



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

827155

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

SEARCHED
INDEXED
FILED
SERIALIZED
COPIED
RECORDED

TYPE OF REPORT/SURVEY(S)
Diamond Drilling Report

TOTAL COST
\$32,258.42

AUTHOR(S) G. S. Wells

SIGNATURE(S)

Gary Wells

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED . . . August 2, 1988 . . . YEAR OF WORK 1988
PROPERTY NAME(S) Mt. Sicker

COMMODITIES PRESENT Cu, Zn, Ag, Au

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Victoria

NTS 92 B/13

LATITUDE 48° 59' N

LONGITUDE 123° 50' W

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

Lenora and Rocky Groups (see attached Report)

OWNER(S)

(1) Minnova Inc. (2)

MAILING ADDRESS

4th Floor, 311 Water St.

Vancouver, B.C. V6B 1B8

OPERATOR(S) (that is, Company paying for the work)

(1) Minnova Inc. (2)

MAILING ADDRESS

as above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

The Mt. Sicker Property is underlain by felsic and mafic volcaniclastic rocks and flows belonging to the Myra Formation of the Paleozoic Sicker group. Triassic diorite dykes crosscut the stratigraphy. The conformable units form a geanticinal structure which plunges gently to the West. East-trending and northeast-trending faults of varying displacements divide the area into numerous fault blocks. Minnova's exploration program is directed towards discovering polymetallic massive sulphide deposits similar to the Buttle Lake deposits in Strathcona Park. The Lenora and Tyee REFERENCES TO PREVIOUS WORK mines, two past producers on the Mt. Sicker Property, produced a total of 305,787 tons of copper-zinc-gold-silver ore. REFERENCES TO PREVIOUS WORK: see attached report.

(over)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground			
Photo			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core 47.7 m., 1., NQ.....	Richard III.....	\$32,258.42
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralogic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)			
Photogrammetric (scale, area)			
Line/grid (kilometres)			
Road, local access (kilometres)			
Trench (metres)			
Underground (metres)			
		TOTAL COST	\$32,258.42

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted Date	Rept. No.			Information Class



Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH
MINERAL ACT

IV 507/205

DOCUMENT No.	OFFICE USE ONLY
SUBSCRIBER	
AUG 2 1988	
M.R. #	\$
VANCOUVER, B.C. RECORDING STAMP	

Statement of Work — Cash Payment

1. Gary S. Wells
(Name)
Valid subsisting FMC No. 299721
4th Floor, 311 Water St.
(Address)
Vancouver, B.C.
V6B 1B8
(Postal Code) 681-3771
(Telephone Number)

Agent for Minerva Inc.
(Name)
Valid subsisting FMC No. 305183
4th Floor, 311 Water St.
(Address)
Vancouver, B.C.
V6B 1B8
(Postal Code) 681-3771
(Telephone Number)

STATE THAT: [NOTE: If only paying cash in lieu, turn to reverse and complete columns G to J and S to V.]

1. I have done, or caused to be done, work on the Richard III MC

Claim(s)

Record No(s). 396

Situate at Mt. Sicker Area

in the Victoria

Mining Division,

Work was done from April 27

, 1988, to May 4

, 1988.

TYPE OF WORK

PHYSICAL: Work such as trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails. Details as required under section 13 of the Regulations, including the map and cost statement, must be given on this statement.

PROSPECTING: Details as required under section 9 of the Regulations must be submitted in a technical report. Prospecting work can only be claimed once by the same owner of the ground, and only during the first three years of ownership.

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL, DRILLING: Details must be submitted in a technical report conforming to sections 5 through 8 (as appropriate) of the Regulations.

PORTABLE ASSESSMENT CREDIT (PAC) WITHDRAWAL: A maximum of 30% of the approved value of geological, geophysical, geochemical and/or drilling work on this statement may be withdrawn from the owner's or operator's PAC account and added to the work value on this statement.

TYPE OF WORK (Specify Physical (include details), Prospecting, Geological, etc.)	VALUE OF WORK		
	Physical	*Prospecting	*Geological etc.
Diamond Drilling (hole MTS-52) (report to follow)			32,258.42
TOTALS	A	+ B	+ C 32,258.42 D 32,258.42
PAC WITHDRAWAL — Maximum 30% of Value in Box C Only		E	→ E
from account(s) of _____		TOTAL	F 32,258.42
* Who was the operator (provided the financing)? Name Minerva Inc. Address 4 th Floor, 311 Water St. Vancouver B.C. Phone: 681-3771		Transfer amount in Box F to reverse side of form and complete as required.	

F \$ 32,258.42 I WISH TO APPLY \$ 10,400 OF THE
TOTAL VALUE FROM BOX F AS FOLLOWS:

Columns G through R inclusive MUST BE COMPLETED before work credits can be granted to claims.
Columns G through J and S through V inclusive MUST BE COMPLETED before a cash payment or
rental payment can be credited.
Columns not applicable need not be completed.

