Regional Geologist, Smithers

Date Approved: 2005.04.12 **Off Confidential:** 2005.12.15

ASSESSMENT REPORT: 27578

Mining Division(s): Skeena, Liard

Property Name:	Eskay								
Location:	**NAD 27**	**Latitude:**	56 35 13	**Longitude:**	130 07 20	**UTM:**	09	6271758	431073
	NAD 83	**Latitude:**	56 35 12	**Longitude:**	130 07 27	**UTM:**	09	6271940	430959
	NTS:	104B09E							
	BCGS:	104B060							

Camp: 050 Stewart Camp

Claim(s): Treaty, Bonsai 3

Operator(s): Heritage Explorations Ltd.
Author(s): Bidwell, Gerald Eugene

Report Year: 2004

No. of Pages: 78 Pages

Commodities Searched For: Gold

General Work Categories: DRIL, GEOC

Work Done:
Drilling
DIAD Diamond surface (2 hole(s);NQ) (674.5 m) No. of maps : 4 ; Scale(s) : 1:25 000
Geochemical
SAMP Sampling/assaying (196 sample(s);)
Elements Analyzed For : Multielement

Keywords: Jurassic, Salmon River Formation, Betty Creek Formation, Jack Formation, Andesites, Rhyolites, Tuffs, Argillites, Limestones

Statement Nos.: 3221914

MINFILE Nos.: 104B 078, 104B 280, 104B 007

Related Reports: 00150, 08767, 12965, 14734, 15642, 16250, 16839, 16841, 17625, 17798, 18199, 18991, 19347, 19701, 19714, 19872, 20603, 20756, 21318, 21543, 22512, 22713, 22894, 23222, 23686, 23718, 24281, 24712

Statement of Work 3221914

HERITAGE EXPLORATIONS LIMITED

ESKAY PROJECT

2004 FIELD PROGRAM

Diamond Drilling

On the

TREATY (250847) & BONSAI 3 (307393)
claims

Skeena Mining Division,
British Columbia

Locations

Treaty
NTS 104B/9E
Lat. 56 35'N, Long. 130 07'W
NTS 104B.060
UTM Zone 9
431000E / 6272000N

Bonsai
NTS 104B/10E
Lat. 56 37'N, Long. 130 33'W
NTS 104B.068
UTM Zone 9
405000E / 6276000N

Owners: Heritage Explorations Ltd.,
Estey Agencies Ltd. &
Teuton Resources Corp.

Operator: Heritage Explorations Ltd.

By

G. E. Bidwell, A. W. Worth,

December 16, 2004

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Heritage Explorations Ltd. has acquired mineral rights over an extensive area (53,283 hectares) in the Eskay Creek region of north-western BC. The claims cover highly prospective terrain with potential for polymetallic, precious metal-rich deposits similar to the Eskay Creek mine which is immediately adjacent to the Heritage landholdings. This report documents two drill holes undertaken in 2004.

The property is centered 80 km NNW of Stewart, BC and 290 km northwest of Smithers (Fig. 1). The Heritage camp was located at km 45 of a 60 km gravel road which accesses the Eskay Creek Mine off the Stewart-Cassiar Highway. The property is irregular in shape but overall extends 35 km east-west and 30 km north-south. The bulk of the claims are at the headwaters of the Unuk River which drains southwesterly for 75 km to tidewater in Alaska. All access on the property is by helicopter except in the immediate area of the mine road.

The Eskay property consists of 2,120 claim-units and one mineral lease, together covering approximately 53,283 hectares or 132,906 acres. The western portion of the claim package surrounds the Eskay Creek gold mine, owned and operated by Barrick Gold Corporation. The earliest expiry date for the mineral tenures is August 07, 2008. The single mineral Lease (ML 329001) is located at the summit of the Eskay Creek mine access road. Two blocks of claims are held by Heritage Explorations Ltd. under option from Teuton Resources Ltd. The Bonsai Option covers 9 claims at the headwaters of Harrymel Creek. The Treaty Option covers 5 claims at the head of Treaty Creek.

The Eskay property lies at the north end of the 150 km long historic Stewart mining district that extends southerly past Stewart to the Anyox area on Alice Arm. Mining in this region dates back to the early 1900s. In the immediate Iskut – Eskay area the first significant exploration began in the early 1930s when Tom Mackay and his associates started prospecting in the Ketchum Creek and Eskay Creek areas. This venture was backed by the Premier Mine at Stewart. Thirty prospects were identified, including the 21 zone. The claims were intermittently explored until 1988 when a joint venture of Stikine Resources and Calpine Resources confirmed massive sulphides at the 21 Zone and drilled hole 109, the "discovery hole" which intersected 61 meters averaging 99 gpt Au and 29 gpt Ag. The Eskay Creek discovery in 1988 initiated a staking rush and generated considerable interest and work in the Iskut area. Most of the prospects and showings on the Heritage claims, such as the Bonsai (1992), TV (1996). Jeff (1988), AP (1989), Tarn (1989) and the R-Grid (1988) were discovered in the exploration activity following the Eskay Creek discovery.

The Eskay Project is located along the western margin of Stikinia, one of the major accreted terranes that became incorporated into western North America along the western boundary of the Intermontane Belt of northwest British Columbia. Stikinia is comprised of well stratified Lower Devonian to Middle Jurassic volcanic and sedimentary strata and plutonic rocks. The volcanics and sediments formed within or adjacent to volcanic arcs and the plutonic rocks are generally co-magmatic with the volcanics. Within the Eskay region Stikinia is composed of four major tectnostratigraphic assemblages:

1) multiple deformed and metamorphosed clastic, carbonate and volcanic rocks of the Upper Paleozoic **Stikine Assemblage**;
2) Upper Triassic volcanic and sedimentary rocks of the **Stuhini group**;
3) Lower and Middle Jurassic subaerial and submarine volcanic and sedimentary rocks of the **Hazelton Group**; and
4) clastic sedimentary overlap assemblages of the Middle and Upper Jurassic **Bowser Lake Group**.

The main package of exploration interest is the Hazelton Group which hosts the polymetallic sulphides at the Eskay Creek mine. Mineral Deposit Research Unit (MDRU) studies in the 1990s defined three

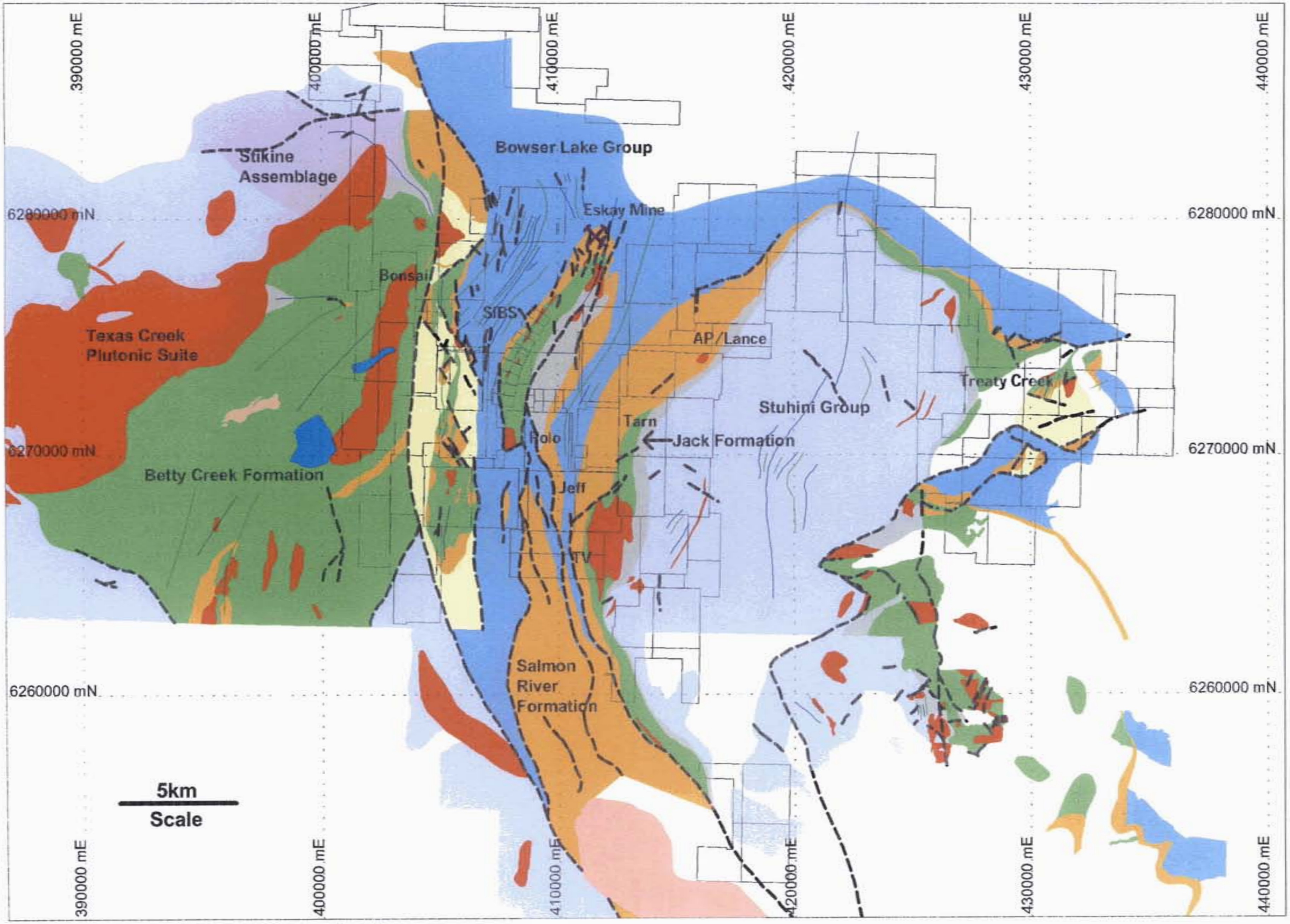


Figure 1 Property Summary

stratigraphic divisions within the Hazelton Group. They comprise, from lowest to highest, i) basal, coarse to fine grained, locally fossiliferous siliciclastic rocks (Jack Fm), ii) porphyritic andesitic composition flows, breccias and related epiclastic rocks; dacitic to rhyolitic flows and tuffs; and locally fossiliferous marine sandstone, mudstone and conglomerate (Betty Creek Fm), and iii) bimodal subaerial to submarine volcanic rocks and intercalated mudstone (Salmon River Fm).

Mesozoic intrusive activity in the Iskut River area involved two major events: (i) a Late Triassic magmatic pulse (228-221 Ma) of diorite, quartz monzonite and monzodiorite, and (ii) extended Early to Middle Jurassic plutonism that continued from 195 to 175 Ma. These plutons are contemporaneous with the volcanic units of the Hazelton Group and probably represent intrusive equivalents to these rocks.

The dominant structures in the Iskut River area are contractional folds and faults formed during Cretaceous Cordillera-wide shortening. This is manifest regionally by the Skeena Fold and Thrust Belt and by imbricate thrusting along the west flank of the Coast Belt. Four major folds trending north to northeast occur in the project area. They are from west to east, the Mackay Syncline, Eskay Creek Anticline, Unuk River Syncline and the McTagg Anticlinorium. The Eskay Creek Mine occurs on the western limb of the Eskay Creek Anticline and this location has been the focus of most of the exploration in the area. Major thrust faults in the area include the Sulphurets, Coulter Creek and Unuk River faults. The Sulphurets thrust fault is a gently west dipping, southeast verging fault, thrusting Stuhini Group strata over Bowser Lake and/or Hazelton Group stratigraphy. The Coulter Creek Thrust Fault is a gently east dipping, west verging fault, thrusting Hazelton Group strata over Bowser Lake Group stratigraphy. This fault occurs along the western margin of the SIB claims. Steep faults of variable orientation including north, northwest and northeast striking, are common throughout the project area and frequently cross cut folds and thrust faults. Slip directions cannot usually be determined, but Lewis (1992) suggests dip slip. It would seem questionable that all of these faults are of the same age and type. Mapping by Geoinformatics personnel at the SIB Prospect indicate that at least some of these faults localize and partition alteration and mineralization and must be considered important in exploration.

The initial work on the Eskay Project involved data capture, review and analysis by Geoinformatics beginning in 2001. Data collected included 332 drill holes, 34,000 geochemical samples of various types, 36 geological outcrop and interpretation maps, 29 geophysical datasets, mineral occurrence information, topographic and cadastral data. The culmination of the historical data compilation and processing phase of the project was the creation of a new geological interpretation map for the Eskay region. Prospectivity analysis of the project area could then be carried out based on the interpreted prospective geological settings.

The recent period of fieldwork began in 2001 when a geochemical orientation survey was undertaken in the general Eskay area to determine an appropriate stream sediment technique to locate the most prospective terrain (McGuigan and Gilmour, 2001). It was concluded that sieved silts from the high energy environment provided the best setting for consistent gold results. The 2002 field season encompassed a reconnaissance high energy sieved silt sampling program covering potential mineralized areas of the property, geological mapping of the SIB Claims, and 3,075 meters of diamond drilling on the SIB claims. The 2003 field program continued the primary effort on the SIB claims and undertook exploration of other showings/zones on the property, particularly the Bonsai, Polo, TV-Jeff, Tarn and Treaty prospects. The mapping at SIB initiated in 2002 was continued to complete the entire SIB claims at 1:1000 scale. Diamond drilling (3,840 meters in 14 holes) consisted of three holes in the Battleship Knoll area, seven holes on the new Hexagon structure, a large sericite-pyrite alteration zone on the east side of the SIB claims, one hole at the Lulu Zone and three holes on the Bonsai showing.

Drilling at Bonsai in 2003 intersected significant low grade gold/silver mineralization in pyritic rhyolite breccia, beneath the main gossan outcrop. The mineralized zone remained open at depth and to the south providing an excellent target for future exploration. One additional hole was added in 2004. This hole was located 69 meters south (along strike) from drill hole BZ 03-08. The hole intersected 28 meters of brecciated rhyolite with a pyrite-rich matrix, similar to the 2003 holes. Assay values were up to 0.35 gpt gold and averaged 0.24 gpt Au over 10.0 meters.

Fieldwork at Treaty Creek in 2003 by Peter Lewis greatly improved the knowledge and understanding of the various zones in the area. The geological mapping and evaluation highlighted a number of areas for follow up work. Re-evaluation of airborne EM data indicated a porphyry target 1.5 kms southeast of the East Treaty (Eureka) prospect. The porphyry target was drill tested in 2004 with a 496 meter hole. Results were disappointing. Unaltered intermediate to mafic volcaniclastics with minor argillites were intersected.

An airborne EM-magnetic survey was flown late in the 2004 field season. Both the Eskay-SIB trend and the Treaty Glacier areas were covered. The survey was undertaken by Aeroquest Limited using their AeroTEM time domain system. Results are pending and will form the basis of follow up work in 2005.

2. INTRODUCTION

Heritage Explorations Ltd. has acquired mineral rights over an extensive area (53,283 hectares) in the Eskay Creek region of north-western BC. The claims cover highly prospective terrain with potential for additional polymetallic, precious metal-rich deposits similar to the Eskay Creek mine which is immediately adjacent to the Heritage landholdings. The ground also offers potential for other precious metal deposit types such as large tonnage copper-gold porphyry deposits and intrusive related structurally controlled high grade gold-silver vein occurrences. These deposit types are represented in the general area by the Kerr and Brucejack Lake deposits respectively.

This report documents two drill holes undertaken by Heritage Explorations Ltd. on its Eskay landholdings in 2004. This program was preceded by a compilation of assessment reports and public data available from the intense exploration period (1984-1996) and field programs in 2001-2003.

The data compilation and subsequent interpretation and modelling was undertaken by Fractal Graphics Pty Ltd. (now Geoinformatics Exploration Australia Pty Ltd.) in 2001-2002. A small stream sediment orientation survey was also undertaken on the claims in 2001 by Teutoncomp Geological Services (McGuigan, 2001).

The 2002 fieldwork concentrated in the SIB claims area, immediately to the southwest of the Eskay Creek mine operated by Barrick Gold Corporation. Geoinformatics initiated geological mapping on the claims and carried out an eight hole (3075 m) diamond drill program in the SIB area. Teutoncomp Geological undertook a widespread stream sediment sampling program throughout the claims. Significant time was also spent field checking the prior data that was compiled by Geoinformatics.

In 2003 the field program consisted of (a) completion of geological mapping on the SIB claims, (b) follow-up of stream sediment gold anomalies on the east side of the SIB claims, (c) field checking of old data and new sampling/mapping in the Polo, TV, Jeff, Tarn, Treaty and Bonsai areas, and (d) 3,840 meters of diamond drilling (3 holes on Bonsai and 11 holes on the SIB claims). The drilling located a new structurally controlled alteration zone on the eastern side of the SIB claims (Hexagon Zone) and intersected significant mineralization under the main Bonsai showing.

The 2004 program consisted of two diamond drill holes, one in the area of the main Bonsai showing and the second just south of Sulphur Knob in the Treaty East area. The Bonsai hole tested the southern extension of the mineralization hosted in a brecciated rhyolite intersected in 2003. A shorter interval of similar style mineralization was intersected assaying up to 0.35 gpt gold. The Treaty hole tested a circular resistivity low cored by a magnetic high. The drilling intersected only unaltered Hazelton Group volcanics with minor fine clastic sediments.

3. LOCATION & ACCESS

The claims are located in the Stewart area of northwestern BC in NTS areas 104B/7, 8, 9 and 10 (Fig. 2 & 3). The property extends from 56-24'N to 56-44'N latitude and from 130-02' to 130-39'W longitude. Trim coverage is on 104B.048, 049, 057-060, 067-070, 077 and 078. UTM grid coordinates are 399,500E to 436,100E and 6,252,100 to 6,289100N in UTM Zone 9. The Liard-Skeena Mining Division boundary cuts across the northwest portion of the claim block. The fieldwork undertaken in 2004 was in the Skeena Mining Division.

The property is centered 80 km NNW of Stewart, BC and 290 km northwest of Smithers. Vancouver is 1000 air kilometers to the southeast. The Alaska boundary is 35 km to the southwest of the property and tidewater is a further 40 km at Burrough's Bay, the mouth of the Unuk River.

The only road access into the area is via Stewart-Cassiar Highway (Hwy. 37) which leaves the Yellowhead Highway at Kitwanga, 100 km west of Smithers. The Stewart-Cassiar Highway is a good all-weather paved road and passes in a northwesterly direction 25 km east of the property (Fig. 3). Most basic services and supplies are obtained from Smithers, 500 km by road from the claims. Smithers is the regional center for northwestern B.C. and has daily air, bus and trucking services. A main CNR rail line also passes through Smithers connecting to tidewater at Prince Rupert.

In 2002 and 2003 Heritage worked out of a trailer/tent camp located at km 45 of the 60 km gravel road which accesses the Eskay Creek Mine off the Stewart-Cassiar Highway. This is a private road and permits are required from Barrick Gold Corporation to use the road and the campsite. In 2004 the field crew worked out of the Bell II Lodge on Highway 37.

Fixed wing access to the area can be made to an airstrip located along Hwy. 37 at Bob Quinn Lake 40 km northeast of the property

The property is irregular in shape but overall extends 35 km east-west and 30 km north-south. The bulk of the claims are at the headwaters of the Unuk River which drains southwesterly for 75 km to tidewater in Alaska. A small northwestern group of claims drains northerly into the Iskut River. Property elevations range from 150 meters to 2200 meters. The property is in a coastal climate zone and receives significant rainfall and snowfall. Due to the high precipitation icefields occupy the higher elevations and glaciers extend down the adjoining drainages, although presently the glaciers are in retreat. The Treaty, AP, Tarn and Johns Peak areas in particular have a significant glacier component.

All access on the property is by helicopter except in the immediate area of the mine road. Elevations above 1000 meters, as in the SIB area, are sparsely timbered and can be easily worked by helicopter. Lower elevations are more difficult, requiring chopper pads or creek/river openings accessible by helicopter. Much of the topography is quite rugged and traversing can be difficult and/or dangerous.

4. PROPERTY STATUS

The Eskay property consists of 194 claims (2,120 units) and one mineral lease, together covering approximately 53,283 hectares (532.8 km2 or 132,906 acres) as listed in Appendix IV and shown on Figure 4. The western portion of the claim package surrounds the Eskay Creek gold mine, owned and operated by Barrick Gold Corporation. The property is contiguous except for two small blocks on the south side, SC 5-8 on the north lobe of Frank Mackie Glacier, and SUL 1 & 2 on the Unuk River, just south of Sulphurets Creek (Fig 4). The bulk of the claims are held in the name of Heritage Explorations Ltd. or Estey Agencies, an associated company. Two blocks (Bonsai and Treaty) are held by Heritage under option from Teuton Resources Ltd. The Skeena-Liard mining division boundary passes through the northwest corner of the property with the bulk of the claims being in the Skeena Mining Division.

Assessment application, currently in process, has an earliest expiry date of August 07, 2008. Most of the claim package has also been common dated to January 31. See Appendix IV for details on the individual claims.

The single mineral Lease (ML 329001) is located at the summit of the Eskay Creek mine access road. This area covers the previous Aftom 10 & 11 claims. Barrick deposits its mine tailings in Albino Lake

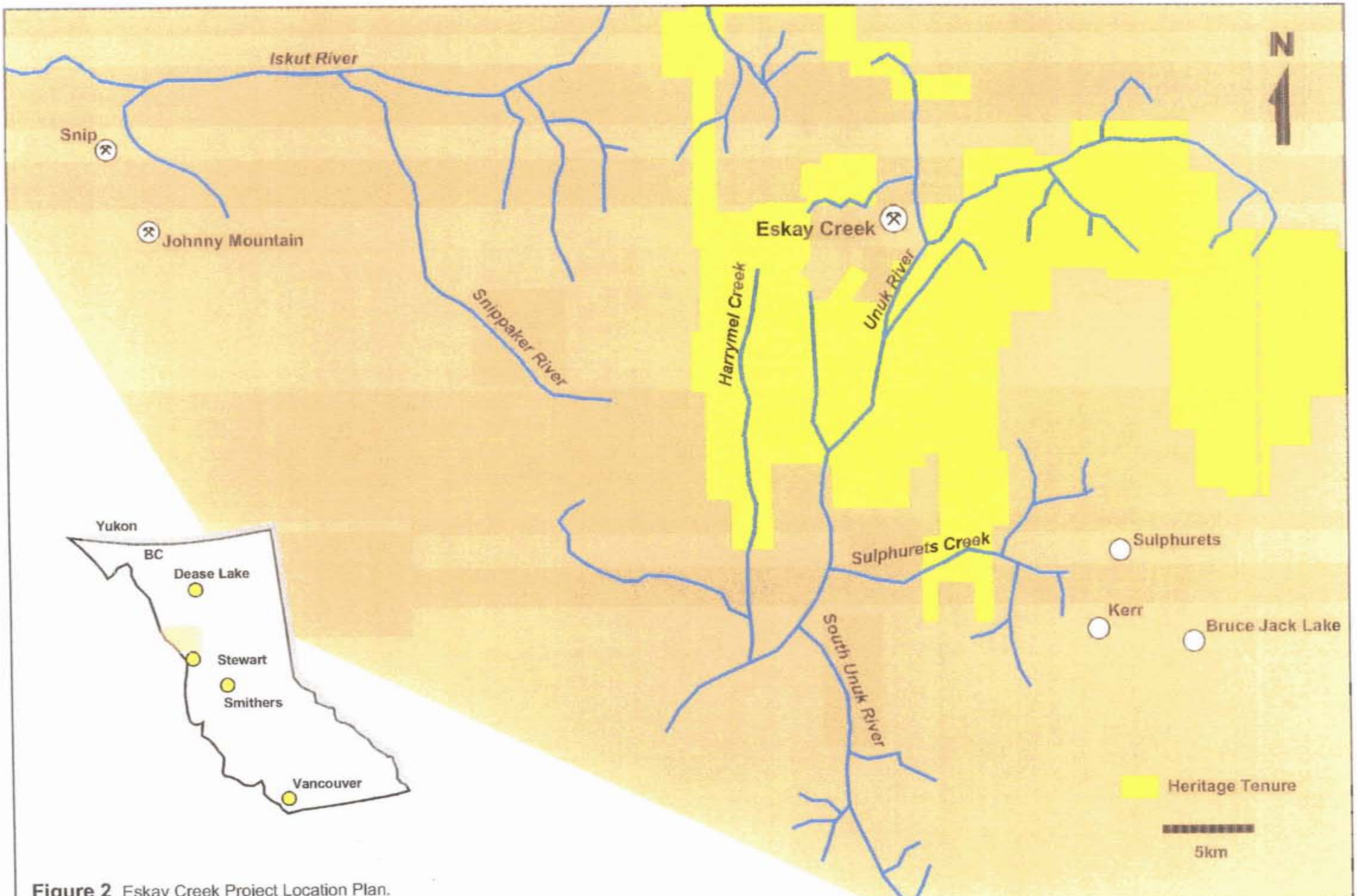


Figure 2 Eskay Creek Project Location Plan.

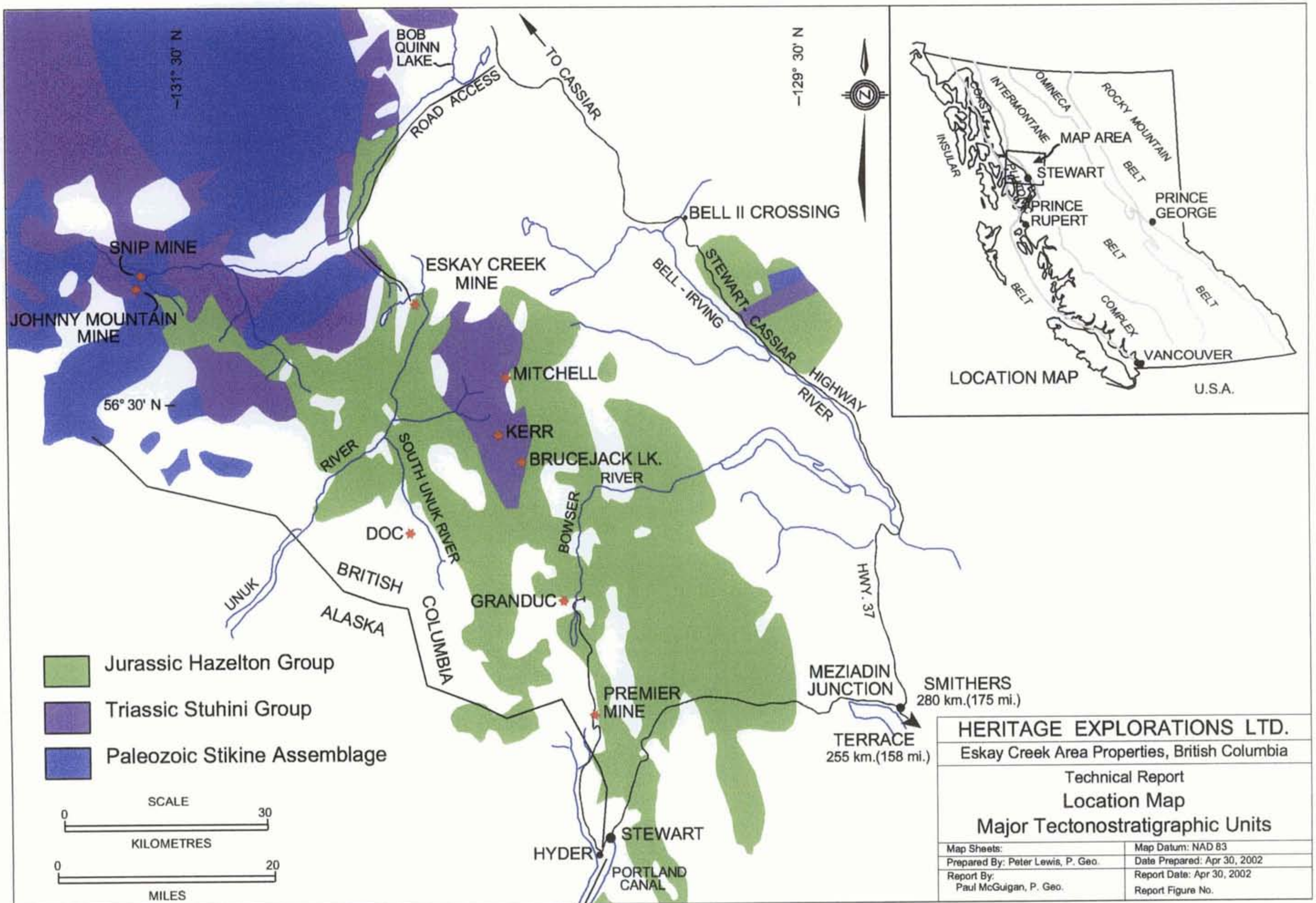


Figure 3 Regional Map

on the southern portion of the lease. In 2003 Heritage established a core storage site on the mineral lease at the summit of the access road.

Two blocks of claims are held by Heritage Explorations Ltd. under option from Teuton Resources Ltd. The Bonsai Option, signed in March, 2002 covers 9 claims at the headwaters of Harrymel Creek. Heritage may earn a 50% interest by making payments totaling $75,000 and incurring expenditures of $750,000 by March 31, 2006. The Treaty Option, also signed in March 2002, covers 5 claims at the head of Treaty Creek. Heritage may earn a 50% interest by making payments totaling $75,000 and incurring expenditures of $750,000 by March 31, 2006.

There are no known disputes with regard to the mineral claims. The SIB block of claims, to the southwest of the Eskay Creek mine, has been surveyed and pins have been placed in the field locating at least some of the corners of these two-post claims. However, as far as is known, none of the other claims have been surveyed and their positions may be revised in the future.

5. PERMITTING & ENVIRONMENTAL

5.1 Permitting

BC Ministry of Energy and Mines approval is required to undertake exploration work when a camp is located in the field and/or when there will be ground disturbance in the course of the fieldwork, i.e., trenching, drilling. In both 2002 and 2003 the Eskay Project work was carried out from an exploration camp at Km 45.5 on the Eskay Creek mine access road. As the road is privately owned by Barrick Gold Corporation and the mineral rights in the camp area are held by Barrick, permission was also required from Barrick for use of the road and the campsite. Road use and camp use permits were obtained from Barrick in both the 2002 and 2003 field seasons. In 2004 the fieldwork was undertaken from the Bell II Lodge so only a road permit was required from Barrick.

In May 2004 application was made and approval given for a 25 hole diamond drill program. A security bond of $60,000 was already in place from the previous programs. When the actual drill locations were determined an amended Notice of Work was filed in June. Approval was quickly obtained and fieldwork proceeded on schedule.

The 2004 drill sites were reclaimed upon completion of the diamond drilling. A reclamation report will be filed in December 2004 which will include additional documentation of some of the 2003 drill site reclamation.

5.2 Environmental

There were no unusual environmental concerns throughout the 2002 and 2003 programs. All work undertaken was covered by applicable government permits. Most of the claim area has had mineral exploration intermittently in the past 15 years and one area, the SIB claims, has been worked periodically since the 1930s. The only signs of past work are scattered sites of diamond drilling, hand trenching and helicopter pads. The disturbance is minimal and the Ministry of Mines and Energy is aware of all the past work. Heritage Explorations Ltd. is not liable for any of the work prior to 2002.

6. PREVIOUS INVESTIGATIONS

The Eskay property lies at the north end of the 150 km long historic Stewart mining district that extends southerly past Stewart to the Anyox area on Alice Arm. Mining in this region dates back to the turn of the century when prospectors stopped on the way back from the Klondike (Alldrick, 1993). Mining has been the lifeblood of the area with the Premier Mine (1918-1996), Anyox (1914-1936), Granduc (1971-1984), Dolly Varden (1919-1940), Snip (1991-1999) and now the Eskay Creek Mine (1995- present).

In the immediate Iskut – Eskay area the first documented exploration was for placer gold along Sulphurets Creek in 1898. The first hardrock claims were staked at the same time on the Cumberland prospect in the same area, but the work was short lived. The first significant exploration in the area began in the early 1930s when Tom Mackay and his associates started prospecting in the Ketchum Creek and Eskay Creek areas (McGuigan, 2002). This venture was backed by a syndicate involving the Premier Mine at Stewart. Premier optioned the Eskay property from 1935 to 1938 and thirty prospects were identified, including the 21 zone. Gold and silver-rich boulders containing orpiment and realgar were discovered in the 21 area but were not followed up at the time. (Britton et al, 1990). Following the Second World War numerous companies explored the Eskay area intermittently, with the emphasis alternating between precious metals and base metals. In the 1980s Kerrisdale Resources intersected the first stratiform mineralization in the 21A zone. In 1988 a joint venture of Stikine Resources and Calpine Resources confirmed massive sulphides at the 21 Zone and, following IP and geochemical surveys, drilled hole 109, the "discovery hole" which intersected 61 meters averaging 99 gpt Au and 29 gpt Ag (Roth, 2002).

The Eskay Creek discovery in 1988 initiated a staking rush and generated considerable interest and work in the Iskut area. Most of the other prospects and showings on the Heritage claims, such as the Bonsai (1992), TV (1996). Jeff (1988), AP (1989), Tarn (1989) and the R-Grid (1988) were discovered in the exploration activity following the Eskay Creek discovery.

The Sulphurets area contains large conspicuous pyritic gossans which attracted prospectors, including Tom Mackay, in the 1930s but extensive snowfields and glaciers inhibited prospecting. The first systematic exploration was by Granduc Mines and Newmont from 1960 to 1975. This work led to the discovery of several porphyry copper +/- gold and vein occurrences, including the Kerr, Sulphurets, Snowfield and West Zones. The main efforts in the area were in the early 1990s when Placer Dome was active on the Kerr and Sulphurets Gold porphyries, Newhawk JV on the Brucejack Lake veins and Newhawk Gold Mines on the Snowfield deposit. The area has been basically inactive since 1992 however Noranda acquired an option on the Kerr area in late 2002 and carried out minor work in 2003.

The earliest recorded work in the Treaty Creek area was by Consolidated Mining & Smelting (Cominco) in 1929-30. The work was recorded in the BC Ministry of Mines Annual Reports but no results were published. It is also reported that several prospecting syndicates explored the general Treaty area in the early 1950s and late 1960s but it wasn't until the 1980s that the area received a concentrated exploration effort. Teuton Resources undertook programs in the main showing areas (Eureka, Orpiment, Konkin, Goat Trail) from 1980 through to 1997, including several drill programs.

7. REGIONAL GEOLOGY

7.1 Regional Setting

The Eskay Project is located along the western margin of Stikinia, one of the major accreted terranes that became incorporated into western North America (Gordey et al, 1991) along the western boundary of the Intermontane Belt of northwest British Columbia. Stikinia is comprised of well stratified Lower Devonian to Middle Jurassic volcanic and sedimentary strata and plutonic rocks. The volcanics and sediments formed within or adjacent to volcanic arcs and the plutonic rocks are generally co-magmatic with the volcanics.

Within the Eskay region Stikinia is composed of four major tectnostratigraphic assemblages (Anderson, 1989):

1) multiple deformed and metamorphosed clastic, carbonate and volcanic rocks of the Upper Paleozoic **Stikine Assemblage**;

2) Upper Triassic volcanic and sedimentary rocks of the **Stuhini group**;

3) Lower and Middle Jurassic subaerial and submarine volcanic and sedimentary rocks of the **Hazelton Group**; and

4) clastic sedimentary overlap assemblages of the Middle and Upper Jurassic **Bowser Lake Group**.

The Stikine Assemblage rocks do not outcrop in the immediate Eskay Creek area. The nearest exposures are in the Snip area, about 20 km to the west.

The following descriptions of the regional rock units are taken from various papers presented in Metallogenesis of the Iskut River Area, Northwestern British Columbia, Mineral Deposit Research Unit (MDRU) Special Publication Number 1 (Lewis, et al, 2001). Reference is made to the source papers within the descriptions. Table 1, a summary of stratigraphic descriptions of Hazelton Group reference sections, is also based on fieldwork undertaken by MDRU.

7.2 Stuhini Group

The oldest Mesozoic strata in the Eskay Creek area are sedimentary and volcaniclastics rocks of the Triassic Stuhini Group (Lewis, 2001, p. 63). These define two major divisions: a dominantly sedimentary lower division, and a dominantly volcanic and volcaniclastic upper division. Most of the sedimentary division comprises undifferentiated fine-grained well-bedded rocks but coarser conglomerate layers serve as local stratigraphic markers. The volcanic division is locally subdivided into mafic to intermediate composition tuff and volcanic breccia, mafic porphyritic flows and felsic composition flows and flow breccia.

7.3 Hazelton Group

The extensive Mineral Deposit Research Unit (MDRU) studies in the 1990s defined three stratigraphic divisions within the Hazelton Group (Lewis, 2001, p. 77). They comprise , from lowest to highest, i) basal, coarse to fine grained, locally fossiliferous siliciclastic rocks, ii) porphyritic andesitic composition flows, breccias and related epiclastic rocks; dacitic to rhyolitic flows and tuffs; and locally fossiliferous marine sandstone, mudstone and conglomerate, and iii) bimodal subaerial to submarine volcanic rocks and intercalated mudstone. The designations Jack Formation, Betty Creek Formation and Salmon River Formation were applied to them respectively. See Table 1.

7.3 (a) Jack Formation

The basal Hazelton Group typically consists of locally fossiliferous conglomerate, sandstone and siltstone of the Jack Formation. These rocks are well exposed in the upper Unuk River/Sulphurets area and have been traced as far south as the Frank Mackie icefield. No exposures of the Jack Formation are known west of Harrymel Creek. The most complete and best exposed sections are located in alpine areas north and south of John Peaks and along the west side of Jack Glacier. Its inclusion within the Hazelton Group is based on the conformable relationship with overlying rocks and the often unconformable contact with Stuhini Group strata.

Table 1: Summary table of stratigraphic descriptions of Hazelton Group reference sections in the Eskay Creek area, based on geological mapping completed by MDRU.

		Eskay Creek	John Peaks
<u>Salmon River Formation</u> *(includes Troy Ridge, Eskay Rhyolite, John Peaks, and Bruce Glacier members)*		**John Peaks Member:** Interbedded pillowed to massive mafic volcanic flows, volcanic breccia, and hyaloclastite; intercalated mudstone and rhyolite layers **Eskay Rhyolite Member:** Massive, banded, rhyolite flows and flow breccia; some tuffaceous sections **Bruce Glacier Member:** Vesicular, locally perlitic dacite flows, welded lapilli to block tuff, lesser argillite	*North of John Peaks:* **John Peaks Member:** Massive, locally vesicular andesite flows, overlain by massive, flow-banded rhyolite and fine-grained, massive dolerite **Bruce Glacier Member:** Densely to moderately welded lapilli to block felsic tuff, locally massive flow-banded intervals. Grades up into into lithic tuff, volcaniclastic conglomerate/breccia *South of John Peaks:* Welded felsic lapilli to block tuff; overlying pillowed, plagioclase phyric basaltic flows with intercalated mudstone, tuffaceous mudstone.
<u>Betty Creek Fm.</u>	*Treaty Ridge Member*	Volcaniclastic sandstone, argillite, and conglomerate; local bioclastic sandy limestone intervals	Highly variable, thinly bedded to massive argillite, limestone, sandstone, wacke, conglomerate; Local calcareous fossiliferous lenses.
	Brucejack Lake member	Absent	Absent north of John Peaks; South of John Peaks: platy, green to maroon very fine grained siliceous tuff and phyllitic tuffaceous siltstone.
	Unuk River member	Andesitic tuff, wacke, and debris flow deposits; minor volcaniclastic sandstone and conglomerate.	Absent south of John Peaks; north of John peaks = discontinuous andesitic block tuff and vesicular volcanic breccia.
<u>Jack Formation</u>		-Matrix to clast supported rounded cobble conglomerate w/ inter. comp. volcanic and mudstone clasts -grey, thickly-bedded fine grained sandstone/wacke to siltstone with whispy mudstone laminations -laminated to medium bedded siliceous mudstone to siltstone -coarse-grained, thickly bedded, fossiliferous (bivalves, ammonites) cross-stratified sandstone	-Thickly-bedded to massive, clast supported, rounded cobble to boulder conglomerate w/ abundant granitoid and lesser mudstone and volcanic (intermediate composition, plagioclase-phyric) clasts; coarse to medium grained sandstone matrix. -subangular tuffaceous siltstone fragments similar to subjacent units common at base. -thick (20-30 cm) discontinuous coarse grained sandstone layers common

from McGuigan, 2002

Table 1 (continued)

		Bruce Glacier	Iron Cap	Treaty Creek
Salmon River Formation (includes Troy Ridge, Eskay Rhyolite, John Peaks, and Bruce Glacier members)		**Bruce Glacier Member:** Densely to moderately welded lapilli to block felsic tuff, locally massive flow-banded intervals. Felsic megabreccias near toe of Bruce Glacier. Grades up into lithic tuff, volcaniclastic conglomerate/breccia. Intercalated mudstone/argillite, massive felsic flows.	**Bruce Glacier Member**: Intercalated felsic lapilli tuff and welded ash flow tuff, succeeded by tuffaceous siltstone with argillite chips **John Peaks Member:** Intercalated argillite, limestone, pillowed basaltic flows, andesitic volcanic conglomerate	**Bruce Glacier Member:** Densely welded felsic ash tuff, succeeded by massive lapilli to block tuff, and uppermost welded spherulitic lapilli tuff **John Peaks Member:** Pillowed basaltic volcanic flows interbedded with broken pillow breccia, mudstone, hydroclastite breccia, and mafic sills. Grades upward into volcaniclastic breccia and conglomerate with abundant andesite and basalt clasts.
Betty Creek Fm.	*Treaty Ridge member*	Absent	Fossiliferous siltstone to sandstone	Medium-bedded volcaniclastic conglomerate, overlain by channelized, highly fossiliferous (pelecypods, belemnites, corals, bryozoans) calcereous sandstone and sandy limestone; passes upward into black argillite, conglomerate, turbiditic mudstone to sandstone, and siliceous tuffaceous sandstone
	Brucejack Lake member	Absent	Absent at Iron Cap; likely correlative unit at Brucejack Lake form dacitic flows and flow/dome complexes	Densely-welded felsic lapilli to ash tuff layers intercalated with polylithic volcanic conglomerate
	Unuk River member	Absent	Volcanic breccia and block tuff	Thick feldspar+horneblende-phyric volcanic breccia, block tuff, and volcanic conglomerate; intercalated lapilli tuff, massive andesite flows, rare mudstone-argillite; grades northward into condensed volcaniclastic sandstone/mudstone section
Jack Formation		-Basal thickly bedded to massive clast supported rounded granitoid, limestone, volcanic cobble conglomerate. -interlayered and overlying interbedded coquinoid (gastropods, pelecypods, bryozoans,corals, ammonites, belemnites) calcareous siltstone to f.g. sandstone. -upper thinly bedded, grey to silver phyllitic turbiditic mudstone to f.g. sandstone. -thickly bedded pelecypod-bearing limestone.	Volcaniclastic conglomerate to arenaceous sandstone, minor andesitic to basaltic flows	(Near Atkins Glacier) Thickly bedded siliceous siltstone, greywacke; discontinuous lenses of volcanic conglomerate w/ hb-pl phyric andesite-dacite clasts; mollusc coquinoid calcereous sandstones; channel scours, midstone rip-up clasts common; rare limestone layers up to 1 m thick

The Jack Formation is a lithologically varied sequence of sedimentary rocks which overlies Stuhini Group strata. The best reference sections occur at the Bruce Glacier/Jack Glacier area, south of John Peaks and nearby Eskay creek. At Bruce and Jack Glaciers the formation consists of a thin conglomerate containing clasts of Stuhini Group turbiditic mudstones and siltstones. Trough cross stratification and channelized sandstone and conglomerate layers are common. Overlying the basal sequence are fossiliferous limy sandstone, siltstone, turbiditic siltstones and interbedded sandstones, up to several hundred meters thick. There is a general transition southward towards John Peaks to a thicker basal conglomerate and sandstone, and a thinner calcareous and turbiditic component. At the reference section south of John Peaks the formation consists entirely of conglomerate and sandstone. West of the Unuk River in the Eskay Creek area, Jack Formation rocks comprise several hundred meters of thickly bedded to massive wackes with local conglomeratic lenses and cross-stratified intervals.

