidence of syngenetic hydrothermal activity in the lower sedimentary series is given by the intersection of a breccia unit with pyrite clasts, probably hydrothermal in origin from 462.6-464.2 m and by the intersection of four beds of massive and semi-massive pyrrhotite and pyrite with significant amounts of chalcopyrite, downhole from the sulphide clast sedimentary breccia. Each of the sulphide beds is associated, uphole and downhole, with moderate, locally intense chlorite+epidote+magnetite alteration. Within each sulphide-rich bed, there is a crude zonation from a pyrrhotite-rich base to a pyrite-rich top. Pyrite grains, often coarse, are characteristically rounded and corroded, with very fine-grained pyrrhotite apparently forming at the expense of the pyrite. The pyrrhotite is intimately intergrown with minor chalcopyrite and with magnetite. Analyses returned from the hole (Table#stratiform) indicate Cu grades as high as 0.5%, with Ag and Au as high as 30 gm/t and 0.1 gm/t, respectively. The Ag/Au ratios are of particular interest, varying from 55 to greater than 900 in individual samples, considerably in excess of the ratio at Stonehouse (2:1) and even of that in the continental crust (20:1).

The lowermost of the stratiform sulphide intersections (687.4-688.8 m) is downhole from the large brittle fault described above. Intersections of chert or interbedded chert and siltstone persist to a depth of 719.5 m. Downhole from this is a massive sequence of medium to coarse grained lithic clastic sedimentary rocks.

The hole was discontinued just beyond the second large quartz fault, at 759.0 m. The casing was left in place, to facilitate borehole geophysics planned for the coming field season.

Table 4. Stratiform sulphide intersections in Hole SB-07-03

From (m)	To (m)	Interval (m)	Intersection	Cu(%)	Ag (gm/t)	Au (gm/t)	Au/Ag
462.6	464.2	1.6	Sulphide clast breccia	0.50	2.1	0.024	89.0
584.1	585.2	1.1	Semi-massive sulphide	0.34	0.8	0.007	119.4
602.2	603.2	1.0	Massive sulphide	0.47	6.3	0.104	60.5



624.0	629.7	5.7	Semi-massive sulphide	0.48	30.2	0.085	357.0
687.4	688.8	1.4	Semi-massive sulphide	0.17	3.4	0.042	80.7

Note: Element concentrations from intervals exceeding 1.1 m in length are expressed as weighted means of samples in the intersection

### *Interpretation and summary*

Hole SB-07-03 deviated significantly from its intended attitude during the course of drilling but should nevertheless have intersected both the '16' Vein at depth and the projected extension of the #2 fault, bounding the Zephrin K-feldspar Zone to the east. Neither intersection was realized. The most probable reason for this is the change of lithology into the more easily deformed Lower Sedimentary Series, which precludes the formation of large brittle fractures and consequent vein formation

To the best of the authors' knowledge, the stratiform mineralization intersected in the Lower Sedimentary Series in Hole SB-07-03 is the first such occurrence recorded on Johnny Mountain. The bedding-parallel nature of the mineralization, its high Ag/Au ratios and its spatial association with chert and with epidote+chlorite+calcite+magnetite alteration precludes rationalization as either porphyry or transitional vein-type mineralization. Moreover, its stratigraphic position suggests strongly that it is part of the clastic sedimentary sequence present on Johnny Flats, at Snip and on Snippaker Ridge, which is explicitly of Triassic (Norian) age.

The association of the stratiform mineralization with clastic sedimentary rocks of generally intermediate composition and the predominance of pyrrhotite and chalcopyrite suggest that a Besshi style of mineralization, rather than Kuroko-style or Cyprus-style. While tempting to draw on Windy Craggy as an analogue, a closer example in time and provenance can be found within the Stewart Complex, at Granduc (MINFILE 104B 021).

### ***SB-07-04***

DDH SB-07-04 was collared at an azimuth of 070 and a collar dip of  $-44^\circ$ . The drill hole also deviated significantly, finishing at an azimuth of 108, with dip little changed from that at the collar. Again there is evidence that rapid drilling, combined with the flexibility of the thin-walled NQ2 rods exacerbated the hole's natural tendency to curve clockwise (south).

## *Results*

For the first 225 m, the drill hole intersected lithologies typical of those described as the Stonehouse Mine Series in earlier studies. Core angles for explicitly layered rocks in this upper section were 25°-35°. However, a significant proportion of intersections in this upper part comprised a plagioclase porphyry identical in texture to the Mine Series feldspar porphyry, but here so little altered as to permit identification of the feldspar. In addition, several distinctive foliated felsic units were intersected between 162.5 m and 355.1 m. These comprise moderately to strongly foliated units with biotite defining the foliation. Despite the presence of sand-sized clasts, the units correlate with a considerable thickness of K-feldspar-altered feldspar porphyry in the hanging wall and footwall of Discovery, mapped in the 10-73-S and 11-72 mine cross-cuts 1075 m and 1125 m levels. To be present at all three levels, the units must dip steeply, cut stratigraphy and are therefore intrusive. Despite their provisional identification during logging as volcanic fragmental units, it is more probable that the fragmentation observed in diamond drill core is structural rather than primary and that the alignment of biotite is at least in part tectonic. The unit and those downhole from it are therefore reinterpreted as deformed feldspar porphyry dykes. These units persist to a depth of 325.8 m, well downhole of the lowest volcanic conglomerate of the Mine Series and dominate the section to this depth.

Included in this upper interval was an intersection of quartz sulphide breccia very similar to the Stonehouse mineralization (120.3-122.3 m). This correlates, not with the Discovery Zone, but with a zone of massive K-feldspar alteration also mapped in the 10-73-S and 11-72 mine cross-cuts. The intersection returned 0.192 gm/t over 2 m.

The anticipated intersection with the thick Discovery Zone K-feldspar alteration halo and its associated massive pyrite+chalcopyrite vein was not realised. Instead, at 226.9-233.4 m, the hole intersected the first of several strongly sheared sections, comprising a sulphide breccia with intense pervasive biotite alteration of the rock flour matrix. A 2 m section of this brittle-ductile breccia returned geochemically anomalous Au averaging 49.7 ppb. Downhole from this intersection are short intersections of volcanosedimentary rock and a single 3.7 m interval of massive K-feldspar at the expected intersection depth for the Discovery Zone. As is probably the case for Hole SB-07-03, the weakness of the intersection may be owing to the proximity of the

basal contact of the Mine Series at 254.1 m and the strain release in the brittle-ductile biotite sulphide breccia zones uphole and downhole.

The base of the layered Mine Series is marked by a 2 m fault zone from 254.1-256.1 m which returned values of 0.186 gm/t over 2 m. This intersection is near the projected extension of the #5 Fault, but the latter may be represented by the second biotite + sulphide breccia, intersected from 259.1-283.7 m, with locally as much as 15% fine-grained pyrite. The absolute orientation of brittle and ductile structures is not known. Feldspar porphyry persists downhole to a depth of 325.8 m, as noted above. Immediately downhole (325.8-341.0 m) is the third sheared biotite breccia. Core angles of shearing of as much as 60° were noted in this zone, inconsistent with bedding-parallel shearing. None of these larger intersections of breccia in the upper part of the hole returned significant Au values.

The Lower sedimentary Series passes downhole from calcareous wacke and siltstone into medium to coarse-grained clastic sedimentary rocks. Chert, interbedded chert and siltstone and chert pebble conglomerate units occur from 484.1-673.4 m. Base metals are present in trace quantities only, except in small shear or breccia zones where chalcopyrite is locally as abundant as 5%. Pyrrhotite persisted in fractures in the chert zone, diminishing to trace amounts downhole.

Two styles of mineralization are apparent in the Lower Sedimentary Series. The first comprises zones of brecciation with associated chlorite±epidote±magnetite, often at high angles to compositional layering. An example is the small stratabound sulphide breccia intersected from 378.7-380.0 m. These zones not uncommonly contain sulphide mineralization and return anomalous Ag>>Au values; they are interpreted as being related to the stratiform, Besshi-type mineralization seen in Hole SB-07-03.

The second style comprises numerous small pyrrhotite±chalcopyrite±pyrite bearing shear zones, which returned anomalous Au and Ag. Values compiled from these zones indicate that the Au:Ag ratio increases downhole, although this ratio is in all cases less than 0.25. An example of this style of mineralization is the small, intense pyrrhotite shear intersected from 592.7-593.2 m.

The hole was discontinued at 719.3 m in unbrecciated, non-calcareous wacke with only traces of pyrrhotite. The casing was left in place, as for Hole SB-07-03.

### *Interpretation and summary*

Hole SB-07-04 did not achieve its expected intersection with the Zephrin Zone but, despite its southward curvature, reached a location to which the Zone would have extended. Barring a complex fault offset, it is reasonable to conclude that the Zephrin Zone K-feldspar alteration does not persist to these depths, at least in the form seen in the Johnny Mountain Mine. As noted for Hole SB-07-03, this is probably the result of more ductile deformation in the less competent clastic sedimentary rocks of the Lower Sedimentary Series. The hole did intersect, within the Lower Sedimentary Series, chert exhalatives but not the massive sulphide beds noted in SB-07-03. It must be reiterated here that the ends of holes SB-07-03 and SB-07-04 are over 250 m apart, owing to their respective deviations.

Hole SB-07-04 was successful inasmuch as it intersected mineralization, beneath the Stonehouse deposit, of a style hitherto not encountered in the deposit: that of shear-hosted brittle-ductile biotite±sulphide breccias. This style of mineralization is consistent with that of the shear-hosted mineralization present in the Snip deposit. The core angles observed, in conjunction with the attitude of the hole at each intersection, are not inconsistent with that for southwesterly dipping structures (but their attitudes, of course, can only be confirmed by more drilling). Most importantly of all, a significant number of the small biotitic shears intersected returned geochemically anomalous Au values and an increasing Au:Ag ratio downhole. Hole SB-07-04 therefore confirmed that such structures are prospective, in the only two areas where they have been tested at depth.

### ***SB-07-05***

Hole SB-07-05 was drilled to test the downdip extension of mineralization encountered by Adrian Resources Ltd in 8 of 11 holes drilled at about 10 m spacing in 1991. The hole was drilled at an azimuth of 205 and dip of -60° to a total depth of 141 m. Refer to Figure 12.

### *Results*

Only variably dolomitized siltstone was encountered in this hole unlike alternating felsite (rhyolite) and andesite lapilli tuff reported in holes SC-91-02 and SC-91-05 as shown on Figure 12. One to three percent pyrite and pyrrhotite occurred as disseminations and fracture films.

Sphalerite and galena occurred in small amounts locally as veinlets and bands. A quartz carbonate breccia occurred from 71.3 to 79.6 m. Total depth was 141.1 m.

### *Interpretation*

The base and precious metal mineralization reported by Adrian Resources Ltd. in 1991 did not occur in the drill hole. The rhyolite and andesite reported by Adrian and seen in outcrop south of the drill holes near the SMC Showing were not found north of the showing leading to the conclusion that unrecognized faulting has offset the geology and mineralization.

## **14.0 *Sampling method and approach***

### **14.1 Rock chip samples**

Richards collected samples from the SMC Showing trenches to confirm the tenor of mineralization reported by Adrian Resources Ltd. Fourteen samples were collected from previous sample locations with some of the higher grade assays. The Adrian samples were collected by making two cuts about 5 cm apart with a carbide blade across outcrops and chiseling out the intervening rock. Reported sample lengths were from 0.5 to 1.8 m long but most were 0.9 to 1.1 m long. Samples collected by Richards in 2005 were obtained by chiseling off one shoulder from the previous channel sample and collecting them in a marked bag using one tag from a triple tag assay book. One tag was left at the north end of the sample under a rock. Sample lengths were 1.0 m except for one sample which was 0.85 m. Each sample weighed approximately 1 kg.

Rock chip samples collected by the authors and assistants in 2006-2007 were grab samples composed of between five and ten rock chips small enough to fit into a 10 cm X 15 cm (4" by 6") gusseted kraft sample bag. Rock chips were collected across structure where possible. The purpose of collecting samples was to provide crude precious and base metal grades of obviously mineralized or altered exposures and occasionally float.

### **14.2 Soil samples**

Previous soil sample surveys by Skyline Gold Corp. and others did not initially recognize the one metre near-surface layer of volcanic ash or tephra inferred to have been deposited during a Quaternary eruption of Mount Hoodoo, 20 km northwest of the property. Some of the early soil samples were probably collected from this layer and did not provide reliable information. After

the problem was recognized, augers were used to try and penetrate the ash layer and sample the underlying till. It is not clear when this transition to sampling till by auger was made but it occurred no earlier than late 1989. Samples above 1,200 m all sampled glacial till because volcanic ash was not preserved above this elevation, probably because this area was beneath ice at the time of ash deposition. The large multi-element anomaly over the Stonehouse Deposit veins extend up to the toe of Johnny and Camp Glaciers and defines a large geochemically anomalous footprint that extends uphill from and beyond the limits of the known Stonehouse veins and thus could not be caused from these veins.

A program of MMI soil sampling in selective areas was initiated in 2006 and continued in 2007 to overcome the ash layer and hopefully “look deeper” into bedrock. MMI soil sample collection is described above under Section 12, Exploration.

### 14.3 Diamond drill samples

Five holes of NQ2 totaling 3,139 m were drilled in 2007 by SBM and were sampled at a standard interval of 1.5 m. This interval was reduced to as little as 0.3 m in order to sample specific geological units such as quartz veins, high sulphide sections, intense shear zones and specific alteration. Core was split with a hydraulic splitter with one-half placed in a numbered plastic bag and the other half returned in order to the core box with a corresponding numbered tag placed at the bottom of the interval. Total number of samples collected per hole and hole collar data (UTM Zone 9, NAD’83) are presented in Table 4

Table 5. Drill Hole Record

Hole no.	UTME83 (m)	UTMN83 (m)	Elev. (m)	True azimuth (deg)	Dip	Hole length (m)	No. samples
SB-07-01	370865	6280880	720	024	-60°	506	270
SB-07-02	370865	6280880	720	020	-70°	1031	623
SB-07-03	373501.5	6277819	1217.51	258.3	-69.6°	759.0	321
SB-07-04	372855.4	6277597	1124.93	070.3	-44 °	719.3	246
SB-07-05	369980	6280526	408	230	-70°	141	46

Core was handled with extreme care at all times. Core recovery was excellent, being 95-100% in almost all samples. All mineralized sections had a similar high recovery; no significant mineralized sections could have been overlooked by poor handling of core or poor recovery.

The core samples are representative of the rocks sampled; errors introduced through uneven splitting of core and loss of minor fly rock from the sampling system are estimated to be as much as one or two percent. This is normal with the splitting procedure.

The targets were primarily gold. Therefore nearly continuous sampling was undertaken at a standard interval of 1.5 m, the minimum underground mineable width. Within mineralized sections, contacts of quartz veins, contacts of higher sulphide sections, contacts with strong shearing were used as sample boundaries in order to assign any changes of grade to the proper units. For the same reason and with a few exceptions, the sample interval was decreased to a maximum of 1.2 m in a mineralised intersection with sample intervals spaced evenly between the boundaries of the intersection. A sample interval of as little as 0.3 m was used in a few samples in order to keep the sample representative of a single lithological, alteration, or mineralization style.

A list of results is provided in Appendix #sampresults.

## **15.0            *Sample preparation, analyses and security***

### **15.1            **Previous operators****

Data on sample handling is unavailable for previous operators, save for Skyline Gold, where the sampling procedure was carried out by Metcalfe on a substantial number of the exploration and development diamond drill holes between 1988 and 1993. Placer's and Falconbridge's samples were part of a larger program that included sampling of some showings that were eventually mined (Johnny Mountain Gold Mine).

Skyline Gold's mine-face and test hole samples were assayed at the mine assay lab. No detail is available on the procedures and checks in place but a routine was in place to check mine head grades with development assay grades with excellent correlation (D. Yeager, personal communication).

The mine assay lab, in operation from 1988 to mine closure, initially had capability only for fire assay for Au and Ag. At a later date, an atomic absorption spectroscope (AAS) was added,

permitting more rapid checking of all samples, with gravimetric finish being carried out on all samples of economic interest. The mine lab handled, in order of priority, test hole and muck samples important to production, stope definition drill and ore block definition samples important to immediate mine planning, exploration diamond drill samples and trench and prospecting samples remote from the mine. In times of high traffic, samples from exploration were analysed by a reputable assay lab, usually Chemex or Acme Analytical Laboratories in Vancouver.

Diamond drill core (save for later stope definition holes which were sampled in the round) were invariably logged by mine or exploration geologists, split and bagged, with a ticket inserted in the sample bag and a ticket or aluminum tag at the beginning of the sample interval in the core box. Blanks were drawn from the barren Quaternary basalt dykes intersected in the Mine Series, or from barren white quartz veins typical of the flat-lying "quartz faults" in the Stonehouse Deposit. Where visible gold was noted in the core, the geologist logging the core gave the specific instruction to analyse a particular sample by screening for metallic particles. The occurrence of the gold at Stonehouse as very fine-grained, free milling electrum rendered this precaution as redundant on all but very high-grade samples; nevertheless, the operating procedure was continued until final closure of the mine in 1993. The mine assay lab had charge of any standards and resampling of the coarse reject for testing of consistency.

Results from previous operators were not reported on within the standards of National Instrument 43-101. The writers know of no reason to discredit these former results but realize that ongoing check assays should be continued as part of all further exploration work. Adrian samples were assayed at an unknown lab. Adrian's results were checked by Richards' re-sampling of some Adrian trench samples (as described above) with good correlation.

## **15.2 SBM**

No officer, director or associate of Spirit Bear Minerals Ltd conducted any aspect of sample collection or preparation. Richards, Metcalfe and SBM field personnel performed all the sample collection and preparation.

Rock samples collected by Richards in 2005 on the SMC Showing were placed in a plastic bag along with one tag from an assay book, immediately tied with flagging and placed in the writer's



packsack where they were kept through his trip back to Vancouver. The samples were dropped off at Acme Analytical Lab's premises the next day by Richards with instructions for analysis.

The 2005 SMC samples were crushed in their entirety, using a crusher made of tool steel, to 70% passing a -10 mesh sieve. A 250 gm aliquot of this coarse material (roughly 5-60% of the total sample, depending upon sample interval) was crushed to 95% passing a -150 mesh sieve. The reference for this preparation technique is Acme R150

A 30gm aliquot of the homogenised pulp was digested in hot aqua regia and analysed for a suite of 36 elements, including gold (Au), using inductively coupled plasma mass spectrometry (ICP-MS). The detection limit for Au using this method (Acme Group1DX30) is 0.5 parts per billion (ppb).

Samples that returned values exceeding 1,000 parts per million (ppm) in the base metals Cu, Pb or Zn were re-analysed using Acme's 7AR method. A 1gm aliquot of the homogenized pulp was digested in hot aqua regia and analysed for these base metals using inductively coupled plasma emission spectrometry (ICP-ES). The detection limits for these elements using this method (Acme Group 7AR) are 0.001 weight percent (wt.%), 0.01 wt.% and 0.01 wt.%, respectively. The three highest gold values were re-analyzed for gold by Acme's Group 6 fire assay method (with an ICP-ES finish), to test variability within a single pulp. This was carried out using a 15g aliquot of the original pulp.

Soil and rock samples collected in 2006 were stored in personal cabins used by the Spirit Bear Minerals' crew at Riverswest Camp. They were kept in plastic bags until day of shipping at which time they were placed into shipping boxes. Rock samples were shipped to Acme Labs in Vancouver, B.C. MMI samples were shipped to SGS Labs in Toronto, Ont. Both shipments were sent via helicopter or fixed wing aircraft to Bob Quinn airstrip where they were held by Quantum Helicopters in their office until picked up within a day by either Canadian Freightways or Bandstra Transportation Systems Ltd for shipment to their destination.

For the 2006 rock chip samples, each sample was treated by Acme's R150 preparation and a 15 gm sample analyzed by their 1DX15 method, as described above.

MMI soil samples were analyzed by SGS Labs using a proprietary method developed by Wamtech of Australia. MMI analysis is a well established method for analyzing soil samples

having been used by the mining industry for many years. Collection of MMI soil samples must be done in a particular fashion as described under Section 12, Exploration. SGS Labs is a Quality Management System that meets, as a minimum requirement, ISO 9001 and ISO 17025. One duplicate analysis is done on every 11th sample.

Core samples collected in 2007 were prepared and stored in the core shack which was locked whenever SBM personnel were absent. At the core shack, core was measured for recovery, logged by Richards or Metcalfe, marked for splitting, wetted and photographed and finally split with one-half of split core returned to the core box and one-half placed into sample bags for shipping. Six shipments of core samples were made to Bob Quinn airstrip by fixed wing aircraft. Four of these shipments were met by Nugget Expediting and taken directly to the Acme prep lab in Smithers. Two shipments were stored in a sea container and picked up by Bandstra Trucking one and two days later, respectively, then taken to the Acme prep lab in Smithers.

The 2007 drill core samples were sent to a sample preparation lab of Acme Analytical Laboratories Ltd. in Smithers. Here samples were prepared as for the 2005 and 2006 rock samples, using Acme's R150 method, described above. A 31 gm split was shipped to Acme's Vancouver lab for processing where a 30 gm aliquot of the sample was taken for Acme's 1DX30 method as described above.

Acme Analytical Laboratories in Vancouver describe their accreditation thus:

*“Acme Analytical Laboratories Ltd., 852 East Hastings Street, Vancouver, B.C., Canada, V6A 1R6 is a BSI, Inc has implemented a quality system compliant with the International Standards Organization (ISO) 9001:2000 Model for Quality Assurance and ISO 17025 – General Requirements for the Competence of Testing and Calibration Laboratories. Acme first received accreditation under ISO 9002 in November, 1996 and has maintained its registration in good standing since then. Acme is recognized as a participant in the CAEAL Proficiency Testing Program and is registered by the BC Ministry of Water Land and Air Protection under the Environmental Data Quality Assurance (EDTA) Regulation. Acme also participates regularly in the CANMET and Geostats round robin proficiency tests.”*

Acme has a routine quality assurance and control protocol on all its analytical work that includes a rerun, on the same sample pulp every 30th sample, or less, if the number of samples submitted is less. Acme also does a re-assay on a new pulp every 30th sample or less, has a standard inserted into the sample run every 12th sample or less and a blank inserted every 25th sample or

less. Each analytical report is begun with a preparatory blank. Because of the early exploration stage of the Iskut Project no unmarked standards, replicates or blanks were routinely inserted into the sample series by SBM. Instead the writers relied on Acme's internal quality control measures. Should significant drill hole intersections with significant metal grades be encountered (indicating a possible need for a future resource estimate), then unmarked standards, replicates and blanks would be inserted by SBM into any future sample series.

In the writers' opinion the sample size, sample preparation, security and analytical procedures used on samples collected by themselves or by Spirit Bear Minerals' personnel provide an accurate representation of mineralization encountered for the 2005 SMC Showing, the 2007 drill core sampling and an acceptable representation of mineralization sampled by rock chips in 2006 and 2007. MMI soils were collected using proper protocol, stored and shipped securely, analyzed at a laboratory licensed to analyze MMI samples, and are believed to provide acceptable results. Results of duplicates, blanks and standards have been reviewed by the writers for all rock and soil sample results and found to be acceptable.

## **16.0            *Data verification***

No strong gold mineralization was encountered in the 2007 diamond drilling program that required verification.

Three highest assays from the 2005 sampling of Adrian Resources SMC trenches were re-assayed on the same pulp. Good repetition of values was obtained as described above under Exploration. Values were 16.3 (14.7) gm/t Au, 14.7 (14.4) gm/t Au, and 6.9 (5.8) gm/t Au with re-assay given in brackets.

Should more significant results be obtained in future drill programs then data verification will be initiated by submitting pulps and coarse rejects to another lab for check assays, and twinning holes and reducing hole spacing if warranted.

SBM management submitted some splits of the coarse rejects to Loring Labs in Calgary. This was done to obtain results before the Acme results were due to be released. Loring Labs carried out analysis for Au on the samples submitted, using a fire assay technique with analysis of the resultant doré bead by atomic absorption emission spectroscopy. It is noted here that the detection limit for Loring's methods (5ppb) is an order of magnitude greater than that using ICP-

MS, precluding any but a qualitative comparison. Correlation of results returned from Loring with those from Acme is generally good, with lower values returned from Acme.

