

**GEOLOGICAL, PROSPECTING and BULK  
SAMPLING ASSESSMENT REPORT**

**on the**

**TEDDY GLACIER PROPERTY**

**North Lardeau Belt, Revelstoke – Camborne Area**

**Revelstoke Mining Division**

**NTS 82K/13E (82K082)**

**Latitude 50°52'05"N/Longitude 117°44'52"W**

**For**

**RECEIVED**

JAN 24 2007

Gold Commissioner's Office  
VANCOUVER, B.C.

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**November 15, 2006**

**Fieldwork completed between June 6, 2006 and September 15, 2006**

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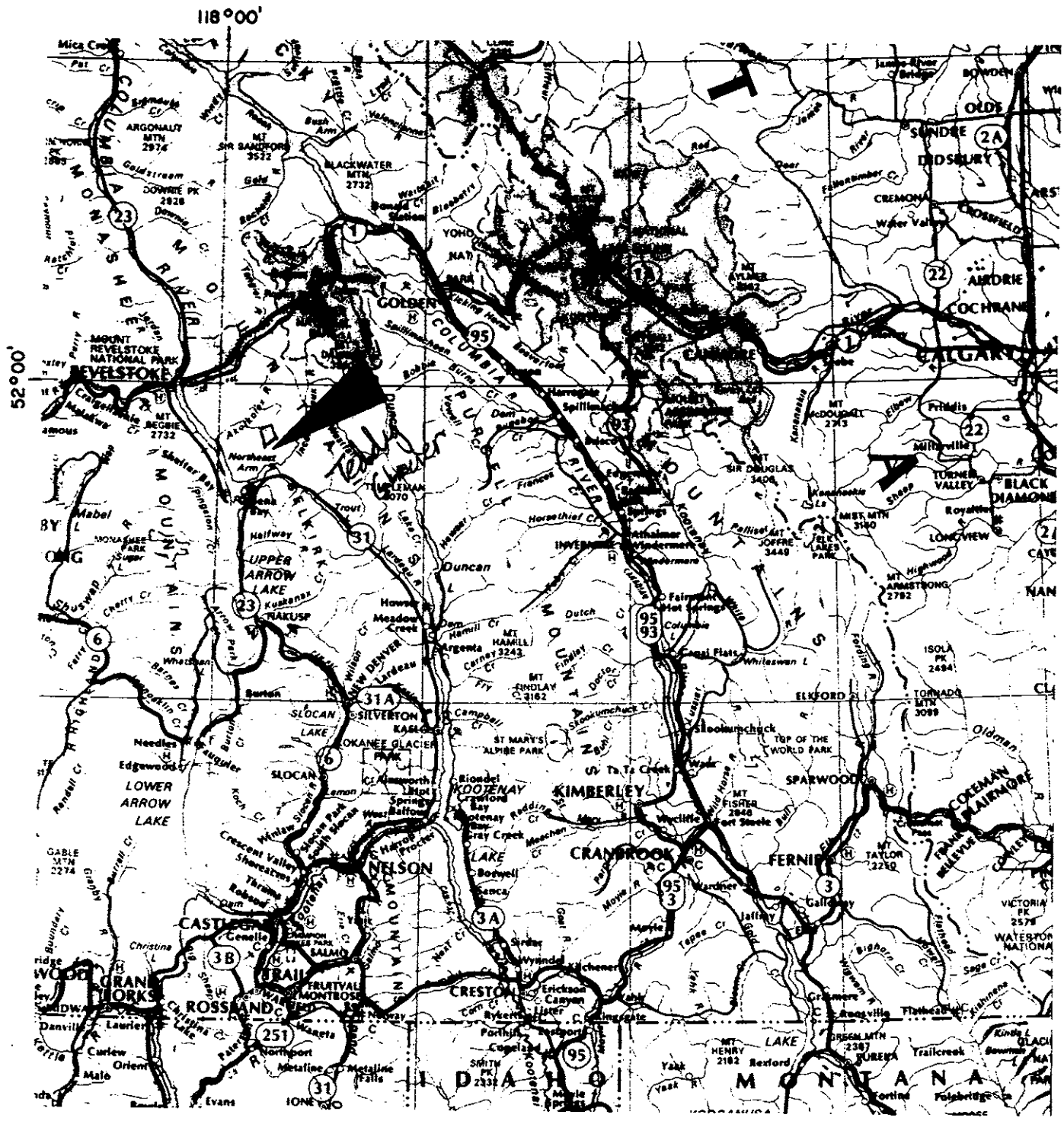
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JAZZ RESOURCES INC.	
TEDDY GLACIER PROJECT LOCATION MAP	
SCALE : 1:200 000	DATE : SEPT 2004
DRAWN BY : J SHEARER	FIGURE NO. 2 - 1

SCALE : 1:2 000 000

### 3.0 SUMMARY

Jazz Resources Inc. has acquired a block of mineral claims covering the Teddy Glacier Property known to contain high grade Au/Ag/Pb/Zn/Cu polymetallic veins and stockworks located north-west of the townsite of Camborne in British Columbia. The total area covered is about 2,000 ha. Recently, the company located claims to cover an area between the Teddy Glacier Property and the Spider Crown grants. The property has a long history of development.

In 2006, the Company rehabilitated the access road and excavated a 150 tonne bulk sample. Plans in 2007 are to complete at least a 2000 tonne bulk sample.

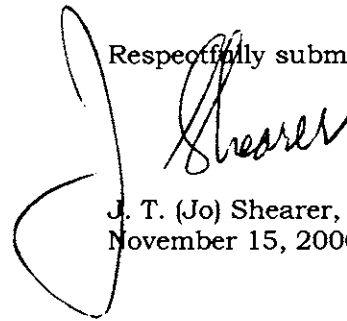
Jazz Resources Inc.'s focus is on the high grade polymetallic vein mineralization identified by prospecting in the 1920's, underground work in the 1930's and diamond drilling in the 1960's. A predecessor company of Jazz Resources Inc. (K-2 Resources Inc.) completed a small bulk sample in 1993.

Samples of typical mineralization collected by the author on August 28, 2004 assayed (refer to Section 10 - Assay Certificates) up to 1.88 oz/ton gold (64.5 ppm Au) and 22.90 oz/ton silver (785 ppm Ag) associated with pyrite-rich material and high in galena and sphalerite content. A two hundred pound sample used in the metallurgical testing in 1963 (Britton, 1963) assayed 0.40 oz/ton Au, 8.80 oz/ton Ag, 12.06% Pb, 13.21% Zn and 2.56% Cu.

The East Vein (and Big Showing) has measured strike length, with offsets, of about 90m (300 feet). The Big Showing is about 1.83m to 2.44m (6-8 feet) wide. The east vein is about 0.46m to 1.52m (1.5-5 feet) wide. The underground workings demonstrate that the Big Showing continues down strongly for at least 9.14m (30 feet) below the surface exposure.

Recommendations are made for a program of the following: Stage 1: a \$330,000 bulk sample program to characterize mining conditions and milling parameters and contingent Stage II: \$300,000 diamond drill program and identification of further bulk sample resource areas. The total recommended program for the Teddy Glacier property and the Spider Mine is \$630,000.

Respectfully submitted



J. T. (Jo) Shearer, M.Sc., P.Geo.  
November 15, 2006

## **4.0 INTRODUCTION**

### **4.1 Preamble**

Jazz Resources Inc. and predecessor companies, K-2 Resources Inc. and Sunshine Columbia Resources Limited, have acquired by staking 100% interest in several mineral claims – the Teddy Glacier Claims, totalling 93 units, which have been grouped into the Teddy Glacier Property located 40 km southeast of the town of Revelstoke and 11 km northwest of Camborne, in British Columbia. J. T. Shearer, M.Sc., P.Ge. was retained to advise Jazz Resources on the merits of the property and make recommendations for an appropriate exploration program to be conducted in 2006 and 2007.

#### **4.1.2 Background**

The Teddy Glacier Property is known from historical background and exploration of the last 80 years to contain high assays of gold, lead, zinc, copper and silver.

### **4.2 This Study**

#### **4.2.1 Terms of Reference**

Jazz Resources Inc. retained J. T. Shearer, M.Sc., P.Ge. to review the project, draw conclusions, make recommendations and propose an appropriate exploration program to evaluate the property in 2005. The company commissioned a summary report to file with the TSX Exchange to document the merit of the property.

#### **4.2.2 Purpose of the Report**

J. T. Shearer was advised by company officers that this report is intended to establish the property as one of merit for submission to the TSX Ventures Exchange. This report complies with the 43-101 format and may be used for disclosure in fundraising over \$250,000.

#### **4.2.3 Sources of Information**

A major source of information has been the numerous historical assessment reports on the area within the B.C. Government Ministry of Mines Minfile database. These reports are readily available from microfiche dating back to 1961 on work conducted for various companies up to 1992. Prior information is contained in the Annual Reports of the Minister of Mines 1926-1964. In addition, Jazz Resources Inc. also has an extensive data file for activities since the 1960's when the principals of the company became active in the area. Some information was lost in a fire at the Company's Spider Mine in the 1960's.

#### **4.2.4 Field Activity of the Qualified Person**

J. T. Shearer, M.Sc., P.Ge. visited the property on August 28, 2004 and examined the surface mineralization, underground workings and general geological conditions. A number of representative samples were also collected, Appendix – Section 10. Field locations were recorded using a Garmin GPS unit.

# ACCESS MAP Teddy Glacier Claims

**BC Administrative Area Layers**

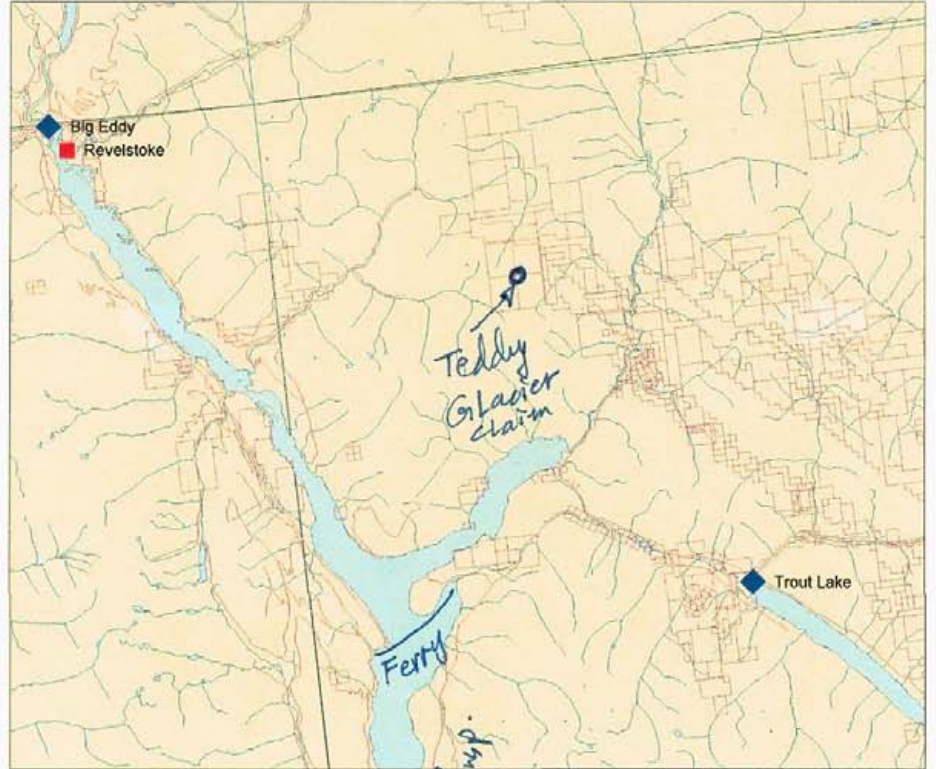
- BC Communities
  - City
  - Town
  - Village
  - Resort Municipality
  - Settlement
  - Community
  - District Municipality

**Mineral Titles Layers**

- MTO Mineral Titles Online Polygons
  - Placer
  - Mineral

**Topographic Layers**

- Roads 1:250K (<2M)
- Lakes 1:250K (<2M)
- Rivers 1:250K (<2M)
- Border line 1:250K (<2M)



SCALE 1 : 557,727



FIGURE 2-2  
Access MAP



## **5.0 DISCLAIMER**

Some aspects of the report and Appendix – Section 10 are based on prior description or historical reports; reliance has been placed on such information as noted. The only diamond drill results were prepared under the direct guidance of K. Sanders, P.Eng. between 1963 and 1964 and reported on by J. Sullivan, P.Eng. in 1963 with Assessment Report 546.

## 6.0 PROPERTY

### 6.1 Preamble

Section 2, Property identifies the property, describes tenure and the environmental situation, as well as the site access and infrastructure.

### 6.2 Claim Status

The property consists of the following mineral claims as tabulated in Table 2-1 and illustrated on Figure 2-2. The claims are all in the Revelstoke Mining Division.

The staked claims are recorded as follows:

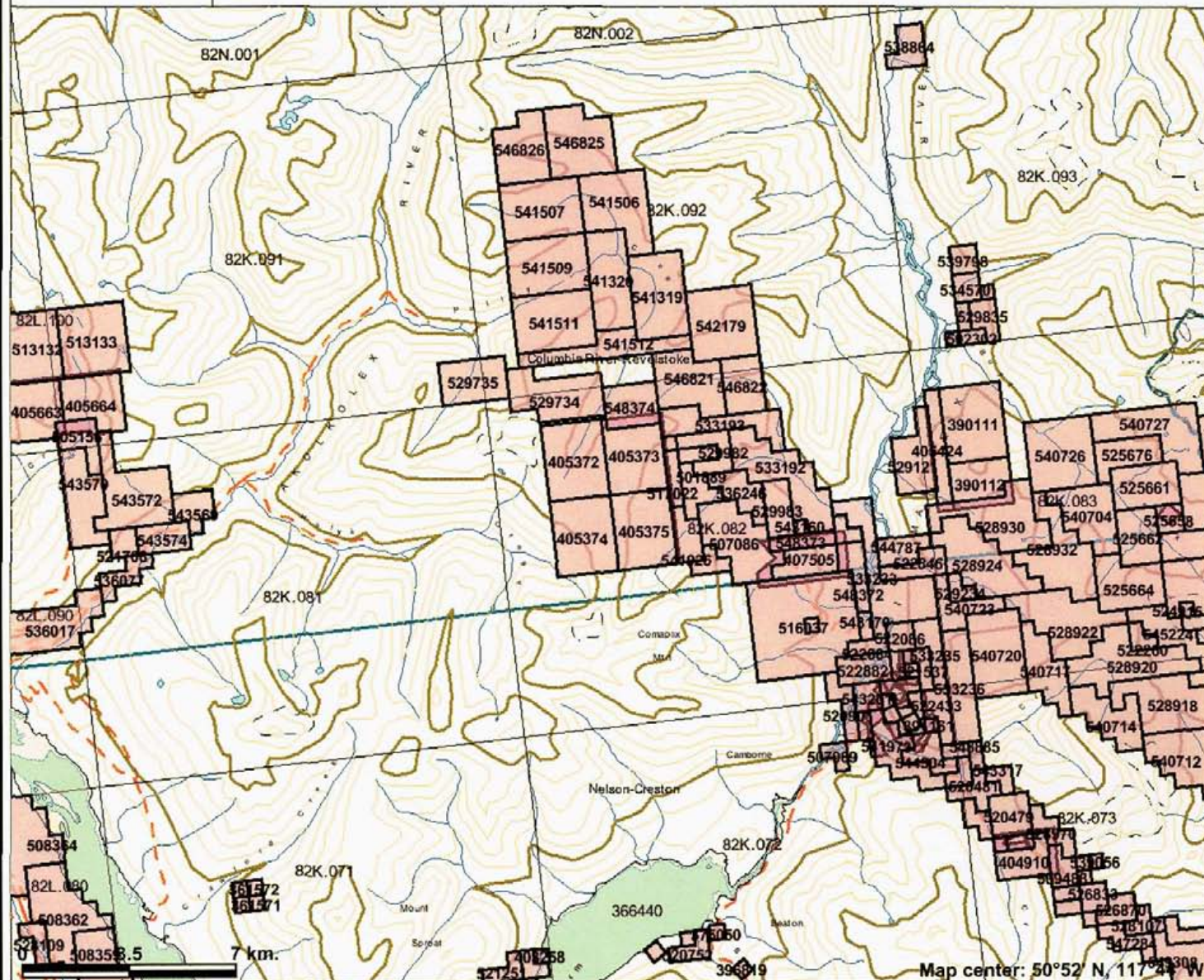
Table 2-1  
List of Claims on Which Assessment Work Was Applied

Claim Name	Tenure No.	Size	Units or Cells	Located Date	Current Expiry Date
Teddy Glacier 1	405372	5N4W	20	09/29/03	10/13/06
Teddy Glacier 2	405373	5N4E	20	09/29/03	10/13/06
Teddy Glacier 3	405374	5S4W	20	09/29/03	10/13/06
Teddy Glacier 4	405375	5S4E	20	09/29/03	10/13/06
Jazz One	533192	509.86 ha	25	04/28/06	04/28/09
Jazz Two	533193	305.80 ha	15	04/28/06	04/28/09
Jazz Three	533233	510.20 ha	25	04/30/06	04/30/09
Jazz Four	533235	142.92 ha	7	04/30/06	04/30/09
Jazz Five	533236	326.77 ha	16	04/30/06	04/30/09

Table 2-2  
Other Claims Owned by the Company

Claim Name	Tenure No.	Size	Units or Cells	Located Date	Current Expiry Date
Cells Overtop	544504	143.022 ha		10/27/06	10/27/07
Ettie	Lot 5156	Crowngrants	1		Taxes Payable
Dora	Lot 5182	Crowngrants	1		Taxes Payable
Thelma	Lot 5183	Crowngrants	1		Taxes Payable
Clara	Lot 5185	Crowngrants	1		Taxes Payable
Thelma Fraction	Lot 5186	Crowngrants	1		Taxes Payable
Goldbird	Lot 15750	Crowngrants	1		Taxes Payable
Winton	Lot 15751	Crowngrants	1		Taxes Payable
Spider	Lot 15752	Crowngrants	1		Taxes Payable
Spider 1	Lot 15753	Crowngrants	1		Taxes Payable
May Fraction	Lot 15754	Crowngrants	1		Taxes Payable
Anaconda Fraction	Lot 15755	Crowngrants	1		Taxes Payable
Gil	Lot 15756	Crowngrants	1		Taxes Payable
Gil Fraction	Lot 15757	Crowngrants	1		Taxes Payable
Dudley Fraction	Lot 5722	Crowngrants	1		Taxes Payable
Sandy	Lot 8719	Crowngrants	1		Taxes Payable
Excelsior Fraction	Lot 9138	Crowngrants	1		Taxes Payable
Hunter Fraction	Lot 9140	Crowngrants	1		Taxes Payable

# Teddy Glacier CLAIMS



## Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Tenures (Mineral - MTO)
- Mineral Claim
- Mineral Lease
- Reserves (Mineral - MTO Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (MTO)
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Annotation (1:250K)
- Transportation - Points (1:250K)
- Airfield
- Anchorage - Seaplane
- Ferry Route
- Heliport
- Seaplane Base
- Air Field
- Airport
- Air Feature - Condition Unknown
- Airport Abandoned

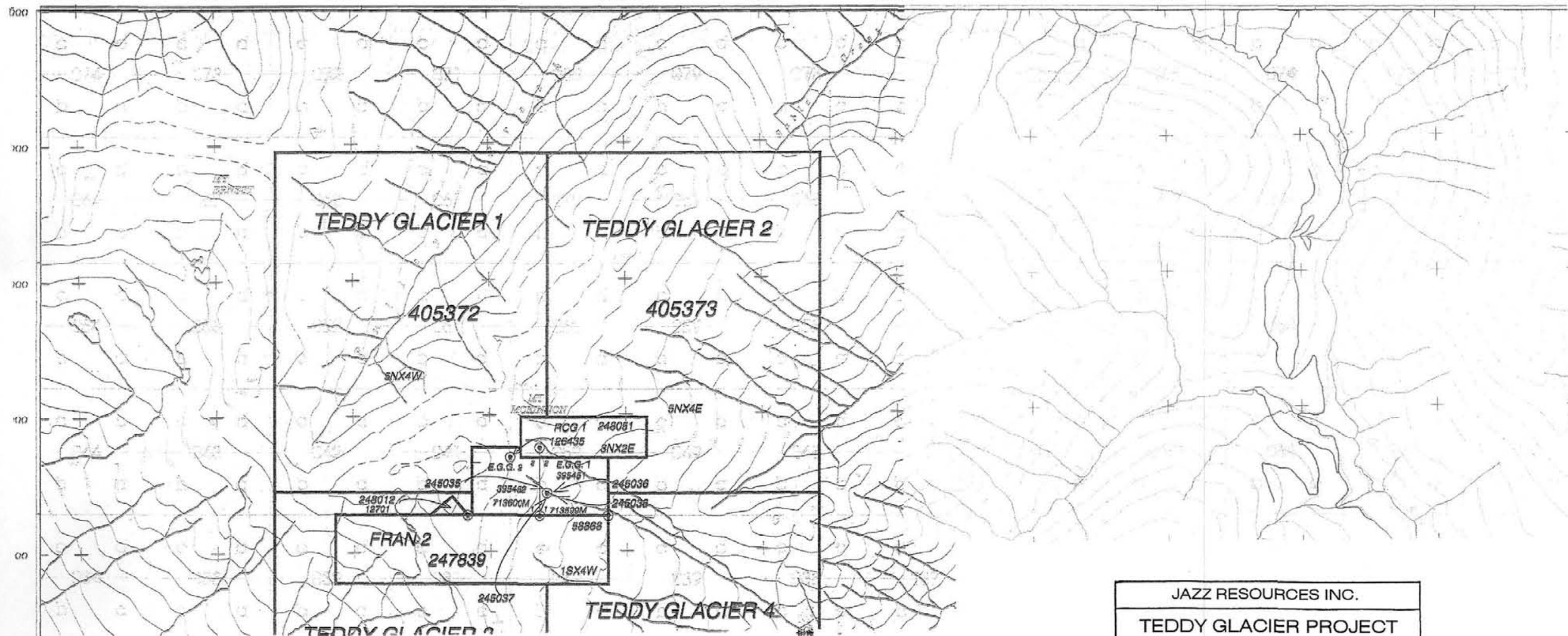
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Teddy:405372,405373,405374,405375

*Regional Claims 2-4*

Scale: 1:197,677

17°48'00" 444000 445000 446000 447000 448000 449000 450000 451000 452000 453000 454000 45



JAZZ RESOURCES INC.	
TEDDY GLACIER PROJECT	
<b>DETAIL CLAIM MAP</b>	
SCALE : N.T.S.	DATE : SEPT 2004
DRAWN BY : J SHEARER	FIGURE N°. 2-3

The Company also holds Surface and Mineral Rights via:

Lot 3505 save and except thereout those parts subdivided by pans 728 and 728A parcel A DD 13915 I part in red on plan DD 16983 and parcel B DD 25115.

