ASSESSMENT REPORT

on

DIAMOND DRILLING

PAKK PROPERTY
Pakk, Burn, Horn, Fecal, Gyle, Pit and Tip Claims

St. Mary River Area

FORT STEELE MINING DIVISION

NTS 82 F/9
TRIM 82F.059, 060, 069 & 070

Latitude 49° 35' N
Longitude 116° 09' W
UTM 5,494,000N 561,000E

For
Chapleau Resources Ltd.
104-135 10th Ave. South
Cranbrook, B.C.
V1C 6K1

By

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February, 2000

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1.00 INTRODUCTION

This report describes a program of diamond drilling completed on the Pakk property in the Hellroaring Creek and Sinclair Creek drainages (tributaries of the St. Mary River) during 1999.

1.10 Location and Access

The Pakk property, which includes the Pakk, Horn, Burn, Fecal, Gyle, Pit and Tip claims, is located from 2 to 30 kilometers southwest of Kimberley, B.C., in the Fort Steele Mining Division (Figs. 1&2). The claims are centered near 49° 35' N Latitude and 116° 09' W Longitude / UTM 5,494,000N, 561,000E.

Access to the property is via roads servicing the St. Mary and Perry Creek drainages. Portions of the property cover drainages of Hellroaring, Sinclair, Pit, Alki and Matthew Creeks which are tributary drainages of the St. Mary River. Claims which cover the upper portion of Pit Creek are most easily accessed by using the Perry Creek road and a secondary road up Sawmill and Lisbon Creeks, crossing over to the upper part of Pit Creek.

1.20 Property

The Pakk property is a large group of 782 claim units in 601 claims (Fig. 2), controlled by Chapleau Resources Ltd.

1.30 Physiography

The Pakk property claims cover a variety of mountainous terrain within the Moyie Range of the Purcell Mountains, from the relatively flat valley bottom of the St, Mary River to very steep rocky alpine slopes at the headwaters of Sinclair Creek. Elevations on the claim block range from about 910 m in the St. Mary valley to 2734 m on Mount Evans in the western portion of the claim block (Fig.2). Glacial till covers much of the lower mountain slopes and the St. Mary valley is floored by thick glacio-fluvial deposits.

Forest cover consists of mature and immature stands of a mixture of pine, fir and larch with local patches of spruce and cedar. Parts of the property have been clear-cut and selectively logged with most of the logging occurring in the past 30 years.

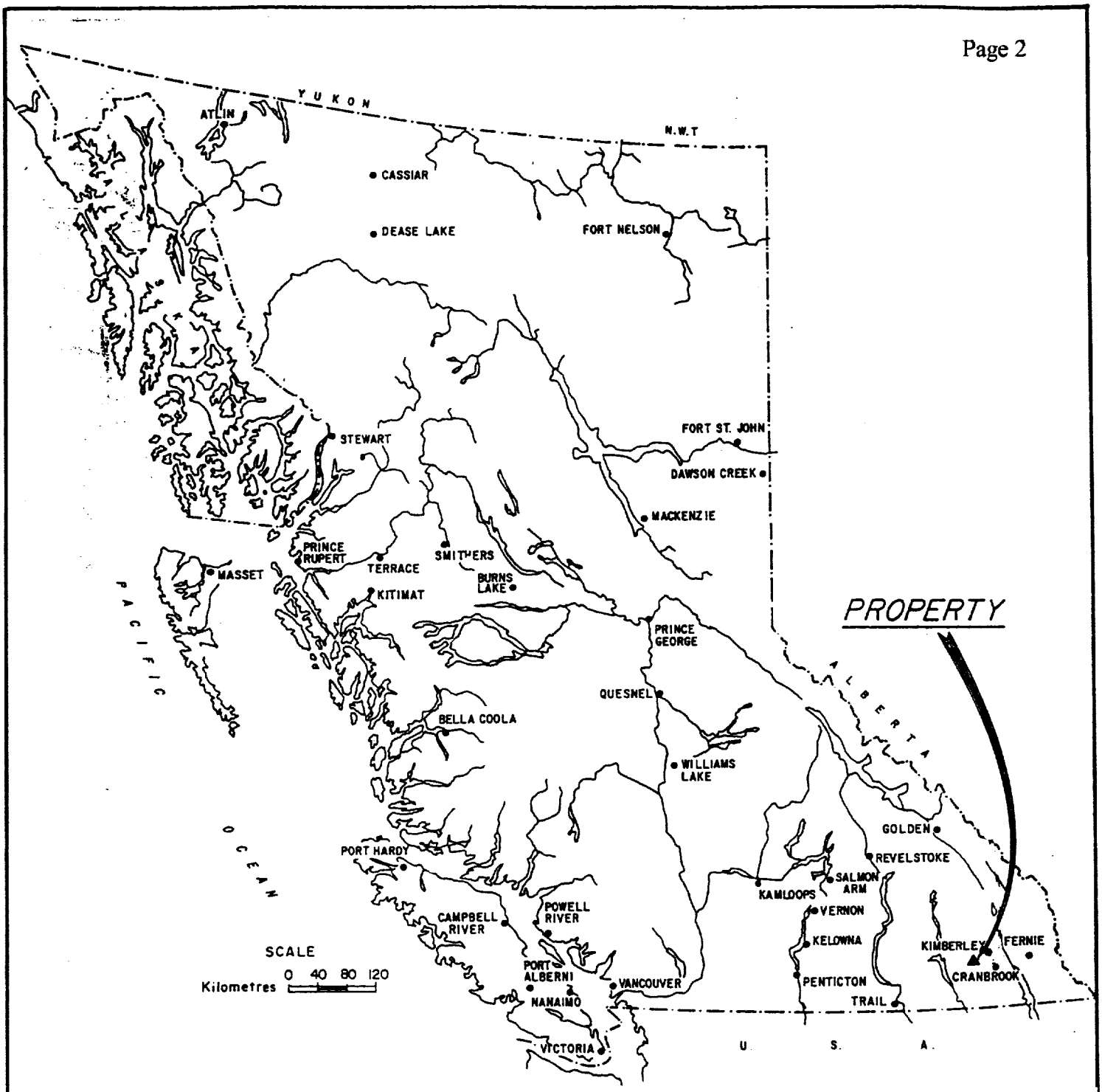

Figure 1
Pakk Property
Location Map

1.40 History of Previous Exploration

Mineral exploration activity has taken place in the area of the present Pakk property for quite a number of years. The main focus of attention has been sedex style base metal mineralization like that of the world class Sullivan lead-zinc-silver deposit at Kimberley, just a few kilometers beyond the eastern boundary of the Pit claims. Early prospecting, following discovery of the Sullivan deposit identified the Dan Howe and Warhorse prospects.

The Dan Howe is on the north facing slope above St. Mary Lake. A drift and crosscut were driven in the early 1900's to test a lenticular quartz vein in sheared Aldridge Formation sediments immediately below the footwall contact of a gabbro sill. Sulfide minerals present include pyrrhotite, galena, sphalerite and arsenopyrite.

The Warhorse or Boyscout was worked on in the 1920's and 30's and again in the 1950's. It is a northwest-striking, southwest-dipping vein system in sheared Aldridge Formation sediments on the south side of Hellroaring Creek. The prospect was tested on three underground levels with vein thicknesses ranging from 1 to 3 meters, containing galena, sphalerite, pyrite and arsenopyrite with some siderite in the quartz gangue. Minor gold values are also indicated. One underground sample across 12 inches (30 cm) ran 0.01 oz/ton Au, 4.1 oz/ton Ag, 15.8% Pb and 8.5% Zn. The Warhorse structural zone transects Aldridge sediments and pegmatites associated with the Hellroaring Creek Stock.

More recent exploration work jumps to Cominco Ltd. work in the late 1970's and 1980's on the Clair claims in the main St. Mary River valley. Here ground geophysical UTEM surveys were done along the valley floor and two holes drilled, one on each side of the valley. The focus of this work was a thick series of fragmentals occurring at the lower-middle Aldridge Formation contact, the host stratigraphy of the Sullivan orebody.

In 1986 Esso Minerals staked the above area plus ground to the south. They completed mapping, rock and stream geochem work and a reconnaissance ground geophysical EM survey. In 1991 Kokanee Explorations Ltd. acquired claims in the area and completed prospecting, geological mapping, ground geophysics and geochemical sampling. They drilled a series of holes to test geophysical anomalies (Pighin, 1992, AR 22,252) and established the presence of sedex style base metal mineralization in the lower Aldridge Formation. Their property was optioned to Metall Mining Corp. who did additional geochemical and geophysical work and drilled two holes southwest of Cominco's southern hole (eg. Burge, 1992, 1993 1994; AR's 22,461, 22,799, 23,002 & 23,315). Fragmentals and Pb-Zn sulfides were intersected in both holes, in an apparently structurally complex area. In 1997 Quest International Resources (formerly Kokanee) drilled a hole near Minnova's drill holes, testing a strong downhole geophysics response.

In 1993 and 1994 Cominco Ltd. did ground UTEM geophysics in Sinclair Creek and lower Jack Creek, east of Mount Evans. They detected a moderately strong anomaly (Jackisch, 1993, 1994, AR's 23,142 & 23,622) and subsequently completed a drill hole to test the geophysics (drill hole

not reported on for assessment).

In 1998 a soil geochem grid was done by Consolidated Ramrod Gold Corp. on the south-facing slope of Hellroaring Creek, around and below a fragmental system in the Aldridge Formation on the Fecal claims.

1.50 Scope and Purpose of Work

In 1999 a 9 hole diamond drilling program, totaling 2623.7 meters, tested a series of targets on the Pakk and Fecal claims, in the southwestern portion of the Pakk property. The holes tested a newly-discovered base-metal bearing vent breccia dike as well as vein and stratiform surface base metal sulfide mineralization on the Pakk claims and a large fragmental complex on the Fecal claims. The drill holes also tested below these features for the presence of stratiform sulfides at depth.

Drill holes P 99-1 to 8 were all helicopter supported; drill hole P 99-9 was accessed by a short bulldozer trail off existing roads.

2.00 GEOLOGY

2.10 Regional Geology

Bedrock on the Pakk property is part of the Mesoproterozoic Purcell Supergroup, a thick succession of fine grained terrigenous clastic and carbonate sedimentary rocks exposed in the core of the Purcell Anticlinorium in southeast British Columbia. The Purcell basin was formed by block faulting in an intracratonic setting on the western margin of the Precambrian North American Craton.

The oldest known member of the Purcell Supergroup is the Aldridge Formation, a thick sequence of fine-grained siliciclastic rocks deposited largely by turbidity currents. Reesor (1958) has divided the Aldridge Formation in the Purcell Mountains into three informal units: rusty weathering siltstone, quartzitic wacke and argillite of the lower Aldridge Formation; grey weathering quartz wacke and siltstone of the middle Aldridge Formation; and laminated argillite of the upper Aldridge Formation.

The lower Aldridge Formation, whose base is not exposed, has a maximum known thickness of about 1500 meters within southeastern British Columbia. The middle Aldridge is about 2500 meters thick and includes periodic inter-turbidite intervals of thin bedded, rusty-weathering argillites some of which form finely laminated marker beds that are time stratigraphic units, correlative over great distances within the Aldridge basin and equivalent stratigraphy in the United States. The upper Aldridge Formation is about 300 meters thick.

The lower and middle units of the Aldridge Formation are host to a proliferation of gabbroic to dioritic composition Moyie Intrusions, predominantly as sills. These intrusions are interpreted to be penecontemporaneous with deposition of their host sediments (Hoy, 1989).

The Aldridge Formation is gradationally overlain by shallower-water deltaic clastics of the Creston Formation. The Creston Formation is in turn overlain by predominantly dolomitic siltstones of the Kitchener Formation.

The Purcell Anticlinorium is transected by a number of steep transverse and longitudinal faults. The transverse faults appear to have been syndepositional (Lis and Price, 1976) and Hoy (1982) suggests a possible genetic link between sedex style base metal mineralization and syndepositional faulting.

Longitudinal faults, which more closely parallel the direction of basin growth faults, may have played a similar role. The world class zinc-lead-silver sedex Sullivan orebody, which occurs at the upper contact of the lower Aldridge Formation, is part of a NNE oriented structural corridor that hosts extensive evidence of disturbed sedimentation and hydrothermal vent products as well as base metal sulfides. This corridor is parallel to longitudinal basin growth faults and is probably related to such a structure.

2.20 Property Geology

The area of the Pakk property has been mapped by Leech (1957). Most of the property is underlain by rocks of the lower and middle Aldridge Formation. The St. Mary Fault is a regional transverse structure occurring approximately along the southern boundary of the claims. The block south of the St. Mary Fault has been considerably down-dropped to leave Creston and Kitchener Formation rocks exposed. Within the Aldridge Formation north of the St. Mary Fault there are numerous steep north or northwest-striking reverse faults and by north to northeast-trending normal faults.

The Proterozoic-aged Hellroaring Creek granitic/pegmatitic stock occurs within the claim block between Hellroaring and Angus Creeks.

