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1991 DIAMOND DRILL PROGRAM

### ON THE

### SNOW CREEK CLAIM GROUP

Omineca Mining Division NTS: 93L/12E Latitude: 54 39'N Longitude: 127 40'W

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Owned and operated by:

Homestake Canada Ltd. 1000-700 West Pender Street Vancouver, B.C. V6C 1G8

Report by:

Peter Holbek November 10, 1992

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### **SUMMARY**

The Snow Creek property is located 30km west-southwest of Smithers, B.C. in the Omineca Mining Division. The property consists of 88 units in five claims held by Homestake Canada Ltd. under option from Pacific Rim Mining Corp, both of Vancouver, B.C. Access to the property is currently by helicopter. Well maintained logging roads are located 15km to the north and 12km to the south of the property.

The claims were staked in 1987 following the discovery of precious and base metal bearing sulphide mineralization within the Snow Creek drainage. The discovery was made during follow-up prospecting of a stream sediment anomaly obtained by the joint federal-provincial government RGS program. Initial exploration on the property was conducted by Lornex Mining Corporation Ltd. in 1988 and consisted of prospecting, soil geochemical and IP and VLF-EM geophysical surveys. Results of this work defined a 600m long zone within the Snow Creek canyon that was sporadically mineralized and contained grades of up to 178.6g/t Au and 2315.7g/t Ag in float and 6.34g/t Au and 56.6g/t Ag in outcrop. Additionally, the geophysical and geochemical surveys suggested that sulphide mineralization could extend beyond the Creek exposures into the heavily overburden covered areas.

Mineralization, which consists of pyrite and lesser base metal sulphide minerals, occurs as disseminated fracture coatings to semi-massive pods and veins and is predominantly hosted by extensively faulted and fractured mafic pyroclastic and flow rocks of the Telkwa formation of the Hazelton Group. The mineralized volcanic rocks have been intruded by megacrystic feldspar porphyry dykes and sills.

Geological mapping, soil geochemical and VLF-EM and magnetometer surveys, and data compilation and re-interpretation, indicate that both near and sub-surface mineralization is considerably more extensive than the exposures within the Snow Creek canyon indicate. Spatial association of IP chargeability anomalies with magnetic lows and multi-element soil geochemical anomalies indicate that sulphide mineralization likely occurs over significantly large areas and is predominantly controlled by north and west-northwest trending structures. Potential for both bulk tonnage, disseminated low grade gold-silver deposits as well as smaller base and precious metal bearing sulphide-rich bodies or pipes was tested with a diamond drill program. The first two holes of the program tested exposed mineralization, with associated IP chargeability anomalies, in the Snow Creek canyon. Results from these holes do confirm that IP and soil geochemical anomalies are related to precious metal enriched but sub-economic mineralization. These drill holes also inidcate that high grade, high sulphide exposures have limited sub-surface extents. Potential for low grade, bulk tonnage gold-silver deposits is reduced by extensive post-mineral dykes and sills which dilute and dissect mineralized areas.

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### **1 INTRODUCTION**

### **1.1 Location and Access**

The Snow Creek property is located 30km west-southwest of the town of Smithers, B.C., on the eastern side of the Coast Mountain range and is covered by NTS map 93L/12E (Fig. 1.1). The property is cut by Snow Creek, a north flowing tributary of Serb Creek, which flows into the Zymoetz (Copper) River. The approximate centre of the property has geodetic coordinates of  $54^{\circ}$  39' N latitude and  $127^{\circ}$  40' W longitude.

Access to the property is best provided by helicopter from Smithers. The McDonnell Lake logging road from Smithers provides two-wheel drive access to within 15km northwest of the property. Alternatively, the logging road which follows the Telkwa River from the town of Telkwa provide access to within 11km of the property at the point where it crosses Tsai Creek (Fig. 2.1).

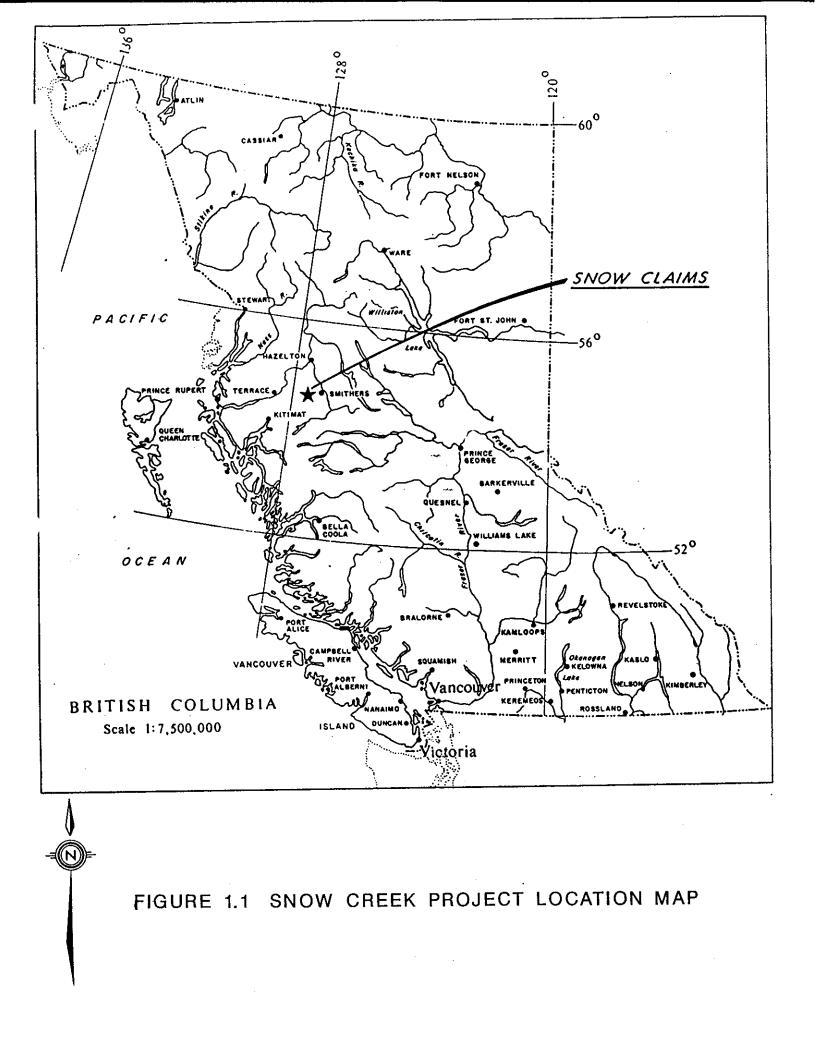
#### **1.2 Claim Status**

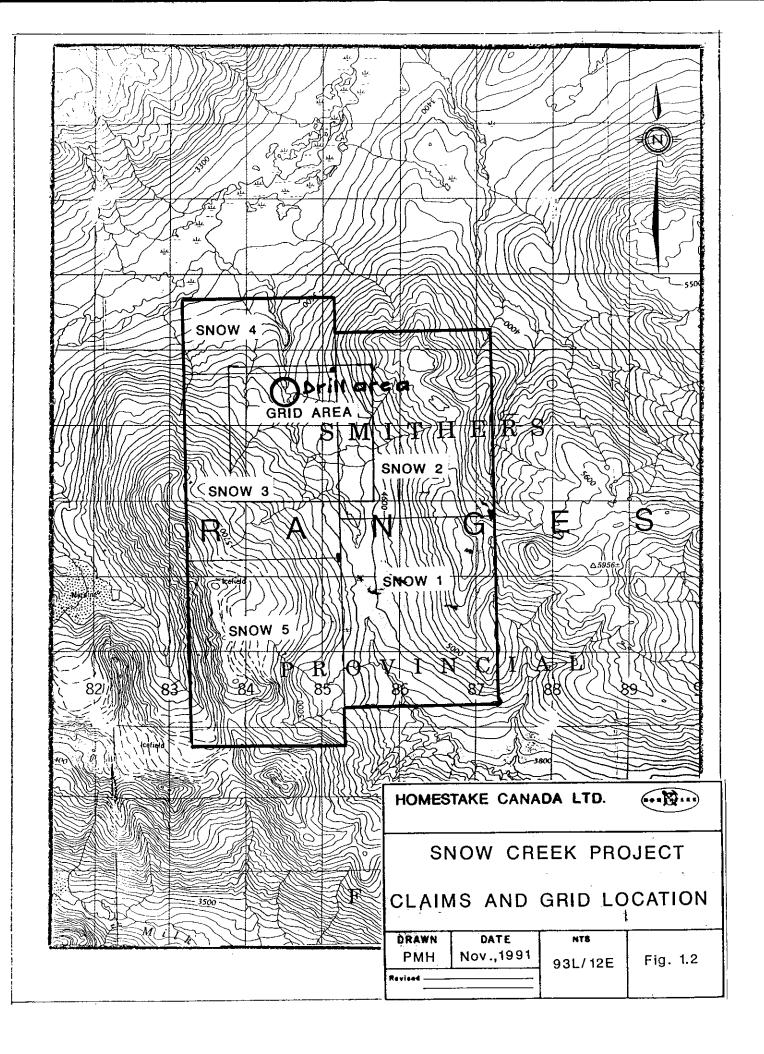
The property consists of five claims which contain a total of 88 units or 2,200 hectares. Claims are presently held by Homestake Canada Ltd. under option from Pacific Rim Resources Ltd. Both companies are based in Vancouver, B.C. All claims are currently grouped into the Snow91 Group. Claim configuration can be seen in Figure 1.2 and claim data is summarized in Table 1, below.

Claim Name	Record #	Units	Expiry Date
Snow 1	8858	20	Aug. 27, 1996
Snow 2	8859	20	Aug. 27, 1996
Snow 3	9067	20	Oct. 21, 1996
Snow 4	9187	8	Nov. 13, 1996
Snow 5	9188	20	Nov. 13, 1996

#### **1.3 Physiography and Climate**

Physiography of the property area is variable but overall moderately rugged. Elevations vary from 980 to 1850m. Much of the property area is covered with mature spruce forest. Treeline occurs at about 1370m. Most of the exploration work conducted to date has been in the Snow Creek valley, a broad glacial, north trending, U-shaped valley. Outcrop is restricted to water courses which follow fault and fracture zones and typically form deeply incised canyons.