The Teddy Glacier claims cover 80 units, which is a approximate 2,000 hectares (ha) as four post modified grid claims. All the Teddy Glacier Claims are over one year old, therefore cannot be contested under Section 40 of the Mineral Tenure Act. To remain in good standing the claims require \$100 per unit assessment work applied in each of the first three years and \$200 per unit per year thereafter.

All the claims are owned 100% by Jazz Resources Inc., FMC 113609. The Spider Group is registered in the name of Sunshine Columbia Resources Limited. Jazz Resources has acquired title to these claims as the continuing corporate entity of Sunshine Columbia.

All the claims are owned 100% by Jazz Resources Inc., FMC 113609.

The company included all the 2-post claims and smaller modified grid claims into the Teddy Glacier 1-4 Claims which in late 2004 consist of 80 units covering an area of about 2,000 hectares.

## **6.3 Tenure**

### **6.3.1 Owners**

The Teddy Glacier 1-4, comprising four claims, were recorded in the name of Richard J. Billingsley (contract staker holding FMC 139085, which expires October 31, 2004)<sup>1</sup>, and the claims have been transferred to Jazz Resources Inc., FMC 113609, expiry 02/17/05, by Bill of Sale<sup>2</sup>. Jazz Resources is the registered owner of all the other claims<sup>3</sup>.

Claim assessments are recorded as being valid according to the dates shown in Table 2-1.

### **6.3.2 Issuer**

Jazz Resources Inc. owns the mineral claims 100% and has a long history of activity in the area.

The author is not aware of any back in rights, payments, royalties or other agreement and encumbrance to which the property is subject<sup>4</sup>.

## **6.4 Environmental Liabilities**

A preliminary site assessment suggests there are minor low pH and probable elevated heavy metal levels in small drainages around the main showings. However, these appear entirely natural in the absence of detailed sampling and analysis. There has been considerable logging activities at much lower elevations in the general area in the

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<sup>1</sup> as per titles check August 24, 2004

<sup>2</sup> as per titles check August 24, 2004

<sup>3</sup> as per titles check August 30, 2004

<sup>4</sup> per communications with Bryan Glen, President, Jazz Resources Inc., September 14, 2004

Geological, Prospecting and Bulk Sampling

past with the associated land disturbance and road building, along the Incomappleux River.

Immediately east of the main showings are considerable thicknesses of limestone intercalated within the slate and greenstone sequence. Overall pH levels for Stephney Creek are to be expected to be close to neutral.

These possible acidic conditions and metal leaching are considered to be controllable. A lined pond, swale or other applications of limestone could be one method of adequate control.

## **6.5 Permits**

The company and property will be subject to the mine permit regulations of British Columbia. A permit will be required for any bulk sampling and proposed drilling. The property has a current Reclamation Permit No. MX-5-265<sup>5</sup> and a reclamation bond of \$1,000 with the Ministry of Mines pertaining to the bulk sample program completed in 1993 and proposed ATV access upgrade to the road. A certain amount of minor clean up and securing the portals would be required to close out this bond<sup>6</sup>, but this requirement would also be part of any reclamation bonding for future exploration programs. Current emphasis by the Ministry of Mines is to characterize the Acid Rock Drainage (ARD) potential, which requires a suite of samples to be analyzed for acid-base accounting. The large net neutralizing potential of the area limestone should be sufficient for control of the ARD expected to be encountered.

The Reclamation Permit is currently held by Glen Developments Ltd., the operating entity of the President of Jazz Resources Ltd., Mr Bryan Glen, which has been advised of minor cleanup issues by D. Roach in a letter dated Feb. 23, 2000<sup>7</sup>. A number (116) of small 10 gallon drums dating from the 1930's were observed in the general portal area. An approval to widen the ATV road was received from Bruce Reid, P.Geo., Mines Inspector without any increase in the Reclamation Bond<sup>8</sup>.

The Teddy Glacier Area is within the claimed traditional territory of the Ktunaxa Kinbasket Tribal Council. The legal requirements for consultation and accommodation of First Nation Rights, Title and Interest are still being debated in the courts. A proactive approach to dealing with issues and resource values which are of a concern to First Nations, and working with First nations to ensure economic activity provides positive benefits, is an important part of increasing business security throughout British Columbia. There are no obvious impediments to developing the Project in a timely matter related to First Nation issues.

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<sup>5</sup> Mineral Exploration Reclamation Permit, MX-5-265 (Section 10 of the Mines Acts BC 1989) issued August 14, 1992.

<sup>6</sup> as per letter from M. A. Mellor, Inspector of Mines and District Manager, Cranbrook, dated August 14, 1992.

<sup>7</sup> Letter to Glen Developments Ltd. from D. Roach, Inspector of Mines dated February 23, 2000.

<sup>8</sup> Letter to J. Shearer from Bruce Reid, Mines Inspector dated September 29, 2005.

## **7.0 SITUATION and ACCESS**

### **7.1 Situation**

The Teddy Glacier claims are ranging between 1200 and 2600 metres elevation, a distance of approximately 44km southeast of the town of Revelstoke, B.C. The main showing is at 2200m (7320ft.) elevation.

### **7.2 Access**

Access to the claims is by helicopter from Revelstoke or by rough mining roads up the Incomappleux River Valley, which are presently passable by all terrain vehicles (ATVs) but were last opened in 1994. On August 28, 2004 a group of five persons also visited the Portal site by ATV, travelling about 2 hours driving time from Beaton, on the northeast arm of Upper Arrow Lake. Some parts of the access road are reported to require brushing out of the alder trees.

An estimate on opening the Teddy Glacier access road was requested of R. Allen of Galena Contracting at Nakusp, B.C. who made a visit to the lower part of the road on September 8, 2004. Mr. Allen, a very experienced local road builder with a complete fleet of heavy equipment estimates that to re-open the permanently deactivated logging road portion of about 3km to adequately accommodate 30 tonne CAT Wagons would cost approximately \$150,000. Above this portion would require at least a 20m bridge and repairs to the upper reaches of the road. For a simple diamond drill program this estimate could likely be greatly reduced to about the \$40,000 range for light 4x4 truck access and small bulldozers and utilizing ford crossing of Stephaney Creek. A 20m bridge could be rented in the short term.

### **7.3 Physiography**

The area of the Teddy Glacier Claims has been heavily affected by Pleistocene to recent glaciation with arêtes, cirques, tarns and hanging valleys common in the area. Steep slopes are often covered by a thin veneer of talus.

The lower levels of the property are heavily forested. Above 1600 metres elevation this forest is replaced by scrubby alpine trees and grass where soil exists. There is adequate water from several creek drainages for mineral exploration on this property.

### **7.4 Infrastructure and Local Resources**

























The property lies 44 km south-southeast from Revelstoke and is easily accessible by helicopter. A mining trail, presently passable by narrow all terrain vehicles, connects the property to the townsite of Camborne. There is no longer any facilities located in Camborne. The Company owns several land lots in fee simple within the Camborne townsite.

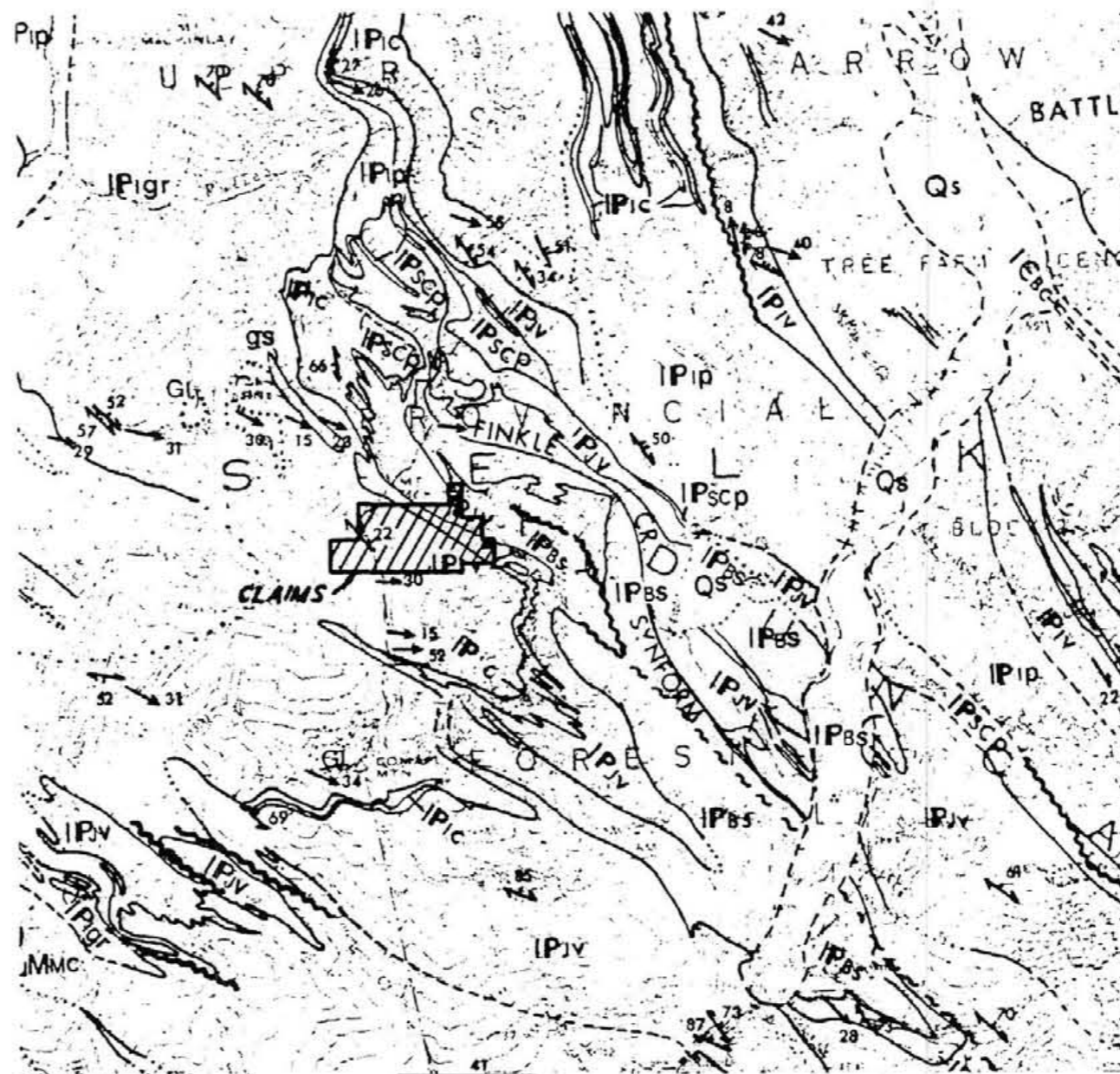
The nearest mill/concentrator is located in Silverton, about 150 km to the south, which is owned by International Silver Ridge Resources Inc. Persons familiar with the mill<sup>9</sup> report that this 125 ton per day concentrating mill was originally built in 1962 to process ore from the Ottawa Mine above Slocan, British Columbia. In the mid-1970's the mill was shut down due to lack of ore and was inoperative until Silver Ridge

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<sup>9</sup> Personal communication with Jon Perrett, President, International Silver Ridge Resources Inc., and International Silver Ridge Resources Inc. website.

GEOLOGY LEGEND:

- PALEOZOIC to MESOZOIC**
- PERMIAN AND/OR TRIASSIC
-  Hornblende and pyroxene meta-diorite and meta-andesite (includes Poplar Creek Greenstone). Pattern used where boundaries are undefined.
  -  PRub Serpentinite; minor calc and tremolite schist
  -  PRkv KASLO GROUP  
Meta-andesite flows, tuff, breccia; minor meta-dactite; rare tuffaceous phyllite
- MISSISSIPPIAN TO PENNSYLVANIAN OR PERMIAN  
UPPER MISSISSIPPIAN TO PENNSYLVANIAN OR PERMIAN  
MILFORD GROUP (uMmf to uMmcg)
-  uMmf Light green to white chert
  -  uMmp Grey and brown phyllite and meta-sandstone
  -  uMmc Grey and white limestone, locally fossiliferous
  -  uMmv Amygdaloidal meta-basalt flows
  -  uMmcg Conglomerate
- DEVONIAN(?)  
MIDDLE DEVONIAN(?)
-  Dgdn Biotite-hornblende granodiorite gneiss
- CAMBRIAN TO DEVONIAN OR OLDER  
LOWER CAMBRIAN TO MIDDLE DEVONIAN OR OLDER  
LARDEAU GROUP (IPsc to IPigr)  
BROADVIEW FORMATION (IPsc, IPas):
-  IPsc Limestone, grey phyllitic limestone and grey phyllite
  -  IPbs Grey and green phyllitic grit and phyllite
  -  IPjv JOWETT FORMATION: green phyllite, limy green phyllite, greenstone
  -  IPscp SHARON CREEK FORMATION: dark grey to black siliceous phyllite
  -  IPaq AJAX FORMATION: massive grey quartzite
  -  IPtp TRIUNE FORMATION: grey to black siliceous phyllite
  -  IPtas TRIUNE, AJAX, SHARON CREEK FORMATIONS: undivided
  -  IPiv INDEX FORMATION (IPiv to IPigr).  
Green phyllite, limy green phyllite, greenstone
  -  IPic Phyllitic and arenaceous limestone; minor grey phyllite
  -  IPip Grey and light green phyllite; minor phyllitic limestone and quartz grit
  -  IPigr Quartz grit; minor gritty phyllite
  -  IPls Undivided: grey phyllite, siliceous phyllite, gritty phyllite, phyllitic grit, rare quartzite
  -  IPlv Undivided: green phyllite, limy green phyllite, greenstone
  -  IPLc Undivided: limestone, phyllitic limestone
- CAMBRIAN  
LOWER CAMBRIAN
-  IEbc BADSHOT FORMATION: Grey and white limestone



JAZZ RESOURCES INC.

TEDDY GLACIER PROJECT

GENERAL GEOLOGY

SCALE : 1:250 000	DATE : SEPT 2004
DRAWN BY : J SHEARER	FIGURE N <sup>o</sup> . 4 - 1



Resources purchased it and commenced a \$750,000 refit and remodelling project. One year later the first silver/lead/zinc ore from the Standard Mine was processed.

Since May 1988, this flotation process Mill/Concentrator has milled gold ore for Asarco and Northair Mines and silver/lead/zinc ore for Mikado Resources and Muskogee Mines.

International Silver Ridge Resources is pleased to offer its modern Standard Mill facility and the abilities of its fully trained crew of flotation operators, crushermen, millwright, on-site assayer and lab to mining companies in the area for custom milling.

Metallurgical testing of the Teddy Glacier Property was conducted by J. Britton in 1964 on a 200 lb. sample from the vein outcrop and later on fresh mineralized diamond drillcore. Preliminary metallurgical results indicated that 60% of the copper, 90% of the lead and 80% of the zinc should be recovered in separate concentrates assaying 20% copper, 60% lead and 60% zinc respectively. Overall recoveries (total rougher and concentrates are gold - 97.0%, Silver - 99.3%, Copper - 99.7%, Lead - 99.3%, Zinc - 99.9% and Pyrite - 98.0%. Tests showed (Britton, 1963) that 70% of the gold and 60% of the silver in the pyrite concentrate (assaying 0.41 oz/ton Au and 2.8 oz/ton Ag) could be recovered by cyanidation.

Milling the Teddy Glacier ore at the Silverton Mill is estimated to be in the \$35 to \$40 per tonne<sup>10</sup> range depending on quantity of material and subject to updating the metallurgical test work at a local facility such as Process Research Labs.

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<sup>10</sup> Personal communication, Jon Perret, President, International Silver Ridge Resources Inc.  
Geological, Prospecting and Bulk Sampling Assessment Report on the Teddy Glacier Property

# Local Geology Teddy Glacier Claims

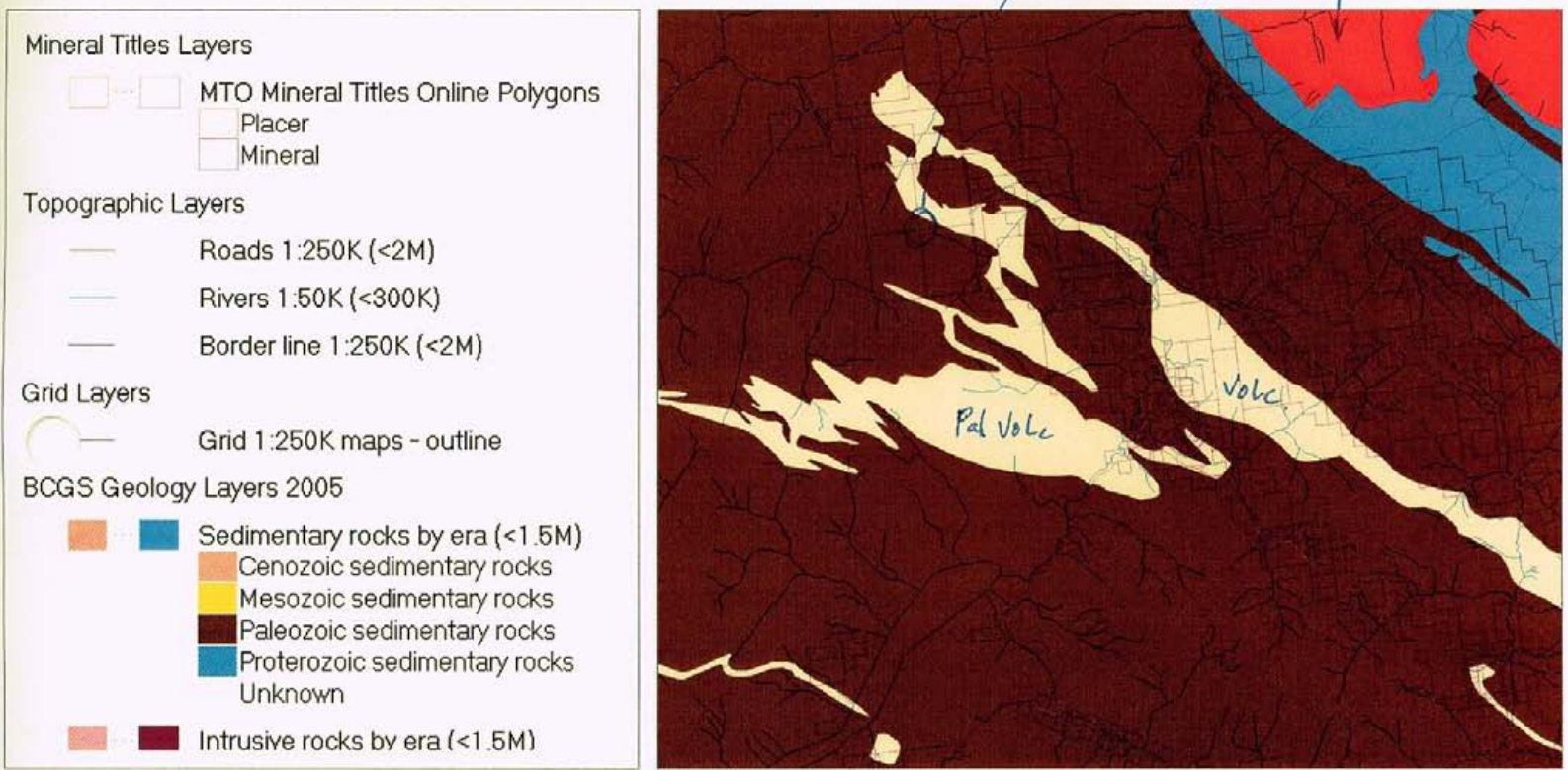





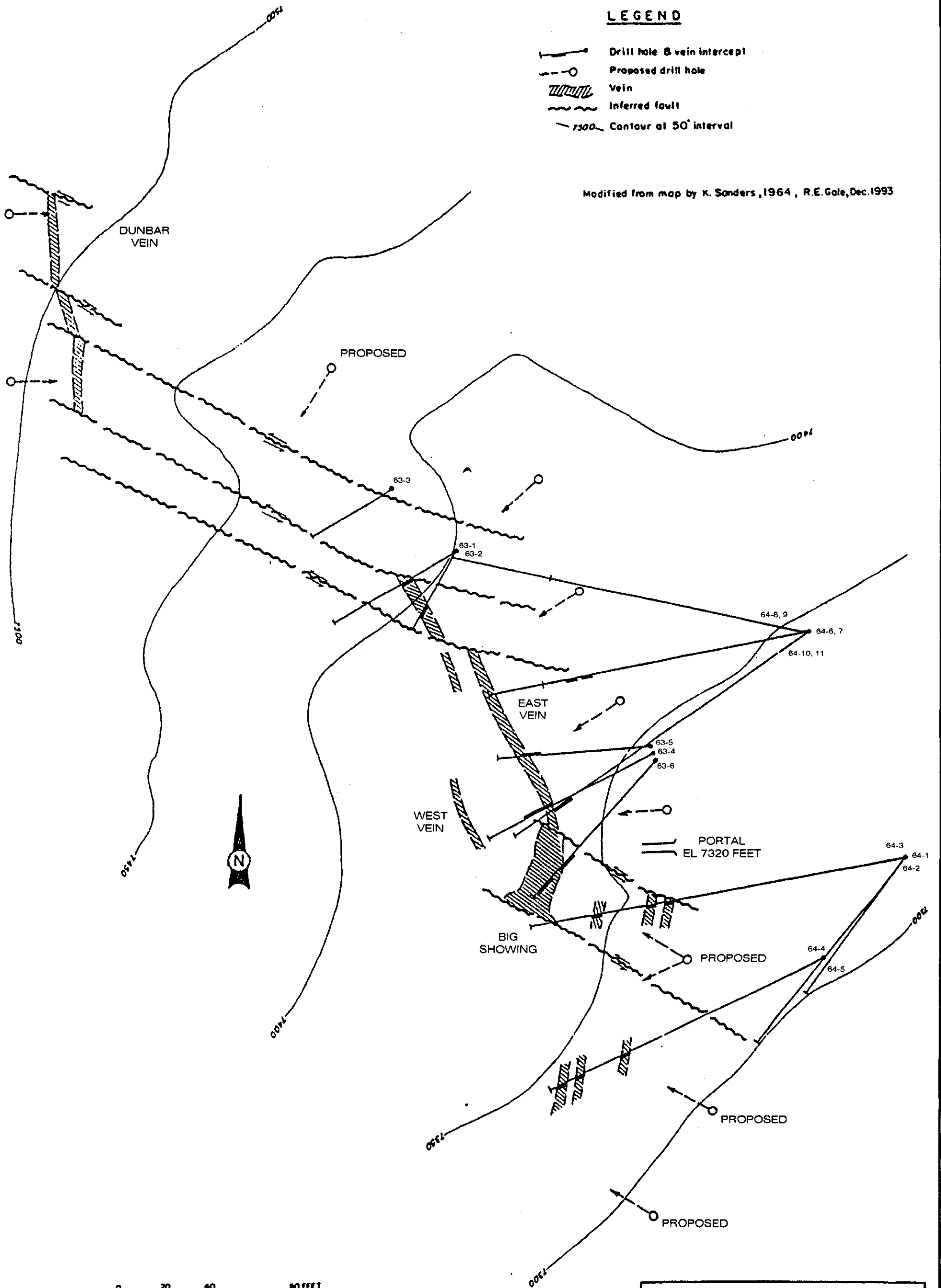


FIGURE 4-2  
LOCAL GEOLOGY

**LEGEND**

-  Drill hole & vein intercept
-  Proposed drill hole
-  Vein
-  Inferred fault
-  Contour at 50' interval

Modified from map by K. Sanders, 1964, R.E. Gale, Dec. 1993



JAZZ RESOURCES INC.	
<b>TEDDY GLACIER PROJECT DRILL HOLE LOCATIONS</b>	
SCALE : 1:480 (1"=40')	DATE : SEPT 2004
DRAWN BY : J SHEARER	FIGURE N <sup>o</sup> . 4 - 2

## **8.0 PROPERTY HISTORY**

### **8.1 Preamble**

The immediate area has a long history of mineral exploration being a relatively short distance northwest of the Northern Lardeau/Camborne lead/zinc/silver camp, which includes the Spider Mine, which was operated in the 1950's by an associated company of Jazz Resources Inc.

