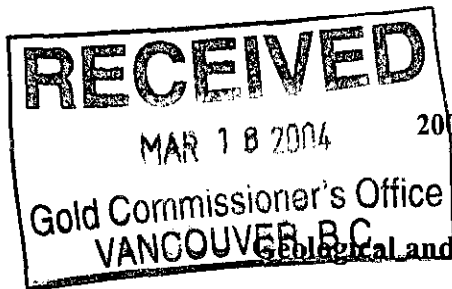


HERITAGE EXPLORATIONS LIMITED



ESKAY PROJECT

2002 & 2003 FIELD PROGRAMS

Geological and Geochemical Surveys, Diamond Drilling

On the

TREATY, TR, COUL, UNUK, PARADIGM, LANCE, SKOOKUM, SIB, POLO,
AFTOM, P-MAC, FRED, S.I.B., RAMBO, FOG, NOOT, BONSAI, LINK,
CALVIN, MACK, PUD, MEGAN, STO, JOHN, IRVING, BELL, FERGUS,
TOON, HARRY, SC, TC, KING, VALCANO, CALVIN, GINGRASS, SKI,
DWAYNE, AFT, SHIRLEY, FREDDY, SUL claims

Liard & Skeena Mining Divisions,
British Columbia

Location

NTS 104B/7E, 8W, 9E, 9W, 10E

Latitude 56 24'N to 56 44'N

Longitude 130 02' to 130 39'W

NTS 104B.048, 049, 057, 058, 059, 060,
067, 068, 069, 070, 077, 078

UTM Zone 9

399500E - 436100E

6252100N - 6289100N

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

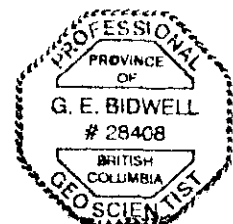
Operator: Heritage Explorations Ltd.

By

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

January 31, 2004

VOLUME 1 of 4



HERITAGE EXPLORATIONS LIMITED

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January 31, 2004

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

27.570
105

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	5
3. LOCATION & ACCESS	5
4. PROPERTY STATUS	6
5. PERMITTING & ENVIRONMENT	
5.1 Permitting.....	7
5.2 First Nations Involvement.....	7
5.3 Safety	8
5.4 Environmental.....	8
6. PREVIOUS INVESTIGATIONS	8
7. REGIONAL GEOLOGY	9
7.1 Regional Setting	9
7.2 Stuhini Group.....	10
7.3 Hazelton Group.....	10
7.3(a) Jack Formation	10
7.3(b) Betty Creek Formation	11
7.3(c) Salmon River Formation.....	12
7.4 Bowser Lake Group	13
7.5 Intrusions	13
7.6 Structural Geology	14
8. MINERALIZATION STYLES	15
9. DATA COMPILATION & ANALYSIS	17
10. FIELDWORK	
10.1 2002 Program	22
10.2 2003 Program	23
11. SILT GEOCHEMISTRY	26
12. PROSPECTS	
12.1 SIB Claims	27
12.1(a) Geological Mapping	27
12.1(b) Geophysics.....	28
12.1(c) Diamond Drilling.....	29
12.2 Polo-Fog Claims	34
12.3 TV-Jeff Area.....	35
12.4 Bonsai Prospect	36

12.4 Bonsai Prospect..... 36
12.5 Tarn-Lance-AP Area 37
12.6 Treaty Creek Area 38

13. CONCLUSIONS

13.1 SIB Claims
 13.1(a) Battleship Knoll 39
 13.1(b) Lulu 39
 13.1(c) Hexagon..... 40
13.2 Polo Claims 40
13.3 TV-Jeff Area 40
13.4 Bonsai Prospect..... 40
13.5 Tarn-Lance-AP Area 40
13.6 Treaty Creek Area 41
13.7 Silt Geochemistry..... 41

14. RECOMMENDATIONS 41

15. REFERENCES..... 43

16. STATEMENT OF QUALIFICATIONS 46

APPENDICES

LIST OF FIGURES

Figure 1 – Property Summary (1:200,000).....	1a
Figure 2 – Location Map	5a
Figure 3 – Regional Map (1:800,000) with geology	5b
Figure 4 – Claim Map of Eskay Property (1:50,000).....	pocket
Figure 6 – Geological Compilation of Eskay Property (1:50,000).....	pocket
Figure 7 – Geochemical Compilation of Eskay Property (1:50,000).....	pocket
Figure 8 – Geophysical Compilation of Eskay Property (1:50,000)	
(a) Aeromagnetic data (reduced to pole image)	pocket
(b) Airborne EM - resistivity	pocket
(c) Airborne & Ground VLF	pocket
(d) IP coverage (chargeability images).....	pocket
Figure 9 – Geology of the Proust Plateau (1:20,000)	pocket
Figure 10 – Geology of the SIB Claims (1:5,000).....	pocket
Figure 11 – Geology and 2003 Sampling of the SIB Claims (North sheet) (1:2,500)	pocket
Figure 12 – Geology and 2003 Sampling of the SIB Claims (South sheet) (1:2,500)	pocket
Figure 13 – Geology & Geochemistry of the Jeff-TV area (1:5000)	pocket
Figure 16 – Geology & 2003 Rock Sampling - Sheet 1 (west) Sample Locations (1:20,000).....	pocket
Figure 17 – Geology & 2003 Rock Sampling - Treaty area Sample Locations (1:20,000)	pocket
Figure 18 – SIB Claims Drill Plan (1:5,000).....	pocket
(a) SIB Drill Hole 02-113 (Lulu).....	pocket
(b) SIB Drill Hole 02-114 & 116 Section (Battleship).....	pocket
(c) SIB Drill Hole 02-115 Section (Battleship).....	pocket
(d) SIB Drill Hole 02-117 Section (Lulu)	pocket
(e) SIB Drill Hole 02-118 Section (Battleship).....	pocket
(f) SIB Drill Hole 02-119 Section (Battleship)	pocket
(g) SIB Drill Hole 02-120 Section (Pie).....	pocket
(h) SIB Drill Hole 03-121 Section (Pie).....	pocket
(i) SIB Drill Hole 03-122 Section (Pie).....	pocket
(j) SIB Drill Hole 03-123 Section (South Hexagon).....	pocket
(k) SIB Drill Hole 03-124 & 128 Section (Central Hexagon).....	pocket
(l) SIB Drill Hole 03-125 Section (North Hexagon)	pocket
(m) SIB Drill Hole 03-126 Section (Pie).....	pocket
(n) SIB Drill Hole 03-127 Section (South Hexagon)	pocket
(o) SIB Drill Hole 03-129 Section (Central Hexagon).....	pocket
(p) SIB Drill Hole 03-130 Section (Central Hexagon).....	pocket
(q) SIB Drill Hole 03-131 Section (Lulu).....	33a
Figure 19 – Bonsai Prospect Geology & Drill Plan (1:5,000).....	pocket
(a) Bonsai Drill Hole 03-07 & 08 Section (1:1,000)	pocket
(b) Bonsai Drill Hole 03-09 Section (1:1,000).....	pocket
Figure 20 – Main Treaty Nunatak	
(a) EM conductivity with interpreted porphyry alteration pattern (1:20,000).....	39a
(b) Magnetics with interpreted porphyry alteration pattern (1:20,000).....	39b

TABLES

Table 1 – Hazelton Group reference sections in Eskay area, by MDRU.....	10a
Table 2 – 2003 Rock Chip Sampling Statistics	25

TABLES

Table 1 – Hazelton Group reference sections in Eskay area, by MDRU.....	10a
Table 2 – 2003 Rock Chip Sampling Statistics	25
Table 3 – 2002 Drill Program Summary	29
Table 4 – 2002 Drill Program-Anomalous Gold-Silver intersections.....	30
Table 5 – 2003 SIB Drill Summary	31
Table 6 – 2003 SIB Drill Program-Anomalous Au/Ag intersections	33
Table 7 – 2003 Bonsai Drill Summary	37
Table 8 – 2003 Bonsai Drill Program-Anomalous Au/Ag intersections.....	37

APPENDICES

I	Sample Descriptions (a) 2001 & 2002 Stream Geochemistry Sample Descriptions & Gold Results.....	Volume 1
	(b) 2002 Rock Chip descriptions	
II	Assay Procedures - ACME Analytical Laboratories Ltd.....	Volume 1
	(a) Group 1D – ICP Analysis-Aqua Regia	
	(b) Group 1F – Ultratrace by ICP-MS	
	(c) Group 3B – Au by Fire Geochem	
	(d) Group 4A – Whole Rock by ICP	
	(e) Group 6 – Au by Fire Assay	
III	Analytical Results (a) 2003 Rock Chip Assays.....	Volume 1
	(b) 2002 Stream sediment Geochemistry	
IV	Assay Certificates (a) 2002.....	Volume 2
	(b) 2003	
V	Drill Logs (a) 2002 Drill Holes SIB 02-113 to 02-120.....	Volume 3
	(b) 2003 Drill Holes SIB 03-121 to 03-131 BZ 03-07 to 03-09	
VI	Geoinformatics Report 2003.....	Volume 4
VII	Lewis Geoscience Services Inc. reports	
	(a) 2002 – Field Visit, Eskay Creek Area.....	Volume 4
	(b) 2003 – Exploration Potential, Treaty Area	
VIII	Litho geochemistry and Chemostratigraphy of Volcanic and Associated Rocks of the Eskay area (Barrett, 2003).....	Volume 4
IX	PIMA Short-Wave Analysis: Drill Holes, Eskay Creek (PetraScience Consultants Inc.).....	Volume 4
X	Mineral Tenures.....	Volume 4

XI	Expenditures & Assessment Data – 2002.....	Volume 4
XII	Expenditures & Assessment Data – 2003.....	Volume 4
XIII	Option Agreement Summaries (a) Bonsai Option..... (b) Treaty Option	Volume 4
XIV	Geoinformatics Eskay Creek Lithology Codes and Colour Legend....	Volume 4
	(a) Lithology Codes	
	i lithology codes	
	ii alteration assemblage codes	
	iii veining codes	
	iv structures code	
	(b) Lithology Colour legend	

1. EXECUTIVE SUMMARY

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 data compilation and analysis of the Eskay area initiated in 2001 and two summer seasons of fieldwork undertaken in 2002 and 2003.

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 December, 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. Heritage may earn a 50% interest in each property with payments of \$75,000 and expenditures of \$750,000 by March 31, 2006.

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 tectonostratigraphic 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**.

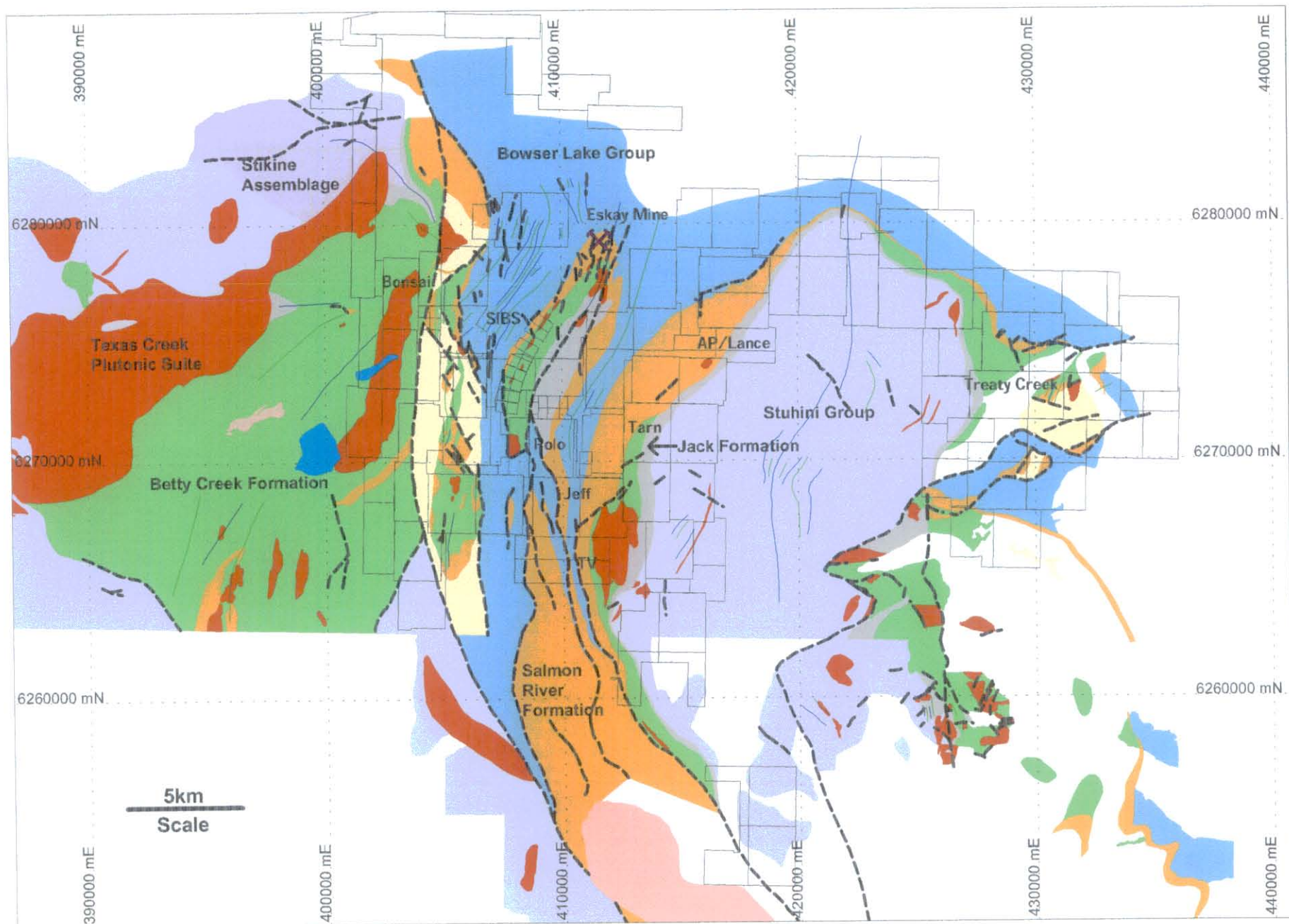


Figure 1 Property Summary

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 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 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. Once the various maps were digitized, recoded and compiled, they were exported to geological software packages (Mapinfo, Vulcan and FracSIS) where they could be integrated with other data for interpretations, modeling and targeting. FracSIS is a 3D data integration and visualization tool that Geoinformatics uses to store, display and interpret data in 3D. 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. A series of cross sections were subsequently drawn and interpreted using the map draped onto the topographic surface and utilizing all available factual data. The interpreted solid geology map and cross sections provided the framework for regional 3D modelling. The regional model, when complete, was used to interpret the structural and lithological settings of the known mineralization in a regional, three dimensional context. 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. It was concluded that sieved silts from the high energy environment provided the

best setting for consistent gold results. The **2002 field season** encompassed 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 the other showings/zones on the property, particularly Bonsai, Polo, TV-Jeff, Tarn and Treaty. 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. Three holes planned in the Treaty area were postponed due to inclement weather.

The western portion of the **SIB claims** contains upper Hazelton Group stratigraphy along trend from the Eskay Creek mine and was therefore a focus for exploration in 2002. The drilling in 2002 and 2003 within the Mackay Mudstone unit and at **Battleship Knoll** intersected broad zones of anomalous gold, but failed to identify any potentially economic mineralization.

Most near surface potential for economic gold mineralization within the SIB Claims (excluding Hexagon Zone) has now been at least partially tested and extinguished by drilling. The 2002 drill program confirmed the presence at **Lulu** of high grade gold-silver mineralization similar to that at Eskay Creek Mine, however follow up drilling in 2003 failed to intersect the down plunge extension of the zone. The dip, strike and plunge extensions to the Lulu Zone have now essentially been defined. The deposit, at this time, appears to be too small for economic consideration and no further work is recommended.

The mapping and accompanying rock chip sampling helped to define a number of structural, alteration and geochemically anomalous zones along the previously defined **Hexagon** high energy stream sediment anomaly along the eastern side of the SIB claims. Three of these zones were drill tested in 2003. Drilling on two mercury rock geochem anomalies resulted in the delineation of a large shear zone hosted high sulphidation mesothermal alteration system. The system is dominated by sericite-pyrite-pyrophyllite-(silica) +/-hematite alteration and is characterized by highly anomalous mercury levels. The drilled portion of the system shows gold levels are distinctively low in the core of the zone but show some enrichment on the margins. The zone is open along strike and at depth and represents an excellent target for future exploration.

Field reconnaissance and sampling at **Polo** did not identify any strong gold anomalism; however several alteration zones and silver-arsenic-mercury anomalies were identified. More mapping is required to define the Polo and Fog claims geological package and its relationship to the SIB claims.

The original interpretation that the **TV** and **Jeff Zones** may be geologically continuous was investigated in 2003. Mapping indicated the two zones are separated at surface by a zone of graphitic mudstones, probably Bowser Lake Group sediments. Sampling of this material failed to produce any gold anomalism. Examination of drill core from both zones also indicates the mineralization style at each occurs in different lithologies, although both may be essentially controlled by the same structure.

Drilling at **Bonsai** in 2003 has intersected significant low grade gold/silver mineralization in pyritic rhyolite breccia, beneath the main gossan outcrop. The mineralized zone is open at depth and to the south and represents an excellent target for future exploration.

The sampling at **Tarn** failed to identify any new zones of significant mineralization in 2003, although some narrow fault related mineralization was encountered. The geology at Tarn is highly sericite-pyrite altered and extensively sheared and faulted. A zone of anomalous gold in rock chip samples in the southern portion of the Tarn Prospect could not be reached in 2003 due to snow cover and remains a target for future field evaluation. The **AP-Lance** area has received only a cursory look to date. A

detailed review of the data is required particularly in light of a number of high energy silt anomalies in drainages to the north.

Fieldwork at **Treaty Creek** in 2003 by Peter Lewis has greatly improved the knowledge and understanding of the various zones in the area. The geological mapping and evaluation has highlighted a number of areas for follow up work. Drilling at the GR2 zone was not completed due to poor weather, but remains a valid target for the 2004 field season. The extensive zones of alteration at Treaty Creek have been previously described as compatible with epithermal to porphyry geological environments. Geophysical interpretations in 2003 suggest that this porphyry-epithermal system is centered on a large intrusive at depth beneath the main Treaty Nunatak. This intrusive is prospective for porphyry copper/gold mineralization and places the alteration zones at Treaty Creek into better spatial context for future exploration and targeting.

The high energy stream sediment geochemical survey completed in 2002 has generated a number of gold and multi element anomalies, including the Hexagon Anomaly. Most of the gold anomalies remain to be field validated and evaluated.

A preliminary budget of \$3.08 million has been proposed for 2004. A detailed airborne magnetic and EM survey is recommended covering most of the prospects within the project area. The survey should greatly assist both regional and prospect scale interpretations and targeting. Specific recommendations for the Hexagon / Mercury Zone include 1:1000 scale mapping to its eastern limits, an IP survey and additional drilling, particularly in the vicinity of the Betty Creek-Jack Formation contact. Additional drilling at Bonsai is also required to test the low grade gold-silver mineralization intersected in 2003. An IP survey of the area may also be useful for identifying zones of higher sulphide content within the rhyolite breccia unit containing the mineralization. Follow-up work at Treaty would hinge particularly on the results of the airborne survey but the drilling postponed in 2003 should be carried out. The porphyry copper potential beneath the main Treaty Nunatak should also be investigated. Follow-up at Polo, TV-Jeff, Tarn, Lance-AP and the high energy silt anomalies should also continue.

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 also represented in the immediate area by the Kerr and Brucejack Lake deposits respectively.

This report documents the fieldwork undertaken by Heritage Explorations Ltd. on its Eskay landholdings in 2002 and 2003. These programs were preceded by a compilation of various company assessment reports and public data available from the intense exploration period (1984-1996) during which time the Eskay Creek mine was discovered. This data compilation and subsequent interpretation and modelling was undertaken by Fractal Graphics Pty Ltd. (now Geoinformatics Exploration Australia Pty Ltd.) in 2001. 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 encouraging drill results at Hexagon and Bonsai will be followed up in 2004 along with work on other exploration targets on the property

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 6,289,100N in UTM Zone 9. The Liard-Skeena Mining Division boundary cuts across the northwest portion of the claim block. All the fieldwork undertaken in 2002 and 2003 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)

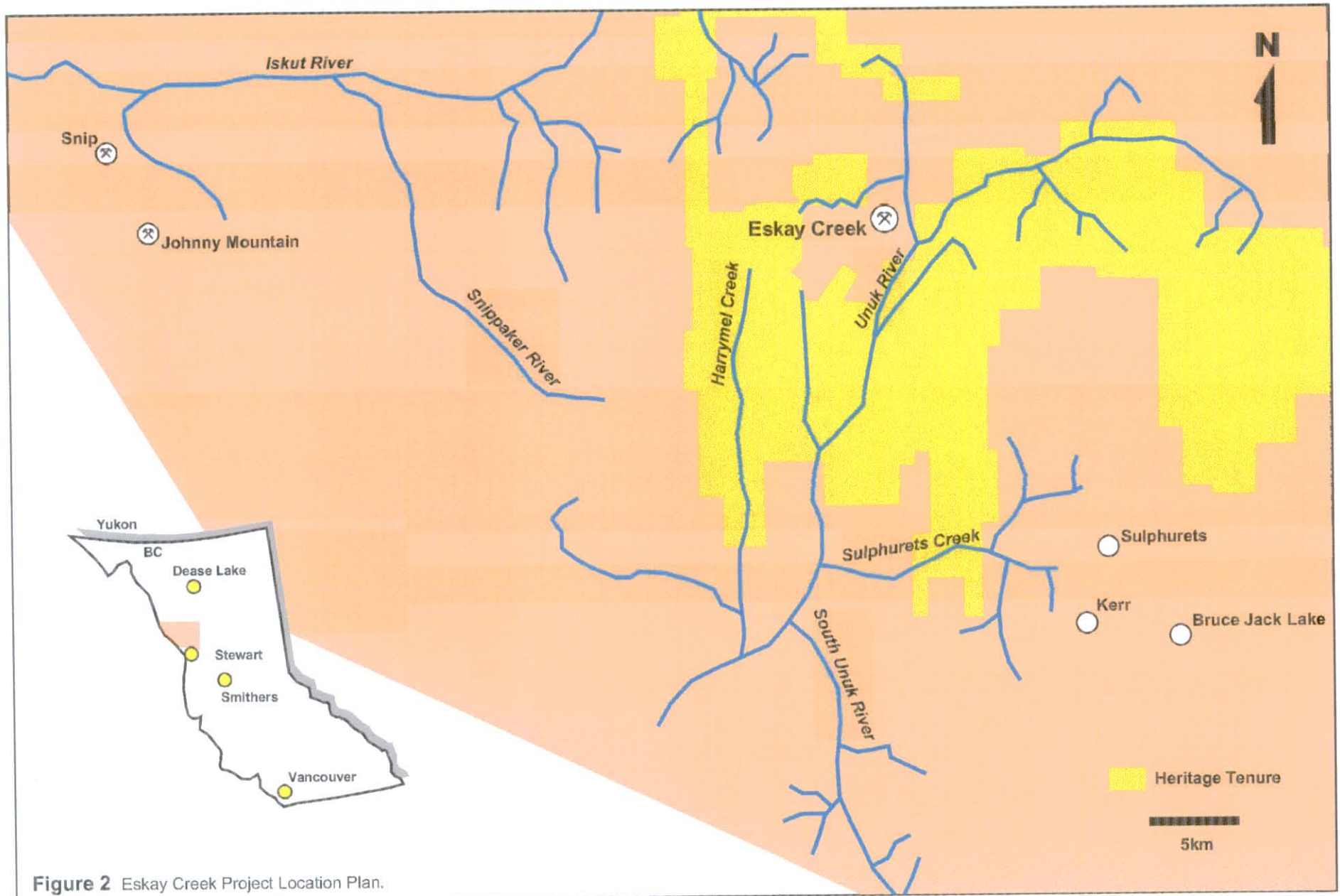
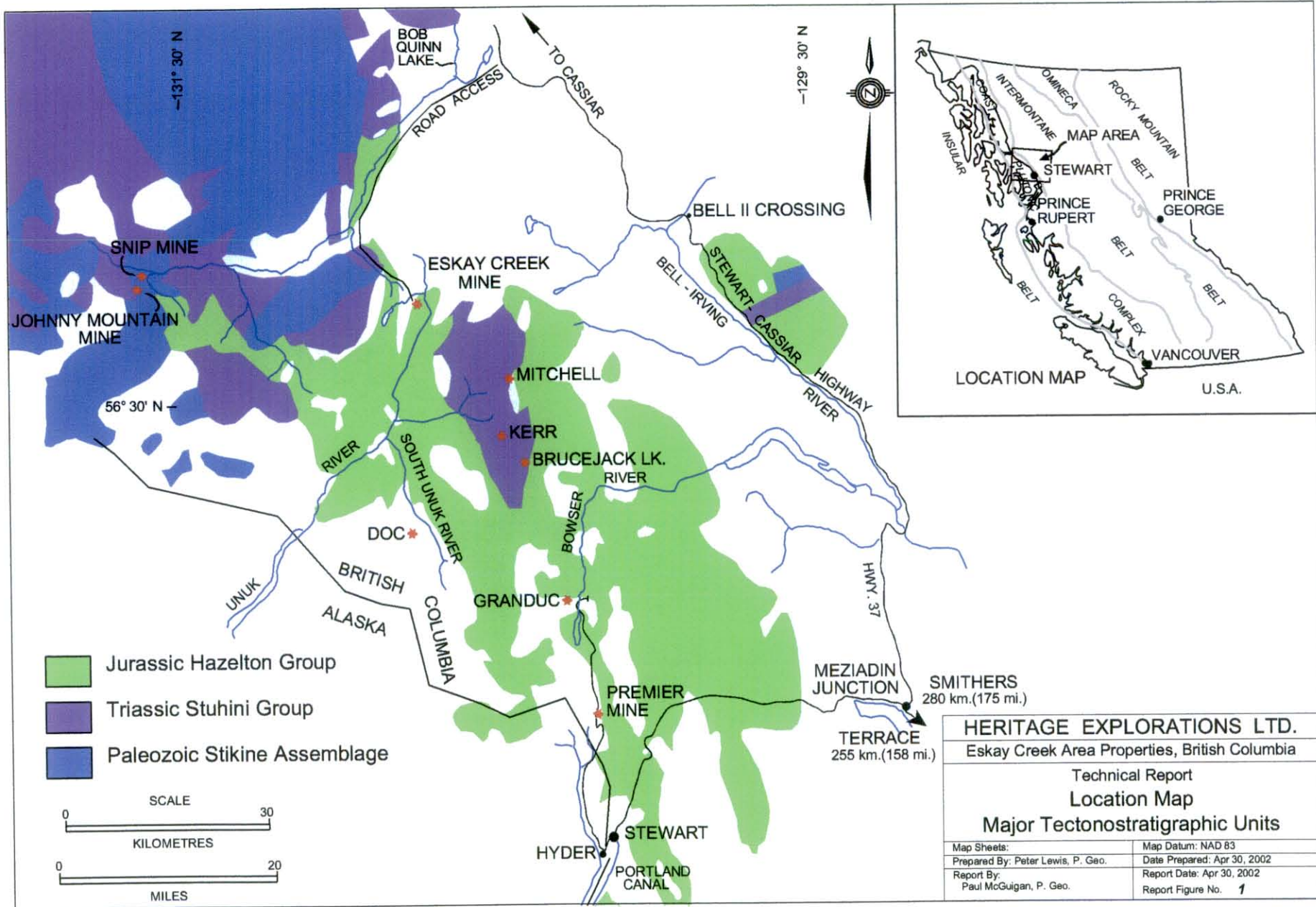


Figure 2 Eskay Creek Project Location Plan.



