

TECHNICAL REPORT  
AND RECOMMENDATIONS  
BLENDE PROJECT

Beaver River Area, Nash Creek Map Area 106D 07  
Latitude: 64° 24' 39" N/Longitude: 134° 40' 21" W

for:

**BLIND CREEK RESOURCES LTD**

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by

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February 24, 2006

SUMMARY  
The Blende Silver-Lead-Zinc Project  
BLIND CREEK RESOURCES LTD

In fall 2005, Blind Creek Resources Ltd acquired an option to acquire a 60 percent interest in the Blende Silver-Lead-Zinc project from Eagle Plains Resources. The Blende property is located in the Yukon Territory and includes a carbonate-hosted polymetallic deposit on the south edge of the Mackenzie Platform, hosted by Middle Proterozoic Gillespie Group dolomite. The property consists of 100 claim units (2087 ha) and is owned 100% by Eagle Plains Resources Ltd., subject to a 1.0 percent net smelter royalty (NSR) to Bernie Kreft.

Prior exploration by Billiton Metals Canada in the early 1990s delineated two mineralized zones on the property, with historic reserves totaling 21.4 million tons grading 1.63 ounces per ton (oz/t) silver and 5.85% combined lead+zinc. The deposit is outlined at surface by an open-ended three mile long soil anomaly with zinc values of up to one percent.

Billiton drilled 77 holes on the property totaling over 46,000 feet along over two miles of strike length, reporting numerous high-grade intercepts at relatively shallow depths. Subsequent step-out drilling by NDU Resources confirmed the continuation of ore-grade mineralization westward, with the addition of significant copper values.

Defined on the basis of diamond drilling and surface trenching, the East and West Zones were estimated by Billiton Metals Canada Ltd. have a combined resource as follows:

ZONE	RESOURCE tonnes	ZINC %	LEAD %	SILVER grams/tonne
West Zone	15,300,000	3.04	3.23	67.5
East Zone	4,300,000	3.05	1.31	15.1
TOTALS	19,600,000 =21,500,000 tons	3.04	2.80	56.0

(Mineralization estimates are considered reliable and relevant, but were prepared prior to the institution of National Instrument 43-101 standards.) Barry Price, P.Geo was retained by Eagle Plains in 2004 to review the historic resource calculations on the Blende property, which formed part of the basis for his 2004 Technical Report Blende Zinc - Lead - Silver Deposit ("the Price Report"). Price concluded that the historic resource calculations conform with the definition of an Inferred Mineral Resource. The "Price Report", the historic data, the resource calculation methodology, sampling methodology and protocol, drill hole locations and diamond drill core have been examined in detail by the writer, who agrees with the conclusions of an Inferred Mineral Resource detailed in the "Price Report".

Although initially explored as an open pit deposit, Blind Creek and Eagle Plains management believe that there is excellent potential to develop part of the deposit as an underground, higher grade, smaller tonnage, operation. By adjusting the cutoff grade of the blocks calculated previously, the resource could be reduced in tonnage, but increased in grade to 4.1 million tons grading 6.7% lead, 4.6% zinc and 3.1 oz/ton silver. Some historical drill intercepts at the Blende include:

SELECTED DRILL INTERCEPTS - BLENDE DEPOSIT						
DRILL HOLE	FROM m	TO m	WIDTH m	PB%	ZN %	AG opt
88-1	4.3	29	24.7	3.5	3.2	1.7
88-2	4.3	90.5	86.2	5.3	3.0	3.1
88-3	3.7	135.9	132.2	3.7	1.8	2.6
90-6	68.73	92.99	24.26	7.6	2.4	3.15
90-9	15	26.91	11.91	7.1	8.2	3.46
90-15	34.99	104.85	69.86	5.1	2.3	3.82
91-19	73.50	93.35	19.85	4.99	4.31	1.54
91-41	57	72	15	4.89	3.39	1.86
91-47	145.56	189	43.44	1.95	6.80	1.50
91-60	261.41	269.30	7.89	0.44	0.08	14.62
91-68	25.25	81.30	56.05	2.41	3.02	0.69
91-75	105	124.15	19.15	4.0	5.06	1.32

Copied from Billiton and Archer Cathro reports

Most geophysical methods have proven very effective in previous exploration efforts at Blende due to the inert nature of the host dolomite. Prior work also established that the deposit is non-acid generating and could be mined by open pit methods, with a stripping ratio of 2.1:1. Preliminary metallurgical studies indicate no significant concentrations of deleterious elements, although oxide lead and zinc interfere to some extent with recoveries, requiring a more complicated processing flow-sheet. In addition, recent work on treatment of oxide zinc and lead ores has resulted in oxide specific metal recovery processes which could be used to process some of the Blende ore.

The Blende property is 100 percent owned by Eagle Plains, subject to a 1.0 percent net smelter royalty (NSR). Upon signing the formal option agreement, Blind Creek paid Eagle Plains \$CAN 13,500 cash and 180,000 shares of Blind Creek stock. The proposed deal requires Blind Creek to complete a total of \$CAN 5,000,000 in exploration expenditures, pay EPL a total of \$CAN250,000 cash and issue 1,000,000 common shares by December 31st, 2010. EPL will remain operator of the project up to the completion of \$CAN 1,000,000 in expenditures. A 10% finders fee has been reserved for B. Kreft, and will be paid by the vendor.

The writer has proposed a two stage program. The initial stage will involve the winter mobilization of equipment and supplies including fuel, a complete diamond drilling outfit and a D6 cat to the Blende property using the existing Wind River Trail and Blende access trail. The initial stage of fieldwork will involve geological mapping and geochemical sampling in the Far East Zone and a 7000 metre diamond drill program to test and confirm mineralization in the Blende Main, Central and East zones. Based on favorable results from this program, a second stage of work is proposed involving more focused diamond drill testing of the Blende mineralization.

The estimated budget for the two programs is CAN five million dollars and a detailed breakdown of costs is included with this report.

Respectfully Submitted

TRANSPOLAR GEOLOGICAL CONSULTANTS INC.

per: \_\_\_\_\_  
 Robert J. Sharp, B.Sc. (Mnl Eng), M.Sc. (Geol), P.Geol.  
 Qualified Person  
 February 24, 2006

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TECHNICAL REPORT  
AND RECOMMENDATIONS  
BLENDE PROJECT  
Beaver River Area, Yukon Territory  
Blind Creek Resources Ltd

## INTRODUCTION AND TERMS OF REFERENCE

The writer has been requested by the directors of Blind Creek Resources Ltd ("Blind Creek") and Eagle Plains Resources Ltd. ("Eagle Plains") to prepare a Technical Report in compliance with the provisions of National Instrument 431-101 and associated documents. The writer conducted fieldwork on the Blende property from July 17-28, 2005. Prior to the property visit, a large database held by Eagle Plains was inspected and copies of relevant reports and data were obtained. During the period of July 17-20, 2005, the property was also visited by C.C. Downie, P.Geo, Exploration Manager, Eagle Plains Resources Ltd., Dr. Elizabeth Turner, Laurentian University, and Dr. Sarah Gleeson, University of Alberta.

## DISCLAIMER

In preparation of this report, the writer has relied on numerous reports prepared by Barry Price, P.Geo., Douglas Eaton, Rob Carne, Grant Abbott, Robert Cathro and others for Archer Cathro and Associates, Jeff Franzen, P.Eng. for NDU Resources Ltd. and G. Lutes and other personnel from Billiton Metals Canada Inc.

Barry Price, P.Geo was retained by Eagle Plains in 2004 to review the historic resource calculations on the Blende property, which formed part of the basis for his 2004 Technical Report Blende Zinc - Lead - Silver Deposit ("the Price Report"). Price concluded that the historic resource calculations conform to the CIM standard definitions of an Inferred Mineral Resource. The "Price Report", the historic data, the resource calculation methodology, sampling methodology and protocol, drill hole locations and diamond drill core have been examined in detail by the writer, who agrees with Prices' conclusions of an Inferred Mineral Resource for the Blende deposit mineralization.

The writer is not responsible for data collected and prepared by others but is solely responsible for the conclusions and recommendations contained herein. The writer has read National Instrument 43-101 and its forms and regulations and this report has been prepared in compliance with the provisions of NI 43-101.

## THE COMPANY

Blind Creek Resources Ltd. is a private company registered in British Columbia.

## THE AGREEMENT

Blind Creek Resources Ltd. ("Blind Creek") executed a formal option agreement with Eagle Plains Resources Ltd. ("EPL") whereby Blind Creek may earn a 60% interest from EPL in the Blende silver/base-metal deposit. The property is currently owned 100% by Eagle Plains (subject to a 1% NSR to Bernard Kreft) and comprises 100 claims. Subsequent to completion of the formal agreement, Blind Creek has paid to EPL \$CAN 13,500 cash and issued 180,000 common shares. To complete its earn-in, Blind Creek will carry out \$CAN 5,000,000 in exploration expenditures by December 31, 2010 (\$CAN 500,000 by December 31, 2006), make a total of \$CAN 250,000 in cash payments by December 31, 2010 and issue a total of 1,000,000 voting-class common shares to Eagle Plains by December 31st, 2009. Eagle Plains will remain operator of the project up to the completion of \$CAN 1,000,000 in expenditures. A 10% finders fee has been reserved for B. Kreft, and will be paid by the vendor.

## PROPERTY DESCRIPTION AND LOCATION (Figure 1,2)

### Description (Figure 2)

The property consists of 100 Quartz Mining Claims, of which the Mix 1-16 claims represent the central part of the original Blende property. The rest of the claims were staked by Eagle Plains in 2003-05. Under the Yukon Quartz Mining Act, claim tags have to be placed on the posts during the next year and Assessment work in the amount of \$100 per claim must be completed. The most recently staked claims, the Trax 1-28, will require a minimum of \$2800 in work before the expiry dates to maintain them in good standing. The claims and expiry dates are listed below:

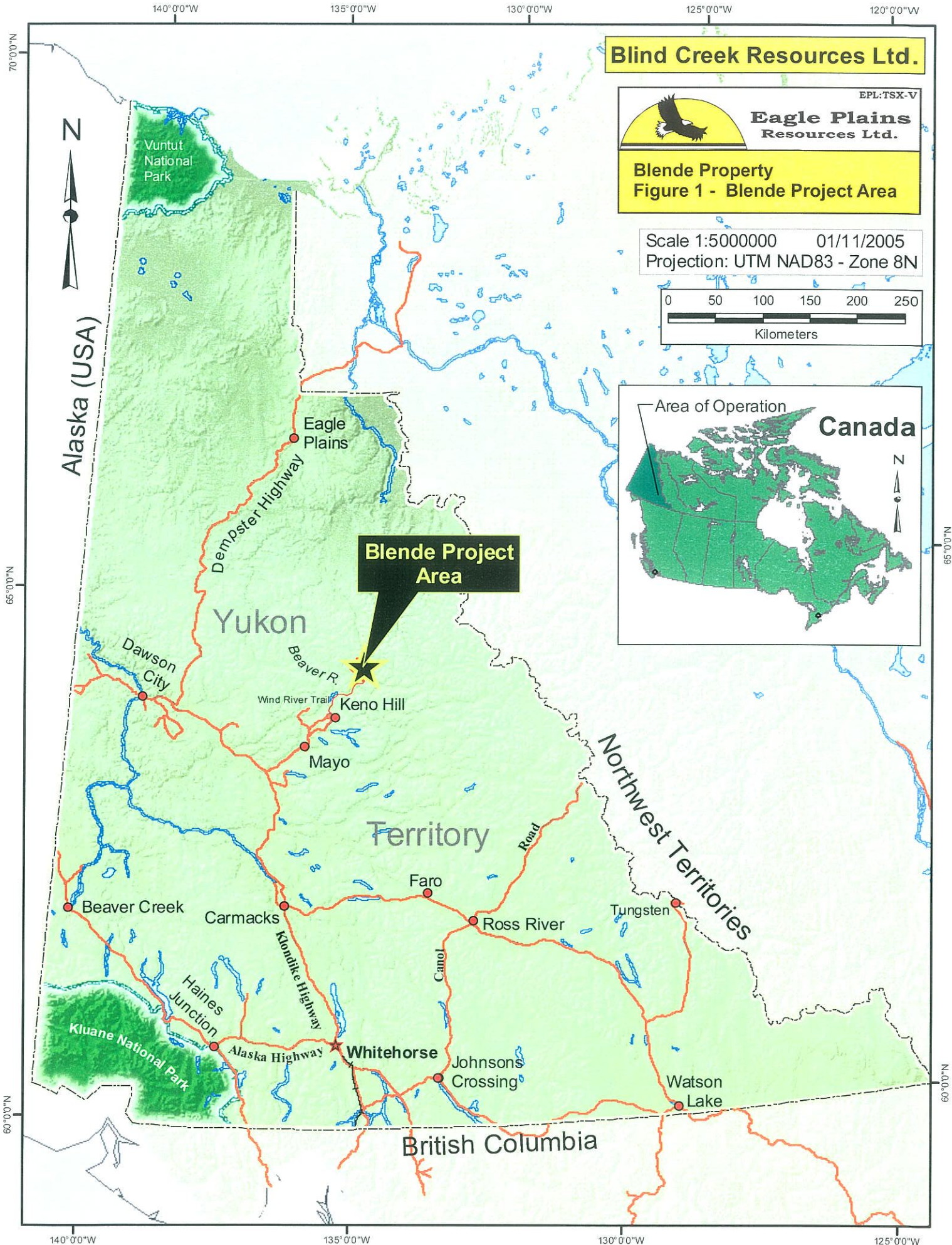
### Tenure Data (Figure 2)

#### West, Central, East, and Far East Zone

<u>Claim Names</u>	<u>Grant Number</u>	<u>Expiry Date</u>
Mix 1-16	YC099985-100	March 28, 2008
Trix 1-46	YC 11723-768	April 04, 2007
Trix 47-56	YC32293-302	August 10, 2010
Trax 1-28	YC39822-849	September 21, 2006
100 claims	Approx 2087 hectares	

The original Mix 1-16 claims were staked by prospector Bernie Kreft and were transferred to Eagle Plains under terms of a purchase agreement and Bill of Sale. Registered owner is Eagle Plains Resources Ltd. The claims are staked under the Yukon Quartz Mining Act, and are a maximum of 1500 feet by 1500 feet (20.9 hectares or 51.65 acres). The writer is of the opinion that the claims were staked in accordance with the Act. Under the Act, yearly assessment work required is \$100. The 28 Trax claims must have work performed in the current year to remain valid. The claims have not been surveyed, but a GPS survey of the post locations is recommended as the posts are tagged. The Blende property is 100 percent owned by Eagle Plains, subject to a 1.0 percent net smelter royalty (NSR) to Bernie Kreft. The most recent staking has focused on the Far East Zone.



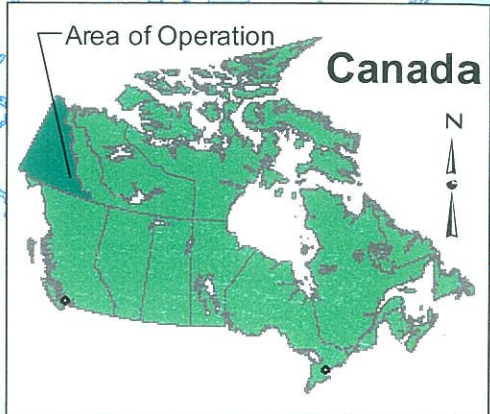


**Blind Creek Resources Ltd.**



**Blende Property  
Figure 1 - Blende Project Area**

Scale 1:5000000 01/11/2005  
Projection: UTM NAD83 - Zone 8N



**Blende Project Area**

Alaska (USA)

Yukon

Territory

Northwest Territories

British Columbia

Vuntut National Park

Kluane National Park

Eagle Plains

Keno Hill

Beaver R.

Mayo

Faro

Ross River

Tungsten

Whitehorse

Johnson's Crossing

Watson Lake

Dawson City

Carmacks

Haines Junction

Alaska Highway

Klondike Highway

Dempster Highway

Road

Canol



N.00.59

N.00.00

140°00'W

135°00'W

130°00'W

125°00'W

120°00'W

70°00'N

65°00'N

60°00'N

140°00'W

135°00'W

130°00'W

125°00'W



## Location (Figure 1)

The Blende property surrounds Mt. Williams, 64 km north of Keno Hill, Y.T. Mt Williams lies on the continental divide, just to the south and east of Braine Pass, which separates Beaver River and Stewart River (Yukon River drainage) from Wind River (Mackenzie River drainage). This is at 64° 24' North Latitude and 134° 40' west Longitude in Map sheet 106-D-7 in the north central Yukon. The UTM coordinates at the center of the property are roughly 516500 East and 7142500 North.

## ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### Access (Figure 1, 3)

The Wind River bulldozer trail or "winter road" passes within 11 km of the property between Elsa and Wind River. This trail passes McQuesten Lake, Beaver River and Braine Creek and through Braine Pass toward coal deposits in the Bonnet Plume River area, copper and cobalt deposits near Fairchild Lake and iron deposits at Wind River. The road was last used in 1981 by Prism Resources. The most practical access is by helicopter from Mayo, on the Stewart River. Mayo is accessed by good highway 450 km from Whitehorse, by float plane or by wheeled Fixed Wing aircraft. Helicopters are available in Mayo or in Whitehorse.

### Local Resources and Infrastructure

Essential supplies are available in Mayo, but most supplies are generally brought in from the much larger Territorial capital, Whitehorse, which is the business and government center of the Yukon. Whitehorse has daily flights from Vancouver. The nearest town of Mayo has essential facilities such as fuel, food and lodging, telephone, post office and basic groceries and supplies. It has a gravel airstrip and float plane facilities. Power from the Yukon grid extends from Mayo along the gravel access road to the Elsa and the Keno Hill mine (now held by a receiver). Although a gravel road extends northward from Elsa to McQuesten Lake, no other infrastructure is available. A good pool of trained labour is available in the Yukon. Major supplies and equipment are generally purchased in Whitehorse or in Dawson City, about two hours by road from Mayo.

### Physiography

The Blende property is on the southern flank of the Wernecke Mountains, characterized by rugged ridges and numerous glacial cirques. To the south lies the Pacific watershed the Yukon River drainage and to the north lies the Pacific watershed of the Wind River. At Mt. Williams, elevations range from 1,200 metres to 1860 metres. The tree line is at approximately 1,300 metres (4,300 ft). The property has sparse grass and lichen vegetation. Outcrop is most common on steep, north facing cirque walls, creek gullies and ridges, whereas south facing exposures are less precipitous and are covered by talus and scree.

### Climate

The area has long cold winters and short moderately warm summers. Exploration is practically restricted to the months of June to September, but snow can occur at any time. Permafrost exists in the area.

## HISTORY

As early as 1905, Camsell and Keele, of the Geological Survey of Canada ascended Stewart and Beaver Rivers as far as the mouth of Braine Creek, just northwest of the Blende deposits at Mt. Williams. Silver and lead deposits were discovered in 1922 on McKay hill in the Upper Beaver River area shortly after the discovery of the rich silver deposits at Keno Hill. A staking rush occurred and many claims were staked (Cockfield 1924). Further exploration led to discovery of deposits on Silver Hill, Carpenter Hill and Grey Copper Hill (1923). Some of the first prospectors in the area were J. Carpenter, J. McCluskey, E. Ervin, J. McLean, R. Fisher, L.B. Erickson, W.F. McKay and C. Beck.

Basic geological mapping was accomplished by Cockfield in 1924 (GSC Summary Report 1924 Part "A"). Considerable activity in the area was initiated by the development of the Keno Hill mines, and the activity led to the discovery of numerous other showings in the area.

- 1961 Mineralization at the Blende was originally noted by the Geological Survey of Canada in 1961.
- 1975 The property was staked in 1975 by Cyprus Anvil Mining Corp. as the Will claims. Cyprus Anvil completed geological mapping, sampling, and detailed silt and soil geochemical sampling later in the year.
- 1981 Archer Cathro & Associates (1981) Ltd. restaked the property in April 1981 and conducted trenching and rock sampling from 1981 to 1984. Expenditures from 1981 to 1983 are said to be \$22,500 (Franzen 1988)
- 1984 Archer Cathro and Associates (1981) Limited and Norvista Development Ltd. completed geological mapping, hand trenching and detailed trench sampling in 1984 (Cathro and Carne, 1984) with total expenditures of \$33,000
- 1985 Inco Exploration Ltd optioned the property, tied on more Blende claims (YA77655) in Oct/84 and explored with mapping and sampling in 1985 before dropping the option. Their expenditures are not known.
- 1987 NDU Resources Ltd. purchased the property outright in 1987. A comprehensive report was written in 1988 by Jeff Franzen, P.Eng. In 1988, NDU explored the property by mapping and hand trenching and later drilled 3 holes from one location totaling 718 metres. The results were favourable with long intercepts of silver-lead-zinc mineralization and Franzen noted "...The Blende property has potential to host a major lead-zinc-silver deposit. Based on the results (which are described in a subsequent section of this report) Franzen proposed a two stage comprehensive exploration program which was budgeted at approximately \$7 million for both stages.
- 1989 In 1989 NDU carried out further mapping, road construction, soil sampling, magnetic and VLF-EM surveys.
- 1989 Billiton Resources (Canada) Inc. ("Billiton") optioned the property from NDU Resources in September 1989. The agreement allowed Billiton to earn a 50% equity in the property by expending an aggregate of \$4.3 million in option payments and work by December 31, 1991.

- 
- 1990 Billiton as project operator drilled 15 holes on the main "West" zone, totaling 3659.7 metres. This work led to the calculation of a preliminary diluted in-situ open-pit mineral resource of 11.5 million tonnes averaging 3% lead, 2.20 % zinc, and 1.46 oz//tonne silver (50 grams/tonne)<sup>1</sup>
- 1991 In 1991, Billiton completed the following work:
- soil geochemical and geophysical coverage,
  - drill-testing of the deposit over a 3.3 km strike length, and
  - preliminary metallurgical tests.
- The 1991 drilling consisted of 62 holes totaling 11,525m, including 15 holes in the West Zone, 34 holes in the East Zone and 13 holes in the central area between the two zones.
- 1993 Billiton elected in 1993 to convert its 50% equity interest to a 10% net profits royalty. It is assumed by the writer that the earn-in was completed. Control of the property in terms of operation returned to NDU.
- 1994 In 1994 NDU drilled 7 step-out holes (596 metres) which successfully extended the West Zone 150m further westward (the West Zone remains open in this direction). This activity is the last recorded exploration of the property.
- 1998 In March, 1998 NDU merged with United Keno Hill Mines Ltd. (UKHM) and the property came under the control of UKHM, which subsequently went into receivership.
- 2002 The property was staked by prospector Bernie Kreft and optioned by Eagle Plains Resources Ltd. Eagle Plains Resources 2002 work program consisted of a one day property examination by Tim Termuende, P. Geo. The purpose was to assess property infrastructure including road access, core storage, drillsite locations, camp equipment and materials. In 2002 Eagle Plains also acquired all available data from past work programs on the Blende property including programs by Archer Cathro and Billiton Metals Canada. A data compilation using a Geographic Information System was begun in 2002. The total cost of the 2002 geological exploration work on the Blende property was \$11,141.39
- 2004 In 2004, Eagle Plains undertook prospecting and geological mapping surveys in addition to silt and soil geochemical analyses. The target area was the Far East Zone of the Blende deposit. Historic fieldwork had identified the target area, but failed to find an in-situ mineral occurrence. The program was successful in identifying a new in-situ mineral occurrence which led to additional claim staking in the Far East Zone. An assessment report detailing the 2004 program included recommendations for further work including additional prospecting and mapping in the Far East Zone. The total cost of the 2004 field program was \$20,630.60. During this period, Eagle Plains also retained Barry Price, P.Geo. to review the historical data in detail, specifically to confirm that the historical resource estimates by Billiton and others conformed to the current National Instrument 43-101 standards. Based on this review of the data Price determined that the historical resource calculations on the Blende deposit were accurate and methodologically sound and conform

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<sup>1</sup> This resource was calculated in 1990 by Roscoe Postle and Associates prior to the introduction of NI 43-101 and does not conform to present CIM definitions and should not be relied on.

to a National Instrument 43-101 definition of an Inferred Mineral Resource.

2005 2005 work at the Blende project by Eagle Plains involved a 12 day field program under the direction of Robert J. Sharp, P.Geol. Fieldwork included relogging of historical drill core on site, prospecting and sampling in the Far East Zone area, GPS surveying of some existing drill collars and roads. During the course of the program, the property was visited by C.C. Downie, P.Geol, Exploration Manager, Eagle Plains Resources Ltd., Dr. Elizabeth Turner, Laurentian University, and Dr. Sarah Gleeson, University of Alberta. Late in the season, a short helicopter supported gravity survey was completed on part of the property by Aurora Geosciences of Whitehorse, YT. The total cost of the 2005 field program was approximately \$150,000.00

## EXPLORATION EXPENDITURES

Based on expenditures documented in exploration reports, expenditures from 1984-2005 are estimated to be about \$4.4 million. The actual expenditures are much higher than the documented expenditures, as not all of Billiton Canada's expenditures are documented, and in many cases when expenditures were filed by Archer Cathro, not all expenditures were listed or applied.

Drilling expenditures alone are estimated (in terms of today's drilling costs at:

YEAR	COMPANY	NUMBER OF HOLES	TOTAL metres	COST* (Estimated and rounded)
1988	NDU Res, Archer Cathro	3	718	\$72,000
1990	Billiton Canada	15	3660	\$366,000
1991	Billiton Canada	62	11525	\$1,152,500
1994	NDU Resources	7	796	\$80,000
	<b>TOTALS</b>	<b>87</b>	<b>16699</b>	<b>\$1,670,500</b>

\* Present day costs conservatively estimated at \$100/metre. The estimate does not include camp costs, mobilization or helicopter support.

## GEOLOGICAL SETTING (Figure 3a, 3b)

### Overview

The Blende is a large shear-hosted vein fault system or possible Mississippi Valley type or Irish type Zn-Pb-Ag deposit on the south edge of the Mackenzie Platform, hosted by Lower Proterozoic Gillespie Group dolomite. The deposit is tabular and dips steeply, cutting bedding approximately at right angles. Mineralization occurs intermittently along a shear zone about 6 km long and up to 200 m wide. Mineralization is mostly epigenetic and forms the matrix in a series of parallel breccia zones which strike east-west and dip steeply south. These mineralized breccia zones occur in the core of a large anticline and are parallel to a strongly developed axial plane cleavage which strikes ENE and dips steeply to the north and south.

The mineralization consists mostly of yellow sphalerite, which is difficult to distinguish from the host dolomite. Other sulphide minerals include galena, pyrite and minor chalcopyrite and tetrahedrite. Some syngenetic or early diagenetic mineralization has been found associated with oolites and dewatering structures. Studies by C. Godwin indicate a lead isotopic age of 1.54 Ga.

On surface, the deposit is outlined by soil anomalies up to 10,000 ppm Zn. Most geophysical methods including IP, VLF and Max-Min EM work well due to the inert nature of the host dolomite, but graphitic sediments interlayered within the Gillespie Group dolostones can create spurious anomalies. Billiton's 1991 drilling established that the east zone and west zones are separate and that mineralization in the west zone is regular and extends more than 400 m continuously downdip, while mineralization in the east zone is more irregular but extends continuously downdip for more than 200 m.

### Regional Geology (Figure 3a, 3b)

The following discussion of regional geology has been adapted from several of the property reports.

The Blende area is situated on the "Mackenzie Platform" or "Yukon Block", part of the relatively stable craton overlain by Proterozoic to Paleozoic sedimentary units with minor volcanic components. The Mackenzie Platform is separated from the Selwyn Basin by the Dawson Thrust Fault, an east-west trending and south dipping fault with Proterozoic and Paleozoic history. Further to the south are additional south dipping Tombstone and Robert Service thrust faults. To the south of the thrust faults, on the south side of the Selwyn Basin, is the regional Tintina strike slip fault with considerable lateral displacement.

The Yukon Block lay on the margin of the Proterozoic supercontinent of Nena when the Wernecke Supergroup was deposited with the Fairchild Lake Group at its base through the Quartet Group to the Gillespie Lake Group at its top. The Racklan Orogeny folded the Wernecke Supergroup and either non-deposition or erosion removed over 300 ma from the stratigraphic column resulting in the Middle Proterozoic Pinguicula Group sitting unconformably on the Gillespe Lake Group at the Blende Property (Thorkelson, 2000).

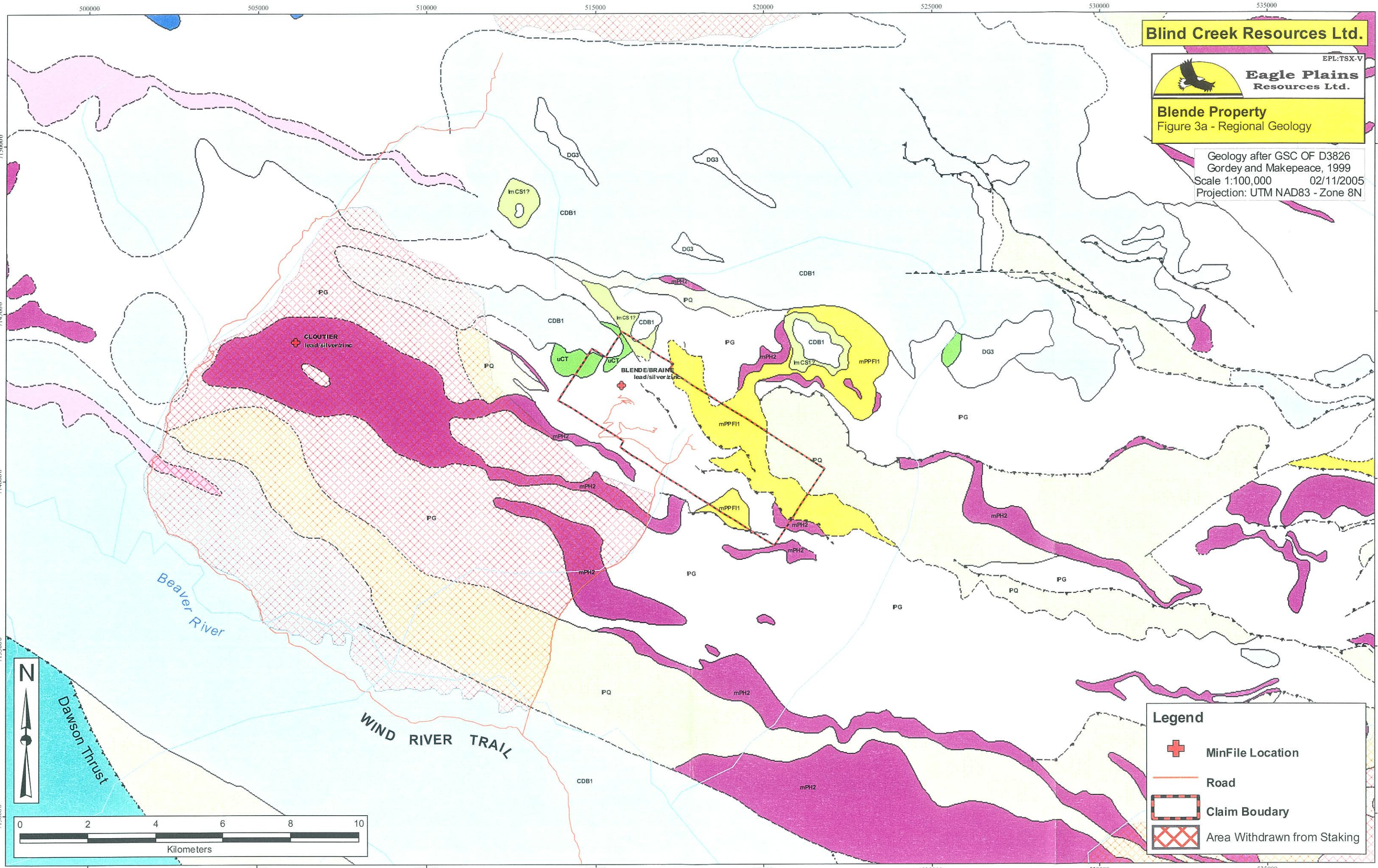
Blind Creek Resources Ltd.



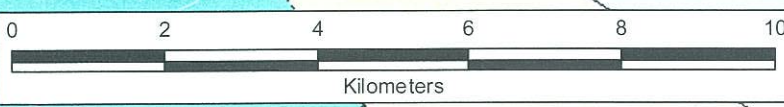
EPL-TSX-V  
**Eagle Plains Resources Ltd.**

**Blende Property**  
Figure 3a - Regional Geology

Geology after GSC OF D3826  
Gordey and Makepeace, 1999  
Scale 1:100,000 02/11/2005  
Projection: UTM NAD83 - Zone 8N



Dawson Thrust



**Legend**

- MinFile Location
- Road
- Claim Boundary
- Area Withdrawn from Staking



## Geology Legend

### Carboniferous to Permian



CPT: TSICHU:

Thin to medium bedded, siliceous calcarenite, dolostone, sandy dolostone and minor grey quartzite; buff and grey weathering, thick bedded, dark grey bioclastic limestone; black to silvery shale; minor chert, and chert pebble conglomerate

### Mississippian



MK: KENO HILL:

Massive to thick bedded quartz arenite; thin to medium bedded quartz arenite interstratified with black shale or carbonaceous phyllite; local scour surfaces and shale intraclasts; locally foliated and lineated

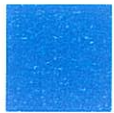
### Lower and Middle Devonian



DG3: GOSSAGE:

Limestone and dolostone, light grey and dark brownish grey, fine to medium grained, mostly alternating dark and light coloured medium to thick beds

### Ordovician to Lower Devonian



ODR: ROAD RIVER - SELWYN:

Black shale and chert (1) overlain by orange siltstone (2) or buff platy limestone (3); locally contains beds as old as Middle Cambrian (4); correlations with basinal strata in Richardson Mountains include: ODR1 with CDR2 (upper part) and ODR2 with CDR4 (Road River Gp.)

### Upper Cambrian and Lower Devonian



CDB1: BOUVETTE:

Grey and buff weathering dolostone and limestone, medium to thick bedded; white to light grey weathering, massive dolostone; minor platy black argillaceous limestone, limestone conglomerate, and black shale; massive bluish-grey weathering dolostone

### Upper Cambrian



uCT: TAIGA:

Striped yellow and orange weathering fine crystalline, light grey limestone; light grey weathering, thick bedded and massive dolostone; minor brown and green shale

### Lower to Middle Cambrian



IMCS1: SLATS CREEK:

Rusty brown weathering, turbiditic, quartz sandstone with minor shale and siltstone; pale red weathering siltstone, quartzite pebble and cobble conglomerate and limestone; maroon with green argillite with minor quartzite and limestone

### Upper Proterozoic to Lower Cambrian



PCH: HYLAND:

Consists upwards of coarse turbiditic clastics (1), limestone (2) and fine clastics typified by maroon and green shale (3); may include younger (4) units; includes scattered mafic volcanic rocks (5)



CSM6: MARMOT:

Grey- to dark grey weathering, dark volcanic rocks, many partly serpentinized, brown-weathering grey-green limy tuff and argillite, and thin-bedded brown limestone

### Middle Proterozoic



mPH2: HART RIVER:

Resistant dark weathering diorite and gabbro sills and dykes



mPPF1: PINGUICULA/FIFTEEN MILE:

Basal siliciclastic red laminates; thin bedded laminated and flasered limestone; laminated dolostone; massive white dolostone with wavy cryptalgal lamination, cross bedding, tepee structures, extensive dolomite veinlets and chert

### Lower Proterozoic



IPG: GILLESPIE LAKE:

Dolostone and silty dolostone, locally stromatolitic, locally with chert nodules and sparry karst infillings, interbedded with lesser black siltstone and shale, laminated mudstone, and quartzose sandstone; local dolostone boulder conglomerate



IPQ: QUARTET:

Black weathering shale, finely laminated dark grey weathering siltstone, and thin to thickly interbedded planar to cross laminated light grey weathering siltstone and fine grained sandstone; minor interbeds of orange weathering dolostone in upper part

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### Blende Property

Figure 3b - Regional Geology Legend

## Stratigraphy (Figure 5)

The *Wernecke Supergroup* extends northward and westward beneath lower Paleozoic rocks of the Mackenzie Platform where it is regionally exposed in erosional "windows" or inliers. The Blende Property is underlain by the upper two groups of the *Wernecke Supergroup*, which are the *Quartet Group* and *Gillespie Lake Group*. These are overlain by a unit referred to, by Mustard et al. (1990), as "Unit 4" which is tentatively correlated with the Pinguicula Group exposed to the north of the Blende area. A regional unconformity separates the Lower Proterozoic Werneke Supergroup from the Middle Proterozoic Pinguicula Group.

- *The Quartet Group* consists of a turbiditic succession of dark brown and black siltstone, argillite and minor sandstone (Roots, 1990). Beds are normally graded and separated by thin white laminae. The base of the unit is not observed and the top is gradational with the Gillespie Lake Group (Roots, 1990). Locally, this contact is reportedly an angular unconformity and the underlying Quartet Group is folded and cleaved.

- *The Gillespie Lake Group* is mapped in two divisions by Roots (1990). The Lower Division (G1) is turbiditic and comprises 1–5m thick fining upward successions of graded dolomitic sandstone–siltstone with argillaceous tops. The Upper Division (G2) consists of thickly bedded dololite with stromatolitic sections, and commonly contains oolites, dissolution structures, mudcracks and intraclasts which are indicative of shallow water and emergent conditions. Unit G2 of the Gillespie Lake Group is pervasively dolomitized which locally obliterates original sedimentary structures and it is this unit that hosts the Blende Zn–Pb–Ag mineralization.

- *Pinguicula Group (Unit 4)*, 4 kilometres east of Mt. Williams, comprises pebble to cobble conglomerate disconformably overlying the Gillespie Lake Group. On the Blende property, dark siliceous fine sandstone and siltstone overlie the Gillespie Lake Group (Roots, 1990). This succession contains thin beds of fine cross-laminated dolostone which passes upward into light-coloured platy siltstone and is overlain by a light pink dolostone characterized by fine algal laminae and small budding stromatolite heads atop large columns (units P1–P3). Stratigraphy is illustrated in a diagrammatic section.

## Intrusive rocks

Numerous sills, plugs and dykes of brown weathering hornblende gabbro intrude the Gillespie Lake Group in the Blende area and form broad bands and rugged ridges that trend southeast across the area. These intrusions, named by Abbott as the Hart River sills, are reported to cut "Unit 4" rocks (Roots, 1990). Age of the sills was calculated from three samples taken at Hart River, Carpenter Ridge and Mt Williams (near Blende) as follows:

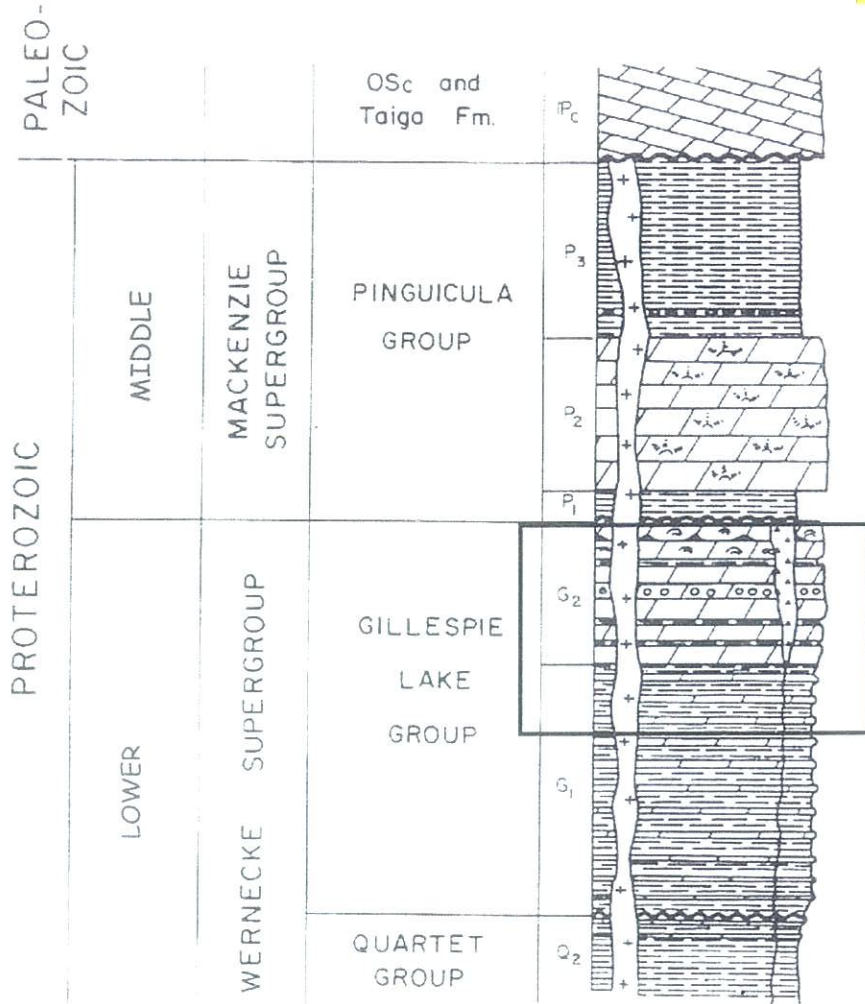
AGE OF HART RIVER SILLS (Source: Abbott, 1997)

LOCATION	TYPE	AGE
Blende	zircon	1380.2+/-4.0 Ma
Carpenter Ridge 1	zircon	1385.8+/-1.9 Ma
Hart River Carpenter composite	zircon	1383+/- 5.9 Ma

The sills occur everywhere in the region and are visible as dark zones against the generally



Blende Property  
Figure 5 - Stratigraphic Column



BLENDE  
DEPOSIT



- unconformity
- dolomite, dolomitic sandstone and mudstone
- shale and siltstone
- domal and columnar stromatolites
- 'fine budding' stromatolites
- oolites
- conglomerate
- chert
- mineralized breccia
- diorite or gabbro

orange-weathering Gillespie Group dolomites. Many sills were intercepted in drilling at Blende. Other sets of sills are of two different ages; The Hart River sills are Middle Proterozoic but the sills intruding the Hyland Group to the south of the Dawson Fault are Cambrian-Ordovician, and unnamed late Paleozoic sills intrude the Road River group on both sides of the Dawson fault. All the sills are diabasic and similar, and the Hart River sills resemble sills intruding the Middle Proterozoic *Belt Supergroup* in Idaho (1378.7+/- 1.2 Ma). Bear River dikes, dated as 1270 Ma (Thorkelson, 2000), are known to intrude the Gillespie Lake Group to the northeast of the Blende property. These dikes are correlated with the Mackenzie Magmatic event which generated the Mackenzie dike swarm, Muskox intrusion and Coppermine basalts.

## Structure

Several orogenic events that have folded the Gillespie Lake Group are the Lower Proterozoic Racklan Orogeny and the Mesozoic-Early Tertiary Laramide orogeny. As noted before the Blende area is characterized by open folds exposing windows of Wernecke Supergroup rocks surrounded by larger areas of Paleozoic sediments. Deformation is primarily Mesozoic in age (Abbott 1997), with north directed (south-dipping) thrust faults with associated folds and axial plane cleavage. In the Blende area, the Gillespie Lake group host rocks are fault bound slices exposed in north facing dolomite scarps, 500 metres high thrust over top of the siliclastic rocks of the Pinguicula Group, with the thrust faults following argillaceous layers in the Pinguicula Group and the Quartet Group. Figures 3a and 4a show the regional and local structure including the approximate axis of the Blende Structural Zone associated with Zn-Pb-Ag mineralization.

## MINERAL DEPOSIT TYPES

Numerous silver-lead-zinc deposits occur north and northeast of Mayo. The most significant are described briefly below. The writer has no affiliation with any of the properties listed below and they do not form part of the Blende property, but are described for comparative purposes.

The best known deposits are the veins in the Keno Hill camp, which have produced 6,784,000 kg of silver since 1921. The veins contain galena, sphalerite and pyrite with siderite and quartz, plus a variety of primary and secondary silver minerals, the most important of which is freibergite. They cut quartzites and schists of the Keno Hill Quartzite, which was previously mapped as Cretaceous but is now assigned a Mississippian age.