### **8.2 Prior Exploration**

#### **8.2.1 History**

The Teddy Glacier property was staked in 1924 by G. Ritchie and G. Edge. High grade float was distributed for 300 meters downslope and which led these prospectors to the mineral occurrences at the foot of the receding "Teddy" glacier.

Teddy Glacier Mines, Ltd. was incorporated in 1924 by F. R. Blockberger and Associates to acquire the important Rambler-Cariboo, Blackhead, Margaret and Mary Jane Claims staked by Ritchie and Edge. A trail was opened to the property in 1925, and in late 1926 a crosscut adit was begun just below the main showing. The adit was advanced to the vein during 1926 and then work stopped. In 1929 the Bush and McCulloch interests provided funds for extending the crosscut to a second vein. A shipment of 5 tonnes of ore was made at this time yielding 2302 grams of silver, 124 grams of gold, 855 kilograms of lead and 1351 kilograms of zinc. (Reference: Minfile and Gale, 1994)

No further activity was reported until a syndicate, financed by Mines Selection Trust of London, began extensive development work in 1934. A considerable amount of money was spent on equipment, trails and camp buildings. Also, at this time, about 500 metres of drifting and crosscutting was done in the upper adit. The workings trend north-northwest for about 60m where the vein is cut by a west-northwest trending fault zone. Then the workings swing to the west-northwest and cut the Dunbar vein about 60m across the fault. In 1935, a lower adit, begun 55 metres below the upper adit, was driven 18 metres (Gale, 1988).

The claims were allowed to lapse in 1942. The central claims of the group, covering the main showings, were then restaked in 1942 by A. D. Oakley who subsequently sold controlling interest to A. M. Richmond representing American Lead-Silver Mines Ltd. A. M. Richmond did a detailed re-evaluation of the property. In 1950, the pack trail to the property was upgraded to a road but no work was done on the showings, other than mapping and sampling. The property was optioned to Columbia Metals Corporation Ltd. in 1952. However, no activity other than road building was reported and the option was abandoned.

In 1959, the property was acquired under joint ownership by Sunshine Lardeau Mines Ltd. (a predecessor company to Jazz Resources Ltd.)<sup>11</sup>, Maralgo Mines Ltd. and the Magnum Consolidated Mining Co. Ltd. – an indirect interest was secured by Transcontinental Resources Ltd. Work by this consortium during 1963 included geological mapping, sampling of the underground workings and 150 metres of diamond drilling in six holes (K. Sanders). Road construction in 1964 disclosed new showings on the Bell No. 14 claim, located 900 metres southeast of the main workings and was investigated by a drill program totalling 660 metres.

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<sup>11</sup> Gale, 1988  
Geological, Prospecting and Bulk Sampling  
Assessment Report on the  
Teddy Glacier Property

Much of the present knowledge of the Big Showing is based on the data presented in B.C. Department of Mines Assessment Report 546, by J. Sullivan, dated Nov. 30, 1963. The author of the present report took one surface sample from the Big Showing during my visit on August 28, 2004 for Jazz Resources Inc., but I have not examined the underground workings on the deposit.

A 200 lb. sample was collected in 1963 and used for metallurgical tests. Subsequently, metallurgical test work completed by Britton Research Laboratories on underground samples and drill core composites indicated that 60% of the copper, 90% of the lead and 80% of the zinc should be recovered in separate concentrates assaying 20% copper, 60% lead and 60% zinc respectively. Overall recoveries of metals appear to be high in this initial study but further work is required. A copy of the Britton Report is attached to Assessment Report 546 by J. Sullivan.

### **8.2.2 1970's**

No work is recorded as occurring in the 1970's.

### **8.2.3 1980's**

Ashton's (who did not visit the property) summary geological report is dated January 31, 1980 and short site examination was carried out by R. E. Gale in 1986 and 1987.

The work indicated that; the Big Showing consists of a knob of massive high grade sulfides formed at the junction of 2 quartz-sulfide veins which carry galena, sphalerite and chalcopyrite along with values in gold and silver. The approximate surface and underground dimensions of the Big Showing were reported to be about 12.47m (40 feet) by 4.05m (13 feet). The tunnel into the knob is about 7.79m (25 feet) in elevation below the outcrop. The mineralization continues below the tunnel level and is cut in drillholes. Its ultimate shape and dimensions at greater depths are unknown.

A rough indication of the tenor of the mineralization, taking the grade of six underground samples from Map 8, Report 546, Gale (1988) calculated an average grade of 0.12 oz/ton Au, 5.63 oz/ton Ag, 6.46% Pb and 14.32% Zn for the grade of the Big Showing as sampled in the tunnel. From Map 6 in the same report, Gale (1988) averaged 3 samples taken at surface to get a grade of 0.20 oz/ton Au, 5.50 oz/ton Ag, 17.63% Pb and 2.23% Zn for the surface showing. A third indication of grade is the 200 pound bulk sample taken in 1963, which was used for metallurgical tests. This sample is reported in Report 546 to have an average grade of 0.40 oz/ton Au, 8.80 oz/ton Ag, 12.06% Pb and 13.21% Zn.

Gales (1987) surface sample 0989 across 5 feet on the Big Showing assayed 0.155 oz/ton Au, 24.11 oz/ton Ag, 39.8% Pb, 5.35% Zn and 0.81% Cu. Gale (1988) picked sample of the best looking mineralization from the "New Vein", sample 0992, assayed 0.132 oz/ton Au, 7.78 oz/ton Ag, 11.52% Pb, 22.91% Zn and 0.91% Cu.

According to the report of D. W. Burns, 1981, rebuilding of the road was difficult and drilling had to be restricted to only the Vimy showing. Two short diamond drill holes were drilled in a zone of northeast trending quartz veins cutting sericite schist, but no significant values were found.

An airborne geophysical survey was completed in 1987. The property was held by Jazz Resources Inc. predecessor K-2 Resources Inc. (formerly Sunshine Columbia Resources

Limited) in 1987. In October of 1987 White Geophysical Inc. conducted a Crone P.E.M. Survey on K2 Resources Ltd.'s Teddy Glacier Project as follow-up to a 1986 airborne survey by Western Geophysical Aero Data Ltd., and as an aid in tracing structures under the ice of the Teddy Glacier. Ten conductors were mapped, all of very short strike. Conductors A and E are the strongest and are probably sourced in a graphite/sulphide horizon. The other conductors, B, C, D, F, G, H, I are much weaker in nature and difficult to correlate from line to line. These conductors were interpreted to be sourced in graphite, sulphides and/or conductive shears. To properly access the value of this geophysical survey recommendations were made for a precise correlation between these conductors and the visible geology. Should one of these conductors prove interesting it could be traced out with an HLEM survey with a narrow "a" spacing of 25m on lines with 25m centres. This tight spacing is necessary since the geophysical response is very complicated in this area.

#### **8.4 Spider Mine History in the 1980's**

The Spider mine (also known as the Sunshine Lardeau Mine) is on the south side of Poole Creek, 2.7 kilometres by steep road southeast of Camborne. The Spider (L.15752), Spider No. 1 (L.15753), Exlipse (L.5170)(082KNW044) and Sandy (L.8719)(082KNW048) are the nucleus of a group of Crown granted claims and fractions that extends from the valley of Poole Creek southeasterly toward Mohawk Creek.

The first discovery of ore in this area was made in 1910 on the Spider claim. Development work continued until 1949 during which there were small intermittent shipments of hand-sorted ore. Sunshine Lardeau Mines Ltd. acquired the property and initiated a diamond drilling program which discovered Nos. 4 and 5 veins in 1950. A crosscut was driven to the veins on No. 5 level and no. 6 adit was extended to intersect No. 4 vein. A mill was installed in the old Meridian building on Poole Creek in May 1952. Concentrates were transported by truck to Beaton and thence by the Arrow Lakes barge to the rail-head at Nakusp and from there to smelters in the United States. Berens River Mines Ltd. provided additional funding to gain control of operations and, in 1953, No. 10 adit was driven. In 1956 the company was liquidated and operations passed to Newmont Mining Corp. Mining and milling operations were suspended on May 14<sup>th</sup>, 1958.

Total production to the end of 1958 was 371 kilograms of gold, 53,481 kilograms of silver, 85 tonnes of copper, 10,845 tonnes of lead, 11,519 tonnes of zinc, 60 tonnes of cadmium and 4 tonnes of antimony from 128,063 tonnes of ore.

Along northerly trending fault zones, the greenstone is silicified, carbonatized and cut by steeply dipping quartz-ankerite veins variably mineralized with galena, sphalerite, pyrite and chalcopyrite. Tetrahedrite and arsenopyrite are rare. The mineralization varies from large lenses and pockets of sulphides 2 to 3 metres wide to disseminations. Veinlets of quartz or sulphides also extend into the wallrock. The veins range from less than 1 metre wide to 7 or 8 metres wide, and the alterations zone, principally on the eastern or hangingwall side, is usually about 10 metres wide. There are at least five known veins on the Spider property. The No. 4 vein is the largest of the veins and is the source of most of the production from the property.

This vein was developed from surface to a depth of 200 metres. Ore grade material was intersected in drilling an additional depth of 70 metres below this level.

Past development consisted of at least 7 levels with raising and crosscutting. The No.10 level adit and associated workings developed the No. 4 vein which was mined in the

EAST VEIN

5' sample 25709  
galena - pyrite chalcopyrite

70°

3.5' sample 25710  
galena - pyrite chalcopyrite

1.3' N10°E pyrite vein sample 25712

2.5' sample 25711  
pyrite - galena - quartz sphalerite

1.5' sample 25713  
galena - W. side, pyrite - E. side

NEW OPEN PIT

Zone of N40°E  
gash veins

80°

60°

PORTAL

BIG  
SHOWING

← BIG vein

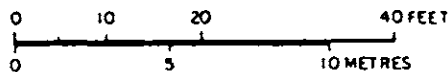
10' sample 25714  
massive galena - pyrite sphalerite chalcopyrite

Location of 2006  
Bulk sample  
150 Tonnes

70°?

Black phyllite-schist

3' vein - galena - pyrite  
2' sample galena - part of  
vein, sample 25715



JAZZ RESOURCES INC.

TEDDY GLACIER PROJECT

LOCATION OF  
1993 TRENCH SAMPLES  
2006 BULK SAMPLE

SCALE : 1:240 (1"=20')

DATE : SEPT 2004

DRAWN BY : J SHEARER

FIGURE NO. 4-5

1950's. Nearly all ore had been mined out above the No. 10 level by the end of 1957. Mining and milling was suspended on May 14, 1958. East of the No. 4 vein and accessible via the No. 10 level workings, is the Eclipse vein (082KNW044). This development exposed the top of the ore body through a vertical range of 46 metres. The Eclipse vein saw production between 1956-58 with approximately 31,748 tonnes of ore milled with ore of the Spider Mine (Assessment Report 16724). The Eclipse vein occurs at a faulted contact between phyllite and greenstone of the Jowett Formation.

In 1964, Sunshine Lardeau Mines Limited drilled 25 holes and drove 61 metres of drift. The diamond drill holes intersected the No. 4 vein over a length of 122 metres and to a depth of 69 metres below the No. 10 level. Based on this work, probable historic reserves were estimated at 53,343 tonnes averaging 2.74 grams per tonne gold, 92.57 grams per tonne silver, 2.00 per cent lead and 4.25 per cent zinc (Sunshine Lardeau Mines Limited, 1964 Annual Report). The company name was changed in 1965 to Sunshine Comstock Mines Limited, and in 1974 to Sunshine Columbia Resources Limited. The old tailings dump from the milling operation, located on the Treadwell claim (Lot 5402), was sampled and tested for gold and silver values (see Cholla (082KNW143). Sunshine Columbia became K-2 Resources Inc. in 1987.

#### **Surface Drilling Program - 1987 at the Spider Mine**

A surface program was completed during the month of July 1987 and consisted of 9 holes totalling 2477'. Location of drill holes is shown in Figure 3. Greenstone rock was hit in all holes. No new mineralized veins were found by this surface drilling program (Gale, 1988).

Hole No. 87-1 was spotted to the east of a combined VLF-EM and soil geochem anomaly and drilled west at -45° to test the bedrock here. The hole encountered overburden and slide rock to a depth of 120' and could not be continued. The target remains to be tested by a heavier drill.

Hole No. 87-2 was drilled at 90° at the same location as 87-1 in order to check the overburden depth. After 25' of overburden, greenstone type rock was intersected for 40' and the hole was terminated because it appeared that the hole was still in slide material.

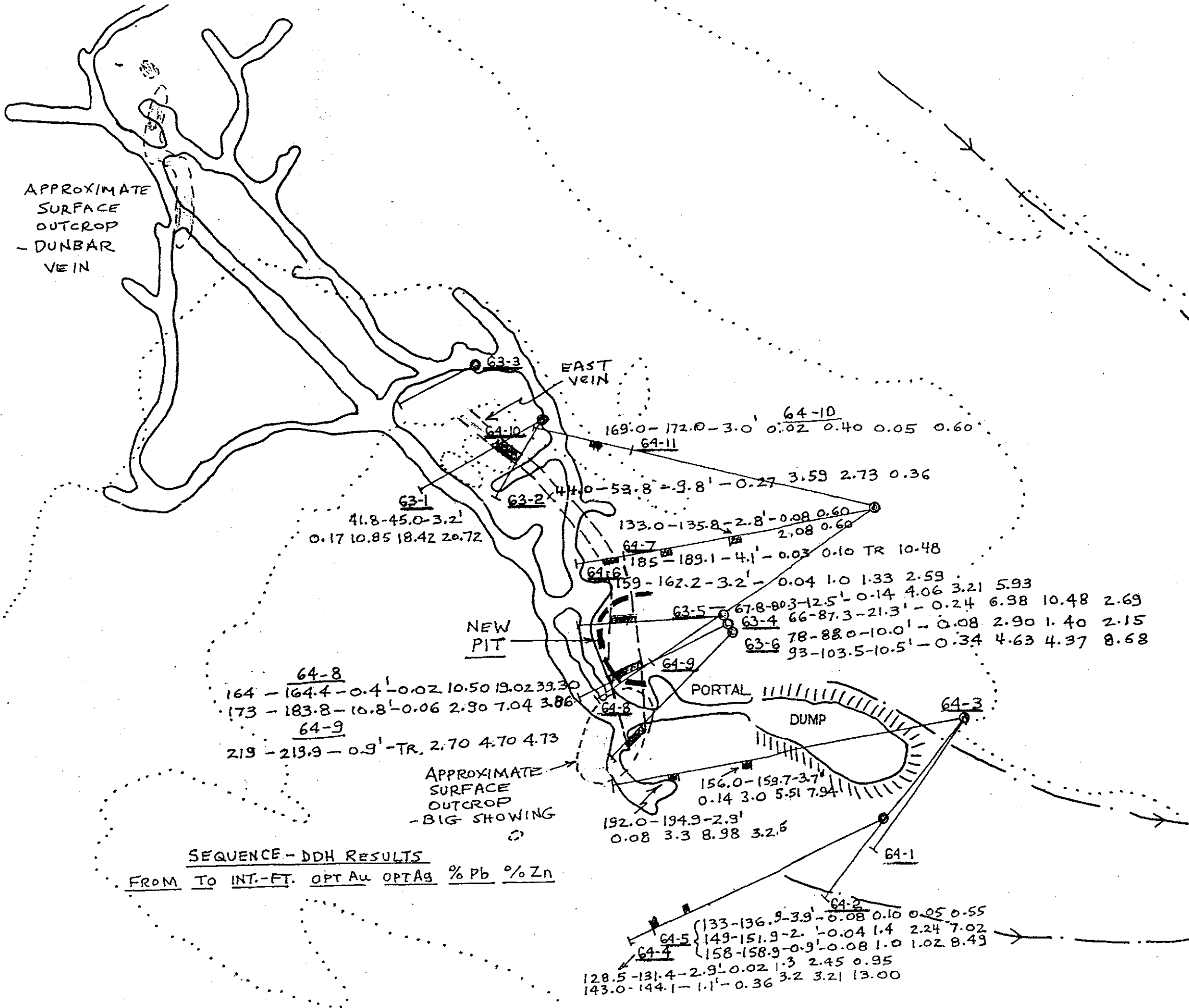
Hole No. 87-3 was drilled easterly at -55° to try to intersect a 3' wide quartz-sulfide vein exposed in the course of making a dozer trail to drillsite No. 1. This hole went to 97' without reaching bedrock and had to be terminated.

Hole No. 87-4 was collared in greenstone bedrock and drilled to the west at -45° in another attempt to sample at depth the new vein exposed in the dozer road. The hole went to 377' and passed beneath the projected location of the vein without intersecting it. Apparently, the vein is in the slide rock material overlying the greenstone bedrock so that the vein's true location is unknown.

Hole No. 87-5 was sited to test the No. 3 vein at depth. The hole was drilled S 60° W at -60° to a depth of 382'. Several zones of thin quartz-pyrite veining were intersected but did not carry any values.

Hole No. 87-6 was drilled on a bearing of S 75° E at -55° to a depth of 520'. The hole was designed to look for a possible southern continuation of the Eclipse vein, or another vein paralleling the Eclipse vein. Disseminated pyrite in greenstone was

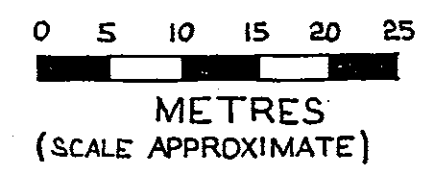




**LEGEND**

- OUTCROP BOUNDARY
- PORTAL AND UNDERGROUND WORKINGS PROJECTED POSITION BELOW SURFACE
- 1963 AND 1964 DRILLHOLES
- STREAM

MAP BASED ON 1964 MAP-TEDDY GLACIER MINES LTD.



**SEQUENCE - DDH RESULTS**  
 FROM TO INT.-FT. OPT Au OPT Ag % Pb % Zn

**64-8**  
 164 - 164.4 - 0.4' - 0.02 10.50 19.02 39.30  
 173 - 183.8 - 10.8' - 0.06 2.90 7.04 3.86

**64-9**  
 219 - 219.9 - 0.9' - TR. 2.70 4.70 4.73

**64-10**  
 169.0 - 172.0 - 3.0' 0.02 0.40 0.05 0.60

**64-11**  
 44.0 - 53.8 - 9.8' - 0.27 3.59 2.73 0.36

**63-1**  
 41.8 - 45.0 - 3.2' 0.17 10.85 18.42 20.72

**63-2**  
 133.0 - 135.8 - 2.8' - 0.08 0.60 2.08 0.60

**63-3**  
 185 - 189.1 - 4.1' - 0.03 0.10 TR 10.48

**63-4**  
 67.8 - 80.3 - 12.5' - 0.14 4.06 3.21 5.93

**63-5**  
 66 - 87.3 - 21.3' - 0.24 6.98 10.48 2.69

**63-6**  
 78 - 88.0 - 10.0' - 0.08 2.90 1.40 2.15

**63-7**  
 93 - 103.5 - 10.5' - 0.34 4.63 4.37 8.68

**64-3**  
 156.0 - 159.7 - 3.7' 0.14 3.0 5.51 7.94

**64-1**  
 192.0 - 194.9 - 2.9' 0.08 3.3 8.98 3.26

**64-2**  
 133 - 136.9 - 3.9' - 0.08 0.10 0.05 0.55

**64-4**  
 149 - 151.9 - 2.1' - 0.04 1.4 2.24 7.02

**64-5**  
 158 - 158.9 - 0.9' - 0.08 1.0 1.02 8.49

**64-6**  
 128.5 - 131.4 - 2.9' - 0.02 1.3 2.45 0.95

**64-7**  
 143.0 - 144.1 - 1.1' - 0.36 3.2 3.21 13.00

JAZZ RESOURCES INC.			
TEDDY GLACIER PROJECT			
UNDERGROUND WORKINGS & ASSAY VALUES			
SEPT 2004	DRAWN BY J SHEARER	N.T.S. 82 K 13 EW	FIG 4-6

encountered throughout the hole but no alteration zones or mineralized quartz veins were intersected.

