DIAMOND DRILLING REPORT
MT. SICKER PROPERTY

Victoria Mining Division
NTS 92 B/13
48° 59' N Lat. 123° 50' W Long.
Owner: Minnova Inc.
Operator: Minnova Inc.

Claims

Rocky Group	Plum Group
Peach	Little Nugget
Apple	Chemainus
	Belle
	Dunsmuir
	Seattle
	Copper King
	Copper Queen
	Queen Bee
	Peggy Fr.
	Alliance Fr.
	Beatrice
	Bonnie I
	Bonnie II
	Bonnie III
	Bonnie IV

Minnova Inc.
Vancouver, B.C.

G. S. Wells
February 2, 1990

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Diamond Drilling Report
Mt. Sicker Property

1. Introduction

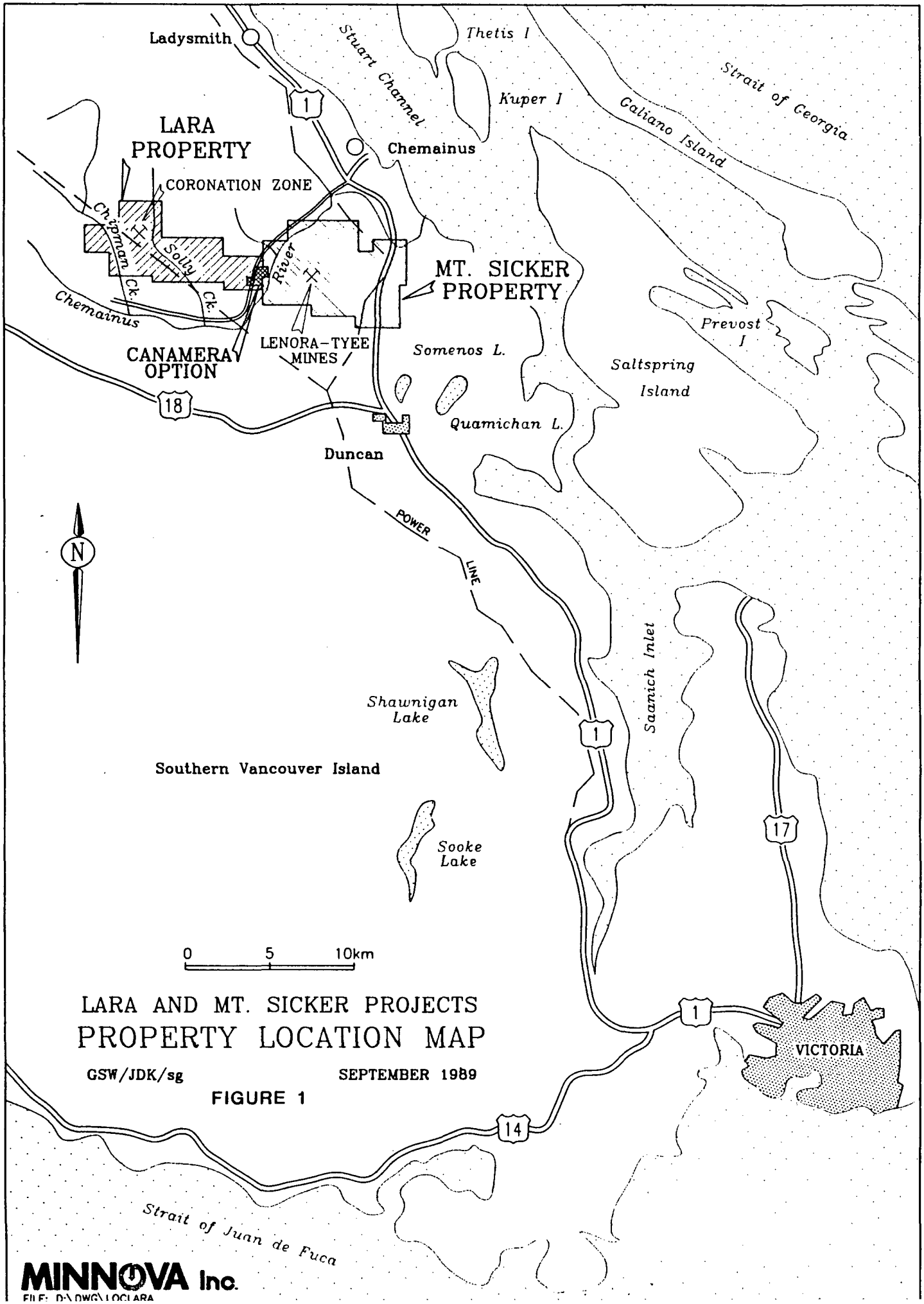
Minnova Inc. has acquired the mineral rights to claims which cover much of Mt. Sicker in order to evaluate the volcanogenic massive sulphide potential of the property. This report describes diamond drilling in the Lenora-Tyee, Richard III and Mona-Gap areas. The work was done during the period November 13 to 30, 1989, by Frontier Drilling Ltd.

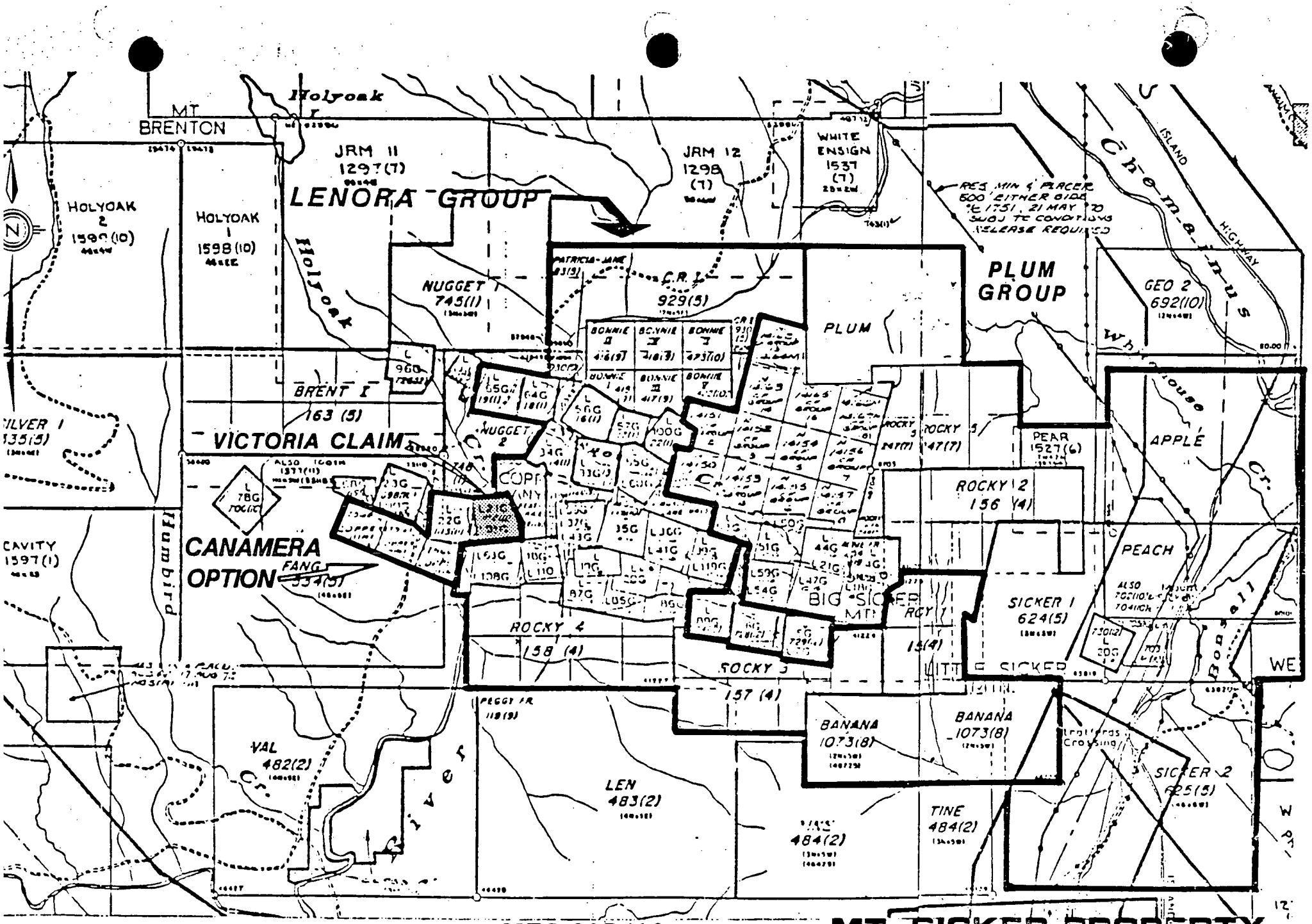
a. Location and Access

The Mt. Sicker property is located 40 km and 10 km north of Victoria and Duncan respectively (Figure 1). An extensive system of logging roads from the Island Highway provides excellent access to the property. Topographic relief is moderate with elevations ranging from 150 to 700 metres above sea level. Mt. Sicker is covered by a mixed forest of Douglas Fir, alder and cedar which has been selectively clear cut over the last ten years.

b. Mineral Rights

The drilling was carried out on the Nellena, Herbert and Richard III claims which are part of the Rocky and Plum Groups (Figure 2). The claims status of the Rocky and Plum Groups is as follows:


Ladysmith
Stuart Channel
Thetis I
Kuper I
Strait of Georgia
Galiano Island
LARA
PROPERTY
CORONATION ZONE
Chemainus
Chipman Ck.
Solly Ck.
Chemainus River
MT. SICKER
PROPERTY
Chemainus
CANAMERA
OPTION
LENORA-TYEE
MINES
Somenos L.
Prevost I
Saltspring Island
Quamichan L.
Duncan
POWER LINE
N
Shawnigan Lake
Saanich Inlet
Southern Vancouver Island
Sooke Lake
0 5 10km
LARA AND MT. SICKER PROJECTS
PROPERTY LOCATION MAP
GSW/JDK/sg
SEPTEMBER 1989
FIGURE 1
VICTORIA
Strait of Juan de Fuca
MINNOVA Inc.
FILE: D:\DWG\LOCLARA



NTS 92B/13

0 1 2Km

1:50,000

MT. SICKER PROPERTY

CLAIM MAP

MINNOVA

FIGURE 2

PLUM GROUP

Claim	No. of units	Record Number	Month of Record
Little Nugget	1	13	January
Chemainus	1	14	January
Belle	1	15	January
Dunsmuir	1	16	January
Seattle	1	17	January
Copper King	1	18	January
Copper Queen	1	19	January
Queen Bee	1	22	January
Patricia Jane Fr.	1	83	May
Morley Jane Fr.	1	84	May
Peggy Fr.	1	119	September
Alliance Fr.	1	120	September
Beatrice	2	121	September
Rocky 1	4	155	April
Rocky 3	8	157	April
Rocky 4	8	158	April
Bonnie I	1	415	September
Bonnie II	1	416	September
Bonnie III	1	417	September
Bonnie IV	1	418	September
Bonnie V	1	422	October
Bonnie VI	1	423	October
CRI	10	929	May
CRII	10	930	May
Banana	10	1073	August
Stephanie Fr.	1	1074	August
International A. Fr.	1	1119	October
Plum	6	1665	April
XL	1	19G	Crown Grant
Herbert	1	20G	Crown Grant
Lenora	1	35G	Crown Grant
Tyee	1	36G	Crown Grant
Key City	1	37G	Crown Grant
Richard III MC	1	39G	Crown Grant
Magic Fr. MC	1	41G	Crown Grant
NT Fr.	1	43G	Crown Grant
Westholme Fr. MC	1	59G	Crown Grant
International Fr.	1	60G	Crown Grant
Donald	1	63G	Crown Grant
Thelma Fr.	1	85G	Crown Grant
Imperial Fr.	1	86G	Crown Grant
Doubtful Fr.	1	87G	Crown Grant
Muriel Fr.	1	108G	Crown Grant
Phil Fr.	1	110G	Crown Grant

ROCKY GROUP

Claim	No. of units	Record Number	Month of Record
Sicker 1	9	624	May
Rocky 2	8	156	April
Sicker 2	20	625	May
Rocky 5	6	247	July
Rocky 6 Fr.	1	248	July
Acme Fr.	1	254	August
CF Group 1	1	14150	October
CF Group 2	1	14151	October
CF Group 3	1	14152	October
CF Group 4	1	14153	October
CF Group 5	1	14154	October
CF Group 6	1	14155	October
CF Group 7	1	14156	October
CF Group 8	1	14157	October
CF Group 13	1	14162	October
CF Group 14	1	14163	October
CF Group 15	1	14164	October
CF Group 16	1	14165	October
CF Group 17	1	14166	October
CF Group 18	1	14167	October
Lawarance	1	730	December
Pear	4	1527	June
Peach	12	1623	January
Apple	12	1624	January
Acme MC	1	46	Crown Grant
Tony	1	18G	Crown Grant
Donagan	1	18G	Crown Grant
Dixie Fr.	1	21G	Crown Grant
Golden Rod MC	1	44G	Crown Grant
Nellena MC	1	47G	Crown Grant
Moline Fr. MC	1	50G	Crown Grant
Bluebell MC	1	51G	Crown Grant
Estelle MC	1	53G	Crown Grant
Westholme MC	1	54G	Crown Grant

c. History

Two former producers - the Lenora and Tyee mines occur on the Mt. Sicker property. These deposits were discovered in 1898 and were largely mined out by 1909, although they were worked periodically until 1947. A total of 300,000 tons of ore with an estimated grade of 3.3% Cu, 7.5% Zn, 2.75 oz/t Ag and 0.13 oz/t Au were recovered from these two mines. Recent exploration on the property has been done by Duncanex, Mt. Sicker Mines and Serem in the vicinity of the former mines and the Postuk-Fulton and NE Copper showings. Minnova Inc. (formerly Corporation Falconbridge Copper) has been actively exploring the property since 1983 using geological, geochemical and geophysical surveys and diamond drilling. All aspects of this continuing integrated program are aimed at discovering a polymetallic volcanogenic massive sulphide deposit.

2. Work Done

This report summarizes the results of three diamond drill holes totalling 763.3 meters which tested geological and geophysical targets in the Lenora-Tyee, Richard III and Mona-Gap areas. Hole MTS-53D was drilled on the Herbert Claim; hole MTS-77 was drilled on the Richard III claim and hole MTS-81 was drilled on the Nellena claim. All of the drilling was done by Frontier Drilling Ltd.

Lithogeochemical samples were taken routinely throughout the hole, sent to Min-en Laboratories in Vancouver and analyzed for major and trace elements (SiO_2, TiO_2, Al_2O_3, Na_2O, K_2O, MgO, Fe_2O_3, Ba, MnO_2, S, Ag, As, Cu, Pb, Zn, Au, Sb) using a total digestion ICP technique. Mineralized sections were analyzed for Cu, Zn, Ag, Au, and Ba, using an atomic absorption method. The drill core is stored at 9398 Trans-Canada Highway in Chemainus, B.C.

3. Geology

a. Regional Geology

The Mt. Sicker property is located in the Cowichan-Horne Lake uplift which is one of three fault-bounded areas that expose the Paleozoic Sicker Group on Vancouver Island. Müller (1980) subdivided the Sicker Group, as follows, in order of increasing age:

1. Buttle Lake Formation - consists of recrystallized crinoidal limestone interbedded with calcareous siltstone and chert.

2. Sediment - Sill Unit - thinly bedded to massive argillite, siltstone and chert interlayered with diabase sills.

3. Myra Formation - basic to rhyodacitic banded tuff breccia and lava with interbedded argillite, siltstone and chert.

4. Nitinat Formation - basaltic lavas and agglomerates with minor to massive banded tuff layers.

Recent mapping by Massey (1988) has resulted in the following revised nomenclature and stratigraphy of the Sicker Group.

Müller (1980)	Massey (1988)
Buttle Lake Formation.	.Mount Mark Formation
Sediment - Sill Unit	.Fourth Lake Formation
Myra Formation	.McLaughlin Ridge Formation
Nitinat Formation.	.Nitinat Formation

Cretaceous sediments of the Nanaimo Group unconformably overly the Sicker Group. The contact is commonly marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group.

The structure of the Sicker Group is characterized by southwest verging, asymmetric and vertical, open and isoclinal folds. (Müller, 1980). West-northwest and northeast trending

faults dissect the Sicker group in the Cowichan-Horne Lake uplift into a number of fault blocks. Movement along these faults is interpreted to have been mostly Tertiary in age.

b. Geology of the Mt. Sicker Property

The Mt. Sicker property is underlain by Sicker group volcanic rocks, Nanaimo group sediments and dioritic intrusions of possible Triassic age. (Figure 3). The Sicker Group can be subdivided into the McLaughlin Ridge and Nitinat formations. The McLaughlin Ridge formation consists of thick units of felsic pyroclastic and flow units with minor ash, argillite and chert. The Lenora - Tyee massive sulphide deposit is hosted in McLaughlin Ridge formation quartz - eye crystal tuffs and is intimately associated with argillaceous sediments. The Lenora-Tyee deposits are considered to be the stratigraphic equivalent of Westmin's Myra-Lynx deposits at Buttle Lake.

The Nitinat formation is restricted to the east end of the property and is well exposed along the Island Highway. The formation consists of epidotized pyroxene and/or plagioclase porphyritic andesite flows and flow breccias.

Numerous mineralized occurrences are present on the Mt. Sicker property. Except for the former orebodies, most of the mineralization consists of disseminated and stringer sulphide zones which are though to be an expression of a synvolcanic hydrothermal system. This type of mineralization is particulary abundant in the Mona shaft area.

The structure of the Mt. Sicker property is dominated by a large, asymmetric, west-northwesterly trending, shallow west-plunging anticline. The fold axis is interpreted to lie 300 meters north of the Lenora-Tyee deposits. The axial plane of the anticline is reflected by a pervasive moderately to intensely developed, vertically dipping foliation. Small drag folds associated with the Mt. Sicker anticline occur at NE Copper and Lenora-Tyee.

4. Diamond Drilling Results

Re-interpretation of the geology and diamond drill data in the Lenora-Tyee area suggested that hole MTS-53 stopped just short of testing the L-T mineralized horizon. In 1989, this hole was deepened by 197.3 meters to test this zone. Although a few pyritic stringers are present, no significant sulphides were intersected as a thick diorite dike is present in the target area.

Hole MTS-77 tested an IP anomaly located just to the north of the old Richard III shaft. Pyritic stringer zones that are hosted in felsic volcanics have sulphide contents in the 2 to 5% range which is sufficient to explain the IP anomaly. These zones are locally enriched in zinc with the best zone yielding assays of 0.34% Zn over 1.80 meters.

Hole MTS-81 tested the Sicker stratigraphy beneath the relatively flat-lying but thick (100 m+) B.C. Tel Diorite. The hole was also designed to evaluate the extent of sulphide stringer mineralization in the Mona and Gap areas which are located to the west-northwest and southeast of the collar location respectively. MTS-81 intersected felsic tuffs of the Sicker Group beneath the B.C. Tel diorite but no significant alteration or sulphide mineralization was encountered.

Diamond drill hole locations are given in Figure 3 and the drill logs are included in Appendix I.

5. Conclusions

In the Lenora-Tyee area late dioritic intrusions have dilated the Sicker volcanic sequence. Hole MTS-53D did not intersect the down-dip extension of the Lenora-Tyee horizon because of one of these dikes. Further drilling is required to get a handle on the orientation of these dikes and the location of the L-T horizon.

The IP anomaly located 150 meters north of the old Richard III mines shaft is caused by sulphide-rich stringer zones hosted in weakly altered felsic tuffs. These stringers are the remnants of a hydrothermal alteration system associated with a volcanogenic massive sulphide system. Further drilling is required to determine if the stringer mineralization is associated with the L-T horizon or another unidentified exhalite.

Hole MTS-81 intersected the Sicker stratigraphy beneath the B.C. Tel diorite but the felsic volcanics are unaltered and unmineralized. Additional drilling is required to work out the Sicker stratigraphy underneath the flat-lying diorite intrusion.

Gary Wells

6. Itemized Cost Statements

Herbert, Richard III claims	filed for	$25,165.49
Diamond Drill Holes MTS-53D, MTS-77		

Hole MTS-53D

Contractor Costs (see attached invoices)		$12,095.79
P. Baxter: 5 days @ $300/day		1,500.00
Truck: 5 days @ $50/day		250.00
Food/Housing: 5 man days @ $40/day		200.00
	subtotal	$14,045.79

Hole MTS-77

Contractor Costs (see attached invoices)		$9,359.70
G. S. Wells: 4 days @ $350/day		1,400.00
Truck: 4 days @ $50/day		200.00
Food/Housing: 4 man-days @ $40/day		160.00
	subtotal	$11,119.70
	Total	$25,165.49

Nellena claim

Diamond Drill Hole MTS-81	filed for	$24,000.00

Hole MTS-73

Contractor Costs (see attached invoices)	$20,268.75
P. Baxter: 5 days @ $300/day	1,500.00
Truck: 5 days @ $50/day	250.00
Food/Housing: 5 man-days @ $40/day	200.00

Total Cost of Work	$22,218.75
PAC withdrawal	$1,781.25
Total Costs	$24,000.00

7. References

Müller, J. E., 1980: The Paleozoic Sicker Group of Vancouver Island, B.C., GSC Paper, 79-30.

Massey, N. W. D., Friday, S. J., 1988: Geology of the Chemainus River - Duncan Area, Van. Island, pp. 81-92 in Geological Field Work 1987, BCDM Paper.

8. Statement of Qualifications

I, Gary S. Wells, hereby certify that:

1. I hold an Honours Bachelor of Science degree in combined geology and chemistry (1975) from Carleton University, Ottawa, Ontario and a Ph.D degree in geology (1980) from Queen's University, Kingston, Ontario.

2. I am an associate member of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.

3. I have practised my profession in exploration continuously since graduation in 1980.

Gary Wells

Date: January 31, 1990

Gary S. Wells
Vancouver, B.C.

Statement of Qualifications of Field Personnel

Paul Baxter:

B.Sc. (Geology) 1985, University of Alberta
2 years full-time experience in mineral exploration
3 years part-time experience in mineral exploration

Address:

c/o Minnova Inc. 3rd Floor - 311 Water St.
Vancouver, B.C. Phone: 681-3771

Appendix I

Diamond Drill Logs

MINNOVA INC.
DRILL HOLE RECORD

HOLE NUMBER: MTS-53D

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: SIC
PROJECT NUMBER: 205
CLAIM NUMBER:
LOCATION: NTS 92B/13

PLOTTING COORDS GRID: IDEAL
NORTH: 947.00S
EAST: 193.00W
ELEV: 510.00

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

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 197.20m
START DEPTH: 286.50m
FINAL DEPTH: 483.70m

COLLAR GRID AZIMUTH: 360° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"

DATE STARTED: November 21, 1989
DATE COMPLETED: November 25, 1989
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING:
CORE STORAGE: CHEMAINUS

PURPOSE: Deepen MTS-53 to test for the extension of the L-THorizon

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
335.90	-	0° 0'	ACID		Bad etch
370.00	-	-63° 0'	ACID	OK	
408.70	-	-62° 0'	ACID	OK	
462.10	-	-62° 0'	ACID	OK	
477.60	4° 0'	-62°30'	SING.SHOT	OK	

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

Gary Wells

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
286.50 TO 287.10	«FAULT»	Colour: Dark grey Grain Size: Fine grained Massive featureless fault gouge				
287.10 TO 296.00	Diorite «DIOR»	Colour: Dark green Grain Size: Fine grianed Massive, weakly feldspar porphyritic Weak calcite veinlets Hematitic fracture coatings leucoxene phyric Patchy weakly magnetic Sharp but irregular lower contact				287.1 - 288.7m Hole deviating, coring edge of previous hole about 1.75 deg. deviation
296.00 TO 312.60	Felsic Flow? «F FLOW?»	Colour: Creamy green Grain Size: Fine grained 296.0 - 299.6m Brecciated (Flowtop?) texture, Hyloclastite? Greenish stockwork 296.0 - 304.7m Abundant mm green spots. Patchy spotted appearance below 304.7m 307.6 - 311.0m Brecciated, minor gouge along slip plane running along core axis		Moderated bleached appearance, patchy silicification Weak carbonate veining	Rare 1-3mm wide pyrite stringers	
312.60 TO 344.95	Felsic Tuff «F TUFF»	Colour: Light green Grain Size: Fine grained Massive, patchy foliation Weakly granular tuff, occassional fragmental zones with indistinct silicified felsic fragment. Fragmental upper contact over 1.5m 314.8 - 315.3m Fault zone. Milled, brecciated core. Minor fault breccia.		Patchy silicified appearance, mainly within fragmental zones	<1% disseminated pyrite 325.05 - 325.45m 7% pyrite, 1% chalcopyrite as a siliceous chloritic stringer 338.15 - 338.40m 5-7% pyrite, <1% chalcopyrite within siliceous stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					338.40 - 338.75m 3-5% pyrite 338.75 - 339.2m 10% pyrite disseminated within a silicified interval. Faulting and milling have reduced sulfides to black mud layers	
		339.2 - 344.95m Fault zone. Brecciated milled core, healed fault breccias with foliated felsics in a milled groundmass Minor white clay gouge Fault measurements from smeared black sulfide layers 340.6m — 62 344.45m — 55 344.55m — 60 Fault shearing at lower contact from — 55 to — 60				
344.95 TO 354.00	Fault Diorite «FAULT, DIOR»	Colour: Dark green Grain Size: Fine grained Milled grounded diorite, healed fault breccias Patchy feldspar porphyritic screens Minor gougy slips at 346.45m — 48 346.6m — 42 351.55 - 354.0m Fault breccia and milled core within felsic screen. Occassional felsic fragments in a black fine sulfide groundmass Fault measurements as follows 351.55m — 30 353.85m — 45 353.95m — 40 354.00m — 40				
354.00 TO 451.60	Diorite «DIOR»	Colour: Dark green Grain Size: Fine to medium grained Massive, finely equigranular green amphiboles and greenish feldspars Numerous finer grained zones		Weak carbonate-quartz veining at <5cm veinlets Patchy pervasive epidotization	Trace chalcopyrite within quartz veinlets	No faulting as seen in above diorite

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Leucoxene phyric Patchy weakly magnetic Patchy hematitic fracture coatings Patchy more medium grained equigranular zones 434.3 - 446.5m Abundant hematite as fracture coatings and narrow veinlets 440.1 - 441.2m Creamy white brecciated with carbonate veining. Sharp lower contact	 30	 439.2 - 443.2m Bleached diorite Pervasive carbonate alteration (dolomitization). 440.1 - 441.2m Dolomite? veining		
451.60 TO 462.00	Intermed. Tuff «I TUFF»	Colour: Medium to dark green Grain Size: Fine grained Weakly foliated 2-3% 1-5mm grey felsic granules and rare quartz eyes 454.3 - 455.1m Fault zone Rubbly gouge core 455.2 - 455.4m Gouge developed parallel to foliation 456.7 - 459.2m 7-8% 1-2mm wide veinlets of creamy dolomite? Parallel to foliation Foliations at 455.4m 457.7m 460.4m Rubbly lower contact	 15 20 18 15	Moderately chloritic 453.2m 10cm quartz vein 456.0 - 456.7m Quartz veining. Very broken, recovery questionable, fault gouge at 456.6m Sharp upper contact	2-3% disseminated pyrite 454.05m 5cm quartz veining with 1% chalcopyrite, trace tetrahedrite 456.0 - 456.7m <1% chalcopyrite, trace tetrahedrite intergrown with chalcopyrite	
462.00 TO 469.10	Felsic Tuff «F TUFF»	Colour: Light greenish grey Grain Size: Fine grained Massive to patchy weakly foliated <1% quartz eyes and grey lithic granules Patchy green speckled appearance from 3-5% 2-4mm medium green wisps		Weakly sericitic Patchy weak silicification	3-4% disseminated pyrite, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Foliation very shallow to core axis 0-15 degrees				
		466.6m Gougy slip planes	55			
		Faulted lower contact, minor fault gouge	28			
469.10 TO 483.70	Intermed. Tuff, Lithic Tuff «I TUFF, LITH TUFF»	Colour: Medium to dark green Grain Size: Fine grained Weakly foliated 10% <1cm felsic lithics, otherwise weak granular texture Minor gouge developed along foliation planes		Moderately chloritic Minor carbonate veining in first 0.5m	3-5% dissemianted pyrite, trace chalcopyrite	
					479.7m <1cm irregular quartz vein with trace dark grey sphalerite	
				482.2 - 482.3m Moderately abundant creamy dolomite? veining. Sharp lower contact to interval at 26 degrees, minor fault gouge	482.2 - 482.3m <1% chalcopyrite, trace tetrahedrite	
		Foliations at 471.6m	10			
		474.8m	32			
		476.6m	35			
		478.5m	21			
		480.1m	30			
		483.2m	30			
	E.O.H.					

HOLE NUMBER: MTS-53D

ASSAY SHEET

DATE: 25-January-1990

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/t	Au g/t	GEOCHEMICAL Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Ba ppm	Ba %	COMMENTS
13619	286.50	287.10	0.60						433	187	23	1.7	20				
13620	325.05	325.45	0.40						2150	93	11	1.3	41				
13621	338.15	339.20	1.05						247	116	12	1.8	22				
13622	440.10	441.20	1.10						27	80	19	1.4	2				
13623	453.20	454.30	1.10						1570	207	20	1.3	22				
13624	456.00	456.70	0.70						2110	235	18	1.5	20				
13625	481.90	482.60	0.70						2310	144	17	1.6	18		1110		

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Ba %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Sb ppm	Sr %	Zr %	Tot %	GBa ppm	S %
17127	333.00	336.00	3.00	66.43	15.67	0.53	3.07	3.34	2.61	3.66	0.08	0.34	0.09	20	100	40	0.7	15	41	1			96.67	125	0.73
17128	465.30	468.30	3.00	70.96	12.63	1.20	1.94	0.73	3.25	3.60	0.05	0.27	0.145	549	28	12	0.4	10	21	1			96.59	166	1.47
17129	474.60	477.60	3.00	48.24	16.85	2.36	8.60	1.30	2.27	10.80	0.26	0.75	0.105	808	131	22	1.6	15	1	6			94.52	91	2.50