The basal contact of the Jack Formation is well exposed at the Jack glacier and south of John Peaks as a sharp angular unconformity. Along strike from these localities the contact is less distinct and bedding is concordant with underlying rocks. However, the unit can usually be recognized on the basis of the conglomerate beds at its base. In the Treaty Creek area to the east , the contact occurs at a concordant transition from the Stuhini Group volcanic conglomerates to Jack Formation interstratified coarse sandstone and conglomerate.

Fossil assemblages collected from the Jack Formation in the Unuk River area indicate a Lower Jurassic age. Isotopic age constraints from bounding units also corroborate an Early Jurassic age (Lewis, 1996).

7.3 (b) Betty Creek Formation

Lower Jurassic volcanic and volcaniclastic strata have been problematic for workers in the Iskut River area and stratigraphic nomenclature has been unevenly applied. Most of the studies assign intermediate composition rocks in this interval to either the Betty Creek Formation or the Unuk River Formation, and felsic rocks to the Mount Dilworth Formation. Much of the difficulty stems from the poor stratigraphic continuity of lithofacies and the lack of regional definitions. Lewis (2001, p. 79) has assigned the entire volcanic and volcaniclastic sequence from the Jack Formation to a distinct shift in style of volcanism in the lower Middle Jurassic to the Betty Creek Formation. This formation encompasses most of the rocks previously assigned to the Betty Creek and Unuk River Formations, as well as some rocks previously assigned to the Mount Dilworth Formation. Use of the Unuk River Formation is discontinued. Within the Betty Creek Formation, three members are defined. The Unuk River Member comprises andesitic composition volcanic and volcaniclastic strata. The Brucejack Lake Member of the Betty Creek Formation consists of andesitic to dacitic pyroclastic, epiclastic and flow rocks which stratigraphically succeed and may be in part laterally equivalent to parts of the Unuk River Member. The Unuk River and Brucejack Lake Members are overlain by marine sedimentary rocks of the Treaty Ridge Member.

7.3 (b)(i) Unuk River Member

Andesitic composition flows, volcanic breccias and related epiclastic rocks are included within the Unuk River Member. It is well exposed throughout the eastern Iskut River area with the thickest best exposed sections at Eskay Creek, Johnny Mountain, Treaty Creek and Salmon Glacier. The thickness varies considerably: coarse volcanic breccias locally form accumulations up to 2 km thick; these localized deposits may pinch out completely in distances of less than 5 km.

Andesitic to dacitic flows and dark green volcanic breccias are intercalated with lapilli to block tuff, and lesser amounts of epiclastic sandstone and wacke. Volcanic breccias are monolithologic to slightly polylithic, commonly contain vesicular clasts and have a plagioclase-rich matrix. The Unuk River

Member conformably overlies the Jack Formation in sections exposed at Eskay Creek, John Peaks, Salmon Glacier and Treaty Glacier.

7.3 (b)(ii) Brucejack lake Member

Dacitic to rhyolitic pyroclastic rocks, epiclastic rocks and volcanic flows within the Betty Creek Formation are assigned to the Brucejack Lake member. These rocks are well exposed in reference sections at Brucejack Lake, south of John Peaks and Johnny Mountain but it has not been found in the Eskay Creek area. Water-lain crystal tuffs and ash tuffs just south of John Peaks and multiple thin cooling units of crystal-rich welded lapilli tuff at Treaty Creek are likely equivalents. In the western Iskut River area at Johnny Mountain dacitic to rhyolitic flows and welded lapilli tuff form the Brucejack Member

Numerous new U-Pb dates indicate that the early pulse of felsic volcanism in the Hazelton Group near Iskut River spanned a 5-10 million year period ranging from 194 Ma to 185 Ma (Lewis, 1996).

7.3 (b)(iii) Treaty Ridge Member

Heterogeneous sedimentary strata including sandstone, conglomerate, turbiditic siltstone and limestone characterize the Treaty Ridge Member of the Betty Creek Formation. Many of the rock types of the Jack Formation are present in the Treaty Ridge Member but the occurrence of clasts derived from the Unuk River Member volcanic rocks and the absence of the granitoid clast conglomerate differentiate the two units.

The Treaty Ridge Member varies from a few meters to several hundred meters thick. Thickest sections are present at Treaty Creek and Eskay Creek.. The most distinctive rock type within the unit consists of rusty brown to tan weathering, bioclastic weathering sandstone and intercalated siltstone or argillite. At Treaty Creek the bioclastic unit is succeeded by a several hundred meter thick turbiditic mudstone to sandstone section. Bioclastic sandstones are also present in the Member at Eskay Creek and John Peaks where they are interstratified with siltstone, arenitic sandstone and heterolithic rounded cobble conglomerate. West of these areas a thick grey weathering medium bedded limestone and siltstone sequence is a probable stratigraphic equivalent.

7.3 (c) Salmon River Formation

The upper part of the Hazelton Group in the Iskut River area comprises dacitic to rhyolitic flows and tuffs, localized interlayered basaltic flows and intercalated volcaniclastic intervals. Although these different rock types can be mapped separately on a property scale, their interfingering nature and lack of continuity dictate that they be grouped into a single unit for regional mapping purposes (Lewis, 2001 p.81). This part of the Hazelton Group has attracted the most attention due to its association with mineralization at Eskay Creek, but at the same time its distribution, internal stratigraphy and age are poorly understood. Previous workers mapped felsic volcanic components as Mount Dilworth Formation, and mafic volcanic components as a distinct facies of the Salmon River Formation.. These assignments became problematic when more than one felsic horizon was recognized, and that mafic volcanic rocks occur both above and below the felsic intervals. The MDRU project assigned all Hazelton Group rocks above the Treaty Ridge Member to the Bruce Glacier, Troy Ridge, Eskay Rhyolite and John Peaks members.

7.3 (c)(i) Bruce Glacier Member

The Bruce Creek Member of the Salmon River Formation comprises widely distributed dacite to rhyolite flows, tuffs and epiclastic rocks. These rocks vary from as little as a few tens of meters to over

400 hundred meters in thickness, with the thickest accumulations on the west limb of the McTagg Anticlinorium between the Bruce Glacier and the Iskut River valley. Lithofacies within the member are highly variable both regionally and vertically in a given section. Deposits proximal to extrusive centres include banded flows, massive domes with carapace breccias, autoclastic megabreccias and block tuffs. Extrusive centres have been identified in the Iskut River area, including Brucejack Lake and Bruce Glacier.

7.3 (c)(ii) Troy Ridge Member

Sedimentary and tuffaceous sedimentary rocks of the Salmon River Formation are assigned to the Troy Ridge Member. This member includes the distinctive black and white striped strata known as the "pyjama beds" at Salmon River and are present to a lesser extent in northern parts of the area and the mineralized contact zone mudstone at Eskay Creek. Contact relations with other Salmon River Formation members are variable: for example, at Eskay Creek the member lies above the Eskay Rhyolite and Bruce Glacier Members, but below the John Peaks Member. Near the headwaters of Snippaker Creek the member is interstratified with rocks assigned to both the John Peaks and Bruce Glacier Members. These types of stratigraphic relationships suggests that the Troy ridge Member represents sediments accumulated during breaks in local volcanic activity.

7.3 (c)(iii) John Peaks Member

Mafic components of the Salmon River Formation, assigned to the John Peaks Member, are localized in their distribution and are missing from much of the Iskut River area. Generally they occur above the felsic members (Bruce Glacier and Eskay Rhyolite) but at Treaty Creek thick sections of mafic flows and breccias lie below welded tuffs of the Bruce Glacier Member. Mafic sections are thickest at Mount Shirley and near the mouth of Sulphurets Creek, and form intermediate thicknesses at Eskay Creek and Johnny Mountain. At Treaty Glacier the mafic components grade upward from pillowed and massive flows into broken pillow breccia, and finally hyaloclastite matrix supporting abundant irregular volcanic fragments.

7.3 (c)(iv) Eskay Rhyolite Member

Rhyolite flows, breccias and tuffs in the Eskay Creek area are assigned to the Eskay Rhyolite Member of the Salmon River Formation. Although this rhyolite is lithologically similar to some exposures of the Bruce Lake Member, it can be distinguished geochemically on the basis of an Al:Ti ratio of greater than 100 (Lewis, 1996). At Eskay creek the member forms a distinct mappable unit overlying the Bruce Glacier Member and underlying the John Peaks Member, with thicknesses of up to 250 meters.

Age constraints for the Salmon River Formation include U-Pb zircon ages from the Bruce Glacier Member and fossil collections from intercalated sedimentary sections assigned to the Troy Ridge Member. Because of the interfingering relationships of the different members these determinations are interpreted as being representative of the entire formation. U-Pb zircon dates obtained from the Bruce Glacier Member bracket the age of the unit to around 172-178 Ma (Lewis, 1996).

7.4 Bowser Lake Group

The contact of the Hazelton Group with the overlying mudstones of the Bowser Lake Group has been problematic for mappers in the Iskut River area. Lewis (2001, p, 29) proposed restricting the Hazelton Group to those stratigraphic successions containing significant proportions of primary volcanic strata, either as pillowed or massive flows, or tuffaceous turbidites. The contact with overlying Bowser Lake Group strata is therefore placed at the highest occurrence of these volcanic components.

The Middle and Upper Jurassic Bowser Lake Group contains the youngest Mesozoic strata in the Iskut river area. They are exposed over a broad region of the northern Cordillera, and concordantly overlap Hazelton Group strata. In general the Bowser Lake Group consists of a thick succession of shale and greywacke, with lesser amounts of interbedded chert-rich conglomerate. In the Eskay Creek area the unit consists primarily of thinly bedded turbiditic siltstone and mudstone, and subordinate conglomerate and sandstone. These coarser clastic components are useful markers for deciphering local structural and stratigraphic problems, but their discontinuity precludes usage as regional markers.

7.5 Intrusions

This description of the intrusive rocks is taken from MacDonald et al, (1996).

Mesozoic intrusive activity in the Iskut River area involved two major events: a Late Triassic magmatic pulse, and extended Early to Middle Jurassic plutonism that continued for approximately 20 million years (MacDonald et al., 1996). The earliest pulse, the Late Triassic (228-221 Ma) Stikine Plutonic Suite is dominated by hornblende-biotite diorite, quartz monzonite and monzodiorite and occurs as massive to foliated and lineated plutons.

The Jurassic intrusions have typically been divided into several temporally distinct suites. However, an enlarged Jurassic geochronological database demonstrates that intrusive activity is nearly continuous for the entire period from 195 to 175 Ma. Intrusions older than 180 Ma range from biotite-hornblende granodiorite and quartz monzonite to potassium feldspar megacrystic, plagioclase and hornblende porphyritic syenite and quartz monzonite. These plutons are contemporaneous with the lower volcanic units of the Early Jurassic Hazelton Group. Younger intrusions (180-175 Ma) are less extensive in the area and may be correlative with the Three Sisters plutonic suite to the west of the Iskut River area. The younger intrusions are contemporaneous with the uppermost volcanic sequence of the Hazelton Group in the Iskut River area and probably represent intrusive equivalents to these rocks.

7.6 Structural Geology

The dominant structures in the Iskut River area are contractional folds and faults formed during Cretaceous Cordillera-wide shortening (MacDonald et al, 1996). This is manifest regionally by the Skeena Fold and Thrust Belt and by imbricate thrusting along the west flank of the Coast Belt. Evidence for earlier regional deformation coinciding with the Triassic-Jurassic boundary is cryptic in much of the Iskut River area, but is well documented in some localities. For example, the boundary is marked by a sharp angular unconformity locally around the McTagg Anticlinorium, but elsewhere is concordant and transitional. At Johnny Mountain, southwest–verging megascopic folds and associated northeast-dipping cleavage in the Triassic sequence are overlain unconformably by an undeformed, flat-lying Lower Jurassic volcanic sequence.

7.6 (a) Folding

The following description is taken from Lewis in chapter 5 of the MDRU special publication number 1 (2001).

Four major folds trend north to northeast occur in the project area. They are from west to east, the Mackay Syncline, Eskay Creek Anticline, Unuk River Syncline and the McTagg Anticlinorium.

The Mackay Syncline is cored by Bowser Lake Group sediments and has Hazelton Group stratigraphy exposed on its western limb. The Eskay Creek Anticline contains extensive exposure of Hazelton Group stratigraphy. The Eskay Creek Mine occurs on the western limb of the anticline and this location has been the focus of most of the exploration in the area. To the north the anticline plunges north beneath Bowser Lake Group stratigraphy and to the south is truncated by the Coulter Creek thrust fault. The Eastern limb and hinge zone are less well studied and the exact location of the hinge is poorly constrained and is probably effected by faulting.

The Unuk River Syncline follows the Unuk River and is again cored by Bowser Lake Group sediments. These sediments extend down the Unuk River and merge with those of the Mackay Syncline, isolating the Hazelton Group strata in the Eskay Creek Anticline (Lewis, 2001).

The McTagg Anticlinorium is the dominant regional fold structure in the project area. It exposes a broad belt of folded Stuhini Group rocks between the Unuk River and the Sulphurets area. The anticlinorium plunges north beneath Hazelton and Bowser Lake Group stratigraphy and is bound to the west and east by faults which thrust Stuhini and Hazelton Group rocks from the core over younger adjacent strata (Lewis, 2001).

7.2 (b) Faulting

The project area contains significant regional faults including west and east directed thrust faults, steeply dipping north, northeast and northwest striking dip-slip faults and the north striking Harrymel strike-slip Fault (Lewis, 2001).

Major thrust faults in the area include the Sulphurets, Coulter Creek and Unuk River Faults. The Sulphurets Thrust Fault is a gently west dipping, southeast verging fault, thrusting Stuhini Group strata over Bowser Lake or Hazelton Group stratigraphy (Lewis, 2001). The Coulter Creek Thrust Fault is a gently east dipping, west verging fault, thrusting Hazelton Group strata over Bowser Lake Group stratigraphy. The fault occurs along the western margin of the SIB claims and was first identified by interpreting outcrop mapping and drill core relationships. The magnitude of displacement on the fault cannot be accurately determined. The Unuk River Thrust Fault follows the east flank of the Unuk River and verges roughly westward. The fault is poorly exposed and has been interpreted mainly from facing indicators of Hazelton Group strata in the John Peaks area (Lewis, et al, 2001).

Steep faults of variable orientation including north, northwest and northeast striking, are common throughout the project area and frequently cross cut folds and thrust faults. Slip directions cannot usually be determined, but Lewis (2001) suggests dip slip.

It would seem questionable that all of these faults are of the same age and type. Mapping by Geoinformatics personnel at the SIB Prospect indicate that at least some of these faults localize and partition alteration and mineralization. This would indicate late emplacement of mineralizing fluids along these structures, or that some of the faults are long lived structures that were re-activated post mineralization to cause the cross-cutting relationships. In any case these structures must be considered important when planning future exploration in the project area.

The South Unuk-Harrymel Shear Zone is a major, northerly striking, sinistral, strike-slip fault which bisects the Iskut River area. The shear zone varies from a narrow (<10 m) brittle shear zone in the north, to a >2 km wide shear zone in the south which accommodates up to 20 km or more displacement. This large regional fault separates the strongly folded and thrusted rocks to the east from less deformed strata to the west. The fault has been interpreted by various researchers to have dextral and sinistral strike slip offset, as well as eastside up and eastside down dip slip movement. Lewis(2001) suggests the fault may represent a major sinistral strike-slip fault, acting coevally with the folding and thrusting event, and forming a boundary between the fold/thrust belt to the east from the less deformed strata to the west.

8. MINERALIZATION STYLES

A review of available publications on deposits in the Iskut region of northwest British Columbia was completed by Geoinformatics and a synthesis of deposit styles for the region was produced.

The project area is considered prospective for a number of deposit styles, as follows:

8.1 Porphyry Copper-Gold and Transitional Deposits

Four superimposed hydrothermal mineralization styles represent the porphyry-epithermal transition:

Stage 1: Porphyry copper-gold with banded quartz-pyrite and quartz-pyrite-chalcopyrite-gold breccia and stockworks.
Stage 2: Intermediate to high level quartz-molybdenite-tourmaline veins.
Stage 3: High level massive pyrite veins and breccia pipes enriched in Bi-Te-Sn-As.
Stage 4: Gold rich quartz-barite-galena-sphalerite-tetrahedrite-pyrargyrite-gold–acanthite veins and disseminations, enriched in Pb-Zn-Ag-Au-Sb-Cd-Hg-Te and developed at high and peripheral positions with respect to the magmatic/hydrothermal centres (represented by quartz stockworks).

Examples of porphyry copper-gold and related deposits include those of the Sulphurets Camp such as Kerr and Snowfields.

8.2 Intrusion Related Thermal Aureole Gold-Copper Veins and Stockworks

These intrusion related deposits are characterized by shear hosted quartz-pyrite veins and stockworks within and marginal to Texas Creek intrusions. Also includes pyritic breccias along intrusive contacts. Mineralization is syn-intrusive and forms along the thermal brittle-ductile transition envelope surrounding subvolcanic intrusions. Late magma movement generates local shearing and fracturing. Convecting hydrothermal fluids then precipitate gold-rich iron sulphides and gangue as en echelon vein sets and stockworks. Metal and alteration patterns are consistent with the distal portions of porphyry Cu-Au system.

Alteration consists of an inner potassic zone of sericite-pyrite-quartz and an outer potassic zone where pyrite is replaced by pyrrhotite. Anomalous (>0.3 g/t Au) gold-silver mineralization develops at the transition from the pyrite to the pyrrhotite-dominant alteration zones.

Examples of this type include the Snip Gold Mine (960,000t @ 28.5g/t Au) and Johnny Mountain (207, 000t @ 14.1g/t Au).

8.3 Low Sulphidation Epithermal Gold-Silver Veins and Breccia Veins

Epithermal gold-silver base metal veins and breccia veins closely linked to structures and intrusions of the Early Jurassic Texas Creek plutonic suite. These deposits are formed from many pulses of mineralizing fluids localized above a local dome in the underlying Texas Creek batholith. Mixing of cool, meteoric groundwater with hot sulphur, chlorine and metal-bearing magmatic fluids is the most likely mechanism for base metal and gold-silver deposition

The deposits form shear hosted, en echelon sets of quartz-carbonate-chlorite-K-Feldspar+/-sulphide veins developed at the faulted margin of intrusions, as vein stockwork peripheral to breccia zones and as complex quartz-carbonate+/-sulphide-cemented breccia veins.

Alteration is characterized by an inner siliceous zone, followed by an outer potassic (sericite) zone and more distal carbonate and chlorite zones.

Examples of this deposit style include Silbak Premier (5.88 Mt @ 10.6/t Au and 227g/t Ag) and Big Missouri 768,943t @ 2.37g/t Au and 2.13g/t Ag).

8.4 Eskay Creek-Type VMS Deposits (+/- Epithermal Gold Overprint)

The Eskay Creek deposit includes several deposits of polymetallic sulphide and sulphosalts as exhalative massive sulphide, stratabound breccias and discordant veins. Mineralization is inferred to have formed at or near the sea floor in a relatively shallow-water setting and resulted from fluid boiling during the last stages of felsic volcanism. Such a system could be thermally driven by syn-volcanic intrusions (Eskay Porphyry) with metals scavenged from the volcanic pile by deeply circulating sea water or derived from the intrusion.

The massive sulphides at Eskay Creek show atypical mineralogy and precious metal enrichment. One explanation for this is the high gold enrichment is the result of an overprinting epithermal system. In this model epithermal fluids were transported along structures (visible in the deposit) until they encountered the reducing carbonaceous sediments and/or the earlier syngenetic VMS mineralization. Precipitation of gold and other "epithermal" characteristic minerals then occurred preferentially in the sulphide rich sedimentary layers.

The Eskay Creek Mine is the only known economically viable example of this type of deposit in the region. The Lulu Zone mineralization at the SIB Prospect also falls into this deposit category.

8.5 Intrusion Related Gold-Silver-Copper Skarns

Skarn and vein-style mineralization occur along faults within brittle, calcareous rocks adjacent to Eocene biotite granodiorite to biotite-quartz monzonite. High gold/silver ratios and pyrrhotite dominated sulphide assemblages are characteristic of early Jurassic intrusive-related Au-pyrrhotite deposits.

The Snippaker Creek skarns are examples of this deposit style.

9. 2004 FIELDWORK

9.1 Bonsai area

A three hole program was undertaken by Heritage Explorations in 2003 to test the possibility of a steep mineralized zone under the main showing and investigate an area further west with the same brecciated rhyolite unit. Hole BZ-03-08 intersected the pyritic breccia zone under the main showing, resulting in a 64 meter interval grading 0.38 gpt gold and 27.1 gpt silver. The full length of the pyritic zone was anomalous and the values were higher than at the surface gossan, indicating a possible increase in grades with depth.

The breccia zone in hole BZ-03-08 was open along strike to the south. This was the area tested in 2004. The 2004 hole (BZ-04-10) was collared 69 meters south of the BZ-03-08 hole and drilled to a depth of 178.3 meters. Drilling was carried out June 27 to July 18. Two rhyolitic breccias were intersected within an argillite-mudstone sequence.

9.2 Treaty area

A review of the geophysics (magnetics, EM) at Treaty Creek in 2003 highlighted elements of a possible porphyry Cu-Au alteration signature on the Treaty Nunatak.

The classic porphyry signature would contain an isolated magnetic high of around 1-2km diameter surrounded by a magnetic low halo. The high is caused by magnetite within the potassic alteration zone and the low a zone of magnetite destructive phyllic and argillic alteration. The iron freed by the destruction of magnetite combines with sulphur to form pyrite, which in sufficient quantities can be seen in EM data. A coincident magnetic low and conductive high halo, surrounding a magnetic high is the type of signature a porphyry system may be expected to show. Elements of this signature can be seen in the Treaty Nunatak area.

A single hole was proposed to test this possibility. Locations for the hole were limited due to the steep terrain and icefields/glaciers. The hole (TP-04-01) was collared immediately to the southeast of Sulphur Knob. A 500 meter hole at -50 degrees was laid out to reach the magnetic high core of the porphyry signature. The hole was completed September 14-23 to a depth of 496.2 meters.

10. PROSPECTS – Program & Results

10.1 2004 Drilling

Drilling in 2004 comprised two holes for a total of 674.5 meters (Table 2). Figures 4, 5 and 6 show the drill hole locations.

Table 2. 2004 Drill Program Summary.

Hole ID	Zone	Easting	Northing	Dip	Azimuth	Depth
BZ-04-10	Bonsai	404887	6276284	-70	270	178.3
TP-04-01	Treaty area	430959	6271940	-50	130	496.2
	Total meterage					674.5 m

A summary of anomalous intersections from the drill program are tabulated below (Table 3).

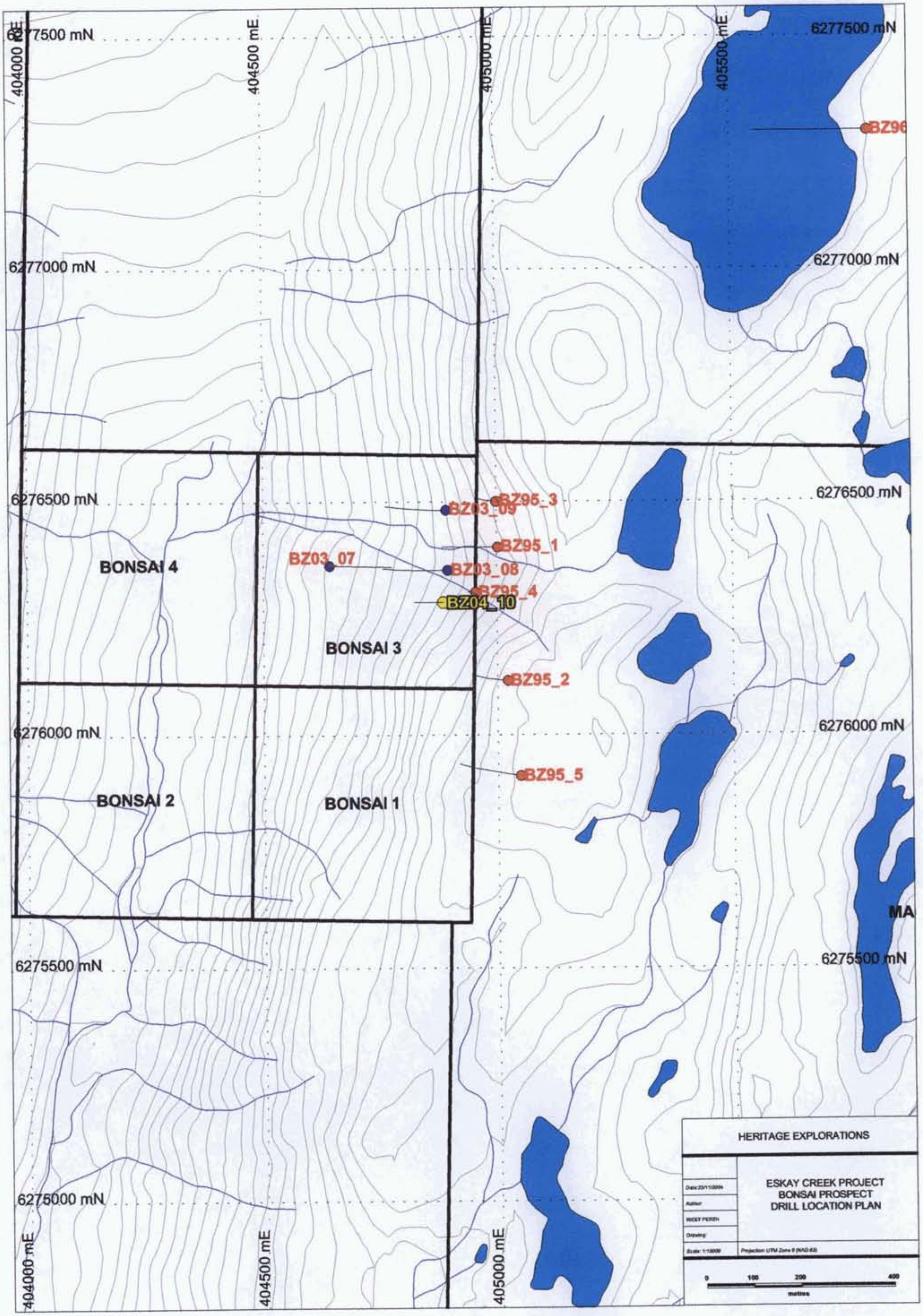
Table 3 2004 Drill Program – Anomalous Gold/Silver Intersections.

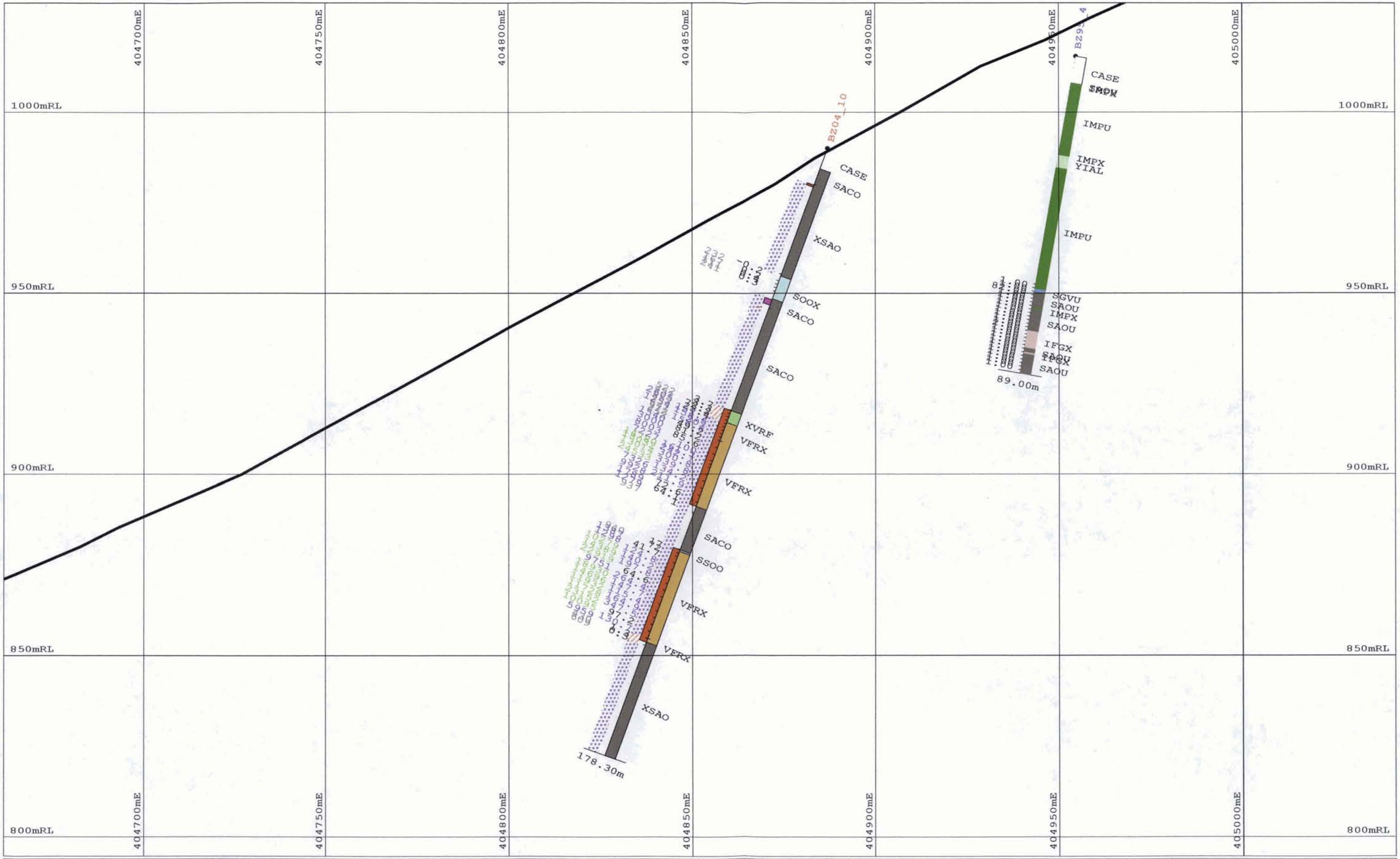
Hole ID	Zone	From m	To m	Width m	Grade Au g/t	Grade Ag g/t
BZ-04-10	Bonsai	92.0	102.0	10.0	0.24	14.24
		122.0	140.0	18.0	0.17	15.31
TP-04-01	Treaty area	211.0	213.0	2.0	0.23	0.44

10.1a Bonsai Prospect

The Bonsai Prospect is comprised of a series of gossanous outcrops of rhyolite breccia with interbedded graphitic mudstones and coarser sediments. The outcrops occur on the very steep eastern slopes (grading to cliffs near the valley base) of Harrymel Creek. The lithologies are analogous to those at Eskay Creek and are mapped as part of the Salmon River Formation of Hazelton Group stratigraphy.

GPS surveys in 2003 at Bonsai determined that the lithology outcrops and drill collar positions from earlier drilling varied significantly from their recorded positions on existing maps. The drill collars


6277500 mN
6277000 mN
6276500 mN
6276000 mN
6275500 mN
6275000 mN
404000 mE
404500 mE
405000 mE
405500 mE
BZ96
BZ95_3
BZ03_09
BZ95_1
BZ03_07
BZ03_08
BZ95_4
BZ04_10
BZ95_2
BZ95_5
BONSAI 4
BONSAI 3
BONSAI 2
BONSAI 1
MA
HERITAGE EXPLORATIONS
ESKAY CREEK PROJECT
BONSAI PROSPECT
DRILL LOCATION PLAN
0
100
200
400
metres



Ag ppb and Au ppb values plotted (Au values closest to drill trace)	STRUCTURE LEGEND	ALTERATION LEGEND	Scale 1:1000	DATE 30/07/2004	SHEET 1 of @sh	BONZAI PROSPECT SECTION 6276280mN BZ04_10	HERITAGE EXPLORATIONS
	Fracture zone	Carbonate		REF No. 1	FILE BONSAI_627628		
	Foliation	Phyllic					
	Shear zone	Chloritic					
	Bedding	Silicification					
	Fault	Sericitic					
	Fault Breccia	Undifferentiated					
	Fault Zone	Sulphides					
	Folded	Hematite					
	Crenulated Cleavage						

0 50m

were subsequently DGPS located and adjusted in the database. The field mapping was also adjusted in the GIS database to a best fit based on DGPS locations of the main gossan outcrops.

The Bonsai Prospect review commenced with a re-interpretation of the historical data, particularly the drilling. The earlier work imposed a model of flat lying felsic (rhyolite) dykes as host to mineralization and the cause of the extensive gossanous outcrops at Bonsai. Previous drilling was therefore positioned up slope from the gossan outcrops and drilled to just below the horizontal level of these outcrops to test for flat lying mineralization.

Field evaluation at Bonsai indicated that no conclusive evidence for a flat orientation of stratigraphy existed. Bedding, though variable, appeared to have a generally steep orientation. The gossanous outcrops were sampled and returned values similar to previous samples, with weak to moderate gold anomalism (~100ppb Au) and strong silver, mercury anomalism. Given a steep orientation to these gossanous pyritic zones, the prospect was considered untested and drilling was warranted.

The three drill holes at Bonsai in 2003 intersected mostly rhyolite and an interbedded sequence of mudstone and sandstone. The gossanous material at surface occurs in core as a pyritic rhyolite breccia. Hole BZ-03-08 intersected a strong pyritic breccia zone, resulting in a wide gold/silver intersection of 64.0 meters grading 0.38 gpt gold and 27.08 gpt silver. These values were higher than on surface suggesting a possible increase in grade with depth. The breccia zone in hole BZ-03-08 was open at depth and along strike to the south.

The 2004 drill hole (BZ-04-10) was collared 69 meters to the south of BZ-03-08 to test the on strike extension. Two pyritic breccia zones were intersected, at 92.0 to 102.0 meters and at 122.0 to 146.0 meters. The gold/silver assays, as listed in Table 3 above, were anomalous but less than the results from BZ-03-08 in 2003.

10.1b Treaty Creek area

The 2004 field season in the Treaty area was comprised of one drill hole on the Treaty porphyry target described above.

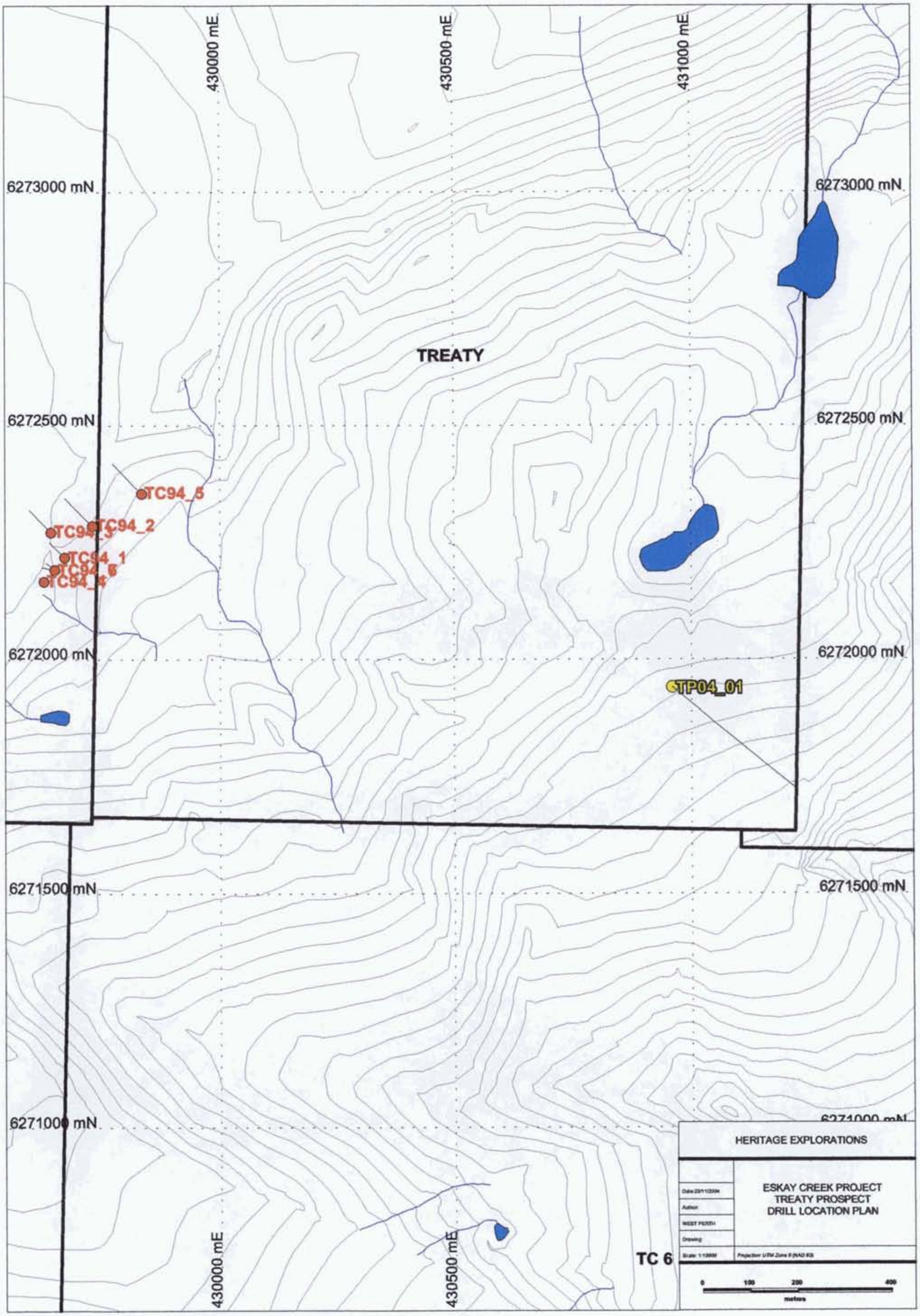
The 496.2 meter hole was collared in a quartz sericite pyrite altered felsic to intermediate volcanic, part of the highly altered prominent Sulphur Knob unit exposed to the northwest of the drill site. The remainder of the hole was unaltered intermediate to mafic volcanics of the Hazelton Group with minor argillite/mudstone/sandstone units interlayered and conformable with the volcanics. The volcanics were mainly undeformed fragmentals with trace pyrite, weak chlorite, minor quartz veining, little shearing or faulting and minor brecciation. The fine clastics had more shearing, faulting and brecciation. There was no significant mineralization or alteration in the drill hole. Only one sample assayed above 50 ppb gold, as shown on Table 3 above.