The authors note that, while Loring's ISO accreditation was anticipated this year, at the time of analysis it did not have such accreditation. The authors have therefore used only the Acme results, for reasons of completeness and consistency of sample set and that of laboratory accreditation.

## **17.0            *Adjacent properties***

The adjacent Snip Mine, located within 500 m of the north boundary of the Iskut Property, was operated by Cominco Limited and Prime Resources Group. From 1991 to 1999, the Snip Mine produced 32 million grams Au, 12 million grams Ag, and 249,000 kilograms Cu from about 1.2 million tonnes. The mineralization occupies a 120° -striking structure with dips varying from 30° to 90° and averaging 45° towards the southwest; the projection of this structure is onto Spirit Bear's property at depth. A post-mineralization dyke divides the vein into two parts for most of its length and was thus named the Twin Zone. The Twin zone mineralization is a 0.5 to 15 metre wide sheared quartz-carbonate-sulphide vein that cuts through a massively bedded feldspathic wacke-siltstone sequence displaying ductile deformation with abundant calcite, hydrothermal biotite and local zones of potassium feldspar alteration. Gold mineralization occurs in 1 cm to 1 m alternating bands of massive (streaky) calcite, heavily disseminated to massive pyrite, biotite-calcite as thin bands or streaks, or in quartz with sulphides in a crackle breccia or pyritic to non-pyritic fault gouge. Vein boundaries are usually sharp with well-defined gold values plus lower grade values in the immediate footwall and hangingwall. Mineralization has been described as a mesothermal shear-vein genetically related to the Red Bluff Cu-Au-Mo K-feldspar megacrystic, monzonitic plagioclase porphyry that lies less than 500 m northeast of and elongated parallel to the strike of the Twin Zone. The dip length of the deposit is about 500m and has been traced over a strike length of 1,000m (Ministry of Mines and Energy, Minfile No 104B 250 Production Report).

Drilling of the Deep Snip Target, recommended in this report, is based on exploring for a re-occurrence of Snip style mineralization along strike and down dip of the Twin Zone. Mesothermal shear-veins like Snip are known to have good continuity of grade over great vertical extent (2,000m) and can reoccur along major structures. Although the Deep Snip Target

uses the Snip deposit for modeling and formulating exploration drill targets, **the existence of the Snip Mine adjacent to the Property does not necessarily indicate that similar mineralization exists on the Property.**

### **18.0** *Mineral processing and metallurgical testing*

Other than the mined-out Johnny Mountain Mine there has been no metallurgical testing of the various mineralized zones on the property.

### **19.0** *Mineral resource and mineral reserve estimates*

There are no current resource or reserve estimates for mineralization on the Iskut Property.

### **20.0** *Other relevant data and information*

The writers are not aware of any data not included in this report that would make the report misleading or would influence the writers' opinion that the property warrants the recommended program.

### **21.0** *Interpretation and conclusions*

Well developed exploration targets summarized below warrant drill testing.

#### **21.1** **Deep Snip target**

The deep Snip target is based on the model that the Snip Mine mineralization that lays along the 120°/45° SW regional Snip Structure may reoccur at depth or along strike to the southeast. Mesothermal gold shear-veins like Snip are known world-wide to show grade continuity with depth and to re-occur along strike so that such a re-occurrence could have similar average grades of 26.7 gm/t Au (George Cross News Letter [March 29], 1996) over mineable widths like Snip. **The existence of the Snip Mine adjacent to the Property does not necessarily indicate that similar mineralization exists on the Property.**

DDH SB-07-01, aimed at the Deep Snip Structure was abandoned due to a cave. DDH SB-07-02, drilled from the same set-up as SB-07-01 and in the same direction but 10° steeper, was terminated about 250 m from the projected intersection of the 45° dipping Snip Structure due to perceived instability of the drill set-up by the drill contractor. The top 800 m of hole SB-07-02 contains brittle fracture-controlled mineralization, abundant epidote alteration, and sporadic narrow K-feldspar alteration zones. The bottom 150 m of the hole is within ductile deformed

sediment with high hydrothermal biotite content (20%), very minor epidote alteration and wider and more numerous K-feldspar zones all of which is similar to the rock enclosing the Snip Mine. A major fault occupied by a mafic dyke separates these two regimes. Pyrite content in general increases with depth particularly in the bottom 300 m of the hole. Zoning of Zn and Pb from high values near surface to progressively lower values deep in the hole reflect cooler temp of deposition near surface and a higher one at depth as expected as the bottom of the hole is closer to the Red Bluff Porphyry intrusion, the mineralizer for the Snip Deposit. The Snip Mine had abrupt gold grade boundaries with peripheral gold mineralized structures in the footwall. All of the above is consistent with a possible reoccurrence of Snip style mineralization within 250 m of the bottom of this hole. It is possible that the major fault at 860 m is the Snip Structure but the brittle style of mineralization above the fault makes this possibility less likely.

The Snip structure extends southeast through the Bonanza Showing, a distance of 3.9 km, continues through the Stairway Showings and Reg 7 Showing (all Pb-Zn-Ag+Au veins) further to the southeast. The same structure hosts the Discovery Zone at Inel, 12 km southeast of Snip and the same structure, or one closely similar is present in the Crater Lake area, 20 km southeast of Snip. This distribution of these showings demonstrates the great length and strength of the Snip structure. The Pb-Zn-Ag+Au signature is indicative of a cooler, shallower or more distal environment than at Snip. The Bonanza Zone lacks the abundant biotite alteration present at Snip, as does the Inel Discovery Zone (T.W. Hodson pers. comm. to Metcalfe, 1992).

Two cross faults within two km of Snip are believed to have significant downthrow on their southeast side, making drill targets for a repeat of Snip mineralization deeper than the area now being considered for drilling. This faulting could explain the high level Pb-Zn-Ag+Au signature to the showings to the southeast as described above. However, any success in the current Deep Snip drilling will make this southeast continuation of Snip Structure a prime target for additional drilling for a re-occurrence of Snip style mineralization although at greater depths than currently being explored.

## **21.2 Cliff showing area (BCGSB Profile G06)**

The Cliff Showing area is a Kuroko-style VMS target lying along the northwest facing slopes above Craig River. Rhyolite outcrops display footwall style mineralization over a two km length with Pb-Zn+Cu mineralization in fractures and strongly anomalous Au-Ag-Pb-Zn+Cu in rock

and soils. Several rock chips assayed one to eight gm/t Au and many were in the 100 to 700 ppb Au range with Ag values in the 1 to 44 gm/t range indicating that any VMS occurring in this area is likely to be precious metal enriched. The overlying argillite is devoid of mineralization/alteration consistent with a VMS model.

VMS mineralization could occur within the rhyolite or along the contact with overlying argillite. Prospecting along the contact has not been successful in finding VMS style mineralization. Drilling will have to be undertaken to prospect the buried portion of this prospective ground. Down-hole EM surveys could then aid in defining conductive drill targets to reduce costs of additional drilling.

### **21.3 Subaqueous hot spring Au-Ag rich VMS mineralization (BCGSB Profile G07)**

Precious metal rich VMS mineralization similar to Eskay Creek (175 Ma) but of an older Lower Hazelton age (194 Ma) is a possible style of mineralization on the property. Early mapping of the Pickaxe gold vein at the Johnny Mountain Mine provides descriptions of adjacent VMS mineralization. In this model the Johnny Mountain Mine gold veins would have vented onto the seafloor in early Jurassic time (194 Ma) and deposited precious metal rich VMS mineralization. A large zone of anomalous soil and rock chip samples cover the gold veins but more importantly extend uphill over a considerable distance. This anomaly includes: 1. The McFadden Zone - a boulder train of massive sulphide with grades commonly in the 15 to 60 gm/t Au range, 2. A 500 m long poorly sampled boulder train, on top of Johnny Glacier, of quartz-veined rhyolite with grades up to 1.6 gm/t Au, 3. Soils collected by Placer in 1984 along the toe of Johnny Glacier that extend northwest for one km with grades routinely in excess of 0.5 gm/t Au and 4. Favourable geology of Hazelton volcanic rocks stratigraphically higher than the Hazelton volcanics that contain the mine gold veins. Additional mapping used in conjunction with a re-evaluation of previous drill results and the fine detail of the Aeroquest aeromagnetic and EM data provides the best method of selecting drill targets. Work on some of the target area is hampered by Johnny Glacier but the very high gold values in rocks and soils make this a high priority for drilling.

#### **21.4 Besshi-style VMS mineralization (BCGSB Profile G04)**

Besshi-style VMS mineralization resembling that at the Granduc Mine 50 km to the southeast of Johnny Mountain was intersected in lower portions of a hole drilled under the Johnny Mountain Mine. A total of five intersections are present, as noted above. In addition, exhalative chert as individual beds and as pebbles in a volcanic fragmental unit was intersected in this hole and another nearby hole. Higher grades and thicker sections of massive sulphide would be required to be of economic significance, but the presence of exhalative-type mineralization implies that the hydrothermal system which generated it is more extensive than the area covered by the Johnny Mountain mine. The target area is large, therefore geophysical and geochemical aid will be required to define a smaller target area with larger grade and thickness potential.

### **22.0 *Recommendations***

#### **22.1 General**

The writers recommend Phase 1 and success-contingent Phase 2 programs of diamond drilling and further target definition utilizing down-hole EM geophysical, geological and MMI geochemical surveys.

#### **22.2 Phase 1 recommendations**

Phase one includes five NQ2 diamond drill holes totaling 2,600 m made up of two holes on the Deep Snip gold vein target, two holes on the Cliff Showing Kuroko style VMS target and one hole on the precious metal enriched Lower Hazelton VMS target. On the Deep Snip Target it is recommended that hole SB-07-02 be deepened by about 500 m and one additional hole be drilled southeast of hole SB-07-02 to about 1,300 m. It is also recommended that drilling two 250 m holes on the Cliff Target and one 300 m hole on the Lower Hazelton Target will be followed up with down-hole EM geophysical surveys. Both of these target areas are large so that geophysical surveys are necessary to try and provide more distinct targets for additional drilling. Cliff and Lower Hazelton hole locations can best be determined in the field based on field conditions and all available data. The geophysicist supervising these surveys should be consulted for positioning these holes in concert with the geology.

A down-hole EM survey is also recommended on SB-07-03 to try and provide sizeable conductivity anomalies for future drilling for precious metal enriched VMS targets.



Finally, geological mapping and MMI soil geochemical surveys should be undertaken at the discretion of the field geologist in order to continue with an understanding of the property and development of drill targets. Mapping uphill from the Stonehouse gold veins is critical to position drill holes contemplated on the Lower Hazelton target in Phase 2.

### **22.3 Phase 2 recommendations**

On the Deep Snip target, drilling of one additional hole (1,300m) should be based on mineralization and assays from the first two holes. Upon completion of any one of these holes, if the geologist sees encouraging alteration-mineralization where the Snip Structure is expected then one or more wedged holes are recommended to be drilled in order to retest the Snip Structure without the cost of redrilling another complete hole. Gold veins often have internal low grade portions so that grades of single intersections are not adequate tests of the vein.

On the Cliff Target, additional drilling is dependant on size and strength of any identified EM conductors from the downhole surveys as well as any mineralization encountered in Phase 1 drilling.

On the Lower Hazelton Target, additional drilling will be based on geological mapping and interpretation of all available data as well as the downhole EM survey. Downhole EM results on which to base additional drilling would be available shortly after the surveys are completed but samples of highly mineralized core will have to be done on a rush priority basis with an estimated three week turnaround of assays in order to have time to drill additional hole(s).

### **22.4 Phase 1 budget**

The following budget for drilling 2,600 m of core is based on actual costs incurred in the 2007 drilling program adjusted where deemed prudent.

Table 6. Proposed Phase 1 budget

Office: data compilation, review, planning	\$ 80,000
Geologists: 3 for 50 days @ \$2000 total/day	100,000
Camp Personnel: 6 for 50 days	120,000
Pad Builders:	30,000
Geophysical Surveys: downhole EM surveys	100,000
Expediting: man plus truck for 50 days	30,000
Camp and Equipment	60,000
Supplies:timbers, wood, generator, field gear, sample bags, etc	40,000
Fuel: diesel 125 drums, propane 50 tanks, gas 6 drums, jet A 75drums	110,000
Shipping costs: samples, equipment, field gear	10,000
Dozer, loader, excavator rental: road repair and misc	20,000
Air travel: 9 people x 2 trips @ \$700/trip	15,000
Fixed wing charter:	60,000
Core, rock and soil geochem costs:	50,000
Helicopter: Bell 206 – 200 hrs + Bell 205 –25 hrs for 5 moves	390,000
Mob/demob: helicopter and fixed wing and trucking	100,000
Diamond drilling: 2,600 m @ \$150/m All-in direct costs	390,000
Reporting: data management, plotting, reviews etc	30,000
Filing fees: claim maintenance	10,000
Communication	<u>10,000</u>
	Sub-total \$ <u>1,755,000</u>
	Contingency 20% <u>345,000</u>
	<b>TOTAL \$ 2,100,000</b>
	<b>Total Phase 1 \$ 2,100,000</b>

## 22.5 Phase 2 budget

The following budget is for drilling 2,300 m based on success on one or more of the targets drilled in Phase 1.

Table 7. Proposed Phase 1 budget

Geologists: 3 for 45 days	\$ 90,000	
Camp Personnel: 6 for 45	110,000	
Pad Builders	20,000	
Expediting	40,000	
Supplies	20,000	
Fuel	110,000	
Shipping Costs	10,000	
Fixed Wing Charter	55,000	
Core Assays	30,000	
Helicopter	300,000	
Diamond Drilling: 2300 @ \$150/m All-in Direct Costs	345,000	
Reporting	20,000	
	Sub Total	\$ 1,150,000
	Contingency 20%	250,000
	<b>Total</b>	<b>\$ 1,400,000</b>
<b>Total Phase 2</b>	<b>\$1,400,000</b>	

Exploration Work type	Comment	Days			Totals
<b>Personnel (Name)* / Position</b>	<b>Field Days (list actual days)</b>	<b>Days</b>	<b>Rate</b>	<b>Subtotal*</b>	
Larry Hewitt Camp Manager	June 6 - October 11, 2007	118	\$600.00	\$70,600.00	
George Chinn, GeoTech	June 18 - September 21, 2007	102	\$350.00	\$35,672.00	
Matthew Bannon, Geotech	Sept 7 to October 3, 2007	31.2	\$250.00	\$7,800.00	
Nathan Archer, Geotech	August 14 - September 2, 2007	21	\$250.00	\$5,200.00	
Brendan Hall, Geotech	June 27 - September 2, 2007	57.2	\$250.00	\$14,300.00	
Jordan Lewis, Geotech	June 17 - August 21, 2007	58.2	\$250.00	\$14,560.00	
Alan Farmer, President	June 1 - September 30, 2007			\$12,000.00	
Igor Rochacewich,	June 1 - September 30, 2007			\$15,000.00	
E Beblow	June 27 - July 5, 2007	9	\$300.00	\$2,700.00	
Iskut Enterprises	Sept 7 to October 10, 2007	12	\$350.00	\$3,500.00	
Ben Schlamp	July 7 - 13, 2007	5	\$350.00	\$1,750.00	
Tahitan	July 14 - July 27, 2007	15	\$250 - \$350	\$11,200.00	
Skyline	July/August			\$17,381.00	
Rhonda Love, Camp cook	October, 2007			\$4,201.00	
Nuggett Expediting	June to September, 2007			\$80,241.00	
Camp Cooks, Repairmen etc					
Dave Watson	October 1 - 12, 2007	12	\$350.00	\$4,200.00	
Gordon Richards, Geologist	June to October	163	\$600.00	\$97,852.00	
Paul Metcalfe, Geologist	July to October	70.1	\$750.00	\$52,580.00	
Nuggett Expediting - Expediting	June to October			\$56,114.00	
			\$0.00	\$0.00	
				\$506,851.00	<b>\$506,851.00</b>
<b>Geochemical Surveying</b>	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Drill (cuttings, core, etc.)			\$0.00	\$51,628.00	
				\$51,628.00	<b>\$51,628.00</b>
<b>Drilling</b>	<b>No. of Holes, Size of Core and Metres</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Diamond	5 holes, NQ2 core 3,139 meters		\$0.00	\$518,675.00	
				\$518,675.00	<b>\$518,675.00</b>
<b>Transportation</b>		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Airfare			\$0.00	\$19,973.00	
fuel			\$0.00	\$38,067.00	
Helicopter (hours)	188.25		\$0.00	\$267,794.40	
Fuel (litres/hour)	34,050 (\$1.20 and (\$1.30)		\$0.00	\$42,758.57	
Other - Fixed Wing				\$77,333.00	
				\$445,925.97	<b>\$445,925.97</b>
<b>Accommodation &amp; Food</b>	<b>Rates per day</b>				
Hotel					
Camp	Camp Construction and Supplies			\$146,182.03	
Meals				\$29,937.00	
				\$176,119.03	<b>\$176,119.03</b>
<b>Equipment Rentals</b>					
Field Gear (Specify)	Tower Radio		\$0.00	\$10,548.00	
Other (Specify)					
				\$10,548.00	<b>\$10,548.00</b>
<b>Freight, rock samples</b>					
			\$0.00	\$16,874.00	
			\$0.00	\$0.00	
				\$16,874.00	<b>\$16,874.00</b>
<b>TOTAL Expenditures</b>					<b>\$1,726,621.00</b>

## 23.0 Statement of Costs

### STATEMENT OF EXPENDITURES JOHNNY MOUNTAIN PROJECT MAY - OCTOBER, 2007

GEOLOGISTS	\$	101,164
CAMP PERSONNEL	\$	300,214
EXPEDITING	\$	56,114
CAMP AND EQUIPMENT	\$	186,349
CAMP FOOD	\$	29,830
TRAVEL	\$	19,974
FREIGHT	\$	11,463
DRILLING	\$	518,674
HELICOPTER	\$	323,624
FIXED WING	\$	77,334
ASSAYS	\$	38,646
FUEL	\$	38,067
<b>TOTAL</b>	<b>\$</b>	<b>1,701,453</b>

#### LIST OF PERSONNEL

Larry Hewitt June to October, 2007  
George Chinn - May to October, 2007  
Matthew Bannon September 7 to October 3, 2007  
Jordan Lewis June 27 - August 21, 2007  
Nathan Archer - July, 2007  
Alan Farmer - May to October, 2007  
Igor Rochacewich May to October, 2007  
Brendan Hall June 27 - August 21, 2007

#### Contractors

Ruanco Enterprises Inc  
Palatine Geological  
Iskut Enterprises  
Tahlitan Northern Exploration Services  
Nugget Expeditors

## ***24.0 Certificate of Author***

I, Gordon G Richards, with business address at 6410 Holly Park Drive, Delta, B.C., V4K 4W6, do hereby certify that:

- 1 I am a Consulting Geological Engineer registration number 11,411 with the Association of Professional Engineers and Geoscientists of British Columbia since 1978.
- 2 I hold a B.A.Sc. (1968) in Geology from The University of British Columbia, and an M.A.Sc. (1974) in Geology from The University of British Columbia.
- 3 I have been practicing my profession as a geologist for over 35 years and as a consulting geological engineer since 1985. I have work experience in western areas of the United States, Alaska, Canada, Mexico and Africa. I certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
- 4 I have no direct or indirect, nor do I expect to receive any interest directly or indirectly in the properties or securities of Spirit Bear Minerals Ltd. I am independent of Spirit Bear Minerals Ltd in accordance with the application of Section 1.5 of National Instrument 43-101.
- 5 I have based this report on collection of samples personally from the property during October 27, 2005, from on-site supervision of a four man field crew during July 10 to Sep 3, 2006, from on-site supervision of a diamond drilling program from July 6 to Oct 1, 2007 and from a review of reports listed in the references section.
- 6 I am not aware of any material fact or material change with respect to the subject matter of this Technical Report which is not reflected in this report, of which the omission to disclose would make this report misleading.
- 7 I have read National Instrument 43-101, Form 43-101F1 and state that this report is in compliance with National Instrument 43-101.
- 8 I have prepared this report at the direction of directors of Spirit Bear Minerals Ltd. for use by the Company. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes.

Writers' opinion of program merit

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In the writer's opinion, the character of the property is of sufficient merit to justify the recommended Phase 1 program.

Gordon R. Richards, P.Eng

Dated at \_\_\_\_\_, B.C. January \_\_\_\_, 2008

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Ruanco Enterprises Ltd.

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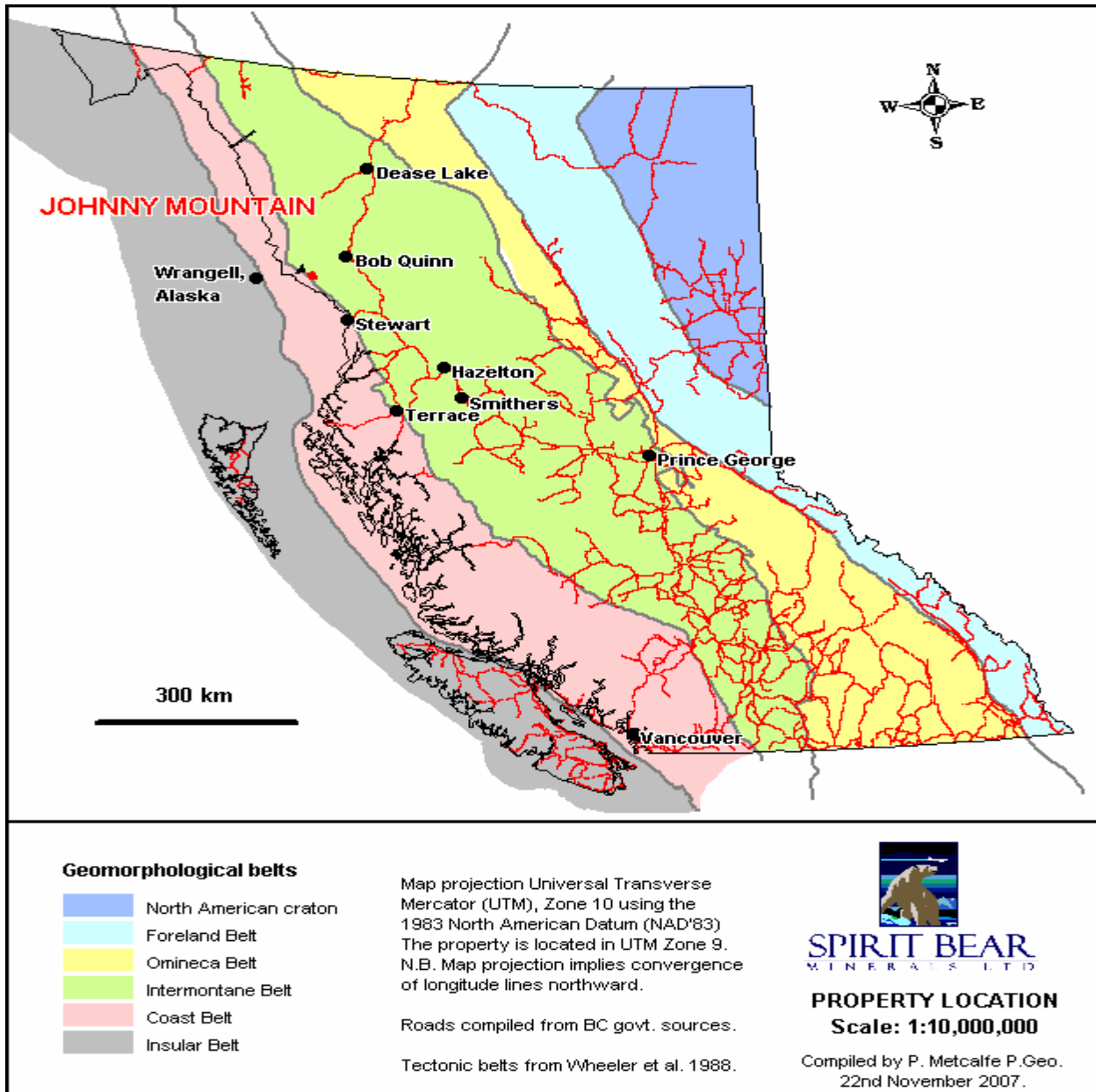


Figure 1. Property location map.