HOLE NUMBER: MTS-77

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: SIC
PROJECT NUMBER: 205
CLAIM NUMBER:
LOCATION: NTS 92B/13

PLOTTING COORDS GRID: IDEAL
NORTH: 799.00S
EAST: 489.00E
ELEV: 592.00

ALTERNATE COORDS GRID: FIELD
NORTH: 7+96S
EAST: 4+93E
ELEV: 592.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 178.30m
START DEPTH: 0.00m
FINAL DEPTH: 178.30m

COLLAR GRID AZIMUTH: 360° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"

DATE STARTED: November 13, 1989
DATE COMPLETED: November 16, 1989
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD
CASING: 4.6m
CORE STORAGE: CHEMAINUS

PURPOSE: To test IP anomaly North of Richard III shaft.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
50.90	-	-42° 0'	ACID	OK	
115.90	-	-42° 0'	ACID	OK	
137.20	-	-41° 0'	ACID	OK	
178.30	-	-39° 0'	ACID	OK	
168.00	8° 0'	-40° 0'	SING.SHOT	OK	

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

Gary Wells

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.60	Overburden «OB»					Casing
4.60 TO 9.90	Diorite «DIOR»	Colour: Dark green Grain Size: Medium grained Massive Locally feldspar porphyritic becoming fine grained near lower contact		«W Carb» Weak carbonate veining		
9.90 TO 54.25	Felsic Ash, Tuff «F ASH, TUFF»	Colour: Light grey Grain Size: Very fine grained Massive to weakly foliated Generally aphyric in upper parts of unit Foliation at 11.5m 13.7 - 13.9m Diorite Contact at 13.7m 14.5 - 15.3m Diorite Contact at 15.3m 17.2 - 17.7m Fault gouge 22.2 - 22.25m Fault gouge Fault at 22.2m 22.25 - 54.25m 5% white mm sized specks=feldspar? or Fe carbonate? 41.6 - 42.1m Sheared core and fault gouge	55 55 55 40	«W-M Sil» Weak to moderately siliceous (contact effect of diorite) 15.3 - 22.2 «Patchy M-S ser» 22.25-36.1 «W ser» Weak pervasive sericite -core bleached light grey in colour 36.1 - 54.25m Core greenish hue due to weak chlorite alteration? and weakly sericitic	9.9 - 19.7m Trace - 1% pyrite stringers 19.7 - 26.5m 2-3% pyrite as stringers and disseminations 26.5 - 29.45m 1% pyrite, trace sphalerite (honey brown and black) as fine grained disseminations and stringers 29.45 - 54.25m Trace disseminated pyrite	52.6 - 56.4m Very blocky core at contact between W sericite and chlorite and siliceous unit
54.25 TO 86.00	Felsic, QFP Flow? «QFP FLOW?»	Colour: Grey to greenish grey Grain Size: Fine to medium grained Massive to weakly foliated Upper part of unit very fine grained		54.25 - 61.30m Pervasively siliceous	«Tr diss py»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		61.30 - 86.00m More crystal-rich, 20-25% q's and diffuse feldspars Crystals 2-3mm across Locally have trace to 1% siliceous fragments Foliation at 71.5m	65	61.3-86.0«W chl» Weak chlorite alteration gives core greenish look Locally feldspar crystals are weakly epidotized		
86.00 TO 86.60	Mafic Dyke «M DYKE»	Colour: Light green Grain Size: Fine grained Massive Contact at 86.6m	60	Pervasive epidote-chlorite alteration	2-3% disseminated pyrite	
86.60 TO 108.05	Felsic Tuff Ash «F TUFF, ASH»	Colour: Grey Grain Size: Fine grained Weakly foliated 10-15% ?? mm sized feldspars and q's A lot finer grained than above unit 93.45 - 95.05m Cherty ash unit -weak bedding? Bedding? at 94.3m 95.55 - 96.15m 25% rounded weakly epidotized feldspar crystals 3cm wide fault gouge at: 94.6m 55 degrees to CA 96.9m 65 degrees to CA Fault gouge at: 101.25 - 101.50m 102.90 - 104.35m	40	«W chl» Weak pervasive chlorite 93.45 - 95.05m Trace - 1% disseminated and stringers of pyrite	«Tr diss py»	
108.05 TO 122.50	FP Crystal Tuff «FP TUFF»	Colour: Light grey Grain Size: Fine to medium grained Massive to weakly foliated Upper contact gradational Have 15-20% feldspar crystals, generally 1-2mm long, up to 2-3mm long Foliation at 116.5m	45	«W ep» Feldspar crystals are pervasively weakly epidotized	Trace pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
122.50 TO 137.65	Andesite Ash Crystal Tuff «AND TUFF»	Colour: Dark green Grain Size: Fine to medium grained Fine grained ash layers with feldspar rich crystal tuff 1-2 epidote "spots" 5cmx5cm = lapilli? Upper contact = fault gouge (2cm) Bedding at 133.6m	45	«W chl, ep» Weak pervasive chlorite and epidote 137.2 - 137.65m Siliceous due to proximity to diorite	«1-2% diss py» {126.8-130.4}«tr-1% sph, 1% py» Disseminated brown and black sphalerite as disseminated and stringers	
137.65 TO 138.85	Diorite «DIOR»	Colour: Green Grain Size: Medium grained Massive with chilled margins				137.65 - 145.7m Very blocky ground
138.85 TO 145.80	Felsic Tuff «F TUFF»	Colour: Dark to light grey Grain Size: Fine grained Massive Patches with 5% mm sized feldspars and q's		{142.0-143.9}«M sil, ser» Moderately sericitic with pervasive quartz veining and silicification	{142.0-143.9}«3-5% py» 3-5% pyrite associated with quartz veins in zone	
145.80 TO 149.40	Diorite «DIOR»	Colour: Green Grain Size: Medium grained Chilled margins -upper one irregular 5% ragged feldspar phenocrysts Contact at 145.80m	90			
149.40 TO 153.90	Intermed. Lithic Tuff «I LITH TUFF»	Colour: Grey Grain Size: Fine grained Mixture of ash, feldspar crystals mafic and siliceous fragments (up to 2-3cm across) - subrounded		«W chl»	«1-2% py, tr cp» 1-2% diss pyrite, trace epidote	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
153.90 TO 162.15	Rhyolite «RHYOLITE»	Colour: Light grey Grain Size: Fine grained Pseudo-brecciated look due to pervasive silicification Upper contact = fault 153.9 - 154.1m Fault at 153.9m 157.8 - 158.3m Fault gouge Fault at 158.3m	 30 30	{153.9-158.3}«M sil» Moderate pervasive silicification {158.3-162.15}«S sil, chl spots» Strongly silicified with trace - 1% dark green chloritic spots	153.9 - 157.8m 1-2% pyrite stringers	
162.15 TO 178.30	Diorite, Mafic Dykes «DIOR, M DYKES»	Colour: Green Grain Size: Fine to medium grained Massive Feldspar - porphyritic (10% feldspars) diortie with fine grained mafic dykes at 162.15 - 162.6m 167.35 - 167.6m Contact at 162.6m	 30			

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/t	Au g/t	GEOCHEMICAL Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Ba ppm	Ba %	COMMENTS
13496	26.50	28.00	1.50						20	325	53	0.3	47				
13497	28.00	29.45	1.45						10	510	61	0.4	116				
13498	126.80	128.20	1.40						220	255	25	0.8	12				
13499	128.20	129.60	1.40						94	485	30	0.9	3				
13500	129.60	130.40	0.80						169	3385	47	1	1				
13526	130.40	131.40	1.00						158	3420	33	1.1	1				
13527	142.00	142.90	0.90						96	104	124	1.1	10				
13528	142.90	143.90	1.00						44	62	29	1	38				