3.00 DIAMOND DRILLING

3.10 Introduction

In October and November of 1999, nine diamond drill holes totaling 2623.7 meters, were drilled on the Pakk property. The holes were drilled in 4 locations (Fig. 2) in the southwestern part of the Pakk property, on the Pakk and Fecal claims.

Drill holes P 99-1 to 3 were drilled near the headwaters of a small tributary of Hellroaring Creek ("Jack Creek") adjacent to a newly discovered exposure of an east-west oriented dike of hydrothermal vent breccia which includes tourmalinite and lead and zinc sulfides. Drill holes P 99-4 and 5 were drilled near the headwaters of Sinclair Creek to test for the extension of stratiform sphalerite and galena mineralization present on surface. Drill holes P 99-6, 7 and 8 tested a fragmental in the Hellroaring Creek drainage and drill hole P 99-9 tested a surface occurrence of albite alteration and galena as well as the underlying stratigraphy. All drill holes are NQ in size (7.3 cm in diameter); other drill hole data is provided in Table 1.

Drilling was done by Britton Bros. Diamond Drilling Ltd., P.O. Box 968, Smithers, B.C., V0J 2N0. Core was logged by D.L. Pighin, P.Geo., and Doug Anderson, P. Eng. Core is stored at Vine Properties near the north end of Moyie Lake.

Figure 2 is a drill hole location map and complete drill logs are provided in Appendix 1.

Drill Hole	Collar Azimuth	Dip	Elevation	Start	End	Length	Claim
P 99-1	225°	-45°	2225 m	Sept. 26	Sept. 28	198.2 m	Pakk 15
P 99-2	130°	-45°	2225 m	Sept. 28	Oct. 1	237.8 m	Pakk 15
P 99-3	130°	-70°	2225 m	Oct. 1	Oct. 2	195.1 m	Pakk 15
P 99-4	130°	-85°	2010 m	Oct. 4	Oct. 6	170.7 m	Pakk 16
P 99-5	130°	-85°	2060 m	Oct. 8	Oct. 8	200.9	Pakk 16
P 99-6	130°	-60°	1790 m	Oct. 14	Oct. 17	304.88 m	Fecal 4
P 99-7	085°	-50°	1790 m	Oct. 17	Oct. 24	344.5 m	Fecal 4
P 99-8	180°	-50°	1800	Oct 20	Oct. 24	435.9 m	Fecal 4
P 99-9	045°	-47°	1500 m	Nov. 3	Nov. 11	535.7 m	Pakk 1

Table 1. Diamond Drill Hole Data

3.20 Results

Drill Holes P 99-1 to 3

These three holes tested a newly-discovered hydrothermal vent breccia dike located near the headwaters of Jack Creek, an east-flowing tributary of Hellroaring Creek. All three holes were drilled in middle Aldridge Formation stratigraphy of siltstones, argillites and quartzite.

Two zones of hydrothermal vent fragmental were intersected in hole P 99-1 from 51.8 to 64.3 m and from 105.3 to 115.7 m. The upper fragmental contains angular, distorted sedimentary clasts 2 to 5 cm across in a gabbroic matrix. Disseminated arsenopyrite (up to 5% locally) and disseminated sphalerite are present in the fragmental. Thin calcite veinlets within the fragmental have minor sphalerite, sheelite, pyrrhotite and arsenopyrite. The lower fragmental consists entirely of altered sediments and has disseminated pyrrhotite, sphalerite and arsenopyrite in both the fragmental clasts and matrix. Rare galena and chalcopyrite are also present.Fine tourmaline needles occur within silicified zones in the hole.

The hydrothermal vent breccia was intersected in hole P 99-2 from 51.2 to 54.8 meters. Here it consists of a matrix- to clast-supported fragmental with unoriented clasts ranging in size from 2 to 100 mm. Some of the clasts are tourmalinized. Sulfides include sphalerite, pyrrhotite, galena and arsenopyrite. Sphalerite is the most abundant and occurs in both matrix and clasts. Minor sheelite is also present. Immediately below (south of) the vent fragmental is a crackle breccia, from 54.8 to 68.0 meters, with an albitized, muscovite-altered matrix and disseminated galena, sphalerite, pyrrhotite and arsenopyrite in both matrix and clasts.

Drill Hole P 99-3did not intersect the hydrothermal vent breccia due to the presence of a fault.

Drill Holes P 99-4 & 5

Drill Holes P 99-4 & 5 were drilled in the upper part of Sinclair Creek to test for the extension of stratiform sphalerite mineralization present on surface.

Drill Hole P 99-4 intersected minor stratiform and cross-cutting galena and sphalerite in the upper part of the drill hole.. Minor pyrrhotite, arsenopyrite and pyrite are also present. A lamprophyre dike was intersected from 73.4 to 77.6 meters.

Drill Hole P 99-5 intersected thin bands of sphalerite over 27 meters of stratigraphy, with less concentrated bands of sphalerite present in the hole over more than 100 meters of stratigraphy.

Drill Holes P 99-6 to 8

Drill Holes P 99-6, 7 & 8 were all drilled from one helicopter site. The initial hole was designed to test a fragmental system within the lower Aldridge Formation. Adjacent outcrops indicate a pebble fragmental associated with unusual bedded sediments and capped by a massive section of white-weathering quartzite. Unusual amounts of pyrrhotite and arsenopyrite are present within the zone. Soil geochemistry documents anomalous lead, zinc and arsenic. The first hole was sufficiently interesting to warrant a second and third hole. Although there is little outcrop information laterally from the zone, it appears from property mapping that the zone is between two northwest-trending faults in a graben setting. The top of the zone may not have been defined by the drilling.

All three holes collared in a hangingwall gabbro sill below which is about 35 meters of white, massive to thick bedded quartzite with fragmental layers. This sand facies may be reworked footwall quartzite material. Below is about 100 meters of thin to medium bedded, dominantly argillaceous (wacke and subwacke) sediments, with frequently disrupted bedding and magnetic pyrrhotite as lacework, disseminations, and patches. The sedimentation style is not typical of either middle or lower Aldridge Formation rocks. Next down-section is 40 to 70 meters of fragmental (pebble-sized clasts, disrupted to intact frameworks) with bedded sediments exhibiting soft sediment deformation and shredding of beds, and massive quartzites. Pyrrhotite is abundant over certain intervals. The base of the zone is transitional to the well bedded lower Aldridge sediments below. The sulfide content is quite high due to the widespread pyrrhotite and lesser arsenopyrite which occurs more as discrete crystals and patches. Base metal content is very limited. Sphalerite occurs in the upper part of the fragmental system as a few bands with disseminated sphalerite over a thickness of 9 meters in hole P 99-7.

Drill Hole P 99-9

Drill Hole P 99-9 tested bedrock below a surface occurrence of albite alteration and galena mineralization. The hole unexpectedly collared in gabbro which was cored to 72.1 meters depth. Middle Aldridge Formation sediments in the footwall of this gabbro are silicified and albitized. A second gabbro was intersected from 139.2 to 160.8 meters, and a third gabbro was intersected from 170.2 to 199.0 meters. Minor quartz veinlets with galena and sphalerite were intersected in the hole, and near 443 meters, more concentrated irregular bands of pyrrhotite were encountered.

4.00 INTERPRETATIONS AND CONCLUSIONS

Drilling on the Pakk property in 1999 tested a series of targets with encouraging results. The hydrothermal vent breccia dike drilled by holes P 99-1 & 2 carries significant amounts of tourmaline and base metal sulfides and may be an indicator of sedex style base metal mineralization at depth.

The stratiform sphalerite mineralization tested by holes P 99- 4 & 5 has continuity on strike and occurs over more than 100 meters of stratigraphy. This mineralization may be distal to more concentrated base metals nearby.

The fragmental system tested by drill holes P 99-6, 7 & 8 is a complex entity with a possible quartzite cap, intermediate mixed argillaceous and quartzitic sediments which are bedded but highly disrupted, fragmental, and massive units. The system is at least 200 meters thick, with poorly defined boundaries but is at least 400 meters wide. Diamond drilling suggests the fragmental system is stratabound but overall its setting suggests it is cross-cutting.The complex is networked with magnetic pyrrhotite over a considerable volume, and some sphalerite bands occur in the upper portions of the system.

The fragmental and some associated facies are interpreted as fluidized Aldridge Formation sediments which have vented onto the sea floor. The bedded facies which are highly disrupted are possible slump materials from the margins of the zone. This vent zone has a hydrothermal component represented by the pyrrhotite, arsenopyrite and sphalerite. The region peripheral to the 1999 drilling is prospective and worthy of more follow-up exploration.

Drill hole P 99-9 encountered considerably more gabbro in the upper part of the hole than was predicted from surface geology indicating the subsurface geology is somewhat more complex. Only very minor base metal and iron sulfides were encountered in the hole.

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6.00 STATEMENT OF EXPENDITURES

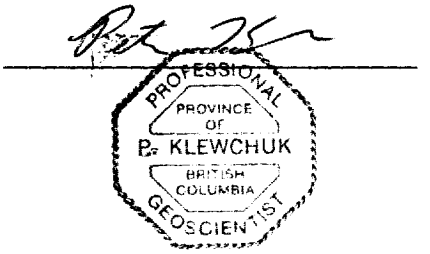
Diamond Drilling	
9 holes, 2623.7 meters	
Britton Bros. Diamond Drilling, Smithers, B.C.	$120,965.65
Program preparation, supervision, surveying drill sites, logging core	
D.L. Pighin, P.Geo., & D. Anderson, P. Eng., 21 days @ $330/day	6,930.00
Helicopter support	
Bighorn Helicopters, Cranbrook, B.C.	57,059.95
ATV trail and drill site prepration	
Ram Exploration, Cranbrook, B.C.	1,020.00
Helicopter drill pad construction	
CJJ Exploration Contracts, Kimberley, B.C.	1,750.00
Hauling heavy equipment	
Quennell Trucking, Caranbrook, B.C.	1,125.00
Core storage: 1 core rack	1,500.00
Total Expense	**$196,070.60**

7.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, B.C.
2. I am a graduate geologist with a B.Sc. degree (1969) from the University of British Columbia and an M.Sc. degree (1972) from the University of Calgary.
3. I am a Fellow of the Geological Association of Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 25 years.
5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 23th day of February, 2000.



Peter Klewchuk
P. Geo.

AUTHOR'S QUALIFICATIONS

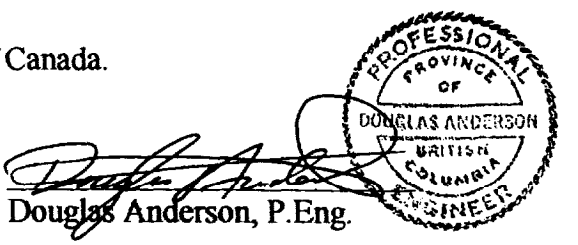
I, Douglas Anderson, Consulting Geological Engineer, have my office at 3205 6th. St. South in Cranbrook, B.C., V1C 6K1.

I graduated from the University of British Columbia in 1969 with a Bachelor of Applied Science in Geological Engineering.

I have practiced my profession since 1969, dominantly with one large mining company, in a number of capacities all over Western Canada.

I am a Registered Professional Engineer and member of the Association of Professional Engineers and Geoscientists of B.C., and I am authorized to use their seal which has been affixed to this report.

I am also a Fellow of the Geological Association of Canada.



Douglas Anderson, P.Eng.

AUTHOR'S QUALIFICATIONS
(Core Logging)

As author of this report I, David L. Pighin, certify that:

1. I am a self employed consulting geologist whose office is at Hidden Valley Road, Cranbrook, B.C., mailing address is 301 - 8th St. S., Cranbrook, B.C. V1C 1P2.

2. I am a Member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

3. I have been actively involved in mining and exploration geology, primarily in the Province of British Columbia, for the past 33 years.

4. I was employed by Cominco Ltd. as a prospector, exploration technician and geologist for 24 years and later by numerous junior exploration companies.

Dated at Cranbrook, British Columbia, this 23h day of February, 2000.

David L. Pighin, P.Geo.

