ASSESSMENT REPORT

on the

1989 DIAMOND DRILL PROGRAM

BIERE A AND B GROUPS
(BIERE I to VII, NS and JUNE fr.)

KAMLOOPS MINING DIVISION

NTS 82M/5W

Lat: 51° 17'N Long: 119° 54'W

Owner:
National Resource Explorations Ltd.
550-1040 Georgia Street,
Vancouver, V6E 4H1.

Operator:
Minnova Inc.
4th Floor-311 Water Street,
Vancouver, B.C.
V6B 1B8

D.R. Heberlein.
March, 1990.

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1.0 INTRODUCTION

1.1 General:

This report describes the results of a diamond drilling program that was conducted by Minnova Inc. on the Biere I to VI and 7 claims between October 10th and 30th, 1989. The program was designed to test Max-Min conductors targets generated by Discovery Consultants in 1987.

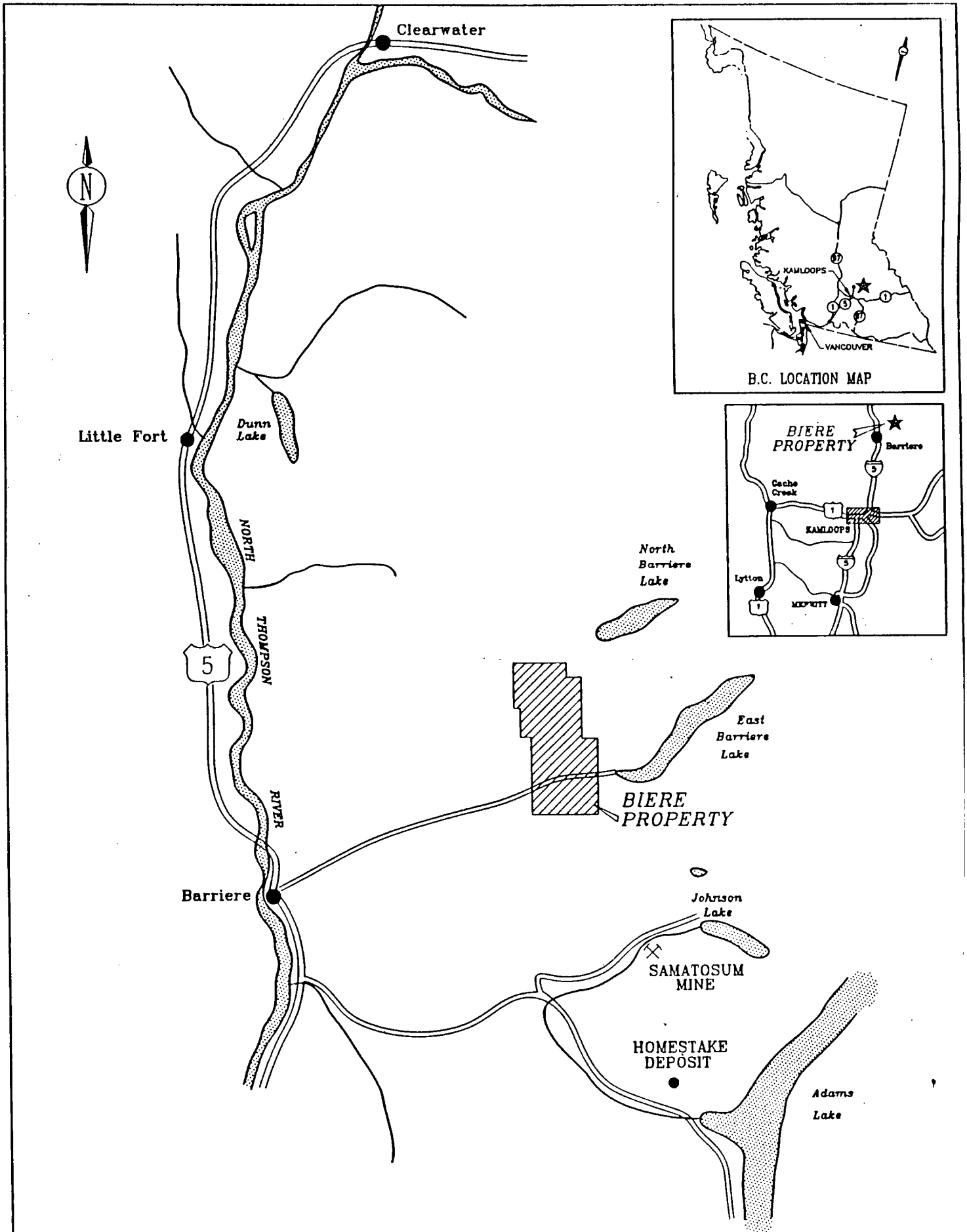
1.2 Location and Access (Fig. 1):

The property is located in the Kamloops Mining Division on NTS Map Sheet 82M/5W; (Lat. 51° 17' North, Long. 119° 54' West); approximately 17 km east of Barriere, B.C.

Access to the north and central parts of the property is via the Russel Creek logging road which turns north from the East Barriere Lake road approximately 1.5km west of the fishing camp on East Barriere Lake. The southwestern claim area is accessed from a secondary logging road that joins the North Barriere Lake road 500m north of the East Lake road junction. A network of old logging roads provide good access to most parts of the property.

1.3 Topography, Vegetation and Climate:

The Biere property lies in an area of moderate relief at the junction of the Barriere River and East Barriere River. Steep south and west facing slopes typify much of the property area. Elevations range from 610m at the Barriere River to 1375m at the highest



BIERE PROPERTY
LOCATION MAP

MINNOVA Inc.