Cash Payment

CLAIM IDENTIFICATION

G		H		I	
	CLAIM NAME (one claim/lease per line)	RECORD No.	NO. OF UNITS*	CURRENT EXPIRY DATE	
1	Little Nugget	13	1	Jan. 5, 1990	
2	Chemainus	14	1	Jan. 5, 1990	
3	Belle	15	1	Jan. 5, 1990	
4	Duns muir	16	1	Jan. 5, 1990	
5	Seattle	17	1	Jan. 5, 1990	
6	Copper King	18	1	Jan. 5, 1990	
7	Copper Queen	19	1	Jan. 5, 1990	
8	Queen Bee	22	1	Jan. 5, 1990	
9	Alliance Fr.	120	1	Sept. 19, 1990	
10	Peggy Fr.	119	1	Sept. 19, 1990	
11	Beatrice	121	2	Sept. 19, 1970	
12	Rocky I	155	4	Apr. 20, 1991	
13	Rocky 3	157	8	Apr. 20, 1991	
14	Bonnie I	415	1	Sept. 22, 1990	
15	Bonnie II	416	1	Sept. 22, 1990	
16	Bonnie III	417	1	Sept. 22, 1990	
17	Bonnie IV	418	1	Sept. 22, 1990	
18	Bonnie V	422	1	Oct. 20, 1990	
	Stephanie Fr.	423	1	Oct. 20, 1990	
		1074	1	Aug. 8, 1988	

NOTICE TO GROUP No. 1 enrgc

RECORDED May 16, 1986

• 2 POST FRACTION, REV CROWN GRANT ARE 1 UNIT EACH

APPLICATION OF WORK CREDIT								
K	L	M	N	O	P	Q	R	
WORK TO BE APPLIED			RECORDING FEES 5% OF K	PENALTY FEES 10% OF K	PRIOR EXCESS CREDIT BEING USED	NEW EXPIRY DATE	EXCESS CREDIT REMAINING	
VALUE	YEARS	EXCESS CREDIT						
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Jan 5, 1992		
400	2		21			Sept 19, 1992		
400	2		21			Sept 19, 1992		
800	2		40			Sept 19, 1992		
800	1		40			Apr. 20, 1992		
1600	1		80			Apr 20, 1992		
400	2		20			Sept 22, 1992		
400	2		20			Sept 22, 1992		
400	2		20			Sept 22, 1992		
400	2		20			Sept 22, 1992		
400	2		20			Sept 22, 1992		
400	2		20			Oct 20, 1992		
400	2		20			Oct 20, 1992		
800	4		40			Aug 8, 1992		
10400			520					
TOTAL OF K			TOTAL OF N		TOTAL OF O			

Value of work to be credited to portable assessment credit (PAC) account(s).
[May only be credited from the approved value of Box C not applied to claims]

Name of
owner/operator

Name _____

1 Minnova Inc

3

3

AMOUNT
21,858.42.

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the *Mineral Act*. I further acknowledge and understand that if the statements made, or information given, in this Statement of Exploration and Development are found to be false and the exploration and development has not been performed, as alleged in this Statement of Exploration and Development, then the work reported on this statement will be cancelled and the subject mineral claim(s) may, as a result, forfeit to and vest back to the Province.

Daryl Zell

Comments of Applicant

Diamond Drilling Report

Mt. Sicker Property

Victoria Mining Division
NTS 92 B/13

48° 59' N Latitude
123° 50' W Longitude

Owner: Minnova Inc.
Operator: Minnova Inc.

by: G. S. Wells

August, 1988

Claims

Lenora Group

Little Nugget	Beatrice
Chemainus	Rocky 1
Belle	Rocky 3
Dunsmuir	Bonnie I
Seattle	Bonnie II
Copper King	Bonnie III
Copper Queen	Bonnie IV
Queen Bee	Bonnie V
Alliance Fr.	Bonnie VI
Peggy Fr.	Stephanie Fr.

Table of Contents

	Page
1. Introduction	
1.1 Location and Access	1
1.2 Mineral Rights	1
1.3 History	5
2. Work Done	5
3. Geology	
3.1 Regional Geology	6
3.2 Geology of the Sicker Property	6
4. Diamond Drilling Results	7
5. Conclusions	8
6. Cost Statement	9
7. References	10
8. Statement of Qualifications	11
9. Diamond Drilling Invoice	13

Appendix I: Drill Logs: MTS-52

List of Figures

Figure 1:	Location Map	3
Figure 2:	Claim Map	4
Figure 3:	Generalized Geology + DDH Location	in pocket

Diamond Drilling Report

Mt. Sicker Property

1. Introduction

Minnova Inc. has acquired the mineral rights to claims which cover much of Mt. Sicker to evaluate the volcanogenic massive sulphide potential of the property. This report describes the results of diamond drill hole MTS-52 which tested the down dip extent of the Richard III mineralization. The hole was drilled during the period - April 27 to May 4, 1988 by Burwash Contract Drilling.

1.1 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 meters above sea level. The property is covered by a mixed forest of Douglas fir, alder and cedar. Active logging is currently underway on several parts of the property.

1.2 Mineral Rights

Drill hole MTS-52 is located on the Richard III claim which is part of the Lenora group (Figure 2). The claim status of the Lenora Group is as follows:

Lenora Group

<u>Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Month of Record</u>
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
CR I	10	929	May
CR II	10	930	May
Banana	10	1073	August
Stephanie Fr.	1	1074	August
International A. Fr.	1	1119	October
XL	1	19G	crown grant
Herbert	1	20G	" "
Lenora	1	35G	" "
Tyee	1	36G	" "
Key City	1	37G	" "
Richard III MC	1	39G	" "
Magic Fr. MC	1	41G	" "
NT Fr.	1	43G	" "
Westholme Fr. MC	1	59G	" "
International Fr.	1	60G	" "
Donald	1	63G	" "
Thelma Fr.	1	85G	" "
Imperial Fr.	1	86G	" "
Doubtful Fr.	1	87G	" "