This same unit also hosts the Marg polymetallic massive sulphide deposit, 40 km northeast of Keno Hill. The Marg deposit occurs in metamorphosed pelitic and volcanic rocks and contains indicated and inferred reserves totaling 3.4 million tonnes grading 1.8% Cu, 2.7% Pb, 5.0% Zn, 65.1 g/t Ag and 1.2 g/t Au.

Numerous lead-zinc prospects with varying amounts of silver occur on the north side of the Kathleen Lakes (Robert Service) Fault Zone. The Pinguicula Group and Paleozoic carbonates host stratabound mineralization while the Gillespie Lake Group contains stratiform and structurally controlled deposits.

Hart River is the best documented stratiform occurrence and reportedly contains a historic mineral resource of 1.1 million tonnes grading 1.4% Cu, 0.9% Pb, 3.6% Zn, 49.7 g/t Ag and 1.4 g/t Au. The mineralization consists of finely layered pyrite, pyrrhotite, sphalerite, and galena in a 19 m thick lens at a facies boundary between Gillespie Lake Group dolomite and shale. The deposit is unconformably overlain by Pinguicula Group strata and is cut by numerous mafic sills and dykes.

Other stratiform occurrences within the Gillespie Lake Group (such as Cord and Jolly) have received relatively little exploration and contain pyrite, sphalerite and minor galena in horizons up to 2 m thick in dolomitic shale sequences within Unit G2.

Structurally controlled deposits (which include Blende and the Vera and Val properties (owned by International Prism Exploration Ltd.) consist of tabular, steeply-dipping vein, stockwork and breccia zones cutting upper Gillespie Lake Group dolomite (Unit G2). The Vera deposit has estimated resources of 1.4 million tonnes averaging about 3.7% Pb+Zn with 306 g/t Ag, while Val contains indicated resources of 60,000 tonnes grading 1,030 g/t Ag. Lead isotope studies and structural and stratigraphic relationships indicate that Blende is Helikian age but the Prism deposits are much younger, probably Cretaceous.

Most mineral deposits in the area are zinc-lead-silver deposits of various types, mainly

- Vein/fault fillings in sedimentary or metasedimentary host rocks. (example: United Keno Hill)
- possible "Mississippi Valley Type" (MVT) Deposits. (The Blende deposits are sometimes given as examples, but currently, the Yukon Geological Survey tends, because of a lack of replacement textures, to doubt this categorization). Other examples occur in the 106D map sheet.

Although initially the Blende was originally identified as a Mississippi Valley type (MVT) deposit, current thinking lies more along the lines of shear or fault-hosted breccias and veins or Irish type carbonate hosted deposits. Descriptions of both types of deposits are given in Appendix I - F. The fluid inclusion temperatures for main stage mineralization at 285°C (Robinson and Godwin, 1995) are too high for the deposit to fall into the conventional MVT class.

Other mineral deposit types present in the general Mayo-Wind River-Mackenzie Mountains area are:

- Gold placer deposits (Keno Hill area)
- Volcanogenic massive sulphide deposits (Hart River, Marg)
- Tungsten lode and placer deposits (Potato Hills, Dublin Gulch)
- Breccia hosted copper-cobalt deposits (Fairchild Lake area)
- Iron ore - copper-Gold deposits (Upper Hart River)
- Sedimentary Iron deposits (Crest)
- Disseminated gold deposits (MacQuesten area)

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## LOCAL GEOLOGY (Figure 4a, 4c)

The following account of the geology of the property is modified from Lister and Eaton (1989) with additions from later reports. Although the text has been edited for this report, it remains essentially that as originally written.

The geology as described below is based on work done by Archer, Cathro geologists, supplemented with several traverses in the area by C. Roots of the GSC and his colleagues P. Mustard and J. Donaldson of Carleton University. Additional geological has been taken over the years from earlier Archer, Cathro reports, GSC publications and DIAND mapping, listed in the references.

Sedimentary rocks on the Blende property are mainly those of the Lower Proterozoic Wernecke Supergroup, cut by younger mafic sills and dykes.

The sedimentary rocks have been subdivided by Lister and Eaton (1989) into seven sedimentary units and one intrusive unit, as described below. The accompanying Figure 5 is a simplified stratigraphic column. The rock units are described from the base upward. Reference should be made to the Stratigraphic Table.

### Quartet Group

Only the top 200 m of the Quartet Group succession is seen on the Blende property. This unit, designated Q2, is a monotonous sequence of black slate, phyllite and argillite with minor interbedded quartzite. The Q2 rocks exhibit a pervasive micaceous cleavage which fractures to create long indurated splinters in talus. The upper contact of the unit has previously been considered transitional into Gillespie Lake Group sediments (Delaney, 1981); however, mapping suggests the Quartet Group is more deformed than succeeding units. No contacts were observed in the immediate vicinity of Blende but Roots has observed angular relationships between the two at locales 100 km west of the property.

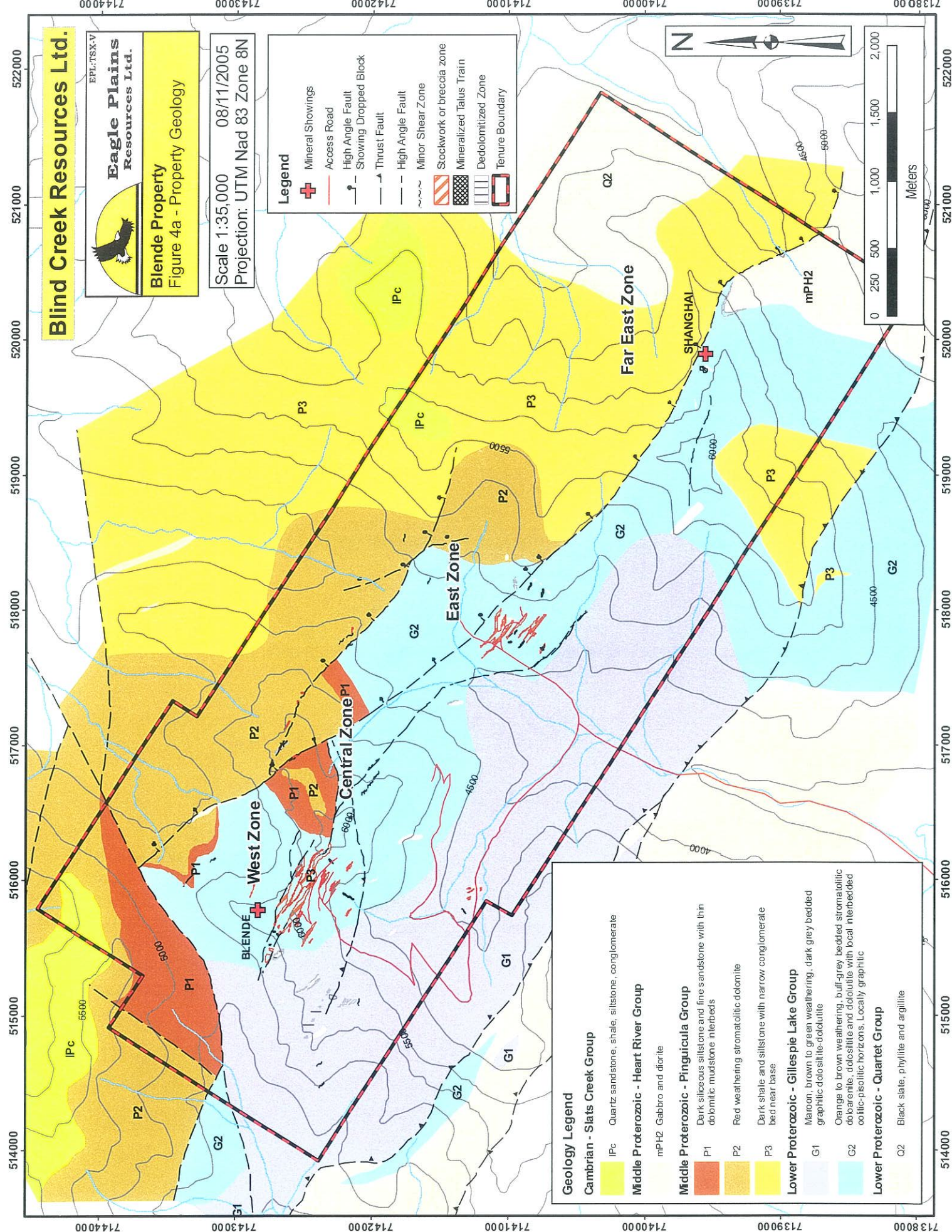
### Gillespie Lake Group

The Gillespie Lake Group is subdivided into two units:

1. a deeper water clastic sequence; and,
2. a shallow water predominately carbonate package.

The lower unit (G1) is about 450 m thick and consists of repeated 1 to 5 m thick cycles containing maroon or green weathering mudstone and shale beds alternated with light orange weathering dolomitic sandstone horizons. The rocks have a striped appearance in outcrop and break to form flat, rhomb-shaped talus.

The upper unit (G2) is approximately 250 m thick and hosts the main zones of zinc-lead-silver mineralization on the Blende property. It mainly consists of thick bedded grey dolomite and dolomitic mudstone containing abundant domal and columnar stromatolite beds up to 4 m thick. Fine interbeds of sandstone, shale, mudstone and chert also occur throughout the section. A thin oolitic bed found in two separate locations near the middle of the section on the property and a



thin green volcanic layer noted just above the G1–G2 contact in localities off the property may be useful marker horizons. G2 rocks generally weather buff–orange to brown and break into irregularly shaped boulders.

### Pinguicula Group

Regionally, Roots (1990) observed that no single stratigraphic section of the Pinguicula Group is representative and did not further subdivide the unit. However, on the property, three distinct sequences were noted.

- Unit P1 (formerly Unit G2b of Cathro and Carne, 1984) is a 50 m thick sequence of dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds. The unit discontinuously overlies G2 and was probably deposited in localized basins.

- Unit P2 (formerly Unit G3 of Cathro and Carne, 1984) conformably overlies P1 or unconformably overlies G2. It is about 250 m thick and consists of red–brown weathering massive grey dolomite containing fine hair–like stromatolites with diagnostic small budding heads atop larger columns (Mustard et al.)

- Unit P3 is a 300 m thick section of dark grey weathering interbedded shale and siltstone. A narrow conglomerate horizon containing boulder– to pebble–sized clasts of gabbro and shale occurs near the base of the unit.

Several features of the Pinguicula Group pelitic rocks distinguish them from similar Quartet Group strata, including greater colour variation and presence of thin carbonate interbeds in the younger group. Pinguicula Group rocks also tend to break into small chips rather than the splintery talus characteristic of the older unit

### Paleozoic Carbonates

Approximately 150 m of light grey weathering carbonate strata (IPc) unconformably caps the darker coloured Proterozoic assemblage in the Blende area. The base of the Paleozoic unit is marked in some areas by a thin bedded dolomite sequence tentatively correlated to the Cambrian Taiga Formation (Norris, 1982).

These rocks are occasionally brecciated and exhibit siderite replacement along laminae and in fractures. Most of the Paleozoic sequence is comprised of relatively massive, fine–grained dolomite with abundant open spaces that are occasionally filled with quartz. These rocks are believed to range from Cambrian to Devonian in age and are analogous to GSC units CDb or OSc elsewhere in the Wernecke Mountains.

### Intrusive Rocks

Dioritic to gabbroic dykes and plugs intrude the Proterozoic sediments in the Blende area. They are dark green, medium grained and contain about equal amounts of felsic (plagioclase with minor quartz) and mafic (clinopyroxene with minor hornblende) minerals. Most are red–brown on weathered surfaces, but some are light green and show remnant grain textures. The thicker



intrusions form prominent cliffs while the thinner bodies normally do not outcrop. Bleached dedolomitization halos are often developed where the intrusions cut Gillespie Lake Group dolomites. These zones are 1 to 30 m wide and contain secondary calcite and talc with rare gem quality axinite.

## MINERALIZATION

West Zone (Figure 4a, 4b, 6a, 6d)

The "West" Zone is the main mineralized zone at the Blende property and was discovered as a result of pronounced rusty gossanous material in surface exposures and cliff faces. The West zone incorporates the zones numbered in 1988 by Franzen as Zones 1, 2, 5, 6, 7 and 9. (Franzen's Zone 3 was later renamed the Central Zone and Zone 8 became the East Zone). In 1988 the West Zone was mapped as approximately 900 metres long and from 50 to 350 metres in width. Within this zone, Franzen's Zone 5 is the strongest and best explored.

In 1984, systematic chip sampling of outcrops and hand trenches over a 750 metre strike length averaged 2.2% Pb, 3.1 % Zn and 44.8 g/t Silver over an average of 27.5 metres. In 1988, three drill holes were collared in the No. 9 subzone of the West Zone, and this drilling led to Franzen's observation that: *"The mineralized intercepts are up to 138 metres long and indicate that the Blende property has potential to host a major lead-zinc-silver deposit"*.

Mineralization occurs within and marginal to generally steeply dipping shear zones which are correlated both between drill intersections and with partially exposed and heavily oxidized shear zones at surface. Southeast plunging (30–40°) S- and Z-buckle folds, terminated by high angle east-west striking shear zones occur periodically across the property in the vicinity of the West Zone. These shear zones appear to have regional extent, and are host to the mineralization. Similar parasitic buckle folds are common in drill core in the hangingwall to mineralized zones. The mineralized shear zones in the West Zone strike at about 110° across the top of Mt. Williams over about 900 m from 9+600E to 10+500E at an elevation of about 1800 m.

In general the West Zone consists of three mineralized *en echelon* shear systems (Upper, Middle, Lower) of varying extent and tenacity. They are poorly exposed lying below scree and talus. All dip to the southwest from about 45° to 75° and have been partially tested by drilling to a maximum depth of about the 1450 level.

The Lower Zone (LZ) is most extensive, occurs near the footwall along the north face of the mountain and has been successfully hand trenched from about 9+600E to about 10+400E. A strong well defined fault occurs along the footwall to the LZ and continues west of the last exposed mineralization at 9+600E. This fault appears to horsetail out to the east where it is represented by a few non-mineralized siderite veinlets in brittle fractures within the unconformably overlying unit Pi to the east. Drill sections for the West Zone show a relatively constant dip of about 75° for the LZ.

A relatively narrow Middle Zone (MZ) can be identified from about 10+000E to about 10+200E on the drill sections and is characterized by generally higher than average grade and high Zn/Zn+Pb ratios. It appears to bottom at about the 1750 level and merges with a broad zone of diffuse near

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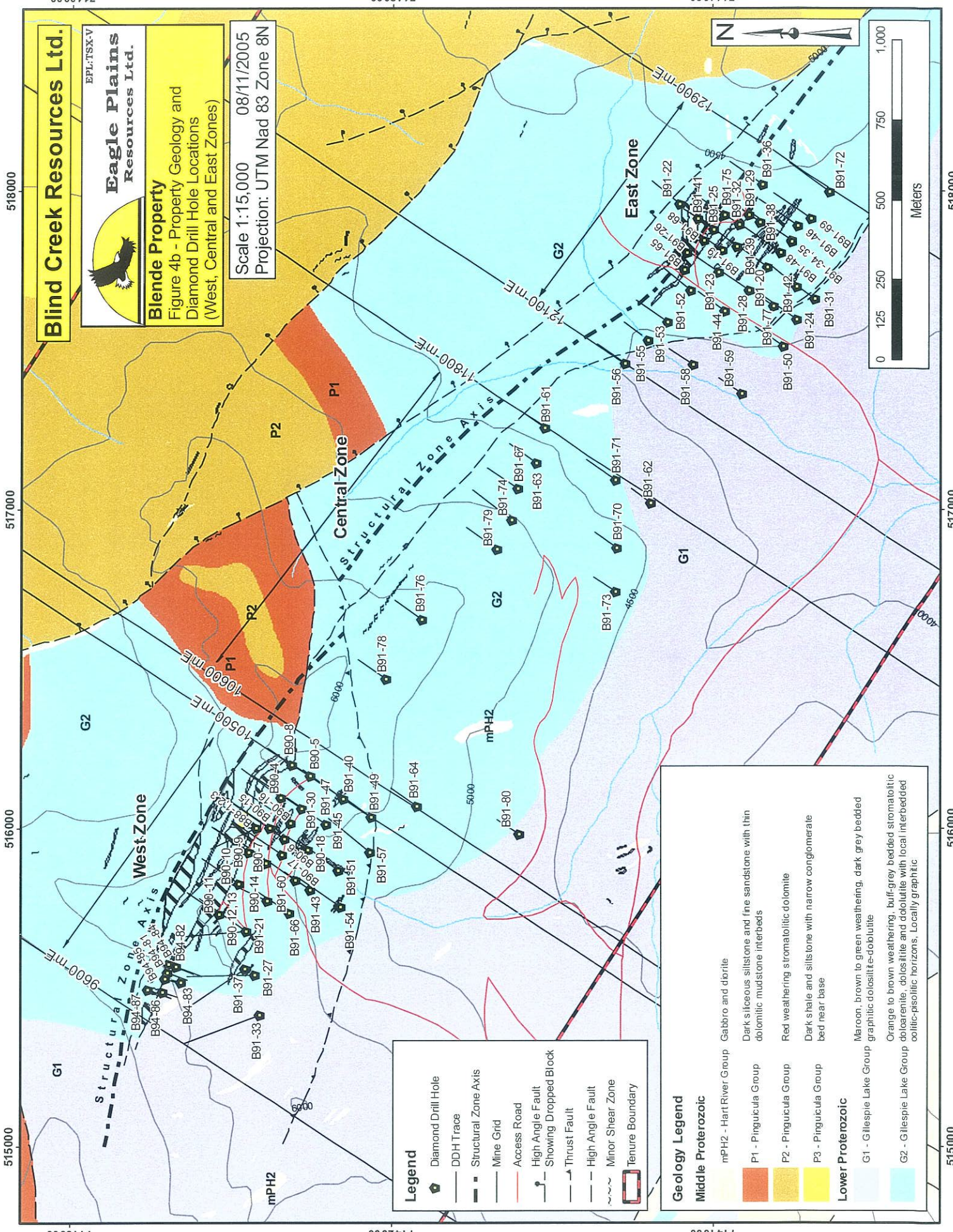
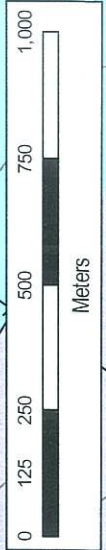
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**Blende Property**  
 Figure 4b - Property Geology and  
 Diamond Drill Hole Locations  
 (West, Central and East Zones)

Scale 1:15,000 08/11/2005  
 Projection: UTM Nad 83 Zone 8N



**Legend**

- Diamond Drill Hole
- DDH Trace
- Structural Zone Axis
- Mine Grid
- Access Road
- High Angle Fault
- Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Tenure Boundary

**Geology Legend**

**Middle Proterozoic**

- mPH2 - Hart River Group Gabbro and diorite
- P1 - Pinguicua Group Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 - Pinguicua Group Red weathering stromatolitic dolomite
- P3 - Pinguicua Group Dark shale and siltstone with narrow conglomerate bed near base

**Lower Proterozoic**

- G1 - Gillespie Lake Group Maroon, brown to green weathering, dark grey bedded graphitic dolosilite-dolomite
- G2 - Gillespie Lake Group Orange to brown weathering, buff-grey bedded stromatolitic dolarenite, dolomite and dolomite with local interbedded oolitic-pisolitic horizons, Locally graphitic.

515000 516000 517000 518000 7143000 7142000 7141000

surface stockwork mineralization along strike between 10+200E and 10+400E. Correlations with surface mapped talus trains are imprecise.

The Upper Zone (UZ) extends from about 9+900E to 10+500E and accounts for the bulk of the West Zone tonnage potential from about 10+200E to 10+400E. This zone varies from west to east from a relatively steep dip to a relatively –shallow dip of about 40°. The zone appears to pinch out along strike to the west in graphitic dolostones of the G1 unit between 9+700E and 9+800E and to the east at about 10+600E.

Mineralization in the West zone is a variably oxidized assemblage of galena and honey-coloured sphalerite with minor pyrite and rare chalcopyrite and tetrahedrite contained in siderite- and dolomite-bearing veins, veinlets and stockworks. These stockworks are controlled by a steep southwest dipping pressure solution cleavage or strain slip cleavage. The sequence of mineralization infilling the veins was noted by Billiton to be: 1. pyrite, 2. sphalerite, 3. galena; although early siderite-galena veins and veinlets and late pyritic veinlets occur. Sphalerite and galena are often intimately intergrown suggesting generally contemporaneous deposition.

West Zone mineralization comprises semi-massive to massive sphalerite and galena bearing vein-breccia occurring within hydraulic shear fractures. The vein breccia mineralization is contained within the main thorough-going Blende Structural Zone which is associated with the E-W striking shear zones. These return the highest grades (>10% Pb+Zn) over narrow widths ( $\pm 1$  m). Marginal to these, generally on the hangingwall side of the main structure, are secondary shear controlled vein-swarms with individual veins up to + 5 cm width at regular spacing of about 0.5–1.0 m. These are characterized by sheared and/or shear controlled margins at core angles similar to those of the main structure. Vein width, spacing and grade tend to decrease into the hangingwall with respect to the main structure. Stockwork mineralization occurs on the margins of, and is transitional into the vein swarms. The vein-swarm mineralization assays at >5% Pb+Zn. Stockwork mineralization comprises galena-sphalerite bearing siderite veins varying in width from wispy veinlets to 1–2 cm veins. These show less structural control, tend to follow pressure solution or strain slip cleavage, are more widely and erratically spaced and return grades of <5% Pb+Zn over 1 m. Alteration is restricted to narrow bleached selvages on veins and is only rarely more extensive (10's of cm) in areas of dense stockworks or at the margins of semi-massive to massive vein breccias (5–10 cm).

#### Central Zone (Figure 4a, 4b, 6b)

The “Central” zone is situated between the West and East Zones (ie between sections 10+600East and 11+800East). In the 1989 report, the Central zones were defined as “Zones 3,4,8 and 10”, although the zone numbering system is perhaps not as useful now as it was during exploration. The zones are a series of subparallel sphalerite-galena veins up to 1 metre wide.

The terrain is largely bedrock and coarse talus, and this makes access to the zone more difficult. (In contrast the West Zone is relatively poorly exposed, weathers recessively and is overlain by 1–2 metres of fine talus and scree which is easier to excavate for roads and drill stations). The lack of strong geochemical-geophysical anomalies through the Central Zone was thought to indicate a paucity of the necessary structural preparation of the host rock as a precursor to mineralization. However, the blocky nature of the talus and thick bedded dolomite with little interbedded

carbonaceous material may tend to mask geochemical and geophysical responses in this zone. A composite sample of Zone 10 had 1457 g/t silver, with copper staining, perhaps indicating the presence of narrow but high grade tetrahedrite veins.

Drilling of 13 holes, mainly in the lower (SW) portion of the Central Zone, in 1991 returned only scattered intercepts of weak mineralization. More mapping and drilling is needed to fully assess the potential of this area.

#### East Zone (Figure 4a, 4b, 6c)

The East Zone includes several bodies of sphalerite-galena mineralization between about 12+100E and 12+900E and between 1200m and 1300m elevation (#19 Zone, #20 Zone, #23 Zone and #24 Zone). The mineralization is dominantly sphalerite-rich with minor galena and pyrite and shows little oxidization. Mineralized veins show more replacement features, such as embayed vein margins, than the West Zone mineralization and tend to be dispersed within broad ductile shear zones. East Zone veins show a strong tendency to follow the strain slip cleavage or shearing. Ductile shearing increases in intensity and frequency towards a low angle footwall thrust fault that appears to cut off the mineralization. The footwall lithology encountered on sections 12+600 and 12+700 is a distinctive talcose dolostone and does not contain mineralization. Interpreted cleavage angles are from about  $-70^{\circ}$  near surface and deflect to about  $-30^{\circ}$  in proximity to this low angle fault which may represent a basal thrust at the root of the mineralized system. The intercepts of this footwall fault between 12+600 and 12+700 are at the same elevation indicating strike parallel to the local grid baseline and appears to be inclined at about  $30-35^{\circ}$  toward grid south ( $215^{\circ}$  true).

A mineral resource estimate has been calculated for the East zone, which is at lower elevation and is more easily explored than the other zones.

#### Far East Zone (Figure 4a, 4c)

The Far East Zone, was outlined by Archer Cathro geochemistry in the 1980's, was mapped by Archer Cathro and Billiton but was never drilled. The Far East Zone is separated from the East Zone by a mountain ridge. Mineralization is present in outcrop and in talus blocks on the south wall of a north facing cirque.

Reconnaissance field work by Eagle Plains Resources in 2004/2005 has largely been focused on the Far East Zone. 2004 work included soil, rock and stream sediment sampling. During the course of the program, prospecting located in outcrop high-grade zinc mineralization (separate grab samples assaying 13.2, 9.78, and 4.21% Zn), which was likely the source of the regional geochemical and local zinc in soil anomaly. This has been named the "Shanghai" showing. Mineralization consists of strong sphalerite mineralization found over 0.5 m in a shear zone, with some mineralized brecciation extending into the wallrock for 2 to 3 m. The strata-parallel zone was traceable for over 50 m before extending under talus cover. The mineralized band is higher grade mineralization than the surface showings at the West Zone, but appears to be much narrower. Some copper-rich float material which returned values of up to 2.3% copper was also found. Additional staking was completed in 2005 to cover the mineralization discovered during 2004 and to enlarge the land position in the area of the main Blende deposits.

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EPL:TSX-V  
**Eagle Plains Resources Ltd.**  
**Blende Property**  
 Figure 4c - Property Geology (Far East Zone), 2004 and 2005 Sample Locations

Scale 1:15,000 08/11/2005  
 Projection: UTM Nad 83 Zone 8N

### Legend

- Mineral Showings
- Rock Sample
- Silt Sample
- Soil Sample Line
- High Angle Fault
- Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Tenure Boundary

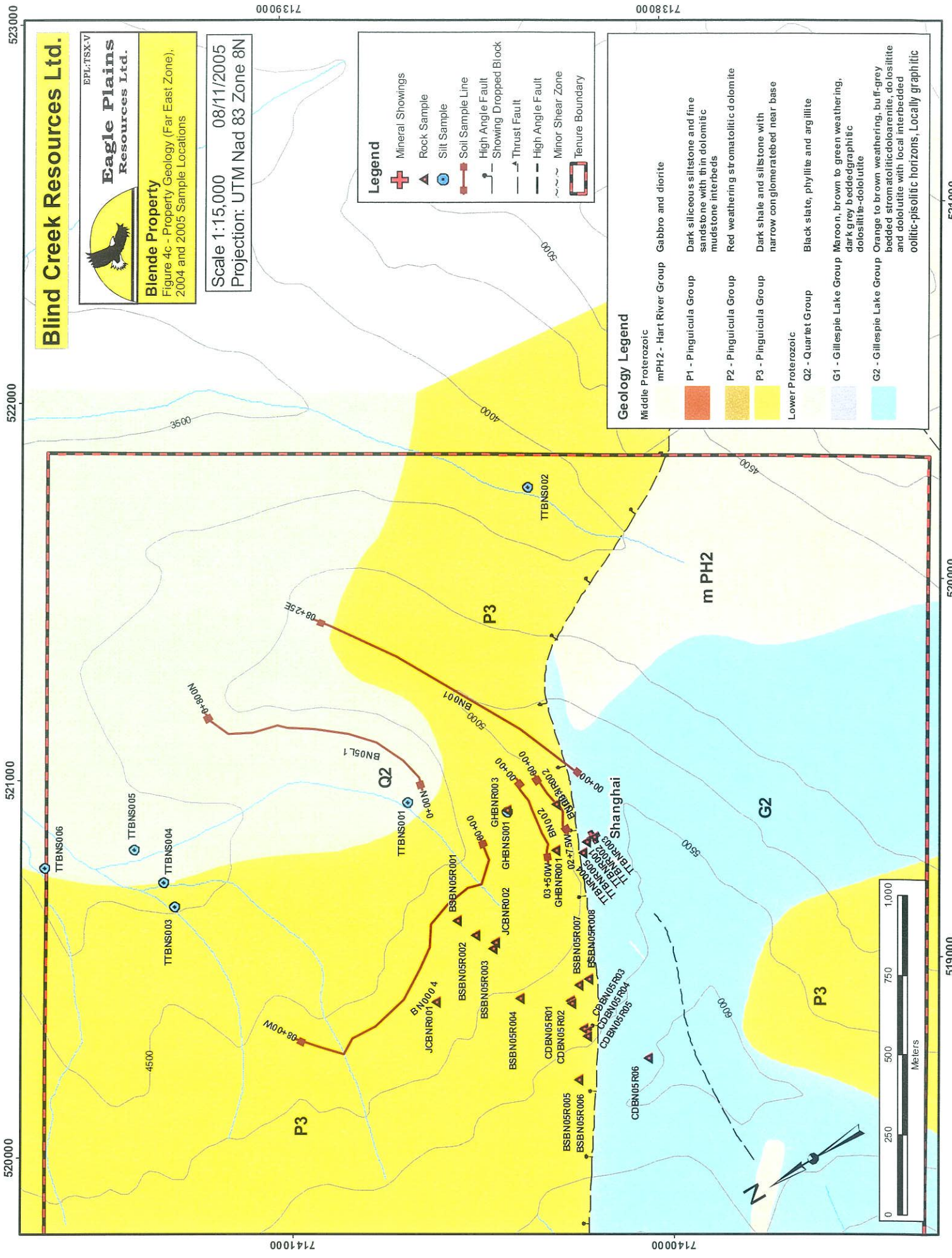
### Geology Legend

Middle Proterozoic

- mPH2 - Hart River Group Gabbro and diorite
- P1 - Pinguicula Group Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 - Pinguicula Group Red weathering stromatolitic dolomite
- P3 - Pinguicula Group Dark shale and siltstone with narrow conglomerated near base

Lower Proterozoic

- Q2 - Quartz Group Black slate, phyllite and argillite
- G1 - Gillespie Lake Group Maroon, brown to green weathering, dark grey bedded graphitic dolostuff-dolomite
- G2 - Gillespie Lake Group Orange to brown weathering, buff-grey bedded stromatolitic arenite, dolostuff and dolomite with local interbedded oolitic-pisolitic horizons, Locally graphitic



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As part of the 2005 field program, soil sampling and prospecting were carried out in the Far East Zone area. A possible outcrop source(s) for the high grade copper float discovered in 2004 was located and soil geochemical coverage was expanded to the south.

## EXPLORATION

Exploration by Eagle Plains Resources Ltd. has concentrated on the Far East Zone. A new lead zinc showing (the "Shanghai" ) and a number of chalcopyrite bearing quartz veins and vein breccias were discovered in 2004 / 2005. In 2005, work performed by Eagle Plains Resources Ltd. on the Blende property involved a twelve day field program under the direction of Robert J. Sharp, P.Geol. Fieldwork included relogging of historical drill core on site, prospecting and sampling in the Far East Zone area, and GPS surveying of some existing drill collars and roads. The style of mineralization and geological contacts were re-examined and verified in selected diamond drill holes from the West, East and Central Zones. Surface geological mapping plus location and condition of drill roads was also checked and verified.

The style of mineralization plus its trend and drill intersections were seen to be in agreement with past reports on the property. Past work done on the property is assessed as competent, professional and reliable.

During the course of the program, the property was visited by C.C. Downie, P.Geo, Exploration Manager, Eagle Plains Resources Ltd., Dr. Elizabeth Turner, Laurentian University, and Dr. Sarah Gleeson, University of Alberta. Late in the season , a short helicopter supported gravity survey was completed on part of the property by Aurora Geosciences of Whitehorse, YT. The total cost of the 2005 field program was approximately \$150,000.00. Total expenditures on the property by Eagle Plains Resources since 2003 are in the order of \$180,000.00

The following accounts of past exploration are modified from reports of work conducted by Archer Cathro and Associates, Billiton Metals Canada Inc and NDU Resources, who were previous owners of the property.

### Geochemistry

The following account of geochemistry is summarized with some editing from Lister and Eaton (1989).

In 1976 and 1977 the GSC conducted reconnaissance stream sediment sampling in the Blende area as part of a geochemical baseline survey of the Wernecke Mountains. Results of the survey were published as GSC Open File 518. Streams draining the property returned moderate to extremely anomalous values for lead and zinc while other streams within the property's 265 sq km area of interest returned near background values. This regional survey provided considerable encouragement for further exploration in the area.

In 1989 grid soil sampling was done by Archer Cathro for NDU Resources over approximately 9.2

sq km in the central part of the property and a few reconnaissance prospecting and sampling traverses were conducted around the periphery. Grid sample locations were plotted on a number of large grid maps and a compilation map, all of which are too bulky to include in this summary.

The grid soil samples were taken along compass and chain controlled, slope corrected lines that were spaced 100 m apart. The lines were run at right angles between four theodolite-EDM surveyed baselines that are orientated at 125°, sub-parallel to the fault complex. The baselines were marked at approximately 50 m intervals by 1 m high wood lath pickets bearing aluminum tags inscribed with grid coordinates. Similarly marked 0.5 m high pickets were placed every 20 m along the sample lines. Soil samples were taken at 40 m intervals from "B" or "C" horizon material and the sample number was inscribed on the aluminum tag at the appropriate station picket. Many of the soil pickets are still legible. Soil was easily obtained even within the coarsest dolomite talus but was scarce on shale scree slopes. Cliffs on north- and west-facing slopes prevented sampling over part of the West Zones.

A total of 2,632 soil samples were taken from the grid, while 105 stream sediment and soil samples were collected peripheral to it. All samples were shipped to Chemex Labs Ltd. in North Vancouver, B.C. where they were dried and sieved through a -80 mesh screen. If the samples contained insufficient fine-grained material, they were sieved again through a -35 mesh screen and then pulverized to -150 mesh. In a few extreme cases, the entire sample was pulverized. All samples were analyzed for 32 elements by the induced coupled plasma (ICP) technique using a nitric aqua regia digestion. Ninety-nine samples selected from various parts of the grid were also analyzed for gold by neutron activation.

The reconnaissance sampling showed that the highest stream sediment values (up to 565 ppm lead and 2910 ppm zinc) are from streams draining areas of known mineralization and anomalous grid response. Samples taken in 1989 to the northwest and southeast of the property returned moderately to strongly anomalous values and the claim block was expanded to cover these areas. All other drainages returned near background values.

Based on the regional sampling results and Archer, Cathro's experience elsewhere in the Wernecke Mountains, typical background values and anomalous thresholds for the Blende area are as follows (all values are in ppm).

Table of 1989 Geochemical Parametres  
(Archer Cathro 1989)

Threshold	Pb ppm	Zn ppm	Ag ppm	Cu ppm	As ppm
Background	10-50	50-150	0.1-0.5	10-50	10-30
Weakly Anomalous	100	400	1.0	50	50
Moderately Anomalous	200	800	2.0	100	100
Strongly Anomalous	500	2000	5.0	200	200

Note: 1000 ppb = 1 ppm = 1 gram/tonne. 10,000 ppm = 1%

## Geophysics

The following discussion of geophysics has been adapted from the 1991 Billiton report; the writer

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has not examined the geophysical data in great detail but has relied on the Billiton interpretation.

Geophysical coverage in 1989 completed by NDU Resources, prior to Billiton's involvement in the Blende Project comprised grid coverage with very low frequency – electro-magnetic (VLF-EM) surveys using two EDA Omni-Plus VLF/magnetometre/gradiometre systems coupled with an Omni-Plus base station magnetometre. Surveys were conducted along grid lines with readings at 10 mm intervals.

The VLF coverage included the entire grid; however, the magnetic readings were discontinued after about 20 km of readings because of:

- a perceived lack of contrast, and
- no noticeable response from known mineralization.

VLF data were Fraser Filtered<sup>2</sup> and produced as a contoured map. This survey data was re-examined after the 1990 drill campaign. VLF anomalies found to lie within about 500 metres of the Blende Structural Zone were ranked with respect to their spatial association to soil geochemical anomalies and mineralized float (see accompanying Table). A Hjelt (mathematical) filter was applied to the VLF data. This provided resistivity pseudosections across the Blende Structural Zones to aid in interpretation. Three of the highest ranked anomalies (E-2,3 and 5) show a close association with mineralized float located by the 1990 geological mapping program. These VLF anomalies were targeted for earliest drilling in 1991 prior to the planned follow-up geophysics. These anomalies are all associated with the East Zone mineralization discovered in 1991.

The 1991 geophysical program was designed to further evaluate the relationship of the existing VLF data to known mineralization, to determine the most suitable and cost effective geophysical method for the direct detection of mineralization. The aim of the survey was to extend coverage of this method over as much of the Blende Structural Zone as possible using the existing grid.

Additional VLF and Magnetometre coverage was attempted further to the east of the existing gridded area in order to cover prospecting discoveries in this direction. The results of this work are contained in a report by G. Hendrickson P.Geo. of Delta Geoscience Ltd. of Vancouver. This data was reviewed and interpreted for Billiton by J. Roth of Stratagex Ltd., of Toronto.

Due to the rugged terrain east of the existing grid, only 8 km of VLF/magnetic surveying was possible. The results show the continuation of VLF conductors to the east, but additional geophysical follow-up, although planned for 1991, was physically impossible.

#### Induced Polarization (IP)

Initial dipole-dipole IP coverage was obtained over the East Zone where early drilling of VLF anomalies showed substantial near surface thicknesses of mineralization (which confirmed the value of the VLF surveys as a method for the direct detection of mineralization).

The East Zone was surveyed using a gradient Induced Polarization (IP) array which proved adequate for the detection of near surface mineralization. Some testing of Horizontal Loop EM (HLEM) was conducted but terrain problems were found to affect the HLEM work more than the gradient IP. As a lower cost method, gradient IP was therefore used across the existing grid to the full extent that the rugged topography would allow and was used to provide drill targets through the West, Central and East Zones. Extensive areas of graphitic dolostone provided some complications in

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2 <sup>2</sup> Fraser Filter is a mathematical treatment to provide results that can be contoured.



interpretation and many of the stronger geophysical targets through the area between the Central and East Zones proved to be graphitic conductors.

## DRILLING

Total drilling done on the property in 1988, 1990, 1991 and 1994 is 87 holes totaling 16,700 metres (rounded). The initial three holes were drilled in 1988. The largest program, in 1991, was conducted by E. Caron Diamond Drilling Ltd. of Whitehorse using two Longyear 38 drills using NQ size core-barrels. Each drill was manned by two crews of two men, each working twelve hour shifts. Drill stations inaccessible to the bulldozer were prepared by hand and drilled with a helicopter transportable Craelius underground drill using thin wall rods (BTW).

The following drill intercepts are from the 1988 drill program

Table of 1988 Drill Intercepts

HOLE No	FROM m	TO m	WIDTH m	PB %	ZN %	AG oz/ton
88-1	4.3	29	24.7	3.5	3.2	1.7
incl	4.3	13.7	9.4	4.1	3.9	1.7
incl	27.4	29	1.6	17.1	13.7	6.17
88-2	4.3	90.5	86.2	5.3	3.0	3.1
incl	4.3	14.9	10.6	8.3	6.4	3.6
and	28.7	31.2	3.0	12.2	10.3	4.8
and	40.8	54.9	14.1	4.0	2.9	2.6
and	70.7	90.5	19.8	12.3	4.4	8.3
88-3	3.7	135.9	132.2	3.7	1.8	1.9
incl	17.4	18.9	1.5	24.60	11.80	10.22
incl	82.9	95.1	12.2	6.20	2.62	4.32
and	118	135.9	17.9	10.13	3.70	9.33

From 1988 Drill Report (Franzen 1988)

## Surveying

Drill collar locations and azimuths were surveyed by Lamerton and Associates of Whitehorse approximately every three weeks and at the completion of the program in August. The writer has

verified that the drill hole collar survey and down hole survey information in the Eagle Plains Resources Ltd. database was checked against drill hole header records stored in paper format which were obtained from Billiton Metals Canada Inc. Note that the drill hole azimuths recorded on the drill logs use a local grid north that lies 35° west of true north. The Eagle Plains Resources Ltd. drill hole database stores both local grid orientations and true north orientations for the azimuth data.

### Core Recovery

Core recoveries were generally greater than 90%, although recovery was less in altered and broken ground. The drillers were contractually obliged to maximize core recovery.

### Core Treatment

Drill core from all programs was selected for assay based on the presence of visible mineralization. High grade sections and geologically interesting features were split in half by diamond sawing. The remainder of the mineralized intervals were split with a mechanical core splitter and sampled over 3 m assay intervals which were sent to Chemex Labs in Vancouver. The samples were routinely assayed for Pb(total), Pb(non-sulphide), Zn(total), Zn(non-sulphide) and Ag.

Drill logs with assay results are in possession of Eagle Plains. Downhole surveys for azimuth and dip were carried out using a Tropari instrument, and these measurements are recorded on the drill logs. The dip of the hole at the collar was measured using a Brunton compass.

Only selected drill core was photographed by Billiton for geological purposes, but all of the B91-19 (East Zone discovery hole) mineralized interval was photographed. No systematic RQD measurements were taken.

The 1988 and 1994 drill core was stored at the Archer Cathro warehouse (Wernecke House) at Keno Hill. The 1990-1991 drill core is stacked, covered with plywood and bound by steel strapping and stored on the Blend Property. As part of the writer's 2005 due diligence, the core storage area was inspected and selected holes were examined in detail. Core hole numbers and depths are generally recoverable, and the core is in good condition. Missing metal tags on the core boxes were replaced during the 2005 field program. A strapping machine was used to re-strap the core boxes.

### 1990 Drill Program

The 1990 Work Program included diamond drilling in the West Zone (Main Zone) over a strike length of about 500 m (10+000E to 10+500E) to test several closely spaced *en echelon* zones of Pb, Zn, Ag mineralization. These zones had been sporadically trenched over a strike of about 1000 m and down a dip slope of about 150 m demonstrating the volume potential to host a significant base metal deposit.

Fifteen drill holes totaling 3,660 m drilled in 1990 successfully outlined mineralization estimated to contain a diluted in-situ drill indicated geological resource, as discussed in a subsequent section, within a preliminary pit design floored at the 1650 level, of 11.5 million tonnes (Mt) grading 3.01% Pb, 2.20% Zn and 1.46 opt Ag. The preliminary pit design demonstrated physical extractability at a stripping ratio of about 2:1.

Drill core from the 1990 drilling campaign was split into 3 m intervals and core from the entire length of the hole was submitted to the Chemex Labs in Vancouver for routine assay determination for lead, zinc, silver and copper. Selected intervals were later tested for the

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presence of non-sulphide lead and zinc. Subsequently all of the significantly mineralized intervals were assayed for non sulphide lead and zinc.

### 1991 Drill Program

The 1991 drill program at the Blende property was conducted between May 28 and August 19. It consisted of 62 holes totaling 11,525.1 m. The drilling was contracted to E. Caron Diamond Drilling Ltd. of Whitehorse and was done with two, bulldozer supported Longyear 38 drills which used NQ equipment and a helicopter supported Craelius Diamec 350 drill which used thin-wall BQ equipment.

The core was logged on site by geologists G. Lutes and G. Evancio and geological students M. Robinson and G. MacIntosh. The mineralized intervals were split using a mechanical knife core splitter or sawn in half. All samples were sent to Chemex Labs in North Vancouver where they were assayed for total and non-sulphide lead, total and non-sulphide zinc and silver. The remaining core is stored on the property.

Only eleven drill holes (DDH91-33, 40, 46, 49, 65, 68, 69, 72, 75, 77 and 78) were used to file for assessment credit in a Statement of Expenditures dated November 26, 1991. The amount filed was \$151,165.57. Although the complete cost of the program is unknown, 62 drill holes in total were completed with an estimated the cost of roughly \$850,000. With the addition of other substantial work completed in 1991 (geophysics, geochemistry) the real cost of the 1991 program was likely in excess of \$2 million.

### 1994 Drilling

In 1994, NDU Resources, having regained 100% of the property equity, drilled seven holes totaling 596 metres. These holes were drilled on three section lines spaced approximately 50 m apart in an area west of the previous drilling. The first six holes all intersected significant mineralization while the seventh may have stopped short of the target. The mineralization is hosted in strongly fractured and locally brecciated dolomite beds cemented by secondary dolomite or siderite. Surface oxidation is minimal.