DRH/sg FIGURE 1 SEPTEMBER 1989

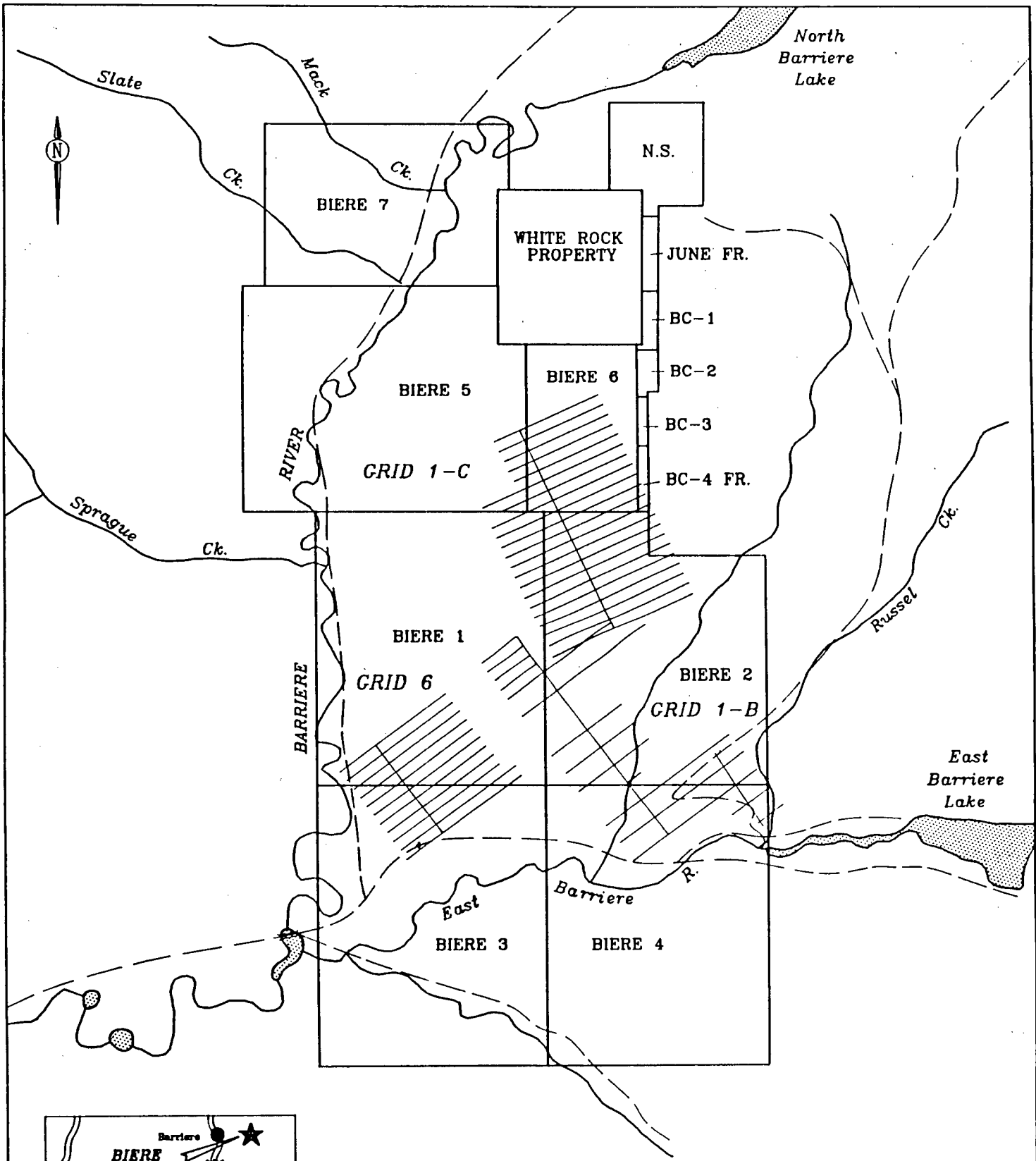
point. Vegetation consists of second growth fir and spruce forest at lower elevations and open, first growth balsam, pine, spruce and fir forest at higher elevations. The southwest corner of the property has been recently clear-cut and replanted.

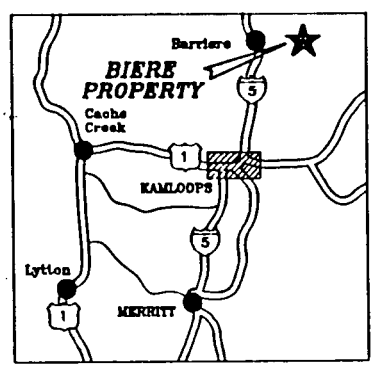
Outcrop exposure is sparse (5%) at lower elevations. Towards the valley floor, bedrock is hidden by thick Quaternary till and sand deposits. Best exposure is seen in steeply incised streams gulleys, road cuts, and on ridge tops.

Climate is typical of the south-central interior, with annual temperatures ranging from -25 °C in winter to 30 °C in the summer months. Precipitation during the summer months is limited thus drainages tend to dry. Winter snow packs typically average 2m at higher elevations.

1.4 Property and Ownership:

The Biere property is owned by National Resource Explorations Ltd. and operated by Minnova Inc. It consists of 8 contiguous MGS claims, 3 two post claims and 3 fractional claims that total 124 units (Fig. 2). Claim data are summarized in Table 1 below:





ADAMS/BARRIERE

BIERE PROPERTY
CLAIM & GRID LOCATION MAP

MINNOVA Inc.

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DH/sg FIGURE 2 MARCH 1990

TABLE 1 LIST OF CLAIMS

CLAIM	REC No.	Units	Expiry Date
BIERE I	7090	20	06/08/93*
BIERE II	7091	20	06/08/93*
BIERE III	7092	20	06/08/93*
BIERE IV	7093	20	06/08/93*
BIERE V	7094	20	06/08/94*
BIERE VI	7095	8	06/08/93
BIERE 7	7135	12	06/30/93
JUNE Fr.	7752	1	06/14/94*
NS	7751	1	06/14/94*
BIEREX Fr	7224	1	08/10/94
B.C. 1	7225	1	08/10/94
B.C. 2	7226	1	08/10/94
B.C. 3	7227	1	08/10/94
B.C. 4 Fr	7228	1	08/10/94

* Assuming acceptance of this report.

1.5 Property History:

In 1984 a Dighem survey was flown over the property area by Noranda Exploration Co. Ltd. The airborne survey generated several targets that were staked and followed-up by extensive ground work consisting of geological mapping, geochemical sampling, Genie EM and magnetometer surveys. Several strong conductive trends were identified by this work, however none were drill tested and the claims were allowed to expire. The Biere claims were staked by National Resource Exploration Ltd. in 1987. During the 1987 field season further geochemical and geophysical surveys were completed. One diamond drill hole was drilled into a conductor on Grid 1A (Fig. 3). Graphitic argillite was encountered, thus explaining the EM anomaly.

1.6 Summary of 1989 Assessment Work:

Drilling:	5 holes totalling 524.6m.
Geochemical:	16 core samples run for Cu, Pb, Zn, Ag, As, Sb and Au.
Geology:	22 mandays.