Hole No. 87-7 sited to test a combined soil geochem and VLF-EM anomaly, this hole was drilled on a bearing of S 85° W at -50°. Weakly altered and Pyritized greenstone was intersected, but no mineralized veins were encountered. The hole was bottomed at 288'. Further drilling in overburden covered areas to the south is warranted, but will require a heavier drill to reach bedrock.

Hole No. 87-8 was drilled S 85° E at -55° and was designed to test the western side of the Barclay vein zone. A wide zone of weakly altered-pyritized greenstone carrying mariposite alteration was cut in the hole, but no mineralized veins were found. The hole was bottomed at 393'.

Hole No. 87-9 was drilled S 65° E at -45° to seek and test the western side of the Sandy vein and a VLF-EM anomaly. A shear zone showing strong biotite-pyrite alteration was intersected from 86'-96'. This altered shear zone may be the cause of the VLF-EM anomaly. No significant quartz veining or mineralization was cut by the drill hole.

#### **Underground Drilling Program - 1987 at the Spider Mine**

A total of 6952' was drilled in 17 holes below the 10 level on the No. 4 vein during 1987. Two different underground drill stations were utilized.

Table II is a listing of underground holes and pertinent data for each hole. Holes No. 87-U2, 3, and 9 were drilled within the area of the old known reserves. The other 14 holes were deeper holes drilled in parts of the No. 4 vein not previously explored by any drill holes.

It was believed by Gale (1988) that the main ore shoot on the No. 4 vein had a steep plunge to the south and hole 87-U-1, which gave an intersection of 8.5' grading 0.20oz Au, 16.34 oz Ag, 16.79% Pb and 15.73% Zn appeared to confirm this idea. However holes 87-U-4, 5, and 6 showed submarginal values below 87-U-1 on the southward pitching projection of 87-U-1. Hole 87-U-7 returned a good intersection 9.1' wide grading 0.09 oz Au, 1.59 oz Ag, 1.33% Pb and 12.56% Zn and the total mineralized width in 87-U-7 is 16'. Hole 87-U-7 however seems to indicate a rapid change in mineralogy to massive pyrite carrying gold values and suggests a northern plunge to the ore shoots. It is quite possible that the vein is faulted between holes 87-U-1 and 87-U-7, because the vein changes so noticeably in mineralogy between the two drill holes.

Two mineralogically different zones on the No. 4 vein and another zone on the 4A vein were assigned historic resources by Gale (1988), as computed from 1964, 1980 and 1987 drill holes.

Gale (1988) calculated, using results from 14 drill holes and old sample results across the vein in the 10 level workings, resources below the 10 level to a depth of about 200' are taken to be 28,000 tons grading 0.13 oz Au, 7.43 oz Ag, 6.19% Pb, and 6.05% Zn. These figures are historic and based on true widths of vein from 3.0' to 19.1' wide (average 9.8') without considering dilution.

**Table 8.1**  
1987 Underground Drilling of the Spider Mine

Hole No.	Total Depth	Bearing	Dip	Intercept (true width)	Significant Intersections				Vein	
					Au/oz	Ag/oz	Pb%	Zn%		
87-U-1	353'	S65W	-45	3.5' (1.07m) 7.1' (2.17m)	0.01 0.20	0.51 16.34	0.38 16.79	6.76 15.73	4A 4	
87-U-2	301'	S65W	-30	5.6' (1.71m) 3.7' (1.13m)	0.02 0.23	7.90 14.67	7.43 12.98	9.39 13.11	4A 4	
87-U-3	164'	S50W	+20	No significant values						
87-U-4	400'	S50W	-50	5.2' (1.59m)	0.003	1.94	2.09	0.04	4	
87-U-5	354'	S70W	-52	3.3' (1.00m) 2.3' (0.7m)	0.006 0.056	1.26 0.88	0.81 0.65	2.58 3.54	4 4	
87-U-6	403'	S65W	-50	1.5' (0.47m) 2.12' (0.66m)	0.044 0.029	1.54 0.79	1.93 0.78	0.21 0.08	4A 4	
87-U-7	288'	S85W	-50	9.5' (2.9m) 1.5' (0.47m) 2.7' (0.82m)	0.09 0.004 0.088	1.59 5.32 0.63	1.33 5.54 0.07	12.56 1.28 0.05	4 4 4	
87-U-8	273'	W	-50	3.85' (1.17m)	0.026	0.92	0.94	0.50	4	
87-U-9	286'	S65W	-20	3.88' (1.18m) 3.88' (1.18m)	0.056 0.186	4.24 5.96	4.09 5.52	2.70 1.71	4A 4	
87-U-10	422'	S85W	-70	No significant values						
87-U-11	603'	S80W	-55	5.99' (1.83m) 3.05' (0.93m)	0.139 0.035	1.39 0.07	0.87 0.01	4.51 0.03	4 "new"	
87-U-12	488'	S80W	-60	3.10' (0.95m)	0.187	0.29	0.07	0.03	4	
87-U-13	508'	S75W	-55	3.5' (1.07m)	0.118	0.18	0.08	0.04	4	
87-U-14	705'	S75W	-70	0.8' (0.24m)	0.039	0.20	0.01	0.02	4	
87-U-15	533'	S70W	-55	No significant values						
87-U-16	428'	S85W	-55	1.39' (0.42m) 3.85' (1.18m)	0.085 0.043	0.01 5.43	0.01 5.21	0.01 1.59	"new" 4	
87-U-17	443'	W	-55	2.10' (0.64m)	0.11	0.13	0.02	0.01	4	
Total	6952'									

#### 8.2.4 1990's at the Teddy Glacier Property

Re-opening of the access road and mining a 5 tonne bulk sample to the Trail Smelter was completed by September 21, 1993. Gale (1993 & 1994) records about 100-150 tons of high grade vein material was produced grading 0.425 oz/ton Au, 11.60 oz/ton Ag, 1.20% Cu, 18.4% Pb and 9.6% Zn.

Trench work with backhoe and dozer, seeking extensions to the Main Zone Mineralization began August 24<sup>th</sup>, 1993 and continued through August 30, 1993.

On the Main Zone near the Big Showing, an area approximately 40 feet (12.19m) x 40 feet (12.19m) x 12 feet (3.66m) deep was drilled, blasted and mined out in a small open pit to give bulk sample of the vein mineralization from the north end of the Big Showing and the south end of the East Vein (see Plate 1). The structural relationships and size of the veins was also exposed in the process.

The approximate outline of the New Pit, the location of the outcrop of the Big Showing and the East Vein are shown on Figure 4-6 map which also shows the underground workings and the locations of the 1963 and 1964 diamond drillholes. The northern end of the Big Showing and the East Vein down to a depth of 12 feet (3.66m) were mined out in the pit. The West Vein did not fall in the blast area. As much of the vein material as possible was saved during the removal of the blast muck by the backhoe by "hand mining" of the vein fragments as they were uncovered. This method was successful in building 2 stockpiles which probably contain 50-75 tons each (Gale 1993 & 1994). In Gale's (1994) opinion this work proves that the veins separate well from the schistose country rock and it is quite feasible to mine the veins with little or no dilution in the pit.

As exposed in the pit, the Big Showing, about 6 feet (1.83m) wide is cut by N40° trending, 60° east dipping fault and the Big Vein then merges into a 2 foot (0.61m) wide N20° striking, vertical East vein which extends 40 feet (12.19m) across the floor of the pit. Several small NE trending mineralized cross veins cut the East vein in the pit floor.

From the north side of the pit, the East vein splits somewhat into northerly and northeasterly branches and in the next 40-50 feet (12.19m-15.24m) comes around to a NW strike - N40° west dipping 70° NE. As exposed in the 3 cuts blasted on the east vein is 1.5 to 5 feet (0.47m-1.56m) wide with some vein splits separated by country rock.

The Big Showing about 1.87m (6 feet) wide of massive galena, pyrite, chalcopyrite with lesser sphalerite heads southerly from the pit face and widens to about 10 feet (3.05m) about 30 feet (9.14m) back from the pit. A 10 foot long N40° east trending cut was blasted across the southern end of the Big vein where it trends about N20° west. A one-shot blast was also put into a 3 foot (0.9m) pod of massive quartz-galena-pyrite located about 45 feet (13.72m) southwest of the Big Showing. This pod has the appearance of being a faulted-off segment of the Big Showing and may indicate continuity of the Big vein to the southwest.

Also in 1993, one day of backhoe and bulldozer work was occupied in trenching 2 areas of mineralized float located about 100 feet (30.48m) SE and 700-800 feet (213.36-343.84m) lower in elevation from the Main Zone. Another day was spent digging a 100 foot (30.48m) long trench right across the favourable zone in an area 300-500 feet (91.44-152.40m) SE and 100-200 feet (30.48-60.96m) lower in elevation from the Main Zone. None of these trenches were successful in locating mineralized veins in the bedrock.

Minor work was completed in 1993 on the Vimy Ridge Zone, located about 3,000 feet (900m) southeast and 1,000 feet (300m) lower from the Main Zone, was originally discovered by K. Sanders for Teddy Glacier Mines Ltd. in 1963-64. In the course of one days work, 3 different showings were located and trenched.

Near the northwest end of the ridge is a 30-40 foot wide zone of northeast striking quartz-sulfide veins up to 1 foot wide. The veins appear to be too widely spaced and narrow to form a mineable zone.

About 800 feet southeast along the ridge from the northwest showing, a 7 foot square pit is excavated on a flat southeast dipping 12 inch thick layer of massive galena-pyrite-chalcopyrite in silicified limestone. The schistose rocks above the altered zone are cut by a network of east to northeast trending quartz-sulfide veinlets which coalesce to form

**TABLE 8-2**  
**SIGNIFICANT RESULTS 1963-64 DRILLING**

HOLE NO.	FROM	TO	INTERCEPT FT.	APPROX. TRUE THICKNESS (ft)	AU. OZ/TON	AG. OZ/TON	% Pb	% Zn	% RECOVERY
63-1	41.8	45.0	3.2	2.7	0.17	10.85	18.42	20.72	94
63-2	44.0	53.8	9.8	4.1	0.27	3.59	2.73	0.36	80
63-4	66.0	87.3	21.3	17.6	0.24	6.98	10.48	2.69	60
63-5	67.8	80.3	12.5	10.3	0.14	4.06	3.21	5.93	73
63-6	78.0	88.0	10.0	Unknown	0.08	2.90	1.40	2.15	NOT
	93.0	103.5	10.5	Unknown	0.34	4.63	4.37	8.68	RECORDED
64-3	149.0	151.1	2.1	1.7	0.20	1.20	1.91	0.77	58
	156.0	159.7	3.7	3.1	0.14	3.00	5.51	7.94	75
	192.0	194.9	2.9	2.4	0.08	3.30	8.98	3.26	67
	194.9	208.7	13.8	11.4	0.02	0.50	0.68	0.64	51
64-4	128.5	131.4	2.9	2.4	0.02	1.30	2.45	0.95	86
	143.0	144.1	1.1	0.9	0.36	3.20	3.21	13.00	88
64-5	133.0	136.9	3.9	3.2	0.08	2.10	0.05	0.55	68
	149.0	151.9	2.9	2.4	0.04	1.40	2.24	7.02	88
	153.4	158.9	5.5	4.5	0.03	0.33	0.59	2.75	75
64-6	159.0	162.2	3.2	2.6	0.04	1.00	1.33	2.59	78
64-7	133.0	135.8	2.8	2.3	0.08	0.60	2.08	0.60	91
	185.0	189.1	4.1	3.4	0.03	0.10	TR.	10.48	92
64-8	164.0	164.4	0.4	Unknown	0.02	10.50	19.02	39.30	46
	173.0	183.8	10.8	Unknown	0.06	2.90	7.04	3.86	25
64-9	118.0	118.9	0.9	Unknown	0.12	8.50	15.26	36.36	76
64-9?	219.9	0.9	TR.	Unknown	2.70	4.70	4.73	55	

## **9.0 GEOLOGY**

### **9.1 Introduction**

Section 4 Geology, provides a general geological introduction and is followed by a review of mineralogy and mineralization.

### **9.2 Regional Geology**

Figure 4.1 reproduces the portion of the Geological Survey of Canada's Open File Map #432 which covers the Teddy Glacier property. This map was compiled by P. B. Read in 1976 and is based on geological mapping from J. O. Wheeler, 1965, 1967 and P. B. Read, 1962-1964 and 1971-1976 (Read, 1976).

The area is underlain by phyllites and phyllitic limestones of the Lower Cambrian to Middle Devonian Lardeau Group. Six subgroups of this unit are grits and gritty phyllites exposed in the immediate area of the Teddy Glacier property and to the south, southeast and southwest of it. Above the basement grits is a narrow zone of phyllitic and arenaceous limestone which in turn is overlain to the northeast by the Jowett Formation consisting of green phyllite, limy green phyllite and greenstone. The greenstone is probably in part lava with some associated dykes or irregular feeder intrusions.

The youngest rocks in the area, at the centre of the irregular syncline, are grey and green phyllitic grit and phyllite of the Broadview Formation.

All of the rocks in the area are believed to be of Lower Cambrian to Middle Devonian or older age, and appear to be isoclinally folded along steep northwest trending axes. The rocks are strongly sheared and faulted along northwest trending axial plane cleavage, tension related fractures trend north and northeasterly. Mineralized zones on several properties are localized along northwest and northeast trending fault and fractures zones. A narrow band of Permian and/or Triassic age hornblende and pyroxene meta-diorite and meta-andesite is mapped in the northwest corner of the survey area.

The regional structures trend northwest-southeast. A northwesterly trending section of the Finkle Synform axis crosses the northeast corner of the area. There are however, a number of lineations and fold axes mapped with an easterly vergence, particularly in the area immediately south of the mineral showings on Mount McKinnon.

The area forms the northern end of what has been called the Lardeau Mineral Belt, a 50 km long belt of mineral deposits and showings extending from southeast of Trout Lake northwest to the Teddy Glacier area.

The Teddy Glacier property lies close to the projected position of the northwest trending fault associated with the Windflower (Independence) showings, but the fault does not outcrop on the Teddy Glacier property, if indeed it is present there. The Teddy Glacier main showing is a northwest trending vein or veins which in part resemble the upper part of the Spider lead-zinc-gold-silver vein at Camborne and in part the Windflower-type pyrite-gold veins.

### **9.3 Local Geology**

The 1935 Report of the Minister of Mines describes the property as follows:

"The most important mineralization on the Teddy Glacier is found along two fracture zones. The more easterly strikes roughly north 10 degrees west and has been traced on the surface for over 120 feet and is possibly exposed again 80 feet farther north. It is mineralized with galena, pyrite, sphalerite, and some chalcopryite in a gangue of white quartz and rock inclusions, the width varying from a few inches to 4 feet. The second vein, to the west of the first, strikes north 17° west where exposed and has been traced for about 130 feet, varying in width after the manner of the first and being similar in all respects. In addition, there are numerous other quartz veins on the property which trend in various directions, but most frequently about at right angles to the strike of the formation. Many of them connect with the main veins and die out a short distance away from them. Mineralization in these veins is quite irregular, but some good showings have been uncovered, particularly near their junctions with the main veins. Where the first vein intersects the second one, and north of the latter, is the big showing; it is a large body of quartz some 30 feet long and carrying bodies, up to 5 feet wide, of course sulphides. It follows a somewhat more easterly course than the average strike of the eastern vein. Apparently the nature of the country-rock has had no important effect on the ore deposition, although black carbonaceous schists mineralized with pyrite are most abundant near and west of the big showing. Whether the sulphides have replaced the limestones where these are intersected by the veins is a speculation that should be investigated, as such has been found to be the case in other properties in the Lardeau. The toe of the glacier lies 100 yards east of north from the big showing and in the float at its edge are some boulders of ore, indicating that further disclosures may be made as the ice recedes, which it is doing slowly but surely.

The sulphides, galena, pyrite, sphalerite, and chalcopryite, occur in bunches in the quartz veins or as continuous bands, pinching and swelling along the strike and varying in width from practically nothing to 4 or 5 feet. They are coarse grained or very fine grained and the chalcopryite is generally present in very minor amount. The finer-grained ore is an intimate mixture of the sulphides with grains of quartz and may require rather fine grinding for concentration. Examination under the microscope reveals many minute areas of tetrahedrite in the galena. Some movement has taken place along the veins since their formation, as the galena is in many cases sheared."

The following assays are quoted from the Annual Report, Minister of Mines, British Columbia, 1925:

It is noted that the last assay is unexpectedly high in silver and that similar material assayed for the owners gave: Gold, 0.86 oz.; Silver, 6.4 oz.; lead, 11.5%.

<b>Description of Sample</b>	<b>Au (oz.)</b>	<b>Ag (oz.)</b>	<b>Ph %</b>	<b>Zn %</b>
Coarse crystalline galena from a number of places; a substantial amount of this ore could be sorted out	0.08	39.5	74.6	1.2
Steel-grained galena containing pyrite and quartz, from various places; similar material occurs in quantity	0.04	23.3	53.1	10.3
Average sample across 5.5 feet of ore and waste at the northeast extremity of the southern fissure, 78 feet from the big showing	0.29	17.6	31.3	7.2
Fairly clean pyrite selected from various places; this material occurs in abundance	0.28	16.7	1.6	

Four rock units are mapped with the age relationships of the different units unknown because of the complex isoclinal folding of the beds. Schistosity trends northwest dipping 50° - 80° northeast

The most common rock is graphitic quartzite which includes interbands of limy argillite. Less common are bands of schistose quartzite which probably represent shear or fault zones with the graphitic quartzite. The strongest shear zones form graphitic schists which in part appear to be associated with the veins in the Main showing.

The main showing at Teddy Glacier is an 80m long quartz-galena-pyrite vein carrying significant gold-silver values. Two northwesterly veins 1m to 2m wide termed the "East" and "West" veins split from the southern vein intersection called the "Big Showing". The Big Showing at the junction of the East and West veins is an easterly to northeasterly trending knob or rib measuring about 5 metres by 5 metres which is 50% massive galena-sphalerite and pyrite carrying good gold and silver values.

### **Diamond Drilling and Sampling Results**

The location of the Big Showing, the East and West Veins, the portal of the underground workings and location of old and proposed new drillholes are shown in Figure 4. The 1963-64 drill sample results are listed in Table 3.

R. Gale (1994) suggest that it is apparent that core recovery was very poor in the 1963-64 drilling especially in the critical area of the Big Showing as intersected in holes 64-8 and 64-9. The drilling was done with a small AX drill and in the case of the latter holes, the positioning for the holes tended to parallel rather than crosscut the Big Showing. This proposed new drilling using a larger drill should substantially upgrade the core recovery and thereby upgrade the assay results, especially the all important gold grades.

Results of sampling by Gale (1994) compared to old surface sample results also suggest that gold values in the new bigger blasted samples are on average much better than was indicated by the old moiled samples. The simple unweighted average of gold values in five new samples compared to that of seven old samples in approximately the same part of the East Vein is 0.41 oz/tonne Au compared to 0.31 oz/tonne Au, an increase of 32% in the average gold value.

The five ton bulk sample shipped to the Trail smelter in September 1993 graded 0.425 oz/tonne Au, 11.60 oz/tonne Ag, 1.20% Cu, 18.4% Pb and 9.6% Zn.

**Big Showing** - The Big Showing is the most important zone of mineralization presently known on the property. Gale (1994) considers that it was not properly tested in the 1963-64 drilling program. The Big Showing trends N to N20 degrees east and appears to dip almost vertically. It may represent a vertically plunging pipe occurring at a sharp bend in the East Vein. The best drillhole orientation to test it would be 45° to 60° dipping holes in the direction N45 degrees west rather than the SW45 degree orientation chosen for holes 63-6, 64-8 and 64-9. Possibly the NW orientation was not chosen in 1963-64 because this would mean drilling parallel to the schistosity of the country rocks which would make drilling and control of the hole orientation difficult. However, holes in the SE-NW orientation should be tried in order to get the best cross section of the Big Showing.



Should the Big Showing continue to depths of 400 to 500 feet (121.92m-152.40m) without diminishing in size or grade it could in itself constitute a deposit which is mineable underground.

**The East Vein** if taken to include the Big Showing has a demonstrated strike length, with offsets of about 300 feet on the surface, and it appears that it may be offset once again 50 to 100 feet east and southeast of the Big Showing, as intersected in drillholes 64-3, 64-4 and 64-5. At the latter point, the vein is still open to extension to the south of these diamond drill hole intercepts. The East Vein is also open to extension to the NW at its northern end may be represented by the Dunbar Vein.

**The Dunbar Vein** outcrop has a similar appearance and orientation as the Big Showing. The best result from previous surface sampling is 8.0 feet grading 0.16 oz/ton Au, 17.82 oz/ton Ag, 32.7% Pb and 8.8% Zn. The Dunbar Vein has never been drilled and should be tested by drilling in 1994.

**The West Vein** appears to be a thinner, lower grade and less continuous split from the East Vein. The west Vein probably merges with the East Vein to the north of the Big Showing.

The East Vein has a proven depth extent of at least 150 feet and is open to extension at depth. Better gold values comparable to the new surface and bulk sampling results are possible if better core recovery and larger sample size can be obtained by new drilling. There is a good chance that a mineable deposit can be proven up with the combined tonnages of the East vein and Big Showing.

**The Vimy Ridge Stratabound Zone** is a lower priority target for drilling on the Teddy Glacier property. It is located about 3,000 feet southeast and 1,000 feet lower in elevation from the East Vein Zone. It was originally discovered by K. Sanders for Teddy Glacier Mines Ltd. in 1963-64.

Near the southeast end of the northwest trending ridge a seven foot square pit is excavated on a flat south dipping 12 inch thick layer of massive galena-pyrite-chalcopyrite in silicified limestone at a schist-limestone contact. The schistose rocks above the altered zone are cut by a network of east to northeast trending quartz-sulphide veinlets which coalesce to form a layer of sulphides along the limestone contact. A sample taken by Sanders across 12 inches assayed 0.03 oz/tonne Au, 10.70 oz/tonne Ag, 16.2% Pb, 5.55% Zn and 0.75% Cu.

Another 150 feet SE down along the ridge, a 15 by 15 foot trench discloses a three foot thick flat silicified layer with variable sulphides which dips off to the NE and SW at either side of the pit. The mineralization is very similar to that in the pit 150 feet NW and probably represents the same layer of mineralization. Sanders sample over 36 inches in the second trench assayed 0.03 oz/ton Au, 17.00 oz/ton Ag, 27.65% Pb, 4.15% Zn and 0.35% Cu.