PROFESSIONAL
PROVINCE OF
D. L. PIGHIN
BRITISH COLUMBIA
GEOSCIENTIST

APPENDIX 1

DRILL LOGS

PROPERTY: PAKK			**HORI COMP:** 140.14 m	**HOLE #:** P99-1
LOCATION: PAKK 15 claim, Head waters of Jack Creek, Hellroaring Drainage			**VERT. COMP:** 14014 m	**LENGTH:** 198.2 m
			CORR. DIP:	
COMMENCED: Sept 26, 1999	**COMPLETED:** Sept 28, 1999		**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (long)	**(lat)**		**% RECOVERY:**	**CORE SIZE:** NQ
COORDS: (UTM) (E) 551575	**(N)** 5489600	**(EL)**	**LOGGED DATE:** Sept 1999	**CASING:** 0 – 7.6 m
COORDS: (grid) (E)	**(N)**	**(EL)**	**LOGGED BY:** D.L. Pighin	**CORE STORAGE:** Vine Property
ELEVATION: 2225 m	**COLLAR: (dip)** -45°	**(Azi)** 225°		
OBJECTIVE:				
SURVEYS: (depth)	**Dip:**	**Azi:**	**Type:**	**Additional Surveys:** **Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Siltstone
7.6-12.6	**COLOR:** Dark gray to black
	PRIMARY STRUCTURE: thick bedded, no visible bedding, fine grained
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: intensely silicified, biotitic with abundant fine tourmaline needles
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Silty Argillite
12.6-14.0	**COLOR:** light gray banded gray
	PRIMARY STRUCTURE: thin to very thin bedded, bedding distinct-sharp, some thin beds are cross-bedded. Bedding at 14.0m = 48°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: strongly biotitic with abundant white spotting probably sericite after garnet, rare tourmaline needles
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: nil
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, lesser interbedded silty argillite
14.0-31.9	**COLOR:** gray interbedded light gray, rarely black
	PRIMARY STRUCTURE: medium to thick bedded, bedding distinct flat to wavy, generally fine grained sediments, scattered rip-up clasts throughout
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: scattered patches of white silicification are associated with abundant subhedral pink garnets and biotite, some beds are intensely silicified, fine biotite abundant throughout. Scattered thin band of white spotting (spheres) mainly sericite with quartz core.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare thin veinlets of po-aspy 15.4-15.6m = silicified garnet zone host abundant specks of scheelite
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Silty Argillite
31.9-33.7	**COLOR:** dark gray thin light gray banding
	PRIMARY STRUCTURE: thin to very thin bedded, bedding sharp, wavy to wispy. Bedding to core at 33.5 = 28°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: strongly biotite with sericite banding, scattered bands of white sericite-quartz spheres
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: At 32.0m – white quartz-biotite vein cuts core at 15°, hosts po and aspy, rare specks of ZnS
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Siltstone, lesser interbedded argillite
33.7-51.8	**COLOR:** gray with dark gray to near black interbeds
	PRIMARY STRUCTURE: medium to thick bedded, minor thin to very thin beds, bedding indistinct to distinct, bedding wavy to distorted
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: Dark siltstones are intensely silicified with abundant small tourmaline needles widely scattered patches of albitization with scattered actinolite. Scattered zones rarely more than 50cm thick of intense silicification and abundant small subhedral pink garnets, in general sediments are finely biotitic with lesser sericite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: 36.6-37.3m – intensely silicified zone with garnets host disseminated po and scheelite 49.0-50.0m – weakly disseminated ZnS associated with albitization and garnetization. 45.7-46.0m – quartz vein cuts core at 31° hosts scattered patches of aspy and po
From To	**LITHOLOGY:** Fragmental, altered sedimentary clasts in a gabbroic matrix
51.8-64.3	**COLOR:** green with white clasts
	PRIMARY STRUCTURE: massive, clasts generally angular, commonly distorted, range in size from 2cm to at least 5cm, matrix appears to be mainly gabbro
	TECTONIC STRUCTURE: fragmentals lower contact marked by a 40cm thick shear zone (fault(?)) cuts core at 37°
	GENERAL ALTERATION: clasts are generally altered to albite, large subhedral pink to red garnets are abundant in the clasts and in gabbroic matrix, actinolite is abundant in certain clasts. The shear zone is basically a greenish muscovite schist
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: aspy is disseminated throughout, locally up to 5% by volume, po is disseminated throughout, locally up to 5% by volume, ZnS is also present as weak disseminations in matrix and in clasts. Thin irregular calcite veinlets scattered throughout generally host disseminated ZnS. Rare small lens of ZnS. At 63.0m – quartz-garnet vein cuts core at 34° Scheelite occurs in fragmental as widely scattered crystals in certain calcite veinlets. Shear zone at base of fragmental hosts po and ZnS along planes of schistosity
From To	**LITHOLOGY:** Siltstone
64.3-105.3	**COLOR:** generally gray
	PRIMARY STRUCTURE: thick to very thick bedded, bedding very rare and indistinct, generally medium to fine grained, grading not evident. Bedding to core at 66.8m = 15°
	TECTONIC STRUCTURE: at 72.0m – shear zone cuts core at 38°, some soft gouge
	GENERAL ALTERATION: Generally biotitic and sericitic throughout interval. Rare zones of intense silicification and garnetification. 103.8-105.3m – strongly biotitic with scattered large subhedral reddish garnets.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: widely scattered thin calcite veinlets host po and aspy. At 103.4-103.8m – calcite-quartz-chlorite veins cut core at 25° host rare scheelite crystals and rare po

From To	LITHOLOGY: Fragmental – altered quartzite-siltstone matrix, altered sediment clasts
105.3-115.7	**COLOR:** green and white, light green and white, gray and white
	PRIMARY STRUCTURE: massive, matrix supported fragmental, fragments are angular to rounded, commonly distorted. Clasts range in size from 2 to 5cm, no preferred clast orientation
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: matrix intensely silicified, with abundant garnets, actinolite, green muscovite, clasts are generally albitized and actinolitized and some are completely replaced by green muscovite and or albite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Po, ZnS, and aspy generally disseminated throughout fragmental unit, locally ZnS forms small coarsely crystalline irregular veinlets. PbS and cpy is present but rare. Rhodochrosite is locally abundant as disseminated light pink crystals. In general the sulphides occur in fragmental matrix and clasts.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Quartzite, interbedded siltstone
115.7-148.4	**COLOR:** white to light green, grading to greenish gray
	PRIMARY STRUCTURE: very thick bedded(?) Bedding is distorted and very rare, generally fine grained seds, primary structure generally distorted by alteration. Bedding to core at 136.5m = 25°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: 115.7-124.0m – intensely silicified and albitized in part, fine light green muscovitization. Remainder of interval is partly silicified, some small patches of albite.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: 115.7-124.0m – weakly disseminated po, locally abundant disseminated crystals of light pink rhodochrosite. Some scattered quartz and calcite veinlets host po and rare ZnS, some aspy
From To	**LITHOLOGY:** Schistose altered sediments
148.4-156.0	**COLOR:** light green, green and yellowish green
	PRIMARY STRUCTURE: nil
	TECTONIC STRUCTURE: fault zone, cuts core at 38° to 35°, highly sheared, mylonized sediments
	GENERAL ALTERATION: strongly sericitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: abundant py deposited along planes of schistosity. Lenticular thin quartz veinlets follow schistosity

From To	
156.0-198.2	**LITHOLOGY:** Siltstone, rare argillite interbeds
	COLOR: generally gray rare dark gray bands
	PRIMARY STRUCTURE: medium to thick bedded, beds disrupted, indistinct. Bedding to core at 177.0m = 5°, this core angle continues form 156.0m to end of hole
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally biotitic, locally silicified, some patches of albitization and subhedral pink garnets
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: widely scattered quartz veinlets with po and py.
	ADDITIONAL OBSERVATIONS:
From To	**End of Hole**
198.2	

PROPERTY: PAKK

LOCATION: PAKK 15 claim, Head waters of Jack Creek (Upper Jack vent)

COMMENCED: Sept 28, 1999 **COMPLETED:** Oct 1, 1999

COORDS: (long) **(lat)**

COORDS: (UTM) (E) 551575E **(N)** 5489600 **(EL)**

COORDS: (grid) (E) **(N)** **(EL)**

ELEVATION: 2225 m **COLLAR: (dip)** -45° **(Azi)** 130°

OBJECTIVE:

SURVEYS: (depth) **Dip:** **Azi:**

HORI COMP: 168.14 m

VERT. COMP: 168/14 m

CORR. DIP: -45°

TRUE BEARING: 130°

% RECOVERY: good

LOGGED DATE: Sept 1999

LOGGED BY: D.L. Pighin

Type:

HOLE #: P99-2

LENGTH: 237.8 m

DRILL CONTRACTOR: Britton Bros.

CORE SIZE: NQ

CASING: 0 – 3.1 m

CORE STORAGE: Vine Property

Additional Surveys:

Depth **Dip** **Azi**

From	To	
		LITHOLOGY: Siltstone, rare interbedded argillite
3.1	51.2	**COLOR:** gray to dark gray
		PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct due to alteration. Bedding to core at 11.0m = 46°, at 37.5m = 40°
		TECTONIC STRUCTURE: nil
		GENERAL ALTERATION: generally strongly biotitic throughout, scattered patches of intense albitization and garnetization. 36.0-41.0m – intensely silicified
		MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: at 39.6m – thin irregular veinlets host ZnS – po, rare weak disseminated ZnS scattered throughout section
		ADDITIONAL OBSERVATIONS:

From To	
51.2-54.8	**LITHOLOGY:** Fragmental, original lithologies obscured by alteration and mineralization
	COLOR: shades of black, brown, green and light gray
	PRIMARY STRUCTURE: matrix to clast supported, clasts are sharply angular to rounded, generally large, range in size from 2 to 100mm, no preferred orientation
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: most of the clasts are intensely tourmalinized, some clasts are completely altered coarsely crystalline biotite and garnets, some clasts are partly replaced by biotite and lesser sericite. Matrix consists in part of massive coarsely crystalline biotite and lesser sericite and partly amphibole (actinolite-hornblende) and massive reddish garnets.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: interval is well mineralized by ZnS, lesser po, PbS and aspy and rare patches of disseminated scheelite crystals. ZnS is most abundant in matrix, locally nearly massive, but generally heavily disseminated ZnS is also disseminated in some clasts. Po, PbS, aspy and scheelite occurs in the same manner as ZnS but in lesser amounts.
From To	**LITHOLOGY:** Crackle breccia fragmental, mainly altered siltstone clasts and matrix 59.0-61.3m – fine grained garnetiferous gabbro dyke cut
54.8-68.0	**COLOR:** gray and white, locally green
	PRIMARY STRUCTURE: clasts are generally angular and crackle brecciated, clasts are generally large and angular, generally clast supported
	TECTONIC STRUCTURE: crackle brecciated
	GENERAL ALTERATION: clasts are generally intensely albitized, locally matrix is intensely muscovitized. Abundant subhedral garnets mainly in clasts, locally actinolite is abundant
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: PbS-ZnS-po-aspy is relatively abundant as disseminations in matrix and clasts, and as fillings in crackle breccia structure, locally PbS is very abundant forming massive sulphide veins Scattered irregular quartz-aspy veins rarely more than 1cm thick host abundant large scheelite crystals.
From To	**LITHOLOGY:** Siltstone, interbedded quartzite 68.4-71.5m – gabbro sill or dyke cuts core at 30°(?) 76.2-77.2m – gabbro sill(?) Cuts core at 55° 86.4-87.6m – gabbro-garnet dyke cuts core at 15°
68.0-99.5	**COLOR:** Gabrro dyke (?) 95.6-99.5m – widely scattered garnets
	PRIMARY STRUCTURE: medium to thick bedded, bedding is indistinct due to alteration. Bedding to core at 95.0m = 40°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: abundant scattered patches and bands of albitization with garnets and actinolite. Generally finely biotitic with scattered patches of intense green muscovitization. **FW ALTERATION ZONE** 90.6-92.0m – intense biotitization and muscovitization
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: ZnS-po-aspy is widely scattered throughout the alteration mainly in irregular veinlets. 82.8-83.7m – good ZnS and PbS mineralization some patches of nearly massive sulphides Widely scattered quartz-aspy veins host coarsely crystalline scheelite. 1 to 2cm thick cut core at 35° & 50°. 98.1-98.5m – quartz vein hosts po and scheelite.