2.0 PROPERTY GEOLOGY

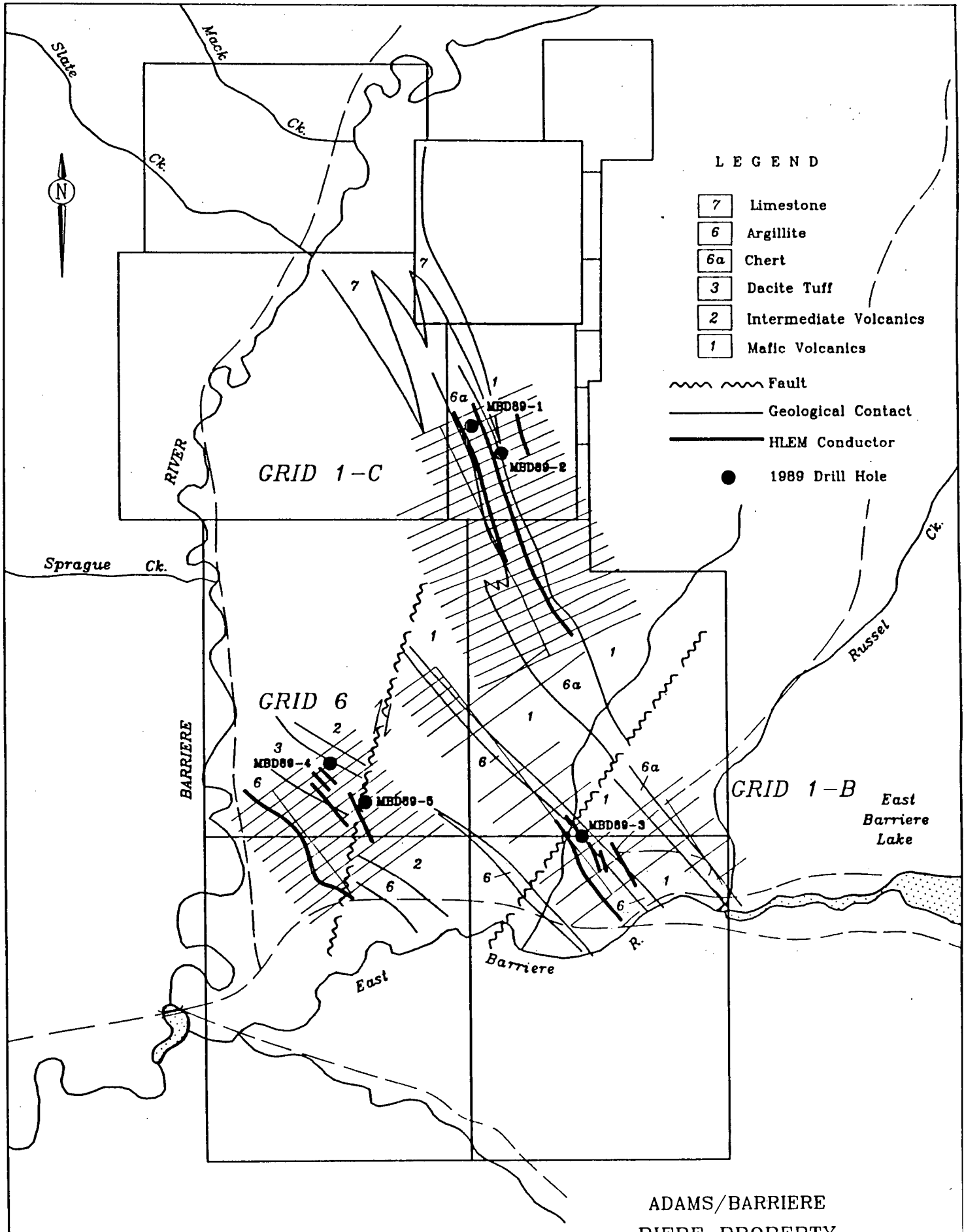
The property area (Fig. 3) is underlain by rocks of the Devono-Mississippian Eagle Bay Assemblage (Schiarizza and Preto, 1987). Mafic volcanics (and derived schists) of Unit EBG underlie most of the claim area. This unit consists predominantly of fragmental lithologies (lapili tuffs and crystal tuffs) but also includes narrow intervals of banded grey chert, graphitic argillite and massive limestone.

Sericitized intermediate tuffs with lesser argillite underlie the southwest part of the property. These rocks which are only exposed on Grid 6 are interpreted to belong to Unit EBA of the Eagle Bay Assemblage (Schiarizza and Preto, 1987). The extent of this unit in the areas is not known. A northeast trending fault is postulated to separate Units EBG and EBA on the Biere property (Fig. 3). All rock units on the property strike towards the northwest and dip moderately (40 to 60°) to the northeast.

3.0 DIAMOND DRILLING

3.1 General:

The diamond drilling program was carried out between October 10th and 30th 1989. Drilling was performed by Frontier Drilling Ltd. of Langley, B.C., using a skid-mounted Longyear Super 38 drill and NQ size rods. Drill core was logged by Chris Wild at



ADAMS/BARRIERE

BIERE PROPERTY

GEOLOGY WITH DRILL HOLE LOCATIONS

DH/sg FIGURE 3 MARCH 1990

MINNOVA Inc.

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Minnova's warehouse and core storage facility in Barriere. The location of the core is shown in Figure 2.

Five holes, totalling 524.6m were drilled on the property. Locations of the drill holes are shown on Figure 3 and summarized in Table 2 below.

TABLE 2. 1989 DRILL HOLE LOCATIONS

HOLE	GRID	NORTHING	EASTING	DIP	AZIMUTH	LENGTH
MBD-89-1	1-C	137+00mN	109+50mE	-50	270°	102.7m
MBD-89-2	1-C	133+00mN	110+75mE	-50	245°	96.6m
MBD-89-3	1-B	105+20mN	100+60mE	-48	270°	105.8m
MBD-89-4	6	120+00mN	89+00mE	-50	235°	124.1m
MBD-89-5	6	116+00mN	89+35mE	-50	235°	95.4m
					TOTAL	524.6m

Drill logs are presented in Appendix III at the rear of this report.

3.2 Results:

On grid 1-C, two holes (MBD-89-1 and MBD-89-2) were drilled to test parallel, good quality Max-Min conductors that were identified by National Resource Explorations Ltd in 1988. Surface mapping in this area by Minnova in 1989 found that both conductors are hosted by a 175m wide banded chert unit (Fig. 3).

Hole MBD-89-1 was collared (3.1 to 5.9m) in a weakly ankeritic grey phyllite. Below this unit from 5.9 to 84.5m the hole penetrated an interbedded sequence of pale grey banded chert, massive dark grey limestone and graphitic argillite. From 84.5m to the end of the hole at 102.7m, a homogeneous succession of interbedded chert and graphitic argillite was encountered. The conductor was adequately explained by the presence of graphitic argillite intervals in the chert. No significant sulphide mineralization was encountered, however pyrite was noted

throughout the hole in amounts up to 1%.

Hole MBD-89-2 was collared in a weakly sericitic mafic pyroclastic (13.3 to 41.7m). Below this, massive grey chert was intersected between 41.7 to 52.7m. This interval showed evidence of extensive silica remobilization in the form of numerous quartz stringers. A massive, white "bull" quartz vein (54.8 t 56.1m) separated the grey chert from a moderately sericitic chert that was present between 56.1 to 65.5m. Below 65.5m graphitic argillite increased in abundance to become the dominant rock type at the end of the hole (96.6m). This graphitic nature of the argillite was sufficient to explain the conductor.

Hole MBD-89-3 was drilled on grid 1-B to test three closely spaced, short strike length, Max-Min conductors. The hole penetrated a continuous sequence of interbedded graphitic argillite, siltstone and wacke from top to bottom. The strongly graphitic nature and positions of the argillite intervals satisfactorily explain the conductors.