Overburden depths are highly variable ranging from 1 to greater than 25m suggesting an irregular bedrock surface.

Climate is typical for northern, mountainous areas with cool wet summers and cold dry winters. Freezing temperatures occur for approximately six months of the year. Soil profiles show good soil development with 4 to 15cm of leached A horizon and 50 to 150cm of B horizon above either C horizon or glacial till. Peat bogs and swampy areas are common.

### **1.4 Exploration History**

Mineral claims were originally staked by H. Van Alphen of Smithers, B.C. following prospecting of a 170ppb Au stream sediment anomaly obtained by the federal and provincial government regional geochemical survey (RGS) for the Smithers (93L) map area. The property was optioned from Van Alphen by Lornex Mining Corporation Ltd. (now called Rio Algom Exploration Inc.) of Vancouver, B.C. Lornex conducted an exploration program in 1988 consisting of geological mapping and rock sampling, soil geochemistry, and induced polarization and VLF-EM geophysical surveys. Lornex's work identified numerous mineralized zones within the Snow Creek canyon believed to be associated with the intersection of a north trending regional fault and splay structures. Grades associated with the mineralized zones range from geochemically anomalous to highs of 178.6g/t Au, 2315.7 g/t Ag and 6.85% Cu. Several small areas with anomalous gold, silver and copper values in soils were identified peripheral to the creek mineralization.

Homestake initiated exploration in late September, 1991. The objectives of this work were to define the nature and extent of the mineralization. Previous work had already identified exposed mineralized areas within Snow Creek as well as indicated other potentially mineralized areas corresponding to IP chargeability and soil geochemical anomalies. However, additional work, consisting of detailed geological mapping, "fill-in"soil geochemistry, detailed VLF-EM and magnetometer surveys and re-interpretation of previous geophysical data, was required in order to accurately define the extent and controls of the mineralization and thereby assess its potential. To facilitate geological mapping and grid control a 1:2,500 scale topographic map was produced from 1:38,000 scale, 1988 B.C. government aerial photographs by Nadir Mapping Ltd. of Vancouver. Geological mapping was performed at 1:1,000 scale over a four square kilometre area approximately centred on the Snow Creek drainage. Geological and rock sampling data was compiled on a 1:2,500 scale base map. A total of 792 soil geochemical samples were collected from 25m stations along flagged grid lines spaced 50m apart. Samples were not collected at Lornex sample sites on the 100m spaced cut-lines. Geophysical VLF-EM and magnetometer surveys were conducted on 50m spaced grid lines at 12.5 or 25m stations. A total of 23.1 line kilometres of geophysical surveying was completed in the same area as the geological mapping and geochemical sampling. Data from previous IP and VLF-EM surveys were re-interpreted by D. Woods.

### **1.5 Current Work**

Results from surface exploration program indicated that precious and base metal mineralization are associated with sulphides, and therefore IP chargeability anomalies, and that mineralization was widespread over the property. It was also clear that mineralization was largely structurally controlled and that sulphide zones could have complex morphologies. A trenching program using a backhoe was considered but rejected due to the difficulties in accessing the property with a backhoe and trenching within swampy conditions. A diamond drill program was begun in late November and terminated on December 21, 1991. This report outlines the property geology, the diamond drill program and the results of the first two drill holes of that program.

Samples were taken from split core; the core is stored temporarily in hangar of Central Mountain Air, Smithers.

### 2 GEOLOGY

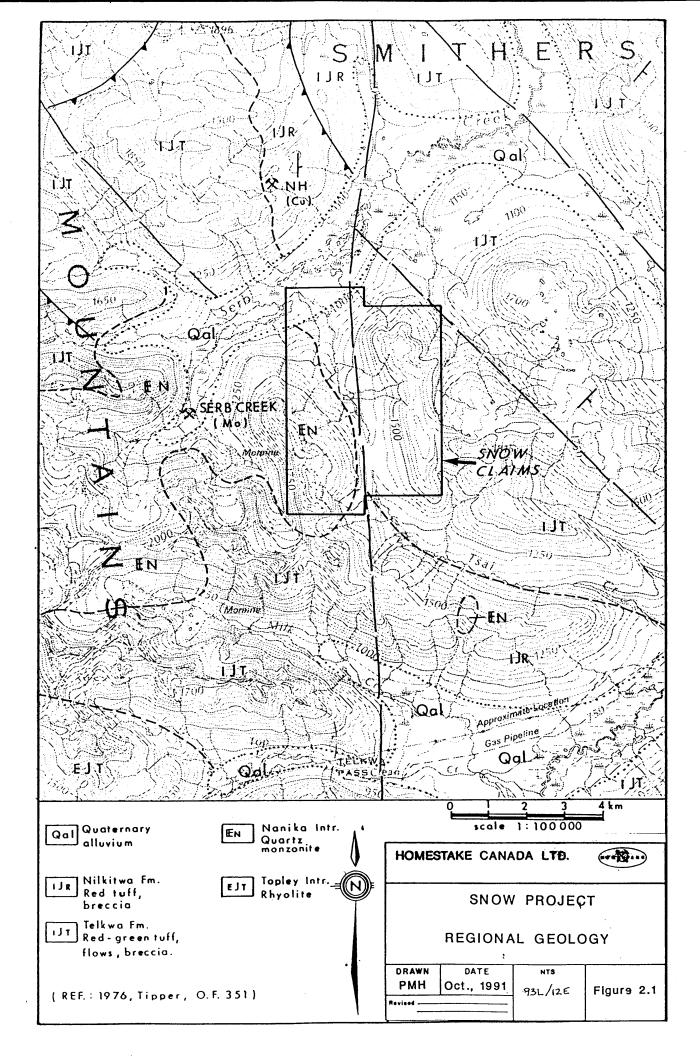
### 2.1 Regional Geologic Setting

The Snow Creek property lies near the western edge of the Intermontane Tectonic Belt (Stikine Superterrane of Monger (1982)) and just north of the axis of the Skeena arch, a northeasterly trending zone of mesozoic uplift and plutonism (Carter, 1981). The property region is predominantly underlain by volcanic rocks of the Hazelton Group which represents an island-arc volcanic and sedimentary assemblage deposited during the Early to Middle The Hazelton Group as defined by Tipper and Richards (1976) has been Jurassic. subdivided into three formations on the basis of age and depositional environment. The oldest, termed the Telkwa formation is a widespread and voluminous pile of calc-alkaline volcanic rocks which, in turn, has been divided into five distinctive depositional facies. The Howson subaerial facies is the most southwesterly of the five depositional facies and underlies much of the property area. The Howson facies is predominately comprised of pyroclastic rocks of andesitic composition with minor rhyolite, basalt flows and intercalated sedimentary rocks. No stratigraphic section can be defined as typical for the facies but the commonest strata include bright red, maroon, purple, pink, grey or green well-bedded ash tuff, crystal-lithic tuff, lapilli tuff, lahars and fine to coarse grained breccias.

A variety of intrusive rocks are common to the region. The Topley intrusions of Early Jurassic age form a northeast trending belt of stocks and small batholiths that extends from the eastern margin of the Coast Plutonic Complex near Morice Lake to the Babine Lake area (Carter, 1981). These rocks display calc-alkaline affinities and range in composition from quartz diorite to quartz monzonite. The similarity in age and composition between the Topley intrusions and the Telkwa formation, as well as the proximity of the intrusions to the thickest accumulations of Telkwa volcanic rocks has led many workers to postulate that the Topley intrusions represent the eruptive centres of the volcanic rocks. Carter (1981) notes that the Topley intrusions do not appear to be associated with significant economic mineral deposits.

The Bulkley intrusions consist of a chronologically and compositionally similar suite of intrusive rocks that occur in a northerly trending belt within the centre of Stikinia. The rocks are Late Cretaceous in age and typically occur as small stocks of porphyritic granodiorite and quartz monzonite. The Bulkley intrusions host significant coppermolybdenum and molybdenum-tungsten deposits (Carter, 1981).

The large intrusive body that forms the southwestern part of the property area(Figures 2.1 and 2.2) was originally documented as belonging to the Eocene Nanika intrusions by Tipper and Richards (1976). However, work by Carter (1981) and by the author indicate that compositionally this intrusion is more appropriately grouped with the Eocene plutons of the Coast Plutonic Complex.



District scale mapping (Tipper and Richards, 1976) shows the stratified rocks of the area to occur as large fault-bounded blocks that have been displaced both laterally and vertically relative to one another. Some rotation of fault blocks is also documented. The dominant trend of the faults is northwesterly with subordinate northeasterly and northerly trends. The regional map (Fig. 2.1) indicates a major north trending fault which approximately bisects the property but does not juxtapose different rock groups within the claim area.

### 2.2 Property Geology

### 2.2.1 General Geology and Stratigraphy

Distribution of the major rock units within the study area is shown in Figure 2.2. Bedrock exposure within the area mapped is restricted to areas above treeline and the major water courses, consequently the geology for much of the property is inferred or unknown. Contact relationships between the different units are also invariably obscured by fault movement.

The oldest rocks within the area are pyroclastic and minor flow rocks of the Howson facies of the Telkwa formation. Although a number of different lithologies are recognized within this unit, poor exposure and time constraints prevented a meaningful subdivision of this formation during mapping. Lithologies include maroon, dark green and dark grey to black lithic-ash tuffs, crystal-ash tuffs, lapilli tuffs and fine- to medium-grained breccias. Thin, fine-grained, dark green amygdaloidal flows were observed at two localities. In general, green and maroon lithologies were more prevalent in the northern part of the map area whereas the dark grey to black lithologies were more common in the southern map area. All of the lithologies were non-magnetic in outcrop. Most outcrops showed evidence of moderate to intense strain and primary features such as bedding were obscured. Where bedding was observed it most commonly displayed moderate to steep easterly dips in contrast to the nearly flat lying stratigraphy exposed on the mountain immediately to the northeast of the property.