The 1994 drilling successfully extended the West Zone about 150 m along strike; however, the drill area was located on a steep slope making it unsuitable for open pit mining. Although some of the intersections returned significantly higher copper and silver assays than are found elsewhere in the deposit, these metals appear to be erratically distributed. Average grades in some of the intersections were interpreted in 1994 as approaching values that would be suitable for underground mining. Further drilling was proposed to test downdip and further to the northwest.

The 1994 drill results have not been factored into the resource estimation.

## SAMPLING METHOD AND APPROACH

The Blende deposit is well documented and surface exposures are poor and unrepresentative of

the

tenor of the deposit. The writer does not question the presence and tenor of the deposit as established by diamond drilling.

Past sampling methods were examined by the writer from the yearly exploration reports and were found to be done according to industry standards. Initially, the West zone was sampled by surface trenches dug across the zone. Later, diamond drilling was done and the core sampled by standard splitting techniques. The drill core is well preserved and is stored on the property. As part of the writer's due diligence, historical drill core was examined. Individual drill holes were examined to confirm depth and width of sample. A visual examination of the core verified the presence of mineralization where indicated by analytical results.

Eagle Plains Resources Ltd. completed limited geochemical sampling at the Far East Zone in 2004–2005 including silt sampling, soil sampling and prospecting. All 2004–2005 samples were collected by Bootleg Exploration Inc. employees, a wholly owned subsidiary of Eagle Plains Resources, or sub contractors. Soil lines were run along topographic contours at 25 m spacing between samples and also along ridges at various locations throughout the property. Soil pits were dug using mattocks and soil was collected from depths averaging 10–20 cm. In areas of relatively thin soil cover, it is believed that the soil samples accurately reflect the underlying lithologies. In areas of thick till and areas with poor or no soil development, soil sampling results may not accurately reflect values from underlying lithologies. Survey control for soil sample lines was established using hand held GPS units.

Stream sediment samples were collected from some of the drainages in the Far East area. The samples were collected from both active and dry stream beds. Sample locations were recorded using hand held GPS units.

Rock samples were collected as part of reconnaissance prospecting traverses, with more detailed grab and chip sampling in areas identified as highly prospective on the basis of the presence of quartz veins with visible mineralization, favorable results from historical work, soil and rock geochemical anomalies from Eagle Plains Resources Ltd. sampling and favorable structural setting.

A complete list of 2004 / 2005 analytical results is included in Appendix II and sample locations are shown in Figure 4c.

## **SAMPLE PREPARATION, ANALYSES AND SECURITY**

Historical samples were prepared by standard methods. It is fortunate that most of the samples in the entire history of Blende were taken by Archer Cathro personnel, prepared and analyzed by Chemex Laboratories (Now ALS Chemex Ltd, in North Vancouver). Standard methods of analyses were used. A detailed Chemex Laboratory procedure explanation is provided in Appendix II.

All 2004 / 2005 samples were collected by Bootleg Exploration Inc. employees, a wholly owned subsidiary of Eagle Plains Resources, or sub contractors. Soil and silt samples were collected using

standard kraft sample bags and were dried prior to shipping. Samples were placed in double rice bags and sealed with cable ties and shipped directly to the analytical laboratory using Greyhound Bus Lines Freight service. Sample cataloguing and shipping was overseen by either Charles Downie, P.Geol, Director and Exploration Manager, Eagle Plains Resources or Robert J. Sharp, P.Geol. Analytical work was contracted to Loring Laboratories Ltd. 629 Beaverdam Road NE. Calgary, Alberta T2K 4W7 (2005 samples) and Eco Tech Laboratory Ltd. 10041 Dallas Drive, Kamloops, B.C. V2C 6T4 (2004 samples). The samples were analysed using ICP (Induced Coupled Plasma) and ICP-MS (Mass Spectrometer) methods. A multi - element package was used for initial analyses, with samples exceeding detection limits reanalyzed using either a multi-element assay by ICP or precious metal assay. The Methods and Specifications information for the analytical packages are included in Appendix II A.

#### Data Evaluation

Raw and final data undergo a final verification by a British Columbia or Alberta Certified Assayer who signs the Analytical Report before it is released to the client. Chief Assayer at Eco Tech is Jutta Jealouse. Chief Assayer at Loring is David Ko.

## DATA VERIFICATION

In this technical report the writer has:

- Visited the property with Mr. M. Lawson from July 17 to July 28, 2005. For part of the program, the property was visited by Mr. C.C. Downie, Exploration Manager, Eagle Plains Resources Ltd, Dr. S. Gleeson of the University of Alberta, Department of Earth Sciences, Dr. E. Turner of Laurentian University, Dept of Geological Sciences.
- Reviewed the technical data held by Eagle Plains Resources Ltd. in their Cranbrook, BC office.
- Copied critical files for review in Calgary and to accompany the writer to the field.
- Reviewed a digital database prepared by Chris Gallagher of Eagle Plains Resources.
- Reviewed the current drill hole database compiled by Eagle Plains Resources Ltd containing all the drill holes drilled to date.
- Examined the diamond drill core from selected holes to visually verify previous assay intercepts and results and mineralization style, descriptions and interpretations.
- Split one half of the remaining core over a mineralized interval in Hole B90-05 and submitted the sample to Loring Laboratories for a check assay of total and non-sulphide Zn and Pb. The analytical results show very little variance between the 1990 assay and the recent check assay taken in 2005. The results and variance are given in Appendix II F.
- Measured the location of selected drill collars and roads to verify their correct position
- Examined the existing geological mapping to verify the position of geological contacts and their interpretation.
- Reviewed the existing geological and exploration data to check on the nature, quality and accuracy of work done.
- Reviewed and verified the accuracy of resource calculation and methods that were used by
- Billiton, 1991 and later checked by Price, 2004.
- Estimated total expenditures required by all parties in the project.

## ADJACENT PROPERTIES

*The following information is provided as background material for the reader. The writer has not been able to independently verify the information contained although he has no reason to doubt the accuracy of the descriptions. The information is not necessarily indicative of the mineralization on the properties that are the subject of this technical report. The source of the information is without exception publicly available documents gained from the Yukon Government, BC Government and USGS website, from Company websites and press releases or from descriptions contained in academic papers or their abstracts published in geological or mining journals or on the Internet. The writer has not verified any resource or reserve figures, which are from the literature, and these may not comply with Canadian regulatory policies and thus should not be relied on. The writer has no affiliation with any of the properties or companies mentioned.*

### Keno Hill

The nearest past productive mine to the Blende deposit is the Keno Hill property comprising a number of mineralized veins in metasediments.

The following table summarizes the production history of the Keno Hill camp, which is Canada's second largest producer of silver. Almost 50% of the total has come from the Elsa, N Keno (No. 9), Lucky Queen, Silver King, Sadie-Ladue and Husky Mines.

<u>Years</u>	<u>Company</u>	<u>Tonnes milled</u>	<u>Silver (g)</u>	<u>Lead (kg)</u>	<u>Zinc (kg)</u>
1921-1941	Treadwell	588,503.4	1,533,087,282	44,008,249	
1953-1956	Galkeno	102,408.8	117,818,551	5,396,968	2,816,255
1953-1954	Bellekeno	10,499.9	27,961,517	1,573,419	
					166,552
1941-1982	Others	841.9	8,314,145	480,322	
					6,322
<u>1946-1988</u>	<u>United Keno</u>	<u>4,170,169.0</u>	<u>5,081,83,991</u>	<u>222,163,088</u>	<u>150,209,254</u>
1921-1988	Total	4,872,423	6,769,013,486	273,622,047	153,198,383
	Grade (recovered)		1,389 g/t (40.5 opt)	2.80%	1.57%

Over 1.8 million kg of cadmium and nearly 100 000 g of gold have also been recovered. Recovery of zinc was discontinued from 1979 to 1985 due to low assays and high treatment costs.

### Resources at Keno Hill

A 1996 engineering study, considered to be relevant, estimated that the project contains over 28 million ounces of silver, 50,300 tons of lead and 45,400 tons of zinc in five of the known deposits:

Category	Tons	Silver		Lead		Zinc	
		Oz Ag/t	Ounces	%	Tons	%	Tons
Measured	45,401	33.2	1,509,152	3.1	1,390	2.9	1,312
Indicated	702,195	29.9	21,015,654	5.2	36,550	4.1	28,997
Inferred	209,196	28.9	6,054,887	5.9	12,385	7.3	15,183

The resource is an estimated mineral resource only as outlined in the engineering report and does not instill a confidence level nor economic assumptions that can be construed as a "mineral resource" as defined by the Guidelines and Canadian National Instrument 43-101.

At January 1, 1998, total proven and probable mineral resources were 459,254 tons aver 35.57 opt silver, 7.21 % lead & 5.33% zinc. In addition, there were significant, but low-grade resources in tailings.

(Canadian Mines Handbook, 2000-2001)

#### Recent History of United Keno Hill

In 1998, NDU Resources Ltd merged with United Keno Hill Mines Ltd, with NDU shareholders receiving 1.35 United Keno shares for each share of NDU. The authorized capital: Unlimited shs; outstanding at Dec 31, 1999: 47,137,097. A Major Shareholder as of Dec 31, 1999 was Energold Minerals Inc which company held 6,500,000 shares. Subsidiaries (wholly owned) were : UKH Minerals Limited, United Keno Hill Mines Inc. Financial Data: Dec 31, 1999: Working cap deficit was \$8 million. Total assets were \$45 million. Shareholder's equity was \$21.7 million.

In 1999, United Keno Hill owned 100% interest in 292 claims, 674 leases, 2 crown grants, totaling 33,000 acres as the Elsa Properties, including the former producing Elsa mines, Galena, Keno & Sourdough Hill areas, Mayo dist, YT (Lat 63° 55' N/Long 135° 25' W). Operations began in 1947. Commercial production was suspended Jan 1989 due to low silver price. In 1994-96, exploration programs were completed. In 1996, the company completed detailed mine planning and a feasibility study. In January 1998, the company received a Type A water license. The company in 2000 planned to resume production when project financing could be arranged. In addition to the United Keno Hill properties, the company also held the Blende property and the Clear Creek zinc lead-silver property situated about 65 miles east of Pelly Crossing on the Klondike Highway.

August 6, 1998 Dynatec Corporation ("Dynatec") announced that the company will not proceed to execute a Joint Venture Agreement with United Keno Hill Mines Limited ("United Keno") for the rehabilitation, development and operation of the mines near Elsa in central Yukon.

- April 12, 2001 Redcorp Ventures Ltd. announced that it had reached agreement with the Keno Hill property lien holders to purchase a 100% interest in the property, subject to court and regulatory approval and satisfaction of a number of conditions. The purchase agreement calls for a staged total payment of \$2.8 million. This sum is comprised of an initial payment of \$1.7 million on the date for completion (which is approximately 7 months after Court approval of the agreement) subject to satisfactory pre-feasibility assessment and due diligence review, at the sole discretion of Redcorp. This initial payment will be comprised of \$850,000 in cash and \$850,000 in cash or shares (or any combination thereof at Redcorp's election). The remaining \$1.1 million plus interest is payable in cash as part of production financing on arrangement of suitable terms or, failing which, the balance will be paid out of proceeds of production. If commercial production has not commenced by December 31 2005, payment will be made at the rate of \$100,000 per year thereafter until payout or production commencement. The Company also commenced discussions with the Nacho Nyak Dun Development Corporation, the business arm of the Nacho Nyak Dun First Nation who have settled land claims in the vicinity of the property, to form a joint venture for the re-development of the Keno Hill property on completion of the purchase.
- May 9, 2001 Redcorp Ventures Ltd. (RDV) ("Redcorp") announced that, further to its release of April 12,2001, Redcorp's agreement with a group of lien holders under the Yukon lien legislation to purchase the assets of United Keno Hill Mines (the "UKHM Assets") was not approved by the Yukon Supreme Court in a hearing on that matter held Tuesday, May 8, 2001 due to the existence of one competing bid for the UKHM Assets, which the Court deemed to be a superior proposal. Redcorp does not intend to pursue the acquisition of the UKHM Assets further and will resume its review of other promising advanced mineral projects. The opportunity for third parties to make competing bids for the UKHM Assets was ordered by the Court as part of its judicial review of the proposed sale.
- May 17, 2001 The BC Securities Commission issued a cease trade order against United Keno Hill Mines for failure to file financial statements for year end December 1999 and quarterly statements to June 2000.
- 2002 Nevada Pacific Gold, a Vancouver-based junior company made an offer to purchase the assets of United Keno Hill, subject to a 6 month due diligence period. However, on May 30th, Nevada Pacific Gold gave notice to the Supreme Court that it would not proceed with the acquisition of the United Keno Hill property. The company was released from their site management obligations on June 12, 2003.
- June 13, 2003 Interim care and maintenance of the United Keno Hill mine site is being taken over by the Yukon government in the absence of an owner and Nevada Pacific Gold's withdrawal from the property. The Yukon Government announced they were developing an agreement with Nacho Nyak Dun to have the First Nation continue site care and maintenance. The agreement will include maintaining the water treatment facilities, site inspections and caretaking, to be undertaken in conjunction with Access Consulting Group



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of Whitehorse. The United Keno Hill site is a Type II site under the terms of the Devolution Transfer Agreement.

2005 Court-appointed receiver PricewaterhouseCoopers Inc. selects Alexco Resources Corp. from a list of nine bidders to purchase the assets of United Keno Hill Mines Ltd. Alexco is a private company controlled by NovaGold Resources Inc., Quest Capital Corp. and ALM Group ULC. The final deal will be approved pending the outcome of a due diligence study by Alexco including financial feasibility arrangements, and a formal agreement with the Yukon and federal governments regarding management of the environmental liabilities on site.

### Carpenter Ridge

At Carpenter Ridge, a few km west of the Blende property, within the Native Land selection, Big Creek Resources in 1991 drilled 610 m in five holes. Results from trenching returned several intersections, including five m of 9.5% combined lead and zinc, and 9.3 m of 4.5% lead-zinc. (Source: Northern Miner Dec 23, 1991) Present status of the property is not known.

### Gayna River

The Gayna River deposit is an Irish type Zn-Pb deposit located near the headwaters of the Gayna River on the eastern slope of the MacKenzie Mountains, 170 km west of Norman Wells, NWT. and about 150 km from the Blende Deposit. The 49 unit (2500 acre) property contains a number of zinc deposits outlined by Rio Tinto Canadian Exploration during the mid-1970s. Mineralization in the area consists of carbonate-hosted zinc-lead-silver similar to that mined at Pine Point from 1970 to 1990. The deposits are in dolomitized limestones adjacent to stromatolitic algal dolomite "reefs" within the Proterozoic Little Dal formation. Rio Tinto completed some 27,000 m of diamond drilling on the property, and calculated a resource of 1,066,800 tonnes grading 4.51% Pb+Zn which would be equivalent to an 'inferred' category by 43101 standards<sup>3</sup>.

The best drill intersection reported by Rio Tinto included a 6.0m interval which graded 20% combined lead-zinc. When Rio Tinto last worked the property in 1978, company geologists suggested that further exploration would result in additional discoveries hosted by favourable stratigraphy mapped within the property area.

Eagle Plains Resources has acquired most of the known mineralized area comprising the Gayna River deposit. Much of the pertinent Rio Tinto data has been compiled into a GIS database and ongoing research into the geological setting and fluid behavior of the mineralizing system is currently being done by a joint project with Eagle Plains Resources Ltd, the Geological Survey of Canada, the University of Alberta and Laurentian University.

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3 <sup>3</sup> The writer has not verified this resource estimate, which is not in compliance with NI 43-101 and should not be relied on.

## Prairie Creek (Cadillac)

The Prairie Creek Zn-Pb-Ag deposit is situated in the Nahanni Butte area of the southwestern part of the Northwest Territories. It is operated by Canadian Zinc Corporation. Canadian Zinc Corporation owns 100% of the Project which comprises eight mining leases covering an area of 8,750 acres and five additional mineral claims covering 10,204 acres. Canadian Zinc Corporation has a 60% interest in the plant and equipment located at the Project site, with an agreement that the remaining 40% will be transferred to it upon the payment of a total of Cdn\$8.2 million under a 2% net smelter royalty agreement ("NSR") with Titan Pacific Resources Ltd.

The rocks in the area are composed mainly of Lower Ordovician age dolostones of the Whittaker Formation, which are overlain by Silurian aged Road River Formation cherty shales and thinly bedded dolostone of the Cadillac Formation. Lower to Middle Devonian Arnica and Funeral Formation dolostones and limestones overlie this unit at the north end of the property. Faulting and folding trends are approximately north-south, and expose "windows" of Road River and Whittaker Formations. Most of the Prairie Creek numbered zones occur within the shale members of the Road River Formation.

Mineralization on the property is of three types. Vein-style mineralization occurs over a 10 km section of the north-south trending Prairie Creek fault; twelve separate zones of appreciable vein style mineralization have been located. Mineralization within these veins consists of zinc-lead-copper, with significant associated silver grades. The most extensive of the vein style mineralization is known as Zone 3, and has been the focus of most of the surface and underground work to date.

Stratabound mineralization occurs within the Upper Whittaker Formation and is closely associated with the higher grade vein-style mineralization. The main economic minerals in the stratiform style of mineralization are zinc, lead, and iron, with moderate amounts of copper, and silver. This style of mineralization occurs in Zones 3, 4, 5, and 6 over a strike length of three km and has a reported thickness of 28 m locally.

The third style of mineralization is a Mississippi Valley Type of mineralization. Cavity fillings of low-grade zinc mineralization have been found, in drilling and on surface, over the 10 km strike length of the mineralized trend.

MRDI Canada has completed a resource estimation for San Andreas' Prairie Creek Property Zone 3 in the Northwest Territories<sup>4</sup>. All geological and assay data were supplied to MRDI by San Andreas. These data supplied were reviewed for completeness and overall integrity for inclusion in the model of the deposit. Inconsistencies within the raw data set were rectified from additional data supplied by San Andreas Resources. The geological resource has been classified into measured, indicated and inferred resources, based upon the level of confidence according to the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves, using the drilling grid spacing and continuity of mineralization as determined through the geostatistical review of the data. MRDI staff visited the property site and feel that the data and the interpreted model represents the Prairie Creek deposit.

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4 <sup>4</sup> The writer has not verified this resource estimate, which is not in compliance with NI 43-101 and should not be relied on.

Based on the geological model of the deposit, MRDI estimates the resources of Zone 3 to be:

**Zone 3 Geological Mineral Resources**

<u>CATEGORY</u>	<u>Tonnes (000s)</u>	<u>Zinc %</u>	<u>Lead %</u>	<u>Silver g/t</u>
Measured	1,121	12.9	9.8	138
Indicated	2,447	11.3	9.7	142
Inferred	8,278	12.8	10.3	169

In addition to the resource delineated in Zone 3, San Andreas has estimated Zones 7 and 8 to contain over 300,000 tonnes of similar high grade zinc, lead and silver.

## Lead Zinc Silver Deposits, Yukon and NWT

DEPOSIT	COMPANY	TYPE	RESOURCE tonnes	GRADE ZN %	GRADE PB %	GRADE AG grams/t	GRADE AU G/T	Grade Cu %
Wolverine YT	Expatriate	VMS	6,230,000	12.66	1.55	370.90	1.76	1.33
Logan YT	Expatriate	Dissem.	13,080,000	5.10		23.70		
Kudz Ze Kayah YT	Teck Cominco	VMS	13,720,000	6.00	1.61	139.20	1.38	.90
GP4F YT	Teck Cominco	VMS	1,500,000	6.40	3.10	90.00	2.00	.10
Yava, Nunavut	Expatriate	VMS	1,130,000	4.96	1.60	117	.3	1.03
Gayna River NWT	Eagle Plains	Miss Val	50 M tonnes	4.7	0.2			
Bear-Twit	Eagle Plains	Carb hosted	9,070,000	5.42	2.60			
Jason		Sedex	15,500,000	7.09	6.57	79.9		
Tom		Sedex	10,800,000	7.54	6.37	73.7		
Howards Pass	US Steel	Sedex	>59,000,000	5.4	2.1			
Additional deposits are tabulated in Appendix II								

The writer has not verified these resource estimates, which may not be in compliance with NI 43-101 and should not be relied on.

## MINERAL PROCESSING AND METALLURGICAL TESTING

A number of processing and metallurgical tests were completed on the Blende deposits by Billiton and the following summary is made from the 1991 final report. At least seven separate metallurgical reports are present in the files held by Blind Creek and Eagle Plains

Upon completion of the 1990 drill program it was realized that potentially significant proportions of the West Zone mineralization are oxidized. It was decided to undertake some preliminary grind and flotation tests on composite drill core rejects. This work was conducted by Bacon, Donaldson Ltd. of Vancouver, Canada. Two samples were selected:

- B90-6 representing Pb (lead) rich mineralization
- B90-11 representing zinc-rich mineralization respectively

Each contained what was considered to be representative (>20%) assayed amounts of "oxide" Pb and Zn.

The initial tests showed that a high proportion of the zinc floated in the lead circuit, due to fine intergrowths of galena and sphalerite. This was later confirmed by petrography. Overall recoveries of both lead and zinc were low due largely to the presence of "oxide" (or nonsulphide) lead and zinc.

Two additional tests were conducted using a finer primary grind, additions of zinc depressants, addition of a lead oxide flotation stage, and re-grinding of the zinc rougher concentrates prior to cleaning. With these adjustments, a zinc concentrate grade of 56.8% was produced from both samples at rougher recoveries of only 33% and 37% and cleaner recoveries of 23% and 31% respectively. The lead oxide float was effective in recovering additional silver and lead. It was concluded from this work that silver and lead distributions correlate well, and optimization of lead recovery should therefore also optimize silver recovery. Two problems remained unresolved from this work: there was still excessive zinc reporting to the final lead concentrate (18%) and all of the non-sulphide zinc from these samples reports to the final tails.

In 1991, due to the significant proportion of non-sulphide zinc in the West Zone, Billiton decided to continue with the metallurgical work including tests of several new commercially available reagents for recovery of non-sulphide zinc.

For this work, three drill core composites were used from the West Zone representing:

- least oxidized (composite C),
- intermediate oxidized (composite B), and
- most oxidized (composite A).

A fourth composite (D) from the unoxidized East Zone was included in this work immediately after its discovery in May, 1991. This work was also conducted by Bacon, Donaldson Ltd.

The flowsheet incorporated a bulk sulphide flotation stage followed by flotation of the non-sulphide lead and zinc. The majority of testwork was conducted on the intermediate composite B with subsequent testing on the other composites. The initial test on composite B showed similar results to the 1990 work – almost half of the zinc recovered reported to the lead rougher. This suggested that production of a bulk lead-zinc concentrate might be more practical, with subsequent separation of lead and zinc concentrates.

The bulk sulphide recovery tests on the four composites confirm the previous results – that sulphide lead and zinc recovery decrease with increasing degrees of oxidation. Sulphide zinc is severely affected

by oxidation, and high losses are reportedly due to inclusions of sphalerite within non-sulphide (smithsonite) particles. Rougher recovery of total zinc from West Zone composites ranges from 28.6% (most oxidized) to 76.5% (least oxidized). The East Zone composite, by comparison returned 82.4% of total zinc to the bulk sulphide rougher.

For separation of lead and zinc concentrates it was found that zinc grade and recovery is strongly affected by the presence of sphalerite-galena intergrowths and the degree of lead and zinc oxidation in the feed. It was also found that the recovery of non-sulphide lead was sufficiently effective so that the overall recovery of total lead is independent of the degree of oxidation. Iron rejection was effected through the use of lime and cyanide. Attempts to recover the non-sulphide zinc were not successful and while rougher recoveries close to 60% ZnO could be achieved, attempts to upgrade this material result in high losses to the cleaner tails.

Lead rougher recoveries approaching 90% were demonstrated from all composites due to the production of separate oxide and sulphide concentrates. These contain from 12–16% Zn(total) at recoveries of 7–17% Zn(total) with the exception of the most oxidized sample (A) which contains only about 3% total Zn at a recovery of 3% Zn (total). PbS concentrate grades for the four composites range from about 58% – 80% Pb with combined recoveries to the PbS and PbO concentrates at 73% – 77%.

Concentrate grades for the ZnS concentrates for the West Zone range from 35% to 48% from the most oxidized to the least oxidized composites at recoveries ranging from 29% to 56% respectively. The composite from the East Zone yields a zinc concentrate grade of >50% Zn(total) but with recoveries to the bulk concentrate of only 62.5% and to the 2nd and 3rd cleaner tails of only 20% and 12% respectively and with approximately an equal recovery of Zn to the lead concentrate. This is due to three combined factors: initially low Zn grades (0.96% – 2.59% ZnS; A–D respectively) combined with fine intergrowths of galena and sphalerite and further compounded by alteration of sphalerite to smithsonite. Composite B is the closest of the composites to the average grade of the West Zone mineralization.

For run F17, from a bulk rougher recovery of 78.62% ZnS for this sample, the total ZnS recovered to the ZnS concentrate is 52.46% of total ZnS with 4.95% of total ZnS reporting to the PbS third cleaner concentrate, 4% to the PbO rougher, 11% to the ZnO concentrate and about 6% of total ZnS to the final tails. In the absence of additional improvements in the metallurgical flowsheet, the recovery of ZnS to a potential ZnS concentrate from the West Zone would probably average about 50% and if a better separation of lead and zinc sulphide concentrates could be effected, a concentrate grade of 50% would be expected.

### East Zone

Only one composite has been tested from the East Zone (run F-21). Composite D recovered 82.4% of total ZnS to the bulk sulphide rougher. From this, a total of about 52.5% of total ZnS reports to the 1st–3rd PbS cleaner tails (=ZnS concentrate), 10% to the third PbS cleaner concentrate, 1.23% to the total PbO rougher concentrate and fully 16.4% of total Zn reports to the final tails. The ZnS concentrate grade is given as the result to the third PbS cleaner tails (50.1%). This is very similar to the result from composite B.

(Source: 1991 Billiton Metals Canada Inc. Final Report).

In summary, concentration of lead and zinc has problems caused by intergrowths and oxidation, but with different separation techniques and flow sheets can provide an acceptable concentrate. Additional

tests would have to be done to optimize the recoveries.

## MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

(Figure 6a, 6b, 6c, 6d, 6e)

### 1990 Estimate

Resource estimation and preliminary pit design was undertaken for Billiton by John Paterson, P.Eng of Roscoe, Postle & Associates in the fall of 1990 to provide an order of magnitude grade, tonnage and stripping ratio for the West Zone. This was done using a sectional method of calculation. PC-XPLOR and GEOMODEL software from GEMCOM Services Inc. were used for database management, section and plan generation and volume calculations based on geological interpretations provided by BMCI. The following parameters were used:

- A Canadian Dollar per ton value was calculated for each assay interval based on the total in-situ or "Gross Metal Value" ("GMV") of lead, zinc and silver (with no distinction between sulphide and oxide species) at 1990 metal prices (US\$) 0.26/lb for lead, US\$ 0.50/lb for zinc, and US\$ 5.00/oz for silver respectively using an exchange rate of US\$ = C\$1.25.
- A C\$50/t cut-off was also used to evaluate the potential for significantly higher grade near-surface mineralization. External dilution was added to the margins of all mineralized composites as one assay interval (-3m) at assay grade.
- Internal dilution was accepted at up to two contiguous assay intervals at grade.
- For greater than two contiguous intervals below cut-off grade, separate composites were distinguished.
- Correlation of mineralized composites were completed by BMCI on sections generally spaced at 100 metres but also using 50 metre sections where possible.
- This interpretation was completed for level plans at 50 metre intervals.
- Sectional interpretation of block areas completed and were then extrapolated halfway between sections to generate block volumes.
- Specific gravity measurements indicate a SG of mineralization at average grade to be about 3.1 and SG of waste to be about 2.8. These values are used in all subsequent calculations.
- Two pit limits were chosen arbitrarily at the 1600 and 1650 m elevations to include mineralized blocks at the C\$25/t cut-off, and one pit limit was chosen to include only the >C\$50/t mineralization.

The results of this work indicated the potential for 11.5Mt of diluted mineralization with an in-situ value of C\$56.23 above the 1650m level grading 3.01% Pb, 2.20% Zn and 1.46 opt Ag and contained within a potential pit having a strip ratio of about 2:1<sup>5</sup>.

Later, BMCI obtained a series of software utilities from Systems Geostat International Inc. of Montreal, Canada for use in reviewing the work completed by RPA. An initial review of the RPA results using the new software to reproduce their results showed that the quoted in-situ value of C\$56.23/tonne was in error., and should be C\$61.45/tonne. The overall grades obtained using the RPA input parameters were confirmed and in addition, values for non-sulphide lead (0.7%) and zinc (0.6%) were estimated. These are 23% and 27% respectively of the quoted RPA grades for total lead and zinc.

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<sup>5</sup> The resource estimates were prepared by Billiton Canada Explorations Inc., a large integrated international company prior to the introduction of National Instrument 43-101. Nevertheless, in the writers opinion, the estimates are relevant and reliable.

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Blind Creek Resources Ltd.



EPL:TSX-V  
**Eagle Plains Resources Ltd.**

**Blende Property**  
Figure 6a - Diamond Drill Hole Locations and Results Pb, Zn (West Zone)

Scale 1:4,000 09/11/2005  
Projection: UTM Nad83 Zone 8N

DDH Number	B91-67
<b>Zn (%)</b>	<b>Pb (%)</b>
3.51 - 3.92	3.51 - 3.95
3.93 - 4.43	3.96 - 4.58
4.44 - 5.13	4.59 - 5.31
5.14 - 6.35	5.32 - 6.74
6.36 - 9.14	6.75 - 9.84

**Drill Results - Pb and Zn**  
(after Archer, Cathro and Associates, 1995)

West Zone

G2

mPH2

B91-33

B91-21

B94-85

B94-84

B91-27

B94-83

B94-82

B90-13

B90-11

B90-12

B90-10

B88-2

B90-7

B90-9

B88-1

B90-15

B90-14

B91-60

B90-17

B90-6

B90-16

B90-4

mPH2

B91-37

B91-66

B91-43

B90-18

B91-45

B90-8

B91-30

G1

B91-54

B91-51

B91-47

B91-40

P1

P2

B91-49

B91-57

G2

B91-78

B91-64

B91-76

G2

**Legend**

- DDH Collar
- DDH Trace
- High Angle Fault Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Access Road
- Contour - 100 ft interval
- Dedolomitized Zone
- Stockwork or breccia zone
- Mineralized Talus Train
- Tenure Boundary

**Geology Legend**

**Middle Proterozoic - Hart River Group**

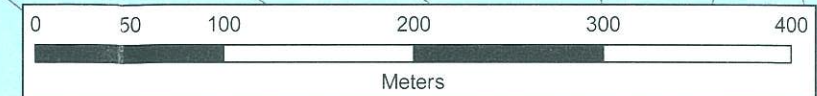
- mPH2 Gabbro and diorite

**Middle Proterozoic - Pinguicula Group**

- P1 Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 Red weathering stromatolitic dolomite
- P3 Dark shale and siltstone with narrow conglomerate bed near base

**Lower Proterozoic - Gillespie Lake Group**

- G1 Maroon, brown to green weathering, dark grey bedded graphitic dolosiltite-dololite
- G2 Orange to brown weathering, buff-grey bedded stromatolitic doloarenite, dolosiltite and dololite with local interbedded oolitic-pisolitic horizons. Locally graphitic



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# Blind Creek Resources Ltd.



EPL:TSX-V

**Eagle Plains Resources Ltd.**

## Blende Property

Figure 6b - Diamond Drill Hole Locations and Results Pb, Zn (Central Zone)

Scale 1:3,000 09/11/2005  
Projection: UTM Nad83 Zone 8N

DDH Number	B91-67
Zn (%)	Pb (%)
3.51 - 3.92	3.51 - 3.95
3.93 - 4.43	3.96 - 4.58
4.44 - 5.13	4.59 - 5.31
5.14 - 6.35	5.32 - 6.74
6.36 - 9.14	6.75 - 9.84

**Drill Results - Pb and Zn**  
(after Archer, Cathro and Associates, 1995)

**Legend**

- DDH Collar
- DDH Trace
- High Angle Fault Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Access Road
- Contour - 100 ft interval
- Dedolomitized Zone
- Stockwork or breccia zone
- Mineralized Talus Train
- Tenure Boundary

**Geology Legend**

**Middle Proterozoic - Hart River Group**

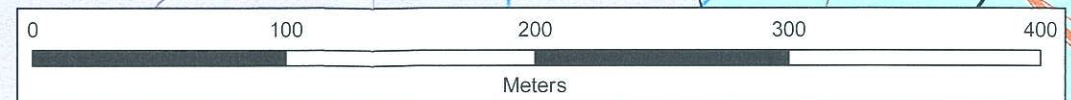
- mPH2 Gabbro and diorite

**Middle Proterozoic - Pinguicula Group**

- P1 Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 Red weathering stromatolitic dolomite
- P3 Dark shale and siltstone with narrow conglomerate bed near base

**Lower Proterozoic - Gillespie Lake Group**

- G1 Maroon, brown to green weathering, dark grey bedded graphitic dolosiltite-dololite
- G2 Orange to brown weathering, buff-grey bedded stromatolitic dolarenite, dolosiltite and dololite with local interbedded oolitic-pisolitic horizons, Locally graphitic



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Blind Creek Resources Ltd.



**Blende Property**  
Figure 6c - Diamond Drill Hole Locations and Results Pb, Zn (East Zone)

Scale 1:3,000 09/11/2005  
Projection: UTM Nad83 Zone 8N

DDH Number	B91-67
Zn (%)	Pb (%)
3.51 - 3.92	3.51 - 3.95
3.93 - 4.43	3.96 - 4.58
4.44 - 5.13	4.59 - 5.31
5.14 - 6.35	5.32 - 6.74
6.36 - 9.14	6.75 - 9.84

**Drill Results - Pb and Zn**  
(after Archer, Cathro and Associates, 1995)

**Legend**

- DDH Collar
- DDH Trace
- High Angle Fault Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Access Road
- Contour - 100 ft interval
- Dedolomitized Zone
- Stockwork or breccia zone
- Mineralized Talus Train
- Tenure Boundary

**Geology Legend**

**Middle Proterozoic - Hart River Group**

mPH2 Gabbro and diorite

**Middle Proterozoic - Pinguicula Group**

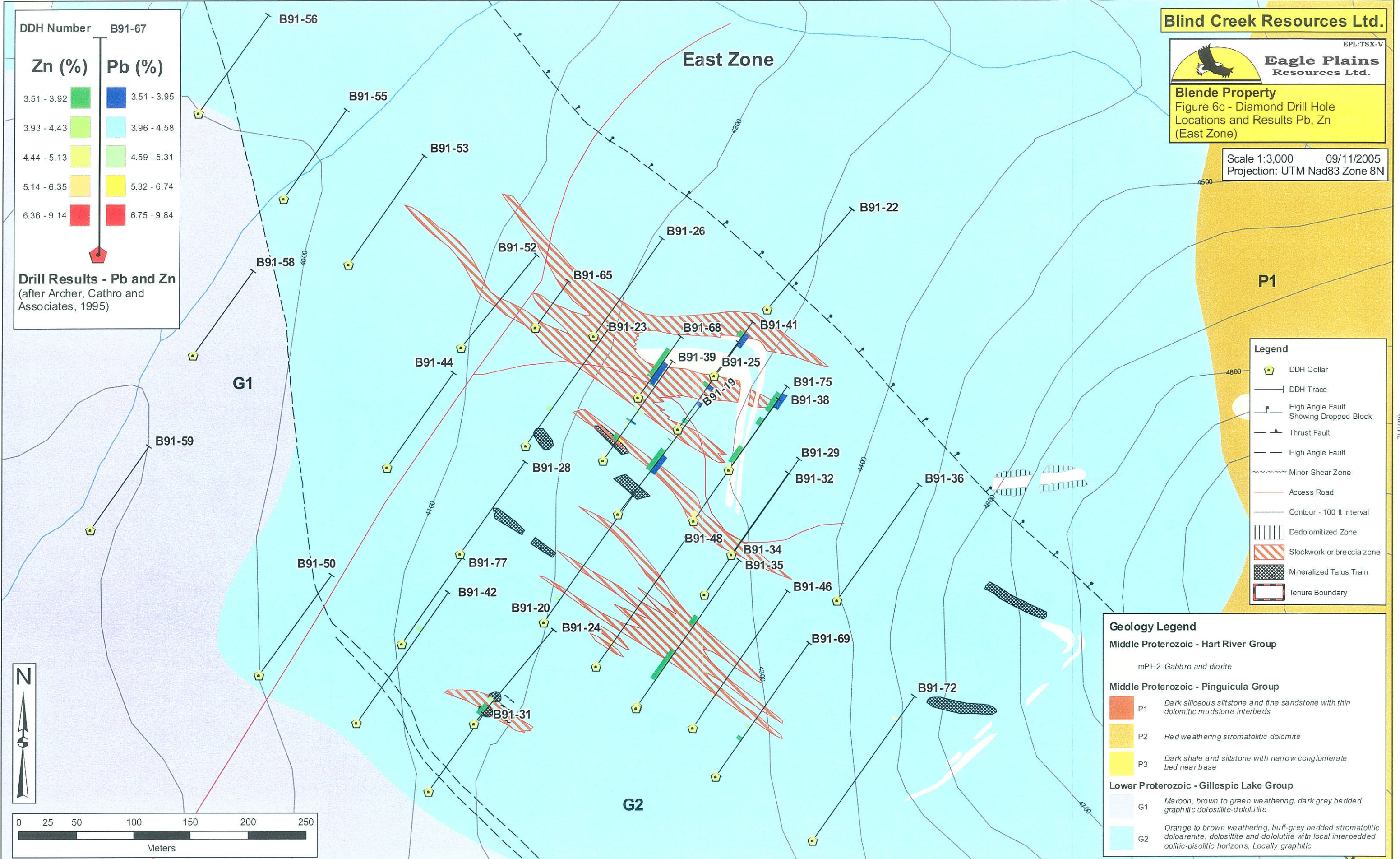
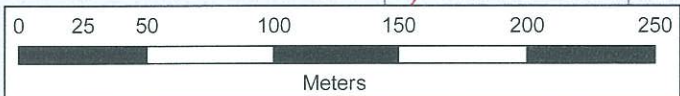
- P1 Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 Red weathering stromatolitic dolomite
- P3 Dark shale and siltstone with narrow conglomerate bed near base

**Lower Proterozoic - Gillespie Lake Group**

- G1 Maroon, brown to green weathering, dark grey bedded graphitic dolosiltite-dololite
- G2 Orange to brown weathering, buff-grey bedded stromatolitic dolarenite, dolosiltite and dololite with local interbedded oolitic-pisolitic horizons, Locally graphitic

7141000

7141000





**Blende Property**  
Figure 6d - Diamond Drill Hole Results Ag (West Zone)

Scale 1:2000 10/11/2005  
Projection: UTM Nad 83 Zone 8N

DDH Number	B91-67
	Silver (oz / ton)
)	0.51 - 1.00
)	1.01 - 2.00
)	2.01 - 5.00
)	> 5.01
\$	

**Drill Results - Ag**  
(after Archer, Cathro and Associates, 1995)

**Legend**

- DDH Collar
- DDH Trace
- Mine Grid
- High Angle Fault Showing Dropped Block
- Thrust Fault
- High Angle Fault
- Minor Shear Zone
- Access Road
- Tenure Boundary
- Stockwork or breccia zone
- Mineralized Talus Train

**Geology Legend**

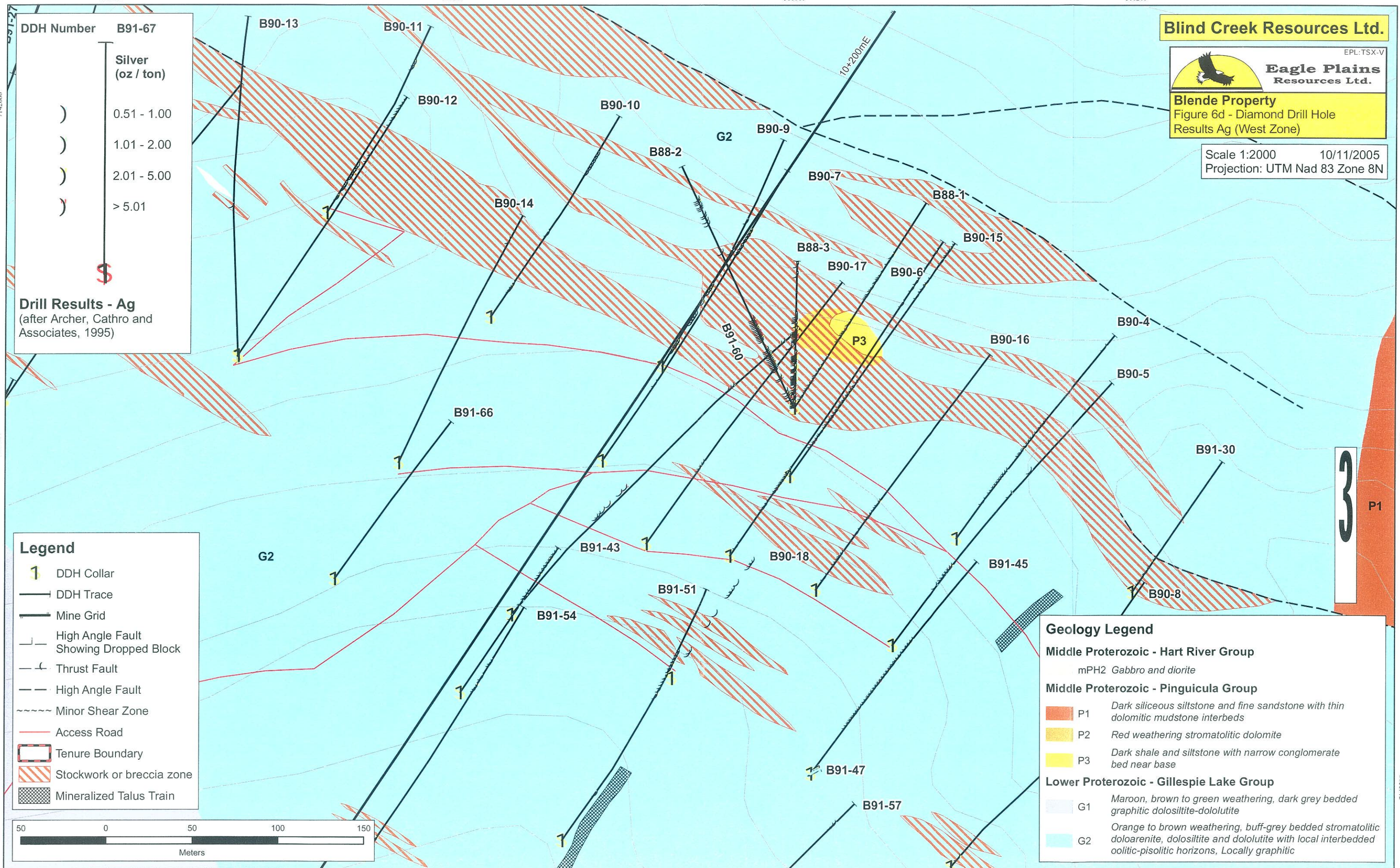
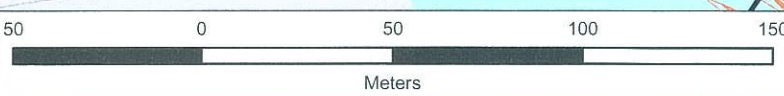
**Middle Proterozoic - Hart River Group**  
mPH2 Gabbro and diorite

**Middle Proterozoic - Pinguicula Group**

- P1 Dark siliceous siltstone and fine sandstone with thin dolomitic mudstone interbeds
- P2 Red weathering stromatolitic dolomite
- P3 Dark shale and siltstone with narrow conglomerate bed near base

**Lower Proterozoic - Gillespie Lake Group**

- G1 Maroon, brown to green weathering, dark grey bedded graphitic dolosiltite-dololite
- G2 Orange to brown weathering, buff-grey bedded stromatolitic dololite, dolosiltite and dololite with local interbedded oolitic-pisolitic horizons, Locally graphitic



**Blind Creek Resources Ltd.**

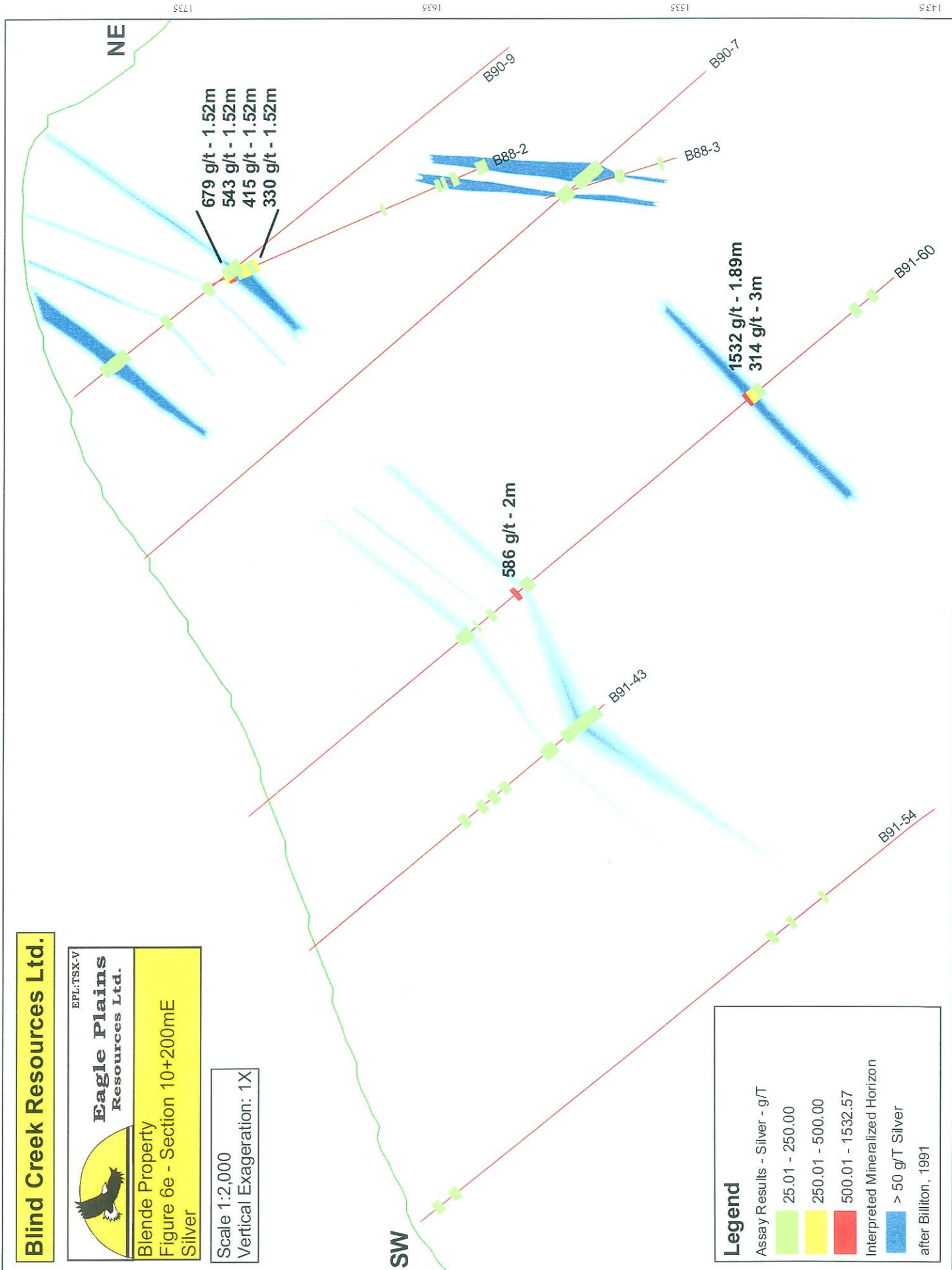


Blende Property  
Figure 6e - Section 10+200mE  
Silver

Scale 1:2,000  
Vertical Exaggeration: 1X

**Legend**

Assay Results - Silver - g/T
25.01 - 250.00
250.01 - 500.00
500.01 - 1532.57
Interpreted Mineralized Horizon
> 50 g/T Silver after Billiton, 1991



NE

SW

B90-9

B90-7

B88-2

B88-3

1532 g/t - 1.89m  
314 g/t - 3m

B91-60

586 g/t - 2m

B91-43

B91-54

1735

1635

1535

1435

1735

1635

1535

1435

## 1991 Resource Estimate

Assay values were received in the field and merged with drillhole collar surveys and downhole surveys into a dbase file which includes previous drillhole data from the 1988 and 1990 campaigns. Chris Gallagher of Eagle Plains has converted this database to Microsoft Access/Excel format. Paper drill sections are available for all the programs.

