

EXPLORATION  
NTS: 94C/3

COMINCO LTD

LOG NO:	JAN 26 1995	U
ACTION:		
FILE NO:	WESTERN CANADA	
	05 January, 1995	

ASSESSMENT REPORT  
DIAMOND DRILLING ON PAR 7 MINERAL CLAIM  
PAR PROPERTY  
OMINECA MINING DIVISION, BRITISH COLUMBIA

Latitude: 56°07'

Longitude: 125°00'

WORK PERFORMED

September 08 - 27, 1994

OWNER AND OPERATOR - COMINCO LTD.

M.G. WESTCOTT

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,732

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## ASSESSMENT REPORT - PAR PROPERTY (PAR 7 CLAIM)

### INTRODUCTION

The Par 7 mineral claim is part of a large contiguous claim group, comprising 37 claims (598 units) which collectively make up Cominco Ltd's 100% owned Par property. Cominco staked the Par 1-7 mineral claims in 1990, following discovery of soils anomalous in Pb, Zn, Ag and Fe over an area of 3.5 km x 4.5 km. The soil anomaly is underlain by a north-northwest trending package of Lower Cambrian to Middle Devonian carbonates and clastics. In 1991 the remainder of the Par property claims were staked to cover extensions of the prospective stratigraphy.

Exploration programs in 1990 and 1991 involved: grid soil sampling, geological mapping, airborne and ground geophysics and trenching. Results from the geochemical and geophysical surveys collectively defined a northerly trending zone deemed prospective for hosting Pb/Zn mineralization. Trenching within this zone exposed mineralized bedrock, including a 17.2 m interval containing 3.5% Pb, 8.4% Zn and 14.2 g/t Ag. In 1992 a diamond drilling program was carried out in the vicinity of trenches and along the zone of coincident geophysical (EM) and geochemical (Pb, Zn, Ag, Fe) anomalies.

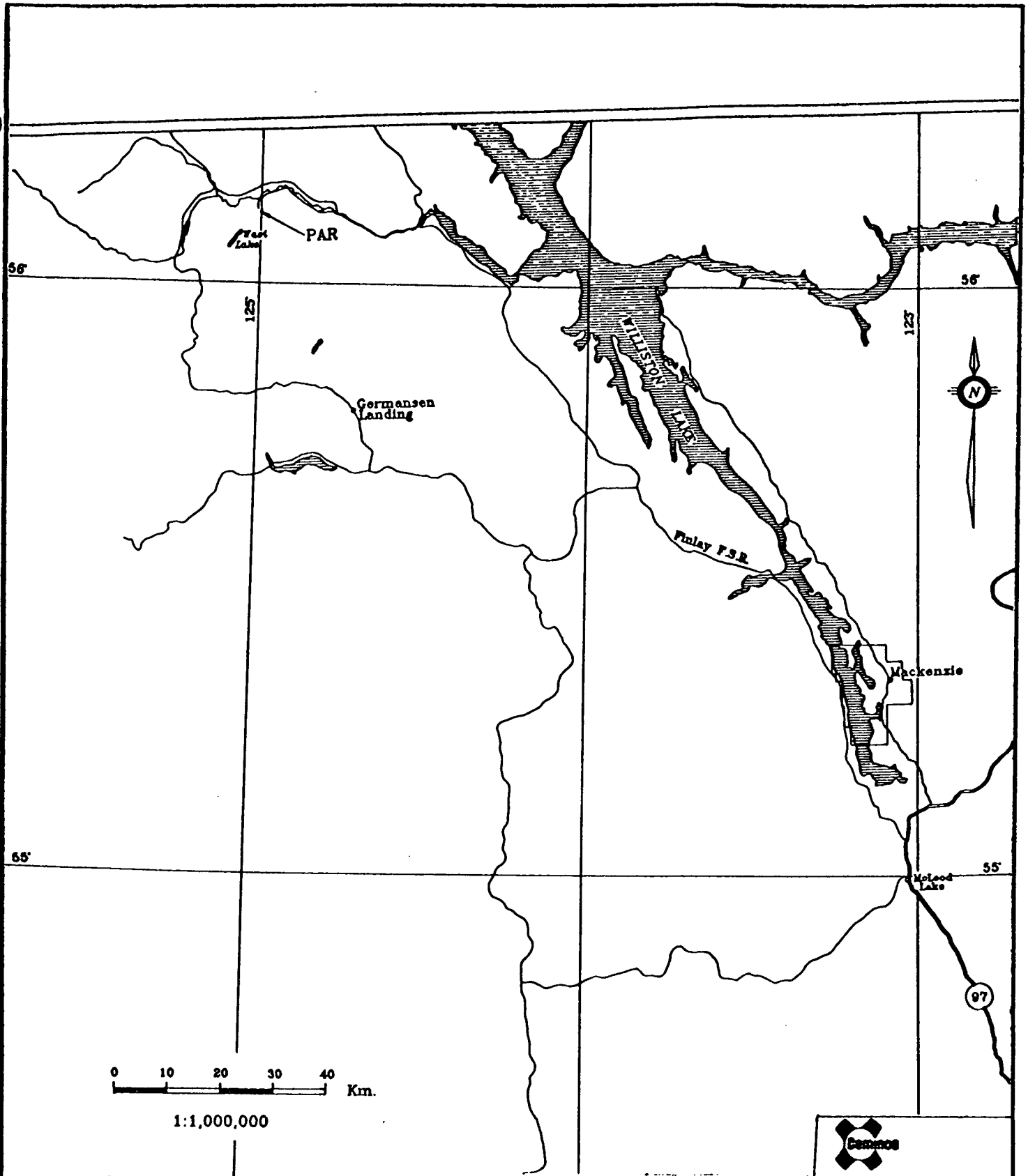
In 1993, a diamond drill hole on the Par 7 claim intersected two mineralized intervals assaying Zn 6.9%, Pb 1.6%, Ag 18.4 g/t, Ba 20.7% over 4.5m and Zn 3.1%, Pb 3.2%, Ag 32.0 g/t over 3.1 m. In 1994 a four hole drill program was carried out to test the stratigraphic extensions of these two intersections. The following report pertains to the 1994 drill program and declares related expenditures for assessment credit applicable to Par 7 and adjoining mineral claims. Partial funding for the 1994 drill program was provide through an Explore B.C. *Mineral Exploration Incentive Program Grant*.

### LOCATION, ACCESS AND PHYSIOGRAPHY

The Par property is located 220 km northwest of Mackenzie, B.C. and 10 to 40 km north-northwest of Germansen Landing (Figure 1). The property is in the Omineca Mining District on NTS map sheets 94C/2,3 and 93N/15,16 and is centered about latitude 56°03' N and longitude 124°50' W.

A well maintained network of logging roads stemming from Fort St. James and Mackenzie areas provide access to the Par claim group. Tenakihi airstrip, located at Osilinka logging camp, 9 km northwest of the property, is presently in good condition and can accommodate mid-sized aircraft.

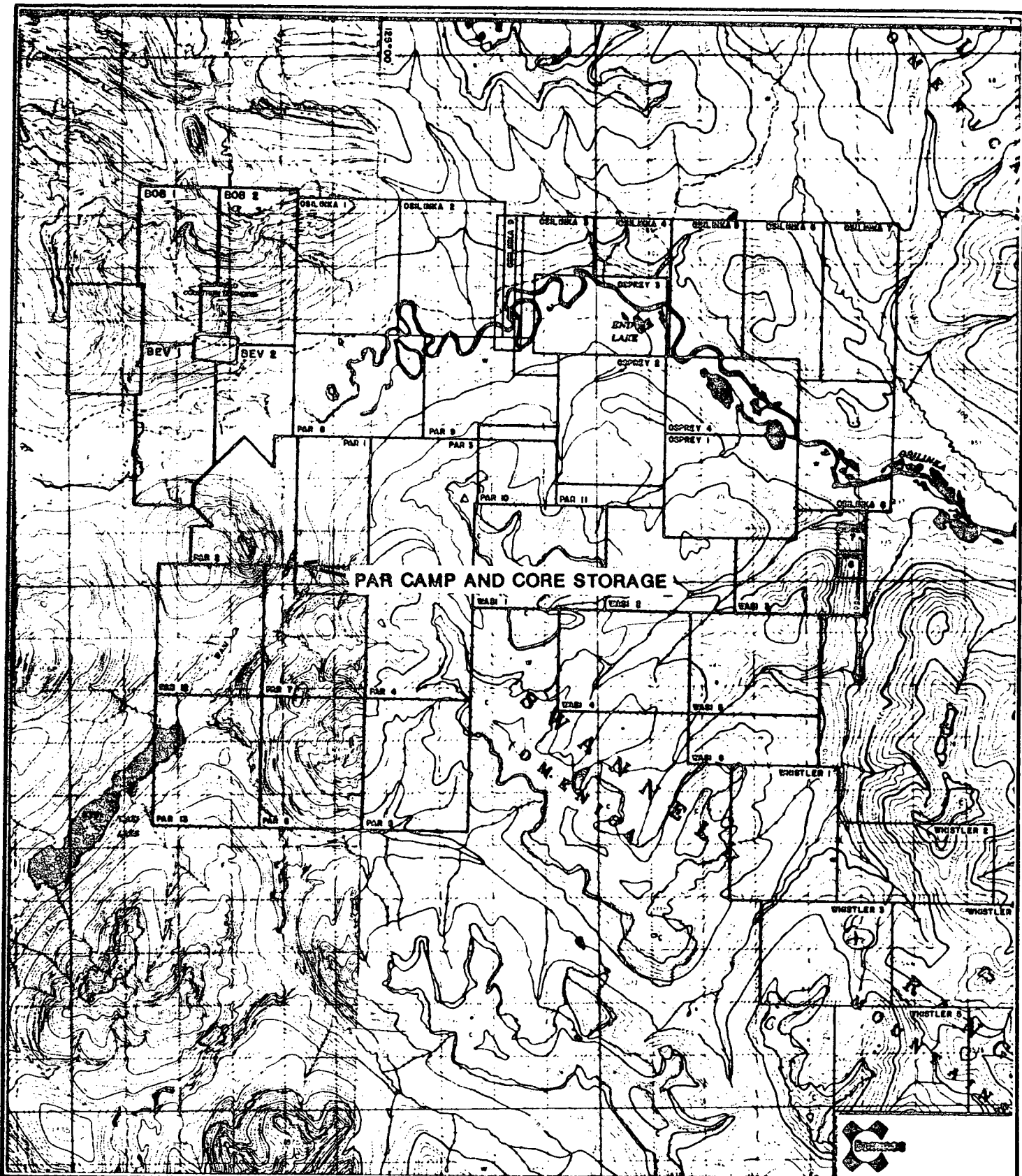
Topography in the area is moderate to steep, ranging from 825 to 1900m elevation. Tree line is at 1700 m, below which vegetation consists primarily of mature stands of spruce, pine and hemlock. Underbrush is typically sparse and doesn't usually inhibit navigation. Portions of the property have recently been logged.



Drawn by:		Traced by:	
Revised By	Date	Revised by	Date

**PAR PROPERTY LOCATION MAP**

Scale: 1,000,000      Date: Oct,1992      **FIGURE 1**



Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

## PAR PROPERTY CLAIM MAP

Scale: 1:1,000,000

Date: Jan, 1995

Plate: Fig. 2

## TENURE

The Par property consists of the following claims; all are owned 100% by Cominco Ltd, 700-409 Granville Street, Vancouver, B.C. V6C 1T2.

<u>Claim Name</u>	<u>Record No.</u>	<u>Size</u>	<u>Date Rec</u>	<u>Date/Due</u>
Dream 1	308405	1	Apr 01/92	Apr. 01/95
Dream 2	308406	1	Apr 01/92	Apr. 01/95
Dream 3	308407	1	Apr 01/92	Apr. 01/95
Dream 4	308408	1	Apr 01/92	Apr. 01/95
Echo 3	303743	20	Sep. 04/91	Sep. 04/95
Echo 4	303744	20	Sep. 04/91	Sep. 04/95
Echo 5	303745	20	Sep. 04/91	Sep. 04/95
Echo 7	306623	20	Nov 30/91	Nov. 30/95
Echo 8	306624	18	Nov. 30/91	Nov. 30/95
Osilinka 1	303712	20	Aug. 29/91	Aug. 29/96
Osilinka 2	303713	20	Aug. 29/91	Aug. 29/96
Osilinka 3	303714	18	Aug. 29/91	Aug. 29/96
Osilinka 4	303715	18	Aug. 28/91	Aug. 28/96
Osilinka 5	303716	18	Aug. 28/91	Aug. 28/96
Osilinka 6	303717	18	Aug. 29/91	Aug. 29/96
Osilinka 7	303718	18	Aug. 25/91	Aug. 25/96
Osilinka 8	303719	20	Aug. 27/91	Aug. 27/96
Osilinka 9	303720	5	Aug. 30/91	Aug.30/96
Par 1	242222	18	Jun. 22/90	Jun. 22/2000
Par 2	242223	20	Jun. 22/90	Jun. 22/2000
Par 3	242671	20	Sep. 10/90	Sep. 10/2000
Par 4	242672	20	Sep. 08/90	Sep. 08/2000
Par 5	242673	20	Sep. 08/90	Sep. 08/2000
Par 6	242674	20	Sep. 09/90	Sep. 09/2000
Par 7	242675	20	Sep. 09/90	Sep. 09/2000

Par 8	303721	20	Aug. 26/91	Aug. 26/2000
Par 9	303722	20	Aug. 27/91	Aug. 27/2000
Par 10	303723	9	Aug. 31/91	Aug. 31/2000
Par 11	303724	4	Sep. 01/91	Sep. 01/95
Par 12	303725	20	Sep. 02/91	Sep. 02/2000
Par 13	303726	20	Sep. 03/91	Sep. 03/2000
Wasi 1	303727	20	Aug. 31/91	Aug. 31/2000
Wasi 2	303728	20	Aug. 31/91	Aug. 31/97
Wasi 3	303729	20	Aug. 30/91	Aug. 30/97
Wasi 4	303730	20	Aug. 31/91	Aug. 31/97
Wasi 5	303731	20	Aug. 30/91	Aug. 30/97
Wasi 6	303732	10	Aug. 30/91	Aug. 30/97

## HISTORY

The area currently comprising Cominco Ltd's Par property covers a number of mineral showings that were previously staked and have been restaked and worked intermittently. All showings are described as carbonate-hosted stratabound lead, zinc, silver  $\pm$  barite styles of mineralization. An inventory of these and other showings has recently been compiled by Ferri, F. et al. (1992) as part of BCDM Open File Paper 1992-1.

