

GEOLOGICAL AND LITHOGEOCHEMICAL  
ASSESSMENT REPORT  
ON THE  
TRIUMPH CLAIM

MINING DIVISION: TRAIL CREEK

NTS: 82F/4W

LAT: 49° 02' NORTH LONG: 117° 54'

NOV 27 1989  
M.R. # .....  
VANCOUVER

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19,371

Owner and Operator: Minnova Inc.  
3rd floor, 311 Water St  
Vancouver, B.C.  
V6B 1B8  
Date Submitted: November 27, 1989  
By: Graeme Evans  
Royanna Holder

LOG NO: 1205	NO.
ACTION:	
FILE NO:	

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## General

The Triumph claim is situated in the Rossland Range in South-Central British Columbia. The claim consists of eight units and was staked in 1988 with the intention to obtain ground along the strike extension of the Velvet Mine veins.

## Location and Access

The Triumph claim is located 400 kilometres east of Vancouver and 8.5 kilometres southwest of Rossland, British Columbia (see Figure 1). Access to the claim is via the old gravelled Cascade Highway, otherwise known as the old Rossland-Grand Forks Highway, and subsidiary dirt roads (see Figure 2). The old Cascade highway joins Highway 22 1 kilometre south of Rossland. Several roads access the claim with the first possible means being a four wheel dirt road located 12 kilometres along the Old Cascade Highway from its junction to Highway 22. The road travels 100 metres west where it branches "north" and "south" crossing the eastern claim boundary at 900 and 750 metres respectively. Another subsidiary road that accesses the eastern claim boundary region of the Triumph claim junctions with the main road at 15 kilometres and crosses the claim boundary at 450 metres. Access to the western claim boundary is via the main road to approximately 23 kilometres where a smaller road is followed north for 2 kilometres, then another minor dirt road is taken eastwards 1.4 kilometres to the claim boundary and into the southwestern area of the claim.

## Physiography

The claim is situated on the northwest side of Mt. Sophia. Topography varies between gentle to steep slopes with the elevation ranging from 975 metres to 1524 metres.

The area is used for logging. The vegetation consists of mixed pine, fir, larch and minor birch forests.