One hundred feet further SE an outcrop of bluish silicified limestone is exposed near the access road. No sulphides are exposed here in this small area, but the alteration is entirely similar to that associated with mineralization in the two exposures higher up the hill and may represent part of the same altered horizon.

The Vimy Ridge replacement zone appears unusual in comparison to other showings in the Camborne area. Gale (1993) considered it to be a stratabound sulphide deposit associated with silicified limestone along the axis of a NW trending fold. The present

showings are small but the mineralization is open to expansion in all directions. This mineralized zone deserves shallow vertical diamond drilling in the immediate area of the pits, with extension outward if the first drilling is successful.

**Prospecting Program**

Assessment Report 17436 by L. McAtee, April 1988, notes the occurrence of five significant showings one to two miles north and south of the Big Showing which require further investigation, sampling and mapping. This prospecting program should be carried out with the drilling program on the Big Showing and East Veins.

McAtee's showings and sample results are as follows:

**TABLE 9-1  
MCATEE SAMPLE RESULTS**

<b>Sample No.</b>	<b>Description</b>	<b>ppm Au</b>	<b>ppm Ag</b>	<b>ppm Pb</b>	<b>ppm Zn</b>	<b>ppm Cu</b>	<b>% Fe</b>
2201	Grab - 1-10 cm quartz-pyrite boulders	2,100	3.0	409	29	105	9.6
2209	Grab - Gossan-pyrite	77	1.1	151	75	103	47.9
2210	5-7 cm quartz-pyrite veins	54	6.5	1,238	77	164	8.8
2220	10-30 cm float fragments	1.0	21.7	13,663	301	3,781	1.1

## 10.0 DEPOSIT MODEL CONSIDERATIONS

### 10.1 Concept, Deposit Types

The Teddy Glacier deposit is a clear example of polymetallic veins containing Ag-Pb-Zn-Cu±Au hosted by metasediments (Lefebure and Church, 1996). Polymetallic veins are characterized by sulfide-rich veins containing sphalerite, galena, silver and sulphosalt minerals in a carbonate and quartz gangue. These veins can be subdivided into those hosted by metasediments and another group hosted by volcanic or intrusive rocks. The latter type of mineralization is typically contemporaneous with emplacement of a nearby intrusion.

Lefebure and Church (1996) list the following general characteristics of polymetallic veins:

Metasediment hosted veins are emplaced along faults and fractures in sedimentary basins dominated by clastic rocks that have been deformed, metamorphosed and intruded by igneous rocks. Veins postdate deformation and metamorphism.

Polymetallic veins are typically steeply dipping, narrow tabular or splayed veins and commonly occur as sets of parallel and offset veins. Individual veins vary from centimetres up to more than 3m wide and can be followed from a few hundred to more than 1000m in length and depth. Veins may widen to tens of metres in stockwork zones.

Compound veins with a complex paragenetic sequence are common. A wide variety of textures, including cockade texture, colloform banding and crustifications and locally drusy. Veins may grade into broad zones of stockwork or breccia. Coarse grained sulphides as patches and pods, fine grained disseminations are confined to veins.

Macroscopic wall rock alteration is typically limited in extent (measured in metres or less). The metasediments typically display sericitization, silicification and pyritization. Thin veining of siderite or ankerite may be locally developed adjacent to veins.

Regional faults, fault sets and fractures are an important ore control; however, veins are typically associated with second order structures. Significant deposits are usually restricted to competent lithologies. Dykes are often emplaced along the same faults.

## 11.0 MINERALIZATION

### 11.1 Mineralization

The variety of mineralization on the Teddy Glacier Property has been well described by previous workers including Gale (1994), Sullivan (1963) as quoted in Section 8.2 and Section 9.3 of this report and various government personnel from the 1930's as documented in the Annual Minister of Mines Reports (listed in the references to this current report).

#### 11.1.1 Metallic Minerals

Samples of typical mineralization were collected by the author on August 28, 2004 (see Section 10 – Assay Certificates starting on page 24) returned assays up to 1.88 oz/ton gold (64.5 ppm Au, sample #2) by Fire assay – gravimetric finish (conversion factor 34.286ppm = 1 oz/ton). This sample was screened for metallics and the +100µm fraction assayed 1235 ppm gold (36.02 oz/ton Au) which suggest there is considerable gold in the coarser fraction. Further metallurgical testing is required to follow up the possibility of coarse gold in pyrite. A polished section was prepared of the reject portion to determine the association of the gold; results were inconclusive, further polished thinsections are recommended. This high gold result is from a grab sample of abundant pyrite on the main dump in front of the Upper Portal. The East Vein and Big Showing mineralization was observed to have a strong mineralogical zoning as follows:

- a) Abundant pyrite on the east side
- b) then galena-rich section
- c) then sphalerite-rich section
- d) then on the west side dominated by sparsely mineralized quartz/siderite.

Overall recoveries in the metallurgical test work performed by J. W. Britton, P. Eng. in 1963 indicated “about 70% of the gold and 85% of the silver could be recovered with the lead and copper concentrates. Even better results should be obtained when treating fresh ore. It may also be possible to recover some of the gold and silver which reports with the pyrite” concentrate. Britton (1963) reported overall recoveries in total rougher and concentrates to be Au – 97.0%, Ag – 99.3%, Cu – 99.7%, Pb – 99.3%, Zn – 99.9% and pyrite 98.0% Tests showed that 70% of the gold and 60% of the silver in the pyrite concentrate could be recovered by cyanidation. In light of the high gold result obtained by the author on the pyrite-rich sample, further metallurgical work on the pyrite fraction of any concentration method is advisable. Two samples from the Big Showing, one being abundant in galena with lesser sphalerite and the other being equal in abundance of sphalerite and galena (Samples #3 and #4) assayed 22.90 oz/ton Ag (785 ppm Ag) and 20.04 oz/ton Ag (687 ppm Ag), respectively. Apparently no polished sections were done by Britton for the 1963 work.

A grab sample at the Vimy Ridge trenches, approximately 1.5 km south east and 300m below in elevation from the Main Showing, assayed 7.23 oz/ton Ag (248 ppm Ag) and 0.082 oz/ton Au (2.8 ppm Au). The mineralization in the Vimy Ridge trenches appeared spotty and discontinuous but more work is justified.

Detail geological mapping at a scale of 1"=20 feet was completed in 1963 and 1964 by K. Sanders, P.Eng. as reported by J. Sullivan, P.Eng. in B.C. Assessment Report 546 and presented in several adjoining sheets. The data file of Jazz Resources also has a tiny photo reduction of a geological compilation dated October 1964 at 1"=20 but the full scale drawing is not currently available. A similar composite was produced by R.

Gale dated in 1988 at a scale of 1:500 but only fragments are currently available. All data should be plotted (as a priority item) on an accurate 1:500 or 1:250 basemap with topographic contours. Such a detail map requires either detail photogrammetry or an on ground GPS survey with suitable local control. All outcrops in the vicinity of the vein structures should be mapped and plotted on the accurate basemap.

Additional diamond drilling is required to test the subsurface extent of the vein structures and continuity to the south and east. The present knowledge of the ore reserves is not sufficient to predict with confidence the size of the resource. The quality of the drill information from 1963 and 1964 has been questioned by Gale (1994). A program of 5,000 feet of diamond drilling recovering "N" size core would give a good measure of the possible extent of the vein system and the possible extensions away from the underground workings.

Continued bulk sampling will give an opportunity to investigate the local continuity of the vein system and consistency of metal values. Milling of the mineralized material at the Standard Mill in Silverton will allow characterization of expected metallurgical recoveries and actual experience in transportation options.

### 11.1.2 Net Smelter Considerations

Using current metal prices, available metallurgical testing and previous experience with the Trail Smelter, the following analysis can be approximated for a rough guide on expected returns on the proposed bulk sampling:

Using the following approximate current prices an estimate of the possible Net Smelter Value, not including road building cost, camp cost, mining cost, milling cost and transportation costs is as follows:

Metal Prices:			
Gold	\$410.00 US	x 1.25 =	\$512.50 Canadian
Silver	\$7.08 US	x 1.25 =	\$8.85 Canadian
Lead	\$0.41 US	x 1.25 =	\$0.51 Canadian
Zinc	\$0.468 US	x 1.25 =	\$0.58 Canadian
Copper	\$1.35 US	x 1.25 =	\$1.69 Canadian

It is assumed that a lead and a zinc concentrate would be produced with the copper, gold and silver going into the lead concentrate. Calculations of tonnages and grades of concentrate are as follows:

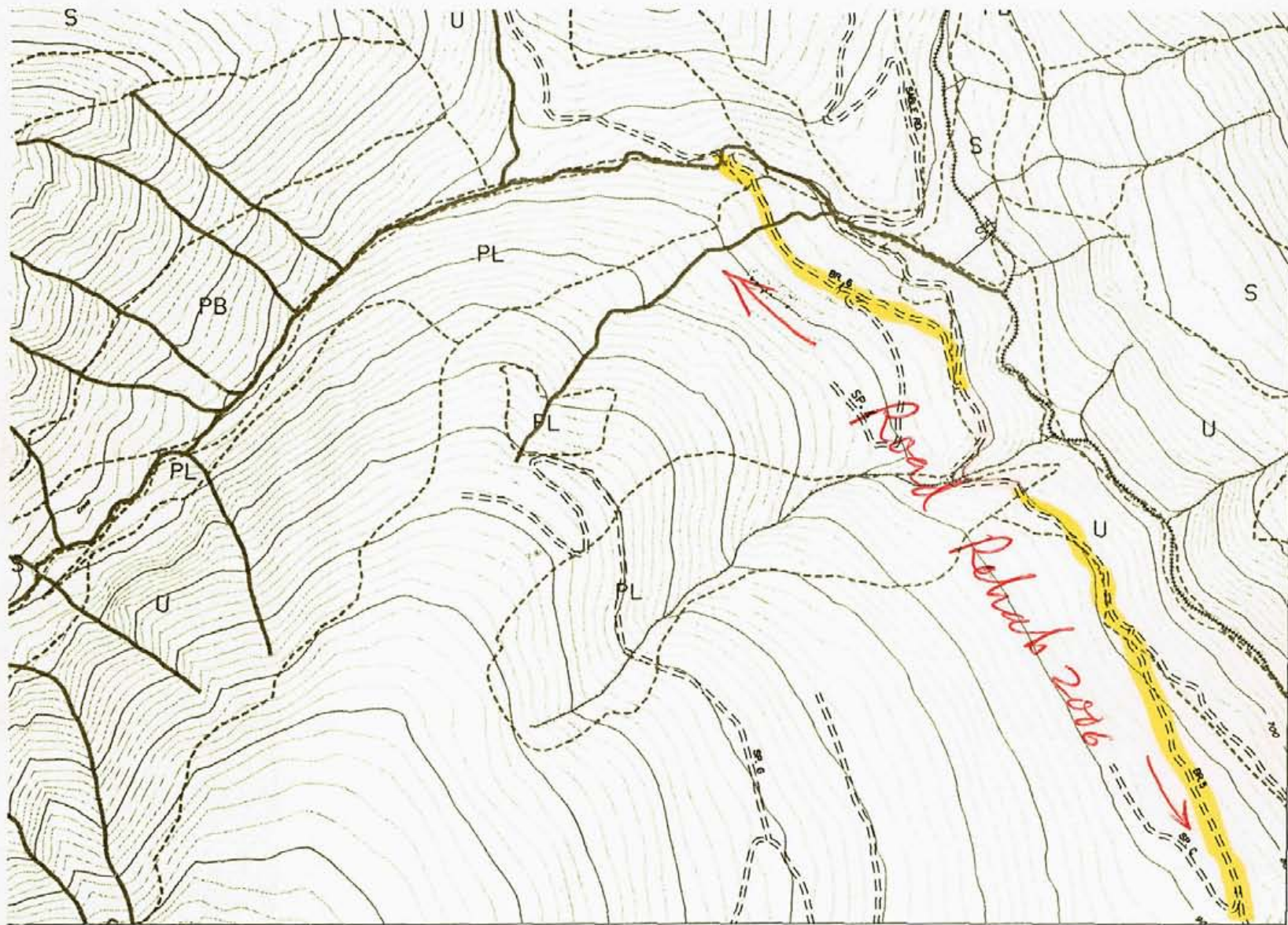
#### (A) Lead Concentrate

Assume a grade of 62% lead in the concentrate and an 87% recovery in milling:  
 12.05% Pb x 85% recov. x 2000 tonnes = 209.67 tonnes of contained lead in the lead concentrate  
 using 209.67 tonne Pb at 62% = approx 340 tonnes of total lead concentrate

Gold in lead Concentrate assuming a 75% milling recovery:  
 0.3 oz/ton approx. x 75% x 2000 tonnes = 450 ounces of contained gold in lead concentrate  
 450 divided by 340 tonnes = 1.32 oz of gold per tonne lead concentrate

Silver in lead concentrate assuming a 70% milling recovery:  
 6.65 oz/ton x 70% x 2000 tonnes = 9310 ounces of contained silver in lead concentrate





- OLD SLOPE FAILURES 
- SLOPE BREAK 
- DRAINAGE DIVIDE 
- TENSION CRACK IN BEDROCK 
- RIDGE 
- SLIMP 

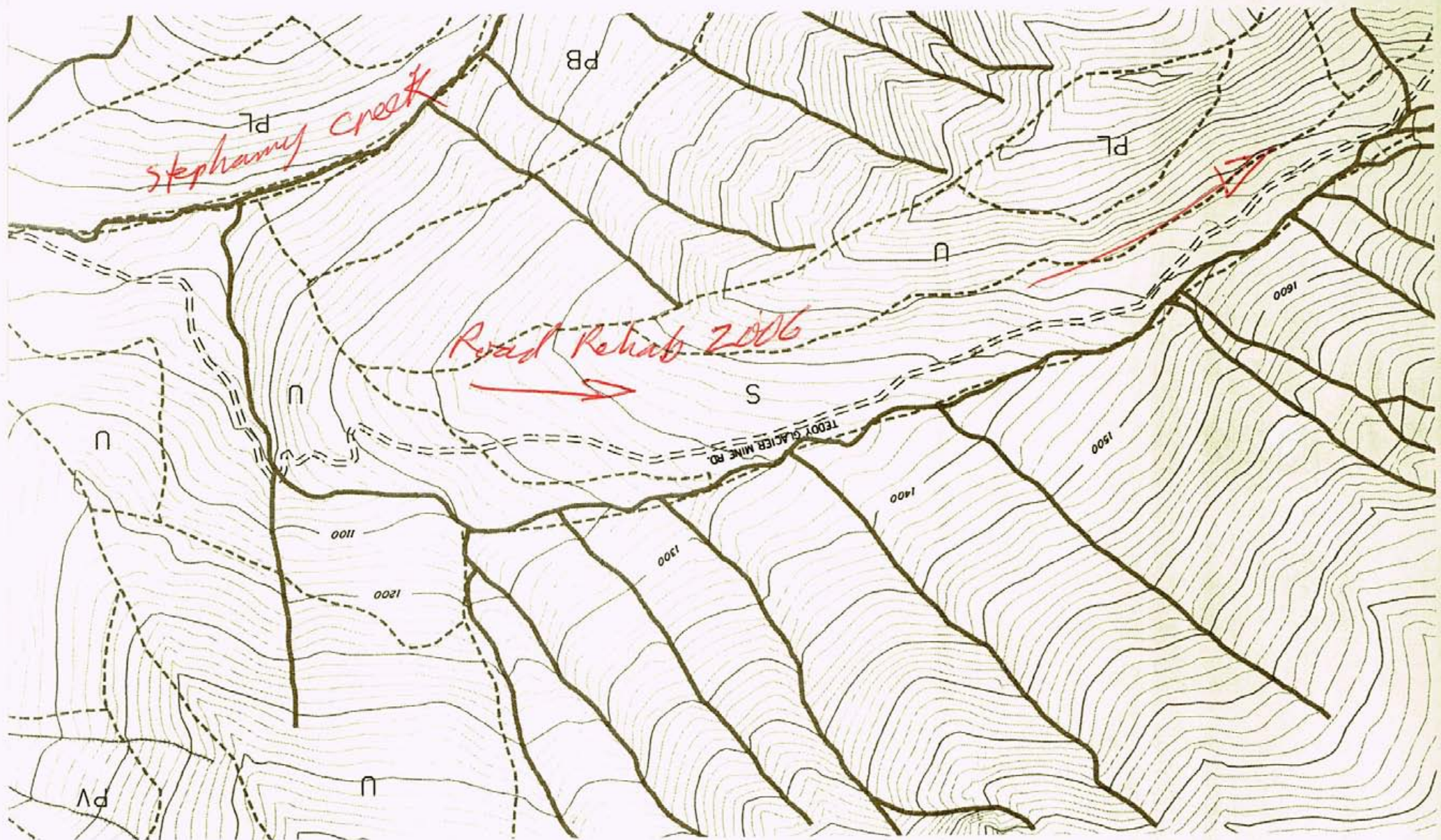
- RIPARIAN CLASSIFICATION CREEKS**
- CONFIRMED FISH BEARING 
  - SUSPECTED FISH BEARING  COMPUTER GRADIENT
  - CONFIRMED NON-FISH BEARING 
  - SUSPECTED NON-FISH BEARING  COMPUTER GRADIENT
  - SUSPECTED NON-FISH BEARING  FIELD GRADIENT
  - SUSPECTED NON-FISH BEARING  FIELD GRADIENT
  - STREAM REACH BREAK 
  - STREAM CLASSIFICATION 

- TERRAIN HAZARD LEVEL "D"**
- S** STABLE: There is a negligible to low likelihood of a landslide following either housing or road construction.
  - P** POTENTIALLY UNSTABLE: Expect to screen areas with a moderate likelihood of landslide erosion following either housing or road construction.
  - U** UNSTABLE: Hazardous lands are present. Expect to screen.



**TEDDY GLACIER  
 TSA ROADS**

PRODUCED BY:			
SCALE: 1:10,000	DATE: AUGUST, 2005	PROJECT: 05-386	DRAWN: TRIPWIRE
W05-386-TeddyGlacier.dgn		CHECKED: WM	
TITLE: <b>SITE PLAN</b>		FIGURE: <b>2</b>	



Stephanny Creek

Road Rehab 2006

TEDDY GLACIER MINE RD.

1100

1200

1300

1400

1500

1600

Pd

Pd

Pd

U

U

U

S

Pd

U



9310 divided by 340tonnes = 27.38 oz of silver per tonne of lead concentrate

Copper in lead concentrate assuming a 60% milling recovery:

0.8% (16 ounces) x 60% x 2000 tonnes = 19,200 pounds of contained copper in lead concentrate

19,200 divided by 340 tonnes = 56.47 pounds (8%) copper per tonne of lead concentrate

Approximate smelter payments per tonne lead concentrate after smelter deductions:

1240 pounds lead x \$0.51 per pound .....	\$632.40
1.32 ounces gold x \$512.50 per ounce .....	\$676.50
27.38 ounces silver x \$8.85 per ounce .....	\$242.31
56.47 pounds copper x \$1.69 per pound .....	\$95.43
Sub-total before deductions	\$1,343.64

Approx. Smelter Deductions as per previous bulk sample  
and adjusted for inflation.....\$46.08

Less base treatment charge  
(adjust for inflation and needs to be updated)..... \$277.56  
Net Smelter, per tonne \$1,373.00

#### (B) Zinc Concentrate

Assume a grade of 65% in the concentrate and an 80% recovery in the milling:

13.25% x 80% x 2000 tonnes = 212 tonnes of contained zinc in concentrate

212 tonnes at 65% Zn = approx 325 tonnes of total zinc concentrate

Approximate smelter payments per ton zinc concentrate after smelter deductions

1300 pounds zinc x \$0.58 per pound .....	\$754.00
Smelter Deductions (as per previous bulk sample).....	\$46.08
Less base treatment charge (needs to be updated) .....	<u>\$370.00</u>
Net Smelter, per tonne	\$337.97

Combined value Lead and Zinc concentrates:

Lead \$1,373.00 x 340 tonnes = .....	\$426,820.00
Zinc \$337.92 x 325 tonnes =.....	<u>\$109,824.00</u>
Total Net Smelter Value Pb/Zn conc.	\$576,644.00

#### (C) Pyrite Concentrate to be Recovered by Cyanidation at Milling Facility

20.2% x 90% x 2000 tonnes = 420 tonnes of contained pyrite by weight

0.41 oz/tonne Au x 420 tonnes concentrate x 70% recov. = 120.5 ounces of gold

2.8 oz/tonne Ag x 420 tonnes concentrate x 60% recov. = 705.6 ounces of silver

Approximate value of \$61,756.00 gold and \$6,244.00 silver = ..... \$68,000.00 Canadian

(as per Britton, 1963, suggesting the gold reporting to the pyrite concentrate could be ground finer and report to the lead and copper concentrate).

Total approximate value of Lead, Zinc and Pyrite concentrates is about \$644,644.00

Canadian funds for a 2000 tonne bulk sample. This does not include road building camp, mining, milling or transportation costs.

New

## 12.0 EXPLORATION 2006

### 12.1 Preamble

In consideration of the present status of Exploration and Development on the Teddy Glacier Project, the focus of Jazz Resources should be on defining the detailed geological environment (principally by detail mapping and detail spatial measurements and bulk sampling). The other focus should be on diamond drilling to generate further mineralized zones.

To this end a program of prospecting, bulk sampling and road rehabilitation was completed in 2006.

### 12.2 Work Program

The 2006 work program confirmed the grade and extent of the Big Showing. Approximately 150 tonnes of high grade mineralization was drilled and blasted. This material was stockpiled near the showing, refer to Figure 12-1. Approximately 3 tonnes were shipped to Nakusp and a representative sample was collected to commence metallurgical testing.

Preliminary metallurgical indicates high flotation recoveries (>90%) at a head grade of 39.7% Pb, 8.0% Zn, 490.2 g/t Ag and 8.0 g/t Au. (Hawthorne, 2006)

The 2006 work program confirmed the grade of the Big Showing. Approximately 150 tonnes of high grade mineralization was drilled and blasted. This material was stockpiled near the showing; refer to Figure 12-1. Approximately 3 tonnes were shipped to Nakusp and a representative sample was collected to commence metallurgical testing. In proceeding with a larger bulk sample-testing program, the Issuer must ensure that the stage of work and any reported results are not subject to misinterpretation.