HERITAGE EXPLORATIONS LTD.	
Eskey Creek Area Properties, British Columbia	
Technical Report	
Location Map	
Major Tectonostratigraphic Units	
Map Sheets:	Map Datum: NAD 83
Prepared By: Peter Lewis, P. Geo.	Date Prepared: Apr 30, 2002
Report By: Paul McGuigan, P. Geo.	Report Date: Apr 30, 2002
	Report Figure No. 1

). 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.

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. This is a private road and permits are required from Barrick Gold Corporation to use the road and the campsite. In 2002-03 trucking was provided twice weekly to the camp from Smithers by Bandstra Transportation.

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 X 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 claim package is irregular in outline but overall covers 37.0 km in a north-south direction (Iskut River to Frank Mackie Glacier) by 36.6 km east-west (Harrymel Creek to Treaty Creek). 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.

The earliest expiry date for the mineral tenures is December, 2008 (pending acceptance of this report for assessment purposes). The bulk of the claims have been common dated to December 15 and expire in 2008. See Appendix X for details on the individual claims with the claim names and tenure numbers on Figure 4. The mineral claims and lease are shown most of the maps presented in the report.

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

During the 2003 field season one block of ground was added to the property. In late July 40 claim units south of the mouth of Sulphurets Creek came open and were restaked as the SUL 1 & 2 claims.

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. For further details on these option agreements see Appendix XIII.

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. Efforts were made in 2003 to locate claim posts in the field with real time GPS in order to better define the landholdings. Additional efforts are planned for 2004.

5. PERMITTING, FIRST NATIONS, SAFETY & 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 at the camp 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 July 2002 application was made and approval given for the initial camp permit at an existing gravel pit along the mine road. A security bond of \$50,000 was required which included \$36,000 for the camp and \$14,000 bonding for the contemplated diamond drilling sites later in the season. When the actual drill locations were determined amended Notices of Work were filed in September and October. Approval was quickly obtained in all cases and fieldwork proceeded on schedule. One visit was made to the camp by the distinct Mines Inspector in August 2002. No significant deficiencies were noted. Notice of Completion forms were filed for the campsite in June 2003 and a reclamation report was filed on the drill sites in July 2003.

In July 2003 application was made and approval given for the camp permit at the same location as in 2002. The security bond of \$50,000 remained in place from 2002. When the drill sites were determined amended Notices of Work were filed in September and October. An additional \$20,000 in bonding was required to cover both the camp and new drilling. Approval was quickly obtained in all cases and fieldwork proceeded on schedule. One visit was made to the camp by the distinct Mines Inspector in August. No significant deficiencies were noted. Notice of Completion forms for the 2003 programs were filed in December 2003 along with before/after photos of the camp and most of the drill pads.

5.2 First Nations Involvement

In 2003 a concerted effort was made to use some First Nations personnel in the field program. In Mid May a recruitment trip was made to Dease Lake, Telegraph Creek and Iskut looking for 3-4 people for both camp and field positions. No hiring was done at the time but shortly thereafter the Tahltan Native

Development Corporation (TNDC) approached Heritage with a proposal to provide catering services at the camp. They already provide similar services at the mine and at Barrick's exploration camp through Spatsizi Remote Services Corporation, their catering arm. An agreement was entered into with Heritage and excellent service was provided during the 2003 season

5.3 Safety

At the start of the 2003 field season safety meetings were held at the campsite attended by all workers. The main items of concern were helicopter safety, bear encounters, radio communication and proper equipment and procedures when working in the bush. Additional safety meetings were held throughout the field season as issues came up.

A level three first aid attendant was in camp throughout the program and a fully equipped ambulance was at camp on standby. Two significant accidents took place over the course of the field season. On August 8th one of the field assistants slipped down a steep slope and fell into a creek bottom suffering serious head injuries. He was evacuated from the site by helicopter to the road and taken by ambulance to the hospital in Terrace. He was later flown to Vancouver and spent a week in the hospital before his release. His injuries were very serious but he is expected to make full recovery, following an extensive recovery period. On September 3rd a drill helper slipped at a drill site injuring his back. He was also evacuated by helicopter and taken by ambulance to Terrace. His injuries were not serious and he was released from the hospital the same day.

5.4 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 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 (Kirkham et al, 1995) 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 tectonostratigraphic 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 volcanoclastic 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 volcanoclastic 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.

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.

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

from McGuigan, 2002

Table 1 (continued)

		Bruce Glacier	Iron Cap	Treaty Creek
<p><u>Salmon River Formation</u> <i>(includes Troy Ridge, Eskay Rhyolite, John Peaks, and Bruce Glacier members)</i></p>		<p>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, volcanoclastic conglomerate/breccia. Intercalated mudstone/argillite, massive felsic flows.</p>	<p>Bruce Glacier Member: Intercalated felsic lapilli tuff and welded ash flow tuff, succeeded by tuffaceous siltstone with argillite chips</p> <p>John Peaks Member: Intercalated argillite, limestone, pillowed basaltic flows, andesitic volcanic conglomerate</p>	<p>Bruce Glacier Member: Densely welded felsic ash tuff, succeeded by massive lapilli to block tuff, and uppermost welded spherulitic lapilli tuff</p> <p>John Peaks Member: Pillowed basaltic volcanic flows interbedded with broken pillow breccia, mudstone, hydroclastite breccia, and mafic sills. Grades upward into volcanoclastic breccia and conglomerate with abundant andesite and basalt clasts.</p>
<p><u>Betty Creek Fm.</u></p>	<p><i>Treaty Ridge member</i></p>	Absent	Fossiliferous siltstone to sandstone	Medium-bedded volcanoclastic 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
	<p><i>Brucejack Lake member</i></p>	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 polyolithic volcanic conglomerate
	<p><i>Unuk River member</i></p>	Absent	Volcanic breccia and block tuff	Thick feldspar+hornblende-phyric volcanic breccia, block tuff, and volcanic conglomerate; intercalated lapilli tuff, massive andesite flows, rare mudstone-argillite; grades northward into condensed volcanoclastic sandstone/mudstone section
<p><u>Jack Formation</u></p>		<p>-Basal thickly bedded to massive clast supported rounded granitoid, limestone, volcanic cobble conglomerate.</p> <p>-interlayered and overlying interbedded coquinoid (gastropods, pelecypods, bryozoans, corals, ammonites, belemnites) calcereous siltstone to f.g. sandstone.</p> <p>-upper thinly bedded, grey to silver phyllitic turbiditic mudstone to f.g. sandstone.</p> <p>-thickly bedded pelecypod-bearing limestone.</p>	<p>Volcanoclastic conglomerate to arenaceous sandstone, minor andesitic to basaltic flows</p>	<p>(Near Atkins Glacier)</p> <p>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</p>

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.

7.3 (b) Betty Creek Formation

Lower Jurassic volcanic and volcanoclastic 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 volcanoclastic 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 volcanoclastic 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 poly lithic, 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, et al, 2001).

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 volcanoclastic 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. 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 (Lewis, et al, 2001).

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, et al, 2001).

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 thrust 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 an 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, an 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. DATA COMPILATION & ANALYSIS

Following is a brief description of the data capture and analysis carried out by Geoinformatics beginning in 2001 and continuing up to the present. For a more detailed review see Appendix VI.

9.1 Data Audit

The initial data audit for the project involved a comprehensive internet search of the various key data sources. These included the various BC Government websites including the British Columbia Geological Survey, Base Mapping and Geomatic Services Branch and Landdata BC. Also searched were the Geological Survey of Canada (GSC) and the Mineral Deposit Research Unit (MDRU) at the University of BC.

The BC Ministry of Energy and Mines assessment report (ARIS) metadata collection was audited, downloaded and spatial references established in a GIS for the purposes of identifying data pertinent to the project. The ARIS metadata was also loaded into an Access database to facilitate query-based review of the data. Key themes were established and included geology, geochemistry, geophysics, drilling and general prospecting.

ARIS reports with data falling within the Eskay Creek project area were subsequently identified for acquisition and copied by Micro Com Systems Ltd. in Vancouver. This entailed some 253 ARIS reports which were then cut to CD and sent to Geoinformatics for more detailed review and data capture.

Digital and hardcopy data was obtained by Heritage Explorations and comprised 11 CDs of data derived from work programs completed by American Fibre / Silver Butte Resources over the SIBS claims between 1991 and 1995. The data included drilling, geology, geochemistry and topographic information largely in AutoCad drawing file (DWG) format with drill hole logs in ASCII text format. A thorough audit of this data was carried out prior to compilation into the Geoinformatics database.

Digital and hardcopy files were also acquired for work completed by Granges Exploration and Teuton Resources in the Eskay Creek and Treaty Creek regions respectively between 1988 and 1996. A complete audit and review of the data was completed in April 2002.

Other datasets collected for capture as a result of the data audit are discussed in Appendix VI.

9.2 Data Capture

Data collected included drill hole locations, lithology logs and assays, various surface geochemistry datasets, geological outcrop and interpretation maps, geophysical datasets, mineral occurrence locations, topographic and cadastral data.

A geological coding system was designed to record diverse geological map and drill hole information in a digital form. The Geoinformatics Eskay Creek geological legend is attached to this report as Appendix XIV. The principles on which this coding system is based are:

- (a) design based on a relational database format with data and reference tables for lithology, structure, veining and alteration.
- (b) coding system designed along a hierarchical, octree format amenable to standard query language in GIS and 3D-database systems.
- (c) clear separation of fact from interpretation and speculation, with known rock types clearly separated from undifferentiated groupings.

The base geological codes for the legend were largely derived from the MDRU map legend from their Special Publication 1 which was believed to best represent the litho-stratigraphy in the area.

9.2(a) Geology

A total of 36 geological outcrop and interpretation maps covering the project were digitally captured, 31 from ARIS reports, two from the MDRU and three from the BCGS. Only factual outcrop maps were captured except for the regional interpretation maps from the MDRU and BCGS. A complete list of the maps captured is given in Appendix VI.

Once digitized, the maps were recoded to the Geoinformatics Eskay Creek geological legend to allow for seamless integration of all captured datasets. The maps were subsequently registered to the best possible accuracy into map projection UTM NAD83, zone 9. Several of the maps from ARIS reports were in local grid projections and were difficult to register due to poor local grid controls. Field checking of local grids with a differential GPS in 2002 and 2003 has improved the accuracy of the original transformations.

Once all outcrop maps were recoded and transformed they were compiled into one comprehensive fact (outcrop) map, comprising four separate layers; lithology, structure, alteration and point structure. Field mapping in 2002 and 2003 was also added to the compilation. The final compilation geology fact map as at the end of field season 2003 is presented in Figures 6 and 9-19.

9.2(b) Geophysics

A total of 29 geophysical datasets were captured from ARIS reports, GSC publicly available surveys and inherited company data. The various magnetic (Ground and Airborne), VLF, IP and EM surveys are listed in Appendix VI.

The capture process generally involved digitizing hardcopy plans and sections from reports. The subsequent digital data were then processed to create images, profiles, 2D and 3D grids. All datasets were transformed from various local grids to UTM NAD83 map projection to enable integration with other datasets.

9.2(c) Geochemistry

An extensive surface geochemistry database was accumulated from all available data, particularly from open file ARIS reports and Heritage proprietary data. The final database contains approximately 34,000 samples of various types. Appendix VI contains a comprehensive list of all geochemistry data sources and details the capture method for each source.

The geochemistry capture process involved the following:

- (a) data entry of sample data from hardcopy reports,
- (b) digitizing sample data from plans,
- (c) importing digital data from company databases.

A critical aspect of the capture process was locating the samples accurately. Generally the samples were collected in the field using a local grid system and often displayed in this local grid in subsequent reports on the data. The local grids from these reports or hardcopy plans were then transformed by Geoinformatics into UTM NAD83 for compilation into the final geochemistry database. The remainder were captured directly in UTM, normally from GPS controlled surveys, or from maps with UTM coordinates.

Early transformations were performed using relatively simple “2 common points” or “single point/bearing” methods, these were subsequently shown to be ineffective due to irregularities within the local grids. The grid transformations were consequently improved by registering the original maps in Mapinfo and then digitizing all sample points from each map. This method has provided better accuracy although is reliant on the accuracy of the original maps. Field checking shows accuracy of sample locations varies considerably, with surveys above the tree line generally better than those within heavily forested areas. Some local grids, such as at Polo, have been shown to differ considerably from their portrayal on company maps, these cannot therefore be accurately transformed by any method and require re-surveying. Field checking of some local grids with a differential GPS in 2002 and 2003 has also improved the accuracy of sample locations at some prospects.

Generally the majority of data captured appears to be accurate to within 100m and is considered sufficiently reliable for all regional interpretations and most prospect scale analysis. For detailed prospect scale work such as planning drill holes in relation to a geochemical anomaly, rigorous field checking is required.

9.2(d) Drilling

A comprehensive drilling database was compiled from ARIS reports and company data. The database contains 332 drill holes and includes all known historical drilling within the project, as well as the holes drilled in 2002 and 2003. Appendix VI gives a detailed explanation of the information recorded in the drilling database with drill hole location plans for the project area.

The drilling database was compiled from all available sources of drilling data. Key steps in the process included the following:

- (a) locating available digital files containing drilling (company databases).
- (b) locating available hard copy drill logs and related information (ARIS reports).
- (c) locating and validating collar location information for individual drill holes.

- (d) reviewing related hardcopy information (reports and plans) for holes that may not have been reported entirely in ARIS reports or company datasets (e.g. collars on plans but not referred to in a report).
- (e) creating a database format capable of storing the captured drilling data in a way that provides for future value adding to the data through processing.
- (f) utilizing knowledge of the geological setting to develop a coding system for lithology, alteration, structure, mineralization, veining and any other major information categories (Geoinformatics Eskay geology legend)
- (g) recoding of original logs using the new coding system and database format.
- (h) data entry of recoded logs into the Geoinformatics drilling database.
- (i) validating the data in 3D and against hardcopy data such as drill logs and plans.

The recoded lithology logs allow for full integration of the drilling database with the geological maps. The capture of original logs was further enhanced by separating various aspects of the logs into different tables to facilitate more effective interpretation of the data. Rock characteristics recorded separately were lithology, alteration, mineralization (sulphides), structure, point structure (core angles) and veining.

Collar location accuracy has been greatly improved for the majority of holes by field surveying with a sub-metre accuracy DGPS. Holes with DGPS co-ordinates now include all holes that could be located in the field at Treaty Creek, TV, Jeff, AP, Bonsai and the holes drilled in 2003 at SIB and Bonsai. All holes at SIB prior to 2003 have been surveyed using conventional survey methods and their accuracy is considered sub-metre.

9.2(e) Topographic Data

Regional (25m contours) topographical base maps and digital elevation models (DEM) were obtained from the BC Ministry of Environment, Lands and Parks (Terrain Resource Information Management (TRIM) base mapping program). The data also included drainage features such as rivers, lakes and glaciers. More detailed topographic data from private company surveys were also available for some areas. The topographic data was imported to Mapinfo for display on maps as contours, and in FracSIS to be displayed as 3D surfaces.

9.3 Data Processing

Once the various maps were digitized, recoded and compiled, they were exported to geological software packages (Mapinfo, Vulcan and FracSIS) where they could be easily integrated with other data for interpretations, modeling and targeting. Mapinfo GIS software is used primarily for generating scaled hardcopy maps and plans of various datasets. It is also useful for integrating (overlying), querying and interpreting 2D data. Vulcan and Go-CAD software are used to create 3D models for display in FracSis. FracSIS is a 3D data integration and visualization tool that Geoinformatics use routinely to store, display and interpret data in 3D

The captured digital geophysical datasets were processed depending on the survey type, to produce images, 2D and 3D grids. All were imported to FracSIS for manipulation, visualization and interpretation.

After the geochemistry data was compiled, detailed statistical analysis was carried out to produce valid threshold values for gold and other elements. These were then displayed in Mapinfo and FracSIS as either points coloured by value (thematic maps), or as colour contoured images. In Mapinfo thematically mapped geochemistry plans were plotted for Au, As, Cu, Pb, Zn, Ag, Hg and Sb at both regional and prospect scales. These were used to interpret geochemistry trends and anomalies. FracSIS

was also used to visualize and interpret the geochemistry data, with the added advantage of viewing the sample points in relation to topography (3D), thus further enhancing the interpretation process.

Various aspects of the drilling database were exported from MS Access for use in FracSis, Vulcan, Mapinfo and GPick software packages. The Access database also provides a drill log output function for printing of individual drill logs for the purposes of assessment reporting, hardcopy backups or as a reference set.

The drill hole dataset was imported to FracSIS for three dimensional visualisation of hole traces. Hole traces in FracSIS can be attributed and colour coded by any of the recorded down hole characteristics, such as lithology, alteration or sulphide intensity. Assay values can also be viewed as coloured traces or alternately as isosurfaces. Isosurfaces are created in FracSIS and are essentially a modelled 3D representation of assay values in relation to surrounding values. The advantage of viewing assay data as isosurfaces is that they often more clearly highlight mineralization trends and are therefore extremely useful for interpreting numeric data.

The drill database was also imported to Mapinfo for plotting hole locations on scaled maps. Minimal interpretation of drill data was performed in Mapinfo due to its 2D limitations.

For the generation of detailed drill cross sections GPick software was used. This program allows for several aspects of a drill log to be displayed simultaneously and provides good quality scaled hardcopy output. The hardcopy sections were then used in interpretation and targeting.

In Vulcan the drilling data were used to assist in 3D modelling at the prospect scale, such as at SIB.

The topographic datasets were processed by Geoinformatics to produce digital terrain models (DTM) for 3D representation. Subsequent surficial data sets such as geochemistry and mapping could then be draped onto the DTMs for true 3D representation.

9.4 Interpretation and Modelling

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. The interpretation utilized all available factual data, including the outcrop map compilation, drill data, geophysics and geochemistry, as well as drawing on previous map interpretations and published literature. The regional interpretation map is attached to this report as Figure 6.

A series of 13 cross sections were subsequently drawn, spaced roughly every 1.5km through the interpretation map area. The sections were interpreted using the map draped onto the topographic surface and like the surface map, utilized all available factual data in the interpretation. The sections were drawn down to a depth of approximately 2.5km and are stored in the FracSIS database for viewing

The interpreted solid geology map and cross sections provided the framework for regional 3D modelling. The modelling process commenced with the structural interpretation, with faults from the surface interpretation modelled through the cross sections to produce 3D planar surfaces. The major faults were then used to partition the various lithological units. In total 5 major faults and 70 minor faults were modelled

Lithology units were modelled in the same way as structure, by joining units from section to section, while conforming to the surface out crop and structural boundaries. The model was split into 3 zones or "Blocks" to facilitate easier loading of selected areas within the modelled region. The various rock units were also grouped into a manageable number of lithology types. In total there were 107 modelled

lithology groups, Appendix XIV provides a complete list of these groups with a lithological description for each group. All aspects of the model have been loaded into FracSIS for viewing. The modelling process also served to validate and refine the sectional and surface map interpretations by forcing both to be more strictly geologically and spatially plausible.

The regional model, when complete, was used to interpret the structural and lithological settings of the known mineralization in a regional, three dimensional context. Prospectivity analysis of the project area could then be carried out based on the interpreted prospective geological settings. The 3D model allowed for potentially prospective lithologies, structures and contacts to be traced beneath the surface more reliably than was previously possible and therefore to predict the depths to targets with greater confidence.

10. FIELDWORK

The recent period of exploration began in 2001 when Geoinformatics initiated the database compilation and analysis. At the same time a geochemical orientation survey was undertaken in the general Eskay area to determine an appropriate stream sediment technique to locate the most prospective terrain. Approximately 150 bulk leach extractable gold (BLEG), sieved silt and heavy mineral samples were collected. It was concluded that sieved silts from the high energy environment provided the best setting for consistent gold results (McGuigan, 2002). Following the field season Geoinformatics was contracted to undertake their more comprehensive data compilation, interpretation, 3D modeling and targeting phase.

10.1 2002 Program

The 2002 field season encompassed the following, (i) verification in the field of data compiled from assessment reports, (ii) reconnaissance high energy sieved silt sampling program covering potential mineralized areas of the property, (iii) geological mapping of the SIB Claims, and (iv) diamond drilling of targets generated from the above work. The field work was undertaken in the period August 03 to October 25.

The field season provided Geoinformatics with the opportunity to validate the various datasets compiled from historic data. It also provided an opportunity to visit, evaluate and validate the targets identified during the interpretation and modelling phase, and at the SIB claims, carry out detailed geological mapping in order to better define the controls on mineralization. The field season culminated in the drill testing of several targets at the SIB Prospect. Geoinformatics personnel involved from were Nick Archibald, Graeme Cameron, Russell Mason and Bill Power.

In addition to the work completed by Geoinformatics in 2002, a separate phase of exploration was conducted by Tecucomp Geological Inc. Tecucomp completed a regional "high energy stream" sediment sampling program, based on positive results from the previous year's orientation survey.

Geological consultant Dr. Peter Lewis also visited the project for one week during the field season. The objectives of his visit were to impart to field personnel his knowledge of the structural and stratigraphic setting of the Eskay region, to evaluate controls on mineralization at a number of individual prospects, and to provide a structural analysis of the western SIB claims, with particular emphasis on the geometry of the Coulter Creek Thrust Fault. A report on the work completed by Lewis (Lewis, 2002) is found in Appendix VII.

10.1(a) Data Validation

Field locations of geochemical sample points and drill collars required rigorous field checking before detailed follow up work programs could be instigated. As such a high priority for Geoinformatics in 2002 was to more accurately constrain the numerous local grids used to control the previous mapping, geochemistry and drill programs.

Field survey control was established with a GPS base station located at the Eskay camp. Hand-held Trimble GPS receivers were then employed to collect field survey readings. Trials were conducted and readings checked against known surveyed monuments in the area. The results were satisfactory and generally agreed within 0.5m.

The coordinates of a number of drill holes were measured from each prospect together with local grid baseline coordinates where possible. Local grids at all prospects were discovered to be highly irregular in their layout and therefore simple geometric transformations from local to UTM coordinates were not reliable. The captured survey points were therefore used to produce a "best fit" visual transformation in MapInfo GIS software. This work resulted in considerable improvements to the geographical accuracy of the geochemistry and drilling databases, as well as the outcrop compilation map.