In 1990 Cominco Ltd carried out a reconnaissance program in the area, in part involving silt and soil sampling stratigraphic extensions of Lower Cambrian to Middle Devonian carbonates hosting known mineral occurrences. In the course of this program the area in the vicinity of the Weber showing, located at latitude 56°07'23" and longitude 125°01'31", was staked (Par 1 and 2) and evaluated. The Weber showing, originally staked in 1929, consists of patchy and disseminated galena, sphalerite and barite in Lower Cambrian dolomite. Contour and grid soil sampling defined an extensive Pb,Zn,Ag,Fe anomaly and an additional five claims (Par 3-7) were staked.

In 1991 a program involving geological mapping, grid soil sampling, backhoe trenching, airborne EM and ground geophysics (HLEM, Mag, IP, VLF) was carried out and defined an area (4.5 km x 1.0 km) with anomalous soil geochemistry (Pb, Zn, Ag, Fe) and several conductors.

In 1992 an area with coincident geochemical and geophysical (HLEM conductors) anomalies was drill tested with 16 holes, totalling 1346 m.

In 1993 four holes (313 m) were drilled on the Osilinka 6 claim, located 10 km NE of the 1992 drilling. Drilling was preceded by geological mapping, line cutting (19.5 km), road (2.0 km) and

drill pad construction and ground geophysics (HLEM 16.8 km, IP 7.2 km). A single 205 m hole was drilled on the Par 7 claim at the end of the 1993 program. This drill hole encountered two interesting mineralized intervals which warranted further drill testing in 1994.

#### WORK PERFORMED IN 1994

The 1994 exploration program entailed drill road/pad construction (1.0 km), four diamond drill holes totalling 1164 m, and drill road reclamation. A tent camp, used in previous years, was reconstructed, providing accommodation for the 6-8 person crew. Work was carried out from September 08 through 27th.

#### GEOLOGY

##### Regional

The Par property is situated at the boundary between the Omineca and Intermontane tectonostratigraphic belts. Rocks from four terranes including, from east to west, Cassiar, Slide Mountain, Harper Ranch and Quesnel outcrop in the area. Cassiar Terrane represents a displaced segment of North American miogeoclinal strata of Upper Proterozoic and Paleozoic age. Slide Mountain Terrane represents an Upper Paleozoic sedimentary and volcanic oceanic assemblage and occurs structurally above Cassiar Terrane. Further west, Quesnel Terrane, which can be subdivided to include the Harper Ranch Terrane, is composed of two volcanic and sedimentary assemblages, the Upper Triassic to Lower Jurassic Takla Group and the Upper Paleozoic Lay Range Assemblage. The western margin of Quesnel Terrane is intruded by Triassic to Cretaceous monzonitic and syenitic rocks of the Hogem Intrusive Complex.

##### Local

Rocks underlying the Par Property include Lower Cambrian to Mississippian carbonates and lesser clastics. Stratigraphy was previously classified using nomenclature applied to miogeoclinal strata of the Cassiar Platform, however, recent 1:50:000 scale mapping by BCDM has resulted in new stratigraphic nomenclature, as summarized below (After F. Ferri, et al. 1992, Open File 1992-11). Drill section legends are with respect to original nomenclature, as to maintain continuity with earlier drill core logging.

#### **Upper Devonian to Lower Mississippian**

Big Creek Group:  
(Earn Gp. equivalent)

Shale, argillite and siltstone, dark grey, blue-grey and black, thin to very thinly bedded and platy to wavy bedded.



## Middle Devonian

Otter Lakes Group:  
(McDame Gp. equivalent)

Dolomite and limestone, dark to light grey, fetid, poorly bedded, locally fossiliferous, grey, massive.

## Middle Ordovician to Lower Devonian

Echo Lake Group:  
(Sandpile Gp. equivalent)

Upper - Dolomite and limestone, pale to medium grey, thin to massively bedded, medium crystalline and sugary, may be bioclastic, oolitic and contain carbonate breccia horizons, locally silicified and may exhibit algal structures.

Lower - Argillite, dark grey and graptolitic. Argillaceous, planar bedded, medium to dark grey limestone.

## Cambrian and Ordovician

Razorback Gp:  
(In part Road River equivalent)

Upper - Calcareous argillite, argillaceous and dolomitic limestone, dark grey, thinly bedded.

Lower - Argillite, shale, dark grey to grey or silvery, thinly bedded, may contain sections of sericitic phyllite or schist, white to greenish.

## Lower Cambrian

Atan Group

Mount Kison Fm:  
(Rosella Fm. equivalent)

Limestone, grey to white and mottled, recrystallized, thin, wavy indistinct and discontinuous bedding, slightly argillaceous and may be dolomitized.

Mount Brown Fm:  
(Boya Fm. equivalent)

Sandstone, impure quartzite, grey-brown to maroon, moderately to thickly bedded, interlayered with siltstone and phyllite, dark grey to grey-green, thin to thickly bedded, minor limestone nodules.

Above mentioned stratigraphy forms a broad, northwest trending syncline, truncated to the north by an east-west fault contact with Proterozoic rocks. The Par 7 claim covers a portion of the syncline's western limb.

A variety of breccia types, including debris flow/slump breccias, solution collapse, and vein/pseudo breccias, are recognized at a number of localities on the property. In many instances, minor amounts of pyrite, sphalerite, galena, and barite occur in association with these breccias, which occur in Middle Devonian through Lower Cambrian stratigraphy.

#### DIAMOND DRILLING

Four diamond drill holes, totalling 1164 m, were drilled on the Par 7 claim in 1994. Falcon Drilling Ltd. of Prince George, B.C. was the drill contractor. A skid-mounted Longyear 56 drill was used to drill NQ size core.

The objective of the 1994 drill program was to drill test the up/down dip and lateral continuity of two significant mineralized intersections encountered in DDH93-21. The mineralized intervals included 6.9% Zn, 1.6% Pb, 18.4 g/t Ag and 20.7% Ba over 4.5m and 3.1% Zn, 3.2% Pb, and 32.0 g/t Ag over 3.1m.

Drill core was logged and select intervals were sampled for geochemical analyses (Pb, Zn, Ag). Core is stored in racks at the 1994 camp (see Plate 1).

#### GEOCHEMICAL ANALYSES

All drill core samples were analyzed at Cominco Exploration Research Laboratory, 1486 East Pender Street, Vancouver, B.C.. Samples were analyzed for zinc, lead and silver using Aqua Regia decomposition and AAS determination. Intervals sampled and analytical results are tabulated in Appendix IV.

## RESULTS AND CONCLUSIONS

Four diamond drill holes successfully tested the targeted stratigraphy, but failed to intersect any significant mineralization. Minor amounts of pyrite, sphalerite and galena were encountered locally; best grades were 18,750 ppm Pb, 17,700 ppm Zn, 20.7 ppm Ag over 1.5m and 10,100 ppm Pb, 43,300 ppm Zn, 11.8 ppm Ag over 0.5m. The two interesting mineralized intervals encountered in 1993 drill hole 93-21 proved not to be laterally continuous and are therefore no longer considered economically prospective. At present, no further work is recommended for this portion of the Par property.

Report by: Mike Westcott  
M.G. Westcott  
Geologist

Endorsed by: K.R. Pride  
K.R. Pride  
Senior Geologist

Approved for  
Release by: John Hamilton  
J.M. Hamilton P. Eng.  
Manager, Exploration  
Western Canada

mgw  
Distribution:  
Mining Recorder  
Western Canada Files

## APPENDIX I

### REFERENCES

- Ferri, F. and Melville, M. (1990): Geology between Nina Lake and Osilinka River, North Central B.C. (93N/15, north half and 94C/2, south half); B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 1989, Paper 1990-1, pages 101-114.
- Ferri, F. , Dudka, S. , and Rees, C.: (1992a): Geology of the Uslika Lake Area, Northern Quesnel Trough, B.C. (94C/3,4,6); B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 1991, paper 1992-1.
- Pauwels, A.M. and Westcott, M.G. (1992) Par property Year End Report, Cominco Ltd files.
- Westcott, M.G. (1992) Assessment report, Diamond Drilling on Par 1 mineral claim, Omineca Mining Division, British Columbia.
- Westcott, M.G. (1993) Assessment report, Diamond Drilling on Par 7 mineral claim, Omineca Mining Division, British Columbia.

## APPENDIX II

### STATEMENT OF EXPENDITURES

PAR 7 MINERAL CLAIM  
(work performed September 8-27, 1994)

Staff Costs:

M.G. Westcott - 30 days @ \$300/d	
A.P. Roberts - 25 days @ 300/d	
D.N. Senft - 25 days @ \$220/d	
	\$22,000
Consultant: A.B. Mawer 10 days @ \$350/d	3,500
Domicile: 125 person-days @ \$120/d	15,000
Diamond Drilling: 1164 m @ \$102/m*	
*includes: mob/demob, supplies, and meterage costs	118,700
Road and Drill pad construction: 80 Hoe-hours @ \$100/h	8,000
Geochemical Analyses: 140 samples @ \$10/sample	1,400
Geology Equipment and expense accounts	1,000
Truck rental	2,200
Drafting: 4 days @ \$250/d	1,000
	<hr/>
	\$172,800

**APPENDIX III**

**DRILL CORE LOGS**

DRILL LOG SUMMARY  
PAR DDH 94-25

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	11	CASING/OVERBURDEN
11	15.8	MCDAME GROUP. Dark grey-blk variably calcareous (dolomitic) planar, laminated shale.
15.8	238.9	SANDPILE GROUP. Light-medium grey, f-med grained, fairly msv dolomite. Algal laminations, carbonaceous fracture fillings and fenestral textures typify interval. Occasional qtz and cc veining throughout.
238.9	308.6	SANDPILE GROUP. Dark grey, mottled dolomite with occasional white dolspar/calcspar veining/mosaic vein brxx. Msv mottled, and locally fenestral textured.
308.6	313.8	ROSELLA FM: Dark grey to blk, mixed calcareous + non-calcareous shale. Fine carbonaceous + pyritic laminations.
313.8	349.7	ROSELLA FM: medium-dark grey, msv, variably carbonaceous lst.

END OF HOLE

MINERALIZATION: No significant mineralization, tr - 2% py locally.

Property: PAR District: Omineca Hole No.: 94-25  
 Commenced: Sept.21/94 Location: Par Main Grid, S. Length: 349.9 m  
 Completed: Sept.24/94 Core Size: NQ Cor. Dip: -90  
 Coordinates: 19300N 5335E Claim Reference: Par 7 True Brg:  
 Contractor: Falcon % Recovery: 95-98%  
 Logged by: DNSenft  
 Objective: Test southern extension of mineralized stratigraphy intersected on east side of fault in DDH 93-21.

Metres		Description
From	To	
0	11.0	Casing, rubble and overburden.
11	15.8	<b>DARK GREY TO BLACK, VARIABLY CALCAREOUS (dolomitic) SHALE (5d?). Carbonaceous planar dolomite laminations; breccia zone in the lower half of the interval. Local pyrite laminations.</b>
	13.5 - 15.2	Possible depositional breccia (diamictite?). Dark grey shaley clasts make up 70% of the rock, in a matrix of black fine-grained mudstone.
	15.2 - 15.8	Fault zone. Rock is very fractured and broken up. Fault breccia with clasts of both overlying shale and underlying dolomite.
		Core to bedding angles: 11.5 m - 85°.
15.8	238.9	<b>LIGHT TO MEDIUM GREY, FINE TO MEDIUM GRAINED DOLOMITE (4a) WITH ABUNDANT CARBONACEOUS LAMINATIONS AND FRACTURE FILLINGS.</b> Fairly massive mottled rock, commonly exhibiting algal laminations and occasionally fenestral textures. Carbonaceous material fills most fractures and solution cracks, as well as occurring as laminae. Locally, blk carbon filled fractures define an intense stockwork, and occasionally forms a vein breccia matrix. Quartz veins (5-10 mm thick) and calcite veinlets present locally. Bedding is indistinct. Mineralization is rare, but narrow veins with pyrite, sphalerite and galena can be seen locally (eg 17.1 m). There are several sections (1-3 m wide) of broken-up silicified rock. White "mountain leather" is found as a coating on several of the fractured open surfaces.



69.7 - 74.4 Discontinuous mosaic breccia texture where dolomite flooding/veining is most intensive. Dolomitic clasts vary in size from 5 mm to 5 cm, and make up 40-60% of the breccia.

145.4 - 148.5 bull white, barren quartz vein. Contact at 145.4 is sharp, but core to bedding angle is indistinct due to rubbled nature of the rock. Basal contact is more gradational, with large clasts of dolomite incorporated into the quartz vein in the lower 60 cm.

208.0 - 208.8 Bull white quartz vein, associated with minor pyrite. Both contacts are gradational. Dolomite 10 m on either side of this vein is also quite siliceous, with smaller quartz veins and silica ribs common.

229.0 - 238.9 zone of gradual darkening of the dolomite, from medium to dark grey. 50% of core is rubbly.

Core to Bedding Angles: 19.2 m - 80°; 34.4 m - 85°; 46.3 - 85°; 76.8 - 75°; 96.0 - 70°; 131.1 - 75°; 185.0 - 65°; 214.2 - 75°; 235.8 - 80°.

Samples: 17.4 m - 17.6 m  
35.5 - 35.7  
51.2 - 51.4  
72.3 - 72.5  
90.5 - 90.7  
108.8 - 109.0  
130.2 - 130.4  
154.4 - 154.6  
172.9 - 173.1  
202.4 - 202.6  
221.5 - 221.7 - minor pyrite laminations  
237.4 - 237.6

238.9 - 263.5 **DARK GREY, MOTTLED DOLOMITE WITH OCCASIONAL WHITE DOLSPAR/CALCSPAR VEINING/MOSAIC BRECCIA (4c).** The breccia makes up approximately 65% of this interval. The clasts in the breccia are medium to dark grey dolostone, and make up 30 to 80% of the rock. Many of the larger clasts exhibit a fenestral texture, this is also the predominant texture at the boundaries of the breccia where it grades into dolomite. There appears to be two phases of brecciation, the first due to silica flooding, the second due to an overprinting dolspar brecciation, in which previously brecciated clasts float in a coarse dolspar matrix. The clast boundaries vary

from slightly fuzzy to quite distinct. The interbedded dolomite is somewhat darker grey, prevasively mottled and occasionally exhibits zebra textures. About 50% of interval is broken up.

Core to bedding angles: 239.7 - 80°  
249.2 - 75°  
262.1 - 80°

Samples: 256.9 - 257.1

- 263.5      308.6 MEDIUM TO DARK GREY, MASSIVE DOLOMITE WITH A MOTTLED TO FENESTRAL TEXTURE (4c). Rock is similar to overlying interval but is darker grey, and is slightly calcareous locally. Rock is variably siliceous, with quartz blebs and veinlets throughout. Carbonaceous laminae are still present, but less plentiful than above intervals. Minor py occurs locally in fractures and quartz dolomite veins. Approximately 60% of this interval is broken up.

Core to bedding angles: 273.0 m - 75°  
274.4 - 70°  
303.7 - 70°

Samples: 276.3 - 276.5  
297.2 - 297.4

- 308.6      313.8 DARK GREY TO BLACK, VARIABLY CALCAREOUS TO NON-CALCAREOUS, MASSIVE ROSELLA SHALE (2e). Fine carbonaceous and pyritic (1-2% locally) laminations define bedding. Minor quartz and calcite veinlets crosscut bedding throughout. Upper 20 cm is brecciated (depositional?), consisting of intermixed shale + dolomite frags in a shaly matrix.

313.1 - 313.8 Lower gradational contact zone. 20 cm of this interval is interbedded Rosella limestone, contacts with shale are sharp at 80°. Massive and wavy laminated pyrite comprises 30% of interval.

Core to bedding angle: 309.6 m - 75°  
312.8 - 70°

Samples: 310.1 - 310.3

313.8

349.9 MEDIUM TO DARK GREY, Pervasively calcite veined ROSELLA LIMESTONE (2a 2c). Generally very massive except for irregular calcite veins which make-up 5-15% of the rock, and locally up to 60%, where calcite stockwork forms vein breccias (eg 321.3 - 321.5). Rock is locally oolitic, and small bioturbation burrows are present infrequently. Black, carbonaceous masses and laminations present throughout this interval. Minor pyrite in laminations locally. Rock is fairly competent and cores well. Bedding defined by carbonaceous laminae.

340.6 - 349.0 Dark grey massive limestone, with significantly less calcite veining. There is also an increase in pyrite mineralization (1-2%) occurring in veins, as laminations and disseminations. Slightly more argillic and less limy.

Core to bedding angles: 321.6 - 70°  
343.1 - 75°

Samples: 328.0 - 328.2  
344.4 - 344.6

END OF HOLE

## DRILL LOG SUMMARY

### PAR DDH 94-24

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	6.3	OVERBURDEN/CASING.
6.3	124.4	ROSELLA FM: lt-med grey,msv, f. grained lst + local dolomite. Variably carbonaceous, occasional thin argill. beds.
124.4	173.7	ROSELLA FM: Dk grey to blk, variably calcareous to non-calcareous shale.
173.7	222.8	ROSELLA FM: lt-med grey, msv, stylolitic lst with occasional carbonaceous banding.
222.8	321.8	ROSELLA FM: med-dk grey, mottled, msv, oolitic + bioturbated lst with local dolo.
321.8	357.8	ROSELLA FM: lt-med grey, msv f. gr. lst + dolo.

**MINERALIZATION:** Few local patches (10-40 cm) of dissem f. grained py (2-10%), sph (tgr-10%), Gal (tr-10%) associated with calcspar/dolspar flooding/veining of relatively clean lst. No economically significant intersection.

**DRILL HOLE RECORD**

**COMINCO LTD**

**Page 1 of 5**

Property: PAR District: Omineca Hole No.: 94-24  
Commenced: Sep.17/94 Location: Par Main Grid Length: 357.8  
Completed: Sep.20/94 Core Size: NQ Cor. Dip: -90  
Coordinates: 19200N,5050E Claim Reference: Par 7 True Brg: Vertical  
Contractor: Falcon % Recovery: 98-100%  
Logged by: DNSenft  
Objective: Test stratigraphic projection of sulphide in Hole 92-16

Metres From	To	Description
0	3.7	Casing
3.7	6.3	Overburden, Rubble
6.3	76.4	<p>LIGHT TO MEDIUM GREY, MASSIVE, SLIGHTLY SHEARED ROSELLA FM LIMESTONE WITH THIN CARBONACEOUS BANDING. Fine grained limestone cut by variably-spaced calcite veinlets. Carbonaceous bands (1 mm - 2 cm) define bedding in the limestone and are present throughout. Locally calcite filled vesicles show an oblate form due to shearing effects. Carbonaceous stylolites and irregular cracks are present locally. Bleached limestone, occurring as small white patches and sub-parallel streaks, give the rock a mottled texture throughout. A few vuggy calcite veins (eg 36.7) are also present. There are no major structures apparent, although small-scale wavy folds are found locally. Overall, this unit is quite homogeneous.</p> <p>59.2 - 68.9 Zone of large calcite veins and calspar vein brecciation of the limestone. The vein contact at 59.2 is sharp, with a core to bedding angle of 50°. The calspar brecciation occurs between large (0.6 - 2m) calcite veins, and is clast supported with the limestone fragments comprising 50-80% of the breccia.</p> <p>Core to bedding angles: 6.7 m - 40° 29.5 m - 40° 76.3 m - 50°</p> <p>Samples: 17.0 - 17.2 26.5 - 26.7 38.9 - 39.1 48.2 - 48.4 57.6 - 57.8</p>

76.4

102.7 **LIGHT GREY DOLOSPAR FLOODED + VEIN BRECCIATED ROSELLA LST. WITH INTERMITTENT DARK GREY CARBONACEOUS LAYERS.** The Rosella limestone, as described above, has been dolomitized and extensively veined and fractured. The breccia is dominantly clast supported with a dolomite matrix. The dark grey carbonaceous layers occurring in the upper half of this interval are 10-20 cm thick, and spaced approximately 2 metres apart. In the lower half of this interval the carbonaceous layers grade down to thin wispy laminae.

89.7 - 90.3 Large coarse-grained calcite vein. Sharp contact at top end, with core to bedding angle of 40°. Bottom contact is gradational into the breccia, containing several carbonaceous fragments.

Core to bedding angles are difficult to tell due to brecciation.

Samples: 80.5 - 80.7  
94.5 - 94.7

102.7

124.4 **WHITE TO MEDIUM GREY ROSELLA LIMESTONE (2c):** Massive and slightly sheared, fault breccia and minor dolomitization at lower contact. Fine grained limestone similar to first interval, with pervasive carbonaceous laminae defining bedding. Mottled texture is apparent throughout, and stylolites are present locally.

118.6 - 124.1 Pseudo-breccia formed by dolomitization. Most of the core is in the form of rubble due to the fault at the lower contact.

124.1 - 124.4 Gradational contact between limestone and calcareous shale. Mottled texture, minor pyrite laminations (<1%) along shale boundaries.

Core to bedding angles: 107.5 m - 40°.  
118.0 m - 60°

- Note gradual flattening of core to bedding angle over this interval.

Samples: 107.2 - 107.4  
121.0 - 121.2

124.4

173.7 **BLACK TO DARK GREY VARIABLY CALCAREOUS TO NON CALCAREOUS ROSELLA SHALE (2e).** Fine grained shale with local bioturbation. Pyrite laminations and disseminations present throughout (approx. 1%). Rock shows marked gradations in color from black to dark grey to black throughout the interval.

124.4 - 140.9 Calcareous interval, noticeable bioturbation. Calcite-filled fractures and veinlets cut the rock every few centimeters. First two meters contain 2% pyrite in laminations as well as cubic crystals (1-3 mm) found in bioturbated areas. Calcite veining is locally intense, forming small pseudo-breccias.

140.9 - 168.0 Non-calcareous interval, predominantly carbonaceous with intermittent argillic layers locally. White to light green laminations, likely dolomite, often associated with pyrite define the bedding. This is exemplified in 151.0 - 151.5 where the laminations show distinct wavy folds in the rock. There are several instances (eg 148.0) where the laminae bulge out and curve around small (1-2 cm) dolomite nodules. This interval contains 3 small gouge zones (10-15 cm) at 147.0, 164.1, and 167.3.

168.0 - 173.7 Gradational zone from non-calcareous to calcareous shale, then from the shale back into the limestone. The black non-calcareous bands are 1-2 cm thick at the top of this interval and spaced less than 1 cm apart. Towards the bottom they are thin wispy laminae, although still closely spaced. From 169.8 - 170.5, a light green volcanic unit is present. Possibly tuffaceous, this unit is coarse grained and contains 2-5 mm fragments of epidote and quartz eyes, as well as larger (up to 2 cm) fragments of grey-brown sericite. This unit is cut by thin quartz veinlets and wispy argillaceous laminae. This unit exhibits a sharp contact with the rock at both ends, with a core to bedding angle of 30°.

Core to bedding angles:	130.2 m - 65°
	137.8 m - 55°
	157.6 m - 45°
	169.7 m - 50°
	172.6 m - 35°

Samples: 126.9 - 127.1 - minor pyrite laminations  
 136.3 - 136.5  
 150.8 - 151.0  
 163.3 - 163.5

173.7 222.8 MEDIUM TO LIGHT GREY, MASSIVE ROSELLA LIMESTONE WITH CARBONACEOUS BANDING. As described above, with pervasive mottled texture and black carbonaceous laminae. Locally stylolitic and occasionally cut by calcite veinlets.

176.8 - 181.9 Markedly stylolitic. Carbonaceous stylolites constitute up to 20% of the rock. Although some are planar, many cross-cut bedding.

181.9 - 182.3 Irregular, patchy sulphide mineralization in a very carbonaceous host rock. Mineralization includes galena (5-6%), sphalerite (3-4%), and pyrite (1%). Most of the mineralization is concentrated in an irregular band 2-3cm wide.

186.2 - 191.4 Zone of increased carbonaceous banding and stylolites, giving the limestone a medium to dark grey colour.

Core to bedding angles: 174.1 - 40°  
 190.0 - 35-40°  
 220.0 - 35°

Samples: 180.4 - 181.9  
 181.9 - 182.4 - Interval of Pb-Zn mineralization.  
 182.4 - 183.9  
 197.3 - 197.5, 218.4 - 218.6

222.8 321.8 MEDIUM TO DARK GREY, VARIABLY MASSIVE TO OOLITIC ROSELLA LIMESTONE WITH LIGHTER GREY DOLOMITIZED INTERVALS (2a). Carbonaceous and local argillaceous laminae present throughout interval. Mottled texture is pervasive, with Zebra textures found locally, associated with some of the dolomitized sections (eg: 242.6 - 243.3). Bioturbation burrows can be seen fairly frequently throughout the section, and tend to become very intense locally. Oolites locally make up 60-70% of the limestone. Pyrite mineralization is found locally in wispy laminations and as fill along fractures.



116.6 - 230.7 Green-grey sericitic mudstone. Fine-grained relatively soft rock. Contacts at both ends are sharp, with a core to bedding angle of 50°. Bedding within the mudstone is defined by argillic and pyritic laminations.

Core to bedding angles: 224.5 - 55°  
 237.0 - 40°  
 249.5 - 35°  
 258.2 - 40°  
 276.7 - 60°  
 292.4 - 75°  
 320.1 - 55°

Samples: 230.9 - 231.1  
 244.3 - 244.5  
 262.2 - 262.4  
 279.6 - 279.8  
 298.3 - 298.5  
 315.7 - 315.9

321.8 335.3 LIGHT TO MEDIUM GREY DOLOMITE. Fine-grained dolomitized Rosella limestone displaying both Zebra and mottled textures. Upper contact is gradational while lower contact is sharp, with a core to bedding angle of 60°. Minor carbonaceous banding and calcite veining. Pyrite laminae present locally. Pseudo-breccia in top meter of interval with grey clasts in a dolspar matrix.

Core to bedding angles: 325.7 - 75°  
 Samples: 331.1 - 331.3

335.3 357.8 WHITE TO MEDIUM GREY MASSIVE ROSELLA LIMESTONE. Local interbedding of dark and light limestone (10-20 cm sections) with fuzzy indistinct boundaries. Local carbonaceous filled solution cracks, cross-cutting calcite veins throughout, and dolspar veins locally. Very massive.

353.1 - 357.8 Medium to dark grey limestone. Very fractured, most of interval is rubbly. Local stylolites.

Core to bedding angles: 351.6 - 70°

Samples: 345.1 - 345.3  
 357.6 - 357.8

END OF HOLE

DRILL LOG SUMMARY  
PAR DDH 94-23

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	10.7	OVERBURDEN/CASING
10.7	15.8	Rosella Fm: dk grey-blk, variably argillaceous lst + variably limy shale. Minor debris flow/slump brxx (matrix supported).
15.8	243.3	Rosella Fm Lithologies: interval of complexly brxx Rosella: clean white lst, dk grey argill. lst, variably calcareous shale + lt grey dolomitized lst. Breccia textures indicate an early debris flow/slump brxx that is superimposed by calcspar/dol spar flooding/vein brxx and, more locally, solution collapse type brxx. All brxx frags appear to be Rosella Fm lithologies. Locally non-brecciated, well bedded intervals (<10 m) are interbedded with lithologically identical debris flow breccias.
243.3	249.3	Rosella Fm: interbedded, blk non-calc mudstone + dk grey thin bedded limy mudstone.
249.3	254.3	Boya Fm: lt. green-grey, sericitic nodular lst + mudstone.
MINERALIZATION:		Tr - 5% f. gr. dissem py common throughout hole. Tr - 10% irregularly dissem. gal + sphal locally (10-40 cm) in dolomitic brxx.

**DRILL HOLE RECORD****COMINCO LTD****Page 1 of 8**

Property:	Par	District:	Omineca	Hole No.:	DDH 94-23
Commenced:	Sept. 14/94	Location:	E of Duncan	Length:	254.3 m
Completed:	Sept. 16/94	Core Size:	NQ	Cor. Dip:	-60
Coordinates:	19630N 5110E	Claim Reference:	Par7	True Brg:	075
Contractor:	Falcon			% Recovery:	v.good 98%
Logged by:	M.G. Westcott				
Objective:	Test stratigraphy E of fault, where hole 93-21 intersected Pb + Zn min at base of debris flow brxx/diamictite unit				

**Metres**

<b>From</b>	<b>To</b>	<b>Description</b>
0	10.7	OVERBURDEN/CASING
10.7	13.9	<p>BLACK VERY CARBONACEOUS, VARIABLY LIMY SHALE AND MINOR ARGILLACEOUS LIMESTONE THAT EXHIBIT SUBTLE MONOLITHIC MATRIX SUPPORTED BRECCIATION (Sed. slump brxx?). Frags/clasts comprise dk grey argillaceous limestone + less common blk shale and are subangular to subrounded; matrix and fragment composition is the same. Blk graphitic slip planes common. Tr - 2% dissem py. Occasional cc stringers. Irregular anastomosing stylolites developed locally. Subtle banding at various angles to CA (30-65°). Degree of brecciation is not particularly strong.</p> <p>Sample: 12.9 - 13.1- blk, v. carb, limy shale.</p>
13.9	15.8	<p>INTERBEDDED MED-DK GREY VARIABLY ARGILLACEOUS LST AND DK GREY, LIMY SHALE. Approx. 60% lst, 40% shale. Shaly bands are 5-10 mm thick. Med-lt grey ovoid to lobate tabular patches evidence bioturbation (burrows). Interval is not notably brecciated. Wk-mod cc veining. 1-2% fine dissem. py. Irregular wavy bedding is generally at 50° to Ca.</p>
15.8	25.8	<p>MEDIUM GREY, VARIABLY ARGILLACEOUS LIMESTONE EXHIBITING SUBTLE EARLY BRECCIATION (Sed. slump?) TEXTURE (defined by occasional floating shaly frags and argill lst frags). THAT HAS BEEN SUPERIMPOSED BY LATER CALCSPAR + DOLSPAR VEINING AND LOCALLY PERVASIVE FLOODING WHICH CREATES A PSEUDO BRECCIA TEXTURE. Interval 21.4 - 25.0 is bleached to light grey and is mod-str dolomitized. Stylolites abundant. Tr - 2% fine dissem. py locally.</p>

Sample. 25.1 - 25.3 - med-dk grey lst exhibiting minor slump brxx texture and some calcspar dolspar veining. 2-3% fine diss. py.

- 25.8            46.1    **BLACK, CARBONACEOUS SHALE AND LESSER DK GREY VARIABLY ARGILLACEOUS LIMESTONE** (v. similar to interval 10.7 - 13.9). This interval comprises both "undisturbed" subtly thin bedded shale + lst horizons and horizons that are clearly brecciated. Brecciated intervals (e.g. 25.8 - 27.5) comprise 0.5 - 2.0 cm subangular to subrounded frags of shale, dk grey argillaceous lst and v. occasionally lt. grey lst. floating in an argillaceous limy mud matrix. Shale can be calcareous or non-calcareous and has thin (2-4 mm) lighter grey mud lamellae. 2-5% pyrite in carbonaceous shale as <1 mm stringers subparallel to bedding and irregular fine dissem. patches. Lighter grey lobate burrows present locally. Interval 33.5 - 45.1 has numerous narrow, (<20 cm) somewhat gougy carbonaceous brittle shears. Minor dolspar veining.

Core to bedding angles:

31.5 m - 65°; 33 m 50°, 41 m 35-40°.

Samples:

- |                   |  |
|-------------------|--|
| 28.1 - 29.6 (1.5) | mixed argill. lst + blk shale, 3-4% f. gr. patchy py.                        |
| 33.4 - 34.7 (1.3) | blk shale, 3-5% f. gr. py as irregular patches + bedding parallel stringers. |
| 37.2 - 38.7 (1.5) | mixed argill. lst + blk carb shale, 4-6%                                     |
| 40.2 - 41.7 (1.5) | blk shale + minor argill. lst. 4-5% fine dissem py. patches + laminae.       |
| 43.2 - 44.7 (1.5) | blk, carb shale with 4-5% fine dissem. py as 1-3 mm laminations.             |

- 46.1            110.5    **MEDIUM TO LOCALLY LIGHT GREY, MODERATELY CARBONACEOUS VARIABLY ARGILLACEOUS COMPLEXLY BRECCIATED ROSELLA LIMESTONE ± MINOR SHALE.** Three types of brecciation are recognized. (1) An early (possibly depositional) breccia defined by angular to sub-rounded limestone frags ± shaly fragments floating in med-locally dk grey variably argillaceous lst matrix that appears to be compositionally identical to surrounding unbrecciated lst. This brxx may represent a "monolithic" sedimentary slump style brxx. This style of brxx is quite subtle and is only obvious over 10% of interval, particularly where matrix becomes more shaly.

(2) The second and most pronounced breccia type is associated with a white-light grey dolspar  $\pm$  calcspar veining and pervasive flooding that produces pseudo-breccia/vein brecciation/mosaic breccia textures that clearly post date type 1 breccias. Minor amounts of silica appear to accompany the dolomitization. Dolspar + calcspar veining occurs as good stockworks, irregular discontinuous veins and patches and comprise approx. 20% of interval. Locally intervals 1-10 m thick are pervasively flooding with f. gr. dolomite  $\pm$  silica.

(3) The third breccia type is solution collapse brecciation that is quite likely associated temporally  $\pm$  genetically with type 2 breccia. Clear cut solution collapse breccias are not readily recognized but are evident locally and are characterized by angular to embayed fragments floating in white-dolspar  $\pm$  calcspar or in light-med grey limy mudstone matrix.

Stylolites are relatively abundant throughout interval. Irregular patches of fine dissem. pyrite (up to 10%) locally. Bedding is only rarely recognized. Limestone is quite carbonaceous; graphitic slip planes are common. Over much of the interval it is difficult to distinguish type 2 and type 3 breccias. Type 1 breccia is most readily identified where matrix becomes more shaly. The main rock components are med grey, even textured variably carbonaceous + argillaceous 1st 80% (probable Rosella), dk grey shaly frags and occasional narrow beds (1-2 m) of type 1 breccia with limy argill matrix 10-20%, and rare 20-50 cm bands of light green grey sericitic mudstone; very rare light grey dolomite fragments. Breccia fragments of all types, are generally 1-10 cm and angular to subrounded.

- 57.4 - 58.6 pervasively, fine gr. dolomitized  $\bullet$  sil bleached to lt. grey, crushed up possible fault (looks similar to main fault in 93-21).
- 60.1 - 68.8 pervasively fine gr. dolomitized  $\pm$  sil, bleached to lt. grey crushed up possible fault over 70% of interval.
- 71.2 - 73.5 several narrow 20-40 cm bands of lt. green-grey sericitic mudstone that is locally muddy gouge.
- 83.8 - 83.9 dk grey muddy gouge, small fault.
- 85.7 - 86.7 dk grey more argillaceous interval (type 1 brxx) 3-4% fine, irregular dissem. patches of py. Only minor calcspar + dolspar veining.

89.0 - 95.2 3-4% py., f. grained, irregular patches; occasional wispy bands and discrete patches pseudomorphing some fragments.

105.6 - 107.3 8-10% py as fine dissem and argillaceous bedding, wispy laminations.

Core to bedding angles. 73 m 70°, 85.5 50°, 107.5 20°.

Samples:

56.0 - 57.0 (1.0) med-grey lst with mod type 2 brecciation predominantly, 15-20% white calcspar.  
 62.8 - 64.1 (1.3) lt. grey, mod-str f. gr. dolomitized ± sil, bleached, 1-2% f. gr. py.  
 68.3 - 69.6 (1.3) med. grey lst with mod dolspar veining, 2-3% py.  
 71.1 - 72.6 (1.5) med grey lst intermixed with several 10-30 cm bands of light green grey sericitic mudstone, few narrow muddy gouge zones, 2-3% py.  
 77.4 - 78.8 (1.4) med. grey lst with 15-20% dolspar veining, 1-2% py.  
 83.0 - 84.4 (1.4) med. grey lst with 15-20% dolspar veining, 2-3% py.  
 85.1 - 85.7 (0.6) med-dk grey lst with 10% dolspar veining/type 2 brecciation.  
 85.7 - 86.9 (1.2) dk grey, argillaceous lst + shaly frags (type/brxx) with 3-4% dolspar veining, 4-5% irregular, patchy py.  
 88.9 - 89.9 (1.0) med-dk grey, argill. lst with 5-10% dolspar veining + 6-7% irreg. diss. py patches.  
 89.9 - 91.3 (1.4) med-dk grey, variably argill lst, 5% dolspar vein brxx, 6-8% irregular diss patches of py.  
 99.8 - 100.1 (0.3) 20% dolspar vein brxx in med grey lst., tr py.  
 106.8 - 107.8 (1.0) med grey lst + minor argill bands/matrix, 2-5% dolspar veining 6-7% py.

110.5 169.3 DARK AND MEDIUM GREY, VARIABLY ARGILLACEOUS; LOCALLY OOLITIC + BIOTURBATED, CARBONACEOUS ROSELLA LIMESTONE + MINOR (<10 cm) ARGILLACEOUS SEAMS THAT EXHIBITS SEDIMENTARY BRECCIA TEXTURES (like type 1 above, slump breccia) which are locally superimposed by CALCSPAR + DOLSPAR VEIN TYPE BRECCIAS (type 2 above). This interval differs from above interval in that limestones are more argillaceous + carbonaceous and calcspar + dolspar flooding/veining/open space fill? is much less prevalent. Sedimentary brecciation (slump brxx) is evident over approximately 50% of interval and appears to be irregularly interbedded with undisturbed beds. Breccia frags and matrix are compositionally very similar. Dk-grey argill. lst

frags and shaly chips are typically 1.5 - 3.0 cm and are angular to well rounded. Overall this interval is very similar throughout. Calcspars + dolspars veining is common but volumetrically insignificant (<5%). Trace to locally 5% py occurs as fine disseminated irregular patches throughout. Stylolites quite common. Some dolspar patches with angular floating lst frags may represent solution collapse brecciation. The sedimentary slump breccia mechanism that has effected much of this interval is considered to be the same as produces diamictites in 93-4, 93-21 etc but differs in that matrix is argillaceous lime mud rather than mudstone. There appears to be a gradation between the slump breccia described above and the relatively rare mud matrix supported (diamictite) end member.

Core/bedding angles: 150.5 m 30°, 158.5, 10.20.

Samples:

- 113.2 - 113.4 dk grey, argill. lst, 2-3% f. gr. py.  
 122.0 - 122.3 dk grey, slump brxx, argill lst., 2-3% py.  
 127.3 - 127.5 dk grey, slump brxx, argill lst, 4-5% py.  
 134.2 - 134.4 dk grey lst with 20% calcspars/dolspars veining, 2-3% py.  
 143.6 - 143.8 dk grey lst, slump brxx with 15% calcspars + dolspars veining, 2-3% py.  
 148.6 - 149.9 (1.3) dk grey lst + argill lst, slump brxx with 4-5% f. gr. wispy py.  
 158.4 - 159.4 (1.0) mixed dk grey argill. lst + argill seams with 5-6% py as bedding parallel thin laminations and irregular patches.  
 166.8 - 167.0 dk grey argill, carb lst + few light grey dolo frags, slump?brxx, minor white calcspars, 2-3% py.  
 168.5 - 168.7 dk grey argill, carb lst + few light grey dolo frags, 3-4% py.
- 169.3      206.3      **COMPLEX BRECCIA (Solution collapse + debris flow) COMPRISING LIGHT GREY, PARTIALLY DOLOMITIZED, MSV LST (50%) as 1-100 cm blocks IN A FINE, MED-DK GREY BRECCIATED MATRIX (50%). Dark grey matrix is comprised of fine argill. lime mud with 1-3 cm angular-subrounded frags of argill lst, occasional shale and lt grey dolomitized lst. Locally dark grey argill breccia veins clearly cross cut dolomitized lst fragments and appear to represent karst/solution collapse breccias. Elsewhere, where the dk grey, finer grained breccia predominates over 2-3 m intervals it is unclear whether the breccia represents solution collapse or debris flow/slump breccia. This interval differs from above interval in that solution collapse processes are evident and the light grey**

partially dolomitized lst rock type is abundant. As is the case throughout the extensive breccias in this hole, all lithologies observed are similar to Rosella Fm lithologies observed in unbrecciated o/c and core. Only indication of bedding at 196 m = 35°.

Abundance of lt grey dolomitized lst component generally decreases down through interval.

Tr to locally 5-10% fine gr, irregular dissem py patches dispersed throughout interval, but most abundant in lower half (194.0 m - 206.3 m). where py concentrations are highest (>3%) fine-med gr. galena (up to 5%) and fine gr. light tan-grey coloured sphal are locally present as irregular dissem patches, primarily within med-dk grey finer grained limestone sed. breccia/solution collapse brxx matrix.

#### Samples:

- 174.6 - 174.8 80% light grey dolo lst frag with 20% drk grey ± argill lst brxx.
- 182.0 - 182.2 80% light grey dolo lst frag with 20% dk grey ± argill. lst, 2-3% py.
- 816.5 - 186.7 med-dk grey, f. gr. lst brxx with 0.5-1.0 cm frags of dk grey lst + lt grey dolo-lst, 1-2% py, tr gal ± sph.
- 189.7 - 189.9 lt grey complex fine brxx, with 50% light grey calcspar/dol spar + 50% med grey lst, tr py.
- 194.2 - 195.6 (1.4) brxx lt. grey partially dolo. lst + med-dk grey finer lst ± lt. grey dolo brxx, 3-4% py.
- 195.5 - 197.1 brxx lt grey partially dolo lst + med-dk grey finer lst ± lt grey dolo brxx, 3-4% py, 1-2% lt grey sph. associated with few irregular patches + wispy lams. of py.
- 197.1 - 198.6 (1.5) brxx as above sample with 3-4% py, 1-2% gal, tr-1% sph as irregular patches.
- 198.6 - 200.1 (1.5) brxx as above sample with 3-4% py, tr-1% gal, tr-1% sph.
- 200.1 - 201.6 brxx, 70% light grey partially dolomitized lst frags + 30% dk grey finer grained limy brxx matrix, 6-7% patchy f. gr. py, 4-5% patchy + irregular networks of f. gr. gal, 2-3% light tan ± dk grey sphal.
- 204.8 - 206.3 as above sample; 3-5% py as fine dissem patches + wispy lams, tr-1% gal + sph possibly higher gal + sph as v. fine dk matrix (difficult to I.D.).



206.3 243.3

**MEDIUM-DARK GREY, VARIABLY ARGILLACEOUS, COMPLEXLY BRECCIATED MEDIUM-FINE GRAINED DOLOMITE + LIMESTONE AND LESSER SHALES OF PROBABLE ROSELLA AFFINITY (Units 2b, 2a).** Breccias consist of 30-50%, 0.2 - 10 cm angular to subrounded, med-dk grey lst + dolo frags + lesser light grey dolo frags, floating in a med-dk grey variably argillaceous mixed dolomite + lime matrix. This dominant breccia type, which is thought to represent some sort of sedimentary slump breccia, is locally cross cut by white calcspar ± dolspar veins. White calcspar + dolspar occasionally occurs as irregular patches with dk grey dolo ± lst frags flooding in it and may represent matrix of a solution collapse breccia. This interval is similar to much of the overlying breccias in this hole, but is darker grey, more carbonaceous and locally more argillaceous. Also, later calcspar/dolspar veining etc is not as abundant (5-10%). where the matrix to the sed. breccia becomes more argillaceous eg 233.5 - 243.3, the rock may best be classified as diamictite; this interval is very similar to that intersected on the east side of the fault in DDH 93-21. Interval 233.5 - 243.3 has relatively abundant ghostly, subrounded to columnar shaped fossil hash that looks strikingly like renalisia (L. Cambrian algae found in association with archeo mounds). Occasional stylolites.

Interval 206.3 - 207.3 comprises approx. 50% brxx (as described above) and 50% pea green, sericitic material that may represent a tuff or siltstone horizon or possibly sheared dyke material. Occasional flecks of bright green mica (chrome mica?) 5-10% fine gr. thin laminated py.

208.7 - 209.1 muddy fault gouge, med-dk grey matrix material typically has 2-3% fine dissem py and occasionally 5-10 cm patches and 1-3 mm wispy veinlets/laminae. Trace amounts of v. f. gr. gal + sph are recognized with py locally.

#### Samples:

- 206.3 - 207.5 Brxx (as described above) with pea green sericitic tuff/siltstone/dyke interfoliated, 5-10% f. gr. py diss. + lams.
- 207.5 - 208.9 Brxx (as above) with 4-5% f. gr. diss + irregular patchy py.
- 209.5 - 209.7 Brxx (as above) with 1-2% py, 10% white calcspar/dolspar.
- 211.8 - 212.0 Brxx (as above) with 3-4% patchy py, 10-15% white calcspar + dolspar.
- 220.1-221.6 Brxx (as above) with 3-4% py as f. gr. diss. patches, 5% calcspar/dolspar.
- 222.0 - 223.5 Brxx (as above) 4-5% patchy, diss py.
- 226.8 - 228.3 Brxx, as above, approx. 50% with relatively argill. matrix, 3-4% f. diss. py ± minor light grey sphal.

228.3 - 229.8 Brxx as above, mod. argillaceous, matrix, 5-6% py as irreg. diss. patches.

229.8 - 231.3 Brxx as above, 3-4% py, 15-20% white calcspar/dol spar.

233.8 - 234.0 Brxx with mod. argill. matrix, 1-2% f. gr. py.

238.3 - 238.5 Brxx as described above, Tr py, 5-10% white calcspar/dol spar.

241.8 - 243.0 Brxx, 50% with good muddy matrix (diamictite), 10% white calcspar/dol spar. 3-4% f. dissem. py, primarily in diamictite.

243.0            249.3 **INTERBEDDED BLACK NON-CALCAREOUS MUDSTONE AND MEDIUM-DK GREY LIMY MUDSTONE.** Thin bedded to laminated, 2-3% f. gr py as <1 mm bedding parallel lams + dissem specs. Very carbonaceous. Contact with above breccias ± diamictite is quite abrupt and appears conformable. Interval becomes progressively more limy down hole. Lower contact is also sharp and appears conformable. Minor shear and small scale folding of laminae near FW contact.

Core/bedding: 243.0 m - 60°; 246. - 70°, 248 - 65°, quite consistent.  
247.0 - 247.2 - med-grey limy mudstone, tr py.

249.3            254.3 **LIGHT GREEN GREY, SERCITIC NODULAR LIMESTONE.** Approx. 50% light grey nodular lst, 50% greenish grey limy + sercitic mudstone. Typical Boya Fm. nodular lst cut by occasional 2-5 mm calcspar veins. Core/bedding angle 55-60°. Tr - 1% fine diss. py.

Sample: 254.1 - 254.3 - as described above.

**END OF HOLE**

DRILL LOG SUMMARY

PAR DDH 94-22

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	9.4	Overburden/Casing
9.4	32.6	Rosella Fm Lst.: lt-med. grey, ± oolitic, stylolitic.
32.6	55.1	Rosella Fm Lst.: intermixed calcspar matrix supported mosaic brxx (30%), variably argillaceous matrix supported solution collapse/debris flow brxx (40%) + non-brxx dk, grey, msv. ± argill. lam. lst (30%).
55.1	165.2	Rosella Fm Lst.: interbedded lt. grey "clean" lst and variably argillaceous + carbonaceous lst, minor dolo.
165.2	200.3 m	Boya Fm. lt-med. green-grey, slightly calcareous ± sandy, phyllitic sericitic mudstone.

MINERALIZATION: No significant mineralization; tr - 3% py locally.

**DRILL HOLE RECORD**

**COMINCO LTD**

**Page 1 of 4**

Property:	PAR	District:	Omineca	Hole No.:	94-22
Commenced:	Sept. 11/94	Location:	Duncan Showing	Length:	200.3 m
Completed:	Sept. 14/94	Core Size:	NQ	Cor. Dip:	-70
Coordinates:	19632-9915E	Claim Reference:	Par 7	True Brg:	075
Contractor:	Falcon			% Recovery:	98-100%
Logged by:	MGWestcott			Sample No.:	
Objective:	Test down dip extension of stratigraphic horizon hosting Ba, Sph, Py min in hole 93-21.				

**Metres**

<b>From</b>	<b>To</b>	<b>Description</b>
0	9.4	Overburden/Rubble Casing.
9.4	32.6	<b>VARIABLY OOLITIC ROSELLA LIMESTONE:</b> Oolites are 1-4 mm, dark grey and comprise up to 70% of oolitic horizons, which make up approximately 30% of this interval; remaining 70% of interval consists of lighter grey, mottled to even textured, variably stylolitic limestone; occasional thin argillaceous seams and irregular "crack?" fillings. Occasional "soft sed" matrix supported breccia texture where lst frags are rotated and are floating in variably argillaceous lst matrix (very similar in composition to frags); CA to bedding angle at 45-55°.
	13.4 - 14.4	med green-grey and orangey sericitic silst/tuffaceous band with 40 cm muddy gouge zone in center. Gouge to CA at 80°, orange ankeritic bands.
	17.8 - 18.8 and 21.8-22.5	Very coarse crystalline white-orangey calcite veins, contacts at 60-70° to CA.
	22.6 - 22.7	Clay seam (unlithified mud).
32.6	55.1	<b>INTERMIXED CALCSPAR MATRIX SUPPORTED MOSAIC BRECCIA (30%) &amp; VARIABLY ARGILLACEOUS LIMESTONE FRAG SUPPORTED SOLUTION COLLAPSE BRECCIA (40%) + NON BRECCIATED MED. DARK GREY MASSIVE TO WISPY ARGILLACEOUS LAMINATED LST (30%).</b> White calcspar vein breccia appears to be superimposed on debris flow brxx. Debris flow/foliation collapse? brxx comprises 75% light-dark grey Rosella Lst frags + 1-2% light green-orangy siltstone/tuff frags; occasional embayed contacts between DFB (Debris flow breccia) and dk grey lst is suggestive of some solution collapse brxx mechanism, as are the stylolite edges to some frags. Rock is slightly

vuggy. Matrix to DF/solution collapse? brxx is dk grey and relatively argillaceous. Upper and lower contacts of this unit are gradational. Bedding to CA angle is highly variable, as defined by wavy wispy argillaceous laminae. (commonly 40-50°). Minor "Mountain leather" in calcspar brxx at 32.5 - 35.0.

55.1

98.9 MEDIUM-DARK GREY, WAVY THIN BEDDED TO LAMINATED, VARIABLY BIOTURBATED, WEAKLY TO LOCALLY MODERATELY ARGILLACEOUS ROSELLA LIMESTONE; occasional thin (10 cm - 1 m) oolitic beds; wavy discontinuous/lensoidal bands/laminae are defined by lighter (cleaner) and darker (more argillaceous) bands; occasional stylolites; small (3-6 mm) archeocyathids found occasionally throughout interval; bioturbation evidenced by slightly lighter grey irregular shaped burrows cross cutting laminae; minor calcite veinlets. Unit is very similar throughout.

Core to bedding angles

57.0 60°  
70.0 70°  
82.0 60°  
88.0 40°  
90.0 45°

Samples (lithochem, checks)

18.9 - 19.1 med-grey lst, stylolites, bioturb.  
29.9 - 30.1 med.grey oolitic lst; cc vein & tan "mountain leather" min.  
33.3 - 33.5 calcspar brxx, med grey lst, tan "mountain" leather  
36.1 - 36.3 calcspar brxx lst.  
40.1 - 40.3 dk grey, heterolithic clast supported solution collapse? brxx, with argillaceous matrix.

44.3 - 44.5 calcspar brxx, dk grey lst, vuggy  
50.7 - 50.9 frag supported solution collapse? brxx with dk grey argill matrix.

55.5 - 55.7 Rosella lst, med-dk grey, wavy lam.  
60.4 - 60.6 " "  
66.5 - 66.7 " "  
72.1 - 72.3 " "  
78.2 - 78.4 " "  
83.1 - 83.3 " "  
87.6 - 87.8 " "  
94.8 - 95.0 " ", abundant black stylolites. with sparry cc filled open space + slight rusty weathering  
97.3 - 97.5 " "

98.9

**112.6 LIGHT GREY-WHITE, Pervasively Dolomitized ± Dol spar Veined, Rosella Limestone:** limestone has been intensely bleached and some textures obliterated; original lst appears to be light-med grey, relatively clean, banded to massive and occasionally stylolitic. Dolomitization is pervasive but not complete - rock still fizzes with acid, upper 3.0 m has abundant blk sawtooth stylolites that have been partially transposed into plane of shear at 45-50° to CA. Contact with overlying dark grey argillaceous lst is sharp and corresponds to a stylolite contact. Occasional dol spar vein networks give a pseudo brxx texture. Interval 109.6 - 110.2 m has 2-3% fine dissem + fracture controlled pyrite. Very few black specs (<1 mm) at 111.3 - 111.8, possibly f.gr. gal. Core to bedding angle av. 45°.

**Samples:**

101.7 - 101.9 white dolomitized Rosella lst, few blk lams + fract (organic residue?)

104.4 - 104.6 light grey dolomitized lst.

109.6 - 110.2 (0.7) - med grey, msv. dolomitized lst with 2-3% f.gr. py dissem.

110.9 - 111.4 (1.5) - lt. grey-white med. gr. dol spar + pervasive dolomite flooded lst, with tr - 1% dk grey-blk specs (possibly f. gr. gal.).

112.2 - 112.4 - " "

112.6

**139.4 MEDIUM GREY, EVEN TEXTURED, MASSIVE FINE GRAINED, CARBONACEOUS, STYLOLITIC ROSELLA LIMESTONE.** Contact with dolomitized interval above is gradational over 2 m and the dolomitized unit above was likely the same as this unit. Abundant black planar to occasionally sawtooth stylolites characterize this interval of otherwise massive, very fine grained carbonaceous and locally slightly argillaceous limestone. The interval exhibits mod-str shear, as defined by stylolites transposed into a common plane that is consistently at 55-60° to CA. No definitive bedding indicators recognized. Very little variation throughout interval. Correlates quite well with 105 in 93-21.

**Samples:**

117.3 - 117.5 as described above

121.1 - 121.3

126.9 - 127.1

132.6 - 132.8

138.9 - 139.1

139.4 165.2 INTERBEDDED/INTERFOLIATED MEDIUM GREY CARBONACEOUS ROSELLA LST (as above) 70% and LESSER DARK GREY ARGILLACEOUS BANDS AND LAMINATIONS 30%. Contact with above unit gradational over 1 m. Quite uniform throughout interval. Occasional 5-15 cm very argillaceous seams. Planar stylolites common. Slightly granular appearing irregular lensoidal patches evidence bioturbation. Occasional cc stringers. Plane of shear is roughly parallel with bedding. Bedding/foliation to CA angles. 140 m 60°, 148. m 65°, 163 65°.

AT 153.5 - 153.7 approx. 6-8% fine gr. dissem + stringer py, thin bands subparallel to bedding/foliation.

FW Cont. with underlying Boya Fm is very sharp and appears conformable. Upper 30 cm of Boya is tectonically brecciated (ductility contrast?). This interval differs from above interval only on the basis of the presence of occasional argillaceous seams.

#### Samples

141.0 - 141.2 interbanded med. grey lst + dk grey argillaceous lst, stylolitic.  
 148.6 - 148.8 med. grey, carbonaceous lst.  
 153.5 - 153.7 med. grey, carbonaceous lst with 6-8% dissem + stringer py.  
 158.6 - 158.8 interbedded med. grey carb. lst and dk grey argill. lst.  
 164.7 - 164.9 interbedded med grey carb lst and dk grey arill lst.

165.2 - 200.3 LIGHT MEDIUM GREEN-GREY SLIGHTLY CALCAREOUS, VARIABLY SILICIC SERICITIC + WEAKLY CHLORITIC PHYLLITIC MUDSTONE/SILTSTONE: N.B. nodular lst/siltstone unit commonly at top of Boya is absent. Sericitic mudstone/siltstone comprises 60-70%, fine pervasive silica and quartz laminations make up 20%, 3-4% chl as irregular patches and dissem. within sericitic mudstone; 5-6% carbonate as fine g.m. component. Sericitic bands and qtz laminae define a compositional banding that may represent bedding. Tr - 1% dissem py and Tr - 2% po specs + along foliation planes. Chl + po content increases gradually down hole. Occasional patches 10-30 cm of pervasive qtz flooding. Core to foliation/bedding? angles. 167 m - 40°, 170 - 30°; 175 m - 60°, 181 - 40°; 188.5 - 75°, 198 m - 40°.

#### Samples

169.8 - 170.0 as described above.  
 175.9 - 176.1 as described above.  
 182.0 - 182.2 as described above.  
 187.9 - 188.1 as described above.  
 197.3 - 197.5 as described above  
 200.1 - 200.3 as described above.

END OF HOLE

**APPENDIX IV**

**ANALYTICAL RESULTS**



LAB NO	FIELD NUMBER	DRILL INTERVAL		Pb	Zn	Ag
		from (metres)	to	ppm	ppm	ppm
R9412941	DDH94-22	18.90	19.10	10	29	<.4
R9412942	DDH94-22	29.90	30.10	4	181	<.4
R9412943	DDH94-22	33.30	33.50	9	105	<.4
R9412944	DDH94-22	36.10	36.30	10	102	<.4
R9412945	DDH94-22	40.10	40.30	75	249	<.4
R9412946	DDH94-22	44.30	44.50	6	179	<.4
R9412947	DDH94-22	50.70	50.90	15	155	<.4
R9412948	DDH94-22	55.50	55.70	4	14	<.4
R9412949	DDH94-22	60.40	60.60	<4	60	<.4
R9412950	DDH94-22	66.50	66.70	<4	28	<.4
R9412951	DDH94-22	72.10	72.30	9	22	<.4
R9412952	DDH94-22	78.20	78.40	<4	15	<.4
R9412953	DDH94-22	83.10	83.30	4	15	<.4
R9412954	DDH94-22	87.60	87.80	9	27	<.4
R9412955	DDH94-22	94.80	95.00	<4	17	<.4
R9412956	DDH94-22	97.30	97.50	5	87	<.4
R9412957	DDH94-22	101.70	101.90	<4	22	<.4
R9412958	DDH94-22	104.40	104.60	5	40	<.4
R9412959	DDH94-22	109.60	110.20	11	55	<.4
R9412960	DDH94-22	110.70	111.10	8	78	<.4
R9412961	DDH94-22	112.30	112.50	<4	47	<.4
R9412962	DDH94-22	117.30	117.50	<4	38	<.4
R9412963	DDH94-22	121.10	121.30	<4	14	<.4
R9412964	DDH94-22	126.90	127.10	<4	14	<.4
R9412965	DDH94-22	132.60	132.80	<4	12	<.4
R9412966	DDH94-22	138.90	139.10	<4	13	<.4
R9412967	DDH94-22	141.00	141.20	<4	20	<.4
R9412968	DDH94-22	148.60	148.80	<4	35	<.4
R9412969	DDH94-22	153.50	153.70	1900	6250	12.3
R9412970	DDH94-22	158.60	158.80	13	82	<.4
R9412971	DDH94-22	164.70	164.90	14	295	<.4
R9412972	DDH94-22	169.80	170.00	<4	55	<.4
R9412973	DDH94-22	175.90	176.10	5	74	<.4
R9412974	DDH94-22	182.00	182.20	17	76	<.4
R9412975	DDH94-22	187.90	188.10	35	80	<.4
R9412976	DDH94-22	197.30	197.50	8	83	<.4
R9412977	DDH94-22	200.10	200.30	24	80	<.4
R9412978	PAR94-23	12.90	13.10	54	41	1.5
R9412979	PAR94-23	25.10	25.30	48	27	<.4
R9412980	PAR94-23	28.10	29.60	16	35	<.4
R9412981	PAR94-23	33.40	34.70	31	17	3.7
R9412982	PAR94-23	37.20	38.70	61	23	2
R9412983	PAR94-23	40.20	41.70	65	15	1.3
R9412984	PAR94-23	43.20	44.70	69	48	1.3
R9412985	PAR94-23	56.00	57.00	14	41	.6
R9412986	PAR94-23	62.80	64.10	63	71	.5
R9412987	PAR94-23	68.30	69.60	40	24	.6
R9412988	PAR94-23	71.10	72.50	39	90	.8
R9412989	PAR94-23	77.40	78.80	17	812	<.4
R9412990	PAR94-23	83.00	84.40	134	1370	.8
R9412991	PAR94-23	85.10	85.70	334	654	1.5

LAB NO	FIELD NUMBER	DRILL INTERVAL		Pb	Zn	Ag
		from (metres)	to	ppm	ppm	ppm
R9412992	PAR94-23	85.70	86.90	211	337	1.2
R9412993	PAR94-23	88.90	89.90	269	456	.9
R9412994	PAR94-23	89.90	91.30	531	2040	1.4
R9412995	PAR94-23	99.80	100.10	12	24	.4
R9412996	PAR94-23	106.80	107.80	414	4360	2.2
R9412997	PAR94-23	113.20	113.40	139	284	1.4
R9412998	PAR94-23	122.00	122.20	30	58	.7
R9412999	PAR94-23	127.30	127.50	46	64	.7
R9413000	PAR94-23	134.20	134.40	16	13	.6
R9413001	PAR94-23	143.60	143.80	47	137	1
R9413002	PAR94-23	148.60	149.90	52	148	1.1
R9413003	PAR94-23	154.70	154.90	35	29	.8
R9413004	PAR94-23	158.40	159.40	42	106	.5
R9413005	PAR94-23	166.80	167.00	36	87	.8
R9413006	PAR94-23	168.50	168.70	39	13	.4
R9413007	PAR94-23	174.60	174.80	35	44	.7
R9413008	PAR94-23	182.00	182.20	12	1830	.5
R9413009	PAR94-23	186.50	186.70	22	825	.7
R9413010	PAR94-23	189.70	189.90	15	547	<.4
R9413011	PAR94-23	194.20	195.60	42	813	<.4
R9413012	PAR94-23	195.60	197.10	812	6840	2.8
R9413013	PAR94-23	197.10	198.60	706	3120	1
R9413014	PAR94-23	198.60	200.10	141	1240	1
R9413015	PAR94-23	200.10	201.60	E18750	E17700	20.7
R9413016	PAR94-23	201.60	203.10	184	905	.7
R9413017	PAR94-23	204.80	206.30	230	119	.7
R9413018	PAR94-23	206.30	207.60	182	650	2.5
R9413019	PAR94-23	207.60	208.90	69	290	1.3
R9413020	PAR94-23	209.50	209.70	21	7	.8
R9413021	PAR94-23	211.80	212.00	58	22	1.8
R9413022	PAR94-23	220.10	221.50	43	11	1
R9413023	PAR94-23	220.10	221.60	28	16	.6
R9413024	PAR94-23	226.80	228.30	25	15	.5
R9413025	PAR94-23	228.30	229.80	32	26	<.4
R9413026	PAR94-23	229.80	231.30	48	19	.9
R9413027	PAR94-23	233.80	234.00	22	21	.4
R9413028	PAR94-23	238.30	238.50	26	35	.6
R9413029	PAR94-23	241.80	243.00	28	33	<.4
R9413030	PAR94-23	243.00	243.20	29	48	.7
R9413031	PAR94-23	247.00	247.20	15	15	<.4
R9413032	PAR94-23	254.10	254.30	4	20	<.4
R9413033	PAR94-24	17.00	17.20	<4	38	.4
R9413034	PAR94-24	26.50	26.70	4	15	<.4
R9413035	PAR94-24	38.90	39.10	<4	19	<.4
R9413036	PAR94-24	48.20	48.40	<4	11	<.4
R9413037	PAR94-24	57.60	57.80	<4	10	<.4
R9413038	PAR94-24	72.30	72.50	<4	9	<.4
R9413039	PAR94-24	80.50	80.70	<4	15	<.4
R9413040	PAR94-24	94.50	94.70	<4	10	<.4
R9413041	PAR94-24	107.20	107.40	<4	8	.4
R9413042	PAR94-24	121.00	121.20	<4	20	.6
R9413043	PAR94-24	126.90	127.10	<4	13	<.4
R9413044	PAR94-24	136.30	136.50	14	44	.4
R9413045	PAR94-24	150.80	151.00	12	71	<.4