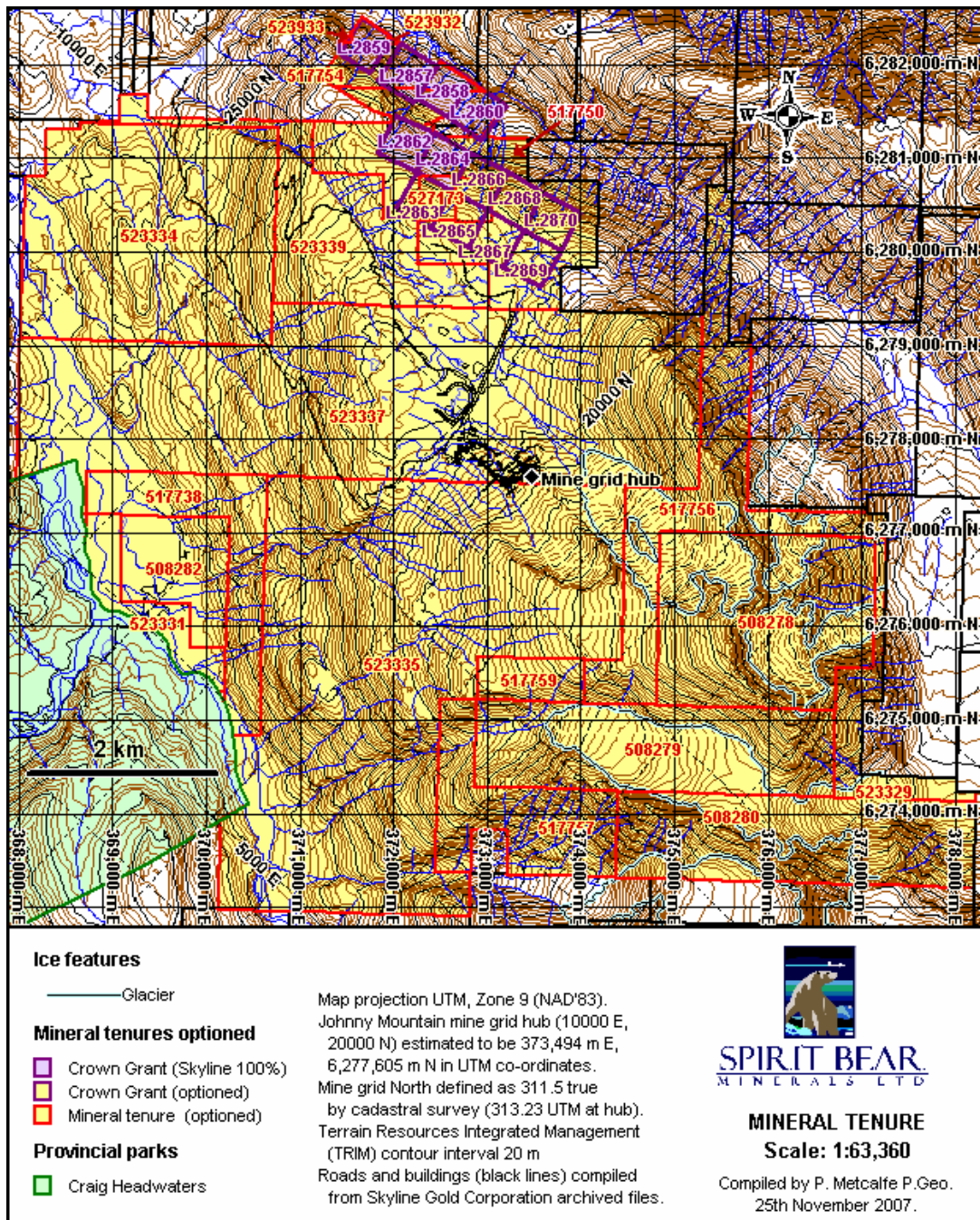


Figure 2. Topographic map of the immediate area of the claim.

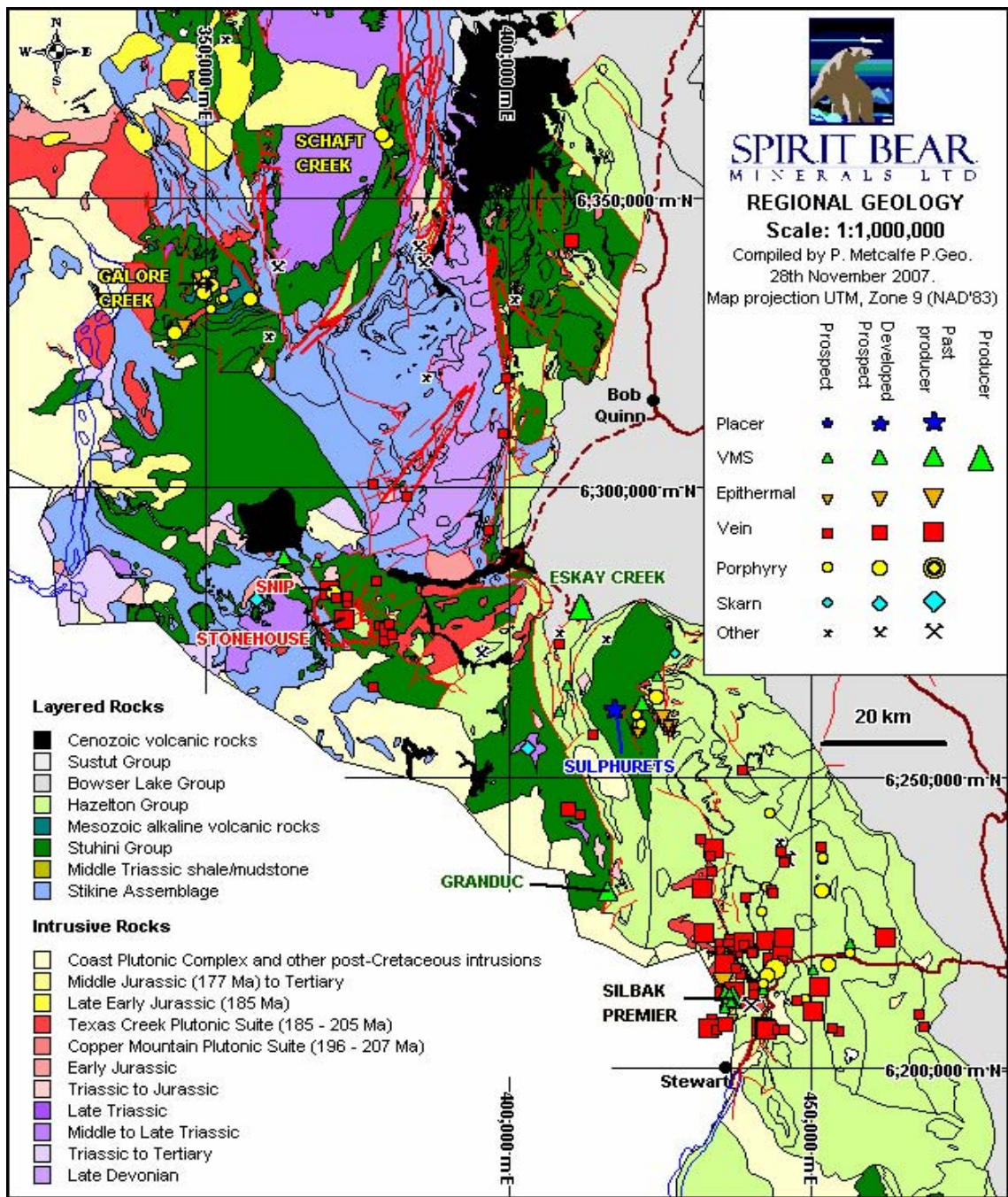


Figure 3. Regional geological map, showing the property.

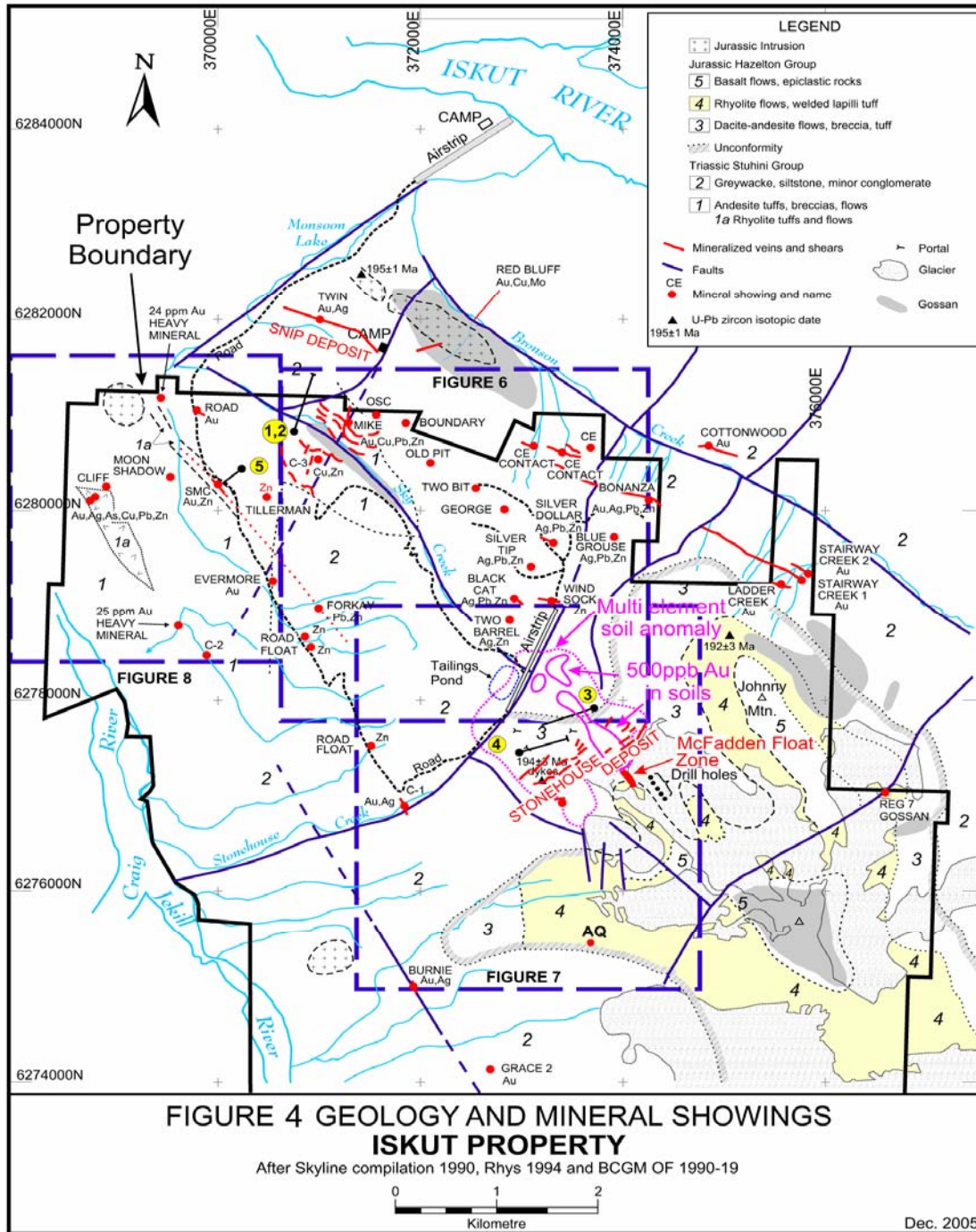


Figure 4. Geological map of the property area

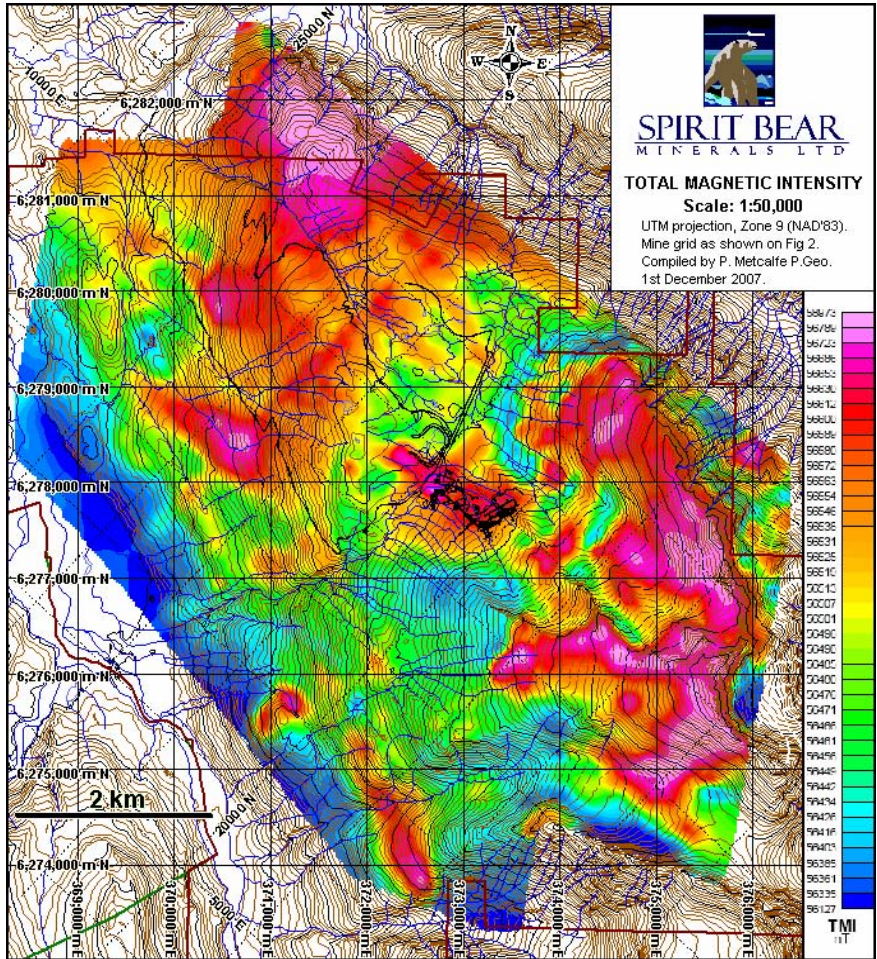


Figure 5. Enhanced Total Magnetic Intensity Airborne Survey. Aeroquest Limited magnetic data enhanced by Spatial Vision Group Inc. Black grid lines are spaced 1 km. Red colors are high magnetic response and blue colors low magnetic response. High values in east half are associated with Hazelton volcanic rocks. Intense low values bordering Hazelton volcanic highs (like crescent-shape concave-east in top middle of map) are associated with Hazelton lower sediment section. Strong mag high pattern in top edge is Red Bluff Porphyry. Less intense mag high in middle of top half may reflect a buried intrusion, important as a possible mineralizer. Two pronounced NE linear patterns are believed to be faults occupied by late mafic dikes. EM anomalies are small black crosses.

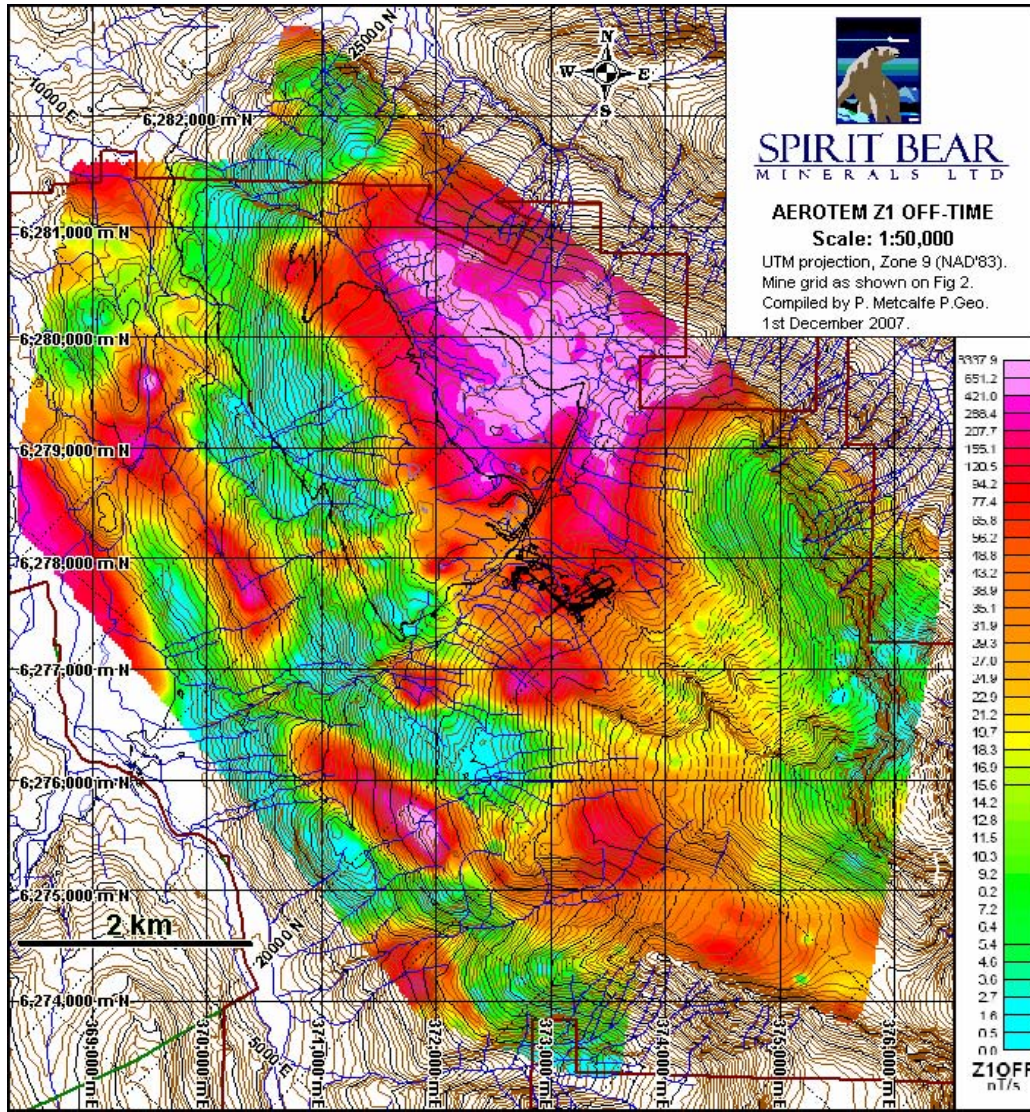


Figure 6. Enhanced AeroTEM Z Off-Time 1 Airborne Survey. Aeroquest Limited EM survey data enhanced by Spatial Vision Group Inc. Small black crosses are “picked” anomalies throughout the survey area. Many more not-picked anomalies occur. The large (1 km by 2 km) conductive zone comprises numerous northwesterly linear conductors that make up a swarm of conductors terminating at changes in rock type: dacite to the NW and Hazelton volcanic rocks to the SE. Conductors are believed to continue to the SE beneath the Hazelton volcanic rocks. Snip mine in the topmost triangular part of survey does not respond to survey. Johnny Mountain Mine veins 2 km N of south tip of survey respond moderately

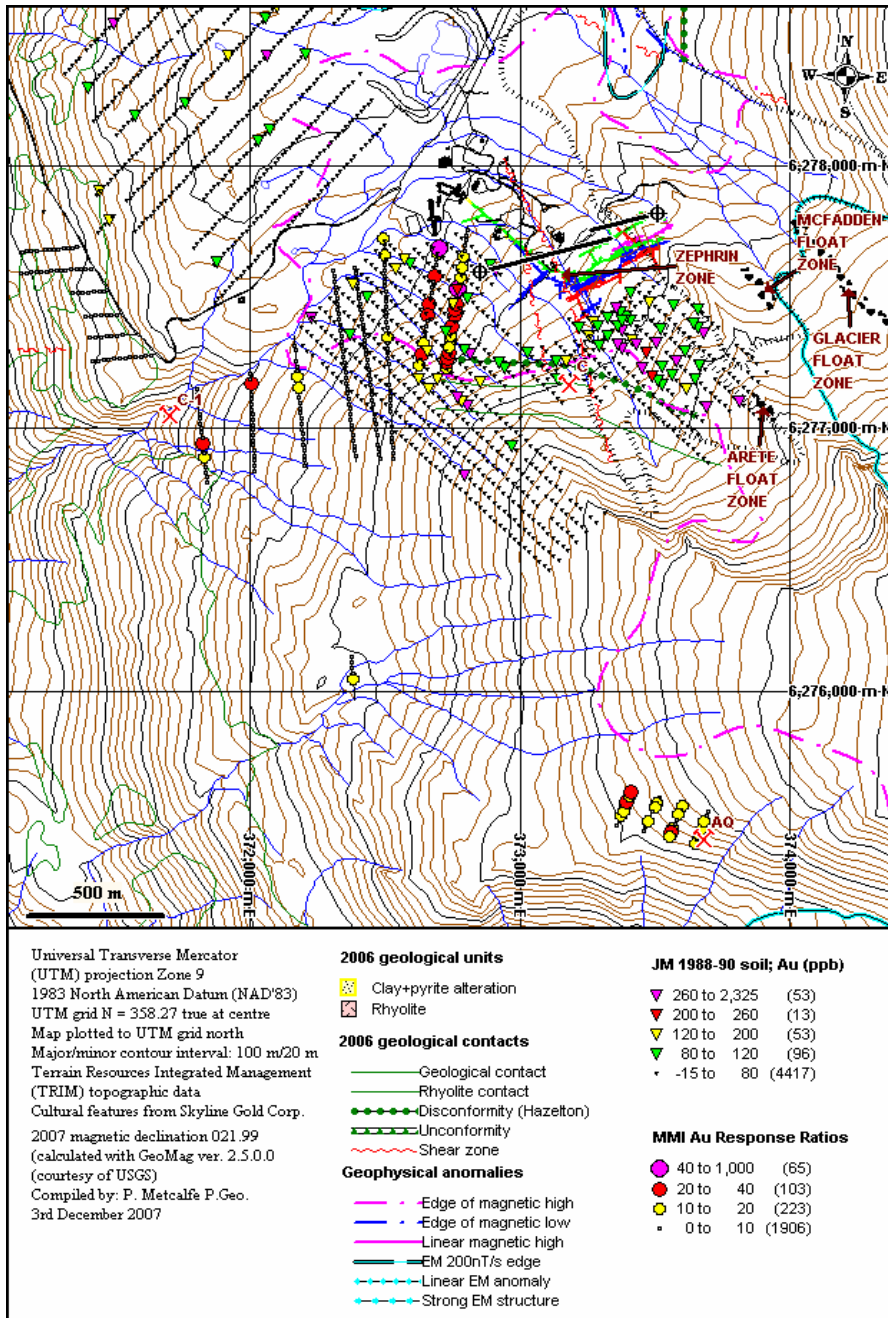


Figure 7. Compilation Map Johnny Mountain Mine Area. Compilation Map Johnny Mountain Mine Area. Area of magnetic high mimics the distribution of Hazelton volcanic rocks. Area of magnetic low mimics the distribution of Hazelton lower sediment section. Mine veins show little EM response.



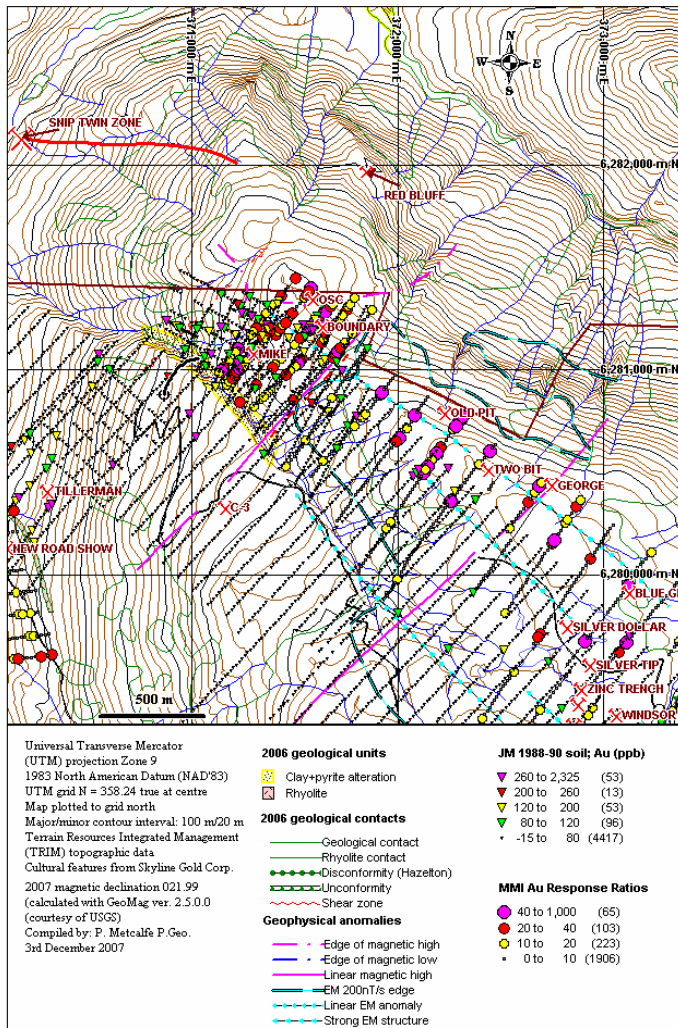


Figure 8. Compilation Map Bronson Ridge Area. Swarm of EM anomalies that lies within the high EM contour line is attenuated at C-3 and George Faults (purple) and stops abruptly at the disconformity at the southeast end. Zone of clay-pyrite alteration along Sky Creek parallels Snip Mine structure and is one drill target.