Flow banded rhyolite and brecciated equivalents are exposed in Snow Creek and on the easternmost boundary of the claim group and are distinctive enough to be assigned to a separate unit. Dark and light grey alternating bands about 3mm in width, and a highly silicious composition make this unit easily recognizable. Contacts between this unit and surrounding pyroclastic rocks are not exposed but location of the rhyolite suggests it is either intrusive into the surrounding rocks or occurs within uplifted fault blocks. Tipper and Richards (1976) note that rhyolitic rocks, including flow banded domes, flows and welded tuffs are common within the Howson facies of the Telkwa formation.

The remaining units within the mapped area are all intrusive. These rocks have been

assigned to various chronological groups on the basis of textural and chemical similarities to descriptions by Carter (1981). The oldest intrusive rock observed on the property is a leucocratic quartz-feldspar porphyry. It occurs as elongate bodies, presumably dykes, although both morphology and contacts are obscured by faults and/or younger intrusions. Crowded fine-grained quartz and feldspar phenocrysts in a light grey to creamy tan, aphanitic matrix and the virtual absence of mafic minerals make this unit distinctive. It is proximal to mineralization but does not appear to be mineralized. Compositional similarity suggests it is an intrusive equivalent of the flow banded rhyolite.

Megacrystic feldspar porphyry underlies a significant part of the mapped area. The unit is distinctive with about 10% pink to orange, euhedral to subhedral, poikilitic orthoclase phenocrysts that range in size from 0.5 to 2.0cm and are set in a medium grey matrix containing fine-grained phenocrysts of biotite, quartz, plagioclase and hornblende. Proportion and size of the quartz phenocrysts and the ratio of hornblende to biotite is highly variable. Typically, the unit is weakly to strongly magnetic. This unit is intrusive into all units on the property, with the possible exception of the quartz diorite pluton to the southwest of the mapped area, and occurs as tabular to irregular dykes, sills and plugs. Many of the outcrops of this unit display a sheeted aspect which may be due to a cooling feature or to multiple intrusive injections. Most of the linear contacts appear to have shallow dips to the south. On the basis of mineralogy, texture and composition this unit has been tentatively assigned to the Bulkley intrusions.

The final map unit is the quartz diorite that forms the edge of a large pluton located on the southwestern part of the property. Where examined on the small bluffs along treeline, the rock is a fresh biotite-hornblende quartz diorite (plag  $\pounds$  orthoclase) with no foliation. Approximately parallel to the inferred contact of this pluton are a number of small exposures of quartz-epidote greenstone which likely represent metamorphosed and skarnified volcanic rocks along the contact zone. A small outcrop of similar, but biotite only, quartz diorite is exposed in a small creek on the northeastern side of the mapped area (Fig. 2.2). This unit is only weakly magnetic.

At least two intrusive phases are also present on the ridge top on the eastern edge of the property. One is a fine-grained leucocratic aplite while the other is an orange weathering, weakly feldspar phyric, biotite quartz monzonite which hosts a silicious stockwork zone containing anomalous gold. It is presumed that these phases are related to the K-feldspar megacrystic porphyry sills but no additional work was conducted in this area.

### 2.2.2 Structure

Almost all of the exposures of volcanic rocks and most of the contacts of the intrusive rocks show evidence of strain and shearing. Shear fabrics are best developed and exposed in the upper reaches of Snow Creek where flat lying green and maroon mylonite zones commonly form the stream bed. In the lower reaches of Snow Creek or the central part of the map area strain fabrics are less pronounced, although a weak to intense foliation of the volcanic rocks and narrow clay gouge zones are common. Foliations and faults display a wide range of attitudes, but can be classified into the following groupings: north-trending with steep east or west dips, flat to gentle southerly dips, northwest trending with moderate northeasterly dips and northeast trends with shallow to moderate northwesterly dips.

In spite of common observation of shear fabrics and gouge zones parallel to Snow Creek, there is no obvious displacement of units from one side of the Creek to the other. It is possible that some displacement occurred between similar volcanic lithologies prior to the emplacement of the megacrystic feldspar porphyry intrusions. However, most lithological units and contacts cross the creek without any apparent or significant offset. In contrast, there are numerous examples where northwest and northeast trending faults have caused offset. In most of these cases the offset appears to be in the order of a few metres to a few tens of metres.

### 2.3.2 Mineralization

Mineralization on the property consists of disseminated and fracture controlled sulphide minerals within andesitic volcanic rocks. Sulphide content is highly variable ranging from a few tenths of a percent to five percent for the disseminated mineralization and to greater than 60% (over small widths) for the fracture controlled mineralization. Pyrite is the dominant sulphide with minor chalcopyrite and sphalerite and rare galena. Mineralization is exposed sporadically along a 750m section of Snow Creek and in adjacent tributaries. Alteration associated with sulphide mineralization is negligible and gangue mineralogy consists of minor amounts of calcite and even lesser quartz. Commonly, maroon volcanic rocks will have turned pale green in and around areas of sulphidation, although pale green volcanic rocks also exist in unmineralized areas.

Fracture controlled mineralization can range from very fine-grained multi-directional fracture coatings to regularly layered, 2mm thick, sheets of massive sulphide to pods and veins of semi-massive to massive sulphides. Weakly mineralized outcrops that are exposed within the tributaries of Snow Creek indicate the potential for more extensive areas of disseminated mineralization. Gold and silver are associated with the sulphide mineralization and appear to correlate with the amount of sulphide present. However, this correlation is only empirical and the presence of a high concentration of sulphides does not always coresspond to high precious metal grades. A significant variation of grades between samples collected from the same site has been observed particularly where very high grades occur. A number of high sulphide samples were submitted for metallic assays to check for coarse grained gold. The gold was all in the fine fraction and it is concluded that the variation between analyses from the same area is due to an inherent erratic distribution of gold within the mineralization rather than due to coarse grain size.

On the basis of outcrop exposures, previous workers noted an association between

the megacrystic feldspar porphyry unit (FSPP) and sulphidation of the volcanic rocks (Cope, 1988). More detailed examination suggests that, for the most part, the emplacement of the intrusive rocks occurred after deposition of the sulphide minerals within the volcanic rocks. Although the clay filled fault and fractures within the FSPP can contain fine-grained disseminated pyrite, numerous samples collected for assay failed to yield anomalous precious metal values. The spatial correlation between the dykes and sulphide mineralization suggests that mineralizing fluids and the intrusions used the same structural breaks. Additionally, because the intrusive-volcanic contacts are so numerous there is a high probability that some contacts will occur near mineralization, however, unmineralized intrusive-volcanic contacts do exceed the number of mineralized ones. Pyrite hosted by clay gouge zones is typically medium to coarse-grained and euhedral suggesting a post deformation thermal event which resulted in re-crystallization of the sulphides.

Examination of drill core does little to resolve the relationship between the feldspar megacrystic porphyry intrusions and mineralization. In certain drill holes the highest gold and silver grades within the volcanic rocks are proximal to intrusive contacts (Fig. 5.2). However, there are an equal number of examples where precious metal grades are greater with increasing distance away from the FSPP contacts or where contact areas are completely unmineralized. Consideration of all the observations favours coincident structural control on both the mineralization and emplacement of the FSPP intrusions. It would seem then, that magmatic intrusion took place during the waning stages of mineralization.

Drill core samples were analyzed for gold and silver by fire assay techniques. High sulphide samples were analysed and for an additional 29 elements by ICP methods. Analytical results are included with drill logs in Appendix I, as well as on the cross sections.

#### **3 DIAMOND DRILL PROGRAM**

### 3.1 Methods

The diamond drilling program was conducted from November 24 to December 21, 1991 and from April 20 to 24, 1992. Only the first two holes of the program are described in this report. Drill hole specifications are given in Table 3.1 and collar locations are shown on Figure 2.2. Split core samples were shipped to Min-En Labs in Smithers for gold and silver analyses by fire assay techniques and for multi-element analyses by ICP techniques.

TABLE 3.1         DIAMOND DRILL HOLE SURVEY DATA										
=======================================										
DH Name	Northing	Easting	Elevation	Azimutl	n Dip	Length				
DH91SC01 DH91SC02	8533.00 8393.00	4487.50 4493.00	1184.00 1203.00	090 090	-65 -65	154.80 174.60				

Diamond drilling was performed with a modified JKS 300 using BDGM size coring equipment owned and operated by Hi-Tech Diamond Drilling from Smithers, B.C. The Copper River Ranch on McDonnell Lake, 15km east of the property was used as a base camp. The McDonnel Lake Road which connects the Copper River Ranch with Smithers was ploughed regularly by local forest harvesting companies. Active logging necessitated the use of radios within vehicles operating between Smithers and the Copper River Ranch. The drill and drill crews were moved by a Hughes 500D helicopter under contract from Northern Mountain Helicopters. Drill sites were cleared and pads built on log cribs by F. LaRocque and Associates of Telkwa B.C. Because each pad required clearing of snow prior to crib construction a three man pad building team was employed full time for the duration of the program. The pad builders also assisted with drill moves. All drill pads were built such that a stump could be used to anchor the drill which saved the time and cost of drilling anchors.

Daylight was limited to eight hours by the end of the program resulting in 16 hour night shifts. An insulated, portable, completely self-contained hut was kept near the drill to provide shelter for the night shift drillers. This hut contained enough food and fuel to sustain three men for a week in the event of a prolonged storm. Over the entire program only three night shifts and one day shift was lost to weather or drill moves not completed prior to darkness. In excess of 5m of snow fell during the December part of the drill program but temperatures were fairly mild (+3 to -15°C) causing few problems with waterlines.

The drill program was plagued by highly fracture ground conditions resulting in increased camp and helicopter costs. Broken ground also resulted in high bit wear. The average amount of core recovered over the program on a per shift basis was 22m. In spite of ground conditions core recovery was in excess of 90%.

### 3.2 Results

Drill holes were targeted on the basis of geology, IP anomalies and to a lesser extent on soil geochemical anomalies. Targets were anticipated to be either large areas of disseminated sulphides or smaller, perhaps even vein-like, zones of intense sulphide mineralization.