Drillholes are plotted on sections oriented grid north (035 degrees true) and are approximately, but not exactly orthogonal to the strike of the mineralized zones at most locations. The dips shown on section are therefore apparent dips in most instances but with only a small variance from a true dip.

Major shear zones host the vein style mineralization and are outlined on the drill sections using a combined 1% Pb+Zn envelope. As no stratabound mineralization has been identified, only cleavage and fault/shear measurements are plotted on the hole axis. Bedding measurements with respect to core axis are noted periodically in the drill logs.

Drillhole traces for oblique holes were projected by Billiton to section from the digital drillhole database. In the West Zone, the 1990 drillholes were projected within a 50 metre corridor width and included intermediate sections 10+150E – 10+350E. As the drillhole database is relatively small this tends to fragment the data. The 1991 drillholes were therefore projected within a corridor width of 100 metres and are plotted only on the 100 metre sections 9+700E – 10+500E.

The sectional resource estimates were completed for the West Zone using the entire drillhole database projected only to the 100 metre sections. The East Zone mineralization is relatively well defined on 50 metre sections with a corresponding corridor width of 50 metres.

After the 1991 drill program, assay values were received in the field and merged with the drillhole collar surveys and downhole surveys into a dbase file which includes previous drillhole data from the 1988 and 1990 campaigns. This was periodically updated and used to produce preliminary drill sections for illustration using the Sect utility of the Geostat software package which produces simple plots of drillholes and assay data. SectCad is the section modeling utility, and was used to interactively composite drillhole assay data on screen both in the field and in the Toronto office to provide interpretation and preliminary resource estimates. The 1991 resource estimates were undertaken in-house by BMCI using this Geostat software.

The following methodology was used:

- The sectional resource estimates were completed using a gross in situ metal value (GMV) calculated for each assay interval using US\$0.28/lb Pb, US\$0.50/lb Zn and US\$4.25/oz Ag as metal prices at an exchange rate of 1 \$US/1.25 \$CAN.
- For zinc, due to the failure to demonstrate potential metallurgical recovery of non-sulphide Zn, this value was subtracted from the assay for total Zn to yield a value for ZnS which was used to calculate in situ GMV for composite selection in the final run for the West Zone and for the East Zone which contains very little non-sulphide Pb and Zn.
- The specific gravities used were the same as those used for the 1990 RPA estimates – 3.1 for mineralization and 2.8 for waste. For comparison, a calculated specific gravity for the West Zone average grade using the most probable mineral assemblage yields a value of about 3.08 for mineralization at 0% porosity and a calculated specific gravity for the East Zone average grade is about 3.02
- Several different attempts at modeling the West Zone mineralization were undertaken using variations in some of the more important parameters in order to test the subsequent variations of in situ GMV and tonnage.

- All estimates were based on sectional interpretation on 100 m sections from 9+900 East to 10+500 East.
- Minor drilling on 50 m sections (10+250, 10+350) is insufficient to model these sections separately.
- Block areas are generally extrapolated to mid-points between drill hole composites.
- On sections with surface indications of mineralization drill composites are extrapolated to surface.
- In areas lacking sufficient drill density block outlines are projected only to about 25 m up and down the section.
- Volume calculations are by linear projection to the mid-points between sections which is 100 metres.
- The first run uses similar parameters used by RPA for their calculations in 1990 and was done for comparison purposes. This uses a \$25 GMV cut-off with no distinction/subtraction of the nonsulphide zinc values.
- External dilution is added at one sample interval (-3m) at assay grade and internal dilution is included at 1-2 contiguous sample intervals but zones are separated at >2 contiguous sample intervals below cut-off.
- One-sample zones are allowed only if they carry external dilution at both margins without being diluted below the cut-off grade.

This initial estimate by Billiton returned a tonnage of about 28 million metric tonnes with an in-situ GMV of about \$52. In comparison to the 1990 estimates, the tonnage was significantly higher in part due to the added mineralization at depth, but mainly because this estimate is not truncated to a potential open pit design. Very little additional tonnage is added along strike to the northwest (9+700E-10+000E) and no mineralization is added to the southeast.

A second estimate was undertaken in which the drillhole assay intervals were recomposited with no external dilution at the same \$25 cutoff. For this and subsequent runs without calculated external dilution, internal dilution is accepted at only one sample interval at grade and composite separation is effected at greater than one sample interval below cut-off. One-sample zones (-3m) are only accepted if the composite grade will carry one sample interval at either the upper or lower margin at >\$25.

This second estimate returned a total of about 19 million tonnes (in both East and West zones) at an in-situ GMV of about \$72. Thus, in comparison to Run 1, the 1990 analogy, Run 2 by cutting dilution increased the GMV by 38% and reduced tonnage by 32%.

A third estimate, using an increased cut-off of \$35, further reduced the tonnage by 24% to about 14 million tonnes and increased the GMV by 17% to \$85.

As the metallurgical work completed to date suggests that the non-sulphide zinc is non-recoverable (and has a net negative effect on ZnS recoveries) a fourth estimate was calculated at a cut-off value of \$25 and with the metal value of non-sulphide Zn species subtracted from the in-situ GMV. For the 1988 drillholes, as no non-sulphide Zn assays are available, this species is arbitrarily calculated at 50% of the total zinc assay.

The results from this estimate were used by Billiton in their internal economic evaluations (equivalent to a "scoping study" and break even analysis). The gross tonnage obtained by Billiton and selected as the most reasonable for the West Zone is 15.3 million tonnes at a grade of 3.23% Pb including 1.09% Pb (non-sulphide), 3.04% Zn including 0.79% Zn (non-sulphide) and 1.97 opt Ag<sup>6</sup>.

<sup>6</sup> The West Zone and East Zone resource estimates were prepared by Billiton Canada Explorations Inc., a large integrated international company prior to the introduction of National Instrument 43-101. Nevertheless, in the writers opinion, the estimates are relevant and reliable. The resource, because of drill spacing and density, should be regarded as an Inferred Mineral Resource in accordance with the CIM Resource and Reserved definitions accepted by the regulatory bodies (Reproduced in Appendix I)

The resource estimates were prepared by Billiton Canada Explorations Inc., a large integrated international company prior to the introduction of National Instrument 43-101. Nevertheless, in the writers opinion, the estimates are relevant and reliable. The resultant block grades, tonnages and GMV's are reproduced in Appendix II.

### East Zone

The East Zone mineralization is mainly present in the #19 and #21 zones. Drilling in the East Zone was sufficient to enable sectional modeling on 50 m sections. The resultant resource blocks are based on drill-sections 12+450 East to 12+800 East and are listed in table form in Appendix II C.

The tonnage and grade were estimated in a similar manner to the west zone using:

- subtraction of non-sulphide zinc
- a \$25 in situ gross metal value ("GMV") cut-off,
- no external dilution, and
- internal dilution allowed for only one sample interval below cut-off. One-sample zones (-3m) are only accepted if the composite grade will carry one sample interval at either the upper or lower margin at >\$25.
- Block outlines are drawn to mid-points between correlated drillhole composites or to 25 metres maximum distance off hole axes, to depth and toward surface, unless correlated with surface mineralization.
- Block areas were calculated with the Sectcad utility from Geostat software
- block volumes were likewise calculated to 50 metre block thicknesses.
- The specific gravities used for mineralization and waste for East Zone mineralization are 3.1 and 2.8 respectively.

The aggregate tonnage obtained for all resource blocks from the East Zone is 4.3 million tonnes at 3.05% Zn which includes 0.06% non-sulphide Zn and 1.31% Pb, which includes 0.19% (non-sulphide Pb, ), 3.05% Zn and 15.1 g/t silver (0.44 opt) Ag.

Based on 1991 and previous drilling programs, published mineral resources were calculated for the whole property as:

ZONE	RESOURCE tonnes	ZINC %	LEAD %	SILVER grams/tonne
West Zone	15,300,000	3.04	3.23	67.5
East Zone	4,300,000	3.05	1.31	15.1
TOTALS	19,600,000 =21,500,000 tons	3.04	2.80	56.0

The resource estimates were prepared by Billiton Canada Explorations Inc., a large integrated international company prior to the introduction of National Instrument 43-101. Nevertheless, in the writers opinion, the estimates are relevant and reliable.

The resource, because of drill spacing and density, should be regarded as an Inferred Mineral Resource in accordance with the CIM Resource and Reserved definitions accepted by the regulatory bodies (Reproduced in Appendix I)

#### Barry Price Technical Report Verification 2004 / 2005

With reference to the above estimates, Barry Price, P.Geo. examined the resources from a mathematical viewpoint and found them to be reliable and relevant (Price, B.J., 2004, Technical Report on the Blende Zinc - Lead - Silver Deposit). Price's methods and calculations were checked by the writer and updated with current 2005 metal prices and current US-Canada currency exchange rates. In the latest update the metal prices for Pb and Zn were based on the LME 15 month forecast as of November 11, 2005. The Silver price was the NYME spot price for silver on November 11, 2005. The Canada-US exchange rate was the current market rate on November 11, 2005. Further mathematical manipulation of the intercepts, removing lower grade blocks, permits the designation of a much lower tonnage but with higher grade. The following table shows these estimates for the West Zone mineralization:



<b>RESOURCE CALCULATIONS</b>
West Zone - Blende Ag-Pb-Zn property, Yukon
Billiton Resources Canada Inc. 1991

### Compilation of Resource Calculations 1991, 2004 and 2005

Totals	YEAR	TONNAGE tonnes	PB %	ZN %	AG oz/t	GMV\$ gross US\$	GMV\$ Can\$
<b>ORIGINAL</b>	<b>1991</b>	<b>15,317,523</b>	<b>3.23</b>	<b>3.04</b>	<b>1.97</b>	<b>\$80.45</b>	<b>\$100.56</b>
\$50 Can Cut	2004	13,007,197	3.54	3.33	2.17	\$78.27	\$104.35
\$75 Can Cut	2004	8,334,350	4.41	4.12	2.55	\$96.33	\$128.44
\$100 Can Cut	2004	6,097,452	4.94	4.62	3.03	\$108.89	\$145.19
Underground	1991 CALCS/2004	4,136,705	6.67	4.62	3.11	\$124.85	\$173.41
\$50 Can Cut	2005	13,307,587	3.47	3.32	2.13	\$90.13	\$90.33
\$75 Can Cut	2005	8,724,051	4.20	4.19	2.45	\$110.56	\$110.56
\$100 Can Cut	2005	6,186,670	4.87	4.65	2.99	\$126.36	\$126.36
Underground	1991 CALCS/2005	4,136,705	6.67	4.62	3.11	\$141.80	\$168.57

1991 calculations by Billiton Resources Canada

2004 calculations from 1991 calcs modified by 2004 metal prices and exchange rate (B.J. Price Geological, 2004).

2005 calculations from 1991 calcs modified by 2005 metal prices and exchange rate (Trans Polar Geological Consultants, 2005).

US/Canada Exchange Rate 1991 = 0.80

US/Canada Exchange Rate 2004 = 0.75

US/Canada Exchange Rate 2005 = 0.84122

A similar exercise has not been done for the East zone.

The resource estimated are best classified as inferred mineral resources, considering that the many separate mineralized zones do not always correlate from drill hole to drill hole and that drill spacing (approximately 50 metres at the West Zone, but 100 metres at the East zone) is not considered adequate by the writer to conform with the "indicated" definition. Further drilling is needed to upgrade the reliability of the estimates in the respective zones.

## OTHER RELEVANT DATA AND INFORMATION

### Environmental Considerations

In 1991 Archer Cathro and Billiton Canada obtained approval of the Resource Management office through a Land Use Permit; however, work within the claim boundaries has to date been undertaken through the regulations of the Quartz Mining Act (1924) which require no extra permitting. Low impact activities, such as prospecting, line cutting, geochemical and geophysical surveys are generally permitted without delay.

Water quality surveys were initiated in 1990 and hydrometric monitoring in 1991. These studies have consistently shown that there are no water quality anomalies in the surface waters draining the Blende property and heavy metal concentrations continue to be low or non-detectable. This is directly related to the carbonate rock which hosts all mineralization on the Blende property and effectively buffers the pH

of streams draining the area.

The potential for any appreciable acid drainage from normal exploration activities is therefore considered to be minimal. If more advanced development activities are contemplated in the future, additional environmental studies will likely be required. A minimum of two years data is required for evaluation of physical, chemical and biological features for mine development purposes.

#### First Nations (Figure 7)

The following paragraphs outline the position of the First Nation of Nacho Nyak Dun, from their website (November 2005).

The First Nation of Nacho Nyak Dun represents the most northerly community of the Northern Tutchone language and culture group. The NND First Nation resides in the community of Mayo, Yukon, a town that had its beginnings during the boom years of the various silver mines in the area. Mayo was serviced by sternwheeler boats until the Klondike Highway/Silver Trail was built in the 1950's. The Nacho Nyak Dun has a number of members who claim Gwichin ancestry from the north and Dene ancestry from the east as well as their Northern Tutchone ancestry.

The *Nacho Nyak Dun* in the Mayo area are closely affiliated with the adjoining Northern Tutchone First Nations of Selkirk at Pelly Crossing and the Little Salmon Carmacks First Nation at Carmacks. The three First Nations form the Northern Tutchone Tribal Council, an organization which deals with matters and issues that affect them by sharing their vision and resources. The First Nation has been very active in the Land Claims movement since its beginnings in 1973. Members of the Nacho Nyak Dun First Nation were instrumental in helping to guide the Council of Yukon First Nations and its member First Nations to their 1993 agreements.

The NND today has a membership of 434. As a self-governing First Nation, the Nacho Nyak Dun has the ability to make laws on behalf of their citizens and their lands. Under the land claims agreement, the First Nation now owns 1830 square miles of settlement lands and will receive \$14,554,654.00 over 15 years. The First Nation has been actively involved in affairs of the Mayo community, attempting to promote a better, healthier lifestyle for its future generations and a strong economy based on its rich natural resources. The Blende property lies north and east of one of the large settlement land blocks. This block could contain additional zinc-lead-silver deposits. The Chief of the band is Chief Simon Mervyn, Box 220, Mayo, Yukon, M0B 1M0, Ph: (867) 996-2265, Fax: (867) 996-2107, e-mail: [main@nndfn.com](mailto:main@nndfn.com), website: [www.nndfn.com](http://www.nndfn.com).

It is recommended that local First Nations groups should be consulted at the early stages of the project.

#### Communities

The Village of Mayo was established in 1903 and Incorporated 1984. Mayo, Yukon is located in the central part of the Yukon Territory, which is in the Na Cho Nyak Dun traditional territory. The highway serving our region connects the communities of Stewart Crossing, Mayo, Keno City, and the mining ghost town of Elsa. The Village of Mayo offers services, including two motels, eating facilities, post office, liquor store, propane and gas, grocery store, swimming pool, nursing station, RCMP, airport, and float plane services. There is also a lodge located at Halfway Lakes, 26 km north of Mayo. Mayo's Mayor is Scott Bolton, E-mail: [mayo@northwestel.net](mailto:mayo@northwestel.net) Mailing Address P.O. Box 160, Mayo, Yukon, Y0B 1M0



# Land Status Map

## Yukon Chamber of Mines

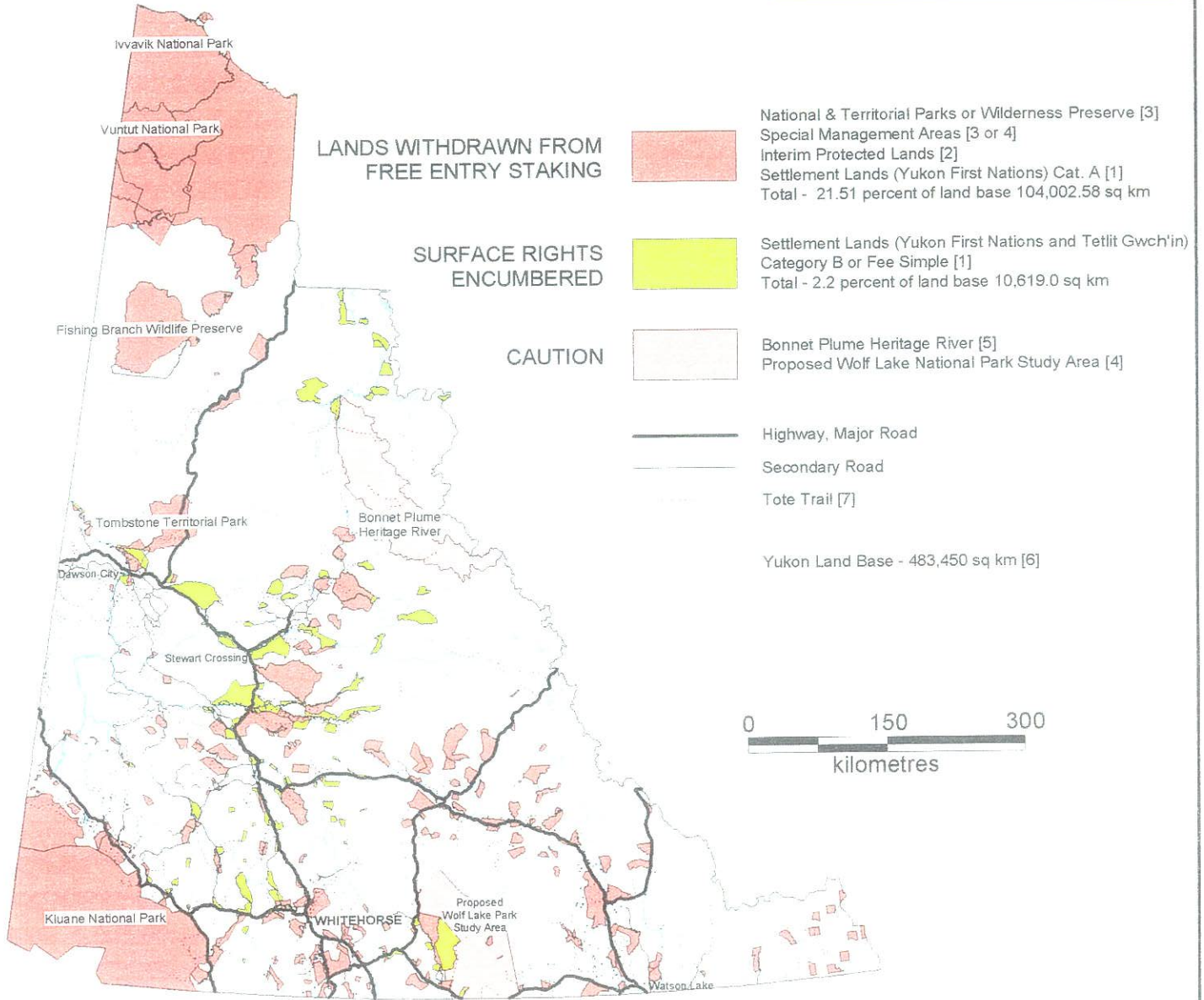
**Blind Creek Resources Ltd.**

EPL.TSX-V



**Eagle Plains  
Resources Ltd.**

### Blende Property Figure 7 - Land Status Map



The Yukon Chamber of Mines assumes no responsibility for errors or omissions in this map. Users are urged to consult Yukon claim maps and Y.T.G. Department of Renewable Resources for information on specific areas.

Sources

- [1] Umbrella Final Agreement (CYI)
- [2] Land Quantum History and Allocation (Land Claims Secretariat, Y.T.G.)
- [3] Renewable Resources, Y.T.G.
- [4] Digitized Polygons (Ec. Dev.)
- [5] Digitized Polygons (Y.C. Mines)
- [6] Yukon Statistics Booklet
- [7] Digitized Lines (Y.C. Mines)



Yukon Chamber of Mines  
3151-B 3rd Avenue  
Whitehorse, YT Y1A 1G1

December 21, 2000

Phone (867) 996-2317 Fax (867) 996-2907

### Winter Trail Access

The Federal Government guarantees a right of way to mineral lands and so application was made by Archer Cathro and Billiton for an access route through this area. A winter trail was then constructed from the Beaver River along Williams Creek for about 8 km to the property. This was completed in November, 1991 and the trail now establishes the easternmost boundary of the Mayo (Na Cho Nyak Dun) land claim. This trail will assist in any future transportation of heavy equipment to and from the property and could be upgraded to a haulage road. Figure 3a shows the mineral claims, Indian land claim and the winter trail.

*The writer is not aware of any material fact or material change with respect to the subject matter of the technical report which is not reflected in the technical report, the omission of which would make the technical report misleading.*

## INTERPRETATION AND CONCLUSIONS

The Blende Property lies 75 km north of Keno Hill, Yukon Territory and can be accessed by winter road or by helicopter. Significant Zn-Pb-Ag mineralization occurs in two zones which have the following mineral resources as calculated by Billiton based on their drilling to the end of the 1991 field season.

Mineral Resources from 1991 Billiton Report / Price 2004

ZONE	RESOURCE tonnes	ZINC %	LEAD %	SILVER grams/tonne
West Zone	15,300,000	3.04	3.23	67.5
East Zone	4,300,000	3.05	1.31	15.1
TOTALS	19,600,000 =21,500,000 tons	3.04	2.80	56.0

These mineralization estimates are considered reliable and relevant, but were prepared prior to the institution of National Instrument 43-101 standards. Barry Price, P.Geo was retained by Eagle Plains in 2004 to review the historic resource calculations on the Blende property, which formed part of the basis for his 2004 Technical Report Blende Zinc - Lead - Silver Deposit ("the Price Report"). Price concluded that the historic resource calculations conform with the definition of an Inferred Mineral Resource. The "Price Report", the historic data, the resource calculation methodology, sampling methodology and protocol, drill hole locations and diamond drill core have been examined in detail by the author, who agrees with the conclusions of an Inferred Mineral Resource detailed in "the Price Report".

A poorly explored third area, the Central Zone had widely spaced drill holes and intersected short intervals of Zn-Pb-Ag mineralization. The Far East Zone has received only minor exploration and requires more work and ultimate drill testing of the Shanghai showing area.

The previous evaluations of the property focused on the open pit potential with the recovery of only sulfide minerals. Advances in metallurgical practices for recovering non-sulfide zinc and lead may improve the economics of the known mineralization and should be further investigated. The potential for mining underground to improve grade by decreasing dilution requires serious consideration. Although initially explored as an open-pit target, management of Eagle Plains and Blind Creek feel that there may be potential to develop part of the property as an underground operation. Numerous high-grade intersections have been reported by past operators, including: (amongst others of lower value)

- Hole 88-02, which assayed 282 g/t (8.22 oz/t) silver, 12.2% lead, and 4.4% zinc over 19.8m from a depth of 70.7 to 90.5m.

- Hole 88-03, which returned 8.5m grading 550.1 g/t (16.04 oz/t) silver, 15.3% lead and 4.6% zinc from 118.0 to 126.5m, and hole 90-15 intersected 9.5m grading 351.2 g/t (10.24 oz/t) silver, 14.11% lead, and 6.59% zinc from 60.1 to 69.6m.

In 1991, Billiton had already anticipated exploring an underground resource which had 4.1 million tonnes grading 6.67% lead, 4.62 % zinc, and 3.11 oz/ton (106.6 grams/tonne) silver.

A number of high grade silver intercepts were seen in some of the deeper holes, and these are unrelated to any significant lead-zinc content. The possibility exists for zonation at the property, and deeper favourable limy horizons may be present. In addition, copper rich zones, particularly at the lesser-explored west end of the West deposit, may indicate zonation associated with one or more of the mafic Hart River sills. Step-out drilling in 1994 confirmed the continuation of ore-grade mineralization westward from the previous limit of the West Zone, with the addition of significant copper values:

- Hole 94-81 contained 14.9m of mineralization which assayed 228.4 g/t (6.66 oz/t) silver, 9.71% lead, 5.48% zinc, and 0.78% copper from 9.2m to 24.1m,

- Hole 94-84 intersected 8.5m which returned 136.1g/t (3.97 oz/t) silver, 6.74% lead, 3.65% zinc, and 2.43% copper from 45.5-54.0m.

The Central Zone and areas immediately to the east of the East Zone are under-explored and are drill targets. Infill and step-out drilling to improve the correlation and modeling of mineralized horizons needs to be completed to test the feasibility of an economic underground target and to plan for an underground bulk sample and underground development.

*The Blende property is a property of merit deserving of additional exploration efforts.*

## RECOMMENDATIONS

For the 2006 season, the following recommendations are made:

### Phase I Program

- Permitting, planning and execution of winter haul of fuel, camp supplies, and drilling equipment using existing Wind River Trail.

- Prior to the field program, Base Map preparation and compilation of Geochemical and Geophysical data.

- Compilation of all existing drill hole data into a database which can be used to construct a deposit model using MineSight or similar software.
- Construct digital mine deposit model to assist in location of diamond drill holes.
- Prepare an accurate topographic base map in current Canada NAD83 projection.
- Prepare an accurate drill hole plan on a topographic base.
- On arrival at the property, building of a small but comfortable camp.
- 7000 m NQ / NTW infill and step-out diamond drill program; part of the drilling should include testing of the Central Zone mineralization as well as infill drilling in the East and West Zones; some drill pads are already in place for extending drilling to the northwest and the east; infill drilling will provide critical data on continuity of mineralization and step out drilling may increase the size of the resource.
- Undertake an analysis of the structural geology using drill core and outcrop to accurately predict the on-strike continuance of the mineralization in the West and East Zones
- General prospecting and mapping of all zones.
- Continue GPS surveying of drill roads, collars, pads topographic points using differential GPS system.
- Continue prospecting, geochemical surveys and mapping of Far East zone to locate potential sites for diamond drill testing.
- Further staking, surveying in points of interest.
- Undertake regional reconnaissance work including prospecting and silt sampling.
- Planning for a second phase drill program based on favorable results from Phase 1.

#### Phase II Program

- 20,000 m NQ / NTW diamond drill program; the objective of the drilling will be to upgrade and better define resources and mineralization defined by the Phase 1 program and by historical work.
- Follow up of targets generated by regional reconnaissance work.
- Collect base line environmental data.
- Carry out an economic analysis of the property based on the new drilling and geological data.

A suggested budget for the two phases of work is as follows:

2006 EXPLORATION BUDGET		PHASE 1			
BLIND CREEK RESOURCES LTD					
Blende Zinc - Lead - Silver Project					
		no. of	rate	no. of	
		persons		days	
<b>personnel:</b>					
geological	Project Manager	1	\$550	80	\$44,000.00
	Project Geologists	2	\$450	80	\$72,000.00
	Geological Technicians	1	\$350	90	\$31,500.00
	Geological Technician with First Aid	1	\$450	80	\$36,000.00
					\$183,500.00
support	camp manager	1	\$400	80	\$32,000.00
	cook	1	\$400	80	\$32,000.00
	bull cook	1	\$200	80	\$16,000.00
					\$80,000.00
					\$263,500.00
<b>analytical:</b>					
	type X no. of samples X cost				
	soils(prepare)		500	\$1.25	\$625.00
	soils(30 element ICP)		500	\$9.00	\$4,500.00
	silts(prepare)		100	\$1.25	\$125.00
	silts(30 element ICP)		100	\$9.00	\$900.00
	rocks(prepare)		200	\$2.00	\$400.00
	rocks(30 element ICP)		300	\$9.00	\$2,700.00
	drill core(prepare)		2000	\$2.00	\$4,000.00
	drill core(30 element ICP)		2000	\$9.00	\$18,000.00
					\$31,250.00
<b>helicopter charter: hours x rate including fuel</b>					
	Bell 206B (personnel / fieldwork)		40	\$1,100.00	\$44,000.00
	Hughes 500 (personnel / fieldwork)		20	\$1,200.00	\$24,000.00
	Bell 204 (drill moves)		20	\$2,500.00	\$50,000.00
					\$118,000.00
<b>equipment rental:</b>					
	trucks, ATVs				\$6,000.00
	heavy equipment: D6 Cat - exploration trail and drill pad construction, drill moves				\$60,000.00
	communication including satellite dish, radios, satellite phone				\$5,000.00
	camp including generator, tents, water pumps etc.				\$5,000.00
<b>preparation for winter road mobilization including scouting route:</b>					\$21,000.00
<b>winter road equipment mobilization including fuel, cat, shipping to staging area, load assembly:</b>					\$320,000.00
<b>mobilization of crews to Mayo including meals, airfare, accommodation:</b>					\$10,000.00
<b>pre-field:</b>					
	Base Map preparation				\$15,000.00
	compilation of existing data into GIS database including reserve modelling :				\$15,000.00
<b>permitting:</b>					\$5,000.00
<b>diamond drilling: 8,000 meters NTW all in cost</b>			cost per	total	
			meter	meters	
			\$125.00	8000	\$1,000,000.00
<b>meals/groceries:</b>		no. of	rate	no. of	
		persons		days	
		14	\$40.00	80	\$44,800.00
<b>shipping:</b>					\$5,000.00
<b>fuel:</b>					\$65,000.00
<b>supplies:camp construction etc.</b>					\$5,000.00
<b>filing fees:</b>					\$5,000.00
<b>report writing and reproduction:</b>					\$10,000.00
					Subtotal A: \$2,009,550.00
					10% contingency: \$200,955.00
					<b>TOTAL: \$2,210,505.00</b>

Based on favorable results from the Phase 1 program, a second phase of work focused on more detailed diamond drill testing of the Blende property should be completed. The objectives of this work will be to upgrade and better define resource estimates and to test areas of new mineralization. A proposed budget for this work is as follows:





*in place prior to the start of the program, when quotes can be obtained for supplies and services. Deviations from the suggested program can be made by the field geologist in charge, depending on current conditions such as weather*

respectfully submitted

TRANSPOLAR GEOLOGICAL CONSULTANTS INC.

per: -----

Robert J. Sharp, M.Sc., P.Geol.  
Qualified Person  
February 24, 2006

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## CERTIFICATE OF ROBERT J. SHARP, P.GEOL.

I, R.J. Sharp, P. Geol. do hereby certify that:

I am the President of Trans Polar Geological Consultants Inc., with an office located at No. 60 Hawkmount Heights, NW, Calgary, Alberta, Canada T3G 3S5 (Telephone: 403-239-5612, email: rjsharp@shaw.ca)

I graduated with a B.Sc. degree in Mineral Engineering from the University of Alberta in 1975. In addition, I have obtained a M.Sc. degree in Geology from the University of Alberta in 1980.

I am a Professional Geologist registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta, Member Number M18311 and the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories, Member Number 1304. I am entitled to use the seal which is affixed to this report.

I have practiced my profession as a Geologist for a total of 27 years since my graduation from university. I have worked in Canada, Mexico and China.

My specific experience concerning the subject deposit is related to work done for Cominco Ltd as Chief Geologist at the Polaris Mine from 1989 to 2002 where I was responsible for mine geology, ore reserves and exploration in the district surrounding the Polaris Mine.

I have read the definition of "qualified person" set out in National Instrument 43 - 101 ("NI 43 - 101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43 - 101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43 - 101.

I am responsible for the preparation of this technical report titled "Technical Report and Recommendations Blende Project" relating to the MIX 1-16, Trax 1-28, Trix 1-56 mineral claims. I have based this report on: a visit to the Blende property from July 17 to July 28, 2005 for a total of twelve days; a review of all available data concerning the subject property supplied by the property vendors; on information obtained from geological publications and from web sites.

I have no direct or indirect interest and have not had prior involvement with the property that is the subject of this Technical Report. I do not hold directly or indirectly, any shares in Blind Creek Resources Ltd., nor in Eagle Plains Resources Ltd.

I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43 - 101.

I have read National Instrument 43 - 101 and Form 43 - 101F1, and the Technical Report has been prepared in compliance with that instrument and form.

I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated at Calgary, Alberta, Canada this 24th Day of February, 2006

respectfully submitted

Robert Jay Sharp, B.Sc. (Mnl Eng), M.Sc. (Geol) P. Geol.

## LETTER OF AUTHORIZATION

TRANSPOLAR GEOLOGICAL CONSULTANTS INC  
Robert Jay Sharp, M.Sc., P. GEOL., Consulting Geologist  
60 Hawkmount Heights N.W. Calgary, AB., T3G 3S5  
TEL: 403-239-5612                      CEL: 403-669-6410  
rjsharp@shaw.ca

February 24, 2006

DIRECTORS  
BLIND CREEK RESOURCES LTD  
1500-675 West Hastings Street  
Vancouver, BC V6B 1N2  
Office Telephone: 604-685-9255  
Office Fax: 604-669-3041

Gentlemen

With this letter is transmitted your signed and stamped copies of my report., entitled: "Technical Report and Recommendations Blende Project " and dated November 14, 2005. You may use this report for any corporate purpose, provided that any material extracted from the report is kept in proper context.

Yours sincerely,  
Transpolar Geological Consultants Inc.

per: -----  
Robert Jay Sharp, M.Sc., P. GEOL., Consulting Geologist  
Qualified Person

TECHNICAL REPORT AND RECOMMENDATIONS  
BLIND CREEK PROJECT

Beaver River Area, Nash Creek Map Area 106D 07  
Latitude: 64° 24' 39" N/Longitude: 134° 40' 21" W

VOLUME II  
APPENDICES

APPENDIX I RESOURCE AND RESERVE DEFINITIONS  
APPENDIX II DUE DILIGENCE  
APPENDIX III ZINC  
APPENDIX IV PHOTOGRAPHS

Prepared for:

BLIND CREEK RESOURCES LTD  
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by

*TRANSPOLAR GEOLOGICAL CONSULTANTS INC*

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February 24, 2006



# APPENDIX I

## RESOURCE AND RESERVE DEFINITIONS

### CIM Resource and Reserve Definitions

Technical Reports dealing with estimates of Mineral Resources and Mineral Reserves must use only the terms and the definitions contained herein.

The CIM Standards provide for a direct relationship between Indicated Mineral Resources and Probable Mineral Reserves and between Measured Mineral Resources and Proven Mineral Reserves. In other words, the level of geoscientific confidence for Probable Mineral Reserves is the same as that required for the in situ determination of Indicated Mineral Resources and for Proven Mineral Reserves is the same as that required for the in situ determination of Measured Mineral Resources.

#### Mineral Resource

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions, might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.

#### Inferred Mineral Resource

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty which may attach to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the

basis of feasibility or other economic studies.

### Indicated Mineral Resource

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.

### Measured Mineral Resource

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

### Mineral Reserve

Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.

A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the Qualified Person(s) making the estimates, is the basis of an economically viable project after taking account of all relevant processing, metallurgical, economic, marketing, legal, environment, socio-economic and government factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the Mineral Reserves and delivered to the treatment plant or equivalent facility. The term 'Mineral Reserve' need not

necessarily signify that extraction facilities are in place or operative or that all governmental approvals have been received. It does signify that there are reasonable expectations of such approvals.

#### Probable Mineral Reserve

A 'Probable Mineral Reserve' is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

#### Proven Mineral Reserve

A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Application of the Proven Mineral reserve category implies that the Qualified Person has the highest degree of confidence in the estimate with the consequent expectation in the minds of the readers of the report. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect potential economic viability.

#### Preliminary Feasibility Study

The CIM Standards describe completion of a Preliminary Feasibility Study as the minimum prerequisite for the conversion of Mineral Resources to Mineral Reserves. A Preliminary Feasibility Study is a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established, and where an effective method of mineral processing has been determined. This study must include a financial analysis based on reasonable assumptions of technical, engineering, operating, and economic factors and evaluation of other relevant factors which are sufficient for a Qualified Person acting reasonably, to determine if all or part of the Mineral Resource may be classified as a Mineral Reserve.

(Source CIM Website)

## APPENDIX II

### DUE DILIGENCE

- A. Laboratory procedures (CHEMEX 1991, ECOTECH, LORING)
- B. Estimate of Expenditures at Blende
- C. Table of Resources
- D. 2004 / 2005 Analytical Results Far East Zone
- E. 2005 Gravity Survey Report
- F. Deposit Types
- G. 2005 Analytical Check Table of Variance
- H. Table of Yukon Silver – Lead – Zinc Deposits

# APPENDIX I – A

## LABORATORY PROCEDURES USED IN 1991 Chemex Laboratories Inc.

### Lead, Zinc

A 2 gram sub-sample is digested in hot perchloric-nitric acid mixture for two hours, cooled, then transferred into a 250 ml volumetric flask. Nitric acid is added to the final sample and standard solutions. The solutions are then analyzed on an atomic absorption instrument.

### Silver

A 2 gram sample is digested in aqua regia and taken to dryness. The residue is dissolved in dilute HCL and transferred to a volumetric flask. After cooling to room temperature and making to volume the solution is run on the A.A. against matched matrix standards of known Ag content. The detection limit is 0.01 oz/t or 0.5 g/t.

### Lead - Non Sulphide Leach

1. Weigh 1 gram of finely ground pulp into a 250 ml beaker.
2. Add 100 ml of 60% ammonium acetate solution.
3. Leach cold for 1.5 hours swirling occasionally.
4. Filter through a No. 42 Whatman filter paper (using filter aid).
5. Wash with cold H<sub>2</sub>O.
6. Analyze against prepared acetate standards by atomic absorption techniques.

Note: If phosphates or vanadates are present, wash the filtered residue with cold, 10% perchloric acid and analyze this solution by A.A.

### Zinc - Non Sulphide Leach Routine Method:

1. Weigh a 1 gram sample into a 250 ml beaker
2. Add 25 ml of 25% ammonium chloride solution and 10 ml of saturated ammonium acetate solution. Note: When making saturated ammonium acetate solution start with 1/4 the required volume of water.
3. Boil for 10 minutes.
4. Filter through a No. 42 Whatman filter (using filter aid) into a 250 ml volumetric flask.
5. Wash with hot water.
6. Analyze against prepared standards by A.A.

### Alternate Method: (Difficult Ores)

1. Weigh a 1 gram sample.
2. Add 50 ml of 2% H<sub>2</sub>SO<sub>4</sub> saturated with SO<sub>2</sub>.
3. Stopper flask and allow to stand at 30 degrees C for one hour swirling every 10 minutes.
4. Filter and wash with hot water.
5. Analyze by A.A.

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

Phone: 250-573-5700  
Fax: 250-573-4557

### Analytical Procedure Assessment Report

#### *BASE METAL ASSAYS (Ag,Cu,Pb,Zn)*

Samples are catalogued and dried. Rock samples are 2 stage crushed followed by pulverizing a 250 gram subsample. The subsample is rolled and homogenized and bagged in a prenumbered bag.

A suitable sample weight is digested with aqua regia. The sample is allowed to cool, bulked up to a suitable volume and analyzed by an atomic absorption instrument, to .01 % detection limit.

Appropriate certified reference materials accompany the samples through the process providing accurate quality control.

Result data is entered along with standards and repeat values and are faxed and/or mailed to the client.

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

Phone: 250-573-5700  
Fax: 250-573-4557

## Analytical Procedure Assessment Report

### *MULTI ELEMENT ICP ANALYSIS*

Samples are catalogued and dried. Soil samples are screened to obtain a -80 mesh sample. Samples unable to produce adequate -80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh. Rock samples are 2 stage crushed to minus 10 mesh and pulverized on a ring mill pulverizer to minus 140 mesh, rolled and homogenized.

A 0.5 gram sample is digested with 3ml of a 3:1:2 (HCl:HN03:H2O) which contains beryllium which acts as an internal standard for 90 minutes in a water bath at 95°C. The sample is then diluted to 10ml with water. The sample is analyzed on a Jarrell Ash ICP unit.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and/or mailed to the client.

*K:Methods/methicp*

# LORING LABORATORIES LTD.

629 Beaverdam Road N.E.  
Calgary, Alberta  
T2K 4W7

## SAMPLE PREPARATION

### **Rock/Drill Core 4-5 kg samples**

Entire sample is crushed to 2 mm using primary jaw and secondary cone crushing. Sample is then completely homogenized and a split of 250 to 350 grams is taken and pulverized using a TM ring and puck pulverizer to 95% -150 mesh. Pulp is then rolled 100 times to ensure complete homogenization, placed in sample bag and ready for analysis.