From To	
	LITHOLOGY: Siltstone rare silty argillite and argillite interbeds
99.5-153.0	**COLOR:** mainly gray with some dark gray interbeds
	PRIMARY STRUCTURE: medium to thick bedded, rare thin beds. Bedding distinct-flat to wavy. Siltstones generally medium grained, grading not evident due to alteration. Bedding to core at 102.0m = 40°, at 121.0m = 40°, at 140.0m = 35°
	TECTONIC STRUCTURE: At 110.6m – graphitic shear 10cm thick cuts core at 25°. Much of the interval is weakly crackle brecciated healed by calcite, widely scattered patches of albitization commonly with scattered garnet and actinolite.
	GENERAL ALTERATION: generally biotitic throughout, some units silicified and sericitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: at 103.4m – 1cm thick irregular massive ZnS vein 118.6-119.6 – disseminated ZnS & PbS in seds with a 10cm, est. at 7% Zn, thin quartz-PbS-ZnS veinlets cut core at 27°
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Muscovitic-sericitic schist
153.0-159.2	**COLOR:** light brown banded by light green
	PRIMARY STRUCTURE: schistose
	TECTONIC STRUCTURE: fault zone 153.0-159.2m marked by schistose zone cuts core at 15°, very little fault gouge
	GENERAL ALTERATION: banded muscovite and sericite, thin interbands of quartz over printed by irregular calcite spotting
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated ZnS and py
From To	**LITHOLOGY:** Siltstone, rare thin argillite interbeds 162.6-163.2m – gabbro sill or dyke(?)
159.2-191.5	**COLOR:** gray to light gray
	PRIMARY STRUCTURE: thick to very thick bedded, bedding is rare and generally indistinct, siltstones generally fine grained, some beds are highly slump structured, widely scattered rip up clasts. Bedding to core at 178.5m = 35°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: upper section intensely silicified with scattered small garnets and scattered patches of green muscovitization. Lower part of section generally weakly biotitic with scattered silicified patches
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: very rare disseminated po. Widely scattered thin irregular calcite veinlets host rare py. 163.2-165.0m – relatively abundant hairline fractures host PbS and ZnS associated with strong light green muscovitization 174.5-174.7m – abundant disseminated po and ZnS and PbS associated with biotite and muscovite

From To	
191.5-194.4	**LITHOLOGY:** Argillite, lesser interbedded silty argillite and siltstone
	COLOR: gray with some dark gray banding
	PRIMARY STRUCTURE: thin to very thin bedded, bedding sharp flat. Bedding to core at 191.5m = 40°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: finely biotitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, rare silty argillite interbeds
194.4-223.5	**COLOR:** gray with some dark gray banding
	PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct, mainly flat, some wavy, generally fine grained seds
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally biotitic throughout, local sections of intense silicification
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite, interbed siltstone
223.5-226.0	**COLOR:** gray with dark gray banding
	PRIMARY STRUCTURE: thin to very thin bedded, bedding sharp-flat, some siltstone interbeds host scattered coarse grained quartz sand. Bedding to core at 226.0m = 30°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: section is strongly biotitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:

From To	
226.0-237.8	**LITHOLOGY:** Siltstone
	COLOR: light gray to gray
	PRIMARY STRUCTURE: medium to thick bedded, bedding is indistinct, some soft sed. deformation, generally medium to fine grained seds
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: partly silicified with scattered biotite intensely silicified concretions, generally biotitic throughout
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare small patches of po
	ADDITIONAL OBSERVATIONS:
From To	End of Hole
237.8	

PROPERTY: PAKK

LOCATION: PAKK 15 claim, Upper Jack showing, Head of Jack Creek

COMMENCED: Oct 1, 1999 **COMPLETED:** Oct 2, 1999

COORDS: (long) **(lat)**

COORDS: (UTM) (E) 551575 **(N)** 5489600 **(EL)**

COORDS: (grid) (E) **(N)** **(EL)**

ELEVATION: 2225 m **COLLAR: (dip)** -70° **(Azi)** 130°

OBJECTIVE:

SURVEYS: (depth) **Dip:** **Azi:**

HORI COMP: 66.72 m

VERT. COMP: 183.33 m

CORR. DIP:

TRUE BEARING:

% RECOVERY:

LOGGED DATE:

LOGGED BY: D.L. Pighin

Type:

HOLE #: P99-3

LENGTH: 195.1 m

DRILL CONTRACTOR: Britton Bros.

CORE SIZE: NQ

CASING: 0 – 3.1 m

CORE STORAGE: Vine Property

Additional Surveys:

Depth **Dip** **Azi**

From To	
3.1-20.8	**LITHOLOGY:** Siltstone, interbedded argillite and silty argillite
	COLOR: light gray to brownish gray
	PRIMARY STRUCTURE: medium to thin bedded, rare very thin beds, bedding generally flat-sharp, some siltstone beds are graded fining upwards, argillite beds commonly finely parallel laminated. Bedding to core at 8.0m = 71°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally finely biotitic throughout, locally abundant small white spheres of sericite with quartz centers, widely scattered intensely silicified – albitized, biotitic-garnetiferous concretions
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: nil
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Silty argillite
20.8-22.0	COLOR: banded light gray and light grayish brown
	PRIMARY STRUCTURE: thin to very thin bedded, bedding generally flat and sharp, some thin beds are cross bedded, some beds contain scattered coarse grains of quartz sand
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally finely biotitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare speck of po
	ADDITIONAL OBSERVATIONS:
From To	LITHOLOGY: Siltstone, minor interbedded
22.0-39.6	COLOR: gray with some brownish gray banding
	PRIMARY STRUCTURE: medium to thin bedded, bedding is distinct, generally wavy, medium to fine grained, siltstone bed generally graded fining upwards (good turbidites). Scattered rip up clasts, some beds soft sed. deformed. Bedding to core at 36.5m = 67°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: patchy silicification, widely scattered albite-silica-garnet-biotite concretions, rocks in general are biotitic. Scattered tiny tourmalinite needles noted.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: widely scattered po blebs
	ADDITIONAL OBSERVATIONS:
From To	LITHOLOGY: Silty argillite interbedded siltstone
39.6-48.0	COLOR: banded gray, dark gray and brownish gray
	PRIMARY STRUCTURE: thin to very thin bedded, bedding is distinct, mainly flat, but locally deformed, some thin silty beds are cross bedded. Bedding at 42.0m = 68°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: weakly biotitic with patchy silicification, scattered concretions as described previously, rare tiny tourmaline crystals
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Siltstone, interbedded silty argillite
48.0-84.4	**COLOR:** gray with some dark gray banded
	PRIMARY STRUCTURE: medium to thin bedded, bedding distinct, generally flat, medium to fine grained, some soft sed. deformation, widely scattered rip-up clasts. Bedding to core at 51.0m = 72°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally biotitic throughout, patchy silicification, with scattered garnets, biotite and silica concretions
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: at 61.0m = thin irregular fracture hosts abundant ZnS At 64.0m – irregular thin muscovite-calcite fracture hosts abundant ZnS Widely scattered blebs of po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, interbedded argillite and silty argillite
84.4-88.0	**COLOR:** light gray, banded gray – sand, brown gray banding
	PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct. Bedding to core at 84.0m = 74°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally silicified with scattered small subhedral pink garnets
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
From To	**LITHOLOGY:** Siltstone, interbedded argillite and silty argillite
88.0-98.8	**COLOR:** banded light gray and gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding generally distinct, flat to wavy locally. Strong soft sed. deformation in some argillite beds, some finely parallel laminated beds
	TECTONIC STRUCTURE: 94.0-94.8m – fault, marked by mylonized seds in lithified fault gouge cuts core at 45°
	GENERAL ALTERATION: fine biotite throughout section, patchy silicification with widely scattered silica, biotite concretions
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: scattered blebs of po
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Siltstone
98.8-107.7	**COLOR:** light gray to gray
	PRIMARY STRUCTURE: medium to thick bedded, bedding is rare, generally wavy, medium to fine grained siltstone
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: finely biotitic, silicified in part, scattered silica-garnet-biotite concretions, locally light greenish muscovitization
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: at 105.7 m- massive po lens 1cm x 4cm associated with garnetiferous concretions. Some widely scattered blebs of po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite, interbedded silty argillite
107.7-109.7	**COLOR:** banded gray, brownish gray and light gray
	PRIMARY STRUCTURE: thin to very thin bedded, flat-sharp bedding. Bedding to core at 109.0m - 75°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: biotitic, rare small silica-garnet concretion
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: scattered blebs of po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Mainly siltstone with some interbedded silty argillite and argillite
109.7-161.6	**COLOR:** light gray to gray
	PRIMARY STRUCTURE: medium to thick bedded, bedding distinct, commonly wavy (flame structured), local zones of soft sed. deformation. Bedding to core at 132.0m = 69°, at 145.0m = 31°, at 155.0m = 40°
	TECTONIC STRUCTURE: 139.0-140.7m – schistose zone due to shearing, rare thin layers of fault gouge cuts core at 30°. (vine structure noted at surface?)
	GENERAL ALTERATION: weakly biotitic throughout with widely scattered garnet-silica-biotite concretions, scattered thin zones of disseminated white sericite spheres
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: at 134.5m – 1cm thick massive PbS vein cuts core at 17° At 130.0m – garnetiferous, silicified zone, subparallel to bedding host disseminated ZnS. 132.0-139.5m – very irregular thin calcite veinlets are common

From To	LITHOLOGY: Siltstone, interbedded silty argillite
161.6-164.0	**COLOR:** gray banded, dark gray
	PRIMARY STRUCTURE: thin to very thin bedded, bedding distinct, generally flat. Bedding to core at 161.6m = 54°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: abundant fine biotite throughout
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: locally abundant finely disseminated po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Quartzite, interbedded siltstone
164.0-175.0	**COLOR:** light gray to gray
	PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct, bedding is rare
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: biotitic throughout, silicified in part
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, interbedded silty argillite
175.0-195.1	**COLOR:** gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding is distinct and wavy, generally fine grained seds.
	TECTONIC STRUCTURE: nil 194.5m to end of hole – shear zone with gouge cuts core at 13° fault?
	GENERAL ALTERATION: finely biotitic and silicified
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare hairline veinlets host rare specks of ZnS.
195.1	End of Hole

P99-4 DRILL HOLE RECORD **CHAPLEAU RESOURCES LTD.**

PROPERTY: PAKK		**HORI COMP:**	**HOLE #: P99-4**
LOCATION: PAKK 16 claim, Head waters of Sinclair Ck		**VERT. COMP:**	**LENGTH: 170.7 m**
COMMENCED: Oct 4, 1999	**COMPLETED:** Oct 6, 1999	**CORR. DIP:**	
COORDS: (long)	**(lat)**	**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (UTM) (E) 553720	**(N)** 54900 **(EL)**	**% RECOVERY:**	**CORE SIZE:** NQ
COORDS: (grid) (E)	**(N)** **(EL)**	**LOGGED DATE:** Oct 1999	**CASING:** 0 – 7.3 m
ELEVATION: 2010m	**COLLAR: (dip)** -85° **(Azi)** 130°	**LOGGED BY:** D.L. Pighin	**CORE STORAGE:** Vine Property
OBJECTIVE:			**Additional Surveys:**
SURVEYS: (depth)	**Dip:** **Azi:**	**Type:**	**Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Siltstone, middle Aldridge type?
7.3-27.6	**COLOR:** light gray
	PRIMARY STRUCTURE: medium to thick bedded, highly disrupted sediments in part soft sed. deformation. Bedding sharp-flat to locally disrupted. Bedding to core at 11.7m = 80°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: nil
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: quartz aspy veins cut core at 90°, 5mm to 40mm thick, host rare PbS and ZnS, rare thin band of disseminated ZnS. Some thin irregular siderite veinlets. Widely scattered distorted small lenses of massive po. At 23.0m – thin zone of aspy crystals. At 27.1 – 27.6m – quartz vein cuts core at 90°, hosts limonite and rare py
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Siltstone, interbedded silty argillite and argillite Lower Aldridge sediments
27.6-73.4	**COLOR:** gray, banded light greenish gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding generally sharp-flat, generally very fine grained sediments. Bedding to core at 33.5m = 82°, at 52.0m = 69°
	TECTONIC STRUCTURE: 63.2-73.4m – good schistosity at 50° to core accented by coarsely crystalline muscovite
	GENERAL ALTERATION: siltstone beds are generally finely biotitic (reddish biotite). Argillite strongly muscovitic, coarsely crystalline muscovite forms thin very irregular veinlets.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
From To	**LITHOLOGY:** Lamprophyre dyke cuts core at 28°. Composed of biotite, chlorite and calcite
73.4-77.6	**COLOR:** mottled black, green and white
	PRIMARY TEXTURE: has marble type texture accented by wispy lenses and irregular veinlets of white calcite in a swirled matrix of chlorite and biotite
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: nil
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: widely scattered euhedral py with rare tiny crystals of scheelite
From To	**LITHOLOGY:** Siltstone, interbedded muscovitic phyllite becoming a muscovite schist from 122.0 to end of hole Meta Lower Aldridge seds.
77.6-170.7	**COLOR:** light gray to silvery gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding planes distinct even in the schistose seds. Bedding to core at 109.8m = 80°, at 116.0m = 73°, 118.5 to 133.0m = mainly 20°, 133.0-147.0m = mainly 45°, at 165.0m = 23°
	TECTONIC STRUCTURE: 134.6-141.0m – fault zone, rubble broken core with gouge filled shear zones at 20° to core axis. Crenulated cleavage at 50° to core or 90° to bedding, accented by the development of coarsely crystalline muscovite
	GENERAL ALTERATION: generally strongly muscovite, becoming a muscovite schist from 122.0 to end of hole, some scattered thin siltstone beds remain only slightly muscovitic and some beds are totally altered to coarse muscovite, some widely scattered biotite crystals and thin lineations
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Po is weakly disseminated throughout section, thin irregular hairline fractures host finely crystalline py. At 145.2m – 5cm thick band of massive aspy
170.7	End of Hole

P99-5 DRILL HOLE RECORD **CHAPLEAU RESOURCES LTD.** **PAGE 1 OF 2**

PROPERTY: PAKK			**HORI COMP:**	**HOLE #: P99-5**
LOCATION: PAKK 16 claim, Head of Sinclair Ck, Sinclair Showing			**VERT. COMP:**	**LENGTH: 200.9 m**
			CORR. DIP:	
COMMENCED: Oct 8, 1999	**COMPLETED:** Oct 8, 1999		**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (long)	**(lat)**		**% RECOVERY:**	**CORE SIZE:** NQ
COORDS: (UTM) (E) 553680E	**(N)** 5489925	**(EL)**	**LOGGED DATE:** Oct 1999	**CASING:** 0 – 2.1 m
COORDS: (grid) (E)	**(N)**	**(EL)**	**LOGGED BY:** D.L. Pighin	**CORE STORAGE:** Vine Property
ELEVATION: 2060m	**COLLAR: (dip)** -85°	**(Azi)** 130°		
OBJECTIVE:				**Additional Surveys:**
SURVEYS: (depth)	**Dip:**	**Azi:**	**Type:**	**Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Siltstone, lesser interbedded argillite (Lower Aldridge Formation)
2.1-70.1	**COLOR:** light gray, banded light reddish gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding distinct, generally flat, appears to be fine grained sediments. Bedding to core at 11.5m = 83°, at 46.0m = 78°, at 63.3m = 85°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: abundant fine reddish biotite throughout, usually with abundant muscovite, some argillite? Beds completely altered to massive coarsely crystalline muscovite. 2.1-19.0m – small albite-actinolite-garnet concretions are widely scattered throughout
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: weakly disseminated po disseminated throughout. Bands 1 to 5cm thick of weakly disseminated ZnS parallel to bedding at 14.0m, 24.5m, 33.5m, 65.0m, 67.7m. Thin 5 to 10mm quartz-calcite-aspy veins parallel to bedding at 52.0m and 59.0m
	ADDITIONAL OBSERVATIONS:

From To	
	LITHOLOGY: Siltstone, rare thin argillite interbeds. Lower Aldridge sediments
70.1-72.0	**COLOR:** light gray to light reddish gray
	PRIMARY STRUCTURE: medium to thick bedded, rare thin beds. Bedding indistinct and rare, generally fine grained siltstone. Bedding to core at 72.0m = 80°
	GENERAL ALTERATION: alteration is as previously described
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: bedding parallel bands of weakly disseminated ZnS range in thickness between 2 and 10cm at 70.5m, 71.0m, 72.0m.
From To	**LITHOLOGY:** Siltstone, lesser interbedded argillite 93.0-96.4m – garnetiferous gabbro sill, abundant finely disseminated po
72.0-103.9	**COLOR:** light reddish gray with very light gray banding
	PRIMARY STRUCTURE: 72.0-93.0m – generally slump structure, bedding highly distorted. Bedding is sharp-flat below 93.0m. Bedding to core at 103.9m = 69°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: 79.5-84.5m – intensely muscovitized and lightly carbonatized, in general seds. Are strongly biotitized and muscovitized.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: 72.0-103.9m – main zone correlates to surface showing must the mineralization is ZnS and po the mineralization occurs as disseminated bands parallel to bedding, bands range in thickness from 1 to 10cm in thickness. 12 mineralized bands occur in the section estimated grade of bands range between 1000 ppm Zn to rarely 5000 ppm Zn. Thin wisps and lenses of disseminated ZnS widely scattered throughout. Bands at 73.8m, 74.0m, 76.0m, 79.0m, 79.6m, 84.0m, 82.5m, 91.0m, 91.7m, 98.5m, 100.8m
From To	**LITHOLOGY:** Siltstone, interbedded argillite
103.9-200.9	**COLOR:** gray band, light gray and rosey gray
	PRIMARY STRUCTURE: medium to thin bedded, bedding sharp-flat, slightly crenulated due to fine cleavage, fine grained sediments. Bedding to core at 105.5m = 65°, at 117.5m = 80°, at 140.0m = 72°, at 170.0m = 84°, at 177.0m = 52°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: section is strongly biotitic and muscovitic, some argillite beds totally altered to coarsely crystalline muscovite with some coarse biotite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: disseminated ZnS occurs throughout section as widely scattered bedding parallel bands. ZnS band at 105.6m, 111.6m, 121.0m, 122.0m, 124.3m, 126.7m, 127.0m, 129.7m, 130.0m, 130.5m, 132.2m, 132.7m, 133.5m, 136.7m, 138.5m, 139.5m, 141.3m, 142.5m, 146.2m, 153.0m, 155.4m, 159.5m, 166.5m, 176.0m. Rare hairline calcite-quartz filled fractures host specks of ZnS.
200.9	End of Hole

PROPERTY: HORN			**HORI COMP:**	**HOLE #: P99-6**
LOCATION: Hell roaring Ck. Horn (DePaoli fragmental) Fecal 4			**VERT. COMP:**	**LENGTH: 304.88 m**
COMMENCED: Oct 14, 1999	**COMPLETED:** Oct 17, 1999		**CORR. DIP:**	
COORDS: (long)	**(lat)**		**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (UTM) (E)	**(N)**	**(EL)**	**% RECOVERY:** very high 95%+	**CORE SIZE:** NQ
COORDS: (grid) (E)	**(N)**	**(EL)**	**LOGGED DATE:** Oct 1999	**CASING:** 0 – 2.1 m
ELEVATION: 1790 m	**COLLAR: (dip)** -60°	**(Azi)** 130°	**LOGGED BY:** Doug Andersen	**CORE STORAGE:** Vine Property
OBJECTIVE: to test a fragmental package and bedded sediments associated with it.				
				Additional Surveys:
SURVEYS: (depth) none taken	**Dip:**	**Azi:**	**Type:**	**Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Moyie Intrusion – coarse crystalline to 20.35m; sheared then medium crystalline uniform form 24.0-45.0m then finer crystalline closer to contact. Lower contact is sheared ~20° to c/a with narrow quartz vein. Some narrow (1-5mm) quartz vein with po + py, mostly above the fault zone
2.1-47.4	**COLOR:** dark gray
	PRIMARY STRUCTURE: coarse to medium crystalline to fine approaching the footwall contact
	TECTONIC STRUCTURE: fault zone – sheared gabbro from 20.3 to 241.m probably at 30-40° to the c/a. Quartz veins weathered/leached po and limonite (more laced through the shear than a single prominent vein). Not a very significant structure.
	GENERAL ALTERATION: some hornblende altered to biotite. Below the shear the hornblende is mainly chloritized.
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: above 24.0m 3-5% disseminated po in the gabbro. Below the shear from 24.0m down <1% po.
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Quartzite interval – overall siliceous and altered making definition difficult. The contact with gabbro appears sheared with broken core, quartz vein, shearing at 25° to c/a.
47.4-57.8	**COLOR:** initially pale green to grayish
	PRIMARY STRUCTURE: no bedding recognized
	TECTONIC STRUCTURE: the contact zone with gabbro is sheared at 25° to c/a with some quartz veining.
	GENERAL ALTERATION: at 56.1m change from fine-grained greenish overprinting to darker gray alteration overall. Greenish fine grained quartzite section may be due to shearing and sericitic alteration
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: some po/limonite in the few quartz veins near the gabbro contact.
From To	**LITHOLOGY:** Quartzite – altered silicified zone which is dominantly a fragmental but with short section of bedding. Due to alteration overprinting it is difficult to separate. Clasts are most often vague, angular quartzite of pebble size. Some pebble beds(?) Last 1.5m no clasts. Some tiny brown lenses (clasts) could be tourmalinized.
57.8-72.6	**COLOR:** greenish gray
	PRIMARY STRUCTURE: suspect fragmental interbedded with occasional altered wackes. Section is dominated by quartzite originally. Around 67.2m possible bedding is around 70° to c/a.
	TECTONIC STRUCTURE: no later structure, could have been early disruption now masked by alteration.
	GENERAL ALTERATION: silicified (re-crystallized quartzite(?)) with albitization likely at least as discrete patches. Chloritization and silvery, coarse sericite also, so argillite component to interval is completely changed. Biotite spotting also. Fine sericite alteration patches.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: not much sulphide generally. Minor po along fractures.
From To	**LITHOLOGY:** Dominantly thin to medium bedded argillaceous intervals – quartzites are present but <20%. Alteration overprinting still widespread. Fine-grained quartzites (usually darker with disseminated po). See below for additional comments. Bedding preserved through most of interval, except for short t.b. sections like L.A. most of sedimentation is not diagnostic.
72.6-170.7	**COLOR:** gray-brown, darker
	PRIMARY STRUCTURE: bedding obvious and consistent but is often disrupted. Bedding is at 65-70° to c.a. There are intervals of fragmental, "incipient" fragmentation, and disrupted bedding as noted. Around 77.0m, 78.0m, 81.25-82.0m shredded beds to fragmental 89.9-91.6m – vague clasts/"incipient" fragmentation; 93.7-95.0m disrupted beds to fragmental; 105-109.2m disrupted bedding to fragmentation; bedding to c/a at 95.2m = 45°; 111.2-111.4m fragmental; 95-99.2m is dominated by quartzites; 100.2-104.8m some vaguely laminated wacke to quartzite wackes; bedding around 115m still 70° to c.a ~131-141.6m quartzites (poorB(?)) dominate, silicified with some fracture po.
	GENERAL ALTERATION: generally the quartzites – few cms to 25cm are fine grained (dark) silicified units. Bedding contacts are often blurred by sedimentary disruption +or alteration. Argillaceous units are sericitized (some coarser sericite may be as a result of higher grade regional meta). 117.6-123.6m – sericitic interval

72.6-170.7 (continued)	**MINERALIZATION & ASSOCIATED, HOST STRUCTURE:** by about 76m fracture po, patches and seams become more common. Traces of ZnS. The po principally occurs sporadically through this "bedded" section as noted below: 76-76.2m disseminated po 76.2-76.6m seams/patches of po. One patch of ZnS. Po is magnetic. 77-77.3m small patches and disseminated po; some conductivity along po networks to 30cm core lengths. 79.4 <0.7cm quartz vein with po, PbS, ZnS; 87.8-88 po seams; around quartz-calcite (carb) veins with biotite/sericite; 93.3 po seams; 98.7-98.9m po with trace of PbS and ZnS; 105.8-106.1m po and aspy disseminations/seams/patches; 111m quartz vein of 30cm with quartz-po-lesser cpy at 20° to c/a. Below this po continues scattered through as for above in fr seams and patches and disseminations. 117.6-123.6m greenish sericite with quartz-carbonate veining carrying po and minor aspy, PbS and ZnS in flushing and brecciation ~11 to c/a; quartz vein with core to 1cm carrying po							
From To	**LITHOLOGY:** Continuation of bedded quartzites and argillites which are altered, often with disrupted beds. Down to ~170.7m increasing disruption of beds							
To 170.7	**COLOR:**							
	PRIMARY STRUCTURE: bedding around 150m at 50° to c/a. Around 160m at 60-70° to c/a. Around 160m likely slumping of argillaceous units. Bedding around 165m at 75° to c/a.							
	TECTONIC STRUCTURE: nil							
	GENERAL ALTERATION: sericitization							
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po seams, patches, disseminations continue with short intervals continuing 15% po. Po particularly at 150.4m with quartz and sericite; 152.9m seams of po; 155.2m fracture po. 164-165.5m two quartzites with po-rich clasts.							
Sample #	**From**	**To**	**Length (m)**	**Pb ppm**	**Zn ppm**	**Ag g/t**	**As ppm**	
4283	168.95	169.1	15 cm	37	8431	0.3	24	
From To	**LITHOLOGY:** fragmental dominates but short sections of partly bedded sediments occur internal to the fragmental. Clasts are elongate, lenticular two to four lithologies; clasts are pebble size reaching 8cm in long dimension. Often intact fragmental zones as if stratabounds units. Strong clast orientation (tectonic overprinting(?)) There are few po-rich clasts with disseminated to lacey po. Gray quartzitic clasts dominate but also brownish-gray wackes, some laminated. Over some lengths the fragmentation is incipient only (in place scrambling/shredding of rocks(?)) 180.55-191m bedding mixed with incipient fragmentation; more quartzitic section. Bedding at 60° to c/a. Some biotite-po spotting. 191-193.2m structure. 193.2-198.8 quartzitic with some fragmentation, po networking (py and cpy). 198.8 some intact sheared with quartz vein and some graphite-po. 191-193.2m at 15-20° to c/a. 187.45-187.7m – shatter vein with chloritization. Some po.							
170.7-232.8	**COLOR:**							
	PRIMARY STRUCTURE:							