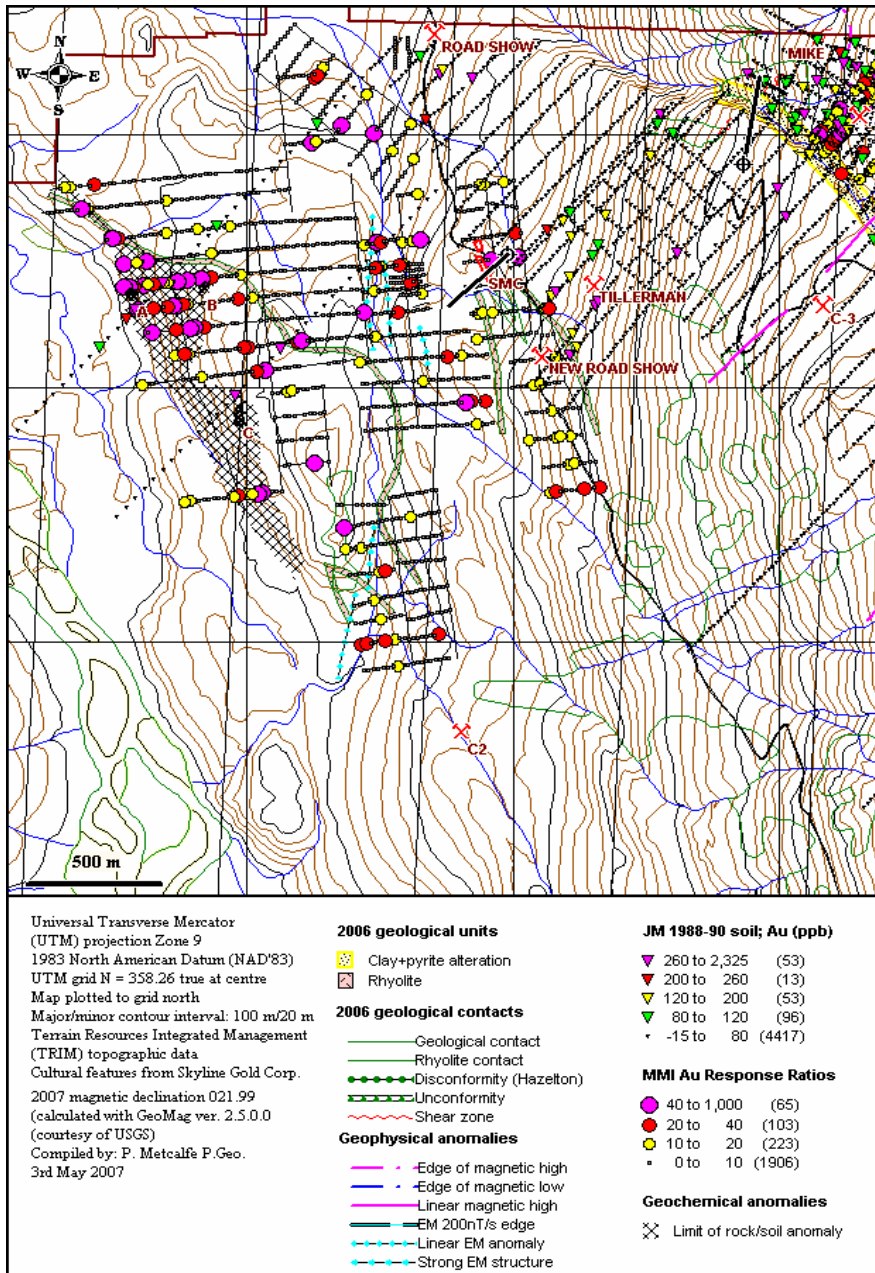


Figure 9. Compilation Map Craig River Area. Massive sulphide mineralization at SMC and footwall-style mineralization at Cliff (A,B,C) are both Au & Ag enriched and are associated with rhyolite. HLEM anomalies are targets for underlying massive sulphide mineralization at the rhyolite-argillite contact. Rhyolite occurs under the hatched area.

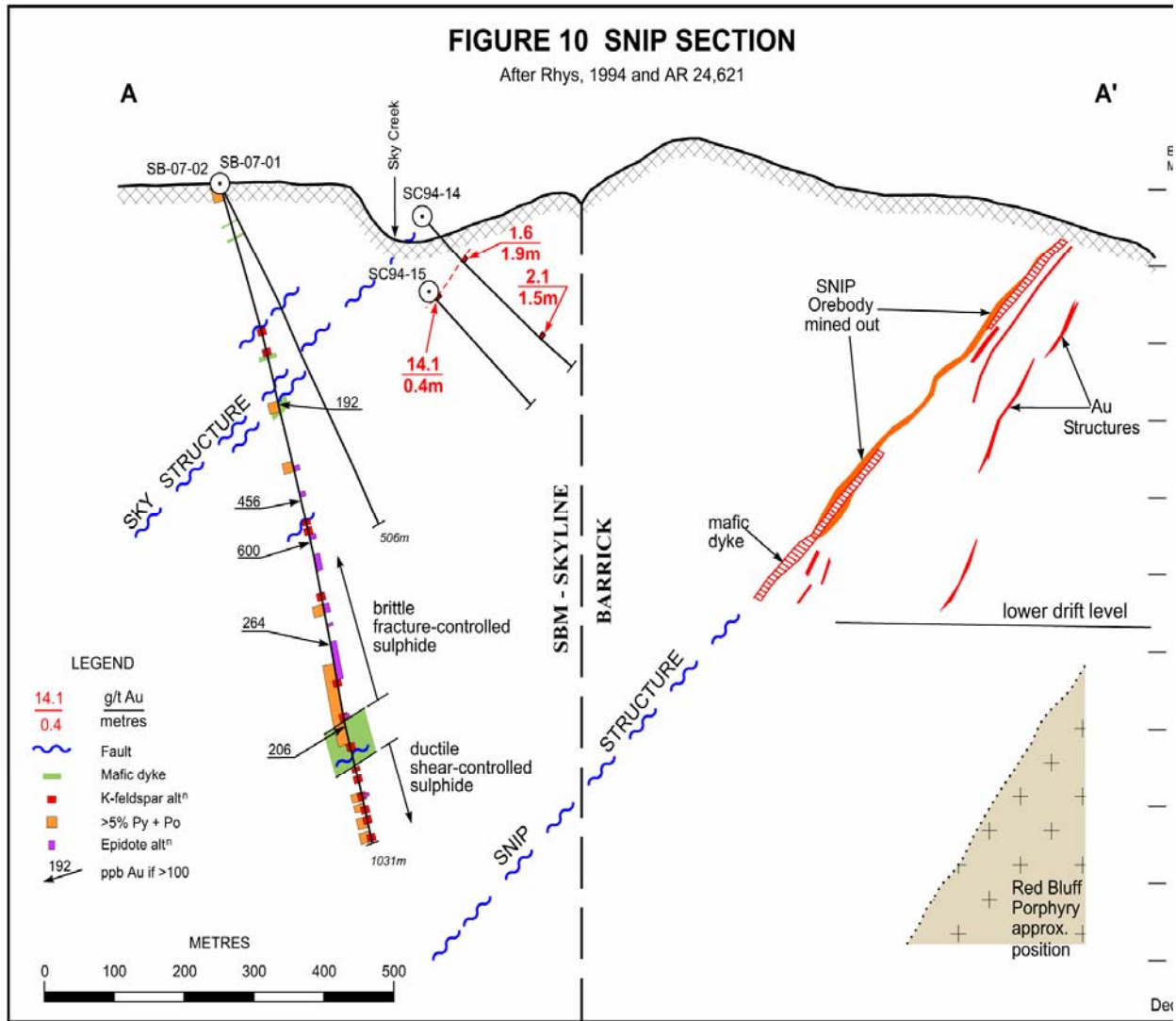


Figure 10. Section showing Holes SB-07-01 and SB-07-02.

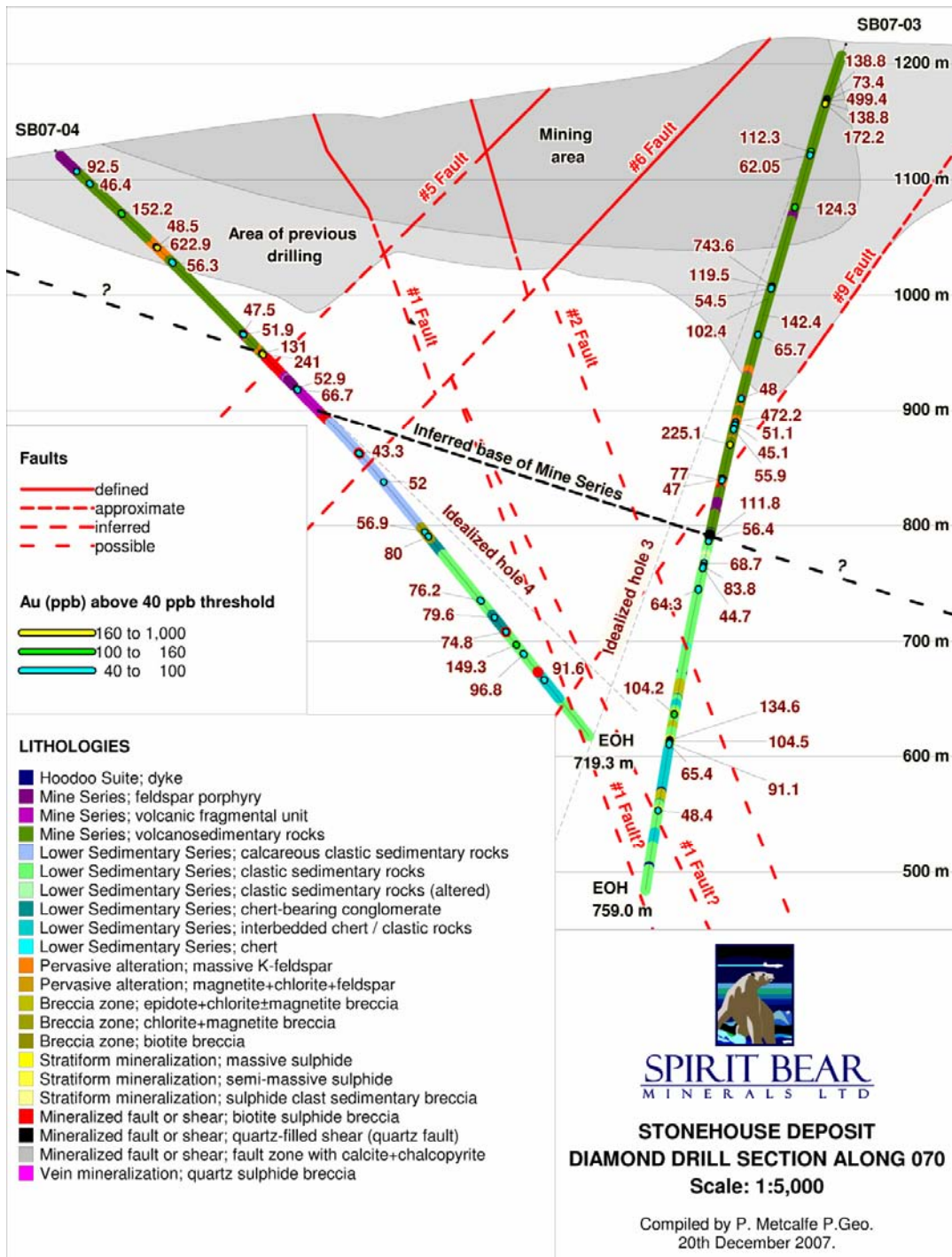


Figure 11. Section showing Holes SB-07-03 and SB-07-04 under the Stonehouse Deposit.

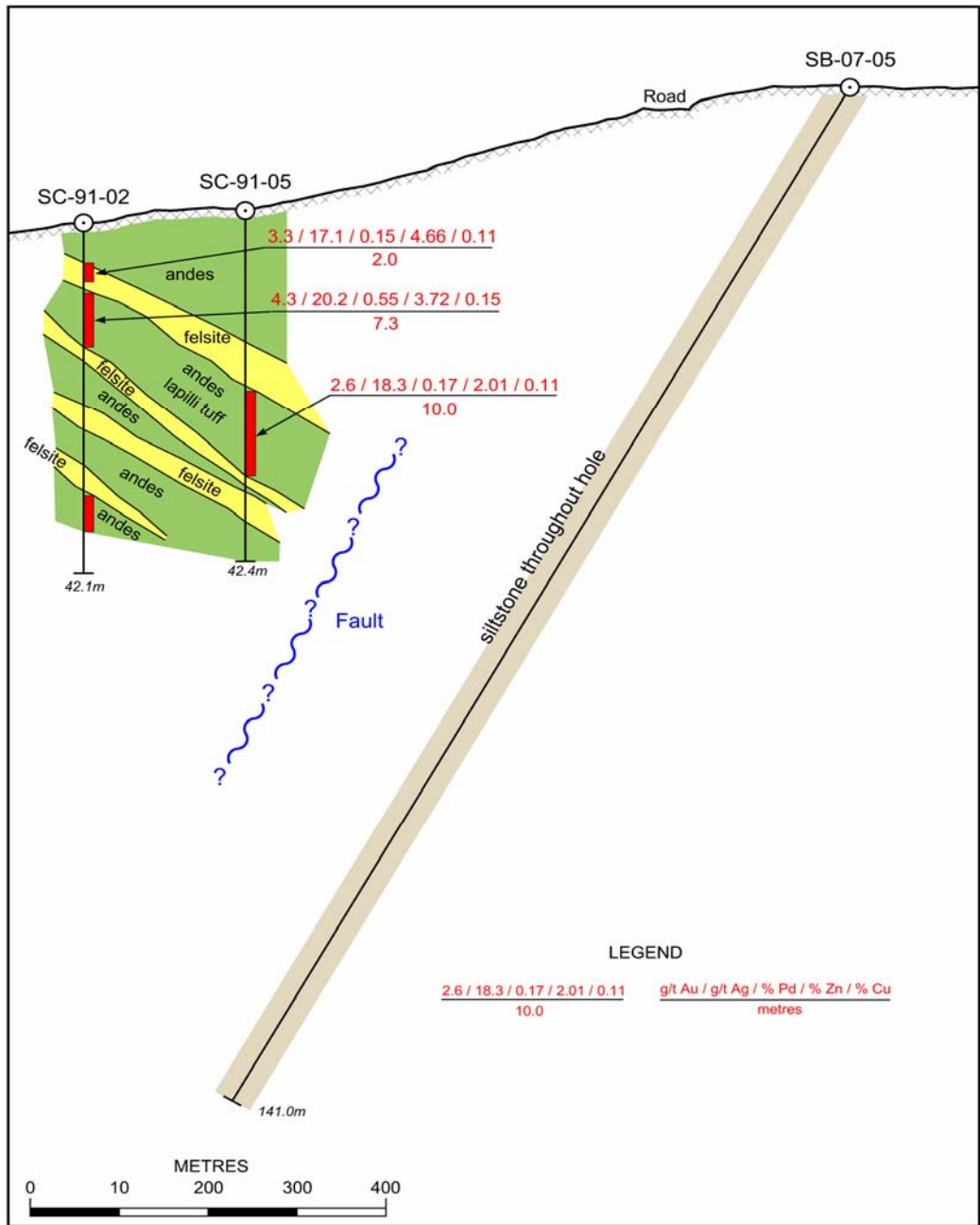


Figure 12. Drill Hole SB-07-05 drilled under mineralized section in previous holes.

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***27.0 Appendix II: Analytical results***









HOLE SB-07-01

Sample	From m	To m	Interval m	Sample kg	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	Bi ppm	K %	S %
587326	438.4	439.9	1.5	4.4	0.7	33.9	1.3	73	<.1	1.2	1.9	0.6	2.28	0.77
587327	439.9	441.4	1.5	4.3	0.7	3.6	2.3	61	<.1	2.3	3.2	0.9	1.95	1
587328	441.4	442.9	1.5	4.5	1.1	6.6	3.4	61	<.1	2.7	3.7	0.8	1.94	0.83
587329	442.9	444.4	1.5	4.2	0.3	25.4	2.5	66	0.1	4.5	3.9	0.4	1.68	0.78
587330	444.4	445.9	1.5	4.4	0.3	8.4	1.1	68	<.1	0.9	<.5	0.1	1.57	0.29
587331	445.9	447.4	1.5	4.6	0.7	63.1	1.1	83	<.1	<.5	1	0.1	2.03	0.23
587332	447.4	448.9	1.5	4.2	0.5	29.6	0.9	71	<.1	0.7	<.5	0.1	2.22	0.31
587333	448.9	450.4	1.5	4.5	0.8	23.5	1.6	50	<.1	1.7	1	0.4	1.79	0.81
587334	450.4	451.9	1.5	4.3	0.4	15.2	3.2	32	0.1	5.5	3.9	2	1.15	2.48
587335	451.9	453.4	1.5	4.2	1	25.8	4.1	64	<.1	4.1	2.1	0.9	2.31	1.29
587336	453.4	454.9	1.5	4.3	0.5	157.3	2.2	63	0.5	4.5	6.2	1.4	2.21	1.35
587337	454.9	456.4	1.5	4.1	0.8	22.9	2.3	66	<.1	2.9	2.1	0.9	2.15	1.27
587338	456.4	457.9	1.5	4.4	0.6	36.8	1.7	48	<.1	3.1	0.8	0.3	1.6	0.38
587339	457.9	459.4	1.5	4.3	0.6	369.1	1.8	63	0.4	1.9	10.6	0.3	1.88	0.54
587340	459.4	460.9	1.5	4.3	0.5	309.5	2.1	51	0.3	5.8	10.2	0.4	1.57	0.69
587341	460.9	462.4	1.5	4.4	0.8	122	2.3	59	0.1	1.9	3.6	0.2	1.7	0.27
587342	462.4	463.9	1.5	4.1	2.8	50.5	3.7	47	<.1	5.3	2.1	0.5	1.76	0.73
587343	463.9	465.4	1.5	4.1	0.9	49.1	2.8	30	<.1	8	1.9	0.7	1.22	0.86
587344	465.4	466.9	1.5	4.6	0.7	65.3	5.6	33	0.1	12.7	2.6	1.1	1.18	1.34
587345	466.9	468.4	1.5	4.8	0.5	152.7	4.1	71	0.3	1.8	4.4	0.2	1.9	0.33
587346	468.4	469.9	1.5	5.1	0.5	499.2	6	88	0.6	10.7	10	2.1	1.6	2.13
587347	469.9	471.4	1.5	4.7	0.9	1024.9	51.5	272	1.9	4.2	17.4	5.7	1.32	1.21
587348	471.4	472.9	1.5	5.3	1.2	130.9	20.4	106	0.3	14.1	6.2	3.8	0.65	1.39
587349	472.9	474.4	1.5	5.1	1.7	899.8	38	155	1.6	13.4	17.4	3.5	0.57	1.56
587350	474.4	475.9	1.5	4.5	1.1	96.9	16.1	125	0.4	5.1	5.4	2.3	1.81	0.66
587351	475.9	477.4	1.5	4.5	0.6	79.3	4	125	0.2	2.7	2.1	0.9	3.08	0.51
587352	477.4	478.9	1.5	4.5	0.5	42.7	4.4	130	0.1	2.9	1.8	0.9	2.29	0.59
587353	478.9	480.4	1.5	4.3	0.4	69.4	4.1	129	<.1	1.1	<.5	0.3	2.34	0.34
587354	480.4	481.9	1.5	5.1	0.7	15.1	2.2	118	0.1	1.1	<.5	0.3	2.29	0.38
587355	481.9	483.4	1.5	4.2	0.5	61.2	3.5	150	0.2	1.3	<.5	0.2	2.48	0.38
587356	483.4	484.9	1.5	4.4	0.5	63.2	52.9	191	0.3	0.8	0.5	0.6	2.38	0.23
587357	484.9	486.4	1.5	4.7	0.5	94.5	0.9	114	0.1	0.8	<.5	<.1	2.69	0.11
587358	486.4	487.9	1.5	4.7	0.6	33.6	3.4	136	<.1	1.2	0.7	0.1	2.64	0.1
587359	487.9	489.4	1.5	4.4	0.6	49.5	8.7	210	<.1	0.8	<.5	0.1	2.73	0.12
587360	489.4	490.9	1.5	3.9	0.5	25.3	3	134	<.1	0.9	<.5	0.1	2.55	0.07
587361	490.9	492.4	1.5	4.9	0.9	13.3	0.8	108	<.1	1	<.5	<.1	2.57	0.11
587362	492.4	493.9	1.5	4.6	1.2	17.2	0.8	120	0.1	1.1	<.5	0.1	2.57	0.12
587363	493.9	495.3	1.4	6	1.4	13.1	0.9	129	0.1	0.8	<.5	0.1	2.41	0.09
587364	495.3	496.1	0.8	2.4	6.6	39.5	3.6	113	0.1	3.2	0.7	0.3	0.6	0.19
587365	496.1	497.6	1.5	4.2	9.5	162.2	6.7	72	0.2	1.6	1.8	0.8	0.73	0.17
587366	497.6	499.4	1.8	5.7	10.1	447	18	2062	0.8	4.8	3.8	2.4	0.8	0.47
587367	499.4	500.7	1.3	4.2	8.1	9735.5	26.9	>10000	14.6	10.4	73	5.2	0.9	3.38
587368	500.7	501.6	0.9	2.7	8.1	5115.4	27.1	3688	6.7	15.9	51.9	6.5	0.94	1.86
587369	501.6	502.8	1.2	3.9	3.7	4938.9	975.3	>10000	13.6	8.8	72.5	156.9	0.28	5.98
587370	502.8	503.8	1	3	8.5	1992.8	56.5	>10000	5.1	5.6	46.4	5.4	0.55	1.2
587371	503.8	504.7	0.9	2.7	4.4	1536.6	133.8	>10000	3.6	12.3	33.8	34.8	0.27	2.03
587372	504.7	505.7	1	2.9	11.6	51.6	65.2	259	0.7	1.9	1.4	2.8	1.16	0.08



