### **\*Soil Samples up to 1 kg (B Horizon)**

Dry at 60° to 80° C and sieve to -80 mesh, homogenize and transfer to sample bag ready for analysis (+/- 100 gm pulp)  
Any soils requiring volatile elements (eg Mercury) should be dried at 55° to 60°c maximum.

### **\*Stream Sediments & Silts up to 1 kg**

Dry at 60°C to 80°C, homogenize and take a 100-150 gram (if possible) and pulverize to approximately -140 mesh

\*On soils, sediments and silts, pulp size can only be dictated by the amount of sample received.



# Loring Laboratories Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 274-2777 Fax: 275-0541

## 30 ELEMENT ICP ANALYSIS

- 1.) 0.5 GRAM SAMPLE IS WEIGHED INTO A TEST TUBE.
- 2.) 2ml. Of 1:1 HNO<sub>3</sub> : WATER MIXTURE, AND 3ml. HCl ARE ADDED TO TEST TUBES.
- 3.) SAMPLES ARE HEATED AT 95C FOR 1 HOURS IN ALUMINUM DIGESTION BLOCKS.
- 4.) SAMPLES ARE COOLED AND 5ml. OF DISTILLED WATER IS ADDED TO ADJUST VOLUMES TO 10ml.
- 5.) SAMPLES ARE MIXED ON VORTEX MIXER AND ALLOWED TO SETTLE
- 6.) ICP IS TURNED ON AND ALLOWED TO WARM UP FOR 15 MINUTES BEFORE STANDARDIZATION AND ANALYSIS
- 7.) SAMPLES ARE TRANSFERED TO AUTO SAMPLER TUBES AND PLACED IN RACKS
- 8.) SAMPLES, CHECKS, AND STANDARD REFERENCE SAMPLES ARE ANALYZED BY ICP FOR 30 ELEMENT PACKAGE.
- 9.) FINAL ANAYSIS IS CHECKED TO ENSURE ALL QA/QC CONTROLS ARE MET, AND REPORT IS GENERATED FOR CLIENT.

# **LORING LABORATORIES LTD.**

629 Beaverdam Road N.E.

Calgary, Alberta

T2K 4W7

## **FIRE ASSAY PROCEDURE**

30 grams of prepared pulp is weighed and transferred into a 40 gram fire assay crucible containing the correct flux mixture. (\*see note below) The crucibles are then placed into an electric fire assay furnace and fused for 1 hour at 1100° C. Fusions are then poured into individual moulds, cooled and slagged taking care to examine the slag and lead button to ensure complete fusion. All fusions are inquarted with a known amount of silver to ensure alloying of precious metals contained in the 30 grams taken. A 35 to 45 gram lead button is desirable. Lead buttons are then cupelled in an electric furnace to drive off the lead leaving an alloy of gold, silver and PGM's.

The resulting prill is then transferred to appropriate glassware and a total dissolution of metals in very strong acids is attained. The samples are cooled, made to volume and are ready for analysis by Atomic Absorption/Inductively Coupled Plasma (ICP). Standards, blanks and repeats are analyzed as well to ensure QA/QC.

\*Any new projects (drill cores) are analyzed by ICP to establish the "matrix" of samples for any other minerals that could affect the fusion procedure.

# APPENDIX I B – BLENDE PROPERTY

DOCUMENTED AND ESTIMATED EXPENDITURES OF HISTORIC WORK ON THE BLENDE PROPERTY( after Price 2004 )

DATE	COMPANY	WORK	AMOUNT DOCUMENTED	AMOUNT ESTIMATED
1984	Archer Cathro Norvista Development Ltd.	Surface sampling, trenching Helicopter Costs only	\$33,000.00	
1985	Inco Exploration Ltd.	Claim staking 1984 Mapping and Sampling 1985	\$0.00	\$10,000.00
1988	Archer Cathro NDU Resources Ltd.	Diamond Drilling NQ BQ 3 holes, 718 m (Franzen Report)	\$200,000.00	\$0.00
1989	Archer Cathro NDU Resources Ltd. Billiton Metals Canada Inc.	Diamond Drilling, Ortho-Photos, VLF, Mag, Grad surveys, Assays	\$55,182.31	\$0.00
1990	Archer Cathro	Water Quality Study John Gibson	\$0.00	\$3,000.00
1990	Archer Cathro NDU/Billiton	15 holes ?, 3660 m Diamond Drilling NQ Costs estimated	\$0.00	\$1,000,000.00
1990	Billiton	Final Drill report Glenn Lutes, Billiton	\$0.00	\$5,000.00
1990	Billiton Res. Canada Inc.	Barbara Murck, Geoplastech Inc. Petrographic report	\$0.00	\$5,000.00
1990	Billioton Metals Canada Inc.	Prelim. Open Pit Study Glenn Lutes, M.Sc., Billiton	\$0.00	\$25,000.00
1990	Billiton	Preliminary Metallurgical Testwork Bacon Donaldson and Assoc.	\$0.00	\$50,000.00
1991	Archer Cathro NDU Billiton	Diamond Drilling 62 holes, 11525.1 m Not all filed? Filed \$151,165.57	\$472,611.27	\$3,000,000.00
1991	Billiton	Drilling Report Glenn Lutes Report of Activities Economic study	\$0.00	\$10,000.00
1991	Billiton	Preliminary Mineralogy Mineralogy of Concentrates Min Scan Consultants Ltd. Seven separate studies	\$0.00	\$10,000.00
1991	Billiton	Metallurgical Flowsheet Bacon Donaldson and Assoc.	\$0.00	\$15,000.00

1991	Archer Cathro	Survey of Points, Drillholes Lamerton and Associates	\$0.00	\$20,000.00
1992	Billiton	Water Quality and Hydrology Survey, J. Gibson and Associates	\$0.00	\$5,000.00
1992	Billiton	Geophysical Evaluation Jerry Roth, Stratagex Ltd.	\$0.00	\$5,000.00
1994	Archer Cathro NDU Resources Ltd.	596 metres, 7 holes No affidavit, costs estimated	\$0.00	\$75,000.00
1984-94	DOCUMENTED	TOTAL	\$760,793.58	\$4,238,000.00

NOTE: costs documented are for assessment purposes only. Not all costs may be applied.  
Chemex Analytical certificates, Drill Logs available for all programs

DOCUMENTED AND ESTIMATED EXPENDITURES OF WORK ON THE BLENDE PROPERTY BY EAGLE PLAINS RESOURCES 2002 - 2005

DATE	COMPANY	WORK	AMOUNT DOCUMENTED	AMOUNT ESTIMATED
2002	Eagle Plains Resources Ltd	Staking, property visit	\$11,149.39	\$17,000.00
2004	Eagle Plains Resources Ltd	Claim Staking, Prospecting, Geological Mapping Geochemistry, Data Acquisition and Compilation	\$20,630.60	\$35,000.00
2005	Eagle Plains Resources Ltd.	Claim Staking, Relogging of Historic Drill Core, Prospecting, Geochemical Sampling, Initiate GPS Survey of Drillsites and Roads, Gravity Survey, Ongoing Data Compilation,	\$95,000.00	\$105,000.00
2002-05	DOCUMENTED	TOTAL	\$126,779.99	\$157,000.00

APPENDIX I –C  
Table of Resources



Block No.	Section	Block Thick	Area(m2)	Volume Cu M.	Specific Gravity	Tonnage Pb(%)	PbO(%)	Zn(%)	ZnO(%)	Ag(opt)	Pb+Zn(%)	1991 GMV \$	2005 GMV US\$	1991 GMV\$ (netZnO)	2004 GMV Can\$	2005 GMV Can\$	T x Pb	T x Zn	T x Ag	t x GMV5US05	t x GMV5Can05	t x GMV5Can04	
B88-7	10300E	100	255.1	25,510	3.1	79,081	2.22	1.11	1.16	0.58	1.15	\$92.08	\$42.89	\$41.04	\$53.44	50.98	175559.82	91733.96	90943.15	3,391,613	3,391,613	4,226,440	
B15-1	10300E	100	401.6	40,160	3.1	124,496	13.07	7.76	5.72	5.25	9.42	\$256.91	\$126.65	\$172.22	\$321.32	305.40	1627162.72	712117.12	1172752.32	31,983,959	31,983,959	40,002,986	
B15-2	10300E	100	199.0	19,900	3.1	61,690	6.03	2.70	3.17	1.51	3.11	\$106.65	\$116.65	\$90.83	\$145.32	138.67	371980.7	195557.3	191855.9	7,196,416	7,196,416	8,964,757	
B15-3	10300E	100	1588.8	158,880	3.1	492,528	5.38	2.59	2.29	1.96	4.42	\$108.88	\$108.88	\$76.51	\$135.89	129.43	2649800.64	1127889.12	2176973.76	53,626,971	53,626,971	66,929,083	
B15-4	10300E	100	1019.4	101,940	3.1	316,014	5.24	1.48	0.74	1.57	11.94	\$147.03	\$147.03	\$133.37	\$171.64	174.79	1655913.36	2117293.8	498141.98	46,464,588	46,464,588	54,240,292	
B15-5	10300E	100	692.9	69,290	3.1	214,799	1.71	0.31	1.41	0.16	0.66	\$38.44	\$38.44	\$34.61	\$46.46	45.69	367306.29	302866.59	141677.34	8,256,672	8,256,672	9,979,204	
B6-1	10300E	100	797.7	79,770	3.1	247,287	2.25	0.70	0.69	0.20	0.51	\$31.96	\$31.96	\$26.42	\$41.96	38.00	556395.75	170628.03	128116.37	7,904,188	7,904,188	10,375,750	
B6-2	10300E	100	237.1	23,710	3.1	495,132	7.64	2.24	2.44	1.21	10.08	\$120.36	\$120.36	\$97.60	\$155.64	143.00	3782808.48	1208122.08	1559665.8	59,593,612	59,593,612	77,061,794	
B6-3	10300E	100	816.3	81,630	3.1	73,501	1.09	0.26	3.16	0.13	0.46	\$55.77	\$55.77	\$53.33	\$61.35	66.29	80116.09	232263.16	33810.46	4,098,945	4,098,945	4,509,082	
B6-4	10300E	100	284.4	28,440	3.1	88,164	2.09	0.00	0.77	0.00	1.01	\$38.02	\$38.02	\$33.93	\$44.74	45.20	326438.37	346822.61	291010.95	9,620,918	9,620,918	11,320,607	
B18-1	10300E	100	1178.9	117,890	3.1	365,459	1.99	0.43	2.61	0.08	1.24	\$61.50	\$61.50	\$58.76	\$71.46	73.11	727263.41	953847.99	453169.16	3,123,384	3,123,384	3,988,197	
B18-2	10300E	100	851.0	85,100	3.1	263,810	2.65	1.01	0.52	0.19	0.88	\$35.70	\$35.70	\$31.06	\$47.68	42.44	690966.5	137181.2	232152.8	9,419,114	9,419,114	12,578,607	
B18-3	10300E	100	1523.5	152,350	3.1	472,285	1.27	0.23	1.35	0.01	1.44	\$39.72	\$39.72	\$38.18	\$45.63	47.22	599801.95	637584.75	690090.4	18,761,456	18,761,456	22,020,288	
B51-1	10400E	100	1007.0	100,700	3.1	312,170	1.64	0.30	1.85	0.01	1.08	\$46.99	\$46.99	\$45.45	\$55.19	55.86	511968.8	577514.5	337143.6	14,669,249	14,669,249	17,230,050	
B4-1	10400E	100	2257.9	225,790	3.1	703,049	5.06	2.30	3.15	1.49	1.39	\$95.57	\$95.57	\$71.49	\$118.58	113.61	3557427.94	2214604.35	977238.11	67,193,472	67,193,472	83,369,894	
B4-2	10400E	100	2258.8	225,880	3.1	700,228	2.85	0.72	1.45	0.29	1.75	\$56.55	\$56.55	\$49.95	\$70.35	67.22	1895649.8	1015330.6	1226399	39,595,723	39,595,723	49,259,085	
B4-3	10400E	100	248.0	24,800	3.1	76,880	7.91	1.11	1.26	0.15	4.83	\$53.99	\$53.99	\$137.78	\$175.79	163.78	608120.8	202363.2	371330.4	10,592,465	10,592,465	13,514,863	
B4-4	10400E	100	277.7	27,770	3.1	86,087	5.91	0.86	2.22	0.58	0.82	\$130.68	\$130.68	\$85.70	\$111.54	101.87	508774.17	191113.14	70591.34	7,377,315	7,377,315	9,602,287	
B5-1	10400E	100	845.2	84,520	3.1	262,012	4.95	1.68	5.18	1.86	2.66	\$81.84	\$81.84	\$131.86	\$102.39	156.75	1296959.4	1357222.16	696951.92	34,548,751	34,548,751	40,870,233	
B5-2	10400E	100	285.2	28,520	3.1	88,412	0.48	0.08	7.13	0.25	0.30	\$127.99	\$127.99	\$103.88	\$100.44	123.49	42437.76	630377.56	26523.6	9,184,608	9,184,608	9,506,746	
B5-3	10400E	100	144.5	14,450	3.1	44,795	2.15	0.14	5.13	0.07	0.82	\$103.91	\$103.91	\$94.24	\$104.96	112.03	96309.25	229798.35	36731.9	4,221,657	4,221,657	4,701,609	
B45-1	10400E	100	626.4	62,640	3.1	194,184	1.98	0.62	2.09	0.53	4.07	\$92.92	\$92.92	\$54.44	\$64.28	64.72	384484.32	405844.56	244671.84	10,571,816	10,571,816	12,481,716	
B45-2	10400E	100	2315.2	231,520	3.1	717,712	2.58	0.73	1.12	0.29	2.16	\$52.77	\$52.77	\$52.81	\$65.81	62.78	1851696.96	803837.44	1550257.92	37,903,806	37,903,806	47,229,437	
B45-3	10400E	100	410.9	41,090	3.1	127,379	2.39	0.55	2.48	0.25	1.90	\$50.17	\$50.17	\$67.93	\$80.15	80.76	304435.81	315899.92	242020.1	8,653,487	8,653,487	10,209,781	
B45-4	10400E	100	1236.8	123,680	3.1	383,408	4.23	0.87	3.31	0.71	1.58	\$65.70	\$65.70	\$92.26	\$79.35	109.67	1621815.84	1269800.48	605784.64	35,373,153	35,373,153	42,947,021	
B47-1	10400E	100	442.1	44,210	3.1	137,051	1.92	0.48	1.50	0.10	0.57	\$89.08	\$89.08	\$40.75	\$38.03	48.45	263137.92	205576.5	78119.07	5,585,481	5,585,481	6,795,445	
B47-2	10400E	100	297.4	29,740	3.1	92,194	2.95	0.49	0.58	0.02	1.26	\$39.43	\$39.43	\$41.84	\$39.16	49.73	271972.3	53472.52	116164.44	3,857,069	3,857,069	5,110,365	
B47-3	10400E	100	351.5	35,150	3.1	108,965	2.80	0.46	1.35	0.03	1.26	\$48.89	\$48.89	\$51.13	\$48.47	60.79	305102	147102.75	137295.9	5,571,893	5,571,893	7,001,001	
B47-4	10400E	100	2480.7	248,070	3.1	769,017	1.95	0.33	6.82	0.08	1.50	\$119.35	\$119.35	\$120.76	\$131.60	143.55	1499583.15	5244695.94	1153525.5	92,866,462	92,866,462	101,200,501	
B57-1	10500E	100	217.0	21,700	3.1	67,270	2.01	0.30	1.86	0.07	1.15	\$49.06	\$49.06	\$50.73	\$48.10	60.30	135212.7	125122.2	77360.5	3,412,443	3,412,443	4,072,638	
B30-1	10500E	100	58.8	5,880	3.1	18,228	3.45	2.34	0.31	0.15	0.95	\$37.44	\$37.44	\$40.01	\$35.37	47.56	62866.6	56560.68	17316.6	728,265	728,265	1,008,869	
B30-2	10500E	100	96.0	9,600	3.1	29,760	2.35	1.34	1.32	0.12	0.63	\$40.66	\$40.66	\$42.31	\$25.23	50.30	69936	39283.2	18748.8	1,259,269	1,259,269	1,576,040	
B30-3	10500E	100	104.7	10,470	3.1	32,457	2.84	2.25	0.38	0.20	2.19	\$42.24	\$42.24	\$39.48	\$59.03	53.57	92177.88	12333.66	71080.83	1,462,602	1,462,602	1,915,865	
B40-1	10500E	100	72.8	7,280	3.1	22,568	6.55	2.92	1.72	0.82	2.04	\$88.29	\$88.29	\$93.20	\$122.76	110.80	147820.4	38816.96	46038.72	2,103,450	2,103,450	2,770,535	
Totals			Area(m2)			Tonnage Pb(total)	PbO(%)	Zn(%)	ZnO(%)	Ag(opt)	Pb+Zn(%)	GMV\$(gross)	GMV\$(net)	GMV\$(ZnO)	GMV\$(ZnO)	GMV\$(ZnO)							
			49411.3			Original 15,317,523	3.23	1.09	3.04	0.79	1.97	80.45	80.45	70.55	99.10	93.36	48,545,074	46,614,989	30,142,536	1,274,198,259	1,276,797,911	1,517,931,623	
					2004 cut	15,316,759	3.23		3.04		1.97												

\* PbO and ZnO calculated at 50% of total Pb and Zn respectively

**RESOURCE CALCULATIONS**

West Zone - Blende Ag-Pb-Zn property, Yukon  
 Billion Resources Canada Inc.  
 Cut to blocks with GMV Cans75 or greater

Block No.	Section	Block Thick	Area(m <sup>2</sup> )	Volume Cu M.	Specific Gravity	Tonnage	Pb(%)	PbO(%)	PbQ(%)	Zn(%)	ZnO(%)	Ag(opt)	Pb+Zn(%)	1991 GMV \$	2005 GMV US\$	1991 GMV\$ (netZnO)	2004 GMV Cans	2005 GMV Cans	T x Pb	T x Zn	T x Ag	T x GMV\$US05	T x GMV\$Can05	T x GMV\$Can04
B21-1	9800E	100	148.7	14,870	3.1	46,097	0.65	0.11	0.11	10.90	0.24	0.41	11.55	\$158.03	\$157.76	\$154.72	\$162.93	187.53	29863.05	502457.3	18699.77	7,272,051	7,272,051	7,510,610
B21-2	9800E	100	682.2	68,220	3.1	211,482	1.57	0.33	0.33	4.53	0.44	0.38	0.38	\$77.15	\$77.94	\$71.09	\$85.21	92.65	332026.74	968013.46	80363.16	16,482,674	16,482,674	18,125,770
B27-1	9900E	100	92.1	9,210	3.1	28,551	0.09	0.02	0.02	6.61	0.10	0.16	6.70	\$108.40	\$92.48	\$91.50	\$94.26	109.93	2569.59	168722.11	4568.16	2,640,319	2,640,319	2,691,328
B27-3	9900E	100	180.9	18,090	3.1	56,079	0.33	0.18	0.18	5.53	0.19	0.20	5.86	\$112.71	\$79.98	\$56.21	\$85.10	95.07	18060.07	310116.87	11215.8	4,485,096	4,485,096	4,631,970
B13-1	9900E	100	941.6	94,160	3.1	291,896	0.69	0.17	0.17	5.17	0.64	0.57	5.86	\$86.53	\$80.78	\$71.67	\$85.18	96.03	201408.24	1509102.32	166380.72	23,580,229	23,580,229	24,863,863
B11-1	10000E	100	77.3	7,730	3.1	23,963	6.70	4.91	2.95	2.82	2.33	2.33	9.65	\$66.12	\$113.45	\$69.54	\$144.14	134.86	160592.1	70990.85	55833.79	2,718,571	2,718,571	3,454,000
B11-2	10000E	100	210.7	21,070	3.1	65,317	1.88	1.14	3.20	1.89	1.05	1.05	8.07	\$62.35	\$67.26	\$39.79	\$76.69	79.96	122795.96	209014.4	68582.85	4,393,237	4,393,237	5,009,451
B11-3	10000E	100	1172.8	117,280	3.1	363,968	2.60	1.12	6.07	1.12	0.39	1.17	8.67	\$155.76	\$114.49	\$89.70	\$127.72	136.10	945276.76	2206857.76	476274.08	41,626,231	41,626,231	46,354,713
B11-4	10000E	100	195.7	19,570	3.1	60,667	0.17	0.02	0.10	0.39	0.63	0.30	6.27	\$100.88	\$86.23	\$81.16	\$88.26	102.51	10313.39	370068.7	10313.39	5,231,410	5,231,410	5,354,705
B12-1	10000E	100	1073.5	107,350	3.1	332,748	4.83	1.27	5.37	1.27	0.39	1.00	10.20	\$63.59	\$142.64	\$129.47	\$167.46	169.57	1607351.55	1787055.45	1297861.5	47,469,284	47,469,284	55,727,621
B12-2	10000E	100	347.0	34,700	3.1	107,570	0.48	0.17	4.38	1.12	0.30	4.86	4.75	\$92.01	\$63.73	\$56.15	\$72.63	75.76	51633.6	471166.6	32271	7,122,713	7,122,713	7,456,187
B10-1	10100E	100	589.9	58,990	3.1	182,869	4.25	1.05	7.74	1.13	2.36	11.99	7.75	\$82.18	\$158.88	\$140.15	\$180.29	188.87	763894.25	1309533	475796.99	27,820,592	27,820,592	31,701,611
B10-2	10100E	100	388.2	38,820	3.1	120,342	2.03	0.47	5.72	0.77	0.93	7.07	6.07	\$191.92	\$102.14	\$90.28	\$112.57	121.42	777193.25	1415406.06	431570.84	29,054,322	29,054,322	32,969,757
B10-3	10100E	100	1851.6	185,160	3.1	573,996	4.42	2.40	1.65	1.00	0.97	6.07	6.07	\$118.77	\$66.59	\$49.82	\$86.25	79.16	244294.26	688356.24	11918.06	12,291,780	12,291,780	13,546,832
B14-1	10100E	100	223.5	22,350	3.1	69,285	0.20	0.10	4.90	0.49	0.33	5.10	5.10	\$175.75	\$71.23	\$64.58	\$73.31	84.67	537062.32	947003.4	566776.12	38,222,084	38,222,084	49,507,155
B14-2	10100E	100	115.3	11,530	3.1	35,743	6.05	2.46	2.61	1.13	1.36	8.66	8.66	\$54.64	\$96.20	\$76.44	\$123.21	114.36	13857	339496.5	22664.05	4,935,018	4,935,018	5,078,975
B14-3	10100E	100	399.5	39,950	3.1	123,845	1.60	0.35	4.90	0.29	0.33	6.50	6.50	\$61.08	\$82.89	\$78.20	\$90.81	98.59	216245.15	93289.23	48610.48	3,438,483	3,438,483	4,403,835
B9-1	10200E	100	605.5	60,550	3.1	187,705	7.14	3.83	8.20	4.97	2.91	22.91	0.77	\$188.15	\$176.54	\$164.23	\$200.69	209.86	198152	606840.5	40668.85	10,285,141	10,285,141	11,245,814
B9-3	10200E	100	285.6	28,560	3.1	88,536	7.83	2.20	2.68	0.43	3.11	3.11	10.51	\$78.94	\$124.93	\$112.84	\$161.01	148.51	1340213.7	1539181	649459.3	37,051,000	37,051,000	43,542,346
B9-4	10200E	100	744.0	74,400	3.1	230,640	10.47	0.73	3.74	0.34	6.32	4.21	14.21	\$127.21	\$185.19	\$171.06	\$235.49	220.15	893236.88	237276.48	275346.96	11,061,057	11,061,057	14,255,526
B7-6	10200E	100	317.7	31,770	3.1	98,487	4.25	1.11	1.90	0.43	4.59	6.15	6.15	\$80.76	\$95.39	\$84.71	\$117.76	113.39	2414800.8	862593.6	1457644.8	42,712,840	42,712,840	54,312,517
B60-2	10200E	100	163.6	16,360	3.1	50,716	2.40	1.32	3.26	3.26	2.25	5.66	5.66	\$44.01	\$81.29	\$74.02	\$92.04	96.64	418669.75	187125.3	452055.33	9,394,301	9,394,301	11,598,212
B60-3	10200E	100	739.5	73,950	3.1	229,245	2.97	0.51	4.05	3.81	7.04	7.04	7.04	\$42.89	\$132.31	\$34.09	\$154.04	157.28	680857.65	928442.25	1613884.8	30,330,732	30,330,732	34,864,792
B60-4	10200E	100	203.1	20,310	3.1	62,961	0.66	0.10	0.11	0.01	0.01	22.91	0.77	\$188.15	\$176.54	\$164.23	\$200.69	209.86	415544.28	6925.71	1442436.51	11,114,962	11,114,962	12,635,923
B43-2	10300E	100	891.9	89,190	3.1	276,489	4.83	1.48	0.82	0.10	0.11	3.14	5.65	\$41.04	\$74.69	\$61.82	\$97.93	88.79	1335441.87	226720.98	868775.46	20,651,682	20,651,682	27,076,721
*B88-1	10300E	100	370.0	37,000	3.1	114,700	3.35	1.68	3.30	1.65	1.37	6.65	6.65	\$103.52	\$83.24	\$80.76	\$99.13	99.79	378510	157398.16	186430	11,915,391	11,915,391	14,270,850
*B88-2	10300E	100	310.0	31,000	3.1	96,100	5.22	2.61	4.83	2.43	1.94	10.05	10.05	\$143.57	\$123.99	\$120.61	\$148.50	147.39	501642	464163	572798.16	14,125,903	14,125,903	16,279,633
*B88-5	10300E	100	233.3	23,330	3.1	72,323	7.92	3.96	6.44	3.22	5.56	5.56	5.56	\$59.86	\$195.32	\$188.15	\$234.78	232.18	418669.75	187125.3	452055.33	9,394,301	9,394,301	11,598,212
*B88-6	10300E	100	103.6	10,360	3.1	32,116	4.66	2.33	2.22	1.11	1.23	6.88	6.88	\$45.59	\$78.32	\$75.02	\$99.33	93.10	149680.56	71297.52	35026.68	2,515,326	2,515,326	3,190,189
B15-1	10300E	100	401.6	40,160	3.1	124,496	13.07	7.76	5.72	5.25	9.42	18.79	18.79	\$256.91	\$256.91	\$172.22	\$321.32	305.40	1627162.72	712117.12	1127252.32	31,983,959	31,983,959	40,002,986
B15-2	10300E	100	199.0	19,900	3.1	61,690	6.03	2.70	3.17	1.51	3.11	9.20	9.20	\$116.65	\$90.83	\$145.32	\$138.67	138.67	371990.7	195557.3	191855.9	7,196,416	7,196,416	8,964,757
B15-3	10300E	100	1588.8	158,880	3.1	492,528	5.38	2.59	2.29	1.96	4.42	7.67	7.67	\$108.88	\$135.89	\$135.89	\$135.89	129.43	2649800.64	1127889.12	2176973.76	53,626,971	53,626,971	66,929,083
B15-4	10300E	100	1019.4	101,940	3.1	316,014	5.24	1.48	6.70	0.74	1.57	11.94	11.94	\$147.03	\$133.37	\$133.37	\$171.64	174.79	1655913.36	2117293.38	496141.98	46,464,588	46,464,588	54,240,292
B6-2	10400E	100	1597.2	159,720	3.1	495,132	7.64	2.24	2.44	1.21	3.15	10.08	10.08	\$120.36	\$97.60	\$97.60	\$155.64	143.08	3782808.48	1208122.08	1559665.8	59,593,612	59,593,612	77,061,794
B4-1	10400E	100	2267.9	226,790	3.1	703,049	5.06	2.30	3.15	1.49	1.39	8.21	8.21	\$95.57	\$71.49	\$118.58	\$113.61	113.61	3557427.94	2214804.35	977238.11	67,193,472	67,193,472	83,369,894
B4-3	10400E	100	248.0	24,800	3.1	76,880	7.91	1.11	2.64	0.15	4.83	10.55	10.55	\$53.99	\$137.78	\$128.62	\$175.79	163.78	608120.8	202963.2	371330.4	10,592,465	10,592,465	13,514,863
B4-4	10400E	100	277.7	27,770	3.1	86,087	5.91	0.86	2.22	0.58	0.82	8.13	8.13	\$130.68	\$85.70	\$73.85	\$111.54	101.87	508774.17	191113.14	70591.34	7,377,315	7,377,315	9,602,287
B5-1	10400E	100	845.2	84,520	3.1	262,012	4.95	1.68	5.18	1.86	2.66	6.66	6.66	\$81.84	\$131.86	\$102.39	\$155.99	156.75	1296959.4	1357222.16	696951.92	34,549,751	34,549,751	40,870,233
B5-2	10400E	100	285.2	28,520	3.1	88,412	0.48	0.08	7.13	0.25	0.30	7.61	7.61	\$127.99	\$103.88	\$100.44	\$107.53	123.49	42437.76	630377.56	26523.6	9,184,608	9,184,608	9,506,746
B5-3	10400E	100	144.5	14,450	3.1	44,795	2.15	0.14	5.13	0.07	0.82	7.28	7.28	\$103.91	\$94.24	\$91.96	\$104.96	112.03	96309.25	229798.35	36731.9	4,221,657	4,221,657	4,701,609
B45-3	10400E	100	410.9	41,090	3.1	127,379	2.39	0.55	2.48	0.25	1.90	4.87	4.87	\$50.17	\$67.93	\$62.26	\$80.15	80.76	304435.81	315899.92	242020.1	8,653,487	8,653,487	10,209,781
B45-4	10400E	100	1236.8	123,680	3.1	383,408	4.23	0.87	3.31	0.71	1.58	7.54	7.54	\$65.70	\$92.26	\$79.35	\$112.01	109.67	1621815.84	1289080.48	605784.64	35,373,153	35,373,153	42,947,021
B47-4	10400E	100	2480.7	248,070	3.1	769,017	1.95	0.33	6.82	0.08	1.50	8.77	8.77	\$119.35	\$120.76	\$118.25	\$131.60	143.55	1498963.15	5244695.15	1153525.5	92,866,462	92,866,462	101,200,501
B40-1	10500E	100	72.8	7,280	3.1	22,568	6.55	2.92	1.72	0.82	2.04	8.27	8.27	\$88.29	\$									





**RESOURCE CALCULATIONS**  
 West Zone - Blende Ag-Pb-Zn property, Yukon  
 Billion Resources Canada Inc. 1991  
 Appears to use a US \$75 cutoff

**UNDERGROUND RESOURCE CALCULATIONS**

**METAL PRICES (US\$)**

PB	ZN	AG
0.4164	0.6849	7.4

DRILL HOLE	SECTION	BLOCK no.	LENGTH m	WIDTH m	THICKNESS m	FACTOR	VOLUME	SG	TONNES	PB %	ZN %	AG %	GMV US\$	SECTION	BLOCK NO	T X PB	T X ZN	T X AG	T X gmv us\$
90-11	10+000	11A	84	100	11.10	0.8	74592	3.53145	263,418	3.07	6.88	1.61	\$132	10+000	11A	808,693	1,812,315	424,103	34,698,251
		11B	152	100	7.66	0.8	93146	3.53145	328,939	4.83	5.37	3.9	\$143		11B	1,588,776	1,766,403	1,282,862	46,920,685
90-12	10+000	12A	96	100	5.00	0.8	38400	3.53145	135,608	3.16	4.95	2.36	\$112	10+000	12A	428,520	671,258	320,034	15,131,862
90-10	10+100E	10A	94	100	6.00	0.9	50760	3.53145	179,256	4.9	8.78	2.78	\$182	10+100E	10A	878,356	1,573,871	498,333	32,561,502
		10B	115	100	3.83	0.9	39641	3.53145	139,988	2.03	5.72	0.93	\$102	10B	284,177	800,734	130,189	14,298,476	
		10C	132	100	2.79	0.9	33145	3.53145	117,051	7.69	5.6	1.42	\$151	10C	900,119	655,483	166,212	17,704,973	
90-9	10+200E	9A	66	75	11.92	0.8	47203	3.53145	166,696	7.14	8.2	3.46	\$197	10+200E	9A	1,190,208	1,366,905	576,767	32,903,992
		9B	100	75	3.04	0.8	18240	3.53145	64,414	7.83	2.68	3.11	\$125	9B	504,359	172,629	200,326	8,047,383	
		9C	100	75	7.57	0.8	45420	3.53145	160,398	9.06	3.2	3.38	\$144	9C	1,453,210	513,275	542,147	23,145,061	
		17A	180	50	8.42	0.9	68202	3.53145	240,852	10.08	3.21	1.95	\$142	17A	2,427,788	773,135	469,661	34,284,510	
90-15	10+300E	15A	88	50	7.70	0.9	30492	3.53145	107,681	13.07	9.42	9.42	\$257	10+300E	15A	1,407,390	615,935	1,014,355	27,664,052
		15B	92	50	3.67	0.9	15194	3.53145	53,656	6.03	3.17	3.11	\$117	10+300E	15B	323,547	170,090	166,871	6,259,231
		15C	96	50	9.47	0.9	40910	3.53145	144,473	14.11	6.6	11.55	\$293	10+300E	15C	2,038,514	953,522	1,668,664	42,386,203
		15D	110	50	3.64	0.9	18018	3.53145	63,630	5.25	3.15	5.28	\$126	10+300E	15D	334,056	200,433	335,965	8,013,692
		15E	148	50	5.71	0.8	33803	3.53145	119,374	7.2	8.08	2.11	\$186	10+300E	15E	859,495	964,544	251,880	22,234,115
		6A	68	50	21.00	0.9	64260	3.53145	225,931	8.37	2.5	3.5	\$130	10+300E	6A	1,899,412	567,327	794,258	29,467,069
90-18	10+300E	18A	80	50	3.45	0.9	12420	3.53145	43,861	2.97	4.38	1.72	\$97	10+300E	18A	130,266	192,109	75,440	4,274,629
90-16	10+350E	16A	200	50	3.00	0.9	27000	3.53145	95,349	6.21	2.02	0.99	\$87	10+350E	16A	592,118	192,605	94,396	8,267,996
		16B	200	50	3.17	0.9	28530	3.53145	100,752	6.52	1.59	1.04	\$84	10+350E	16B	656,905	160,196	104,782	8,440,459
		16C	200	50	4.97	0.9	44730	3.53145	157,962	8.16	1.61	2.09	\$105	10+350E	16C	1,288,988	254,318	330,140	16,661,216
90-4	10+400E	4A	110	75	12.00	0.95	94050	3.53145	332,133	7.36	4.05	1.9	\$131	10+400E	4A	2,444,498	1,345,138	631,052	43,453,269
		4B	120	75	6.00	0.95	51300	3.53145	181,163	5.36	2.22	3.83	\$103	10+400E	4B	971,036	402,183	693,856	18,730,417
		4C	130	75	6.00	0.95	55575	3.53145	196,260	7.91	2.64	4.83	\$138	10+400E	4C	1,552,419	518,127	947,937	27,040,592
		4D	150	75	3.40	0.95	36338	3.53145	128,324	8.6	1.77	1.1	\$104	10+400E	4D	1,103,587	227,134	141,156	13,346,506
90-5	10+400E	5A	84	75	12.24	0.95	73256	3.53145	258,701	5.2	5.30	3.63	\$143	10+400E	5A	1,345,247	1,371,117	939,086	36,934,010
		5B	88	75	3.00	0.95	18510	3.53145	66,427	0.54	8.00	0.34	\$117	10+400E	5B	35,870	531,413	22,585	7,745,147
		5C	84	75	3.00	0.95	17955	3.53145	63,407	2.15	5.13	0.82	\$94	10+400E	5C	136,325	325,279	51,994	5,975,743
		Copied and checked from calculations by Billion																	
		US\$ 4,136,705 6.67 4.62 3.11 \$141.80																	

TOTALS AND AVERAGES		US\$	Can\$	0.84122 exch.
SLIMS	27,583,859	19,097,480	12,875,052	586,591,040
TONNES	4,136,705	4,136,705	4,136,705	4,136,705
WT AVG.	6.67	4.62	3.11	141.80

# RESOURCE CALCULATIONS

West Zone - Blende Ag-Pb-Zn property, Yukon  
 Billiton Resources Canada Inc. 1991

## Compilation of Resource Calculations 1991, 2004 and 2005

Totals	YEAR	TONNAGE tonnes	PB %	ZN %	AG oz/t	GMV\$ gross US\$	GMV\$ Can\$
<b>ORIGINAL</b>	<b>1991</b>	<b>15,317,523</b>	<b>3.23</b>	<b>3.04</b>	<b>1.97</b>	<b>\$80.45</b>	<b>\$100.56</b>
\$50 Can Cut	2004	13,007,197	3.54	3.33	2.17	\$78.27	\$104.35
\$75 Can Cut	2004	8,334,350	4.41	4.12	2.55	\$96.33	\$128.44
\$100 Can Cut	2004	6,097,452	4.94	4.62	3.03	\$108.89	\$145.19
Underground	1991 CALCS/2004	4,136,705	6.67	4.62	3.11	\$124.85	\$173.41
\$50 Can Cut	2005	13,307,587	3.47	3.32	2.13	\$90.13	\$90.33
\$75 Can Cut	2005	8,724,051	4.20	4.19	2.45	\$110.56	\$110.56
\$100 Can Cut	2005	6,186,670	4.87	4.65	2.99	\$126.36	\$126.36
Underground	1991 CALCS/2005	4,136,705	6.67	4.62	3.11	\$141.80	\$168.57

1991 calculations by Billiton Resources Canada

2004 calculations from 1991 calcs modified by 2004 metal prices and exchange rate (B.J. Price Geological, 2004).

2005 calculations from 1991 calcs modified by 2005 metal prices and exchange rate (Trans Polar Geological Consultants, 2005).