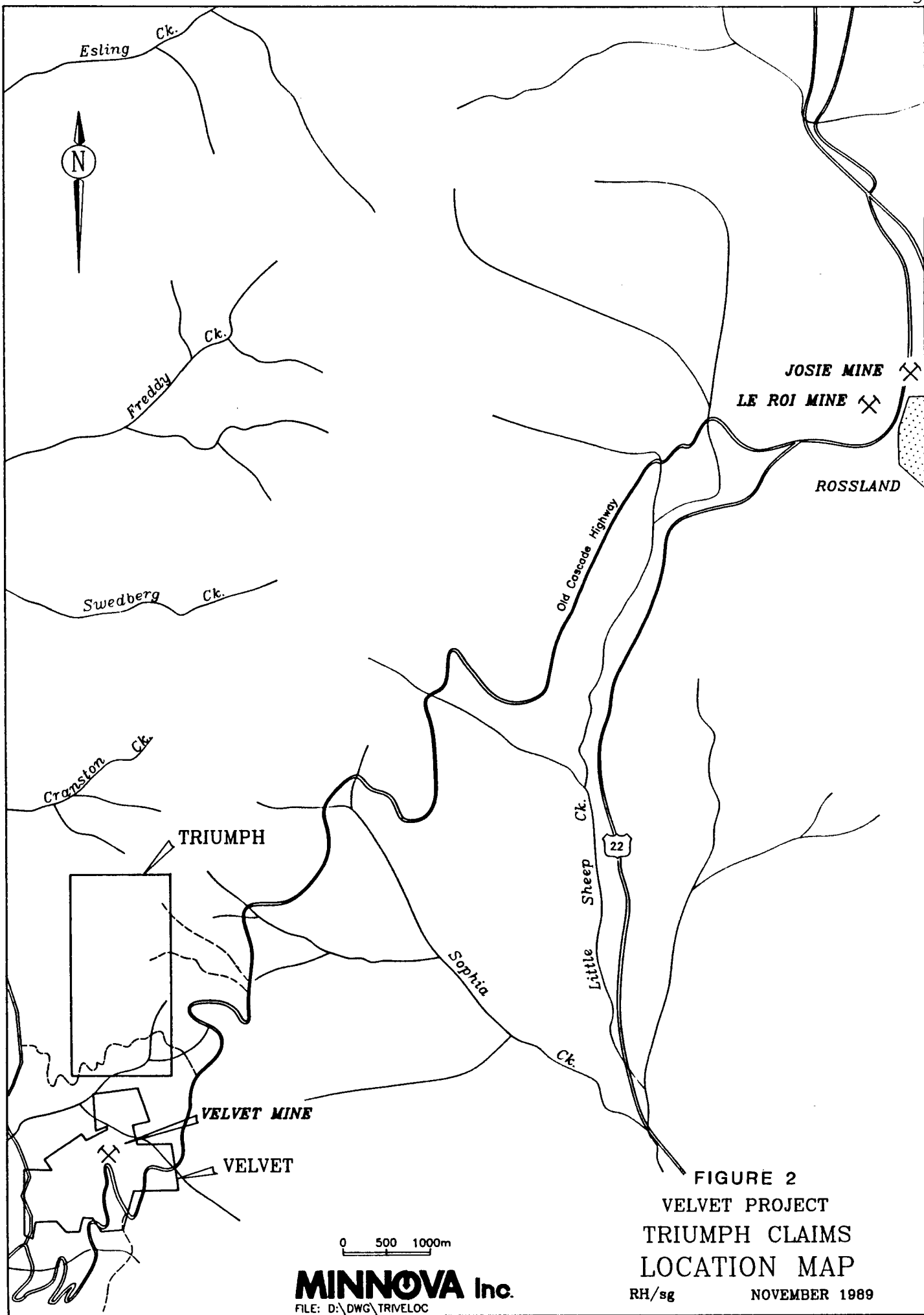


FIGURE 2  
 VELVET PROJECT  
 TRIUMPH CLAIMS  
 LOCATION MAP

RH/sg NOVEMBER 1989

### Property and Ownership

Minnova Inc. owns 100% of the Triumph Claim (1133). The claim consists of eight units and has an expiry date of August 31, 1994, upon acceptance of this report.

### History

Prior to staking in 1988, no known work was done on the Triumph Claim. The claim, however, lies near the historic mining community of Rossland, British Columbia. The Rossland area produced 5,640,000 tonnes of ore, with average grades of 13 grams/tonne gold, 17 grams/tonne silver, and 1% copper (Fyles, 1984).

Two major mines near the Triumph claim are the LeRoi and Velvet mines. The LeRoi mine is situated 8.1 kilometres northwest of Triumph. The mine operated from 1898 to 1917, producing 24,091,170 grams gold, 37,563,105 grams silver, and 21,330,618 kilograms copper from 1,791,680 tonnes mined (Fyles, 1984).

The Velvet mine is situated 1.5 kilometres south of the Triumph claim. The Velvet mine operated intermittently from 1902 to 1910 (Drysdale, 1915) and 1915 to 1955 (Rud, 1981). The mine produced a total of 17,561 ounces gold, 15,425 ounces silver, 1710 pounds copper, 36 pounds zinc and 22 pounds lead from 61,317 tons of ore (Rud, 1981).

### Summary of Work Done

Geological mapping of the Triumph Claim, August 14 to 19, 1989, inclusive, was at a scale of 1:10,000 with compilation at 1:2500. 18 lithogeochemical and geochemical rock chip samples were taken.

### Regional Geology

The Rossland Group is exposed in a broad arcuate belt in southeastern British Columbia, bounded to the east, north and west by granitic rocks of the lower Cretaceous Nelson batholith, and in fault contact with lower Paleozoic rocks of the Kootenay arc on the south. It is intruded by numerous small, irregular stocks, probably correlative with the Nelson batholith (Little, 1964), by apophyses of the Nelson batholith and, in the south near the town of Rossland, by Coryell alkalic intrusions of Eocene age.

The Rossland Group is subdivided into a lower, generally highly deformed sequence of predominantly fine-grained clastic rocks of the Ymir Group and Archibald Formation, a thick accumulation of pyroclastic and epiclastic volcanic rocks of the Elise Formation, and overlying, generally less intensely deformed clastic rocks of the Hall Formation. The Rossland Group is Jurassic in age.

A variety of gold, silver, copper, lead, and zinc vein deposits as well as molybdenite deposits occurs within the Rossland Group or in intrusions cutting these rocks. Many of these deposits are concentrated in the Rossland camp (Fyles, 1984).

### Property Geology

The Triumph claim is underlain by Jurassic Elise Volcanics and Eocene Intrusives (see Figure 3). The Jurassic Elise Volcanics of the Rossland Group are composed of mafic volcanic flows and serpentized mafic volcanic flows. The volcanics occur in the central to north-central region of the claim. The Eocene intrusives compose the remainder of the map area.

The Eocene intrusives are composed of diorite, mafic dykes, and Coryell Syenite. The diorite intrusions are erratic, small, and associated with the Coryell Syenite. The diorite may be a differentiation phase of the syenite. The mafic dykes are rare with only two dykes on the claim. The Coryell Syenite,

however, is common and comprises over one-half of the claim area. The syenite intrudes the volcanics in the west, south and central-eastern boundary regions of the claim.

No major structural features are present on the claim. The main structures seen on the property are faulting with three north trending faults occurring within the mafic volcanics. There are also a few outcrops with foliation present. The foliation has an average strike of 340 to 360 degrees with a dip of 70 to 80 degrees to the east.

#### Lab Procedure

Lithogeochemical and geochemical samples were analyzed by Min-en labs in North Vancouver. Lithogeochemical samples were analyzed using fusion with Lithium Borate, then total dissolution, and analysis by ICP and lithogeochemical traces and geochemical samples, with the exception of gold, were analyzed using standard ICP method. Au was analyzed using fire assay and atomic absorption methods. (For results, see Appendix II).



Rock Descriptions:

<u>Sample Number</u>	<u>Rock Type</u>	<u>Descriptions</u>
BCS 17951	Coryell Syenite	Coarse grained, up to 1cm K-spar (zoned), 2% biotite, no sulphide
BCS 17952	Coryell Syenite	Coarse grained, pink, 5% biotite, sulphides
BCS 17953	Ultramafic, Mafic Volcanics	Serpentine, no sulphides
BCS 17954	Diorite	Medium grained, plagioclase and biotite rich, no sulphides
BCS 17955	Coryell Syenite	Fine grained, 1% pyrite
BCS 17956	Mafic Volcanics	Fine grained, serpentine on shears, trace disseminated pyrite
BCS 17957	Coryell Syenite	Matrix more siliceous, occasional quartz eyes with few remnant K-spar crystals, epidote patches
BCS 17958	Coryell Syenite	3-4% Specular hematite veinlets with 5% epidote
BCS 17959	Mafic Volcanics	Serpentine shears, 1% specular hematite
BCS 17960	Hornblende Mafic Intrusion	Fine grained, hornfelsed (near contact), 1% disseminated pyrite
BCS 17961	Mafic Volcanics	Intense Alteration to pyrophyllite ?
BCS 17962	Coryell Syenite	Very coarse grained, 10% biotite, K-spar crystals to 1cm diameter

	<u>Rock Type cont.</u>	<u>Description cont.</u>
BCS 17963	Mafic Volcanics	Serpentinized shears
BCS 17964	Serpentine	Strongly foliated, serpentine slicks, trace pyrite
BCS 17965	Quartz-Diorite	Medium grained, 5% biotite, light grey, 2% disseminated pyrite
BCS 17966	Coryell Syenite	Coarse grained, 5% biotite
BCS 17970	Mafic Volcanic	Fine grained, pillowed, weakly magnetic
BCS 17971	Coryell Syenite	Coarse grained

(For sample locations, see Figure 3)

### Results and Interpretation

Geochemical results from samples taken on the Triumph claim indicate few anomalous samples. Anomalies are not able to be correlated as too few samples were taken.

Anomalous values used on the Triumph Claim were >100ppm Pb, >100ppm Cu, >100ppm Zn, >10ppm Sb, >1.0ppm Ag, and >20ppb Au. The conclusion was four anomalous Pb samples, one anomalous Cu sample, one anomalous Sb sample, and three anomalous silver samples. The anomalous values were determined relative to results from Minnova's Velvet property, 1.5 kilometres south.

### Summary and Conclusion

Although there were few anomalous values from rock samples, the proximity and similar geology to the Velvet mine, makes the Triumph claim a potential target for mineralization.

BIBLIOGRAPHY

- Drysdale, Charles Wales, 1915. Geology and Ore Deposits of Rossland British Columbia; Geological Survey of Canada, Memoir 77.
- Fyles, James T., 1984. Geological Setting of the Rossland Mining Camp; Ministry of Energy, Mines, and Petroleum Resources, Bulletin 74.
- Little, H.W., 1982. Geology of the Rossland-Trail Map-Area British Columbia; Geological Survey of Canada, Paper 79-26.
- Little, H.W., 1964. Geology, Ymir, British Columbia, Geological Survey of Canada, Map 1144A.
- Little, H.W., 1963. Rossland Map-Area, British Columbia; Geological Survey of Canada, Paper 63-13.
- Rud, John O., 1981. Report on the Velvet Mine for Velvet Exploration Ltd.

**APPENDIX I**

Statement of Costs

Geologists	G. Evans	@ \$350/day	3 days	\$ 1050
			(August 16 to August 18, inclusive)	
	R. Holder	@ \$300/day	2 days	\$ 600
			(August 14 to August 15, inclusive)	
Assistants	W. Hindley	@ \$150/day	3 days	\$ 450
			(August 16 to August 18, inclusive)	
	B. Watts	@ \$150/day	2 days	\$ 300
			(August 14 to August 15, inclusive)	
Travel days,	G. Evans	@ \$350/day	0.5 days	\$ 175
	W. Hindley	@ \$150/day	0.5 days	\$ 75
	Truck Rental	@ \$ 50/day	0.5 days	\$ 25
			(August 19)	
Analysis, Lithogeochem		@ \$ 30/smpl	11 samples	\$ 330
Geochemistry		@ \$ 15/smpl	7 samples	\$ 105
Room and Board		@ \$ 50/day	10 man days	\$ 500
Truck Rental		@ \$ 50/day	5 days	\$ 250
Map Drafting		@ \$190/day	1 day	\$ 190
Interpretation and Report		@ \$300/day	2 days	\$ 600
Typing		@ \$100		\$ 100
			Total	\$ 4750

**APPENDIX II**

STATEMENT OF QUALIFICATIONS

I, Graeme W. Evans certify that:

1. I am an exploration Geologist residing at 6291 Arlington Street, Vancouver, B.C..
2. I have a BSc. (Geol) from the University of British Columbia (1983).
3. I have practised my profession since 1983.
4. I personally carried out or supervised the work reported herein.

November 24, 1989

  
Graeme W. Evans



STATEMENT OF QUALIFICATIONS

I, Royanna J. Holder, certify that:

1. I am an Exploration Geologist residing at 3685 W. 11th Ave, Vancouver, B.C.
2. I have a BSc. (Geol) from the University of British Columbia (1989).
3. I have practised my profession since 1989.
4. I personally carried out the work reported herein.

*Royanna Holder*

November 24, 1989

Royanna J. Holder

**APPENDIX III**





Assay Certificate

9V-0841-RA2

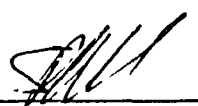
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Project: 659  
Attn: I.PIRIE/G.EVANS

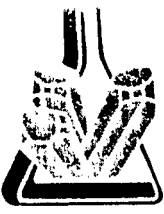
Date: AUG-15-89  
Copy 1. MINNOVA INC., VANCOUVER, B.C.  
2. MINNOVA INC., PENTICTON, B.C.

*We hereby certify* the following Assay of 9 ROCK samples  
submitted AUG-08-89 by G.EVANS.

Sample Number	LOI %
BCD17951	1.25
BCD17952	2.20
BCD17953	12.80
BCD17954	1.45
BCD17956	10.50
-----	
BCD17957	1.40
BCD17959	11.40
BCD17961	8.00
BCD17965	1.40

Certified by \_\_\_\_\_





**MIN  
• EN  
LABORATORIES**

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

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33 EAST IROQUOIS ROAD  
P.O. BOX 867  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9V-0841-RG2

Company: MINNOVA INC.  
Project: 659  
Attn: I.PIRIE/G.EVANS

Date: AUG-12-89  
Copy 1. MINNOVA INC., VANCOUVER, B.C.  
2. MINNOVA INC., PENTICTON, B.C.

*We hereby certify* the following Geochemical Analysis of 7 ROCK samples submitted AUG-08-89 by G.EVANS.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU-FIRE PPB
BCD17955	15	21	15	0.2	2
BCD17958	73	17	32	0.4	4
BCD17960	21	28	59	0.4	2
BCD17962	7	26	39	0.2	2
BCD17963	8	36	40	0.8	1
BCD17964	10	34	57	0.8	3
BCD17966	17	20	34	0.3	2

Certified by   
MIN-EN LABORATORIES



COMP: MINNOVA INC.  
 PROJ: 659  
 ATTN: I.PIRIE/D.HEBERLEIN

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 9V-0996-RJ1  
 DATE: SEP-07-89  
 • TYPE ROCK GEOCHEM • (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCS17970	1.4	1	7	49	131	38	35	5
BCS17971	.5	4	21	13	118	1	98	10

SEP 1989



# MIN-EN LABORATORIES

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TELEPHONE: (705) 264-9996

## Assay Certificate

9V-0996-RA3

Company: MINNOVA INC.  
Project: 659  
Attn: I. PIRIE/G. EVANS

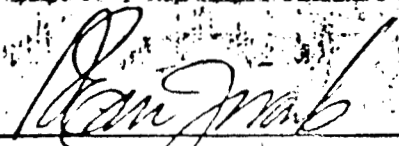
Date: SEP-07-89  
Copy 1. MINNOVA INC., VANCOUVER, B.C.  
2. MINNOVA INC., PENTICTON, B.C.

We hereby certify the following Assay of 27 ROCK samples  
submitted AUG-27-89 by LINDA LEE.