The 3 tonnes shipped to Nakusp was collected from the 150 tonne stockpile by excavating from several parts of the pile. There was no intention of high grading by the excavator operator or the on site supervisor, Jon Stewart who was instructed by the author. The 3 tonnes is deemed to be representative of the 150 tonne blast muck and of the zone immediately adjacent in the Big Showing.

The 3 tonnes brought to Nakusp was sampled randomly and approximately 200 kg was transported to Vancouver. The author collected a representative sample of this 200 kg, of which 30 kg was delivered to West Coast Mineral Testing Inc. (Hawthorne, 2007).

There is a substantial difference between previous sampling of the Big Showing, which from a few samples gave results of 18.4% Pb and less than 298 g/t (11.6 oz/t) silver (Gale 1993 & 1994). Preliminary metallurgical indicates high flotation recoveries (>90%) at a head grade of 39.7% Pb, 8.0% Zn, 490.2 g/t Ag and 8.0 g/t Au. (Hawthorne, 2006).

It appears that the 30kg sample is approximately twice as abundant in Galena as previous samples with an accompanying increase in silver content. This may be due to a galena rich portion of the Big Showing being sampled or that some unintentional high grading occurred during sample collecting. Future sampling campaigns will need to employ duplicate samples and blending. Mineralogically, the Big Showing is not complicated, since there are essentially only 3 sulphide minerals.

New

Hawthorne quotes "The galena, sphalerite and pyrite are very coarse grained, so liberation ought not to be an issue" (Hawthorne 2007); and "The close relationship between the deportment of Pb, Au and Ag will produce a high grade lead concentrate with significant precious metal content".

The road rehabilitation consisted of 5.6 km and averaged 3.5m wide (see report by W. Miller, Sitkum Geotechnical Consultants).

**12.3 Bulk Sample Considerations**

The author has had extensive experience with bulk sample mining in British Columbia.

The following Bulk Sample projects, among others, were under the direct supervision of J. T. Shearer and each project delivered 5,000 or greater tonnes for industrial size trials:

- 1) Monteith Bay Resources, 1995, 10,000 tonnes of high grade silica to the Lehigh Cement Plant from a greenfields site on Vancouver Island that subsequently was put into production in 1998 (and currently still is in production).
- 2) I.G. Machine & Fibers, 1999, 5,500 tonnes of limestone from Slesse Creek area to the IKO Pacific roofing product plant in Sumas, Washington.
- 3) Electra Gold Ltd., 2000-2003, 110,000 tonnes of chalky geyselite to Ash Grove Cement in Seattle (Property currently in production for the last 2.5 years).
- 4) Sechelt Industrial Minerals Inc., 2005, 5,500 tonnes of high grade magnetite to Ocean Construction Aggregates from Sayward to Mitchell Island, Vancouver for super-heavy concrete.

I am currently consulting to the I.G. Machine & Fiber Granule Plant in Ashcroft (since 2001) in charge of the Mine Plan and all drill/blast/crush functions for a 500,000 tonne per year granule operation. I am also responsible for all mining functions (drill/blast/crush/truck/load/barge) for the Electra Gold Ltd. 120,000 tonne per year chalky geyselite operation in Port Hardy since 2000.

I am intimately acquainted with current drill/blast/excavate costs (both machine and explosive) in remote locations in British Columbia. I am personally acquainted with numerous drill/blast/crash contractors that could be suitable to be engaged to complete the Bulk Sample program recommended for the Teddy Glacier Project. The Teddy Glacier bulk sample program is envisaged as a narrow slot open-cut, similar to an expanded trenching program, therefore no underground mining is expected. A suitable sized excavator can dig 9m in one pass and can reach up to 12m by simple benching. A general itemization of the \$12.50 mining costs is as follows:

(A) Equipment: Airtrac or equivalent for blast hole drilling and excavator to muck out and stockpile ready for loading Trucks	
(1) Drilling: 6 days at \$1,500/day, 800 ft. of drilling per day	\$9,000.00
(2) Explosives	\$4,000.00
(3) Excavator: CAT225 or equivalent, such an excavator can reach to over 9m	
(a) Site prep, \$1,500/day x 2 days	\$3,000.00
(b) Mucking out & Stockpile, \$1,500/day x 6 days	\$9,000.00
	\$25,000.00

New

The size of the Big Showing is 1.5 to 2.44m over a strike length of 90m with a depth to the old underground workings of 9m.

A simple volume using 1.5m width x 90m strike x 9m deep = about 1,200 cubic metres minus the 1993 work (12.2m x 2.0m x 3.66m = 90m<sup>3</sup>) = approximately 1100 cubic metres. The Specific Gravity of the raw rock is about 4.0 which approximates 4400 tonnes. This type of calculation is, in my Bulk Sample experience, valid for the purpose of producing 2,000 tonnes. This type of calculation is of course not valid for long term mining purposes or to the CIM standard. Bulk sampling for metallurgical and logistical experience is a valid exploration tool and is not related to ore reserve estimation.

### **13.0 PREVIOUS DIAMOND DRILLING**

Is outlined in the History Section, 8.0.

### **14.0 SAMPLING METHODS and APPROACH**

Geology, prospecting and sampling work in the 2006 program was aided by using GPS locations at key sites.

Jazz Resources personnel collected rock chip samples by chipping across the width of the outcropping veins or structure in such a manner as to not duplicate any particular portion of the vein in order to mitigate against biasing or "high grading" the sample. The rock chips were placed in the standard heavy gauge plastic bags which were sealed using zip straps. The samples were also numbered in accordance with their station location so that for future reference or field observations could be made by a person other than the sampler. The person could readily return to the exact location where the sample was originally collected. The samples were transported directly from the field to the laboratory by Jazz Resources personnel under a chain of custody form listing the samples by number and the analyses to be performed.

### **15.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY**

Samples collected in 2006 were transported directly from the property by J. Stewart, under the supervision of J. T. Shearer, M.Sc., P.Geol to Chemex Labs in Vancouver. The ICP assay involves the digestion of 0.500 grams of the sample with 3ml of 3-1-2 HCl-HNO<sub>3</sub>-H<sub>2</sub>O acid at 95°C for one hour. This sample is then diluted to 10ml with water. Each batch of 15 samples were re-run by the Lab with standards inserted each 30 samples. Sample preparation, analyses and security of the work prior to 2006 is unknown. Sample results for the 2006 program are contained in Appendix I.

### **16.0 DATA VERIFICATION**

No verification of the historic analytical work or drillcore descriptions is possible for the historic work since the samples and core has long ago been disposed.

### **17.0 ADJACENT PROPERTIES**

No relevant data not already discussed in Section 8.0.

### **18.0 OTHER RELEVANT DATA AND INFORMATION**

New

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	<hr/>
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### **17.0 ADJACENT PROPERTIES**

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### **18.0 OTHER RELEVANT DATA AND INFORMATION**

No other relevant data is believed to exist and the data discussed in this report is an accurate portrayal of the property's potential.

## 19.0 INTERPRETATION and CONCLUSIONS

Based on the evidence in reports, discussions with those noted, secondary data sources, experience and professional geological and marketing judgement. It is my opinion that the Teddy Glacier Project constitutes a property of merit and justifies further work to explore for commercial gold and polymetallic opportunities. Samples of pyritic mineralization collected by the author on August 28, 2004 assayed up to 1.88 oz/ton gold (64.5 ppm Au), which suggest a strong correlation of gold with massive pyrite. This type of mineralization has not been investigated in the past.

A program of Phase I bulk sampling of the Big Showing down to the level of the underground workings is recommended to be done in summer 2007. This bulk sample will provide the hands on experience of small scale mining in this rugged alpine terrane.

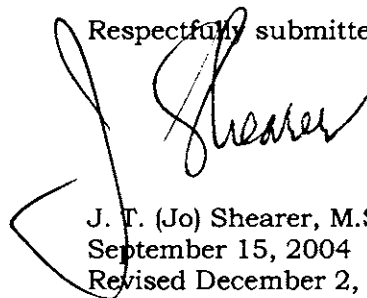
A contingent program of diamond drilling of the East Vein-Big Showing is warranted, subject to favourable results from the Phase I Bulk Sample Program, with the expectation that higher gold values might be found with larger, more representative samples. Additional diamond drilling is required to test the subsurface extent of the vein structures and continuity to the south and east. The present knowledge of the ore reserves is not sufficient to predict with confidence the size of the resource. The quality of the drill information from 1963 and 1964 has been questioned by Gale (1994). A program of 5,000 feet of diamond drilling recovering "N" size core would give a good measure of the possible extent of the vein system and the possible extensions away from the underground workings. The Big Showing has the potential to support underground mining if it maintains its size and values to depth. The Dunbar Vein resembles the Big Showing in orientation and grade. Although the vein apparently was not found in the underground work beneath the general area of the outcrop, diamond drilling to test depth continuity is required.

The vein intercepts in diamond drill holes 64-3, 64-4 and 64-5 may represent extensions of the East Vein and/or Big Showing to the south. This area and the area to the south of it should be drilled in 2006 to determine the true grade and extent.

It is anticipated that the Phase I Bulk Sampling work would take 4 months to complete starting in June 2007. Depending on favourable results the Phase 2 Drilling Program totalling 1,200m (4,000 ft.) of NQ drilling could begin as early as August 2007.

It is strongly recommended that this Bulk Sample program be carried out in 2007. If the average gold grades in the veins prove to be in the 10.29 to 13.71 g/tonne Au (0.3 to 0.4 oz/ton Au) range, the Teddy Glacier Veins could develop into a mineable reserve at current gold values of over \$600.00 US per ounce.

Respectfully submitted,



J. T. (Jo) Shearer, M.Sc., P.Ge.  
September 15, 2004  
Revised December 2, 2006



## 20.0 RECOMMENDATIONS and BUDGET

### 20.1 Preamble

An exploration program is recommended as follows:

Geological compilation, mapping and all previous work to common scales, Phase 1 Bulk Sample, establish camp facilities, ATV and limited helicopter support, re-establish grid, continued environmental baseline studies, and Diamond drilling, road upgrades will be required for bulk sampling. Preliminary work to recover data and conduct mapping at the Spider Mine is also recommended

### 20.2 Budget

Phase I	Bulk Sample, Road Upgrading, Test Milling		
	Bulk Sampling, 2,000 tonnes @ \$12.50/tonne	25,000.00	
	Excavating Load-out	15,000.00	
	Trucking to Lower Elevations, 20 tonne CAT Wagons	37,500.00	
	Truck to Silverton Mill, 150km one way, 40 tonne truck and trailer	36,000.00	
	Milling 2,000.00 tonnes	80,000.00	
	Continue road upgrade, 3.5 km of permanent deactivation	20,000.00	
	Upper Road work	34,000.00	
	Geotech Study for Road reactivation permit	2,500.00	
	Characterization & studies of mineralization using G. Hawthorne Research Labs	10,000.00	
	Consulting, supervision & reports & Permitting Spider Program	20,000.00	
	Geological Mapping	5,000.00	
	Update Mine Drawings	10,000.00	
	Footbridge across Poole Creek	10,000.00	
	Report Preparation	5,000.00	
	Geological Mapping	8,000.00	
	Detail Basemap	12,000.00	
	<b>Total Phase 1</b>	<b>\$330,000.00</b>	<b>\$330,000.00</b>
Phase 2	Contingent on favourable results from Phase 1		
	Geological mapping	10,000.00	
	Grid establishment and reconnaissance sampling	12,000.00	
	Planning, selection and site confirmation, camp	15,000.00	
	Compilation, digitization	6,000.00	
	Characterization and studies of minerals	5,000.00	
	Consulting, supervision and reports	12,000.00	
		<b>\$60,000.00</b>	<b>\$60,000.00</b>
	Diamond Drilling & supervision all in cost, 4,000 ft @ \$40 (includes drill moves and consumables)	160,000.00	
	Characterization and studies of mineralization and assaying	12,000.00	
	Consulting, supervision and reports	12,000.00	
	Access Road Opening & Excavator standby	56,000.00	
		<b>\$240,000.00</b>	<b>\$240,000.00</b>
	<b>Total Phase 2</b>		<b>\$300,000.00</b>
	<b>Grand Total Phase 1 and 2</b>		<b>\$630,000.00</b>
	Smelter charges and transport to smelter are not included		

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## 22.0 DATE and SIGNATURE

Date

Nov 15/06

Geological, Prospecting and Bulk Sampling  
Assessment Report on the  
Teddy Glacier Property

31

  
J.T. (Jo) Shearer, M.Sc., P.Geo.

November 15, 2006

## 23.0 CERTIFICATE of AUTHOR

I J. T. (Jo) Shearer, of Unit 5 – 2330 Tyner St. Port Coquitlam, BC, V3C 2Z1, do hereby certify that:

1. I am an independent consulting geologist and principal of Homegold Resources Ltd.
2. My academic qualifications are:
  - Bachelor of Science, Honours Geology from the University of British Columbia, 1973
  - Associate of the Royal School of Mines (ARSM) from the Imperial College of Science and Technology in London, England in 1977 in Mineral Exploration
  - Master of Science from the University of London, 1977
3. My professional associations are:
  - Member of the Association of Professional Engineers and Geoscientists in the Province of British Columbia, Canada, Member #19,279
  - Fellow of the Geological Association of Canada, Fellow #F439
4. I have been professionally active in the mining industry continuously for over 34 years since initial graduation from university.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I am responsible for the preparation of all sections of the technical report entitled “Summary Report on the Teddy Glacier Property” dated December 15, 2004 and revised. I have visited the Property on August 28, 2004 and several times subsequently and collected representative samples of mineralization. General geological parameters were also examined.
7. I have not had prior involvement with the property, which is the subject of the technical report.
8. That as of the date of the certificate, to the best of the qualified person’s knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
9. I am independent of the issuer, applying all of the tests in section 1.5 of National instrument 43-101.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report. I have read the written disclosure being filed by Totem Minerals Inc. and confirm that it fairly and accurately represents the information in the technical report.

Date

Nov 15/06

J.T. (Jo) Shearer, M.Sc., P.Geo.

**24.0 ASSAY CERTIFICATES**

From  
Previous  
work  
Not for  
Assessment credit



# ALS Chemex

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ALS Canada Ltd.

212 Brooksbank Avenue

North Vancouver BC V7J 2C1 Canada

Phone: 604 984 0221 Fax: 604 984 0218

HOMEGOLD RESOURCES LTD.

JNIT 5, 2330 TYNER ST

PORT COQUITLAM BC V3C 2Z1

Page: 1

Finalized Date: 19-OCT-2004

Account: MWE

## CERTIFICATE VA04068871

Project: Teddy Glacier

P.O. No.:

This report is for 1 Other sample submitted to our lab in Vancouver, BC, Canada on 6-OCT-2004.

The following have access to data associated with this certificate:

JOE SHEARER

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-03	Find Reject for Addn Analysis
BAG-01	Bulk Master for Storage
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um
SCR-21	Screen to -100 um

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-SCR21	Screen Fire Assay Au Ag -100um	WST-SIM
ME-GRA21	Au Ag 30g FA-GRAV finish	WST-SIM
ME-GRA21d	Au Ag 30g FA-GRAV finish - DUP	WST-SIM

To: HOMEGOLD RESOURCES LTD.  
ATTN: JOE SHEARER  
UNIT 5, 2330 TYNER ST  
PORT COQUITLAM BC V3C 2Z1

*From Previous  
Work  
Not for  
Assays Credit*

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: \_\_\_\_\_



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Page: 2 - A  
 Total # Pages: 2 (A)  
 Finalized Date: 19-OCT-2004  
 Account: MWE

Project: Teddy Glacier

## CERTIFICATE OF ANALYSIS VA04068871

Sample Description	Method Analyte Units LDR	ME-SCR21	ME-SCR21	ME-SCR21	ME-SCR21	ME-SCR21	ME-SCR21	ME-SCR21	ME-SCR21	ME-GRA21	ME-GRA21	ME-GRA21d	ME-GRA21d
		Au Total	Ag Total	Au (+) F	Au (-) F	Ag (+) F	Ag (-) F	WT. + Fr	WT. - Fr	Au	Ag	Au	Ag
		ppm	ppm	ppm	ppm	ppm	ppm	g	g	ppm	ppm	ppm	ppm
2		73.3	271	1235	57.3	1135	260	18.62	1356.5	57.0	265	57.6	254



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Page: 2 - C  
 Total # Pages: 2 (A - C)  
 Finalized Date: 13-SEP-2004  
 Account: MWE

Project: Teddy Glacier

**CERTIFICATE OF ANALYSIS VA04058028**

Sample Description	Method Analy:n UNITS LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Ag-AA46	Cu-AA45	Pb-AA46	Zn-AA46	Au/oz/ton	
		Sr ppm	Ti %	Th ppm	U ppm	V ppm	W ppm	Zn ppm	Ag ppm	Cu %	Pb %		Zn %
1		1	0.01	10	10	1	10	2	1	0.01	0.01		
2		36	<0.01	<10	<10	<1	10	>10000	12.75	420	1.34	24.7	7.86
3		21	<0.01	<10	<10	1	10	>10000	8.37	287	1.35	8.86	5.11
4		3	<0.01	<10	<10	1	10	>10000	22.9	785	1.18	23.8	6.30
5		5	<0.01	<10	<10	<1	10	>10000	20.1	687		27.5	22.1
5		50	<0.01	<10	<10	1	<10	>10000	7.23	248		12.55	5.97

Au/oz/ton

0.202  
 1.88  
 0.149  
 0.2087  
 0.082

Pb/Zn+malachite  
 pyrite rich/off main dump  
 Big show of galena  
 sphalerite zone  
 Viny Ridge

ZONING Pyrite on east side  
 then galena  
 then sphalerite  
 then Quat Fz /siderite.





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Page: 2 - B  
Total # Pages: 2 (A - C)  
Finalized Date: 13-SEP-2004  
Account: MWE

3/4

Project: Teddy Glacier

**CERTIFICATE OF ANALYSIS VA04058028**

Sample Description	Method Analysis Units LOH	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Se ppm
1		17.0	<10	5	<0.01	<10	<0.01	27	<1	<0.01	30	20	>10000	>10.0	275	<1
2		19.0	<10	1	0.01	<10	0.04	104	<1	<0.01	220	<10	>10000	>10.0	177	<1
3		16.2	<10	2	<0.01	<10	<0.01	30	<1	0.01	124	10	>10000	>10.0	875	<1
4		5.94	<10	5	<0.01	<10	<0.01	15	<1	<0.01	32	<10	>10000	>10.0	621	<1
5		13.30	<10	4	0.01	<10	<0.01	80	1	0.01	36	130	>10000	>10.0	210	<1

## 25.0 STATEMENT of COSTS for 2006

### Teddy Glacier Project 2006

#### Wages and Benefits

J. T. Shearer, M.Sc., P.Geo., Consulting Geologist 10 days @ \$500/day, June 6, 7, 8, 12, 13, 14, Sept. 7, 8, 9 & 10, 2006	\$ 5,000.00
John Stewart, Prospector 16 days @ \$400/day, June 6, 7, 8, 9, 10, 11, 12, 13, Sept. 7, 8, 9, 10, 18, 19, 20, 21, 2006	6,400.00
Geoff White 8 days @ \$300/day, August 15 to Sept. 10	2,400.00
Jennifer Anderson 8 days @ \$200/day, August 15 to Sept. 10	<u>1,600.00</u>
	\$ 15,400.00
	GST 924.00
	<u>Subtotal \$ 16,326.00</u>

#### Expenses

Transportation	
Truck, 2 Trucks	1,800.00
Fuel	1,309.57
Ferries	83.60
Highway Tolls	30.00
Food & Meals	972.09
Galena Contactors Ltd.	
Supervision	2,600.00
Road Construction to Minesite	
Cat SK507, 271.5 hr. @ \$125/hr.	34,463.35
Excavator EX115, 144 hr @ \$75.25/hr.	10,836.00
Supply & Haul Culverts	3,940.45
Mob & Demob	2,627.18
Blasting	
Drill, PR206, 41.75 hr. @ \$100/hr.	4,175.00
Explosives	822.12
Stripping, Trenching, Loading	
Excavator EX115, 19 hr. @ \$75.25/hr.	1,428.75
Truck - Haul Ore, 8 hr @ \$70/hr.	560.00
Report Preparation	1,000.00
Word Processing & Reproduction	<u>200.00</u>
	Subtotal \$ 66,848.11
	<b>Grand Total \$ 83,174.11</b>

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**Re-construction Plan  
Teddy Glacier Mine Access**

**Jazz Resources Inc.  
Sitkum Project No. 05-389  
September 2005**



Sitkum File No: 05-389

September 18, 2005  
Jazz Resources Ltd.  
Unit 5, 2330 Tyner St.,  
Port Coquitlam, B.C.  
V3C 2Z1

Attention: Mr. Jo Shearer, P.Geo.  
Geologist

**RE: Upgrade Prescription  
Teddy Glacier Mine Access Road**

## **1.0 INTRODUCTION**

Sitkum Consulting Ltd. (Sitkum) was retained by Jazz Resources Ltd. to prepare road upgrade prescription for Teddy Glacier Mine Access Road. The location of the road is approximately 23 km northeast of Beaton, B.C. Sable Creek is a confirmed S-2 fish-bearing stream.

## **2.0 METHODOLOGY**

The road upgrade prescription is intended to bring Teddy Glacier Mine access Road up to a temporary access for a small crawler tractor (D6 size) and to upgrade the ATV access. The prescription was prepared based on field work carried out on August, 19<sup>th</sup>, 2005 by Mr Wayne Miller, P.Geo. of Sitkum. Sitkum was asked to prepare an upgrade prescription for the first 5.15 km of road that crosses potentially unstable and unstable terrain.

Hubs were established along the roads and their locations marked in the field with pink flagging. Points of commencement and termination of the road are marked with a double pink flagging.

## **3.0 DISCUSSIONS AND RECOMMENDATIONS**

The prescriptions for the Teddy Glacier Mine Access are presented in the attached prescription summary tables. Symbols used to designate the various prescriptions in the field and in the prescription summary table are explained in the plan legend and in the following sections.

Prescriptions are tagged in pink in the field and are found in the prescription summary table and the reconstruction plan legend.