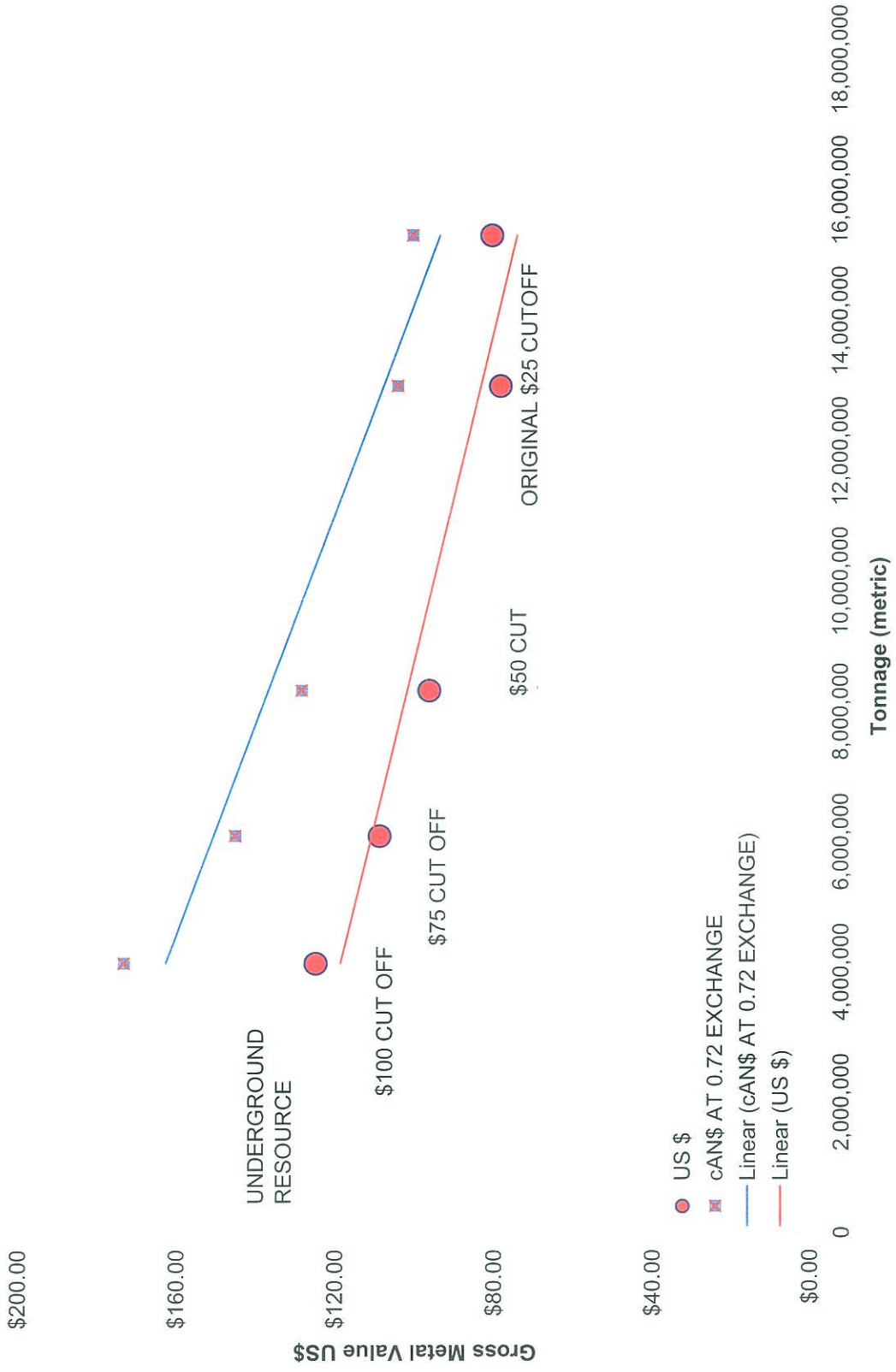
US/Canada Exchange Rate 1991 =0.80

US/Canada Exchange Rate 2004 = 0.75

US/Canada Exchange Rate 2005 = 0.84122

2005 cut	13,307,587	3.47		3.32		2.13	\$90.13	\$107.23	\$90.33
	8,724,051	4.20		4.19		2.45	\$110.56	\$131.19	\$110.56
	6,186,670	4.87		4.65		2.99	\$126.36	\$150.36	\$126.36

# Tonnage Grade Curve, Blende Deposit



## Cross Sectional Reserve Estimates East Zone

Oct. 17, 1991 Billiton Metals Canada Inc

### Geological Resource Blocks - East Zone of Blende Deposits

All composites > \$25 GMV Cut-off, Undiluted

Block No.	Section	Block Thick Area (m2)	Tonnage	Pb(%)	PbO(%)	Zn %	ZnO(%)	Ag(opt)	Pb+Zn (%)	GMV\$(net ZNO)
B65-1	12450E	101.0	15,659	3.29	0.93	1.63	0.47	0.78	4.92	\$46.74
B42-1	12500E	429.4	66,559	0.01	0.01	2.48	0.11	0.04	2.49	\$33.01
B42-2	12500E	815.3	126,372	0.01	0.01	2.76	0.09	0.09	2.77	\$37.49
B23-1	12500E	229.9	35,631	0.05	0.01	6.69	0.05	0.32	6.74	\$94.08
B26-1	12500E	923.2	143,093	0.93	0.11	1.89	0.05	0.32	2.82	\$34.73
B26-2	12500E	435.5	67,509	1.77	0.17	1.77	0.02	0.36	3.54	\$40.25
B39-4	12550E	1603.5	248,536	2.23	0.31	2.24	0.03	0.56	4.47	\$51.52
B39-1	12550E	66.4	10,287	0.16	0.07	6.04	0.90	0.30	6.20	\$74.12
B39-2	12550E	135.2	20,961	0.06	0.02	3.03	0.05	0.17	3.09	\$42.69
B39-3	12550E	253.3	39,258	3.49	0.49	5.01	0.06	1.06	8.50	\$102.44
B68-1	12550E	75.8	11,741	10.60	1.62	4.50	0.16	2.97	15.10	\$162.05
B68-2	12550E	2220.5	344,176	2.67	0.31	3.28	0.04	0.77	5.95	\$70.55
B39-5	12550E	266.8	41,361	0.01	0.01	2.84	0.04	0.12	2.85	\$39.48
B19-1	12600E	1903.0	294,971	2.85	0.34	3.46	0.07	0.91	6.31	\$74.97
B19-2	12600E	1002.3	155,361	1.65	0.25	1.63	0.03	0.35	3.28	\$37.19
B19-3	12600E	1256.4	194,736	0.08	0.02	2.55	0.04	0.10	2.63	\$35.89
B24-1	12600E	596.0	92,382	0.01	0.01	4.24	0.21	0.10	4.25	\$56.29
B24-2	12600E	288.0	44,635	0.01	0.01	4.01	0.14	0.06	4.02	\$53.81
B41-1	12600E	653.9	101,347	4.89	0.59	3.39	0.08	1.86	8.28	\$96.15
B25-1	12600E	1144.7	177,425	2.19	0.37	2.45	0.04	0.59	4.64	\$54.17
B25-2	12600E	564.7	87,530	2.70	0.31	3.22	0.04	0.71	5.92	\$69.54
B25-3	12600E	972.2	150,688	0.76	0.16	2.19	0.05	0.28	2.97	\$37.43
B38-1	12650E	172.1	26,671	2.39	1.01	8.22	0.96	1.11	10.61	\$126.12
B48-1	12650E	397.1	61,550	0.02	0.01	1.98	0.09	0.13	2.00	\$27.09
B48-2	12650E	206.4	31,994	0.01	0.01	5.04	0.07	0.20	5.05	\$69.94

B46-3	12650E	50 m	162.8	25,235	0.01	0.01	3.29	0.11	0.17	3.30	\$45.06
B48-4	12650E	50 m	218.0	33,794	0.01	0.01	1.90	0.06	0.13	1.91	\$26.33
B48-5	12650E	50 m	307.8	47,716	0.03	0.01	2.74	0.07	0.13	2.77	\$37.92
B38-2	12650E	50 m	690.5	107,034	0.90	0.14	2.45	0.05	0.24	3.35	\$41.67
B38-3	12650E	50 m	1159.5	179,721	1.29	0.20	3.59	0.05	0.28	4.88	\$60.66
B38-4	12650E	50 m	269.2	41,734	0.36	0.07	1.95	0.03	0.08	2.31	\$29.78
B38-5	12650E	50 m	314.3	48,716	0.07	0.01	2.35	0.03	0.07	2.42	\$32.99
B38-6	12650E	50 m	649.5	100,671	0.85	0.15	3.40	0.04	0.30	4.25	\$54.92
B75-1	12650E	50 m	265.6	41,174	1.27	0.25	1.38	0.04	0.27	2.65	\$30.12
B75-2	12650E	50 m	870.7	134,955	4.19	0.53	5.26	0.06	1.42	9.45	\$113.76
B34-1	12700E	50 m	2176.3	337,333	0.02	0.01	3.63	0.05	0.17	3.65	\$50.65
B34-2	12700E	50 m	447.7	69,397	0.02	0.01	5.01	0.07	0.22	5.03	\$69.94
B32-1	12700E	50 m	179.2	27,781	1.95	0.56	2.39	0.12	0.60	4.34	\$50.46
B29-1	12700E	50 m	1034.7	160,384	0.15	0.04	2.51	0.04	0.10	2.66	\$35.88
B29-2	12700E	50 m	341.9	52,987	0.59	0.09	1.55	0.03	0.12	2.17	\$26.74
B29-3	12700E	50 m	555.6	86,122	0.02	0.01	2.43	0.05	0.05	2.45	\$33.29
B29-4	12700E	50 m	184.2	28,544	0.02	0.01	2.73	0.04	0.04	2.15	\$29.33
B46-1	12750E	50 m	162.6	25,204	0.03	0.01	2.80	0.06	0.22	2.83	\$39.50
B46-2	12750E	50 m	128.8	19,960	0.78	0.13	5.51	0.08	0.40	6.29	\$83.59
B46-3	12750E	50 m	345.2	53,509	0.15	0.05	2.81	0.05	0.21	2.96	\$40.63
B69-1	12800E	50 m	320.9	49,733	0.17	0.06	3.79	0.05	0.19	3.96	\$54.15
B69-2	12800E	50 m	195.1	30,237	0.03	0.01	4.02	0.04	0.09	4.05	\$55.69
B69-3	12800E	50 m	171.1	26,524	0.02	0.01	3.11	0.03	0.15	3.13	\$43.63
			Tonnage Pb(total)%			PbO%	Zn(total)%	ZnO%	Ag(ppt)	Pb+Zn%	GMV\$(net ZNO)
Totals			4,318,896	1.31	0.19	3.05	0.06	0.44	4.37	\$54.32	

APPENDIX I - D

2004 / 2005 Geochemical Results Far East Zone

31-Aug-04

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

Phone: 250-573-5700  
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1112

BOOTLEG EXPLORATION INC.  
#200, 16-11TH Ave S.  
Cranbrook, BC  
V1C 2P1

No. of samples received: 93  
Sample type: Soil  
Project #: None Given  
Shipment #: None Given

Values in ppm unless otherwise reported

Et.#.	Tag #	Au(ppb)	Ag Al%	As	Ba	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	La	Mg%	Mn	Mo	Na%	Ni	P	Pb	Sb	Sn	Sr	Ti%	U	V	W	Y	Zn	
1	BN1 00+00E	5	0.8	0.12	10	80	<5	9.74	<1	13	19	36	3.76	10	4.34	4010	<1	<0.01	43	620	20	<5	<20	<1	<0.01	<10	<10	<10	15	75
2	BN1 00+25E	10	1.3	0.12	15	50	<5	9.56	<1	21	25	21	5.04	20	4.77	5491	3	<0.01	51	380	22	<5	<20	<1	0.01	<10	21	<10	16	67
3	BN1 00+50E	5	<0.2	0.33	<5	70	<5	1.98	<1	92	29	24	6.69	20	0.79	6221	<1	<0.01	58	1130	<2	<5	<20	<1	0.01	<10	29	<10	32	57
4	BN1 00+75E	5	<0.2	1.13	45	125	<5	0.44	<1	681	58	58	>10	50	0.54	>10000	<1	<0.01	65	1290	6	<5	<20	14	0.02	<10	59	<10	204	68
5	BN1 01+00E	5	<0.2	1.46	55	170	<5	0.52	<1	1007	71	78	>10	70	0.70	>10000	<1	<0.01	82	960	8	<5	<20	18	0.03	<10	65	<10	292	77
6	BN1 01+25E	<5	<0.2	0.60	10	60	<5	0.33	<1	63	39	12	4.35	10	0.19	941	1	<0.01	30	1300	10	<5	<20	4	<0.01	<10	56	<10	16	56
7	BN1 01+50E	<5	<0.2	1.71	5	55	<5	0.09	<1	49	65	111	>10	30	0.74	702	<1	<0.01	92	1020	8	<5	<20	4	0.04	<10	152	<10	8	90
8	BN1 01+75E	<5	<0.2	1.11	<5	105	<5	0.16	<1	25	79	31	5.71	20	0.44	1245	<1	<0.01	61	860	8	5	<20	4	0.01	<10	80	<10	6	66
9	BN1 02+00E	5	<0.2	0.83	<5	105	<5	0.18	<1	36	39	30	5.81	20	0.33	2129	<1	<0.01	33	1010	14	<5	<20	3	0.02	<10	60	<10	5	75
10	BN1 02+25E	10	0.2	1.17	5	115	<5	0.46	<1	77	53	300	>10	40	0.61	4886	<1	<0.01	63	1280	8	<5	<20	12	0.02	<10	83	<10	46	65
11	BN1 02+50E	15	0.3	0.48	5	55	<5	0.81	<1	34	29	221	6.95	30	0.35	4256	<1	<0.01	31	540	6	5	<20	2	<0.01	<10	22	<10	32	50
12	BN1 02+75E	5	<0.2	2.08	15	65	<5	0.10	<1	17	41	31	4.69	20	0.61	748	<1	<0.01	28	440	26	10	<20	5	0.03	<10	51	<10	4	86
13	BN1 03+00E	<5	<0.2	1.71	20	55	5	0.06	<1	23	36	29	5.35	30	0.62	1097	<1	<0.01	19	570	22	<5	<20	4	0.02	<10	65	<10	3	59
14	BN1 03+25E	5	0.2	2.21	15	60	<5	0.07	<1	21	42	31	5.81	30	0.97	1083	<1	<0.01	24	760	20	<5	<20	4	0.02	<10	57	<10	4	70
15	BN1 03+50E	5	<0.2	2.31	20	65	<5	0.08	<1	20	41	59	4.60	20	0.63	1044	<1	<0.01	27	560	28	<5	<20	6	0.03	<10	51	<10	5	72
16	BN1 03+75E	5	<0.2	1.42	10	65	<5	0.08	<1	13	33	17	4.84	20	0.42	784	1	<0.01	15	620	16	5	<20	4	0.03	<10	66	<10	3	72
17	BN1 04+00E	<5	0.2	1.94	15	45	<5	0.06	<1	20	42	33	6.04	20	0.62	1633	<1	<0.01	19	710	24	10	<20	3	0.03	<10	55	<10	4	69
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25	BN1 06+00E	<5	<0.2	2.09	15	50	<5	0.03	<1	28	37	47	5.38	30	0.81	1601	<1	<0.01	25	450	22	10	<20	1	0.01	<10	45	<10	3	50
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Repeat:

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71	BN4 02+50W	5	1.3	0.62	170	40	<5	6.38	9	43	43	97	9.62	20	4.50	2660	<1	<0.01	69	350	264	<5	<20	<1	0.01	<10	24	<10	14	5972
80	BN4 04+75W	<5	0.3	1.32	15	45	<5	9.07	5	24	46	75	4.61	20	6.15	3001	<1	<0.01	65	770	60	<5	<20	<1	<0.01	<10	60	<10	14	2584
89	BN4 07+00W	5	0.2	0.66	5	130	<5	0.88	2	17	28	32	5.41	20	0.52	5846	<1	<0.01	21	870	120	<5	<20	<1	0.02	<10	25	<10	26	976

Standard:

GEO '04	140	1.4	1.84	60	145	<5	1.70	<1	21	65	87	3.72	<10	0.95	660	<1	0.02	32	720	24	5	<20	56	0.12	<10	60	<10	10	71
GEO '04	140	1.5	1.82	65	145	<5	1.68	<1	21	64	87	3.68	10	0.94	647	<1	0.02	32	680	24	<5	<20	57	0.12	<10	62	<10	10	73
GEO '04	140	1.6	1.78	60	140	<5	1.63	<1	20	63	88	3.59	<10	0.91	646	<1	0.02	32	670	22	<5	<20	54	0.11	<10	62	<10	10	71

31-Aug-04

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 2004-1113

BOOTLEG EXPLOR,  
#200, 16-11TH Ave S  
Cranbrook, BC  
V1C 2P1

Phone: 250-573-5700  
Fax : 250-573-4557

No. of samples received  
Sample type: Silt  
Project #: None Give  
Shipment #: None G

Values in ppm unless otherwise reported

Et#.	Tag #	Au(ppb)	Ag	Al%	As	Ba	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	La	Mg%	Mn	Mo	Na%	Ni	P	Pb	Sb	Sn	Sr	Ti%	U	V
1	TTBNS01	20	0.2	0.48	20	65	<5	4.83	2	19	24	49	4.01	10	2.93	3086	<1	<0.01	40	500	218	<5	<20	<1	<0.01	<10	19
2	TTBNS02	10	<0.2	2.66	25	75	<5	0.64	<1	50	54	217	8.14	20	2.26	2389	<1	<0.01	57	530	34	<5	<20	2	0.05	<10	203
3	TTBNS03	10	<0.2	1.94	15	65	<5	0.25	<1	38	36	86	5.86	30	1.30	2484	<1	<0.01	38	580	24	<5	<20	9	<0.01	<10	27
4	TTBNS04	15	<0.2	2.27	10	50	<5	0.19	<1	41	38	79	5.72	30	1.65	1754	<1	<0.01	41	370	22	<5	<20	5	<0.01	<10	24
5	TTBNS05	5	<0.2	1.78	10	50	<5	0.52	<1	32	34	63	5.51	30	1.43	2796	<1	<0.01	40	410	46	<5	<20	5	<0.01	<10	21
6	TTBNS06	5	<0.2	1.04	<5	45	<5	2.82	<1	26	26	55	4.31	30	2.22	1502	<1	<0.01	38	470	26	<5	<20	<1	<0.01	<10	16
7	GHBNS01	10	<0.2	0.62	35	25	<5	3.87	<1	25	24	65	4.13	10	2.42	1824	1	<0.01	45	550	18	<5	<20	<1	<0.01	<10	19

QC DATA:

Repeat:  
1 TTBNS01 15 <0.2 0.49 20 65 <5 4.61 2 21 24 47 3.99 10 2.84 3138 <1 <0.01 41 480 210 <5 <20 <1 <0.01 <10 19 <

Standard:  
GEO 04 140 1.4 1.54 55 150 <5 1.56 <1 19 57 82 3.37 10 0.91 615 <1 0.02 28 610 22 <5 <20 39 0.10 <10 60 <

JJ/jm

ECO TECH LABORATORY LTD.  
Jutta Jealouse  
B.C. Certified Assayer

31-Aug-04

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

Phone: 250-573-5700  
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1113

BOOTLEG EXPLORATION II  
#200, 16-11TH Ave S.  
Cranbrook, BC  
V1C 2P1

No. of samples received: 7  
Sample type: Silt  
Project #: None Given  
Shipment #: None Given

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y
1	TTBNS01	20	0.2 0.48	20	65	<5	4.83	2	19	24	49	4.01	10	2.93	3086	<1	<0.01	40	500	218	<5	<20	<1	<0.01	<10	19	<10	11
2	TTBNS02	10	<0.2 2.66	25	75	<5	0.64	<1	50	54	217	8.14	20	2.26	2389	<1	<0.01	57	530	34	<5	<20	2	0.05	<10	203	<10	12
3	TTBNS03	10	<0.2 1.94	15	65	<5	0.25	<1	38	36	86	5.86	30	1.30	2484	<1	<0.01	38	580	24	<5	<20	9	<0.01	<10	27	<10	13
4	TTBNS04	15	<0.2 2.27	10	50	<5	0.19	<1	41	38	79	5.72	30	1.65	1754	<1	<0.01	41	370	22	<5	<20	5	<0.01	<10	24	<10	9
5	TTBNS05	5	<0.2 1.78	10	50	<5	0.52	<1	32	34	63	5.51	30	1.43	2796	<1	<0.01	40	410	46	<5	<20	5	<0.01	<10	21	<10	8
6	TTBNS06	5	<0.2 1.04	<5	45	<5	2.82	<1	26	26	55	4.31	30	2.22	1502	<1	<0.01	38	470	26	<5	<20	<1	<0.01	<10	16	<10	8
7	GHBNS01	10	<0.2 0.62	35	25	<5	3.87	<1	25	24	65	4.13	10	2.42	1824	1	<0.01	45	550	18	<5	<20	<1	<0.01	<10	19	<10	11

QC DATA:

Repeat:

1	TTBNS01	15	<0.2 0.49	20	65	<5	4.61	2	21	24	47	3.99	10	2.84	3138	<1	<0.01	41	480	210	<5	<20	<1	<0.01	<10	19	<10	10
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Standard:

GEO '04		140	1.4 1.54	55	150	<5	1.56	<1	19	57	82	3.37	10	0.91	615	<1	0.02	28	610	22	<5	<20	39	0.10	<10	60	<10	9
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JJ/jm

ECO TECH LABORATORY LTD.  
Jutta Jealousie  
B.C. Certified Assayer

31-Aug-04

ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4

Phone: 250-573-5700  
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-1111

BOOTLEG EXPLORATION INC.  
#200, 16-11TH Ave S.  
Cranbrook, BC  
V1C 2P1

No. of samples received: 15  
Sample type: Rock  
Project #: None Given  
Shipment #: None Given

Values in ppm unless otherwise reported

Et#.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn	
1	TTBNR01	5	1.1	0.82	10	<5	<5	>10	149	9	42	256	1.93	<10	8.78	1468	<1	<0.01	41	100	70	<5	<20	<1	<0.01	<10	11	<10	4	>10000	
2	TTBNR02	10	2.0	0.56	15	<5	<5	>10	191	15	37	742	2.11	<10	7.71	1489	<1	<0.01	37	70	180	<5	<20	<1	<0.01	<10	8	<10	4	>10000	
3	TTBNR03	5	0.8	0.85	10	5	<5	>10	53	8	38	201	1.87	<10	9.87	1543	<1	<0.01	55	110	60	<5	<20	<1	<0.01	<10	11	<10	4	>10000	
4	TTBNR04	<5	1.1	0.05	<5	<5	<5	>10	75	8	34	233	1.73	<10	8.89	2598	<1	<0.01	53	70	84	<5	<20	<1	<0.01	<10	8	<10	3	>10000	
5	TTBNR05	5	<0.2	0.10	<5	5	<5	>10	2	4	35	6	1.76	<10	9.78	2619	<1	<0.01	66	140	16	<5	<20	<1	<0.01	<10	9	<10	4	930	
6	TTBNR06	5	6.0	3.68	<5	<5	<5	1.38	<1	20	107	5383	6.40	10	4.17	364	<1	<0.01	110	570	24	<5	<20	<1	<0.01	<10	201	<10	2	276	
7	TTBNR07	10	0.6	0.17	40	<5	<5	>10	59	10	36	55	2.94	10	7.88	2278	<1	<0.01	47	90	26	<5	<20	<1	<0.01	<10	6	<10	4	>10000	
8	TTBNR08	<5	<0.2	0.02	<5	<5	<5	4.62	<1	2	105	6	1.32	<10	1.89	1124	6	0.02	19	30	4	<5	<20	<1	<0.01	<10	4	<10	3	95	
9	TTBNR09	5	1.0	1.04	<5	10	5	>10	<1	8	91	112	5.02	10	4.18	2445	<1	<0.01	51	280	14	<5	<20	<1	<0.01	<10	161	<10	16	93	
10	TTBNR10	5	4.8	0.08	<5	<5	<5	0.63	<1	5	144	>10000	2.66	<10	0.32	193	9	<0.01	25	810	8	<5	<20	<1	<0.01	<10	3	<10	2	400	
11	JCBNR001	5	<0.2	0.30	<5	50	<5	5.89	<1	184	184	116	5.68	10	1.48	1749	8	0.02	36	80	2	<5	<20	<1	<0.01	<10	27	<10	2	41	
12	JCBNR002	<5	<0.2	1.48	<5	15	<5	0.99	<1	16	182	31	3.36	<10	1.38	399	9	<0.01	43	300	22	<5	<20	<1	<0.01	<10	95	<10	2	114	
13	GHBNR01	5	0.8	2.01	5	10	<5	2.78	<1	8	117	2310	3.53	<10	3.47	553	3	<0.01	68	270	34	<5	<20	<1	<0.01	<10	57	<10	5	126	
14	GHBNR02	5	2.7	0.07	<5	<5	<5	0.31	<1	4	111	7478	1.14	<10	0.14	128	7	0.01	12	490	12	<5	<20	<1	<0.01	<10	5	<10	<1	48	
15	GHBNR03	10	4.6	0.26	10	10	<5	1.32	<1	10	111	9608	1.54	<10	0.32	420	10	<0.01	82	1940	18	<5	<20	<1	<0.01	<10	16	<10	12	76	
QC DATA:																															
Resplit:																															
1	TTBNR01	5	1.2	0.75	5	<5	<5	>10	153	9	40	252	1.91	<10	8.14	1430	<1	<0.01	40	100	74	<5	<20	<1	<0.01	<10	10	<10	4	>10000	
Repeat:																															
1	TTBNR01	5	1.1	0.78	5	<5	<5	>10	143	9	41	237	1.86	<10	8.39	1420	<1	<0.01	39	100	70	<5	<20	<1	<0.01	<10	10	<10	4	>10000	
10	TTBNR10	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard:																															
GEO 04		135	1.4	1.54	55	150	<5	1.56	<1	19	57	86	3.67	<10	0.91	615	<1	0.02	28	610	22	<5	<20	<1	0.10	<10	50	<10	9	74	

JJ/jm

ECO TECH LABORATORY LTD.  
Jutta Jealousie  
B.C. Certified Assayer

**CERTIFICATE OF ASSAY AK 2004-1111**

**BOOTLEG EXPLORATION INC.**

#200, 16-11TH Ave S.  
Cranbrook, BC  
V1C 2P1

2-Sep-04

No. of samples received: 15

Sample type: Rock

Project #: None Given

Shipment #: None Given

ET #.	Tag #	Cu (%)	Zn (%)
1	TTBNR01		9.78
2	TTBNR02		13.2
3	TTBNR03		3.56
4	TTBNR04		3.87
7	TTBNR07		4.21
10	TTBNR10	2.32	

**QC DATA:**

Resplit:  
1 TTBNR01

10.10

**Standard:**

Pb106

0.62

0.84

**ECO TECH LABORATORY LTD.**

Jutta Jealous

B.C. Certified Assayer

# Loring Laboratories Ltd.

629 Beaverdam Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 274-2777 Fax: 275-0541

To: RJ SHARP  
60 Hawkmount Hts. N.W.  
Calgary, Alberta  
T3G 3S5

FILE:47889

DATE: November 2, 2005

## 30 ELEMENT ICP ANALYSIS

Sample No.	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sr	Th	Ti	U	V	W	Zn
	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
0+00N	<0.5	3.83	4	<1	38	122	<1	0.72	3	128	74	113	4.66	1.49	39	1.14	2390	3	0.07	49	0.09	35	6	14	<1	0.04	<1	102	<1	75
0+25N	<0.5	3.32	16	<1	32	97	<1	0.49	3	106	53	30	3.97	1.06	33	1.28	3265	4	0.06	53	0.06	47	7	8	<1	0.02	<1	70	<1	110
0+50N	<0.5	2.89	11	<1	40	157	<1	1.07	5	73	75	30	3.05	0.93	35	1.23	2805	2	0.06	28	0.07	195	5	15	3	0.02	<1	54	<1	1360
0+75N	<0.5	3.00	6	<1	33	230	<1	0.09	2	53	57	4	2.23	0.73	22	0.34	1245	2	0.08	13	0.05	38	3	17	<1	0.07	<1	88	<1	84
0+100N	<0.5	3.20	3	<1	45	227	<1	0.16	2	59	69	5	2.39	0.87	28	0.61	2468	2	0.08	20	0.07	34	4	13	<1	0.05	<1	62	<1	147
0+125N	<0.5	2.87	4	<1	46	194	<1	0.16	2	57	84	5	2.40	0.85	24	0.57	2220	2	0.08	18	0.05	35	3	10	2	0.05	<1	59	<1	140
0+150N	<0.5	2.84	5	<1	37	271	<1	0.16	2	46	78	4	1.74	0.95	29	0.41	2503	2	0.09	12	0.06	27	2	14	<1	0.06	<1	74	<1	62
0+175N	<0.5	3.07	4	<1	32	294	<1	0.17	2	39	84	2	1.62	0.63	25	0.53	1083	1	0.10	10	0.06	30	2	23	<1	0.07	<1	83	<1	89
0+200N	<0.5	2.82	2	<1	41	247	<1	0.14	2	52	71	2	2.08	0.83	20	0.54	2788	2	0.09	15	0.06	32	2	13	5	0.06	<1	64	<1	102
0+225N	0.8	3.00	6	<1	36	260	<1	0.10	2	52	70	2	2.00	0.81	21	0.42	2791	2	0.08	17	0.05	34	2	16	3	0.07	<1	72	<1	94
0+250N	<0.5	3.03	6	<1	46	176	<1	0.13	2	52	67	13	2.19	0.99	29	0.57	1524	2	0.08	20	0.06	33	2	11	4	0.05	<1	54	<1	145
0+275N	<0.5	3.42	3	<1	40	334	<1	0.39	3	63	86	4	2.52	0.67	32	0.59	3212	2	0.09	19	0.11	67	3	22	<1	0.07	<1	76	<1	310
0+300N	<0.5	2.91	5	<1	52	188	<1	0.18	3	59	67	5	2.33	0.89	25	0.60	2048	1	0.07	19	0.05	137	2	13	7	0.05	<1	55	<1	393
0+325N	<0.5	2.52	4	<1	42	189	<1	0.33	3	56	106	6	2.31	0.82	25	0.58	3228	2	0.09	19	0.09	341	3	13	<1	0.04	<1	50	<1	431
0+350N	<0.5	2.81	2	<1	34	276	<1	0.40	2	51	117	3	2.10	0.64	26	0.55	1876	2	0.10	14	0.08	43	2	22	2	0.07	<1	73	<1	140
0+375N	0.8	2.82	3	<1	37	223	<1	0.39	3	53	98	7	2.24	0.87	27	0.58	2314	2	0.10	19	0.08	45	5	16	<1	0.05	<1	54	<1	143
0+400N	<0.5	2.71	2	<1	37	222	<1	0.44	2	45	80	5	1.88	0.88	27	0.65	2231	2	0.10	16	0.07	27	3	14	<1	0.05	<1	52	<1	72
0+425N	<0.5	1.72	<1	<1	29	211	<1	0.84	2	35	81	9	1.43	0.49	25	0.35	2188	1	0.07	11	0.12	22	2	19	<1	0.03	<1	45	<1	144
0+450N	<0.5	3.39	4	<1	39	233	<1	0.20	2	52	95	8	2.18	1.08	27	0.69	1500	2	0.10	21	0.06	24	3	15	<1	0.06	<1	62	<1	89
0+475N	<0.5	1.87	<1	<1	29	177	<1	0.71	3	39	68	12	1.62	0.67	31	0.42	1911	1	0.06	15	0.12	21	3	15	<1	0.02	<1	35	<1	138
0+500N	<0.5	0.51	1	<1	35	134	<1	2.25	3	10	20	14	0.40	0.16	31	0.29	777	<1	0.04	1	0.11	7	<1	22	<1	0.01	<1	15	<1	166
0+525N	<0.5	2.14	2	<1	31	183	<1	1.10	3	39	72	12	1.59	0.66	33	0.60	1732	<1	0.07	13	0.13	22	1	17	<1	0.03	<1	41	<1	176
0+550N	<0.5	2.19	<1	<1	29	223	<1	0.78	2	44	70	12	1.79	0.65	33	0.39	2530	2	0.08	18	0.15	27	3	17	<1	0.03	<1	41	<1	196
0+575N	<0.5	2.07	<1	<1	31	174	<1	1.16	3	32	79	9	1.34	0.80	38	0.51	1022	1	0.06	12	0.10	23	1	16	6	0.03	<1	36	<1	173
0+600N	<0.5	2.59	3	<1	46	226	<1	0.69	4	64	79	11	2.58	0.76	38	0.52	3991	1	0.07	23	0.14	91	4	13	<1	0.04	<1	52	<1	347
0+625N	<0.5	3.23	2	<1	40	163	<1	0.27	2	53	71	10	2.19	1.16	33	0.73	1117	2	0.08	22	0.05	25	3	12	4	0.05	<1	50	<1	101
0+650N	<0.5	2.41	2	<1	53	189	<1	0.31	2	54	109	7	2.29	0.87	29	0.43	3183	1	0.08	14	0.08	29	3	12	<1	0.05	<1	49	<1	178
0+675N	<0.5	3.44	4	<1	35	222	<1	0.23	2	64	84	7	2.49	0.98	26	0.90	1416	2	0.11	22	0.05	27	4	15	2	0.06	<1	61	<1	103
0+700N	<0.5	3.47	4	<1	33	365	<1	0.33	2	49	97	17	2.09	0.59	29	0.60	777	2	0.13	21	0.08	26	2	27	2	0.08	<1	76	<1	122
0+725N	<0.5	2.42	2	<1	30	299	<1	0.77	3	53	74	10	2.35	0.46	35	0.45	3311	2	0.08	19	0.12	27	1	22	2	0.05	<1	50	<1	190
0+750N	<0.5	2.77	2	<1	44	230	<1	0.41	2	49	97	3	2.04	0.78	27	0.55	1980	1	0.09	16	0.05	25	2	16	9	0.06	<1	60	<1	151
0+775N	<0.5	2.77	3	<1	50	168	<1	0.15	3	60	89	7	2.56	0.96	25	0.58	2719	2	0.07	23	0.04	36	3	8	2	0.04	<1	44	<1	197
0+800N	<0.5	2.46	1	<1	27	243	<1	0.68	2	39	74	14	1.54	0.71	31	0.59	1372	1	0.10	16	0.11	21	3	19	<1	0.04	<1	43	<1	65
0+25N-R	<0.5	3.33	16	<1	34	106	<1	0.52	3	109	58	69	4.14	1.09	35	1.33	3310	4	0.07	54	0.07	51	8	10	<1	0.02	<1	72	<1	118
0+475N-R	<0.5	1.94	2	<1	29	181	<1	0.73	3	41	68	12	1.68	0.68	32	0.44	1958	2	0.06	17	0.12	22	3	15	<1	0.02	<1	38	<1	142

0.500 Gram sample is digested with Aqua Regia at 95 C for one hour and bulked to 10 ml with distilled water.

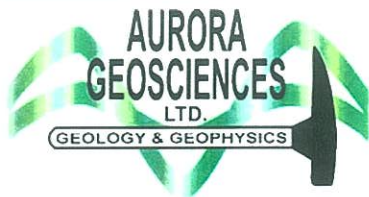
Partial dissolution for Al, B, Ba, Ca, Cr, Fe, K, La, Mg, Mn, Na, P, Sr, Ti, and W.

"R" Denotes duplicate sample analyzed.

Certified by: \_\_\_\_\_

APPENDIX I - E  
2005 Gravity Survey Report





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## MEMORANDUM

**To:** Tim Termuende  
Eagle Plains Resources Ltd. **Date:** 14 Sept 05

**From:** Mike Power

**Re:** Field Report - Blende Gravity Survey

This memorandum is a field report describing preliminary results of a gravity survey conducted for Eagle Plains Resources Ltd. at the Blende Property. The purpose of the survey was to locate a deep-seated source of the mineralization on the property.

**a. Personnel and equipment.** The gravity survey was conducted by the following personnel:

Carla Kennedy	Crew chief / geophysicist
Derek Torgersen	Technician

The crew was equipped with the following instruments and equipment:

<u>Gravimeter:</u>	Scintrex CG-5
<u>GPS base:</u>	Trimble 4000 SSE Antenna 12619 (dual frequency / no ground plane)
<u>GPS rover:</u>	Trimble Pro-XRS
<u>Other:</u>	Impulse laser range finder (ALG22) P-1.2GHz laptop & colour printer 2 - VHF radios

The project was conducted between August 13 and 16, 2005 inclusive.

**b. Survey area and stations.** The gravity survey covered 79 stations in the area bounded by (UTM NAD83 Zone 8N) 51000E 7136000N to 525000E 7149000N. This area is centred on the Blende Deposit but the station distribution was designed to measure the regional rather than property scale gravity field.

**c. Survey specifications.** The gravity survey was conducted according the following specifications with exceptions as noted:

*Instrument preparation:* The gravimeter was levelled on a concrete slab and warmed up for a period of 48 hours to stabilize. Thereafter, the instrument was cycled for approximately 24 hours, taking readings for 120 seconds every 10 minutes. Based on this calibration, no change to the instrument drift constants were undertaken. The instrument remained under power at all times throughout the survey operation.

*Horizontal survey datum:* NAD 1983 (Canada) with all data projected in UTM Zone 8N coordinates.

*Vertical survey datum:* Mean sea level (EGM96 (Global)) with all heights in metres.

*Station marking:* Stations were marked with flagged nails and metal tags.

*GPS base station:* The Geodetic Survey of Canada Whitehorse Base Station was used due to equipment problems experienced with the grid GPS base station.

*Gravity base station:* A local gravity base station was established on the property at 516495E 7142094N. This is also the GPS base station location. The arbitrary datum for this station used in the drift correction was 4920.000 mGal.

*Gravity readings:* Readings were stacked for 60 s. Readings were repeated 3 times if the standard derivation was greater than 50  $\mu$ Gals.

*Drift corrections:* Drift check-in readings were conducted at the gravity base station prior to and after each day's survey. Readings at the base station are denoted as Line 99 / Station 99 in the data records.

*Terrain corrections:* Terrain corrections were performed with a digital terrain

model (DTM) constructed with a 20 m cell size from Geodetic Survey of Canada digital topographic data for NTS 106 D 07 and 08.

*Base GPS location:* The base station GPS was located at 516495E 7142094N and assigned an elevation of 6000 m based on available topographic data.

*Base GPS operation:* The base station GPS receiver was cycled using a 10 s epoch (reading interval) as an optimum compromise between memory requirements and rover acquisition time. PDOP masks were set to <6.0, elevation mask to > 2° and signal to noise (SNR) ratio mask was set to >2.0 at the base station receiver. All elevation readings were corrected for base GPS antenna height. The base antenna was rigidly mounted on a tripod throughout the survey.

*Rover GPS:* A minimum of 3 measurements of 15 readings each were taken per station survey and these measurements were averaged to determine the final station location.

**d. Data processing.** Data processing included the following steps and procedures:

1. *GPS processing.* The GPS data was processed with Trimble Pathfinder Office (5.01) using carrier phase and code processing. The data was corrected using both the Geodetic Survey of Canada Whitehorse base station and the local base station for comparison. The data was exported in UTM NAD 83 (Zone 8N) coordinates with elevations in meters above mean sea level with a geoid model EGM96/Global. Each gravity station was measured three times and the average of the three stacked measurements was used as the nominal station location. The elevation data was checked against the DTM and the observed spread of the repeated GPS measurements was considered in screening the GPS data (see below). Based on this criteria, some location measurements were rejected and these points are not included in the final data set.

2. *Position merge.* The gravity data was merged with the GPS data based on common line / station coordinates of readings in each data set.

3. *Drift corrections.* Daily drift files were created from the check-in measurements. Drift corrections were applied by linear interpolation between the nearest-in-time check-in measurements prior to and after the field reading. The datum for the drift correction was 4920.000 mGal.

4. *Latitude correction.* The latitude correction was applied by calculating the linear gradient in the latitude effect at the centre of the survey area and removing the latitude effect calculated relative to this point. The central point used in the latitude calculation

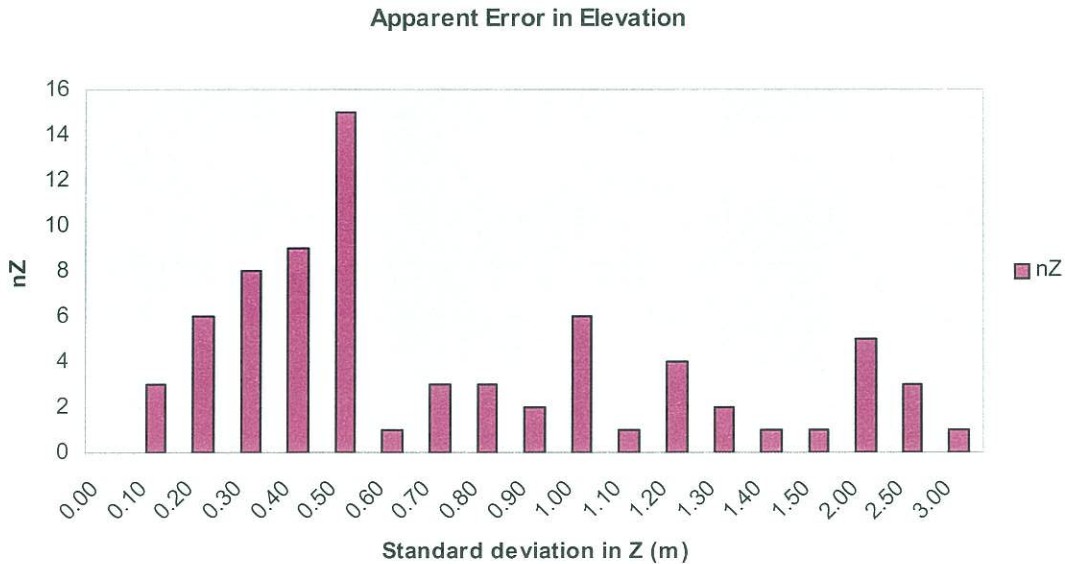
was 517000E 7143000N at a latitude of 64.40° N. The effect of the declination between UTM Grid North and True North was removed by adjusting the distance north of the central point using the measured declination of 0.25° E.

5. *Elevation corrections.* Free Air, Bouguer Slab and Bullard-B corrections were applied using mean sea level (z=0 m) and a density of 2.67 g/cm<sup>3</sup>.

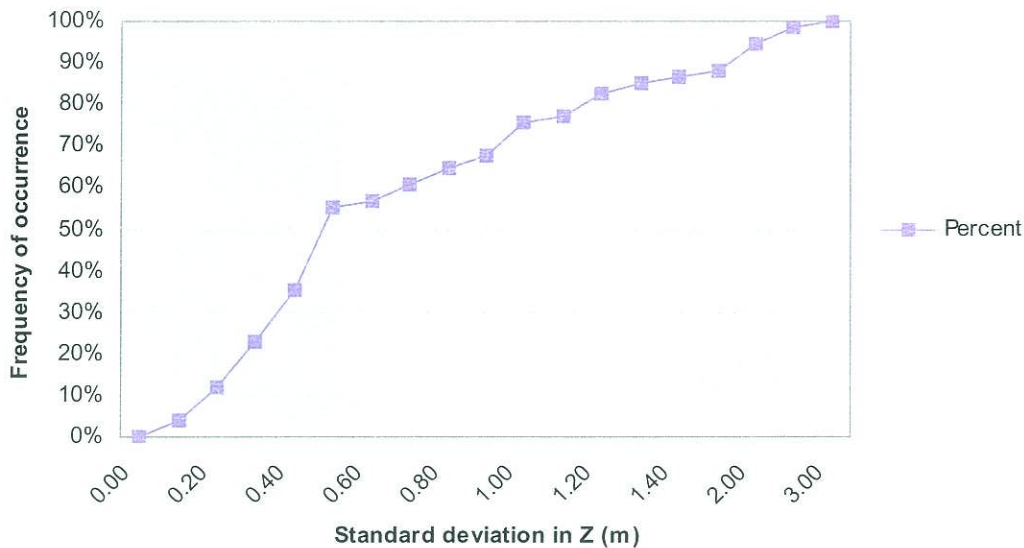
6. *Terrain corrections.* A digital terrain model was created from the Geodetic Survey of Canada NTS topographic sheets 106 D 07 and 08 by extracting the coordinates of contour line segment end points and gridding this data using a 20 m cell size. The DTM extends from 508000N 7132000N to 528000E 7151000N and encompasses an area at least 3 km from any station in the survey area. The far station terrain corrections were applied with an exclusion distance of 20 m. The far station terrain correction algorithm calculates the gravity effect of a flat-topped prism with dimensions equal to the node spacing.

**e. Survey notes and data.** The gravimeter had an average daily drift in the order of 10 μGal and the overnight drift rate was the same as the day drift rate. There appear to be no features in the drift curves which suggest either a tares or unstable instrument operation. In general, since most of the stations were on bedrock, the gravity data was of good quality and repeated well where repeat measurements were taken.

The GPS elevations could not be checked against any known elevations because of the absence of nearby monuments with established datums. As a result, the Whitehorse Geodetic Survey of Canada base station was relied upon for the GPS corrections. The corrected GPS data was checked for internal consistency by calculating the standard deviation between repeat elevation measurements at each station. The standard deviations are summarized in the histogram and cumulative frequency plot below:



Cumulative frequency - Vertical standard deviations



Seventy percent of the standard deviations between repeat readings were less than 1.0 m. The expected error in differential GPS elevations should be in the order of 0.5 m and thus the difference between repeated measurements should not exceed about 1.0 m. The standard deviation for a data set of 3 points is only a qualitative estimate of the true standard deviation of the data set. Nonetheless, the observed standard deviations suggest that the GPS data is within specification. Apparent errors in X and Y were smaller than those observed in Z.

The GPS data was next compared with the gridded topographic data in the digital elevation model. The principal reasons for doing this were to ensure that no terrain anomalies were generated at any station because of a mismatch between GPS indicated elevation and DTM elevations and secondly, as a further check on the accuracy of the GPS elevation data. A total of 24 stations were removed from the data set because the discrepancy between the GPS indicated elevation and the DTM indicated elevation was more than 20 m. A discrepancy of 20 m or less could be generated by the contouring process because the contour interval in the digital maps from which the topographic data were extracted was 30 m. A discrepancy of greater than 20 m suggests either a problem with the GPS elevation or a problem with the digital map from which the digital elevation data were extracted. The gravity survey was conducted in an area of high relief and it is impossible to determine whether the discrepancies resulted from mass wasting after the map was constructed, from errors in contouring or from problems with the GPS data. Consequently, any suspect data was removed from the database and these points are not included in the final data.

In the final data set, two problematic stations remain. Stations 8 and 108 have unusually high final Bouguer Anomaly readings, in excess of 10 mGal above

background. The data and corrections for these points were checked for errors but both points appear to be correctly recorded and the data may be correct. The data is listed in the attached data summary but has not been posted or contoured in the maps, pending further checks.

**f. Results.** A digital archive is included with this report on CD-ROM. This contains the following:

Final gravity data after all corrections (Excel spreadsheet)  
Images of the Bouguer Anomaly map attached to this report (JPEG).

Plan maps showing the shaded Bouguer Anomaly and the Bouguer Anomaly with topography at 1:20,000 are also attached.

Thank you for the opportunity to work with you on this interesting project. If you have any questions, please contact me directly in Whitehorse.

Respectfully submitted,  
**AURORA GEOSCIENCES LTD.**

Mike Power, M.Sc., P.Geoph.  
Geophysicist

/attach.

APPENDIX I – F  
Deposit Types

# IRISH-TYPE CARBONATE-HOSTED Zn-Pb

E13

By Trygve Höy<sup>1</sup>



## IDENTIFICATION

SYNONYMS: Kootenay Arc Pb-Zn, Remac type.

COMMODITIES (*BYPRODUCTS*): Zn, Pb, Ag; (*Cu, barite, Cd*).

EXAMPLES (British Columbia (MINFILE #) - *Canada/International*): Reeves MacDonald (082FSW026), HB (082FSW004), Aspen (082FSW001), Jack Pot (082SW255), Jersey (082SW009), Duncan (082KSE020), Wigwam (082KNW068); *Navan, Lisheen, Tynagh, Silvermines, Galmoy, Ballinalack, Allenwood West (Ireland); Troya (Spain)*.

## GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Irish-type carbonate-hosted deposits are stratabound, massive sphalerite, galena, iron sulphide and barite lenses with associated calcite, dolomite and quartz gangue in dolomitized platformal limestones. Deposits are structurally controlled, commonly wedge shaped adjacent to normal faults. Deformed deposits are irregular in outline and commonly elongate parallel to the regional structural grain.

TECTONIC SETTING: Platformal sequences on continental margins which commonly overlie deformed and metamorphosed continental crustal rocks.

DEPOSITIONAL ENVIRONMENT/GEOLOGICAL SETTING: Adjacent to normal growth faults in transgressive, shallow marine platformal carbonates; also commonly localized near basin margins.

AGE OF MINERALIZATION: Known deposits are believed to be Paleozoic in age and younger than their host rocks; Irish deposits are hosted by Lower Carboniferous rocks; Kootenay Arc deposits are in the Lower Cambrian.

HOST/ASSOCIATED ROCK TYPES: Hosted by thick, non-argillaceous carbonate rocks; these are commonly the lowest pure carbonates in the stratigraphic succession. They comprise micritic and oolitic beds, and fine-grained calcarenites in a calcareous shale, sandstone, calcarenite succession. Underlying rocks include sandstones or argillaceous calcarenites and shales. Iron formations, comprising interlayered hematite, chert and limestone, may occur as distal facies to some deposits. Deformed Kootenay Arc deposits are enveloped by fine-grained grey, siliceous dolomite that is generally massive or only poorly banded and locally brecciated.

Höy, T. (1996): Irish-type carbonate-hosted Zn-Pb; in Selected British Columbia Mineral Deposit Profiles, Volume 2, D.V. Lefebure and T. Höy, Editors, *British Columbia Ministry of Energy, Mines and Petroleum Resources*, pages 21-24.

<sup>1</sup> British Columbia Geological Survey, Victoria, B.C., Canada



## IRISH-TYPE CARBONATE-HOSTED Zn-Pb

E13

**DEPOSIT FORM:** Deposits are typically wedge shaped, ranging from over 30 m thick adjacent to, or along growth faults, to 1-2 cm bands of massive sulphides at the periphery of lenses. Economic mineralization rarely extends more than 200 m from the faults. Large deposits comprise individual or stacked sulphide lenses that are roughly concordant with bedding. In detail, however, most lenses cut host stratigraphy at low angles. Contacts are sharp to gradational. Deformed deposits are typically elongate within and parallel to the hinges of tight folds. The Reeves MacDonald deposit forms a syncline with a plunge length of approximately 1500 m and widths up to 25 m. Others (HB) are elongate parallel to a strong mineral lineation. Individual sulphide lenses are irregular, but typically parallel to each other and host layering, and may interfinger or merge along plunge.