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Ba %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Sb ppm	Sr %	Zr %	Tot %	GBa ppm	S %
17378	32.00	35.00	3.00	73.08	13.39	0.89	2.27	1.36	3.56	2.03	0.06	0.27	0.115	48	268	56	0.6	10	23	1			99.29	125	0.68
17379	73.90	76.50	2.60	67.32	15.9	0.77	2.17	4.27	2.15	3.59	0.11	0.37	0.06	20	155	38	0.3	5	18	1			98.97	69	0.03
17380	100.00	103.00	3.00	70.23	13.71	0.74	3.03	1.5	3.09	3.03	0.12	0.29	0.145	58	277	42	0.5	5	19	1			99	143	0.64
17381	132.60	135.60	3.00	54.47	15.63	3.04	8.06	2.71	0.31	8.98	0.4	0.71	0.065	185	333	73	1	5	1	5			99.13	193	0.7
17382	150.60	153.60	3.00	56.21	15.48	1.3	6.88	3.07	1.13	8.67	0.26	0.69	0.115	57	204	93	1.2	10	31	6			99.01	189	1.52
17383	159.00	162.00	3.00	69.01	14.7	1.56	2.14	3.24	2.68	2.98	0.08	0.33	0.12	10	66	13	0.3	5	15	1			98.96	96	0.02

HOLE NUMBER: MTS-81

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: SIC
PROJECT NUMBER: 205
CLAIM NUMBER:
LOCATION: NTS 92B/13

PLOTTING COORDS GRID: MTS
NORTH: 1545.00S
EAST: 1541.00E
ELEV: 656.00

ALTERNATE COORDS GRID: FIELD
NORTH: 15+45S
EAST: 15+41E
ELEV: 0.00

COLLAR DIP: -61° 0' 0"
LENGTH OF THE HOLE: 387.70m
START DEPTH: 0.00m
FINAL DEPTH: 387.70m

COLLAR GRID AZIMUTH: 46° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 46° 0' 0"

DATE STARTED: November 26, 1989
DATE COMPLETED: November 30, 1989
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: YES
ROD LOG: NO

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

CONTRACTOR: FRONTIER DRILLING
CASING: 3.9 m
CORE STORAGE: CHEMAINUS

PURPOSE: To test Lenora-Tyee stratigraphy beneath the BC Tel Diorite

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
69.80	-	-60° 0'	ACID	OK	
189.60	-	-58° 0'	ACID	OK	
239.00	-	0° 0'	ACID		Bad Etch
275.20	-	-57° 0'	ACID	OK	
339.90	-	-57° 0'	ACID	OK	
372.20	-	-57° 0'	ACID	OK	
332.20	46° 0'	-58° 0'	SING.SHOT	OK	

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

Gary Wells

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.90	Overburden «OB»					
3.90 TO 159.00	Diorite «DIOR»	Colour: Dark green Grain Size: Fine to medium green Predominantly a feldspar porphyritic diorite with up to 7% 2-5mm ragged white feldspars in a finer grained groundmass 3.9 - 40.0m Numerous finer grained zones, weakly foliated outlined by abundant wispy carbonate veinlets and patchy abundant disseminated calcite Occassional medium grained equigranular zones Below 40.0m Patchy fine grained calcareous zones 45.3 - 55.2m Rubbly blocky core especially from 45.3 - 55.2m 60.0 - 60.4m Green clay fault gouge 126.8 - 151.7m Coarser equigranular diorite 151.7 - 152.8m Fault zone. Crushed milled core, minor fault breccia 4cm gouge at upper fault contact with 1cm black argillite looking mud 151.7m 152.8m 157.6 - 159.0m Fault breccia Diorite and felsic fragment in a fine dark green and fine pyritic dark grey groundmass	 26 25	Minor quartz carbonate veining 3.9 - 40.0m Pervasive calcite disseminated and wispy veinlets 34.2 - 35.4m Carbonate chlorite vein		
159.00 TO 169.95	Felsic Dyke? «F DYKE?»	Colour: Dark maroon Grain Size: Fine grained Massive 3-7% 2-5mm felsic lithics and <1% quartz eyes in a fine grained maroon biotitic groundmass 159.0 - 159.8m Felsic Tuff or possibly large felsic fragments		Moderate pervasive biotite	159.3 - 159.5m 7-8% pyrite, <1% chalcopyrite, stringer mineralization	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		159.8 - 160.3m Fault zone. Milled core, minor fault gouge Sharp lower contacts Sudden change in rock colour	 52		159.8 - 162.6m 3-4% disseminated pyrite	
169.95 TO 201.80	Intermed.-Andesitic Tuff, Lithic Tuff «I-AND TUFF, LITH TUFF»	Colour: Dark grey green Grain Size: Fine grained Massive, fine granular texture with <1-3% <5mm round felsic granules 169.95 - 175.5m Coarser granular texture Wormy silica flooding? from 172.1 - 172.8m Finer less granular texture below 184.4m, occassional felsic grains 173.5m 4cm fault zone 46 degrees 191.1 - 191.2m Minor fault gouge Sharp lower contact 201.80	 60	Patchy silica flooding Occassional <1cm quartz veinlets with <1cm of biotite flooding into host rock	<1-1% disseminated pyrite 169.95 - 172.2m Locally 10% pyrite and trace pyrrhotite over 2-3cm 192.8 - 201.8m 2% disseminated pyrite	
201.80 TO 252.10	Felsic Tuff «F TUFF»	Colour: Light grey Grain Size: Fine grained Massive, pervasive silicified appearance Weak granular texture from 1mm light green sericite spots and semi-translucent felsic grains Possible ratty feldspars Patchy aphyric zones 228.8 - 243.5m Fairly well developed granular texture sericitic spots and possible ratty feldspar carbonate altered 236.2 - 236.4m Minor biotite flooding away from		Moderately to strongly silicified primary feature, otherwise unaltered	<1-1% disseminated pyrite 223.3 - 225.4m 2-3% fine pyrite, disseminated and as mm wide sericitic veinlets 232.5m 5cm stringer with 5% pyrite, 1% chalcopyrite, trace sphalerite 228.8m Possible traces of reddish brown sphalerite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		quartz veining 238.4 - 244.8m Blocky, broken core Lower contact	60		246.7 - 252.1m 1-3% disseminated pyrite	
252.10 TO 288.50	Diorite «DIOR»	Colour: Dark green Grain Size: Fine grained 252.1 - 255.3m Feldspar porphyritic up to 7% 2-5mm ragged feldspars 255.3 - m Finer grained, patchy feldspar porphyritic Calcite veining Occassional <10cm FP felsic dykes Thicker grey, FP felsic dykes with up to 10% 1-2mm white feldspars as follows: 264.1 - 267.9m 271.1 - 272.7m Below 272.7m Feldspar porphyritic occassional finer grained zones 279.3m 4cm green fault gouge Rubbly lower contact		Moderate quartz-calcite veining		
288.50 TO 311.00	Felsic Tuff «F TUFF»	Colour: Light grey Grain Size: Fine grained Massive Aphyric with rare patches with 2-3mm darker green, sericitic spots Very rubbly lower contact		Weakly sericitic Weak to moderate bleached appearance	1-3% disseminated pyrite 300.70 - 300.95m 3-5% pyrite, <1% chalcopyrite	Very rubbly core
311.00 TO 328.30	Diorite «DIOR»	Colour: Dark green Grain Size: Fine grained Massive Feldspar porphyritic up to 7% white feldspars in a fine green groundmass 311.7 - 314.9m Maroon grey feldspar porphyritic dyke 311.7m	40			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		319.0m 3cm crushed fault zone	20			
328.30 TO 332.20	Felsic Tuff «F TUFF»	Colour: Light grey Grain Size: Fine grained Massive Aphyric Similar to felsic tuff above diorite 331.8 - 331.9m Ground crushed zone, minor fault gouge		Patchy weak silicification	Rare 1cm chloritic pyrite stringers with <1% chalcopyrite	Rubbly core
332.20 TO 339.10	FP Tuff «FP TUFF»	Colour: Light grey Grain Size: Fine grained 5-7% sericitized feldspar grains Massive Weak silicified, weak bleached appearance 332.2 - 335.0m Feldspar content 1-3%, some feldspar deficient zones		Weakly silicified, strong sericite alteration of feldspars	Trace pyrite, rare <1cm chloritic pyrite stringers	
339.10 TO 346.50	Felsic Tuff «F TUFF»	Colour: Light grey Grain Size: Fine grained Massive Aphyric but with a patchy very fine granular texture 1cm crushed zones, minor gouge at 343.4m 343.65m 343.95m	 40 30 50	Weakly sericitic, patchy weak silicification	<1% disseminated pyrite 343.2 - 343.45m 5% pyrite disseminated and concentrated into poorly developed stringers 343.95 - 345.5m Locally 2-3% disseminated pyrite, trace chalcopyrite	
346.50 TO 356.30	FP Dyke «FP DYKE»	Colour: Light brownish grey Grain Size: Fine grained Massive Heavily fractured, rubbly core Up to 5% <1-1mm white feldspar crystals in a fine siliceous groundmass 347.9 - 349.7m Screen of felsic tuff. Rare				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		quartz eyes 347.9m	70			
356.30 TO 361.80	Felsic Tuff QP «F TUFF, QP »	Colour: Light grey Grain Size: Fine grained <1-1% and locally 2-3% 1mm quartz eyes and very indistince 1-2mm felsic lithic granules Patchy mottled striped appearance, fragmental? Rubbly lower contact		Nil	Trace pyrite	
361.80 TO 369.50	Andesite Lithic Epiclastic Tuff? «AND LITH TUFF»	Colour: Medium to dark green Grain Size: Fine grained Massive Distinctive granular texture from <1-1mm rounded translucent grains, grain supported with a chloritic groundmass containing abundant <1mm tan brown grains and wisps. Wisp decreasing below 364.9m 365.6 - 366.9m Felsic Dyke Medium grey, fine grained, massive Strongly siliceous Faint light green and whitish felspars and rare blueish quartz eyes Sharp upper contact (365.6m) 366.9 - 369.5m Fine grained, lithic tuff Fine granular texture, moderately abundant <1mm tan coloured specks Sharp lower contact	 58 62	Chloritic groundmass, may be primary texture	<1-1% pyrite 368.1 - 368.25m Irregular quartz veining with 5% brassy pyrite	ICP to check lithology, Andesite?
369.50 TO 374.90	QFP Dyke «QFP DYKE»	Colour: Medium grey Grain Size: Fine grained Faint whitish green feldspars, traslucent feldspar laths and clear to faint blue quartz eyes in a siliceous groundmass Total crystal content 5-7% Sharp lower contact	 90	Strongly silicifed		Rubbly core