On Grid 6, two holes were drilled to test Max-Min conductors lying within an intermediate tuff sequence. Hole MBD-89-4 collared in a green-grey sericitic intermediate tuff that is characterized by a crude interlayering of lapilli rich and crystal-rich (feldspar and quartz) intervals. A clay-rich shear zone separates these rocks from a narrow section of graphitic argillites, siltstones and wackes between 81.3 and 82.6m. Between 82.6m and the end of the hole at 124.1m the hole penetrated more intermediate tuffs.

Hole MBD-89-5 was also drilled to test the intermediate tuff hosted conductors on Grid 6. Interbedded graphitic argillites and siltstones were present throughout the hole, thus explaining the conductor.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Results of this diamond drilling program were disappointing. No mineralization or significant alteration was encountered in any of the drill holes. All of the conductors tested were adequately explained by the presence of graphitic argillites. No further work is recommended on the property.

5.0 REFERENCES

Schiarizza, P. and Preto, V.A., 1987: Geology of the Adams Plateau-Clearwater-Vavenby Area. BCMEMPR Paper 1987-2.

APPENDIX I

DRILL LOGS AND ANALYTICAL RESULTS

HOLE NUMBER: MBD-89-1

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BIERE 1989
PROJECT NUMBER: 245
CLAIM NUMBER: BIERE 6
LOCATION: NORTH BARRIERE LAKE

PLOTTING COORDS GRID: 1-C
NORTH: 137.00N
EAST: 109.50E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 102.70m
START DEPTH: 0.00m
FINAL DEPTH: 102.70m

COLLAR GRID AZIMUTH: 270° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 245° 0' 0"

DATE STARTED: September 8, 1989
DATE COMPLETED: September 9, 1989
DATE LOGGED: September 11, 1989

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST A STRONG HLEM CONDUCTOR ALONG CHERT CON- TACT ALSO WEAK SOIL ANOMOLIES.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
47.90	-	-50° 0'	ACID	OK	
102.70	-	-50° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»			silicification.		
3.05 TO 5.90	«ARG» Argillite 3.05-5.0 5.0-5.9	Soft, weathered, finely laminated. Pale grey. Fine grained. Dark grey finely laminated strongly contorted.		Strongly sericitic mod. clay strong fe-carb reddish hematite tint. Large pits of leached fe-carb.		
5.90 TO 14.30	«CHT» Chert	Pale green, highly fractured locally tectonically brecciated. FOLIATION LAYERING Minor black argillite.	60 30	Limonitic along fractures (+ fe carb). Open pits, look like vuggy qtz. veins.	Trace 1% pyrite cubes.	5.9-8.5 litho'd.
	7.0-7.4 7.4-7.8 8.5-9.7 9.7-14.36	«LST»; very rusty. Strongly ankeritized chert. Massive pale grey. Strongly limonitic along fractures, pitted appearance.		Intense Fe carb.		
14.30 TO 17.40	«LST» Limestone	Medium grey and white fg. with calcite stkwk. FOLIATION	75	Banded brown wispy fe carb along foliation.		
17.40 TO 18.20	«CHT» Chert	Highly contorted, fractured pale grey.		Wispy fe-carb and limonite. Weakly sericitic.		
18.20 TO 20.70	«LST» Limestone	Med. grey with white calcite stkwk. gives core a brecciated appearance; very fine grained.		Strong wispy fe carb 10cm wide controlled by foliation.		Strong rx. to hcl.
20.70 TO 34.60	«CHT» Chert	Pale to med. grey, generally massive with weakly foliated sections often showing offsets of distinctive original bedding; beds are open to tightly folded with fold axis parallel to foliation. FOLIATION LAYERING	70 25	Limonitic along fractures.		Structures best seen 26.0-26.5m. ie. downhole vergence.
34.60 TO 37.80	«CHT/LST/ ARG» 34.6-34.7 34.7-34.8 34.8-35.1 35.1-37.3	Med. grey, generally finely laminated, variable carbonate. Chert. Limestone. Chert with minor argillite, fe carbonate. Finely		Rusty coloured. Fe-carbonate.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		laminated, argillite partings, rusty.				
		FOLIATION	90			
		LAYERING	20			
	37.3-37.8	Massive to weakly fol. chert.				Layering is folded, nosing in foliation planes.
37.80 TO 38.20	«CHT/LST/ BX»	Mixed contact breccia minor arillite, clast supported subrounded to subangular clasts.			1% pyritic along fol.	Foliation cuts bx.
38.20 TO 39.50	«LST» Limestone 38.8-38.9	Med. grey, mod. carbonaceous with white calcite stringers. Minor black argillite chert.				
39.50 TO 41.50	«ARG» Argillite	Black with pale grey cherty interlayers; cherty layers are stretched and boudined, highly contorted; some layering is rotated parallel to foliation		Minor clay partings. Minor white qtz. stringers. Very soft compressive clay at bottom 30cm.	1% py., trace cp.	Not graphitic distinctive unit.
		FOLIATION	80			
41.50 TO 57.50	«LST» Limestone 45.7-48.1	Med. grey, weakly banded cut by numereous white calcite stringers; gives core brecciated look. Cherty section, no calcite stringers, no fizz but looks same as above.		Poss. silic. lst.		
	48.8	3cm band of pale grey chert.				
		CONTACT	70			
	51.5-51.8	Sand.				
	55.2	3cm band of black arg.				Probably a fault.
	55.3	5cm band of black arg.				
		CONTACT	70			
	57.1	Decreasing CaCO3.				
57.50 TO 58.90	«CHT» Chert 57.7-58.0	Interlayered chert, chert breccia, argillite and limestone. Carbonaceous limestone minor calcite veinlets.				
		CONTACTS	80			
58.90 TO 60.20	«LST» Limestone 59.9-60.1	Med. grey mottled appearance with free calcite stringers. Darker grey chert.		Qtz. flooded, weakly calcareous.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
60.20 TO 60.70	«CHT» Chert .	Pale to med. grey, breccia at top with occasional limestone clast. Hard chert fractured, rotated to high angle to core axis with dark (pyritic?) matrix. Becomes less deformed, bedding at low angle to core axis very contorted.			1-2% recryst. cubic pyrite.	
60.70 TO 61.20	«LST» Limestone	Grades to massive, dolomitic limestone cut by 1cm wide qtz. calcite veinlet. Fine grained, no recryst. evident.	10			
61.20 TO 65.50	«CHT» Chert 63.0-63.1 63.6-63.9 63.9-64.0 64.2	Pale grey, moderately tectorized chert with limey layers. Brecciated, limey clasts. Limestone with chert. Phyllitic siltstone, grey fg., lots of micas. Becoming increasingly carbonaceous; foliation is much stronger than bedding	75	Weakly graphitic partings.	1% pyrite.	
65.50 TO 66.40	«LST» Limestone	Pale mottled grey, foliated cut by recrystallized calcite veinlets. Good layering parallel to foliation.	65			Strongly reactive to HCl
66.40 TO 67.30	«CHT» Chert	Pale grey, banded, highly contorted bedding cut by foliation. BEDDING FOLIATION	10 90		1% pyrite along foliation.	
67.30 TO 67.70	«LST»	Med. to dark grey, fine grained, numerous very thin recryst. calcite stringers.				Very reactive to HCl
67.70 TO 70.10	«CHT» Chert 68.8-68.9	As before: BEDDING FOLIATION Foliation is variable, between 40-90deg. to core axis. Black clay partings.	15 60 70			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
70.10 TO 70.70	«LST» Limestone	Med. grey, fine grained, cut by white calcite stringers. Sharp contacts.				Very reactive to HCl
70.70 TO 72.40	«CHT» Chert	As before, highly contorted not brecciated. Layering appears to be rotated parallel to foliation with minor folds hinging in foliation plane.	70			
72.40 TO 72.90	«LST» Limestone	As before, med. grey, fine grained. Lower contact foliation	52			
72.90 TO 73.20	«CHT» Chert	As before: FOLIATION	50			
73.20 TO 73.60	«LST» 73.3-73.4	As before; Chert band.				
73.60 TO 79.90	«CHT» Chert 74.3-74.4 74.5-74.7 75.6-75.7	Pale grey contorted chert with thin sections of pyritic argillite. ~50% finely layered black argillite extended along foliation into highly contorted/folded chert. Soft graphitic layers along foliation (+ black clay) 40% white qtz. vein material with graphitic partings. Thin (<1cm) graphitic argillite layers, strtched along foliation also along bedding defined by cht. layers. FOLIATION BEDDING	 70 30		1-2% pyrite associated with graphitic argillite. 10-15% pyrite. 5% pyrite (in graphitic material). 5% pyrite (in graphitic argillite)	 Moderately graphitic.
79.90 TO 83.20	«LST» Limestone 80.4-80.5 82.0-82.1 82.8-82.85 82.7-83.2 83.1-83.2	Mottled med. to pale grey variably recryst. Numerous black graphitic partings occasional cherty layer. Argillite has flowed with limestone no clearly defined foliation. Chert. Graphitic argillite. Chert breccia. Increasingly cherty with calcite stringers. Chert breccia.			 10% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
83.20 TO 84.50	«GR ARG» Graphitic Argillite	Black crumbly strongly graphitic argillite with up to 40% chert locally. chert layers define bedding Some beds have been extended and broken, some compression style folding is also present. FOLIATION	10 60		5-10% pyrite.	Explains EM conductor.
84.50 TO 87.50	«SER CHT» Sericitic Chert	Pale green finely layered (foliated), green sericite bands are softer, silty poss. very fine grained tuff. White layers are hard siliceous chert. FOLIATION Foliation is open folded at one location, angle decreases to Occasional thin (<1cm) argillite band. 86.2-87.2 Decreased sericite, mainly pale grey chert.	60 30	No carbonate moderately sericitic.		
87.50 TO 88.60	«CHT/ARG» CHert	Thinly layered black and pale grey, strongly foliated. FOLIATION Bedding is apparent but highly variable. Rotation of 'beds' gives breccia appearance in places.	75		5-10% pyrite.	
88.60 TO 89.80	«SER CHT»	As before, weaker foliation.				
89.80 TO 102.70	«CHT» Chert 89.8-91.9 91.9-92.3 92.3-93.1 93.1-102.7 94.1-94.6 99.9-100.1 100.5-101.3 102.4-102.7	Occasional graphitic parting variable qtz. flooding. Med. grey, numerous thin bands of argillite. Chert breccia; fractured white qtz. vein. Pale green sericitic chert. Massive pale to med. grey cut by thin white qtz. stringers along foliation Qtz. veining and stkwk. Irregular qtz. veining 80% qtz. vein. 50% qtz. vein. END OF HOLE.	75	Very hard, competent.	2-3% pyrite. No sulphides apparent. Assoc. with qtz. veining.	