**TEXTURE/STRUCTURE:** Sulphide lenses are massive to occasionally well layered. Typically massive sulphides adjacent to faults grade outward into veinlet-controlled or disseminated sulphides. Colloform sphalerite and pyrite textures occur locally. Breccias are common with sulphides forming the matrix to carbonate (or as clasts?). Sphalerite-galena veins, locally brecciated, commonly cut massive sulphides. Rarely (Navan), thin laminated, graded and crossbedded sulphides, with framboidal pyrite, occur above more massive sulphide lenses. Strongly deformed sulphide lenses comprise interlaminated sulphides and carbonates which, in some cases (Fyles and Hewlett, 1959), has been termed shear banding.

**ORE MINERALOGY** (Principal and *subordinate*): Sphalerite, galena; *barite, chalcopyrite, pyrrhotite, tennantite, sulfosalts, tetrahedrite, chalcopyrite.*

**GANGUE MINERALOGY** (Principal and *subordinate*): Dolomite, calcite, quartz, pyrite, marcasite; *siderite, barite, hematite, magnetite; at higher metamorphic grades, olivine, diopside, tremolite, wollastonite, garnet.*

**ALTERATION MINERALOGY:** Extensive early dolomitization forms an envelope around most deposits which extends tens of metres beyond the sulphides. Dolomitization associated with mineralization is generally fine grained, commonly iron-rich, and locally brecciated and less well banded than limestone. Mn halos occur around some deposits; silicification is local and uncommon. Fe in iron formations is distal.

**WEATHERING:** Gossan minerals include limonite, cerussite, anglesite, smithsonite, hemimorphite, pyromorphite.

**ORE CONTROLS:** Deposits are restricted to relatively pure, shallow-marine carbonates. Regional basement structures and, locally, growth faults are important. Orebodies may be more common at fault intersections. Proximity to carbonate bank margins may be a regional control in some districts.

**GENETIC MODEL:** Two models are commonly proposed:

(1) syngenetic seafloor deposition: evidence includes stratiform geometry of some deposits, occurrence together of bedded and clastic sulphides, sedimentary textures in sulphides, and, where determined, similar ages for mineralization and host rocks.

(2) diagenetic to epigenetic replacement: replacement and open-space filling textures, lack of laminated sulphides in most deposits, alteration and mineralization above sulphide lenses, and lack of seafloor oxidation.

**ASSOCIATED DEPOSIT TYPES:** Mississippi Valley type Pb-Zn (E12), sediment-hosted barite (E17), sedimentary exhalative Zn-Pb-Ag (E14), possibly carbonate-hosted disseminated Au-Ag (E03).

**COMMENTS:** Although deposits such as Tynagh and Silvermines have structures and textures similar to sedex deposits, and are associated with distal iron formations, they are included in the Irish-type classification as recent work (e.g., Hitzman, 1995) concludes they formed by replacement of lithified rocks. Deposits that can be demonstrated to have formed on the seafloor are not included in Irish-type deposits. It is possible that the same continental margin carbonates may host sedex (E14), Irish-type (E13) and Mississippi Valley-type (E12) deposits.

## *EXPLORATION GUIDES*

**GEOCHEMICAL SIGNATURE:** Elevated base metal, Ag and Mn values in both silt and soil samples; however, high carbonate content, and hence high Ph may reduce effectiveness of stream silts.

**GEOPHYSICAL SIGNATURE:** Induced polarization surveys are effective and ground electromagnetic methods may work for deposits with iron sulphides. Deposits can show up as resistivity lows and gravity highs.

**OTHER EXPLORATION GUIDES:** The most important control is stratigraphic. All known deposits are in carbonate rocks, commonly the lowest relatively pure carbonate in a succession. Other guides are proximity to growth faults and intersection of faults, regional and local dolomitization and possibly laterally equivalent iron formations.

## *ECONOMIC FACTORS*

**TYPICAL GRADE AND TONNAGE:** Irish deposits are typically less than 10 Mt with 5-6% Zn, 1-2% Pb and 30g/t Ag. Individual deposits can contain up to 90 g/t Ag. The largest, Navan, produced 36 Mt and has remaining reserves of 41.8 Mt containing 8% Zn and 2% Pb. Mined deposits in the Kootenay Arc averaged between 6 and 7 Mt and contained 3-4 % Zn, 1-2 % Pb, and 3-4 g/t Ag. Duncan has reserves of 2.76 Mt with 3.3% Pb and 3.1% Zn; Wigwam contains 8.48 Mt with 2.14% Pb and 3.54% Zn.

**ECONOMIC LIMITATIONS:** These deposits are attractive because of their simple mineralogy and polymetallic nature, although significantly smaller than sedex deposits. In British Columbia the Kootenay Arc deposits are generally lower grade with up to only 6 % Pb+Zn. These deposits are also structurally complex making them more complicated to mine.

**IMPORTANCE:** Production from these deposits makes Ireland a major world zinc producer. Recent discovery of concealed deposits (Galmoy in 1986 and Lisheen in 1990) assures continued production. In British Columbia, a number of these deposits were mined intermittently until 1979 when H.B. finally closed. Some still have substantial lead and zinc reserves. However, their current potential for development is based largely on the precious metal content. The high carbonate content of the gangue minimizes acid-rock drainage problems.

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T. Hoy

Draft 3: March 27, 1996



## MISSISSIPPI VALLEY-TYPE (MVT) Pb-Zn

E12

by Dani Alldrick<sup>1</sup> and Don Sangster<sup>2</sup>  
Modified for Yukon by A. Fonseca and G. Bradshaw  
Refer to preface for general references and formatting significance.  
May 30, 2005

### **IDENTIFICATION**

SYNONYMS: Alpine-type Pb-Zn, Appalachian Zn, Low-temperature epigenetic Pb-Zn.

RELATED DEPOSIT TYPE: Irish-type Zn-Pb (E13) is classified with MVT deposits in some studies.

COMMODITIES (BY-PRODUCTS): Pb, Zn, ± Ag (Cd, Ge, barite, fluorite)

EXAMPLES: (Yukon): **Goz (106C 020), Blende (106D 064), Craig (106C 073);**

(British Columbia - *Canada/ International*): Robb Lake (94B005), Monarch (82N020), Kicking Horse (82N282); *Nanisivik, Pine Point, Polaris (Northwest Territories), Gays River (Nova Scotia), Newfoundland Zinc (Newfoundland) / Mascot-Jefferson City, Copper Ridge district (Tennessee, United States), Old Lead Belt and Viburnum Trend (Missouri, United States), Tri-State (Oklahoma, Kansas and Missouri, United States), Harberton Bridge (Ireland), Upper Silesia (Poland), Raibl, Bleiberg (Austria)*

### **GEOLOGICAL CHARACTERISTICS**

CAPSULE DESCRIPTION: Epigenetic, low-temperature, stratabound deposits of galena, sphalerite, pyrite and marcasite, with associated dolomite, calcite and quartz gangue in platformal carbonate sequences having primary and secondary porosity.

TECTONIC SETTINGS: Most commonly stable interior cratonic platform or continental shelf. Some deposits are incorporated in foreland thrust belts.

DEPOSITIONAL ENVIRONMENT / GEOLOGIC SETTING: Host rocks form in shallow water, particularly tidal and subtidal marine environments. Reef complexes may be developed on or near paleotopographic basement highs. The majority of deposits are found around the margins of deep-water shale basins; some are located within or near rifts (Nanisivik, Alpine district).

AGE OF MINERALIZATION: Proterozoic to Tertiary, with two peaks in Devonian to Permian and Cretaceous to Eocene time. Dating mineralization has confirmed the epigenetic character of these deposits; the difference between host rock age and mineralization age varies from district to district. **Known Yukon deposits are hosted in Proterozoic strata, but true mineralization ages of these epigenetic deposits are poorly constrained.**

<sup>1</sup> British Columbia Geological Survey, Victoria, British Columbia, Canada.

<sup>2</sup> Geological Survey of Canada, Ottawa, Ontario, Canada.

**HOST / ASSOCIATED ROCK TYPES:** Host rocks are most commonly dolostone, limestone, or dolomitized limestone. Locally hosted in sandstone, conglomerate or calcareous shale. **In Yukon, MVT deposits are hosted in Proterozoic to Paleozoic carbonate rocks of the North American margin; Goz is hosted by dolomite of the Proterozoic Backbone Ranges Formation; the Val and Blende deposits are hosted by Middle Proterozoic Gillespie Group dolomite; and Craig is hosted by dolomite within a late Proterozoic shale unit.**

**DEPOSIT FORM:** Highly irregular. May be peneconcordant as planar, braided or linear replacement bodies. May be discordant in roughly cylindrical collapse breccias. Individual ore bodies range from a few tens to a few hundreds of metres in the two dimensions parallel with bedding. Perpendicular to bedding, dimensions are usually a few tens of metres. Deposits tend to be interconnected thereby blurring deposit boundaries.

**TEXTURE / STRUCTURE:** Most commonly as sulphide cement to chaotic collapse breccia. Sulphide minerals may be disseminated between breccia fragments, deposited as layers atop fragments ("snow-on-roof"), or completely filling the intra-fragment space. Sphalerite commonly displays banding, either as colloform cement or as detrital layers ("internal sediments") between host-rock fragments. Sulphide stalactites are abundant in some deposits. Both extremely fine-grained and extremely coarse-grained textured sulphides minerals may be found in the same deposit. Precipitation is usually in the order pyrite (marcasite) → sphalerite → galena.

**ORE MINERALOGY (Principal and *subordinate*):** Galena, sphalerite, *barite*, *fluorite*. Some ores contain up to 30ppm Ag. Although some MVT districts display metal zoning, this is not a common feature. The Southeast Missouri district and small portions of the Upper Mississippi Valley district are unusual in containing significant amounts of Ni-, Co-, and Cu-sulphides.

**GANGUE MINERALOGY (Principal and *subordinate*):** Dolomite (can be pinkish), pyrite, marcasite, *quartz*, *calcite*, *gypsum*.

**ALTERATION MINERALOGY:** Extensive finely crystalline dolostone may occur regionally, whereas coarse crystalline dolomite is more common close to ore bodies. Extensive carbonate dissolution results in deposition of insoluble residual components as internal sediments. Silicification (jasperoid) is closely associated with ore bodies in the Tri-State and northern Arkansas districts. Authigenic clays composed of illite, chlorite, muscovite, dickite and/or kaolinite accumulate in vugs; minor authigenic feldspar (adularia).

**WEATHERING:** Extensive development of smithsonite, hydrozincite, willemite, and hemimorphite, especially in non-glaciated regions (including upstanding hills or monadnocks). Large accumulations of secondary zinc minerals can be mined. Galena is usually much more resistant to weathering than sphalerite. Iron-rich gossans are not normally well-developed, even over pyrite-rich deposits.

**ORE CONTROLS:** Any porous unit may host ore; porosity may be primary (rare) or secondary. Dissolution collapse breccias are the most common host although fault breccias, permeable reefs, and slump breccias may also be mineralized. Dissolution collapse breccias may form through action of meteoric waters or hydrothermal fluids. Underlying aquifers may be porous sandstone or limestone aquifers; the limestones may show thinning due to solution by ore-bearing fluids.

**GENETIC MODELS:** Deposits are obviously epigenetic, having been emplaced after host rock lithification. Ore-hosting breccias are considered to have resulted from dissolution of more soluble sedimentary units, followed by collapse of overlying beds. The major mineralizing processes appear to have been open-space filling between breccia fragments, and replacement of fragments or wall rock. The relative importance of these two processes varies widely among, and within, deposits. Fluid inclusion data show that these deposits formed from warm (75°- 200°C), saline, aqueous solutions similar in composition to oil-field brines. Brine movement out of sedimentary basins, through aquifers or faults, to the hosting structures is the most widely accepted mode of formation. Two main processes have been proposed to move ore solutions out of basin clastics and into carbonates:

- A. Compaction-driven fluid flow is generated by over-pressuring of subsurface aquifers by rapid sedimentation, followed by rapid release of basinal fluids.
- B. Gravity-driven fluid flow flushes subsurface brines by artesian groundwater flow from recharge areas in elevated regions of a foreland basin, to discharge areas in regions of lower elevation.

In addition to fluid transport, three geochemical mechanisms have been proposed to account for chemical transport and deposition of ore constituents:

1. Mixing - Base metals are transported by fluids of low sulphur content. Precipitation is effected by mixing with fluids containing hydrogen sulphide; replacement of diagenetic iron sulphides; and/or reaction with sulphur released by thermal degradation of organic compounds.
2. Sulphate reduction - Base metals are transported together with sulphate in the same solution. Precipitation is the result of reduction of sulphate by reaction with organic matter or methane.
3. Reduced sulphur - Base metals are transported together with reduced sulphur. Precipitation is brought about by change in pH, dilution, and/or cooling.

**ASSOCIATED DEPOSIT TYPES:** Fracture-controlled, fluorine-dominant deposits (with subordinate Ba, Pb, and Zn) such as those of Illinois-Kentucky, the English Pennines and the Tennessee Sweetwater F-Ba-Pb-Zn district (E10, E11). "Irish-type carbonate-hosted Zn-Pb" (E13) is described as a separate deposit type in the BC Mineral Deposit Profiles, others regard these deposits as a variant of MVT deposits. In the latter case, they are viewed as a sub-group of MVT deposits which are associated with tensional regimes and rifts. Oxide zinc deposits have evolved from weathering and alteration of MVT deposits (Skorpion, Berg Aukas, Namibia: B09).

**COMMENTS:** British Columbia has prospective strata for MVT deposits in the miogeoclinal carbonate platform rocks along its eastern border. MVT deposits are distinct from syngenetic carbonate-hosted Pb-Zn deposits (Mt. Isa, Australia; E14) and high-temperature epigenetic deposits or mantos (Midway, British Columbia; Santa Eulalia, Mexico; J01).

### ***EXPLORATION GUIDES***

**GEOCHEMICAL SIGNATURE:** Readily detectable positive anomalies of Zn in residual soils and stream sediments. Regionally anomalous amounts of Pb, Zn, Cu, Mo, Ag, Co, Ni, Cd, Mg, F in insoluble residues of carbonate rocks. Background litho-geochemical concentrations for unmineralized carbonates: Pb = 9 ppm; Zn = 20; Cu = 4; Ag = 0.01.

**GEOPHYSICAL SIGNATURE:** Deposits may be detected by IP, resistivity, gravity and EM (CS-AMT/AFMAG) systems. Test seismic lines have yielded ambiguous results. In southeast Missouri magnetic and gravimetric surveys have been used to outline basement topographic highs (knobs) which control the distribution of favourable sites of deposition.

**OTHER EXPLORATION GUIDES:** Reef complexes in platformal carbonate successions. Proximal to, or updip from, petroleum fields in large (continental-scale) sedimentary basins. Peripheral to basement highs. Aligned along basement lineaments.

### ***ECONOMIC FACTORS***

**TYPICAL GRADE AND TONNAGE:** Data for individual deposits are difficult to obtain because deposits tend to be interconnected. Most deposits are small and fall in the range 1 to 10 Mt. Grades generally range between 5% to 10% combined lead-zinc, with a majority being decidedly zinc rich ( $Zn/Zn+Pb = 0.8$ ). Silver content is not commonly reported since it typically occurs only in solid solution in base metal sulphides. MVT deposits tend to occur in clusters, usually referred to as districts. The Pine Point district ,

for example, contains more than 80 deposits, the Upper Mississippi Valley district more than 400. Deposits in such districts, therefore, can collectively contain extremely large tonnages. Of more than 80 deposits in the Pine Point district, 40 were mined for a total production of 80 Mt grading 6.5% Zn and 3% Pb. The largest deposit (X15) was 17.4 Mt and the richest deposit (N81) produced 2.7 Mt of ore grading 12% Zn and 7% Pb. The Robb Lake deposit in British Columbia contains 5.3 Mt grading 5.0% Zn and 2.3% Pb. **The Craig deposit of Yukon has a geological resource of 964 500 tonnes averaging 13.5% Pb, 8.5% Zn and 123.4 g/t Ag. The Blende deposit contains a geological resource of 19.4 million tonnes grading 55.9 g/t Ag and 5.85% Pb-Zn.**

**ECONOMIC LIMITATIONS:** Mining districts may extend over many hundreds of square kilometres, increasing mining costs (stripping, haulage to mill, etc.). One of the more favourable attributes of MVT deposits is the normally large grain size, resulting in good mineral separation and high metal recoveries (typical zinc recovery exceeds 90%). Recovery is especially high in deposits with little or no pyrite (Newfoundland Zinc, Gays River and the east and central Tennessee districts).

**IMPORTANCE:** Metal production from MVT districts can be similar to production from giant stratiform, sediment-hosted (SEDEX) deposits. The Tri-State district was one of the world's major producers of lead during the 20<sup>th</sup> century, yielding 500 Mt of ore. The Viburnum Trend produced over 123 Mt grading 5.8% Pb, 0.8% Zn, 0.14% Cu and 17 g/t Ag between 1960 and 1984.

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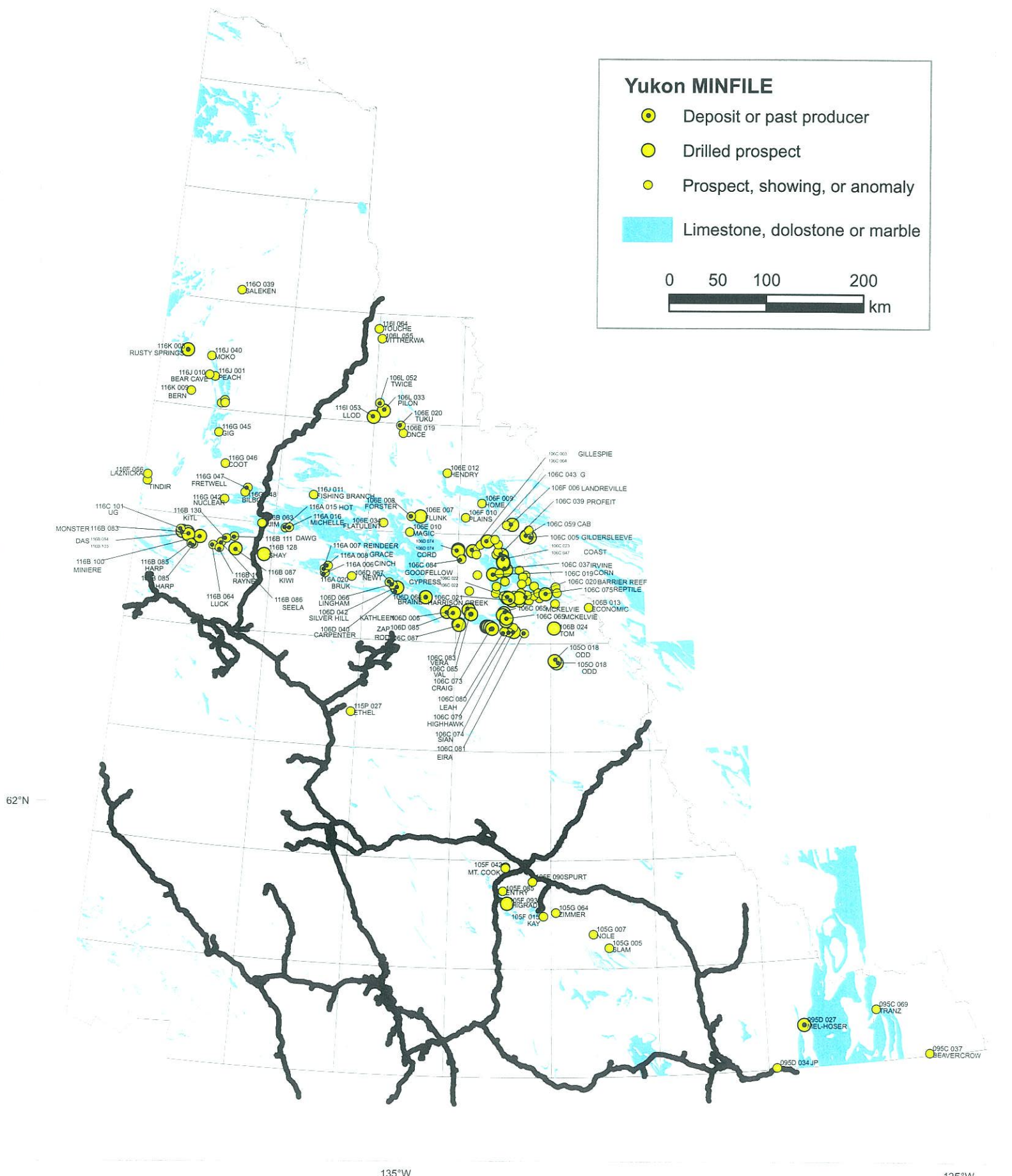


## E12 - Mississippi Valley Type Zn-Pb-Ag - World Deposits

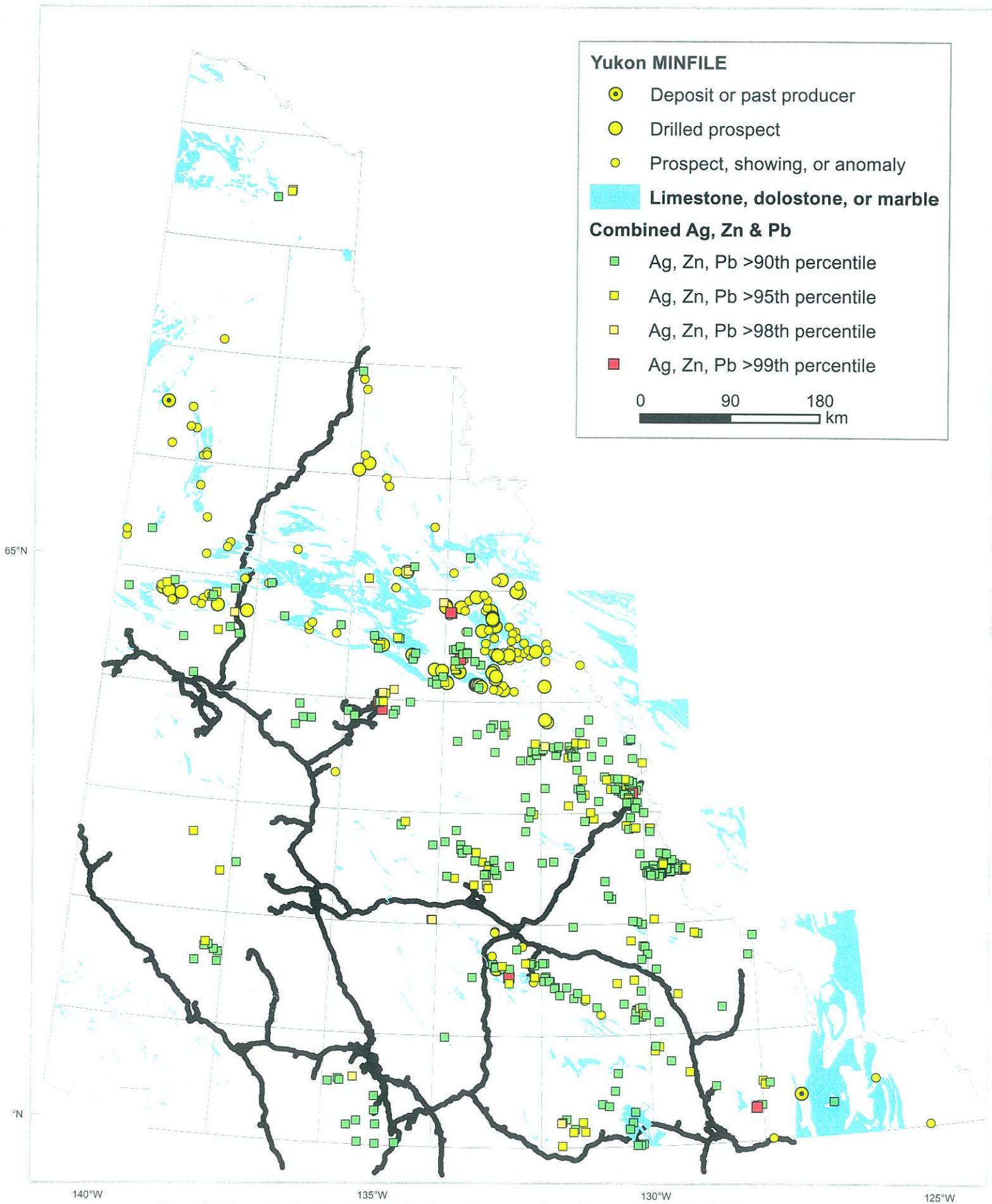
Deposit	Country	tonnes	Zn (%)	Pb (%)	Ag (g/t)
CENTRAL MISSOURI	USMO	1 000 000	0.60	2.00	0
N ARKANSAS-OZARK	USAR	1 090 000	2.00	0.12	0
MONARCH	CNBC	1 490 000	5.10	4.67	27.4
NEWFOUNDLAND ZINC	CNNF	4 900 000	7.70	0.00	0
ROBB LAKE	CNBC	5 500 000	5.00	2.30	0
NANISIVIK	CNNT	6 400 000	11.50	1.20	0
FRIEDENSVILLE	USPA	17 900 000	6.10	0.00	0
KENTUCKY-ILLINOIS	USKY	22 000 000	4.00	0.70	1
POLARIS-ECLIPSE	CNNT	23 600 000	14.00	4.30	34
METALLINE	USWA	36 000 000	2.50	1.10	1.4
AUSTINVILLE	USVA	36 400 000	3.90	0.80	0
GAYNA RIVERL	CNNT	58 200 000	4.79	0.60	2.25
ALPINE	AAIY	85 400 000	6.10	1.50	0
PINE POINT	CNNT	95 500 000	6.20	2.50	0

### Yukon MINFILE

MINFILE	NAMES	STATUS	MINFILE	NAMES	STATUS
106C 020	GOZ, BARRIER REEF	DEPOSIT	106C 024	ZOG	SHOWING
106C 073	CRAIG	DEPOSIT	106C 025	GOODMAN	SHOWING
106C 085	VAL	DEPOSIT	106C 030	GUS	SHOWING
106D 064	BLENDE, BRAINE	DEPOSIT	106C 032	CADET	SHOWING
105O 018	ODD	DRILLED PROSPECT	106C 034	LOG	SHOWING
106B 024	BIRKELAND, TOM, MOM	DRILLED PROSPECT	106C 036	MOUSE	SHOWING
106C 005	GILDERSLEEVE	DRILLED PROSPECT	106C 040	POO	SHOWING
106C 019	CORN	DRILLED PROSPECT	106C 041	CARNE	SHOWING
106C 021	HARRISON, HARRISON CREEK	DRILLED PROSPECT	106C 042	DAN	SHOWING
106C 022	CYPRESS	DRILLED PROSPECT	106C 047	COAST	SHOWING
106C 023	COB, CORN CREEK PROPERTY	DRILLED PROSPECT	106C 056	ENVOY	SHOWING
106C 037	FRIGSTAD, IRVINE	DRILLED PROSPECT	106C 062	DUNE	SHOWING
106C 038	SPECTROAIR	DRILLED PROSPECT	106C 063	SNAKE	SHOWING
106C 039	PROFEIT	DRILLED PROSPECT	106C 077	JAM	SHOWING
106C 043	DOWSER, G	DRILLED PROSPECT	106C 078	BLUSSON	SHOWING
106C 044	LEARY	DRILLED PROSPECT	106C 079	HIGHHAWK	SHOWING
106C 054	GAL	DRILLED PROSPECT	106C 080	LEAH	SHOWING
106C 059	CAB	DRILLED PROSPECT	106C 088	SUPERDAVE	SHOWING
106C 065	MCKELVIE	DRILLED PROSPECT	106D 066	LINGHAM	SHOWING
106C 074	SIAN	DRILLED PROSPECT	106D 067	NEWT	SHOWING
106C 075	REPTILE	DRILLED PROSPECT	106E 010	MAGIC	SHOWING
106D 006	KATHLEEN	DRILLED PROSPECT	106E 012	HENDRY	SHOWING
106D 042	SILVER HILL	DRILLED PROSPECT	106E 019	ONCE	SHOWING
106D 074	CORD	DRILLED PROSPECT	106F 003	VYE	SHOWING
106D 085	ZAP	DRILLED PROSPECT	106F 009	HOME	SHOWING
106E 007	FLUNK	DRILLED PROSPECT	106L 052	TWICE	SHOWING
106F 006	LANDREVILLE	DRILLED PROSPECT	106L 055	VITTREKWA	SHOWING
106L 033	PILON	DRILLED PROSPECT	115P 027	ETHEL	SHOWING
116B 083	MONSTER	DRILLED PROSPECT	116A 016	MICHELLE	SHOWING
116B 084	TART	DRILLED PROSPECT	116A 020	BRUK	SHOWING
116B 087	KIWI	DRILLED PROSPECT	116B 085	OZ, HARP	SHOWING
116B 100	MINIERE	DRILLED PROSPECT	116B 086	SEELA, KIM	SHOWING
116B 128	REIN	DRILLED PROSPECT	116B 130	TOLBERT, KITL	SHOWING
116I 053	LLOD	DRILLED PROSPECT	116C 101	UGLY, UG	SHOWING
116K 003	RUSTY SPRINGS, TERMUENDE	DRILLED PROSPECT	116F 015	TINDIR	SHOWING
106C 026	NEST, BAR	PROSPECT	116F 056	LAZNICKA	SHOWING
106C 027	TOPOROWSKI	PROSPECT	116G 042	NUCLEAR	SHOWING
106C 031	GENTRY	PROSPECT	116G 046	COOT	SHOWING
106C 046	CANWEX	PROSPECT	116G 047	FRETWELL	SHOWING
106C 050	BOB	PROSPECT	116G 048	BILBO	SHOWING
106D 040	CARPENTER	PROSPECT	116J 001	PEACH	SHOWING
106E 008	FORSTER	PROSPECT	116J 011	FISHING BRANCH	SHOWING
106E 020	TUKU	PROSPECT	116J 040	MOKO	SHOWING
106E 034	FLATULENT	PROSPECT	116J 043	YUM	SHOWING
106F 007	COLLEY	PROSPECT	116J 044	BULLIS	SHOWING
106F 010	PLAINS	PROSPECT	116K 009	BERN	SHOWING
116A 015	HOT	PROSPECT	095C 069	TRANZ	ANOMALY
116J 041	WART	PROSPECT	095D 034	JP	ANOMALY
116O 039	SALEKEN	PROSPECT	106C 028	ANGLO	ANOMALY
095D 027	JONI, MEL EAST, MEL-HOSER	SHOWING	106C 029	MONITOR, PLU	ANOMALY
105F 015	KAY	SHOWING	106C 033	CARDIGAN	ANOMALY
105F 085	ENTRY	SHOWING	106C 035	KENDAL	ANOMALY
105G 007	PLUMB, NOLE	SHOWING	106C 051	BRANDON	ANOMALY
105G 064	ZIMMER, NEW	SHOWING	106C 058	TAPIN	ANOMALY
106B 014	ANDY	SHOWING	106C 081	EIRA	ANOMALY
106B 015	NECO	SHOWING	116B 110	RAYNER, BRX	ANOMALY
106B 030	MARTHA	SHOWING	116B 111	DAWG	ANOMALY
106C 003	GILLESPIE	SHOWING	116G 045	GIG	ANOMALY
			116J 010	BEAR CAVE	ANOMALY



Map of Yukon illustrating the distribution of carbonate rocks and possible MVT type occurrences



Map of Yukon illustrating the distribution of carbonate rocks, possible MVT style occurrences and combined Ag, Zn and Pb regional geochemistry

APPENDIX I - G  
2005 Analytical Check Table of Variance

					2005 vs 1990	2005 vs 1990	2005 vs 1990	2005 vs 1990
DDH No.	From (m)	To (m)	Assay Interval (m)	Tag No.	Pb Variance %	Zn Variance %	Non-Sulfide Pb Variance %	Non-Sulfide Zn Variance %
B90-05	73.66	75.15	1.49	809				
B90-05	75.15	76.66	1.51	810				
			3.00	Composite	<b>0.22</b>	<b>1.52</b>	<b>0.04</b>	<b>0.28</b>
B90-05	76.66	78.16	1.50	811				
B90-05	78.16	79.55	1.39	812				
			2.89	Composite	<b>0.92</b>	<b>2.30</b>	<b>-0.62</b>	<b>-1.20</b>
B90-05	79.55	81.05	1.50	813				
B90-05	81.05	82.55	1.50	814				
B90-05	82.55	83.45	0.90	815				
			3.90	Composite	<b>0.19</b>	<b>-0.42</b>	<b>-0.19</b>	<b>-0.22</b>
B90-05	83.45	84.95	1.50	816				
B90-05	84.95	85.65	0.70	817				
			2.20	Composite	<b>-0.60</b>	<b>0.91</b>	<b>0.14</b>	<b>0.03</b>
B90-05	85.65	87.15	1.50	818				
B90-05	87.15	88.90	1.75	819				
			3.25	Composite	<b>0.25</b>	<b>-0.01</b>	<b>0.31</b>	<b>0.16</b>
<b>Total Interval Variance</b>			<b>15.24</b>		<b>0.24</b>	<b>0.74</b>	<b>-0.07</b>	<b>-0.19</b>

# Loring Laboratories Ltd.

629 Beaverdam Road N.E.,  
 Calgary Alberta T2K 4W7  
 Tel: 274-2777 Fax: 275-0541

TO: TRANS POLAR GEOLOGICAL CONS. INC.  
 60 Hawkmount Hts. N.W.  
 Calgary, Alberta  
 T3G 3S5

File No : 48145  
 Date : November 11, 2005  
 Samples : Rock Chip

Attn: R.J.Sharp

## Certificate of Assay

Sample No.	Total Pb %	Total Zn %	Non-Sulphide Pb %	Non-Sulphide Zn %
809	2.39	3.07	1.03	1.12
810	5.67	6.31	1.07	1.08
811	7.05	13.10	2.55	4.22
812	5.22	6.70	0.70	0.85
813	2.80	3.30	0.59	0.43
814	4.05	3.91	0.84	0.85
815	1.42	0.76	0.81	0.33
816	9.17	11.69	3.90	4.57
817	5.26	5.22	1.75	1.98
818	5.87	5.39	1.81	1.31
819	6.46	3.65	2.20	1.24
11488	50.40	16.00		

I HEREBY CERTIFY that the above results are those assays made by me upon the herein described samples:

\_\_\_\_\_  
 Assayer

APPENDIX I - G

Table of Yukon Silver - Lead - Zinc Deposits

# MINERAL DEPOSITS AND RESOURCES

CANADIAN LEAD-ZINC-SILVER DEPOSITS  
YUKON AND BC EXAMPLES

DEPOSIT	TYPE	TONNES	AU g/t	AG g/t	CU %	PB %	ZN %	GMV		COMMENTS
								\$/TONNE	US \$	
PINE POINT	MISSVAL	76,100,000				2.9	6.5	\$ 88.20	6712	Past Producer
HOWARDS PASS	SEDEX	61,000,000				2.1	5.4	\$ 70.80	4319	REMOTE, LARGE INFERRED
POLARIS	MVT ?	22,000,000				4	14	\$ 172.00	3784	REMOTE, RES PLUS PRODUCTION 1994
CIRQUE, BC	SEDEX	22,000,000	60			2.8	9.4	\$ 126.90	2792	Remote, Parks nearby
GRIZZLY DY YT	VMS	21,400,000	0.87	81.1		5.54	7.33	\$ 141.96	3038	PREFEASIBILITY
HACKETT RIVER NWT	VMS	19,496,000	0.45	150	0.41	0.75	4.98	\$ 97.11	1893	
BLLENDE	MISSVAL? VEINS	19,400,000	44.9			2.81	3.04	\$ 60.74	1178	REMOTE, UNDERGROUND POSS.
GRUM YT	VMS	16,900,000	0.82	47		3	4.9	\$ 90.79	1534	RECEIVERSHIP
IZOK LK NWT	VMS	16,500,000			2.2		11.4	\$ 166.80	2752	
JASON	VMS	14,100,000	79.9			7.09	6.51	\$ 135.80	1915	INACTIVE
LOGAN	VEINS	12,247,000	26.4				6.17	\$ 66.32	812	LOW GRADE
AKIE CARDIAC BC	SEDEX	12,000,000				1.5	8.6	\$ 98.00	1176	
KUDZ ZE KAYA	VMS	11,300,000	1.3	133	0.9	1.5	5.9	\$ 131.04	1481	PREFEASIBILITY
NANISIVIK NWT	MISSVAL	10,000,000				1	10	\$ 108.00	1080	ARCTIC, REMOTE, Just closed
PRAIRIE CREEK NWT	MISSVAL	10,000,000	188			11.3	13.1	\$ 254.30	2543	FEASIBILITY
TOM YT	SEDEX	9,283,700	69.4			7.5	6.2	\$ 134.15	1245	REMOTE
GONDOR NWT	VMS	7,500,000	50		0.5	0.5	6	\$ 84.75	636	
MEL	MISSVAL	6,778,000				2.03	7.1	\$ 87.24	591	BARITE RESOURCE
ROBB LAKE	MISSVAL	6,703,297				2.3	5	\$ 68.40	459	
CLEAR LAKE	VMS	5,600,000	38			2	11.4	\$ 136.65	765	INACTIVE
MARG	VMS	5,527,000	1	62.7	1.76	2.46	4.6	\$ 130.56	722	EXPL POTENTIAL
SUNRISE, NWT	VEIN	4,900,000	0.54	172	0.08	1.96	5	\$ 104.00	510	
SWIM	VMS	4,750,000	0.65	42		3.8	4.7	\$ 92.33	439	RECEIVERSHIP
HIGH LAKE NWT	VMS	4,722,000	0.8	37.7	3.53	0.2	2.46	\$ 126.85	599	
WOLF	VMS	4,100,000	84			1.8	6.2	\$ 91.10	374	EXPLORATION ACTIVE



RIVER JORDAN	VMS	3,186,813		72		8.2	8.5	\$ 163.20	520	
SILVERTIP 1998	MISSVAL	2,570,000	0.63	325		6.4	8.8	\$ 203.43	523	
SA DENA HESS	SKARN?	2,190,000				2.6	10.4	\$ 124.80	273	PRODUCTION 1991-92
GP4F	SKARN?	1,500,000	2	90	0.1	3.1	6.4	\$ 130.28	195	SA DENA HESS AREA
QUARTZ LK	VMS	1,500,000		103		5.6	6.54	\$ 128.14	192	SMALL. INACTIVE
GOZ LAKE	SEDEX	1,400,000					10	\$ 100.00	140	OXIDES ALSO
VINE	VEIN	1,318,681	2.4	40.1	0.13	3.76	1.07	\$ 78.92	104	
YAVA NWT	VMS	1,130,000	0.3	117	1.03	1.6	4.96	\$ 111.15	126	
COTTONBELT	VMS	1,098,901		68.6		9	12	\$ 204.00	224	
CRAIG		964,000		112		8.5	13.5	\$ 222.60	215	FEASIBILITY
UNITED KENO HILL	VEIN	856,000		1026		4.8	3.9	\$ 256.95	220	RECIEVERSHP
RUSTY MTN	VEIN	850,000		306		2.7	1	\$ 85.15	72	
VERA		850,000		306			3.7	\$ 90.55	77	RE-EVALUATION
MATT BERRY	VEIN	533,000		103		6.1	4.8	\$ 114.83	61	DRILLED 2002
HART RIVER	VMS	523,454	1.37	50	1.45	0.87	3.65	\$ 102.99	54	
RUTH VERMONT	VEIN	351,648		204		5.02	5.53	\$ 131.16	46	
PLATA INCA		206,000	3.3	268				\$ 85.31	18	SMALL PRODUCTION
GROUNDHOG		200,951		91.9		3.18	4.01	\$ 81.62	16	INACTIVE, SEVERAL ZONES
PESO REX		139,373		717		3.7		\$ 155.08	22	INACTIVE
CLARK		129,350		220		4.99	4.58	\$ 124.22	16	INACTIVE
HART RIVER	VMS	97,000		1025				\$ 179.38	17	SMALL. INACTIVE, REMOTE
ZETA		92,248		558				\$ 97.65	9	INACTIVE
TINTINA		90,900		686		6	10	\$ 268.05	24	
LOGJAM		69,854	3.01	392		2	3	\$ 149.72	10	INACTIVE
VAL	vein	66,000		1030				\$ 180.25	12	RE-EVALUATION

Compiled from the literature including Yukon and BC Mirnife, CMH., Northern Miner MISSVAL = Mississippi Valley Type, VMS = Volcanogenic Massiver Sulphide SEDEX = sedimentary exhalative.

For the purposes of this table all tonnages should be considered resources not in compliance with NI 43-101

APPENDIX III  
ZINC

# Zinc

---

*Prepared by the Minerals and Metals Sector,  
Natural Resources Canada.  
Telephone: (613) 947-6580  
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Canada is an important producer and exporter of zinc and zinc products. Zinc metal production in Canada dates back from the early 1900s when the Consolidated Mining and Smelting Company of Canada (which later became Cominco Limited in 1966, followed by Teck Cominco Limited in 2001) started production at a small electrolytic zinc plant at Trail, British Columbia. With a smelting capacity of just over 800 000 t/y from four smelting facilities located across the country, today Canada produces some 10% of the world's total supply of zinc.

## HISTORY

Zinc is a relative newcomer to the group of metals discovered and used by society. While the first use of copper pre-dates recorded history and the discovery of tin goes back 5000 years, the first recovery of metallic zinc, however, came much later. The production of metallic zinc was first described in India around 1200 A.D. By 1374, zinc was recognized as a new metal, the eighth to be discovered at that time, and a limited amount of commercial zinc production was under way. Although brass-making had developed much earlier, the zinc in brass was obtained by treating zinc ore to produce zinc vapour, which combined with granulated copper under heat. From India, zinc production was introduced to China sometime around 1600 A.D. and then began to be exported to Europe.

The first full-scale zinc smelting operation outside of Asia started in Bristol, England, in about 1743. By the beginning of the 19th century, zinc production was established on the continent of Europe, notably in Belgium and parts of eastern Europe. In the latter half of the century, large zinc industries developed rapidly in the United States and Germany.

## ZINC IN CANADA

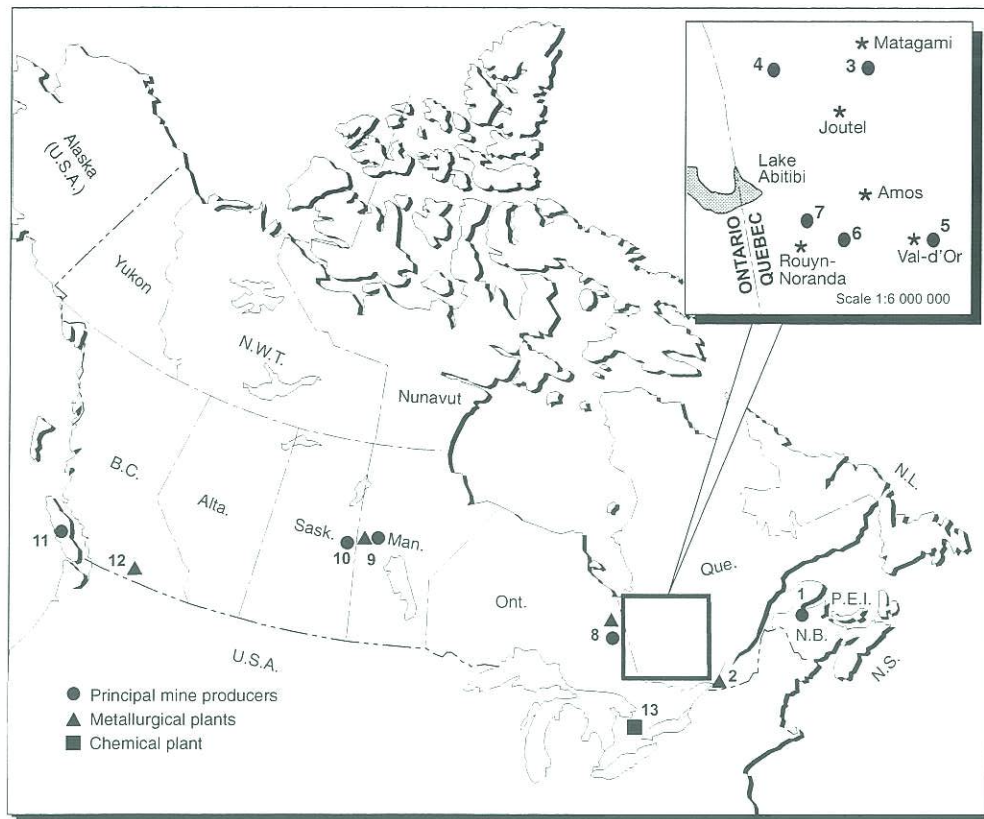
Zinc production in Canada dates back to the time around the First World War when the Consolidated Mining and Smelting Company of Canada began operating a small electrolytic zinc plant at Trail, British Columbia, to help offset a critical wartime shortage of zinc in the United Kingdom. At that time, in fact, the Consolidated Mining and Smelting Company and Anaconda Copper Mining Company in Montana were pioneering the production of zinc in North America by the electrolytic method.