10.1(b) SIBS Claim area

The prime target for additional mineralization on the property was the SIB claim area. Early in the field season geological mapping got underway to upgrade the surface geology in immediate area of the upper portion of the Hazelton Group stratigraphic section which is exposed on the western portion of the claim block. At the same time drill core from many of the holes drilled on the SIB was examined and re-logged to standardize and merge the two datasets. By mid September the mapping and re-logging had defined a number of targets worthy of drilling.

Drilling began on August 31 and the 14 holes totaling 3840 meters were completed on October 6.

10.1(c) High Energy Stream Sediment Sampling

The geochemical orientation survey in 2001 concluded that high energy stream sediment sampling was an efficient method to determine if streams contained anomalous gold values. Consequently in 2002 a program of high energy sampling was undertaken covering an area from Harrymel creek in the west to the Treaty Prospect in the east.

Sampling for this survey was conducted at sites characterized by active stream channels containing a range of coarse, immature sediments dominated by gravels, cobbles and boulders. Gravel bars within the active channel were sampled at the approximate location-at the bar head, which provides the environment for obtaining the consistent quantities of physically transported gold (McGuigan, 2002). A total of 554 samples were collected.

10.2 2003 Program

The 2003 field program was laid out to, (i) continue the primary effort initiated on the SIB Claims in 2002 and to, (ii) undertake data verification and continued exploration of the other showings/zones on the property.

In total 2008 man days of fieldwork were completed in the period June 17 to Oct 9. A breakdown of the man days into work areas by individuals is provided in Appendix XII.

The 2003 field campaign continued the work of validating the various compiled datasets, with differential GPS to more accurately locate prior drill collars, trenches and grid positions. Prospect scale evaluation of several target areas was also carried out in 2003. The mapping at SIB undertaken in 2002 was continued to complete the entire SIB claims at 1:1000 scale. A number of targets were also drill tested towards the end of the field season.

Geologists involved in the field work were Nick Archibald, Tony Worth, Bill Power, Matt Ball and David Byrne, also Rob Stewart (geophysicist) of Geoinformatics and Gerry Bidwell and Jeff Reeder with Heritage Explorations. Geological consultant Peter Lewis spent 10 days at the project, principally mapping at Treaty Creek. Kinross geologist Jean Pierre Londero was on site approximately 3 weeks on to complete an assessment for Kinross.

10.2(a) Data Validation

Accurately locating drill collars and local grids with survey control continued in the 2003 field season. A Trimble Differential GPS (DGPS) with sub-metre accuracy was used for all survey work.

A total of 80 drill holes were located in the field and DGPS surveyed. A list of these holes is contained in Appendix VI.

10.2(b) Prospect Evaluations

Field evaluations were completed at a number of prospects during 2003. The aim of the work was to identify areas for additional follow-up. The work involved traversing each prospect to accomplish the following goals:

- (a) validate and assess the accuracy and reliability of previous mapping.
- (b) determine the status of any local grids and their suitability for controlling future work.
- (c) GPS and if possible DGPS locate any drill collars, helipads, grid points and any other useful reference points
- (d) map advanced prospects to identify zones of alteration/mineralization, explain previously generated geochemical or geophysical anomalism and refine the geological understanding of the area in order to identify and constrain potential drill targets.
- (e) rock chip sampling of known mineral occurrences or geochemical anomalies, particularly the 2001/2002 high energy stream sediment anomalies.
- (f) rock chip sampling of any encountered prospective outcrops, particularly in areas of no historical sampling such as the base of retreating glaciers.
- (g) drill priority targets.

A total of 413 rock chip samples were taken in 2003. All were submitted to Acme Laboratories, Vancouver for acid digest, low level gold and multi-element analysis. Figures 11-13, 16 and 17 illustrates the locations of these samples and broadly outlines the areas where field evaluations took place. Table 2 shows a breakdown by prospect of the sampling.

Table 2. 2003 Rock Chip Sampling Statistics. From Worth et al., 2004

PROSPECT	No. of Samples	COMMENTS
SIB	202	Includes Hexagon (Aftom Claims)
Polo	64	Several with local grid only
TV/Jeff	36	
Fog	13	
Tarn	64	
AP	3	High energy stream anomaly west of AP
Bonsai	7	
Treaty Creek	18	
Other	6	Miscellaneous samples – not located.
TOTAL	413 SAMPLES	

10.2(c) SIB Claims area

In the SIB claim area geological mapping at 1: 2,500 scale was continued from the 2002 program which had covered the Salmon River section in the western half of the claim block. Two crews continued the mapping eastward covering the Betty Creek section of the Hazelton Group. This area was also the site of the gold high energy silt anomaly (Hexagon anomaly) located in 2002. This fieldwork concentrated on alteration mapping and a structural interpretation along this gold linear with rock sampling. The portion was completed in early August although mapping/sampling continued southeasterly onto the Polo Claims throughout August.

Following receipt of the assay results from the geological mapping a eight hole diamond drill program was laid out for the SIB area. The drilling proposed (i) three drill holes in the Battleship Knoll area testing IP chargeability anomalies in the vicinity of structural complications along the MacKay mudstone unit, (ii) three drill holes along the Hexagon structure testing gold/mercury anomalies, and (iii) two holes to test the on-strike extensions of the Lulu Zone.

The diamond drilling got underway in early September. The three holes in the Battleship Knoll area were completed as planned. Drilling on the Hexagon structure revealed a large sericite-pyrite alteration zone in the vicinity of the mercury anomalies. Consequently an additional four holes (seven in total) were completed on the structure. With the onset of inclement weather the Lulu drilling was reduced to one hole. The SIB area drilling totaled 3,069 meters in eleven holes undertaken in the period August 31 to October 5.

10.2(d) Treaty area

In the first half of August the main showings/occurrences in the Treaty area were investigated. The Treaty East Gossan, Orpiment Zone, GR2 Zone, Konkin/Goat Trail Zones and Southwest Zones were examined by Peter Lewis and Jean Pierre Londero (Kinross consultant). Detailed mapping and some sampling was undertaken in the immediate area of these showings. Data verification was also undertaken at the same time by attempting to tie in old workings (drill holes, trenches) with differential GPS. This work had limited success as the prior work dates back 10-15 years and workings were not always locatable. This is due to the ravages of time as well as inaccurate positioning and poor control for the original data.

Three drill holes were planned on the GR2 Zone to test northeast trending vein structures that had previous values up to 12 gpt Au. The drill pads were put in but early winter conditions in the area forced postponement of the drilling.

10.2(e) Bonsai area

Data verification and fieldwork in the Bonsai area took place in August. A review of the prior work indicated there was still untested potential in the immediate area of the main Bonsai showing. Previous diamond drilling had tested the showing based on the supposition the mineralization was hosted in a flat lying dike. Accordingly the area immediately under the showing was not drilled. A three hole program was undertaken to test this possibility as well as an area further west with the same brecciated rhyolite unit. Three holes totaling 771 meters were completed in the period September 23 – October 6.

10.2(f) Polo area

The Polo area encompasses the ground south and southeasterly of the SIB claims to the Unuk River. This area is underlain by a continuation of the Hazelton stratigraphy found on the SIB but has been much less explored. This is due to the overburden cover with treed and rugged topography making it more difficult to traverse and access with helicopter. Reconnaissance traversing and rock sampling was carried out in July-August and included detailed sampling of some showings.

10.2(g) TV – Jeff area

The TV and Jeff zones are drilled gold showings in structurally complex locations along the logical extension of the SIB stratigraphy. Both are in treed and rugged locations on the east side of the Unuk River. Mapping and sampling was undertaken, particularly in the 2 km between the two zones, in an effort to determine their relationship to each other as well as their structural and stratigraphic setting. DGPS coordinates were also collected on most of the drill collars to upgrade the database on the zones.

10.2(h) Tarn area

Reconnaissance mapping and sampling was undertaken in the Tarn area. Retreat of the McTagg Glacier since prior exploration has uncovered bedrock on the eastern and southern portions of the property. These areas were explored for additional potential. Some tying-in of the old datasets was also carried out.

11. SILT GEOCHEMISTRY – Program & Results

The term “high energy stream sampling” refers to the technique of taking samples within active stream channels characterized by coarse grained immature sediments, dominated by gravels, cobbles and boulders (McGuigan, 2002). Sampling of high energy sites contrasts with the standard stream sediment sampling procedures where silt and/or clay are collected from accumulation sites associated with more quiet-water sedimentation.

In this survey gravel bars within active stream channels were sampled at the appropriate location – at the bar head (McGuigan, 2002). Gold is mainly transported during freshets when bar sediments are eroded and later re-deposited. The high-energy environment provides the best setting for obtaining the needed consistent quantities of physically transported gold, sulphides and other heavy mineral materials, especially in recently glaciated terrain. The technique is designed to generate near source anomalies from immature sediments in small, steep, possibly intermittent drainages.

In total 554 samples were collected from sites throughout the project area and submitted for low level multi-element analysis.

Figures 14 and 15 show locations of all of the stream sampling completed in 2002. An extensive suite of elements were plotted thematically to analyze the dataset for multi-element anomalies.

Several anomalies were generated by the survey, the most significant is located along the eastern margin of the SIB claims and has been named the Hexagon Anomaly. This linear anomaly is consistently high in gold (>100ppb Au, max 1179ppb Au) and other elements over a strike length of 4.5km. The Hexagon anomaly occurs entirely within andesitic volcanoclastics of the Betty Creek Formation. This sequence of stratigraphy has not previously been considered prospective for gold mineralization at Eskay Creek and as such has had minimal previous exploration. The anomaly represents a high priority target for follow up field evaluation.

12. PROSPECTS – Program & Results

12.1 SIBS Claims

Prospect Scale interpretation and modelling

In conjunction with the regional interpretation and modelling phase of the project, more advanced prospects were subject to detailed interpretations and in the case of SIB, modelling.

The SIB Prospect is by far the most heavily explored prospect in the project area, with over 100 holes drilled prior to 2002. The prospect has also been subject to several episodes of mapping, close spaced soil and rock chip geochemistry, ground magnetics, IP, and VLF surveys.

The integration of the SIB datasets allowed for a detailed 3D interpretation of the prospect, involving the generation of a 3D model from surface maps and cross sections. Previous drill section interpretations by company geologists formed the framework for interpretations but were modified to fit with the additional data available to Geoinformatics.

The re-evaluation of the historical data undertaken by Geoinformatics determined that the outcrop mapping over the prospect could be improved. Detailed (1:1000 scale) mapping of the prospect was subsequently undertaken by Geoinformatics personnel in the 2002 and 2003 field seasons. This new mapping formed the basis of a new geological interpretation. As with the regional interpretation, the surface map was combined with cross sectional interpretations to form a framework for 3D modelling. The sectional interpretations were further enhanced by additional data from the drilling completed in 2002.

12.1(a) 2002 & 2003 Geological Mapping

The western portion of the SIB claims contains upper Hazelton Group stratigraphy considered prospective for Eskay Creek style mineralization and was therefore a focus for exploration in 2002. Three Geoinformatics geologists spent approximately one month mapping the area considered most prospective at 1:1000 scale. This area comprises Eskay Rhyolite with inliers of mineralized graphitic mudstones (Lulu Mudstone), overlying interbedded argillites (“Mackay Mudstone”), sandstones and wackes of upper Betty Creek Formation. The contact between the underlying thick sequence of andesitic volcanoclastics (Betty Creek Formation) formed the eastern limit of the 2002 mapping.

The outcrop and interpretation maps that resulted from this work are presented in Figures 10 – 12. The figures also include additional mapping completed in 2003 on the east side of the SIB claims.

The alteration and structural relationships observed in the field mapping were used to refine and constrain drill targets previously defined by geochemistry and geophysical anomalies. Additionally, most areas earmarked for drilling were remapped at 1:500 scale to further constrain the placement of the drill holes. These smaller map sections were also integrated into the overall SIB compilation maps.

The structural interpretation completed by Lewis on the Coulter Creek Thrust also contributed to the targeting and design of a deep drill hole at Lulu Zone to test beneath the thrust for Salmon River stratigraphy.

The detailed geological mapping completed in 2002 was continued to the east and south in 2003 to cover the entire SIB claims. The importance of mapping this area became apparent after the 2002 stream sediment geochemical survey identified a strong gold and multi-element anomaly along the full strike length of the eastern SIB claims (4km). The anomaly, named the Hexagon Anomaly, occurs in andesitic volcanoclastics of the Betty Creek Formation, at a level in the formation not previously considered prospective in the Eskay area. Rock chip sampling was carried out in conjunction with the mapping in an effort to better constrain the source, extent and strength of the anomaly.

One month in 2003 was spent mapping and sampling the eastern area at 1:1000 scale. The eastern SIB claims comprise a thick sequence of andesitic volcanoclastics (Betty Creek Formation), with the southern claims including some rhyolite (Salmon River Formation) and minor rafts of graphitic mudstones analogous to the Lulu Mudstone. The mapping from 2003 has been combined with the 2002 maps to produce outcrop and interpretation maps that cover the entire SIB Prospect (Figs. 10-12).

The mapping revealed two prominent alteration zones in the central and southern portions of the claim group, broadly coincident with the Hexagon stream sediment anomaly. The alteration at both zones consists of strong to intense pyrite-sericite alteration with variable siliceous and/or clay rich zones. Several samples were taken from both zones and returned low gold values but very high mercury levels and weak to moderate arsenic and silver anomalism. Given the very high mercury (arsenic) anomalism associated with the Eskay Creek deposit, these values were considered highly significant. The alteration zones became known as the north and south Mercury Anomalies.

Other zones of significant sericite-pyrite alteration were also identified by the 2003 mapping. These included the North Hexagon Zone at the north-eastern extent of the claim group, the Pie Zone and an area between the Margarine Zone and Lulu in the south of the SIB claims.

A total of 202 samples were taken and submitted for analysis during the course of the mapping at SIB (Figs. 10-12). The sampling helped to confirm anomalous gold mineralization at the North Hexagon zone. It also identified the strong potassic alteration zones in the south east of SIB to be strongly anomalous in mercury (north and south Mercury Anomalies). In the area south of Lulu, where sulphidic mudstones were encountered and sampled, only weak anomalism was returned.

12.1(b) 2003 Geophysics

An attempt was made to complete a Mise-a-la-masse survey at the Lulu Zone to more accurately constrain the massive sulphide zone. The conductive sulphides present at Lulu have the potential to respond well to a mise-a-la-masse survey, possibly highlighting extensions to the zone.

Mise-a-la-masse involves the placement of an electrode within a known conductor, in this case the Lulu sulphide zone, and the subsequent measurement of potential at the surface.

A grid was prepared and several holes were probed in readiness for the survey but unfortunately poor weather prevented the geophysical crew from gaining access to the site for the duration of their contract window (5 days).

12.1(c) Diamond Drilling

Core Re-logging

Detailed re-logging was completed for selected old holes from the SIB area and incorporated with the surface mapping to improve and better constrain the 3D models. The logging has been added to the MS Access drill hole database.

2002 Drilling

Drilling at SIB in 2002 comprised eight holes for a total of 3,075m (Table 3). Figure 18 is a location plan for the drilling.

Table 3. 2002 Drill Program Summary. From Worth et al., 2004.

Hole ID	Zone	Easting	Northing	Dip	Azimuth	Depth
02_113	Lulu Zone / Coulter Thrust	407540	6273445	-48	116	690.4
02_114	Mackay Mudstone	409010	6275289	-50	295	377.7
02_115	Battle Ship Knoll	408672	6274766	-60	295	398.1
02_116	Mackay Mudstone	408689	6275469	-60	115	299.9
02_117	Lulu Zone	407743	6273386	-59	295	351.7
02_118	Mackay Mudstone	409194	6275446	-51	294	386.8
02_119	Mackay Mudstone	409307	6275636	-51	295	302.1
02_120	Lulu Zone	407742	6273384	-50	262	267.9
Total meterage						3075m

The drilling aimed to test three separate zones within the prospect, the Mackay Mudstone – andesitic volcanoclastic faulted contact, the Battleship Knoll Zone and the Lulu Zone.

Mackay Mudstone Zone: Drill holes 02_114, 02_116, 02_118 and 02_119 were designed to test structural complexities along the eastern side of the Mackay Mudstone unit (upper Betty Creek Formation). The 2002 mapping indicated the Mackay Mudstones are truncated on their eastern side by a steeply east dipping fault, termed the Mackay Thrust. The mudstones were interpreted to form an anticlinal structure that plunges very shallowly to the north. Strong alteration and low grade mineralization occurs in the hanging wall to the Mackay Thrust, within intermediate volcanics and sediments (Betty Creek Formation). Minor mineralized outcrops of mudstone also occur in the footwall of the thrust. The primary target for the holes therefore, was sulphide replacement mineralization, with the mudstone providing the favourable host lithology (if strongly pyritic), the anticlinal position providing an excellent structural trap and the thrust fault providing the conduit for mineralizing fluids.

Drilling of this target intersected broad zones of low grade (<0.5g/t Au) mineralization, predominantly within sericite altered andesitic volcanoclastics (hanging wall to the Mackay Thrust). Intersections of >0.5g/t Au are shown in Table 4. This level of mineralization is consistent with previous drilling along much of the andesite – Mackay Mudstone contact. The pervasive gold anomalism along this contact may be indicative of more significant mineralization at some point along its length, however at SIB the drilling appears to have adequately tested most of the near surface (top 100m) portion of the contact. Targeting along this contact now requires additional 3D interpretation and modelling and would benefit from more detailed (deeper penetration) IP or EM geophysics.

Battleship Knoll Zone: Drill hole 02_115 was drilled to test the depth potential of the Battleship Knoll Zone. At the Battleship Knoll Zone the McKay Thrust forms a strongly foliated zone of intense sericite-quartz-pyrite altered rock. Previous drilling is considered to have tested the near surface mineralization to a depth of 100 – 200m, consistently intersecting broad zones of low grade mineralization. The volume of highly altered rock at surface, combined with extensive near surface mineralization at this location was considered justification for drilling one hole to test the zone below about 200m depth. Hole 02_115 was drilled to the west to intersect the steeply east dipping thrust.

Drill hole 02_115 intersected variably phyllic altered andesite for its entire length, failing to intersect the Mackay Mudstone. Gold mineralization within the hole was generally low grade anomalism similar to that intersected in the shallower holes at Battleship Knoll, with a few narrow zones of +1g/t Au mineralization.

Lulu Zone: Drill holes 02_113, 02_117 and 02_120 were drilled at the Lulu Zone. Hole 02_113 was drilled to confirm the previously defined mineralization at Lulu and then carry on to test for the Eskay Creek Mine stratigraphic horizon beneath the Coulter Creek Thrust at depth. The Coulter Creek Thrust truncates the Hazelton Stratigraphy along the western margin of the SIB claims and possibly translocates the most prospective portion of the stratigraphy (Salmon River Formation) eastwards beneath the claims. A field mapping and historic drilling review suggested that the offset on the thrust at Lulu would be in the order of several hundred metres. As such the hole was planned to pass through the thrust at approximately 500m depth, aiming to intersect Salmon River Formation in the footwall.

Holes 02_117 and 02_120 were drilled at Lulu to test for depth extensions to the Lulu Zone.

Hole 02_113 returned higher gold grades over a greater width than the adjacent drill holes within the Lulu Zone, thus confirming the presence of a high grade gold/silver mineralized zone at Lulu. However the hole failed to penetrate the Coulter Creek Thrust, possibly due to excessive lift in the hole trajectory. Significant intersections from 02_113 are shown in Table 4.

Holes 02_117 and 02_120 both intersected the Coulter Creek Thrust prior to intersecting the Lulu Mudstone unit. The holes effectively closed off the potential for significant depth extensions to the Lulu Zone. They have provided useful information on the position and nature of the Coulter Creek Thrust. The thrust in these holes appears as a relatively narrow zone of brittle deformation with only minor associated alteration. Gold and multi element (Ag, As, Hg) assays indicate weak anomalism (maximum values – 140ppb Au, 1000ppb Hg, 500ppm As, 3ppm Ag) within the fault but several orders of magnitude lower than at Lulu itself. Due to the lack of associated alteration it appears unlikely that the Coulter Creek Thrust has provided the conduit for the mineralizing fluids at Lulu, rather that the weak anomalism within the fault is due to remobilization of pre-existing mineralization.

A summary of anomalous intersections from the drill program are tabulated below (Table 4).

Table 4 2002 Drill Program – Anomalous Gold/Silver Intersections. From Worth et al., 2004.

Hole ID	Zone	From m	To m	Width m	Grade Au g/t	Grade Ag g/t
02_113	Lulu Zone / Coulter Thrust	55.9	80.7	24.8	10.8	766.15
		incl. 63.4	70.3	6.9	29.77	2507.05
		96.5	99.5	3	0.84	32.60
02_114	Mackay Mudstone	153.65	161.15	7.5	0.96	15.35
		191.38	192.38	1	3.79	4.50
		298.4	301.5	3.1	0.81	2.40

		350.38	358.38	8	0.60	14.43
02_115	Mackay Mudstone	119.1	120.7	1.6	2.69	4.20
		152.8	155.6	2.8	4.65	10.6
		181.7	183.7	2	0.65	0.50
		283.3	285.3	2	0.57	6.50
02_116	Mackay Mudstone	283.3	285.3	2	0.57	6.50
02_117	Lulu Zone	No significant mineralization				
02_118	Mackay Mudstone	319	323.84	4.84	0.86	25.11
		330	334	4	0.92	6.40
		360	362	2	0.54	4.60
02_119	Mackay Mudstone	43	45	2	0.91	1.50
		99	107	8	0.99	0.73
		209.85	211.85	2	0.50	0.50
		293.95	297.95	4	0.83	2.50
03_120	Lulu Zone	200.4	201.5	1.1	1.02	186.0

Intercepts calculated using 0.5g/t Au cut, maximum 2m internal dilution.

2003 Drilling

Seven of the 14 holes drilled in 2003 were completed on the SIB claims. An additional four holes were drilled on the adjacent Aftom claims at the Hexagon/Mercury anomaly and are also discussed in this section. The holes are summarized in Table 5 and a location plan presented in Figure 18.

Table 5. 2003 SIB Drill Summary. From Worth et al., 2004.

Hole ID	Prospect	Easting	Northing	Dip	Azimuth	Depth
03_121	SIBS – Pie Target	408281	6274481	-50	117	211.23m
03_122	SIBS – Pie Target	408398	6274713	-50	117	271m
03_123	Hexagon – South Mercury Anomaly	408164	6272531	-50	297	282.55m
03_124	Hexagon – North Mercury Anomaly	408726	6273499	-50	297	379.1m
03_125	North Hexagon	409546	6275605	-45	297	276.3m
03_126	SIBS – Pie Target	408596	6274399	-45	297	309.37m
03_127	Hexagon – South Mercury Anomaly	407931	6272733	-45	85	367.8m
03_128	Hexagon – North Mercury Anomaly	408732	6273495	-45	117	151.5m
03_129	Hexagon – North Mercury Anomaly	408607	6273327	-45	297	346.65
03_130	Hexagon – North Mercury Anomaly	408786	6273670	-45	297	354.6
03_131	Lulu	407586	6273537	-56	117	118.5
	Total					11 holes for 3069m

The holes were targeted based on the integration and interpretation of all available geophysical, geological, geochemical and drilling datasets. The targeting process included the mapping and sampling completed earlier in the 2003 field season.

Pie Zone: Three holes were drilled at the Pie Zone, an area containing a strong IP chargeability anomaly within the Mackay Mudstone, coincident with a structurally complex zone adjacent to the mudstone-andesitic volcanoclastic contact.

Holes 03_121 and 03_122 intersected graphitic mudstone which probably explains the IP anomaly. However both failed to intersect the mudstone-andesite contact. Hole 03_126 was subsequently

collared in the andesite and drilled from east to west in order to test the contact zone. The hole intersected a mix of interbedded andesitic volcanoclastics, mudstones, siltstones and greywacke. The sediment package at the base of the hole was probably the targeted Mackay Mudstone unit, unfortunately it did not contain significant primary or replacement sulphide mineralization. Several faults were intersected as anticipated in the modelling, these have complicated the lithological package but do not appear to have localized significant mineralization.

North Hexagon: Hole 03_125 was drilled to test the northern extent of the Hexagon high energy stream sediment anomaly. Mapping in the area identified strong phyllic alteration and rock chip samples returned a number of anomalous values (+1g/t Au).

Hole 03_125 intersected Betty Creek andesitic volcanoclastics with variable phyllic and hematitic alteration. Several fracture zones occurred within the hole. The hole returned minor gold anomalism associated with narrow sphalerite-galena veins (Table 6). Based on alteration and structural fabric, there appears to be no correlation between the North Hexagon zone and the Mercury Zones located at the southern end of the Hexagon Anomaly.