Sample	From (m)	To (m)	Length (m)		COMMENTS
	0.00	0.00	0.00		

Sample	From (m)	To (m)	Length (m)	AL203 %	BAT %	CAO %	FE203 %	K20 %	MGO %	MNO2 %	NA20 %	P205 %	SIO2 %	TIO2 %	S %	TOT (%)	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD10732	5.90	8.50	2.60	7.51	.055	3.01	4.47	2.76	.54	.37	.69	.15	75.06	.34	.02	94.97	.4	197	41	79	25	1	94	5
BCD10733	41.50	44.50	3.00	1.19	.03	45.96	1.08	1.16	.63	.23	.38	.51	8.51	.05	.35	60.06	2.1	77	16	21	28	10	43	65
BCD10734	61.20	64.20	3.00	7.29	.055	4.35	3.17	2.64	1.80	.24	.76	.18	71.98	.34	.56	93.36	.5	32	45	63	33	2	32	5
BCD10735	83.30	84.50	1.20	9.11	.075	3.79	6.87	3.39	1.94	.56	.57	.17	59.15	.47	2.74	88.84	.2	10	65	135	49	2	111	10

HOLE NUMBER: MBD-89-2

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BIERE 1989
PROJECT NUMBER: 245
CLAIM NUMBER: BIERE 6
LOCATION: NORTH BARRIERE LAKE

PLOTTING COORDS GRID: 1-C
NORTH: 133.00N
EAST: 110.75E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 133+ 0N
EAST: 110+75E
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 96.60m
START DEPTH: 0.00m
FINAL DEPTH: 96.60m

COLLAR GRID AZIMUTH: 270° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 245° 0' 0"

DATE STARTED: September 9, 1989
DATE COMPLETED: September 10, 1989
DATE LOGGED: September 12, 1989