### 3.1 Teddy Glacier Mine Access Road

The Point of Commencement of Teddy Glacier Mine Access Road is located at the junction Branch 1 and Branch 5 of Sable Road and is approximately 5.15 km in length. The Point of termination is approximately where the mine access road crosses onto terrain mapped and assessed to be stable. The terrain is benched to irregular with gentle to steep gradient slopes associated with major gully crossings. The terrain is overlain with a variable thickness of colluvium and till. The till is primarily located on lesser gradient slopes with thicker soils while the colluvium is located on slopes with steeper gradients and thinner soils.

The Sable Creek drainage was developed for timber harvesting approximately 20 to 30 years ago, although mining activities date back to the 1930s. Pope and Talbot most recently developed the drainage for timber harvesting, which was ongoing at the time of the field assessment. Most of the road assessed crossed potentially unstable (PL) and unstable terrain (U). The road is estimated to have been deactivated in the late 1990's due to the many slope instabilities located along Sable Road and no recent need for timber harvesting in the near future. Large sections of the road were pulled back, cross ditches established and most of the culverts were removed. The majority of the problems on the Sable Creek Road and associated branch roads are a result of raveling cut slopes, and slumping fill slopes. The majority of the prescription deals with widening sections of the road, cleaning and improving ATV access and bring the road up to a temporary access standard. Much of the road especially in the upper sections has become brushed in and will require moderate to heavy brushing beyond the Teddy Glacier Creek crossing at 4+190.

It is understood from conversations with Mr. Jo Shearer that Jazz Resources only requires access for a small crawler tractor pulling a diamond drill. The drill will be used for exploratory drilling on the Teddy Glacier Mine property. Access is expected to be temporary and the road is to be deactivated once the drilling program is finished. If exploratory drilling proves to be successful, there is the potential for approximately 10,000 tonne of ore to be hauled out for processing. If this should happen then a more comprehensive upgrade prescription of the Mine access road must be completed. Mr Jo Shearer has indicated Jazz resources only require a road width of 3.7 metres for the small crawler tractor and drill unit. It is recommended to use a small excavator (<15 ton size, caterpillar 315 or less) to minimize the amount of excavation for widening of the mine road.

All crossditches inventoried must be restored at the completion of drilling and any sidecast material pulled back while maintaining ATV access.

All inventoried structures have been placed on the prescription plan map except for the stations between 4+190 and 4+740 where existing crossditches are included on the table only due to how close the switchbacks are together.

## Prescription Summary Table

**Road:** Sable and Teddy Glacier Mine Roads  
**Road Section:** Sable, Br 5, Br 6, Teddy Glacier  
**Current Access:** ATV  
**Proposed Access:** Small crawler tractor

**Field Assessment:** August 19, 2005  
**File No:** 05-389  
**Date:** September 12, 2005  
**Prepared by:** Wayne Miller, P. Geo

**Prescription Type:** Road Reconstruction /Deactivation

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	Adverse road grade.	OPP	Old pipe post (legal property marker).
ARMOUR	Armour to prevent erosion.	OS	Out slope road surface.
BD	Blast Ditch line	PFH	Pull back sidecast fill heavy (>4 m ).
BMC	Back up metal culvert with cross ditch and ditch block.	PFL	Pull back sidecast fill light (<2 m ).
BP	Burn pile.	PFM	Pull back sidecast fill medium (2-4 m ).
BPC	Back up plastic culvert with cross ditch and ditch block.	POC	Point of Commencement.
BR	Brush road.	POT	Point of Termination.
BRIDGE	Bridge crossing.	PWD	Pull back woody debris.
BWC	Back up wooden culvert with cross ditch and ditch block.	RB	Remove bridge.
CC	Clean or repair culvert.	RC	Remove culvert.
CD	Clean debris from ditch.	RECON	Recontour to natural slope angle.
CMP	Corrugated metal pipe	RMC	Remove metal culvert and replace with cross ditch and ditch block.
CPP	Corrugated plastic pipe	RND	Restore natural drainage.
CS	Construct swale.	Road % A	Adverse Grade.
DS	Down Slope	Road %F	Favourable Grade.
EC	Existing culvert.	RP	Reference Point
EDL	Existing delineator.	RPC	Remove plastic culvert and replace with cross ditch and ditch block.
EW	Existing waterbar.	RSP	Remove signpost.
EX	Existing cross ditch.	RV	Revegetate.
F	Favourable road grade.	RW	Construct reverse waterbar.
FW	Fill in existing water bar	RWC	Remove wooden culvert.
FX	Fill in existing cross ditch	RWD	Remove windrow.
GR	Grade road.	RX	Remove existing cross ditch.
IBMC	Improve back up cross ditch for a metal culvert.	SB	Switchback.
IBPC	Improve back up cross ditch for a plastic culvert.	SD	Slope distance.
IC	Install culvert.	SM	Resurface road.
ID	Improve ditch line.	SP	Sign post.
IDL	Install delineator post.	SS	Spoil Site.
IRW	Improve existing reverse waterbar.	W	Construct waterbar.
IS	In slope road surface.	WC	Wooden culvert.
ISP	Install signpost.	WR	Widen road.
IW	Improve existing waterbar.	X	Construct cross ditch with ditch block.
IX	Improve Cross Ditch		
JCT	Junction.		
LNG	Landing.		
NWR	No Work Required.		
OD	Offset distance		

STATION HUB #	SYMBOL	INVENTORY	WORK REQUIRED \ COMMENTS
Δ75 0+000	POC		Point of Commencement at switchback of Branch 1.
Δ74 0+024		EWC	Existing wood culvert – widen road to allow access of small cat and drill <b>PHOTO 1</b>
Δ73.5 0+188		JCT	Junction with Spur C
Δ73 0+520	IX		<b>Install skid culvert - use logs wrapped in geotextile filter cloth at S6 stream –flowing.</b>
Δ72.5 0+950		JCT	Junction with branch 5. Start up branch 5
Δ72 0+992	IX	EX	<b>Existing cross ditch. Small S6 stream flowing. Install skid culvert wrapped in geotextile</b>
Δ71 1+058		EX	Existing cross ditch no visible channel -dry
Δ70 1+130		EX	Existing cross ditch no visible channel -dry
Δ69 1+205		EX	Existing cross ditch no visible channel -dry
Δ68 1+258		EX	Existing cross ditch no visible channel -dry
Δ67 1+335		EX	Existing cross ditch no visible channel -dry
Δ66 1+385		EX	Existing cross ditch no visible channel -dry
Δ65 1+433	Start WR		<b>Start widening road to 3.7 metres. PHOTO 2</b>
Δ64.5 1+467			<b>PHOTOS 3 &amp; 4</b>
Δ64 1+565	Rock fill		<b>Install placed rock fill with available rock. Construct bench to build placed rock fill (rock diameter &gt;300mm). Widen road to 3.7 metres to allow access for cat and drill</b>
Δ63 1+615	End WR		End widening of road. End rock material
Δ62 1+650			Large stream crossing. Use rock from west side of gully to construct ford for ATVs and small crawler tractor <b>PHOTO 5</b>
Δ61 1+694	Start WR Rebuild, rock fill		<b>Rebuild slide section with a placed rock fill. Construct bench to build placed rock fill (rock diameter &gt;300mm). Widen road to 3.7 metres to allow access for cat and drill PHOTO 6</b>
Δ60 1+736	End WR		Start of slide section. End widening road
Δ59 1+764		EX	Existing cross ditch - dry
Δ58 1+793	Start WR		<b>Start intermittent widening of road (2.5-3m) widen to 3.7 metres to allow temporary access of small cat and drill.</b>
Δ57.5 1+820			Start of large gully crossing

STATION HUB #	SYMBOL	INVENTORY	WORK REQUIRED \ COMMENTS
Δ57 1+850		EX	Existing cross ditch no visible channel -moist. Old slide area
Δ56.5 1+866			Start into gullied section.
Δ56 1+900		EX	Existing cross ditch - moist
Δ52 1+959		EX	Existing cross ditch. No visible channel -dry. End intermittent widening to 3.7 metres (2.5-3m)
Δ51		EX	Existing cross ditch. No visible channel -dry
Δ50 2+000	Start WR, PFM	EX	Existing cross ditch. No visible channel -dry. <b>Start widening road (pull back section) to 3.7 metres</b>
Δ49 2+050	End WR, PFM		<b>End widening road (2.4-3m). Start pull back section.</b>
Δ48 2+095		JCT, EX	Junction with SP C, Branch 6. Existing cross ditch. No visible channel -dry.
Δ47 2+346		EX	Existing cross ditch. No visible channel -dry
Δ46 2+363		EX	Existing cross ditch. No visible channel -dry
Δ45 2+603		EX	Existing cross ditch. No visible channel -flowing
Δ44 2+673		EX	Existing cross ditch. No visible channel -flowing
Δ43 2+804		EX	Existing cross ditch. No visible channel -dry
Δ42 2+816	Start WR	EX	Start pulled back section of road moderate(2.6m wide). <b>Start widening road to 3.7 metres to allow temporary access of cat and drill.</b> Existing cross ditch. No visible channel -dry <b>PHOTO 7</b>
Δ41 2+842	End WR		<b>End widening of road on pull back section</b>
Δ40 2+881	Stephany Creek Crossing		<b>Stream/creek crossing.</b> Construct temporary ford for cat and drill access. <b>PHOTO 8</b>
Δ39 2+961	WR		Start widening road on slide area. <b>Widen road to 3.7m</b> <b>PHOTO 9</b>
Δ38 2+982	WR		End of slide section. <b>Widen road to 3.7m. Do not side cast.</b>
Δ37 3+012		EX	Existing cross ditch. No visible channel -dry
Δ36 3+108		EX	Existing cross ditch. No visible channel -dry
Δ35 3+178		EX	Existing cross ditch. No visible channel -dry
Δ34 3+277		EX	Existing cross ditch. No visible channel -dry
Δ33 3+331		EX	Existing cross ditch. No visible channel -dry



STATION HUB #	SYMBOL	INVENTORY	WORK REQUIRED \ COMMENTS
Δ32 3+460		EX	Existing cross ditch. No visible channel -dry
Δ31 3+386		EX	Existing cross ditch. No visible channel -dry
Δ30 3+544		EX	Existing cross ditch. No visible channel -dry
Δ29 3+594		EX	Existing cross ditch. No visible channel -dry
Δ28 3+644		EX	Existing cross ditch. No visible channel -dry
Δ27.5 3+665		SB	Switchback
Δ27 3+715		EX	Existing cross ditch. No visible channel -dry
Δ26 3+772		EX	Existing cross ditch. No visible channel -dry
Δ25 3+804	RWD		Small cutslope slump blocking road. <b>Remove debris. PHOTO 10</b>
Δ24 3+854	IC		<b>Install skid culvert wrapped in geotextile at small non-classified drainage -flowing</b>
Δ23 3+902	IC		<b>Install skid culvert wrapped in geotextile at small non-classified drainage -flowing</b>
Δ22 3+934	Start WR		<b>Start widening road through pullback section to 3.7 metres to allow temporary access of cat and drill Road has been pulled back.</b>
Δ21 4+009	End WR, Start PFM	EX	Existing cross ditch. No visible channel - flowing. <b>Start of pull back section. End widening of road to 3.7m wide.</b>
Δ20 4+050		EX	Existing cross ditch. No visible channel - flowing
Δ19 4+081		EX	Existing cross ditch. No visible channel - flowing
Δ18 4+140	Start WR		<b>Start widening road to 3.7 metres of east approach to Teddy Glacier stream crossing with large rock available adjacent to crossing. PHOTO 11</b>
Δ17 4+190	End WR		<b>Teddy Glacier stream crossing. Construct ATV ford and temporary access for Cat and drill. PHOTO 12</b>
Δ16 4+210		EX	Existing cross ditch. No visible channel -dry
Δ15.5 4+218		SB	Switch back
Δ15 4+251		EX	Existing cross ditch. No visible channel -dry
Δ14 4+330		EX	Existing cross ditch. No visible channel -dry
Δ13.5 4+355		SB	Switch back
Δ13 4+383		EX	Existing cross ditch

STATION HUB #	SYMBOL	INVENTORY	WORK REQUIRED \ COMMENTS
Δ12 4+438		EX	Existing cross ditch
Δ11.5 4+445		SB	Switch back
Δ11 4+526		EX	Existing cross ditch. No visible channel -dry
Δ10.5 4+560		SB	Switch back
Δ10 4+625		EX	Existing cross ditch. No visible channel -dry
Δ9 4+672		EX	Existing cross ditch. No visible channel -dry
Δ8 4+720		EX	Existing cross ditch. No visible channel -dry
Δ7.5 4+740		SB	Switch back
Δ7 4+795		EX	Existing cross ditch
Δ6 4+886		EX	Existing cross ditch
Δ5 4+960		EX	Existing cross ditch
Δ4 4+996		EX	Existing cross ditch. Old slide location
Δ3 5+055		EX	Existing cross ditch
Δ2 5+115		EX	Existing cross ditch
Δ1 5+150	POT		Point of termination of geotech assessment. <b>Photo 13</b>

# PHOTOS



**Photo 1**



**photo 2**



**Photo 3**



**Photo 4**



**Photo 7**



**Photo 8**



**Photo 9**



**Photo 10**



**Photo 11**



**Photo 12**





Photo 13

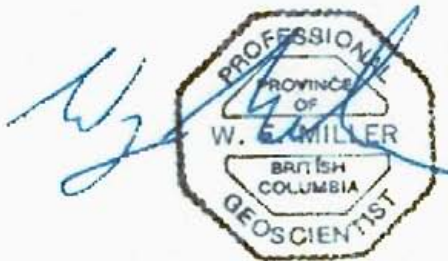
## CLOSURE

Discussions and recommendations presented above are based on a visual site inspection and on additional information provided by Pope & Talbot Ltd. and Mr Jo Shearer, which was reviewed at the time of this assessment. This report has been prepared for use by Jazz Resources Ltd., which includes distribution as required for purposes for which the assessment was commissioned. The assessment has been carried out in accordance with generally accepted geotechnical practice. Geotechnical judgement has been applied in developing the recommendations in this report. No other warranty is made, either expressed or implied.

Sitkum trusts that the information presented above meets your current requirements. If you have any questions, or require further information, please do not hesitate to contact the undersigned.

Yours truly,  
Sitkum Consulting Ltd.

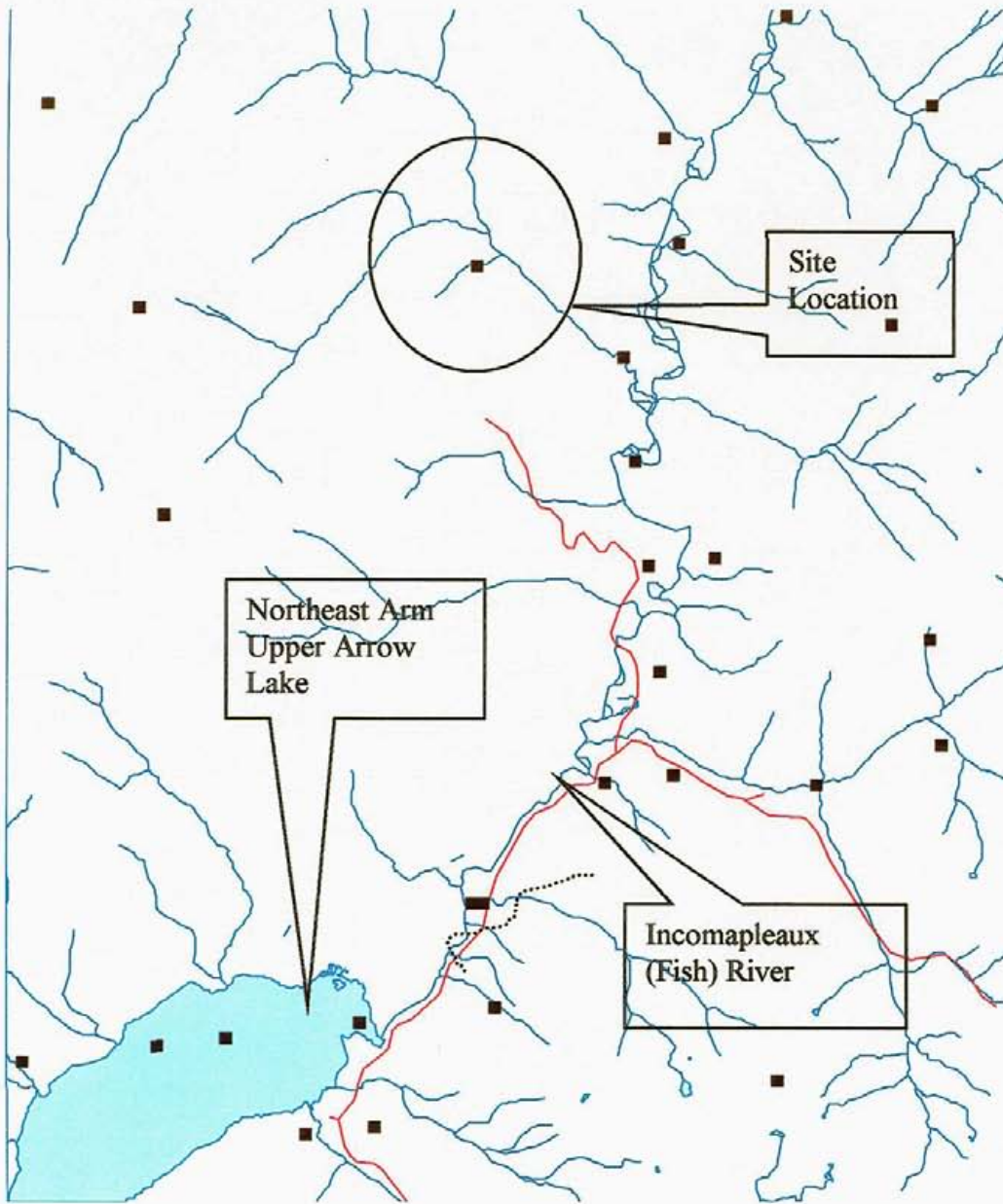
Prepared by:




Wayne Miller, P. Geo.  
Engineering Geologist – Principal

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# Figures



Client		Jazz Resources Ltd.	
Project		Teddy Glacier Mine Road Upgrade Prescription	
Date:	September 17, 2005		Site Location Map
Drawn	W.M.		Figure: 1
Proj. #	05-389		



# Soil and Slope Classification Table

## Soil and Rock Classification

### Course Grained Soils <sup>1</sup> (Cohesionless):

Density	Field Test
Very Loose	Easily excavated with a spade
Loose	Some resistance to spade
Compact	Considerable resistance to space
Dense	Requires pick for excavation
Very Dense	High resistance to pick

### Fine Grained Soils <sup>1</sup> (Cohesive):

Consistency	Field Test
Very Soft	Easily excavated with a spade
Soft	Easily penetrated by thumb
Firm	Readily penetrated by thumb
Stiff	Readily indented by thumb
Very Stiff	Penetrated by thumbnail
Hard	Difficult to indent with thumb

### Rock Strength <sup>1</sup>

Strength	Field Identification
Extremely Weak	Indented by thumbnail
Very Weak	Crumbles under firm blow of hammer; can be peeled with a pocket knife
Weak	Can be peeled by pocket knife (difficult): shallow indents from firm blow of hammer point
Medium Strong	Cannot be scraped or peeled with knife; fractures with single blow of hammer.
Strong	Requires more than one blow of hammer to fracture
Very Strong	Requires many blows of hammer to fracture
Extremely Strong	Can only be chipped by hammer

### Spacing of Discontinuities in Rock <sup>1</sup>:

Spacing	Spacing Width (m)
Extremely Close	<0.02
Very Close	0.02 - 0.06
Close	0.06 - 0.20
Moderately Close	0.2 - 0.6
Wide	0.6 - 2.0
Very Wide	2.0 - 6.0
Extremely Wide	>6.0

### Soil Composition:

Noun	Gravel, sand, silt, clay	greater than 35%
"and"	Silt and gravel, etc	greater than 35%
Adjective	Gravelly, sandy, silty, etc.	20-35%
"Some"	Some sand, some silt, etc.	10-20%
"Trace"	Trace sand, trace silt, etc	1-10%

## Slope Classification

### Soil Drainage <sup>1</sup>:

Drainage Class	Soil Characteristic
Rapidly Drained	Soils are free from evidence of gleying*
Well Drained	Soils are usually free of mottling
Moderately Well Drained	Soils are faintly mottled
Imperfectly Drained	Soils are distinctly mottled
Poor to Very Poorly Drained	Soils are usually strongly gleyed

\*gleying: Soils that are chemically altered from parent material (Grey in colour)

### Soil Thickness <sup>2</sup> (modified):

Thickness	
Blanket	> 1.0 m thick
Veneer	<1.0 thick

### Slope Gradient

Slope Gradient	Percent (%) Range	Degree Range
Flat	<5	
Gently	5-26	4-15
Moderate	26-50	16-26
Moderately Steep	50-70	27-35
Steep	70-90	35-42
Very Steep	90	>42

### Surface Configuration <sup>2</sup> (modified):

Surface Configuration	Relief (metres)
Uniform	<1.0
Slightly Irregular	1.0 - 2.0
Irregular	2.0 - 4.0
Very Irregular	>4.0

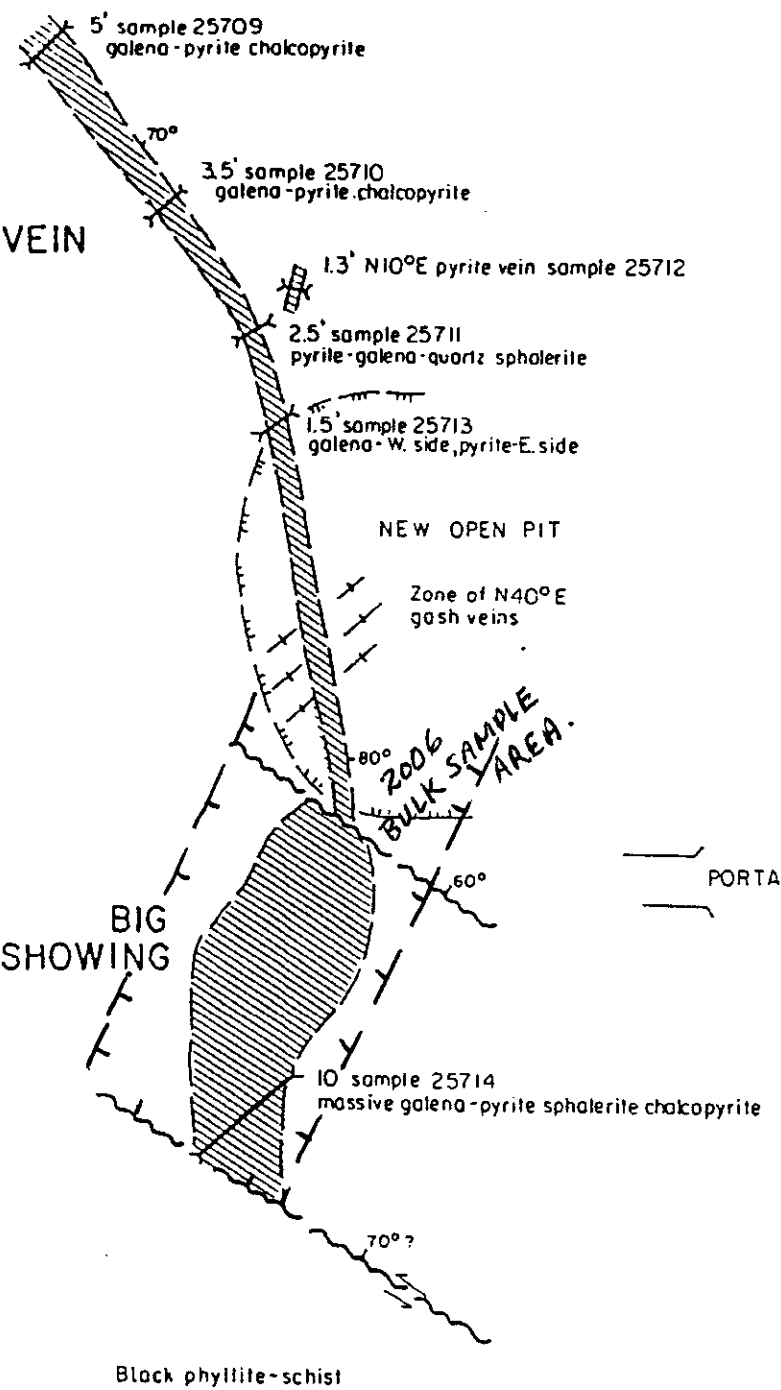
### Slope Shape <sup>3</sup> (modified):

Is based on the overall shape of the slope between distinct slope breaks and includes *concave, convex and straight* and *benched* shapes.