Two drill holes were targeted on mineralization and IP anomalies within Snow Creek: DH91SC01, and 02. Cross sections displaying these holes are shown on Figures 3.1 and 3.2, respectively. Topography presented a considerable challenge to test these targets appropriately. Both of these holes were drilled from the west side of the Creek because the majority of surface observations indicated that westerly dipping structures controlled the mineralization, a conclusion which was confirmed by initial drilling. It was assumed that overburden depth would be minimal near the creek canyon as much of the canyon featured steep rock walls. However, this did not turn out to be the case and initial attempts to drill holes at -45 to -55 degrees resulted in a excessive depths of overburden ( >20m) and holes were steepened to -60 degrees. Drill holes, DH91SC01 and DH91SC02 intersected a major shattered, shear and gouge zone, approximately 30 to 40m thick, which likely corresponds to the inferred Snow Creek Fault Zone (SCFZ).

Drill hole DH91SC01 failed to yield economically significant results. This hole intersected two narrow mineralized green gouge zones within the megacrystic feldspar porphyry (FSPP) unit. These zones correlate well with similar material sampled in outcrop exposed in a small, steep stream, about 50m south of the drill collar, but assays from drill core are significantly lower than from outcrop. Whether these zones are mineralized fault gouge or sheared slivers of volcanic rock caught between two dykes is still not clear. The mineralized rock at the lower FSPP contact, which is only weakly anomalous in precious metals, likely corresponds to the targeted massive pyrite mineralization exposed in the Creek. Again, the amount of sulphides and assays are much lower in drill core than in surface sampling. No mineralization is associated with the lower FSPP units (Fig. 3.1)

Drill hole DH91SC02 was targeted on a high grade, massive sulphide vein (Henk's Vein - best assay collected by J. Dawson of approximately 16g/t Au over 5.0m) and intense, but shallow, IP response. The drill hole intersected the same units as mapped on surface and indicates that the intrusive units dip much more shallowly to the southwest than estimated from surface mapping. Even the SCFZ appears to have a shallow dip here. Approximately 40m of mineralized volcanic rock was encountered (Fig. 3.2) but assays yielded only geochemically anomalous concentrations of precious metals. The sulphide rich

rocks extend to a vertical depth of 50m below surface and appear to dip to the west as suggested by the IP data. No vein style mineralization was intersected but the mineralized zone corresponds geologically with that on surface. Henk's vein is only exposed over a strike length of 4m, pinching out to the north and appearing to be truncated by a FSPP unit to the south, and it is not unreasonable that it's depth extent would also be limited. However, the potential for an east dipping vein remains a possibility and is somewhat supported by a small eastward shift in the deep IP response in this area, although there is no geophysical support for any strike extensions of the vein.

### 6 CONCLUSIONS AND RECOMMENDATIONS

Precious and base metal values are associated with structurally controlled sulphide mineralization. Sulphide mineralization, which ranges from sparse disseminations along fracture surfaces to semi-massive pods and veins, is restricted to intensely fractured mafic volcanic rocks. Commonly, extensive pyritization is associated with a colour change from maroon to green within the host rock. The lack of alteration, limited amount of gangue minerals, and the features mentioned above suggest that low temperature, sulphur rich, reduced hydrothermal fluids percolated through extensively faulted and fractured rock and sulphides were precipitated by redox reactions within iron-rich rocks. The elemental associations of Cu, Zn, and Pb with Au and Ag, and the relative lack of volatile elements such as As and Sb is compatible with mineralization distal to a porphyry type hydrothermal system. Rock chip sampling within the Snow Creek canyon indicates that potentially economic gold grades are obtainable over reasonably large thicknesses.

Correlation between IP chargeability, magnetic lows, multi-element soil geochemical anomalies and surface observations indicates that mineralization occurs over a large area, predominantly along north and northwest trending structures. Two obvious mineralized areas within the Snow Creek canyon have been tested by diamond drilling. Although two drill holes are an inconclusive test of mineralization the results have downgraded the property, at least within tested area. Disseminated sulphide zones carry enriched but subeconomic grades of precious and base metals. Intrusive rocks further dilute and dissect mineralized areas. Potential for higher grade semi-massive sulphide ore zones is hard to discern on the basis of limited drilling but appears limited as the small surface showings which were tested with drill holes did not display any vertical or subsurface continuity.

Due to the extensively fractured host rocks consideration of reverse circulation techniques should be given to any future drilling plans, particularly as logging roads continue to encroach upon the property. The strong northerly and northwesterly grain of fracture patterns indicate that holes drilled with an east-west orientation will have a better probability of successful completion than holes drilled with a north-south or northwesterly orientation.

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### APPENDIX I

### DIAMOND DRILL LOGS

SNOW CREE	CANADA LTD. K project Drill log
CORE SIZE : BDGM DATE STARTED : 91/11/26 DATE COMPLETED: 91/11/29 LOGGED BY : PMH	COLLAR AZIMUTH : 90.00
MINING DIV.: OMINECA PURPOSE: TEST HIGH GRADE ZO COMMENTS: WEAK PYRITIZATION AND KEY INTERSECTIONS: FROM 88.5	) CP AT TARGET DEPTH
SURVEY DATA DEPTH DIP AZIMUTH NONE.	DRILL HOLE SUMMARY
	0.00 19.30 <b>Overburden</b>
SUMMARY REMARKS	19.30 26.40 FELDSPAR PORPHYRY
Hole is characterized by highly broken/shattered core. Upper 104m is faulted and sheared megacrystic feldspar porphyry. Pyrite occurs within fault zones and weakly disseminated adjacent to fault zones. Next 40m consists of	26.40 29.90 39.90 64.20 FELDSPAR PORPHYRY
crystal and lithic ashtuffs and amygdaloidal flows (?) which are	65.70 70.50 FELDSPAR PORPHYRY
variably altered and mineralized and cut by numerous faults and narrow FSPP dykes. Best mineralization is a 1m zone at the intrusive-volcanic contact at 104m. This most likely represents the equivalent mineralization to that exposed in the Creek.	70.50 104.20 FELDSPAR PORPHYRY
	104.20 113.40 Crystal-ash tuff
	115.60 125.00 Lithic ash tuff
LEGEND SULPHIDE MINERALS: PY = PYRITE CP = CHALCOPYRITE AU = GOLD EL = ELECTRUM SP = SPHALERITE	115.60 1.0.60 125.60 144.10 Lapilli tuff
BS = UNIDENTIFIED GREY/BLACK SULPHIDES STRUCTURE ID: CV = CALCITE VEIN QV = QUARTZ VEIN BC = BRECCIA CONTACT BD = BEDDING	144.10 154.5. FELDSPAR PORPHYRY
FO = FOLIATION	4 W (1 4 O

DRILL HOLE:	DH91SC01
PAGE 4	

	PAGE 4				DRILL HULE. D
				STRUCTURE ∽ 差 ∽ ≧	ALTERATION
METERS PACE PHONE TO	MINOR LITH. 'JTHOLOGY	TEXTURE 1	TEXTURE 2	* CHLORITE STRUCTURES/M STRUCTURE TO CORE STRUCTURE ID STRUCTURE ID	X PYRITE X CLAY X CALCITE X HEMATITE
52.0- 500 1000 39.90 64.30 - 62.0- 100 990 64.30 65.70	FELDSPAR PORPHYRY FAULT ZONE	Medium Brecci f Green ated	Clasts are beterplithic up to 2cm largest	FR 20 FR 80 60.0 FR 40 60.0 1.0	2.5 0.1
- 100 1000 65.70 70.50	FELDSPAR PORPHYRY	Light Porphy / Tan ritic r	Same unit as previous FSPP except that the feldspar crystals seem to be more faded. Small thin fractures usually infiled by calcite. Lower contact could be chill margin. Biotite as small (imm) subhedral C r crystals. Finer grained matrix than previous fragme interval.	LC 70 50.0	1.0
72.0- - 500 950 70.50 104.20	FELDSPAR FAULT PORPHYRY ZONE	Medium FAULT F Grey	Basically same FSPP except that it is highly shattered and approx. 70% faulted with local gouge zones (0.2m wide). Mineralization cp. py occurs near lower faulted and altered contact with marcon tuff. Many FX have pink (alteration?) rims with white on the inside Highly fractured with bulk orientation @ very shallow angles with respect to core axis.	FT 40 B0.0	2.5 0.1 0.0

		S		A	SSA`	YS		
FROM	.10	SAMPLE NUMBER	LENGTH M/10	COPPER %	ZINC %	SILVER g∕t	GOLD g∕t	12 0
40.40	51.20							42.0
51.20 51.70 53.00 54.30 55.30	54.30 55.30	16008 16009 16010	05 13 13 10	0.00 00.0 0.03 0.03	0.01 0.01 0.02 0.02	1.4 1.5 4.8 3.1	0.01 0.01 0.04 0.02	- 52.0
57.30 60.30	57.30 60.30 61.40	16011	30	0.00	0.01	1.0	0.01	-
61.40 63.40 64.20	63.40 64.20 65.90	16013 16014 16015	20 08 17	0.00	0.00 0.00 0.02	1.2 0.9 3.8	0.01 0.01 0.02	- 62.0
<u>65.90</u>		16016	05	0.00	<u>C.00</u>	0.7	0.01	- 72.0
79.20 80.00		16022 16023 16024	10 05 07	0.00 0.00 0.00	0.01 0.01 0.01	1.7 1.5 1.1	0.02 0.04 0.03	- e2.c

PAGE 5

	PAGE 2	. 0101	3001		STRUCTURE ALTERATIO	
RECOVERY ROD 0.0	MINOR LITH.	COLOUR	TEXTURE 2 TEXTURE 1	HE MARKS	STRUCTURE ALTERATIO * HEMATITE * CALCITE * CALCITE * CHLORITE * CHLORITE * CHLORITE * CHLORITE * CHLORITE * CHLORITE * CHLORITE * CALCITE * CALCITE	* PYRITE
	Overburden			First attempts 0 -50 deg. and -55 deg. failed to penetrate overburden.		
20.0- - - 100 900 19.30 26.40	FELDSPAR PORPHYRY	Medium Po Grey ri	1	Very broken FS porphyry. Dark grey matrix. FS pink and white euhedral to subhedral. Rare quartz eyes.	70.0 1.0 2.5	
20.0	FELDSPAR PORPHYRY	Dark Po Grey ri	orphy Massiv itic e	Orange and white euhedral megacrysts of FS. Qz eyes common to 0.8 cm size.	40.0	
40.0-500 1000 39.90 64.30	FAULT ZONE FELDSPAR PORPHYRY	Dark Po Grey ri	orphy Massiv itic e	Basically same rock unit as above but some slight textural and colour variations. Unlorite, calcite and pyrite increase adjac ent to fault and/or shatter zones. Two zones of fault breccia are mineralized with up to	FR 20 FR 80 60.0 2.5	0.1