Hexagon - Mercury Zones: The two zones of anomalous mercury and strong phyllic alteration identified by the mapping were tested by six holes. Both zones are hosted within intermediate volcanoclastics of the Betty Creek Formation. Drilling within both zones intersected moderate to intense phyllic alteration with commonly 1-5% disseminated pyrite and occasionally up to 15% pyrite.

The northern alteration zone appears to be wider and stronger, possibly reflecting the confluence of two sub-parallel structures at this location. A separate, narrower structure was also intersected in the northern zone west of the main (Mercury) zone. This is inferred to be the structure responsible for the southern part of the Hexagon anomaly (the "Hexagon Structure").

Drilling results at the northern Mercury Zone returned low gold values (maximum assay 1.5g/t, generally <0.1g/t), but with highly elevated mercury (up to +100ppm) within the most strongly altered zones. Anomalous gold values occur in zones of weaker phyllic alteration, separate from the high mercury zones.

In the southern Mercury Zone significant gold mineralization was encountered in holes 03_123 and 03_127 associated with carbonate-pyrite veins within relatively weakly phyllic and carbonate altered volcanoclastics. As with the northern Mercury Zone, the zones of strong phyllic alteration are generally devoid of gold anomalism. Mercury levels in the southern Mercury Zone are lower than in the northern zone and are possibly decreasing with depth, although more detailed surface sampling would be needed to prove this.

In addition to samples submitted for assay, a suite of samples were also taken at 5m intervals from holes within the Mercury Zones for PIMA analysis. PIMA analysis refers to the use of short-wave infrared spectral analysis to determine the mineralogy of certain clay and sheet silicate minerals. The method was used in an attempt to establish the pressure-temperature conditions associated with the alteration zone and to gain a better understanding of the nature of the fluids responsible for the alteration. The PIMA results and a report on the raw data from PetraScience Consultants Inc. of Vancouver, are attached as Appendix IX.

The clay mineral commonly occurring in the most intensely deformed and extremely altered zones within the northern Mercury Zone was determined by PIMA to be pyrophyllite. This indicates that high temperature fluids were responsible for the alteration assemblages. The alteration assemblage of sericite-pyrite-pyrophyllite +/- hematite indicates a highly oxidized high sulphidation system.

The intense alteration zones intersected at the Mercury Zones represent a highly significant development in the exploration progress at Eskay Creek. The alteration zone and associated structures represent a gold poor portion of a large high sulphidation epithermal to mesothermal system. The system has not been previously identified or adequately explored. The potential for epithermal/mesothermal gold mineralization within this system is considered very good.

Lulu Zone: Hole 03_131 was drilled to test the down plunge potential of the Lulu mineralization. The hole was drilled approximately 50m north of the previous northern extent of known mineralization at lulu.

Hole 03_131 passed through the projected plunge axis of the Lulu Zone but failed to intersect any mudstone and passed through only rhyolite. The hole has confirmed the irregular nature of the Lulu Mudstone, which hosts all of the significant mineralization at Lulu. The hole has downgraded the potential for adding significant tonnage to the Lulu Zone down plunge.

A selection of anomalous results from the drilling at SIB and the Hexagon Zone are presented in Table 6. The table includes all intersections over 0.5g/t Au and a selection of lower grade intersections (0.1 – 0.5g/t Au) over broad widths or associated with strong anomalism in other elements.

Table 6. 2003 SIB Drill Program – Anomalous Gold/Silver Intersections. From Worth et al., 2004.

HOLE ID	PROSPECT	From m	To m	Width	Grade Au g/t	Grade Ag g/t
03_121	SIB – Pie Target	No significant mineralization				
03_122	SIB – Pie Target	No significant mineralization				
03_123	Hexagon – South Mercury Anomaly	197	210	13m		
		242	249	7m	0.37	2.36
		incl.243	245	2m	1.74	0.73
		260	264	4m	5.11	1.36
		272.13	282.55(E OH)	10.42 m	0.23	<1
03_124	Hexagon – North Mercury Anomaly	226	228	2m	0.76	0.62
		234	241	7m	0.22	0.34
03_125	North Hexagon	146	147	1m	0.53	2.74#
		163	164	1m	1.41	0.48
		177	178	1m	1.57	0.51
		212	214	2m	0.59	0.16
03_126	SIBS – Pie Target	60				1.10
		incl.72	78	18m	0.40	4.70
		86	73	1m	2.50	1.26
		101	94	8m	0.47	14.03
		incl.	103	2m	3.83	16.74#
		102.11	103	0.89m	7.32	3.57
03_127	Hexagon – South Mercury Anomaly	219.9	225	5.1m	3.45	1.48
		incl. 223	225	2m	8.09	2.49
		276	278	2m	1.53	1.57
		312	313	1m	3.78	1.61
		328	333.85	5.85m	0.77	2.99
03_128	Hexagon – North Mercury Anomaly	16.75	17.5	0.75m	0.09	15.18#
03_129	Hexagon – North Mercury Anomaly	225	229	4m	0.18	0.82
		313.8	317	3.2m	0.13	1.93
03_130	Hexagon – North Mercury Anomaly	143	145	2m	1.51	0.54

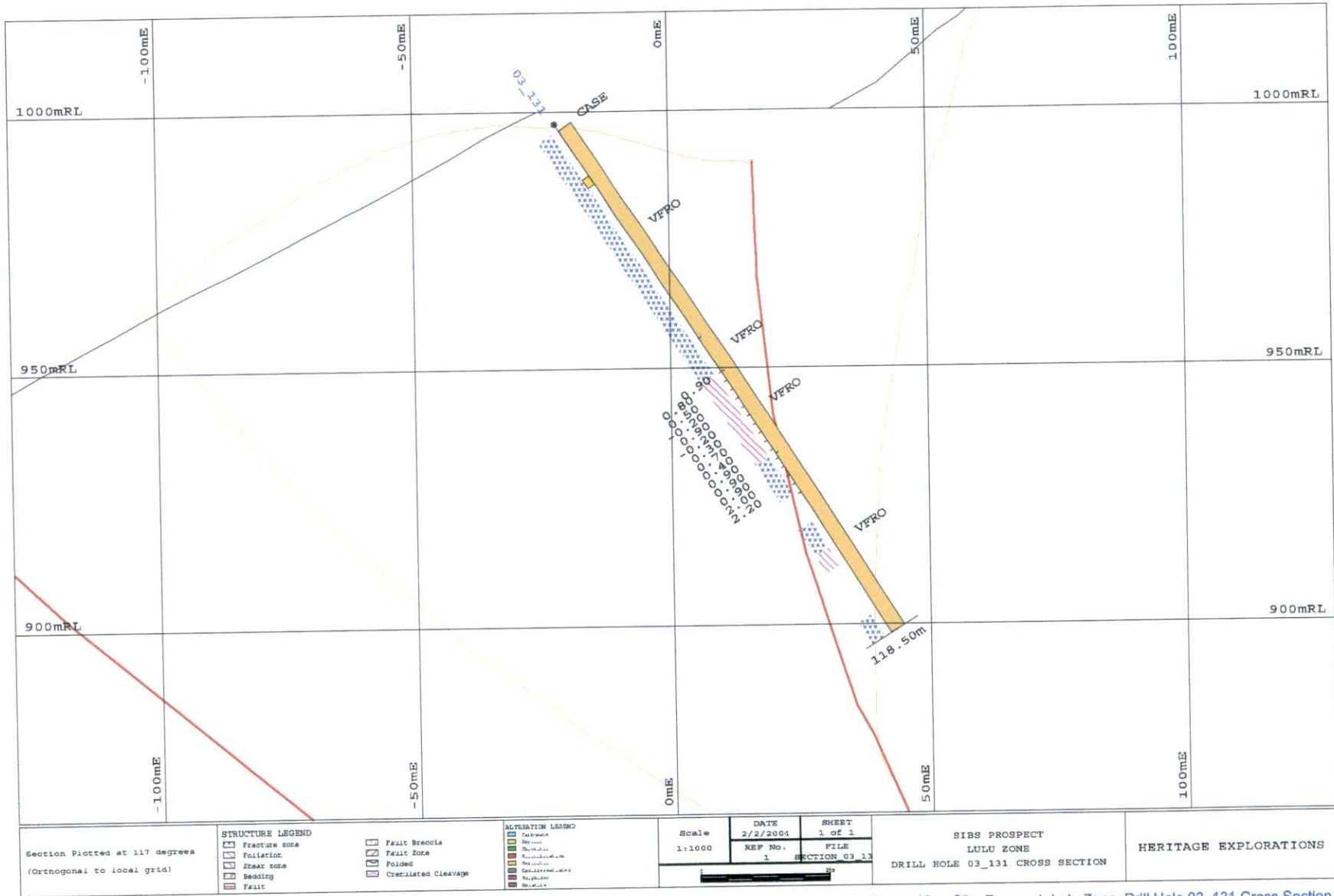


Figure 18q Sibs Prospect, Lulu Zone, Drill Hole 03_131 Cross Section.

03 131	Lulu	No significant mineralization
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Intercepts calculated using 0.1g/t Au cut, maximum 2m internal dilution.

#0.7%Pb, 0.84% Zn

#1% Zn

#0.5% Cu, 26.6ppm Hg, 776.12ppm Sb

12.2 Polo – Fog Claims

The Polo property lies to the south of the SIB claims and northwest of the TV/Jeff Prospects. In 2003 the area was field evaluated to determine the extent of favourable Hazelton Group (Salmon River Formation) stratigraphy within the property. The area has not been explored since 1992 and contains no drilling. The property is heavily timbered, very steep and difficult to traverse.

Lithologies at Polo consist largely of intermediate volcanoclastics (Betty Creek Formation) and carbonaceous mudstone (Bowser Lake Group?) in the east, with a large diorite intrusive to the west in contact with Bowser Lake Group sediments. GPS coverage under the heavy timber was extremely erratic and forced traverses to be controlled by a previously established local grid. Unfortunately the local grid used is also inaccurate and in places could not be found, thus correlating outcrops into a reliable interpretation proved very difficult.

A total of 64 samples were taken at Polo in 2003 (Figure 16), most returning low gold values, although several samples returned highly anomalous silver, arsenic and mercury values. The significance of this anomalism requires further investigation in light of mercury anomalies recognized in 2003 at the Hexagon Zone 2-3km to the northwest. On-going exploration at the Hexagon mercury anomalies should also serve to place the Polo results in context and help direct future work on the prospect.

Detailed mapping at Polo is not considered the most efficient method of exploring the prospect. This is due to access and survey control difficulties in the steep, heavily forested terrain. The prospect is also predominantly soil covered and contains significant tracts of late, probably thin, Bowser lake Group sedimentary cover. Reasonable quality airborne magnetics and VLF geophysical surveys exist over the area and further processing and interpretation of these, in conjunction with the new data collected in 2003, is the logical first step to continued exploration at Polo. Additional geophysical surveys such as EM may also prove useful in locating concealed massive sulphide or high sulphidation epithermal type mineralization. Any additional geophysics should be tied in to surveys at the Hexagon Prospect to the North and Jeff/TV to the south.

The Fog claims lie to the north of Polo and to the southeast of the Hexagon Prospect. Previous mapping of the area indicated a wide variety of rock types present, including diorite intrusives and felsic volcanics.

A single traverse was completed at Fog to validate the previous mapping and field check a low order high energy stream anomaly. The field traverse did not encounter either felsic volcanics or diorite intrusives, suggesting the original map was not captured in its actual location, or a differing interpretation of rock types. A narrow ridge of very fine grained, siliceous felsic dyke material was encountered and may be equivalent to one of these units. In general the traverse indicated that there is considerably more outcrop present than has been mapped, particularly in the creek beds.

Rock chip sampling at Fog (13 samples) failed to return any anomalous results. Soil and rock chip geochemistry completed in 1991 over the area also failed to locate any gold anomalism. The weak high energy stream anomaly (39ppb Au) from the 2002 program could not be explained. The sample site appeared to be suitable for the geochemical method, however no outcrop occurred in the immediate upstream area and no potential source of the anomalism was located.

12.3 TV-Jeff Area

2002 Program

In 2002 outcrop mapping was completed at 1:500 scale on the TV prospect in conjunction with GPS surveying of the numerous trenches at the prospect. The mapping was incorporated into the Eskay outcrop map compilation and was used in conjunction with the drilling to better define future drill targets.

Detailed re-logging was completed for selected holes and incorporated with the surface mapping to improve the understanding of the mineralization style at TV. The logging has been added to the MS Access drill hole database.

Drill hole TV95-27 at the TV Prospect was sampled for assaying. This hole was drilled to test the down dip potential of significant gold mineralization in trenches and shallow drilling. However the hole was not previously sampled despite intersecting the mudstone unit that seemingly hosts mineralization up dip. The new results did not return any significant mineralization, thus downgrading the down dip potential at TV. The down plunge potential remains untested.

2003 Program

An on-ground review of the Jeff and TV prospects was undertaken to determine the likelihood of the two prospects forming a continuous package of prospective stratigraphy. Aeromagnetic data over the zones show a northerly trending magnetic feature joining the prospects. VLF and IP surveys at TV and Jeff also indicate stratigraphy trends roughly north-south (i.e. along strike from each other).

A series of traverses were undertaken to check the existing mapping and sample prospective outcrops. This involved initially cleaning three old helipads between TV and Jeff to gain access to this very steep and heavily forested terrain. All new and old helipads in the area were GPS located and added to the GIS (Mapinfo).

The previous mapping at TV and Jeff appears to be fairly reliable. The traverses completed revealed very little additional outcrop. The geology between TV and Jeff is not continuous at surface, as was initially interpreted from magnetic survey data. The two prospects are separated by a thick sequence of unaltered carbonaceous mudstone, probably less prospective younger sediments of Bowser Lake Group. The geophysics may be showing a deeper connectivity between the two zones, beneath mudstones.

The field evaluation of TV and Jeff prospects has resulted in a re-interpretation of the outcrop patterns in conjunction with the geophysical (Magnetics, IP, VLF) and drilling data, to produce a new geological interpretation for the area (Figure 13). The new interpretation is preliminary only and requires further field validation, particularly to the northwest of TV where earlier mapping notes outcrops of rhyolite and pillow basalt. These rock types are potentially equivalent to the Eskay Creek Mine Stratigraphy and are therefore very prospective. A single traverse was undertaken in this area during 2003 and identified pillowed andesite overlying mudstone. Previous mapping along this traverse indicated an outcrop of rhyolite, however this was not found. Rock chip samples from the mudstone and andesite did not return any gold or multi-element anomalism. More detailed mapping in this area is warranted.

Thirty six (36) rock chip samples were collected from TV and Jeff (Figure 13). The best result was 2982ppb Au from a known showing at Jeff. This has been tested by previous drilling. The mudstone between TV and Jeff did not return any anomalous results.

Drill core from prior drilling at the TV and Jeff prospects was located and several holes inspected and checked against the historical logs. The core from Jeff Prospect was located at the site of the old Granges exploration camp on the west bank of the Unuk River. The camp had been removed and the site re-claimed, except for the core, which remained stacked and in reasonable condition. Some TV Prospect core (8 holes) was located at an abandoned, but largely still intact camp at the junction of the Sulphurets Creek and The Unuk River. A further 10 holes were located along the Eskay Creek Mine road, presumably at an earlier camp site at kilometer 52. Most of one hole and a single box from a second hole, of TV core, have been recovered in Vancouver and will be returned to the property. For the most part the TV core examined was in reasonable condition. An inventory was taken at each storage area.

The Jeff core was considered to be well logged and did not warrant relogging. The mineralization at Jeff appears to be fracture or fault controlled within intermediate volcanics, with associated silicification and sulphide alteration.

The TV drill core was examined in 2002 and selected holes were relogged at that time. Holes known to contain significant mineralization were examined again in 2003 to compare the mineralization styles at TV and Jeff. Mineralization at TV differs from Jeff in that it appears to be more stratigraphically (lithologically) controlled, occurring predominantly within mudstone adjacent to rhyolite. The stratigraphic setting at TV appears to be analogous to that at Eskay Creek Mine. In contrast the mineralization at Jeff Zone appears to be localized in fracture zones within tuffaceous volcaniclastic rocks, probably of Betty Creek Formation.

12.4 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 the 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 at Bonsai determined that the lithology outcrops and drill collar positions varied significantly from their recorded positions on existing maps. The drill collars 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.

Three holes were drilled at Bonsai to test for a vertical continuation of the main gossan (Table 7). A location plan is also attached as Figure 19.

Table 7. 2003 Bonsai Drill Summary. From Worth et al., 2004.

Hole ID	Prospect	Easting	Northing	Dip	Azimuth	Depth
BZ_03_07	Bonsai	404638	6276365	-45	90	190.55
BZ_03_08	Bonsai	404897	6276353	-62	270	296.2
BZ_03_09	Bonsai	404894	6276482	-55	270	284.1
Total meterage		3 holes for 771m				

Anomalous intersections from the drilling at Bonsai are presented in Table 8. The table includes all intersections over 0.5g/t Au and a selection of lower grade intersections (0.1 – 0.5g/t Au) over broad widths or associated with strong anomalism in other elements.

Table 8. 2003 Bonsai Drill Program – Anomalous Au/Ag Intersections. From Worth et al., 2004.

HOLE ID	PROSPECT	From m	To m	Width	Grade Au g/t	Grade Ag g/t
BZ_03_07	Bonsai	No significant mineralization				
BZ_03_08	Bonsai	90	154	64m	0.38	27.08
		incl. 114.6	115.25	0.65m	1.99	>100
		incl. 122	140	18m	0.52	30.85
BZ_03_09	Bonsai	222.8	223.3	0.5	0.31	30.99
		242	246.2	4.2	<0.1	18.85

Intercepts calculated using 0.1g/t Au cut, maximum 2m internal dilution.

The drilling at Bonsai intersected mostly rhyolite and an interbedded sequence of mudstone and sandstone. The gossanous material at surface occurs in core as a pyritic rhyolite breccia. Only hole BZ_03_08 intersected the pyritic breccia zone, resulting in the wide gold/silver intersection reported in Table 8. 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 is open at depth and along strike to the south.

The results from hole BZ_03_08 are considered highly significant and follow up drilling in 2004 is required. Prior to drilling, a ground IP geophysical survey could be used to map zones of higher sulphide content and thereby better constrain the drilling (steep terrain at Bonsai may prohibit the effective use of on ground surveys, but this would need to be assessed on site).

12.5 Tarn-Lance-AP

AP Prospect

Geological mapping at 1:2000 scale was completed at the AP prospect by consultant geologist Dr Peter Lewis in 2002. Lewis suggests that the southern portion of the prospect has a similar structural and lithological setting to Eskay Creek and represents part of a “robust” hydrothermal system (Lewis, 2002). The map produced by Lewis has been recoded to the Geoinformatics lithological coding system and incorporated into the final Eskay compilation map.

In 2003 work on the main AP prospect was confined to obtaining DGPS locations of some of the drill collars and trenches in the area. The GPS readings for these locations were consistent with those taken in 2002 and no further DGPS work was undertaken. Follow up mapping to the work completed by Dr Peter Lewis in 2002 (Lewis, 2002) was planned but not carried out due to time and staffing constraints. This work remains a priority for field season 2004.

An anomalous line of high energy stream sediment samples was identified down slope to the west of AP and was investigated. The locations of the anomalous values were found to be at the base of a steep ridge in or near plunge pools of intermittent waterfalls. No significant alteration was found in any of the surrounding massive andesite and samples of this andesite did not return any anomalous results. It is considered likely the anomaly was caused by spurious enrichment within the sample sites (plunge pools) and has been downgraded.

Tarn

The Tarn area had not had any on new work undertaken since 1991 and was considered a priority for field evaluation due to the potential for significant new exposure from glacial ablation since that time.

Previous sampling in the area has identified strong gold anomalism along the edge of the snow line to the south of the main glacial valley. A number of traverses were made along the foot of the glacier and significant new outcrop was encountered. A total of 64 rock chip samples were taken, most from areas of new exposure (Figure 16).

The rock exposed at the base of the glacier at Tarn consists of very coarse fragmental intermediate volcanoclastics, which are variably sheared and moderately to strongly sericite-pyrite altered. In places narrow, fault controlled zones of more intense silica-pyrite alteration occur. The highest assay values from rock chip samples came from these zones, including one sample with grades of 4.12g/t Au, 18.33g/t Ag and 0.5% Zn. This value came from a narrow west-northwest trending fault and appears in outcrop to have very limited size potential. However a much larger west-northwest trending fault is visible in the magnetics data. This feature is coincident with the main glacial valley at Tarn Prospect and may be significant in the emplacement and/or remobilization of mineralization at Tarn and at a more regional scale.

In the south of the prospect a north-south line of rock chip samples stretching roughly 500m along the edge of the Bruce Glacier have returned values up to 15.8g/t Au. An attempt to evaluate this area was made, however the outcrops and sample points could not be reached due to excessive snow cover. A second attempt later in the field season was planned but not carried out due to time and staffing constraints. This area remains a priority for evaluation for the 2004 field program.

The geophysical coverage at Tarn is discontinuous and difficult to interpret. Additional airborne geophysics would be a great assistance in understanding the structural setting at Tarn, particularly given the clear structural association with mineralization.

12.6 Treaty Creek area

The 2003 field season provided the first opportunity to validate the historical data compilation completed for the Treaty Creek area. Several zones of previous work were identified and were prioritized for field evaluation.

Mapping at Treaty Creek was completed at 1:5000 scale by consultant geologist Dr Peter Lewis (Lewis, 2003). Dr Lewis has extensive prior mapping experience in the area and was given the directive to map and evaluate the various prospective locations identified by Geoinformatics through its initial data compilation phase. The areas mapped were the GR2, Goat Trail, Konkin, Southwest, Orpiment, Eureka and Main Gossan (Sulphur Knob) zones. The Ridge and Ball Pyrite Zones were not mapped due to time constraints and safety concerns (overhanging ice).

Lewis (2003) presented outcrop and interpretation maps together with his conclusions and recommendations in his field report to Heritage. The maps have been recoded to the Geoinformatics

coding system for incorporation into the Eskay compilation lithology map dataset. Combined outcrop and Interpretation maps are presented in Figures 6 and 17.

Work completed by Lewis identified the GR2 zone as having relatively untested potential for gold mineralization in discrete, narrow fault zones (Lewis, 2003). Rock chip and trench samples from previous exploration along these structures frequently returned anomalous gold and base metal values (best result from historical data: 12.2g/t Au, 270g/t Ag, 0.6% Cu, 2.3% Pb, 0.8% Zn). Sampling from this zone in 2003 returned slightly lower gold values than the earlier work but did confirm the strong base metal anomalism (Figure 7.17).

A review of the geophysics (magnetics, EM) at Treaty Creek during the field season has highlighted elements of a possible porphyry Cu-Au alteration signature.

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 following figures from Treaty (Figures 20a, b).

Rock chip sampling for litho geochemistry and a review of the existing geochemistry over the Treaty Nunatak is planned to better determine the potential for porphyry copper/gold mineralization. A single sample centered on the high magnetic core of the interpreted intrusive returned values of 1.79g/t Au, 100g/t Ag and 6.49% Cu from "massive andesite".

Based on the available historical data and field evaluation, the GR2 Zone at Treaty Creek is considered to warrant drill testing. Lewis (2003) recommended the GR2 Zone based on the following:

- (a) surface samples show highly anomalous base metals +/- gold/silver.
- (b) the alteration is clearly focused along faults.
- (c) the faults appear to be of a similar magnitude to the ore-bearing fault at the Snip Mine.
- (d) the zone is poorly tested relative to other mineral occurrences at Treaty Creek.

Three holes were planned for the prospect and drill pads were constructed. Early snow and poor weather prevented access to the drill sites. The prospect remains a valid drill target for the 2004 field season.

13. CONCLUSIONS

13.1 SIBS Claims

13.1(a) Battleship Knoll

The drilling in 2002 and 2003 within the Mackay Mudstone unit and at Battleship Knoll intersected broad zones of anomalous gold, but failed to identify any potentially economic mineralization. Most, if not all near surface potential for economic gold mineralization within the SIB Claims (excluding Hexagon Zone) has now been at least partially tested and extinguished by drilling. At depths below 100m potential still remains, particularly beneath the Coulter Creek thrust in the west of the claim group.

