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**GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL AND  
RECLAMATION REPORT**

**ON THE**

**TODD CREEK PROPERTY  
(TOC 10 CLAIM)**

**N.T.S.: 104A/04**

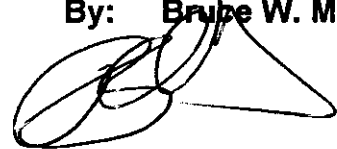
**SKEENA MINING DIVISION**

**HEMLO GOLD MINES INC.**

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,849**

By: Bruce W. Mackie



March 1995

**FILMED**

## TABLE OF CONTENTS

	<u>PAGE</u>
1.0 SUMMARY.....	1
2.0 INTRODUCTION.....	2
3.0 HISTORY.....	2
4.0 LOCATION AND ACCESS.....	2
5.0 PHYSIOGRAPHY AND VEGETATION.....	3
6.0 CLAIM STATISTICS.....	3
7.0 REGIONAL GEOLOGY.....	3
8.0 FIELD PROGRAM.....	4
8.1 Landsat Follow-up.....	4
8.2 Prospecting.....	4
8.3 Litho geochemistry.....	4
8.4 Reclamation.....	4
9.0 CONCLUSIONS.....	5
10.0 RECOMMENDATIONS.....	5

## APPENDICES

- Appendix I: Summary Cost Statement
- Appendix II: Statement of Qualifications
- Appendix III: Rock Sample Descriptions/Analyses
- Appendix IV: Todd Creek Reclamation

## LIST OF FIGURES

Figure 1: Location Map.....	1:8,000,000
Figure 2: Claim Map.....	1:50,000
Figure 3: Regional Geology.....	1:100,000
Figure 4: Geology/Sample Locations.....	1:2,500
(Showing location of Landsat Anomalies (In Pocket))	

## 1.0 SUMMARY

The Todd Creek property is located on the eastern flank of the west coast mountains approximately 45 km north of Stewart, B.C. Mineralization consists of narrow gold ± copper bearing quartz-sulphide veins/breccia zones in Hazelton Group volcanics.

The Toc 10 claim is only a small part of what was a much larger claim block which was worked quite extensively in the late 1980's.

Work on the Doc 10 claim group consisted of following up some landsat PCA 543 anomalies along strike of the Main Mineralized Zone. In addition, some alteration/gossan zones around the main zone were prospected and sampled for both assay and lithogeochemistry to determine the extent of any hydrothermal alteration.

Reclamation of the old camp sites was also carried out, with core being stacked, tent structures either removed or burned, as well several drums of fuel were removed by helicopter.

## **2.0 INTRODUCTION**

The Toc 10 claim is part of what was a much larger claim group located on the eastern side of the Coast Mountains of British Columbia, within the Skeena Mining Division. The property was staked to cover several Cu-Au occurrences which were discovered by Newmont Mining Corp in 1959. 1995 Fieldwork included following-up several Landsat PCA 543 anomalies, geological mapping/prospecting and geochemical sampling around the Main Zone.

## **3.0 HISTORY**

The Main and North Zones were discovered in 1959 by prospectors Ole Olsen and Fred Hasselberg Jr., in the employ of Newmont Mining Corporation. Newmont conducted a limited trenching and drilling program on the zones in 1960 with inconclusive results.

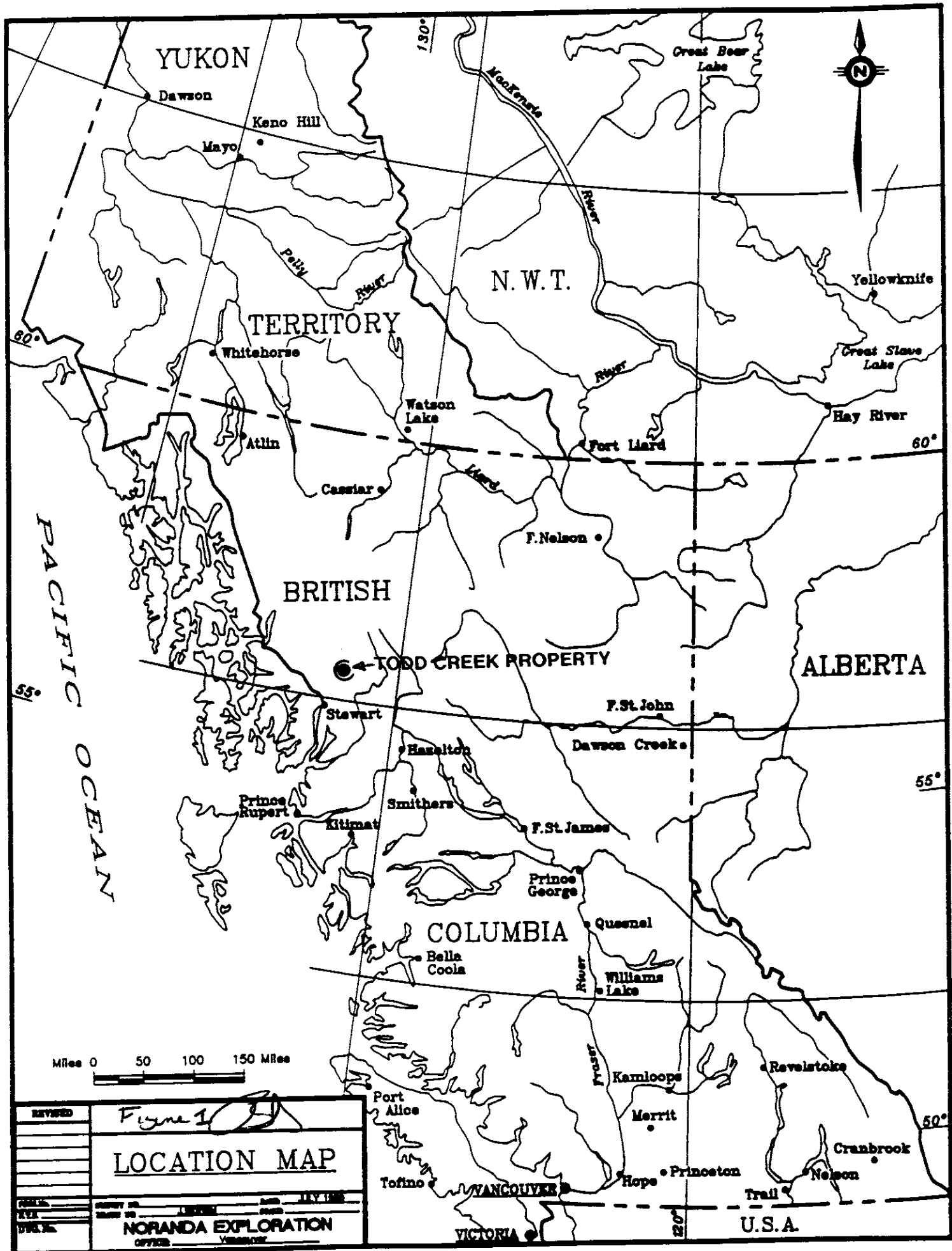
In 1969, the Main Zone showing was staked for Kerr Addison Mines by Wilf Christians. Kerr Addison, who recorded no work on the property, subsequently transferred title to Christians, who in turn sold the claims to C.S. Powney. During 1970-1972, several trenches were blasted and sampled. In 1981, J.R. Woodcock Consultants staked the North Zone and a large altered area further north. From 1981-1984, Woodcock and Riocanex conducted extensive geological and geochemical programs on their claims. In 1985, Woodcock dropped everything except two units, which they currently hold.