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
374.90 TO 387.70	Andesite Lithic Tuff «AND LITH TUFF»	Colour: Dark green Grain Size: Fine grained Very similar to previous andesite unit Fine granular texture from abundant translucent grains (felsic grains, feldpsars?) Patchy occurrence of <1mm tan brown grains and wisps		Chloritic Groundmass	<1% pyrite	
		378.7 - 380.90m 7-10% <1-1mm weakly epidotized feldspars		Weak epidotization of feldspars		
	E.O.H.	384.3 - 385.7m FP Dyke				

HOLE NUMBER: MTS-81 | ASSAY SHEET | DATE: 25-January-1990

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Zn %	Pb %	Ag g/t	Au g/t	GEOCHEMICAL Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Ba ppm	Ba %		COMMENTS
13651	343.20	344.00	0.80						1200	61	9	0.9	38					
13652	344.00	345.00	1.00						655	64	10	0.8	21					

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	Ba %	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Au ppb	As ppm	Sb ppm	Sr %	Zr %	Tot %	GBa ppm	S %
17130	165.00	168.00	3.00	54.36	16.89	2.37	6.75	2.51	2.80	8.16	0.19	0.76	0.085	91	136	30	1.5	5	1	5			96.14	161	0.83
17131	189.60	192.60	3.00	46.19	20.04	1.80	8.71	1.04	3.62	9.73	0.34	0.91	0.125	197	246	34	1.6	20	1	9			94.62	199	1.67
17132	228.80	231.70	2.90	69.61	14.84	0.92	1.41	1.37	3.65	3.48	0.06	0.37	0.205	217	50	6	0.4	5	11	1			97.68	170	1.44
17133	293.70	296.20	2.50	69.31	14.89	1.93	1.16	1.23	3.83	2.99	0.04	0.36	0.270	208	21	6	0.6	5	12	1			98.07	221	1.72
17134	335.70	338.30	2.60	68.05	13.97	2.48	1.64	0.83	3.23	4.72	0.08	0.33	0.150	149	55	9	0.7	5	19	1			97.52	155	1.70
17135	362.00	365.00	3.00	49.53	15.85	2.83	5.60	3.39	1.56	11.78	0.18	2.75	0.035	58	107	26	1.2	5	8	4			95.05	50	1.09
17136	378.80	381.80	3.00	46.83	15.64	7.36	4.20	3.63	1.24	12.05	0.18	2.98	0.010	95	93	28	1.2	5	21	5			95.78	33	1.14

Appendix II

Diamond Drilling Invoices

FRONTIER DRILLING LTD.
19644 33A AVE.
LANGLEY, B.C. V3A 7X1
PHONE: 604-530-4100

INVOICE

DATE November 20,1989 PERIOD November 1 - 15, 1989 INV. # 8911-4

JOB # 8911 Mt Sticker LOCATION Chemainus, B.C.

205

IN ACCOUNT WITH: Minnova Inc.
311 Water Street - 4th Floor
Vancouver, B.C.
Phone: 681-3771

PAGE ONE:	DRILL FOOTAGE CHARGES	$47,277.83
PAGE TWO:	FIELD COST CHARGES	$ 2,846.00
PAGE THREE:	SUPPLIES AND SERVICES	$ 3,331.50
	TOTAL INVOICE	$53,455.33

DRILL FOOTAGE CHARGES

	CASING			CORING		
HOLE NUMBER	FROM	TO	TOTAL	FROM	TO	TOTAL
MTS-72	0	10	10	10	315	305
MTS-73	0	20	20	20	622	602
MTS-74	0	20	20	20	517	497
MTS-75	0	10	10	10	707	697
MTS-76	0	10	10	10	634	624
MTS-77	0	10	10	10	585	575
			80			3300

} MTS-77

CASING 80 ÷ 3.28 = 24.4 metres X $47.88 = $ 1,168.27

CORING 3300 ÷ 3.28 = 1006.1 metres X $45.83 = $46,109.56

TOTAL DRILL FOOTAGE CHARGES $47,277.83

PAGE TWO

FIELD COST CHARGES

DATE Nov/89	SHIFT	MAN HOURS RATE: 26.00	DRILL HOURS RATE: 38.00	DRILL HOURS NONOPERATING RATE: 28.00	TRACTOR HOURS RATE: 60.00	TRAVEL TIME RATE:	MISC.
3	D	2	1				
4	D				2		
5	D	2	1				
5	N	8	4				
6	D	6					
6	N	6					
7	D	2			4		
7	N	4	2				
8	D	2	1				
9	D				3		
10	D	2	1				
11	D				3		
13	D	2	1		3	MTS-77	
13	N	2					
15	D	4	2				
15	N	8	4				
		50	17		15		