13.1(b) Lulu

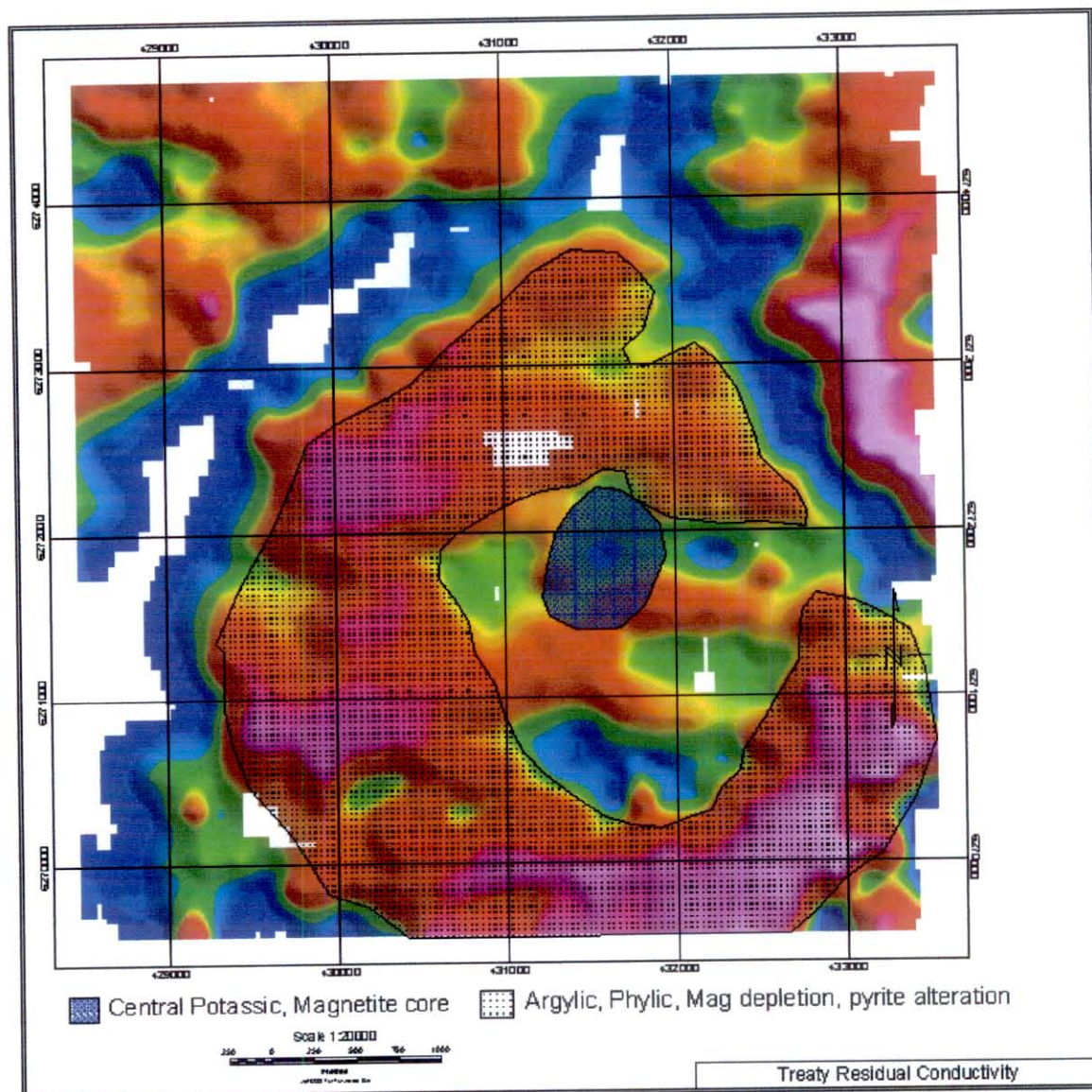


Figure 20(a). Main Treaty Nunatak EM Conductivity with Interpreted Porphyry Alteration Pattern. From Worth et al., 2004.

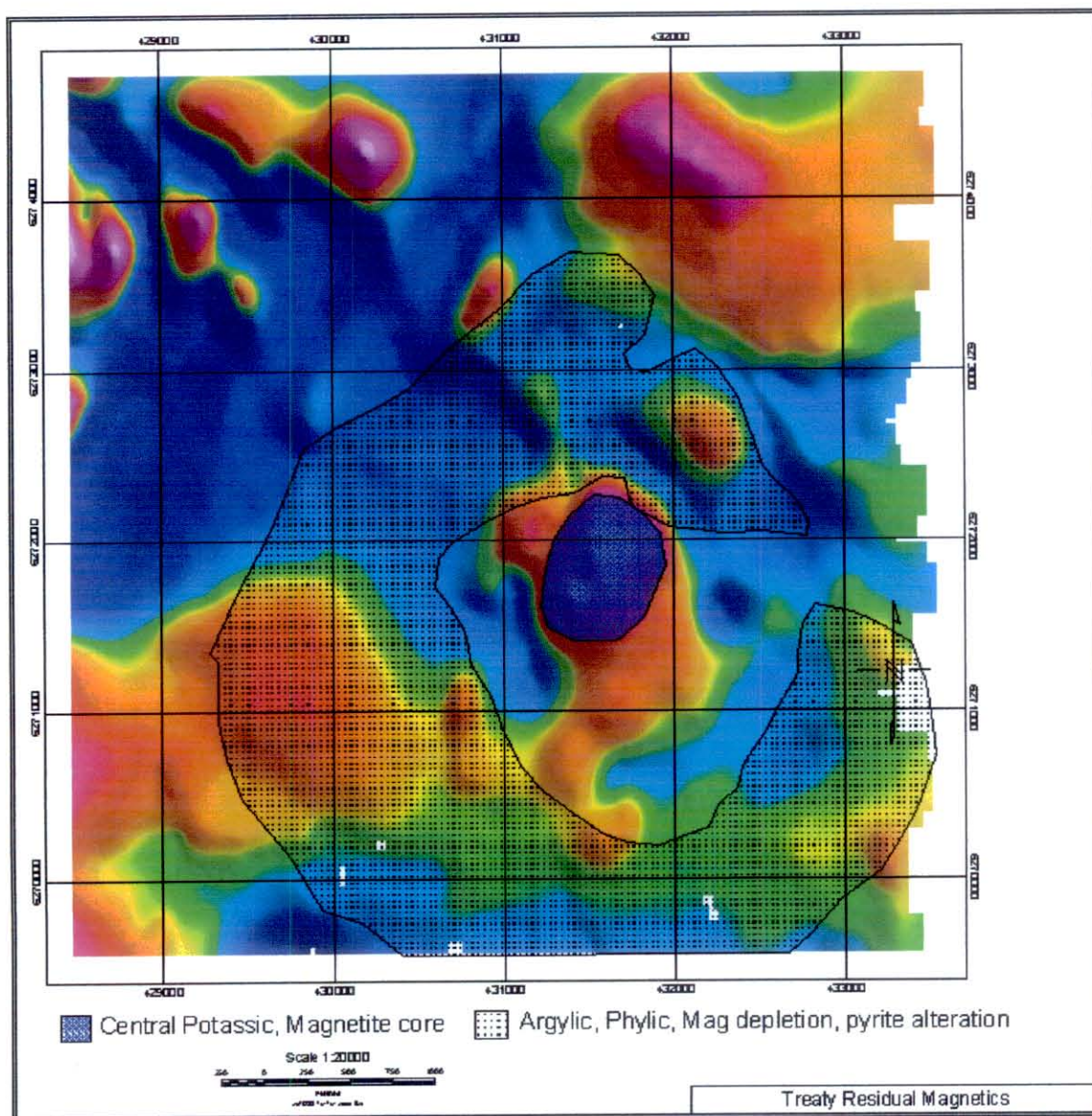


Figure 20(b). Main Treaty Nunatak Magnetics with Interpreted Porphyry Alteration Pattern. From Worth et al., 2004..

The 2002 drill program confirmed the presence at Lulu of high grade gold-silver mineralization similar to that at Eskay Creek Mine, however follow up drilling in 2003 failed to intersect the down plunge extension of the zone. The dip, strike and plunge extensions to the Lulu Zone have now essentially been defined. The deposit, at this time, appears to be too small for economic consideration and no further work is recommended

13.1(c) Hexagon

The mapping and accompanying rock chip sampling helped to define a number of structural, alteration and geochemically anomalous zones along the previously defined Hexagon high energy stream sediment anomaly. Three of these zones were drill tested in 2003. Drilling at the two southern zones (Mercury anomalies) resulted in the delineation of a large shear zone hosted high sulphidation mesothermal alteration system. The system is dominated by sericite-pyrite-pyrophyllite-(silica) +/- hematite alteration and is characterized by highly anomalous mercury levels. The drilled portion of the system shows gold levels are distinctively low in the core of the zone but show some enrichment on the margins. The zone is open along strike and at depth and represents an excellent target for future exploration.

13.2 Polo – Fog Claims

Field reconnaissance and sampling at Polo did not identify any strong gold anomalism, however several alteration zones and silver-arsenic-mercury anomalies were identified. More mapping is required to define the Polo and Fog claims geological package and its relationship to the SIB claims. An airborne survey (EM-magnetics) should also help delineate the stratigraphy and structure extending southerly from SIB to Polo and across the Unuk River to TV-Jeff.

13.3 TV–Jeff Area

The original interpretation that TV and Jeff may be geologically continuous was tested by mapping in 2003. The mapping indicated the two zones are separated at surface by a zone of graphitic mudstones, probably Bowser Lake Group sediments. Sampling of this material failed to produce any gold anomalism. Examination of drill core from both zones also indicates the mineralization style at each occurs in different lithologies, although both may be essentially controlled by the same structure. A new aeromagnetic and VLF survey over the zones should help define the relationship between the zones and indicate if they may be connected, either structurally or stratigraphically, at depth beneath the Bowser Lake Group sediments.

Field evaluation in 2003 indicates the area to the northwest of TV contains lithologies of the Salmon River Formation and is prospective for “Eskay Creek” type mineralization.

13.4 Bonsai Prospect

Drilling at Bonsai in 2003 has intersected significant low grade gold/silver mineralization in pyritic rhyolite breccia, beneath the main gossan outcrop. The mineralized zone is open at depth and to the south and represents an excellent target for future exploration.

13.5 Tarn-Lance-AP Area

The sampling at Tarn failed to identify any new zones of significant mineralization in 2003, although some narrow fault related mineralization was encountered. The geology at Tarn is highly sericite-pyrite altered and extensively sheared and faulted. A zone of anomalous gold in rock chip samples in the

southern portion of the Tarn Prospect could not be reached in 2003 due to snow cover and remains a target for future field evaluation.

The AP-Lance area has received only a cursory look to date. A detailed review of the data is required particularly in light of a number of high energy silt anomalies in drainages to the north.

13.6 Treaty Creek area

The fieldwork at Treaty Creek in 2003 has greatly improved the knowledge and understanding of the various zones in the area. The geological mapping and evaluation has highlighted a number of areas for follow up work. Drilling at the GR2 zone was not completed due to poor weather, but remains a valid target for the 2004 field season.

The extensive zones of alteration at Treaty Creek have been previously described as compatible with epithermal to porphyry geological environments (Lewis, 2003). Geophysical interpretations in 2003 suggest that this porphyry-epithermal system is centered on a large intrusive at depth beneath the main Treaty Nunatak. This intrusive is prospective for porphyry copper/gold mineralization and places the alteration zones at Treaty Creek into better spatial context for future exploration and targeting.

13.7 Regional Geochemistry

The high energy stream sediment geochemical survey completed in 2002 has generated a number of gold and multi element anomalies, including the Hexagon Anomaly. Several gold anomalies remain to be field validated and evaluated.

Further work on evaluating the multi-element data from all survey types within the geochemistry database should be completed. Particular emphasis on identifying alteration mineralogies, rather than gold anomalies may generate new targets for field evaluation. In order to complete effective analysis of the many disparate datasets that make up the compilation database, it may be necessary to process some individual datasets separately to generate meaningful results. Areas considered prospective based on geology or geophysics but not showing significant geochemical anomalies should be field checked to assess the effectiveness of the geochemical sampling technique(s) applied to that area. This applies particularly to areas covered only by soil geochemistry and surveys where elements apart from gold and base metals were not assayed for.

14. RECOMMENDATIONS

1. The Geoinformatics process has highlighted a number of areas that justify additional exploration. Target ranking and prioritization has not been completed for this report but should be attempted prior to commencement of the 2004 field season.
2. Geophysical datasets covering the project area offer incomplete coverage, causing difficulties in comparing and extrapolating interpretations from one prospect to another. An additional semi-regional airborne survey capturing detailed magnetics and EM (+/- Radiometrics) would benefit both regional and prospect scale interpretations and targeting. Re-processing of some existing datasets may also add value in some areas, such as occurred in 2003 with the reprocessing of the Treaty Creek magnetics and EM.

The difficulties in conducting on ground exploration due to the short season and often difficult terrain make airborne geophysical surveys a relatively cost effective method of exploration. A detailed airborne magnetic and EM survey covering most of the prospects within the Eskay Project

is considered worthwhile to improve regional and prospect scale interpretations and targeting. The suggested survey area would be roughly 1500 line km and would cost approximately \$225,000.

3. The high energy stream geochemistry surveys completed in 2001 and 2002 have highlighted several gold and multi element anomalies that require field validation and evaluation. This work was commenced in 2003 (resulting in the identification of the Hexagon mercury anomalies in the Sibs/Aftom claims) and should be continued in future field seasons. Further study of the multi-element data from these surveys and field follow-up should generate new targets.
4. Future exploration on the SIB claims must now focus on generating deeper targets and will require additional geophysical surveys such as IP. An IP survey capable of "seeing" down to at least 200m should be considered to cover the entire claim group, with the aim of identifying new targets for Eskay Creek type mineralization at depths beneath the drill coverage. At least some test work with deep penetrating IP should be considered for 2004.
5. Specific recommendations for the Hexagon / Mercury Zone are as follows:
 - (a) the 1:1000 scale mapping completed on the SIB claims should be extended to cover the Hexagon Zone to its eastern limits.
 - (b) an IP survey should be considered over the area. IP would highlight areas of greater sulphide content which may define the structure control and help to better constrain future drilling.
 - (c) zones identified in the mapping, sampling and IP survey should then be considered for drill testing.
 - (d) the contact between andesitic volcanoclastics of the Betty Creek Formation and sediments of the Jack Formation, where it is intersected by the newly discovered zone of intense alteration and shearing, is considered an excellent geological target for mesothermal – epithermal gold mineralization. This target requires drill testing.
6. Follow up drilling at Bonsai is required to test the low grade gold-silver mineralization intersected in hole BZ_03_08 in 2003. An IP survey of the area would be useful for identifying zones of higher sulphide content within the rhyolite breccia unit containing the mineralization. Field reconnaissance to determine the viability of this survey in the steep terrain at Bonsai should be carried out early in the 2004 field season.
7. A semi-regional airborne mag-VLF survey would greatly assist in interpreting the geology of the TV/Jeff area and may generate new target areas. Deep penetrating ground IP should also be considered, at least on a test basis, for both zones and the area in between.

Based on the prospective "Eskay" lithologies shown on earlier maps, field evaluation and detailed mapping is warranted to the northwest of TV.

8. Additional processing and interpretation of the available geophysics is now required to put the silver-arsenic-mercury anomalies at Polo in context with those at TV/Jeff to the south and SIB/Hexagon to the north.
9. Additional mapping and sampling should be completed at AP, following on from the work completed by Lewis in 2002.
10. At Tarn a 500m long zone of anomalous gold mineralization in rock chip samples still requires field evaluation, as it could not be reached in 2003. A semi-regional airborne magnetics/EM/VLF survey would assist in interpreting the structural setting of the Tarn area and would greatly assist in future targeting at the prospect.

11. A list of recommended follow up work is contained in the report compiled by Peter Lewis on his field studies in 2003 (Lewis, 2003). Those considered a priority by are as follows:

- Mouth of Treaty Glacier: Prospecting and geochemical sampling around the mouth of the Treaty Glacier, where a single multi-gram rock sample along an east-west trending fault was collected, probably from altered rocks of upper Hazelton Group stratigraphy.

- GR2 Zone: Diamond drilling of several structurally controlled zones of alteration and mineralization. These were planned for drilling in 2003 and remain valid drill targets for 2004.

The porphyry copper potential beneath the main Treaty Nunatak should also be tested in 2004 by field evaluations and possible drilling of this blind target. This work would be contingent on an extensive pre-field season review of the porphyry copper-gold potential based on all available geochemical and litho-geochemical data, some of which was not available during the 2003 field season.

The proposed budget for 2004 is as follows:

Field preparation & mobilization	\$ 100,000
Airborne EM/magnetics survey (200meter line spacing) 1500 line kilometers @ \$150/kilometer	\$ 225,000
Ground IP surveys including linecutting 200 line kilometers @ \$800/kilometer	\$ 160,000
Geological mapping & field evaluation 6 geologists & assistants for 3 months	\$ 240,000
Diamond Drilling including core logging, assaying @ \$150/meter	
Hexagon – 15 holes @ 350 meters (5,250 meters)	\$ 800,000
Bonsai – 4 holes @ 250 meters (1,000 meters)	\$ 150,000
Treaty – 6 holes @ 250 meters (1,500 meter)	\$ 225,000
Other – 4 holes @ 200 meters (800 meters)	\$ 120,000
Assaying (not incl. drilling) 3000 samples @ \$30/sample	\$ 90,000
Helicopter support – 500 hours @ \$950/hour	\$ 475,000
Camp support - 2500 man days @ \$150/day	\$ 375,000
Travel support	\$ 60,000
Year end data compilation & reporting	<u>\$ 50,000</u>
Total	\$ 3,070,000

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16. STATEMENTS OF QUALIFICATIONS

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

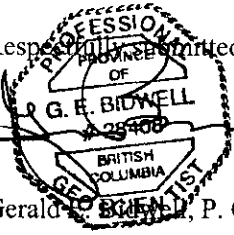
I am a consulting geologist with G. Bidwell & Associates Ltd. of Delta, BC.

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/Inemlo 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 months on site during the 2003 field program.

Respectfully submitted,

Gerald E. Bidwell, P. Geo.

The seal is circular with a double border. The outer border contains the text 'PROFESSIONAL GEOSCIENTIST' at the top and 'BRITISH COLUMBIA' at the bottom. Inside the seal, the text 'OF' is at the top, 'G. E. BIDWELL' is in the middle, and '28400' is below it. A stylized geological hammer and pickaxe are crossed behind the text.

Dated March 17, 2004 in Vancouver, BC.

STATEMENT OF QUALIFICATIONS

Antony W. Worth, Bsc

I Antony W. Worth, Bsc., of 8/123 Colin Street, West Perth, Western Australia, do hereby certify the following:

- I am a geologist employed by Geoinformatics Exploration Australia Ltd.
- I have been practicing my profession continuously since graduation in 1992, as a geologist in Australia, Africa and Canada.
- I am a graduate of the University of Western Australia, with a Bachelor of Science degree in geology in 1992.
- I am a member of the Australasian Institute of Mining and Metallurgy (AusIMM).
- I have not, directly or indirectly, received or expect to receive, any interests in the properties of Heritage Explorations Ltd. I have no direct or indirect ownership or option on securities of Heritage, nor do I expect to receive any such securities in the future.

ESKAY PROJECT
2002 & 2003 FIELD PROGRAMS

Appendix I

Sample Descriptions

~~(a) 2001 & 2002 Stream Geochemistry Sample
-Descriptions & Gold Results-~~

(b) 2003 Rock Chip Sample Descriptions

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM		Y_UTM		GEX_Lit		Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h code	Sampler	Sampled	OtherLocation	Method		Accuracy	
POLO	134001	Rock	409322.24	6270192.88	480		TW/MR	28/07/2003		9600N 10050E Outcrop 50m long trending 010	GRID	4	
POLO	134002	Rock	409568.48	6270099.28	386.46		TW/MR	28/07/2003		9600N 10350E in creek	GRID	4	
POLO	134003	Rock	409052.96	6269731.6	427.92		TW/MR	29/07/2003		9000N 9950E	GRID	4	
POLO	134004	Rock	409480	6269420	280		TW/MR	29/07/2003		S end of beach at river. Poor GPS reading	GPS	2	
POLO	134005	Rock					TW/MR	29/07/2003		40m south along river	GRID	4	
POLO	134006	Rock	409923	6270602	296.26		TW/MR	30/07/2003		Scree slope	GPS	2	
POLO	134007	Rock	409756	6270825	412.6		TW/MR	30/07/2003		10390N 10265E	GPS	2	
POLO	134008	Rock	409760	6270700	388.57		TW/MR	30/07/2003		Poor GPS reading	GPS	2	
POLO	134009	Rock	409760	6270720	390.12		TW/MR	30/07/2003		20m N of 134008	GPS	2	
POLO	134010	Rock					TW/MR	30/07/2003		50m N of 10400N, 50m upslope from cliff at river.	GRID	4	
POLO	134011	Rock	409792	6271116	376.7		TW/MR	30/07/2003		Creek NE of 10600N	GPS	2	
POLO	134012	Rock	407742	627060	0		TW/MR	30/07/2003		creek at base of cliff	GPS	2	
POLO	134013	Rock	407750	6270287	732.61		TW/MR	31/07/2003		SW facing cliff	GPS	2	
POLO	134014	Rock	407750	6270320	736.85		TW/MR	31/07/2003			GPS	2	
POLO	134015	Rock	407925	6270324	728.34		TW/MR	31/07/2003		Above cliff, poor GPS reading	GPS	2	
SIBS	134051	Rock	409403	6275855	1162.39	YIOC	MB/MR	03/07/2003		wall rock to alteration zone	GPS	2	
SIBS	134052	Rock	409408	6275857	1160.37	YIOC	MB/MR	03/07/2003		alteration zone	GPS	2	
SIBS	134053	Rock	409400	6275860	1165.51	YIOC	MB/MR	03/07/2003		alteration zone	GPS	2	
SIBS	134054	Rock	409382	6275865	1176.71	YIOC	MB/MR	03/07/2003		wall rock to alteration zone	GPS	2	
SIBS	134055	Rock	409435	6275920	1158.47	YIOC	MB/MR	03/07/2003		parallel py-filled fractures	GPS	2	
SIBS	134056	Rock	409435	6275918	1158.9	YIOC	MB/MR	03/07/2003			GPS	2	
SIBS	134057	Rock	409435	6275916	1158.86	YIOC	MB/MR	03/07/2003			GPS	2	
SIBS	134058	Rock	409434	6275914	1159.32	YIOC	MB/MR	03/07/2003		minor galena in vein	GPS	2	
SIBS	134059	Rock	409235	6275395	1189.09	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134060	Rock	409260	6275400	1183.38	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134061	Rock	409270	6275392	1181.97	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134062	Rock	409255	6275365	1189.23	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134063	Rock	409375	6275378	1192.06	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134064	Rock	409298	6275224	1211.57	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134065	Rock	409310	6275305	1209	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134066	Rock	409070	6275190	1196.12	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134067	Rock	409165	6275278	1200	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134068	Rock	409165	6275278	1200	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134069	Rock	409172	6275260	1200	YIOC	MB/MR	09/07/2003			GPS	2	
SIBS	134070	Rock	409172	6275260	1200	YIOC	MB/MR	10/07/2003			GPS	2	
SIBS	134071	Rock	409168	6275205	1206.28	YIOC	MB/MR	10/07/2003		jarosite on outcrop	GPS	2	
SIBS	134072	Rock	408878	6274853	1215.9	YIOC	MB/MR	10/07/2003		intense silicification	GPS	2	
SIBS	134073	Rock	408921	6274752	1196.98	YIOC	MB/MR	10/07/2003			GPS	2	
SIBS	134074	Rock	408930	6274755	1196.22	YIOC	MB/MR	10/07/2003			GPS	2	
SIBS	134075	Rock	408979	6274721	1178.05	YIOF	MB/MR	10/07/2003		porphyroblastic med-gr py	GPS	2	
SIBS	134076	Rock	408959	6274654	1160	YIOC	MB/MR	10/07/2003			GPS	2	
SIBS	134077	Rock	408782	6274776	1215.52	YIOC	MB/MR	10/07/2003			GPS	2	
SIBS	134078	Rock	408785	6274771	1217.85	YIOC	MB/MR	11/07/2003			GPS	2	
SIBS	134079	Rock	408839	6274700	1207.31	YIOC	MB/MR	11/07/2003			GPS	2	
SIBS	134080	Rock	408834	6274675	1204.15	YIOC	MB/MR	11/07/2003			GPS	2	
SIBS	134081	Rock	408687	6274678	1199.28	YIOC	MB/MR	11/07/2003		jarosite on outcrop	GPS	2	
SIBS	134082	Rock	408687	6274647	1189.29	YIOC	MB/MR	12/07/2003		up to 5% py in BRX vn; 2% Vq (<0.5cm) in wallrock	GPS	2	