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
47.90	-	-50° 0'	ACID	OK	
96.60	-	-52° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 13.30	«CASING»					
13.30 TO 41.70	«MPYRO» Mafic Tuff	Med. olive green, fine grained with upto 20% white crystal fragments (~ 1mm dia.). There are numerous white recryst. calcite stringers present. Core is soft. Foliation is steep but weakly expressed.	80	Original mafic components altered to chlorite, sericite, calcite, fe-carb. Crystal fragments altered to fe-carb, some sections appear to be chloritized. Qtz. veining assoc. with calcite stringers increases downhole.	{1-2% pyrite} pyrite is concentrated along qtz.-carb veinlets.	Typical Eagle Bay mafics-basaltic.
	24.6-24.8	«FAULT», bright orange/brown sand and clay with pieces of 'mpyro'.				
	24.8-36.5	Well developed lapilli to 5cm dia; elongated along steep foliation.				
	36.5-37.8	Darker green, more chloritic, 15-20% white crystal fragments.				
	37.8-41.7	Sharp break to pale green fine grained, orange weathering quite soft.		Strong fe-carb, sericitic.		
	39.2-41.6	Crumbly, mushy in places poor core recovery.				~ 35% core recovery.
41.70 TO 52.70	«CHT» Chert	Reddish hue, hard, brittle fractured qtz. flooded.		Mainly qtz., minor chlorite, sericite and fe-carb.	Trace pyrite.	~ 60% core recovery.
	41.7-47.8	Wispy chloritic bands suggest this rock may have had an original mafic component. 44.5 becomes much greener. A few ghost lapilli are possible.				
	47.8-49.3	Pale green, less siliceous, more sericitic, more phyllitic looking. Slightly rusty along fractures A few crystal fragments visible at lower contact.		Still very siliceous with numerous pale green sericitic bands.		Could be somewhat tuffaceous.
	47.8-49.3	Ghost lapilli apparent "lapilli tuff".				
	49.3-49.35	5cm of sericitic mush.				
	49.3-52.7	Increasingly cherty or silica flooded. FOLIATION	60			
52.70 TO 54.00	«QTZ VEIN»	White massive vein with sharp contacts parallel to foliation. 5% sericite/muscovite/chlorite.	70			
54.00 TO 54.80	«MPYRO» Crystal Tuff	Pale green, sericitic, feldspar crystal tuff (~20% of rock). Strongly foliated with thin pale grey chert layers.				
	54.6-54.8	Mushy, shear zone.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
54.80 TO 56.10	«QTZ VEIN»	Contact cuts foliation. White qtz. with minor sericite.	60 90			
56.10 TO 65.50	«SER CHERT» Sericitic Chert	Indistinct contact, qtz. vein intrudes 10-20cm into sericitic chert. Pale green, highly contorted bands 1cm. Rusty along fractures.		Sericite.		
59.8-61.0		Med. grey chert, no sericite weakly carbonaceous. FOLIATION	70			
61.0-65.5		Mainly sericitic chert. Folding is tight, intense compression. Becoming more pyritic.		Sericite.	1% po.	
65.0-65.5		FOLIATION, CONTACT	70		1% cubic pyrite.	
65.50 TO 96.60	«ARG/CHERT» Interbedded Chert and Argillite	Increasing black argillite interlayed with pale grey chert and white qtz. veinlets. Moderately graphitic. Bedding is well preserved in places folded and offset by foliation.			2-3% pyrite as coarse blebs along foliation planes.	Good conductor.
80.0-87.3		Finer argillite, graphitic.			5% cubic and blebby pyrite.	
87.3-89.9		Paler grey, increased chert possibly coarser clastics.			3% pyrite.	
89.9-90.0		Black fine grained graphitic argillite.				
90.0-96.6		Strong qtz. flooding >50% free white qtz. in mainly black graphitic argillite and pale grey chert. Qtz. veining appears to be remobilized and folded.			5% pyrite in argillite only.	Qtz. veining appears to be barren.
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)		COMMENTS

Sample	From (m)	To (m)	Length (m)	AL203 %	BAT %	CAO %	FE203 %	K20 %	MGO %	MNO2 %	NA20 %	P205 %	SIO2 %	TIO2 %	S %	TOT (%)	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD10736	13.30	16.10	2.80	15.58	.07	6.91	12	2.32	5.38	.24	2.15	.27	42.06	1.91	.01	88.89	.5	1	89	41	37	1	124	5
BCD10737	37.80	41.70	3.90	13.41	.075	6.20	10.95	3.18	4.59	.17	.79	.25	40.91	1.66	.02	82.20	.4	16	68	49	50	4	100	5
BCD10738	61.00	65.50	4.50	9.15	.055	.33	4.46	2.84	1.51	.25	1.06	.10	76.02	.44	.01	96.22	.1	1	52	24	24	1	46	5
BCD10739	84.30	87.30	3.00	12.03	.06	1.21	5.63	3.08	2.14	.11	1.90	.12	64.60	.56	2.37	93.81	.7	29	48	36	84	1	116	10

HOLE NUMBER: MBD-89-3

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BIERE 1989
PROJECT NUMBER: 245
CLAIM NUMBER: BIERE 2
LOCATION: EAST BARRIERE LAKE

PLOTTING COORDS GRID: 1-B
NORTH: 105.20N
EAST: 100.60E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 105+20N
EAST: 100+60E
ELEV: 0.00

COLLAR DIP: -48° 0' 0"
LENGTH OF THE HOLE: 105.80m
START DEPTH: 0.00m
FINAL DEPTH: 105.80m

COLLAR GRID AZIMUTH: 270° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 235° 0' 0"

DATE STARTED: September 12, 1989
DATE COMPLETED: September 13, 1989
DATE LOGGED: September 13, 1989

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: PULLED
CORE STORAGE: BARRIERE