DRILL HOLE: DH91SC01 PAGE 2

DRILL HOLE: DH91SC01

000	-							020
		S,		AS	SAY	S		
FROM	ТО	SAMPLE NUMBER	LENGTH M/10	COPPER %	ZINC %	SILVER g/t	GOLD g∕t	- 0.0
.00	20.20							- 10.0
0.20 0.70 1.20	20.70 21.20 21.70	16001 16002 16003	05 05 05	0.00	0.01 0.02 0.01	1.4 3.0 1.3	0.03 0.10 0.01	- 20.0 - -
	38.90							- 30.0 - -
38.90 39.40 9.90 40.40	39.40 39.90 40.40 51.20	16004 16005 16006	05 05 05	0.00	0.01	1.2 21.9 1.3	0.01 0.60 0.03	- 40.0

PAGE 3

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				DRILL	HOLE:	DH9	1SC0	1					DRI	LL H	HOLE	. DI	H91SC
			•	PAGE (	C					STRUC	TURE		AL T	TER/	ATI(	ЛЧС	
METER: 84.0 -	RECOVENY ROD	FIT DM	10		MINOS LITH.	COL.OUR	TEXTURE 1	TEXTURE 2	Pë MAHKS	ANGLE TO CORE STRUCTURE ID	FRACTURES/M	X EPIDOTE X CHLORITE	X HEMATITE	X CALCITE	X CLAY	X PYRITE	FROM
		•		• •	Fault gouge				Fractured and gougey zone with granoblastic and disseminated by app. 2-5%.								80.7 86.8 87.3 86.0 68.8
94.0 -	500 950	.70.50	104.20	FELDSPAR PORPHYRY		Medium Grey	FAULT	Porphy ritic		FT 40	80.0			2.5	0.1	0.0	89.3
104.0-					FELDSPAR				Novable sulphide zone app. 5% sulphides as								102. 0 103.
	7 200 900	104.20	113.20	Crystal-ash tuff	Crystal-as h tuff	VERY LIGHT MARCON		AMYGDU LAR	This interval is a crystal tuff, marcon in color. Some local lithic zones and faults. Uper contact is faulted, lower is a chill margin with FSPP, local high amygdular zones with calcite and chlorite filling them { icm dia.]. Still crystal tuff except it is slightly bleached to a light green color. Local faults and gouge - 3% py.	UC 40	40.0				20.0	0.0	104. 0 105. 106. 0 108. 0
114.0-	100 980	113.20	115.60	FELDSPAR PORPHYRY	Crystal-se h tuff	Dark Grey	Porphy ritic	FAULT	FSPF dyke with chill margin upper contact and faulted lower contact. FX not very sharp outlines.		99.0				 - -	0.0	
	9600	115.60	125.60	Lithic ash tuff		Hedium Grey	īuffac eous	1	Similar to the XATF interval exept that the clasts are replaced by CL and HE as well as being present in the amygdules.	FR 40 FR 6	0 40.0	20.0	20.0	5.0			
24.0					- 	· · · · · · · · · · · · · · · · · · ·											

DRILL HOLE. DH91SC01

ASSAYS SAMPLE LENGTH SILVER COPPER 60LD NUMBER Z ÉNC M/10 FROM g/t g/t 10 36 30 - 84.0 80.70 86.80 
 B6.80
 B7.30
 16017
 05
 0.00
 0.00
 0.05

 67.30
 85.00
 16018
 07
 0.23
 0.64
 16.7
 0.27

 86.00
 85.50
 16019
 05
 0.02
 1.2
 0.02

 66.80
 69.30
 16021
 05
 0.02
 0.02
 1.2
 0.02
 • - 94.0 ł 89.30 102.5 102.5 103.5 16025 10 0.01 0.01 1.0 0.02 0 103.5 104.2 16026 07, 0.63 0.19 33.5 0.20 - 104.( 104.2 105.5 16027 13 0.05 0.06 6.3 0.23 105.5 106.4 16028 09 0.12 0.03 5.1 0.10 106.4 0 108.7 16029 23 0.01 0.03 1.4 0.02 10B.7 0 110.1 16030 14 0.00 0.05 1.9 0.02 0.00 0.06 2.3 0.01 110.1 110.7 16031 06 - 114.0 - 124.0

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HOMESTAKE ( Snow creek Diamond D	CANADA LTD. < project prill log
HOLE ID DH91SCO2 CORE SIZE BDGM DATE STARTED 911130 DATE COMPLETED 9112 3 LOGGED BY TMK LOCATION NTS 93L/12E	COLLAR NORTHING : 8405 COLLAR EASTING : 4505 COLLAR ELEVATION: 1197 COLLAR AZIMUTH : 90.00 COLLAR DIP : -65.00 TOTAL LEÑGTH : 174.6M
MINING DIV.: OMINECA PURPOSE: TEST HI-GRADE "HEN COMMENTS: VEIN STRUCTURE INTERSE KEY INTERSECTIONS: FROM 60.5 9.1 G/T AU	TO 80.5M; 20.0M OF 0.15G/T AU
SURVEY DATA DEPTH DIP AZIMUTH NONE	DRILL HOLE SUMMAR
	0.00 <b>14</b> .80 <b>Overburden</b>
	14.80 29.40 FELDSPAR PORPHYRY
SUMMARY REMARKS Hole began and ended in FSPP with intervals of LATF at 60.8-80.5m,	29.40 45.40 QUARTZ FELDSPAR PORPHYRY
85.0-97.2m and 150.4-155.2m. The LATF is chlorite-clay altered and contains up to	52.20 60.80 FELDSPAR PORPHYRY
7-10% combined Py+Cp+Sl in small, local zones. All units are faulted/shattered and contain gouge zones. Lithologies in core mimic those on surface, however low	60.80 80.50 Lithic ash tuff
grade disseminated mineralization (as opposed to a high grade vein) was encountered. Weak K-spar alteration noted near bottom of	B0.50     B5.00     FELDSPAR PORPHYRY       85.00     97.20
LEGEND SULPHIDE MINERALS: PY = PYRITE CP = CHALCOPYRITE	97.20 150.40 FELDSPAR PORPHYRY
AU = GOLD EL = ELECTRUM SP = SPHALERITE BS = UNIDENTIFIED GREY/BLACK SULPHIDES	150.40 155.20 Lithic ash tuff
STRUCTURE ID: CV = CALCITE VEIN QV = QUARTZ VEIN BC = BRECCIA CONTACT BD = BEDDING	155.20 174.60 FELDSPAR PORPHYRY
FC = FOLIATION	

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		DRILL PAGE	- HOLE: 8	DH9	1SC0	1							ļ	DRILL	HOLE:	DH919	SC01					PAGE 9
									3	> 1	TURE			ALTER	ATION	·		0	A	SSAY	S	
METERS HAD	FHOM TO		MINOR LITH.	COLOUR	TEXTURE 1	TEXTURE 2	Dark marcon in color.		STRUCTURE ID	CTURE		X CHLORITE	% EPIDOTE	X CALCITE X HEMATITE	X PYRITE X CLAY		FROM	SAMPLE NUMBER	COPPER %	ZINC %	SILVER g/t	a F
			Lepilli tuff																			- 126.u
100 900	125.60 144.10	Lapilli tuff	Lapilli tuff	Very Dark Grey	Tuffac eous	Hetero lithic	ulTF but black in color.		na managana sana ang mang mang mang mang mang mang ma		80.0		20.0				vro S∙ ⊃du		•			- - - 136.0
	· · · -		FAULT				Stattered rubbbly core.	· · · · · · · · · · · · · · · · · · ·														
146.0	144.10 154.80	FELDSPAR PORPHYRY		Medium. Grey	FAULT	Porohy ritic	Typical FSPP. Well fractured with upper contact faulted. Biotite occurs as phenocrysts up to 5mm square. This interval is lightly magnetic indicating a presence of magnetite and/or pyrrhotite.				70.0			0.1								- 146.u