In 1986, Noranda Exploration Company, Limited staked the Toc 1-10 to cover the known showings and gossans along Todd Creek. Toc 11 and 12 were added in 1986 and Toc 13-15 in 1987.

From 1986-1990 Noranda Exploration carried out several extensive exploration programmes including airborne geophysical surveys, geological mapping, geochemical sampling and diamond drilling (58 holes).

## **4.0 LOCATION AND ACCESS**

The Todd Creek property is located in the Skeena Mining Division, approximately 45 km NNE of Stewart, B.C. (Figure #1). Highway #37A to Stewart passes 10 km to the south of the property. The property covers most of the western side of the Todd Creek Valley and portions of the Todd Creek glacier. Access to the property has been via helicopter from Stewart, B.C.



## 5.0 PHYSIOGRAPHY & VEGETATION

The property lies on the eastern flank of the Coast Range Mountains. Relief in the area is variable from 885 meters in the valley bottom to 2075 meters on the highest summit. Todd Creek glacier and several valley glaciers occupy portions of Toc 10. The sides of the valley have extensive areas of bedrock exposure which commonly forms steep rock faces and cliffs. The valley has a thick cover of glacier outwash material. Vegetation on the property consists of young willow, poplar and alder in the valley bottom, grading up slope into local stands of fir, hemlock and spruce and higher up into alpine meadows and bare rock.

## 6.0 CLAIM STATISTICS

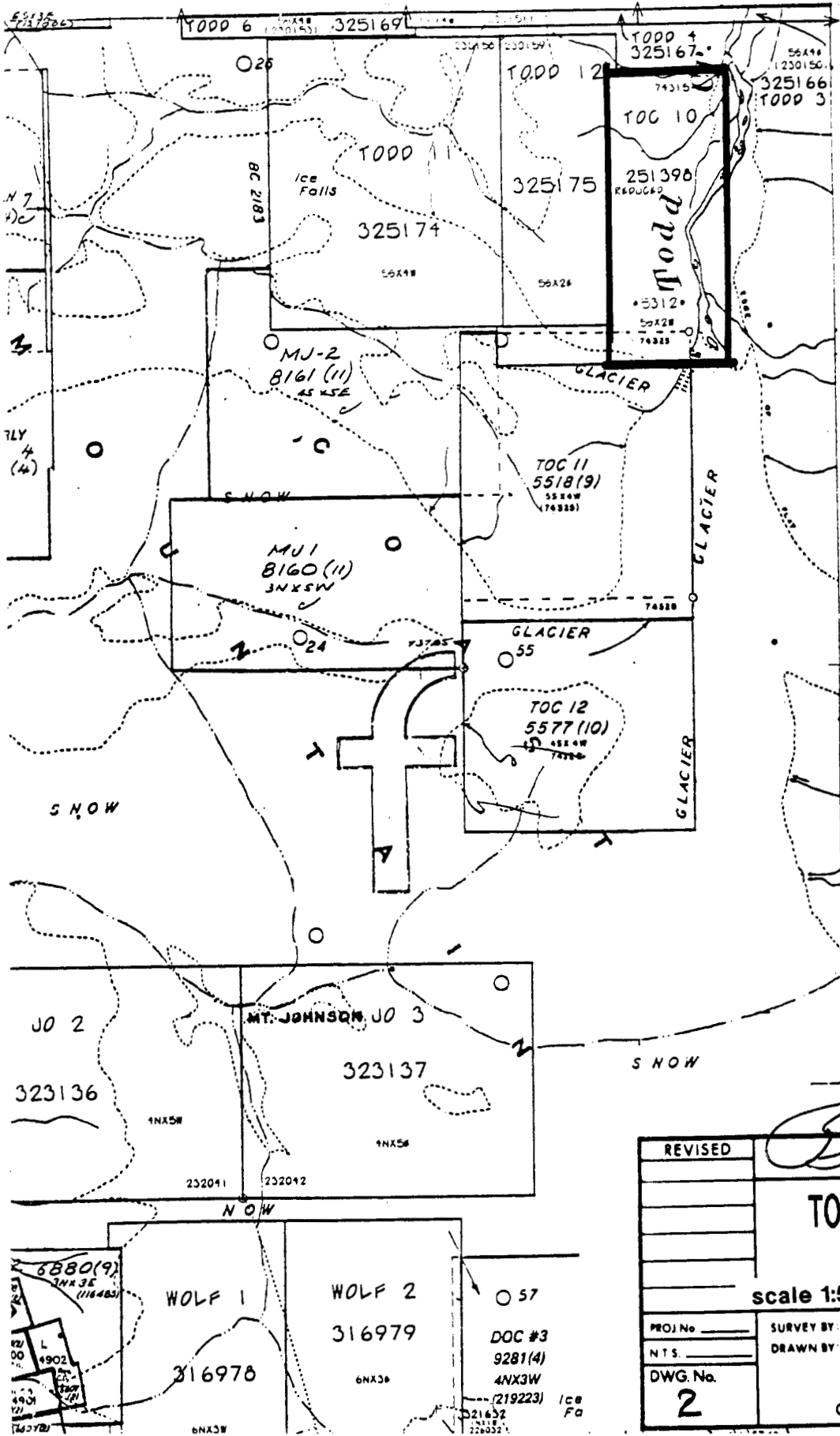
The Todd Creek property consists of 1 modified grid claim (Figure #2), as listed below:

<u>NAME</u>	<u>UNITS</u>	<u>RECORD #</u>	<u>EXPIRY DATE</u>
Toc 10	10	5312 (251398)	April 9, 1995

## 7.0 REGIONAL GEOLOGY

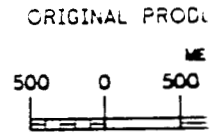
The area has been mapped as being underlain by Lower Jurassic age Unuk River Formation volcanics and clastic sediments cut by numerous Jurassic and Tertiary age intrusive bodies ranging in size plutons (Figure #3).

Reconnaissance property mapping indicates that the property is underlain by intermediate to felsic flows, tuffs, agglomerates and volcanoclastics with local areas of fine to coarse clastic sediments. Intermediate volcanics, andesite flows and agglomerates, predominate with lesser but significant amounts of rhyolite-dacite flows and volcanoclastics along the west side of the Todd Creek valley and on the north side of Virginia Creek. The clastic sediments, which consists of siltstones, greywackes and conglomerates, occur to the east in the main Todd Creek valley. The stratigraphy generally trends north to northwest with moderate northeasterly dips.



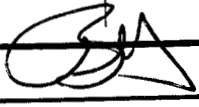
PROVINCE  
BRITISH CO  
MINISTRY  
ENERGY, M  
PETROLEUM

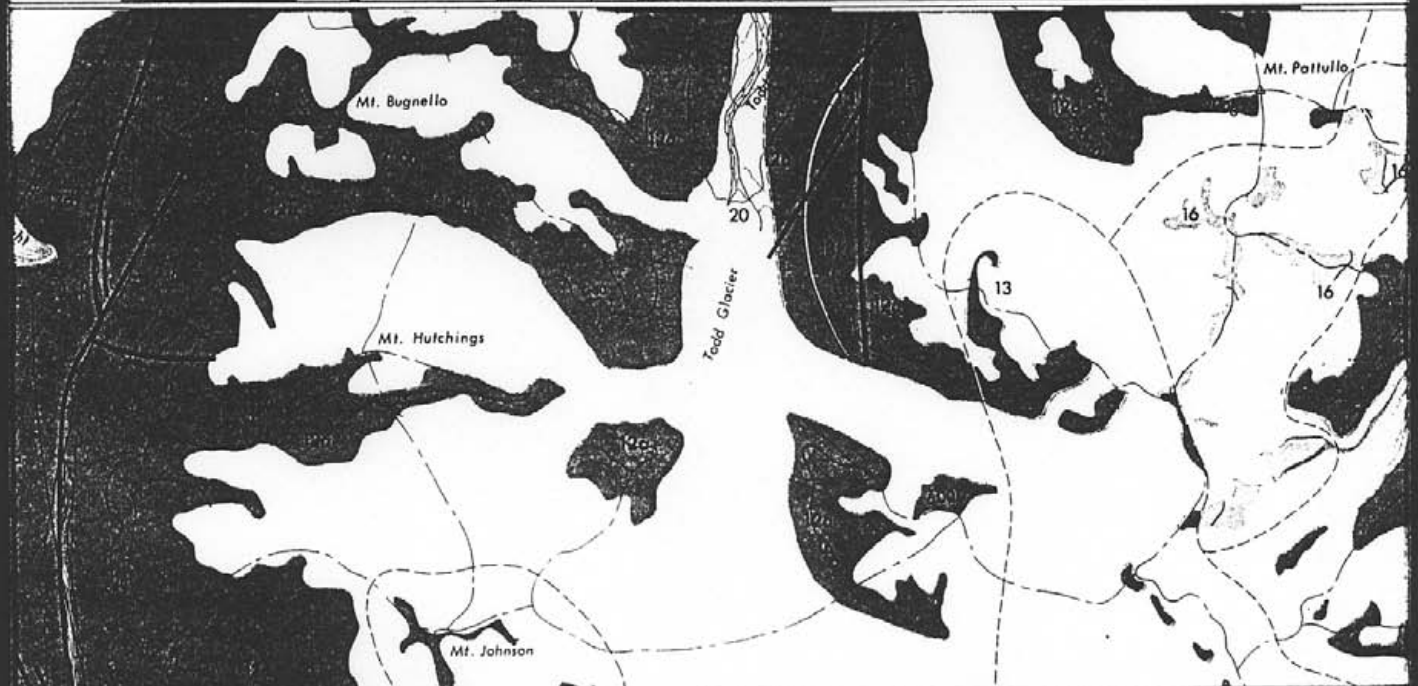
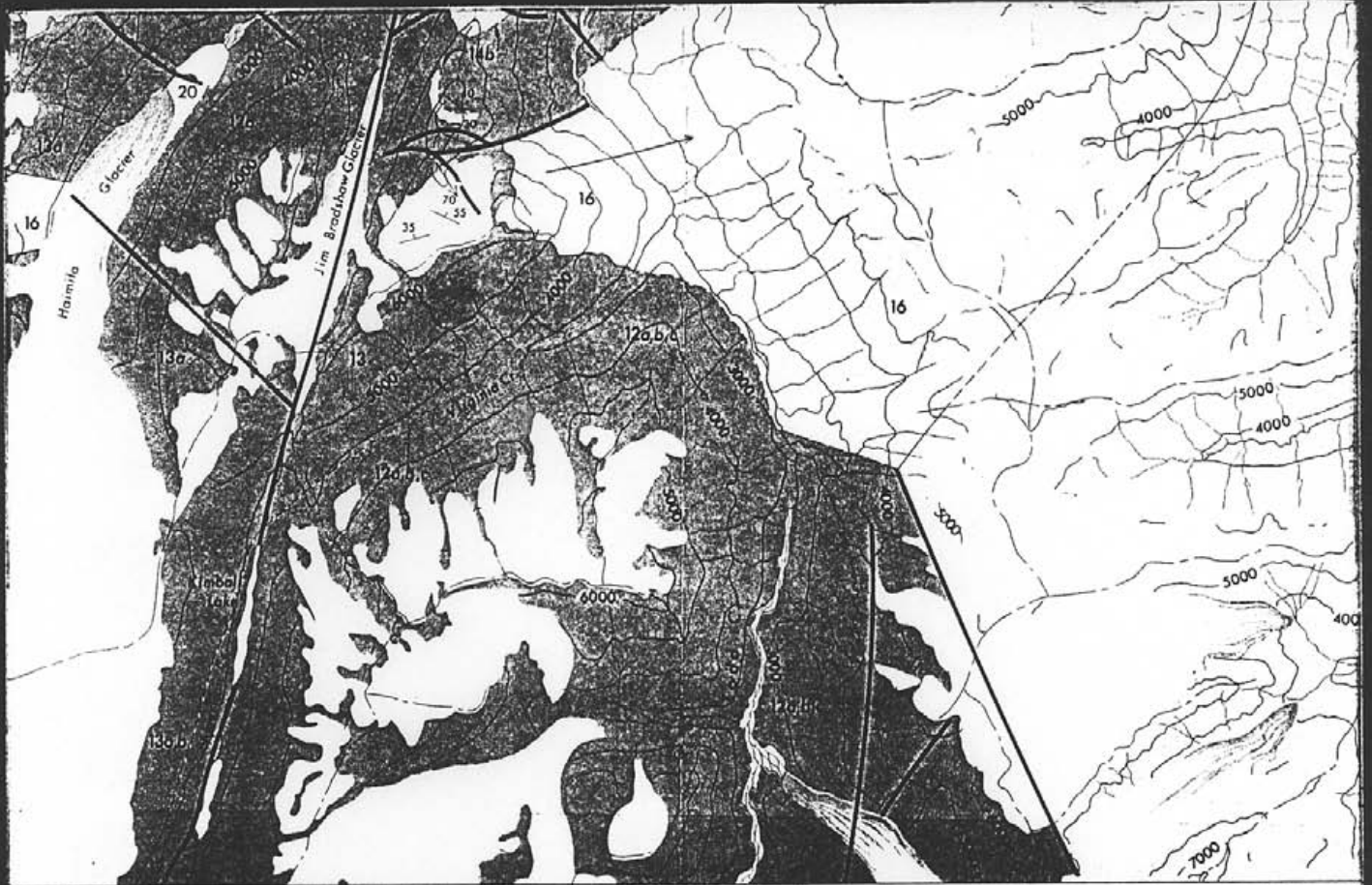
MINERAL TIT  
MAP IC  
U.T.M. Z  
LAST MAP UPDA



ADMINISTRA  
MINING DIVISION

LAND DISTRICTS:

REVISED		
<h2>TOC 10 CLAIM LOCATION</h2>		
<b>scale 1:50,000</b>		<b>NTS 104A/4</b>
PROJ No _____	SURVEY BY: _____	DATE: _____
NTS _____	DRAWN BY: _____	SCALE: _____
DWG. No.	<b>HEMLO GOLD MINES INC</b>	
2	OFFICE: _____	

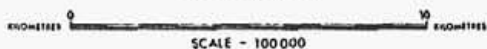


REVISED	TODD CREEK	
	REGIONAL GEOLOGY	
PROJ.No. <u>281</u>	SURVEY BY: <u>R. Baerg</u>	DATE: <u>Dec '90</u>
N.T.S. <u>104A</u>	DRAWN BY: <u>R. Baerg</u>	SCALE: <u>1:100,000</u>
DWG.No. <u>3</u>	<b>NORANDA EXPLORATION</b>	
	OFFICE: <u>Prince George, B.C.</u>	





# GEOLOGY OF THE UNUK RIVER-SALMON RIVER-ANYOX MAP AREA



## LEGEND

### SEDIMENTARY AND VOLCANIC ROCKS

#### QUATERNARY

##### RECENT

20 UNCONSOLIDATED DEPOSITS, RIVER FLOODPLAIN, ESTUARINE, RIVER CHANNEL AND TERRACES, ALLUVIAL FANS, DELTAS AND BEACHES, OUTWASH, GLACIAL LAKE SEDIMENTS, TILL, PEAT, LANDSLIDES, VOLCANIC ASH, HOTSPRING DEPOSITS

17 BASALT FLOWS (b), CINDFRE, ASH (b)

##### PLEISTOCENE AND RECENT

18 BASALT FLOWS

#### JURASSIC

##### HAZELTON GROUP

##### UPPER JURASSIC

##### NASS FORMATION

17 SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, ANGLITE, CONGLOMERATE, MINOR LIMESTONE, MINOR COAL INCLUDING EQUIVALENT SHALE, PHYLLITE, AND SCHIST

##### MIDDLE JURASSIC

##### SALMON RIVER FORMATION

16 SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, MINOR LIMESTONE, ANGLITE, CONGLOMERATE, LITTORAL DEPOSITS

15 TRIVOLITE, TRIVOLITE BRECCIA, CRYSTAL AND LITHIC TUFF

##### BETTY CREEK FORMATION

14 PILLOW LAVA, BROKEN PILLOW BRECCIA (b), ANDESITIC AND BASALTIC FLOWS (b)

13 GREEN, RED, PURPLE, AND BLACK VOLCANIC BRECCIA, CONGLOMERATE, SANDSTONE, AND SILTSTONE (b); CRYSTAL AND LITHIC TUFF (b); SILTSTONE (b); MINOR CHERT AND LIMESTONE (INCLUDES SOME LAVA (b)) (b)

##### LOWER JURASSIC

##### UNUK RIVER FORMATION

12 GREEN, RED, AND PURPLE VOLCANIC BRECCIA, CONGLOMERATE, SANDSTONE, AND SILTSTONE (b); CRYSTAL AND LITHIC TUFF (b); SANDSTONE (b); CONGLOMERATE (b); LIMESTONE (b); CHERT (b); MINOR COAL (b)

11 PILLOW LAVA (b), VOLCANIC FLOWS (b)

#### TRIASSIC

##### UPPER TRIASSIC

##### TAKLA GROUP (1)

10 SILTSTONE, SANDSTONE, CONGLOMERATE (b); VOLCANIC SILTSTONE, SANDSTONE, CONGLOMERATE (b); AND SOME BRECCIA (b); CRYSTAL AND LITHIC TUFF (b); LIMESTONE (b)

### PLUTONIC ROCKS

#### OLIGOCENE AND YOUNGER

9 DYKES AND SILLS (BWARMS), DIORITE (b); QUARTZ DIORITE (b); GRANODIORITE (b); BASALT (b)

#### Eocene (STOCKS, ETC.) AND OLDER

8 QUARTZ DIORITE (b); GRANODIORITE (b); MONZONITE (b); QUARTZ MONZONITE (b); AUGITE DIORITE (b); FELDSPAR PORPHYRY (b)

7 COAST PLUTONIC COMPLEX: GRANODIORITE (b); QUARTZ DIORITE (b); QUARTZ MONZONITE, SOME GRANITE (b); MIGMATITE - AGMATITE (b)

#### JURASSIC

##### MIDDLE JURASSIC AND YOUNGER ?

6 GRANODIORITE (b); DIORITE (b); SYENODIORITE (b); MONZONITE (b); ALASKITE (b)

##### LOWER JURASSIC AND YOUNGER ?

5 DIORITE (b); SYENODIORITE (b); SYENITE (b)

#### TRIASSIC

##### UPPER TRIASSIC AND YOUNGER ?

4 DIORITE (b); QUARTZ DIORITE (b); GRANODIORITE (b)

HORNBLende PREDOMINANT ..... H  
BIOTITE PREDOMINANT ..... B

### METAMORPHIC ROCKS

#### TERTIARY

3 HORNfels (b); PHYLLITE, SCHIST (b); SOME GNEISS (b)

#### JURASSIC

2 HORNfels (b); PHYLLITE, SEMI-SCHIST, SCHIST (b); GNEISS (b); CATACLASTIC, MYLONITE (b); TACTITE (b)

#### TRIASSIC

1 SCHIST (b); GNEISS (b); CATACLASTIC, MYLONITE (b)

HORNBLende OR AMPHIBOLE DEVELOPED ..... H  
BIOTITE DEVELOPED ..... B  
POTASSIUM FELDSPAR DEVELOPED ..... K

AREA UNMAPPED

### SYMBOLS

ADIT	.....	—
ANTICLINE (NORMAL, OVERTURNED)	.....	
BEDDING (HORIZONTAL, INCLINED, VERTICAL, CONTORTED)	.....	
BOUNDARY MONUMENT	.....	Δ
CONTOURS (INTERVAL 1,000 FEET)	.....	1000
FAULT (DEFINED, APPROXIMATE)	.....	—
FAULT (THRUST)	.....	—
FAULT MOVEMENT (APPARENT)	.....	—
FOLD AXIS, MINERAL LINEATION (HORIZONTAL, INCLINED)	.....	—
Fossil LOCALITY	.....	⊙
GEOLOGICAL CONTACT (DEFINED, APPROXIMATE)	.....	—
GLACIAL STRIAE	.....	—
GRAVEL, SAND, OR MUD	.....	—
HEIGHT IN FEET ABOVE MEAN SEA LEVEL	.....	+4234'
INTERNATIONAL BOUNDARY	.....	—
JOINT SYSTEM (INCLINED, VERTICAL)	.....	—
MARSH	.....	—
MINING PROPERTY	.....	—
RIDGE TOP	.....	—
SCHISTOSITY (INCLINED, VERTICAL)	.....	—
SYNCLINE (NORMAL, OVERTURNED)	.....	—
TUNNEL	.....	—
VOLCANIC CONE	.....	—

## **8.0 FIELD PROGRAM**

### **8.1 Landsat Follow-up**

Landsat imagery has become an integral part of Hemlo Gold's regional approach to exploration within the Stewart-Iskut camp. Routine processing of an image coverage the Toc 10 claim revealed several small PCA 543 anomalies along strike up the Main Mineralized Zone (see Figure #4, in pocket). Ground follow-up proved that the anomalies lie within the valley floor of Todd Creek. No bedrock was located. The anomalies are interpreted to be spurious.

### **8.2 Prospecting**

The area around the Main Zone was prospected sampled. The purpose of which was to determine if some of the altered gossan zones might host a low grade (1.0-2.0 gpt Au), bulk tonnage, disseminated gold or "Snowfields type" target. Geologically the area investigated is underlain predominately by a variably altered feldspar  $\pm$  quartz porphyry which is interpreted to be a high level intrusive. Country rocks consist of lesser altered intermediate fragmentals, tuffs and related volcanoclastics of the Unuk River Formation. Nine grab samples were taken (see Appendix III and Figure 4 in pocket) none of which contained any anomalous metal values.

### **8.3 Lithogeochemistry**

"World class" gold systems are invariably associated with significant hydrothermal alteration. Because this alteration is often much more widespread than any significant mineralization, lithogeochemistry can be used to identify potential gold bearing systems. Five representative samples were taken from the gossanous material around the Main Zone (see Appendix III and Figure 4 in pocket). Three samples (BM94046, 48 and 49) were of pyritic feldspar porphyry, while samples BM94051 and 53 came from what is interpreted as intermediate lapilli-tuffs. Four of the five samples taken (the exception being BM94051) show strong K<sub>2</sub>O enrichment and are depleted in Na<sub>2</sub>O (<1.00%) suggesting that these units have been hydrothermally altered.

### **8.4 Reclamation**

Two camp sites (South and North) were reclaimed. Reclamation work consisted of cross-stacking core, demolishing/removing of camp structures/debris. In addition several drums of fuel were flown out by helicopter. A portion of this work was contracted out to Mackay Falkiner and Associates (whose report is attached as Appendix IV).

## **9.0 CONCLUSIONS**

- 1) Landsat PCA543 anomalies were found to be spurious.
- 2) Prospecting while outlining evidence of widespread hydrothermal alteration did not return any significant new mineralization.
- 3) Examination of trenches and drill core from the Main Zone revealed that gold mineralization is restricted to quartz-carbonate breccia zones along a narrow 2-4 meter wide, north-northeast trending structure.

## **10.0 RECOMMENDATIONS**

No further work is recommended on the Toc 10 claim at this time. With this report sufficient assessment has been filed to hold the claim in good standing until April 9, 1997.

**APPENDIX I**  
**SUMMARY COST STATEMENT**

**HEMLO GOLD MINES INC.**  
**STATEMENT OF COSTS**

PROJECT: TODD CREEK

DATE: MARCH 1995

TYPE OF REPORT: GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL AND  
RECLAMATION

a) Wages:  
No. of Mandays : 6 mandays  
Rate per Manday: \$354.24/manday  
Dates From : July 19 - 22, 1994  
Total Wages : 6 mandays x \$354.24/manday \$2,125.44

b) Food & Accommodations:  
No. of Mandays : 6 mandays  
Rate per Manday: \$42.60/manday  
Dates From : July 19 - 22, 1994  
Total Costs : 6 mandays x \$42.00 \$252.00

c) Transportation:  
No. of Mandays :  
Rate per Manday:  
Dates From :  
Total Costs :

d) Instrument Rental:  
Type of Instrument:  
No. of Mandays :  
Rate per Manday:  
Dates From :  
Total Costs :

Type of Instrument:  
No. of Mandays :  
Rate per Manday:  
Dates From :  
Total Costs :

e)	Analysis: (See attached schedule)	\$260.00
f)	Cost of Preparation of Report: Author : Drafting: Typing :	
g)	Other: Helicopter	
	Contractor: Highland Helicopters Ltd. (2.8 hrs @ \$806.00/hour)	\$2,256.54
	Other:	
	Contractor: MacKay, Falkiner and Associates	\$3,599.27
	<b>TOTAL COST</b>	<b>\$8,493.25</b>
h)	Unit Costs for Geology (July 19 - 22nd) applied to Toc 10 claim: No. of Mandays : 4 No. of Units : 10 units Unit Costs : \$266.90/unit Total Cost : 10 units x \$266.90/unit	\$2,669.00
i)	Unit Costs for Geochemistry: No. of Analysis : 13 No. of Units : 10 units Unit Costs : \$26.00/unit Total Cost : 10 units x \$26.00/unit	\$260.00
j)	Unit Costs for Reclamation: No. of Mandays : 2 No of Units : 10 units Unit Costs : \$270.89/unit Total Cost : 10 units x \$270.89/unit	\$1,965.02
k)	Contract Costs for Reclamation:	\$3,599.27
	<b>GRAND TOTAL</b>	<b>\$8,493.25</b>

**HEMLO GOLD MINES INC.**

**DETAILS OF ANALYSIS COSTS**

**PROJECT: TODD CREEK**

<b>ELEMENT</b>	<b>NO. OF DETERMINATIONS</b>	<b>COST PER DETERMINATION</b>	<b>TOTAL COSTS</b>
ICP (30 Element) + Geochem Au	8	\$15.00	\$120.00
Litho geochemistry	5	\$28.00	<u>\$140.00</u>
			<b>\$260.00</b>

**APPENDIX II**  
**STATEMENT OF QUALIFICATIONS**



## STATEMENT OF QUALIFICATIONS

I, Bruce W. Mackie, of the municipality of South Delta, Province of British Columbia, hereby certify that:

I am a geologist residing at 1695 Duncan Drive, South Delta, B.C.

I have graduated from the University of Manitoba in 1976 with an Msc. in Geology.