HOLE SB-07-02

Sample	From m	To m	Interval m	Sample kg	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	Bi ppm	K %	W ppm	S %
587942	955.5	957	1.5	3.6	0.7	287.1	3.7	77	0.4	5	4	1.7	2.29	0.2	1.81
587943	957	958.5	1.5	4.6	0.5	161.1	3	93	0.1	5.6	1.3	2.4	2.88	0.3	1.91
587944	958.5	960	1.5	3.5	2.4	36.8	2.9	76	<0.1	7.9	5	3.1	2.36	0.2	2.49
587945	960	961.5	1.5	4.3	0.9	164.2	3.1	82	0.3	6.1	6.3	2.1	2.22	0.3	2.68
587946	961.5	963	1.5	3.8	1.4	54.1	2.4	69	<0.1	9.3	3	3.4	2.02	0.3	3.88
587947	963	964.5	1.5	4.8	1.3	309.5	2	111	0.3	6.6	4	3	3.07	0.3	3.72
587948	964.5	966	1.5	3.7	1.3	735.9	2.2	82	0.7	4.7	7.6	2.5	2.33	0.4	2.72
587949	966	967.5	1.5	4.3	1.2	222.7	2.3	83	0.3	4	1.3	2.4	2.47	0.5	2.56
587950	967.5	969	1.5	4	1.2	1364	2.6	113	1.5	4.3	11.3	4.2	2.89	0.6	2.63
587951	969	970.5	1.5	4.3	0.7	585	2.8	94	0.6	4.5	6.3	4.9	2.93	0.4	2.1
587952	970.5	972	1.5	3.7	0.7	504	2.2	105	0.4	3.9	2.6	1.5	3.31	0.2	1.12
587953	972	973.5	1.5	4.1	1	50.4	6.8	84	<0.1	2	0.5	1	2.44	0.5	0.54
587954	973.5	975	1.5	4.4	0.5	41.6	1.9	77	<0.1	2.6	1.2	1.7	2.93	0.4	1.3
587955	975	976.5	1.5	3.9	0.5	96.3	2.5	85	0.1	2.4	<0.5	0.7	3.28	0.2	0.8
587956	976.5	978	1.5	4.3	0.4	189.6	2.8	74	0.3	3.9	1.7	1.3	2.91	0.2	1.68
587957	978	979.5	1.5	4.2	0.5	43.6	4.7	90	0.1	3.5	2.5	2.4	2.44	0.1	2.22
587958	979.5	981	1.5	3.8	0.6	12.4	5.2	64	0.1	7.4	3.7	3.3	1.68	0.1	3.85
587959	981	982.5	1.5	3.8	3.6	10.8	3.9	44	<0.1	8.5	6.9	3.2	1.31	0.2	4.62
587960	982.5	984	1.5	4.7	1.5	14.8	3.3	42	<0.1	8.3	6	3.3	1.46	0.2	4.96
587961	984	985.5	1.5	3.9	5.6	19.4	7.3	44	0.2	12.2	3.8	4.2	1.47	0.2	4.73
587962	985.5	987	1.5	4.1	0.9	60.9	4.1	78	0.1	2	1.2	0.6	1.65	0.1	0.52
587963	987	988	1	2.9	1	7.9	3.2	47	<0.1	<0.5	<0.5	0.5	2.17	0.2	0.02
587964	988	989	1	2.3	2.1	253.9	7.3	77	0.4	3	5.8	1.8	2.11	0.2	1.06
587965	989	990	1	2.4	1.3	136.4	2.8	27	<0.1	1.9	<0.5	0.7	1.37	0.2	0.33
587966	990	991.5	1.5	3.9	1.1	559.3	5.4	27	0.8	2.9	12.9	1.7	0.75	0.2	0.96
587967	991.5	992.5	1	2.5	2.2	225.1	7.2	23	0.2	1.3	1.3	0.6	0.83	0.2	0.73
587968	992.5	993.5	1	2.5	0.5	20.8	3.6	21	<0.1	2.3	<0.5	0.4	0.72	0.1	0.16
587969	993.5	995	1.5	4.3	0.5	160.5	3.3	70	0.2	1.8	3.4	0.5	2.65	0.2	0.44
587970	995	996.5	1.5	4.5	0.7	16.2	1.5	152	<0.1	0.8	1	0.4	3.28	0.1	0.02
587971	996.5	998.1	1.6	4	0.3	51.3	2.1	92	<0.1	1.2	0.7	0.2	2.28	0.4	0.11
587972	998.1	999.6	1.5	4.2	0.7	94.1	1.5	64	0.2	1.3	5.3	<0.1	2.09	0.4	0.05
587973	999.6	1000.8	1.2	3	0.5	191.7	1.4	79	0.3	1.6	10.8	0.2	2.15	0.2	0.17
587974	1000.8	1002.1	1.3	3.3	0.8	63.1	2.4	81	<0.1	1.4	1.5	0.2	2.71	0.2	0.02
587975	1002.1	1003.6	1.5	3.9	89.2	354	5.4	42	0.5	6.1	9.2	1.9	0.7	0.2	1.42
587976	1003.6	1005.1	1.5	4.1	2.1	431.2	7.1	77	0.4	3.6	5.3	2.3	1.48	0.2	0.88
587977	1005.1	1006.6	1.5	4.2	62.1	456.1	7.3	68	0.7	5.1	14.3	1.7	1.34	0.4	1.6
587978	1006.6	1008.1	1.5	4.8	0.6	118.5	3.8	86	0.2	2.9	3.2	0.5	2.09	0.4	0.46
587979	1008.1	1009.6	1.5	3.9	1.8	195.7	7.6	93	0.3	3.3	3.2	1.7	1.53	0.3	0.75
587980	1009.6	1011.1	1.5	3.5	0.4	163.2	6.4	66	0.3	3.1	6.1	0.7	1.28	0.2	0.68
587981	1011.1	1012.2	1.1	2.7	0.6	150.1	6.1	83	0.3	4.2	2.8	1.1	1.61	0.3	0.62
587982	1012.2	1012.9	0.7	2	0.7	184.7	7.4	75	0.2	2.2	0.6	1.8	1.01	0.1	0.73
587983	1012.9	1014	1.1	3.2	0.5	203.8	5.6	82	0.3	2.9	3.5	0.9	1.81	0.3	0.47
587984	1014	1015.5	1.5	4.2	2	234.7	7	104	0.4	2	2.8	0.7	2.3	0.3	0.4
587985	1015.5	1017	1.5	4.1	0.5	111.9	6.4	89	0.2	1.8	0.6	1.1	1.91	0.3	0.36
587986	1017	1018.5	1.5	3.9	0.4	288	2.7	73	0.4	1.2	2.4	0.6	1.71	0.2	0.41
587987	1018.5	1020	1.5	4.6	0.4	368.9	4.4	81	0.5	1.1	2	1.1	2.14	0.3	0.37
587988	1020	1021.5	1.5	3.6	0.6	651.5	4.3	71	1	1.4	5.6	0.5	1.56	0.3	0.44
587989	1021.5	1022.5	1	2.8	3.7	265.9	2.7	36	0.5	2.2	3	0.7	1.01	0.2	0.41
587990	1022.5	1023.5	1	2.8	1.9	68.6	3.6	53	0.1	0.8	<0.5	0.2	1.01	0.2	0.19
587991	1023.5	1024.5	1	3.2	1.2	145.6	4.7	70	0.3	1.5	1.2	0.6	2.05	0.3	0.37
587992	1024.5	1025.5	1	3.1	0.7	356.9	4.2	52	0.9	2.1	3.8	0.8	1.35	0.3	0.88
587993	1025.5	1027	1.5	4	0.6	77.8	2.3	105	0.1	0.9	<0.5	0.3	2.34	0.2	0.24
587994	1027	1028.5	1.5	3.4	0.9	65.9	1.6	59	0.2	0.6	<0.5	0.1	2.15	0.2	0.08
587995	1028.5	1030	1.5	4.7	0.5	32	1.5	59	<0.1	1	0.8	<0.1	2.49	0.2	0.06
587996	1030	1031.6	1.6	3	0.5	46.3	1.6	78	<0.1	0.7	<0.5	<0.1	2.87	0.2	0.12
587997	1031.6	1033.2	1.6	4.3	0.6	58	5.2	86	0.1	<0.5	<0.5	0.3	2.48	0.3	0.3

SB-07-03 Assays

Sample	From	To	Interval_m	Mo_ppm	Cu_ppm	Pb_ppm	Zn_ppm	Ag_ppm	As_ppm	Au_ppb	Bi_ppm	K_%	W_ppm	S_%
721001	45.7	46	0.3	3.9	57.3	10	163	0.2	6.7	23.3	0.2	0.53	0.2	0.81
721002	49.8	50.8	1	1.3	28.6	18.4	154	0.4	27.6	138.8	0.2	1.49	0.2	1.04
721003	50.8	52.3	1.5	2	31.5	36.7	183	0.4	26.2	73.4	0.7	1.48	0.2	1.46
721004	52.3	53.3	1	5.7	1034	89.7	290	4	65.1	499.4	9	1.31	0.7	9.06
721005	53.3	54.3	1	3.1	44.7	116.1	317	1.4	19.8	138.8	2.8	1.75	0.2	2.16
721006	54.3	55.3	1	1.6	72.2	23.7	241	0.7	15.2	172.2	0.3	1.82	-0.1	1.22
721007	97.5	99.2	1.7	2.6	47.5	32.4	157	0.6	32.7	112.3	3	0.96	0.2	4.29
721008	100.7	101.5	0.8	1.4	40.3	17.45	219.5	0.4	43.3	62.05	3.2	1.545	0.2	3.835
721009	133.1	133.8	0.7	0.5	28.7	95.2	246	0.9	13.4	28.3	4.8	2.08	0.2	7.54
721010	147.8	149	1.2	2.9	390.4	27.6	118	1.2	40.8	124.3	6.8	1.48	0.3	6.2
721011	149	150	1	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
721012	161	162.7	1.7	0.8	9.2	6.3	186	-0.1	3	6.8	-0.1	1.14	-0.1	-0.05
721013	162.7	164.2	1.5	1.4	11.1	6	166	-0.1	3.5	4.1	-0.1	0.48	-0.1	0.17
721014	219.1	220.1	1	1.1	19.4	10.2	105	0.6	40.9	743.6	6.7	1.88	0.2	6.14
721015	220.1	221.1	1	1.6	19.6	12.7	111	0.5	56.3	119.5	6.3	2.07	0.1	5.88
721016	221.1	222.1	1	0.6	11.2	11.1	107	0.3	24.5	54.5	3.6	2.13	0.1	2.66
721017	230.8	230.9	0.1	2.6	46.3	37.4	115	1	37.6	102.4	12.2	1.27	0.2	10
721018	245.5	245.8	0.3	5.1	8.3	10.8	38	0.2	29.6	20.9	0.7	0.66	-0.1	0.65
721019	245.8	245.9	0.1	8.5	168.1	61.7	101	1.8	70.2	142.4	11.4	0.39	0.2	10
721020	245.9	246.2	0.3	4.2	13	11.4	38	0.3	30.7	13.6	0.8	0.53	-0.1	1.64
721021	261.1	262.1	1	1.9	56.35	7.6	119.5	0.15	8.3	13.35	0.8	1.965	0.1	0.925
721022	262.1	263.1	1	0.6	54.2	5.8	101	0.2	12.8	20.8	0.8	1.86	-0.1	1.85
721023	263.1	264.1	1	1.4	14.6	16.5	114	0.2	14.3	65.7	3.8	2.21	-0.1	6.05
721024	264.1	265.2	1.1	0.8	7.2	7.5	102	0.3	7.7	18.7	3.3	1.38	0.1	5.1

721025	265.2	266.2	1	0.7	3.3	3.5	105	0.1	6.5	10.8	2.2	1.65	-0.1	2.78
721026	266.2	267.2	1	0.7	8.4	4.7	105	0.1	9.4	10.4	2	0.46	-0.1	2.2
721027	282.1	283.1	1	1.3	9	7.1	89	-0.1	6.2	8.4	1.8	2	0.2	1.87
721028	295	296.6	1.6	3.9	11.7	15.5	48	0.3	11.4	12.8	1.5	0.38	-0.1	2.11
721029	296.6	298.2	1.6	1.5	13.7	7.5	48	-0.1	3.2	2.4	0.3	0.57	0.1	0.35
721030	298.2	299.8	1.6	2.5	52.7	14.3	61	0.3	7.1	7.2	1	0.71	0.2	0.98
721031	299.8	300.8	1	2.4	56.2	17.1	33	0.5	8.4	7.1	1.8	0.52	0.2	2.4
721032	300.8	301.5	0.7	2.1	45.1	18	90	0.6	22.8	19.1	4.8	0.17	0.2	10
721033	301.5	302.7	1.2	2.5	7.3	10.7	28	0.2	21.1	23.3	2.7	0.51	0.2	6.72
721034	310.1	310.7	0.6	1.4	20.2	135.1	36	0.5	6.1	3.8	0.8	0.49	0.1	0.75
721035	320.9	321.4	0.5	2.6	51.9	18.3	31	0.8	42.9	48	6.8	0.28	0.2	10
721036	326.4	327.7	1.3	3.5	24.1	17.2	70	0.4	14.9	13.2	1.5	0.49	0.1	2.08
721037	339.7	340.8	1.1	1.7	28.7	9.4	46	0.2	12.7	29.3	0.8	0.27	0.1	1.54
721038	340.8	341.9	1.1	2.1	21	10.2	28	0.2	13.3	37.4	1.1	0.45	0.1	1.8
721039	341.9	342.2	0.3	3.9	166.1	18.8	42	0.8	32.6	472.2	5.3	0.31	0.1	5.78
721040	342.2	344.4	2.2	3	17.2	3.4	27	-0.1	15.1	51.1	1	0.55	0.1	2.57
721041	344.4	345.8	1.4	2.1	10.3	5	31	0.1	16.2	45.1	0.6	0.57	-0.1	0.94
721042	348.8	349.8	1	1.5	10.6	13.3	25	0.2	24.2	55.9	1.5	0.36	0.1	4.39
721043	358.5	360.1	1.6	1.3	2.4	5.3	18	0.2	11.3	18.3	1.8	0.21	0.1	3.67
721044	362.7	363.4	0.7	0.5	446.8	7.9	60	2.8	7.1	225.1	2.5	0.84	0.2	2.78
721045	370.8	371.9	1.1	0.8	6.7	9.7	52	0.2	15.1	17	3.4	1.26	0.1	7.59
721046	376.6	377.7	1.1	2.3	56.4	20.2	44	0.4	23.6	21.3	4.5	0.96	0.1	4.88
721047	382.1	383.3	1.2	2.8	311.5	21.2	156	0.8	17.1	29	2.8	1.53	0.4	1.84
721048	386	386.7	0.7	1.8	163.3	243.5	1189	2.3	6.6	30	3.8	2.14	0.2	1.37
721049	393.4	394.1	0.7	7.7	467.1	64.9	250	3.15	14.8	47	6.1	1.31	0.3	1.54
721050	394.1	395.3	1.2	5.8	461.4	176.7	425	4	16	77	6	0.38	0.1	1.64
721051	395.3	396.3	1	1.4	154.7	67.3	228	0.7	13.7	25.4	1.1	0.31	0.1	1.1

721052	396.3	397.3	1	0.4	8.2	15.6	121	0.1	15.8	11.6	0.3	0.25	-0.1	1.18
721053	397.3	398.3	1	1.7	4.7	11.3	102	-0.1	20.2	11.2	-0.1	0.29	-0.1	1.34
721054	398.3	399.3	1	1	3.7	9.9	77	-0.1	16.8	7.6	-0.1	0.33	-0.1	1.31
721055	399.3	400.3	1	1	59.8	10.6	94	0.2	17	14.5	0.6	0.39	-0.1	2.59
721056	400.3	401.3	1	1.7	33.9	18.9	117	0.3	9.4	13.9	1.7	0.38	-0.1	2.36
721057	401.3	402.4	1.1	2	39.4	37.3	73	0.6	15.4	18.1	2.7	0.31	0.1	4.89
721058	402.4	402.8	0.4	0.9	13.9	29.4	74	0.5	17.3	22.6	4.3	0.46	0.1	9.22
721059	403.5	404.8	1.3	2.4	30.6	24.9	120	0.3	7.5	11.8	1.8	0.79	0.2	3.7
721060	404.8	406.2	1.4	1.8	11.1	38.2	94	0.3	13.8	13	2.7	0.53	0.2	6.57
721061	406.2	407.1	0.9	1.8	12.4	37.7	74	0.2	8.2	9.9	1.4	0.32	0.1	3.07
721062	407.1	408	0.9	1.5	7.2	11.3	80	0.2	8.5	6.2	1.7	0.52	0.1	3.84
721063	408	408.9	0.9	1.8	7.9	10.8	55	0.2	5.9	2.9	1.3	0.24	-0.1	2.59
721064	408.9	409.9	1	1.9	11.8	18.7	51	0.2	10.1	3.8	1.8	0.23	-0.1	3.53
721065	409.9	410.9	1	2.15	14.45	43.15	52.5	0.65	13.75	10.25	3.8	0.27	0.1	5.99
721066	410.9	411.9	1	2.2	16.6	18.3	78	0.2	9.8	6.7	0.9	0.36	-0.1	1.96
721067	411.9	412.9	1	2	84.1	75.8	101	0.7	17.4	20.5	5.5	0.23	0.1	8.97
721068	414.1	415.5	1.4	0.5	9	4	57	-0.1	3.6	5.1	0.8	0.44	0.1	1.34
721069	415.5	417	1.5	2	23.9	12.7	108	0.3	14.5	15.1	6.2	1.75	0.2	7.08
721070	417	418.5	1.5	1.6	30.7	13.5	125	0.3	18.2	12.1	4.1	1.8	0.1	6.02
721071	543.8	544.4	0.6	3.2	7.9	8.9	39	-0.1	1.5	1.5	0.2	0.16	-0.1	0.1
721072	544.4	545.4	1	2.55	20.3	44.7	53	0.3	2.35	2.7	0.7	0.12	0.1	0.335
721073	545.4	546.2	0.8	1.1	63.3	8.8	23	0.2	1.6	8.1	1.4	0.16	-0.1	0.39
721074	602.2	603.2	1	2.5	4653	16.5	57	6.3	24.3	104.2	12	0.04	1.5	10
721075	584.1	585.2	1.1	2.5	3379	8.2	23	0.8	20.9	6.7	5	0.01	30.9	6.82
721076	624	624.9	0.9	1.9	2625	29.4	158	3.1	8.6	19.5	4.1	1.41	0.6	5.67
721077	624.9	626	1.1	1.6	6971	30.4	105	15.2	49.9	134.6	12.3	0.26	1.1	10
721078	626	627	1	3	9795	27.4	103	26.1	23.3	104.5	6.4	0.77	1.7	6.93

721079	627	628.4	1.4	0.7	4556	761.4	130	34.7	35.7	91.1	6.7	0.25	0.4	7.48
721080	422.6	423.6	1	1.9	7.3	8.3	52	0.1	1.7	3.9	1	0.51	0.1	0.93
721081	425.2	426.4	1.2	1.3	19.7	13.7	113	0.5	14.8	11.8	5.6	1	0.2	6.45
721082	434.7	435.8	1.1	2.4	74.9	10.6	135	0.3	5.5	7.1	2.6	1.51	0.2	2.17
721083	439.7	441	1.3	5.7	29.9	23.4	122	0.4	33.3	33.3	14.3	1.01	0.1	7.84
721084	441.7	443	1.3	11.5	59.4	16.2	123	0.5	11.1	20.8	3.2	1.06	0.3	4.76
721085	443	444.4	1.4	4.45	15.9	17.05	81	0.3	3.85	8.4	2.1	1.065	0.3	2.645
721086	444.4	445.8	1.4	4.8	45.5	10.7	166	0.2	3.3	9.5	1.3	2.51	0.2	3.42
721087	445.8	447.2	1.4	3.5	26.2	18.2	135	0.2	3.7	5.5	0.9	1.86	0.2	2.28
721088	447.2	448.2	1	7	24.3	39.5	128	0.6	3.5	7.7	1.7	1.6	0.3	2.6
721089	448.2	448.8	0.6	8.7	75.2	44.5	79	2.3	76.4	111.8	16.4	0.57	0.3	10
721090	448.8	449.5	0.7	9.9	59.7	21.1	141	1	57.2	56.4	10.9	1.46	0.7	10
721091	449.5	450.5	1	11.5	21.1	24.9	237	0.7	6.6	19.4	4.9	3.09	1.7	5.39
721092	450.5	451.4	0.9	11.2	79.7	13.1	300	0.5	12.5	26	5.8	3.57	2.4	6.32
721093	451.4	453	1.6	5.4	10.8	27.1	83	0.5	3.9	8	2.4	1.12	0.6	2.15
721094	453	454.6	1.6	3.5	12.5	7.5	100	0.1	4.3	4.4	0.9	1.46	0.3	1.48
721095	454.6	456.2	1.6	1.8	16.5	2.9	125	-0.1	1	-0.5	0.2	1.83	0.2	0.49
721096	456.2	457.8	1.6	1.8	6.9	2.4	114	-0.1	1.6	1.2	0.3	2.03	0.2	0.65
721097	457.8	459	1.2	2.1	8.3	5	115	-0.1	4.2	2.6	1	1.69	0.2	1.45
721098	459	460.2	1.2	3.8	76.9	11.5	153	0.3	19.5	7	2.9	1.8	0.2	3.59
721099	460.2	461.7	1.5	3.3	44.9	20.8	133	0.3	5.8	5.5	1.9	0.58	0.5	2.95
721100	461.7	462.6	0.9	2.9	455.3	24.1	461	1.6	15.2	8.9	3	1.38	0.6	3.75
721101	462.6	463.4	0.8	3.6	1127	93.6	119	0.9	41.5	16.3	9.9	0.04	29.9	10
721102	463.4	464.2	0.8	1.6	8845	51.5	149	3.3	32.5	30.9	9.7	0.13	9.3	10
721103	464.2	465.1	0.9	1.6	113.6	24	212	-0.1	7.8	5.4	3.9	1.69	0.3	3.78
721104	465.1	466.5	1.4	2.1	132.1	24.7	258	0.2	11.3	10.4	4.9	2.25	0.3	8.44
721105	466.5	467.8	1.3	1.8	309.1	14	116	0.2	9.2	14.4	2.6	2.28	0.4	3.72

721106	468.1	469.3	1.2	3.2	1919	25	232	0.9	51.7	68.7	8.4	2.04	0.3	10
721107	469.3	470.7	1.4	1.6	28.2	19.5	147	0.1	11.7	17.3	13.8	2.1	0.2	4.42
721108	470.7	472.1	1.4	3.8	49.1	66.9	160	1	16.6	83.8	10.2	1.37	0.2	10
721109	472.1	473.5	1.4	4.1	464.2	14.7	114	0.7	9	44.7	5.3	1.32	0.2	6.19
721110	473.5	474.9	1.4	4	44.5	11.9	104	0.2	10.3	13.8	5.1	1.76	0.2	6.04
721111	474.9	475.4	0.5	4.9	12.1	15.6	19	0.2	2.3	5.1	1.5	0.28	0.2	1.31
721112	475.4	476.5	1.1	1.9	26.3	13.7	80	0.2	12.6	6.4	2	2.04	0.4	3.19
721113	476.5	477.6	1.1	3.4	23.2	9.4	143	-0.1	7	4.2	1.7	2.87	0.2	1.89
721114	477.6	478.8	1.2	4.4	75.4	13.4	159	0.2	28.8	8.8	5.6	1.99	0.9	5.73
721115	478.8	480	1.2	4.7	348.4	17.8	163	0.6	21.8	14	5.7	1.73	0.7	6.88
721116	480	481.5	1.5	1.2	31.2	3.7	67	0.1	3.2	4.9	2.1	0.7	0.3	3.2
721117	481.5	483	1.5	1.2	21.8	2.5	83	0.1	2.1	5.2	1.4	1.7	0.2	2.55
721118	483	484.5	1.5	1	48.3	2.2	68	0.2	2.2	6.7	0.9	1.56	0.2	1.86
721119	484.5	485.5	1	2.1	125.4	1.9	91	0.3	3	13.9	0.7	1.74	0.3	1.62
721120	485.5	486.7	1.2	6	96.3	5.9	73	0.5	9.4	18.5	2.3	1.91	0.3	2.79
721121	486.7	487.6	0.9	2	18.9	4.6	80	0.2	2.8	4.8	1.8	2.16	0.2	1.77
721122	487.6	488.4	0.8	2	20.6	4.3	64	0.2	3.6	8.1	2.7	1.89	0.2	3.19
721123	488.4	489.8	1.4	3	40.1	2.9	99	0.1	3.3	5.6	1.1	1.99	0.1	2.39
721124	489.8	491.2	1.4	1.55	35.6	4	92	0.1	3	8.25	0.55	2.23	0.1	2.01
721125	491.2	492.6	1.4	5	200.6	6.65	105.5	0.55	17.95	64.35	4.25	2.5	0.2	6.71
721126	492.6	494	1.4	4.3	179.9	5.4	56	0.3	11	12.3	3.3	2.06	0.2	4.32
721127	494	495.5	1.5	4.2	36.6	1.9	102	-0.1	3.8	5.6	1.6	1.93	0.1	2.33
721128	495.5	497	1.5	1.6	87.2	9.6	79	0.3	5.3	10.3	2.1	1.94	0.5	2.63
721129	497	498.5	1.5	2.6	42	8.9	86	0.2	4.6	5.3	2.4	1.91	0.1	3.09
721130	498.5	500	1.5	2.3	52.9	4.3	108	0.1	4.6	3.1	1.9	2.49	0.2	2.83
721131	500	501.5	1.5	1.2	22.8	2.6	62	-0.1	4.4	1.7	2	2.47	0.2	2.42
721132	501.5	503	1.5	1.8	26.7	3.4	59	-0.1	4.5	3	1.4	2.71	0.2	2.37