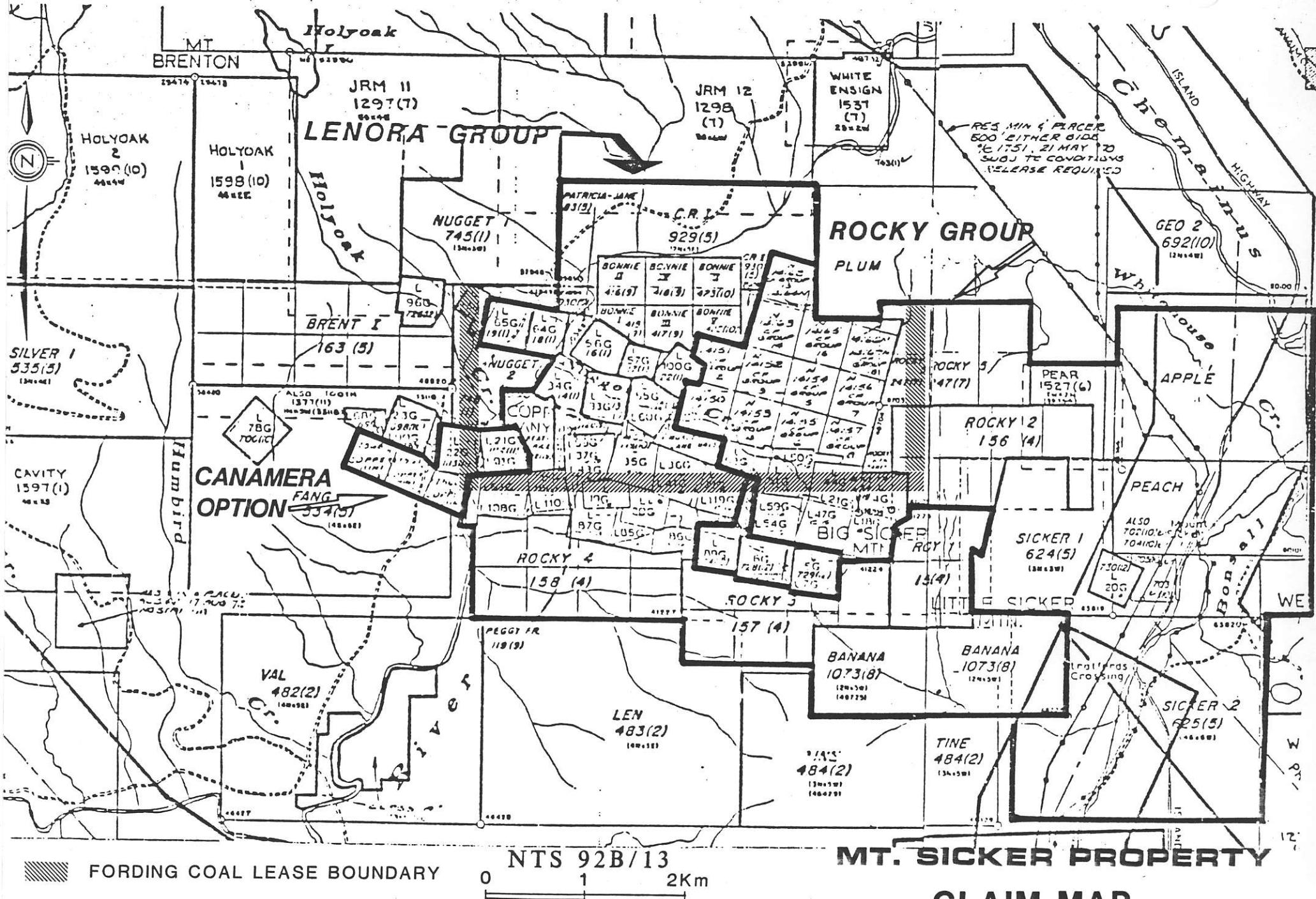


VANCOUVER ISLAND

GEOLOGY

SCALE : 1 : 2,000,000

MINNOVA



MINNOVA

MT. SICKER PROPERTY

CLAIM MAP

Muriel Fr.	1	108G	"	"
Phil Fr.	1	110G	"	"

3. 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 grading 3.31% Cu, 7.51% Zn, 2.75 oz/ton Ag and 0.13 oz/ton Au were recovered from these 2 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 active on the property since 1983. We have carried out an integrated exploration program consisting of geological, geochemical and geophysical surveys which has been followed up by diamond drilling. All aspects of this continuing program have been aimed at discovering a polymetallic volcanogenic massive sulphide deposit.

2. Work Done

This report summarizes the results of diamond drill hole MTS-52 (477.0 m) which tested the down dip extent of the Richard III mineralization which is interpreted as the eastern extension of the Lenora-Tyee ore bodies. This hole, which is located on the Richard III claim (Figure 3) was drilled by Burwash Contract Drilling.

Lithogeochemical samples were taken routinely throughout the hole, sent into Min-En Laboratories in Vancouver, and analyzed for major and trace elements (SiO_2 , TiO_2 , Al_2O_3 , CaO , Na_2O , K_2O , MgO , Fe_2O_3 , Pb, Ba, Cu, Zn, Au, Ag, Zr, Sr, As, Sb) using an ICP technique. Mineralized sections were analyzed for Cu, Zn, Ag, Au and Ba using an atomic absorption method. The drill core is stored at 6722 Lakes Road, Duncan, B.C.

3. Geology

3.1 Regional Geology

The Mt. Sicker property is located in the Cowichan-Horne Lake uplift which is one of 3 fault-bounded areas that expose the Paleozoic Sicker Group on Vancouver Island (Figure 1). Muller (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 massive to banded tuff layers

Cretaceous sediments of the Nanaimo Group unconformably overlie 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 (Muller, 1980). West-northwest and northeast trending faults dissect the Sicker group of the Cowichan-Horne Lake Uplift into numerous fault blocks. Movement along those faults is interpreted to have been mostly Tertiary in age (Muller, 1980). Metamorphic grade ranges from sub-greenschist to greenschist.