	TECTONIC STRUCTURE:							
	GENERAL ALTERATION: fragmental to massive quartzites to incipient fragmentation of mixed lithologies where argillaceous rocks have sand squeezed through the layering with consequent disruption. Distinct fragmental does not extend beyond ~204m but the proportion of quartzite and some disrupted beds (and the po) indicate the "anomalous" sediments extend to more characteristic LA. Bedding at 60-70° to c/a. Some t.b. wackes become more obvious beyond ~219m.							
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Po (for less py) is erratically networked through the fragmental, particularly in the matrix but not throughout, seems better developed in the obvious fragmental. Low percentage of aspy (crystalline and appears to replace the po). Over lengths 10-15m get 10-15% po in seams, patches, disseminations. Po 170.7-180.55m 10% overall. Magnetic, 193.2-198.8m 5-8% overall. Magnetic, 198.8-~225m 5% overall with <1% aspy. Decreasing sulphide content towards base.							
Sample #	**From**	**To**	**Length (m)**	**Pb ppm**	**Zn ppm**	**Ag g/t**	**As ppm**	
4284	170.7	171.7	1.0	25	146	0.4	20	
4285	171.7	172.7	1.0	22	157	0.3	10	
4286	172.7	173.7	1.0	12	90	0.4	10	
4287	173.7	174.6	0.9	15	101	<0.3	4	
From To	**LITHOLOGY:** Lower Aldridge sediments – dominantly thin-bedded, dirty argillaceous quartzites and wackes. Only rare quartzites unit greater than 20cm thick. Silicification quite widespread. More altered with depth towards the gabbro footwall. 268.4-269.5m – some fragmentation – clasts gray (2) in greenish matrix.							
232.8-272.3	**COLOR:** pale brownish-gray to 253m then greenish gray							
	PRIMARY STRUCTURE: bedding 65 to 75° to c/a. Some grading in quartzitic beds. Towards base B at 70-80° to c/a.							
	TECTONIC STRUCTURE: not much notable							
	GENERAL ALTERATION: overprinting of silicification with biotite development gives the gray to brown coloration (starts about 240m). Sericite alteration of the argillite beds. Some chlorite, particularly with quartz seams ± po. 252.9m – alteration due to gabbro below – chloritization and some albitization with silicification (nothing is intense) makes the rocks altered in appearance with epidote on fractures.							
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: no networking po any longer. Disseminated fine grained po in some of the quartzitic units. A few patches of po but restricted. 242.5-242.8m – po as patches and disseminated in dark beds to 1cm thick. Some quartz seams with chlorite + po closer to gabbro. Po present over last 30cm above gabbro. A few quartz-chlorite-po seams. (quartz vein)							
	ADDITIONAL OBSERVATIONS:							

From To	
	LITHOLOGY: Moyie intrusion – gabrro. Very coarse crystalline, with depth locally finer grained with some shearing. Locally gets quartz-rich with biotite/chlorite/hornblende. Over short lengths quartz rich with po and biotite (granofels-like interval ~284.5-289.5m). M. crystalline towards 304m
272.3-304.88	**COLOR:** dark greenish gray
	PRIMARY STRUCTURE: upper contact approximately 90° to c/a.
	TECTONIC STRUCTURE: 297.6-298.3m – sheared, quartz-calcite rich vein at 20° to c/a.
	GENERAL ALTERATION: looks like hornblende → chlorite/biotite → sericite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po disseminated to 7-10% over short lengths. Two narrow quartz veins with garnet-po-quartz. Larger gray quartz vein 302.1-302.4m with garnet/chlorite/po
	ADDITIONAL OBSERVATIONS:
304.88	**End of Hole**

PROPERTY: HORN			**HORI COMP:**	**HOLE #: P99-7**
LOCATION: Fecal 4 Hellroaring Creek – DePauli Fragmental			**VERT. COMP:**	**LENGTH: 344.5 m**
			CORR. DIP:	
COMMENCED: Oct 17, 1999	**COMPLETED:** Oct 24, 1999		**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (long)	**(lat)**		**% RECOVERY:**	**CORE SIZE:** NQ
COORDS: (UTM) (E)	**(N)**	**(EL)**	**LOGGED DATE:**	**CASING:** 0 – 2.13 m
COORDS: (grid) (E)	**(N)**	**(EL)**	**LOGGED BY:** D. Anderson & D.L. Pighin	**CORE STORAGE:** Vine Property
ELEVATION: 1790 m	**COLLAR: (dip)** -50°	**(Azi)** 085°		
OBJECTIVE:				**Additional Surveys:**
SURVEYS: (depth) not surveyed	**Dip:**	**Azi:**	**Type:**	**Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Moyie Intrusive – dark, coarse crystalline hornblende-rich gabbro, becomes medium crystalline with depth. Quartz present in some abundance.
2.13-45.7	**COLOR:** Darker, hornblendic gabbro
	PRIMARY STRUCTURE: nil – from about 43.0m down gabbro gets progressively finer grained.
	TECTONIC STRUCTURE: There is superimposed fabric at approximately 50-60° to c/a. 29.6-36.6m – shearing of the gabbro, comminution of grains at 30-35° to c/a, sericitization.
	GENERAL ALTERATION: hornblende altered to chlorite, lesser biotite. Some white spotting due to ?
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: minor disseminated po (1-3%) gray quartz vein 30.98-32.54m – several veins with chlorite selvages. Veins also show tectonic overprint.
	ADDITIONAL OBSERVATIONS:

From To	
	LITHOLOGY: Dominantly quartzites, altered due to proximity to gabbro. Vague (hard to define limits) fragmentals present as zones within the massive to bedded quartzites in altered zone.
45.7-68.0	**COLOR:** gray and dark gray
	PRIMARY STRUCTURE: bedding has not been obliterated (or is present) at intervals 60-80° to c/a. Fragmental ~46.9-48.6m; ~51.7-54.7m vague altered clasts and matrix; ~54.8-56.0m broken zone with quartz clasts containing biotite and po. Banding in altered quartz at 60-80° to c/a. 75.4-76.7m – fragmental, darker quartzite clasts with po in same, irregular base to frag.
	TECTONIC STRUCTURE:
	GENERAL ALTERATION: quartzite but silicified overall. There is scattered albitization, weak chlorite and biotite spotting. Some sericite patches as well. 63.8-67.0m – thin seams along quartz bands or on fractures of dark brown, f.c. biotite? – some tourmaline mush. Alteration due to gabbro bottoms around 68.0m.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: 59.5-59.75m – gray quartz vein with albite. Minor po. Several spots of scheelite. 66.9m – trace of ZnS with a 5mm quartz vein.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Darker still quite quartzitic but also with darker argillaceous thin beds. Some vague laminated intervals also. Some quartzites up to 30cm thick. Around 88.05-88.45m lamp dyke (fine grained biotitic). Not typical of Lower Aldridge. 75.4-76.7m – fragmental, darker quartzite clasts with po in same, irregular base to fragmental. Incipient fragmentation around 91.0-91.5m. Thicker quartz wall around 94.0-98.0m. From about 101.0-108.0m getting more argillaceous. Thin bedded, disrupted beds, lenticular bedding, sand dyking, cross beds. 108-0-116.0m – dominated by quartzites which bleached/altered (weak chlorite and albite). Bedding contacts are irregular, don't see good turbidite forms to the units.
68.0-116.0	**COLOR:** Dark gray (wet)
	PRIMARY STRUCTURE: Bedding at 80° to c/a around 79.0m. At ~85° to 70° to c/a. Bedding contacts are often vague unless xxx argillites present. Around 87.0m some soft sediment deformation and slide rock. Bedding around 104.0 at about 75-80° to c/a. Around 112.0m ~55-65° to c/a.
	TECTONIC STRUCTURE:
	GENERAL ALTERATION: Sericitic alteration locally. Some weak albite/chlorite in quartzites; chloritization of some argillaceous beds.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Occasional grain of aspy. Po not widespread. 73.0-73.05m – quartz flooding with po and trace of PbS and ZnS. Also sericite seams. 75.0-76.0m – seams and patches of po in top part of frag. 79.8-79.9m – high po (15%) quasi laminated Zn: 90.6-90.65m – ZnS in an altered quartzite – fractures with chlorite

From To	
68.0-116.0 continued	**MINERALIZATION & ASSOCIATED, HOST STRUCTURE:** 91.7-91.8m – ZnS in an altered quartzite – fractures with chlorite 92.8-92.95m – ZnS in an altered quartzite at 60° to c/a. 92.95-98.5m – occasional hairline fracture with zinc 98.5-98.7m – good disseminated ZnS in quartzite 99.65-99.70m – ZnS in quartzite 100.4-100.6m – 20% disseminated po but no ZnS (conductive) 100.95-101.35m – disseminated ZnS in quartzite (+ fractures) 101.0-108.0m – po in disseminations and patches, also along fractures content not high 108.0-116.0m – fracture po scattered through (moderate) some fractures appear early (offset beds different across fractures).

Sample #	From	To	Length (m)	Pb ppm	Zn ppm	Ag g/t	As ppm	
4288	90.55	90.65	0.10	56	5902	<0.3	10	
4289	90.65	91.65	1.0	15	387	<0.3	3	
4290	91.65	91.80	0.15	87	6176	<0.3	20	
4291	91.80	92.80	1.0	12	741	<0.3	37	
4292	92.80	92.95	0.15	31	7310	<0.3	4	
4293	92.95	94.00	1.05	16	435	<0.3	3	
4294	94.00	95.00	1.0	17	669	<0.3	4	
4295	95.00	96.25	1.25	17	1620	<0.3	<2	
4296	96.25	97.30	1.05	30	413	<0.3	27	
4297	97.30	98.55	1.25	29	514	<0.3	139	
4298	98.55	98.70	0.15	48	5364	<0.3	8	
4299	98.70	99.80	0.10	17	337	0.3	4	
4300	99.80	99.90	0.10	27	1120	0.3	4	

From To	LITHOLOGY: Gabbro Sill
116.0-121.3	**COLOR:** dark brownish green
	PRIMARY TEXTURE: medium crystalline
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: altered mainly to biotite in feldspar matrix
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE:
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Quartzite mixed with siltstone
121.3-147.0	**COLOR:** light gray with dark gray band and wisps
	PRIMARY STRUCTURE: mainly massive, bedding is rare and generally strongly disrupted by soft sed. deformation and dewatering structures. Bedding to core at 131.0m = 70°.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: 121.0-128.1m – intensely silicified, 128.1-147.0m – silicification is intense but patchy, silty argillite, argillite generally intensely sericitic and weakly biotitic.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po and lesser aspy are abundant. The sulphides in small wispy massive sulphide lenses and abundant thin irregular sulphide veinlets resembling dewatering structures. Overall sulphide content 4 to 5% with local zones up to 10% by volume.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite, minor interbedded siltstone and quartzite
147.0-150.0	**COLOR:** gray to light gray
	PRIMARY STRUCTURE: thin to very thin bedded, bedding is distinct but strongly disrupted by dewater and soft sed. deformation
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: silicification is rare, sericitization and biotitization is intense
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is abundant as described previously. Aspy is rare
	ADDITIONAL OBSERVATIONS:

From To	
150.0-156.2	**LITHOLOGY:** Mainly quartzite, some wispy or lensey beds of argillite
	COLOR: light gray
	PRIMARY STRUCTURE: thick bedded, high disrupted bedding, abundant soft sed. deformation and dewatering type structures
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: quartzite beds intensely silicified, argillite generally strongly sericitic with lesser biotite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is abundant as previously described
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite minor siltstone
156.0-159.3	**COLOR:** wispy banded light gray, gray and brownish gray
	PRIMARY STRUCTURE: thin to very thin bedded, bedding distinct, but strongly disrupted. Bedding to core 80°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: strongly sericitic and biotitic
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po less abundant than above but deposited in the same manner.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Mainly quartzite, rare wispy lens of argillite
159.3-167.8	**COLOR:** light gray
	PRIMARY STRUCTURE: massive, no bedding, medium to fine grained
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: intensely silicified with sericite speckling, becomes biotitic towards base
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is locally abundant as small massive lenses and as thin irregular veinlets. Po rarely more than 2% by volume.
	ADDITIONAL OBSERVATIONS:

From To	
	LITHOLOGY: Fragmental consisting mainly of siltstone and argillite clasts with a po matrix in part and in part a siltstone matrix
167.8-180.4	**COLOR:** gray with light gray and dark gray clasts
	PRIMARY STRUCTURE: massive, clast supported, clasts range in size from 10 to 50mm, rounded to sharply angular, clasts have a preferred orientation to core at 62°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: matrix and clasts nearly completely altered to sericite and biotite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po and locally aspy is very abundant. Massive po commonly forms the matrix of fragmental. Sulphide content ranges from 10% to 50%, average 25% by volume for fragmental unit.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Quartzite, interbedded siltstone and silty argillite
180.4-195.5	**COLOR:**
	PRIMARY STRUCTURE: medium to thick bedded, bedding distinct, generally flat
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: silicified in part and strongly sericitic throughout
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po and locally aspy are abundant. Po occurs as small massive lens and thin irregular massive sulphide veinlets. Aspy occur mainly as scattered euhedral crystals, some as large as a centimeter. Sulphide content by volume up to 20% average.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, interbedded argillite Lower Aldridge type of seds
195.5-233.0	**COLOR:** light gray with white banding
	PRIMARY STRUCTURE: medium to thin bedded, bedding sharp-flat, fine grained sediments. Bedding to core at 210.0m = 85°; at 224.0m = 77°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: fine reddish biotitization of siltstone, with intensely muscovitized and or sericitized bed tops.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: 205.0-205.0m – quartz-po-graphite vein cuts core at 12° 195.5-216.0m – po as thin veinlets and small massive blebs still relatively abundant, po becomes rare beyond 216.0m