11. CONCLUSIONS

11.1 Bonsai Prospect

The drill results from BZ-04-10 are not particularly encouraging for an extension of the main gossan showing to the south. The pyritic rhyolite breccia which hosts the gold values has reduced in both width and gold grades.

There are no recommendations for additional work pending receipt of the Aeroquest airborne survey results early in 2005.



430000 mE
430500 mE
431000 mE
6273000 mN
6272500 mN
6272000 mN
6271500 mN
6271000 mN
TREATY
TC94_5
TC94_2
TC94_3
TC94_1
TC94_6
TC94_4
TP04_01
TC 6
HERITAGE EXPLORATIONS
ESKAY CREEK PROJECT
TREATY PROSPECT
DRILL LOCATION PLAN
WEST PERTH
0
100
200
400
metres

Oblique Section
Section Plotted at 130deg
Hole Co-ordinates:
430959E 6271940N (UTM NAD83)

STRUCTURE LEGEND
- Fracture zone
- Foliation
- Shear zone
- Bedding
- Fault
- Fault Breccia
- Fault Zone
- Folded
- Crenulated Cleavage

ALTERATION LEGEND
- Carbonate
- Phyllic
- Chloritic
- Silicification
- Sericitic
- Undifferentiated
- Sulphides
- Hematite

Scale	DATE	SHEET
1:2000	11/11/2004	et1 of @sh
	REF No.	FILE
	1	TP04 01 secti

0 100m

TREATY CREEK PROSPECT
DRILL SECTION
TP04_01

HERITAGE EXPLORATIONS

11.2 Treaty Creek area

No potential for porphyry gold and/or copper mineralization was evident in the Treaty hole. Further work in the general Treaty area should await the results of the Aeroquest airborne survey.

12. RECOMMENDATIONS

The results of the time domain airborne EM – magnetic survey carried out by Aeroquest Limited on the Eskay property in September 2004 are anticipated in January 2004. No recommendations are made at the present time pending receipt of these results.

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14. STATEMENTS OF QUALIFICATIONS

I, **Gerald E. Bidwell,** P.Geo., of 5186-44th Avenue, Delta, BC V4K 1C3, do hereby certify the following:

I am a consulting geologist with G. Bidwell & Associates Ltd. of Delta, BC.

I have been practicing my profession continuously since graduation in 1967, as a geologist in Canada and the United States of America. I worked continuously from graduation to 1996 as a geoscientist for Hudson Bay Exploration and Development Company Limited (1967-87), Mingold Resources Inc. (1987-1990) and Noranda Exploration/Hemlo Gold Mines (1990-96). Since 1997 I have been a principal of G. Bidwell & Associates Ltd.

I am a graduate of the University of Saskatchewan, with a Bachelor of Arts and Science degree in Geology in 1967.

I am a Professional Geoscientist in good standing with the Association of Professional Engineers and Geoscientists of British Columbia and a fellow of the Geological Association of Canada.

I have been the Exploration Manager of Heritage Explorations Ltd. and the Project Manager of the Eskay Project since May, 2003. I spent three weeks on site during the 2004 field program.

Respectfully submitted,

PROFESSIONAL PROVINCE OF G. E. BIDWELL BRITISH COLUMBIA GEOSCIENTIST

Gerald E. Bidwell, P. Geo.

Dated Dec 20, 2004 in Vancouver, BC.


HERITAGE EXPLORATIONS
Fig. 4
Date:23/11/2004
Author:
WEST PERTH
Drawing:
Scale: 1:25000
Eskay Creek Project
Tenement Outline and
Drillhole Location Plan
Projection: UTM Zone 9 (NAD 83)
0
500
1000
metres
2004 DRILLING
2003 DRILLING
All Previous Drilling
ESKAY CREEK MINE
DL 7167
DL 7168
MACK 24
MACK 25
BONSAI
BONSAI 1
FRED 15
NOOT 1
NOOT 3
NOOT 4
P-MAC
STO 1
STO 2
POLO 7
POLO 6
POLO 13
MEGAN 2
MEGAN 1
TOON 1
COUL 1
COUL 2
COUL 3
COUL 4
HARRY 5
JOHN 1
JOHN 2
AFTOM 7
AFTOM 9
AFTOM 14
AFTOM 15
AFTOM 16
AFTOM 18
AFTOM 19
AFTOM 20
RAMBO 3
RAMBO 5
FOG 1
FOG 2
FOG 3
FOG 4
FOG 5
FOG 6
PUD 1
PUD 2
UNUK 1
UNUK 11
UNUK 12
UNUK 13
UNUK 14
UNUK 22
GINGRASS 2
GINGRASS 3
GINGRASS 4
GINGRASS 5
BELL 1
BELL 2
BELL 3
BELL 4
BELL 5
BELL 6
BELL 7
BELL 8
LANCE 3
LANCE 4
CALVIN 3
CALVIN 5
CALVIN
IRVING 1
IRVING 2
IRVING 3
IRVING 4
IRVING 5
IRVING 6
TREATY 1
TREATY 2
TREATY
TC 1
TC 2
TC 5
TC 6
TC 7
TC 8
TC 9
TC 10
TC 12
TC 13
TC 14
TR 5
TR 6
TR 7
TR 8
6280000 mN
6275000 mN
6270000 mN
400000 mE
410000 mE
415000 mE
420000 mE
425000 mE
430000 mE

APPENDICES

I Assay Procedures - ACME Analytical Laboratories Ltd
(b) Group 1F – Ultratrace by ICP-MS

II Assay Certificates (a) File # A403838
(a) File # A405917
(a) File # A406105

III Drill Logs (a) Bonzai Drill Hole BZ 04-10
(b) Treaty Drill Hole TP 04-01

IV Mineral Tenures

V Expenditures & Assessment Data – 2004

VI Geoinformatics Eskay Creek Lithology Codes and Colour Legend
(a) Lithology Codes
i lithology codes
ii alteration assemblage codes
iii veining codes
iv structures code
(b) Lithology Colour legend

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix I

Assay Procedure

ACME Analytical Laboratories Ltd.

Group 1F-MS Ultratrace by ICP-MS Aquia Regia

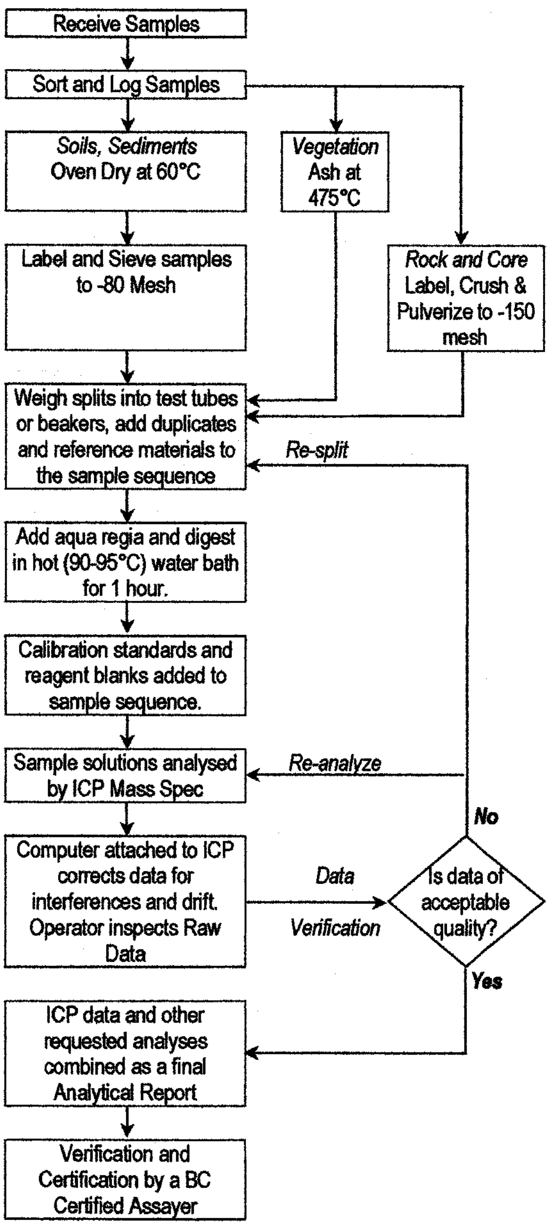
ACME ANALYTICAL LABORATORIES LTD.

VANCOUVER 1996

852 East Hastings Street • Vancouver, British Columbia • CANADA • V6A 1R6
Telephone: (604) 253-3158 • Fax: (604) 253-1716 • Toll free: 1-800-990-ACME (2263) • e-mail: info@acmelab.com

METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 1F-MS – ULTRATRACE BY ICP-MS • AQUA REGIA

Analytical Process



Comments

Sample Collection

Samples may consist of soil, sediment, plant or rock. A minimum field sample weight of 200 gm is recommended.

Sample Preparation

Soil and sediment are dried (60°C) and sieved to -80 mesh (-177 µm). Vegetation is dried (60°C) and pulverized or ashed (475°C). Moss-mats are dried (60°C), pounded and sieved to yield -80 mesh sediment. Rock and drill core is jaw crushed to 70% passing 10 mesh (2 mm), a 250 g aliquot is riffle split and pulverized to 95% passing 150 mesh (100 µm) in a mild-steel ring-and-puck mill. Depending on the option package, aliquots of 1 to 30 g are weighed. QA/QC protocol includes inserting a pulp duplicate to measure analytical precision, a coarse (10 mesh) rejects duplicate to measure method precision (trench and drill core samples only) and an aliquot of in-house reference material STD DS3 to measure accuracy in each analytical batch of 34 samples.

Sample Digestion

A 6 mL/g aliquot of Aqua Regia (2:2:2 ACS grade HCl, ACS grade HNO_3, demineralised H_2O) is added to each sample. Samples are digested for one hour in a hot water bath (90-95°C) then diluted (20:1 mL/g final ratio). QA/QC protocol requires simultaneous digestion of two regent blanks randomly inserted in each batch.

Sample Analysis

Analysis is by an Elan 6000 ICP Mass Spec for the determination of 37 elements comprising: Au, Ag, Al, As, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sr, Te, Th, Ti, Tl, U, V, W and Zn. Extended element packages containing incompatible elements (Hf, Nb, etc.), REEs and PGEs are available. Larger samples (15 to 30 g) are recommended for precise analysis of elements subject to the nugget effect (eg. Au).

Data Evaluation

Raw data are reviewed by the instrument operator and by the laboratory information management system. The data is subsequently reviewed and adjusted by the Data Verification Technician. Finally all documents and data undergo a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix II

Assay Certificates

(a) File # A403838
(b) File # A405917
(c) File # A406105

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A403838 (a)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm
SI	.12	3.63	.24	1.1	5	.2	.1	1	.04	.3	<.1	.4	<.1	2.7	.01	.02
A 136801	2.02	7.29	15.01	67.9	232	3.4	1.5	193	1.46	80.6	.2	<.2	2.3	167.7	.35	3.97
A 136802	6.65	11.09	15.92	112.8	167	6.7	2.1	404	3.56	393.9	.2	.2	1.3	235.2	.47	11.61
A 136803	2.82	9.80	12.32	64.0	111	3.6	2.0	346	1.20	67.4	.2	.4	2.5	110.3	.35	2.67
A 136804	4.34	21.25	9.62	91.1	241	10.2	5.7	673	1.81	42.2	.2	.3	2.0	487.3	.52	2.06
A 136805	3.00	13.35	18.78	116.5	522	6.7	3.8	304	1.81	132.9	.1	3.7	1.3	241.6	.74	7.78
A 136806	11.83	5.12	13.17	67.1	451	.9	1.2	177	1.13	101.5	.2	3.3	3.1	114.7	.24	2.90
A 136807	26.38	9.13	17.22	101.2	2605	6.5	3.2	133	4.30	881.6	.1	72.2	1.5	80.3	.42	23.05
A 136808	8.55	13.17	14.19	58.6	852	6.5	4.0	57	3.74	445.9	.1	23.4	.7	32.9	.37	22.65
A 136809	28.72	13.14	17.12	474.4	1254	5.8	2.6	112	17.92	6887.9	.1	157.2	.4	36.2	2.07	105.00
A 136810	6.15	6.43	20.04	19.3	641	3.2	1.7	72	6.05	1246.2	.2	158.5	.3	63.3	.19	27.21
A 136811	8.18	5.97	28.04	42.1	912	3.6	1.4	49	9.24	1770.4	.2	207.0	.3	13.4	.43	40.63
A 136812	4.06	6.09	28.18	11.9	452	2.9	1.7	41	5.03	1116.8	.1	158.8	.9	13.3	.10	22.26
RE A 136812	3.54	6.10	26.21	12.7	419	3.3	1.5	41	5.10	1121.9	.1	149.7	.8	13.4	.08	20.57
RRE A 136812	3.61	5.55	23.66	11.0	448	2.9	1.4	42	5.39	1178.7	.1	153.6	.8	12.9	.08	22.23
A 136813	1.78	5.01	22.54	4.4	1540	1.6	1.2	48	2.49	378.0	.1	49.2	.4	21.8	.04	14.56
A 136814	4.11	6.54	22.43	12.8	3000	2.4	1.5	54	1.79	216.8	.1	81.2	1.1	36.8	.09	9.23
A 136815	5.11	10.08	32.47	38.3	8003	3.6	1.9	70	2.75	518.1	.1	85.6	.5	39.7	.25	30.30
A 136816	5.09	11.10	30.57	55.3	7227	3.9	1.8	57	2.32	402.3	.1	100.0	.3	34.5	.29	22.33
STANDARD DS5	12.26	144.00	24.52	134.8	280	25.0	11.8	795	2.99	19.0	6.3	45.4	2.7	46.7	5.38	3.83

SAMPLE#	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
SI	.02	<2	.11	<.001	<.5	<.5	<.01	4.1	<.001	1	.01	.492	.01	<.1	.1	<.02	<.01	<5	<.1	<.02	<.1
A 136801	.06	2	1.56	.022	9.5	3.7	.06	80.9	.001	1	.13	.015	.13	.1	1.2	.60	1.31	475	.8	<.02	.5
A 136802	.65	2	2.53	.016	5.7	3.3	.10	20.5	<.001	3	.20	.008	.18	<.1	1.0	13.08	3.74	5859	.9	.03	.6
A 136803	.47	<2	1.90	.016	16.8	1.3	.15	129.9	<.001	3	.21	.006	.19	<.1	1.1	1.09	.92	337	.4	<.02	.5
A 136804	.14	8	4.26	.049	10.8	3.8	.37	106.1	.001	3	.31	.007	.23	<.1	2.2	.44	1.06	287	.7	.04	.8
A 136805	.19	2	2.52	.032	6.2	1.6	.10	30.8	<.001	4	.23	.008	.19	<.1	1.5	1.90	1.64	881	.7	.03	.6
A 136806	.51	<2	.98	.011	21.2	1.9	.11	65.0	<.001	4	.29	.006	.25	<.1	.8	.52	.95	152	.1	<.02	.8
A 136807	.15	<2	.76	.052	8.4	3.2	.08	14.2	.001	5	.24	.006	.21	<.1	.8	13.60	4.54	2531	.4	.02	.7
A 136808	.14	2	.21	.033	2.2	4.4	.02	14.1	<.001	2	.20	.006	.16	<.1	.6	9.46	3.79	2273	.4	.02	.6
A 136809	.13	<2	.29	.027	.5	2.2	.02	3.7	.001	2	.16	.005	.14	<.1	.3	88.18	>10	10404	.9	.02	.8
A 136810	.16	<2	.45	.007	1.0	6.7	.01	11.2	.001	2	.15	.004	.14	<.1	.3	13.83	6.57	3972	.3	.02	.5
A 136811	.15	<2	.13	.002	1.2	2.9	.01	6.8	<.001	2	.16	.004	.16	<.1	.3	12.92	9.83	4700	.5	<.02	.6
A 136812	.18	<2	.12	.002	4.0	6.4	.01	11.9	<.001	3	.21	.005	.20	<.1	.3	13.13	5.65	4920	.2	<.02	.6
RE A 136812	.17	<2	.12	.002	3.9	7.2	.01	12.5	<.001	3	.20	.005	.18	<.1	.4	12.19	5.27	4597	.3	<.02	.6
RRE A 136812	.16	<2	.13	.001	3.6	4.5	.01	11.1	<.001	3	.18	.005	.17	<.1	.2	11.71	5.91	4681	.2	<.02	.6
A 136813	.16	<2	.25	.002	1.3	3.0	.01	38.2	<.001	3	.15	.005	.15	<.1	.4	4.81	2.71	1957	.2	<.02	.5
A 136814	.17	<2	.38	.004	6.1	5.2	.02	62.3	<.001	3	.20	.006	.18	<.1	.4	4.06	1.92	1560	1.6	<.02	.7
A 136815	.14	<2	.37	.010	2.6	4.7	.01	41.9	.001	2	.13	.015	.14	<.1	.6	12.42	2.75	1343	.3	.02	.4
A 136816	.13	<2	.43	.011	.9	8.6	.01	31.6	<.001	1	.13	.006	.12	<.1	.3	9.49	2.27	1117	.6	<.02	.4
STANDARD DS5	5.96	58	.73	.092	12.0	179.2	.69	135.8	.093	17	2.00	.032	.14	5.1	3.3	1.08	.02	184	4.9	.89	6.6

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data WL **FA** ____ **DATE RECEIVED:** JUL 26 2004 **DATE REPORT MAILED:** Aug 10/04

BRITISH COLUMBIA CERTIFIED ASSAYER
C. L
Clarence Leong

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A403838 (b)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
SI	<.01	<.1	<.02	<.02	.1	<.1	<.05	.3	.02	<.1	<.02	<1	<.1	.1	30	-
A 136801	.60	<.1	.05	.05	3.7	.4	<.05	1.8	6.49	20.7	.03	2	.4	.2	30	4.57
A 136802	1.96	<.1	.05	<.02	7.0	.5	<.05	1.8	4.85	12.0	.03	7	.8	.3	30	3.02
A 136803	2.79	<.1	.02	<.02	7.1	.5	<.05	1.3	4.74	33.3	.03	1	.6	.3	30	2.17
A 136804	2.67	<.1	.04	<.02	9.5	.3	<.05	1.2	6.18	22.5	.03	1	.7	1.3	30	2.01
A 136805	1.59	<.1	.05	<.02	7.2	.4	<.05	1.6	5.60	13.4	.04	2	.6	.3	30	2.30
A 136806	1.36	<.1	.06	<.02	10.1	.5	<.05	2.0	3.44	40.4	.02	1	1.1	.3	30	2.38
A 136807	1.21	<.1	.04	.04	7.9	.5	<.05	1.9	4.79	16.9	.03	2	.6	.2	30	2.25
A 136808	.87	<.1	.04	<.02	5.5	.4	<.05	1.7	2.75	5.9	.03	2	.4	.2	30	2.45
A 136809	2.53	.1	.05	.06	4.9	.7	<.05	1.8	2.42	1.9	.05	3	.4	.1	30	2.78
A 136810	.71	<.1	.06	.06	4.4	.5	<.05	2.3	1.69	2.6	.02	11	.4	.1	30	1.16
A 136811	.70	<.1	.07	.08	5.1	.7	<.05	2.9	1.21	3.0	.02	6	.4	.2	30	2.64
A 136812	.83	<.1	.07	.04	6.2	.5	<.05	2.8	1.39	9.6	<.02	6	.4	.1	30	2.48
RE A 136812	.84	<.1	.07	.03	6.4	.4	<.05	2.6	1.39	9.3	<.02	8	.3	.2	30	-
RRE A 136812	.87	<.1	.06	.05	5.7	.5	<.05	2.3	1.25	8.8	<.02	5	.4	.2	30	-
A 136813	.44	<.1	.07	.02	4.9	.3	<.05	2.3	1.93	3.4	<.02	<1	.3	.1	30	2.31
A 136814	.77	<.1	.06	.04	6.1	.4	<.05	2.1	2.47	14.2	.02	4	.4	.2	30	4.66
A 136815	.32	.1	.05	.03	4.3	.4	<.05	2.6	2.53	6.2	.02	8	.1	.2	30	4.62
A 136816	.43	<.1	.04	.03	3.9	.3	<.05	1.8	1.88	2.6	.02	8	.3	.3	30	4.41
STANDARD DS5	6.18	.1	.06	1.69	14.3	6.3	<.05	3.5	6.03	24.7	1.30	<1	1.2	15.9	30	-

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C   Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data We FA ____   DATE RECEIVED: JUL 26 2004   DATE REPORT MAILED: Aug 10/04

BRITISH COLUMBIA CERTIFIED ASSAYER
C. L.
Clarence Leong

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A405917 (a)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm
SI	.08	.68	.30	1.0	7	.2	<.1	7	.04	.4	<.1	.6	<.1	1.6	.01	.04	<.02	<2	.11	<.001	<.5
A 136817	4.69	19.82	37.41	46.1	14780	8.9	3.1	39	2.96	561.4	.1	161.7	.4	21.5	.25	44.29	.12	2	.25	.008	1.0
A 136818	7.56	17.63	45.33	10.2	18032	5.6	2.3	46	3.93	1002.7	.1	242.7	.4	13.0	.11	68.09	.11	2	.12	.006	1.2
A 136819	2.84	20.20	43.12	6.3	13014	6.7	2.7	35	2.88	351.0	.1	300.8	.4	15.7	.08	40.14	.13	2	.16	.005	1.0
A 136820	3.11	33.72	76.49	8.1	24533	5.0	2.4	45	3.87	449.2	.1	339.8	.4	20.9	.10	88.97	.11	2	.22	.005	.9
A 136821	5.96	25.88	31.91	45.1	7326	13.4	4.6	45	2.90	289.3	.1	134.2	2.0	17.2	.19	58.44	.15	3	.11	.002	14.3
A 136822	5.15	16.44	31.43	15.1	9928	4.6	1.7	209	2.56	486.5	.1	211.9	1.2	130.7	.05	64.82	.10	4	1.15	.058	5.9
A 136823	4.78	7.69	29.24	7.7	1789	5.0	.9	367	3.23	503.6	.1	72.6	1.0	188.6	.02	47.35	.10	4	1.62	.054	4.1
A 136824	4.25	6.07	21.44	21.1	1279	1.7	.6	380	2.05	426.7	.1	64.1	1.2	238.9	.03	43.97	.10	3	2.09	.051	5.9
A 136825	6.07	24.50	12.08	90.2	937	12.7	4.7	312	2.26	103.3	.2	1.0	1.2	160.7	.64	12.34	.11	9	1.51	.051	2.8
A 136826	3.42	8.74	14.49	18.9	940	2.2	1.4	463	3.12	307.7	.1	17.0	.8	174.0	.12	12.64	.08	9	1.76	.048	4.6
A 136827	4.66	6.78	25.86	7.5	1387	2.5	.7	988	3.77	179.4	.1	72.0	1.2	353.2	.01	10.18	.12	14	3.50	.069	7.9
A 136828	2.80	5.73	17.62	7.2	1298	.8	.2	327	3.44	147.5	.1	41.7	1.7	132.3	<.01	7.56	.11	11	.97	.048	11.3
A 136829	4.13	17.94	30.32	135.8	10279	6.9	2.4	209	2.57	372.7	.1	124.8	.7	105.8	.57	33.20	.10	3	.93	.017	2.8
A 136830	5.43	14.42	36.76	21.8	14389	5.4	2.2	86	3.06	754.6	.1	140.2	.4	88.6	.16	39.57	.11	<2	.57	.012	1.5
RE A 136830	5.52	14.30	36.78	21.4	14512	5.2	2.1	89	3.16	780.9	.1	143.1	.5	91.1	.15	40.32	.11	<2	.58	.012	1.5
RRE A 136830	6.81	15.55	40.82	24.4	16963	7.6	2.4	97	3.54	918.8	.1	166.0	.4	97.4	.13	46.42	.11	2	.62	.012	1.3
A 136831	8.74	25.95	58.02	15.4	22919	7.8	3.5	62	4.26	1060.9	.1	197.8	.3	43.9	.13	72.63	.12	2	.27	.010	1.0
A 136832	5.17	17.65	31.73	36.2	9751	6.5	2.2	39	2.35	430.3	.1	64.6	.4	33.0	.20	27.67	.14	2	.21	.006	1.1
A 136833	5.14	35.68	46.63	9.4	18930	13.8	6.3	34	4.78	976.6	.1	264.4	1.8	17.3	.17	93.98	.16	5	.06	.002	13.1
A 136834	5.28	24.75	42.71	10.5	14696	8.8	2.4	84	4.17	832.7	.1	147.7	.9	27.3	.08	93.93	.10	2	.20	.006	6.0
A 136835	3.09	12.90	45.59	12.9	11932	2.8	.5	180	2.38	298.9	.1	115.4	.9	42.8	.05	31.15	.09	3	.35	.015	5.5
A 136836	4.35	21.48	34.76	6.9	11728	8.3	2.5	56	2.95	626.0	.1	164.9	1.3	24.8	.06	65.47	.11	3	.15	.004	8.1
A 136837	5.49	30.37	50.86	11.5	23152	5.9	2.3	51	5.09	1211.3	.1	347.5	1.8	16.7	.14	171.20	.12	3	.09	.005	11.6
A 136838	4.92	21.59	31.95	34.3	10095	8.1	2.7	73	2.15	397.4	.1	97.2	1.1	73.6	.24	39.85	.10	4	.50	.007	7.2
A 136839	11.94	9.15	35.48	70.8	5959	1.9	1.2	148	3.44	558.3	.1	130.7	1.3	148.6	.42	16.49	.10	<2	1.07	.018	8.1
A 136840	17.09	9.20	14.09	62.6	430	3.4	1.5	246	1.27	93.7	.2	1.3	3.8	78.4	.24	4.12	.16	<2	.63	.018	26.1
A 136841	4.86	32.57	13.91	149.2	609	24.3	7.2	268	2.59	66.4	.3	.3	2.4	163.0	1.20	11.29	.15	28	1.21	.096	6.7
A 136842	7.37	6.81	18.48	19.0	607	4.9	1.4	70	6.44	1275.3	.2	133.7	.4	71.4	.16	29.51	.14	3	.52	.007	1.4
A 136843	2.94	30.58	70.51	8.9	21221	4.8	2.3	63	3.49	431.8	.1	270.9	.4	26.5	.09	85.16	.11	3	.26	.005	1.2
A 136844	5.95	14.09	35.99	29.4	12413	8.7	2.7	110	2.92	672.7	.1	127.0	.5	105.7	.19	33.55	.11	<2	.67	.016	1.5
A 136845	16.31	7.06	13.29	49.3	409	1.6	1.5	191	1.18	81.4	.2	1.5	3.7	72.6	.16	3.31	.15	<2	.52	.016	26.7
STANDARD DS5	12.32	143.42	24.97	136.4	288	24.3	11.6	794	3.00	17.8	6.2	44.0	2.9	47.7	5.61	3.76	6.04	60	.71	.092	12.2

SAMPLE#	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
SI	<.5	<.01	3.1	<.001	2	.01	.392	<.01	<.1	.1	<.02	.03	<5	.1	<.02	<.1
A 136817	10.6	.02	16.6	.001	3	.21	.008	.19	2.3	.5	18.60	3.01	2569	.2	.03	.9
A 136818	5.4	.02	15.5	.001	3	.19	.009	.18	.7	.4	31.65	4.09	2834	.3	.03	.9
A 136819	10.1	.02	20.9	.001	3	.25	.006	.22	2.0	.5	10.98	2.94	1310	.3	.02	1.3
A 136820	4.6	.03	10.3	.001	4	.25	.005	.22	.5	.6	17.12	3.83	3389	.4	<.02	1.3
A 136821	9.8	.03	22.8	.001	3	.27	.007	.24	1.7	.7	8.51	2.89	1935	.4	.03	1.3
A 136822	9.2	.06	42.7	.001	3	.24	.008	.21	.9	1.2	6.52	2.28	5008	.4	.02	1.4
A 136823	14.2	.12	40.5	.001	2	.24	.010	.17	3.1	1.2	3.83	2.58	4532	.3	.03	1.4
A 136824	8.1	.09	54.8	.001	2	.20	.008	.17	1.1	1.3	3.97	1.91	3242	.2	.05	1.1
A 136825	6.8	.30	58.9	.001	6	.39	.015	.28	.8	3.0	.83	1.42	927	1.2	.02	1.1
A 136826	7.6	.55	83.8	.001	4	.60	.025	.15	.8	1.8	.94	1.22	457	.6	.02	3.3
A 136827	10.1	.63	87.4	.002	3	.78	.006	.14	1.9	1.9	1.18	1.12	486	.4	.02	4.7
A 136828	6.6	.47	96.7	.001	3	.73	.007	.15	.9	1.4	.45	.64	226	.3	.03	4.1
A 136829	11.4	.08	45.6	.001	2	.23	.007	.20	2.2	1.0	11.10	2.10	1912	.3	.03	1.3
A 136830	10.4	.02	29.1	.001	2	.18	.006	.19	1.3	.6	21.21	3.09	4263	.3	<.02	.6
RE A 136830	11.7	.02	31.2	.001	2	.18	.006	.19	1.3	.5	21.24	3.05	4458	.3	.02	.6
RRE A 136830	23.6	.02	24.2	.001	2	.16	.005	.17	3.4	.5	25.51	3.55	5016	.4	.02	.6
A 136831	5.8	.02	16.4	.001	3	.23	.005	.21	.8	.6	31.08	4.24	3890	.3	.02	1.0
A 136832	14.0	.02	26.0	.001	3	.24	.005	.22	2.9	.4	10.72	2.27	1391	.3	<.02	.9
A 136833	4.3	.04	12.6	.001	6	.35	.006	.27	.6	.9	32.46	4.85	4537	.6	.03	1.9
A 136834	15.6	.04	15.6	.001	3	.20	.005	.18	3.3	.7	28.43	3.92	7662	.3	<.02	1.1
A 136835	7.6	.06	32.4	.001	2	.19	.005	.18	1.8	.8	3.57	2.02	14020	.2	.02	1.1
A 136836	17.5	.02	26.1	.001	2	.21	.005	.20	3.2	.5	21.14	2.85	4070	.3	.03	1.3
A 136837	6.5	.02	15.1	.001	3	.25	.006	.22	1.1	.6	50.61	5.04	7764	.4	.02	1.5
A 136838	15.9	.02	49.5	.001	3	.20	.005	.18	3.0	.6	12.19	2.02	1578	.3	.03	1.2
A 136839	3.7	.04	20.5	.001	6	.32	.007	.24	1.0	.7	11.42	3.40	1620	.2	.02	1.1
A 136840	7.2	.30	89.5	.001	6	.45	.010	.34	1.9	.8	.61	.96	238	.1	<.02	1.3
A 136841	11.3	.46	84.1	.001	10	.83	.024	.54	.1	6.3	.66	1.46	566	4.1	.06	2.4
A 136842	9.8	.02	8.9	.001	2	.28	.006	.23	2.3	.5	10.41	6.55	3976	.3	.02	1.0
A 136843	3.7	.03	14.0	.001	3	.29	.007	.24	.5	.7	15.55	3.33	3150	.5	.02	1.7
A 136844	19.2	.02	27.7	.001	1	.19	.006	.19	3.4	.7	17.28	2.88	3265	.3	<.02	.7
A 136845	2.0	.27	121.3	.001	5	.51	.010	.37	.8	.8	.59	.89	219	.1	<.02	1.5
STANDARD DS5	177.7	.68	135.8	.097	16	1.99	.033	.14	5.1	3.3	1.03	.02	180	4.8	.89	6.5

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data ✓ FA ____ DATE RECEIVED: SEP 27 2004 DATE REPORT MAILED: Oct 21/2004

BRITISH COLUMBIA CERTIFIED ASSAYER
Jacky Wang

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A405917 (b)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
SI	<.01	<.1	<.02	<.02	.1	<.1	<.05	.3	.02	<.1	<.02	1	<.1	.1	30	-
A 136817	.66	<.1	.07	<.02	6.9	.5	<.05	2.6	1.40	2.5	.02	5	.3	.4	30	2.45
A 136818	.46	<.1	.10	.04	7.0	.4	<.05	3.1	1.21	3.0	.02	5	.1	.4	30	2.50
A 136819	.62	<.1	.10	.18	9.5	.6	<.05	3.2	1.24	2.8	.02	4	.5	.6	30	4.70
A 136820	.72	<.1	.08	<.02	9.3	.6	<.05	3.1	1.30	2.8	.02	1	.4	.7	30	2.18
A 136821	.84	<.1	.08	<.02	10.0	.6	<.05	2.8	1.61	26.9	.02	1	.6	.5	30	4.55
A 136822	2.58	<.1	.07	<.02	9.3	.4	<.05	2.6	3.43	13.3	<.02	1	.3	.8	30	5.10
A 136823	3.47	<.1	.05	<.02	7.2	.5	<.05	2.3	3.97	10.7	<.02	1	.2	3.2	30	4.90
A 136824	2.24	<.1	.06	<.02	7.4	.5	<.05	2.5	4.90	14.7	<.02	1	.2	.3	30	3.00
A 136825	3.25	.1	.05	<.02	12.2	.8	<.05	1.4	7.04	7.1	.03	9	.8	1.2	30	3.50
A 136826	1.06	<.1	.06	<.02	5.8	.7	<.05	1.9	4.32	10.0	.02	3	.1	10.0	30	2.40
A 136827	1.30	<.1	.04	<.02	6.2	.6	<.05	1.6	5.12	16.7	<.02	<1	.2	18.5	30	2.60
A 136828	.93	<.1	.04	<.02	5.7	2.2	<.05	1.8	3.87	22.4	<.02	<1	.1	16.2	30	4.50
A 136829	.83	<.1	.06	<.02	8.5	.5	<.05	2.3	3.63	6.6	.03	5	.3	.9	30	4.99
A 136830	.56	<.1	.08	.06	5.9	.6	<.05	3.0	2.53	3.5	.02	6	.1	.3	30	2.75
RE A 136830	.59	<.1	.08	.06	6.0	.6	<.05	3.0	2.37	3.6	.02	6	.1	.3	30	-
RRE A 136830	.61	<.1	.07	.05	5.6	.6	<.05	2.6	2.51	3.0	.02	10	<.1	.2	30	-
A 136831	.61	<.1	.09	.05	7.4	.5	<.05	3.1	1.80	2.4	<.02	6	.3	.3	30	4.75
A 136832	.65	<.1	.08	.02	7.5	.5	<.05	2.7	1.57	2.8	.02	11	.3	.3	30	5.05
A 136833	1.36	<.1	.07	.02	10.1	.4	<.05	2.7	1.43	25.8	.02	4	.6	.5	30	4.75
A 136834	1.30	<.1	.07	.04	6.7	.5	<.05	2.4	1.76	12.1	<.02	1	.2	.3	30	5.10
A 136835	3.64	<.1	.08	.06	7.0	.4	<.05	2.7	3.45	13.3	<.02	1	.1	.3	30	3.95
A 136836	.94	<.1	.08	.04	7.9	.4	<.05	2.6	1.70	16.6	<.02	2	.3	.4	30	6.00
A 136837	1.00	<.1	.09	.09	8.4	.5	<.05	3.0	2.30	24.8	.02	<1	.3	.4	30	4.90
A 136838	.75	<.1	.07	.04	7.4	.4	<.05	2.4	2.03	14.9	<.02	2	.1	.6	30	4.80
A 136839	1.15	<.1	.07	.05	8.6	.7	<.05	2.8	3.53	16.2	<.02	3	.3	.3	30	4.75
A 136840	3.11	<.1	.07	.04	15.5	1.2	<.05	2.1	3.78	47.4	.02	2	.9	.8	30	1.20
A 136841	5.16	<.1	.05	<.02	22.5	.8	<.05	1.3	11.50	15.7	.06	11	1.2	2.1	30	1.35
A 136842	.79	<.1	.09	.17	7.9	.7	<.05	3.2	2.13	3.5	.02	17	.2	.2	30	1.25
A 136843	.82	<.1	.07	.06	11.6	.7	<.05	2.9	1.35	3.2	.02	1	.5	.8	30	2.25
A 136844	.52	<.1	.08	.09	6.4	.7	<.05	2.5	3.12	3.7	.02	9	.2	.2	30	2.62
A 136845	3.24	<.1	.06	.02	17.3	1.0	<.05	2.0	3.61	48.9	.02	1	.8	.8	30	1.15
STANDARD DS5	6.12	<.1	.07	1.79	14.0	6.4	<.05	4.0	6.13	25.0	1.35	1	1.3	16.3	30	-

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C <u>Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.</u>