LAB NO	FIELD NUMBER	DRILL INTERVAL		Pb	Zn	Ag
		from (metres)	to	ppm	ppm	ppm
R9413046	PAR94-24	163.30	163.50	5	113	<.4
R9413047	PAR94-24	180.40	181.90	20	108	.5
R9413048	PAR94-24	181.90	182.40	E10100	E43300	11.8
R9413049	PAR94-24	182.40	183.90	53	77	.4
R9413050	PAR94-24	197.30	197.50	15	15	<.4
R9413051	PAR94-24	218.40	218.60	15	39	<.4
R9413052	PAR94-24	230.90	231.10	23	22	<.4
R9413053	PAR94-24	244.30	244.50	<4	36	<.4
R9413054	PAR94-24	262.20	262.40	5	9	.6
R9413055	PAR94-24	279.60	279.80	8	13	<.4
R9413056	PAR94-24	298.30	298.50	6	15	.4
R9413057	PAR94-24	315.70	315.90	<4	10	<.4
R9413058	PAR94-24	331.10	331.30	<4	23	<.4
R9413059	PAR94-24	345.10	345.30	<4	7	<.4
R9413060	PAR94-24	357.60	357.80	24	33	<.4
R9413061	PAR94-25	17.40	17.60	297	239	1.4
R9413062	PAR94-25	35.50	35.70	5	27	<.4
R9413063	PAR94-25	51.20	51.40	<4	12	<.4
R9413064	PAR94-25	72.30	72.50	4	38	<.4
R9413065	PAR94-25	90.50	90.70	<4	26	<.4
R9413066	PAR94-25	108.80	109.00	8	25	.4
R9413067	PAR94-25	130.20	130.40	6	10	<.4
R9413068	PAR94-25	154.40	154.60	31	12	<.4
R9413069	PAR94-25	172.90	173.10	<4	15	<.4
R9413070	PAR94-25	202.40	202.60	<4	17	.4
R9413071	PAR94-25	221.50	221.70	33	14	.6
R9413072	PAR94-25	237.40	237.60	10	18	<.4
R9413073	PAR94-25	256.90	257.10	<4	15	<.4
R9413074	PAR94-25	276.30	276.50	<4	9	<.4
R9413075	PAR94-25	297.20	297.40	6	21	<.4
R9413076	PAR94-25	310.10	310.30	49	14	.6
R9413077	PAR94-25	328.00	328.20	4	10	<.4
R9413078	PAR94-25	344.40	344.60	111	24	.4

I=insufficient sample X=small sample E=exceeds calibration C=being checked R=revised  
 If requested analyses are not shown ,results are to follow

## ANALYTICAL METHODS

Pb Aqua regia decomposition / AAS  
 Zn Aqua regia decomposition / AAS  
 Ag Aqua regia decomposition / AAS

**APPENDIX V**

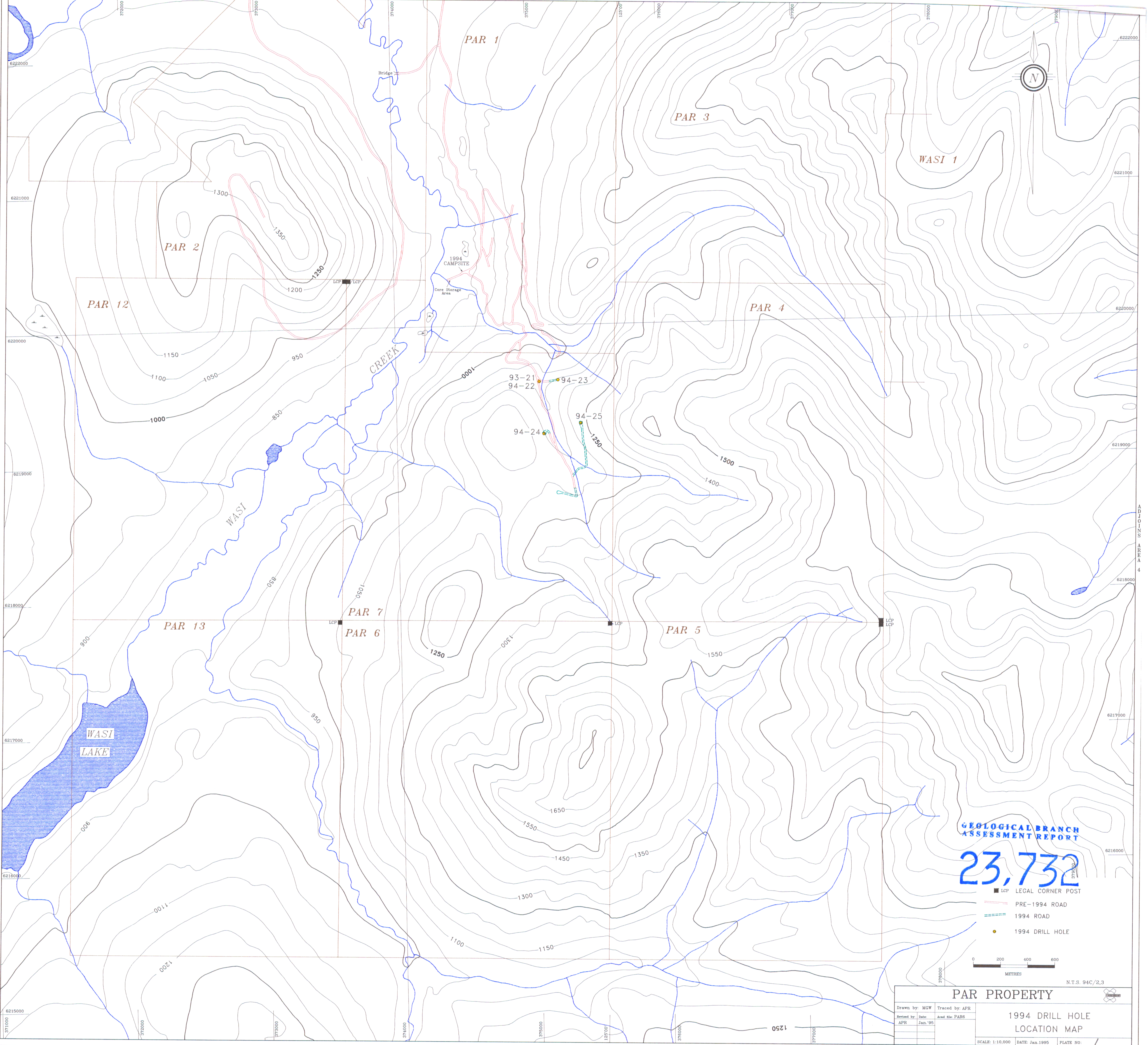
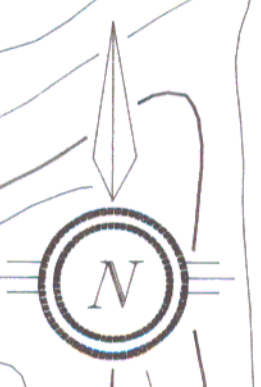
**CERTIFICATE**

I, MICHAEL G. WESTCOTT of #104-5500 Arcadia Road, Richmond, British Columbia, Canada, declare:

1. I am a geologist, residing at the above address.
2. I graduated from the university of British Columbia in 1988 with a Bachelor of Science (Geology) degree and from Queen's University, Kingston, Ontario in 1991 with a Masters of Science degree (Mineral Exploration).
3. I am an associate of the Geological Association of Canada.
4. This report is based on my personal field examination of the property and a review of all pertinent information.

Dated at Vancouver, British Columbia, this 16 day of January, 1995

  
\_\_\_\_\_  
M.G. Westcott  
Geologist



PAR 1

PAR 3

WASI 1

PAR 2

1994 CAMPSITE

Core Storage Area

CREEK

PAR 4

PAR 12

93-21  
94-22

94-24

94-23

94-25

PAR 7

PAR 6

PAR 5

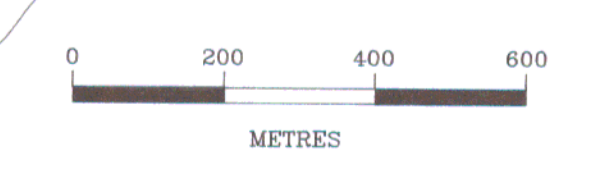
PAR 13

WASI LAKE

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,732

- LCP LEGAL CORNER POST
- PRE-1994 ROAD
- 1994 ROAD
- 1994 DRILL HOLE



N.T.S. 94C/2,3

DRAWN BY: MGW		TRACED BY: APR	
REVISED BY: DATE		ASSED BY: PAR6	
APR		Jan. '95	
<b>PAR PROPERTY</b>			
<b>1994 DRILL HOLE LOCATION MAP</b>			
SCALE: 1:10,000		DATE: Jan. 1995	
		PLATE NO. /	

**PAR 1994 MAIN GRID DRILL HOLE LEGEND**  
(stratigraphic nomenclature defined by Ferri et al. 1992, in brackets)

EARLY SILURIAN TO EARLY DEVONIAN

**SANDPILE GROUP ( ECHO LAKE GP. )**

- 4a FINE-MEDIUM GRAINED, MOTTLED LIGHT-MEDIUM GREY AND GREENISH BUFF DOLOMITE ± LIMESTONE. Generally quite massive, occasional undulatory algal laminations; locally and irregularly silicified, dark grey ooids locally.
- 4b MEDIUM-COARSE CRYSTALLINE WHITE-LIGHT GREY DOLOMITE. Massive-medium bedded; may have sacrositic or 'salt and pepper' appearance, local zebra and fenestral texture; patchy silicification.
- 4c MEDIUM-DARK GREY, FINE-MEDIUM CRYSTALLINE DOLOMITE. Characterized by fenestral fabric defined by lenses and discontinuous laminations of white dolomite, locally oolitic.

AGE UNKNOWN ( likely spans several time periods )

- Bx **COMPLEX BRECCIAS.** Includes a variety of breccia types derived by different mechanisms, at different times. In many instances two or more breccia types are clearly superimposed, elsewhere breccias are very difficult to classify. Here the breccias are classified according to lithologic composition of fragments and brecciation type/mechanism, egs. Bx(lithologic unit, 2a ± 2b, mechanism- DF, SC, D/CV). Breccia mechanisms recognized include:

DF - Debris Flow/Slump breccia. In the area of 1994 drilling fragments appear to comprise predominantly Rosella fm lithologies, though elsewhere in the area include McDame and Sandpile lithologies. Fragment or matrix supported. Matrix comprises variably argillaceous dolomite and locally mudstone.

SC - Solution Collapse breccia: assorted fragment types, typically with embayed edges, floating in fine grained dolomite matrix. Non-soluble, black, organic residuum evidences significant dissolution.

D/CV - Dolpar/Calespar vein/mosaic breccia. Later brecciation, often superimposed on above two breccia types. Can be associated with pervasive, fine grained dolomite flooding.

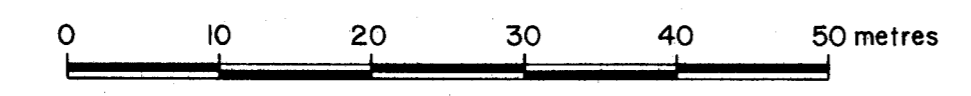
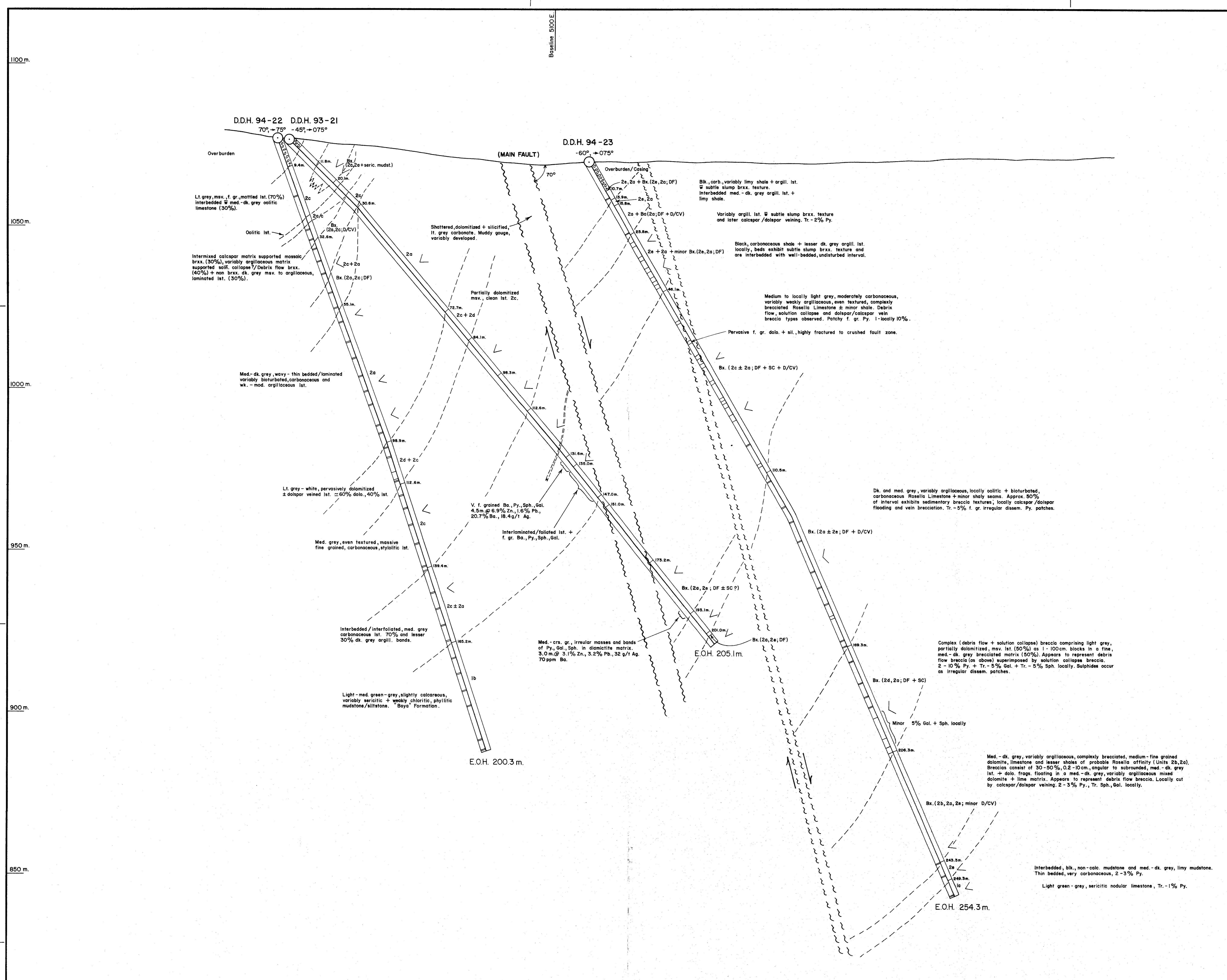
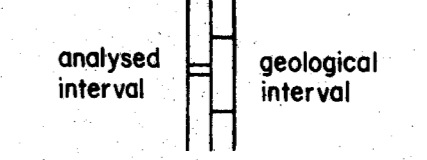
LOWER CAMBRIAN