3.2 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 Myra and Nitinat formations. The Myra formation consists of thick units of felsic and subordinate mafic pyroclastic/flow rocks with minor ash, argillaceous sediment and chert. The Lenora-Tyee massive sulphide deposit occur within the Mine package which is a distinct well-bedded, 70 meter thick succession

of quartz +/- feldspar crystal tuffs, local felsic flows, fine felsic ash and minor chert and argillite. The Lenora-Tyee deposits are considered to be the stratigraphic equivalent of Westmin's Myra-Lynx deposits.

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 andesitic-basaltic flows, flow breccias and debris flows.

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 m 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

Hole MTS-52 tested the down-dip extent of the sulphide mineralization reported in the Richard III mine. The hole intersected a 7.1 meter wide zone of cherty argillite which is intimately associated with the ore at the former mines. Although the cherty argillite is locally enriched in Zn and Ba at the ppm level, no zones of economic mineralization are present in the hole. The cherty argillite occurs as a fault bounded zone between 2 thick diorite dikes which have dilated the hanging wall and footwall sequences. The lower part of the hole intersects a sequence of relatively unaltered felsic ashes and tuffs. A detailed log for hole MTS-52 is included in Appendix I.

5. Conclusions

Hole MTS-52 intersected a wide zone of cherty argillite which is interpreted as the lateral equivalent of the ore horizons at the former Lenora-Tyee mines. The argillite is fault-bounded and its position in the stratigraphy is further complicated by 3 thick diorite dikes which have dilated and possibly offset the footwall and hanging wall sequences. No zones of economic mineralization were intersected in hole MTS-52. Further drilling in the area is warranted to help unravel the geology and to evaluate the extent of the cherty argillite horizon which is intimately associated with the massive sulphide zones.

Gary Wells.
G. S. Wells

6. Cost Statement

Richard III claim hole MTS-52 filed for \$32.258.42

MTS-52

Contractor Costs (see attached invoices)	\$29,858.42
P. Baxter: 7 days at \$300/day	2,100.00
M. Fulton: 3 days at \$100/day	<u>300.00</u>
Total	\$32,258.42

7. References

Muller, J. E.

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

Wells, G. S.

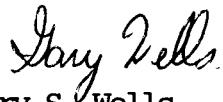
1987: Report on the 1987 Drill Program - Mt. Sicker Property
FAME Report 10962-E65.

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.
4. I have based conclusions contained in this report on knowledge of the area, my previous experience and results of field work conducted on the property.

Date: August 19, 1988


Gary S. Wells
Vancouver, British Columbia

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. 4th Floor - 311 Water Street
Vancouver, B.C. Phone: 681-3771

Burwash Contract Drilling

1936 WILDER ROAD - R.R. 2 - COBBLE HILL, B.C. V0R 1L0 - VANCOUVER ISLAND - TEL. 743-3092

May 2, 1988

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

Dear Sirs:

Please find enclosed invoices for diamond drilling on your Mt. Sicker property from April 16 to April 30, 1988:

Hole MTS-48	\$126.00
Hole MTS-49	28,198.76
Hole MTS-50	11,226.45
Hole MTS-51	12,194.48
Hole MTS-52	<u>17,798.86</u> ←
	<u>\$69,544.55</u>

Yours truly,
BURWASH CONTRACT DRILLING
Per: *[Signature]*

D. Burwash

CORPORATION FALCONBRIDGE COPPER

BURWASH ENTERPRISES LTD. & BURWASH

317

HOLE MTS-52

Moving & Road Building

11 tractor hours @ \$60.00/hr.	\$660.00
11 man hours cat operating @ \$24.00/hr.	264.00
6 man hours moving @ \$24.00/hr.	144.00

Overburden

12' @ \$16.00/ft.	192.00
-------------------	--------

Core

937' @ \$16.00/ft.	14,992.00
--------------------	-----------

Consumables

1 x 10' NW Casing @ \$150.00	150.00
2 x 2' NW Casing @ \$49.00	98.00
1 NW Casing shoe @ \$152.00	152.00
1 NW Casing cap @ \$40.00	40.00
7 pails polymer mud @ \$110.00	770.00
6% P.S.T.	72.60
Cost + 10%	128.26

Hole Stabilizing

2 drill hours @ \$20.00/hr.	40.00
4 man hours @ \$24.00/hr.	96.00
	<u>\$17,798.86</u>

Burwash Contract Drilling

1936 WILDER ROAD - R.R. 2 - COBBLE HILL, B.C. V0R 1L0 - VANCOUVER ISLAND - TEL. 743-3092

May 16, 1988

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

Dear Sirs:

Please find enclosed invoices for diamond drilling on your Mt. Sicker property from May 1 - 16, 1988.