721133	503	504.2	1.2	1	15	4.8	62	-0.1	6.3	4.9	2	2.55	0.5	3.43
721134	504.2	505.4	1.2	0.6	11.3	3.1	64	-0.1	5.8	3.1	0.7	2.34	0.4	2.29
721135	505.4	506.5	1.1	0.7	11	4.8	74	-0.1	6.3	5.8	0.6	2.02	0.6	1.61
721136	506.5	507.6	1.1	0.9	26.4	56.3	152	0.3	5.1	6.8	1.1	2.34	0.7	1.59
721137	507.6	508.8	1.2	1.2	127.5	14.4	86	0.4	6.2	26	1.3	2.44	0.2	2.53
721138	508.8	510	1.2	3.1	74.2	15	102	0.3	16.9	27.9	0.8	2.45	0.4	1.34
721139	510	511.5	1.5	1.8	33	4.8	72	-0.1	9.8	10.5	1.4	2.28	0.5	2.84
721140	511.5	513	1.5	2.6	61.7	6.3	53	0.1	18.1	34.6	1.9	1.87	0.4	3.24
721141	513	514	1	2.5	10	3.3	55	-0.1	12.8	17.1	1.1	2.15	0.2	1.72
721142	514	515.4	1.4	0.7	14.2	3.4	65	-0.1	11.8	8.8	0.5	2.18	0.6	0.99
721143	515.4	516.6	1.2	3.2	105.5	4.2	42	-0.1	16.4	14.6	6.3	0.8	0.6	1.72
721144	516.6	517.7	1.1	1.9	14.2	2.7	40	-0.1	5.5	6.3	1.1	1.34	0.3	1.67
721145	517.7	518.8	1.1	1.4	20.8	5.2	46	-0.1	13.7	9.3	0.4	1.73	0.3	0.81
721146	518.8	520.1	1.3	1.4	11.8	3.2	51	-0.1	5.7	4.5	0.6	1.55	0.3	0.89
721147	520.1	521.4	1.3	7.2	13.5	5.8	39	0.1	17.2	7.4	1.3	1.12	0.3	2.09
721148	521.4	522.7	1.3	6.3	58.3	4.8	49	-0.1	5.7	2.7	0.6	1.21	0.3	0.62
721149	522.7	524	1.3	0.7	94.1	5.7	37	-0.1	8.5	2.4	0.6	1.47	0.6	1.09
721150	524	525.3	1.3	0.6	85.9	3.6	42	-0.1	2.8	0.6	0.3	1.81	0.4	0.61
721151	525.3	526.6	1.3	1.1	65.7	4.5	38	-0.1	5.2	0.8	0.3	1.01	0.3	0.55
721152	526.6	527.6	1	2.4	54.2	5.1	29	-0.1	3.1	0.7	0.2	0.53	0.9	0.35
721153	527.6	528.9	1.3	0.6	76.4	10.9	55	-0.1	6	3.2	0.4	1.49	0.2	0.81
721154	528.9	529.9	1	0.6	98.1	15.4	79	0.1	5.5	3	0.6	1.08	0.3	0.78
721155	529.9	530.9	1	1.9	101.3	10.2	50	-0.1	5.5	1.8	0.8	1.74	0.2	0.97
721156	530.9	531.5	0.6	2.9	56.3	11.8	13	-0.1	3.1	1.7	0.3	0.44	0.1	0.37
721157	531.5	533	1.5	2.4	43.7	2.6	54	-0.1	2.5	0.9	0.2	2.79	0.2	0.44
721158	533	534	1	2.5	153.6	4.7	42	0.1	2.1	4.8	0.4	1.45	0.1	0.64
721159	534	534.9	0.9	1.6	147.5	2.95	43.5	-0.1	1.6	2.3	0.4	2.36	0.2	0.41

721160	534.9	535.9	1	2.1	195.6	3.7	40	0.1	3.2	2	0.5	1.88	0.5	0.42
721161	535.9	537.2	1.3	1.85	42.1	5.15	46.5	-0.1	2.15	0.5	0.4	2.105	0.3	0.37
721162	537.2	538.5	1.3	2	245.2	2.9	43	0.1	1.3	2.8	0.3	2.19	0.3	0.39
721163	538.5	539.9	1.4	1.8	466.4	3.1	55	0.4	2.1	7.3	0.4	2.08	0.8	0.45
721164	539.9	541.2	1.3	4.2	332.2	4.2	59	0.2	3.4	1.1	0.7	2.35	0.4	0.77
721165	541.2	542.5	1.3	3.4	142.9	8	40	-0.1	2.7	-0.5	0.9	1.95	0.2	0.53
721166	542.5	543.8	1.3	2.75	214.8	4.35	47.5	0.1	4	3.15	0.8	1.21	0.4	1.04
721167	546.2	547.6	1.4	2.8	168.9	4.9	70	0.2	2.6	4	0.8	1.36	0.3	0.58
721168	547.6	549.1	1.5	2.8	260.8	4.3	52	0.4	4.9	17.6	1.6	0.46	0.2	0.59
721169	549.1	550.6	1.5	1.4	201.8	5	49	0.3	3.5	9.8	0.9	1.28	0.3	0.3
721170	550.6	552.1	1.5	1.3	136.1	5	54	0.2	4.8	5.1	1.2	1.45	0.2	0.9
721171	552.1	553.6	1.5	1.3	85.8	9.3	38	0.1	3.5	1	0.3	1.33	0.5	0.44
721172	553.6	555.1	1.5	2.8	139.9	5.9	56	0.2	3.3	2.2	0.7	1.19	0.4	0.38
721173	555.1	556.6	1.5	0.7	92.3	3.1	64	-0.1	3.5	-0.5	0.3	1.45	0.3	0.46
721174	556.6	558.1	1.5	2.3	164.4	3.2	67	0.2	5.1	5.5	0.7	1.71	0.4	0.59
721175	558.1	559.6	1.5	2.3	106.1	3.1	47	0.1	2.7	1.2	0.3	2.04	0.3	0.14
721176	559.6	561.1	1.5	2.6	153.2	2.7	59	0.2	2.2	3.8	1.4	1.92	0.2	0.3
721177	561.1	562.6	1.5	2.7	787.1	3.4	40	1	2.4	36.9	1.5	0.7	0.3	0.45
721178	565	566	1	1	25	0.5	75	-0.1	-0.5	-0.5	-0.1	0.06	-0.1	0.09
721179	567.8	569.3	1.5	0.5	188.7	3.7	59	0.2	1.1	3.8	0.3	1.79	0.2	0.36
721180	569.3	570.8	1.5	0.9	515	4.5	71	0.3	2.5	5	1.1	1.23	0.2	1.7
721181	570.8	572.3	1.5	0.5	98.8	3.3	68	0.2	2.6	3	0.4	2.68	0.5	0.64
721182	572.3	573.8	1.5	8.2	795.8	4	67	1.5	2.4	18.2	4.9	3.07	0.5	0.82
721183	573.8	575.3	1.5	4	250.9	6.1	53	0.2	0.8	4.7	0.5	2.18	0.7	0.6
721184	575.3	576.8	1.5	3.2	285.9	3.3	25	0.2	6.8	2.6	0.9	0.38	0.4	1.98
721185	576.8	578.3	1.5	0.6	241.3	3.4	40	-0.1	1	0.5	0.5	0.57	0.4	0.53
721186	578.3	579.8	1.5	1.8	276.3	3.3	36	-0.1	2.8	0.7	1.1	0.69	0.5	1.88

721187	579.8	580.8	1	0.4	64.3	2.7	37	-0.1	3.3	0.7	0.3	2.96	0.2	0.67
721188	580.8	581.8	1	3.15	163	3.45	37.5	-0.1	2.6	-0.5	1	0.655	0.5	1.465
721189	581.8	582.8	1	3.6	62.7	3	25	-0.1	1.4	-0.5	1	0.43	0.5	0.38
721190	582.8	584.1	1.3	2.6	735.5	4.8	39	0.2	1.7	1.3	4.2	0.41	0.4	1.52
721191	585.2	586.3	1.1	6.7	304.9	2.9	42	0.1	1.6	-0.5	2.6	0.48	1.1	0.91
721192	586.3	587.6	1.3	0.8	103.1	3.3	37	-0.1	2.6	-0.5	0.4	1.99	0.6	0.55
721193	587.6	588.6	1	0.6	48	1.3	38	-0.1	1.5	-0.5	0.2	2.64	0.3	0.22
721194	589	590	1	3	96.9	1.5	39	-0.1	1.2	-0.5	0.2	2.89	0.2	0.19
721195	590	591	1	1	48.75	1.7	36	-0.1	-0.5	-0.5	0.5	2.27	0.15	0.22
721196	591	592	1	0.6	207.2	1.5	23	0.1	0.7	-0.5	0.4	0.81	0.9	0.53
721197	592	593	1	2.4	1036	4.7	32	0.3	9.5	1	2.1	0.54	0.4	4.29
721198	593	594	1	4.3	67.4	1.5	20	-0.1	2.3	1.2	0.2	0.42	0.6	0.23
721199	594	595	1	3.3	398.9	2.1	24	0.1	4.2	1.5	0.7	0.14	1.6	1.62
721200	595	596	1	12.2	46.1	1.5	16	-0.1	1.3	1.2	0.1	0.47	0.6	0.07
721201	596	597	1	3.4	248.9	1.9	22	0.1	1.7	3.8	0.2	0.59	0.7	0.53
721202	597	598	1	5.2	174.8	2.1	20	0.2	1.4	4.3	0.1	0.58	0.4	0.32
721203	598	598.9	0.9	10.1	85.2	6.1	45	0.1	3.9	1.8	0.3	0.92	2.1	0.49
721204	598.9	600	1.1	8.7	238.3	4.6	68	0.3	3.4	3	0.8	1.97	0.4	1.37
721205	600	601.1	1.1	3	287.3	7.7	60	0.4	2.5	3.4	1	1.68	0.7	1.39
721206	601.1	602.2	1.1	3.8	174	15	114	0.5	1.2	4.4	0.5	2.19	1.8	1.48
721207	603.2	604.4	1.2	1.9	676.6	4.25	104.5	0.9	4	16.05	2.25	0.215	0.35	2.15
721208	604.4	605.6	1.2	1	32.1	3.7	104	-0.1	1.3	2.3	0.4	0.29	0.2	0.07
721209	605.6	606.9	1.3	1.4	7.7	2.3	36	-0.1	0.9	1.2	0.2	1.58	0.1	-0.05
721210	606.9	608.2	1.3	0.4	2.8	1.3	36	-0.1	0.5	0.9	-0.1	1.53	0.1	-0.05
721211	608.2	609.6	1.4	0.3	17.7	4.7	33	-0.1	-0.5	0.9	0.1	1.67	0.1	0.13
721212	609.6	610.9	1.3	0.3	83	0.9	25	0.1	0.8	1.6	0.3	1.28	0.7	0.09
721213	610.9	612.2	1.3	0.5	5.8	1	24	-0.1	1.2	-0.5	-0.1	1.29	0.2	-0.05

721214	612.2	613.4	1.2	1.5	144.5	1.9	23	-0.1	5.6	2.6	2.1	0.95	0.3	1.3
721215	613.4	614.7	1.3	1.2	244.9	2.4	22	0.1	5.2	3	1.1	0.88	0.3	1.83
721216	614.7	616	1.3	2	28.2	2.1	20	-0.1	1.8	0.9	0.3	0.7	0.3	0.07
721217	616	617.3	1.3	0.8	114.5	1.8	36	-0.1	3.9	2	0.3	2.21	0.2	0.37
721218	617.3	618.6	1.3	0.8	7.4	1.5	28	-0.1	1.6	-0.5	-0.1	1.88	0.2	-0.05
721219	618.6	619.9	1.3	0.5	18	1.9	33	-0.1	1.5	0.8	-0.1	1.74	0.2	-0.05
721220	619.9	621.2	1.3	0.7	88.9	4.9	35	0.2	1.6	6	0.3	1.63	0.3	0.15
721221	621.2	622.6	1.4	0.2	65.8	3.5	46	0.1	0.7	3.3	0.2	1.85	0.3	0.07
721222	622.6	624	1.4	0.4	737.8	11.2	118	1	1.8	8.1	1.3	2.01	0.3	1.24
721223	628.4	629.7	1.3	2.6	932.4	2014	129	60.1	2.1	65.4	1.2	1.05	0.9	0.49
721224	629.7	631	1.3	7.3	430.3	5.6	33	0.7	13.5	20.4	1.6	1.05	0.3	2.31
721225	631	632.6	1.6	0.9	53.1	8.6	38	0.1	6.2	2.8	0.8	1.42	0.2	1.07
721226	632	633.6	1.6	1.2	264.1	4.7	47	0.5	4.7	4.5	0.9	2.07	0.6	1.84
721227	633.6	635.1	1.5	9.2	133.8	10	31	0.2	13.3	1.8	1.2	0.8	0.3	0.81
721228	635.1	636.6	1.5	9.5	101.7	11.9	43	0.4	13	3.9	1.5	0.99	1	0.37
721229	636.6	638.1	1.5	18	101.6	15.3	61	0.1	15.1	1.3	1.4	0.63	0.3	0.52
721230	638.1	639.6	1.5	18.8	898.7	13	48	0.5	28.9	7.3	3.8	0.14	0.6	3.56
721231	639.6	641.1	1.5	97.3	571.7	21.7	65	0.3	26.3	5.9	5.2	0.17	0.2	2.38
721232	641.1	642.6	1.5	10.2	79.4	5.6	53	0.1	7	3.9	0.4	0.66	0.2	0.26
721233	642.6	644.1	1.5	9.6	85.7	22.3	49	0.2	8.9	2.5	0.7	0.79	0.3	0.26
721234	644.1	645.6	1.5	13.1	119.5	10.5	46	0.1	7.5	4.2	0.6	0.73	0.2	0.37
721235	645.6	647.1	1.5	27.7	97.95	5.1	30.5	-0.1	4.9	5.55	0.6	1.045	0.2	0.75
721236	647.1	648.6	1.5	0.9	60.6	5.4	24	-0.1	4.2	5.7	0.4	0.68	-0.1	0.42
721237	648.6	650.1	1.5	0.5	64.5	5.3	28	-0.1	6.5	6.1	0.5	0.8	0.1	1
721238	650.1	651.6	1.5	0.5	67.2	5.9	25	-0.1	5.7	4.9	0.7	0.88	-0.1	1.22
721239	651.6	653.1	1.5	0.6	71.4	6.4	21	0.1	7.1	3.7	0.5	0.84	-0.1	0.91
721240	653.1	654.6	1.5	5.2	58.6	7.4	39	0.1	4.5	2.2	0.2	1.08	-0.1	0.48

721241	654.6	656.1	1.5	0.5	60.1	7	38	0.1	5.6	4.4	0.3	0.75	-0.1	0.74
721242	656.1	657.6	1.5	0.8	46.2	9.7	33	0.1	5.2	4.3	0.4	0.99	-0.1	0.52
721243	657.6	659.1	1.5	0.6	44.3	6	44	-0.1	2.1	3.5	0.2	1.16	-0.1	0.15
721244	659.1	660.6	1.5	0.6	33.5	5	55	-0.1	2.6	3.9	0.2	1.03	-0.1	0.11
721245	660.6	662.1	1.5	0.7	77.6	13.7	2697	0.2	13.5	13.9	0.8	0.41	-0.1	1.41
721246	662.1	663.6	1.5	1.2	56.6	4.6	33	-0.1	3.6	3.9	1.2	0.65	0.2	0.2
721247	663.6	665.1	1.5	1.8	37.1	6.6	46	-0.1	1.9	1.4	0.3	1.22	0.1	0.21
721248	665.1	666.6	1.5	0.7	57.8	10.1	34	-0.1	2.6	7.7	0.4	1.01	-0.1	0.44
721249	666.6	668.1	1.5	0.7	91.7	7.7	33	-0.1	5.2	8	0.6	1.05	-0.1	0.92
721250	668.1	669.6	1.5	0.7	48.5	12.6	74	-0.1	3.6	4.9	0.3	1.02	-0.1	0.36
721251	669.6	670.9	1.3	1.8	25.9	8.3	74	-0.1	2.2	3.2	0.5	0.21	0.2	0.25
721252	672.3	673.5	1.2	1.9	125.1	12.7	197	0.3	3.8	7.3	1.9	2.08	0.3	1.05
721253	673.5	674.7	1.2	6.4	227.3	13.4	61	1	15.5	34	4.6	0.64	0.6	4.04
721254	674.7	675.9	1.2	10.5	450.2	36.8	1226	2.5	23.8	15.5	3.4	0.35	0.4	3
721255	675.9	677.1	1.2	0.6	33.1	78.1	272	0.5	3	1.4	0.7	1.24	0.1	0.25
721256	677.1	678.1	1	0.9	207	105.6	724	0.8	10.25	3.15	0.95	1.425	0.2	1.425
721257	678.1	679.3	1.2	0.8	123.9	219.5	1035	0.4	4.2	2.1	0.8	2.24	0.3	0.81
721258	679.3	680.3	1	3.7	29.5	36	179	-0.1	2	0.7	0.2	1.9	0.1	0.06
721259	680.3	681.4	1.1	0.4	3.4	31.9	201	-0.1	0.6	-0.5	0.1	1.83	0.1	-0.05
721260	681.4	682.3	0.9	4.4	19	27.3	210	-0.1	2.4	0.7	0.4	0.32	0.2	0.15
721261	682.3	683.2	0.9	0.9	1124	12.8	205	0.9	1.1	4.8	3.7	1.34	0.2	3.04
721262	683.2	684.1	0.9	2.2	286.2	26.1	180	0.6	2.4	7.3	4.2	1.39	0.3	3.09
721263	684.1	685.2	1.1	6.5	37.2	7.4	133	-0.1	1.1	2.1	0.4	1.2	0.3	0.18
721264	685.2	686.3	1.1	2.9	76.5	7.3	114	0.1	1.1	2.3	0.7	1.11	0.4	0.41
721265	686.3	687.4	1.1	1.7	179.9	23.3	168	0.4	0.7	5.3	1.7	1.27	0.8	0.77
721266	687.4	688.1	0.7	0.5	2109	166.2	124	5.2	1.7	48.4	10.6	0.02	3	6.27
721267	688.1	688.8	0.7	0.6	1294	16.2	120	1.5	2.6	34.6	5.6	0.07	9.8	6.54

721268	688.8	689.8	1	0.3	35.9	9.3	122	-0.1	0.7	1.6	0.3	2.45	0.8	0.24
721269	689.8	690.8	1	0.4	40	3.9	83	-0.1	0.6	1.1	0.3	2.57	0.5	0.21
721270	690.8	691.8	1	0.3	29.7	4	67	0.1	0.9	1.5	0.3	2.52	0.2	0.24
721271	691.8	692.8	1	1.1	32.3	5.9	58	-0.1	0.6	2.5	0.2	2.18	0.4	0.16
721272	692.8	693.9	1.1	3.2	90	4.5	68	0.2	2.2	2.3	0.5	0.33	0.4	0.65
721273	693.9	694.9	1	3.5	41.8	5.3	151	-0.1	2.1	1.1	0.3	0.51	1	0.2
721274	694.9	696	1.1	1.2	197.1	6.4	265	0.3	2	4.6	0.7	0.57	0.4	1.1
721275	696	697.1	1.1	0.9	22.5	9.8	154	-0.1	0.8	1.4	0.2	1.16	0.2	0.16
721276	697.1	698.2	1.1	0.3	33.5	28.6	452	0.1	-0.5	1.4	0.3	1.35	0.2	0.21
721277	698.2	699.3	1.1	0.4	21	14.1	113	0.1	0.6	1.5	0.2	1.28	0.3	0.12
721278	699.3	700.2	0.9	1.3	393.2	63.9	330	1.6	22.7	21.9	1.8	2.14	0.8	3.56
721279	700.2	701.1	0.9	3.1	274.8	50.1	216	1.1	13.4	12.9	1.1	2.42	0.4	2.36
721280	701.1	702.5	1.4	1	49.2	88	503	0.4	0.9	1.9	0.5	1.54	0.4	0.23
721281	702.5	704	1.5	0.8	129.8	40.1	390	0.5	3	6.2	0.6	2.45	0.4	1.05
721282	704	705.5	1.5	1	75.5	57.6	303	0.4	2.1	2.9	0.5	1.49	0.2	0.48
721283	705.5	707	1.5	3.5	80.6	52.8	261.5	0.55	4.75	6.15	0.7	1.69	0.3	0.815
721284	707	708.5	1.5	2.3	49.8	68.2	380	0.5	3	3.8	0.9	1.41	0.3	0.38
721285	708.5	710	1.5	3	92.1	13.4	46	0.2	4.2	2.6	0.8	0.62	0.2	1.04
721286	710	711.5	1.5	3.1	90.7	27.2	111	0.3	5.1	3.3	1.3	0.32	0.2	0.7
721287	711.5	713	1.5	1.6	50.8	10.4	45	0.3	2.8	2.5	0.7	0.81	0.2	0.15
721288	713	714.5	1.5	2.05	87.25	33.4	228	0.8	5.55	5.5	0.6	1.255	0.85	0.82
721289	714.5	716	1.5	2.6	136.2	11.4	114	0.7	2.3	10.7	0.8	1.55	1.2	0.72
721290	716	717.5	1.5	4.2	49.4	9.5	54	0.3	1.8	10.1	0.5	1.07	0.8	0.2
721291	717.5	718.1	0.6	1.9	62.5	32.5	46	0.4	7.2	2.8	0.3	0.15	-0.1	0.42
721292	718.1	719.4	1.3	19.2	128.8	11.6	53	0.2	8.3	5.5	0.9	0.68	0.4	1.09
721293	719.4	720.9	1.5	1.5	36.7	1.8	30	-0.1	3.1	0.8	0.5	0.76	0.2	0.1
721294	720.9	722.4	1.5	1.1	25.1	1.5	34	-0.1	4.4	-0.5	0.2	1.05	0.2	0.13

721295	722.4	723.9	1.5	1.6	75.1	2.6	45	0.1	4.1	1.9	0.6	1.55	0.4	0.64
721296	723.9	725.4	1.5	1.2	135.8	1.7	35	0.2	3.8	1.8	0.4	0.89	0.4	0.18
721297	725.4	726.4	1	0.9	76.3	3.9	67	0.4	1.4	0.5	0.2	1.46	0.4	0.18
721298	726.4	727.9	1.5	0.8	57.8	1.7	46	0.2	1.9	-0.5	0.2	1.28	0.2	0.18
721299	727.9	728.9	1	0.8	111.7	2.9	51	0.2	1.3	-0.5	0.3	1.36	0.2	0.37
721300	728.9	730.4	1.5	0.9	126.6	4.8	66	0.2	1.7	1.3	0.3	1.43	0.3	0.44
721301	730.4	731.9	1.5	1.7	100.4	45.1	270	0.4	3.7	2.8	0.5	0.96	0.2	0.55
721302	731.9	733.4	1.5	1.6	66.6	13.4	95	0.4	2.8	5	0.5	1.57	0.2	0.48
721303	733.4	734.6	1.2	4.2	42.5	8.2	74	0.3	1.6	1.9	0.3	1.58	0.2	0.29
721304	734.6	736.1	1.5	1.3	77.5	14.6	89	0.4	3.6	3.7	0.6	0.72	0.2	0.73
721305	736.1	737.1	1	1	24.4	16.7	110	0.2	2.2	-0.5	0.2	0.48	0.1	0.19
721306	737.1	738.1	1	0.9	116.7	11	82	0.3	6.4	2.9	0.7	0.15	0.2	0.85
721307	739.1	740.1	1	0.8	23	0.9	70	-0.1	-0.5	-0.5	-0.1	0.09	-0.1	0.12
721308	740.1	741	0.9	1.1	89.5	8.2	66	0.2	3.8	2.5	0.4	1.31	0.2	1.1
721309	741	742.5	1.5	1.2	72.5	20.9	445	0.2	4.3	4.5	0.4	1.75	0.3	1.09
721310	742.5	744	1.5	1	70.3	6.6	82	0.1	3.3	2.1	0.3	1.57	0.7	1.01
721311	744	745.5	1.5	1.1	93	10.5	127	0.2	3.7	4.8	0.3	1.57	0.5	1.39
721312	745.5	747	1.5	3	81	7.8	109	0.1	3.6	1	0.2	1.68	0.3	0.95
721313	747	748.5	1.5	14.7	134.8	6.8	89	0.2	7.3	2.1	0.9	2.03	0.3	1.65
721314	748.5	750	1.5	1.7	96.2	3.6	47	0.2	3	1.1	0.4	1.41	0.6	0.9
721315	750	751.5	1.5	1.1	108.1	5	74	0.2	2.9	5.8	0.8	1.15	0.2	1.44
721316	751.5	753	1.5	0.7	109.2	3.6	62	0.2	2.9	4.3	0.7	1.11	0.2	1.39
721317	753	754.5	1.5	1	40.4	2.7	70	0.1	1	1.1	-0.1	1.05	0.2	0.28
721318	754.5	756	1.5	1.2	44.1	3.6	71	0.3	1.4	3	0.3	1.39	0.2	0.61
721319	756	756.9	0.9	1	29.3	2.9	61	0.2	1	0.8	0.2	2.49	0.7	0.28
721320	756.9	757.8	0.9	0.6	64.1	3.9	56	0.3	1.3	0.6	0.3	0.76	0.3	0.57
721321	757.8	759	1.2	1	92.1	17.1	206	0.6	4.6	5.1	0.6	1.87	0.2	1.31