Data N FA ____ DATE RECEIVED: SEP 27 2004 DATE REPORT MAILED: Oct 21/2004

BRITISH COLUMBIA CERTIFIED ASSAYER
Jacky Wang

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A406105 Page 1 (a)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
SI	.07	2.69	.32	1.5	3	2.3	.3	7	.08	<.1	<.1	.9	<.1	4.1	.01	.02	<.02	2	.22	.001	<.5	3.2	.03	4.9	.001	1	.06	.648	.01	<.1	.1	<.02	.06	<5	<.1	<.02	.1
A 136846	1.08	10.96	3.31	2.6	634	4.5	2.7	2	2.23	7.9	<.1	4.5	.2	18.3	.02	3.62	.40	4	.03	.004	<.5	2.2	.01	65.6	.001	1	.24	.041	.05	.2	.2	.07	2.47	687	8.3	.40	.3
A 136847	1.28	7.32	3.45	4.1	1105	.8	3.7	2	1.80	2.9	<.1	1.5	.2	17.6	.03	3.50	1.64	4	.01	.003	<.5	.8	<.01	67.4	.001	<1	.23	.045	.05	.4	.2	.06	2.09	462	8.5	.41	.2
A 136848	1.53	13.85	3.41	1.6	668	1.9	6.3	<1	2.61	5.2	<.1	.9	.1	15.0	.04	4.51	1.73	2	.01	.003	<.5	1.8	<.01	17.2	<.001	<1	.17	.021	.03	.2	.2	.10	2.69	1192	12.0	.78	.2
A 136849	1.50	13.90	3.55	1.6	400	1.1	10.0	2	3.11	13.7	<.1	5.7	.1	10.6	.03	3.35	.88	2	.01	.002	<.5	.7	<.01	14.2	<.001	<1	.10	.014	.02	.3	.1	.19	3.29	710	11.9	1.05	.2
A 136850	1.60	13.32	3.24	1.3	121	1.6	7.4	1	2.80	3.2	<.1	6.6	.1	23.3	.02	1.90	.39	2	.01	.003	<.5	2.9	<.01	16.2	<.001	<1	.18	.027	.04	<.1	.3	.13	2.81	518	8.9	.54	.5
A 136851	4.56	16.31	7.29	41.2	62	.9	1.8	557	.74	1.4	.2	2.0	1.4	99.6	.04	.25	.13	3	1.45	.022	15.0	1.7	.14	332.1	.021	<1	.36	.029	.20	.5	.4	.06	.31	54	.6	.04	2.0
A 136852	5.06	14.66	9.56	41.7	58	1.3	1.9	653	.83	1.3	.2	3.2	1.3	90.1	.09	.16	.14	3	1.82	.022	13.7	4.0	.14	210.0	.020	<1	.33	.025	.19	<.1	.5	.05	.38	23	.3	.03	1.9
A 136853	4.26	4.49	5.46	37.0	51	.6	1.4	614	.62	1.0	.2	2.0	1.4	87.1	.05	.09	.08	2	1.68	.024	21.2	1.2	.15	858.1	.009	1	.38	.032	.24	.4	.5	.06	.17	<5	.1	<.02	2.2
A 136854	3.68	6.25	12.00	38.8	46	1.5	2.8	839	1.03	1.6	.2	6.6	.9	107.2	.08	.12	.13	4	2.65	.024	21.1	3.9	.15	101.9	.007	1	.30	.025	.16	<.1	.6	.05	.65	13	.2	.02	1.5
A 136855	.57	50.28	1.89	106.0	58	6.8	16.7	1320	4.82	1.0	.2	2.6	.6	31.6	.02	.10	.12	71	1.13	.111	8.3	9.4	1.60	141.6	.004	1	2.81	.014	.28	.1	4.8	.08	.48	6	.4	.03	6.4
A 136856	.34	54.11	4.18	118.5	167	7.6	22.8	1534	5.79	5.6	.2	5.4	.7	58.0	.01	.13	.26	106	2.06	.099	7.6	13.3	1.85	196.3	.040	2	3.18	.022	.19	.2	5.4	.09	.62	17	.5	.16	8.0
A 136857	.32	58.50	2.41	92.7	151	7.5	20.4	1546	5.40	3.0	.2	2.9	.7	141.6	.02	.11	.15	93	3.52	.114	8.8	12.5	1.66	176.9	.018	1	3.02	.017	.20	.2	5.3	.05	.38	15	.3	.08	7.3
A 136858	.77	34.50	3.97	115.0	174	8.2	23.8	1551	6.57	5.5	.1	3.6	.7	75.5	.02	.26	.20	126	1.97	.085	8.4	12.6	2.07	149.7	.009	2	3.67	.019	.24	<.1	6.7	.09	.28	13	.5	.10	9.2
A 136859	.25	49.18	2.38	100.2	173	4.6	15.2	1125	4.72	2.9	.3	10.4	1.0	52.6	.02	.14	.23	77	1.70	.104	10.2	6.4	1.17	107.0	.079	1	2.50	.025	.21	.3	3.9	.06	.58	18	.5	.13	6.6
A 136860	.37	17.16	2.09	131.6	393	5.2	17.0	956	5.31	1.8	.4	28.6	1.1	38.9	.02	.13	.35	98	1.55	.128	9.9	11.0	1.08	176.6	.098	3	2.75	.025	.25	.2	4.9	.07	.08	15	.2	.32	8.4
RE A 136860	.34	16.39	2.04	124.1	381	5.7	16.9	939	5.21	1.8	.4	29.5	1.1	37.8	.01	.12	.33	97	1.53	.118	10.0	10.0	1.07	167.2	.094	1	2.70	.024	.24	.2	4.9	.07	.08	18	.2	.27	8.0
RRE A 136860	.29	17.43	2.07	125.7	393	6.1	17.3	949	5.31	1.7	.4	28.3	1.1	38.0	.02	.12	.38	96	1.55	.119	9.6	10.7	1.08	157.4	.108	1	2.76	.026	.27	.3	5.2	.07	.10	19	.2	.29	8.2
A 136861	.28	43.66	6.11	102.6	238	7.3	20.2	976	5.70	8.8	.3	9.7	1.1	57.0	.02	.38	.50	76	1.44	.072	7.7	6.5	1.03	248.1	.106	3	2.81	.015	.34	.3	5.4	.15	.49	21	.5	.16	6.1
A 136862	.24	111.17	9.96	91.0	214	7.5	22.0	1193	5.52	5.2	.2	3.5	1.1	111.5	.08	.12	.26	51	2.63	.080	10.9	5.4	1.21	172.0	.001	2	1.13	.023	.23	<.1	7.2	.09	.16	31	1.2	.13	3.3
A 136863	.39	10.39	4.78	94.8	216	5.5	14.5	663	5.15	2.0	.5	56.5	1.8	74.9	.03	.10	.74	50	.77	.105	16.0	4.7	.55	188.3	.006	4	1.60	.015	.39	<.1	5.3	.11	.03	42	<.1	.27	3.8
A 136864	.37	86.66	7.25	118.8	338	5.7	16.9	831	5.15	1.4	.6	47.1	1.2	65.0	.07	.10	.65	58	.86	.124	16.7	6.3	.78	378.8	.005	2	2.20	.013	.28	<.1	5.3	.09	.09	41	.1	.29	5.7
A 136865	2.67	6.46	2.94	31.1	31	.8	2.6	448	1.19	.4	.3	2.3	1.4	49.3	.01	.06	.10	5	1.55	.028	31.6	1.9	.16	250.9	.002	1	.42	.038	.28	<.1	1.0	.07	.23	13	.1	.04	1.5
A 136866	2.67	3.25	3.11	23.8	22	1.3	1.5	396	.80	.6	.3	1.4	1.4	36.5	<.01	.05	.08	2	1.32	.020	28.0	2.8	.12	116.5	.002	1	.33	.038	.22	.2	.5	.05	.26	11	<.1	.03	1.5
A 136867	2.38	11.30	2.40	42.0	32	2.1	6.5	772	1.92	6.3	.2	1.5	1.0	94.2	.02	.09	.14	15	2.39	.036	15.7	2.5	.36	225.5	.001	1	.28	.032	.20	<.1	2.2	.05	.42	10	.4	.04	.8
A 136868	.63	33.42	7.40	132.9	99	9.2	24.3	1833	6.20	9.7	.2	3.8	.9	83.9	.12	.19	.31	170	3.43	.099	12.0	17.5	2.21	52.3	.021	1	2.89	.026	.11	<.1	13.6	.04	.70	22	1.0	.12	10.0
A 136869	1.09	43.78	31.26	113.6	207	7.3	21.3	1076	5.65	10.2	.4	.8	1.7	54.4	.34	.64	.39	135	1.92	.163	13.4	13.9	1.44	73.7	.161	2	2.59	.032	.12	.4	7.1	.13	.30	33	.8	.15	9.4
A 136870	8.80	15.91	17.10	97.3	127	8.2	21.3	1012	5.76	11.3	.4	<.2	2.1	64.8	.36	.67	.25	94	1.85	.058	10.1	11.2	1.47	83.9	.168	2	2.68	.022	.16	.2	5.3	.21	.27	39	.7	.10	9.3
A 136871	29.68	44.41	19.92	64.0	236	6.5	19.2	902	3.98	10.2	.3	<.2	1.3	148.3	.19	1.13	.22	80	3.67	.073	7.5	13.5	.94	74.5	.144	1	1.79	.020	.16	.2	5.0	.16	.51	30	.8	.19	6.0
A 136872	43.96	33.70	27.99	65.5	265	6.6	20.6	1038	4.40	12.0	.3	.5	1.3	220.0	.12	1.25	.25	85	4.91	.069	7.6	14.3	1.00	72.6	.146	2	1.87	.020	.15	.3	5.3	.20	.71	42	1.0	.25	6.3
A 136873	6.95	57.17	14.62	125.6	229	35.6	16.0	814	4.24	14.9	.1	.6	.7	268.9	.61	3.10	.12	57	3.74	.077	11.4	31.3	1.48	80.4	.073	3	2.09	.010	.16	<.1	4.6	.22	.83	151	.7	.05	5.0
A 136874	6.86	42.31	19.29	120.1	230	16.0	15.4	859	4.28	16.4	.1	.6	.9	234.3	.57	3.78	.19	44	3.18	.076	9.4	8.0	1.13	82.6	.047	2	1.88	.008	.16	.1	3.3	.20	.98	133	1.2	.12	4.2
A 136875	3.74	57.85	16.32	111.9	118	31.4	19.6	1138	5.05	14.2	.1	<.2	.7	260.0	.44	2.37	.12	77	4.43	.125	10.2	39.0	1.84	56.4	.159	2	2.49	.014	.14	<.1	5.0	.12	.76	78	.7	.06	6.2
A 136876	3.87	53.19	14.84	121.0	131	24.4	20.5	1056	5.45	13.2	.1	.6	.7	229.9	.47	2.74	.12	79	3.95	.126	10.3	17.7	2.23	64.9	.152	2	2.80	.009	.13	.2	5.1	.14	.76	83	.6	.09	6.5
A 136877	6.08	49.52	18.20	139.1	299	38.5	18.4	890	5.02	17.8	<.1	.5	.6	205.7	.61	3.76	.12	60	2.86	.124	12.0	25.5	1.98	90.3	.051	3	2.57	.008	.17	<.1	4.1	.19	.89	128	.7	.07	6.0
STANDARD DS5	12.83	143.67	25.05	137.3	274	24.5	11.5	792	3.01	18.6	6.2	44.8	2.7	45.8	5.48	3.90	5.93	59	.75	.094	11.4	177.8	.68	131.6	.091	19	2.01	.031	.14	5.2	3.2	1.07	.01	174	5.1	.82	6.4

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C <u>Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.</u>

Data FA ____ DATE RECEIVED: OCT 4 2004 DATE REPORT MAILED: Oct 28/04

BRITISH COLUMBIA CERTIFIED ASSAYER
Clarence Leong

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
A 136878	2.66	42.68	7.82	104.4	80	16.7	22.6	1153	5.78	11.2	.1	.5	.7	224.2	.32	1.60	.11	142	3.69	.121	8.4	17.2	2.69	60.9	.103	3	3.28	.013	.14	.1	7.8	.10	.51	51	.6	.06	9.0
A 136879	2.60	53.07	7.72	109.6	129	32.8	29.6	1026	6.53	14.9	<.1	.4	.2	244.9	.35	3.36	.05	174	4.15	.145	6.1	27.5	3.14	57.0	.004	3	3.83	.011	.13	<.1	9.3	.18	.81	122	.7	.04	10.8
A 136880	4.03	46.12	5.23	111.9	65	32.4	24.1	993	6.02	13.2	<.1	.2	.3	285.7	.41	2.52	.05	154	4.62	.158	7.1	28.7	2.88	55.3	.003	2	3.37	.008	.13	<.1	7.5	.16	.69	93	.6	.03	9.3
A 136881	3.18	40.19	5.96	88.6	61	37.6	17.8	813	4.05	9.8	<.1	.2	.4	278.0	.33	2.38	.07	59	4.69	.095	8.1	37.0	2.00	76.1	.006	3	2.47	.008	.19	.1	4.0	.16	.64	91	.5	.05	5.8
A 136882	4.24	40.70	7.91	102.1	107	33.3	15.8	843	3.96	10.9	<.1	.5	.4	350.6	.51	2.64	.08	57	5.60	.124	9.1	32.0	1.63	74.3	.002	3	2.17	.008	.19	<.1	3.6	.21	.85	133	.6	.05	5.2
A 136883	3.52	40.62	7.35	100.1	202	20.5	15.8	770	4.53	13.9	<.1	<.2	.3	314.6	.46	2.52	.07	79	4.33	.148	10.4	16.3	1.60	82.2	.002	4	2.04	.009	.21	.1	4.3	.17	.84	109	.9	.04	5.1
A 136884	4.80	49.36	6.15	119.0	202	22.2	16.8	722	4.83	19.9	<.1	.3	.3	347.2	.54	2.64	.08	77	3.84	.162	10.3	16.9	1.68	170.5	.002	3	2.46	.008	.21	<.1	4.0	.18	.78	96	.7	.05	6.0
A 136885	7.99	43.17	12.92	132.7	287	23.1	9.9	427	3.65	19.9	.1	.2	.4	159.4	.75	6.79	.13	24	2.35	.080	7.9	9.2	.74	83.0	.001	3	1.47	.006	.24	.3	2.4	.33	1.60	226	1.2	.05	3.2
A 136886	6.49	40.15	11.47	107.1	565	24.9	11.0	718	3.62	23.0	<.1	<.2	.4	335.1	.53	2.89	.11	27	4.22	.074	4.5	10.4	.90	83.0	.001	2	1.20	.007	.22	<.1	2.8	.23	1.10	134	.9	.06	2.8
A 136887	4.86	40.41	8.05	112.6	266	28.2	14.6	643	4.26	15.9	<.1	.3	.3	251.5	.53	4.16	.10	49	3.83	.128	7.4	21.6	1.12	68.8	.002	3	1.97	.007	.21	.2	2.9	.26	1.10	151	.8	.06	4.4
A 136888	2.36	3.58	13.19	69.4	192	2.0	.6	219	1.17	6.2	.1	1.3	2.1	57.9	.23	1.21	.13	4	.80	.006	25.9	3.4	.12	34.2	.001	1	.27	.038	.12	<.1	1.3	.06	.56	51	.2	<.02	1.5
A 136889	1.64	3.36	39.56	102.4	298	1.7	.3	265	1.43	5.9	.1	2.4	1.8	41.5	.29	1.53	.15	6	.78	.004	21.7	12.6	.16	34.0	.001	1	.31	.034	.09	.9	1.4	.05	.72	46	.1	<.02	3.2
A 136890	2.41	9.56	15.43	84.1	262	5.8	4.2	714	1.73	13.5	.2	1.1	1.3	187.0	.21	1.55	.15	13	2.85	.024	26.5	4.1	.32	59.9	.001	2	.42	.026	.21	<.1	1.9	.26	.58	97	.2	.02	2.0
RE A 136890	2.26	9.92	15.33	82.3	255	5.6	4.6	707	1.72	12.7	.2	.5	1.4	186.5	.22	1.54	.15	13	2.83	.024	27.5	4.2	.32	61.5	.001	2	.43	.027	.23	<.1	2.0	.26	.63	104	.2	.02	2.1
RRE A 136890	1.93	9.78	16.34	80.4	258	5.9	4.4	732	1.71	13.1	.2	.7	1.3	190.4	.21	1.64	.15	13	2.95	.024	26.3	4.4	.33	60.3	.001	2	.43	.024	.22	.4	1.9	.25	.62	111	.2	.03	2.0
A 136891	1.57	2.10	15.97	72.3	158	1.4	.5	178	.80	7.4	.3	.9	1.8	51.1	.18	.53	.14	<2	.55	.005	35.3	9.6	.09	45.3	<.001	2	.20	.039	.13	<.1	.6	.14	.43	68	.1	<.02	.8
A 136892	1.20	1.74	13.97	67.3	141	1.5	.5	183	.73	6.7	.3	.8	1.9	48.7	.16	.54	.14	<2	.54	.004	34.4	3.5	.08	24.3	.001	1	.20	.044	.14	.8	.6	.12	.38	61	.2	<.02	.8
A 136893	2.80	20.24	12.71	91.2	115	12.6	9.0	657	2.48	26.8	.2	.9	1.3	111.0	.24	2.55	.12	20	1.80	.077	21.0	9.8	.88	80.3	<.001	3	.40	.028	.22	<.1	3.2	.20	.61	99	.2	.02	1.1
A 136894	.87	51.49	4.13	84.7	86	33.8	25.1	1310	5.38	66.5	.1	1.0	.9	277.4	.18	4.58	.03	76	4.62	.225	13.1	20.3	2.46	113.8	.001	3	.72	.025	.35	<.1	11.4	.14	.27	43	.2	.03	1.5
A 136895	1.44	50.16	4.41	79.2	137	26.5	23.1	1388	5.09	71.6	.1	1.3	.8	311.4	.21	4.85	.03	71	4.90	.192	12.9	17.8	2.31	126.8	.001	4	.64	.024	.31	<.1	12.0	.11	.20	38	.3	.04	1.5
A 136896	1.75	25.34	10.38	82.8	247	14.4	13.0	1001	2.94	88.4	.2	1.9	1.2	155.5	.25	3.96	.10	30	3.23	.115	17.7	8.4	1.44	112.6	.001	5	.48	.019	.31	.1	5.3	.15	.26	63	.2	.02	1.5
A 136897	1.94	3.79	14.51	83.6	539	4.8	.8	398	1.38	33.5	.5	1.4	2.8	29.0	.26	1.76	.15	4	.44	.005	47.3	13.3	.21	23.9	<.001	1	.17	.056	.05	<.1	1.1	.18	.29	66	.2	<.02	1.5
A 136898	2.04	3.60	16.94	100.4	424	3.7	1.1	569	1.42	10.0	.3	.7	1.9	62.9	.28	1.50	.16	7	.84	.008	35.5	3.3	.39	13.8	.001	2	.33	.051	.06	.5	1.3	.09	.19	59	.2	<.02	3.4
A 136899	2.33	52.87	11.03	106.8	558	35.3	30.6	2458	6.77	44.5	<.1	2.6	.2	256.8	.16	2.48	.11	133	4.18	.168	9.4	32.6	3.12	33.6	.004	3	2.71	.020	.31	<.1	10.6	.24	.51	56	.3	.03	8.7
A 136900	1.09	1.88	22.92	121.9	212	1.3	.3	473	1.14	16.9	.1	.6	.9	64.3	.46	1.70	.20	5	1.09	.006	33.3	10.5	.07	6.9	.001	1	.15	.041	.08	.9	1.8	.07	.32	51	.2	<.02	1.0
A 136901	.75	31.36	4.36	80.6	65	41.5	18.1	1107	3.86	1.7	.6	10.8	1.8	86.1	.02	.21	.04	93	2.94	.162	19.9	53.9	2.45	329.7	.044	1	2.35	.022	.20	<.1	5.4	.06	.32	5	.2	.02	8.3
A 136902	.93	44.93	5.10	65.1	83	1.8	12.0	807	3.18	.7	.8	1.4	2.3	71.6	.03	.18	.02	52	1.91	.110	22.4	1.2	1.38	466.7	.012	1	1.73	.024	.29	<.1	3.3	.08	.05	10	.1	<.02	6.4
A 136903	1.34	79.93	5.88	69.5	106	1.7	12.4	932	3.41	3.8	.6	6.1	2.1	65.3	.02	.24	.02	68	1.73	.100	23.6	1.3	1.61	434.3	.003	1	1.85	.028	.22	<.1	3.0	.05	.18	39	.2	<.02	7.5
A 136904	.99	64.99	6.09	66.2	104	1.4	12.6	1218	3.21	30.6	.5	5.8	2.1	158.2	.04	8.22	.03	33	3.18	.104	13.7	.5	1.42	184.7	.001	2	.62	.012	.27	<.1	3.0	.11	.33	182	.2	<.02	1.6
A 136905	.93	40.70	31.27	71.7	85	1.3	11.6	1034	3.17	1.0	.7	2.1	2.4	89.9	.13	.15	.02	49	2.28	.109	21.9	1.0	.93	385.2	.003	2	1.06	.026	.29	<.1	3.2	.07	.11	29	<.1	<.02	4.0
A 136906	.62	23.99	3.17	65.8	36	1.3	11.1	770	3.29	.7	.6	2.9	2.2	92.4	.02	.20	<.02	53	1.97	.111	22.7	.9	1.37	386.5	.011	1	1.74	.022	.25	<.1	2.7	.06	.25	<5	.1	<.02	6.9
A 136907	1.03	67.25	23.68	133.8	106	1.5	11.8	980	3.25	1.4	.6	3.6	1.9	92.8	.77	.25	.03	53	2.12	.109	22.4	.7	1.35	493.2	.043	1	1.83	.022	.31	<.1	3.1	.08	.18	24	.2	.02	6.3
A 136908	1.36	50.54	5.82	120.5	120	1.3	10.3	912	2.59	4.7	.7	7.4	2.0	114.3	.69	.34	.03	45	1.66	.096	17.1	1.5	1.14	159.1	.034	1	1.57	.015	.31	.2	2.9	.08	.30	26	.1	<.02	5.1
A 136909	2.14	55.53	4.91	77.6	148	1.4	12.1	1136	3.45	4.8	.6	3.6	1.8	76.4	.02	.31	.05	61	2.22	.111	19.0	.7	1.59	376.8	.047	1	2.05	.021	.30	<.1	3.4	.11	.25	8	.1	<.02	7.0
STANDARD DS5	12.15	142.98	24.39	142.6	274	24.9	11.6	755	2.99	17.8	6.1	44.0	3.1	49.2	5.32	3.77	5.95	61	.77	.094	13.2	173.7	.68	132.3	.100	18	2.11	.035	.15	4.9	3.5	1.02	.01	172	4.9	.87	6.5

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data W FA ___

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm
A 136910	1.71	53.00	135.31	66.8	148	1.5	11.8	1287	3.31	2.2	.5	10.4	1.9	74.2	.04	.24	.06	54
A 136911	1.60	255.19	663.07	72.7	345	1.5	10.9	1259	3.24	1.9	.6	10.6	2.1	111.1	.46	.29	.11	48
A 136912	1.69	124.92	530.35	75.3	225	1.4	10.6	1168	3.20	2.1	.7	9.5	2.3	72.0	.35	.26	.10	50
A 136913	1.67	127.76	71.53	357.1	169	1.5	10.4	1142	3.29	2.6	.6	9.0	2.0	146.5	4.54	.29	.04	55
A 136914	1.09	112.18	16.56	75.5	183	1.6	12.0	1311	3.18	3.4	.5	11.9	2.2	106.6	.15	.28	.03	48
A 136915	1.03	15.46	27.22	103.1	123	1.6	11.4	3376	4.71	2.5	.2	6.7	1.2	194.8	.50	.17	.03	47
A 136916	1.07	64.85	7.82	83.7	110	1.8	13.5	1432	4.06	3.2	.5	5.6	2.3	75.1	.04	.19	.02	68
A 136917	1.36	28.86	39.98	82.1	86	2.0	12.2	1308	4.07	3.3	.5	4.5	2.2	91.0	.05	.19	.03	70
A 136918	1.24	70.01	4.01	59.8	85	1.7	12.9	1344	3.39	1.7	.5	2.6	2.0	137.7	.03	.59	.03	47
A 136919	.94	161.69	92.66	85.3	160	1.4	10.8	1347	3.13	39.4	.5	2.2	2.4	384.9	.45	13.12	.03	18
A 136920	1.24	22.98	16.85	53.8	93	1.5	11.1	1400	3.13	9.3	.4	5.5	2.3	263.9	.03	2.75	.04	15
A 136921	.80	42.36	7.05	89.9	144	1.6	12.4	1349	3.15	11.9	.6	2.4	2.7	280.0	.04	4.79	.02	24
A 136922	1.10	42.89	4.42	48.4	68	.7	9.8	1287	2.75	.9	.5	2.9	2.3	195.8	.02	.15	.03	17
A 136923	.97	161.02	3.74	57.4	128	1.1	10.9	1028	3.03	1.0	.7	2.0	2.6	135.6	.03	.20	.04	35
A 136924	1.34	74.86	3.34	61.1	90	1.3	12.9	1160	3.24	2.4	.6	34.3	2.4	162.5	.02	.44	.04	41
A 136925	1.77	54.07	13.96	50.9	105	1.1	10.6	1241	2.93	11.8	.7	2.3	2.7	197.3	.03	1.91	.03	27
A 136926	1.63	39.97	3.93	55.1	70	1.1	11.6	1036	3.01	2.5	.9	1.8	2.6	131.9	.03	.22	.03	39
A 136927	2.53	25.75	13.93	93.3	471	2.3	15.1	1443	4.89	32.2	.2	5.4	1.3	101.1	.11	1.47	.13	72
A 136928	.78	18.59	7.14	92.0	601	2.6	18.1	1733	5.57	7.2	.1	7.8	1.0	60.2	.07	1.34	.12	104
A 136929	4.13	44.73	20.54	87.7	981	6.8	19.9	1407	6.24	12.2	.1	18.7	1.1	68.8	.10	1.68	.18	128
A 136930	1.22	31.30	11.24	99.7	802	10.7	19.7	1688	5.97	14.5	.1	2.4	1.1	226.4	.37	1.17	.18	131
RE A 136930	1.20	31.72	11.38	103.8	805	11.1	20.1	1673	5.89	14.7	.1	2.9	1.1	225.2	.38	1.23	.18	130
RRE A 136930	1.25	34.45	12.11	104.8	776	11.4	20.3	1641	5.89	14.2	.1	2.0	1.2	207.7	.39	1.14	.17	130
A 136931	1.18	25.04	3.16	121.4	149	9.7	21.0	1612	4.98	8.1	.1	3.2	.7	79.5	.06	.54	.11	107
A 136932	1.51	19.07	5.12	124.4	202	9.8	25.1	1699	5.36	8.9	.1	4.9	.6	84.0	.06	.61	.20	106
A 136933	2.24	19.77	10.62	115.5	173	13.3	28.0	2004	6.24	6.2	.1	1.0	.8	165.3	.05	.40	.07	152
A 136934	1.90	51.49	3.08	112.6	126	10.2	26.0	1784	5.83	2.9	.1	.6	.8	107.3	.02	.31	.03	122
A 136935	.40	16.54	3.03	160.8	71	17.1	27.5	2530	6.06	2.6	.1	1.8	.7	126.1	.03	.18	.05	138
A 136936	.88	38.54	4.88	123.2	149	9.4	21.8	1560	5.24	10.0	.4	3.2	.6	87.9	.13	.40	.07	91
A 136937	2.25	56.09	20.62	97.2	2450	7.6	20.1	787	4.87	14.5	.1	1.3	.9	30.4	.56	1.32	.43	39
A 136938	.23	117.21	2.30	129.3	176	12.0	29.4	1797	6.40	2.8	.1	3.2	.7	71.4	.04	.11	.10	157
A 136939	.16	63.81	7.52	112.6	126	13.2	27.3	1716	6.14	.6	.2	9.0	.8	78.9	.02	.11	.06	162
A 136940	.15	5.59	1.82	83.0	57	16.7	29.9	1472	5.78	.3	.2	29.3	.9	61.7	.01	.11	.03	124
A 136941	.15	10.94	3.10	101.5	82	13.6	29.1	1533	6.03	.4	.2	19.3	.8	74.7	.02	.11	.07	141
STANDARD DS5	12.61	139.79	25.67	134.5	282	24.8	11.4	783	2.99	18.4	6.1	43.5	2.6	46.6	5.31	3.52	6.14	59

SAMPLE#	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
A 136910	2.22	.111	17.0	1.2	1.44	112.1	.042	1	1.67	.020	.19	.1	2.9	.07	.66	9	.3	<.02	6.1
A 136911	2.66	.107	19.4	.8	1.30	66.0	.045	1	1.56	.022	.21	.2	3.1	.06	.85	17	.6	.03	5.4
A 136912	2.10	.115	19.3	1.1	1.32	92.8	.048	1	1.58	.022	.20	.1	3.2	.06	.76	12	.9	<.02	5.4
A 136913	1.71	.105	17.1	1.0	1.53	58.1	.051	1	1.64	.021	.17	.2	2.9	.05	.87	125	.1	.02	5.8
A 136914	2.24	.109	22.6	2.0	1.36	69.6	.005	1	1.56	.020	.19	<.1	2.7	.06	.78	20	.1	<.02	5.6
A 136915	7.99	.076	23.5	<.5	2.80	57.2	.001	1	.68	.017	.13	<.1	2.5	.03	.90	9	.2	.02	2.5
A 136916	1.66	.118	21.4	1.0	2.09	67.9	.006	1	2.12	.026	.17	<.1	3.3	.05	.85	10	.1	<.02	8.2
A 136917	1.60	.114	23.2	.9	2.22	68.3	.018	1	2.21	.024	.15	.1	3.2	.04	.83	6	.1	.02	8.6
A 136918	3.73	.106	22.6	1.0	1.26	227.6	.002	1	1.56	.023	.18	<.1	3.8	.04	.42	23	.1	.02	5.3
A 136919	4.58	.095	16.1	<.5	1.64	303.6	<.001	3	.39	.012	.20	<.1	2.8	.06	.27	98	.6	.02	.6
A 136920	4.99	.099	13.8	.6	1.86	220.8	<.001	2	.39	.007	.23	<.1	2.6	.06	.65	28	.3	.02	.6
A 136921	3.73	.112	17.3	1.7	1.50	139.6	.001	3	.65	.019	.36	<.1	3.0	.09	.50	27	.2	<.02	1.4
A 136922	3.41	.103	18.6	.6	1.09	118.7	.001	1	.41	.014	.22	<.1	2.6	.05	.50	15	.1	<.02	.9
A 136923	2.71	.112	22.6	1.0	1.21	663.8	.002	1	1.26	.025	.25	<.1	3.1	.06	.20	19	.1	<.02	3.9
A 136924	2.58	.111	22.4	1.1	1.43	253.8	.002	1	1.47	.020	.22	<.1	3.0	.05	.32	55	.1	<.02	4.6
A 136925	3.26	.105	21.7	<.5	1.43	555.3	.001	2	.99	.015	.25	<.1	2.6	.07	.26	22	.1	<.02	2.8
A 136926	2.76	.110	22.6	.8	1.39	554.5	.012	1	1.61	.017	.24	<.1	2.9	.07	.20	15	.2	<.02	4.9
A 136927	2.17	.125	9.7	1.9	2.05	93.1	.002	1	2.11	.017	.21	<.1	4.3	.14	.61	31	.5	.05	6.5
A 136928	1.90	.138	10.8	2.1	2.27	268.6	.002	1	2.65	.020	.14	<.1	5.9	.15	.31	41	.1	.02	10.0
A 136929	1.69	.110	8.1	10.2	2.25	117.6	.002	1	2.48	.020	.13	<.1	7.3	.32	1.16	54	.6	.06	9.5
A 136930	3.80	.106	9.8	17.6	2.57	284.4	.002	2	2.17	.015	.13	.7	9.2	.24	.38	53	.6	.05	7.4
RE A 136930	3.78	.107	9.6	17.7	2.55	311.0	.002	2	2.13	.015	.14	.7	8.6	.24	.40	52	.6	.07	7.4
RRE A 136930	3.64	.108	9.8	17.7	2.56	294.6	.002	3	2.16	.017	.16	.7	8.3	.24	.40	56	.6	.05	7.7
A 136931	2.04	.076	7.2	13.4	2.73	145.2	.002	1	2.96	.021	.17	.1	7.1	.10	.63	15	.4	.06	8.4
A 136932	2.43	.075	5.9	15.3	2.86	76.7	.002	1	2.97	.018	.16	<.1	6.8	.11	.88	17	.5	.07	8.1
A 136933	4.59	.073	5.8	17.3	3.52	49.7	.003	1	3.46	.017	.11	<.1	9.9	.07	.37	22	.2	.03	10.1
A 136934	3.74	.077	6.9	10.5	3.80	156.2	.003	1	3.60	.015	.14	<.1	8.6	.06	.25	19	.1	<.02	8.9
A 136935	4.59	.075	7.2	28.3	3.45	495.8	.003	1	3.66	.016	.15	<.1	10.0	.04	.30	11	.2	.02	10.0
A 136936	2.36	.076	7.2	9.8	2.29	236.9	.002	1	2.34	.016	.18	<.1	7.3	.08	.32	27	.2	.04	6.9
A 136937	.63	.068	9.8	4.8	1.09	99.0	.001	1	1.07	.011	.21	3.6	4.9	.67	.49	74	1.7	.13	2.5
A 136938	2.71	.091	11.3	15.1	2.49	509.5	.006	1	3.28	.024	.16	<.1	9.5	.05	.20	11	.3	.04	11.3
A 136939	2.93	.090	10.5	15.1	3.17	399.8	.071	1	3.51	.024	.10	<.1	10.0	.03	.01	<5	.1	<.02	11.5
A 136940	3.12	.107	9.4	14.4	3.40	96.1	.099	1	3.51	.018	.17	<.1	9.1	.04	<.01	<5	<.1	.04	9.5
A 136941	3.15	.091	7.4	14.4	3.21	436.8	.138	1	3.51	.025	.12	.1	9.2	.03	.21	<5	.1	.03	10.2
STANDARD DS5	.76	.095	12.4	184.2	.67	136.3	.095	17	1.99	.034	.14	4.8	3.4	1.05	.03	177	4.9	.86	6.5

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
A 136942	.15	83.93	3.12	109.4	90	15.0	30.8	1818	5.49	.8	.2	3.1	.9	89.2	.04	.17	.03	124	4.26	.105	9.9	12.9	3.17	203.4	.109	2	3.24	.016	.18	.1	8.6	.06	.11	6	.1	<.02	8.6
A 136943	.15	49.33	33.54	191.6	102	13.4	28.8	2203	6.02	2.1	.1	27.5	.7	61.8	.38	.15	.10	152	2.56	.091	7.6	16.7	3.09	56.7	.046	2	3.18	.024	.12	<.1	9.9	.04	.82	15	.5	.04	11.4
A 136944	6.59	19.16	124.48	117.0	437	7.6	22.1	1550	4.90	13.2	.2	232.7	.6	133.6	.10	.37	.40	87	2.44	.107	8.0	14.0	1.72	44.3	.017	1	2.26	.019	.18	.1	4.5	.30	.99	26	.8	.17	7.1
A 136945	.58	49.46	12.65	146.6	241	11.2	27.5	1956	6.23	5.3	.1	6.0	.7	74.3	.05	.25	.23	127	2.85	.104	8.1	15.6	2.53	92.2	.017	1	3.12	.020	.16	<.1	7.3	.15	.64	16	.5	.09	9.9
A 136946	.19	50.68	2.87	146.2	113	9.9	24.6	1780	5.73	1.3	.1	7.1	.6	57.3	.01	.09	.14	97	1.53	.092	8.1	12.9	2.33	181.8	.010	2	2.90	.015	.20	<.1	6.4	.05	.42	<5	.2	.06	9.0
A 136947	.34	81.12	2.44	129.2	157	7.3	22.1	1594	5.68	3.3	.2	4.2	.7	50.0	.02	.11	.18	78	1.82	.181	10.8	11.8	1.97	177.9	.014	1	2.78	.015	.21	<.1	5.4	.11	.20	16	.3	.10	8.0
A 136948	.26	69.34	3.39	125.6	180	7.4	21.2	1688	5.22	7.2	.1	3.4	.6	61.6	.02	.15	.18	83	2.56	.101	9.3	11.8	1.75	254.1	.015	1	2.54	.017	.21	<.1	5.0	.12	.36	19	.4	.07	7.7
A 136949	.73	32.26	5.72	142.6	85	8.3	24.3	2098	5.77	4.3	.1	4.5	.7	55.7	.05	.15	.25	93	2.60	.125	10.4	15.3	1.92	82.4	.012	2	2.82	.019	.25	<.1	6.6	.07	.88	5	.6	.11	9.3
A 136950	3.58	6.71	6.10	29.7	94	.2	2.2	568	.85	1.1	.2	4.2	1.1	105.3	.02	.09	.08	5	1.63	.022	16.4	2.2	.15	135.1	.023	<1	.38	.027	.17	.4	.5	.05	.44	<5	.3	<.02	1.8
A 136951	2.50	20.24	3.53	5.1	135	1.3	6.9	29	4.54	7.1	.1	6.6	.1	11.2	.05	1.00	.34	6	.03	.003	<.5	1.6	.03	7.8	<.001	<1	.26	.021	.08	<.1	.4	.27	4.59	573	6.8	.58	.8
A 136952	1.96	16.29	2.99	2.5	120	1.2	6.4	6	3.78	5.9	.1	6.4	.1	8.1	.06	.92	.31	4	.01	.002	<.5	1.8	.01	9.5	<.001	<1	.14	.013	.05	.3	.3	.23	3.74	542	6.1	.55	.4
A 136953	2.13	22.89	4.12	3.7	214	2.8	21.0	9	4.11	14.3	.2	6.3	.2	13.6	.23	1.48	.09	5	.02	.002	<.5	.9	.01	9.3	<.001	<1	.22	.027	.08	<.1	.5	.33	4.36	3252	8.3	.77	.8
A 136954	1.26	25.66	4.51	1.9	223	2.9	22.9	5	4.92	11.8	.1	5.2	.2	12.4	.17	1.23	.44	4	.02	.002	<.5	1.3	<.01	8.0	<.001	<1	.20	.014	.06	.2	.5	.44	5.00	2741	8.0	.82	.9
A 136955	2.09	30.42	6.65	3.0	145	2.4	22.6	6	5.72	22.5	.2	9.0	.1	5.3	.07	1.87	.20	4	.01	.001	<.5	.8	<.01	5.6	<.001	<1	.17	.005	.03	<.1	.6	.47	5.77	1352	5.5	.94	.6
A 136956	2.93	60.28	9.84	50.7	156	2.0	10.4	7	5.20	23.2	.2	14.4	.2	6.8	.23	2.34	.41	5	.01	.001	<.5	<.5	<.01	6.1	<.001	<1	.14	.005	.04	<.1	.5	.30	4.88	1515	3.9	.83	.5
A 136957	3.59	22.30	7.98	153.9	130	1.0	8.1	6	3.31	15.8	.2	19.0	.1	7.4	.50	2.50	.44	4	.02	.001	<.5	1.0	.01	10.4	<.001	<1	.12	.004	.04	<.1	.4	.26	3.24	3051	3.0	.51	.5
A 136958	1.19	9.30	2.46	5.6	175	1.6	9.3	12	1.73	8.1	.1	24.7	.1	11.8	.10	2.72	2.22	5	.01	.001	<.5	.6	<.01	54.5	<.001	1	.12	.002	.02	.3	.5	.18	1.82	361	2.3	.75	.4
A 136959	.81	31.88	5.93	73.2	490	3.5	16.2	1225	4.74	10.3	.1	8.1	.9	52.5	.08	1.11	.53	31	1.06	.077	7.2	1.2	1.78	109.5	<.001	1	.39	.008	.18	<.1	4.3	.14	.57	231	.5	.17	.8
A 136960	1.64	38.43	11.51	100.3	709	5.3	27.9	2187	6.33	10.3	.1	4.4	.7	67.8	.05	.70	.21	68	2.36	.124	7.2	2.2	2.86	67.7	.001	2	.98	.009	.19	<.1	6.4	.22	.86	134	1.3	.06	2.4
RE A 136960	1.60	37.70	11.85	95.4	714	5.6	27.9	2155	6.24	10.9	.1	3.5	.8	67.6	.05	.67	.20	67	2.32	.124	7.4	2.4	2.83	73.8	.001	2	1.00	.009	.19	<.1	6.5	.24	.85	130	1.4	.08	2.5
RRE A 136960	1.66	40.13	11.12	100.5	707	5.5	27.3	2183	6.27	10.8	.1	4.3	.8	67.9	.04	.70	.20	69	2.33	.127	7.8	2.4	2.86	80.7	.001	2	1.06	.010	.21	<.1	6.4	.21	.82	127	1.4	.08	2.7
A 136961	1.12	45.83	9.06	89.1	864	5.3	21.1	1572	5.59	18.4	.1	7.1	1.1	137.7	.05	1.24	.27	68	2.41	.100	7.7	2.2	2.89	155.2	<.001	2	.59	.009	.19	<.1	5.2	.24	.48	128	1.7	.10	1.5
A 136962	5.19	37.78	19.07	74.2	1477	8.1	25.7	1711	5.39	31.5	.2	2.7	1.1	78.2	.05	1.33	.22	63	2.00	.100	7.0	3.1	2.00	84.2	.001	2	.93	.011	.18	<.1	4.4	.70	1.25	233	2.1	.09	2.7
A 136963	.68	70.79	12.53	89.1	604	14.9	25.6	1331	5.44	8.2	.2	1.0	1.7	60.0	.03	.45	.30	108	1.54	.121	11.6	25.3	3.00	138.0	.002	1	3.15	.011	.19	<.1	4.2	.44	.36	57	.6	.09	8.5
A 136964	.75	69.73	8.08	91.6	393	10.8	22.0	1616	5.76	6.1	.1	.4	1.3	106.5	.03	.36	.23	129	2.19	.128	10.8	17.9	2.96	242.3	.002	1	3.25	.011	.17	<.1	4.6	.18	.26	37	.5	.06	8.9
A 136965	1.18	39.72	10.01	103.8	630	7.7	21.6	1394	6.06	5.1	.1	.3	1.0	97.0	.05	.53	.13	122	1.55	.132	8.9	13.0	2.73	208.1	.002	1	3.16	.010	.20	<.1	3.9	.14	.69	39	.4	.04	9.1
A 136966	3.73	29.95	15.62	107.9	848	3.0	20.4	1775	5.93	6.3	.1	1.2	.7	180.9	.05	.74	.16	101	2.47	.133	7.0	3.6	2.80	70.9	.002	<1	2.82	.011	.20	<.1	3.8	.18	1.79	54	.5	.10	8.6
A 136967	6.42	19.05	31.13	116.5	1454	1.9	18.6	1469	7.05	8.9	.1	.2	.7	49.0	.04	1.73	.11	126	1.17	.120	6.1	1.9	3.13	28.3	.003	1	2.90	.018	.09	<.1	3.6	.06	2.63	86	.5	.06	11.7
A 136968	3.66	14.59	16.80	115.7	764	1.2	17.0	1942	6.39	5.1	.1	.6	.7	93.8	.04	.93	.11	110	1.92	.137	7.3	1.6	3.01	20.1	.003	1	2.80	.019	.11	<.1	3.5	.06	2.25	34	.3	.08	10.7
A 136969	2.21	4.31	11.47	114.9	437	1.1	18.4	2307	5.53	2.8	.1	10.6	.7	86.1	.04	.62	.05	131	3.39	.134	11.0	1.7	3.17	22.5	.003	<1	2.72	.023	.06	<.1	5.4	.04	1.94	16	.3	.04	10.3
A 136970	1.22	4.86	10.25	116.9	457	1.5	18.1	1934	5.22	3.1	<.1	9.8	.8	62.7	.04	.59	.04	123	1.80	.135	9.8	1.5	3.19	51.5	.003	1	2.90	.027	.09	<.1	4.9	.06	1.25	12	.2	<.02	11.6
A 136971	1.64	11.02	12.00	118.6	500	1.3	17.6	2010	5.75	3.6	.1	11.4	.7	78.0	.04	.72	.05	124	1.94	.145	9.0	1.7	3.21	24.8	.003	1	2.91	.023	.10	<.1	4.8	.06	1.85	16	.3	.05	11.0
A 136972	1.88	10.05	11.42	118.3	517	1.1	19.0	1910	6.00	3.4	.1	11.3	.8	65.9	.02	.66	.06	131	1.53	.139	9.0	1.9	3.36	25.3	.003	2	3.03	.025	.10	<.1	4.8	.06	1.94	16	.3	.04	11.3
A 136973	2.47	6.90	13.50	140.8	628	1.7	19.2	1840	6.22	3.2	<.1	7.7	.8	59.3	.04	.73	.07	142	1.29	.140	8.3	2.2	3.77	25.1	.003	1	3.17	.020	.11	<.1	5.5	.06	2.15	32	.3	.10	11.6
STANDARD DS5	12.95	143.48	24.62	135.8	273	24.5	11.9	748	2.92	17.9	5.9	41.0	2.7	46.2	5.59	3.84	5.91	58	.73	.094	12.1	179.5	.68	133.5	.096	16	1.95	.032	.14	4.9	3.3	1.03	.04	175	4.7	.83	6.6