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DRILL HOLE DHA1SCOL

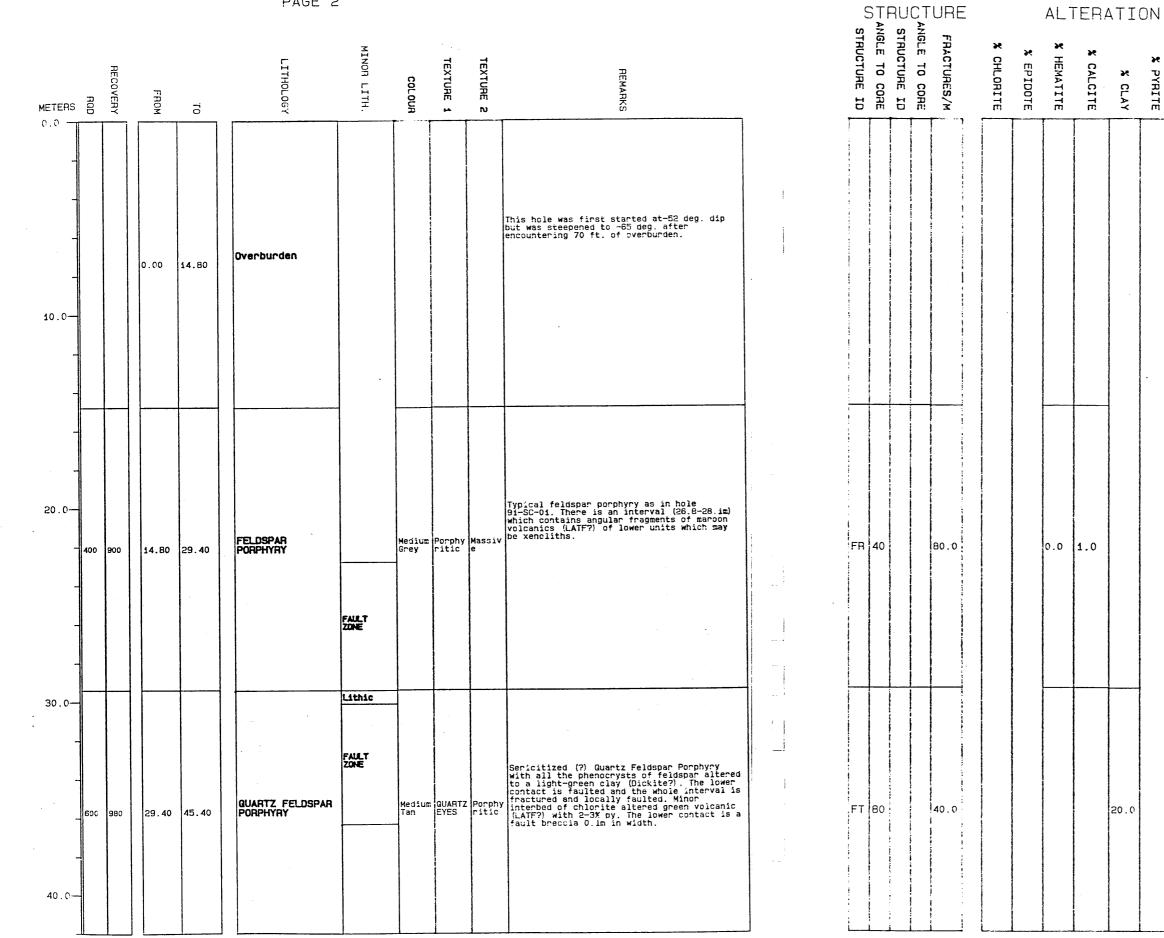
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DRILL HOLE: DH91SC02 PAGE 2



DRILL HOLE: DH91SC02

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CLAY

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PYRITE

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CALCITE

1.0

20.0

		/S		AS	SAY	S		
FROM	TO	SAMPLE NUMBER	LENGTH M/10	COPPER %	ZINC %	SILVER g/t	GOLD g∕t	T- 0.0
0.00	26.90							- 10.0
29.40 30.10 30.90	29.40 30.10 30.90 31.70 45.40	16033 16034	26 07 08 08			1.1 5.8 0.8 0.7	0.01	- 30.0 - 30.0 

PAGE 3

DRILL	HOLE:	DH91SC02
PAGE	4	

					-	MIF		_		
METERS	RaD	RECOVERY	FROM	ТО	LITHOLOGY	MINOR LITH.		TEXTURE 1	TEXTURE 2	
	600	980	29.40	45.40	QUARTZ FELDSPAR PORPHYRY	Fault	- Medium Tan	GUARTZ EYES	Porphy ritic	Some breccia fragments present.
	oc	900	45.40	48.90	Lithic ash tuff		Green and marcon	Clasti c	FAULT	very clay altered and faulted Lithic Ash Tuff. Clasts are appr. 5mm in size. Upper contact is a fault. Fault gouge with 2-3% disseminated py.
	00	700	48.90	52.20	Lithic ash tuff		VERY DARK MAROON	FAULT	Gouge	Sumular to above unit except dark maroon to black in color especially the last 0.5m. Clasts are very small (imm and smaller). Fractured and locally faulted with green chloritic and epidote altered patches.
52.0-	00	980	52.20	60.B0	FELDSPAR PORPHYRY	FAULT	Medium Grey	FAULT	Micro- veined	
62.0	00	850	60.80	80.50	Lithic ash tuff	FAULT	Dark Green	FAULT	Hicro- veined	This interval is a fine grained Lithic Ash Tuff. Clay/chlorite alteration has given it a green color. Originally it might have been maroon in color as there are still some unaltered sections which retain a maroon icolor. There is a qz/ca vein/breccia with a py selvage 0 76.2m with a width of 0.1m app. 7% py. Pyrite occurs mainly as fracture fillings and as granoblasts. The whole interval is gougey and fractured held together by clay.
- 82.0—	100	980	80.50	85.00	FELDSPAR PORPHYRY		Medius Grey	FAULT	Micro- veined	

DRILL HOLE: DH91SC02

(	STF ≥	ALTERATION ALTERATION ALTERATION CLAY FRACTURES/M STRUCTURES/M											/S			AS	SAY	′S				
STAUCTURE ID	IGLE TO CORE	STAUCTURE ID	VELE TO CORE	FRACTURES/M		X CHLORITE	X EPIDOTE	X HEMATITE	X CALCITE	X CLAY	X PYRITE		FROM	TO	SAMPLE NUMBER	LENGTH M/10	_	COPPER %	ZINC %	SILVER g/t	GOLD g/t	- 42.0
	80			40.0						20.0			31.70	45.40				•				-
				99.0		10.0			2.5	40.0	0.0		45.40	48.90	16036	35		•		1.0	0.02	
				99.0		10.0	0.0		0.3	10.0			48.90	52.20	16037	32				1.3	0.01	- 52.0
		we do not constraint internal to the series of the same											52.20	53.20	16038	30				0.9	0.01	- 52.0
			and the state of t	99.0					10.0	20.0	0.0		55.20	57.30	16039	21				0.8	0.01	-
														58.80 60.50		15 17				0.8	0.02 0.0 <b>4</b>	_
		ant de charaine de cara arrende de cara	serves, It lot ( 1.1 mm) the field because the											63.40		29				6.8	0.36	- 62.0
			A second rate from the second										63.40	66.20	16043	28				12.8	0.13	-
													66.20	68.60	16044	24				9.4	0.17	
V	60	FR	80	99.0		20.0			5.0	20.0	2.5		68.60	71.50	16045	29		•		6.4	0.11	-
			والمحاجب والمحاجب والمحاجب والمحاجب والمراجع والمراجع										71.50	75.20	16048	37			-	4.9	0.05	- 72.0 -
				and a state of the									75.20	77.50	16047	23				8.4	0.15	
														78.80						12.1	0.12	-
		-												80.50	1					14.0	0.11	-
F	г <sup> </sup> во	and the subset second de and	a ma upanje in poje najde Pa da Lamon	99.0					10.0		0.0		31.10	84.53								- 82.0

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DRILL HOLE: DH918C02 PAGE 6

						PA	GE 8	5													UPE			A. T	ERA	TT	n 200
METERS 84.0	RECOVERY		FROM	TO	-	LITHOLOGY		MINOR LITH.	COLOUR	TEXTURE 1	TEXTURE 2			REMARKS		-		STAUCTURE ID	ANGLE TO CORE	>	FRACTURES/M	X CHLORITE	X EPIDOTE	X HEMATITE	* CALCITE	× CLAY	X PYRITE
84.0	100 980	80.	50 E	85.00	FELDS	PAR YRY			Medius Grey	FAULT	Micro- veined	- Thi a exc	his interval is th xcept no clay. The	e same a lower d	s previous FSPP ontact is chill a	•! 		FT	80		99.0				10.0		0.0
- - 94.0	100 900	65.	00	97.20	Lithi	c ach f	tuff	Shear Zone		Tuffac	FAULT	Thi LAT Vej sej	his interval is th ATF except there i ein (icm wide) @ 9 elvage.	e same a s less ( D.5m wit	is the previous lay alteration. h 20% py as		• • • • • •	VN	70		90.0	5.0	5.0		1.0		2.5
_																							-				
	800 100			150 . 40	FELOS			FELDOPAR PORPLYNY FALLT		Porphy		Tyj met oli imi mat	ypical FSPP with a legacrysts of felds ligoclase?). Bioti mm. This intervai natrix sections.	coarse par (K- te occu also ha	r matrix with spar + 's as phenocrysts s finer grained						50.0				2.5		
114.0	-							FAULT FAULT PORTATION											ang ng n								

DRILL HOLE: DH91SCO2

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		сn			4.5	ΞAY	6		
FROM	٢C	SAMPLE NUMBER	LENGTH M/10		COPPER %	ZINC %	SILVER g/t	GOLD g∕t	
81.10 64.50	84.50 85.00	16051	105				0.6	0.01	64.0
85.00 85.90	85.9 <del>0</del>	16052	09	-			15.3	0.17	-
55.90	87.60	16053	17				2.5	0.02	
87.60	89.30	16054	17				8.9	0.04	
89.30	91.20	16055	19				2.6	0.03	
91.20	93.30	16056	21				3.7	0.02	
93.30	94.80	16057	15				2.7	0.02	94.0
94.80	97.20	16058	24		•		4.6	0.0B	
	•								
97.20	103.7							_	
103.7	104.2	16059	05				1.3	0.01	- 104.0
104.2 0	106.9	16060	27				1.2	0.01	-
106.9 0	107.9	1606i	10				2.1	0.01	
107.9 0	112.6				•				
112.6 0	114.0	16063	14	-			1.6	0.01	
114.0	114.6	16064	06	Ì			1.4	0.02	- 114.(
114.6	115.2	16065	06	-			1.9	0.01	-1
115.7	148.7				•				
C									-
a a company									- 124.0