SB-07-04 Assays

Sample	From	To	Inte	Mo_p	Cu_pp	Pb_p	Zn_pp	Ag_p	As_ppm	Au_p	Bi_pp	K_%	W_p	S_%
			rval	pm	m	pm	m	pm		pb	m		pm	
			_m											
721322	25	26	0	1	754	33	100	2.5	59.9	93	29	0.5	0	10
721323	40	42	1	3.2	28.2	18	43	0.4	19.95	46	7.3	0.4	0	7.2
721324	47	48	1	0.9	6.4	6.8	51	-0.1	0.8	-0.5	0.3	0.8	-0	0.1
721325	77	78	1	0.4	11.6	16	84	0.3	20.5	34	0.5	0.8	0	1.5
721326	78	80	1	4.2	21.4	43	80	2.1	39.4	152	14	0.6	0	10
721327	80	81	1	2	6.8	12	129	0.2	8	14	1.6	1.3	-0	1.4
721328	109	110	2	2.1	105	45	130	0.6	18	14	3.1	0.9	0	3.4
721329	110	112	2	2.5	22.3	25	63	0.3	23.9	6.7	3.2	0.7	-0	3.4
721330	112	113	2	1.4	78	17	118	0.4	36.45	12	2.8	1.3	-0	4.7
721331	113	115	2	1.7	13.3	22	75	0.2	12.4	-0.5	0.7	0.7	-0	1.4
721332	115	116	2	1.3	68.6	16	119	0.4	30.2	15	3.1	1.3	0	5.3
721333	116	118	2	1.7	47.6	42	83	0.8	34.5	16	3.4	0.5	-0	6.2
721334	118	119	1	2.4	38.6	65	99	1	41.1	8.9	2.8	0.6	0	5.3
721335	119	119	1	2	181	46	112	1.3	30.8	15	3	0.8	-0	5.8
721336	119	120	1	1.8	111	130	251	1.5	24.7	16	1.9	0.9	0	3.3
721337	120	122	2	1.4	79.5	66	127	1.1	37.6	49	3.5	1.1	0	5.3
721338	122	122	1	1	1686	824	10000	13	25.4	623	10	0.3	0	2.3
721339	122	123	1	1.1	22.5	132	273	0.6	6.3	8.2	1.3	0.4	0	1.2
721340	123	125	2	1.2	49.2	107	686	0.6	6.1	23	0.9	0.4	0	0.8
721341	125	126	2	1.1	22.6	54	207	0.4	6	6.2	0.9	0.3	0	0.7
721342	126	128	2	0.9	13.3	17	115	0.1	4.3	0.7	0.1	0.4	0	0.1
721343	128	129	2	1.3	21.7	15	162	0.2	8.7	8.6	0.8	0.5	0	0.9
721344	129	131	2	1.2	20.1	17	105	0.2	6.3	1.6	0.4	0.6	0	0.4
721345	131	132	2	1.2	29.2	11	96	0.3	7.5	5.1	0.9	0.7	0	0.9



721346	132	134	2	0.9	30.5	6.2	90	0.1	2.8	0.6	0.2	0.8	0	0.3
721347	134	135	2	1.3	30	9.7	92	0.1	3.9	2.6	0.6	0.7	-0	0.6
721348	135	137	2	1.3	132	13	133	0.6	9.3	17	1	1	0	1.2
721349	137	137	1	1	92.7	15	191	0.4	19.8	11	1.9	0.8	0	2.1
721350	137	139	2	2.4	27.7	17	158	0.4	13.8	12	3.9	1.1	0	4.7
721351	139	140	1	1.7	48.6	43	154	0.5	24.5	23	5	1	0	6.5
721352	140	141	2	1.5	21.1	215	2059	3	56.9	56	16	0.6	0	10
721353	141	142	1	2.8	14.1	23	170	0.2	18.6	12	4.4	1	0	6.1
721354	142	144	2	1.4	42.7	10	167	0.2	11.75	7.8	2.9	1.1	0	3.7
721355	144	145	2	1.3	57.3	6.1	187	0.2	10.1	3.1	2.2	1	0	3.2
721356	145	147	2	1.9	70.1	12	245	0.3	12.7	13	2.9	1	0	4.2
721357	147	148	2	2	39.2	7.9	137	0.2	13.55	11	2.7	1	0	4.1
721358	148	150	2	1.1	15.9	5.7	113	0.1	11.5	4.8	3	1.4	-0	3.9
721359	150	151	1	1	13.6	6.4	69	0.2	12.7	5	3.5	1.1	0	6.4
721360	151	152	1	0.5	6.5	6.5	24	0.2	16.7	6.8	2.6	0.5	0	6.6
721361	152	153	1	0.5	10.1	9.3	35	0.3	21.1	7.8	5.2	0.5	0	8
721362	153	154	1	0.4	9.1	10	24	0.3	29	11	7.6	0.3	0	10
721363	154	155	1	0.5	8.5	5.3	32	0.2	19.1	7.8	4.3	0.5	0	7.2
721364	155	156	1	0.5	7	3.9	44	0.1	15.8	7.3	2.6	0.6	0	3.7
721365	156	157	1	0.3	18.6	22	104	0.3	16.6	4.6	1.5	0.3	-0	2.4
721366	157	159	1	0.3	16.8	3	48	0.1	17	3.6	1	0.6	-0	2.2
721367	159	160	1	0.8	13.1	7.5	48	0.3	30.6	14	6.9	0.7	0	10
721368	160	161	1	0.7	9.4	7.1	65	0.2	22.1	7.4	5.6	1	0	5.9
721369	161	162	1	0.6	7.2	11	50	0.2	24.3	11	5.6	0.8	0	5.6
721370	162	162	1	0.9	34.8	10	90	0.3	33.1	22	4.2	1.1	0	5.6
721371	215	216	1	3.1	15.4	53	90	0.7	41.3	29	18	1.2	0	10
721372	227	228	1	1.7	24.3	15	129	0.5	45.2	23	14	1.4	0	10

721373	228	229	1	2	42.5	33	165	0.8	65.9	32	19	0.6	0	10
721374	229	230	1	1.8	86.9	44	144	1.6	97.8	48	33	0.6	0	10
721375	230	231	1	2.8	73.8	42	163	1.1	134	52	30	0.9	0	10
721376	231	232	1	1.5	49.9	18	100	0.4	46.6	21	11	1.4	-0	8
721377	232	233	1	0.4	142	8.9	118	0.4	33	14	3.9	0.6	-0	4.1
721378	233	235	1	1.2	275	4.5	142	0.5	19.7	27	5.6	0.3	-0	3.8
721379	235	236	1	0.9	41.1	4.3	622	0.1	8.5	10	3.3	1.1	-0	2.8
721380	236	237	2	2.1	12.8	9.8	86	0.1	7.9	4.8	3.8	1	-0	2.6
721381	237	238	1	1.9	5.9	4.1	54	-0.1	5.5	3.2	2.8	0.3	-0	2.1
721382	238	239	1	1.7	9.5	8.9	80	0.4	17	8.3	9	0.7	-0	6.7
721383	239	240	1	1.6	5.9	6.3	102	-0.1	3.7	3.6	2	1.2	-0	3
721384	240	241	1	1.6	4.5	4.8	104	0.1	6.1	5.9	4.8	1.4	-0	3.5
721385	241	243	1	1.8	4.9	3.1	99	0.2	7.3	4.3	5.6	0.6	-0	2.8
721386	243	244	1	1.6	6.5	6.5	103	0.4	23.5	12	11	1.3	-0	5.8
721387	244	245	1	2.3	12.1	22	146	0.9	66.2	22	20	0.2	0	10
721388	245	246	1	4.4	3.48	5.6	59.8	0.3	10.5	2.4	6	0.1	-0	2.3
721389	246	247	1	3.1	4.3	5	36	0.3	15.9	2.3	5.8	0.1	-0	3.7
721390	247	248	1	3.1	10.2	4.9	106	0.2	16.7	2.9	2.7	0.2	0	3.1
721391	248	250	1	1.9	29.6	7.8	104	0.3	20	2.7	2.5	0.2	0	2.6
721392	250	251	1	1.7	65.7	17	106	0.6	57	4.7	6	0.2	0	4.6
721393	251	252	1	1.1	29.6	14	117	0.5	31.3	5.5	4.5	0.2	0	3.5
721394	252	253	1	1.6	36.5	11	72	0.2	15.3	2	1.5	0.2	0	1.3
721395	253	254	1	1.8	14.4	13	127	0.2	5.5	3.5	0.8	0.2	0	1.3
721396	254	255	1	1.9	33.3	65	587	3.6	10.8	131	1.8	0.7	0	0.4
721397	255	256	1	118	75.1	22	1499	5	11.4	241	3.1	1.2	0	0.5
721398	256	257	1	131	43.7	10	418	0.6	17.4	31	7	1.8	0	0.7
721399	257	258	1	33	364	8.6	83	1.3	25.2	20	3.9	0.4	0	1.1

721400	258	259	1	3.7	154	9.8	60	0.6	46.5	17	3.5	0.8	0	1.7
721401	259	261	2	2.1	231	7.8	137	0.6	19.3	8.4	1.1	2.1	-0	1.5
721402	261	262	2	1.7	213	9	130	0.5	31	5.7	1.1	2.4	0	1.7
721403	262	264	1	2.3	201	8.5	458	0.5	20.1	7	0.6	1.7	-0	0.7
721404	264	265	1	1.2	197	5.3	299	0.5	19.6	8.1	1.1	2.3	-0	1.4
721405	265	266	1	1	238	6.3	224	0.6	21.5	5.4	0.9	2.2	-0	1.5
721406	266	267	1	1.3	266	8.3	184	0.6	27.3	5.1	0.7	2.3	-0	2.5
721407	267	268	1	1.2	143	9.1	138	0.4	23.4	3.5	0.4	1.8	-0	2.4
721408	268	269	1	1.8	121	12	120	0.4	38.3	3.7	0.4	1.6	-0	1.7
721409	269	270	1	9.4	205	11	741	0.5	30	5.9	0.8	1.9	0	1.8
721410	270	271	2	3.8	247	9.5	3149	0.7	30.7	6.3	0.7	2.1	0	1.7
721411	271	273	2	2	180	15	147	0.7	33.8	8.8	0.7	2.4	-0	2.5
721412	273	274	1	1.2	148	37	118	0.9	18.9	5.5	0.5	2.5	0	2.4
721413	274	275	1	1.8	192	15	101	0.9	24.5	7.8	0.3	2.7	-0	1.8
721414	275	277	1	1.6	154	14	73	0.9	15.8	3.4	0.1	2.4	-0	1.1
721415	277	278	1	1.7	185	53	66	1.2	18.3	8.6	0.1	2	-0	1.6
721416	278	279	1	2	199	31	108	1.1	10.6	6.6	0.1	2.1	-0	1.1
721417	279	281	2	1.4	177	62	132	1.2	21	14	0.6	1.8	-0	1.7
721418	281	282	2	1.4	169	44	152	0.9	20.9	12	0.3	2.2	0	1.5
721419	282	284	2	1.5	144	56	125	1	14.8	19	0.3	2.1	0	1.2
721420	284	285	2	1.3	203	30	145	1	12.3	25	0.7	2.2	0	1.2
721421	285	287	2	1.1	178	24	138	0.7	22.8	14	1.5	2	0	2
721422	287	287	1	2.1	156	12	139	0.6	27.5	7.2	0.9	0.6	0	1.7
721423	287	289	2	1.5	173	12	169	0.8	12.2	8.7	0.6	1.8	-0	1.9
721424	289	290	2	1.2	174	9.1	150	0.7	16.4	5.6	0.3	2.3	0	1.5
721425	290	291	1	1.5	155	8	118	0.5	14.1	4.2	0.3	1.4	-0	0.5
721426	291	293	1	1.9	152	5.4	514	0.5	21.1	3.1	0.4	2.2	0	1.3

721427	293	294	2	1.9	176	6.3	689	0.7	21.3	7	0.9	2.3	0	1.1
721428	294	295	1	1.9	167	21	529	0.9	27.5	5.4	1.7	2	0	1.4
721429	295	296	1	2.2	546	9	158	5.6	8.8	31	3.1	1.7	0	1.2
721430	296	297	1	4.5	62.3	5.9	105	1.1	2.6	9.7	6.1	0.8	1	2
721431	297	298	1	7	171	7.1	106	0.4	7.9	15	1.8	0.4	1	1.3
721432	298	299	1	4.4	958	23	119	2	23	53	24	0.5	1	3.9
721433	299	300	1	2.8	507	17	106	1.3	6.9	67	12	0.8	1	4
721434	300	301	1	2.2	12.1	10	27	0.5	19.3	14	13	0.6	0	1.1
721435	301	302	1	1.9	7.3	4.2	18	-0.1	8.8	4.9	1	0.3	-0	0.6
721436	302	303	1	2.4	29.5	6.1	39	0.2	25.1	7.4	1.1	0.7	0	1.2
721437	316	316	1	5.7	90.7	9.6	94	0.7	6.4	14	12	2.2	0	2
721438	322	323	1	2.6	7	2.9	42	0.2	11.7	3.8	1.5	1.5	0	1
721439	323	325	1	6.5	79.5	19	38.5	2.6	9.9	9.9	27	1.1	0	1.3
721440	325	326	1	2.8	7.3	7.1	26	0.3	11.4	6.8	5.1	0.7	0	0.6
721441	326	327	1	2.5	246	5	101	0.3	1.9	5.4	4.1	2.4	0	1.2
721442	327	328	1	0.9	379	4.6	85	0.6	2	17	4.7	2.9	0	1.3
721443	328	329	1	1.5	277	4.6	92	0.4	2.6	5.3	14	2.8	0	1.5
721444	329	330	1	0.6	349	3.4	96	0.7	3.1	7.9	2.2	2.7	1	0.6
721445	330	331	1	0.6	173	1.6	92	0.3	2.1	5.8	0.6	2.6	0	0.4
721446	331	332	1	0.9	447	1.9	109	0.7	3	8	0.5	2.6	1	0.9
721447	332	333	1	1.3	315	1.8	106	0.6	2.4	8.9	0.8	2.1	0	0.7
721448	333	334	1	1.2	390	2	91	0.4	2	3.1	1.7	2.5	1	1
721449	334	335	1	2.3	137	2	83	0.2	2.2	3	0.7	2.6	1	0.3
721450	335	336	1	1.9	371	5.8	63	0.9	34.8	4.1	3.8	1.7	0	1.1
721451	336	337	1	7	155	2.2	80	0.3	21.9	2.8	1.2	1.7	0	0.8
721452	337	338	1	1.5	219	2.2	88	0.3	8.6	2	1.4	2.1	0	0.8
721453	338	339	1	0.8	258	1.9	63	0.5	2.6	2.9	1.1	2.1	0	0.4

721454	339	340	1	0.9	315	2.5	67.5	0.4	2.8	2.1	3.4	2.9	0	0.7
721455	340	341	1	1.3	96.5	2.3	64	-0.1	1.4	1.5	2	2.3	1	0.3
721456	341	343	2	6.4	36.4	1.9	44	-0.1	0.9	0.7	0.6	2.2	0	-0.1
721457	343	344	2	1.9	71.7	2.5	55	0.3	0.9	1.1	39	2	0	0.1
721458	344	346	2	2.1	121	5.5	80	0.2	4.5	1.6	5	1.1	0	0.3
721459	346	347	2	1.8	1095	6.5	109	1.6	1.5	8.7	18	1.1	0	0.5
721460	347	349	2	0.7	4.9	2.4	60	-0.1	0.5	1.6	0.2	2.1	0	-0.1
721461	349	350	2	2.1	25	2.5	55	-0.1	0.7	2.1	0.4	2	0	-0.1
721462	350	352	2	3.7	1190	2.2	102	1.9	4.3	9.2	8.8	1.4	0	0.6
721463	371	371	0	1.2	278	1.1	96	1.1	4	7.9	0.2	1.5	0	-0.1
721464	374	374	0	4.4	29.5	3	46	-0.1	1.1	1.3	0.2	2.1	0	-0.1
721465	375	376	1	5.3	465	3.1	53	0.3	2.2	2.9	0.5	2.1	1	0.8
721466	376	378	1	5.5	1057	1.7	59	0.7	3.5	8.1	0.4	1.7	0	0.5
721467	378	379	1	3.2	2734	2.5	84	1.6	4	6.5	0.4	1.5	0	0.7
721468	379	380	1	4.6	8839	50	37	4.9	170.8	43	2.8	0.1	1	10
721469	380	382	2	2	98.2	1.2	62	-0.1	1.5	3.8	0.1	2.3	0	0.2
721470	382	383	2	0.3	111	1.7	50	-0.1	2.1	2.6	0.1	2.5	0	0.2
721471	383	385	2	0.7	117	1	43	0.2	1.5	2	0.1	2.6	1	-0.1
721472	385	386	1	3.2	133	3.9	45	0.2	1.3	2.7	0.4	2.5	1	0.7
721473	386	387	1	6	102	2.7	59	0.1	4.1	2.6	0.8	2.1	0	0.7
721474	387	388	2	5.5	58.5	1.8	58	-0.1	0.8	1.5	0.3	3.1	1	0.1
721475	388	390	2	5.5	42.2	1.2	49	-0.1	0.9	0.8	0.2	2.9	1	0.1
721476	390	391	2	3.2	4.9	1.2	49	-0.1	0.6	0.8	0.9	2.7	1	-0.1
721477	391	393	2	1.8	2.4	1	52	-0.1	-0.5	1	0.1	2.8	1	-0.1
721478	393	394	2	3.6	27.6	0.9	80	-0.1	1.2	0.9	0.5	2.1	0	0.1
721479	394	396	2	4.7	13.8	0.8	88	-0.1	1	1.1	0.5	2.2	0	-0.1
721480	396	397	2	3.5	293	1.6	113	0.7	1.3	14	1.2	2.2	1	1.1

721481	413	414	1	19	1819	2.7	72	2.1	1.8	5	8.9	2.6	7	0.7
721482	414	414	1	11	6554	1.7	75	6.5	1.8	52	3.7	1.3	16	1.5
721483	414	415	1	14	70.7	0.9	50	-0.1	1.6	0.9	1.8	2.3	5	0.2
721484	469	470	2	1.5	72.5	5.2	52	0.1	1.8	5.9	1.1	2.2	1	0.1
721485	470	471	1	5.5	441	3.8	108	0.6	1.6	4.5	2.6	1.7	3	0.6
721486	471	472	1	26	1045	5.7	130	0.9	2	5.1	4	1	5	1.5
721487	472	473	1	23	2004	36	226	3.5	1.6	17	569	2.1	12	3
721488	473	474	1	18	10000	47	518	27	1.7	57	261	1.8	15	4.5
721489	474	476	1	8	2537	2.9	136	1.8	1.8	7.5	6.2	0.4	4	0.7
721490	476	477	2	12	130	2.4	91	-0.1	1.1	1.7	22	1.7	3	0.2
721491	477	479	2	10	236	2.5	77	0.3	0.7	2.6	3	2	1	0.1
721492	479	479	1	40	10000	4.7	232	19	2.4	80	54	0.9	18	3.4
721493	479	481	1	9.3	3189	3.2	80	2	2.3	12	6.1	0.9	1	0.5
721494	481	481	1	1.9	187	2.9	86	-0.1	1.4	1.7	2.5	1.9	1	0.3
721495	481	483	1	1.6	38.5	2.8	98	-0.1	2.8	1.3	1	1.1	0	0.1
721496	483	484	1	3.6	12.8	1.7	66	-0.1	-0.5	-0.5	0.3	1.6	1	-0.1
721497	484	485	1	7.1	280	2.8	95	0.2	1.5	0.8	1	1.4	1	1
721498	485	485	0	8.9	699	9.8	65	0.6	3.3	2.1	17	0.7	4	4
721499	485	486	1	1.6	30.8	3.1	65	-0.1	1.3	1.1	0.6	2.2	1	0.1
721500	486	488	2	1.1	19.3	1.7	56	-0.1	1.5	-0.5	0.5	2.1	1	0.1
721501	488	489	2	14	81.7	3	61	-0.1	3.5	1.6	0.7	2.7	2	0.3
721502	489	490	1	5.4	33.4	1.7	72.5	-0.1	1.65	-0.5	0.3	1.6	3	0.2
721503	490	492	2	1.4	323	3.8	91	0.4	3.1	0.9	1.7	1.4	1	1.5
721504	492	493	1	3.4	187	5.1	89	0.2	3.4	1.2	1.3	1.2	0	0.9
721505	493	494	1	8	1776	11	120	0.9	4.3	2.7	9.7	3.1	2	4.6
721506	494	495	1	2.9	148	2.9	98	-0.1	1.5	-0.5	0.6	1.9	1	0.8
721507	495	496	2	2.5	22.4	1.2	64	-0.1	1.6	13	0.7	2.1	1	0.1

721508	500	501	0	0.7	5803	4.1	55	5.5	1.1	5.9	0.7	0.4	0	0.5
721509	507	509	2	4.2	1876	2	75	2.4	1	9.6	1.7	2.6	1	0.6
721510	517	518	2	8	2337	0.9	73	2.1	0.9	11	2.5	2.5	2	0.6
721511	521	523	1	16	4589	2.3	84	2.9	0.9	6.3	6.7	1.3	6	1.3
721512	523	524	1	13	10000	1.8	171	9.4	1.2	26	19	1.9	4	1.8
721513	539	541	1	11	127	1.7	53	0.2	1.1	1.6	1.4	1.5	2	0.1
721514	541	542	1	11	4720	1.5	77	3.9	1.6	18	2.7	1.3	5	1.3
721515	549	550	1	6.2	76	6.4	12	0.2	0.8	0.5	3.1	0.2	0	0.1
721516	550	551	1	1.8	96.7	46	19	0.6	0.7	4.8	1.1	0.1	0	0.1
721517	551	552	1	2.4	19.5	8.7	12	0.1	0.5	0.5	0.2	0.1	-0	0.1
721518	552	553	2	3.4	205	8.6	47	0.3	0.8	4.3	0.7	1.1	0	0.4
721519	555	556	2	11	2141	5.2	132	2	0.7	76	5.2	1.9	1	3.3
721520	565	566	1	#####	-9999	####	-9999	####	-9999	####	####	####	####	####
				##		##		##		##	##	##	#	##
721521	566	567	1	2.1	379	2.1	42	0.2	1.9	7.1	1.4	2.5	0	2
721522	572	574	1	1.9	393	1.8	50	0.3	9.8	7.1	1.9	1.8	1	2.1
721523	576	576	1	2.4	945	1.4	88	1.3	2.1	80	1.2	1.6	1	2
721524	579	580	1	1.4	317	0.8	38	0.2	1.8	3.2	0.8	1.8	1	1.1
721525	588	589	1	1.2	326	1.1	41	0.1	2.4	5.5	1.8	1.3	1	2.2
721526	590	592	2	2.3	319	0.8	38	0.2	1.4	4.3	0.9	2.2	1	1.3
721527	592	593	1	3.2	454	1	43	0.3	2.1	6	0.5	2.6	0	1.1
721528	593	593	1	11	2336	33	31	3.1	36.3	75	8.5	0.6	1	4.3
721529	593	594	1	2.6	592	2	68	0.3	1.7	15	0.9	2.4	1	1
721530	594	596	2	2.9	562	2.9	40	0.4	1.3	8.8	4.4	1.9	0	1.9
721531	596	597	1	1.5	2129	2.1	60	1.3	1.1	14	5	2	0	5.1
721532	608	609	1	2.1	1513	3.5	125	0.7	1.1	149	26	0.7	1	5.5
721533	612	613	1	0.6	83.9	0.7	51	-0.1	0.8	14	3.6	2.4	0	0.1
721534	619	620	2	0.8	836	1.3	83	0.4	-0.5	97	21	2.3	1	1