The ores used at Trail came from the Sullivan mine near Kimberly, but production was hampered because the complex lead-zinc-iron ore was difficult to treat by existing methods. In 1920, however, the differential flotation method was successfully applied to separate the Sullivan ore into a lead concentrate, a zinc concentrate and an iron by-product. This marked the beginning of significant zinc production in Canada. Today the Trail operations are the world's largest fully integrated lead and zinc smelting and refining complex. Owned and operated by Teck Cominco Limited of Vancouver, the Trail facility has a zinc production capacity of some 290 000 t/y.

In Manitoba, the discovery of significant zinc and copper ore with important quantities of gold in 1915 led to the development of the Flin Flon-Snow Lake mining camp, smelter complex and dedicated power plant in the late 1920s. Since 1930, Hudson Bay Mining and Smelting Company Limited has owned and operated some 30 mines that in turn have fed the company's metallurgical complex at Flin Flon. The Flin Flon smelter and refinery complex has undergone significant capital improvements since it first started operations in 1930 with the introduction of zinc pressure leach technology in the early 1990s and a new tank house in 2000 that expanded zinc production capacity to 115 000 t/y.

The Kidd Creek orebody was discovered in 1963 and Texasgulf began open-pit mining the deposit in 1966 near Timmins, Ontario. The Kidd Creek zinc plant started production in 1972. In 1983, Kidd Creek started up a zinc

**Figure 1**  
**Zinc Producers in Canada, 2004**



Numbers refer to locations on map above.

#### ZINC-PRODUCING MINES

1. Brunswick	Noranda Inc.
3. Bell-Allard*	Noranda Inc.
4. Selbaie*	Les Mines Selbaie
5. Louvicourt	Aur Resources Inc./Novicourt Inc.
6. LaRonde	Agnico-Eagle Mines Limited
7. Bouchard-Hébert	Breakwater Resources Ltd.
8. Kidd Creek	Falconbridge Limited
9. Callinan	Hudson Bay Mining and Smelting Co., Limited
Trout Lake	Hudson Bay Mining and Smelting Co., Limited
Chisel North	Hudson Bay Mining and Smelting Co., Limited
777	Hudson Bay Mining and Smelting Co., Limited
10. Konuto Lake	Hudson Bay Mining and Smelting Co., Limited
11. Myra Falls	Breakwater Resources Ltd.

#### ZINC METALLURGICAL PLANTS

2. Valleyfield	Canadian Electrolytic Zinc Limited
8. Kidd Creek	Falconbridge Limited
9. Flin Flon	Hudson Bay Mining and Smelting Co., Limited
12. Trail	Teck Cominco Limited

#### ZINC OXIDE PLANTS

13. Zochem	Hudson Bay Mining and Smelting Co., Limited
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#### WEB SITE

www.noranda.com
www.noranda.com
www.bhpbilliton.com
www.aurreources.com
www.agnico-eagle.com
www.breakwater.ca
www.falconbridge.com
www.hudbayminerals.com
www.hudbayminerals.com
www.hudbayminerals.com
www.hudbayminerals.com
www.hudbayminerals.com
www.breakwater.ca

www.noranda.com
www.falconbridge.com
www.hudbayminerals.com
www.teckcominco.com

www.zochem.com
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\* Closed in 2004.

pressure leaching facility plant. Today, Falconbridge Limited owns and operates the Kidd Creek complex with a production capacity of 145 000 t/y.

With the discovery of significant zinc-bearing ores in northern Quebec and Ontario in the late 1950s and early 1960s, Noranda Inc. began looking at options to build an electrolytic zinc plant. Construction began at Vallyfield, Quebec, just west of Montréal, in 1962 and Canadian Electrolytic Zinc (CEZ), a subsidiary of Noranda, was brought into production in 1963. Plant capacity has increased steadily from its original 64 000 t/y at the time of opening to 260 000 t/y today.

Zinc mines have been found in every province and territory with the exception of Alberta and Prince Edward Island. Operations in 2004 are listed in Figure 1.

## USES

The greatest use for zinc is as a coating for iron and steel products to make them resistant to rust and corrosion. The application of a zinc coating, known as galvanizing, is accomplished electrolytically or by hot-dip methods. Galvanizing accounts for about 47% of the worldwide use of zinc.

The most commonly galvanized products are sheet and strip steel, tube and pipe, and wire and wire rope. The automobile industry is the largest user of galvanized steel. The desire to reduce weight and improve fuel efficiency has led to increased use of galvanized steel by the automotive industry to protect the thinner gauges of steel from corrosion. Both hot-dipped and electro-galvanized steel are used, the thicker coating of hot-dipped steel giving more corrosion protection to unexposed surfaces and the thinner coating of electro-galvanized steel providing a smoother finish for exposed painted surfaces.

Galvanized sheet and strip steel are also widely used by the construction industry for roofing and siding, and for heating and ventilation ducts, as well as for many other applications. Nails and other building materials are often hot-dip galvanized. Zinc and zinc-aluminum thermally sprayed coatings are used for the long-term corrosion protection of large steel structures such as bridges and hydro-electric transmission towers.

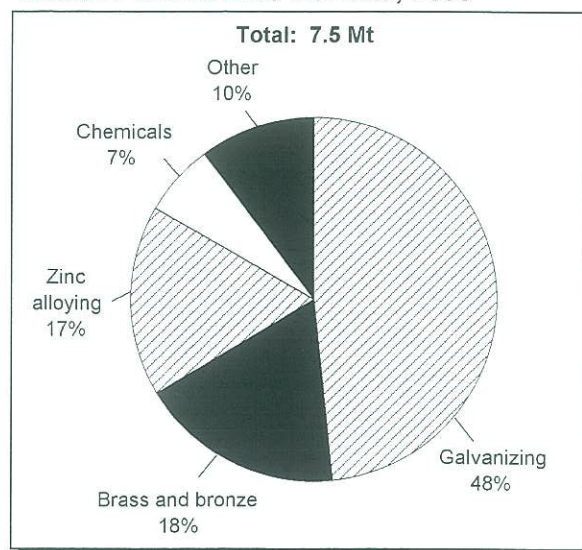
Another important use of zinc is in the manufacture of a vast range of die-cast products. Because it has a relatively low melting point and is very fluid, zinc is easy to pour when melted. Therefore, it is well suited to rapid, assembly-line die-casting, particularly to produce small and intricate shapes.

A major use of die castings is in the automobile industry as trim pieces, grills, door and window handles, carbure-

tors, pumps, and other components. However, with the trend toward lighter, more energy-efficient cars, zinc demand for this purpose has declined in recent years. Other familiar zinc die castings include small electrical appliances, business machines and other light equipment, tools, and toys.

Another important use of zinc is in the manufacture of brass, which is essentially an alloy of copper and zinc with the proportion of zinc ranging from 5 to 40%. The zinc brasses have good physical, electrical and thermal properties, and are corrosion resistant. They are used in plumbing, heat exchange equipment, and a wide range of decorative hardware, to name a few applications. Rolled zinc metal is a basic component in dry-cell batteries, and zinc oxide is used as a catalyst in the manufacture of rubber and as a pigment in white paint. It is also used in agricultural products, cosmetics and medicinal products.

**Figure 2**  
Western World Zinc Markets, 2003



Source: International Lead and Zinc Study Group.

## NATURAL OCCURRENCE

Zinc is never found as the free metal but is found in association with a number of other elements to form a number of important ores of zinc such as sphalerite (zinc blende, zinc sulphide, ZnS), smithsonite (zinc carbonate, ZnCO<sub>3</sub>), zincspar (also zinc carbonate, ZnCO<sub>3</sub>), and marmatite (zinc sulphide, ZnS, containing some iron sulphide, FeS). Like all metals, zinc is a natural component of the Earth's crust and is therefore present in varying concentrations in rock, soil, water and air.

In Canada, zinc deposits fall into four main categories: sedimentary exhalative (SEDEX); massive sulphide, Mississippi Valley-type (MVT); volcanogenic massive sulphide (VMS); and skarn deposits. As the name suggests, SEDEX deposits comprise layers of massive sulphide minerals interbedded with sedimentary rocks and tend to be associated with large deposits of lead and zinc. Examples of such deposits include the Sullivan mine in British Columbia. MVT deposits are named after large-scale lead and zinc deposits found in the region in the United States along the Mississippi River where they were first discovered. MVT deposits are characterized by a simple mineralogy that includes pyrite (iron sulphide), galena (lead sulphide) and sphalerite (zinc sulphide) hosted in undeformed, calcium- and magnesium-rich carbonate rocks (limestones). Examples of this type of deposit are found at the Polaris and Nanisivik mines in Nunavut, both of which closed in late 2002.

VMS deposits can be classified into sub-categories depending on their mineralogy: copper-zinc, copper-zinc-lead and Besshi-type. As found with SEDEX deposits, VMS deposits are formed through the exhalation of hydrothermal fluids on the sea floor. In the case of VMS, the host rocks are submarine igneous rocks rather than sedimentary rocks. The largest example of a VMS-type deposit in Canada is the Kidd Creek copper-zinc mine near Timmins, Ontario. Other examples include the Flin Flon copper-zinc deposits in north-central Manitoba. Many of these types of deposits can also contain significant quantities of gold, such as those deposits in the Abitibi region of northwestern Quebec. While the copper-zinc deposits are found typically associated with greenstone (mafic) volcanic host rocks such as basalts, the zinc-lead-copper deposits are associated with more felsic to intermediate volcanic rocks such as rhyolite and dacite. Examples of these types of deposits include the mines in the Bathurst region of New Brunswick. Skarn deposits are formed at or near the contact between a typically carbonate-rich host rock with an igneous intrusion. Variations in the type of igneous intrusion result in variations in the mineralization that follows. An example of a lead-zinc skarn is the Sa Dena Hes deposit near Watson Lake, Yukon.

## HEALTH AND ENVIRONMENT

Zinc plays an important role as a micro-nutrient in the development and health of a variety of plants and animals. In humans, zinc plays an important role in the function of more than 200 enzymes, for the stabilization of DNA and the expression of genes, and for the transfer of nervous signals.

The human body contains 2-3 g of zinc. The recommended daily zinc intake is 12 mg/day for adult women and 15 mg/day for adult men. Daily intake is not only

dependent on food, but also on sex, age and general health status. Growing infants, children, adolescents, women in pregnancy, and the elderly have a higher zinc requirement.

Food is the primary source of zinc for humans with only a small part coming from drinking water. The major sources of zinc in the diet are red meat, poultry, fish, seafood, whole cereals and dairy products.

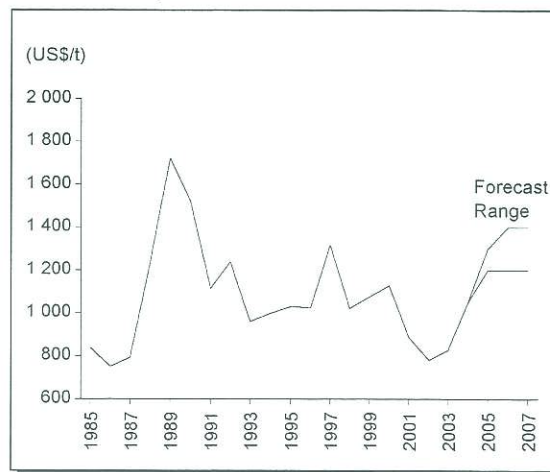
## PRICE OUTLOOK

Cash settlement prices on the London Metal Exchange (LME) started trading in the US\$1000/t price range at the start of the year, peaking at \$1155/t by mid-March, followed by a slow downward slide to \$943/t in September. Prices rallied through the last quarter as stocks declined, reaching their highest level for the year on December 31 at \$1270/t, the highest level for zinc prices since the last peak in September 2000. The average zinc price for 2004 reached US\$1047.83/t, up 21% from \$828.39/t in 2003.

While consumer stocks fell by about 5000 t during the year, inventories on the LME started the year at just under 740 000 t, rising to their highest level at 787 000 t in April before declining again to end the year at their lowest level at just under 630 000 t. After three years of market oversupply in the Western World, preliminary figures, as compiled by the International Lead and Zinc Study Group, indicate that the market was in deficit by just under 250 000 t in 2004 and a deficit of just under 200 000 t is expected in 2005.

Prices will continue to reflect the shortfall in supply in the market and are expected to average between US\$1200 and \$1300/t in 2005.

**Figure 3**  
Zinc Prices, 1985-2007



Source: International Lead and Zinc Study Group.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 64. (2) Information in this review was current as of May 31, 2005. (3) This and other reviews, including previous editions, are available on the Internet at [www.nrcan.gc.ca/mms/cmy/com\\_e.html](http://www.nrcan.gc.ca/mms/cmy/com_e.html).

## NOTE TO READERS

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## TARIFFS

Item No.	Description	Canada			United States	EU	Japan
		MFN	GPT	USA	Canada	Conventional Rate (1)	WTO (2)
2603.00	Copper ores and concentrates						
2603.00.00.30	Zinc content	Free	Free	Free	Free	Free	Free
2607.00	Lead ores and concentrates						
2607.00.00.30	Zinc content	Free	Free	Free	Free	Free	Free
2608.00	Zinc ores and concentrates						
2608.00.00.30	Zinc content	Free	Free	Free	Free	Free	Free
2616.10	Silver ores and concentrates						
2616.10.00.30	Zinc content	Free	Free	Free	Free	Free	Free
26.20	Ash and residues (other than from the manufacture of iron or steel) containing arsenic, metals or their compounds Containing mainly zinc:						
2620.11	Hard zinc spelter	Free	Free	Free	Free	Free	Free
2620.19	Others	Free	Free	Free	Free	Free	Free
2817.00	Zinc oxide; zinc peroxide	Free-5.5%	Free	Free	Free	5.5%	4.3%
28.33	Sulphates; alums; peroxosulphates (persulphates)						
2833.26	Of zinc	Free	Free	Free	Free	5.5%	3.9%
79.01	Unwrought zinc Zinc, not alloyed:						
7901.11	Containing by weight 99.99% or more of zinc	Free	Free	Free	Free	2.5%	Free-4.30 yen/kg
7901.12	Containing by weight less than 99.99% of zinc	Free	Free	Free	Free	2.5%	Free-4.30 yen/kg
7901.20	Zinc alloys:						
7901.20.00.10	Containing by weight 90% or more but less than 97.5% of zinc	Free	Free	Free	Free	2.5%	Free-4.20 yen/kg
7901.20.00.20	Containing by weight less than 90% of zinc	Free	Free	Free	Free	2.5%	Free-4.20 yen/kg
7902.00	Zinc waste and scrap	Free	Free	Free	Free	Free	Free
79.03	Zinc dust, powders and flakes						
7903.10	Zinc dust	Free	Free	Free	Free	2.5%	3%
7903.90	Other	Free	Free	Free	Free	2.5%	3%
7904.00	Zinc bars, rods, profiles and wires	Free	Free	Free	Free	5%	3%
7905.00	Zinc plates, sheets, strip and foil	Free	Free	Free	Free	5%	3%
7906.00	Zinc tubes, pipes, and tube or pipe fittings (for example, couplings, elbows, sleeves)	3%	Free	Free	Free	5%	3%
7907.00	Other articles of zinc						
7907.00.10	Anodes for electroplating	Free	Free	Free	Free	5%	3%
7907.00.20	Discs or slugs, containing by weight 90% or more of zinc; gutters, roof capping, skylight frames and other fabricated building components	3%	Free	Free	Free	5%	3%
7907.00.90	Other	3%	3%	Free	Free	5%	3%

Sources: Canadian Customs Tariff, effective January 2005, Canada Border Services Agency; Harmonized Tariff Schedule of the United States, 2005; Official Journal of the European Union (October 30, 2004 Edition); Customs Tariff Schedules of Japan, 2004.

(1) The customs duties applicable to imported goods originating in countries that are Contracting Parties to the General Agreement on Tariffs and Trade or with which the European Community has concluded agreements containing the most-favoured-nation tariff clause shall be the conventional duties shown in column 3 of the Schedule of Duties. (2) WTO rate is shown; lower tariff rates may apply circumstantially.

TABLE 1. CANADA, ZINC PRODUCTION AND TRADE, 2002-04, AND USE, 2001-03

Item No.	2002		2003		2004 (p)	
	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>PRODUCTION</b>						
(All Forms) (1)						
New Brunswick	256 562	313 519	278 205	324 387	245 369	332 475
Quebec	236 995	289 607	252 852	294 826	257 014	348 254
Ontario	100 774	123 146	71 744	83 653	83 473	113 106
Manitoba	96 813	118 306	83 445	97 297	100 108	135 646
Saskatchewan	5 172	6 320	5 368	6 259	5 171	7 006
British Columbia	67 982	83 074	65 692	76 597	44 564	60 384
Nunavut	159 632	195 070	—	—	—	—
Total	923 930	1 129 043	757 307	883 020	735 698	996 871
Mine output (2)	916 220	..	788 063	..	788 336	..
Refined (3)	793 410	..	761 199	..	804 219	..
<b>EXPORTS</b>						
2608.00.30	Zinc content in zinc ores and concentrates					
Belgium	103 377	65 917	54 759	30 735	96 398	71 007
Spain	61 395	40 572	65 345	39 687	50 090	36 553
Japan	50 805	50 205	40 035	54 438	25 471	20 455
Poland	5 391	3 054	10 493	6 476	12 380	12 633
South Korea	21 199	20 449	3 841	2 867	18 008	12 259
Norway	18 448	14 148	13 317	8 217	15 524	10 768
Finland	44 715	40 497	26 395	15 828	7 877	8 427
Other countries	104 011	97 420	43 691	28 534	2 432	1 658
Total	409 341	332 262	257 876	186 782	228 180	173 760
2620.11	Ash and residues containing hard zinc spelter					
India	—	—	—	—	20	12
United States	439	318	295	196	—	—
Total	439	318	295	196	20	12
2620.19	Ash and residues containing mainly zinc, n.e.s.					
United States	10 884	7 762	10 790	6 976	13 987	9 566
Other countries	220	164	254	183	326	342
Total	11 104	7 926	11 044	7 159	14 313	9 908
2817.00	Zinc oxide; zinc peroxide					
United States	44 782	60 902	47 297	58 384	49 711	70 163
Brazil	395	546	259	359	553	860
Belgium	740	793	453	424	500	546
France	502	536	243	303	261	347
Hong Kong	168	286	130	209	177	276
Other countries	287	439	712	963	1 374	1 828
Total	46 874	63 502	49 094	60 642	52 576	74 020
2833.26	Zinc sulphate					
United States	2 127	2 180	5 295	4 718	5 378	4 569
7901.11	Zinc, not alloyed, unwrought, containing by weight 99.99% or more of zinc					
United States	374 128	507 762	343 563	420 089	359 478	501 316
Taiwan	7 089	8 673	17 913	21 124	19 988	27 890
Hong Kong	3 734	4 838	4 931	5 964	8 347	12 155
Malaysia	5 392	7 082	4 792	5 739	6 792	9 611
Philippines	4 867	6 331	5 158	6 286	2 180	3 222
Indonesia	2 674	3 630	1 979	2 439	1 998	2 876
Other countries	6 966	8 828	1 839	2 299	3 559	5 249
Total	404 850	547 144	380 175	463 940	402 342	562 319



TABLE 1 (cont'd)

Item No.		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>EXPORTS (cont'd)</b>							
7901.12	Zinc, not alloyed, unwrought, containing by weight less than 99.99% of zinc						
	United States	165 910	221 224	178 583	221 128	176 907	248 472
	Hong Kong	8 985	13 238	6 878	9 339	13 310	20 701
	Taiwan	3 868	5 133	8 787	10 693	7 601	11 235
	Indonesia	4 526	6 125	3 645	4 506	4 085	6 030
	Japan	2 194	2 972	3 631	4 596	3 429	5 092
	Malaysia	2 335	3 294	4 842	6 504	2 361	3 489
	Philippines	2 753	3 652	1 118	1 445	1 376	1 949
	Other countries	2 829	3 981	2 894	3 897	2 647	3 818
	Total	193 400	259 619	210 378	262 108	211 716	300 786
7901.20	Zinc alloys, unwrought						
	Hong Kong	—	—	—	—	1 211	1 977
	United States	501	866	574	833	604	1 208
	Other countries	2	5	61	137	20	40
	Total	503	871	635	970	1 835	3 225
7902.00	Zinc waste and scrap						
	China	611	670	5 177	5 951	15 003	17 627
	United States	28 935	13 178	8 089	6 628	9 448	9 042
	Other countries	725	729	1 114	577	3 663	4 338
	Total	30 271	14 577	14 380	13 156	28 114	31 007
7903.10	Zinc dust						
	United States	6 224	13 112	5 918	11 313	4 259	8 652
	Other countries	57	134	28	56	50	121
	Total	6 281	13 246	5 946	11 369	4 309	8 773
7903.90	Zinc powders and flakes						
	United States	10 863	24 423	9 094	18 133	12 349	24 145
	Belgium	282	346	428	496	391	615
	South Korea	83	99	45	51	19	27
	Other countries	184	387	10	38	11	34
	Total	11 412	25 255	9 577	18 718	12 770	24 821
7904.00	Zinc bars, rods, profiles and wire						
	United States	160	1 079	278	1 394	365	1 758
	Thailand	7	19	58	145	163	353
	Other countries	..	1	58	136	23	66
	Total	167	1 099	394	1 675	551	2 177
7905.00	Zinc plates, sheets, strip and foil						
	United States	46	203	89	257	102	792
	South Korea	10	46	13	53	—	—
	Other countries	8	30	3	7	—	—
	Total	64	279	105	317	102	792
7906.00	Zinc tubes, pipes and tube or pipe fittings (for example, couplings, elbows, sleeves)						
	United States	831	5 244	876	5 157	1 318	9 446
	Other countries	5	17	3	39	1	15
	Total	836	5 261	879	5 196	1 319	9 461
7907.00	Other articles of zinc						
	United States	2 925	25 786	2 795	22 873	1 618	15 571
	Other countries	284	1 215	110	545	134	732
	Total	3 209	27 001	2 905	23 418	1 752	16 303
	Total exports	1 120 878	1 300 540	948 978	1 060 364	965 277	1 221 933

TABLE 1 (cont'd)

Item No.		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>IMPORTS</b>							
2603.00.00.30	Zinc content in copper ores and concentrates						
	United States	2	2	-	-	53	52
2607.00.00.30	Zinc content in lead ores and concentrates						
	United States	2 637	2 882	2 496	2 020	2 647	2 197
	Peru	-	-	3 294	1 540	-	-
	Total	2 637	2 882	5 790	3 560	2 647	2 197
2608.00.00.30	Zinc content in zinc ores and concentrates						
	United States	186 962	80 351	219 852	123 895	185 723	148 334
	Peru	75 514	34 763	113 607	45 086	56 570	49 555
	Mexico	13 576	12 543	42 557	19 170	20 828	17 514
	Other countries	1	1	20 547	15 476	3 565	2 771
	Total	276 053	127 658	396 563	203 627	266 686	218 174
2620.19	Ash and residues containing mainly zinc, n.e.s.						
	United States	355	329	529	436	420	407
	Other countries	182	178	7	3	-	-
	Total	537	507	536	439	420	407
2817.00	Zinc oxide; zinc peroxide						
	United States	7 213	9 738	6 593	8 032	8 916	12 418
	Mexico	2 204	2 304	2 787	2 572	3 142	2 886
	China	1 085	1 124	800	766	387	389
	Other countries	4	5	10	14	85	102
	Total	10 506	13 171	10 190	11 384	12 530	15 795
2833.26	Zinc sulphate						
	United States	2 267	1 812	1 880	1 352	2 738	2 111
	China	1 897	1 057	1 732	809	1 921	1 122
	Other countries	277	220	906	503	262	207
	Total	4 441	3 089	4 518	2 664	4 921	3 440
7901.11	Zinc, not alloyed, unwrought, containing by weight 99.99% or more of zinc						
	Peru	567	734	245	362	2 029	2 965
	United States	487	739	402	598	722	1 048
	South Africa	243	333	-	-	538	754
	Russia	3 525	4 933	2 982	4 936	-	-
	Other countries	205	265	117	154	231	357
	Total	5 027	7 004	3 746	6 050	3 520	5 124
7901.12	Zinc, not alloyed, unwrought, containing by weight less than 99.99% of zinc						
	United States	91	124	61	77	137	195
7901.20	Zinc alloys, unwrought						
	United States	4 349	7 449	4 529	7 452	6 694	11 272
	Other countries	4	8	1	1	37	59
	Total	4 353	7 457	4 530	7 453	6 731	11 331
7902.00	Zinc waste and scrap						
	United States	331	306	247	263	348	340
	Other countries	12	9	-	-	19	30
	Total	343	315	247	263	367	370
7903.10	Zinc dust						
	Belgium	5 480	9 253	5 387	8 452	5 685	10 206
	India	47	83	390	603	1 037	1 915
	United States	643	1 390	825	1 657	633	1 351
	Other countries	..	1	125	203	2	4
	Total	6 170	10 727	6 727	10 915	7 357	13 476

TABLE 1 (cont'd)

Item No.	2002		2003		2004 (p)					
	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)				
<b>IMPORTS (cont'd)</b>										
7903.90	Zinc powders and flakes									
	United States	513	696	1 042	1 465	674	1 223			
	Other countries	23	33	21	27	12	23			
	<b>Total</b>	<b>536</b>	<b>729</b>	<b>1 063</b>	<b>1 492</b>	<b>686</b>	<b>1 246</b>			
7904.00	Zinc bars, rods, profiles and wire									
	United States	660	1 956	686	1 632	6 156	9 038			
	China	62	207	215	678	317	959			
	India	32	94	93	249	34	110			
	Other countries	149	250	83	230	123	203			
	<b>Total</b>	<b>903</b>	<b>2 507</b>	<b>1 077</b>	<b>2 789</b>	<b>6 630</b>	<b>10 310</b>			
7905.00	Zinc plates, sheets, strip and foil									
	United States	619	1 975	661	1 859	663	1 816			
	France	140	701	117	517	365	1 654			
	Germany	398	1 659	456	1 984	279	1 127			
	Peru	52	123	74	200	24	57			
	Other countries	1	1	4	19	11	12			
	<b>Total</b>	<b>1 210</b>	<b>4 459</b>	<b>1 312</b>	<b>4 579</b>	<b>1 342</b>	<b>4 666</b>			
7906.00	Zinc tubes, pipes and tube or pipe fittings (for example, couplings, elbows, sleeves)									
	Mexico	177	1 122	218	1 422	360	1 759			
	United States	669	4 186	326	2 202	223	1 736			
	India	59	493	140	1 051	203	1 428			
	Other countries	67	412	66	277	127	540			
	<b>Total</b>	<b>972</b>	<b>6 213</b>	<b>750</b>	<b>4 952</b>	<b>913</b>	<b>5 463</b>			
7907.00	Other articles of zinc									
	United States	2 706	11 015	2 187	9 285	2 037	10 361			
	China	903	3 430	828	2 951	765	3 353			
	Taiwan	693	2 632	884	3 139	460	2 661			
	Other countries	1 008	3 611	615	2 363	445	2 344			
	<b>Total</b>	<b>5 310</b>	<b>20 688</b>	<b>4 514</b>	<b>17 738</b>	<b>3 707</b>	<b>18 719</b>			
	<b>Total imports</b>	<b>319 091</b>	<b>207 532</b>	<b>441 624</b>	<b>277 982</b>	<b>318 647</b>	<b>310 965</b>			
		<b>2001 (a)</b>			<b>2002</b>			<b>2003</b>		
		<b>Primary</b>	<b>Recycled</b>	<b>Total</b>	<b>Primary</b>	<b>Recycled</b>	<b>Total</b>	<b>Primary</b>	<b>Recycled</b>	<b>Total</b>
		(tonnes)								
<b>QUANTITY USED (4)(5)</b>										
Zinc used for or in the manufacture of:										
	Copper alloys (brass, bronze, etc.)	x	x	2 412	x	x	624	x	x	543
	Galvanizing: electro	x	x	2 018	x	x	1 719	x	x	1 064
	hot dip	x	x	72 676	x	x	74 823	x	x	70 290
	Zinc die-cast alloys	x	x	26 665	x	x	34 429	x	x	33 790
	Other products (including rolled and ribbon zinc, zinc oxides, electroplating)	x	x	40 819	x	x	38 313	x	x	39 473
	<b>Total</b>	<b>143 431</b>	<b>1 159</b>	<b>144 590</b>	<b>147 895</b>	<b>2 013</b>	<b>149 908</b>	<b>143 097</b>	<b>2 499</b>	<b>145 596</b>
	User stocks, year-end	9 814	375	10 189	10 484	274	10 758	9 320	303	9 623

Sources: Natural Resources Canada; Statistics Canada.

– Nil; . . Not available; n.e.s. Not elsewhere specified; (p) Preliminary; x Confidential.

(a) Increase in number of companies being surveyed.

(1) New refined zinc produced from domestic primary materials (concentrates, slags, residues, etc.) plus estimated recoverable zinc in ores and concentrates shipped for export. (2) Zinc content of ores and concentrates produced. (3) Refined zinc produced from domestic and imported ores.

(4) Consumer survey does not represent 100% of Canadian use and is therefore consistently less than apparent use. (5) Due to sensitivity in some end-use categories, a breakdown of primary and recycled sources is not provided in order to be consistent.

Note: Numbers may not add to totals due to rounding.

**TABLE 2. CANADA, ZINC PRODUCTION AND EXPORTS, 1990-2004**

	Production		In Ores and Concentrates	Exports	
	All Forms (1)	Refined (2)		Refined	Total
	(tonnes)				
1990	1 179 372	591 786	716 185	452 251	1 168 436
1991	1 083 008	660 552	566 815	520 508	1 087 323
1992	1 195 736	671 702	678 172	509 744	1 187 916
1993	990 727	659 881	455 953	493 265	949 218
1994	976 309	690 965	450 320	551 168	1 001 488
1995	1 094 703	720 346	609 575	533 179	1 142 754
1996	1 162 720	716 467	670 790	581 608	1 252 398
1997	1 026 864	703 798	489 697	546 965	1 036 662
1998	991 584	745 131	425 340	576 925	1 002 265
1999	963 321	776 927	327 662	610 792	938 454
2000	935 713	779 892	318 752	602 626	921 378
2001	1 012 048	661 172	419 164	495 184	914 348
2002	923 931	793 410	409 343	598 251	1 007 594
2003	757 307	761 199	257 877	590 555	848 432
2004 (p)	735 699	804 219	228 181	614 060	842 241

Sources: Natural Resources Canada; Statistics Canada.

(p) Preliminary.

(1) New refined zinc produced from domestic primary materials (concentrates, slags, residues, etc.) plus estimated recoverable zinc in ores and concentrates shipped for export. (2) Refined zinc produced from domestic and imported ores.

**TABLE 3. WESTERN WORLD PRIMARY ZINC STATISTICS, 2000-2004**

	2000	2001	2002	2003	2004 (p)
	(000 tonnes)				
Mine production (zinc content)	6 323	6 618	6 469	6 706	6 548
Metal production	6 140	6 276	6 652	6 644	6 703
Metal used	7 153	6 898	7 121	7 105	7 455

Source: International Lead and Zinc Study Group.

(p) Preliminary.

TABLE 4. WORLD MINE PRODUCTION OF ZINC, 2000-2004

	2000	2001	2002	2003	2004 (p)
	(000 tonnes)				
<b>EUROPE</b>					
Finland	16	20	35	39	37
Ireland	263	298	253	419	438
Poland	157	153	152	154	148
Russia	163	164	162	159	179
Spain	204	161	70	15	–
Sweden	177	159	149	188	199
Others	83	97	89	45	36
Subtotal	1 063	1 052	910	1 019	1 037
<b>AFRICA</b>					
Morocco	105	89	91	69	87
Namibia	40	37	41	108	198
South Africa	63	61	64	41	32
Others	48	49	46	41	36
Subtotal	256	236	242	259	353
<b>OCEANIA</b>					
Australia	1 379	1 476	1 444	1 447	1 298
<b>AMERICAS</b>					
Bolivia	151	145	142	145	147
Brazil	100	111	133	147	165
Canada	1 002	1 065	916	788	791
Mexico	393	429	446	472	462
Peru	910	1 056	1 219	1 369	1 209
United States	852	842	784	768	739
Others	109	121	119	106	94
Subtotal	3 517	3 769	3 759	3 795	3 607
<b>ASIA</b>					
China	1 780	1 572	1 624	2 029	2 264
India	208	222	234	305	341
Iran	102	105	121	111	114
Japan	64	45	43	45	48
Kazakhstan	322	320	376	392	384
North Korea	34	28	32	52	62
Thailand	27	24	25	31	40
Turkey	48	36	43	40	39
Others	38	48	51	53	48
Subtotal	2 623	2 400	2 549	3 058	3 340
Total world	8 839	8 932	8 904	9 579	9 635

Source: International Lead and Zinc Study Group.  
(p) Preliminary.

**TABLE 5. WORLD ZINC METAL PRODUCTION, (1) 2000-2004**

	2000	2001	2002	2003	2004 (p)
	(000 tonnes)				
<b>EUROPE</b>					
Belgium	264	256	239	244	257
Finland	223	249	235	266	285
France	318	329	334	253	260
Germany	357	357	378	388	358
Italy	170	179	176	123	118
Netherlands	217	206	203	223	225
Norway	138	145	145	142	140
Poland	173	175	159	154	154
Russia	242	250	257	253	240
Spain	391	437	503	519	525
Others	277	295	285	176	148
Subtotal	2 770	2 877	2 914	2 741	2 710
<b>AFRICA</b>					
Algeria	26	26	34	32	30
Namibia	—	—	—	47	119
South Africa	103	109	111	112	105
Zambia	—	—	2	2	2
Subtotal	129	135	147	193	256
<b>AMERICAS</b>					
Argentina	36	40	39	39	34
Brazil	192	193	255	258	266
Canada	780	661	793	761	805
Mexico	235	304	302	319	338
Peru	200	190	170	202	195
United States	371	329	344	353	355
Subtotal	1 814	1 717	1 904	1 932	1 993
<b>ASIA</b>					
China	1 957	2 038	2 155	2 319	2 519
India	204	234	248	280	270
Japan	654	644	640	651	635
Kazakhstan	262	277	286	279	338
South Korea	477	508	608	645	669
Thailand	101	105	105	107	103
Others	119	130	147	186	202
Subtotal	3 774	3 936	4 189	4 467	4 736
<b>OCEANIA</b>					
Australia	494	556	567	553	474
Total world	8 981	9 221	9 721	9 887	10 170

Source: International Lead and Zinc Study Group.

— Nil; (p) Preliminary.

(1) Total production by smelters and refineries of zinc in marketable form or used directly for alloying, including production on toll in the reporting country, regardless of the type of source material from which it is produced, i.e., whether ores, concentrates, residues, slag or scrap. Remelted zinc and zinc dusts are excluded.

**TABLE 6. ZINC USE, (1) BY COUNTRY AND BY REGION, 2000-2004**

	2000	2001	2002	2003	2004 (p)
	(000 tonnes)				
<b>EUROPE</b>					
Belgium	383	374	352	350	365
France	311	327	290	291	298
Germany	532	543	526	539	514
Italy	385	348	374	348	389
Russia	137	150	153	189	164
Spain	203	222	220	226	242
United Kingdom	210	191	185	188	185
Others	655	656	660	658	683
Subtotal	2 816	2 811	2 760	2 789	2 840
<b>AFRICA</b>					
South Africa	92	89	95	86	96
Others	78	87	92	88	97
Subtotal	170	176	187	174	193
<b>OCEANIA</b>					
Australia	217	222	249	254	250
New Zealand	14	16	17	13	13
Subtotal	231	237	266	267	263
<b>AMERICAS</b>					
Brazil	188	198	216	215	239
Canada	175	180	192	185	188
Mexico	212	210	225	236	240
United States	1 348	1 179	1 222	1 155	1 252
Others	177	169	173	162	194
Subtotal	2 101	1 936	2 028	1 953	2 113
<b>ASIA</b>					
China	1 350	1 500	1 750	2 155	2 470
India	270	286	310	332	347
Japan	676	633	603	619	623
South Korea	438	401	476	470	484
Taiwan	294	276	302	330	342
Others	637	663	710	739	791
Subtotal	3 679	3 759	4 151	4 645	5 057
Total world	8 997	8 920	9 391	9 828	10 468

Source: International Lead and Zinc Study Group.

(p) Preliminary.

(1) Total refined zinc use, including zinc used directly for the production of zinc alloys, regardless of the type of source material from which it is produced, i.e., ores, concentrates, residues, slags or scrap. Remelted zinc and zinc dusts are excluded.

**TABLE 7. CANADA, ZINC METAL CAPACITY, 2004**

Company and Location	Annual Rated Capacity
	(000 tonnes of slab zinc)
<b>PRIMARY</b>	
Canadian Electrolytic Zinc Limited Salaberry-de-Valleyfield, Quebec	267
Falconbridge Limited Timmins, Ontario	150
Hudson Bay Mining and Smelting Co., Limited Flin Flon, Manitoba	115
Teck Cominco Limited Trail, British Columbia	290
Total primary, Canada	822

Source: Natural Resources Canada.

**TABLE 8. MONTHLY AVERAGE ZINC PRICES, 2003 AND 2004**

	LME Special High Grade Settlement
	(US\$/t)
<b>2003</b>	
January	781.4
February	785.2
March	790.9
April	754.7
May	775.6
June	790.6
July	827.5
August	817.9
September	818.2
October	898.0
November	914.5
December	977.8
Yearly average	828.4
<b>2004</b>	
January	1 017.0
February	1 087.7
March	1 105.8
April	1 032.7
May	1 028.3
June	1 021.5
July	988.4
August	975.8
September	975.2
October	1 064.9
November	1 095.6
December	1 180.2
Yearly average	1 047.8

Source: International Lead and Zinc Study Group.



## PROCESSING OF ZINC OXIDE ORES

While most zinc comes from ores containing the zinc sulphide mineral, sphalerite, there are a small number of deposits characterised by non-sulphide minerals such as zinc-oxide, zinc-carbonate and zinc-silicate together collectively referred to as "oxides". These oxides are susceptible to attack by dilute sulphuric acid, by which process zinc is released into solution together with numerous other elements. Following treatment by certain processes it may be possible to purify the solution to the extent that it is of sufficient quality for direct electrowinning of Special High Grade zinc metal. Such an approach is known as direct leaching.

Since oxide minerals tend to form near the surface, deposits are frequently mineable from low cost open pit operations. Direct leaching involves less process steps than conventional sulphide treatment, and operating costs are therefore generally lower. Furthermore the process does not rely upon remote smelters and so transport costs are reduced and profit is not shared with other parties. As a consequence of the above, direct leaching operations tends to have zinc production costs among the lowest in the world. However the necessity to build a mine and refinery at site leads to a higher capital cost than would be normal for a similar sized conventional stand alone mining operation. For this reason the minimum sized target for a direct leach operation generally tends to be larger than for a conventional sulphide mine.

Teck Cominco has patented Hydrozinc™ technology for processing of complex oxide ores using a hydrometallurgical process. The process replaces historic pyrometallurgical processes at lower capital cost while demonstrating better environmental characteristics and the ability to treat concentrates containing a broad range of deleterious elements including fluorine, arsenic and bismuth.

(Source : Redhawk Resources Website; Teck Cominco Limited Website)

APPENDIX IV  
PHOTOGRAPHS



PLATE 1 WIND RIVER TRAIL LOOKING SOUTH WITH MCQUESTEN RIVER IN BACKGROUND

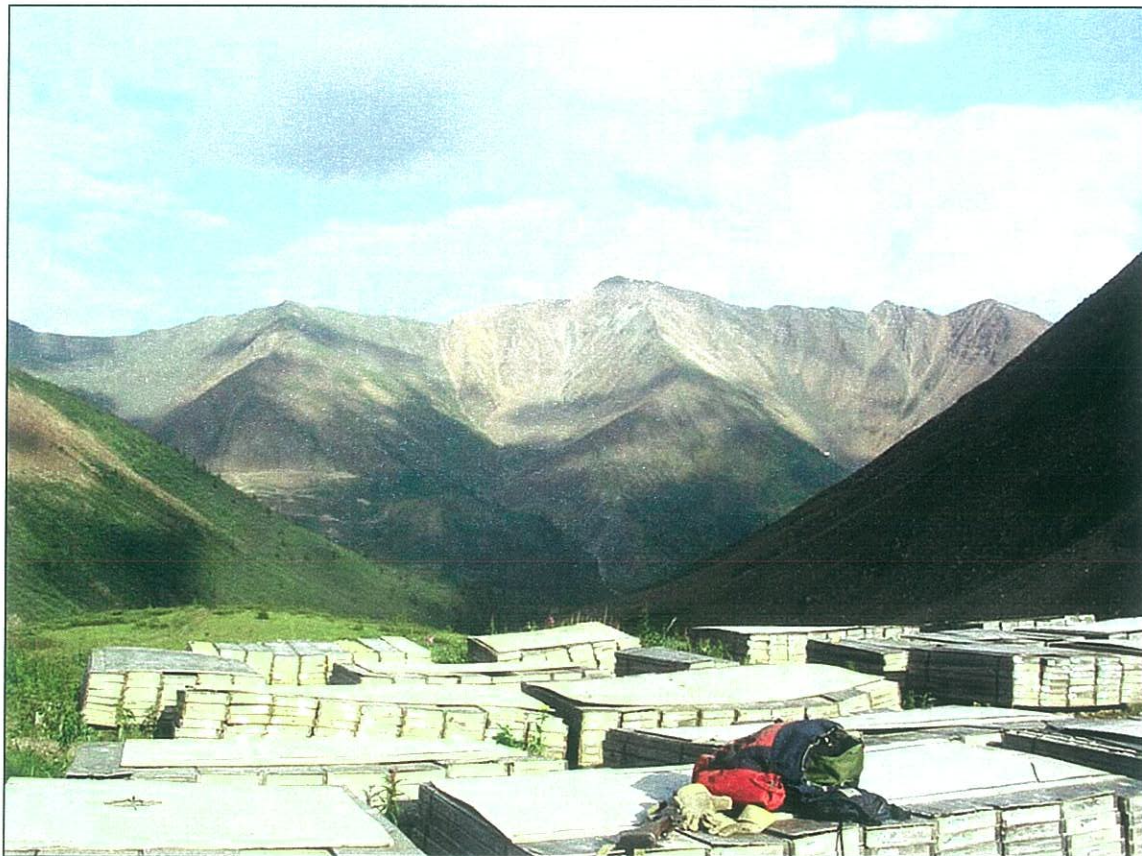


PLATE 2 CORE STORAGE WITH EAST ZONE DRILL ROADS IN BACKGROUND



PLATE 3 EAST ZONE DRILL ROADS



PLATE 4 WEST ZONE DRILL ROADS WITH HISTORIC BLENDE CAMP IN FOREGROUND



PLATE 5 CENTRAL ZONE



PLATE 6 DIAMOND DRILL CORE B90-05 SHOWING SMITHSONITE AND GALENA / SPHALERITE SULPHIDE BRECCIA



PLATE 7 FAR EAST ZONE QUARTZ CARBONATE VEIN STOCKWORK WITH CHALCOPYRITE



PLATE 8 TAGGED CLAIM POSTS