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
A 136974	2.31	6.64	16.54	102.5	569	1.0	21.0	2090	6.36	2.8	<.1	17.0	.6	105.8	.06	.80	.23	68	2.17	.143	6.3	.7	2.87	13.2	.002	1	2.44	.013	.24	<.1	3.8	.07	3.82	38	.3	.15	6.3
A 136975	4.80	8.69	32.06	111.8	1111	1.7	20.5	2028	6.90	4.3	<.1	13.2	.4	107.1	.06	1.13	.25	61	2.56	.125	7.9	1.5	2.99	11.1	.002	1	2.44	.008	.21	.3	3.2	.07	4.57	62	.4	.19	5.8
A 136976	5.95	17.75	32.17	119.8	1432	2.7	15.1	2030	6.08	7.1	.1	4.5	.5	103.2	.12	1.37	.12	56	3.99	.107	6.2	2.5	2.82	17.7	.001	1	2.27	.005	.21	<.1	3.7	.12	3.10	111	.1	.19	4.9
A 136977	4.83	10.10	29.02	53.0	386	1.4	11.9	927	3.48	28.3	.3	2.6	1.3	70.1	.14	1.36	.06	35	2.25	.082	8.7	.6	1.09	21.3	.001	<1	1.24	.015	.21	<.1	1.5	.12	2.11	15	.3	.02	3.5
A 136978	4.57	15.02	15.68	76.4	513	2.4	13.9	1578	4.39	8.9	.1	.9	.5	75.5	.06	.97	.20	35	3.08	.103	7.9	1.6	1.90	46.0	.001	1	2.15	.004	.24	.2	2.7	.15	1.20	43	.2	.09	4.6
A 136979	5.26	20.27	14.57	56.7	503	2.1	13.2	1533	3.48	52.9	.4	9.2	1.6	93.0	.11	.81	.04	51	3.98	.109	15.2	1.3	1.17	42.7	.001	<1	1.57	.021	.25	.3	2.1	.15	1.38	14	.1	<.02	5.5
A 136980	6.83	13.70	10.51	56.8	593	2.3	13.3	1471	3.82	72.0	.5	12.0	1.6	253.5	.03	.64	.04	59	3.74	.100	14.0	.6	1.26	30.6	.002	1	1.66	.022	.23	<.1	2.6	.25	1.55	17	.1	<.02	5.8
A 136981	6.05	23.09	7.56	62.6	512	2.4	14.1	1422	3.64	50.2	.6	10.7	2.2	88.6	.02	.47	.05	73	2.97	.111	14.2	1.6	1.30	44.1	.002	<1	1.74	.019	.23	.2	2.9	.13	1.18	18	<.1	.03	5.6
A 136982	9.42	19.97	15.00	55.5	873	2.9	20.2	1472	4.04	90.4	.8	18.8	2.3	93.7	.04	.78	.06	71	3.66	.101	14.0	.9	1.10	22.1	.002	<1	1.59	.017	.25	<.1	3.1	.30	2.06	28	.3	.03	4.7
A 136983	8.64	15.43	11.53	52.2	971	2.7	16.9	1643	3.92	94.4	.7	14.2	2.0	77.1	.05	.71	.05	66	3.69	.103	16.0	1.8	1.18	31.4	.001	1	1.63	.013	.26	.3	3.0	.29	1.88	45	.1	.04	4.4
A 136984	41.66	42.05	66.91	107.1	3576	5.5	22.6	1090	7.79	25.5	.2	.7	.9	37.8	.13	3.07	.31	68	.65	.220	8.3	2.4	2.51	21.6	.002	1	2.69	.007	.28	<.1	3.6	.22	4.87	184	1.3	.27	6.9
A 136985	3.65	36.68	10.14	60.4	306	2.0	12.8	1483	3.63	13.5	.4	48.8	1.9	84.3	.03	1.11	.04	56	2.54	.110	13.7	1.3	1.65	133.7	.002	<1	2.01	.019	.27	.2	2.3	.11	.92	27	<.1	<.02	6.6
A 136986	2.59	51.13	3.33	68.2	138	2.4	12.7	1706	3.49	8.2	.5	8.5	2.2	102.9	.03	.32	.04	62	3.49	.122	18.3	.5	1.70	168.9	.002	<1	2.14	.025	.29	<.1	3.6	.09	.33	9	<.1	<.02	7.3
RE A 136986	2.64	49.38	3.20	69.2	125	1.7	12.1	1663	3.39	8.1	.5	8.7	2.2	100.6	.03	.32	.04	61	3.41	.114	17.7	.6	1.66	168.6	.002	<1	2.09	.024	.30	<.1	3.5	.09	.31	11	.1	<.02	7.2
RRE A 136986	2.56	50.01	2.76	68.6	124	2.2	11.8	1672	3.35	7.6	.5	6.6	2.1	100.8	.02	.32	.04	60	3.42	.116	17.8	1.0	1.67	165.6	.002	1	2.06	.021	.26	.1	3.3	.09	.24	5	<.1	<.02	7.0
A 136987	2.70	48.56	5.55	68.1	101	1.7	11.8	2279	3.44	2.3	.4	5.2	1.7	131.5	.03	.24	.04	63	4.15	.104	20.2	.5	2.12	908.2	.002	<1	2.20	.021	.23	<.1	4.0	.07	.13	6	<.1	<.02	7.8
A 136988	.48	64.13	2.63	69.0	57	1.8	11.5	1244	3.17	.9	.6	3.4	2.6	95.8	.02	.29	.02	56	2.53	.120	25.0	1.1	1.77	165.7	.002	2	2.15	.020	.31	<.1	3.6	.07	.01	<5	<.1	<.02	7.0
A 136989	.94	79.16	3.09	73.4	64	1.9	12.4	1169	3.39	.8	.5	1.7	2.4	87.7	.02	.22	.03	55	1.93	.121	23.7	.5	1.91	347.7	.002	1	2.31	.019	.30	<.1	3.3	.07	<.01	<5	<.1	<.02	7.1
A 136990	.90	39.06	3.31	69.7	50	2.0	12.3	1231	3.39	.6	.6	2.9	2.3	100.2	.01	.23	.03	52	2.11	.111	21.6	1.4	1.86	552.5	.002	1	2.34	.019	.34	<.1	3.3	.08	.07	<5	.1	<.02	6.5
A 136991	.42	43.33	1.94	71.6	40	2.0	12.6	1021	3.59	.5	.5	1.3	2.4	83.4	.03	.18	.02	61	2.10	.129	26.8	.9	1.84	92.6	.002	<1	2.27	.024	.29	<.1	3.3	.07	<.01	<5	<.1	<.02	7.5
A 136992	.73	41.48	2.07	70.8	50	2.4	13.6	983	3.59	.6	.5	.8	2.4	77.1	.02	.19	.03	61	1.86	.127	27.4	1.6	1.84	146.1	.002	2	2.31	.027	.30	.1	3.3	.07	.02	<5	<.1	<.02	7.4
A 136993	.36	32.65	2.60	68.5	60	1.7	11.6	843	3.35	1.4	.4	.7	2.1	104.9	.03	.18	.03	58	1.61	.120	18.8	.9	1.75	90.7	.002	<1	2.13	.026	.28	<.1	2.8	.07	.22	<5	<.1	<.02	7.1
A 136994	.36	5.50	5.16	69.0	19	1.7	9.7	865	3.39	.4	.4	.3	2.0	59.2	.02	.13	<.02	57	1.47	.114	19.5	2.1	1.87	318.6	.002	<1	2.18	.023	.24	.3	2.7	.05	.05	<5	<.1	<.02	7.2
A 136995	.75	46.13	3.16	63.2	73	2.2	11.5	942	3.36	2.0	.4	1.6	1.9	71.3	.01	.29	.05	54	1.60	.116	16.8	.9	1.63	349.0	.002	1	2.06	.025	.29	<.1	2.5	.07	.27	5	<.1	<.02	6.9
A 136996	3.21	45.71	3.34	71.9	58	2.0	10.2	2082	3.59	2.4	.4	.9	1.5	108.1	.03	.19	.03	57	3.63	.093	15.1	2.5	1.69	419.7	.002	<1	2.06	.021	.19	.4	2.9	.05	.31	<5	.1	<.02	6.8
A 136997	2.04	38.26	2.35	63.5	49	1.9	11.8	1399	2.98	2.0	.4	1.6	1.8	84.7	.03	.14	.03	55	2.57	.112	19.4	1.0	1.35	381.8	.002	1	1.72	.025	.27	<.1	2.4	.07	.27	<5	.1	<.02	6.5
A 136998	1.85	57.40	13.50	73.0	71	27.4	15.9	1252	3.35	3.0	.4	5.2	1.4	100.6	.04	.23	.04	85	2.75	.140	13.8	38.8	1.98	125.5	.003	<1	2.03	.027	.22	.2	3.6	.06	.51	<5	.2	.03	7.4
A 136999	.65	45.81	10.46	110.7	72	106.4	30.7	1462	5.72	.5	.1	1.9	.4	189.7	.10	.09	.03	155	4.07	.241	18.1	146.4	4.10	463.4	.039	1	3.51	.026	.12	<.1	9.1	.03	.23	7	.1	.03	11.1
A 137000	.83	59.01	297.01	122.8	146	102.3	26.6	1386	5.04	2.6	.1	2.2	.4	149.6	.43	.15	.03	145	3.30	.223	15.9	127.5	3.91	112.5	.006	1	3.23	.022	.11	.2	8.3	.03	.42	19	.2	<.02	10.4
STANDARD DS5	12.76	145.38	24.95	133.4	270	24.5	11.7	786	3.00	18.4	6.2	44.3	2.7	46.9	5.63	3.54	6.08	62	.76	.096	12.7	190.9	.68	136.2	.098	17	2.09	.034	.14	4.9	3.4	1.04	<.01	186	4.8	.85	6.4

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Heritage Explorations Ltd. File # A406105 Page 1 (b)

1280 - 625 Howe St., Vancouver BC V6C 2T6 Submitted by: Gerry Bidwell

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
SI	.04	<.1	<.02	.02	.2	.1	<.05	.7	.10	.1	<.02	<1	<.1	.3	30	-
A 136846	.02	<.1	.05	.04	.1	.3	<.05	1.5	.28	.9	<.02	<1	.1	.1	30	1.44
A 136847	.01	<.1	.04	.03	.1	.3	<.05	1.6	.33	.8	<.02	<1	.1	.1	30	2.14
A 136848	.01	.1	.04	.05	.1	.4	<.05	1.2	.26	.5	<.02	1	.1	<.1	30	1.92
A 136849	.01	.1	.02	.03	<.1	.3	<.05	.9	.21	.4	<.02	1	<.1	.1	30	1.65
A 136850	.03	<.1	.04	.04	.4	.8	<.05	1.5	.27	.7	<.02	<1	<.1	.1	30	2.05
A 136851	.88	<.1	.12	.52	6.0	1.5	<.05	3.9	3.67	25.7	<.02	<1	.2	2.0	30	1.67
A 136852	.87	<.1	.13	.51	5.9	.6	<.05	3.8	4.26	24.3	<.02	<1	.2	2.1	30	1.12
A 136853	.99	<.1	.09	.21	7.1	.4	<.05	3.5	4.03	35.8	<.02	<1	.2	2.1	30	2.35
A 136854	.73	<.1	.11	.22	5.3	.2	<.05	3.7	6.14	36.5	<.02	1	.2	1.7	30	2.81
A 136855	2.56	<.1	.04	<.02	8.9	.1	<.05	1.2	8.43	17.6	.03	1	.6	16.3	30	4.70
A 136856	1.34	<.1	.08	.02	6.4	.2	<.05	2.1	8.35	15.9	.02	<1	.4	15.5	30	4.59
A 136857	1.55	<.1	.05	<.02	6.6	.2	<.05	1.4	11.10	18.9	.03	<1	.4	14.8	30	4.92
A 136858	1.55	<.1	.04	.02	7.4	.2	<.05	1.7	9.96	17.9	.03	1	.5	20.0	30	4.70
A 136859	1.32	<.1	.20	.07	6.6	.2	<.05	4.0	8.51	19.5	.02	<1	.3	10.6	30	5.14
A 136860	2.07	.1	.19	.07	8.8	.3	<.05	4.4	10.81	19.9	.03	<1	.5	11.1	30	2.72
RE A 136860	2.00	.1	.17	.07	8.1	.3	<.05	4.1	10.04	19.9	.03	<1	.3	10.7	30	-
RRE A 136860	1.98	<.1	.22	.07	8.9	.3	<.05	4.3	10.45	19.6	.02	<1	.4	10.7	30	-
A 136861	3.85	<.1	.23	.06	10.8	.3	<.05	4.7	8.77	16.6	.02	1	.7	10.9	30	2.33
A 136862	3.69	<.1	.02	<.02	6.6	2.0	<.05	.7	9.39	22.3	.04	2	.6	10.3	30	2.10
A 136863	5.90	<.1	.05	<.02	11.4	.2	<.05	1.6	13.63	31.7	.04	<1	.7	6.1	30	3.50
A 136864	4.19	<.1	.05	.02	8.7	.3	<.05	1.9	13.53	30.8	.03	<1	.5	8.8	30	3.07
A 136865	1.58	<.1	.10	.03	8.1	.2	<.05	3.2	5.12	51.3	<.02	<1	.5	1.4	30	4.41
A 136866	1.24	<.1	.09	.04	6.7	.2	<.05	3.3	4.08	46.7	<.02	<1	.2	1.0	30	4.99
A 136867	1.14	<.1	.06	.03	5.6	.1	<.05	2.2	4.76	28.0	<.02	2	.3	3.5	30	2.80
A 136868	1.41	.1	.07	.03	3.6	.3	<.05	1.3	11.27	23.0	.05	1	.4	24.6	30	4.42
A 136869	.83	<.1	.34	.11	4.0	1.0	<.05	7.7	10.56	26.3	.04	2	.6	23.9	30	4.74
A 136870	1.26	<.1	.42	.10	5.4	.4	<.05	8.6	8.76	20.3	.03	2	.4	27.5	30	4.09
A 136871	.76	<.1	.34	.11	5.1	.4	<.05	6.8	7.67	15.8	.03	3	.2	17.0	30	2.71
A 136872	.90	<.1	.35	.14	5.0	.3	<.05	7.3	8.51	15.3	.04	2	.2	18.7	30	2.60
A 136873	1.80	<.1	.14	.03	5.3	1.3	<.05	2.7	11.08	22.0	.03	3	.4	25.1	30	4.02
A 136874	1.92	<.1	.07	.04	5.3	.2	<.05	1.7	8.06	17.8	.03	6	.4	22.6	30	4.47
A 136875	1.44	<.1	.20	.09	4.3	.7	<.05	2.9	10.17	20.5	.04	5	.6	33.3	30	4.34
A 136876	1.77	<.1	.18	.08	4.6	.3	<.05	2.4	10.56	20.5	.04	5	.8	39.4	30	4.00
A 136877	2.34	<.1	.09	.04	5.4	.2	<.05	1.5	9.24	23.3	.03	6	.5	33.1	30	4.60
STANDARD DS5	6.03	<.1	.06	1.71	14.3	6.4	<.05	3.6	6.04	23.6	1.33	1	1.5	17.4	30	-

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
(>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
- SAMPLE TYPE: CORE R150 60C <u>Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.</u>

Data *Wk* FA ____ DATE RECEIVED: OCT 4 2004 DATE REPORT MAILED: *Oct 28/04*

BRITISH COLUMBIA CERTIFIED ASSAYER — *C. L.* Clarence Leong

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total %
A 136878	1.77	<.1	.13	.05	4.3	.4	<.05	2.3	10.34	16.8	.04	4	.5	44.9	30	5.43
A 136879	1.72	<.1	<.02	<.02	4.5	.3	<.05	.5	9.64	13.6	.05	2	.6	54.5	30	5.86
A 136880	1.77	<.1	<.02	<.02	4.3	.2	<.05	.4	8.96	14.8	.04	4	.4	47.2	30	5.03
A 136881	2.14	<.1	<.02	<.02	6.2	.2	<.05	.7	8.07	15.7	.03	4	.4	31.8	30	5.04
A 136882	2.17	<.1	<.02	<.02	6.1	.4	<.05	.6	8.44	17.9	.03	2	.5	28.4	30	5.28
A 136883	2.22	<.1	<.02	<.02	6.3	.1	<.05	.5	7.94	20.7	.03	5	.5	24.8	30	5.43
A 136884	1.83	<.1	<.02	<.02	7.2	.1	<.05	.7	8.52	20.4	.03	4	.4	27.1	30	4.75
A 136885	2.94	<.1	.02	<.02	8.1	.2	<.05	.8	4.67	14.6	.02	6	.7	15.3	30	4.90
A 136886	2.37	<.1	.02	<.02	6.9	.2	<.05	.8	7.43	9.1	.03	6	.6	12.8	30	2.57
A 136887	1.91	<.1	<.02	<.02	6.6	.2	<.05	.6	6.64	14.5	.03	4	.5	22.2	30	3.92
A 136888	.45	<.1	.06	.09	3.6	.5	<.05	2.7	4.78	45.6	.04	1	.5	2.0	30	4.00
A 136889	.23	<.1	.09	.08	2.3	1.4	<.05	3.4	4.11	38.0	.08	2	.3	3.4	30	4.96
A 136890	1.07	<.1	.07	.06	6.7	.4	<.05	3.4	11.06	46.0	.04	2	1.6	3.1	30	3.82
RE A 136890	1.09	<.1	.07	.07	6.6	.4	<.05	3.0	10.16	47.7	.03	3	1.3	3.2	30	-
RRE A 136890	1.10	<.1	.07	.07	6.8	.4	<.05	2.8	10.37	46.9	.04	4	1.6	3.5	30	-
A 136891	.78	<.1	.08	.10	4.0	.4	<.05	3.3	5.23	60.9	.03	1	.9	.5	30	2.62
A 136892	.64	<.1	.08	.12	4.2	.4	<.05	3.7	5.30	59.7	.03	<1	.9	.6	30	2.68
A 136893	2.22	<.1	.04	.02	6.6	.3	<.05	1.8	7.54	38.4	.04	3	1.0	.6	30	5.20
A 136894	4.16	<.1	<.02	<.02	9.4	.1	<.05	.5	14.24	26.3	.04	2	1.4	2.9	30	4.65
A 136895	4.07	<.1	<.02	<.02	8.0	.1	<.05	.6	14.80	25.8	.04	1	1.5	2.0	30	4.00
A 136896	2.54	<.1	<.02	.02	8.9	.4	<.05	1.4	10.48	33.1	.05	1	1.0	1.1	30	4.95
A 136897	.53	<.1	.10	.20	1.0	.2	<.05	3.8	8.98	78.6	.06	2	.5	1.4	30	4.37
A 136898	.47	<.1	.08	.10	1.8	.4	<.05	3.6	7.70	59.2	.07	4	.5	4.0	30	2.59
A 136899	4.93	<.1	.03	<.02	15.2	.4	<.05	.6	14.05	20.6	.05	1	2.1	42.9	30	4.60
A 136900	.21	<.1	.11	.08	1.6	.7	<.05	3.2	6.10	54.5	.09	1	.8	.8	30	4.59
A 136901	1.15	<.1	.18	.02	8.6	.4	<.05	6.0	10.17	37.4	.02	1	.5	15.6	30	5.48
A 136902	1.18	<.1	.18	<.02	11.1	.7	<.05	5.1	8.06	39.7	.02	1	.5	7.1	30	5.04
A 136903	.89	<.1	.10	<.02	8.8	.4	<.05	3.9	7.36	42.1	.02	<1	.4	9.8	30	4.38
A 136904	1.61	<.1	.06	<.02	9.3	.9	<.05	3.0	8.16	25.8	.02	<1	.3	2.5	30	3.42
A 136905	1.48	<.1	.08	<.02	11.2	1.0	<.05	3.5	8.31	38.1	<.02	1	.6	3.5	30	3.68
A 136906	.94	.1	.15	.02	10.3	.4	<.05	5.2	8.29	39.2	<.02	<1	.4	7.6	30	4.86
A 136907	.82	<.1	.21	.04	13.1	.8	<.05	5.6	9.12	38.3	.02	<1	.5	7.5	30	4.55
A 136908	1.12	<.1	.19	.03	12.2	1.1	<.05	6.1	8.92	32.0	.02	<1	.3	6.9	30	4.47
A 136909	1.15	<.1	.17	.05	12.1	.7	<.05	6.0	9.42	35.4	.02	1	.5	9.7	30	5.52
STANDARD DS5	6.18	<.1	.05	1.75	14.8	6.2	<.05	3.7	6.45	24.0	1.30	1	1.1	16.6	30	-

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
A 136910	.93	<.1	.11	.05	7.6	.6	<.05	4.2	9.18	32.5	.02	<1	.5	9.5	30	5.24
A 136911	.85	<.1	.19	.06	8.8	.7	<.05	5.2	9.70	36.0	.02	<1	.3	9.2	30	2.61
A 136912	.84	<.1	.16	.06	8.7	.6	<.05	5.2	9.77	35.6	.02	<1	.4	8.6	30	2.50
A 136913	.77	<.1	.14	.06	6.7	.9	<.05	4.3	8.43	33.7	.02	<1	.4	10.9	30	3.90
A 136914	.86	<.1	.11	.02	8.3	1.1	<.05	3.8	9.89	42.5	.02	<1	.5	9.9	30	5.22
A 136915	.52	<.1	.07	.03	5.1	.8	<.05	2.3	14.99	43.7	<.02	<1	.2	4.8	30	.90
A 136916	.72	<.1	.11	<.02	6.9	.7	<.05	4.2	8.51	39.0	.02	1	.2	15.1	30	3.60
A 136917	.67	.1	.15	.02	6.2	.8	<.05	4.3	8.88	41.3	.02	<1	.3	17.0	30	5.67
A 136918	1.29	<.1	.08	<.02	7.1	.9	<.05	2.6	9.29	39.5	.02	<1	.4	9.1	30	2.70
A 136919	2.01	<.1	.04	<.02	7.3	.5	<.05	2.6	9.36	29.3	.02	<1	.5	.8	30	2.06
A 136920	2.05	<.1	.04	.02	7.1	.6	<.05	2.4	9.93	26.9	.02	<1	.4	.7	30	2.66
A 136921	1.75	<.1	.05	<.02	11.0	.5	<.05	2.8	10.06	32.6	<.02	1	.5	5.1	30	2.36
A 136922	2.07	<.1	.06	.02	7.9	.4	<.05	2.8	9.77	34.3	<.02	<1	.3	1.7	30	3.42
A 136923	1.62	<.1	.09	<.02	9.8	.3	<.05	3.8	10.24	40.8	<.02	<1	.6	7.2	30	2.79
A 136924	1.74	<.1	.06	<.02	8.8	.6	<.05	3.2	9.10	39.8	<.02	1	.4	10.5	30	4.40
A 136925	2.26	<.1	.09	<.02	9.3	.5	<.05	4.2	9.53	38.5	.02	1	.8	5.8	30	4.07
A 136926	2.15	<.1	.15	.02	10.6	.6	<.05	6.0	9.98	40.5	.02	<1	.5	10.8	30	3.36
A 136927	1.38	<.1	.04	<.02	6.6	.6	<.05	1.2	8.63	19.3	.03	2	.5	19.0	30	5.25
A 136928	1.10	<.1	.02	<.02	4.5	.5	<.05	.8	8.97	21.3	.03	1	.4	29.1	30	4.49
A 136929	.75	<.1	.03	<.02	3.9	.3	<.05	1.0	7.82	16.2	.04	1	.3	25.1	30	5.48
A 136930	1.13	.1	.03	<.02	3.9	.5	<.05	1.1	10.38	19.0	.04	2	.2	20.4	30	4.85
RE A 136930	1.14	<.1	.03	<.02	4.2	.4	<.05	1.1	10.13	18.7	.04	1	.2	20.2	30	-
RRE A 136930	1.07	.1	.03	<.02	4.5	.4	<.05	1.2	10.06	18.9	.03	2	.3	19.6	30	-
A 136931	1.27	<.1	.04	<.02	5.6	.8	<.05	1.7	5.48	13.7	.03	<1	.5	26.2	30	2.73
A 136932	1.27	<.1	.03	<.02	4.8	.6	<.05	1.3	5.40	11.4	.03	2	.5	26.7	30	2.29
A 136933	1.18	<.1	<.02	<.02	3.8	.6	<.05	.5	6.16	11.6	.03	1	.5	33.4	30	5.14
A 136934	1.95	<.1	.02	<.02	5.0	.1	<.05	.5	6.60	13.5	.03	<1	.4	30.8	30	4.60
A 136935	1.57	<.1	.02	<.02	4.9	.2	<.05	.7	7.88	14.1	.03	<1	.4	29.8	30	5.15
A 136936	1.32	<.1	.02	<.02	5.7	.2	<.05	.8	7.22	13.8	.03	1	.3	14.8	30	5.04
A 136937	1.95	<.1	.02	<.02	6.6	.3	<.05	.9	5.34	19.8	.04	2	.6	5.7	30	4.92
A 136938	1.70	<.1	<.02	.06	5.4	.3	<.05	.7	7.86	22.1	.03	<1	.5	17.1	30	5.11
A 136939	1.27	<.1	.08	.02	3.7	.3	<.05	1.4	8.57	21.2	.03	<1	.5	20.6	30	4.94
A 136940	2.63	<.1	.10	.02	6.3	.2	<.05	1.4	9.68	18.6	.02	<1	.2	20.1	30	4.87
A 136941	1.35	<.1	.10	.03	4.4	.3	<.05	1.5	7.29	14.3	.03	<1	.3	19.3	30	5.15
STANDARD DS5	6.30	<.1	.08	1.70	14.8	6.4	<.05	4.0	6.44	23.9	1.30	<1	1.4	16.5	30	-

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data WL FA ____

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
A 136942	1.87	<.1	.10	.02	7.0	.2	<.05	1.6	8.47	18.4	.03	<1	.5	19.8	30	5.32
A 136943	1.28	.1	.06	<.02	3.9	.4	<.05	1.0	7.89	14.6	.04	<1	.3	20.5	30	5.21
A 136944	1.04	<.1	.05	.02	5.8	.3	<.05	1.3	8.87	16.2	.02	3	.4	12.3	30	5.10
A 136945	1.30	<.1	.04	<.02	5.2	.3	<.05	1.0	9.93	15.8	.02	<1	.5	17.9	30	5.20
A 136946	1.77	<.1	.03	<.02	6.5	.3	<.05	.8	9.49	15.5	.03	1	.6	15.8	30	5.37
A 136947	1.26	<.1	.05	.02	7.0	.3	<.05	1.1	13.46	20.3	.03	<1	.5	13.3	30	5.14
A 136948	1.37	.1	.04	<.02	7.1	.7	<.05	1.1	10.00	17.7	.02	1	.4	12.2	30	5.00
A 136949	1.53	<.1	.04	<.02	8.3	.3	<.05	1.4	11.13	19.3	.04	<1	.4	16.8	30	5.00
A 136950	.61	<.1	.11	.43	5.6	1.1	<.05	3.8	3.64	26.3	<.02	1	.1	1.7	30	2.86
A 136951	.10	.1	.03	.02	1.4	.4	<.05	1.1	.32	.6	<.02	<1	<.1	.3	30	.46
A 136952	.07	.1	.03	.03	.8	.3	<.05	1.0	.20	.4	<.02	<1	<.1	<.1	30	.47
A 136953	.17	.1	.03	<.02	1.1	.3	<.05	1.4	.38	.5	.02	1	.1	<.1	30	1.39
A 136954	.17	.1	.03	.02	.9	.3	<.05	1.0	.31	.4	<.02	<1	<.1	.2	30	1.66
A 136955	.18	.1	.04	<.02	.6	.1	<.05	1.1	.19	.2	.02	<1	<.1	.4	30	1.45
A 136956	.17	<.1	.04	<.02	.7	.1	<.05	1.3	.13	.1	.06	2	<.1	<.1	30	1.73
A 136957	.19	<.1	.04	<.02	.7	.2	<.05	1.5	.27	.1	.13	5	<.1	.2	30	1.11
A 136958	.21	<.1	.05	<.02	.4	.2	<.05	1.5	.24	.2	<.02	1	<.1	.4	30	.86
A 136959	2.47	<.1	<.02	<.02	5.1	.2	<.05	.7	6.54	14.1	.03	<1	.6	8.7	30	.97
A 136960	2.66	<.1	<.02	<.02	5.4	.2	<.05	.6	7.98	13.9	.03	2	.4	20.2	30	2.29
RE A 136960	2.74	<.1	<.02	<.02	5.5	.3	<.05	.6	7.93	14.6	.03	4	.4	20.9	30	-
RRE A 136960	2.79	<.1	<.02	<.02	6.2	.3	<.05	.7	8.30	15.5	.03	1	.5	24.0	30	-
A 136961	3.28	<.1	.02	<.02	5.0	.2	<.05	.7	5.97	14.7	.03	7	.3	21.3	30	2.12
A 136962	1.81	<.1	.03	<.02	4.7	.3	<.05	1.1	6.04	13.2	.02	18	.4	22.2	30	1.88
A 136963	1.35	<.1	.04	<.02	5.6	.3	<.05	1.2	6.26	22.0	.02	2	.4	22.2	30	2.50
A 136964	1.65	<.1	.03	<.02	5.0	.3	<.05	.9	7.12	20.6	.03	2	.6	25.3	30	2.61
A 136965	1.63	<.1	.03	<.02	5.6	.3	<.05	.8	6.80	17.6	.03	1	.4	23.6	30	2.30
A 136966	1.16	<.1	.03	<.02	5.5	.2	<.05	.9	7.35	14.0	.02	1	.3	19.7	30	2.50
A 136967	.74	<.1	.02	<.02	2.6	.3	<.05	.8	6.74	12.8	.02	3	.4	22.6	30	2.80
A 136968	.88	<.1	.04	<.02	2.9	.2	<.05	.7	7.34	14.4	.02	<1	.3	22.9	30	2.89
A 136969	.79	<.1	<.02	<.02	1.7	.3	<.05	.8	11.80	21.9	.03	<1	.4	22.6	30	1.67
A 136970	1.05	<.1	.03	<.02	2.9	.3	<.05	.8	9.69	19.9	.02	<1	.4	24.7	30	2.31
A 136971	.94	<.1	<.02	<.02	3.1	.3	<.05	.7	8.83	18.5	.03	<1	.4	24.6	30	1.12
A 136972	.98	<.1	.03	<.02	3.0	.4	<.05	1.1	8.23	18.5	.03	<1	.3	26.7	30	1.17
A 136973	1.19	<.1	.03	<.02	3.1	.3	<.05	.8	7.78	16.9	.03	<1	.5	29.8	30	2.56
STANDARD DS5	5.78	<.1	.08	1.76	14.2	6.2	<.05	3.9	6.03	23.6	1.29	<1	1.3	16.4	30	-

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data WC FA ____

SAMPLE#	Cs ppm	Ge ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Ta ppm	Zr ppm	Y ppm	Ce ppm	In ppm	Re ppb	Be ppm	Li ppm	Sample gm	Total kg
A 136974	1.17	<.1	.03	<.02	6.4	.2	<.05	1.1	9.68	13.5	<.02	1	.6	20.3	30	2.70
A 136975	1.02	.1	.03	<.02	5.4	.2	<.05	.9	8.81	15.6	<.02	<1	.5	22.2	30	2.68
A 136976	1.13	<.1	.04	<.02	5.8	.2	<.05	1.1	8.71	12.6	.02	3	.5	17.3	30	2.42
A 136977	.89	<.1	.07	<.02	6.1	.5	<.05	3.7	6.33	16.4	<.02	7	.2	9.2	30	2.26
A 136978	1.68	<.1	.03	<.02	7.0	.9	<.05	1.1	10.43	15.5	.02	4	.6	15.1	30	2.70
A 136979	1.50	<.1	.10	<.02	7.9	.5	<.05	5.0	10.53	27.8	<.02	6	.2	11.8	30	2.92
A 136980	1.40	<.1	.13	<.02	7.6	.3	<.05	6.4	9.23	26.5	<.02	10	.2	11.9	30	2.60
A 136981	1.64	<.1	.15	<.02	7.5	.3	<.05	6.0	10.14	26.9	.02	7	.2	13.9	30	2.61
A 136982	1.67	<.1	.16	<.02	7.7	.4	<.05	6.9	10.44	26.1	.02	13	.3	11.5	30	2.54
A 136983	1.82	<.1	.13	.49	7.8	.7	<.05	5.5	11.22	28.2	<.02	12	.4	12.2	30	2.38
A 136984	1.42	<.1	.06	<.02	8.7	.3	<.05	2.2	8.50	17.0	.02	6	.9	21.9	30	.82
A 136985	1.27	<.1	.11	<.02	7.9	.3	<.05	4.7	7.61	25.1	.02	3	.2	12.8	30	2.30
A 136986	1.77	<.1	.11	<.02	10.3	.4	<.05	4.6	8.93	32.8	.02	1	.4	16.0	30	2.41
RE A 136986	1.71	<.1	.10	.02	9.9	.3	<.05	4.7	8.84	31.1	.03	3	.4	14.7	30	-
RRE A 136986	1.65	<.1	.12	<.02	9.3	.3	<.05	4.5	9.10	31.6	.03	5	.3	14.2	30	-
A 136987	1.33	<.1	.10	<.02	7.7	1.5	<.05	3.8	9.87	34.5	.02	2	.4	17.8	30	2.13
A 136988	2.70	<.1	.10	<.02	11.3	.6	<.05	4.2	9.26	42.2	.02	<1	.6	14.4	30	2.28
A 136989	2.18	<.1	.09	.35	11.2	.3	<.05	3.5	9.03	40.2	.02	1	.5	15.7	30	2.59
A 136990	2.03	<.1	.11	<.02	11.8	.6	<.05	4.1	9.01	36.7	.02	1	.4	15.4	30	2.30
A 136991	1.86	<.1	.08	<.02	10.4	.6	<.05	3.4	8.97	44.4	.02	<1	.6	15.4	30	1.30
A 136992	1.75	<.1	.10	<.02	10.4	.5	<.05	3.7	8.93	43.5	.02	<1	.4	16.0	30	1.43
A 136993	1.37	<.1	.10	<.02	10.6	.7	<.05	3.7	8.53	32.5	.02	<1	.2	14.8	30	2.72
A 136994	1.12	<.1	.09	<.02	7.8	.3	<.05	3.5	7.09	33.2	<.02	<1	.4	15.6	30	1.81
A 136995	1.19	<.1	.10	<.02	10.7	.2	<.05	4.3	7.36	30.0	.02	1	.4	13.4	30	3.03
A 136996	.60	<.1	.11	.02	6.9	.8	<.05	4.4	8.61	25.7	.02	2	.4	13.9	30	5.02
A 136997	.91	<.1	.11	<.02	9.9	.4	<.05	4.0	9.11	33.3	<.02	2	.2	11.0	30	5.56
A 136998	.95	<.1	.09	<.02	8.4	.3	<.05	3.4	8.65	25.5	.02	3	.4	14.5	30	5.12
A 136999	1.04	.1	.10	<.02	4.9	.4	<.05	2.4	12.44	33.4	.04	1	.6	24.7	30	5.30
A 137000	.96	<.1	.03	<.02	4.4	.7	<.05	1.1	10.44	30.1	.04	<1	.5	24.2	30	4.96
STANDARD DS5	6.13	<.1	.08	1.76	14.4	6.5	<.05	3.9	6.04	24.2	1.30	<1	1.3	17.1	30	-

Sample type: CORE R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix III

Diamond Drill Logs

(a) Bonsa Drill Hole BZ 04-10
(b) Treaty Drill Hole TP 04-01

for lithology codes see Appendix VI

Geoinformatics Exploration Pty Ltd

HERITAGE EXPLORATIONS
DRILL HOLE LOG

BZ04_10

Header

Hole ID	BZ04_10	*Hole type*	Diamond drill *Size* NQ	*Date commenced*	
DataSet	BONSAI	*Depth*	178.30 m	*Date completed*	1/06/2004
Location	Bonsai Prospect	*Geologist*	Tony Worth	*Drilling company*	Aggressive Drilling
Tenement	307393	*Notes*			

Collar Location

Field survey GPS located

	Grid ID	East	North	RL	Grid unit
Local Grid	UTM_NAD83	404887.00	6276284.00	990.00	m
UTM Grid	NAD83_9	404887.00	6276284.00	990.00	

Survey

At		Azimuth	AzimuthID	UTM Azi.	Dip	Method	Comments
0.00	m	270.0	Astronomic (	270.0	-70.0	Compass	
178.00	m	270.0	Astronomic (	270.0	-70.0	Artificial	

Lithology

Logged by: Tony Worth

From	To m	Grain Size	Lithology	Major Texture	Minor Texture	Lithology %	Comments
0.00	6.00		CASE			100	
6.00	10.60	F	SACO			100	
10.60	37.50	F	XSAO	BED		100	
37.50	44.20	C	SOOX	MON		100	
44.20	47.00	F	SACO			50	
		C	SOOX	MON		50	
47.00	77.10	F	SACO	BED		100	
77.10	80.60	F	XVRF	PBX		100	
80.60	86.00	F	VFRX	PBX		100	
86.00	105.20	F	VFRX	PBX		100	
105.20	118.00	F	SACO	BED		100	
118.00	118.50	C	SSOO	BED		100	

118.50	144.00	F	VFRX	PBX	100
144.00	145.10	F	VFRX	PBX	50
		F	XSAO		
145.10	178.30	F	XSAO	BED	100

Alteration

From	To m	Alteration type	Style	Int.	Alt Min 1	Int.	Alt Min 2	Int.	Alt Min 3	Int.	Acc. minerals	Comments
10.80	11.40	Silicic/Silicification	PV	STG	SI	STG	PY	WK				
44.50	46.10	Mineral Assemblage (un	PV	mod	py	mod	CLAY	MOD	CH	WK		
77.10	79.40	Mineral Assemblage (un	PV	STG	SI	mod	CH	MOD	CLAY	MOD	PY	
79.40	88.00	Mineral Assemblage (un	PV	MOD	SI	mod	PY	MOD				
		Sulphidic	FF	MOD	PY	MOD						
88.00	92.00	Mineral Assemblage (un	PV	MOD	SI	mod	PY	MOD				
92.00	97.00	Mineral Assemblage (un	PV	MOD	SI	mod	PY	MOD	CH	WK		
		Sulphidic	FF	MOD	PY	MOD						
97.00	105.20	Mineral Assemblage (un	PV	MOD	SI	mod	PY	MOD				
118.00	144.00	Mineral Assemblage (un	PV	MOD	SI	mod	PY	MOD	CH	WK		
		Sulphidic	FF	MOD	PY	MOD						
144.00	145.10	Mineral Assemblage (un	PV	MOD	SI	mod	CH	MOD	CLAY	MOD	PY	

Veining

From	To m	Vein type	Style	Int.	Av. thick (mm)	Comments
10.80	12.00	CARB	Stringer Veins	MOD	5	
12.00	26.50	CARB	Stringer Veins	WK	5	
26.50	32.00	CARB	Stringer Veins	MOD	5	mod-strong
32.00	77.10	CARB	Stringer Veins	WK	5	variable/patchy
77.10	79.00	QZ/CARB	Fracture Veins	MOD	10	
79.00	87.00	QZ/CARB	Stringer Veins	WK	5	
87.00	100.00	QZ/CARB	Stringer Veins	WK	5	
100.00	106.00	QZ/CARB	Stringer Veins	WK	5	
106.00	122.00	QZ/CARB	Stringer Veins	WK	5	
122.00	130.20	QZ/CARB	Stringer Veins	WK	5	
141.00	144.00	QZ/CARB	Stringer Veins	WK	5	
150.00	178.30	QZ/CARB	Stringer Veins	MOD	10	patchy irregular veins

Structure

From	To m	Structure	Intensity	Comments
11.00	37.50	fracture	MOD	
44.30	47.50	fracture	MOD	
47.50	47.80	fault gouge / clay/ pug	INT	Completely gouge
47.80	61.00	fracture	MOD	
61.00	65.00	fracture	STG	
65.00	77.10	fracture	MOD	

77.10	80.70	fault zone	MOD	
80.70	105.20	fracture	MOD	Rehealed fractures
105.20	107.00	fracture	STG	broken core
107.00	113.00	fracture	MOD	
113.00	118.00	fracture	STG	broken core
118.00	144.00	fracture	WK	Rehealed fractures
144.00	146.30	fault zone	MOD	
146.30	153.70	fracture	WK	
153.70	156.00	fracture	MOD	
156.00	164.00	fracture	WK	
164.00	166.00	fracture	MOD	
166.00	177.80	fracture	WK	
177.80	178.30	fracture	MOD	

Mineralisation

From	*To m*	*Tot. Sulph.*	*Mineral 1*	*Style*	*%*	*Mineral 2*	*Style*	*%*	*Mineral 3*	*Style*	*%*	*Comments*
10.60	37.50	0.5	pyrite	DISS	0.5							
37.50	44.50	2	pyrite	DISS	2							
44.50	45.00	5	pyrite	BD	5							
45.00	47.00	2	pyrite	DISS	2							
47.00	77.10	0.5	pyrite	DISS	0.5							
77.10	79.40	1	pyrite	DISS	1							
79.40	88.00	10	pyrite	BLB	10							
88.00	92.00	5	pyrite	FF	5							
92.00	97.00	10	pyrite	FF	10							
97.00	105.20	5	pyrite	FF	5							
105.20	118.00	3	pyrite	BD	3							bedded fg py
118.00	125.00	2	pyrite	FF	2							
125.00	144.00	7	pyrite	FF	5							highly variable distribution
144.00	145.20	2	pyrite	DISS	2							
145.20	178.30	1	pyrite	DISS	1							