HRS. 50 hrs. X $26.00 = $1,300.00 TRACTOR HRS. 15 hrs. X $60.00 = $900.00

DRILL HRS. 17 hrs. X $38.00 = $646.00 DRILL HRS.N/O Ø

TRAVEL TIME Ø MISC. Ø

TOTAL $2,846.00

SUPPLIES AND SERVICES

MUD AND ADDITIVES: (HOLE STABILIZING)

9 pails Pac-Vis Polymer @ $96.00	$864.00
TOTAL	$864.00

DRILL BITS CHARGED:

TOTAL	Ø

OTHER DIAMOND PRODUCTS:

5 NW casing shoes @ $126.00 MTS-77 : 1 shoe	$630.00
TOTAL	$630.00

DRILLING TOOLS LOST OR DAMAGED:

7 NW 10' casing @ $162.00 MTS-77 : 1 x 10'	$1,134.00
1 NW 2' casing @ $ 56.00	$ 56.00
5 NW casing caps @ $29.50 MTS-77: 1 casing cap.	$ 147.50
TOTAL	$1,337.50

MISC.:

COREBOXES:	
FUEL	
RENTALS	
HOLE TESTING	
MISC. Flat Rate - Mobilization	$ 500.00
TOTAL	$ 500.00

TOTAL SUPPLIES AND SERVICES	$3,331.50

FRONTIER DRILLING LTD.
19644 33A AVE.
LANGLEY, B.C. V3A 7X1
PHONE: 604-530-4100

INVOICE

DATE December 6, 1989 PERIOD November 16-December 1/89 INV. # 8911-6 Mt. Sicker

JOB # 8911 LOCATION Chemainus, B.C.

IN ACCOUNT WITH: MINNOVA INC.
4TH FLOOR
311 WATER STREET
VANCOUVER, B.C.
V6B 1B8

PAGE ONE:	DRILL FOOTAGE CHARGES	$55,244.73 ✓
PAGE TWO:	FIELD COST CHARGES	$ 4,098.00 ✓
PAGE THREE:	SUPPLIES AND SERVICES	$ 4,910.03 ✓
	TOTAL INVOICE	$64,252.76 ✓

DRILL FOOTAGE CHARGES

	CASING			CORING		
HOLE NUMBER	FROM	TO	TOTAL	FROM	TO	TOTAL
MTS-78	0	10	10	10	395	385
				405	594	189
MTS-79	0	10	10	10	767	757
MTS-80	0	20	20	20	489	469
MTS-53				940	984	44
				984	1587	603 *
MTS-81	0	10	10	10	984	974
				984	1272	288 *
			50'			2818'
						891'*

MTS-53D

MTS-81

CASING 50' ÷ 3.28 15.2 m X $47.88 = $727.77

CORING 2818' ÷ 3.28 = 859.1 m X $45.83=$39,372.55

891' ÷ 3.28 = 271.6 m X $55.76=$15,144.41

TOTAL DRILL FOOTAGE CHARGES $55,244.73

PAGE TWO

FIELD COST CHARGES

DATE November	SHIFT	MAN HOURS RATE: 26.00	DRILL HOURS RATE: 38.00	DRILL HOURS NONOPERATING RATE: 28.00	TRACTOR HOURS RATE: 60.00	TRAVEL TIME RATE: -	MISC. -
16	D	2	1		3		
17	D	12	6				
17	N	2	1				
18	D	4	2		3		
20	D				3		
21	D	2	1		4	MTS-53D	
21	N	18	9				
25	D	2	1				
25	N	3			9		
28	D	4	2			MTS-81	
28	N	4	2				
29	D	6	3				
Decl	D				3		
Totals		59	28		25		

MAN HRS. 59 hrs. X $26.00 = $1,534.00 TRACTOR HRS. 25 hrs. X $60.00 = $ 1,500.00

DRILL HRS. 28 hrs. X $38.00 = $1,064.00 DRILL HRS.N/O Ø

TRAVEL TIME Ø MISC. Ø

TOTAL $4,098.00

SUPPLIES AND SERVICES

AND ADDITIVES:

10 Pails Pac Vis Pilymer @ $96.00	$960.00
TOTAL	$960.00

DRILL BITS CHARGED:

2 NQ core bits lost or due to underground working charged @ 50%	$548.00
each - $548.00	
TOTAL	$548.00

OTHER DIAMOND PRODUCTS:

2 NQ reamer shells @ $387.50	$775.00
NW casing shoes @ $126.00 MTS-81 : 1 casing shoe	$630.00
TOTAL	~~$1,953.00~~ 1405.00

DRILLING TOOLS LOST OR DAMAGED:

6 NW 10' casing @ $162.00 MTS-81 : 1x 10'	$972.00
4 NW 2' casing @ $52.00 MTS-81 : 1x 2'	$208.00
5 NW casing caps @ $29.50 MTS-81 : 1 casing cap	$147.50
TOTAL	$1,327.50

MISC.:

COREBOXES:	
FUEL	
RENTALS MISC: Casing shut-off valves	$169.53
HOLE TESTING	
MISC. Mis. De-mob $500.00	$500.00
TOTAL	$669.53

TOTAL SUPPLIES AND SERVICES $4,910.03

LEGEND

CRETACEOUS

- 4 — Nanaimo Group Sediments
- 3 — Diorite Intrusions(age unknown)

PALEOZOIC
SICKER GROUP

- 2 — Rhyolitic-Dacitic Volcanics
- 1 — Andesitic Volcanics
- Mineralized chert, ash argillite (mine package)

SYMBOLS

- Shaft/old workings
- Bedding
- Anticline
- Syncline
- Fording Coal Lease Boundary
- MTS-77 — 1989 Drill Hole Collar Location
- IP Chargeability Anomaly
- IP Survey December 1987

N

RIVER

CHEMAINUS

POSTUK-FULTON PEPPA RESOURCES

QUEEN BEE

MTS-28, MTS-26, MTS-25

Postuk-Fulton

BELLE

NUGGET

CREEK FAULT

MTS44, MTS-29

MORLEY-JAYNE

FORTUNA FAULT

MTS-58,59

KEY CITY

MTS-60

MINE FAULT

MTS-23, MTS-19

Lenora-Tyee

TYEE

MTS-30

MTS-37, MTS-35

MTS-24

ESTELLE

MTS-50

BLUEBELL

MTS-65

MONA

MTS-49, MTS-43

RICHARD III

MTS-77

MTS-55,56, MTS-57

MTS-53, MTS-54

MTS-52

MTS-41, MTS-27

MTS-38

WESTHOLME

MTS-48

MTS-31, MTS-61

MTS-62, MTS-63

NORTHEAST COPPER FAULT

Gabriel

Northeast Copper

MTS-51, MTS-32

TOM

FORDING COAL LEASE
(South Boundary)

TONY

XL

MTS-22, MTS-21, MTS-20, MTS-18

DONALD

MTS40

HERBERT

DOUBTFUL FR.

THELMA FR.

YANKEE FAULT

MTS-39, MTS-42

NELLENA

MTS-64, MTS-81

CM-9, CM-8, CM-7, CM-10

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,754

LOCATION MAP

VANCOUVER ISLAND, SALTSPRING ISLAND, DUNCAN

SCALE: 250,000

MINNOVA Inc.

MT. SICKER PROPERTY

GENERALIZED GEOLOGY
+ DRILL HOLE LOCATIONS

0 50 100 200 300 400 500 m
SCALE: 1:5000

Gary Wells

November 1987		FIG. NO.:
DRAWN BY: HLG/GSW	REVISED JAN. 1988	3
DATE: DEC. 1986	N.T.S. 92 B/13	