Hole MTS-52	\$12,059.56
Hole MTS-53	18,995.49
Hole MTS-54	20,596.85
Hole MTS-55 (incomplete)	16,804.33
Equipment and labour lost in Hole MTS-49 (50%)	<u>6,241.74</u> <u>-12,483.48</u>
(P)	\$ 74,697.97 \$80,939.71

Yours truly,
BURWASH CONTRACT DRILLING
Per: *[Signature]*

WASH CONTRACT DRILL
: *D. Burwash*

CORPORATE FINANCIALS [CORPORATE FINANCIALS](#)

BURWASH ENTERPRISES LTD. & BURWA

HOLE MTS-52 (to completion)

Core

51' @ \$16.00/ft.	\$816.00
565' @ \$18.00/ft.	10,170.00

Consumables

6 pails Polymer mud @ \$110.00 ea.	660.00
6% P.S.T.	39.60
Cost + 10%	69.96

Hole Stabilization

6 man hours @ \$24.00/hr.	144.00
3 drill hours @ \$20.00/hr.	60.00

Testing

2 acid tests @ \$50.00 ea.	100.00
	<u>\$12,059.56</u>

HOLE MTS-53

Moving

4 tractor hours @ \$60.00/hr.	\$240.00
4 man hours cat operating @ \$24.00/hr.	96.00

Overburden

10' @ \$16.00/ft.	160.00
-------------------	--------

Core

990' @ \$16.00/ft.	15,840.00
66' @ \$18.00/ft.	1,188.00

Consumables

2 x 10' NW Casing @ \$150.00	300.00
1 NW Casing shoe @ \$152.00	152.00
1 NW Casing cap @ \$40.00	40.00
7 pails polymer mud @ \$110.00 ea.	770.00
6% P.S.T.	75.72
Cost + 10%	133.77
	<u>\$18,995.49</u>

Appendix I

Drill Logs

MTS - 52

HOLE NUMBER: MTS-52

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: **METRIC UNITS:**

PROJECT NAME: SIC
PROJECT NUMBER: 305
CLAIM NUMBER: RICHARD III
LOCATION: NTS 928/13

PLOTTING COORDS GRID: MTS

LEVELING COORDS GRID: W.S.

ALTERNATE COORDS SP1

NORTH: 0+ 0
EAST: 0+ 0
EL FV: 0.00

COLLAR DIP: -65° 0' 0"
OF THE HOLE: 477.00m
START DEPTH: 0.00m
FINAL DEPTH: 477.00m

COLLAR GRID AZIMUTH: 360° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"

DATE STARTED: April 27, 1988 COLLAR SURVEY: NO
DATE COMPLETED: May 4, 1988 MULTISHOT SURVEY: NO
DATE LOGGED: 0. 0 RRD LOG: NO

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

CONTRACTOR: BURWASH ENTERPRISES LTD.
CASING: 3.65M
CORE STORAGE: 6722 LAKES ROAD, DUNCAN

PURPOSE: TO TEST THE LENORA-TYEE HORIZON DOWN-DIP OF ZN MINERALIZATION LOCATED IN THE RICHARD III MINE.

DIRECTIONAL DATA:

FILE NUMBER: MTS-52

DRILL HOLE RECORD

SEARCHED BY: E E

548

HOLE NUMBER: MTS-52

MINNOVA INC.
DRILL HOLE RECORD

DATE: 29-August-1988

FROM	ROCK	TEXTURE AND STRUCTURE	ANGLE	TD CA	ALTERATION	MINERALIZATION	REMARKS
0.00	OVERBURDEN						
TO	<OB>						Casing, no core recovered.
3.65							
3.65	DIORITE						
TO	<DIOR>	Colour - speckled medium green. Grain Size - medium to coarse grained. 15% white ragged fsp, locally fsp poor 3-5% and fsp rich 30%. Massive Weakly magnetic.			Pervasive carbonate alt, weak cross-cutting carbonate veining & rare carb/qtz veinlets. Patchy moderate-weak epidote alteration of fsp.		
69.10					3.65 - 23.2 Moderate limonite staining of fracture surfaces.		
		37.60 - 43.00 Finer grained & weakly foliated.					
		42.50m (foliation)	50				
		20cm chill margin @ lower contact. Lower contact in broken core, questionable core angle.					
		69.1m (contact)	80				
69.10	QFP					<1-1% diss. py>	
TO	FRAGMENTAL	Colour - medium grey.					
147.80	FLOW	Grain Size - medium grained.					
<QFP FLOW>		1-2% white mm Qtz crystals and 5-7% white Fsp crystals in a fine grained matrix. Numerous >3cm white fragments with diffuse boundaries, some sharp boundaries. - Rare cherty felsic ash fragments. - Some irregular flow banding.			Rare patches of weak epidote alt. Patchy silicification. <1% mm carbonate veinlets.	<1-1% diss. brassy py.	
		102.55 Possible upper contact of flow.			102.4 - 102.55 Qtz + carbonate + chlorite vein. Lower contact 70 degrees.		
		{126.1 - 126.65} <Mafic Dyke> Mafic dyke: fine grained, massive, 2% fsp crystals Gouge Lower Contact.			126.1 - 126.65 Weak epidote alteration of fsps.		
		126.1m (Upper Contact)	20		Weakly chloritic.		
		{132.5 - 135.15} <Fei Ash, Cht> Fine felsic ash, some irregular chert bands, minor qfp flow.			{132.5 - 135.15} <2% py, <1-1% cpy> 2% diss. py locally 3-5% py. Up to 1% diss. cpy mainly within QFP.	ICP sample from 133 - 136m. Sample BCD 9323	
		132.5m (contact)	30				

HOLE NUMBER: MTS-52

DRILL HOLE RECORD

LOGGED BY: P. S.