Samples

From	*To m*	*Sample ID*	*Sample type*	*Plot Au_ppm*	*Au FA gt*	*Au ppb*	*Ag ppb*	*Cu ppm*	*Pb ppm*	*Zn ppm*	*As ppm*	*Ba ppm*	*Hg ppb*	*Sb ppm*	*Mn ppm*
37.00	39.00	136801.00	CORE_HALF	-0.0002		-0.2	232	7.29	15.01	67.9	80.6	80.9	475		193
39.00	40.00	136802.00	CORE_HALF	0.0002		0.2	167	11.09	15.92	112.8	393.9	20.5	5859		404
40.00	41.00	136803.00	CORE_HALF	0.0004		0.4	111	9.8	12.32	64	67.4	129.9	337		346
41.00	42.00	136804.00	CORE_HALF	0.0003		0.3	241	21.25	9.62	91.1	42.2	106.1	287		673
77.00	78.00	136805.00	CORE_HALF	0.0037		3.7	522	13.35	18.78	116.5	132.9	30.8	881		304
78.00	79.00	136806.00	CORE_HALF	0.0033		3.3	451	5.12	13.17	67.1	101.5	65	152		177
79.00	80.00	136807.00	CORE_HALF	0.0722		72.2	2605	9.13	17.22	101.2	881.6	14.2	2531		133

80.00	81.00	136808.00	CORE_HALF	0.0234	23.4	852	13.17	14.19	58.6	445.9	14.1	2273		57
81.00	82.00	136809.00	CORE_HALF	0.1572	157.2	1254	13.14	17.12	474.4	6887.9	3.7	10404		112
82.00	83.00	136842.00	CORE_HALF	0.1337	133.7	607	6.81	18.48	19	1275.3	8.9	3976	29.51	70
		136810.00	CORE_HALF	0.1585	158.5	641	6.43	20.04	19.3	1246.2	11.2	3972		72
83.00	84.00	136811.00	CORE_HALF	0.207	207	912	5.97	28.04	42.1	1770.4	6.8	4700		49
84.00	85.00	136812.00	CORE_HALF	0.1588	158.8	452	6.09	28.18	11.9	1116.8	11.9	4920		41
85.00	86.00	136813.00	CORE_HALF	0.0492	49.2	1540	5.01	22.54	4.4	378	38.2	1957		48
86.00	88.00	136814.00	CORE_HALF	0.0812	81.2	3000	6.54	22.43	12.8	216.8	62.3	1560		54
88.00	90.00	136815.00	CORE_HALF	0.0856	85.6	8003	10.08	32.47	38.3	518.1	41.9	1343		70
90.00	92.00	136816.00	CORE_HALF	0.1	100	7227	11.1	30.57	55.3	402.3	31.6	1117		57
92.00	93.00	136817.00	CORE_HALF	0.1617	161.7	14780	19.82	37.41	46.1	561.4	16.6	2569	44.29	39
93.00	94.00	136818.00	CORE_HALF	0.2427	242.7	18032	17.63	45.33	10.2	1002.7	15.5	2834	68.09	46
94.00	96.00	136819.00	CORE_HALF	0.3008	300.8	13014	20.2	43.12	6.3	351	20.9	1310	40.14	35
96.00	98.00	136843.00	CORE_HALF	0.2709	270.9	21221	30.58	70.51	8.9	431.8	14	3150	85.16	63
		136820.00	CORE_HALF	0.3398	339.8	24533	33.72	76.49	8.1	449.2	10.3	3389	88.97	45
98.00	100.00	136821.00	CORE_HALF	0.1342	134.2	7326	25.88	31.91	45.1	289.3	22.8	1935	58.44	45
100.00	102.00	136822.00	CORE_HALF	0.2119	211.9	9928	16.44	31.43	15.1	486.5	42.7	5008	64.82	209
102.00	104.00	136823.00	CORE_HALF	0.0726	72.6	1789	7.69	29.24	7.7	503.6	40.5	4532	47.35	367
104.00	105.20	136824.00	CORE_HALF	0.0641	64.1	1279	6.07	21.44	21.1	426.7	54.8	3242	43.97	380
105.20	107.00	136825.00	CORE_HALF	0.001	1	937	24.5	12.08	90.2	103.3	58.9	927	12.34	312
117.90	119.00	136826.00	CORE_HALF	0.017	17	940	8.74	14.49	18.9	307.7	83.8	457	12.64	463
119.00	120.00	136827.00	CORE_HALF	0.072	72	1387	6.78	25.86	7.5	179.4	87.4	486	10.18	988
120.00	122.00	136828.00	CORE_HALF	0.0417	41.7	1298	5.73	17.62	7.2	147.5	96.7	226	7.56	327
122.00	124.00	136829.00	CORE_HALF	0.1248	124.8	10279	17.94	30.32	135.8	372.7	45.6	1912	33.2	209
124.00	126.00	136830.00	CORE_HALF	0.1402	140.2	14389	14.42	36.76	21.8	754.6	29.1	4263	39.57	86
		136844.00	CORE_HALF	0.127	127	12413	14.09	35.99	29.4	672.7	27.7	3265	33.55	110
126.00	128.00	136831.00	CORE_HALF	0.1978	197.8	22919	25.95	58.02	15.4	1060.9	16.4	3890	72.63	62
128.00	130.00	136832.00	CORE_HALF	0.0646	64.6	9751	17.65	31.73	36.2	430.3	26	1391	27.67	39
130.00	132.00	136833.00	CORE_HALF	0.2644	264.4	18930	35.68	46.63	9.4	976.6	12.6	4537	93.98	34
132.00	134.00	136834.00	CORE_HALF	0.1477	147.7	14696	24.75	42.71	10.5	832.7	15.6	7662	93.93	84
134.00	136.00	136835.00	CORE_HALF	0.1154	115.4	11932	12.9	45.59	12.9	298.9	32.4	14020	31.15	180
136.00	138.00	136836.00	CORE_HALF	0.1649	164.9	11728	21.48	34.76	6.9	626	26.1	4070	65.47	56
138.00	140.00	136837.00	CORE_HALF	0.3475	347.5	23152	30.37	50.86	11.5	1211.3	15.1	7764	171.2	51
140.00	142.00	136838.00	CORE_HALF	0.0972	97.2	10095	21.59	31.95	34.3	397.4	49.5	1578	39.85	73
142.00	144.00	136839.00	CORE_HALF	0.1307	130.7	5959	9.15	35.48	70.8	558.3	20.5	1620	16.49	148
144.00	145.10	136840.00	CORE_HALF	0.0013	1.3	430	9.2	14.09	62.6	93.7	89.5	238	4.12	246

		136845.00	CORE_HALF	0.0015	1.5	409	7.06	13.29	49.3	81.4	121.3	219	3.31	191
145.10	146.00	136841.00	CORE_HALF	0.0003	0.3	609	32.57	13.91	149.2	66.4	84.1	566	11.29	268

Geoinformatics Exploration Pty Ltd

HERITAGE EXPLORATIONS
DRILL HOLE LOG

TP04_01

Header

Hole ID	TP04_01	*Hole type*	Diamond drill *Size* NQ	*Date commenced*	
DataSet	TREATY	*Depth*	496.20 m	*Date completed*	1/09/2004
Location	Treaty Porphyry targ	*Geologist*	Gerry Bidwell	*Drilling company*	HY-Tech Drilling
Tenement	250847	*Notes*			

Collar Location

Field survey GPS located

	Grid ID	East	North	RL	Grid unit
Local Grid	UTM_NAD83	430959.00	6271940.00	1690.00	m
UTM Grid	NAD83_9	430959.00	6271940.00	1690.00	

Survey

At		Azimuth	AzimuthID	UTM Azi.	Dip	Method	Comments
0.00	m	130.0	Astronomic (	130.0	-50.0	Compass	
118.90	m	130.0	Astronomic (	130.0	-47.5	AcidBottle	
240.80	m	130.0	Astronomic (	130.0	-47.5	AcidBottle	
362.70	m	130.0	Astronomic (	130.0	-47.0	AcidBottle	
490.40	m	130.0	Astronomic (	130.0	-47.0	AcidBottle	

Lithology

Logged by: Gerry Bidwell

From	To m	Grain Size	Lithology	Major Texture	Minor Texture	Lithology %	Comments
0.00	2.13		CASE			100	
2.13	16.20	F	RYGO	BAN	PYC	100	
16.20	19.80		XVDE	MAS	BED	100	
19.80	26.30	F	XVAE	BED	PYC	100	
26.30	43.10	F	XVIE	TFC	BAN	100	
43.10	60.60	C	VIAB	MO		100	
60.60	66.00	F	VMOO	MAS	MO	100	
66.00	68.80	F	RYGO	MO		100	
68.80	105.10	F	VMOO	MAS	MO	100	

105.10	117.00		RYGO	MO	MAS	100
117.00	120.20		VIAB	MAS		100
120.20	123.30		RYGO	MO	MAS	100
123.30	125.90		VIAB	MAS		100
125.90	129.00		RYGO	MO	MAS	100
129.00	130.40		VIAB	MAS		100
130.40	139.90		RYGO	MO	MAS	100
139.90	141.20		VIAB	MAS		100
141.20	145.20		RYGO	MO	MAS	100
145.20	150.30	F	VIOV	MO	MAS	100
150.30	152.70		VIAB	MAS		100
152.70	153.70	F	VIOV	MO	MAS	100
153.70	164.70		VIAB	MAS		100
164.70	170.60	F	XVMF			100
170.60	176.80	F	VIAX	PBX		100
176.80	178.90		RYGO	MO	MAS	100
178.90	183.80	F	XVMF			100
183.80	191.00		VIAX	PBX		100
191.00	191.50		RYGO	MO	MAS	100
191.50	207.00		VIAX	PYC		100
207.00	209.80		VIAU	MAS		100
209.80	224.70		VIAX	PYC		100
224.70	225.30	F	VIAU	MAS		100
225.30	237.90		VIAX	PYC		100
237.90	242.20	F	VFOQ	MAS		100
242.20	267.10		VIAX	PYC		100
267.10	267.30	F	SACO	BAN		100
267.30	271.50		VIAX	PYC		100
271.50	288.70	M	VMOO	MAS	PYC	100
288.70	292.10	F	VIAU	MAS		100
292.10	301.10	M	VMOO	MAS	PYC	100
301.10	307.80		VMOX	PYC		100
307.80	309.80	F	VMOO	MAS		100
309.80	316.10	F	VFRO	MAS		100
316.10	331.60		VIAX	PYC		100
331.60	334.40	F	VMOO	MAS		100
334.40	342.40		VIAX	PYC		100

342.40	345.20		VIOX	PYC	100
345.20	348.40	F	VFRO	MAS	100
348.40	355.10		VIAX	MAS	100
355.10	355.60		XVIF	PYC	100
355.60	358.30	M	VIOX	PYC	100
358.30	386.55	F	SAOO	PYC	100
386.55	412.70	F	SAVO	MAS	100
412.70	420.10		XVDF		100
420.10	423.10		SAVO	MAS	100
423.10	435.70	M	VFDX	PYC	100
435.70	440.40		VFRX	PBX	100
440.40	446.00	C	VFDX	PBX	100
446.00	450.00		VFRX	PBX	100
450.00	455.50	C	VFDX	PBX	100
455.50	457.00	F	VFRX	PBX	100
457.00	496.20	F	VFRB	MAS	100

Alteration

From	*To m*	*Alteration type*	*Style*	*Int.*	*Alt Min 1*	*Int.*	*Alt Min 2*	*Int.*	*Alt Min 3*	*Int.*	*Acc. minerals*	*Comments*
2.13	16.20	Phyllic	PV		QZ		SERI		PY			
16.20	17.40	Silicic/Silicification	FLD		QZ							
17.40	19.80	Silicic/Silicification	FLD		QZ							
19.80	26.30	Pyritic			CH							
26.30	42.70	Pyritic			CH							
42.70	66.00	Pyritic			CH							
66.00	68.80	Silicic/Silicification	FLD		QZ							
68.80	145.20	Pyritic			CH							
145.20	149.50	Silicic/Silicification	FLD		QZ							
149.50	152.70	Silicic/Silicification	FLD		QZ							
152.70	153.70	Silicic/Silicification	FLD		QZ							
153.70	287.00	Pyritic			CH							
287.00	292.00	Pyritic			CH		EP					
307.80	308.30	Silicic/Silicification	FLD		QZ							
375.50	386.50	Pyritic			CH							

Veining

From	*To m*	*Vein type*	*Style*	*Int.*	*Av. thick (mm)*	*Comments*
2.13	2.20	qz	Irregular/deformed/segmented			
3.30	3.50	qz	Irregular/deformed/segmented			
5.90	6.10	py	Brecciated Veins			
6.50	6.80	py	Brecciated Veins			

9.70	9.80	qz	Sheeted Veins	
11.00	11.20	py	Brecciated Veins	
17.60	18.00	qz	Massive Veins	
18.30	18.60	qz	Brecciated Veins	
19.40	19.60	qz	Fracture Veins	
26.80	26.85	qz	Cockade	1
32.40	32.50	qz	Massive Veins	3
34.00	34.20	qz	Irregular/deformed/segmented	2
34.50	37.20	qz	Irregular/deformed/segmented	
39.80	42.60	qz	Irregular/deformed/segmented	
43.60	44.30	qz	Brecciated Veins	
46.20	48.20	qz	Brecciated Veins	
66.50	69.50	qz	Irregular/deformed/segmented	
75.20	76.10	qz	Irregular/deformed/segmented	
88.75	88.95	qz	Brecciated Veins	
94.00	100.30	qz	Irregular/deformed/segmented	
102.70	104.90	qz	Irregular/deformed/segmented	
170.60	172.00	qz	Brecciated Veins	
181.40	181.80	qz	Fault-related veins	4
181.80	210.60	qz	Irregular/deformed/segmented	1
237.90	243.10	qz	Cockade	
243.10	259.40	qz	Irregular/deformed/segmented	
259.40	261.80	qz	Brecciated Veins	
261.80	278.20	qz	Irregular/deformed/segmented	
386.50	440.40	qz	Fault-related veins	
440.40	447.00	qz	Fault-related veins	
447.00	450.00	qz	Fault-related veins	
456.00	496.20	qz	Fault-related veins	

Structure

From	*To m*	*Structure*	*Intensity*	*Comments*
5.20	5.30	fault gouge / clay/ pug	WK	
6.40	6.80	fault gouge / clay/ pug shear/ shear zone	WK	
7.30	8.00	shear/ shear zone	MOD	
10.10	10.40	fault gouge / clay/ pug	INT	
10.80	11.80	fault gouge / clay/ pug	INT	
11.80	16.00	fault gouge / clay/ pug	INT	
17.80	18.00	shear/ shear zone	MOD	
18.20	18.40	shear/ shear zone	MOD	
24.00	24.80	shear/ shear zone		
26.00	26.30	breccia		
29.90	30.40	breccia		
31.40	32.60	breccia		

33.00	34.00	breccia	
37.80	39.90	breccia	
39.90	40.20	breccia	
50.20	50.70	shear/ shear zone	
58.80	59.20	breccia	INT
84.10	85.00	breccia	WK
88.70	88.90	breccia	INT
96.30	96.50	breccia	STG
100.00	100.30	breccia	STG
104.20	104.80	shear/ shear zone	
170.50	172.00	breccia	
173.30	176.70	breccia	
196.90	197.20	shear/ shear zone	MOD
232.60	232.90	shear/ shear zone	WK
267.10	267.20	shear/ shear zone	
308.10	308.20	shear/ shear zone	
315.80	316.00	shear/ shear zone	
358.20	386.50	shear/ shear zone	
381.30	381.90	fault gouge / clay/ pug	
382.80	383.20	fault gouge / clay/ pug	
385.70	385.90	fault gouge / clay/ pug	STG
443.50	443.80	shear/ shear zone	MOD

Point Structure

Depth m	*Feature*	*Alpha*	*Beta*	*Gamma*	*Young. Dir*	*Dip/ Plunge*	*Dip/ Plunge Dir.*	*Reliability*	*Comments*
2.50	Gneissosity	85.0							
2.90	Gneissosity	85.0							
3.20	Gneissosity	70.0							
4.20	Gneissosity	70.0							
5.20	Gneissosity	80.0							
6.50	Gneissosity	70.0							
8.00	Gneissosity	90.0							
9.50	Gneissosity	80.0							
10.50	Gneissosity	80.0							
12.80	Gneissosity	90.0							
13.50	Gneissosity	80.0							
15.00	Gneissosity	60.0							
16.00	Gneissosity	70.0							
18.20	Bedding	25.0							
20.90	Bedding	35.0							
21.30	Bedding	55.0							
22.50	Bedding	60.0							
23.00	Bedding	50.0							

27.50	Bedding	35.0
30.30	Bedding	40.0
125.40	Fault plane	25.0
170.50	Fault plane	80.0
282.30	Shear	50.0

Mineralisation

From	To m	Tot. Sulph.	Mineral 1	Style	%	Mineral 2	Style	%	Mineral 3	Style	%	Comments
2.13	6.50	6	pyrite	DISS								
6.50	11.00	10	pyrite	DISS								
11.00	16.20	6	pyrite	DISS								
16.20	19.80	1	pyrite	DISS								
19.80	23.00	1	pyrite	DISS								
23.00	26.30	10	pyrite	DISS								
33.00	33.20	10	pyrite	PAT								
33.20	38.30	8	pyrite	DISS								
38.30	39.85	4	pyrite	DISS								
39.85	40.20	10	pyrite	DISS								
40.20	58.00	3	pyrite	DISS								
58.00	66.00	2	pyrite	DISS								
66.00	68.80	4	pyrite	DISS								
68.80	114.00	1	pyrite	DISS								
114.00	144.00	0.5	pyrite	DISS								
144.00	156.00	2	pyrite	DISS								
156.00	164.50	0.5	pyrite	DISS								
164.50	170.00	3	pyrite	DISS								
170.00	184.00	0.5	pyrite	DISS								
184.00	195.00	0.5	pyrite	DISS								
195.00	207.00	1.5	pyrite	DISS								
211.00	217.00	1.5	pyrite	DISS								
225.00	237.90	1.5	pyrite	DISS								
237.90	242.30	3	pyrite	DISS								
242.30	244.00	1.5	pyrite	DISS								
244.00	496.20	1	pyrite	DISS								

Samples

From	To m	Sample ID	Sample type	Plot Au_ppm	Au FA gt	Au ppb	Ag ppb	Cu ppm	Pb ppm	Zn ppm	As ppm	Ba ppm	Hg ppb	Sb ppm	Mn ppm
2.13	3.00	136846	CORE_HALF	0.0045		4.5	634	10.96	3.31	2.6	7.9	65.6	687	3.62	2
3.00	4.00	136847	CORE_HALF	0.0015		1.5	1105	7.32	3.45	4.1	2.9	67.4	462	3.5	2
4.00	5.00	136848	CORE_HALF	0.0009		0.9	668	13.85	3.41	1.6	5.2	17.2	1192	4.51	-1
5.00	6.00	136849	CORE_HALF	0.0057		5.7	400	13.9	3.55	1.6	13.7	14.2	710	3.35	2
6.00	7.00	136850	CORE_HALF	0.0066		6.6	121	13.32	3.24	1.3	3.2	16.2	518	1.9	1

7.00	8.00	136951	CORE_HALF	0.0066	6.6	135	20.24	3.53	5.1	7.1	7.8	573	1	29
8.00	9.00	136952	CORE_QUAR	0.0064	6.4	120	16.29	2.99	2.5	5.9	9.5	542	0.92	6
		136953	CORE_QUAR	0.0063	6.3	214	22.89	4.12	3.7	14.3	9.3	3252	1.48	9
9.00	10.00	136954	CORE_HALF	0.0052	5.2	223	25.66	4.51	1.9	11.8	8	2741	1.23	5
10.00	11.00	136955	CORE_HALF	0.009	9	145	30.42	6.65	3	22.5	5.6	1352	1.87	6
11.00	12.00	136956	CORE_HALF	0.0144	14.4	156	60.28	9.84	50.7	23.2	6.1	1515	2.34	7
12.00	13.00	136957	CORE_HALF	0.019	19	130	22.3	7.98	153.9	15.8	10.4	3051	2.5	6
13.00	16.20	136958	CORE_HALF	0.0247	24.7	175	9.3	2.46	5.6	8.1	54.5	361	2.72	12
16.20	17.00	136959	CORE_HALF	0.0081	8.1	490	31.88	5.93	73.2	10.3	109.5	231	1.11	1225
17.00	18.00	136960	CORE_HALF	0.0044	4.4	709	38.43	11.51	100.3	10.3	67.7	134	0.7	2187
18.00	19.00	136961	CORE_HALF	0.0071	7.1	864	45.83	9.06	89.1	18.4	155.2	128	1.24	1572
19.00	19.80	136962	CORE_HALF	0.0027	2.7	1477	37.78	19.07	74.2	31.5	84.2	233	1.33	1711
19.80	21.00	136963	CORE_HALF	0.001	1	604	70.79	12.53	89.1	8.2	138	57	0.45	1331
21.00	22.00	136964	CORE_HALF	0.0004	0.4	393	69.73	8.08	91.6	6.1	242.3	37	0.36	1616
22.00	23.00	136965	CORE_HALF	0.0003	0.3	630	39.72	10.01	103.8	5.1	208.1	39	0.53	1394
23.00	24.00	136966	CORE_HALF	0.0012	1.2	848	29.95	15.62	107.9	6.3	70.9	54	0.74	1775
24.00	25.00	136967	CORE_HALF	0.0002	0.2	1454	19.05	31.13	116.5	8.9	28.3	86	1.73	1469
25.00	26.30	136968	CORE_HALF	0.0006	0.6	764	14.59	16.8	115.7	5.1	20.1	34	0.93	1942
26.30	27.00	136969	CORE_HALF	0.0106	10.6	437	4.31	11.47	114.9	2.8	22.5	16	0.62	2307
27.00	28.00	136970	CORE_HALF	0.0098	9.8	457	4.86	10.25	116.9	3.1	51.5	12	0.59	1934
28.00	29.00	136971	CORE_QUAR	0.0114	11.4	500	11.02	12	118.6	3.6	24.8	16	0.72	2010
		136972	CORE_QUAR	0.0113	11.3	517	10.05	11.42	118.3	3.4	25.3	16	0.66	1910
29.00	30.00	136973	CORE_HALF	0.0077	7.7	628	6.9	13.5	140.8	3.2	25.1	32	0.73	1840
30.00	31.00	136974	CORE_HALF	0.017	17	569	6.64	16.54	102.5	2.8	13.2	38	0.8	2090
31.00	32.00	136975	CORE_HALF	0.0132	13.2	1111	8.69	32.06	111.8	4.3	11.1	62	1.13	2028
32.00	33.00	136976	CORE_HALF	0.0045	4.5	1432	17.75	32.17	119.8	7.1	17.7	111	1.37	2030
33.00	34.00	136977	CORE_HALF	0.0026	2.6	386	10.1	29.02	53	28.3	21.3	15	1.36	927
34.00	35.00	136978	CORE_HALF	0.0009	0.9	513	15.02	15.68	76.4	8.9	46	43	0.97	1578
35.00	36.00	136979	CORE_HALF	0.0092	9.2	503	20.27	14.57	56.7	52.9	42.7	14	0.81	1533
36.00	37.00	136980	CORE_HALF	0.012	12	593	13.7	10.51	56.8	72	30.6	17	0.64	1471
37.00	38.00	136981	CORE_HALF	0.0107	10.7	512	23.09	7.56	62.6	50.2	44.1	18	0.47	1422
38.00	39.00	136982	CORE_HALF	0.0188	18.8	873	19.97	15	55.5	90.4	22.1	28	0.78	1472
39.00	39.85	136983	CORE_HALF	0.0142	14.2	971	15.43	11.53	52.2	94.4	31.4	45	0.71	1643
39.85	40.20	136984	CORE_HALF	0.0007	0.7	3576	42.05	66.91	107.1	25.5	21.6	184	3.07	1090
40.20	41.00	136985	CORE_HALF	0.0488	48.8	306	36.68	10.14	60.4	13.5	133.7	27	1.11	1483
41.00	42.00	136986	CORE_HALF	0.0085	8.5	138	51.13	3.33	68.2	8.2	168.9	9	0.32	1706

42.00	43.00	136987	CORE_HALF	0.0052	5.2	101	48.56	5.55	68.1	2.3	908.2	6	0.24	2279
43.00	44.00	136988	CORE_HALF	0.0034	3.4	57	64.13	2.63	69	0.9	165.7	-5	0.29	1244
44.00	45.00	136989	CORE_HALF	0.0017	1.7	64	79.16	3.09	73.4	0.8	347.7	-5	0.22	1169
45.00	46.00	136990	CORE_HALF	0.0029	2.9	50	39.06	3.31	69.7	0.6	552.5	-5	0.23	1231
46.00	47.00	136992	CORE_QUAR	0.0008	0.8	50	41.48	2.07	70.8	0.6	146.1	-5	0.19	983
		136991	CORE_QUAR	0.0013	1.3	40	43.33	1.94	71.6	0.5	92.6	-5	0.18	1021
47.00	48.00	136993	CORE_HALF	0.0007	0.7	60	32.65	2.6	68.5	1.4	90.7	-5	0.18	843
48.00	49.00	136994	CORE_HALF	0.0003	0.3	19	5.5	5.16	69	0.4	318.6	-5	0.13	865
49.00	50.00	136995	CORE_HALF	0.0016	1.6	73	46.13	3.16	63.2	2	349	5	0.29	942
50.00	52.00	136996	CORE_HALF	0.0009	0.9	58	45.71	3.34	71.9	2.4	419.7	-5	0.19	2082
52.00	54.00	136997	CORE_HALF	0.0016	1.6	49	38.26	2.35	63.5	2	381.8	-5	0.14	1399
54.00	56.00	136998	CORE_HALF	0.0052	5.2	71	57.4	13.5	73	3	125.5	-5	0.23	1252
56.00	58.00	136999	CORE_HALF	0.0019	1.9	72	45.81	10.46	110.7	0.5	463.4	7	0.09	1462
58.00	60.00	137000	CORE_HALF	0.0022	2.2	146	59.01	297.01	122.8	2.6	112.5	19	0.15	1386
60.00	62.00	136901	CORE_HALF	0.0108	10.8	65	31.36	4.36	80.6	1.7	329.7	5	0.21	1107
62.00	64.00	136902	CORE_HALF	0.0014	1.4	83	44.93	5.1	65.1	0.7	466.7	10	0.18	807
64.00	66.00	136903	CORE_HALF	0.0061	6.1	106	79.93	5.88	69.5	3.8	434.3	39	0.24	932
66.00	67.50	136904	CORE_HALF	0.0058	5.8	104	64.99	6.09	66.2	30.6	184.7	182	8.22	1218
67.50	69.00	136905	CORE_HALF	0.0021	2.1	85	40.7	31.27	71.7	1	385.2	29	0.15	1034
84.00	86.00	136906	CORE_HALF	0.0029	2.9	36	23.99	3.17	65.8	0.7	386.5	-5	0.2	770
86.00	88.00	136907	CORE_HALF	0.0036	3.6	106	67.25	23.68	133.8	1.4	493.2	24	0.25	980
88.00	90.00	136908	CORE_HALF	0.0074	7.4	120	50.54	5.82	120.5	4.7	159.1	26	0.34	912
90.00	92.00	136909	CORE_HALF	0.0036	3.6	148	55.53	4.91	77.6	4.8	376.8	8	0.31	1136
92.00	94.00	136910	CORE_HALF	0.0104	10.4	148	53	135.31	66.8	2.2	112.1	9	0.24	1287
94.00	96.00	136912	CORE_QUAR	0.0095	9.5	225	124.92	530.35	75.3	2.1	92.8	12	0.26	1168
		136911	CORE_QUAR	0.0106	10.6	345	255.19	663.07	72.7	1.9	66	17	0.29	1259
96.00	98.00	136913	CORE_HALF	0.009	9	169	127.76	71.53	357.1	2.6	58.1	125	0.29	1142
98.00	100.00	136914	CORE_HALF	0.0119	11.9	183	112.18	16.56	75.5	3.4	69.6	20	0.28	1311
100.00	100.50	136915	CORE_HALF	0.0067	6.7	123	15.46	27.22	103.1	2.5	57.2	9	0.17	3376
100.50	102.00	136916	CORE_HALF	0.0056	5.6	110	64.85	7.82	83.7	3.2	67.9	10	0.19	1432
102.00	104.00	136917	CORE_HALF	0.0045	4.5	86	28.86	39.98	82.1	3.3	68.3	6	0.19	1308
144.00	145.20	136918	CORE_HALF	0.0026	2.6	85	70.01	4.01	59.8	1.7	227.6	23	0.59	1344
145.20	146.00	136919	CORE_HALF	0.0022	2.2	160	161.69	92.66	85.3	39.4	303.6	98	13.12	1347
146.00	147.00	136920	CORE_HALF	0.0055	5.5	93	22.98	16.85	53.8	9.3	220.8	28	2.75	1400
147.00	148.00	136921	CORE_HALF	0.0024	2.4	144	42.36	7.05	89.9	11.9	139.6	27	4.79	1349
148.00	149.50	136922	CORE_HALF	0.0029	2.9	68	42.89	4.42	48.4	0.9	118.7	15	0.15	1287

149.50	151.00	136923	CORE_HALF	0.002	2	128	161.02	3.74	57.4	1	663.8	19	0.2	1028
151.00	153.00	136924	CORE_HALF	0.0343	34.3	90	74.86	3.34	61.1	2.4	253.8	55	0.44	1160
153.00	154.60	136925	CORE_HALF	0.0023	2.3	105	54.07	13.96	50.9	11.8	555.3	22	1.91	1241
154.50	156.00	136926	CORE_HALF	0.0018	1.8	70	39.97	3.93	55.1	2.5	554.5	15	0.22	1036
164.00	166.00	136927	CORE_HALF	0.0054	5.4	471	25.75	13.93	93.3	32.2	93.1	31	1.47	1443
166.00	168.00	136928	CORE_HALF	0.0078	7.8	601	18.59	7.14	92	7.2	268.6	41	1.34	1733
168.00	170.00	136929	CORE_HALF	0.0187	18.7	981	44.73	20.54	87.7	12.2	117.6	54	1.68	1407
170.00	172.00	136930	CORE_HALF	0.0024	2.4	802	31.3	11.24	99.7	14.5	284.4	53	1.17	1688
172.00	174.00	136931	CORE_QUAR	0.0032	3.2	149	25.04	3.16	121.4	8.1	145.2	15	0.54	1612
		136932	CORE_QUAR	0.0049	4.9	202	19.07	5.12	124.4	8.9	76.7	17	0.61	1699
174.00	176.00	136933	CORE_HALF	0.001	1	173	19.77	10.62	115.5	6.2	49.7	22	0.4	2004
176.00	178.00	136934	CORE_HALF	0.0006	0.6	126	51.49	3.08	112.6	2.9	156.2	19	0.31	1784
178.00	180.00	136935	CORE_HALF	0.0018	1.8	71	16.54	3.03	160.8	2.6	495.8	11	0.18	2530
180.00	182.00	136936	CORE_HALF	0.0032	3.2	149	38.54	4.88	123.2	10	236.9	27	0.4	1560
182.00	184.00	136937	CORE_HALF	0.0013	1.3	2450	56.09	20.62	97.2	14.5	99	74	1.32	787
195.00	197.00	136938	CORE_HALF	0.0032	3.2	176	117.21	2.3	129.3	2.8	509.5	11	0.11	1797
197.00	199.00	136939	CORE_HALF	0.009	9	126	63.81	7.52	112.6	0.6	399.8	-5	0.11	1716
199.00	201.00	136940	CORE_HALF	0.0293	29.3	57	5.59	1.82	83	0.3	96.1	-5	0.11	1472
201.00	203.00	136941	CORE_HALF	0.0193	19.3	82	10.94	3.1	101.5	0.4	436.8	-5	0.11	1533
203.00	205.00	136942	CORE_HALF	0.0031	3.1	90	83.93	3.12	109.4	0.8	203.4	6	0.17	1818
205.00	207.00	136943	CORE_HALF	0.0275	27.5	102	49.33	33.54	191.6	2.1	56.7	15	0.15	2203
211.00	213.00	136944	CORE_HALF	0.2327	232.7	437	19.16	124.48	117	13.2	44.3	26	0.37	1550
213.00	215.00	136945	CORE_HALF	0.006	6	241	49.46	12.65	146.6	5.3	92.2	16	0.25	1956
215.00	217.00	136946	CORE_HALF	0.0071	7.1	113	50.68	2.87	146.2	1.3	181.8	-5	0.09	1780
225.00	227.00	136947	CORE_HALF	0.0042	4.2	157	81.12	2.44	129.2	3.3	177.9	16	0.11	1594
227.00	229.00	136948	CORE_HALF	0.0034	3.4	180	69.34	3.39	125.6	7.2	254.1	19	0.15	1688
236.00	237.90	136949	CORE_HALF	0.0045	4.5	85	32.26	5.72	142.6	4.3	82.4	5	0.15	2098
237.90	239.00	136950	CORE_HALF	0.0042	4.2	94	6.71	6.1	29.7	1.1	135.1	-5	0.09	568
239.00	240.00	136851	CORE_QUAR	0.002	2	62	16.31	7.29	41.2	1.4	332.1	54	0.25	557
		136852	CORE_QUAR	0.0032	3.2	58	14.66	9.56	41.7	1.3	210	23	0.16	653
240.00	241.00	136853	CORE_HALF	0.002	2	51	4.49	5.46	37	1	858.1	-5	0.09	614
241.00	242.00	136854	CORE_HALF	0.0066	6.6	46	6.25	12	38.8	1.6	101.9	13	0.12	839
242.20	244.00	136855	CORE_HALF	0.0026	2.6	58	50.28	1.89	106	1	141.6	6	0.1	1320
258.00	260.00	136856	CORE_HALF	0.0054	5.4	167	54.11	4.18	118.5	5.6	196.3	17	0.13	1534
260.00	262.00	136857	CORE_HALF	0.0029	2.9	151	58.5	2.41	92.7	3	176.9	15	0.11	1546
262.00	264.00	136858	CORE_HALF	0.0036	3.6	174	34.5	3.97	115	5.5	149.7	13	0.26	1551

264.00	266.00	136859	CORE_HALF	0.0104	10.4	173	49.18	2.38	100.2	2.9	107	18	0.14	1125
266.00	267.10	136860	CORE_HALF	0.0286	28.6	393	17.16	2.09	131.6	1.8	176.6	15	0.13	956
267.10	268.00	136861	CORE_HALF	0.0097	9.7	238	43.66	6.11	102.6	8.8	248.1	21	0.38	976
307.70	308.40	136862	CORE_HALF	0.0035	3.5	214	111.17	9.96	91	5.2	172	31	0.12	1193
308.40	310.00	136863	CORE_HALF	0.0565	56.5	216	10.39	4.78	94.8	2	188.3	42	0.1	663
310.00	311.20	136864	CORE_HALF	0.0471	47.1	338	86.66	7.25	118.8	1.4	378.8	41	0.1	831
311.20	313.00	136865	CORE_HALF	0.0023	2.3	31	6.46	2.94	31.1	0.4	250.9	13	0.06	448
313.00	315.00	136866	CORE_HALF	0.0014	1.4	22	3.25	3.11	23.8	0.6	116.5	11	0.05	396
315.00	316.00	136867	CORE_HALF	0.0015	1.5	32	11.3	2.4	42	6.3	225.5	10	0.09	772
316.10	318.00	136868	CORE_HALF	0.0038	3.8	99	33.42	7.4	132.9	9.7	52.3	22	0.19	1833
340.00	342.00	136869	CORE_HALF	0.0008	0.8	207	43.78	31.26	113.6	10.2	73.7	33	0.64	1076
342.00	344.00	136870	CORE_HALF	-0.0002	-0.2	127	15.91	17.1	97.3	11.3	83.9	39	0.67	1012
344.00	346.00	136871	CORE_QUAR	-0.0002	-0.2	236	44.41	19.92	64	10.2	74.5	30	1.13	902
		136872	CORE_QUAR	0.0005	0.5	265	33.7	27.99	65.5	12	72.6	42	1.25	1038
358.20	360.00	136873	CORE_HALF	0.0006	0.6	229	57.17	14.62	125.6	14.9	80.4	151	3.1	814
360.00	362.00	136874	CORE_HALF	0.0006	0.6	230	42.31	19.29	120.1	16.4	82.6	133	3.78	859
362.00	364.00	136875	CORE_HALF	-0.0002	-0.2	118	57.85	16.32	111.9	14.2	56.4	78	2.37	1138
364.00	366.00	136876	CORE_HALF	0.0006	0.6	131	53.19	14.84	121	13.2	64.9	83	2.74	1056
366.00	368.00	136877	CORE_HALF	0.0005	0.5	299	49.52	18.2	139.1	17.8	90.3	128	3.76	890
368.00	370.00	136878	CORE_HALF	0.0005	0.5	80	42.68	7.82	104.4	11.2	60.9	51	1.6	1153
370.00	372.00	136879	CORE_HALF	0.0004	0.4	129	53.07	7.72	109.6	14.9	57	122	3.36	1026
372.00	374.00	136880	CORE_HALF	0.0002	0.2	65	46.12	5.23	111.9	13.2	55.3	93	2.52	993
374.00	376.00	136881	CORE_HALF	0.0002	0.2	61	40.19	5.96	88.6	9.8	76.1	91	2.38	813
376.00	378.00	136882	CORE_HALF	0.0005	0.5	107	40.7	7.91	102.1	10.9	74.3	133	2.64	843
378.00	380.00	136883	CORE_HALF	-0.0002	-0.2	202	40.62	7.35	100.1	13.9	82.2	109	2.52	770
380.00	382.00	136884	CORE_HALF	0.0003	0.3	202	49.36	6.15	119	19.9	170.5	96	2.64	722
382.00	384.00	136885	CORE_HALF	0.0002	0.2	287	43.17	12.92	132.7	19.9	83	226	6.79	427
384.00	385.00	136886	CORE_HALF	-0.0002	-0.2	565	40.15	11.47	107.1	23	83	134	2.89	718
385.00	386.55	136887	CORE_HALF	0.0003	0.3	266	40.41	8.05	112.6	15.9	68.8	151	4.16	643
386.55	388.00	136888	CORE_HALF	0.0013	1.3	192	3.58	13.19	69.4	6.2	34.2	51	1.21	219
388.00	390.00	136889	CORE_HALF	0.0024	2.4	298	3.36	39.56	102.4	5.9	34	46	1.53	265
435.60	437.00	136890	CORE_HALF	0.0011	1.1	262	9.56	15.43	84.1	13.5	59.9	97	1.55	714
437.00	439.00	136891	CORE_QUAR	0.0009	0.9	158	2.1	15.97	72.3	7.4	45.3	68	0.53	178
		136892	CORE_QUAR	0.0008	0.8	141	1.74	13.97	67.3	6.7	24.3	61	0.54	183
439.00	441.00	136893	CORE_HALF	0.0009	0.9	115	20.24	12.71	91.2	26.8	80.3	99	2.55	657
441.00	443.00	136894	CORE_HALF	0.001	1	86	51.49	4.13	84.7	66.5	113.8	43	4.58	1310

443.00	445.00	136895	CORE_HALF	0.0013	1.3	137	50.16	4.41	79.2	71.6	126.8	38	4.85	1388
445.00	447.00	136896	CORE_HALF	0.0019	1.9	247	25.34	10.38	82.8	88.4	112.6	63	3.96	1001
447.00	449.00	136897	CORE_HALF	0.0014	1.4	539	3.79	14.51	83.6	33.5	23.9	66	1.76	398
449.00	450.00	136898	CORE_HALF	0.0007	0.7	424	3.6	16.94	100.4	10	13.8	59	1.5	569
450.00	452.00	136899	CORE_HALF	0.0026	2.6	558	52.87	11.03	106.8	44.5	33.6	56	2.48	2458
494.00	496.20	136900	CORE_HALF	0.0006	0.6	212	1.88	22.92	121.9	16.9	6.9	51	1.7	473

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix IV

Mineral Tenures

HERITAGE EXPLORATIONS LTD.