DRILL	HOLE:	DH91	SCO2
PAGE 8	5		

STRUCTURE ALTERATION ANGLE TO ANGLE STRUCTURE STRUCTURE FRACTURES/M MINOR × ж 24 ж TEXTURE HEMATITE LI THOLOGY 36 TEXTURE CHLORITE HECOV EPIDOTE CALCITE 70 REMARKS PYRITE 36 00 LITH. CORE CORE CLAY VEHY FROM LOUA METERS Б 5 Ю -N 126.0-FELDSPAR PORPHYRY ì ÷. i 1 . . 1 136.0--Medium Porphy Massiv Grey nitic e With a faded and bleached (chloritic?) texture. The feldspar phenocrysts have faded outlines. FELDSPAR 1 800 1000 97.20 150.40 2.5 50.0 . FAULT ŧ The grain of this rock is more faded or washed out with a "vugginess" - miorlitic texture. Some faulting is present. FELDSPAR PORPHYRY 146.0-K-span-cl-se (?) altered FSPP giving the interval a grey to light-tan color with very pink phenocrysts. The K-span replaces (?) the phenocrysts and is also pervasive. The color becomes a dark green towards the end of the interval possibly due to a loss of se. FELDSPAR PORPHYRY This interval is quite green in color from chlorite and very shattered. Some patches of epidote are present but are found mainly around intense veining. Almost the hole interval is faulyed and fractured with local small gouge zones. Lithic ash tuff FALLT ZONE Very Dark Green Micro- Gouge veined 2.5 10.0 5.0 500 1000 150.40 155.20 VN 50 FT 30 80.0 20.0 0.1 . 156.0-. : Typical FSPP with matrix grading from medium to finer grained which is also usually darker in color. Local K-spar alteration zones are present (0.2m wide) as well as K-spar envelopes. There could be some later bhase dykes present as well. There is an increase in chlorite alteration towards the end of the interval. Lithic 1 . FELDSPAR Medium Grey Porphy ritic FAULT 800 1000 155.20 174.60 MV (50.0 5.0 50 1 į .56.0-

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DRILL HOLE. DH9:SCO2

		S		٨S	SAY	S		
FROM	10	SAMPLE NUMBER	LLNGTH M/ 10	COPPER %	ZINC さ	SILVEH g∕t	GOLD ĝ/t	<del>-</del> 125.:
	÷.,							
115.7	146.7							- 
								146
148.7 0	150.4	16067	17			1.1	0.01	
150.4 0			14			10.6	0.28	1
151.8 0		16069	15			G.8	0.04	4
153.3	133.2		19			17.3	0.07	-[ +
155.2 155.7 0		16071	05					- 156.ι
<u>159.1</u> 159.7			06			1.7	0.01	
160.3		16073	16	-		1.0	0.01	'
161.9 0	164.0	16074	21			1.3	0.01	
164.0	169.1							  

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DRILL HOLE: DH91SC02 PAGE 10

NETERS 168.0	FROM	10	L I HOLDGY	M7NGR 1.1711	COLOUR	TEXTURE 1	TEXTURE 2	HEMARKS
500 1009	155.20 174	4.60	FELDSPAR PORPHYRY	Snear zona	Medius Grey		Porphy	Typical FSPP with patrix grading from sedium to finer grained which is also usually darker in color. Local X-spar alteration zones are present 10.2x wice) as well as K-spar envelopes. There could be some later phase dykes present as well. There is an increase in chlorite alteration towards the end of the interval.

STRUCTURE			AL	TER/	lί	ON			- 10		AS	SAY	(S		
FRACTURES/M ANGLE TO CORE STRUCTURE ID ANGLE TO CORE STRUCTURE ID	X CHLORITE	% EPIDOTE	% HEMATITE	% CALCITE	% CLAY	% PYRITE	t <sup>e</sup> HOM	Γe	SAMPLE NUMBER	LENGTH M/10	COPPER %	× 1117	SILVER g/t	wCLD g∕t	150
							164.0	159.1			Ť				168
		1.5					169.1 9	170.7	16075	16			1.5	0.05	And
MV 30 50.0				5.0			170.7	171.9	16076	12			1.1	0.01	
							171.9	173.1	16077	12	I		1.5	0.02	
											1				2

### DRILL HOLE: DH91SCO2

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## APPENDIX II

## STATEMENT OF COSTS

,

LABOUR_	
P. Holbek 7 days @ \$270/day (geologist)	1,890
T. Kelemen 7 days @ \$150/day "	1050
F. LaRocque 7 days @ \$225/day (pad builder)	1575
J. Charboneau 7 days @ \$150/day "	1050
G. Charboneau 7 days @ \$150/day "	1050
	\$6,615
FOOD & ACCOMMODATION	
MacDonnell Lake Ranch	700
Meals (70 mandays @ \$25/manday)	1750
	\$2,450
DRILLING, EQUIPMENT & SUPPLIES	<i>,</i>
Diamond drilling 329.5m @ \$52.50/m	17300
Core Boxes	350
Consummable Drill Equip.	930
Fuel (Jet B and diesel)	1720
	1720
	\$20,300
ANALYTICAL SERVICES	
Min-En Labs Ltd. (75 Fire assays)	995
	\$995
TRANSPORTATION	
Truck Rental	50
Canadian Airlines International	500
Central Mountain Air Services	320
Northern Mountain Helicopters (14 hours)	7,350
Freight	260
	\$8,480
REPORT_PREPARATION_	<i>`</i>
Drafting/Writing	
Diating, whiting	200

<u>TOTAL</u>

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### APPENDIX III

### STATEMENT OF QUALIFICATIONS

I, Peter Holbek, DO HEREBY CERTIFY THAT:

- I am a project geologist presently employed by Homestake Mining (Canada)
   Limited, located at 1000-700 West Pender Street, Vancouver, BC V6C 1G8.
- 2) I graduated from the University of British Columbia with a B.Sc. (Hons.) in geology in 1980 and an M.Sc. in geology in 1988.
- 3) I have actively practiced my profession in North America since 1975.
- 4) The work described herein was done by me or under my direct supervision.

DATED THIS 16 DAY OF January , 1992 AT VANCOUVER, B.C.

Peter Holbek



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### • ENVIRONMENTS LABORATORIES (DVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS 705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2 TELEPHONE (604) 980-5814 OR (604) 988-4524 FAX (604) 980-9621

SMITHERS LAB.: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

Copy 1. HOMESTAKE MINERALS CDA., VANCOUVER, B.C

### <u>Assay Certificate</u>

1S-1246-RA1

Date: DEC-06-91

Company:	HOMESTAKE MINERALS CANADA
Project:	
Attn:	PETER HOLBEK

# He hereby certify the following Assay of 23 CORE samples submitted DEC-04-91 by PETER HOBEK.

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Samp/I e Number	g/tonne	*AU oz/ton	AG g/tonne	AG oz/ton	• •
16001	.03	.001	1.4	.04	~~~~ <b>~~</b> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
16002	.10	.001	3.0	.07	
16003	.01	.000	1.3	.04	
16004	.01	.001	1.2	.04	
16005	.60	.018	21.9	.64	
16006	.03	.001	1.3	.04	<b></b>
16007	.01	.001	1.4	.04	
16008	.01	.001	1.5	.04	
16009	.04	.001	4.8	.14	
16010	.02	.001	3.1	,09	
16011	.01	.001	1.0	.03	
16012	.03	.001	1.4	.04	
16013	.01	.001	1.2	.04	
16014	.01	.001	.9	.03	
16015	.02	.001	3.8	.11	
16016	.01	.001	.7	.02	
16017	.05	.001	.9	-03	
16018	.27	.008	16.7	. 49	
16019	.02	.001	1.2	.04	
16020	1.23	.036	49.3	1.44	·
16021	.10	.003	3.0	.09	
16022	.02	.001	1.7	.05	
16023	<b>.</b> 04	.001	1.5	.04	

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\*AU= 1 ASSAY TON.

Certified by



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### MIN • EN VIRCHARDERS LABORATORIES (DIVISION OF ASSAVERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS VANCOUVER OFFICE: 705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2 TELEPHONE (604) 980-5814 OR (604) 988-4524 FAX (604) 980-9621

SMITHERS LAB.: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

### Assay Certificate

### 1S-1246-RA2

Company:	HOMESTAKE MINERALS CANADA
Project:	
Attn:	PETER HOLBEK

Date: DEC-06-91 Copy 1. HOMESTAKE MINERALS CDA., VANCOUVER, B.C

He hereby certify the following Assay of 23 CORE samples submitted DEC-04-91 by PETER HOBEK.

Sample Number	*AU g/tonne	¥AU oz∕ton	AG g/tonne	AG oz/ton	
16024	.03	.001	1.1	.03	
16025	.02	.001	1.0	,03	
16026	.20	.005	33.5	. 78	
16027	.22	.005	6.3	.18	
16028	.10	.003	5.1	.15	
16029	.02	.001	1.4	.04	
16030	.02	.001	1.9	.06	
16031	.01	.001	2.3	.07	
16032	.01	.001	1.1	.03	
16033	.05	.001	5.8	.17	
16034	.02	.001	.8	.02	
16035	.01	.001	.7	.02	
16036	.02	.001	1.0	.03	
16037	.01	.001	1.3	.04	
16038	.01	.001	.9	.03	
16039	.01	.001		.02	
16040	.02	.001	.8	.02	
16041	.04	.001	1.2	.04	
16042	.36	.011	6.3	.20	
16043	.13	.004	12.8	.37	
16044	 . 17	.005	 7.4	. 27	
15045	.11	.003	6.4	.19	
16046	,05	.001	4.9	.14	

\*AU = 1 ASSAY TON.

n mal Certified by



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SPECIALISTS IN MINERAL ENVIRONMENTS CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS VANCOUVER OFFICE: 705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2 TELEPHONE (604) 980-5814 OR (604) 988-4524 FAX (604) 980-9621

SMITHERS LAB.: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

### Assay Certificate

#### 1S-1246-RA3

Company:	HOMESTAKE MINERALS CANADA	
Project:		
Attn:	PETER HOLBEK	

Date: DEC-06-91

Copy 1. HOMESTAKE MINERALS CDA., VANCOUVER, B.C.

He hereby certify the following Assay of 12 CORE samples submitted DEC-04-91 by PETER HOBEK.

Sample Number	*AU g/tonne	¥AU oz/ton	AG g/tonne	AG oz/ton	
16047	.15	.004	 8.4	.25	
16048	.12	.004	12.1	.35	
16049	.11	.003	14.0	.41	
16050	.02	.001	1.5	.04	
16051	. 01	.001	.5	.02	
16052	. 17	.005	15.3	. 45	
16053	.02	.001	2.5	.07	•
16054	.04	.001	8.9	.26	
16055	.03	.001	2.5	.08	
16056	.02	.001	3.7	.11	
16057	.02	.001	2.7	.08	
16058	.08	.002	4.6	.13	

\*AU = 1 ASSAY TON.