I have worked in mineral exploration since 1972.

I have been a permanent employee of Noranda Exploration Company Limited since 1983.

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

---

Bruce W. Mackie

**APPENDIX III**

**ROCK SAMPLE DESCRIPTIONS/ANALYSES**

NUMBER	LOCATIONX	LOCATIONY	LOCATIONZ	NTS	DAY	EXPOSURE	UNIT	LITHO1	TEXTURE	ALTER1	DESCRIBE1	ALTER2	DESCRIBE2	MINERAL1	DESCRIBE3	
194-046	451669	6231038		9	104A5	7/19/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	LIMONITE	MOD	PYRITE	2
194-047	451716	6231117		9	104A5	7/19/94	FLOAT	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	STRONG	ARGILLIC	WEAK	PYRITE	5
194-048	452049	6321072		9	104A5	7/19/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	BIOTITE	WEAK	PYRITE	5
194-049	452030	6321065		9	104A5	7/19/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	CARBONATE	MOD	PYRITE	1
194-050	451508	6231040		9	104A5	7/19/94	OUTCROP	FELSICVOL	FRAMENTAL	MOTTLED	JASPER	STRONG	HEMATITE	MOD	PYRITE	1
194-051	451491	6230938		9	104A5	7/19/94	OUTCROP	FELSICVOL	LPLTUFF	MODFRAC	SERICITIC	WEAK			PYRITE	2
194-052	451495	6230938		9	104A5	7/19/94	OUTCROP	FELSICVOL	LPLTUFF	WKFRAC	SILICA	WEAK	SERICITIC	WEAK	PYRITE	2
194-053	451470	6230959		9	104A5	7/19/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	ARGILLIC	WEAK	PYRITE	TR
194-054	452100	6238395		9	104A5	7/19/94	DRILLCORE	INTERVOL	FLOW	PORPHYRTIC	CARBONATE	MOD	SILICA	WEAK	PYRITE	10
194-055	452050	6230750		9	104A5	7/19/94	DRILLCORE	BRECCIA	FELDPORPH	BXTED	JASPER	MOD	CARBONATE	MOD	PYRITE	5
194-068	453145	6235367		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	BXTED	SILICA	MOD	LIMONITE	MOD	PYRITE	STRINGERS
194-069	453138	6238488		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	BXTED	SILICA	MOD	LIMONITE	MOD	PYRITE	2
194-070	453128	6235484		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	LIMONITE	MOD	PYRITE	STRINGERS
194-071	452881	6235519		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	LIMONITE	MOD	PYRITE	STRINGERS
194-072	453007	6235308		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	SHEARED	SILICA	MOD	SERICITIC	WEAK	PYRITE	STRINGERS
194-073	452937	6235394		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	WEAK	LIMONITE	MOD	PYRITE	STRINGERS
194-074	453000	6235450		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD	LIMONITE	MOD	PYRITE	5
194-075	452059	6238537		9	104A5	7/22/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD			PYRITE	20
194-076	451997	6238638		9	104A5	7/23/94	OUTCROP	INTERVOL	XLLTOFF	SHEARED	JASPER	WEAK	SILICA	WEAK	PYRITE	10
194-077	451851	6238598		9	104A5	7/23/94	OUTCROP	INTERVOL	XLLTOFF	MG	SILICA	MOD	CARBONATE	WEAK	PYRITE	20
194-078	451948	6238649		9	104A5	7/23/94	OUTCROP	ARGILLITE	BLEACHED	SHEARED	SILICA	WEAK			PYRITE	10
194-079	451980	6238680		9	104A5	7/23/94	OUTCROP	INTERVOL	XLLTOFF	SHEARED	SILICA	MOD	SERICITIC	WEAK	PYRITE	10
34-A	451600	6231038		9	104A5	7/19/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	LIMONITE	MOD			PYRITE	10
34-L	453438	6235631		9	104A5	7/20/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC					PYRITE	STRINGERS
34-M	453032	6238305		9	104A5	7/20/94	OUTCROP	FELSICINT	FELDPORPH	PORPHYRTIC	SILICA	MOD			PYRITE	STRINGERS
34-N	452955	6235411		9	104A5	7/20/94	OUTCROP	QTZVIEN	MASSIVE	BXTED					PYRITE	SEMIMASS

SAMPLES 3M34-054-079

1864-A, L, M, N TAKEN OFF DOE-10



WHOLE ROCK ICP ANALYSIS

Todd Cr (BM)

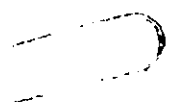
Noranda Exploration Co. Ltd. (Lab) PROJECT 9408-004 580 File # 94-2329 Page 2

Delta Laboratory, 1 - 755, Delta BC V4G 1A6



SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
BM 94046	70.13	14.72	3.43	.36	.74	.21	6.07	.33	.14	.03	<.002	2598	<10	64	119	12	13	6	3.3	99.93
BM 94048	65.50	14.89	4.55	.17	1.72	.33	8.75	.31	.09	.15	<.002	3169	<10	138	123	14	13	5	3.0	100.03
RE BM 94048	65.21	14.82	4.55	.19	1.71	.33	9.00	.33	.12	.15	<.002	3162	<10	137	117	14	13	4	3.1	100.09
BM 94049	68.40	13.21	5.17	.28	.86	.12	8.06	.27	.11	.16	<.002	3684	<10	72	113	13	11	4	2.6	99.89
BM 94051	50.26	19.10	8.43	6.31	2.23	1.66	3.76	.90	.45	.19	.003	1052	<10	133	79	25	23	17	6.4	99.91
BM 94053	52.77	23.51	7.83	.08	.10	.13	6.23	.84	.32	<.01	.003	1778	10	2384	61	16	<10	31	7.5	99.92

Todd  
Cr (BM)



# NORANDA DELTA LABORATORY

## Geochemical Analysis

Project Name & No.: TODD CK. - 45580

Geol.: B.M.