ESKAY Area Claims

Claim Name	Owner	Recording Date	Tenure No.	Units	Expiry
TREATY	Teuton Resources Corp.	9-Jan-80	250847	12	January 9, 2014
TR 5	Teuton Resources Corp.	30-Sep-85	251229	20	September 30, 2014
TR 6	Teuton Resources Corp.	30-Sep-85	251230	15	September 30, 2014
TR 7	Teuton Resources Corp.	30-Sep-85	251231	20	September 30, 2014
TR 8	Teuton Resources Corp.	30-Sep-85	251232	8	September 30, 2014
COUL 1	Heritage Explorations Ltd.	28-Feb-86	251344	20	January 31, 2010
COUL 2	Heritage Explorations Ltd.	28-Feb-86	251345	20	January 31, 2010
COUL 3	Heritage Explorations Ltd.	28-Feb-86	251346	20	January 31, 2010
COUL 4	Heritage Explorations Ltd.	28-Feb-86	251347	20	January 31, 2010
UNUK 1	Heritage Explorations Ltd.	28-Feb-86	251358	20	January 31, 2010
UNUK 11	Heritage Explorations Ltd.	28-Feb-86	251360	20	January 31, 2010
UNUK 12	Heritage Explorations Ltd.	28-Feb-86	251361	20	January 31, 2010
UNUK 13	Heritage Explorations Ltd.	28-Feb-86	251374	16	January 31, 2010
UNUK 14	Heritage Explorations Ltd.	28-Feb-86	251375	16	January 31, 2010
UNUK 22	Heritage Explorations Ltd.	28-Feb-86	251379	20	January 31, 2010
PARADIGM 2	Teuton Resources Corp.	28-Apr-87	251838	12	April 28, 2014
LANCE 3	Heritage Explorations Ltd.	28-Apr-87	251844	18	January 31, 2010
LANCE 4	Heritage Explorations Ltd.	28-Apr-87	251845	18	January 31, 2010
SKOOKUM	Heritage Explorations Ltd.	13-Jan-89	252352	16	January 31, 2010
SIB 26	Heritage Explorations Ltd.	29-Jun-89	252871	1	January 31, 2014
SIB 27	Heritage Explorations Ltd.	29-Jun-89	252872	1	January 31, 2014
SIB 28	Heritage Explorations Ltd.	29-Jun-89	252873	1	January 31, 2014
SIB 29	Heritage Explorations Ltd.	29-Jun-89	252874	1	January 31, 2014
SIB 30	Heritage Explorations Ltd.	29-Jun-89	252875	1	January 31, 2014
SIB 31	Heritage Explorations Ltd.	29-Jun-89	252876	1	January 31, 2014
SIB 32	Heritage Explorations Ltd.	29-Jun-89	252877	1	January 31, 2014
SIB 33	Heritage Explorations Ltd.	29-Jun-89	252878	1	January 31, 2014
SIB 34	Heritage Explorations Ltd.	29-Jun-89	252879	1	January 31, 2014
SIB 35	Heritage Explorations Ltd.	29-Jun-89	252880	1	January 31, 2014
SIB 36	Heritage Explorations Ltd.	29-Jun-89	252881	1	January 31, 2014
SIB 37	Heritage Explorations Ltd.	29-Jun-89	252882	1	January 31, 2014
SIB 38	Heritage Explorations Ltd.	30-Jun-89	252883	1	January 31, 2014
SIB 39	Heritage Explorations Ltd.	30-Jun-89	252884	1	January 31, 2014
POLO 7	Heritage Explorations Ltd.	04-Sep-89	253015	20	January 31, 2010
POLO 8	Heritage Explorations Ltd.	04-Sep-89	253016	20	January 31, 2010
AFTOM #7	Heritage Explorations Ltd.	16-Sep-89	253146	16	January 31, 2010
AFTOM #9	Heritage Explorations Ltd.	15-Sep-89	253147	20	January 31, 2010
AFTOM #14	Heritage Explorations Ltd.	13-Sep-89	253152	20	January 31, 2010
AFTOM #15	Heritage Explorations Ltd.	13-Sep-89	253153	20	January 31, 2010
AFTOM #16	Heritage Explorations Ltd.	18-Sep-89	253154	16	January 31, 2010
AFTOM #18	Heritage Explorations Ltd.	17-Sep-89	253155	16	January 31, 2010
AFTOM #19	Heritage Explorations Ltd.	16-Sep-89	253156	20	January 31, 2010
AFTOM #20	Heritage Explorations Ltd.	17-Sep-89	253157	20	January 31, 2010
P-MAC#1	Heritage Explorations Ltd.	14-Sep-89	253176	1	January 31, 2010
P-MAC#2	Heritage Explorations Ltd.	14-Sep-89	253177	1	January 31, 2010
P-MAC#3	Heritage Explorations Ltd.	14-Sep-89	253178	1	January 31, 2010
P-MAC#4	Heritage Explorations Ltd.	14-Sep-89	253179	1	January 31, 2010
P-MAC#5	Heritage Explorations Ltd.	14-Sep-89	253180	1	January 31, 2010
P-MAC#6	Heritage Explorations Ltd.	14-Sep-89	253181	1	January 31, 2010
P-MAC#7	Heritage Explorations Ltd.	14-Sep-89	253182	1	January 31, 2010
P-MAC#8	Heritage Explorations Ltd.	14-Sep-89	253183	1	January 31, 2010
P-MAC#9	Heritage Explorations Ltd.	14-Sep-89	253184	1	January 31, 2010
P-MAC#10	Heritage Explorations Ltd.	14-Sep-89	253185	1	January 31, 2010
POLO 13	Heritage Explorations Ltd.	15-Sep-89	253240	5	January 31, 2010
FRED 15	Heritage Explorations Ltd.	11-Oct-89	253295	15	January 31, 2010
S.I.B.#1	Heritage Explorations Ltd.	31-May-72	255254	1	December 15, 2014
S.I.B.#2	Heritage Explorations Ltd.	31-May-72	255255	1	December 15, 2014
S.I.B.#3	Heritage Explorations Ltd.	31-May-72	255256	1	December 15, 2014

HERITAGE EXPLORATIONS LTD.

ESKAY Area Claims

Claim Name	Owner	Recording Date	Tenure No.	Units	Expiry
S.I.B.#4	Heritage Explorations Ltd.	31-May-72	255257	1	December 15, 2014
S.I.B.#5	Heritage Explorations Ltd.	31-May-72	255258	1	January 31, 2014
S.I.B.#6	Heritage Explorations Ltd.	31-May-72	255259	1	January 31, 2014
S.I.B.#7	Heritage Explorations Ltd.	31-May-72	255260	1	January 31, 2014
S.I.B.#8	Heritage Explorations Ltd.	31-May-72	255261	1	January 31, 2014
S.I.B.#9	Heritage Explorations Ltd.	31-May-72	255262	1	January 31, 2014
S.I.B.#10	Heritage Explorations Ltd.	31-May-72	255263	1	January 31, 2014
S.I.B.#11	Heritage Explorations Ltd.	31-May-72	255264	1	January 31, 2014
S.I.B.#12	Heritage Explorations Ltd.	31-May-72	255265	1	January 31, 2014
S.I.B.#13	Heritage Explorations Ltd.	31-May-72	255266	1	January 31, 2014
S.I.B.#14	Heritage Explorations Ltd.	31-May-72	255267	1	January 31, 2014
S.I.B.#15	Heritage Explorations Ltd.	31-May-72	255268	1	January 31, 2014
S.I.B.#16	Heritage Explorations Ltd.	31-May-72	255269	1	January 31, 2014
RAMBO 1	Heritage Explorations Ltd.	09-Sep-91	304070	1	January 31, 2010
RAMBO 3	Heritage Explorations Ltd.	09-Sep-91	304072	1	January 31, 2010
RAMBO 5	Heritage Explorations Ltd.	09-Sep-91	304074	1	January 31, 2010
FOG 1	Heritage Explorations Ltd.	05-Oct-91	305317	1	January 31, 2010
FOG 2	Heritage Explorations Ltd.	05-Oct-91	305318	1	January 31, 2010
FOG 3	Heritage Explorations Ltd.	05-Oct-91	305319	1	January 31, 2010
FOG 4	Heritage Explorations Ltd.	05-Oct-91	305320	1	January 31, 2010
FOG 5	Heritage Explorations Ltd.	05-Oct-91	305321	1	January 31, 2010
FOG 6	Heritage Explorations Ltd.	05-Oct-91	305322	1	January 31, 2010
NOOT 1	Heritage Explorations Ltd.	29-Nov-91	306723	20	January 31, 2010
NOOT 2	Heritage Explorations Ltd.	29-Nov-91	306724	20	January 31, 2010
NOOT 3	Heritage Explorations Ltd.	23-Nov-91	306725	20	January 31, 2010
NOOT 4	Heritage Explorations Ltd.	23-Nov-91	306726	20	January 31, 2010
BONSAI	Teuton Resources Corp.	17-Jan-92	307389	18	January 17, 2014
BONSAI 7	Teuton Resources Corp.	17-Jan-92	307390	10	January 17, 2014
BONSAI 1	Teuton Resources Corp.	17-Jan-92	307391	1	January 17, 2014
BONSAI 2	Teuton Resources Corp.	17-Jan-92	307392	1	January 17, 2014
BONSAI 3	Teuton Resources Corp.	17-Jan-92	307393	1	January 17, 2014
BONSAI 4	Teuton Resources Corp.	17-Jan-92	307394	1	January 17, 2014
LINK FR	Heritage Explorations Ltd.	24-Jul-92	311923	1	January 31, 2010
CALVIN	Heritage Explorations Ltd.	17-Sep-92	313285	20	January 31, 2010
Mineral Lease	Heritage Explorations Ltd.	06-Sep-96	329001		September 6, 2005
MACK 24	Teuton Resources Corp.	3-Aug-94	329242	20	August 3, 2014
MACK 25	Teuton Resources Corp.	3-Aug-94	329243	16	August 3, 2014
PUD 1	Heritage Explorations Ltd.	25-Feb-99	367934	20	January 31, 2010
PUD 2	Heritage Explorations Ltd.	25-Feb-99	367935	4	January 31, 2010
MEGAN 1	Heritage Explorations Ltd.	25-Feb-99	367943	1	December 15, 2014
MEGAN 2	Heritage Explorations Ltd.	25-Feb-99	367944	1	December 15, 2014
STO 1	Heritage Explorations Ltd.	15-Dec-99	373857	10	January 31, 2010
STO 2	Heritage Explorations Ltd.	15-Dec-99	373867	5	January 31, 2010
JOHN 1	Heritage Explorations Ltd.	12-Feb-01	384019	16	January 31, 2010
JOHN 2	Heritage Explorations Ltd.	12-Feb-01	384020	16	January 31, 2010
IRVING 1	Heritage Explorations Ltd.	04-Jun-01	387231	20	January 31, 2010
IRVING 2	Heritage Explorations Ltd.	04-Jun-01	387232	20	January 31, 2010
IRVING 3	Heritage Explorations Ltd.	04-Jun-01	387233	20	January 31, 2010
IRVING 4	Heritage Explorations Ltd.	04-Jun-01	387234	20	January 31, 2010
Bell 1	Heritage Explorations Ltd.	04-Jun-01	387237	20	January 31, 2010
Bell 2	Heritage Explorations Ltd.	04-Jun-01	387238	20	January 31, 2010
Bell 3	Heritage Explorations Ltd.	04-Jun-01	387239	15	January 31, 2010
Bell 4	Heritage Explorations Ltd.	04-Jun-01	387240	20	January 31, 2010
Bell 5	Heritage Explorations Ltd.	04-Jun-01	387241	8	January 31, 2010
Bell 6	Heritage Explorations Ltd.	04-Jun-01	387245	10	January 31, 2010
Bell 7	Heritage Explorations Ltd.	04-Jun-01	387248	7	January 31, 2010
Bell 8	Heritage Explorations Ltd.	04-Jun-01	387249	5	January 31, 2010
TOON 1	Heritage Explorations Ltd.	10-Sep-01	389463	2	January 31, 2010

HERITAGE EXPLORATIONS LTD.

ESKAY Area Claims

Claim Name	Owner	Recording Date	Tenure No.	Units	Expiry
TOON 2	Heritage Explorations Ltd.	10-Sep-01	389464	12	January 31, 2010
HARRY 1	Heritage Explorations Ltd.	16-Nov-01	390911	20	January 31, 2010
HARRY 2	Heritage Explorations Ltd.	16-Nov-01	390912	15	January 31, 2010
HARRY 3	Heritage Explorations Ltd.	16-Nov-01	390913	20	January 31, 2010
SC 1	Heritage Explorations Ltd.	16-Nov-01	390914	20	January 31, 2010
SC 2	Heritage Explorations Ltd.	16-Nov-01	390915	20	January 31, 2010
SC 3	Heritage Explorations Ltd.	16-Nov-01	390916	20	January 31, 2010
SC 4	Heritage Explorations Ltd.	16-Nov-01	390917	20	January 31, 2010
SC 5	Heritage Explorations Ltd.	16-Nov-01	390918	20	December 15, 2008
SC 6	Heritage Explorations Ltd.	16-Nov-01	390919	20	December 15, 2008
SC 7	Heritage Explorations Ltd.	16-Nov-01	390920	20	December 15, 2008
SC 8	Heritage Explorations Ltd.	16-Nov-01	390921	20	December 15, 2008
TC 1	Heritage Explorations Ltd.	17-Nov-01	390922	6	January 31, 2010
TC 2	Heritage Explorations Ltd.	17-Nov-01	390923	16	January 31, 2010
TC 3	Heritage Explorations Ltd.	17-Nov-01	390924	20	January 31, 2010
TC 4	Heritage Explorations Ltd.	17-Nov-01	390925	20	January 31, 2010
TC 5	Heritage Explorations Ltd.	17-Nov-01	390926	20	January 31, 2010
TC 6	Heritage Explorations Ltd.	17-Nov-01	390927	20	January 31, 2010
TC 7	Heritage Explorations Ltd.	17-Nov-01	390928	20	January 31, 2010
TC 8	Heritage Explorations Ltd.	17-Nov-01	390929	20	January 31, 2010
HARRY 4	Heritage Explorations Ltd.	22-Mar-02	392425	20	January 31, 2010
HARRY 5	Heritage Explorations Ltd.	22-Mar-02	392426	4	January 31, 2010
KING 1	Heritage Explorations Ltd.	22-Mar-02	392427	3	January 31, 2010
KING 2	Heritage Explorations Ltd.	22-Mar-02	392428	16	January 31, 2010
KING 3	Heritage Explorations Ltd.	22-Mar-02	392429	18	January 31, 2010
KING 4	Heritage Explorations Ltd.	22-Mar-02	392430	18	January 31, 2010
KING 5	Heritage Explorations Ltd.	22-Mar-02	392431	18	January 31, 2010
KING 6	Heritage Explorations Ltd.	22-Mar-02	392432	12	January 31, 2010
KING 7	Heritage Explorations Ltd.	22-Mar-02	392433	18	January 31, 2010
TC 9	Heritage Explorations Ltd.	21-Mar-02	392434	8	January 31, 2010
TC 10	Heritage Explorations Ltd.	21-Mar-02	392435	20	January 31, 2010
TC 11	Heritage Explorations Ltd.	21-Mar-02	392436	16	January 31, 2010
TC 12	Heritage Explorations Ltd.	21-Mar-02	392437	16	January 31, 2010
TC 13	Heritage Explorations Ltd.	21-Mar-02	392438	20	January 31, 2010
TC 14	Heritage Explorations Ltd.	21-Mar-02	392439	20	January 31, 2010
VALCANO 1	Heritage Explorations Ltd.	22-Mar-02	392440	18	January 31, 2010
VALCANO 2	Heritage Explorations Ltd.	22-Mar-02	392441	18	January 31, 2010
VALCANO 3	Heritage Explorations Ltd.	22-Mar-02	392442	16	January 31, 2010
VALCANO 4	Heritage Explorations Ltd.	22-Mar-02	392443	16	January 31, 2010
VALCANO 5	Heritage Explorations Ltd.	23-Mar-02	392444	9	January 31, 2010
VALCANO 6	Heritage Explorations Ltd.	23-Mar-02	392445	18	January 31, 2010
VALCANO 7	Heritage Explorations Ltd.	23-Mar-02	392446	18	January 31, 2010
VALCANO 8	Heritage Explorations Ltd.	22-Mar-02	392447	16	January 31, 2010
VALCANO 9	Heritage Explorations Ltd.	22-Mar-02	392448	16	January 31, 2010
CALVIN 2	Heritage Explorations Ltd.	23-Mar-02	392449	14	January 31, 2010
CALVIN 3	Heritage Explorations Ltd.	23-Mar-02	392450	14	January 31, 2010
CALVIN 4	Heritage Explorations Ltd.	23-Mar-02	392451	10	January 31, 2010
CALVIN 5	Heritage Explorations Ltd.	23-Mar-02	392452	20	January 31, 2010
GINGRASS 1	Heritage Explorations Ltd.	21-Mar-02	392453	6	January 31, 2010
GINGRASS 2	Heritage Explorations Ltd.	21-Mar-02	392454	20	January 31, 2010
GINGRASS 3	Heritage Explorations Ltd.	21-Mar-02	392455	12	January 31, 2010
GINGRASS 4	Heritage Explorations Ltd.	21-Mar-02	392456	9	January 31, 2010
GINGRASS 5	Heritage Explorations Ltd.	21-Mar-02	392457	12	January 31, 2010
IRVING 5	Heritage Explorations Ltd.	23-Mar-02	392458	9	January 31, 2010
IRVING 6	Heritage Explorations Ltd.	23-Mar-02	392459	18	January 31, 2010
TREATY 1	Heritage Explorations Ltd.	20-Mar-02	392460	12	January 31, 2010
TREATY 2	Heritage Explorations Ltd.	20-Mar-02	392461	20	January 31, 2010
TREATY 3	Heritage Explorations Ltd.	20-Mar-02	392462	20	January 31, 2010

HERITAGE EXPLORATIONS LTD.

ESKAY Area Claims

Claim Name	Owner	Recording Date	Tenure No.	Units	Expiry
TREATY 4	Heritage Explorations Ltd.	20-Mar-02	392463	6	January 31, 2010
TREATY 5	Heritage Explorations Ltd.	20-Mar-02	392464	20	January 31, 2010
TREATY 6	Heritage Explorations Ltd.	20-Mar-02	392465	20	January 31, 2010
TREATY 7	Heritage Explorations Ltd.	20-Mar-02	392466	4	January 31, 2010
TREATY 8	Heritage Explorations Ltd.	20-Mar-02	392467	6	January 31, 2010
TREATY 9	Heritage Explorations Ltd.	20-Mar-02	392468	20	January 31, 2010
TREATY 10	Heritage Explorations Ltd.	20-Mar-02	392469	12	January 31, 2010
LANCE 5	Heritage Explorations Ltd.	9-Jun-02	394157	6	January 31, 2011
MEGAN 3	Heritage Explorations Ltd.	9-Jun-02	394158	4	June 9, 2010
MEGAN 4	Heritage Explorations Ltd.	8-Jun-02	394159	3	June 9, 2010
SKI	Heritage Explorations Ltd.	9-Jun-02	394160	5	January 31, 2011
DWAYNE 2	Heritage Explorations Ltd.	8-Jun-02	394161	7	January 31, 2011
AFT	Heritage Explorations Ltd.	9-Jun-02	394162	2	January 31, 2011
SHIRLEY	Heritage Explorations Ltd.	9-Jun-02	394163	3	June 9, 2010
FREDDY 1	Heritage Explorations Ltd.	9-Jun-02	394164	3	January 31, 2011
FREDDY 2	Heritage Explorations Ltd.	9-Jun-02	394165	3	January 31, 2011
SUL 1	Heritage Explorations Ltd.	7-Aug-03	404668	20	August 7, 2008
SUL 2	Heritage Explorations Ltd.	7-Aug-03	404669	20	August 7, 2008
TOTAL	**192**	**claims**		**2,118**	

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix V

Expenditures & Assessment Data

2004

HERITAGE EXPLORATIONS LTD

Eskay Project Timesheet

T travelling — Treaty
C camp — Bonsai

	JUNE						JULY															SEPTEMBER																			OCTOBER			
	25 Wed	26 Thu	27 Fri	28 Sat	29 Sun	30 Mon	1 Tue	2 Wed	3 Thu	11 Fri	12 Sat	13 Sun	14 Mon	15 Tue	16 Wed	17 Thu	18 Fri	19 Sat	20 Mon	21 Tue	22 Wed	12 Fri	13 Sat	14 Sun	15 Mon	16 Tue	17 Wed	18 Thu	19 Fri	20 Sat	21 Sun	22 Mon	23 Tue	24 Wed	25 Thu	26 Fri	27 Sat	28 Sun	29 Mon	30 Tue	1 Wed	2 Thu	3 Fri	Total Mandays
Heritage / Geoinformatics																																												
Gerry Bidwell	T	Bo	T	Bo	C	Bo	Bo																T	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	T											18
Tony Worth			T	Bo	Tr	Bo	Bo	T			Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo																							17
Minconsult																																												
Tim Bissett															Bo																													1
Arden Braden	T	Bo	Bo	Bo	Tr																																							5
John Greenwood	T	Bo	Bo	Bo	Tr					Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo		T	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	38
Bob																																										Tr	Tr	2
Aggressive Drilling																																												
M. McLellan							Bo				Bo																																	2
M. Rennie			Bo	Bo	Bo	Bo	Bo																																					5
R. Repolusk			Bo	Bo	Bo	Bo	Bo				Bo	Bo	Bo	Bo	Bo	Bo	Bo																											12
G. Nixon			Bo	Bo	Bo	Bo	Bo																																					5
D. Smith			Bo	Bo	Bo	Bo	Bo																																					5
T. Rank											Bo	Bo	Bo	Bo	Bo	Bo	Bo																											7
D. Miles											Bo	Bo	Bo	Bo	Bo	Bo	Bo																											7
R. Lawrick											Bo	Bo	Bo	Bo	Bo	Bo	Bo																											7
Hy-Tech Drilling																																												
T. Hooper																									Tr	Tr																		2
S. Schiller																									Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr										10
P. Greene																									Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr										10
C. Petersen																									Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr										10
J. Giling																											Tr	Tr	Tr	Tr	Tr	Tr	Tr	Tr										8
Total Mandays	3	3	8	8	8	6	7	1	0	1	7	6	6	6	7	6	6	2	2	2	2	0	2	2	6	6	6	6	6	6	6	6	6	5	1	1	1	1	1	1	1	2	2	171
Cumulative Total	3	6	14	22	30	36	43	44	44	45	52	58	64	70	77	83	89					97			107	113	119	125	131	137	143	149	155	160	161	162	163	164	165					171
Helicopter Time		3.5	6.2	5.5	6.3	4.2	8.9	0.8	2.4		1.8	4.2	3.8	3.8	3.1	1.2	4.0	2.8	2.0	1.7		1.6		5.3	21.4	5.1	6.4	1.8	5.3	1.6	5.7	9.3	6.4	8.3								4.7		
Cumulative Total		3.5	9.7	15.2	21.5	25.7	34.6	35.4	37.8		39.6	43.8	47.6	51.4	54.5	55.7	59.7	62.5	64.5	66.2		67.8		73.1	94.5	99.6	106.0	107.8	113.1	114.7	120.4	129.7	136.1	144.4								149.1		149.1
Samples																					16																29						155	
Cumulative Total																					16																45						200	200

2004 ASSESSMENT	Total Expenditures Jun 25 - Nov 30, 2004	Expenditure applicable for assessment
Geol consulting (logging)	18,400.00	16,000.00
Geological modelling & core logging	32,705.83	10,000.00
Airborne geophysics	337,500.00	
Office supplies	2,532.78	390.98
Diamond Drilling (contractor charges)	82,312.20	82,312.20
Analytical fees	5,575.48	5,575.48
Core boxes	3,368.21	3,368.21
Field supplies (core saw rental)	14,910.99	13,919.99
Camp rental (truck rental)	13,194.93	13,194.93
Camp construction (core storage)	413.14	413.14
Camp equipment storage	5,100.00	
Accomodation / travel	35,206.38	29,901.57
Communication	9,552.65	8,019.44
First aid	57.99	57.99
Field labour	20,464.52	20,464.52
Helicopter	194,780.35	194,780.35
Miscellaneous	285.31	285.31
Fuel	14,203.66	4,455.02
Freight charges	2,060.83	2,060.83
Land & permits (Barrick road permit)	1,000.00	1,000.00
GST (subtracted)	-6,859.12 -	3,484.43
Total	**786,766.13**	**402,715.53**

ESKAY PROJECT

2004 FIELD PROGRAM

Appendix VI

Geoinformatics Eskay Creek Lithology Codes and Colour Legend

(a) Lithology Codes
- **i lithology codes**
- **ii alteration assemblage codes**
- **iii veining codes**
- **iv structures code**

(b) Lithology Colour Legend

(see pocket)

STRUCTURES - Normalised table structure - for Ductile, Brittle and Primary structures

HOLE_ID	…iginal_fro	Original_to	STRUCTURE_1	CODE	INTENSITY		ANGLE	angle to the core axis	dip	dip direction
					( )	absolute	( )	angle to c/a	(12)	(123)
					wk	weak	5	sub parallel to c/a		

PRIMARY STRUCTURES

STRUCTURE_1	CODE
massive undeformed	MAS
bedding / bedded	SOO
graded bedding	SOG
bedding , parallel	SOP
bedding, top known	SOT
bedding, top unknown	SOU
bedding, vertical	SOV

DUCTILE STRUCTURES

STRUCTURE_1	CODE
undivided foliation -cleavage	SFO
foliation, vertical	SFV
schistosity	SFS
laminations	SFL
crenulation cleavage	SFC
S-C fabric	SSC
mylonite/mylonite zone	SMY
shear/ shear zone	SHZ
linear fabric (constrictional or stretched features)	LIO
lineation intersection(bed/clv, clv/clv)	LIX
lineation mineral	LIM
lineation rodding	LIR
lineation of fold axis	LFA
lineation of M vergent fold axis	LFM
lineation of Z vergent fold axis	LFZ
lineation of S vergent fold axis	LFS
folded lithologies	FOL
anticline	FAO
syncline	FSO
fold axial plane	FAP

BRITTLE STRUCTURES

STRUCTURE_1	CODE
fault	ZFO
fault zone	ZFZ
reverse fault	ZFR
normal fault	ZFN
thrust fault	ZFT
strike-slip fault	ZFS
fault gouge/ clay/pug	ZFG
fault lineations (e.g:slickensides/slickenlines/slickenfibres/slips)	ZFL
fault breccia	ZFX
cataclastic	ZFC
fracture	FRO
fracture, vertical	FRV
fracture zone	FRZ
joints/ jointing	JOO

INTENSITY

INTENSITY	
( )	absolute
wk	weak
wk	poorly
wk	(+/-)
wk	some
wk	partly
med	medium
med	moderate
med	well developed
stg	strong
stg	throughout
int	intense
unk	finely
unk	numerous
unk	unknown

RULES

Create small (0.1m or ft) fault intervals where faults are recorded as point features
Eg: Faults recorded at 54.m, 64.2m, and 72.1m become
54.0 - 54.1m, 64.2 - 64.3m, 72.1 - 72.2m
Use 0.1m interval with care and discretion.
Use same rule for feet
as in 72.1ft to 72.2ft
( ) Use absolute angle to the core axis
For subparallel angles to the core axis - use 5 degrees

EXAMPLES

54.7 - 78.3m An intensely faulted and brecciated mylonitic rock
54.7 - 78.3 ZFX/unk
54.7 - 78.3 SMY/int

78.3 - 80.1m Fault gouge, fault breccia
78.3 - 80.1m ZFG/unk
78.3 - 80.1m ZFX/unk

80.1 - 101.5m Strongly folded chert beds with well developed fracture cleavage
80.1 - 101.5m FOL/str
80.1 - 101.5m FRO/med

101.5 - 110m A weakly foliated mafic rock with discing, surfaces show slickenlines
foliations are 65 degrees to the c/a
101.5 - 110m SFO/wk/65
101.5 - 110m ZFL/unk

110 - 132.8m A weakly folded phyllite with well developed micaceous mineral lineations
110 - 132.8m FOL/wk
111 - 132.8m LIM/med

132.8 - 167 Well developed bedding with variable angles subparallel to the core axis
132.8 - 167m SOO/med/5

PRIMARY STRUCTURES

massive undeformed	MAS
bedding / bedded	SOO
graded bedding	SOG

DUCTILE STRUCTURES

undivided foliation -cleavage	SFO
schistosity	SFS
laminations	SFL
crenulation cleavage	SFC
S-C fabric	SSC
mylonite/mylonite zone	SMY
shear/ shear zone	SHZ
linear fabric (constrictional or stretched features)	LIO
lineation intersection(bed/clv, clv/clv)	LIX
lineation mineral	LIM
lineation rodding	LIR
lineation of fold axis	LFA
lineation of M vergent fold axis	LFM
lineation of Z vergent fold axis	LFZ
lineation of S vergent fold axis	LFS
folded lithologies	FOL
anticline	FAO
syncline	FSO
fold axial plane	FAP

BRITTLE STRUCTURES

fault	ZFO
fault zone	ZFZ
reverse fault	ZFR
normal fault	ZFN
thrust fault	ZFT
strike-slip fault	ZFS
fault gouge/ clay/pug	ZFG
(e.g:slickensides/slickenlines/slic	ZFL
fault breccia	ZFX
cataclastic	ZFC
fracture	FRO
fracture zone	FRZ
joints/ jointing	JOO

VEINING (for maps only)

Undiferentiated vein	VOO
Vein_texture_dominant mineral	**eg: VMQ = massive quartz vein**

Codes Added	
Contact	Ct
Flow Banding	FB
Foliation 1st generation	S1
Foliation 2ND generation	S2
Foliation Moderate	Sm
Foliation Shear Zone	Sz
Foliation Strong	Ss
Foliation strong 1st generation	Ss1
Foliation strong 2nd generation	Ss2
Foliation Weak	Sw
Intersection lineation S0/S1	L01
Intersection lineation S1/S2	L12
Slickenside	Sl

ESKAY CREEK LITHOLOGICAL LEGEND

INTRUSIVE ROCKS

- IOOO Undifferntiated Intrusives
- IFOO Felsic Intrusives
- IFGO Granite intrusive
- IFNO Granodiorite
- IFKO Syenite
- IFRO Rhyolitic intrusive
- IIOO Intermediate intrusive
- IIMO Monzonite
- IIDO Diorite
- IIZO Quartz monzonite
- IIIO Monzodiorite
- IIQO Quartz diorite
- IMOO Mafic intrusive
- IMDO Dolerite
- IMPO Gabbro
- ILDO Lamprophyre

METAMORPHIC ROCKS

- ROOO Undifferentiated Metamorphics
- RSOO Meta-sedimentary rocks
- RYOO Meta-volcaniclastic rocks
- RVOO Meta-volcaniclastic rocks
- ROSO Metamorphic schistoserocks

SEDIMENTARY ROCKS

- SOOO Undifferentiated Sediments
- SAOO Mudstone/argillite
- SCOO Chert
- SGOO Conglomerate
- SIOO Siltstone
- SLOO Limestone
- SSOO Sandstone
- SWOO Wacke

VOLCANIC ROCKS

- VOOO Undifferentiated Volcanics
- VFOO Felsic lava
- VFDO Dacite lava
- VFRO Rhyolite lava
- VIOO Intermediate Volcanic Rocks
- VIAO Andesite lava
- VMOO Mafic Volcanic Rocks
- VMBO Basalt lava
- VFCO Rhyodacite Lava

VOLCANICLASTIC ROCKS

- YOOO Undifferentiated Volcaniclastics
- YFOO Felsic Volcaniclastics
- YFCO Rhyodacitic tuff
- YFDO Dacite tuff
- YFRO Rhyolitic tuff
- YIOO Intermediate tuff
- YIAO Andesite tuff
- YMOO Mafic tuff
- YMBO Basalt tuff

OTHER

- OOOO Unknown and unidentified (?)
- QOOO Quartz
- AOOO Altered Rock

INTERSTRATIFIED ROCKS

- XOOO Undifferentiated Interstratified Rocks
- XSOO Interstratified Sedimentary Rocks
- XSAO Mudstone +/- Siltstone +/- sandstone +/- conglomerate
- XSIO Siltstone +/-mudstone +/-sandstone
- XSGO Conglomerate +/- sandstone +/- wacke +/- siltsone/mudstone
- XSSO Sandstone +/-siltstone/mudstone +/-conglomerate
- XSLO Limestone +/-siltstone +/-sandstone
- XSWO Wacke +/- siltstone/mudstone +/- conglomerate +/- polymictic breccia
- XSCO Chert +/- mudstone +/- siltstone
- XVOO Interstratified volcanic and epiclastic Rocks
- XVAO Interstratified andesitic volcanics and epiclastic rocks
- XVCO Interstratified rhyodacitic volcanics and epiclastic rocks
- XVDO Interstratified dacitic volcanics and epiclastic rocks
- XVFO Interstratified felsic volcanics and epiclastic rocks
- XVIO Interstratified intermediate volcanics and epiclastic rocks
- XVMO Interstratified mafic volcanics and epiclastic rocks
- XVBO Interstratified basalt volcanics and epiclastic rocks
- XVRO Interstratified rhyolitic volcanics and epiclastic rocks
- XYOO Interstratified volcaniclastics +/- epiclastic rocks
- XYAO Interstratified andesitic volcaniclastics +/- epiclastic rocks
- XYBO Interstratified basaltic volcaniclastics +/- epiclastic rocks
- XYCO Interstratified rhyodacitic volcaniclastics +/- epiclastic rocks
- XYDO Interstratified dacitic volcaniclastics +/- epiclastic rocks
- XYFO Interstratified rhyolitic volcaniclastics +/- epiclastic rocks
- XYIO Interstratified intermediate volcaniclastics +/- epiclastic rocks
- XYMO Interstratified mafic volcaniclastics +/- epiclastic rocks
- XYRO Interstratified rhyolitic volcaniclastics +/- epiclastic rocks

GEOINFORMATICS ESKAY CREEK LITHOLOGY CODES - flat table structure

VOLCANICLASTIC	FG_lith_ code
Undifferentiated Volcaniclastic Rocks	YOOO
Undiff epiclastic tuff	YOOE
Massive/blocky undiff tuff +/-tuff breccia	YOOU
Undiff lithic tuff +/-tuff breccia	YOOR
Undiff lapilli tuff; variably welded +/-tuff breccia	YOOL
Undiff crystal tuff +/-tuff breccia	YOOY
Undiff ash tuff +/-tuff breccia	YOOA
Undiff tuff breccia +/- Undiff tuff	YOOX
Undiff tuff; fine-grained	YOOF
Undiff tuff; medium-grained	YOOM
Undiff tuff; coarse-grained	YOOC
Undiff Felsic Volcaniclastics	YFOO
Undiff felsic tuff	YFOO
Undiff felsic epiclastic tuff	YFOE
Massive/blocky felsic tuff +/-tuff breccia	YFOU
Felsic lithic tuff +/-tuff breccia	YFOR
Felsic lapilli tuff; variably welded +/-tuff breccia	YFOL
Felsic crystal tuff +/-tuff breccia	YFOY
Felsic ash tuff +/-tuff breccia	YFOA
Felsic tuff breccia +/- felsic tuff	YFOX
Felsic tuff; fine-grained	YFOF
Felsic tuff; medium-grained	YFOM
Felsic tuff; coarse-grained	YFOC
Rhyolitic tuff	YFRO
Undiff rhyolitic epiclastic tuff	YFRE
Massive/blocky rhyolitic tuff +/-tuff breccia	YFRU
Rhyolite lithic tuff +/-tuff breccia	YFRR
Rhyolite lapilli tuff; variably welded +/-tuff breccia	YFRL
Rhyolite crystal tuff +/-tuff breccia	YFRY
Rhyolite ash tuff +/-tuff breccia	YFRA
Rhyolite tuff breccia +/- rhyolite tuff	YFRX
Rhyolite tuff; fine-grained	YFRF
Rhyolite tuff; medium-grained	YFRM
Rhyolite tuff; coarse-grained	YFRC
Dacite tuff	YFDO
Undiff dacitic epiclastic tuff	YFDE
Massive/blocky dacitic tuff +/-tuff breccia	YFDU
Dacite lithic tuff +/-tuff breccia	YFDR
Dacite lapilli tuff; variably welded +/-tuff breccia	YFDL
Dacite crystal tuff +/-tuff breccia	YFDY
Dacite ash tuff +/-tuff breccia	YFDA
Dacite tuff breccia +/- dacite tuff	YFDX
Dacite tuff; fine-grained	YFDF
Dacite tuff; medium-grained	YFDM
Dacite tuff; coarse-grained	YFDC
Rhyodacitic tuff	YFCO
Undiff rhyodacitic epiclastic tuff	YFCE
Massive/blocky rhyodacitic tuff +/-tuff breccia	YFCU
Rhyodacite lithic tuff +/-tuff breccia	YFCR
Rhyodacite lapilli tuff; variably welded +/-tuff breccia	YFCL
Rhyodacite crystal tuff +/-tuff breccia	YFCY
Rhyodacite ash tuff +/-tuff breccia	YFCA
Rhyodacite tuff breccia +/- rhyodacite tuff	YFCX
Rhyodacite tuff; fine-grained	YFCF
Rhyodacite tuff; medium-grained	YFCM
Rhyodacite tuff; coarse-grained	YFCC
Undiff Intermediate Volcaniclastics	YIOO
Undiff Intermediate tuff	YIOO
Undiff intermediate epiclastic tuff	YIOE
Massive/blocky intermediate tuff +/-tuff breccia	YIOU
Intermediate lithic tuff +/-tuff breccia	YIOR
Intermediate lapilli tuff; variably welded +/-tuff breccia	YIOL
Intermediate crystal tuff +/-tuff breccia	YIOY
Intermediate ash tuff +/-tuff breccia	YIOA
Intermediate tuff breccia +/- intermediate tuff	YIOX
Intermediate tuff; fine-grained	YIOF
Intermediate tuff; medium-grained	YIOM
Intermediate tuff; coarse-grained	YIOC
Undiff andesite tuff	YIAO
Undiff andesitic epiclastic tuff	YIAE
Massive/blocky andesitic tuff +/-tuff breccia	YIAU
Andesite lithic tuff +/-tuff breccia	YIAR
Andesite lapilli tuff; variably welded +/-tuff breccia	YIAL
Andesite crystal tuff +/-tuff breccia	YIAY
Andesite ash tuff +/-tuff breccia	YIAA
Andesite tuff breccia +/- andesite tuff	YIAX
Andesite tuff; fine-grained	YIAF
Andesite tuff; medium-grained	YIAM
Andesite tuff; coarse-grained	YIAC
Undiff Mafic Volcaniclastics	YMOO
Undiff mafic tuff	YMOO
Undiff mafic epiclastic tuff	YMOE
Massive/blocky mafic tuff +/-tuff breccia	YMOU
Mafic lithic tuff +/-tuff breccia	YMOR
Mafic lapilli tuff; variably welded +/-tuff breccia	YMOL
Mafic crystal tuff +/-tuff breccia	YMOY
Mafic ash tuff +/-tuff breccia	YMOA
Mafic tuff breccia +/- Mafic tuff	YMOX
Mafic tuff; fine-grained	YMOF
Mafic tuff; medium-grained	YMOM
Mafic tuff; coarse-grained	YMOC
Undiff basalt tuff	YMBO
Undiff basaltic epiclastic tuff	YMBE
Massive/blocky basaltic tuff +/-tuff breccia	YMBU
Basalt lithic tuff +/-tuff breccia	YMBR
Basalt lapilli tuff; variably welded +/-tuff breccia	YMBL
Basalt crystal tuff +/-tuff breccia	YMBY
Basalt ash tuff +/-tuff breccia	YMBA
Basalt tuff breccia +/- Basalt tuff	YMBX
Basalt tuff; fine-grained	YMBF
Basalt tuff; medium-grained	YMBM
Basalt tuff; coarse-grained	YMBC

INTRUSIVE	FG_lith_ code
Undifferentiated Intrusives	IOOO
Undiff Felsic Intrusives	IFOO
Undiff felsic intrusive	IFOO
Undiff massive felsic intrusive	IFOU
Porphyritic felsic intrusive	IFOP
Fine-grained felsic intrusive	IFOF
Medium-grained felsic intrusive	IFOM
Coarse-grained felsic intrusive	IFOC
Felsic intrusive breccia	IFOX
Undiff granite intrusive	IFGO
Undiff massive granite	IFGU
Porphyritic granite	IFGP
Fine-grained granite	IFGF
Medium-grained granite	IFGM
Coarse-grained granite	IFGC
Granite breccia	IFGX
Undiff rhyolitic intrusive	IFRO
Undiff massive rhyolite intrusive	IFRU
Porphyritic rhyolite intrusive	IFRP
Fine-grained rhyolite intrusive	IFRF
Medium-grained rhyolite intrusive	IFRM
Coarse-grained rhyolite intrusive	IFRC
Rhyolite intrusive breccia	IFRX
Undiff granodiorite	IFNO
Undiff massive granodiorite	IFNU
Porphyritic granodiorite	IFNP
Fine-grained granodiorite	IFNF
Medium-grained granodiorite	IFNM
Coarse-grained granodiorite	IFNC
Granodiorite breccia	IFNX
Undiff syenite	IFKO
Undiff massive syenite	IFKU
Porphyritic syenite	IFKP
Fine-grained syenite	IFKF
Medium-grained syenite	IFKM
Coarse-grained syenite	IFKC
Syenite breccia	IFKX
Undiff Intermediate Intrusives	IIOO
Undiff intermediate intrusive	IIOO
Undiff massive intermediate intrusive	IIOU
Porphyritic intermediate intrusive	IIOP
Fine-grained intermediate intrusive	IIOF
Medium-grained intermediate intrusive	IIOM
Coarse-grained intermediate intrusive	IIOC
Intermediate intrusive breccia	IIOX
Undiff diorite	IIDO
Massive diorite intrusive	IIDU
Porphyritic diorite intrusive	IIDP
Fine-grained diorite intrusive	IIDF
Medium-grained diorite intrusive	IIDM
Coarse-grained diorite intrusive	IIDC
Diorite breccia	IIDX
Undiff monzonite	IIMO
Massive monzonite intrusive	IIMU
Porphyritic monzonite intrusive	IIMP
Fine-grained monzonite intrusive	IIMF
Medium-grained monzonite intrusive	IIMM
Coarse-grained monzonite intrusive	IIMC
Monzonite breccia	IIMX
Undiff quartz diorite	IIQO
Massive quartz diorite intrusive	IIQU
Porphyritic quartz diorite intrusive	IIQP
Fine-grained quartz diorite intrusive	IIQF
Medium-grained quartz diorite intrusive	IIQM
Coarse-grained quartz diorite intrusive	IIQC
Quartz diorite breccia	IIQX
Quartz monzonite	IIZO
Massive quartz monzonite intrusive	IIZU
Porphyritic quartz monzonite intrusive	IIZP
Fine-grained quartz monzonite intrusive	IIZF
Medium-grained quartz monzonite intrusive	IIZM
Coarse-grained quartz monzonite intrusive	IIZC
Quartz monzonite breccia	IIZX
Undiff monzodiorite	IIIO
Massive monzodiorite intrusive	IIIU
Porphyritic monzodiorite intrusive	IIIP
Fine-grained monzodiorite intrusive	IIIF
Medium-grained monzodiorite intrusive	IIIM
Coarse-grained monzodiorite intrusive	IIIC
Monzodiorite breccia	IIIX
Undiff Mafic Intrusives	IMOO
Undiff mafic intrusive	IMOO
Undiff massive mafic intrusive	IMOU
Porphyritic mafic intrusive	IMOP
Fine-grained mafic intrusive	IMOF
Medium-grained mafic intrusive	IMOM
Coarse-grained mafic intrusive	IMOC
Mafic intrusive breccia	IMOX
Undiff gabbro	IMPO
Massive gabbro intrusive	IMPU
Porphyritic gabbro intrusive	IMPP
Fine-grained gabbro intrusive	IMPF
Medium-grained gabbro intrusive	IMPM
Coarse-grained gabbro intrusive	IMPC
Gabbroic breccia	IMPX
Undif Dolerite	IMDO
Massive dolerite intrusive	IMDU
Porphyritic dolerite intrusive	IMDP
Fine-grained dolerite intrusive	IMDF
Medium-grained dolerite intrusive	IMDM
Coarse-grained dolerite intrusive	IMDC
Doleritic breccia	IMDX
Undiff lamprophyre	ILDO
Massive lamprophyre intrusive	ILDU
Porphyritic lamprophyre intrusive	ILDP
Fine-grained lamprophyre intrusive	ILDF
Medium-grained lamprophyre intrusive	ILDM
Coarse-grained lamprophyre intrusive	ILDC
Lamprophyric breccia	ILDX