PAGE: 1

HOLE NUMBER: MT5-52

MINNOVA INC.
DRILL HOLE RECORD

DATE: 29-August-1988

FROM	ROCK	TEXTURE AND STRUCTURE	ANGLE: (TO CAI)	ALTERATION	MINERALIZATION	REMARKS
		141.5 - 147.8 Dark grey, no speckled, colour, 5-7% quartz, rare white fsp. Massive Hornfels? Very irregular lower contact.				
147.80	DIORITE	Colour - medium green. Grain Size - medium grained.		«Weak patchy epidote, W chl»		
TO	«DIOR»					
192.25		5% porphyritic feldspars, ragged, creamy green, in a finer grained intergranular matrix. Massive. Weakly magnetic, 50cm chill margin at upper contact.		Rare carb + qtz + chl veins 3-10cm wide.		
				{152.15 - 160.6} «10% carb+qtz+chl vns»		
		{162.0 - 166.85} «Qtz DIOR» Quartz diorite. 7-10% mm dark quartz grains. 2-3% feldspars toward base of Qtz Dior. Irregular upper and lower contacts.		{162.0 - 166.85} «5% ep» Intergranular epidote.		
				{167.6 - 192.25} «Hem. fct coatings» «and stringers»		
		189.8 - 192.25 Chill margin @ lower contact. Very sharp faulted lower contact.				
		192.25m (contact)	35			
192.25	ARGILLITE	Colour - light to very dark grey. Grain Size - very fine grained.		«80% fault gouge»		
TO	«ARB»					
192.70		Very sheared, destroying any previous textures. Graphitic. Sharp lower contact.			Possibly some very fine sulphides within fault gouge.	Fault Zone.
		192.7 (contact)	30			
192.70	FELSIC -			«1% diss py»		
TO	INTER-	Colour - light green.				
199.40	MEDIATE	Grain Size - fine to medium grained.				
	TUFF					
	FAULT GOUGE	{192.7 - 196.3} «Fault Zone» «F-IT» Very sheared, brecciated, & distorted, extensive clay gouge developed. Some qtz eyes evident. Brecciated quartz veinlets.		{192.7 - 196.3} «6 Ser, 70% Fault Gouge» Strongly sericitic, 70% clay fault gouge.	{1 - 1% diss py within fault zone & intermediate tuffs.	There is a possibility of two units within this Unit. 1) A Felsic unit within the fault zone and 2) an intermediate unit starting at 196.3a.
				{193.05 - 193.30} «7-10% py» 7-10% fine pyrite, some brecciated		

HOLE NUMBER: MT5-52

DRILL HOLE RECORD

LOGGED BY: P. B.

PAGE: 3

MINNOVA INC.
DRILL HOLE RECORD

HOLE NUMBER: MIS-52

DATE: 29-August-1988

FROM	ROCK	TEXTURE AND STRUCTURE	ANGLE	TO CA	ALTERATION	MINERALIZATION	REMARKS
		Fairly sharp lower contact to fault zone. 196.3m (Fault?)		20		quartz, possibly some argillite.	
		{196.3 - 199.4} «FP Int T» Feldspar porphyritic intermediate tuff. Moderate - strongly foliated. 5-7% feldspar crystals. 161.1m (foliation) 196.3m (contact) Sharp lower contact @ 199.4			{196.3 - 199.4} «S Ser, Ep alt Fsp» Strongly sericitic, weak epidote altered feldspars. 5-10% clay alteration.		
199.40	ARGILLITE, TO CHERTY OR 206.50 SILICIFIED	«Finely laminated» Colour - black, whitish grey. Grain Size - very fine grained. ARGILLITE sometimes distorted/folded. Very graphitic along bedding planes. - Possible barite as fine white stockwork.				{5% py}	
		200.15 (bedding) 203.3 (bedding) 206.4 (bedding) Sharp lower contact into 15cm of grey fault gouge.		40 45 55			
206.50	CHERTY TO FELSIC ASH, 211.60 TUFF <CHTY FEL> <ASH>	Colour - very light grey to light green. Grain Size - fine grained. Fairly massive, weakly foliated. Possible quartz eyes, milled texture.			{Weak - mod. ser.}	{1% py}	
		{207.9 - 208.4} «Fault» Fault zone. Milled texture, distorted and folded foliation. Folded pyritic chert at 208.0m.			{207.9 - 208.4} «S ser, clay fault» «gouge»	{207.5 - 208.05} {3-5% py} 3-5% py diss. and weak stringers parallel to weak foliation.	
					{208.4 - 208.8} «Qtz Vn»		
		208.8 - 209.9 Cherty ash, moderately foliated, milled texture. Gougy, brecciated and very milled from 209.8 - 209.9.			{208.8 - 209.9} «Mod. ser.»		
		209.2 (foliation) 209.9 (contact) (Fault?)		60 25			

WOLE NUMBER: WTS-52

BRILL NOVUM RECORDED

SEARCHED BY: B. E.

HOLE NUMBER: MTS-52

MINNOVA INC.
DRILL HOLE RECORD

DATE: 29-August-1988

FROM	ROCK TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: (TO CA)	ALTERATION	MINERALIZATION	REMARKS
			209.9 - 211.6 Light green, weakly foliated, patchy silicification. Rare quartz eyes. Weakly milled becoming very brecciated & moderately foliated below 210.8. Last 10cm very milled and gougy. Faulted lower contact.		209.9 - 211.6 Weakly sericitic. Minor gouge. Very gougy from 211.5 - 211.6.		
			211.0 (foliation)	30			
			211.6 (Fault contact)	30			
211.60	DIORITE	<DIOR>	Colour - medium green. Grain Size - medium to very coarse grained. - No upper chill margin.				
392.10			{211.6 - 241.2} <Pegmatitic> Abundant zones of quartz + feldspar + hornblende + ilmenite pegmatites. {241.2 - 321.0} <M-C grained equigranular> Medium to coarse grained equigranular.		- Weak epidote alteration of feldspars and patchy epidote alteration of groundmass. - Rare carbonate +/- quartz veinlets. - Weakly chloritic, patchy.		
			251.7 - 253.7 Weakly milled. - rare zones of weak foliation associated with qtz/carbonate veinlets				
			211.6 - 270.65 Rubby and blocky core.				
			260.9 (foliation)	30			
			268.8 5cm fault gouge				
			269.75 - 270.65 Milled and gougy core.		274.80 - 278.2 Qtz-carbonate veining and pervasive carbonate alteration.		
					283.0 - 283.15 Barren white quartz vein.		
			283m (contact)	25			