From To	LITHOLOGY: Meta-siltstone interbedded argillite
233.0-276.5	**COLOR:** light gray to white speckled and banded by dark gray and dark green
	PRIMARY STRUCTURE: medium to thin bedded, bedding distinct, flat to locally wavy. Bedding to core at 247.0m - 77°; at 264.0m - 75°
	GENERAL ALTERATION: section is intensely silicified and albitized and speckled by late black biotitization, from 272.0m to top of underlying gabbro sill biotitization is very intense at 160.5m, irregular band 10cm thick of black tourmaline
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po in general is weakly disseminated throughout alter sediments.
From To	**LITHOLOGY:** Moyie intrusive – gabbro – medium to coarse crystalline, sheared/foliated for first 17.0m 289.3-289.85m – altered quartzite. Foliated sporadically with depth (at 60-75° to c/a). Gets finer grained over short intervals due to shearing and alteration. Paler towards bottom of the hole, medium crystalline
276.5-344.5	**COLOR:** dark green to mottled gray/dark green
	TECTONIC STRUCTURE: 277.0-284.0m – foliated hornblende at 50° to c/a.
	GENERAL ALTERATION: 277.2-277.6m – fine grained altered sediment and gabbro mixed. Some chloritization of the hornblendes (Intense locally). Some biotite developed to low levels. ~334.0-335.4m – pale green, altered chloritic zone (epidote)
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Quite a bit of quartz is incorporated and there are a few narrow quartz veins. Some patches of po but not abundant. Disseminated po not abundant (<1%) Q.V. 302.5m – 6cm quartz-calcite vein 309.0m – 4cm with good po at 50° to c/a. 313.0m – two quartz veins, clear and white at 30° to c/a.
344.5	**END OF HOLE**

PROPERTY: HORN			**HORI COMP:**	**HOLE #: P99-8**
LOCATION: Fecal 4 Hellroaring Creek – DePauli Frag.			**VERT. COMP:**	**LENGTH: 435.9 m**
COMMENCED: Oct 20, 1999	**COMPLETED:** Oct 24, 1999		**CORR. DIP:**	
COORDS: (long)	**(lat)**		**TRUE BEARING:**	**DRILL CONTRACTOR:** Britton Bros.
COORDS: (UTM) (E)	**(N)**	**(EL)**	**% RECOVERY:**	**CORE SIZE:** NQ
COORDS: (grid) (E)	**(N)**	**(EL)**	**LOGGED DATE:**	**CASING:** 0 – 2.13
ELEVATION: 1800 m	**COLLAR: (dip)** -50°	**(Azi)** 180°	**LOGGED BY:** D. Anderson	**CORE STORAGE:** Vine Property
OBJECTIVE:				**Additional Surveys:**
SURVEYS: (depth)	**Dip:**	**Azi:**	**Type:**	**Depth** **Dip** **Azi**

From To	
	LITHOLOGY: Moyie intrusion – fairly coarse crystalline to ~20m with a foliation at 60-70° to c/a. Locally absorbed quartz abundant. Quartz diorite down to ~34m then more medium crystalline, uniform gabbro. Fine crystalline contact phase from about 57.6m.
2.13-59.9	**COLOR:** dark green
	PRIMARY STRUCTURE: 24.1-24.7m – oxidized altered sediment black 46.3-47.1m – altered sediment black (contact at 60° to c/a.)
	TECTONIC STRUCTURE: Alignment of hornblende produces a variable foliation at 70° to c/a to ~25m. Form ~40.5-44.5m sheared approximately parallel to core to 20° - narrow seams of quartz-calcite
	GENERAL ALTERATION: chloritization of hornblende is quite variable
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: po dissemination locally. Not unusual.
	ADDITIONAL OBSERVATIONS:

From To	
	LITHOLOGY: Quartzite – recrystallized, fine grained and alteration to about 68.0m. Bedding not obvious till ~68.0m where it is at 50° to c/a.
59.9-91.0	**COLOR:** brownish to ~68m then gray and white
	PRIMARY STRUCTURE: Bedding at 50° to c/a around 68.0m; 50° at 73.5m; 50° at 86.0m
	TECTONIC STRUCTURE: ~69-88m fine fractures healed by black lining – sometimes with fine po along the fracture also – at 30° and 50° to c/a creasing pattern
	GENERAL ALTERATION: Alteration to ~68m is mix of fine biotite/silica with chlorite on fine fractures – rock is very hard (silicified). 74.7-75.0m – suspect fine brown tourmaline felted mass along with quartz veining at 45° to c/a. Sericite alteration spotty (mainly along with the veins?) Patchy white albite throughout. 86.4-88.45m – glassy, pale brown, very hard (tourmaline DLP; fine grained quartzite DA). Some sericite alteration within, could be brown tourmaline within
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: minor po in some of the quartz veins or "sweats" At ~91.m fracture po starting. Around 62-65m trace of ZnS.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** More argillaceous section – overall still quite hard (silicified). Start to see disrupted beds, pull aparts, incipient fragmentation in a mixed quartzite/argillite package. Fragmental with mixed clasts by ~100m. Still stratabound fabric at ~50° to c/a. Fragmental 99.2-101.7m in 3 or 4 clast types, some intact framework, pebble sized clasts. Argillite clasts look shredded. A few clasts are po rich. Some sliding of fragmental blocks relative to one another.
91.0-101.7	**COLOR:** darker brownish gray
	PRIMARY STRUCTURE: Bedding at 92.5m at 55° to c/a. Fabric is fragmental – clast orientation at 50° to c/a.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: some biotite and sericite. ~103.3m – possible dark clots with tourmaline?
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po patchy and along fracture (low but significant). A few disseminated zones to 15% po.
	ADDITIONAL OBSERVATIONS:

From To	
	LITHOLOGY: Dominated by darker, brownish quartzites, with short more brown argillaceous intervals. Bedding only occasionally noted – disturbed sandy section. 103.4-105.85m – fragmental in a more argillaceous interval
101.7-118.2	**COLOR:** brownish
	PRIMARY STRUCTURE: 101.7m bedding A/Q at 50° to c/a; 106.7m B at 25° to c/a but also some SSD of layered rocks at 30° to c/a. Bedding not obvious and variable. At 115.7m at 40° to c/a.
	TECTONIC STRUCTURE: some fine hairline fracturing at 20° to c/a.
	GENERAL ALTERATION: silicification within the quartzites.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po in fractures and locally within matrix of any fragmental. Po less in non-fragmental and quartzites. 105.8m – 4cm quartz vein with minor PbS-ZnS-po. Occasional aspy crystal visible.
From To	**LITHOLOGY:** Separated out as a fault with multiple slip planes (clay coatings and slickensides). Planes of slip 10-20° to c/a. Oxidized fracture surfaces over first and last meter of zone. Rocks appear to be mostly quartzite (more preserved than argillites)
118.2-126.7	**PRIMARY STRUCTURE:** bedding preserved is at 20° to c/a.
	TECTONIC STRUCTURE: not much for quartz veining
	GENERAL ALTERATION: not notable. Is this a relatively 'late' fault.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: excepting limonite, likely with narrow quartz vein not much indication
From To	**LITHOLOGY:** Quartzites dominate – but argillaceous intervals present. Q=85% A=15%. (too much m.b. altered quartzites for LA). Mixed xxx package, sometimes with t.b. quartzite/argillite interbedded. Overall argillaceous (brownish) throughout but not normal LA sedimentation. Bedding contacts can be sharp to fuzzy.
126.7-192.0	**COLOR:** lighter gray overall, wavy, to occasionally disrupted
	PRIMARY STRUCTURE: Bedding not highly visible initially – at 20° to c/a around 127m; 10-30° around 135m; 25° to c/a at 146m; 155m at 25° to c/a; B at 30° around 160m; 175m at 25-30°; 182.5m at 30° to c/a.
	TECTONIC STRUCTURE: Fractured broken core 126.5-134.0m. Brecciated locally at ~20° to c/a.
	GENERAL ALTERATION: quartzites silicified. Local sericite and biotite. Some very fine grained silicified quartzite intervals
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: aspy patches occasionally. Some po along thin quartz seams in t.b. argillaceous rocks around 137.0m. 147.9-148.15m – at 45° to c/a is quartz vein with high po boundary. 159.65-160.15m – at 45° quartz vein with high po + py bands with biotite and pink hard k-feldspar like mineral (a bit pegmatitic). Po along some thin-bedded seams (not conductive). 183.9-184.0m – po and py disseminated.

From To	
192.0-200.6	**LITHOLOGY:** Dominantly thin-bedded, argillaceous, some thinner beds siltstone. Beds can be wavy, discontinuous.
	COLOR: brownish-gray (greenish)
	PRIMARY STRUCTURE: bedding 10-30° to c/a throughout interval
	TECTONIC STRUCTURE: some narrow quartz/chlorite/calcite zones at 5° to c/a.
	GENERAL ALTERATION: some silicification; sericite but not intense
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po weakly developed in narrow quartz vein. Some minor fracture po.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Mixed t.b. argillaceous and dominated by m.b. quartzites. (similar to above interval) Argillite units are often discontinuous and wispy (alternating sedimentation but not turbiditic in form)
200.6-214.8	**COLOR:** brownish gray overall
	PRIMARY STRUCTURE: bedding – at 30° to c/a.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: silicification of quartzites – greenish coloration due to chlorite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: scattered fracture po. Disseminated po in some of the quartzites. Rare aspy crystal. Some quartz-calcite-po seams.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Mostly f – m.g., glassy quartzite. Bedding rare. Cleaner than quartzites above and below.
214.8-229.5	**COLOR:** more greenish gray
	PRIMARY STRUCTURE: bedding at 221.9m at 30° to c/a.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: overall pale yellow-green colour, fine grained zones (recrystallized silica?)
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: a few glassy quartz veins within 10° of c/a with variable po. Fracture po increasing with depth in the hole. Disseminated po to 3-4%.
	ADDITIONAL OBSERVATIONS:

From To	
229.5-~251.0	**LITHOLOGY:** mixed lithology – equal prop. of Q and A = t.b. more argillaceous interval are disturbed beds, lenticular, pull aparts to incipient fragmentation. Fragmental units limited to floating clasts (small). 1 meter of mixed clast fragmental 240.9-241.9m
	COLOR: gray to brownish gray
	PRIMARY STRUCTURE: bedding present in argillaceous sections as t.b. – 230m at 40°; 234m at 25° to c/a; 238m at 35° to c/a; 240.9m B at 25°; 248m at 40°.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: not notable
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is fracture filling, patches and disseminations. Relatively higher than in above units. Occasional aspy crystals. Higher po 239.4-243.3m conductive to at least 20cm lengths. Massive patch of po at 242.2-242.3m. Scattered aspy crystalline.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** mixed lithologies continue – but less disruption of beds, regular t.b. argillaceous units. Still quartzitic dominant but t.b. argillaceous intervals common.
~251.0-263.1	**COLOR:** brownish-gray
	PRIMARY STRUCTURE: B to 260.0m 40° to c/a.
	TECTONIC STRUCTURE: nil except altered zone ~261.3-263.0m brecciated broken sediments (some movement) po and ZnS (an old fault?) Minor movements
	GENERAL ALTERATION: ~261.3-263m greenish, quartz-calcite veined with some scattered po
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: some moderate po lacework (particularly 259.2-260.0m). 261.8-262.2m – fracture po and py. 261.3-263.0m – quartz-calcite veinlet, chloritic rock, po and ZnS patches)
From To	**LITHOLOGY:** Dominated by brownish argillaceous quartzites. Medium to thick bedded (?)
263.1-270.3	**COLOR:** brownish gray
	PRIMARY STRUCTURE: bedding rare/vague – erratic up to 60° to c/a.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: scattered sericite – some along argillaceous beds
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: occasional patch of po, lesser aspy. Usual disseminated po 1-3%.