VOLCANIC	FG_lith_ code
Undifferentiated Volcanic Rocks	VOOO
Massive undiff lava	VOOU
Undiff phyric lava	VOOP
Undiff lava; flow-banded	VOOB
Undiff autoclastic breccia +/- undiff lava	VOOX
Undiff hyaloclastite +/- Undiff lava	VOOH
Cherty undiff lavas	VOOQ
Fine grained undiff lava	VOOF
Medium grained undiff lava	VOOM
Coarse grained undiff lava	VOOC
Undiff Felsic Volcanic Rocks	VFOO
Undiff felsic lava	VFOO
Massive felsic lava	VFOU
Felsic lava; quartz +/- feldspar phyric	VFOP
Felsic lava; flow-banded	VFOB
Felsic autoclastic breccia +/- felsic lava	VFOX
Felsic hyaloclastite +/- felsic lava	VFOH
Cherty felsic lavas	VFOQ
Fine grained felsic lava	VFOF
Medium grained felsic lava	VFOM
Coarse grained felsic lava	VFOC
Undiff rhyolite lava	VFRO
Massive rhyolite lava	VFRU
Rhyolite lava; quartz +/- feldspar phyric	VFRP
Rhyolite lava; flow-banded	VFRB
Rhyolite autoclastic breccia +/- rhyolitic lava	VFRX
Rhyolite hyaloclastite +/- rhyolite lava	VFRH
Cherty rhyolite lavas +/- autobreccia	VFRQ
Undiff dacite lava	VFDO
Massive dacite lava	VFDU
Dacite lava; quartz +/- feldspar phyric	VFDP
Dacite lava; flow-banded	VFDB
Dacite autoclastic breccia +/- dacitic lava	VFDX
Dacite hyaloclastite +/- dacite lava	VFDH
Dacite lava; pillowed +/ -pillow breccia	VFDW
Cherty dacitic lavas +/- autobreccia	VFDQ
Undiff rhyodacite lava	VFCO
Massive rhyodacite lava	VFCU
Rhyodacite lava; quartz +/- feldspar phyric	VFCP
Rhyodacite lava; flow-banded	VFCB
Rhyodacite autoclastic breccia +/- rhyodacitic lava	VFCX
Rhyodacite hyaloclastite +/- rhyodacite lava	VFCH
Cherty rhyodacitic lavas +/- autobreccia	VFCQ
Undiff Intermediate Volcanic Rocks	VIOO
Undiff intermediate lava	VIOO
Massive intermediate lava	VIOU
Intermediate lava; hbl/cpx-feldspar phyric	VIOP
Intermediate lava; flow-banded	VIOB
Intermediate autoclastic breccia +/- intermediate lava	VIOX
Intermediate hyaloclastite +/- intermediate lava	VIOH
Intermediate lava; pillowed +/ -pillow breccia	VIOW
Intermediate lava; amygdaloidal	VIOV
Undiff andesite lava	VIAO
Massive andesite lava	VIAU
Andesite lava; hbl/cpx-feldspar phyric	VIAP
Andesite lava; flow-banded	VIAB
Andesite autoclastic breccia +/- andesitic lava	VIAX
Andesite hyaloclastite +/- andesite lava	VIAH
Andesite lava; pillowed +/- pillow breccia	VIAW
Andesite lava; amygdaloidal/vesicular	VIAV
Undiff Mafic Volcanic Rocks	VMOO
Undiff mafic lava	VMOO
Massive Mafic lava	VMOU
Mafic lava; hbl/cpx-feldspar phyric	VMOP
Mafic lava: flow-banded	VMOB
Mafic autoclastic breccia +/- mafic lava	VMOX
Mafic hyaloclastite +/- mafic lava	VMOH
Mafic pillow lava +/- pillow breccia	VMOW
Mafic lava; amygdaloidal/vesicular	VMOV
Undiff basalt lava	VMBO
Massive basalt lava	VMBU
Basalt lava; hbl/cpx-feldspar phyric	VMBP
Basalt lava: flow-banded	VMBB
Basalt autoclastic breccia +/- basalt lava	VMBX
Basalt hyaloclastite +/- basalt lava	VMBH
Pillow basalt +/- pillow breccia	VMBW
Basalt lava; amygdaloidal/vesicular	VMBV

SEDIMENTS	FG_lith _code
Undifferentiated Sediments	SOOO
Feldspathic epiclastic sediment	SOKE
Sedimentary breccia	SOOX
Feldspathic tuffaceous sediment	SOVE
Calcareous sediment	SOBO
Undiff Conglomerate	SGOO
Undiff conglomerate	SGOO
Undiff feldspathic/arkosic conglomerate	SGKO
Undiff carbonaceous conglomerate	SGCO
Undiff lithic conglomerate	SGRO
Undiff Polymict Conglomerate	SGPO
Undiff granitic conglomerate	SGGO
Undiff quartzose conglomerate	SGQO
Pebble-boulder quartz conglomerate	SGQM
Undiff arenaceous conglomerate	SGSO
Undiff volcanic conglomerate	SGVO
Undiff felsic conglomerate	SGFO
Undiff mafic conglomerate	SGMO
Undiff andesitic conglomerate	SGAO
Undiff hematitic conglomerate	SGIO
Undiff chert conglomerate	SGHO
Undiff fossiliferous conglomerate	SGLO
Undiff calcareous conglomerate	SGBO
Undiff sulphidic conglomerate	SGZO
Undiff Sandstone	SSOO
Undiff sandstone	SSOO
Undiff feldspathic/arkosic sandstone	SSKO
Undiff carbonaceous sandstone	SSCO
Undiff lithic sandstone	SSRO
Undiff granitic sandstone	SSGO
Undiff quartzose sandstone	SSQO
Undiff arenaceous sandstone	SSSO
Undiff volcanic sandstone	SSVO
Undiff felsic sandstone	SSFO
Undiff andesitic sandstone	SSAO
Undiff mafic sandstone	SSMO
Undiff hematitic sandstone	SSIO
Undiff chert sandstone	SSHO
Undiff fossiliferous sandstone	SSLO
Undiff calcareous sandstone	SSBO
Undiff sulphidic sandstone	SSZO
Undiff Wacke	SWOO
Undiff wacke	SWOO
Undiff feldspathic/arkosic wacke	SWKO
Undiff carbonaceous wacke	SWCO
Undiff lithic wacke	SWRO
Undiff granitic wacke	SWGO
Undiff quartzose wacke	SWQO
Undiff arenaceous wacke	SWSO
Undiff volcanic wacke	SWVO
Undiff felsic wacke	SWFO
Undiff andesitic wacke	SWAO
Undiff mafic wacke	SWMO
Undiff hematitic wacke	SWIO
Undiff cherty wacke	SWHO
Undiff fossiliferous wacke	SWLO
Undiff calcareous wacke	SWBO
Undiff sulphidic wacke	SWZO
Undiff Siltstone	SIOO
Undiff siltstone	SIOO
Undiff feldspathic/arkosic siltstone	SIKO
Undiff carbonaceous siltstone	SICO
Undiff lithic siltstone	SIRO
Undiff granitic siltstone	SIGO
Undiff quartzose siltstone	SIQO
Undiff arenaceous siltstone	SISO
Undiff volcanic siltstone	SIVO
Undiff felsic siltstone	SIFO
Undiff andesitic siltstone	SIAO
Undiff mafic siltstone	SIMO
Undiff hematitic siltstone	SIIO
Undiff cherty siltstone	SIHO
Undiff fossiliferous siltstone	SILO
Undiff calcareous siltstone	SIBO
Undiff sulphidic siltstone	SIZO
Undiff Mudstone/argillite	SAOO
Undiff argillite	SAOO
Undiff feldspathic/arkosic argillite	SAKO
Undiff carbonaceous argillite	SACO
Epiclastic carbonaceous argillite	SACE
Undiff lithic argillite	SARO
Undiff granitic argillite	SAGO
Undiff quartzose argillite	SAQO
Undiff arenaceous argillite	SASO
Undiff volcanic argillite	SAVO
Undiff felsic argillite	SAFO
Undiff andesitic argillite	SAAO
Undiff mafic argillite	SAMO
Undiff hematitic argillite	SAIO
Undiff cherty argillite	SAHO
Undiff fossiliferous argillite	SALO
Undiff calcareous argillite	SABO
Undiff sulphidic argillite	SAZO
Undiff Chert	SCOO
Undiff chert	SCOO
andesitic chert	SCAO
Hematitic chert	SCIO
Sulphidic chert	SCZO
Carbonaceous chert	SCCO
Brecciated carbonaceous chert	SCCX
Undiff Limestone	SLOO
Undiff limestone	SLOO
Undiff arenaceous/sandy limestone	SLSO
Undiff fossiliferous limestone	SLLO
Undiff dolomititic limestone	SLDO

TEXTUAL QUALIFIERS (Sediments)

- ___U (massive)
- ___I (polymictic)
- ___E (epiclastic)
- ___B (variably bedded)
- ___F (fine-grained)
- ___M (medium-grained)
- ___C (coarse-grained)
- ___G (graded)
- ___X (breccia)

NB: For conglomerate clast size:

- ___F (granule
- ___M (pebble-cobble)
- ___C (boulder)

METAMORPHIC	FG_lith_ code
Undiff Metamorphic rocks	ROOO
Undiff Metamorphic schistose rock	ROSO
Undiff Meta-volcanic rocks	RVOO
Undiff meta-volcanic amphibolite	RVAO
Undiff meta-volcanic phyllite	RVPO
Undiff meta-volcanic schist	RVSO
Undiff meta-volcanic gneiss	RVGO
Undiff meta-volcanic hornfels	RVFO
Undiff Meta-volcaniclastic rocks	RYOO
Undiff meta-volcaniclastic amphibolite	RYAO
Undiff meta-volcaniclastic phyllite	RYPO
Undiff meta-volcaniclastic schist	RYSO
Undiff meta-volcaniclastic psammite	RYMO
Undiff meta-volcaniclastic gneiss	RYGO
Undiff meta-volcaniclastic hornfels	RYFO
Undiff Meta-sedimentary rocks	RSOO
Undiff meta-sedimentary pelite	RSHO
Undiff meta-sedimentary phyllite	RSPO
Undiff meta-sedimentary schist	RSSO
Undiff meta-sedimentary psammite	RSMO
Undiff meta-sedimentary gneiss	RSGO
Undiff meta-sedimentary hornfels	RSFO

TEXTUAL QUALIFIERS (Metamorphic)

- ___C (chloritic +/-)
- ___F (feldspathic +/-)
- ___B (Biotitic +/-)
- ___G (Garnetiferous +/-)
- ___A (Andalusite +/-)
- ___S (Sericitic +/-)
- ___E (epidotized +/-)

INTERSTRATIFIED	FG_lith_ code
Undifferentiated Interstratified Rocks	XOOO
Undifferentiated Interstratified Sedimentary Rocks	XSOO
Undifferentiated Interstratified Epiclastic Sedimentary rocks	XSOE
Undiff conglomerate +/- sandstone +/- wacke +/- siltsone/mudstone	XSGO
Chert pebble to cobble conglomerate with sandstone	XSGH
Polylithic quartz pebble conglomerate and quartz wacke	XSGQ
Volcanic conglomerate and sand/siltstone	XSGV
Undiff sandstone +/-siltstone/mudstone +/-conglomerate	XSSO
Andesitic epiclastic rocks; coarse-grained sandstone to conglomerate	XSSA
Volcanic sandstone, conglomerate, local bioclastic sandy limestone intervals	XSSL
Thinly bedded feldspathic sandstone/wacke, siltstone, mudstone	XSSK
Medium to thickly bedded feldspathic sandstone and heterolithic tuffaceous conglomerate	XSSR
Volcanic sandstone and conglomerate +/-siltstone/mudstone	XSSV
Undiff (lithic) wacke +/- siltstone/mudstone +/- conglomerate +/- polymictic breccia	XSWO
Feldspathic wacke +/- polymictic breccia	XSWK
Quartz-lithic wacke and carbonaceous mudstone	XSWQ
Polymictic volcanic wacke +/- volcaniclastics	XSWV
Polymictic volcanic wacke +/ carbonaceous mudstone	XSWC
Polymictic volcanic wacke and andesitic volcanics	XSWA
Polymictic volcanic wacke and mafic volcanics	XSWM
Polymictic volcanic wacke and felsic volcanics	XSWF
Polymictic volcanic wacke and epiclastics (debris flow)	XSWE
Undiff siltstone +/-mudstone +/-sandstone	XSIO
Black, variably bedded siltstone/mudstone (with rare sandstone laminae)	XSIC
(Pale green thinly bedded) Siliceous siltstone +/-mudstone	XSIH
Volcanic siltstone +/-mudstone	XSIV
Polymictic volcanic siltstone and epiclastics (debris flow)	XSIE
Undiff mudstone +/-siltstone +/-sandstone +/- conglomerate	XSAO
Carbonaceous mudstone +/- siltstone +/- chert	XSAC
Sulphidic mudstone +/- siltstone +/- chert	XSAZ
Mudstone, volcanic wacke +/- volcaniclastic	XSAV
Mudstone and quartz-lithic wacke	XSAQ
Mudstone, volcanic breccia +/- chert	XSAX
Mudstone and tuffaceous sediments	XSAE
Undiff limestone +/-siltstone +/-sandstone	XSLO
Variably bedded limestone and calcareous siltstone	XSLB
Undiff chert +/- mudstone +/- siltstone	XSCO
Undifferentiated interstratified volcanic and epiclastic Rocks	XVOO
Undiff volcanics and argillaceous epiclastics	XVOF
Undiff volcanics and arenaceous epiclastics	XVOM
Undiff volcanics and and rudaceous epiclastics	XVOC
Undiff volcanics and associated debris flow (volcanics wacke)	XVOE
Undiff pillowed volcanics , pillow breccia and intervolcanic sediments	XVOW
Undiff volcanic breccia, and intervolcanic sediments	XVOX
Undiff hyaloclastitic volcanics and intervolcanic sediments	XVOH
Undiff phyric volcanics and intervolcanic sediments	XVOP
Undiff flowbanded volcanics and intervolcanic sediments	XVOB
Highly vesicular/amygdaloidal undiff volcanics and intervolcanic sediments	XVOV
Interstratified felsic volcanics and epiclastic rocks	XVFO
Felsic volcanics and argillaceous epiclastics	XVFF
Felsic volcanics and arenaceous epiclastics	XVFM
Felsic volcanics and and rudaceous epiclastics	XVFC
Felsic volcanics and associated debris flow (volcanics wacke)	XVFE
Felsic volcanic breccia, and intervolcanic sediments	XVFX
Felsic hyaloclastitic volcanics and intervolcanic sediments	XVFH
Felsic phyric volcanics and intervolcanic sediments	XVFP
Felsic flowbanded volcanics and intervolcanic sediments	XVFB
Highly vesicular/amygdaloidal felsic volcanics and intervolcanic sediments	XVFV
Interstratified rhyolitic volcanics and epiclastic rocks	XVRO
Rhyolitic volcanics and argillaceous epiclastics	XVRF
Rhyolitic volcanics and arenaceous epiclastics	XVRM
Rhyolitic volcanics and and rudaceous epiclastics	XVRC
Rhyolitic volcanics and associated debris flow (volcanics wacke)	XVRE
Rhyolitic volcanic breccia, and intervolcanic sediments	XVRX
Rhyolitic hyaloclastitic volcanics and intervolcanic sediments	XVRH
Rhyolitic phyric volcanics and intervolcanic sediments	XVRP
Rhyolitic flowbanded volcanics and intervolcanic sediments	XVRB
Highly vesicular/amygdaloidal rhyolitic volcanics and intervolcanic sediments	XVRV
Interstratified dacitic volcanics and epiclastic rocks	XVDO
Dacitic volcanics and argillaceous epiclastics	XVDF
Dacitic volcanics and arenaceous epiclastics	XVDM
Dacitic volcanics and and rudaceous epiclastics	XVDC
Dacitic volcanics and associated debris flow (volcanics wacke)	XVDE
Dacitic volcanic breccia, and intervolcanic sediments	XVDX
Dacitic hyaloclastitic volcanics and intervolcanic sediments	XVDH
Dacitic phyric volcanics and intervolcanic sediments	XVDP
Dacitic flowbanded volcanics and intervolcanic sediments	XVDB
Highly vesicular/amygdaloidal dacitic volcanics and intervolcanic sediments	XVDV
Interstratified rhyodacitic volcanics and epiclastic rocks	XVCO
Rhyodacitic volcanics and argillaceous epiclastics	XVCF
Rhyodacitic volcanics and arenaceous epiclastics	XVCM
Rhyodacitic volcanics and and rudaceous epiclastics	XVCC
Rhyodacitic volcanics and associated debris flow (volcanics wacke)	XVCE
Rhyodacitic volcanic breccia, and intervolcanic sediments	XVCX
Rhyodacitic hyaloclastitic volcanics and intervolcanic sediments	XVCH
Rhyodacitic phyric volcanics and intervolcanic sediments	XVCP
Rhyodacitic flowbanded volcanics and intervolcanic sediments	XVCB
Highly vesicular/amygdaloidal rhyodacitic volcanics and intervolcanic sediments	XVCV
Interstratified intermediate volcanics and epiclastic rocks	XVIO
Intermediate volcanics and argillaceous epiclastics	XVIF
Intermediate volcanics and arenaceous epiclastics	XVIM
Intermediate volcanics and and rudaceous epiclastics	XVIC
Intermediate volcanics and associated debris flow (volcanics wacke)	XVIE
Intermediate pillowed volcanics , pillow breccia and intervolcanic sediments	XVIW
Intermediate volcanic breccia, and intervolcanic sediments	XVIX
Intermediate hyaloclastitic volcanics and intervolcanic sediments	XVIH
Intermediate phyric volcanics and intervolcanic sediments	XVIP
Intermediate flowbanded volcanics and intervolcanic sediments	XVIB
Highly vesicular/amygdaloidal intermediate volcanics and intervolcanic sediments	XVIV
Interstratified andesitic volcanics and epiclastic rocks	XVAO
Andesitic volcanics and argillaceous epiclastics	XVAF
Andesitic volcanics and arenaceous epiclastics	XVAM
Andesitic volcanics and and rudaceous epiclastics	XVAC
Andesitic volcanics and associated debris flow (volcanics wacke)	XVAE
Andesitic pillowed volcanics , pillow breccia and intervolcanic sediments	XVAW
Andesitic volcanic breccia, and intervolcanic sediments	XVAX
Andesitic hyaloclastitic volcanics and intervolcanic sediments	XVAH
Andesitic phyric volcanics and intervolcanic sediments	XVAP
Andesitic flowbanded volcanics and intervolcanic sediments	XVAB
Highly vesicular/amygdaloidal andesitic volcanics and intervolcanic sediments	XVAV
Interstratified mafic volcanics and epiclastic rocks	XVMO
Mafic volcanics and argillaceous epiclastics	XVMF
Mafic volcanics and arenaceous epiclastics	XVMM
Mafic volcanics and and rudaceous epiclastics	XVMC
Mafic volcanics and associated debris flow (volcanics wacke)	XVME
Mafic pillowed volcanics , pillow breccia and intervolcanic sediments	XVMW
Mafic volcanic breccia, and intervolcanic sediments	XVMX
Mafic hyaloclastitic volcanics and intervolcanic sediments	XVMH
Mafic phyric volcanics and intervolcanic sediments	XVMP
Mafic flowbanded volcanics and intervolcanic sediments	XVMB
Highly vesicular/amygdaloidal mafic volcanics and intervolcanic sediments	XVMV
Interstratified basalt volcanics and epiclastic rocks	XVBO
Basaltic volcanics and argillaceous epiclastics	XVBF
Basaltic volcanics and arenaceous epiclastics	XVBM
Basaltic volcanics and and rudaceous epiclastics	XVBC
Basaltic volcanics and associated debris flow (volcanics wacke)	XVBE
Basaltic pillowed volcanics , pillow breccia and intervolcanic sediments	XVBW
Basaltic volcanic breccia, and intervolcanic sediments	XVBX
Basaltic hyaloclastitic volcanics and intervolcanic sediments	XVBH
Basaltic phyric volcanics and intervolcanic sediments	XVBP
Basaltic flowbanded volcanics and intervolcanic sediments	XVBB
Highly vesicular/amygdaloidal basaltic volcanics and intervolcanic sediments	XVBV
Undifferentiated interstratified volcaniclastics +/- epiclastic rocks	XYOO
Undiff volcaniclastics and argillaceous epiclastics	XYOF
Undiff volcaniclastics and arenaceous epiclastics	XYOM
Undiff volcaniclastics and and rudaceous epiclastics	XYOC
Undiff volcaniclastics and associated debris flow (volcanic wacke)	XYOE
Undiff tuff breccia, minor flows and interbedded sediments	XYOX
Undiff lapilli tuff +/- ash tuff +/- interbedded sediments	XYOL
Undiff ash tuff +/- lapilli tuff +/- interbedded sediments	XYOA
Undiff lithic tuff +/- interbedded sediments	XYOR
Undiff crystal tuff +/- interbedded sediments	XYOY
Interstratified felsic volcaniclastics +/- epiclastic rocks	XYFO
Felsic volcaniclastics and argillaceous epiclastics	XYFF
Felsic volcaniclastics and arenaceous epiclastics	XYFM
Felsic volcaniclastics and and rudaceous epiclastics	XYFC
Felsic volcaniclastics and associated debris flow (volcanic wacke)	XYFE
Felsic tuff breccia, minor flows and interbedded sediments	XYFX
Felsic lapilli tuff +/- ash tuff +/- interbedded sediments	XYFL
Felsic ash tuff +/- lapilli tuff +/- interbedded sediments	XYFA
Felsic lithic tuff +/- interbedded sediments	XYFR
Felsic crystal tuff +/- interbedded sediments	XYFY
Interstratified rhyolitic volcaniclastics +/- epiclastic rocks	XYRO
Rhyolitic volcaniclastics and argillaceous epiclastics	XYRF
Rhyolitic volcaniclastics and arenaceous epiclastics	XYRM
Rhyolitic volcaniclastics and and rudaceous epiclastics	XYRC
Rhyolitic volcaniclastics and associated debris flow (volcanic wacke)	XYRE
Rhyolitic tuff breccia, minor flows and interbedded sediments	XYRX
Rhyolitic lapilli tuff +/- ash tuff +/- interbedded sediments	XYRL
Rhyolitic ash tuff +/- lapilli tuff +/- interbedded sediments	XYRA
Rhyolitic lithic tuff +/- interbedded sediments	XYRR
Rhyolitic crystal tuff +/- interbedded sediments	XYRY
Interstratified dacitic volcaniclastics +/- epiclastic rocks	XYDO
Dacitic volcaniclastics and argillaceous epiclastics	XYDF
Dacitic volcaniclastics and arenaceous epiclastics	XYDM
Dacitic volcaniclastics and and rudaceous epiclastics	XYDC
Dacitic volcaniclastics and associated debris flow (volcanic wacke)	XYDE
Dacitic tuff breccia, minor flows and interbedded sediments	XYDX
Dacitic lapilli tuff +/- ash tuff +/- interbedded sediments	XYDL
Dacitic ash tuff +/- lapilli tuff +/- interbedded sediments	XYDA
Dacitic lithic tuff +/- interbedded sediments	XYDR
Dacitic crystal tuff +/- interbedded sediments	XYDY
Interstratified rhyodacitic volcaniclastics +/- epiclastic rocks	XYCO
Rhyodacitic volcaniclastics and argillaceous epiclastics	XYCF
Rhyodacitic volcaniclastics and arenaceous epiclastics	XYCM
Rhyodacitic volcaniclastics and and rudaceous epiclastics	XYCC
Rhyodacitic volcaniclastics and associated debris flow (volcanic wacke)	XYCE
Rhyodacitic tuff breccia, minor flows and interbedded sediments	XYCX
Rhyodacitic lapilli tuff +/- ash tuff +/- interbedded sediments	XYCL
Rhyodacitic ash tuff +/- lapilli tuff +/- interbedded sediments	XYCA
Rhyodacitic lithic tuff +/- interbedded sediments	XYCR
Rhyodacitic crystal tuff +/- interbedded sediments	XYCY
Interstratified intermediate volcaniclastics +/- epiclastic rocks	XYIO
Intermediate volcaniclastics and argillaceous epiclastics	XYIF
Intermediate volcaniclastics and arenaceous epiclastics	XYIM
Intermediate volcaniclastics and and rudaceous epiclastics	XYIC
Intermediate volcaniclastics and associated debris flow (volcanic wacke)	XYIE
Intermediate tuff breccia, minor flows and interbedded sediments	XYIX
Intermediate lapilli tuff +/- ash tuff +/- interbedded sediments	XYIL
Intermediate ash tuff +/- lapilli tuff +/- interbedded sediments	XYIA
Intermediate lithic tuff +/- interbedded sediments	XYIR
Intermediate crystal tuff +/- interbedded sediments	XYIY
Interstratified andesitic volcaniclastics +/- epiclastic rocks	XYAO
Andesitic volcaniclastics and argillaceous epiclastics	XYAF
Andesitic volcaniclastics and arenaceous epiclastics	XYAM
Andesitic volcaniclastics and and rudaceous epiclastics	XYAC
Andesitic volcaniclastics and associated debris flow (volcanic wacke)	XYAE
Andesitic tuff breccia, minor flows and interbedded sediments	XYAX
Andesitic lapilli tuff +/- ash tuff +/- interbedded sediments	XYAL
Andesitic ash tuff +/- lapilli tuff +/- interbedded sediments	XYAA
Andesitic lithic tuff +/- interbedded sediments	XYAR
Andesitic crystal tuff +/- interbedded sediments	XYAY
Interstratified mafic volcaniclastics +/- epiclastic rocks	XYMO
Mafic volcaniclastics and argillaceous epiclastics	XYMF
Mafic volcaniclastics and arenaceous epiclastics	XYMM
Mafic volcaniclastics and and rudaceous epiclastics	XYMC
Mafic volcaniclastics and associated debris flow (volcanic wacke)	XYME
Mafic tuff breccia, minor flows and interbedded sediments	XYMX
Mafic lapilli tuff +/- ash tuff +/- interbedded sediments	XYML
Mafic ash tuff +/- lapilli tuff +/- interbedded sediments	XYMA
Mafic lithic tuff +/- interbedded sediments	XYMR
Mafic crystal tuff +/- interbedded sediments	XYMY
Interstratified basaltic volcaniclastics +/- epiclastic rocks	XYBO
Basaltic volcaniclastics and argillaceous epiclastics	XYBF
Basaltic volcaniclastics and arenaceous epiclastics	XYBM
Basaltic volcaniclastics and and rudaceous epiclastics	XYBC
Basaltic volcaniclastics and associated debris flow (volcanic wacke)	XYBE
Basaltic tuff breccia, minor flows and interbedded sediments	XYBX
Basaltic lapilli tuff +/- ash tuff +/- interbedded sediments	XYBL
Basaltic ash tuff +/- lapilli tuff +/- interbedded sediments	XYBA
Basaltic lithic tuff +/- interbedded sediments	XYBR
Basaltic crystal tuff +/- interbedded sediments	XYBY

TEXTUAL QUALIFIERS (Interstratified)

INTERSTRATIFIED SEDIMENTS ONLY

- ___K (arkosic)
- ___B (calcareous)
- ___C (carbonaceous)
- ___Z (sulphidic)
- ___L (Limestone)
- ___A (Andesitic)
- ___V (Volcanic)
- ___H (cherty)
- ___R (lithic)
- ___E (Epiclastic)
- ___F (Felsic)

OTHER	FG_lith_ code
Casing	CASE
Unknown and unidentified (?)	OOOO
Lost core	LOST
Overburden	OVER
Strongly altered rock texture obliterated	AOOO
FAULT ZONES	
Fault zone	ZOOO
Sedimentary hosted fault zone	ZSOO
Volcanic hosted fault zone	ZVOO
Volcaniclastic hosted fault zone	ZYOO
Metamorphic hosted fault zone	ZROO
Granitoid/intrusive hosted fault zone	ZIOO

ALTERATION ASSEMBLAGE CODES - Normalised table structure - allowing multiple entries for each interval

Note: **Alt min type** includes both alteration and mineral types as described in the logs
AGSO mineral code abbreviations have been adopted for mineral types
Alt_style captures the described style from the log - which may describe distribution and geometry

Hole_ID	original_from	original_to	Alt_min_type		Alt_intensity		Alt_style	style, distribution, geometry
			UND	Altered (undifferentiated)	( )	*absolute %	ana	anastomosing
			AL	Albitic	tr	trace	bd	banded
			AR	Argillic	wk	weak	blb	blebs
			BZ	Biotization	med	medium	box	boxwork
			CN	Carbonatization	med	moderate	ckd	cockade
			CD	Chalcedonic	stg	strong	cla	clasts
			CH	Chloritization	int	intense	clu	clusters
			EZ	Epidotization			col	colloform
			FN	Fenitization			diss	disseminated
			GRA	Graphitic	wk	(+/-)	fil	fill
			GS	Greisen	wk	minor	ff	fracture filling
			HM	Hematization	wk	partly	fld	flooded
			KA	Kaolinitic	wk	patchy	frag	fragments
			MI	Micaceous	wk	rare	fram	framboidal
			PH	Phyllic	wk	scattered	fsel	fracture selvage
			KO	Potassic	wk	some	gran	granular
			PP	Propylitic			hal	halo
			PR	Pyritic			lam	laminae
			SS	Saussuritised			len	lenticular
			SR	Sericitization			mass	massive
			SZ	Serpentinization	unk	variable	mat	matrix
			SL	Silicic			mot	mottled
			SK	Skarn	unk	unknown	rep	replacement/overprint
			SO	Sodic			pat	patches
			SU	Sulphidic			pv	pervasive
			SY	Syenitized			rcry	recrystallised
			UNK	unknown			rib	ribbon
			ACN	acanthite			spo	spotted
			ACT	actinolite			stain	staining
			ADU	adularia			vsel	vein selvage
			AEG	aegirine			wrk	wall-rock
			AGT	aegirine-augite				
			AEN	aenigmatite				
			AIK	aikinite			unk	no style mentioned
			AK	akermanite				
			ALB	alabandite				
			AB	albite				
			ALN	allanite				
			ALG	allargentum				
			ALP	allophane				
			ALM	almandine				
			ALT	altaite				
			AKT	aluminokataphorite				
			ALSI	aluminosilicate (unspecified)				
			ALU	alunite				
			AMB	amblygonite				
			AMS	amesite				
			AMPH	amphibole				

RULES

Alt min type

Multiple alteration and mineral types can be captured for the same interval
ie alteration group types and specific mineral types as described in the log

NOTE: "Massive talc-chlorite-carbonate alteration" does not mean serpentinization or chloritization or carbonation
Individual mineral codes TLC, CL and CARB would be captured for this interval as follows
51.5 - 65.7m TLC unk mass
51.5 - 65.7m CL unk mass
51.5 - 65.7m CARB unk mass

Alt intensity

*Where absolute % is recorded, capture the numeric value. Where a range is specified (eg 2-3%), use mean value ie 2.5

% values can be assigned to weak, moderate, strong and intense values
on interogation of the data

EXAMPLES

42.1 - 53.7m A strongly altered trachy-andesite with 2-3% pyrite stringer veins
42.1 - 53.7m UND/stg/none
(Note that the vein style and vein minerals are captured in the Vein table)

53.7 - 65.8m Massive grey, variably silicified rock with patchy carbonate and chlorite blebs. Scattered and disseminated epi+ser+/-mag
53.7 - 65.8m SL/wk/mass
53.7 - 65.8m CARB/wk/blb
53.7 - 65.8m CL/wk/blb
53.7 - 65.8m EP/wk/diss
53.7 - 65.8m SERI/wk/diss
53.7 - 65.8m MGT/wk/diss

65.8 - 75.9m Very weak sericite alteration, silica overprinting (mod - strong). Altered clasts of dacite with stibnite, quartz and Fe-Carbonate
65.8 - 75.9m SERI/wk/none
65.8 - 75.9m SL/med/oprt
65.8 - 75.9m STB/unk/none
65.8 - 75.9m QZ/wk/none
65.8 - 75.9m FECB/wk/none

EXAMPLES

13.0 - 27.66m Pyrite 4 to 5%, as selvedges within a quartz-calcite stock work and vein array.
Veins at 45 deg to c.a. range from 3.0 to 10mm in width(ave 2 to 2.5mm), freq of 50 per mtr. Trace sphalerite
Pyrite and Sphalerite are captured in the veining table

27.66 - 56.0m Increased potassic veining(3-5%), tr pyrite as disseminations and selvedges. Int sericitic and chloritic altn.
Potassic veining captured in the vein table along with the pyrite portion occurring in vein selvedges
27.66 - 56.0m SR/int/unk
27.66 - 56.0m CH/int/unk
27.66 - 56.0m PY/tr/diss

75.9 - 92.16m K-feldspar flooding is strong in volcanic fragments. Sericite is moderate,confined to felspar phenocryst laths in groundmass.
Pyrite (4-5%) disseminations and euhedral blebs, selvedges within chlorite veins.
75.9 - 92.16m KFS/stg/fld
75.9 - 92.16m SERI/med/mrep
75.9 - 92.16m PY/1.5/diss
75.9 - 92.16m PY/1.5/blb
Pyrite content in vein selvedges is captured in the veining table

VEINING CODES - Normalised table structure - multiple entries for each interval

Hole_ID	original _from	original _to	Vein_style		Vein_intensity		Vein_mineral	
			FACTUAL vein style directly from log	includes: style-geometry-structure-size	code		use same code abbreviation as for AGSO minerals	
			BND	Boudinaged Vein	( )	*absolute %	UNK	unknown
			BRX	Vein Breccia	tr	trace		
			CKD	Cockade Vein	wk	weak	ACN	acanthite
			COL	Colloform Vein	med	medium	ACT	actinolite
			CON	Conjugate Veins	med	moderate	ADU	adularia
			CRC	Crackle Vein	stg	strong	AEG	aegirine
			DRU	Drusy	int	intense	AGT	aegirine-augite
			EEN	En Echelon Veins			AEN	aenigmatite
			EXT	Extensional Vein	wk	few	AIK	aikinite
			FELD	Narrow felsic dyke/vein	wk	minor	AK	akermanite
			FMV	Fine/micro-veins	wk	(+/-)	ALB	alabandite
			FOL	Folded vein	wk	some	AB	albite
			FRV	Fracture Veins	wk	partly	ALN	allanite
			FTV	Fault-related veins	wk	rare	ALG	allargentum
			HLN	Hairline Veins	wk	scattered	ALP	allophane
			INTD	Narow intermediate dyke/vein	wk	patchy	ALM	almandine
			IRR	Irregular / undeformed / segmented			ALT	altaite
			LAC	Laced veinlets	unk	common	AKT	aluminokataphorite
			LAM	Laminated Veins	unk	numerous	ALSI	aluminosilicate (unspecified)
			LAMD	Narrow lamprophyre dyke/vein	unk	many	ALU	alunite
			MAS	Massive Veins	unk	regular	AMB	amblygonite
			NET	Net-like veining	unk	irregular	AMS	amesite
			PEG	Pegmatite Veins			AMPH	amphibole
			PLN	Planar Veins			etc	etc etc etc
			PTY	Ptygmatic folded veins	unk	unknown intensity		
			RIB	Ribbon Veins				
			SHR	Sheared Veins				
			SHT	Sheeted Veins				
			SIG	Sigmoidal Veins				
			SMS	Seams				
			STK	Stockwork Veins				
			STR	Stringer Veins				
			STY	Stylolitic				
			SYND	Narrow syenitic dyke/vein				
			TEN	Tension Gashes				
			UND	Undifferentiated Veins / veinlets				
			WSP	Wispy				

NOTES

Each entry in this table describes one 'set' of veins or a unique type of veins. Note that any interval may have different types of veins or vein 'sets'. A common observation is that one vein set cross-cuts another.

The style, intensity, and mineral composition are recorded for each vein set.

Style is normally chosen from the library table. If you find styles in your logs that do not match the library, please have them added to the library.

RULES

Capture any veining or vein interval that describes visible gold

FACTUAL Vein_style

"Irregular quartz stringer veins" is best coded as **STR** (- stringer veins), because irregular may mean deformed, rather than spatial distribution.

Multiple vein styles within an interval are to be captured in order of intensity if possible

Vein_intensity

Vein intensity applies to each record in the table, and is not the intensity or quantity of vein_min_1, _2 or _3.

Intensity can be recorded as a text string (as in common, numerous, many, strong) or as a percentage (where it generally means the percentage of the rock that is composed of that vein set)

*Where a % is described in the log it is entered into the database as a numerical value (eg: 2-3% of the interval is carbonate veins), use mean value (ie 2.5)

Size of Intervals

In general, do not create intervals smaller than 1ft (~0.3m) in length

If the vein style, intensity, or composition changes, or is unique for an interval that is 2ft in length (~0.6m) ALWAYS create a new interval

For intervals of
Less than 1 ft (30cm) never code
1 - 2 ft (30 - 50cm) coder discretion
Greater than 2 ft (50cm) always code

EXAMPLES

For numerous veins of < 1 ft width within an interval, determine absolute % for that interval (eg)
60.0 - 95.0m : Laminated quartz-mica veins at 65.5m, 78.2m, 88.9m are 20-25cm wide
absolute % = 1.7 (0.6m/35m)

78.8 - 88.0m Qtz - Fe-Carbonate vein at 80.3m. Vein is 5-7cm wide
don't capture

68.0 - 88m Qtz - Fe-Carbonate veins at 68.5m, 69.2m, 71.5m, 74.3m, 78m, and 85.3m
Vein widths vary from 5-7cm
68.0 - 88m UND/1.5/QZ/FECB (an absolute % intensity is determined, (0.3m/20m)

88.0 - 96.0m Rare colloform crosscutting veins of quartz with trace py and pyrrhotite
88.0 - 96.0m COL/wk/QZ/PY/PO

96.0 - 102.3m 6-8% wispy veins of qtz-py+/-ccp
96.0 - 102.3m WSP/7/QZ/PY/CCP

102.3 - 145m Felsic tuff with numerous stringer quartz-pyrite veins between 105-125m and at 132-143m
Numerous fine grained lamprohyric "finger thick" dykes throughout and these cross cut veining.
102.3 - 145m LAMD/unk
105-125m STR/unk/QZ/PY
132 - 143m STR/unk/QZ/PY

13.0 - 27.66m Pyrite 4 to 5%, as selvedges within a quartz-calcite stock work and vein array.
Veins at 45 deg to c.a. range from 3.0 to 10mm in width(ave 2 to 2.5mm), freq of 50 per mtr. Trace sphalerite
13.0 - 27.66m STK/11.25/QZ/CAL/PY/SP

27.66 - 43.0m Brecciated quartz and Fe-carbonate veins at 70 degrees to c/a to 1cm wide (6-10per metre).
27.66 - 43.0m BRX/8.0/QZ/FECB

43.0 - 53.0m 3% pyrite as granular patches and stringers.
43.0 - 53.0m STR/1.5/PY
(the remaining 1.5% pyrite is captured in the alteration table as a mineral assemblage)