HOLE NUMBER: MTS-52

MINNOVA INC.
DRILL HOLE RECORD

DATE: 29-August-1988

FROM	ROCK	TEXTURE AND STRUCTURE	ANGLE	TD (ft)	ALTERATION	MINERALIZATION	REMARKS
TO	TYPE		(TO CA)				
		283.15m (contact)		25			
		Gougy @ 287.8m.					
		{287.8 - 289.8} «M.Dyke»					
		Mafic Dyke, fine grained. Massive, sharp upper and lower contacts.					
		287.8m (contact)		35			
		289.8m (contact)		45			
		{291.2 - 291.7} «M. Dyke»					
		318.2 - 332.5					
		Rare patches with II leucoxene.					
		318 - 340.15					
		Rubby blocky core.					
		322a					
		10cm fault gouge and brecciate diorite.					
		{321 - 391.0} «Feld Phryic»					
		Feldspar phryic with rare equigranular patches.					
		328.2					
		10cm milled and gougy core					
		328.2m (fault)		50			
		345.7 - 354.2			{345.7 - 354.2} «Perv. carb. alt.»		
		Fine grained phase of diorite with minor feldspar phryic areas.			Moderate to strong carbonate stockwork.		
		356.85					
		3cm clay gouge.					
		364.9 - 367.7			{364.9 - 367.7} «Perv. carbonate»		
		Fine grained phase of diorite.					
		372.05 - 372.15					
		Milled and gougy.					
		391.0 - 392.1					
		Chill margin, sharp lower contact.					
		392.1m (contact)		30		Pyritic stringer along lower contact.	

HOLE NUMBER: MTS-52

DRILL HOLE RECORD

LOGGED BY: P. B.

PAGE: 6

HOLE NUMBER: MTS-52

MINNOVA INC.
DRILL HOLE RECORD

DATE: 29-August-1988

FROM	ROCK	ANGLE:			REMARKS
TO	TYPE	TEXTURE AND STRUCTURE	: TO CA:	ALTERATION	MINERALIZATION
392.10	FELSIC TUFF			<W. Ser>	
TD	ASH TUFF	Colour - light grey.			
477.00	<FT,FA>	Grain Size - fine grained. 1-2% mm quartz eyes, locally 3-5%. 1-2% <1mm feldspars, patchy distribution. Zones of very fine grained felsic ash. - core has noticeable pitted appearance - weakly foliated.		Patchy carbonate stringers/veinlets. Patchy silicification, weakly chloritic within qtz/carbonate pyrite stringers.	
		394.2m (foliation)	30		{392.1 - 397.0} <1-2% py>
				{397.0 - 407.3} <Qtz,Carb,Chl stringers>	{397.0 - 407.3} <3-5% py>
				Area of numerous zones of qtz + carbonate + chlorite + pyrite stringers from 15-30cm wide.	3-5% disseminated pyrite and numerous zones as follows of stringer pyrite up to 20% py and 1% cpy. 397 - 397.2 7% py 398.2 - 398.6 5% py 400.45 - 400.75 20% py, 1% cpy 404.1 - 404.65 10% py, <1% cpy 405.15 - 405.6 5-7% py, tr cpy 406.05 - 406.4 7% py, tr cpy 406.9 - 407.3 5-7% py
		404.7m (foliation)	20		{407.3 - 456.2} <1-3% py> 1-3% diss. py, locally up to 5% py.
		418.25 - 419.0			
		Brecciated core, 15% fault gouge.			
		{434.0 - 434.2} <Fault>			
		Milled and gougy core.			
		434.2m (Fault)	20		
		{428.4 - 444.5} <Weakly feldspar phric>			
		440.5 - Fault			
		442.5 (foliation)	25	{440 - 448} <W. chl>	
		{454.8 - 455.3} <Volcanoclastic sediment?>			{454.85 - 455.3} <7% py>
		Fine grained, medium grey sediments and maroonish brown mudstone.			7% finely disseminated py, some coarse stringer py. Tr cpy.
		454.85m (contact)	20		
		{455.9 - 456.15} <Volcanoclastic sediment & mudst?>			{455.9 - 456.15} <3-5% py>
		455.9m (contact)	25		
		474.5m (foliation)	10		{456.15 - 477.0} <1% py>

HOLE NUMBER: MTS-52

ASSAY SHEET

DATE: 29-August-1988

Sample	From (m)	To (m)	Length (m)	ASSAYS					GEOCHEMICAL							COMMENTS
				CU ppm	ZN ppm	PB ppm	AG ppm	AU ppb	CU ppm	ZN ppm	PB ppm	AG ppm	AU ppb	AS ppm	BA ppm	
9151	192.25	193.40	1.15						231	473	1.4	85				
9152	193.40	194.40	1.00						203	594	2.3	110				
9153	194.40	195.40	1.00						111	556	1.5	45				
9154	195.40	196.25	0.85						95	275	.8	50		740		
9155	199.40	200.40	1.00						53	118	.7	10		920		
9156	200.40	201.40	1.00						54	126	.9	10		1440		
9157	201.40	202.40	1.00						76	76	1.1	5		1630		
9158	202.40	203.40	1.00						45	84	1.0	5		1230		
9159	203.40	204.40	1.00						47	87	.9	10		2600		
9160	204.40	205.40	1.00						62	169	.8	20		1500		
9161	205.40	206.50	1.10						123	89	.6	25				
9245	206.50	207.50	1.00													
9246	207.50	208.40	0.90													
9247	208.40	209.90	1.50													
9162	400.45	400.75	0.30						1920	57	1.7	75				
9163	404.10	404.65	0.55						2390	67	1.5	30				
9248	454.80	455.30	0.50													