Certified by\_



### COMP: HOMESTAKE MINERALS CANADA DEC 1 1991 PROJ:

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MIN-EN LABS - ICP REPORT 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

#### FILE NO: 15-1246-RJ1+2 DATE: 91/12/06

ATTN: PETER H	DBEK										(	604)9	80-581	4 OR	(604)9	88-45	24			_						*	CORE	* (A	CT:F31
SAMPLE	AG PPM	AL PPM	AS PPM	B PPM	BA PPM:	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM		LI	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH TI PPM PPM		ZN		SN PPM PP	W CR
16001 16002 16003 16004 16005	.3 2.5 .7	11890 13750 13450 15400	1 6 1 2 87	5 3 2 2 3	125 86 142 153 111	.4 .6 .5 .6	10 7 8 6	21770 22150 17730 19680 20760	.1 .1 .1 .1 11.6	7 9 8 7 21	12 46 8 6	20720	2420 2910 2870 3680	25 21 21 26 30	7180 7860 7710 8410 9500	749 896 597 1005	1 1 1 5	1180 650 1070 1290 840	1 1 1	930 990 1020 1070 910	20 61 18 23 388	1 1 1 1	74 87 75 98 90	1 1147 1 908 1 1313 1 686 1 573	43.7 46.1 48.1 47.5	59 160 63 58	1 3 5 4	3 1 2 2	3 55 3 38 4 54 4 65 3 45
16006 16007 16008 16009 16010	1.4 1.4 1.5 4.5 3.0	18040 17500	1 1 1 1	1111	165 94 120 121 94	.4 .4 .4 .5	11 12 10	15520 20710 18000 17080 17470	.1 .1 .1 .1 .1	79999	12 20 286	21260 24830 26370 24620 24270	2470 3170 3280	18 18 19 18 16	6050 7550 8000 7260 6240	555 645 625 688 642	2 4 6	2100 930 1400 1540 950	1	810 1020 1080 1040 860	24 31 32 47 80	1 1 1 1	98 141 118 116 106	1 1627 1 1973 1 2183 1 1662 1 1433	41.8 56.7 59.5 55.4	78 110 129 200 239	4 5 4 4 4	22	4 64 3 31 5 69 3 43 3 40
16011 16012 16013 16014 16015	1.3 1.2 1.1 4.2	14190 16110	1 1 1 1	11111	109 98 91 106 83	.4 .5 .3 .4	9 9 9 11	15150 20710 17680 19310 19340	.1 .1 .1 .1	6 7 8 7 11	17 9 5	19570 21610 21200 21080 26250	2370 2350 2940	13 13 13 13 17	5670 6050 6070 6250 6660	397 445 401 406 599	1 1 1	1190 1300 1160 1150 920	1 1 1 1 1	840 830 840 870 910	26 32 26 18 62	1 1 1 1	100 152 105 118 104	1 1508 1 1496 1 1633 1 1705 1 1850	45.5 44.1 44.4	56 71 51 40 207	3 3 3 4 4	2222	2 28 4 61 2 31 3 31 3 32
16016 16017 16018 16019 16020	13.1 1.2 35.9	12920 37340 12450 18130	1 15 65 5 47	1 6 1 3	115 140 61 142 63	.4 .4 1.7 .3 .8	8 3 8 3	20650 17810 16480 21140 10550	.1 12.1	6	11 2316 59 2138	14310 21000 76520 20710 58830	3120 3210 3020 4390	19 25	2790 6170 30230 6510 9770	1229 1447	3 1 2 6	1060 1250 240 1410 540	1 1 33 1 2	520 950 530 890 730	19 20 1525 48 436	1 1 1 1	111 73 45 68 66	1 1213 1 652	38.9 125.9 40.7 53.8	181 1243	2 4 1 4 3	1 1 2	3 65 4 61 7 44 2 35 3 27
16021 16022 16023 16024 16025	2.8 1.2 1.2 1.0 1.0	14870 32390 9870 13540	1 2 1 5 15	1 1 4 2	162 129 78 106 103	.6.6.2.5	9 7 12 5	21860 16450 36300 16870 23120	.1 .1 .1 .1	7 7 5 6 7	24 14 19 120	22370 20700 13870 17230 23530	3660 2590 2540 3170	16 15 9 14 23	5600 5700 3120 4670 8410	395 304 351 1018	1 1 1	1910 1480 1520 1190 840	1 1 1 1	850 860 610 790 1120	85 21 29 13 28	1 1 1 1	79 102 289 71 98	1 1029 1 1390 1 922 1 1121 1 596	39.9 22.8 32.6 50.7	233 72 55 56 75	3 4 4 2 6	2	3 35 3 49 1 20 2 34 3 49
16026 16027 16028 16029 16030	.8	25330 24870 11650 30360	15 1 7 1	54324	21 55 88 68 46	.2 .7 .8 .3 1.0	2 3 4 5	27270 12480 13060 17540 21070	17.5 .1 .1 .1 .1	16	520 1151 69 28	76610 58280 48190 35040 51250	5940 5300 1780 3090	20 21 9	19600 16210 17750 8210 38250	2491 2739 1724	1 1 1 1	650 200 450 1560 430	1 2	730 1000 1090 810 1010	565 165 76 45 51	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 34 36 26 47	1 164 1 247 1 323 1 551 1 507	54.3 45.2	1928 562 327 256 456	1 3 4 3 1	1	8 121 3 24 2 27 4 71 5 87
16031 16032 16033 16034 16035	.8 3.3	31740 12410 35540 8840 9400	13322	4 1 4 1 1	38 102 45 83 94	.5 .8 1.3 .7 .9	3 2 2	43490 18450 11220 12880 12510	.1 .1 .1 .1	30 8 24 3 3	64 1053 30	53480 23280 74070 10790 11570	2630 1160 2390	16	47750 7330 34220 2880 2950	974 4251 471	12211	590 710 730 630 690	73 36 1 1	980 860 920 370 430	131 26 115 17 15	1 1 1 1	56 72 55 83 92	1 305	182.9	558 154 650 37 37	1 5 1 3 3		7 143 2 23 3 21 1 31 1 28
16036 16037 16038 16039 16040	.5 .9 .8 1.1	20460 23160 12150 10680 12120	5 1 71 9	2 2 1 1	90 75 100 74 74	1.1 .7 .4 .3 .6	5 5 6	16910 17890 16450 18180 21240	.1 .1 .1 .1	8 17 6 8 6	11 7 8	23920 43490 20050 20020 19930	4200 2810 1970			2233 655 810	1 1 1 1	420 540 1040 920 670	10 14 1 1	490 870 910 900 930	23 19 17 18 20	1 1 1 1	55 47 88 93 125	1 232 1 627 1 629 1 854 1 493	64.3 42.7 40.6	136 155 55 54 65	5 5 6 4 5	1	2 35 3 51 3 52 2 36 2 34
16041 16042 16043 16044 16045		29300	16 1 1 1	13443	74 78 72 47 72	.5 .3 .1 .2	4 2 4	18260 27400 18050 28020 21490	.1 1.4 3.2 1.2	7 27 31 32 24	312 1833 903	22600 59050 80820 82320 61490	1870 2350 2670	30 28	8230 32480 23470 23010 21270	4578 5480 6759	8 1 1 1	590 710 640 900 840		860 830 1060 1130 910	30 36 324 229 160	1 1 1 1	92 64 49 51 50	1 376	172.5 150.0 151.8	99 338 956 1041 846	5 1 2 4	1	3 44 4 65 5 50 5 52 5 43
16046	3.4 1	27100	1	5	175	.1	9	41110	.1	30	497	72390	2590	23	28700	6821	1	850	24	1080	114	1	65		204.9	680	4		5 50
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COMP:	HOMESTAKE	MINERALS	CANADA
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### MIN-EN LABS - ICP REPORT

FILE NO: 18-1246-RJ3

DATE: 91/12/06

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 (604)980-5814 OR (604)988-4524

DJ: IN: PETER H	OBEK								<b></b>				80-581			VER, 8 988-45		• 7 61 11	<b>-</b>								*	CORE *	() ()	ACT:
SAMPLE	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	PPM	PPM	PPM	PPM	MN PPM	MO PPM	PPM	NI PPM	P PPM		SB PPM	SR PPM	TH PPM	PPM	E PPM	PPM	GA PPM P	SN PM P	W PM P
6047 6048 6049 6050 6051	5.8 8.9 12.2 1.1 .8	26740 25110 22390 14740 16190	1 1 1 1	8 4 2 1 1	60 36 28 87 115	.21.25.4	5 1 1 2	29580 22040 18710 23390 22000	10.9 6.0 4.2 .1 .1	28 31 25 5 5	586 1310 2277 46 17	75840 80300 69630 19540 19680	) 2590 ) 2080 ) 1570 ) 4210 ) 4770	26 28 26 14 17	24170 22850 19350 6480 6950	6606 7400 5780 1659 1634	1 1 1	750 390 350 780 1050	2	810	189 212 234 19 18	1 1 1 1	60 42 36 110 89	1	493 262 249 488 577	157.3 131.1 124.9 39.4 42.8	1583 1241 1041 65 49	1 1 1 1	1 1 1 1	54423
6052 6053 6054 6055 6056	2.5	29560 24430 24600	1 1 1 1 1 1 1	32222	55 90 51 54 61	.23.3.1.4	1 4 5 4	17360 25050 21830 24290 31510	.1 .1 .1 .1	29 27 26 26 27	2406 302 1857 213 468	78980 63610 70760 60720 62180	) 2630 ) 3020 ) 2250 ) 2140 ) 2510	25 22 29 19 18	21190 28110 26620 24350 27560	4437 4431 5030 4024 3628	1 1 1 1	840 790 870 840 830	11 19 18 16 17	1010 990 1050 960 1060	170 32 112 68 26	1111	35 41 39 38 48	1	415 1187 548 1455 1365	167.1 211.2 212.0 250.1 220.9	596 307 792 478 234	1 1 1 1	1 1 1 1	44454
6057 6058	1.0 2.8	25500 25300	1 1	2	86 72	:1	73	23460 27580	:1	29 27	140 533	65330 65210	2460 2590	19 27	28340 25510	3796 4451	1	1060 760	17 18	1070 1080	29 80	1	39 51	1	1932 936	232.3	247 494	1	1	4
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