**ROSELLA FORMATION ( Mt KISON FM. )**

- 2a MEDIUM-DARK GREY, OOLITIC, ARGILLACEOUS LIMESTONE. Medium-thick bedded to nodular; variably argillaceous and carbonaceous, locally oolitic and biturbated, Archeocyathid fossils locally.
- 2b MEDIUM-DARK GREY, OOLITIC, ARGILLACEOUS DOLOMITE. Dolomitized equivalent of unit 2a, fine-medium crystalline, med-thick bedded, local oolitic beds (comprising up to 80% ooids) interbedded with argillaceous beds.
- 2c MEDIUM GREY TO WHITE, FINE-MEDIUM CRYSTALLINE LIMESTONE AND/OR DOLOMITE. Predominantly fine crystalline, clean limestone with lesser fine-medium grained dolomite, massive, non-disrupt mottled texture; faint algal laminations; local dark grey argillaceous bands and black bituminous fracture networks and stylolites, Archeocyathids observed locally.
- 2d WHITE TO LIGHT GREY/CREAM, COARSELY RECRYSTALLIZED DOLOMITES ± MINOR LIMESTONE. May represent dolomitized/recrystallized equivalent of unit 2c; coarse (2-10mm) grained rhombic dolomite and minor calcite; minor argillaceous laminations, even textured.
- 2e VARIABLY CALCAREOUS TO NON-CALCAREOUS SHALE. Dark grey to black, silty to muddy, ± laminated.

**BOYA FORMATION (MOUNT BROWN FM. )**

- 1a INTERBANDED NODULAR LIMESTONE AND LIMY, SERICITIC MUDSTONE. Light green-grey, variably sericitic mudstone ± siltstone interbedded with nodular, argillaceous limestone; sericitic component generally < 25%; phylitic appearance with increased sericite.
- 1b LIGHT TO MEDIUM GREEN-GREY, VARIABLY CALCAREOUS, SERICITIC, PHYLITIC MUDSTONE, ± MINOR VOLCANIC TUFF AND SILTY SANDSTONE. Locally comprises > 50% silica.

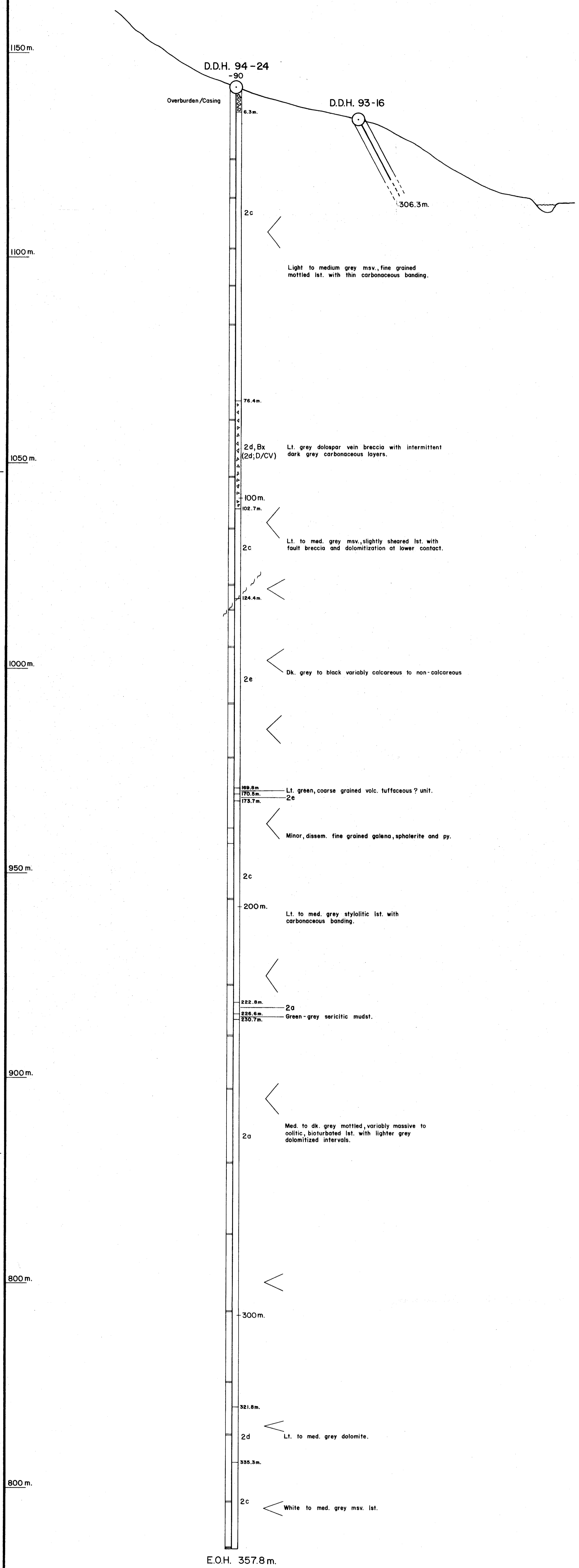


**GEOLOGICAL BRANCH ASSESSMENT REPORT**

23,732

PAR PROPERTY		94 C/3	
Drawn by: M.G.W.	Traced by: a.m.a.	Vertical Drill Section (Looking North)	
Revised by:	Revised by:	DDH 93-21, 94-22, 94-23	
OMINECA M.D.B.C.		Scale: 1:500 Date: Dec. '94 Plate: 2	

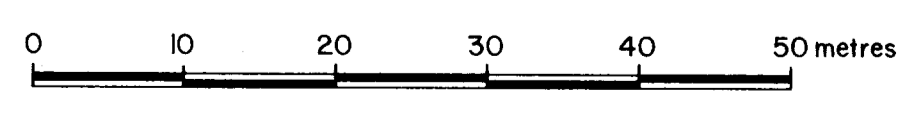
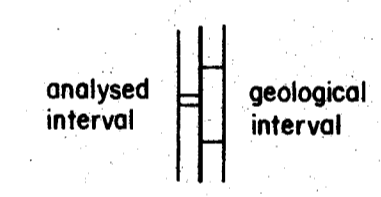
9400 E



**PAR 1994 MAIN GRID DRILL HOLE LEGEND**  
(stratigraphic nomenclature defined by Ferri et al. 1992, in brackets)

- EARLY SILURIAN TO EARLY DEVONIAN
- SANDPILE GROUP ( ECHO LAKE GP.)**
- 4a FINE-MEDIUM GRAINED, MOTTLED LIGHT-MEDIUM GREY AND GREENISH BUFF DOLOMITE ± LIMESTONE. Generally quite massive, occasional undulatory algal laminations; locally and irregularly silicified; dark grey ooids locally.
  - 4b MEDIUM-COARSE CRYSTALLINE WHITE-LIGHT GREY DOLOMITE. Massive-medium bedded; may have sacrosite or 'salt and pepper' appearance; local zebra and fenestral texture; patchy silicification.
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- AGE UNKNOWN ( likely spans several time periods)
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    - SC - Solution Collapse breccia: assorted fragment types, typically with embayed edges, floating in fine grained dolomite matrix. Non-soluble, black, organic residuum evidences significant dissolution.
    - D/CV - Dolospar/Calcspar vein/mosaic breccia. Later brecciation, often superimposed on above two breccia types. Can be associated with pervasive, fine grained dolomite flooding.

- LOWER CAMBRIAN
- ROSELLA FORMATION ( Mt KISON FM.)**
- 2a MEDIUM-DARK GREY, OOLITIC, ARGILLACEOUS LIMESTONE. Medium-thick bedded to nodular; variably argillaceous and carbonaceous; locally oolitic and bioturbated; Archeocyathid fossils locally.
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  - 2c MEDIUM GREY TO WHITE, FINE-MEDIUM CRYSTALLINE LIMESTONE AND/OR DOLOMITE. Predominantly fine crystalline, clean limestone with lesser fine-medium grained dolomite; massive, non-disrupt mottled texture; faint algal laminations; local dark grey argillaceous bands and black bituminous fracture networks and stylolites; Archeocyathids observed locally.
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  - 2e VARIABLY CALCAREOUS TO NON-CALCAREOUS SHALE. Dark grey to black, silty to muddy, ± laminated.
- BOYA FORMATION (MOUNT BROWN FM.)**
- 1a INTERBANDED NODULAR LIMESTONE AND LIMY, SERICITIC MUDSTONE. Light green-grey, variably sericitic mudstone ± siltstone interbedded with nodular, argillaceous limestone; sericitic component generally < 25%; phyllitic appearance with increased sericite.
  - 1b LIGHT TO MEDIUM GREEN-GREY, VARIABLY CALCAREOUS, SERICITIC, PHYLLITIC MUDSTONE, ± MINOR VOLCANIC TUFF AND SILTY SANDSTONE. Locally comprises > 50% silica.



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,732**

PAR PROPERTY		94 C/3	
Drawn by: M.G.W.	Traced by: a.m.g.	Vertical Drill Section (Looking North)	
Revised by: [ ]	Revised by: [ ]	DDH 94-24	
OMINECA M.D., B.C.		Scale: 1 : 500	Date: Dec., '94
		Page: 3	

Baseline 5100.E  
1250m  
1200m  
1150m  
1100m  
1050m  
1000m  
950m

D.D.H. 94-25  
-90

Middle Devonian  
McDane Group. (Other Lakes)

Overburden/casing

5d  
19.8m  
Dark grey to black dolomitic shale with a lower contact fault and breccia zone.

40

100m  
Light to medium grey, fine to medium grained dolomite with pervasive carbonaceous laminations and fracture fillings. Mottled texture, local carbonaceous streakwork microbreccias. Frequent algal laminations, and minor py mineralization locally.

40

200m

238.9m

4c ± Bx (4a, 4c; D/QV)  
Discontinuous light grey dolospar/quartz vein breccia interbedded with dark grey mottled dolomite

263.5m

4c

Medium to dark grey, mottled and fenestral textured, massive dolomite. Weakly calcareous locally. Minor py mineralization.

300m

308.8m  
2e  
318.8m  
Dark grey to black, variably calcareous to non-calcareous shale with thin py laminations.

20

Medium to dark grey, pervasively calcite veined limestone. Pyrite and carbonaceous laminations present locally. Minor brecciation due to increased zones of calcite veining.

E.O.H. 349.7m.

**PAR 1994 MAIN GRID DRILL HOLE LEGEND**  
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**LOWER CAMBRIAN**

**ROSELLA FORMATION ( Mt KISON FM.)**

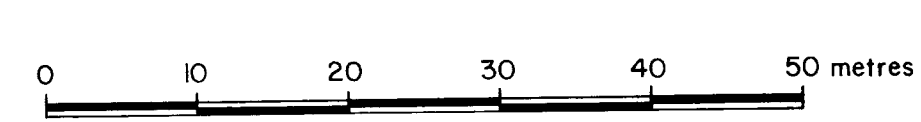
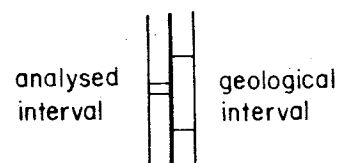
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Road  
Creek

Main  
Fault



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,732

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Drawn by: M.G.W.	Traced by: G.M.O.	Vertical Drill Section (Looking North)	
Revised by: [ ]	Revised by: [ ]	DDH 94-25	
OMINECA M.D., B.C.		Scale: 1 : 500 Date: Dec., '94 Plate: 4	