HOLE NUMBER: MTS-52

ASSAY SHEET

PAGE: 8

HOLE NUMBER: MTS-52

GEOCHEM. SHEET

DATE: 29-August-1988

Sample	From (m)	To (m)	Length (m)	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO2	TIO2	BA	CU	ZN PPM	PB PPM	AG PPM	AU PPB	AS PPM	SB PPM	SR Z	ZR Z	TOTAL Z
9321	73.00	76.00	3.00	65.96	14.70	1.33	1.76	4.80	1.61	3.40	.10	.33	.098	1	59	24	.9	5	21	2	.02	.010	94.13
9322	103.00	106.00	3.00	63.59	15.50	1.73	1.68	5.13	1.27	4.27	.09	.33	.048	1	67	26	.9	10	21	2	.02	.011	93.67
9323	133.00	136.00	3.00	63.40	14.73	.77	3.45	3.48	2.09	4.94	.18	.37	.088	89	271	100	.7	5	5	1	.01	.008	93.52
9277	207.00	209.90	2.90	69.64	13.37	2.71	.98	1.33	2.36	4.86	.04	.29	.119	78	564	31	2.6	810	47	2	.02	.012	90.87
9324	398.00	400.50	2.50	71.57	12.15	.72	2.24	.27	2.59	7.08	.07	.27	.152	4	42	12	.5	5	9	1	.01	.007	90.04
9325	430.00	433.00	3.00	71.26	13.45	.97	3.57	1.39	1.92	3.52	.10	.27	.159	37	58	14	.5	5	6	1	.01	.008	93.11
9276	463.00	466.00	3.00	68.76	14.78	1.45	3.40	.30	2.68	4.57	.08	.29	.143	76	43	15	.6	5	9	1	.01	.009	91.90

HOLE NUMBER: MTS-52

GEOCHEM. SHEET

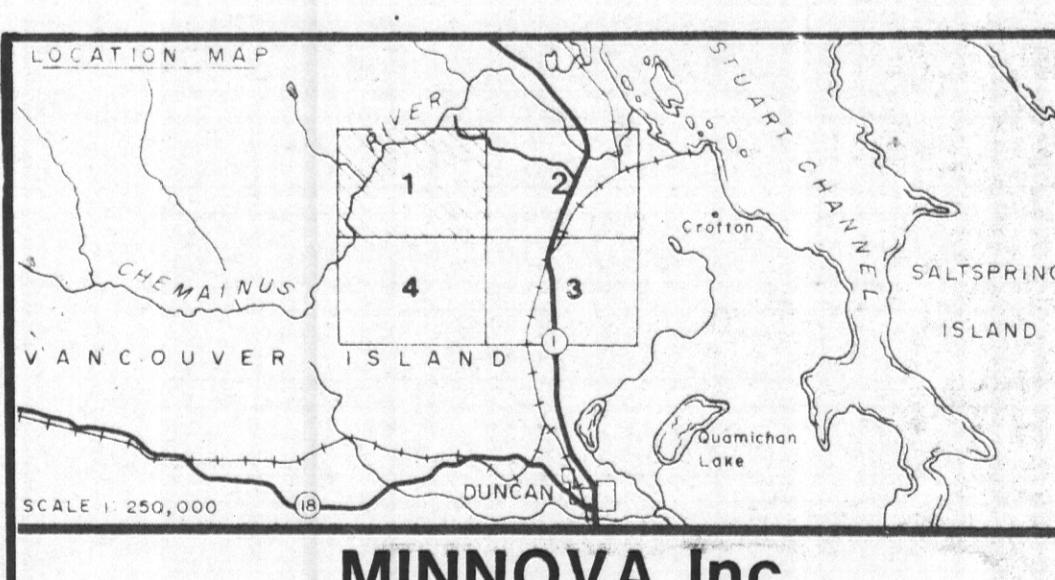

PAGE: 9

LEGEND

CRETACEOUS	
4	Nanaimo Group Sediments
3	Diorite Intrusions (age unknown)
PALEOZOIC	
2	Sicker Group
1	Rhyolitic-Dacitic Volcanics
1	Andesitic Volcanics
■■■	Mineralized chert, ash, argillite (mine package)

SYMBOLS

□	Shaft/old workings
—	Bedding
↑	Anticline
↓	Syncline
■	Fording Coal Lease Boundary
○	MTS40 1987 Drill Hole Collar Location
■■■	IP Chargeability Anomaly
■■■■■	IP Survey December 1987
⊕	1988 Proposed drill hole location



MINNOVA Inc.

MT. SICKER PROPERTY

GENERALIZED GEOLOGY

+ DRILL HOLE LOCATIONS

Guy Bell

November 1987

DRAWN BY HLG/GSW

REVISED JAN. 1988

DATE: DEC. 1988 N.T.S. 92 B/13

FIG. NO.: 3

Scale: 1:5000

Scale: 1:250,000

Scale: 1:5000

Scale: 1:5000