PURPOSE: TO TEST THREE, CLOSELY SPACED PARALLEL EM CONDUC- TORS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
53.90	-	-49° 0'	ACID	OK		-	-	-	-	-	
102.70	-	-48° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 18.30	«CASING»					
18.30 TO 21.40	«ARG» Argillite	Black, fine grained, weakly foliated, moderately graphitic; minor grit and silt interbeds near lower contact. FOLIATION	80		<1% pyrite as very fine grained diss. and stringers.	First conductor.
21.40 TO 50.50	«GRIT»	Pale to medium grey, medium to coarse grained, poorly sorted qtz.-feldspar grit. Very weak FOLIATION	60			General fining down.
	26.3-26.4	Fault- mushy gouge.				
	26.4-27.0	Irregular, weak qtz.-calcite vein stockwork.				
	27.0-50.5	Medium grey colour indicates more carbonaceous material.				
	32.2-32.5	Black, weakly graphitic argillite.			Coarse diagenetic pyrite cubes are common 1-2%.	
	34.4-35.1	Mushy sandy sections of shearing.				
	43.0-43.1	5cm seam of black argillite CONTACTS	65			
	44.2-44.3	Black argillite.				
	44.4-44.5	Black argillite.				
	44.8-44.85	3cm black argillite.				
	45.0-45.1	Black argillite CONTACTS	60			
	45.8-45.9	Black argillite with 1cm grit bed	60			
	46.0-46.1	Black argillite.				
	46.8-46.9	Black argillite.				
	47.0-47.1	Black argillite.				
	47.2-47.3	Black argillite CONTACTS	60			
	47.5	2cm of black argillite.				
	47.9-48.3	Minor qtz.-calcite veining.				
	50.0	1cm of black argillite BEDDING	60			
50.50 TO 70.00	«SLTST» Siltstone	Pale grey, fine grained very gradational contact with grits. General fining downhole continues.		Occasional calcite stringers esp. along qtz. vein selveges.	2% coarse cubic pyrite.	Still gritty at top of silty sequence.
	50.6-51.0	1-5cm beds of coarse grit.				
	52.5-52.8	Med. grained grit.				
	59.2-59.4	Qtz.-calcite veinlets. Becoming slightly darker, finer grained, more carbonaceous.	60			
	⌊65.9-66.9⌋	GRIT Increasing frequency of qtz.-calcite veinlets 3-5 per meter.				
	69.2-69.5	GRIT				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
70.00 TO 87.00	«ARG» Argillite	Dark grey to black, very fine grained. Gradational contact from siltstone. Increased fracturing, most of unit is broken up. Mod. graphitic through much of section.			1-2% coarse cubic and stringer (along bedding) pyrite. Upto 20% very fine grained pyrite in stringers and disseminations.	Main conductor. Litho'd.
	71.8-73.8	Highly broken up, strongly graphitic.				
	72.6-73.2	Weak qtz.-calcite stwk. (calcite postdates qtz.).				
	74.0-74.9	Broken up, graphitic.				
	75.3-75.5	Qtz.-calcite stockwork.				
	75.5-80.8	Highly fractured, graphitic.				
	80.8-82.4	Silty, competent. 82.3 Good graded bedding tops uphole.				Defines anticline hinging in argillite. Possible tops determination.
	82.4-87.0	Dark grey to black silty, weakly carbonaceous arg.				
	83.6-83.7	Mottled qtz.-calcite vein with hairline stringers penetrating hangingwall only.	60			
		Clay at lower contact strongly graphitic.	60			
87.00 TO 98.30	«SLTST» Siltstone	Generally pale grey, fine to medium grey, minor argillite and grit beds. Limey sections.		Weakly calcareous.	Fine diss. pyrite and pyrite stringers lessens through interval.	
	89.1-89.6	«GRIT»			10% cubic pyrite.	
	90.4-90.5	Arillite.				
	91.8-93.2	Moderately calcareous, fine grained, pale grey.				
	93.0-94.1	Soft, mushy, sheared.				
	95.0	Increase in grain size downhole very apparent. Grading to GRIT over ~2m.				
98.30 TO 105.80	«GRIT»	Med., slightly darker grey, coarse gritty clastic quite massive, homogeneous. 1-5% carbonate clasts Soft, mushy sheared in finer grained section.		Occasional calcite stringer. 1% cubic pyrite. Weakly calcareous.		
		3cm black argillite BEDDING	60	Coarse (to 6mm) cubes of pyrite near arg. contacts.		
		2-3cm bands argillite. Dark grey sltst.-arg.				
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)		COMMENTS

Sample	From (m)	To (m)	Length (m)	AL203 %	BAT %	CAO %	FE203 %	K20 %	MGO %	MNO2 %	NA20 %	P205 %	SIO2 %	TIO2 %	S %	TOT (%)	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD10740	39.50	42.50	3.00	13.4	.13	4.14	3.09	3.24	1.67	.11	.78	.17	64.79	.22	.28	92.03	.5	1	155	16	23	1	51	5
BCD10741	82.60	85.50	2.90	7.93	.085	4.12	2.89	2.64	2.21	.07	.50	.18	67.93	.31	1.20	90.05	1.7	42	86	40	38	5	193	5

MINNOVA INC.

HOLE NUMBER: MBD-89-4 — DRILL HOLE RECORD — IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BIERE 1989
PROJECT NUMBER: 245
CLAIM NUMBER:
LOCATION: NORTH BARRIERE LAKE

PLOTTING COORDS GRID:
NORTH:
EAST:
ELEV:

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 124.10m
START DEPTH: 0.00m
FINAL DEPTH: 124.10m

COLLAR GRID AZIMUTH: 270° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 235° 0' 0"

DATE STARTED: September 14, 1989
DATE COMPLETED: September 15, 1989
DATE LOGGED: September 15, 1989

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST 3 CLOSELY SPACED CONDUCTORS IN THE VICINITY OF A MINERALIZED OUTCROP.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
91.40	-	-52° 0'	ACID	OK	
124.10	-	-53° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.20	«CASING»					
12.20 TO 81.30	«INT TUFF»	Pale grey, slightly greenish. Blocky agglomeratic lapilli, and crystal tuff. Blocks and lapillis of dacite upto 10cm dia. in a pale grey siliceous (rhyolitic) matrix. Dacite is often spotted with green chlorite and contains small scattered qtz. eyes. Pale grey matrix also contains occasional small qtz. eyes. A weak foliation has developed with variable but steep angle	60	Weakly to moderately sericitic. Weakly calcareous possibly ankeritized. White calcite and clay along fractures, broken surfaces.	<1% coarse cubes of pyrite.	12.2-14.3 65% core recovery. Dacite to rhyolite felsic package. c.f. North Bar felsics esp. Sc-2.
	12.2-19.0	Greenish grey dacite lapilli tuff.				
	19.0-29.6	Finer grained, paler green clasts more matrix, more matrix, more highly silicified.				
	{26.1-26.3}	Soft white «fault» gouge.			26.6 coarse cubic pyrite within clasts and in pink fe-carb stringer.	
	26.3-46.0	Coarse grained clasts, darker colour. Coarse lapilli tuff/agglomerate.		Distinctive 'spotted' chlorite.		
	46.0-48.5	Pale bleached greenish/grey lapilli/agglomerate, upto 25% pale grey siliceous matrix.		More silicified.		
	48.5-48.6	Shear zone, mushy clay/sand gouge.				
	48.6-53.5	Sharply defined lapilli often matrix supported. Very poorly supported mixed agglomeratic tuff.				
	53.5-81.3	Some very coarse blocks with good lapilli rich sections and interblock breccias.				
	57.5-63.5	Slightly darker greenish grey.				
	62.5-62.6	Shear zone, mushy.				
81.30 TO 82.60	«FAULT»	Zone of intense shearing very soft, much clay UPPER CONTACT	90	Intense clay and ser.		80% core recovery.
	81.3-81.6	Dark grey interlayered clay and graphite.				
	81.6-82.6	Pale grey mushy clay altered dacite tuff.				
82.60 TO 124.10	«INT TUFF»	Pale tan grey, fine grained in very poorly sorted tuff/agglomerate section. Some med. grained qtz.-eye rich sections, also spotted green chlorite. Relatively unsheared, only very weak alteration.		Weakly sericitic silicified.	<1% coarse cubic pyrite.	
	85.5-85.6	Shear				
	{96.9-97.3}	White, vuggy «qtz vein»			5% coarse cubic pyrite.	Very large block.
	99.0-104.6	Very massive looking, no blocks or lapilli apparent.				
	{101.4-101.6}	«qtz. vein», white, clean.			2% pyrite.	
	104.6-124.1	Blocky agglomerate/lapilli tuff, good qtz. eyes, variable spotty chlorite.		Increased qtz. stringers increased silicification.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)		COMMENTS