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_		Y_UTM_		GEX_Lit		Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation	Method		Accuracy	
SIBS	134083	Rock	408667	6274647	1189.29	YIOC	MB/MR	12/07/2003			up to 10% py in BRX vn, local ASP, 2% Vq (<0.5cm) in wallrock	GPS	2
SIBS	134084	Rock	408665	6274649	1187.94	YIOC	MB/MR	12/07/2003			GN <0.5%, SP <0.5% in Vq	GPS	2
SIBS	134085	Rock	408053	6273766	1140	YIOC	MB/MR	14/07/2003			cse-gr py, nearby float contains 5cm clast or vein with 15% galena & 2% cse-gr Py	GPS	2
SIBS	134086	Rock	408152	6273897	1159.62	SGOM	MB/MR	14/07/2003			conglomerate: sandstone clasts in argillite	GPS	2
SIBS	134087	Rock	408366	6273902	1106.16	YIOF	MB/MR	15/07/2003			highly foliated, possible altered wacke	GPS	2
SIBS	134088	Rock	408346	6274022	1148.94	YIOM	MB/MR	18/07/2003			med-gr py	GPS	2
SIBS	134089	Rock	408329	6274044	1160	YIOC	MB/MR	18/07/2003			strong silicification	GPS	2
SIBS	134090	Rock	408364	6274066	1157.27	YIOC	MB/MR	18/07/2003			pale grey	GPS	2
SIBS	134091	Rock	408386	6273956	1123.5	YIOC	MB/MR	18/07/2003				GPS	2
SIBS	134092	Rock	408377	6273880	1100	YIOM	MB/MR	18/07/2003			irregular veins parallel to foliation	GPS	2
SIBS	134093	Rock	408142	6273471	1070.99	YIOM	MB/MR	19/07/2003			highly foliated	GPS	2
SIBS	134094	Rock	408244	6273568	1060	YIOC	MB/MR	19/07/2003			narrow zone 0.3-0.5m wide	GPS	2
SIBS	134095	Rock	408297	6273471	1035.46	YIOC	MB/MR	19/07/2003			sampled local alteration zone in mostly unaltered outcrop	GPS	2
SIBS	134096	Rock	408627	6273918	1060	YIOC	MB/MR	22/07/2003			strongly foliated, limonite-jarosite stain	GPS	2
SIBS	134097	Rock	408636	6273884	1055.55	YIOC	MB/MR	22/07/2003			strongly foliated, limonite-jarosite stain	GPS	2
SIBS	134098	Rock	408627	6273913	1060	YIOC	MB/MR	22/07/2003			strongly foliated, limonite-jarosite stain	GPS	2
SIBS	134099	Rock	408582	6273848	1044.61	SACO	MB/MR	22/07/2003			limonite stained	GPS	2
SIBS	134100	Rock	408568	6273806	1040	YIOC	MB/MR	22/07/2003			very fine pyrite, pale grey	GPS	2
SIBS	134101	Rock	409187	6275110	1219.72	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134102	Rock	409176	6275140	1215.87	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134103	Rock	409175	6275144	1215.42	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134104	Rock	409166	6275154	1213.38	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134105	Rock	409160	6275150	1212.84	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134106	Rock	409191	6275161	1214.85	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134107	Rock	409234	6275200	1220	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134108	Rock	409228	6275166	1220	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134109	Rock	409180	6275380	1195.71	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134110	Rock	409154	6275380	1190.62	YIOC	BP/TB	10/07/2003				GPS	2
SIBS	134111	Rock	408692	6274556	1191.57	YIOC	BP/AB	11/07/2003				GPS	2
SIBS	134112	Rock	408583	6274578	1168.06	YIOC	BP/AB	11/07/2003				GPS	2
SIBS	134113	Rock	408620	6274544	1162.2	YIOC	BP/AB	11/07/2003				GPS	2
SIBS	134114	Rock	408799	6274478	1153.50	YIOC	BP/AB	11/07/2003			qz vein, some vugs with well developed qz crystal faces, with unusual black mineral, sometimes is spherical blebs, also flying saucer shaped disks. Vein has fibrous qtz and slickenfibres	GPS	2
SIBS	134115	Rock	408875	6274546	1151.37	YIOC	BP/AB	11/07/2003			large outcrop	GPS	2
SIBS	134116	Rock	408922	6274549	1138.1	YIOM	BP/AB	11/07/2003				GPS	2
SIBS	134117	Rock	408893	6274495	1129.87	YIOM	BP/AB	11/07/2003			very strongly altered and sheared outcrop - possible source or hexagon stream anomalies, in unique, base of valley exposure. Chlorite with sulphides and strong silicification (most nearby areas are qz, pyrite, sericite, silica alteration)	GPS	2
SIBS	134118	Rock	409474	6275745	1131.37	YIOC	BP/AB	12/07/2003			1 m thick alteration zone crossing outcrop	GPS	2
SIBS	134119	Rock	409490	6275748	1125.98	YIOC	BP/AB	12/07/2003			lots of sulphide boxwork	GPS	2
SIBS	134120	Rock	409420	6275621	1147.86	YIOC	BP/AB	12/07/2003			violet rock, some brown spots, may be potassic alteration?	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit			Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
SIBS	134121	Rock	409376	6275639	1161.95	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134122	Rock	409437	6275676	1142.6	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134123	Rock	409375	6275632	1162.36	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134124	Rock	409343	6275663	1162.34	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134125	Rock	409381	6275699	1153.99	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134126	Rock	409216	6275691	1180	YIOC	BP/AB	12/07/2003		intense alteration with veins, some sulphides and boxwork wx of sulphides. Very strong alteration	GPS	2
SIBS	134127	Rock	409297	6275822	1179.78	YIOC	BP/AB	12/07/2003		slightly pyritic, fine grained volcanoclastic, near mudstone facies rock	GPS	2
SIBS	134128	Rock	409379	6275945	1166.97	YIOC	BP/AB	12/07/2003			GPS	2
SIBS	134129	Rock	408574	6274098	1117.06	SAVO	BP/AB	12/07/2003		possible potassic alteration, violet colour through about half of the rock	GPS	2
SIBS	134130	Rock	408558	6274176	1144.71	VIAP	BP/AB	12/07/2003		andesitic looking rock with hornblende crystals	GPS	2
SIBS	134131	Rock	408775	6274287	1091.82	YIOM	BP/AB	14/07/2003		right in creek bed, greenish - chlorite?	GPS	2
SIBS	134132	Rock	408766	6274269	1088.51	YIOM	BP/AB	14/07/2003		has also black, irregular "veins" - these look like pseudotachylites but may actually be just fractures filled by fine-grained mudstone etc.	GPS	2
SIBS	134133	Rock	408644	6274236	1122.69	YIOM	BP/AB	14/07/2003		near edge of claim, right in creek bed	GPS	2
SIBS	134134	Rock	408733	6274173	1074.25	SAVO	BP/AB	14/07/2003		not noticeably altered, but mud to silt	GPS	2
SIBS	134135	Rock	408697	6274157	1077.52	YIOM	BP/AB	14/07/2003		right in creek bed.	GPS	2
SIBS	134136	Rock	408474	6274303	1168.7	YIOC	BP/AB	14/07/2003		Sample line 50-094. Fracture, 83-210 may control alteration	GPS	2
SIBS	134137	Rock	408432	6274288	1174.23	YIOC	BP/AB	14/07/2003		May have mudstone matrix to part of volcanoclastic. See specimen BP002. Long sample line 40-270	GPS	2
SIBS	134138	Rock	408453	6274188	1158.67	YIOC	BP/AB	14/07/2003		adjacent to major 'gully' or FZ feature.	GPS	2
SIBS	134139	Rock	408477	6274382	1200	YIOC	BP/AB	14/07/2003		along a fault/fracture, 63-210 sample line is 10-040	GPS	2
SIBS	134140	Rock	408464	6274345	1178.94	YFOC	BP/AB	18/07/2003			GPS	2
SIBS	134141	Rock	408324	6274311	1144.97	SACO	BP/AB	18/07/2003		Fault/Faults, parallel to strike, approx orientations are 80-296 and 84-151. Lots of samples taken here	GPS	2
SIBS	134142	Rock	408577	6274372	1155.25	YIOC	BP/AB	18/07/2003		along Battleship Knoll Fault?	GPS	2
SIBS	134143	Rock	408577	6274413	1163.42	YIOC	BP/AB	18/07/2003		along Battleship Knoll Fault? - sample line approx 10-170 (cross strike, parallel to fault)	GPS	2
SIBS	134144	Rock	408081	6273288	1053.72	YIOC	BP/AB	19/07/2003		Sample line 00-200, 1.75 m	GPS	2
SIBS	134145	Rock	408095	6273317	1060	YIOC	BP/AB	19/07/2003		Structurally above a thrust/reverse fault, strongly foliated. Alteration zone ~3 m thick	GPS	2
SIBS	134146	Rock	408048	6273192	1032.38	YIOC	BP/AB	19/07/2003		Patchy phyllic alteration, with quartz-chlorite veins. Near a steep fault approx 65-125	GPS	2
SIBS	134147	Rock	408293	6273398	1036.04	YIOC	BP/AB	19/07/2003		fissile rock	GPS	2
SIBS	134148	Rock	407764	6273317	1084.06	YIOC	BP/AB	19/07/2003		rock still green in places - chlorite?	GPS	2
COUL	134501	Rock	409962	6266364	755.65	SAOO	GB	12/07/2003		highly sheared dark argillite, GPS reading estimated (75 meters @ 020 degrees from sample 179552), one meter wide	GPS	4

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit			Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
COUL	134502	Rock	409959	6266361	755.72	SAOO	GB	12/07/2003		three meters west of 134501, dark sheared argillite, 2-3% pyrite along foliation (S1 000/80E), can't acquire GPS, position estimated, further along same outcrop as 179551 + 552	GPS	4
TARN	134503	Rock	415041	6272287	1460.69	YIOO	TW	14/07/2003		Gossanous zone - shear 1.5m wide, silicified, up to 10% py, aspy	GPS	2
TARN	134504	Rock	415041	6272288	1460.67	YIOO	TW	14/07/2003		Wall rock to shear, massive, mod sil'n. 1-2% fine py	GPS	2
TARN	134505	Rock	415038	6272308	1459.54	YIOO	TW	14/07/2003		Gossanous zone - shear 1.5m wide, silicified, up to 10% py, aspy	GPS	2
TARN	134506	Rock	415081	6272352	1475.93	YIOO	TW	14/07/2003		Orange (carb) stained silicified zone, not sheared	GPS	2
TARN	134507	Rock	413375	6270912	1501.98	YIOO	GB	18/07/2003		minor diss sulphide (py) with quartz veining	GPS	2
TARN	134508	Rock	414091	6271129	1439.65	YIOO	GB	18/07/2003		siliceous, minor shearing	GPS	2
TARN	134509	Rock	414095	6271127	1440.16	YIOO	GB	18/07/2003		siliceous, minor shearing	GPS	2
TARN	134510	Rock	413650	6271804	1195.53	YIOO	GB	19/07/2003		sheared intermediate agglomerates	GPS	2
POLO	134511	Rock	408907.57	6271116.11	543.25	YMOO	GB	23/07/2003		L104+15N / 91+35E, mafic pyroclastics, 1-3% diss pyrite, 3% oxidized sulphide ?	GRID	4
POLO	134512	Rock	409407	6270757	470.57	YIOO	GB	24/07/2003		fragmental pyroclastic (intermediate to mafic), rusty fractures, only trace pyr	GPS	2
POLO	134513	Rock	409484	6270742	492.53	VIOO	GB	24/07/2003		moderately sheared intermediate volcanics, no fragments seen, 1-3% pyrite	GPS	2
POLO	134514	Rock	409985	6270511	260	YIOO	GB	24/07/2003		intermediate pyroclastic, 3-5% pyrite	GPS	2
POLO	134515	Rock				SAOO	GB	26/07/2003		banded siltstone / argillite, L99+60	GRID	4
POLO	134516	Rock				SAOO	GB	26/07/2003		sheared graphitic argillite, on east side of main creek, L100+00N, minor quartz	GRID	4
POLO	134517	Rock				SAOO	GB	26/07/2003		L100+10N, highly sheared graphitic argillite, minor quartz veining	GRID	4
POLO	134518	Rock				SAOO	GB	27/07/2003		L98+50N / 98+00E, rusty argillite	GRID	4
POLO	134519	Rock	409190.77	6270440.13	380	YIOO	GB	27/07/2003		L98+10N / 98+10E, silicified intermediate volcanics interlayered with argillite	GRID	4
POLO	134520	Rock	409128.92	6270055	420.68	YIOO	GB	28/07/2003		L93+75N / 99+00E, rusty sheared intermediate to mafic pyroclastic	GRID	4
POLO	134521	Rock	409177.76	6270059.92	468.24	YIOO	GB	28/07/2003		L94+00N / 99+50E, sheared fragmental volcanic	GRID	4
POLO	134522	Rock	409403.48	6269974.12	441.34	YIOO	GB	28/07/2003		L94+00N / 102+25E, rusty fragmental volcanics	GRID	4
POLO	134523	Rock	407825	6270500	803.28	YIOO	GB	30/07/2003		granodiorite/diorite, massive, medium grained	GPS	2
POLO	134524	Rock	408484	6269700	396.82	SAOO	GB	29/07/2003		platey siltstone	GPS	2
POLO	134525	Rock	409585	6270300	442.2	YIOO	GB	29/07/2003		foliated intermediate pyroclastics, diss. Pyrite	GPS	2
TREATY	134526	Rock	430979	6272009	1671.96	VIOO	GB	02/08/2003		on backside of Sulphur Knob, sheared volcanic, S1 070/60NW, 4.0 meter chip	GPS	2
BONSAI	134527	Rock	404815	6276233	960.83	SAOO	GB	12/08/2003		black argillite/mudstone with minor pyrite	GPS	2
BONSAI	134528	Rock	404791	6276210	952.92	SLOO	GB/JPL	12/08/2003		brecciated limestone, moderate silification, trace pyrite	GPS	2
BONSAI	134529	Rock	404839	6276312	954.56	SAOO	GB	12/08/2003		black argillite/mudstone with 2-3% pyrite, highly fractured	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit			Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
SIBS	179251	Rock	408540	6273744	1010.74	YIOE	MB/MR	22/07/2003		no visible py, limonitic weathering, phyllitic volcanic/wacke/epiclastic	GPS	2
SIBS	179252	Rock	408540	6273744	1010.74	YIOE	MB/MR	22/07/2003		no visible py, limonitic weathering, phyllitic volcanic/wacke/epiclastic	GPS	2
SIBS	179253	Rock	408533	6273729	1008.91	YIOE	MB/MR	22/07/2003		no visible py, limonitic weathering, phyllitic volcanic/wacke/epiclastic	GPS	2
SIBS	179254	Rock	407792	6272422	989.43	YIOM	MB/MR	23/07/2003		quartz veins parallel to foliation	GPS	2
SIBS	179255	Rock	407774	6272413	992.53	YIOM	MB/MR	23/07/2003		quartz veins parallel to foliation	GPS	2
SIBS	179256	Rock	407594	6272434	1006.28	YIOO	MB/MR	23/07/2003		moderately silicified with py concentrated in siliceous parts	GPS	2
SIBS	179257	Rock	407635	6272316	1002.36	YIOO	MB/MR	23/07/2003		moderately silicified with py concentrated in siliceous parts	GPS	2
SIBS	179258	Rock	407620	6272566	1023.92	YIOO	MB/MR	23/07/2003		large jarosite stained outcrop along Mackay Fault	GPS	2
SIBS	179259	Rock	407563	6272528	989.22	SWVO	MB/MR	23/07/2003		unmineralized, bull quartz vein network	GPS	2
SIBS	179260	Rock	407588	6272658	991.43	YIOO	MB/MR	23/07/2003		pale grey, strongly silicified	GPS	2
SIBS	179261	Rock	407552	6272432	971.85	YIOO	MB/MR	24/07/2003		pale grey, strongly silicified, brecciated	GPS	2
SIBS	179262	Rock	407552	6272432	971.85	SACO	MB/MR	24/07/2003			GPS	2
SIBS	179263	Rock	407577	6272359	976.3	YIOO	MB/MR	24/07/2003		local black argillaceous matrix	GPS	2
SIBS	179264	Rock	407668	6272212	970.67	SIOO	MB/MR	24/07/2003		rusty fractures, local pyrite	GPS	2
SIBS	179265	Rock	408595	6273570	960	YIOO	MB/MR	25/07/2003		jarosite	GPS	2
SIBS	179266	Rock	408575	6273548	960	YIOO	MB/MR	25/07/2003		jarosite	GPS	2
SIBS	179267	Rock	408575	6273542	960.82	YIOO	MB/MR	25/07/2003		limonite	GPS	2
SIBS	179268	Rock	408566	6273533	964.52	YIOO	MB/MR	25/07/2003		limonite	GPS	2
SIBS	179269	Rock	408518	6273475	985.05	YIOO	MB/MR	25/07/2003		limonite	GPS	2
SIBS	179270	Rock	408518	6273472	985.85	YIOO	MB/MR	25/07/2003			GPS	2
SIBS	179271	Rock	408470	6273450	983.59	YIOO	MB/MR	25/07/2003			GPS	2
SIBS	179272	Rock	408422	6273444	996.72	YIOO	MB/MR	25/07/2003			GPS	2
SIBS	179273	Rock	408422	6273444	996.72	YIOO	MB/MR	25/07/2003			GPS	2
SIBS	179274	Rock	408315	6273216	1010.25	YIOO	MB/MR	25/07/2003		local galena	GPS	2
SIBS	179275	Rock	408335	6273240	1015.32	YIOO	MB/MR	25/07/2003			GPS	2
TREATY	179276	Rock	426934	6272928	1645.97	YIOC	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179277	Rock	426935	6272927	1645.69	YIOM	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179278	Rock	426983	6272907	1640	SWOO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179279	Rock	426984	6272889	1640	SSOO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179280	Rock	427095	6273193	1812	AOOO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179281	Rock	427064	6273148	1769.63	SWOO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179282	Rock	427065	6273148	1769.71	SIOO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179283	Rock	427182	6273162	1788.12	VIAP	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179284	Rock	427204	6273158	1786.23	VIAP	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179285	Rock	427201	6273169	1792.97	YIOF	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179286	Rock	426998	6273581	1847.35	YIOF	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179287	Rock	426972	6273577	1840	VFRO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179288	Rock	427011	6273559	1848.26	VFRO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179289	Rock	426928	6273541	1822.42	VFRO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179290	Rock	427091	6273745	1856.64	SAZO	AR/FW	07/08/2003		Old trench resamples	GPS	2
TREATY	179291	Rock	427091	6273745	1856.64	SAZO	AR/FW	07/08/2003		Old trench resamples - no co-ords recorded	GPS	2
TREATY	179292	Rock	426894	6273876	1742.69	VFRO	AR/FW	07/08/2003		Old trench resamples	GPS	2
SIBS	179301	Rock	408646	6274457	1169.51		BP/AB	22/07/2003			GPS	2
SIBS	179302	Rock	408627	6274441	1166.89		BP/AB	22/07/2003			GPS	2
SIBS	179303	Rock	407894	6273364	1119.55	YIOC	BP/AB	22/07/2003			GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit			Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
SIBS	179304	Rock	408002	6273308	1069.34	YIOM	BP/AB	22/07/2003		sulphides, rock still largely green, rusty when weathered. Possible cross structure in outcrop.	GPS	2
SIBS	179305	Rock	407744	6272311	970.25	Swoo	BP/AB	25/07/2003		"shotgun" sample, from all of a 2x2 m outcrop.	GPS	2
SIBS	179306	Rock	407660	6272230	972.76	SSCO	BP/AB	25/07/2003		black sandstone/siltstone. "shotgun" sampling from 10x2 m outcrop.	GPS	2
SIBS	179307	Rock	407739	6272231	955.64	Aooo	BP/AB	25/07/2003		sample is largely quartz veining	GPS	2
SIBS	179308	Rock	407739	6272326	975.26	Swoo	BP/AB	25/07/2003		hematitic/potassic alteration? Pink to brown colour, no evidence of veining	GPS	2
SIBS	179309	Rock	407975	6272237	947.79	SIOO	BP/AB	25/07/2003		black siltstone to sandstone, also mudstone. Gradational with YIOF/volcaniclastic	GPS	2
SIBS	179310	Rock	407958	6272191	954.59	VIAP	BP/AB	26/07/2003		Associated with sub-horizontal fibrous qtz veins and possible reverse/thrust faults. See field notes. Sample path ~70-270.	GPS	2
SIBS	179311	Rock	407941	6272177	949.76	VIAP	BP/AB	26/07/2003		Some irregular, folded, milky looking silica rich veins - chalcedony? Sample path ~70-310.	GPS	2
SIBS	179312	Rock	407921	6272143	946.45	YIOF	BP/AB	26/07/2003		Cliff sample, shotgun. Lots of yellow + white oxidation products, probably after sulphides. Folded/crenulated foliation - axes of crenulation 40-118.	GPS	2
POLO	179313	Rock	410026	6270980	293.43	YIOF	JR	29/07/2003			GPS	2
POLO	179314	Rock	410026	6270980	293.43	YIOM	JR	30/07/2003			GPS	2
POLO	179315	Rock	410000	6271026	296.55	YIOM		31/07/2003			GPS	2
OTHER	179316	Rock				YIOM					UNSPEC	0
COUL	179323	Rock	408400	6267160	260	YIOO	TW	14/08/2003		Fe mudstone, no vis sulphides	MAP	4
COUL	179324	Rock	408540	6267357	354	YIOR	TW	14/08/2003		Pillowed andesite	GPS	2
COUL	179325	Rock	406570	6267357	360	YIOO	TW	14/08/2003		ft contact - Pillowed andesite over mudstone - Fe ox	GPS	2
POLO	179351	Rock	408227	6271298	840.18	YIOO	GB	23/07/2003		sheared intermediate intrusive, 1-2% pyrite	GPS	2
POLO	179352	Rock				YIOO	GB	23/07/2003		highly sheared oxidized argillite	GRID	4
POLO	179353	Rock				YIOO	GB	23/07/2003		meta-sandstone, 1-2% diss pyrite, minor carbonate veins, sandstone is small fol	GRID	4
POLO	179354	Rock	410180	6270560	280	YIOF	GB	23/07/2003		rusty argillite - platy - friable - lots of rusty partings	GPS	2
FOG	179355	Rock	408790	6272280	719.33	YIOO	TW	08/08/2003	Stream bank 20m N of HE stream 706B470	Fe mudstone on contact with YIOO. V graphitic, Fe ox - no vis py, poss vfg. Contact folded, contorted. V fissile, sheared.	CHN	4
FOG	179356	Rock	409000	6272086	769.06	YIOO	TW	08/08/2003	top of ridge, scattered outcrop.	mod-strongly s'd, 1-3% py fg dissem. YIOF. Other outcrops <1%py.	GPS	2
FOG	179357	Rock	409144	6272020	706.06	YIOO	TW	08/08/2003	creek	Interbedded mudstone / YIOO. V ferruginous. 1-3% dissem py	GPS	2
FOG	179358	Rock	409169	6272041	713.99	YIOC	TW	08/08/2003	Small ridge N of creek	s'd YIOO with poss some SAOO. V s'd. 1-3% dissem py. Wk-mod fabric.		4
FOG	179359	Rock	409359	6271979	664.96	YIOM	TW	08/08/2003	No GPS reading	Fault/fracture zone with 1-2% py on fractures in otherwise massive YIOO	GPS	2
FOG	179360	Rock	409488	6271992	621.34	YIOO	TW	08/08/2003	GPS reading poor	mudstone/YIOO. 5% py/ox py. V soft, strongly foliated - ft zone?	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit			Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
FOG	179361	Rock	409540	6271820	558.38	YIOO	TW	10/08/2003	in stream	Interbedded mudstone / YIOF. 1-2% disseminated py. strongly sheared. Not si'd.	GPS	2
FOG	179362	Rock	409580	6271860	542.25	YIOO	TW	10/08/2003	50m downstream of 61	Interbedded YIOO/SAOO, strongly foliated 2-3% disseminated py, not si'd	CHN	4
FOG	179363	Rock	409780	6271900	433.17	VFRO	TW	10/08/2003	~100m downstream from 62	YIOO, 3-5% fg disseminated py, mod-wk si'd. Vfg	CHN	4
FOG	179364	Rock	409880	6271920	377.5	SSOO	TW	10/08/2003	50m downstream of 63	YIOO, 3-5% fg disseminated py, mod-wk si'd. Vfg YIOO with irregular QZ/carb veining.	CHN	4
FOG	179365	Rock	409460	6271890	585.38	SIOO	TW	10/08/2003	100m downstream from line 11400	Brecciated Mudstone, Fe ox py 1-5% (3% av). Fit zone.	CHN	4
FOG	179366	Rock	409900	6271924	365.71	YIOC	TW	10/08/2003	50m downstream of 64	YIOO, 3-5% fg disseminated py, mod-wk si'd. Vfg YIOO with minor QZ/carb breccia veining.	GPS	2
FOG	179367	Rock	410040	6271890	316.19	YIOO	TW	10/08/2003	40m down from last GPS	v ferruginous weathered mudstone, some tuff banding. 1-5% py?(weathered). Strongly sheared, fissile	CHN	4
SIBS	179401	Rock	407576	6273262	962.74	VFRO	TW	23/07/2003		silicified rhyolite? Wk-mod fabric, fractured/faulted.	GPS	2
SIBS	179402	Rock	407600	6273222	975.73	VFRO	TW	23/07/2003		silicified rhyolite, mod sheared. 1-3% fg disseminated py	GPS	2
SIBS	179403	Rock	407606	6273231	981.94	VFRO	TW	23/07/2003		Fault zone in VFRO. Possible raft of silicified mudstone, 5% fg disseminated py. Strongly fractured.	GPS	2
SIBS	179404	Rock	407614	6273230	988.49	SAZO	TW	23/07/2003		Silicified mudstone raft in rhyolite. Fracture/fault zone - several rafts of mudstone. Very fine grained py - 5%	GPS	2
SIBS	179405	Rock	407607	6273184	978.93	SAZO	TW	23/07/2003		Fault zone 2m wide silicified, pyritic, graphitic mudstone, 5% fg disseminated py. Within VFRO	GPS	2
SIBS	179406	Rock	407603	6273150	970.59	VFRO	TW	23/07/2003		Silicified, wk-mod sheared, felsic volc/v-clastic. Tr py	GPS	2
SIBS	179407	Rock	407623	6273131	986.32	SACO	TW	23/07/2003		Sheared, variably silicified mudstone. 1-5% fg disseminated py. Several cross faults and slumping	GPS	2
SIBS	179408	Rock	407635	6273135	998.95	VFRO	TW	23/07/2003		Rhyolite	GPS	2
SIBS	179409	Rock	407590	6273073	960	VFRO	TW	23/07/2003		Sheared VFRO. 2-5% py, gossanous.	GPS	2
SIBS	179410	Rock	407561	6273078	937.63	VFRO	TW	23/07/2003		Strongly sheared VFRO. 1-5% fg disseminated py. Mod si'd	GPS	2
SIBS	179411	Rock	407590	6273072	960	VFRO	TW	23/07/2003		Thin pyrite lenses in sheared VFRO. Total py 2-3%	GPS	2
SIBS	179412	Rock	407583	6273016	967.9	VFRO	TW	23/07/2003		Sheared, variably silicified rhyolite. 1-3% fg disseminated py.	GPS	2
SIBS	179413	Rock	407579	6272960	974.94	VFRO	TW	23/07/2003		Sheared, variably silicified rhyolite. Tr fg disseminated py.	GPS	2
SIBS	179414	Rock	407569	6272954	967.88	SAZO	TW	23/07/2003		Thin interbeds of si'd pyritic mudstone in VFRO. 10% py in fracture fill and disseminated	GPS	2

APPENDIX 1b 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	GEX_Lit		Date		OtherLocation	Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled			Method	Accuracy
SIBS	179415	Rock	407590	6273281	976.74	SAZO	TW	24/07/2003		Sheared mudstone. 2-10% fg dissem py (av3%). Some 20x10cm blebs of fg py/asp(??). Highly fractured.	GPS	2
SIBS	179416	Rock	407604	6273314	991.5	SAZO	TW	24/07/2003		Pyritic mudstone. Very fg dissem py 5-10%. Mod si'd, sheared.	GPS	2
SIBS	179417	Rock	407603	6273300	989.26	SAZO	TW	24/07/2003		Pyritic mudstone fg dissem py 10%. Strongly sheared.	GPS	2
SIBS	179418	Rock	407824	6272998	1034.51	YIOM	TW	24/07/2003		Sheared YIOM, tr py, weak ser, mod si/carb	GPS	2
SIBS	179419	Rock	407814	6272760	1001.55	YIOM	TW	24/07/2003		Strongly sheared YIOM. Strongly limonitic (after Carb?), weakly si'd, mod ser/carb	GPS	2
SIBS	179420	Rock	407862	6272790	990.58	YIOM	TW	24/07/2003		Strongly limonitic (after carb?), mod sheared YIOM	GPS	2
SIBS	179421	Rock	407858	6272662	984.53	YIOM	TW	24/07/2003		YIOM - mod sheared, mod si/ser/carb altn. Tr py	GPS	2
SIBS	179422	Rock	407744	6272771	1015.16	YIOM	TW	24/07/2003		Sheared, limonitic YIOM, vuggy qtz vein, no sulphides, abundant goethite/limonite.	GPS	2
SIBS	179423	Rock	407992	6273221	1050.18	YIOO	TW	25/07/2003		Strongly sheared, Mod-str limonitic (partly after py). not si'd, mod ser	GPS	2
SIBS	179424	Rock	408166	6272310	900	YIOR	TW	25/07/2003		Andesitic lithic tuff / fragmental. 1% py as large (5mm) xtals. Mod si'd, limonitic. Mod foliated	GPS	2
SIBS	179425	Rock	408130	6272483	902.42	YIOO	TW	25/07/2003		Pyritic andesite schist. 10% fg py dissem/fracture fill/matrix. Strongly sheared, strongly sericitic. not si'd. Flat shear (20-30 dip towards ~east).	GPS	2
SIBS	179426	Rock	408104	6272453	909.43	YIOO	TW	25/07/2003		Pyritic andesite schist. Up to 10% fg py dissem/fracture fill/matrix. Strongly sheared, strongly sericitic. not si'd.	GPS	2
SIBS	179427	Rock	408095	6272355	921.55	YIOO	TW	25/07/2003		Strongly sheared, v strongly ser, 1-5% fg dissem py, andesitic schist. No silicification (graphitic??)	GPS	2
SIBS	179428	Rock	408010	6272368	920.17	YIOO	TW	25/07/2003		Strongly sheared, v strongly ser, 1-5% fg dissem py, andesitic schist. No silicification (graphitic??)	GPS	2
SIBS	179429	Rock	408060	6272452	917.34	YIOF	TW	25/07/2003		Felsic-in tuffaceous sed? Fine grained soft limonitic (after py?) strongly sheared	GPS	2
SIBS	179430	Rock	408108	6272512	902.32	YIOO	TW	25/07/2003		Str ser altn, str sheared, variably (mod) silicified. 1-5% dissem py in andesitic schist. 1 phase of Si/qz veining with assoc py. 2nd phase of qz/chl veinlets xcut @ right angles.	GPS	2
SIBS	179431	Rock	408100	6272526	905.3	YIOO	TW	25/07/2003		Str ser altn, str sheared, variably (mod) silicified. 1-5% dissem py in andesitic schist. Cross cutting qz veins with py selvages.	GPS	2
SIBS	179432	Rock	408099	6272535	905.56	YIOO	TW	25/07/2003		Str ser altn, str sheared, several silicified bands. 10% dissem/veinlets/fracture fill py. Andesitic schist.	GPS	2
SIBS	179433	Rock	408180	6272728	932.5	YIOC	TW	25/07/2003		Mod sheared, limonitic + dissem py ~5%. Mod ser, variable Si. Med-coarse grained YIOO. Flatish xcut Qvns	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_	Y_UTM_	RL_m	GEX_Lit	Sampler	Date	OtherLocation	Notes	FieldSurvey	FieldSurvey
	Number	Sample Type	NAD83	NAD83		h_code		Sampled			Method	Accuracy
SIBS	179434	Rock	408051	6272572	917.87	YIOM	TW	25/07/2003		Sheared, strongly ser altered YIOM. Wk (variably) si'd, 1-5% dissem py	GPS	2
SIBS	179435	Rock	408013	6272641	928.98	YIOO	TW	25/07/2003		Sheared, strongly ser altered. Mod si'd in thin bands (<10cm) with assoc strong py(10%+), Overall 5% py - vfg grey. Highly altered YIOO or sed??	GPS	2
SIBS	179436	Rock	408028	6272676	938.07	YIOO	TW	25/07/2003		Strongly sheared, strongly ser altered YIOO. Wk (variably) si'd, 1-5% dissem py	GPS	2
SIBS	179437	Rock	407977	6272493	940	YIOO	TW	25/07/2003		Mod sheared, strongly limonitic, mod si'd, 1-5% py(av3%). Wk ser	GPS	2
SIBS	179438	Rock	407727	6272570	1011.49	VFRO	TW	26/07/2003		Rhyolite Boulders? Si'd felsic volcanic. 1-2% py	GPS	2
SIBS	179439	Rock	407734	6272490	1007.74	SSEO	TW	26/07/2003		Strongly si'd YIOO/SSEO?, 2-5% med-cg py (locally 10%). Somewhat blocky, Mod sheared.	GPS	2
SIBS	179440	Rock	407725	6272474	1008.74	SIOO	TW	26/07/2003		Siltstone/muddy sandstone. Strongly foliated, 1-3%py, variably weakly si'd.	GPS	2
SIBS	179441	Rock	407770	6272362	965.95	YIOC	TW	26/07/2003		YIOC, strongly si'd, limonitic after py, 1-2% py. Wk-mod foliation.	GPS	2
SIBS	179442	Rock	407760	6272370	988.68	YIOO	TW	26/07/2003		Strongly sheared YIOO. Weathered surfaces (sulphide lenses?). 1-5% py	GPS	2
SIBS	179443	Rock	407910	6272497	941.17	YIOF	TW	26/07/2003		Strongly sheared fg brown weathered Andesite tuff?	GPS	2
POLO	179444	Rock	409738	6270747	409.55	YIOC	TW/MR	30/07/2003		midway between 10400 & 10200N, ~10300E Poor GPS reading	GPS	2
POLO	179445	Rock				YIOM	TW/MR	30/07/2003		30m down creek from 179445. NE of 10600N GRID	GPS	4
POLO	179446	Rock	409870	6271141	351.37	YIOO	TW/MR	30/07/2003		Creek NE of 10600N	GPS	2
POLO	179447	Rock	409906	6271115	338.26	YIOO	TW/MR	30/07/2003		Creek NE of 10600N	GPS	2
UNUK	179448	Rock	414836	6274521	1376.4	YIOO	TW/FW	06/08/2003		Gossanous outcrop of rhyolite? Variably si'd mod-wk py	GPS	2
UNUK	179449	Rock	414950	6274600	1376.69	VFRO	TW/FW	06/08/2003		Si-py altered rhyolite	GPS	2
UNUK	179450	Rock	414633	6275162	1135.64	SSEO	TW/FW	06/08/2003		si'd, mod carb-chl altered bas/fandesite	GPS	2
SIBS	179451	Rock	407631	6272731	1011.21	YIAO	JR/TB	23/07/2003		intense silica-pyrite altn	GPS	2
SIBS	179452	Rock	407732	6272826	1020	YIOM	JR/TB	23/07/2003			GPS	2
SIBS	179453	Rock	407010	6272757	900	YIOC	JR/TB	24/07/2003			GPS	2
SIBS	179454	Rock	408100	6272854	961.5	YIOC	JR/TB	24/07/2003			GPS	2
SIBS	179455	Rock	408100	6272852	961.5	YIOC	JR/TB	24/07/2003		Float	GPS	2
SIBS	179456	Rock	408120	6272889	977.43	soil	JR/TB	24/07/2003		soil - deep red	GPS	2
SIBS	179457	Rock	408170	6273017	1000	YOOX	JR/TB	24/07/2003		large boulder	GPS	2
SIBS	179458	Rock	407915	6272834	976.29	YIOO	JR/TB	25/07/2003			GPS	2
SIBS	179459	Rock	407930	6272880	979.2	YIOO	JR/TB	25/07/2003			GPS	2
POLO	179501	Rock	409029	6270454	397.32	VFRX	GB	26/07/2003		quartzose rock, probably sediment, 1-3% diss pyrite	GPS	2
POLO	179502	Rock				SACO	GB	26/07/2003		L100+00N / 98+25E, mudstone, argillite at top of cliff on east side of creek, w	GRID	4
POLO	179503	Rock				SACO	GB	26/07/2003		L100+15N / 98+45E, siliceous quartzose rock	GRID	4
POLO	179504	Rock				VFRX	GB	26/07/2003		L100+00N / 101+40E, intermediate pyroclastics	GRID	4

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_NAD83	Y_UTM_NAD83	RL_m	GEX_Lit		Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type				h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
POLO	179505	Rock				YFRU	GB	26/07/2003		L100+00N, sheared intermediate pyroclastics, 1-3% diss pyrite	GRID	4
POLO	179506	Rock	409395	6270504	459.71	VFRX	GB	26/07/2003		L100+00N, up to 8% diss & vein pyrite in felsic (altered) pyroclastic	GPS	2
POLO	179507	Rock	409420	6270504	465.52	VFRX	GB	26/07/2003		L100+00N, silicified intermediate pyroclastic, 5-15% pyrite	GPS	2
POLO	179508	Rock	409195.45	6270452.44	380	VFRO	GB	27/07/2003		L98+25N / 98+10E, silicified intermediate volcanic, up to 5% pyrite	GRID	4
POLO	179509	Rock	409400.48	6270336.93	477.81		GB	27/07/2003		L97+85N / 100+75E, gossanous intermediate volcanic, 1-3% pyrite	GRID	4
POLO	179510	Rock	409235.22	6270038.08	493.83		GB	28/07/2003		L94+00N / 100+20E, coarse fragmental breccia with diss. Pyrite (up to 8% pyrit	GRID	4
POLO	179511	Rock	409574.67	6270449.2	440		GB	30/07/2003		L99+75N / 102+15E, intermediate fragmental	GRID	4
POLO	179512	Rock	409606	6270394	440		GB	30/07/2003		intermediate volcanoclastic	GPS	2
POLO	179513	Rock	409707.56	6270403.38	445.96		GB	30/07/2003		L99+80N / 103+75E, brecciated intermediate pyroclastic with up to 25% pyrite	GRID	4
POLO	179514	Rock	407901	6271538	980		GB	30/07/2003		altered intrusive, dioritic, lots of rusty carbonate	GPS	2
OTHER	179551	Unk									UNSPEC	0
OTHER	179552	Unk									UNSPEC	0
OTHER	179553	Unk									UNSPEC	0
COUL	179554	Rock	409690	6268840	323.89	YIOO	GB	13/07/2003		well foliated shear zone on linear (100m) outcrop (cliff), weak silicificatio	GPS	2
COUL	179555	Rock	409810	6268975	350.16	YIOO	GB	13/07/2003		up to 5% pyrite, moderate silicification	GPS	2
COUL	179556	Rock	409858	6269015	373.44	YIOO	GB	13/07/2003		up to 10% pyrite, commonly 4-6%, moderate silicification	GPS	2
COUL	179557	Rock	409905	6269062	400.78	YIOO	GB	13/07/2003		strong silicification, 5-10% pyrite bleached	GPS	2
COUL	179558	Rock	409947	6269066	427.6	YIOO	GB	13/07/2003		silicification	GPS	2
COUL	179559	Rock	409954	6269075	430.95	YIOO	GB	13/07/2003		silicification	GPS	2
COUL	179560	Rock	409935	6269109	421.74	YIOO	GB	13/07/2003		minor shearing, silicified	GPS	2
COUL	179561	Rock	409925	6269150	410.31	YIOO	GB	13/07/2003		minor shearing, silicified	GPS	2
COUL	179562	Rock	409927	6269174	405.34	YIOO	GB	13/07/2003			GPS	2
COUL	179563	Rock	409935	6269199	406.42	YIOO	GB	13/07/2003			GPS	?
TARN	179564	Rock	415168	6272600	1508.74	YIOO	TW	14/07/2003		Orange (carb) stained silicified zone 1-5% py	GPS	2
TARN	179565	Rock	415134	6271983	1489.62	YIOO	GB	14/07/2003		Sheared, up to 8% pyrite, trace chalco	GPS	2
TARN	179566	Rock	415139	6271987	1492.97	YIOO	GB	14/07/2003		Sheared, up to 5% pyrite	GPS	2
TARN	179567	Rock	415147	6271997	1499.65	YIOO	GB	14/07/2003		Sheared and silicified, 0-3% pyrite	GPS	2
TARN	179568	Rock	415211	6271820	1504.09	YIOO	GB	14/07/2003		Shear zone, 1.5m wide, up to 25% py on shear contact	GPS	2
TARN	179569	Rock	415106	6271902	1434.77	YIOO	GB	14/07/2003		2m wide bleached, gossanous, variably sheared	GPS	2
TARN	179570	Rock	415106	6271907	1433.17	YIOO	GB	14/07/2003		Sheared, carb-sil altered, pyrite variable 1-5%, dissem, occ veinlets	GPS	2
TARN	179571	Rock	415050	6271932	1413.08	YIOO	GB	14/07/2003		pyrite veinlets and minor dissem	GPS	2
TARN	179572	Rock	415042	6271927	1408.78	YIOO	GB	14/07/2003		sulphide veinlets, arsenic stain	GPS	2
TARN	179573	Rock	415017	6271997	1428.84	YIOO	GB	14/07/2003		Sheared, up to 7% py, tr aspy	GPS	2
TARN	179574	Rock	415002	6272013	1429.37	YIOO	TW	14/07/2003		Shear zone, mod dissem py + Qtz-py veining	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample Number	Sample Type	X_UTM_NAD83	Y_UTM_NAD83	RL_m	GEX_Lit h_code	Sampler	Date Sampled	OtherLocation	Notes	FieldSurvey Method	FieldSurvey Accuracy
TARN	179575	Rock	415005	6272013	1430.45	Y100	TW	14/07/2003		Shear zone, mod dissem py + qtz-py veining	GPS	2
TARN	179576	Rock	415008	6272013	1431.52	Y100	TW	14/07/2003		Shear zone, mod dissem py + qtz-py veining	GPS	2
TARN	179577	Rock	414920	6271730	1393.03	Y100	TW	18/07/2003		int - volcaniclastic/pyroclastic, mod silicified, 2 - 5% fg disseminated py. Mo	GPS	2
TARN	179578	Rock	414926	6271720	1396.11	XSOE	TW	18/07/2003		silicified sulphidic mudstone? Layer within Y100, 10 - 20% py (dissem/vein selv	GPS	2
TARN	179579	Rock	414951	6271724	1405.92	Y100	TW	18/07/2003		silicified pyroclastics. 1 - 5% dissem py. Variably sheared.	GPS	2
TARN	179580	Rock	414951	6271716	1406.82	Y100	TW	18/07/2003		Qz/carb irregular vein in silicified pyroclastics. 20%+ py(cpy) in vein selvage	GPS	2
TARN	179581	Rock	414970	6271690	1420.85	Y100	TW	18/07/2003		silicified pyroclastics. 1 - 5% dissem py. Variably sheared.	GPS	2
TARN	179582	Rock	414998	6271681	1438.45	Y100	TW	18/07/2003		silicified pyroclastics. 1 - 5% dissem py. Variably sheared.	GPS	2
TARN	179583	Rock	415004	6271665	1445.15	Y100	TW	18/07/2003		silicified pyroclastics. 1 - 5% dissem py. Variably sheared.	GPS	2
TARN	179584	Rock	414985	6271644	1441.58	Y100	TW	18/07/2003		silicified pyroclastics. 10 - 20% dissem py within locally more sheared zone.	GPS	2
TARN	179585	Rock	414948	6271600	1432.78	Y100	TW	18/07/2003		silicified pyroclastics. 20%+ dissem py within locally more sheared zone - 2m w	GPS	2
TARN	179586	Rock	414939	6271588	1431.53	Y100	TW	18/07/2003		silicified pyroclastics. 10m wide anastomosing shear/altn zone. 5 - 20%+ disse	GPS	2
TARN	179587	Rock	414891	6271580	1417.83	Y100	TW	18/07/2003		Irregular py veins and dissem py in strongly silicified Y100(?)	GPS	2
TARN	179588	Rock	414852	6271580	1401.75	Y100	TW	18/07/2003		Irregular py veins and dissem py in strongly silicified Y100(?)	GPS	2
TARN	179589	Rock	414852	6271625	1380.61	Y100	TW	18/07/2003		Silicified shear in Y100, fine grained, probably pyroclastic. 10 - 20% f.g. diss	GPS	2
TARN	179590	Rock	414785	6271587	1403.22	Y100	TW	18/07/2003		cherty, blocky tuff? 1 - 5% fg dissem py	GPS	2
TARN	179591	Rock	414769	6271708	1336.13	YFOO	TW	19/07/2003		Silicified strongly pyritic (10-20%fg dissem), cherty felsic tuff(?). Heavily fr	GPS	2
TARN	179592	Rock	414761	6271720	1332.88	YFOO	TW	19/07/2003		Breccia vein qz-py locally 40% py as breccia fill. Fault zone - contactzone bet	GPS	2
TARN	179593	Rock	414705	6271667	1329.86	YFOO	TW	19/07/2003		Fine grained silicified, cherty YFOO. 1-5% fg dissem py, minor py veinlets. Str	GPS	2
TARN	179594	Rock	414697	6271674	1323.8	YFOO	TW	19/07/2003		Fine grained silicified, cherty YFOO - more pyritic zone, 5% fg dissem, 5-10% 1	GPS	2
TARN	179595	Rock	414577	6271690	1297.4	YFOO	TW	19/07/2003		Fine grained silicified, cherty YFOO. 1 - 5% fg dissem py and py veinlets. Stro	GPS	2
TARN	179596	Rock	414546	6271700	1290.92	YFOO	TW	19/07/2003		Gossanous patch in fine grained silicified, cherty YFOO. 5%+ fg dissem py and p	GPS	2
TARN	179597	Rock	414469	6271712	1281.51	YFOO	TW	19/07/2003		Qz/py vein/fracture within YFOO. Blocky, weakly silicified (strong within fract	GPS	2
TARN	179598	Rock	414395	6271666	1273.37	S100	TW	19/07/2003		Siltstone, interbedded with coarser beds (sst - conglom). 5-10% fg dissem py, s	GPS	2
TARN	179599	Rock	414283	6271727	1251.15	S100	TW	19/07/2003		Fit breccia in siltstone - carb bx veinlets ave 2mm, up to 50mm. Tr py, probabl	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM_ NAD83	Y_UTM_ NAD83	RL_m	GEX_Lit		Date		Notes	FieldSurvey	FieldSurvey
	Number	Sample Type				h_code	Sampler	Sampled	OtherLocation		Method	Accuracy
TARN	179600	Rock	413958	6271887	1216.59	YOOE	TW	19/07/2003		Sheared pyroclastic, strongly carb altered. 1-2% fg, dissem py.	GPS	2
AFTOM	179601	Rock	408830	6273700	969.37	YIOO	TW/BP	24/08/2003			GPS	2
AFTOM	179602	Rock	408669	6273568	960	YIOO	TW/BP	24/08/2003			GPS	2
AFTOM	179603	Rock	408710	6273436	940.33	YIOF	TW/BP	24/08/2003		Qz-carb-py irregular vein	GPS	2
AFTOM	179604	Rock	408765	6273552	960.85	YIOO	TW/BP	24/08/2003		Strongly pyritic	GPS	2
AFTOM	179605	Rock	409012	6273913	999.25	SSOO	TW/BP	24/08/2003		2-5% py	GPS	2
AFTOM	179606	Rock	409066	6273893	1019.22	SSOO	TW/BP	24/08/2003		strongly altered -Si-py (5-10% py)	GPS	2
AFTOM	179607	Rock	409070	6273627	972.33	YIOO	TW/BP	24/08/2003		silicified 1% py	GPS	2
POLO	179701	Rock	409896	6270661	309.73	YIOO	JR	30/07/2003	Slide Zone	Traverse 1	GPS	2
POLO	179702	Rock	409898	6270661	308.39	YIOO	JR	30/07/2003	Slide Zone	Traverse 1	CHN	3
POLO	179703	Rock	409900	6270661	306.99	YIOO	JR	30/07/2003	Slide Zone	Traverse 1	CHN	3
POLO	179704	Rock	409902	6270673	306.11	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	GPS	2
POLO	179705	Rock	409904	6270673	304.78	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	CHN	3
POLO	179706	Rock	409906	6270673	303.44	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	CHN	3
POLO	179707	Rock	409908	6270673	302.2	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	CHN	3
POLO	179708	Rock	409910	6270673	300.98	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	CHN	3
POLO	179709	Rock	409912	6270673	299.86	YIOO	JR	30/07/2003	Slide Zone	Traverse 2	CHN	3
BONSAI	179751	Rock	404820	6276382	937.03	SAOO	GB/JR	05/08/2003		Mudstone, sulphidic fragments	GPS	2
BONSAI	179752	Rock	404820	6276384	936.92	SAOX	GB/JR	05/08/2003		Siliceous breccia. Mudstone fragments, rhyolite traces	GPS	2
BONSAI	179753	Rock	404816	6276390	933.74	SAOX	GB/JR	05/08/2003		Siliceous breccia. Mudstone fragments, rhyolite traces	GPS	2
BONSAI	179754	Rock	404814	6276381	932.77	SAOX	GB/JR	05/08/2003		Siliceous breccia. Mudstone fragments, rhyolite traces	GPS	2
COUL	179951	Rock	409803	6267770	450.68	SAOO	JR/TW	10/07/2003		sil mudstone, ox sulph	GPS	2
COUL	179952	Rock	409803	6267783	448.81	YFOL	JR/TW	10/07/2003		felsic lapilli tuff, qtz-carb veining, 3-5% py, mod siln	GPS	2
COUL	179953	Rock	409803	6267710	387.89	SAOO	JR/TW	10/07/2003		black well foliated mudstone, no sulphides, IP anomaly	GPS	2
COUL	179954	Rock	409576	6267636	374.77	SAOO	JR/TW	10/07/2003		argillite, strongly bedded	GPS	2
COUL	179955	Rock	409580	6267600	377.5	SAOO	JR/TW	10/07/2003		argillite, strongly bedded	GPS	2
COUL	179956	Rock	409690	6267085	459.85	SAOO	JR/TW	10/07/2003		argillite, strongly bedded	GPS	2
COUL	179957	Rock	409765	6267161	453.83	SACD	JR/TW	11/07/2003		argillite, graphitic, fissile, shaly	GPS	2
COUL	179958	Rock	409720	6267208	441.04	SAOO	JR/TW	11/07/2003		argillite, small qtz veinlets, 1-2% disc sulphides	GPS	2
COUL	179959	Rock	409687	6267197	434.41	SAOO	JR/TW	11/07/2003		argillite, fissile, shaly	GPS	2
COUL	179960	Rock	409667	6267197	426.28	SAOO	JR/TW	11/07/2003		Mudstone/shale, well bedded	GPS	2
COUL	179961	Rock	409630	6267525	404.58	SAOO	JR/TW	11/07/2003		argillite, strongly bedded	GPS	2
COUL	179962	Rock	409491	6267669	348.67	SAOO	JR/TW	11/07/2003		argillite, strongly bedded	GPS	2
COUL	179963	Rock	409807	6267613	449.86	SAOO	JR/TW	11/07/2003		mudstone, slaty cleavage	GPS	2
OTHER	179964	Unk									UNSPEC	0
COUL	179965	Rock	409619	6266915	456.58	SAOO	JR	12/07/2003		slaty mudstone, fissile	GPS	2
COUL	179966	Rock	409690	6266805	517.98	SAOO	JR	12/07/2003		slaty mudstone, fissile	GPS	2
COUL	179967	Rock	409703	6266625	584.82	SAZO	JR	12/07/2003		sulphidic mudstone, qtz veining, gossanous	GPS	2
COUL	179968	Rock	409817	6266551	639	SAOO	JR	13/07/2003			GPS	2
COUL	179969	Rock	409890	6266550	676.83	YFOO	JR	13/07/2003		Foliated, grey, fine grained.	GPS	2
COUL	179970	Rock	409939	6266652	659.36	YIOO	JR	13/07/2003		2-3% py	GPS	2
COUL	179971	Rock	409970	6266723	643.93	YIOO	JR	14/07/2003			GPS	2
COUL	179972	Rock	409900	6266793	592.92	SAOO	JR	14/07/2003		Fissile Shale (location estimated from previous sample)	GPS	2

APPENDIX Ib 2003 Rock Chip Sample Descriptions

Dataset	Original Sample		X_UTM	Y_UTM	GEX_Lit		Date		FieldSurvey Method	FieldSurvey Accuracy		
	Number	Sample Type	NAD83	NAD83	RL_m	h_code	Sampler	Sampled			OtherLocation	Notes
TARN	179973	Rock	413357	6270856	1507.77			18/07/2003		milky white qtz vein, no sulphides	GPS	2
TARN	179974	Rock	413389	6270850	1511.7			18/07/2003		small shear zone - weak silica-limonite altn	GPS	2
TARN	179975	Rock	414018	6270680	1570.11	YIOO		18/07/2003		silica altered int-mafic volcaniclastic - 3% py diss	GPS	2
TARN	179976	Rock	414037	6270718	1561.04	YOOL		18/07/2003		qtz-ser-py altered lapilli tuff, cut by small qtz veins (milky white)	GPS	2
TARN	179977	Rock	414058	6270744	1551.29	YOOL		18/07/2003		qtz-ser-py altered lapilli tuff, stringers of py 3- 4 cm, sheared 040 80 E	GPS	2
TARN	179978	Rock	414019	6271090	1464.04	SAOO		18/07/2003		tuffaceous mudstone banded texture	GPS	2
TARN	179979	Rock	414017	6271148	1438.73	SAOO		18/07/2003		qtz veined mudstone 1% py	GPS	2
TARN	179980	Rock	414065	6271285	1401.84	SACE		18/07/2003		carbonaceous mudstones - oxidized fractured surfaces	GPS	2
TARN	179981	Rock	414060	6271275	1404.22	SACE		18/07/2003		carbonaceous mudstones - oxidized fractured surfaces	GPS	2
TARN	179982	Rock	414024	6271279	1400.46	SAOO		18/07/2003		tuffaceous mudstone banded texture	GPS	2
TARN	179983	Rock	413105	6270957	1440	VMOO		19/07/2003		Mafic volcanic moderate silica altn, 3% py- stringers epidote-chl weak	GPS	2
TARN	179984	Rock	413227	6271119	1446.24	VMOO		19/07/2003		mafic volcanic, up to 5% pyrite, minor qtz veining, silicified, weak prophyllit	GPS	2
TARN	179985	Rock	413160	6270924	1440	VMOO		19/07/2003		sheared volcanics - limonite sheared 035, 75 NW	GPS	2
TARN	179986	Rock	413292	6271013	1460	YIOO	GB	19/07/2003		brecciated, sheared pyroclastic (coarse tuff- agglomerate)	GPS	2
TARN	179987	Rock	413360	6271138	1473.1	YIOO	GB	19/07/2003		sheared coarse pyroclastic	GPS	2
TARN	179988	Rock	413593	6271113	1464.87	YOOO		19/07/2003		volcaniclastic rocks, sandy	GPS	2
TARN	179989	Rock	413859	6271564	1351.23	YOOO		19/07/2003		dark grey volcaniclastic rock, 1-2% py	GPS	2
TARN	179990	Rock	413883	6271630	1318.03	SAOO	GB	19/07/2003		sheared mudstone with up to 15% sulphides	GPS	2
TARN	179991	Rock	413967	6271842	1228.92	SAOO		19/07/2003		mudstone - siltstone slaty cleavage	GPS	2
OTHER	179992	Rock									UNSPEC	0
SIBS	179993	Rock	407603	6273294	986.52	VFRX	JR/TB	22/07/2003		taken at the base of a cliff	GPS	2
SIBS	179994	Rock	407640	6273201	1008.71	SAOO	JR/TB	22/07/2003			GPS	2
SIBS	179995	Rock	407643	6273192	1010.4	SACO	JR/TB	22/07/2003			GPS	2
SIBS	179996	Rock	407607	6273063	990	VFRX	JR/TB	22/07/2003			GPS	2
SIBS	179997	Rock	407511	6272940	932.75	VFRU	JR/TB	23/07/2003			GPS	2
SIBS	179998	Rock	407575	6272719	976.82	VFRX	JR/TB	23/07/2003			GPS	2
SIBS	179999	Rock	407596	6272659	997.4	VFRX	JR/TB	23/07/2003			GPS	2
SIBS	180000	Rock	407586	6272820	989.17	VFRU	JR/TB	23/07/2003			GPS	2

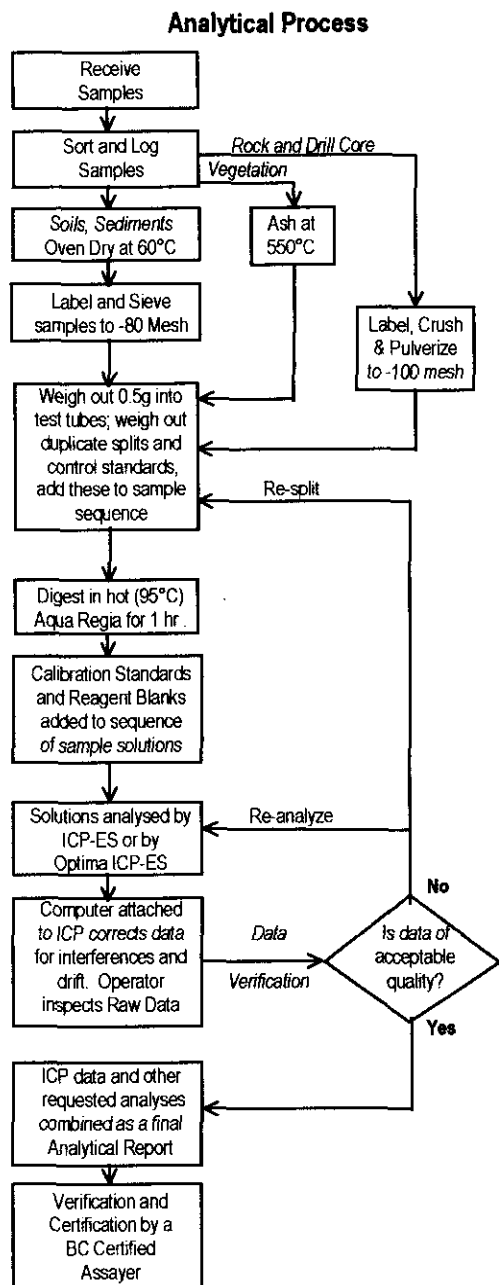
ESKAY PROJECT
2002 & 2003 FIELD PROGRAMS

Appendix II

Assay Procedures

- (a) Group 1D ICP Analysis – Aqua Regia**
- (b) Group 1F-MS Ultratrace by ICP-MS Aqua Regia**
- (c) Group 3B Au by Fire Geochem**
- (d) Group 4A Whole Rock Analysis by ICP**
- (e) Group 6 Precious Metal Assay**

**METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE
GROUP 1D & 1DX - ICP ANALYSIS – AQUA REGIA**



Comments

Sample Preparation

Soils and sediments are dried (60°C) and sieved to -80 mesh (-177 μm), rocks and drill core are crushed and pulverized to -150 mesh (-100 μm). Vegetation is dried (60°C) and pulverized or dry ashed (550°C). Moss-mat samples are dried (60°C), pounded then sieved to recover -80 mesh sediment or ashed at 550°C then sieved to -80 mesh with potential loss by volatilization of Hg, As, Sb, Bi and Cr. Aliquots of 0.5 g are weighed into test tubes. Duplicate aliquots are taken from two samples in each batch of 34 samples to measure precision. An aliquot of sample standard STD C3 is added to each batch to monitor accuracy.

Sample Digestion

Aqua Regia is a 2:2:2 mixture of ACS grade conc. HCl, conc. HNO₃ and demineralized H₂O. Aqua Regia is added to each sample and to two empty reagent blank test tubes in each batch of samples. Sample solutions are digested for 1 hr in a boiling hot water bath (95°C).

Sample Analysis

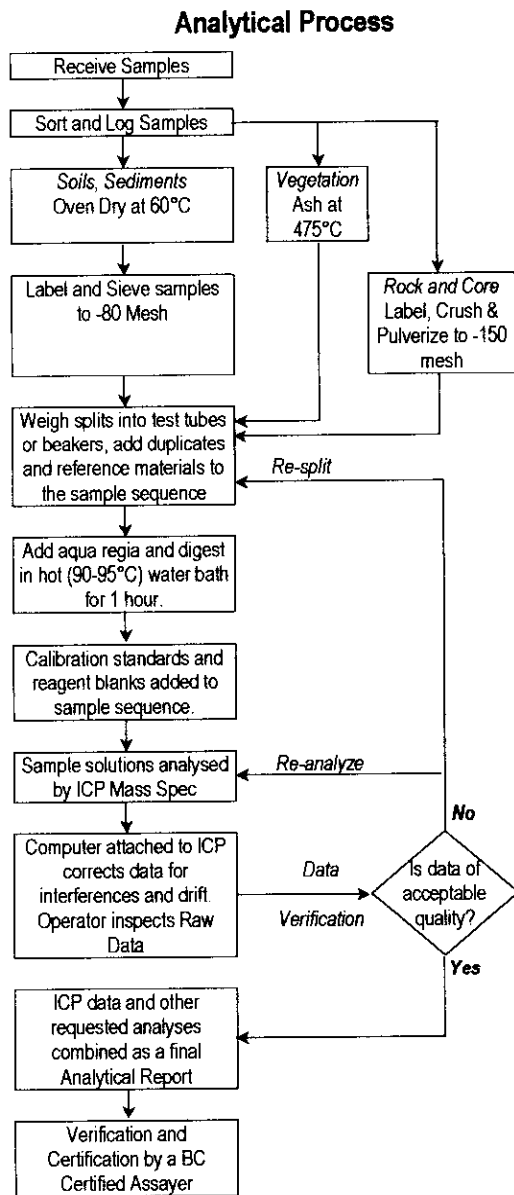
Group 1D: sample solutions are aspirated into a Jarrel Ash AtomComp 800 or 975 ICP emission spectrograph to determine 30 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Group 1DX: sample solutions are aspirated into a Perkin Elmer Optima 3300 Dual View ICP emission spectrograph to determine 35 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Tl, Sr, Th, Ti, U, V, W, Zn.

Data Evaluation

Raw and final data from the ICP-ES undergoes 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.

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



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 HNO₃, demineralised H₂O) 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 reagent blanks randomly inserted in each batch.

Sample Analysis

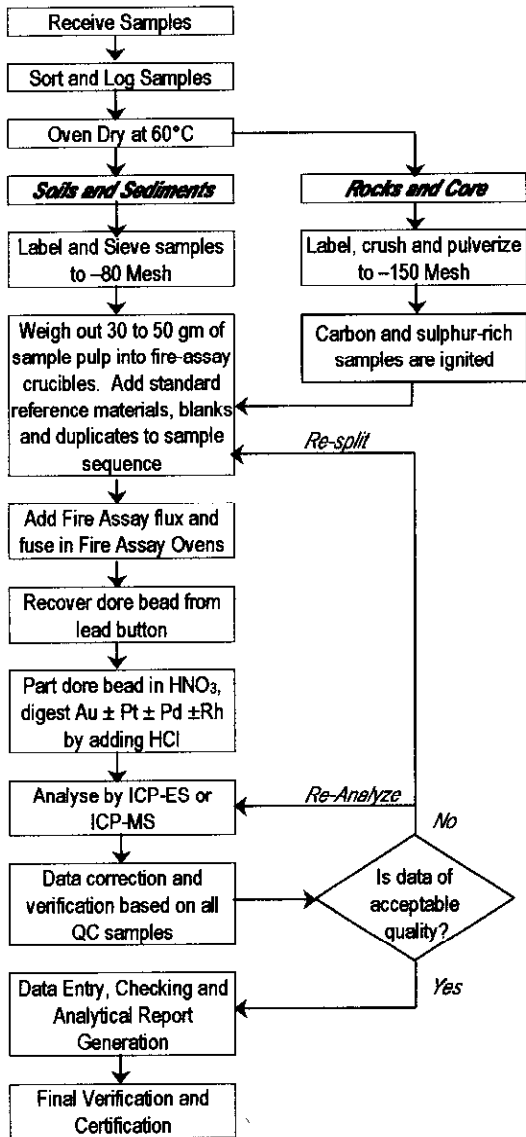
Analysis is by an Elan 6000 ICP Mass Spec for the determination of 37 elements comprising: Au, Ag, Al, As, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sr, Te, Th, Ti, Tl, U, V, W and Zn. Extended element packages containing incompatible elements (Hf, Nb, 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.

METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 3B & 3B-MS - PRECIOUS METALS BY FIRE GEOCHEM

Analytical Process



Comments

Sample Preparation

Soil or sediment is dried (60°C) and sieved to -80 mesh (-177 µm). Vegetation is dried (60°C) and pulverized or ashed (475°C). Moss-mat is 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. A 30 g aliquot is weighed into a fire-assay crucible. QA/QC protocol includes inserting a duplicate of pulp to measure analytical precision, a coarse (10 mesh) rejects duplicate to measure method precision (drill core samples only), two analytical blanks to measure background and aliquots of in-house reference materials OC-80, Au-S, Au-R, Au-1 or FA-10R and FA-100S to measure accuracy in each analytical batch of 34 samples.

Sample Digestion

A fire assay charge comprising fluxes, litharge and a Ag inquant is custom mixed for each sample. A Au inquant is used for quantitative Rh analysis. Fusing at 1050°C for 1 hour liberates Au, Ag, Pt, Pd and Rh. The Pb button is recovered after cooling and cupeled at 950°C to render a Ag (± Au, Pt, Pd, Rh) dore bead. After weighing, the bead is parted in HNO₃ then digested by adding HCl. Au inquant beads (Rh analysis) are dissolved in Aqua Regia.

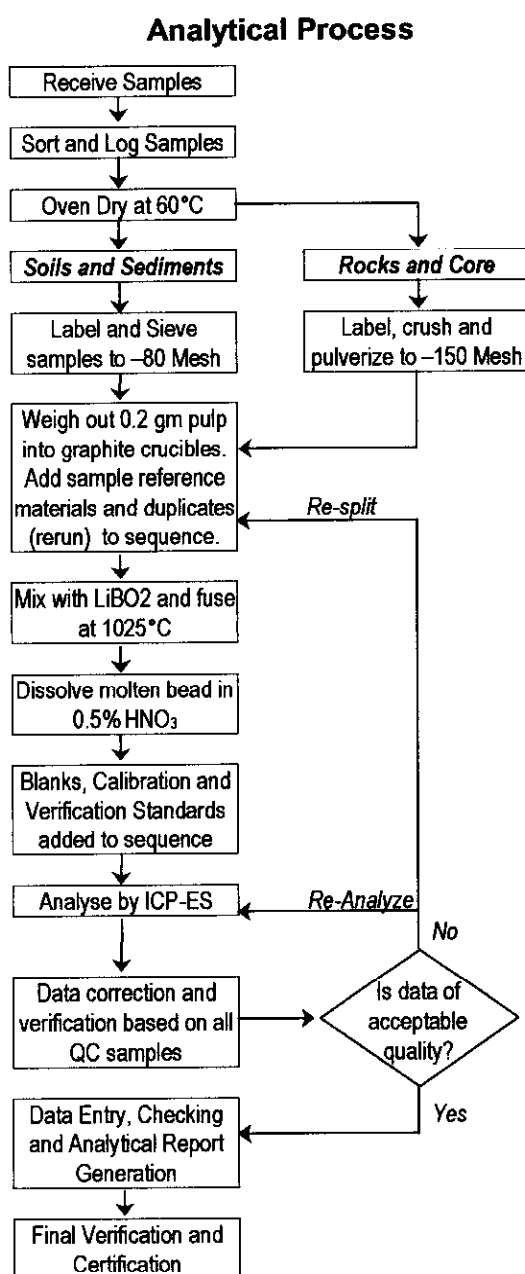
Sample Analysis

For Group 3B, solutions are analysed on a Jarrel Ash Atom-Comp 975 ICP-ES for Au or on a Perkin Elmer Elan 6000 ICP-MS for Au, Pt and Pd. For Group 3B-MS, a longer ICP-MS determination time provides lower detection limits for Au, Pt, Pd and Rh. Rh data is semi-quantitative when using a Ag inquant, however the higher solubility for Rh in Au provides quantitative analysis when using a Au inquant.

Data Evaluation

Data is inspected by the Fire Assay Supervisor then undergoes final verification by a British Columbia Certified Assayer who signs the Analytical Report before release to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 4A: WHOLE ROCK ANALYSIS BY ICP



Comments

Sample Preparation

Soils and sediments are rarely analysed by Group 4A, however method of sample preparation is provide for completeness. Soil and sediment samples are dried (60°C) and sieved to -80 mesh ASTM (-177 microns). Moss-mat samples are dried (60°C), macerated then sieved to recover -80 mesh sediment or ashed at 550°C (upon a client's request). Rocks and drill core are crushed and pulverized to -150 mesh ASTM (-100 microns). Sample splits (0.2 gm) are placed in graphite crucibles and a LiBO₂ flux is added. Duplicate splits of crushed (rejects duplicate) and pulverized (pulp duplicate) fractions are included with every 34 drill core or trench samples to define sample homogeneity (reject duplicate) and analytical precision (pulp duplicate). Duplicate pulp splits (only) are included in every batch of soil, sediment and routine rock samples. A blank and in-house standard reference material STD SO-15 are carried through weighing, digestion and analytical stages to monitor accuracy. STD SO-15 has been certified in-house against USGS CRMs AGV-1, BCR-2, G-2, GSP-2 and W-2.

Sample Digestion

Crucibles are placed in an oven and heated to 1025°C for 25 minutes. The molten sample is dissolved in 5% HNO₃ (ACS grade nitric acid diluted in demineralised water). Calibration standards and reagent blanks are added to the sample sequence.

Sample Analysis

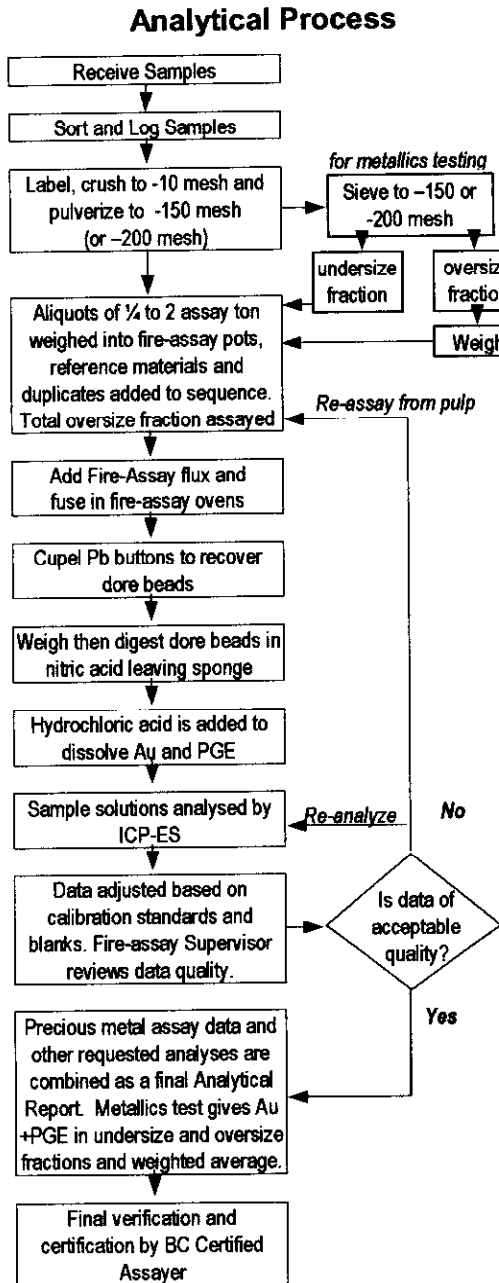
Sample solutions are aspirated into an ICP emission spectro-graph (Jarrel Ash AtomComp Model 975) for the determination of the basic package consisting of the following 17 major oxides and elements: SiO₂, Al₂O₃, Fe₂O₃, CaO, MgO, Na₂O, K₂O, MnO, TiO₂, P₂O₅, Cr₂O₃, Ba, Ni, Sr, Sc, Y and Zr. The extended package also includes: Ce, Co, Cu, Nb, Ta and Zn. Loss on ignition (LOI) is determined for both packages by igniting a 1 g sample split at 950°C for 90 minutes then measuring the weight loss. Total Carbon and Sulphur are determined by the Leco method (Group 2A).

Data Evaluation

Raw and final data from the ICP-ES undergoes a final verification by a British Columbia Certified Assayer who must sign the analytical report before release to the client. Chief assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.



METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 6 - PRECIOUS METAL ASSAY



Comments

Sample Preparation

Rocks and drill core are crushed to 75% minus 10 mesh (-1.7 mm), a 250 g subsample is riffle split then pulverized to 95% minus 150 mesh (-100 microns) or minus 200 mesh upon request. Reject and pulp duplicate splits are taken from two samples in every 34 to monitor sub-sampling variation related to sample inhomogeneity and analytical variation, respectively. One quarter (7.5 g) to two assay ton (58.4 ±0.01g) splits are weighed. STD Au-1 (Au reference material), STD Ag-2 (Ag reference material) or STD FA-10R (Au, Pt, Pd, Rh reference material) and a blank are added to each analytical batch to monitor accuracy. Results are reported in imperial (oz/t) or metric (gm/mt) measure. For metallics testing, 500+ gm is pulverized and sieved through a 150 or 200 mesh screen. The oversize material on the screen is weighed and assayed in total. A 1 or 2 assay ton split of the undersize fraction is also assayed.

Sample Digestion

Sample split is mixed with fire-assay fluxes containing PbO litharge and a Ag in quart then heated at 1000°C for 1 hour to liberate Au + PGE. After cooling, lead buttons are recovered and cupelled at 950°C to render Ag ±Au ±Pt ±Pd ±Rh dore beads. Beads are weighed then leached in 1 mL of conc. HNO₃ at >95°C to dissolve Ag leaving Au ±PGE sponges. A Au in quart is used for Rh assays where the concentration is likely to exceed 10 ppb. The sponge is dissolved by adding 6 mL of 50% HCl.

Sample Analysis

The solutions are analyzed by ICP-ES (Jarrel Ash Atom-Comp model 800 or 975) to determine Au, Pt, Pd and Rh. Au or PGEs over 1 oz/t are determined by gravimetric finish. Ag is determined both by fire assay and wet assay. Ag over 10 oz/t is reported from the fire assay while concentrations <10 oz/t are reported from the wet assay. Metallics testing reports concentrations of Au ±PGEs in the undersize fraction, the oversize fraction and the calculated weighted average of these fractions.

Data Evaluation

Raw and final data undergoes 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
2002 & 2003 FIELD PROGRAMS

Appendix III

Analytical Results

- (a) 2003 Rock Chip Assays (2 sheets)**
- ~~**(b) 2002 Stream Sediment Geochemistry (3 sheets)**~~

(see pocket)