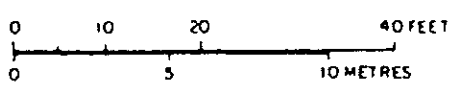
### REFERENCES:

1. Canadian Geotechnical Society, Canadian Foundation Engineering Manual, 3<sup>rd</sup> Edition, *Identification and Classification of Soil and Rock*, 1992.
2. Ministry of Forests, A Guide for Management of Landslide-Prone Terrain in the Pacific Northwest, 2<sup>nd</sup> Edition, *Land Management Handbook #18*, 1994.
3. Ministry of Environment, Terrain Classification for British Columbia, Revised Edition, *Manual # 10*, 1998

EAST VEIN



3' vein - galena - pyrite  
 2' sample galena - part of vein, sample 25715

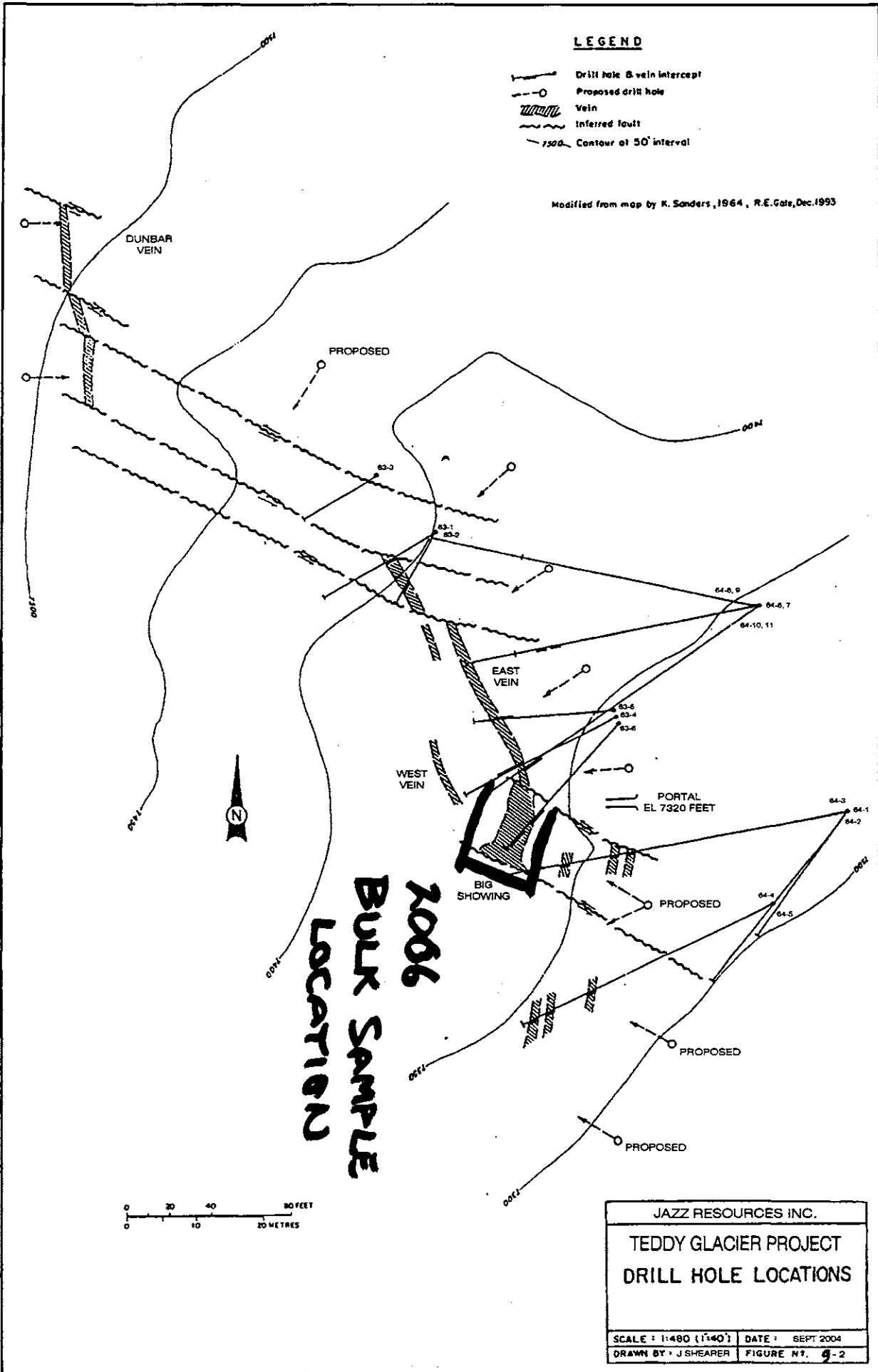


JAZZ RESOURCES INC.	
TEDDY GLACIER PROJECT	
LOCATION OF 1993 TRENCH SAMPLES	
SCALE : 1:240 (1"=20')	DATE : SEPT 2004
DRAWN BY : J SHEARER	FIGURE N <sup>o</sup> . 9-3

**LEGEND**

- Drill hole & vein intercept
- Proposed drill hole
- ▨ Vein
- ~ Inferred fault
- Contour at 50' interval

Modified from map by K. Sanders, 1964, R.E. Gate, Dec. 1993



**7006  
BULK SAMPLE  
LOCATION**



**MINERAL PROCESSING STUDY**

**“BIG SHOWING”**

**TEDDY GLACIER PROPERTY**

**FOR**

**JAZZ RESOURCES**

**VANCOUVER, BC**

**GARY HAWTHORN, P.ENG**

**APRIL 29, 2007**

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<b>2.0 PROCEDURE .....</b>	<b>3</b>
<b>3.0 METALLURGICAL FORECAST.....</b>	<b>5</b>
<b>4.0 OPERATING CONDITIONS.....</b>	<b>5</b>
<b>5.0 OPTICAL MICROSCOPY.....</b>	<b>6</b>
<b>6.0 CONCLUSIONS .....</b>	<b>6</b>

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## 1.0 INTRODUCTION

The writer was provide a high grade sample of gold, silver, lead and zinc mineralization by J. Shearer in late 2006. The 30 kg sample was described as being from a 2006 bulk sample that was collected from the Big Showing zone of the Teddy Glacier Property.

Based upon back-calculated metal grades for the first test, the grade of this sample was as follows.

Metal	Feed Grade
Au – g/t	9.5
Ag – g/t	653
Pb - %	37.4
Zn - %	7.9
Fe - %	14.5
S - %	24.9

Four bench scale flotation tests have been performed to determine the potential to produce separate marketable lead and zinc concentrates.

## 2.0 PROCEDURE

The test criteria were as follows:

- 1.0 Test W-06-31 – Determine the natural partitioning of galena (Ga), sphalerite (Sph), and pyrite (Py) and determine the distribution of silver and gold in the various concentrates.
- 2.0 Test W-06-36 – Investigate the role of zinc sulphate and sodium cyanide in an attempt to reduce the recovery of sphalerite into the galena concentrate.
- 3.0 Test – W-07-02 – Replace the zinc sulphate and cyanide with sodium metabisulphite (NaMBS) with the same objective.
- 4.0 Test – W-07-14 tripled the addition rate of NaMBS in an attempt to improve the Ga / Sph selectivity. Include a zinc cleaning stage.

### Test W-06-31

This test determined the following:

- 73 % of the lead can be recovered into a high grade concentrate grading, 69.4 %, while recovering about 73 % each of the gold and silver at a concentrate grade of 17.5 and 1,232 g/t respectively. This concentrate contained 42.7 % of the zinc that was in the feed.

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- Although the lead concentrate grade was quite good and the contained gold and silver grades in that concentrate were appealing, the high zinc department to that product was undesirable.
- Only a very small portion of the precious metals, at 6.9 and 6.3 % respectively for gold and silver reported to the pyrite concentrate, and at a low concentrate grade, indicating that the vast majority of these metals are not locked in pyrite. Subsequent testing therefore eliminated the pyrite flotation stage.
- The test determined that an undesirable 42.7 % of the zinc is naturally float, so subsequent testing needed to focus on the depression of Sph during lead rougher flotation.
- Although the overall recoveries of all 4 desired payable metals exceeded 90 %, the economics will be diminished by the poor zinc distribution.
- The achieved grind of 73 % - 200 mesh is probably unnecessarily fine, and a finer grind will be checked in the next test.

#### **Test W-06-36**

This test determined the following:

- The addition of 500 g/t of zinc sulphate and 100 g/t sodium cyanide appeared to improve the lead / zinc selectivity somewhat. The use of cyanide frequently improves selectivity as it did in this test, but the transportation and usage of cyanide is undesirable.
- The finer grind of 65.8 % - 200 mesh retained the previous Pb, Au, Ag recovery patterns, but the zinc recovery decreased substantially. The later decrease is probably due to reagent selection and not grind. This was confirmed in the next test.

#### **Test W-07-02**

This test determined the following:

- Although the overall lead and zinc recoveries were all > 90 %, the high tailing grades were determined to be due to high slimes losses. This almost certainly was due to oxidation of the Ga and Sph.
- The stage addition of 1,500 g/t of NaMBS achieved improved Pb / Zn selectivity, but the need for an increased addition is indicated.

#### **Test W-07-14**

At the time of writing this report, one undoubtedly erroneous assay grade is being checked. In spite of this the following can be reported:

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- The stage addition of 4,000 g/t of did not alter the typical 20 % of the zinc that reported to the lead rougher concentrate when using NaMBS.
- The zinc cleaning stage produced a desirable 56.1 % Zn grade with 72.2 % of the zinc reporting to this product.

### 3.0 METALLURGICAL FORECAST

Until, such time as a single assay in the most recent test has been repeated, the forecast metallurgy shown below is uncertain. Note also that the feed grade is very high for all four payable metals, so until the bulk sample is processed, the plant feed grade remains uncertain.

#### Lead & Zinc Metallurgy

Product	Weight %	Assay - %		Distribution - %	
		Pb	Zn	Pb	Zn
Lead Concentrate	38	75	5	80	20
Zinc Concentrate	10	11	56	5	72
Tailing	52			15	8
Feed	100	39	8	100	100

#### Gold & Silver Metallurgy

Product	Weight %	Assay - g/t		Distribution - %	
		Au	Ag	Au	Ag
Lead Concentrate	38	18	1,200	80	80
Zinc Concentrate	10	10	500	10	10
Tailing	52			10	10
Feed	100	39	8	100	100

### 4.0 OPERATING CONDITIONS

The optimum operating conditions are expected to be close to that which has been indicated in this brief study, as follows:

Item	Units	Value	Comments
Grind	% - 200 mesh	Not as fine as 60	
Pb collector -- 3418A	g/t	50	

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Frother – DF 250	g/t	< 50 est.	
Zn depressant - NaMBS	g/t	1,500 – 3,000	Subject to plant optimization
Copper sulphate	g/t	400	Subject to Zn feed grade
Zn collector – SIX	g/t	40	
Lime	g/t	2,000	Py depressant to Zn cleaner circuit

## 5.0 OPTICAL MICROSCOPY

Subsequent to the third test, optical microscopy was performed by Lehne and Associates of Mannheim Germany. The investigation concluded that mineral locking was not an issue, and that the correct selection of depressants at the appropriate feed rate would adequately address improved lead and zinc selectivity.

## 6.0 CONCLUSIONS

The property has no reserves and no resources, so it is difficult to know how well the metallurgical sample reflects the mineable grade of the “Big Showing”. However, the dominant minerals: Ga, Sph, and Py are very coarse grained, so liberation ought not to be an issue.

The close relationship between the deportment of the Pb, Au, and Ag will produce a high grade lead concentrate with significant precious metal content.

Thank you

Gary Hawthorn, p. Eng

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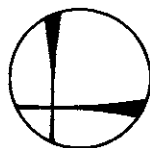
phone: 604-986-8199  
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Ore Microscopical Investigation of Two Zinc Rougher Concentrates.

(TEDDY GLACIER)

07-004B  
07-004C

March 2007 (03-07/30)



**LEHNE & ASSOCIATES**  
**APPLIED MINERALOGY**

## Summary

The following report presents the results of ore microscopical investigations carried out on two zinc rougher concentrates from WESTCOAST MINERAL TESTING INC. of Vancouver. Both samples possess unusually high lead grades.

The concentrates are characterised by predominant pyrite with subordinate amounts of sphalerite and galena, as well as accessory chalcopyrite and traces of gangue. Their differences are restricted to their compositions consisting in different portions of the principle sulphides.

Texturally the samples are relatively coarse-grained and almost identical: Most of the sulphides are fully unlocked. Minor amounts of simple binary lockings are relevant only for those of between sphalerite and chalcopyrite that are the most frequent ones. The surprisingly high galena content can essentially be attributed to fully liberated galena. It is definitely not caused by substantial amounts of locked galena as one could assume in the case of a zinc rougher concentrate.

Mannheim, 10 of March 2007



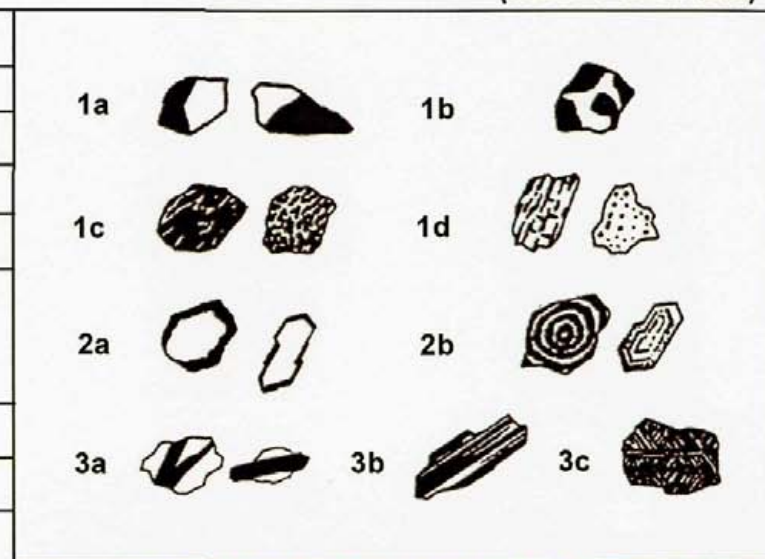
R. W. Lehne



## ORE MICROSCOPY

(TEDDY GLACIER)

<b>SAMPLE</b> 07-004B		<b>TEST</b> W-07-02						
<b>MATERIAL</b> 2 RC, Zinc rougher conc		<b>GRAIN SIZE</b> < 120 microns						
<b>CHEMICAL ANALYSIS</b> 19.5% Pb		17.1% Zn 29.3% Fe						
<b>MINERALS</b>								
<b>Main (&gt;20%)</b>	<b>Subordinate (20 - 5%)</b>	<b>Accessory (5 - 1%)</b>	<b>Trace (&lt; 1%)</b>					
Pyrite (py) Sphalerite (sl) Galena (gn)		Chalcopyrite (cp)	Gangue					
<b>LOCKING TYPES</b>								
<b>1a</b>	<b>1b</b>	<b>1c</b>	<b>1d</b>	<b>2a</b>	<b>2b</b>	<b>3a</b>	<b>3b</b>	<b>3c</b>
x	x	--	x	--	--	x	--	--

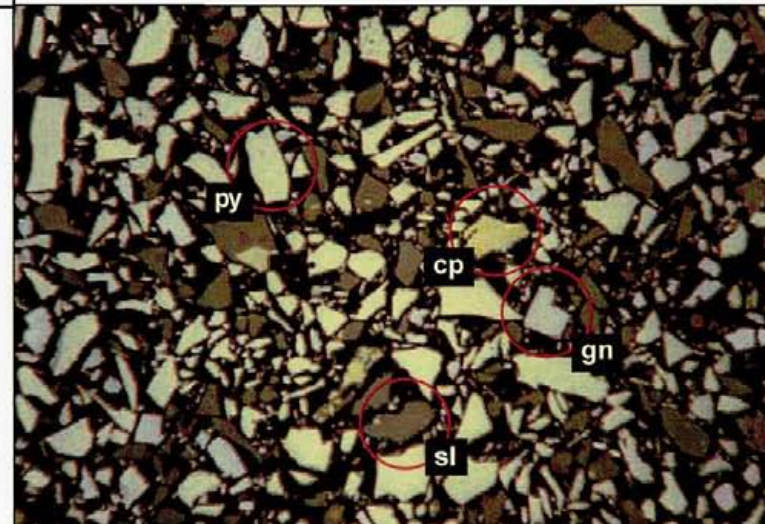
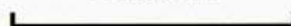


### OBSERVATIONS

The concentrate is composed of predominant pyrite (50 - 55%) with sphalerite (approx. 25%) and galena (approx. 22%), as well as accessory chalcopyrite (< 5%) and traces of gangue.

From the lack of complex mineral textures it can be concluded that the ore is relatively coarse-grained. The sulphide particles are generally unlocked. There is only a minor portion of locked grains that usually appears in the form of simple binary lockings that could be easily liberated by further grinding. Although intergrowth textures of all sulphides can be observed, only lockings between sphalerite and chalcopyrite possess a certain quantitative relevance. The content of fully liberated galena is surprisingly high for a material that is supposed to be a zinc rougher concentrate.

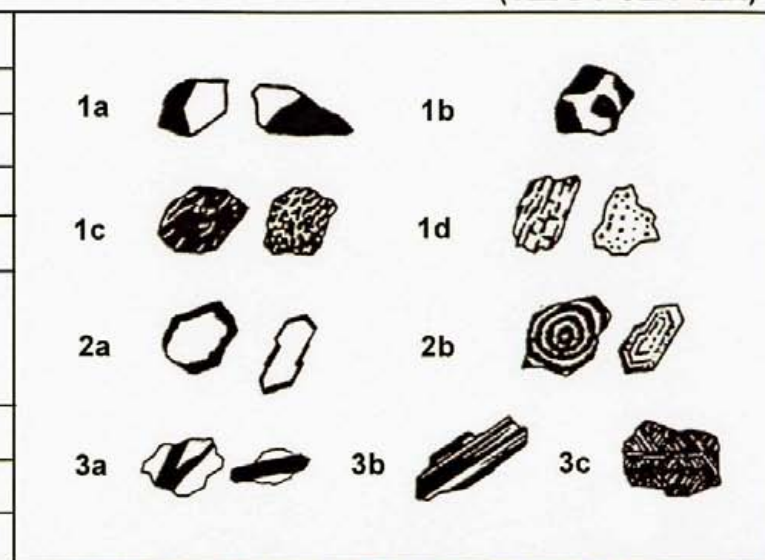
500 microns



## ORE MICROSCOPY

(TEDDY GLACIER)

<b>SAMPLE</b> 07-004C		<b>TEST</b> W-07-02						
<b>MATERIAL</b> 3 RC, Zinc rougher conc		<b>GRAIN SIZE</b> < 20 microns						
<b>CHEMICAL ANALYSIS</b> 14.3% Pb		12.0% Zn 31.3% Fe						
<b>MINERALS</b>								
<b>Main (&gt;20%)</b>	<b>Subordinate (20 - 5%)</b>	<b>Accessory (5 - 1%)</b>	<b>Trace (&lt; 1%)</b>					
Pyrite (py)	Sphalerite (sl) Galena (gn)	Chalcopyrite (cp)	Gangue					
<b>LOCKING TYPES</b>								
<b>1a</b>	<b>1b</b>	<b>1c</b>	<b>1d</b>	<b>2a</b>	<b>2b</b>	<b>3a</b>	<b>3b</b>	<b>3c</b>
x	x	--	x	--	--	x	--	--



### OBSERVATIONS

The concentrate is distinguished from the previous one only by a somewhat higher pyrite content that appears at the expense of sphalerite and galena. Predominant pyrite (55 - 60%) occurs together with subordinate sphalerite (17 - 18%) and galena (16 - 17%), as well as with accessory chalcopyrite (< 5%) and traces of gangue.

The sulphides are generally unlocked. A minor portion of locked particles usually appears in the form of simple binary lockings of which only lockings between sphalerite and chalcopyrite possess a certain quantitative relevance. In most cases they could be liberated by additional grinding. The unusually high lead content of the zinc rougher concentrate can be attributed mostly to fully unlocked galena.

500 microns