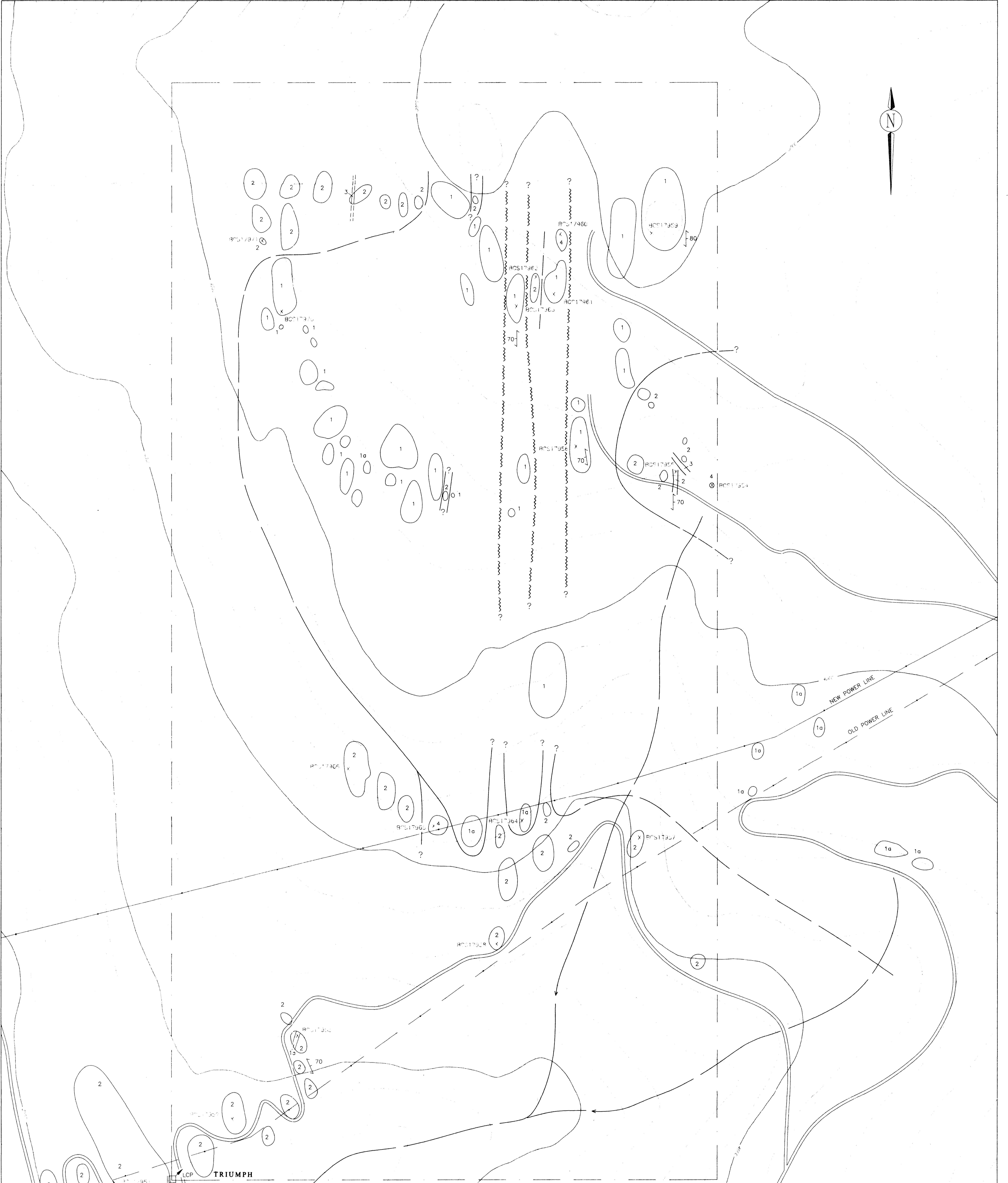
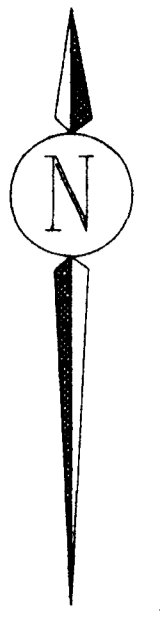
Sample Number	LOI %
------------------	----------

BCS17970	4.55
BCS17971	1.05

Certified by



MIN-EN LABORATORIES



GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**19,371**

LEGEND

- |  |                 |                    |
|--|-----------------|--------------------|
| <b>Eocene Intrusives</b>                 |                 | Geological Contact |
| 4 Diorite                                | Outcrop         | Fault              |
| 3 Mafic Dykes                            | Sample Location | Foliation          |
| 2 Coryell Syenite                        | Road            | Creek              |
| <b>Jurassic Elisse Volcanics</b>         | Power Line      |                    |
| 1 Mafic Volcanics                        |                 |                    |
| 1a Sheared Serpentinized Mafic Volcanics |                 |                    |

LCP Located with Respect to Roads

<b>MINNOVA Inc.</b>		<b>G E O L O G Y</b>
TRIUMPH PROPERTY		
0 50 100 150 200 250m		
N.T.S. 82F/4W	SCALE: 1:2500	FIG. No.
DATE: NOVEMBER 1989	REVISED:	<b>3</b>
DRAWN BY: GWE/RH/sg		