From To	
	LITHOLOGY: Mixed interval again – dominated by argillaceous quartzites but regular thin beds of argillaceous material. Beds of quartzite to 30cm thick. The t.b. argillite are wispy, lenticular, eroded quite regularly
270.3-289.8	**COLOR:** brownish gray
	PRIMARY STRUCTURE: bedding 271.6m at 70° to c/a; 281m at 50° to c/a; around 288m at 35° to c/a; 289m at 45°; in mid interval – some biotite/po spotting within quartzites
	TECTONIC STRUCTURE: nil Minor shearing around 286.5m at 10° to c/a.
	GENERAL ALTERATION: sericite bands altering argillite beds occasionally. 280.5-281.2m – argillaceous interval which is chloritized
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: a few patches/fractures-filling po (py). Disseminated po 1 – 4%. 278.1-278.5m – quartz-calcite shatter vein with py, po. From about 286.0m down to (across boundary) more patch/fracture controlled po. Some conductivity over 40cm but only select intervals.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Dominated by argillaceous quartzites. Bedding within argillaceous intervals is vague, wispy, lenticular
289.8-~300.0	**COLOR:** brownish gray
	PRIMARY STRUCTURE: shredded argillaceous beds. Bedding more difficult to see: 295m at 40° to c/a; 299m at 40° to c/a.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: not obvious
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: some stronger disseminated po with argillaceous beds. Fracture po. Some quartzites have unusual amounts of disseminated po. Occasional patch of crystalline aspy
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Mixed lithology, thin to medium bedded, Q=70% A=30%. Quartzites seem more argillaceous. A bit more like typical LA style but ?. below ~340.7m getting more intensely altered and bed forms not as obvious but mixed interbedded A/Q style.
300.0-353.5	**COLOR:** brownish gray
	PRIMARY STRUCTURE: bedding over to 30° near sheared zone. At 304m 35° to c/a; 308m at 40° to c/a; 318m at 50° to c/a; 319.5m at 45°; 325m at 40° to c/a; 330m at 40°; 340m at 40°; 347m at 55° to c/a; 353m at 60° to c/a.
	TECTONIC STRUCTURE: 301-302m – shear at ~20° to c/a. (dark rocks) more po locally. 340.7-342.8m – seds are finely comminuted and dark – shearing ~with the bedding – fine biotite/sericite/chlorite. Shearing (strain) of certain beds continues.
	GENERAL ALTERATION: more pronounced sericitization of the argillite beds. Start of f.g. silicification noted, some very local albite probably. Around 342.0m 10cm of black possibly B-enriched sed. 318.4m – 10cm of very hard silicified (B?) brown siltstone. Getting more frequent/intense with depth. Possible ser-quartz-biotite pegmatite 1-2cm thick starting around >330m. beyond 340m darker seds. Biotite+?
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: below about 302m less po in various forms – still present in short intervals however. Patches of po; 311.3m; 314.3-314.6m; 328.6m 5cm po soaked siltstone; 330.8m 5cm fine grained po and heavily disseminated; 328.1m high po in some sericite beds. 351.4m 5cm quartz vein with chlorite selvages and po with trace cpy (cuts B at a large angle)
From To	**LITHOLOGY:** Meta Siltstone interbedded argillite 403.0-408.5m – gabbro dyke cuts core at 25°
353.5-413.4	**PRIMARY STRUCTURE:** medium to thin bedded, some very thin beds, bedding is flat to disrupted. Bedding to core at 363.0m = 48°; at 389.0m = 40°.
	TECTONIC STRUCTURE: 408.5m – thin shear zone 1cm thick, soft gouge filled cuts core at 15°. Seds are highly fractured from 408.5-410.5m
	GENERAL ALTERATION: silicified throughout, locally intensely silicified. Abundant sericite throughout. Some argillite beds completely altered to sericite, light green muscovite? Finely disseminated throughout. Albitization occurs throughout interval as wispy layers, and bands scattered actinolite occurs with albite. Rare scattered tiny tourmaline needles
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is relatively abundant throughout interval, it occurs as thin irregular bands parallel to bedding and as massive blebs and veinlets. Scattered crystals of aspy are widely scattered throughout interval. Aspy is very abundant from 360.0m to 360.1m (20% by volume) and from 376.0-376.4m (30% by volume)
From To	**LITHOLOGY:** Gabbro sill
413.4-435.9	**PRIMARY STRUCTURE:** coarsely crystalline
435.9	End of hole

PROPERTY: PAKK

LOCATION: PAKK 1 claim, 50m west of West Jack Creek, Hellroaring Drainage

COMMENCED: Nov 3, 1999 **COMPLETED:** Nov 11, 1999

COORDS: (long) **(lat)**

COORDS: (UTM) (E) 554150 E **(N)** 547240 N **(EL)**

COORDS: (grid) (E) **(N)** **(EL)**

ELEVATION: 1500 m **COLLAR: (dip)** -45° **(Azi)** 045°

OBJECTIVE:

SURVEYS: (depth) 167.7 **Dip:** -47° **Azi:** 045°

HORI COMP: 359.8 m

VERT. COMP: 399.6 m

CORR. DIP:

TRUE BEARING:

% RECOVERY:

LOGGED DATE: Nov 1999

LOGGED BY: D.L. Pighin

Type: Sperry Sun

HOLE #: P99-9

LENGTH: 535.7 m

DRILL CONTRACTOR: Britton Bros.

CORE SIZE: NQ

CASING: 0 – 6.10 m

CORE STORAGE: Vine Property

Additional Surveys:

Depth	Dip	Azi
335.4	-50°	048°
457.3	-51°	050°

From To	
6.1-72.10	**LITHOLOGY:** Gabbro sill like contacts
	COLOR: green
	PRIMARY STRUCTURE: medium to coarsely crystalline, fining upwards contacts
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: veins and veinlets of calcite-quartz-garnet and epidote are scattered throughout gabbro sill, veins usually associated with po, cpy and aspy or skutterudite
	MINERALIZATION & ASSOCIATED ALTERATIONS, HOST STRUCTURE: at 19.0m – 10cm thick calcite vein, host po, aspy or skutterudite 24.2-26.7m – quartz-garnet-epidote vein cuts core at 47° 30.7-31.2m – quartz-garnet-epidote vein cuts core at 50° rare speck of ZnS occur adjacent and in epidote veinlets. Po and rare cpy occur disseminated throughout gabbro in alteration zones and in unaltered gabbro.

Sample #	From	To	Length	Cu ppm	Pb ppm	Zn ppm	As ppm	Au ppb
4304	19.0		10 cm	425	25	153	15019	3600

From To	LITHOLOGY: Meta siltstone interbedded quartzite and argillite
72.10-139.2	**COLOR:** light greenish gray, banded black, white and gray
	PRIMARY STRUCTURE: mainly thin to very thin bedded, with scattered medium beds, rarely a thick bed, primary structures are distorted by intense alteration. Bedding to core at 75.0m = 67°; at 86.0m = 64°; at 96.0m = 72°; at 108.0m = 80°; at 126.0m = 80°.
	TECTONIC STRUCTURE: 79.4-79.8m – bedding parallel shear marked by soft sed. gouge and brecciation.
	GENERAL ALTERATION: the section is intensely silicified, with scattered bands of albitization and abundant thin beds 1cm to 50cm thick completely altered to fine crystalline tourmaline (tourmalinite). Bands of light greenish muscovitization are abundant, hair line irregular veinlets of muscovite and tourmaline needles. Tourmaline is both brown and black generally occur in all the beds no matter what alteration present.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: thin veinlets and bands of massive epidote are scattered throughout section. Wisps and disseminated po occur throughout the section po and cpy commonly associated with epidot. Thin irregular veinlets of calcite are generally scattered throughout section. One large scheelite crystal at 39.0m associated with calcite veinlets. At 72.4m and 73.0m – rare tiny crystals of scheelite
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Gabbro Sill ?
139.2-160.8	**COLOR:** green
	PRIMARY STRUCTURE: fine to medium crystalline
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION:
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare quartz vein with po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Quartzite
160.8-170.2	**COLOR:** light gray
	PRIMARY STRUCTURE: very thick bedded, no bedding, medium to fine grained
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: intensely silicified and sericitized, with some fine biotite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is rare and occurs mainly in hairline irregular fractures.
	ADDITIONAL OBSERVATIONS:

From To	LITHOLOGY: Gabbro sill
170.2-199.0	COLOR: Dark green
	PRIMARY STRUCTURE: medium to coarsely crystalline with very finely crystalline margins
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: nil
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare specks of po
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, minor interbedded argillite
199.0-351.5	**COLOR:** mainly gray to dark gray
	PRIMARY STRUCTURE: mainly medium to thick bedded, with widely scattered 10cm to 100cm sequences of thin bedded argillite. Rare but widely scattered rip-up clasts. Bedding to core at 212m = 73°; at 231.5m = 71°; at 255.0m = 80°; at 270.0m = 72°; at 287.5m = 79°; at 333.0m = 70°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally intensely silicified and sericitized with abundant fine biotite and light green muscovitization (chlorite?) rare and widely scattered thin bands of massive crystalline tourmaline 1 to 2cm thick. 210.0-214.0m – scattered dolomite veinlets with associated dolomitization of adjacent sediments.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po is not abundant but does occur locally as small massive lenses and disseminations and in veinlets. At 295.3m – thin quartz vein cuts core at 25° , host po and rare ZnS and PbS
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite, interbedded siltstone
351.5-360.9	**COLOR:** gray, banded dark gray
	PRIMARY STRUCTURE: mainly thin to very thin bedded, with rare medium beds. Bedding generally flat and distinct, generally fine grained siltstones, some thin beds are graded, fining upwards. Bedding to core at 358.0m = 77°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally sericitic and biotitic, siltstone generally silicified
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: rare disseminated po
	ADDITIONAL OBSERVATIONS:

From To	
360.9-384.0	**LITHOLOGY:** Siltstone, minor argillite
	COLOR: gray with dark gray banding
	PRIMARY STRUCTURE: medium to thick bedded, bedding indistinct to locally distinct, bedding generally flat, medium to fine grained, some graded beds
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: siltstones generally silicified with widely scattered subhedral pink garnets. Finely biotitic and sericitic throughout. Scattered patches and lineations of greenish muscovitization (chlorite?) alteration (overprinted) rare bands (10cm thick) of albitization and pink garnet scattered throughout.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Thin quartz-biotite veins up to 10cm thick cut core at 20°, these veins generally contain abundant po and minor cpy
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Argillite, interbedded siltstone
384.0-389.4	**COLOR:** gray, banded dark gray
	PRIMARY STRUCTURE: mainly thin to very thin bedded, bedding generally sharp and flat, with local zones of disrupted bedding. Bedding to core at 389.0m = 80°.
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: generally biotitic and sericitic. Siltstone generally silicified with subhedral pink garnet.
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: Rare thin quartz veinlets with minor po.
	ADDITIONAL OBSERVATIONS:
From To	**LITHOLOGY:** Siltstone, interbedded quartzite, minor argillite. Base of Footwall Quartzite
389.4-443.0	**COLOR:** light gray and gray
	PRIMARY STRUCTURE: medium to thick bedded with widely scattered thin to very thin beds of argillite. Beds are sharp-flat, rarely wavy. Generally medium to fine grained. Bedding to core at 410.0m = 84°; at 428.0m = 83°
	TECTONIC STRUCTURE: nil
	GENERAL ALTERATION: siltstone and quartzite, generally silicified and sericitic. Argillite beds sericitic and biotitic, scattered bands of albitization associated with pink garnets, and coarsely crystalline biotite
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: po with rare ZnS occurs in veins 1cm to 5cm thick cutting core at 30°. 442.7-443.0m = abundant po as thin massive irregular bands parallel to bedding hosted by thin bedded sericitic argillite bands. Po bands rarely more than 5mm thick.

From To	
	LITHOLOGY: Siltstone, interbedded argillite Lower Aldridge type seds
443.0-535.7	**COLOR:** light reddish gray band white and light green
	PRIMARY STRUCTURE: mainly medium to thin bedded, with some thin beds, bedding generally sharp and flat, generally very fine grained siltstone with whitish argillite bed tops. Bedding to core at 447.0m = 70°; at 493.5m = 77°; at 530.0m = 82°.
	TECTONIC STRUCTURE:
	GENERAL ALTERATION: siltstone beds generally silicified with fine reddish brown biotite, argillite interbeds generally altered to sericite or muscovite, abundant over printed bands and patches of light green fine muscovitization, scattered bands of white albitization usually with subhedral pink garnets. Rare thin (1cm) of massive crystalline tourmaline
	MINERALIZATION & ASSOCIATED, HOST STRUCTURE: the section contains widely scattered hairline to 4cm thick quartz-calcite-po veinlets cutting core axis at 22° and 55° and locally parallel to bedding, rare crystals of ZnS occurs in some of these veinlets.
	ADDITIONAL OBSERVATIONS:
From To	
535.7	**End of Hole**

Tip

Pit

Gyle

Alki Creek

Argyle Creek

569000 E

5498000 N

Horn

Horn

OPEN

St Mary River

St Mary Lake

Horn

Burn

Burn

Burn

Meachen Creek

Horn

DDH 99-6,7,8

Fecal

DDH 99-4,5

DDH P99-1,2,3

Pokk

5489000 N

552000 E

Hellroaring Creek

DDH 99-9

5489000 N

569000 E

0 1 2
kilometres

HORN/BURN PROPERTY

Claims Basemap

showing drill hole locations

This Plot: Feb.22/00 pm	Date: Feb. 22, 2000
Map Ref.: 82F059/060	Scale: 1:50,000

Last Update (Y/M/D): 2000/02/22 am (REX)

CAD Filename: c:\Horn-Burn\claimsbdy.dwg

FIGURE 2