721535	630	631	1	0.6	37.5	0.4	67	-0.1	-0.5	4	0.4	2.4	0	-0.1
721536	637	638	2	2.1	193	2.5	66	0.1	0.6	3.3	0.6	1.9	1	0.2
721537	638	640	2	1.8	4.4	2.6	62	-0.1	1.1	0.5	0.7	1.2	1	-0.1
721538	640	641	1	30	810	7.9	186	0.5	3.8	4.2	1.9	1.5	1	2.7
721539	641	642	1	12	575	29	189	0.9	8.6	4.7	5	0.4	1	4.1
721540	642	643	1	7.7	606	22	72	0.7	3.8	5.7	6.2	0.8	1	1.7
721541	643	644	1	19	310	21	67	0.4	8.3	2.1	4.3	0.8	0	0.8
721542	644	645	1	37	270	16	55	0.5	5.3	4.9	6.7	0.6	1	1.6
721543	645	647	2	9.1	261	5.1	67	0.5	3.8	9	5	0.7	1	0.8
721544	647	648	2	18	144	15	51	0.5	1.8	1.2	3.2	0.7	2	0.9
721545	648	649	1	7.8	85.6	14	65	0.4	3.9	0.7	2.8	0.7	1	0.4
721546	649	650	1	18	1459	22	201	3.8	4.4	25	14	1.8	1	2.6
721547	650	651	1	7.5	358	44	68.5	1.5	2.8	92	5.2	0.6	3	0.7
721548	651	652	1	17	348	45	84	2	15.9	26	15	0.7	1	1.3
721549	652	653	1	4	748	24	65	2.1	3.7	21	4.2	0.1	0	1.2
721550	653	655	2	1.9	145	8.5	35	0.5	3.4	1.6	1	0.1	0	0.5
721551	655	656	2	7.3	158	24	102	0.7	2.2	1.9	1.6	0.6	1	0.7
721552	656	658	2	5.4	149	63	94	1.2	2	-0.5	2.9	0.7	1	0.8
721553	658	659	2	13	153	30	79	1.2	8.6	7.9	3.3	1.3	2	0.4
721554	659	660	1	9.3	1014	39	166	2.2	2.3	34	9.2	1.1	1	2.5
721555	660	661	1	6.8	326	####	335	5.6	15.4	4.2	12	0.8	0	1.6
						##								
721556	661	662	1	17	327	87	226	0.7	4.4	3.2	2.2	0.7	0	1.7
721557	662	663	1	6.7	154	86	62	0.6	6.9	-0.5	1	0.8	1	0.7
721558	663	664	1	4.8	185	501	122	6.3	7.1	2.8	15	1.7	1	-0.1
721559	664	666	1	7.4	4	13	77	-0.1	32.9	1	1.3	1.1	3	-0.1
721560	666	667	1	5.5	6062	7.9	262	8.1	61.9	26	7	0	2	2.9
721561	667	668	1	7.3	17.7	9.5	94	0.3	28.3	-0.5	1.1	0.6	4	-0.1



721562	668	669	1	29	1804	7.4	213	2	292.4	5.1	3.8	0.6	1	4.6
721563	669	670	1	8.4	40.5	7.1	88	0.3	20.7	4.1	0.8	0.5	1	-0.1
721564	670	671	1	8.3	176	22	70	0.8	91.8	0.8	1.1	0.2	0	0.4
721565	671	672	1	12	560	12	86	1.3	94	3.3	2.4	0.8	1	0.8
721566	672	673	1	6	78.7	7.3	49	0.3	45.3	0.6	1.2	0.5	0	0.2
721567	697	698	1	0.7	116	3.1	169	0.4	0.9	4.7	0.2	1.9	0	0.1

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Sample	From m	To m	Interval m	Sample kg	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	Bi ppm	K %	W ppm	S %
721951	8.9	9.9	1	2	0.7	9.5	5.5	76	0.2	2	20.2	<0.1	0.72	<0.1	0.33
721952	39	40.5	1.5	2	0.4	2.7	8.2	74	0.2	4.3	<0.5	<0.1	0.35	<0.1	0.13
721953	54.5	55.5	1	3.3	0.8	38.4	16.9	80	0.5	2.9	43.6	0.7	1	0.1	1.19
721954	66.3	67.8	1.5	2.3	3	3617	44.9	109	4.5	4	55.2	4.8	1.82	0.3	4.53
721955	71.3	72.8	1.5	1.3	14.4	82.1	18.3	8	0.7	63.9	10.7	<0.1	0.27	0.1	2.03
721956	72.8	74.3	1.5	2.7	19	91	69.5	125	0.9	61.2	14.4	0.1	0.25	<0.1	2.27
721957	74.3	75.8	1.5	1.9	8.5	73.5	37.8	49	1	48.2	10	<0.1	0.3	0.1	3.59
721958	75.8	77.3	1.5	2.8	15.4	70.5	51.6	25	1.1	53.3	20.9	<0.1	0.28	0.1	3.2
721959	77.3	78.8	1.5	2.4	40.5	142.1	264.9	421	1.7	20.8	46.1	<0.1	0.2	<0.1	2.54
721960	78.8	79.7	0.9	0.6	26.8	96.7	93.9	94	1	13.9	9.8	0.1	0.28	0.1	2.4
721961	79.7	81.2	1.5	1.9	5.1	64.7	8.9	39	0.4	18.3	6.6	<0.1	0.39	<0.1	1.42
721962	81.2	82.7	1.5	1.5	30	59.9	18.5	33	0.6	97	13	<0.1	0.21	0.1	4.71
721963	82.7	84.2	1.5	2	7.8	75.6	30.8	65	0.4	40.8	9.3	<0.1	0.87	<0.1	3.06
721964	84.2	85.7	1.5	1.8	57.5	74.4	419.5	1243	0.4	38	17.1	<0.1	0.46	0.2	2.93
721965	85.7	87.2	1.5	2.6	6	326.2	1560	3878	1.4	16.1	24.1	<0.1	1.15	0.1	2.45
721966	87.2	88.7	1.5	2.5	2.1	94	10.6	74	0.1	9.8	7.4	<0.1	1.51	0.1	1.58
721967	88.7	90.2	1.5	2.5	15.1	104	23.5	47	0.8	13.1	6.9	<0.1	0.61	<0.1	2.29
721968	90.2	91.7	1.5	2.2	5.9	96.2	17.7	17	0.4	116.9	3.6	<0.1	0.35	<0.1	1.78
721969	91.7	93.2	1.5	2.3	4.4	132.2	12	24	0.4	93.1	1.4	0.1	0.34	<0.1	2.37
721970	93.2	94.7	1.5	2.6	2.7	78.9	5.2	25	0.2	94.3	0.9	<0.1	0.46	<0.1	1.32
721971	94.7	95.8	1.1	1.7	3.6	125	400.8	771	2.1	7.1	11.4	0.1	0.35	0.1	2.36
721972	95.8	97.2	1.4	3	6.6	133.8	7706	>10000	7.3	6	27.8	0.1	0.29	<0.1	3.52
721973	97.2	98.7	1.5	2.4	2.6	119.5	25.1	45	0.2	34.6	5	<0.1	0.47	<0.1	1.73
721974	104.5	105.6	1.1	2.6	0.9	15.4	55.6	46	0.2	0.7	2.6	0.1	0.34	<0.1	0.43
721975	105.6	106.6	1	2.4	0.4	11.5	48.1	32	0.3	1.4	1.6	0.2	0.3	0.4	0.26
721976	106.6	107.6	1	1.7	0.3	10.4	22.2	20	0.2	<0.5	0.9	0.1	0.34	<0.1	0.27
721977	107.6	109.1	1.5	1.9	0.1	1.2	6.9	11	0.1	0.8	5.3	0.2	0.27	<0.1	0.59
721978	109.1	110.6	1.5	3.8	0.2	1.2	5.9	17	0.1	0.9	7.8	0.1	0.3	<0.1	0.51
721979	110.6	112.1	1.5	2.5	0.4	2.2	7.7	29	0.2	2.5	59.9	0.2	0.27	<0.1	0.84
721980	112.1	113.6	1.5	2.5	0.5	3.8	7.1	16	0.1	1.9	10.2	0.2	0.28	<0.1	0.7
721981	113.6	115.5	1.9	1.9	0.9	3.2	16.3	33	0.2	1.7	4	0.2	0.27	<0.1	0.68
721982	115.5	116.7	1.2	2.3	1.1	37.1	223.4	566	1.5	2.8	30.9	0.2	0.33	0.1	3.13
721983	124.5	125.8	1.3	3.1	1.8	68.1	242.5	354	0.6	59.4	0.7	<0.1	0.32	<0.1	1.3
721984	125.8	127.3	1.5	2.6	3	110.1	1863	2141	3.6	121.6	8.7	<0.1	0.66	<0.1	1.81
721985	127.3	128.8	1.5	2.8	4.9	73.1	1723	3647	1.9	32.4	4.1	0.1	0.5	<0.1	1.68
721986	128.8	129.4	0.6	1.6	1.1	59.7	135.4	508	0.4	61.9	5.1	0.1	0.45	<0.1	0.75
721987	129.4	130.9	1.5	3.2	6.7	68.4	207.3	433	0.8	25.1	32.1	0.1	0.34	0.2	2.56
721988	130.9	132.4	1.5	1.6	2.3	49.9	220.7	928	1.1	24.7	66.8	0.1	0.36	0.2	2.6
721989	132.4	133.9	1.5	2	4	22	41.2	55	1	68.4	33.4	0.2	0.33	0.2	3.76
721990	133.9	135.1	1.2	3.7	1.3	22.1	76.8	96	0.9	36.3	112.2	0.4	0.78	0.2	4.29
721991	135.1	136.6	1.5	3.4	12.4	7.2	20.7	37	0.5	18.3	36.7	0.2	0.34	0.1	2.19
721992	136.6	137.6	1	2.3	6.4	43.1	128.8	226	0.9	255.6	15.5	0.2	0.53	0.1	1.33
721993	137.6	138.6	1	2.7	1.2	119	38.8	81	0.7	178.6	42.7	0.2	0.74	0.2	1.31
721994	138.6	139.6	1	2.4	3	43.5	118.2	794	1.8	42.5	1.4	<0.1	0.37	<0.1	1.79
721995	139.6	140.6	1	1.6	1.4	47.4	23.9	88	0.9	34.8	1.2	<0.1	0.48	<0.1	1.06
721996	140.6	141.4	0.8	2.1	1.1	30.1	32.3	66	1.1	16.6	<0.5	<0.1	0.46	<0.1	1.18

## 28.0 Appendix III: Drill logs

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### SB-07-01

#### From (m) To (m)

0	3.5	casing	3.5-161	1-3% xlline py +po throughout, up
3.5	9.75	silicfd, qtz vnd bxted 5-15%py+cp	weak-mod	to 5% locally
9.75	54.4	wacke	bio altn.	
54.4	106.6	slts		
106.6	135.3	vcc wacke		
135.3	145.7	K-spar altn		
145.7	161.1	slts-wacke	161-506	182.8 fault; 2m cave 185.7-187.7
161.1	191.6	vcc wacke	mod-strong	coarse bio 175-181
191.6	258	wacke, vcc wacke	bio altn.	
258	418	slts, wacke		
418	443	wacke, slts	planar foln	
443	456	vcc wacke	throughout	443-456 high coarse bio
456	467	slts-tuff-wacke		
467	495.5	vcc wacke		
495.5	506	very silicified + shrd 499-502.9		

### SB-07-02

#### From (m) To (m)

0	59.1	slts-tuffaceous slts-wacke	0-807	K-spar Alteration: 239-242; 251.1
59.1	62.3	mafic dyke	planar	254.8; 488.9-489.4; 490.3-492;
62.3	80.4	slts-tuffaceous slts-wacke	foliation	492.9-493.2; 588-588.4;766-771;
80.4	90.8	amygdal basalt	sed	801.6-807.3;859-868.6;899-900.5
90.8	92.6	slts-tuffaceous slts-wacke	textures	924.4-925.9;944.8-948.5;979-985.7

92.6 94.1 amygdal basalt preserved. 987.7-993.5; 1002-1025.3

**SB-07-02**

**From (m) To (m)**

From (m)	To (m)	Description	Mineralogy	Notes
94.1	128	slts-tuffaceous slts-wacke	Biotite	
128	147.1	arg-rhyo tuff to rhyo lapilli tuff	pervasive	Epidote Clast Replacement ± flood
147.1	259	massive slts, minor wacke	wk to mod	393-397;442-449;497-499;520-558;
259	260.5	mafic dyke	to 250 m	609-615;645-646;686-760;793-795;
260.5	327.2	f.g. wacke, minor slts	then strong	907-914
327.2	328.4	15% fspar porph mafic dyke	up to 20%	
328.4	502.8	f.g. wacke, minor slts		Sulphide:fine xalline py + po 1-3%
502.8	539	thin bed slts, minor wacke		overall. Up to 7% 710-760, 807-861,
539	606.5	wacke		920-1031
606.5	766	vcc, vcc wacke, wacke, slts		Higher sulphide: 3-9.5 10-20%;
766	790	tuffs sed, arg, tuff		54-59.6 2-4%; 314.9-322.5 5% +cp
790	807.2	vcc wacke, wacke, vcc		390-396 seams 5% py;
807.2	859	massive mafic duke	988-1031	608-624 2-6% py;710-860 py seams
859	868.6	kspar alteration	irregular	common; 941.5-947.5 5% py;
868.6	887	cataclastic, mafic dyke?	foliation	956.4-968.4 6% py;
887	897	dark massive dyke	recrystlzd	976.4-985.2 5-8% py
897	998	recryst, shrd vcc,vcc wacke,slts	sed	
998	1002.2	mafic dyke	20% biot	Carb + qtz carb + local qtz vnits
1002.2	1031.7	recryst, shrd sed k-spar & silica	coarse	with chl throughout hole.

Hole	From (m)	To (m)	Stratname	Rock_group
SB-07-03	10.7	107.0	Mine Series	volcanosedimentary rocks
SB-07-03	107.0	155.0	Mine Series	volcanosedimentary rocks
SB-07-03	155.0	160.1	Mine Series	feldspar porphyry
SB-07-03	160.1	233.0	Mine Series	volcanosedimentary rocks
SB-07-03	233.0	247.7	Mine Series	volcanosedimentary rocks
SB-07-03	247.7	295.0	Mine Series	volcanosedimentary rocks
SB-07-03	295.0	300.8	Pervasive alteration	massive K-feldspar
SB-07-03	300.8	301.5	Vein mineralization	quartz sulphide breccia
SB-07-03	301.5	308.7	Mine Series	volcanosedimentary rocks
SB-07-03	308.7	320.9	Mine Series	volcanosedimentary rocks
SB-07-03	320.9	321.4	Vein mineralization	quartz sulphide breccia
SB-07-03	321.4	329.1	Mine Series	volcanosedimentary rocks
SB-07-03	329.1	331.2	Pervasive alteration	massive K-feldspar
SB-07-03	331.2	339.7	Mine Series	volcanosedimentary rocks
SB-07-03	339.7	345.8	Pervasive alteration	massive K-feldspar
SB-07-03	345.8	358.5	Mine Series	volcanosedimentary rocks
SB-07-03	358.5	360.1	Pervasive alteration	massive K-feldspar
SB-07-03	360.1	365.6	Mine Series	volcanosedimentary rocks
SB-07-03	365.6	373.6	Mine Series	volcanosedimentary rocks
SB-07-03	373.6	380.0	Mine Series	volcanosedimentary rocks
SB-07-03	380.0	394.1	Mine Series	volcanosedimentary rocks
SB-07-03	394.1	395.3	Mineralized fault or shear	quartz-filled shear (quartz fault)
SB-07-03	395.3	402.8	Pervasive alteration	massive K-feldspar
SB-07-03	402.8	403.5	Hoodoo Suite	dyke

Hole	From (m)	To (m)	Stratname	Rock_group
SB-07-03	403.5	414.1	Mine Series	volcanosedimentary rocks
SB-07-03	414.1	415.5	Mine Series	feldspar porphyry
SB-07-03	415.5	421.7	Mine Series	volcanosedimentary rocks
SB-07-03	421.7	424.5	Mine Series	feldspar porphyry
SB-07-03	424.5	441.0	Mine Series	volcanosedimentary rocks
SB-07-03	441.0	441.7	Hoodoo Suite	dyke
SB-07-03	441.7	443.0	Mine Series	volcanosedimentary rocks
SB-07-03	443.0	444.4	Mineralized fault or shear	quartz-filled shear (quartz fault)
SB-07-03	444.4	460.2	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	460.2	462.6	Lower Sedimentary Series	clastic sedimentary rocks (altered)
SB-07-03	462.6	464.2	Stratiform mineralization	sulphide clast sedimentary breccia
SB-07-03	464.2	474.9	Lower Sedimentary Series	clastic sedimentary rocks (altered)
SB-07-03	474.9	475.4	Pervasive alteration	massive K-feldspar
SB-07-03	475.4	487.6	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	487.6	488.4	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	488.4	510.0	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	510.0	518.8	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	518.8	535.9	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	535.9	543.8	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	543.8	546.2	Lower Sedimentary Series	chert
SB-07-03	546.2	562.6	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	562.6	567.8	Hoodoo Suite	dyke
SB-07-03	567.8	575.3	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	575.3	584.1	Breccia zone	epidote+chlorite±magnetite breccia
SB-07-03	584.1	585.2	Stratiform mineralization	semi-massive sulphide
SB-07-03	585.2	587.6	Breccia zone	epidote+chlorite±magnetite breccia

Hole	From (m)	To (m)	Stratname	Rock_group
SB-07-03	587.6	588.6	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	588.6	589.0	Hoodoo Suite	dyke
SB-07-03	589.0	593.0	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	593.0	598.9	Lower Sedimentary Series	interbedded chert / clastic rocks
SB-07-03	598.9	602.2	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	602.2	603.2	Stratiform mineralization	massive sulphide
SB-07-03	603.2	605.6	Breccia zone	epidote+chlorite±magnetite breccia
SB-07-03	605.6	612.2	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	612.2	617.3	Breccia zone	epidote+chlorite±magnetite breccia
SB-07-03	617.3	624.0	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	624.0	624.9	Lower Sedimentary Series	interbedded chert / clastic rocks
SB-07-03	624.9	627.0	Stratiform mineralization	semi-massive sulphide
SB-07-03	627.0	628.4	Pervasive alteration	magnetite+chlorite+feldspar
SB-07-03	628.4	633.6	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	633.6	670.9	Lower Sedimentary Series	interbedded chert / clastic rocks
SB-07-03	670.9	672.3	Hoodoo Suite	dyke
SB-07-03	672.3	675.9	Breccia zone	epidote+chlorite±magnetite breccia
SB-07-03	675.9	681.4	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	681.4	682.3	Lower Sedimentary Series	chert-bearing conglomerate
SB-07-03	682.3	687.4	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	687.4	688.8	Stratiform mineralization	semi-massive sulphide
SB-07-03	688.8	692.8	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	692.8	696.0	Lower Sedimentary Series	chert
SB-07-03	696.0	707.0	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-03	707.0	719.4	Lower Sedimentary Series	interbedded chert / clastic rocks
SB-07-03	719.4	738.1	Lower Sedimentary Series	clastic sedimentary rocks

Hole	From (m)	To (m)	Stratname	Rock_group
SB-07-03	738.1	740.1	Hoodoo Suite	dyke
SB-07-03	740.1	759.0	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-04	6.0	29.2	Mine Series	feldspar porphyry
SB-07-04	29.2	41.9	Mine Series	volcanosedimentary rocks
SB-07-04	41.9	48.7	Mine Series	volcanosedimentary rocks
SB-07-04	48.7	78.3	Mine Series	volcanosedimentary rocks
SB-07-04	78.3	79.6	Vein mineralization	quartz sulphide breccia
SB-07-04	79.6	84.4	Mine Series	volcanosedimentary rocks
SB-07-04	84.4	84.6	Hoodoo Suite	dyke
SB-07-04	84.6	89.0	Mine Series	volcanosedimentary rocks
SB-07-04	89.0	95.0	Mine Series	volcanosedimentary rocks
SB-07-04	95.0	108.5	Mine Series	volcanic fragmental unit
SB-07-04	108.5	137.3	Pervasive alteration	massive K-feldspar
SB-07-04	137.3	162.4	Mine Series	volcanosedimentary rocks
SB-07-04	162.4	226.9	Mine Series	volcanic fragmental unit
SB-07-04	226.9	233.4	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	233.4	235.8	Mine Series	volcanic fragmental unit
SB-07-04	235.8	240.4	Breccia zone	biotite breccia
SB-07-04	240.4	243.6	Mine Series	volcanosedimentary rocks
SB-07-04	243.6	247.3	Pervasive alteration	massive K-feldspar
SB-07-04	247.3	254.1	Mine Series	volcanosedimentary rocks
SB-07-04	254.1	259.1	Lower Sedimentary Series	calcareous clastic sedimentary rocks
SB-07-04	259.1	262.3	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	262.3	283.7	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	283.7	286.7	Mine Series	volcanic fragmental unit
SB-07-04	286.7	287.3	Lower Sedimentary Series	clastic sedimentary rocks (altered)



Hole	From (m)	To (m)	Stratname	Rock_group
SB-07-04	287.3	294.1	Mine Series	feldspar porphyry
SB-07-04	294.1	300.1	Lower Sedimentary Series	clastic sedimentary rocks (altered)
SB-07-04	300.1	325.8	Mine Series	volcanic fragmental unit
SB-07-04	325.8	341.0	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	341.0	378.7	Lower Sedimentary Series	calcareous clastic sedimentary rocks
SB-07-04	378.7	380.0	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	380.0	468.3	Lower Sedimentary Series	calcareous clastic sedimentary rocks
SB-07-04	468.3	481.4	Breccia zone	chlorite+magnetite breccia
SB-07-04	481.4	500.4	Lower Sedimentary Series	chert-bearing conglomerate
SB-07-04	500.4	500.7	Mineralized fault or shear	fault zone with calcite+chalcopyrite
SB-07-04	500.7	548.6	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-04	548.6	551.9	Lower Sedimentary Series	chert
SB-07-04	551.9	572.5	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-04	572.5	592.7	Lower Sedimentary Series	chert-bearing conglomerate
SB-07-04	592.7	593.2	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	593.2	640.7	Lower Sedimentary Series	clastic sedimentary rocks
SB-07-04	640.7	641.8	Mineralized fault or shear	biotite sulphide breccia
SB-07-04	641.8	673.1	Lower Sedimentary Series	interbedded chert / clastic rocks
SB-07-04	673.1	719.3	Lower Sedimentary Series	clastic sedimentary rocks

**SB-07-05****From (m) To (m)**

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0	3.5	casing
3.5	46.2	foltd dolomc sltst, 1-2% diss mag 1-2% diss py
46.2	49.1	dolomc sed w 1-3% py
49.1	71.3	fine bedded slts ±dolom to 20 cm highly shrd, 58-71 qtz-chl shrs
71.3	79.6	qtz-carb bxia, 1-4% py fims
79.6	104.5	shrd dolomtc slts, 1-3% py-po
104.5	115.4	qtz + silicfd sed + qtz bxia 1-2% diss py-po
115.4	128.7	foltd shrd banded slts,<1%py
128.7	129	crackled qtz vein
129	141.1	slts, films py + diss po 1-3%

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