Date received: JUL. 28

LAB CODE: 9408-004

Material: 11 Rx

Sheet: 1 of 1

Date completed: AUG. 09

Remarks: \* Sample screened @ -35 MESH (0.5 mm)

‡ Organic, A Humus, S Sulfide

Au - 10.0 g sample digested with aqua-regia and determined by A.A. (D.L. 5 PPB)

ICP - 0.2 g sample digested with 3 ml HClO<sub>4</sub>/HNO<sub>3</sub> (4:1) at 203 °C for 4 hours diluted to 10 ml with water. Leeman PS3000 ICP determined elemental contents.

N.B. The major oxide elements and Ba, Be, Ce, La, Li, Ga are rarely dissolved completely from geological materials with this acid dissolution method.

T.T. No.	SAMPLE No.	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
281	1864 - A	5	0.2	7.06	2	905	0.7	5	5.59	1.2	58	20	7	38	5.83	2.98	25	28	1.52	1294	1	0.05	6	0.17	2	48	0.14	188	89
282	BM - 94046	5	0.2	5.23	2	449	0.3	5	0.46	0.2	30	6	2	12	2.68	2.35	22	3	0.21	199	2	0.02	4	0.08	6	27	0.08	43	19
283	94047	5	0.2	4.28	14	76	0.7	5	4.49	0.9	65	22	9	43	7.40	0.19	26	46	2.29	966	2	0.09	6	0.18	8	52	0.40	258	113
284	94048	5	0.2	2.98	2	516	0.3	5	1.21	0.2	45	3	2	10	3.49	1.50	21	4	0.12	970	1	0.02	3	0.06	2	72	0.05	50	16
285	BM - 94049	5	0.2	2.81	50	646	0.3	5	0.60	0.2	52	7	4	38	4.04	1.34	33	11	0.18	1032	1	0.02	5	0.05	3	29	0.05	39	17
286	BM - 94050	5	0.2	8.74	2	330	0.7	5	0.38	0.2	25	5	4	16	8.52	3.08	24	12	0.08	70	1	0.05	3	0.19	2	86	0.17	251	53
287	94051	5	0.2	7.44	2	741	0.7	5	1.32	0.8	40	18	6	20	5.72	2.44	24	67	3.37	1098	1	0.06	3	0.19	2	21	0.20	196	163
288	94052	5	0.2	7.21	2	928	0.5	5	0.51	0.2	25	19	6	22	8.44	2.27	25	62	2.68	850	1	0.03	3	0.20	3	15	0.16	181	203
289	94053	5	0.2	10.02	2	685	0.3	5	0.06	0.2	41	28	2	46	5.50	3.98	28	4	0.06	28	1	0.06	5	0.15	2	1722	0.19	287	15

263

**APPENDIX IV**  
**TODD CREEK RECLAMATION**

# TODD CREEK RECLAMATION NORANDA EXPLORATION COMPANY LIMITED 104 A/4, 5

## Location and Access

Noranda's Todd Creek property is located 45 km north of Stewart B.C., NTS 104 A/4, 5. Noranda had two camps located on the property. The South Camp was located on the west side of Todd Creek on a bench adjacent to the toe of the glacier. The North Camp was located on the west side of Todd Creek 6 km downstream from the South Camp. A third camp of unknown ownership is located on the east side of Todd Creek a further 1.2 km downstream from Noranda's former North Camp.

## Reclamation

Reclamation at the North Camp consisted of cross-stacking core. Further upstream at the South Camp a small wood frame structure was demolished and burnt, core was cross-stacked, and three bags of assorted metal and glass were collected and removed.

**Photo 1** Todd Creek South Camp after reclamation.



**Photo 2** Todd Creek North camp after reclamation.



**Photo 3** Camp of unknown ownership east side of Todd Creek.

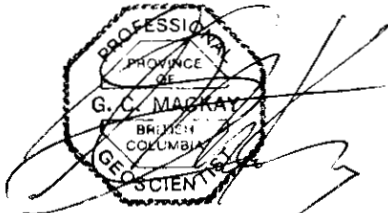




## Project Expenditures

Party Chief one day @ \$350.00/day	= 350.00
Three technicians for one day @ \$160.00 ea.	= 480.00
Accommodations \$20.00/ man for one day	= 80.00
Food \$40.00/ man for one day	= 160.00
Contract Helicopter 3 hrs @ \$764.60	=2293.80
GST	= 235.47

**TOTAL = \$3599.27**



**Gordon MacKay, P. Geo.**  
**MACKAY FALKINER AND ASSOCIATES**

August 1994

TOC 10

RECLAIMED  
CAMP SITE



Country rocks

Gossan zone

TODD CREEK

Country rocks

Gossan zone

LOCATION OF LANDSAT  
PCA543 ANOMALIES

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,849**

PROSPECTING TANKS  
LANDSAT FOLLOWUP

X BM94-047

X 1995 ROCK SAMPLE LOCATIONS

General contour  
Outline of Gossan  
zone

PROSPECTING  
TANKS

Quartz fields per  
intrusive

MAIN ZONE  
includes small, un-mappable  
zones of quartz breccia

50 100 150 200 250 300  
1000 0 200 400 600 800

RECLAIMED  
CAMP SITE

BM94-050

BM94-051

BM94-053

BM94-052

X BM94-046

REVISED	<b>TODD CREEK</b>	
	MAIN ZONE	
	GEOLOGY & ROCK/SILT	
	SAMPLE LOCATIONS	
DATE: 1995	BY: [Signature]	SCALE: 1:5000
DWG No. 4	HEMLO GOLD MINES INC.	
	OFFICE: VANCOUVER	