HOLE NUMBER: MBD-89-4 GEOCHEM. SHEET DATE: 15-March-1990

Sample	From (m)	To (m)	Length (m)	AL203 %	BAT %	CAO %	FE203 %	K20 %	MGO %	MNO2 %	NA20 %	P205 %	SIO2 %	TIO2 %	S %	TOT (%)	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD10742	23.50	26.50	3.00	15.17	.08	8.05	6.23	2.16	2.47	.09	1.87	.24	48.42	.64	.03	85.45	.6	13	59	20	29	1	60	5
BCD10743	57.00	60.00	3.00	17.49	.105	5.26	7.02	3.25	2.04	.05	1.95	.20	50.92	.76	.05	89.09	.5	1	68	20	19	1	68	5
BCD10744	85.60	88.70	3.10	15.37	.11	5.69	6.18	3.41	2.74	.06	1.29	.21	50.87	.62	.06	86.60	.6	7	77	52	26	1	52	5
BCD10745	114.00	117.00	3.00	16.58	.10	7.51	7.15	2.59	3.19	.11	2.23	.25	45.63	.69	.04	86.06	.6	4	81	16	25	1	68	5

HOLE NUMBER: MBD-89-5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BIERE 1989
PROJECT NUMBER: 245
CLAIM NUMBER: BIERE 1
LOCATION: NORTH BARRIERE LAKE

PLOTTING COORDS GRID: 6
NORTH: 116.00N
EAST: 89.35E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 116+ 0N
EAST: 89+35E
ELEV: 0.00

COLLAR DIP: -46° 0' 0"
LENGTH OF THE HOLE: 95.40m
START DEPTH: 0.00m
FINAL DEPTH: 95.40m

COLLAR GRID AZIMUTH: 270° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 235° 0' 0"

DATE STARTED: September 15, 1989
DATE COMPLETED: September 16, 1989
DATE LOGGED: September 16, 1989

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: PULLED
CORE STORAGE: BARRIERE

PURPOSE: TO TEST THE MOST SOUTHERLY AND LONGEST OF 3 CLOSE-LY SPACED HLEM CONDUCTORS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
45.70	-	0° 0'	ACID		
95.40	-	0° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 30.50	«CASING»					
30.50 TO 95.40	«ARG/SLST» Interbedded Argillite & Siltstone	Dark grey to black, fine to very fine grained interlayered graphitic argillite and siltstone. Siltstone beds are generally .5-10cm thick with the occasional meter thick bed. Bedding frequently shows soft sediment deformation esp. flame structures and slumps. Some graded bedding is also present. Rotation of platy minerals from bedding to form a foliation is absent.			5-10% fine grained diss. py., occasional coarse cubes and pyrite stringers (diagenetic).	Extremely montonous sequence, an obvious source of the hlem conductor.
	30.5-57.7	Dominantly graphitic argillite (>80%), dirty black oily feel on partings very soft but competent - cores well			Pyrite along thin interbeds of argillite and siltstone.	Silty interbeds .1-2cm true thickness.
		35.5 BEDDING	10			
		43.5 BEDDING	3			
		52.1 BEDDING	5			
		54.1 first sign of qtz. stringer veinlets.				
		57.7 BEDDING	25			
	⟨57.7-64.0⟩	Zone of moderate irregular «qtz. vein» stringers.				
	60.4-62.5	Strong stringer qtz. veining 25% rock volume.				
	58.0-59.0	Folding of silt beds into tight 'm' and box folds. Argillite 'flows' between fractures siltstone.				
		63.1 BEDDING	0			
	⟨63.5-68.0⟩	«SLTST», minor arg. silt beds 1-10cm thick.				
		65.1 BEDDING	10			
		67.5 BEDDING	20			
		68.0 qtz. veining along contact, displacing bedding.				
	68.0-95.4	Interbedded argillite and siltstone (60% arg.)				
		72.4 BEDDING	24			
		77.9 BEDDING	15			
		81.5 BEDDING	55			
		Weak s fold verges down.				
		84.4 BEDDING	65			
		86.8 BEDDING	80			
		89.7 BEDDING	32			
		93.0 BEDDING	39			
		95.0 BEDDING	50			
		Sharp contacts between med. grey silt and black weakly graphitic argillite 2-10cm interbeds.				
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)		COMMENTS

Sample	From (m)	To (m)	Length (m)	AL203 %	BAT %	CAO %	FE203 %	K20 %	MGO %	MNO2 %	NA20 %	P205 %	SIO2 %	TIO2 %	S %	TOT (%)	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD10746	35.10	38.30	3.20	15.75	.11	1.79	6.94	3.07	2.79	.06	.75	.15	59.86	.86	.69	92.83	.8	8	90	54	53	1	146	5
BCD10747	60.00	63.10	3.10	15.18	.1	3.17	6.68	3.18	3.11	.07	.72	.18	58.05	.86	.73	92.03	.8	4	76	51	53	1	125	5

APPENDIX II

STATEMENT OF COSTS

STATEMENT OF COSTS
BIERE A GROUP

DRILLING:

Contractor: 325.3m @ $67.92/m	$22,094.38
Geologist: Chris Wild - 7 days @ $300.00/day	$ 2,100.00
Assistant: Darcy Feller - 7 days @ $150.00/day	$ 1,050.00
Analyses: 8 core samples @ $12 each	$ 96.00

LOGISTICS:

Room and Board: 14 mandays @ $25.00/day	$ 350.00
Truck Rental: 7 days @ $50/day	$ 350.00
Field Expenses (Fuel, freight etc.)	$ 150.00

REPORT PREPARATION:

Dave Heberlein: 1 manday @ $300/day	$ 300.00
Drafting: 1 manday @ $ 150.00	$ 150.00
SUBTOTAL	**$26,640.38**
PAC Withdrawl:	$ 5,359.62
TOTAL	**$32,000.00**

STATEMENT OF COSTS
BIERE B GROUP

DRILLING:

Contractor: 199.3m @ $67.92/m	$13,536.45
Geologist: Chris Wild - 4 days @ $300.00/day	$ 1,200.00
Assistant: Darcy Feller - 4 days @ $150.00/day	$ 600.00
Analyses: 8 core samples @ $12 each	$ 96.00

LOGISTICS:

Room and Board: 8 mandays @ $25.00/day	$ 200.00
Truck Rental: 4 days @ $50/day	$ 200.00
Field Expenses (Fuel, freight etc.)	$ 100.00

REPORT PREPARATION:

Dave Heberlein: 1 manday @ $300/day	$ 300.00
Drafting: 1 manday @ $ 150.00	$ 150.00
TOTAL	**$16,382.45**

APPENDIX III

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, David Heberlein of 821 Pinemont Avenue, Port Coquitlam, B.C. do hereby certify that:

1. I graduated from the University of Southampton, England with a B.Sc (Honours) Degree in Geology in 1980.

2. I graduated from the University of British Columbia with M.Sc Degree in Geology in 1985.

3. I have practised my profession continuously since my graduation.

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

5. I am currently employed by Minnova Inc. as a Project Geologist.

6. Work described in this report was carried out under my direct supervision.

Date: March 16, 1990

Signature: