LOG NO:	MAR 0 1 1993 RD.
ACTION.	
Į.	
FILE NO:	

1	SUB-RECORDER	, , ,
	FEB 23 800	
1	V	į

Ļ

# PROSPECTING REPORT

# ON THE

RAINBOW, and RAINBOW 2 and 3 MINERAL CLAIMS.

TULAMEEN AREA

### SIMILKAMEEN MINING DIVISION.

LATITUDE 49 34', LONGITUDE 120 50', NTS 92H/10W

BY

T.E.LISLE, P.ENG. E.OSTENSOE, P.GEO.

JANUARY 15, 1993.

GEOLOGICAL BRANCH ASSESSMENT REPORT

22.806



# CONTENTS.

	page.
Introduction.	1
Location.	2
Work Program.	2
General Geology.	3
Geology of the Rainbow claims.	4
Discussion.	5
References.	6

.

# MAPS

Location Map.	After	Table	of Co	ontents	3.
Claim Map.			After	c page	1
Geology Map.			After	c page	6

# APPENDICES

.

Qualifications,	T.E.Lisle	Appendix	1
Qualifications,	E.Ostensoe.	Appendix	2
Cost Statement,		Appendix	3.

#### INTRODUCTION.

The geology of the Nicola Group in south-central British Columbia is of interest in that it hosts a wide array of valuable mineral deposits including Copper Mountain, Highland Valley, Craigmont and Afton.

A large number of mineral occurrences with important content of copper, lead, zinc, silver, gold and Platinum Group Elements are clustered in and near Nicola rocks at Tulameen. The area is one of easy access, and to 1979, some 38,000 ounces of placer gold were reported to have been produced from the Tulameen River and it's tributaries.

Specific aspects of the geology of the Tulameen area have been studied in detail, however the geology and setting of the mineral deposits is poorly understood. Because of the above features, the authors viewed the area as being highly prospective for the discovery of additional deposits, and staked the Rainbow claims as an initial step in evaluating the areas potential.

In July, 1992, a preliminary work program was undertaken on the claims . The results of this work are discussed herein.

### PROPERTY.

The property comprises the following mineral claims located and recorded in the Similkameen Mining Division; and owned jointly by T.E.Lisle and E. Ostensoe.

CLAIM NAME	UNITS.	RECORD.	DATE	LOCATED.	ANNI	VERS	ARY.
Rainbow	10	307743	Feb.	28,1992	Feb.	28,	1993
Rainbow 2	20	309158	May	6,1992	May	6,	1993
Rainbow 3	16	3091 <b>59</b>	May	7,1992	May	7,	1993



•

### LOCATION.

The Rainbow claims lie on the north slope of the Tulameen River valley some six to ten kilometres west and northwest of the village of Tulameen in south-central British Columbia. Lat. 49 34'; Long. 120 50'; NTS. 92H/10W.

Elevations range from 838 metres above sea level at the Tulameen River, to 1646 metres above sea level in the central part of the Rainbow 3 claim. The terrain is relatively subdued, however near Lawless Creek and some of it's tributaries, slopes are steep and locally precipitous.

Access to the claims is by the Lawless Creek Forest Service road that connects Tulameen to the Coquihalla highway. Alternate access can be gained via the Princeton Tulameen paved road and then by the Tulameen River road. Both of the local roads have a gravel all weather surface and are maintained throughout much of the year. The common claim line to the Rainbow and the Rainbow 2 claim crosses the Lawless Creek access road about 8.1 kilometres northwest of Tulameen.

### WORK PROGRAM.

A total of 16 line kilometres of prospecting traverses were carried out on east-west lines. The lines were two kilometres in length, 500 metres apart and controlled by belt chain and compass. The lines were flagged at 100 metre intervals. Two additional kilometres of road traverses were completed, and limited traverses were completed into areas between the lines. All resulting data is compiled onto accompanying maps.

#### HISTORY.

The history of the Tulameen area has been extensively documented in government publications, and in numerous assessment reports filed with the provincial Ministry of Mines.

Early workers were undoubtedly attracted to the area of the Rainbow claims by the very large gossan that outcrops on the Lawless Creek road about nine kilometres northwest of Tulameen. In addition to this exposure, a few pits and trenches are scattered within the claims.

Geological and geochemical reports over sections of the Rainbow claims were previously filed for assessment in reports 16016 and 17271. The reader is directed to other reports on the area as outlined in the Reference section to this report.

### GENERAL GEOLOGY.

The Nicola Group in southern British Columbia, along with the Takla and Stuhini Groups further to the north, form a northwesterly trending linear belt of volcanic and related sedimentary

rocks formed in an island-arc environment in upper Triassic time. Detailed studies have shown that the Nicola Group is a westward-younging assemblage developed at the western margin of tectonic-stratigraphic terrane 'Quesnellia', and in the Princeton-Ashcroft map area is structurally divided into three northerly-trending units.

a) An eastern belt of alkalic and calc-alkalic submarine volcanic rocks, lahar deposits, basaltic flows and high-level syenitic stocks.

b) A central belt of alkalic and calc-alkalic subaerial and submarine assemblages of andesite, basalt and comagmatic intrusions of diorite, and syenite, and breccia, conglomerate and lahar deposits.

c) A western belt of calc-alkalic flow and pyroclastic rocks ranging from andesite to rhyolite in composition with minor interbedded limestone, volcanic conglomerate, sandstone and argillite. This unit underlies much of the Tulameen area.

The Nicola Group is bounded on the west by the Eagle Granodiorite, a syntectonic intrusion largely of upper Jurassic age that separates Quesnellia from other terranes to the west. The contact area is marked by amphibolitic facies, and both the Nicola and Eagle rocks dip westerly along a regionally developed northwest foliation.

A number of smaller intrusions are also present in the area. They include Late Triassic to Early Jurassic granitic masses and the Tulameen ultramafic complex and are partly comagmatic with the Nicola volcanics. They also include a number of Tertiary-aged granite stocks including the Otter Granite.

All of the older rocks units are cut by northeast faults of mid-Tertiary age. These structures mark the planes of significant right-lateral and vertical displacement. One of these faults trends through the Tulameen area and the Rainbow claims and forms the northern boundary of the Tulameen complex. Regional evidence indicates that the area north of the fault may be offset to the northeast by as much as four kilometres.

### GEOLOGY OF THE RAINBOW CLAIMS.

At the scale of mapping completed, the work has indicated the presence of a granitic stock centered largely on the Rainbow 3 claim. The boundary of the stock to the west of the claims is undefined. Within the claims the stock may measure  $1.5 \times 2.0$  kilometers trending northeast. To the south it is thought to be bounded by a northeasterly fault.

The stock is a medium grained unit that ranges from granite to granodiorite ? in composition. It contains up to 8% altered biotite and hornblende; and from 15% to +30% quartz that locally occurs as irregular quartz eyes, but more commonly occurs as fine-grained aggregates intermixed with potassic feldspar. The latter is beige to pink in colour, but varies from red to grey. The rock changes in some areas, including the northern contact, to a fine-grained aplitic unit that may be a marginal phase or individual dykes. A number of xenoliths of Nicola rocks are evident throughout, and along the northern border, Nicola rocks are cut and metasomatized by numerous dykes.

The stock intrudes an assemblage of Nicola rocks that range from andesite to rhyolite in composition. Of possible economic importance is a large limonitic rhyolitic alteration zone that juxtaposes the stock at the northeast fault. It has been found in outcrop and float for about 1.5 km.in a northerly direction, and may be up to 300 metres wide. It is white to grey and rarely pink in colour and is locally porphyritic. It contains as much as 5% disseminated sulphides of which the greater amount is pyrite and chalcopyrite is a minor component.

To the east of the stock and the alteration zone, widespread outcrops of a breccia are evident. The unit appears to embrace both fine and coarse facies. A wide range of clast size, commonly to 5 cm. but locally to 40 cm. are evident in the coarse variety, and the most dominant clast is a fine grained pink to beige aplitic intrusive or dacite similar to the border phases of the central stock. Green or grey-green tuff clasts appear to be a minor component.

An area in the east central section of the Rainbow 2 claim is underlain by dark-grey crystalline rocks that in places resemble diorite, dioritized andesite, or amphibolite. Under the microscope the rocks are seen to contain quartz and locally displays weak potash feldspar metasomatism. The unit is provisionally mapped as an older dioritic intrusive however neither the trend nor dimensions have been determined and further work may show it to be a coarse flow of the Nicola Group. Due to alteration, other Nicola rocks found in the claim area are difficult to separate megascopically. They include flow and fragmental rocks of andesitic to dacitic composition. The andesitic rocks are commonly green and include feldspathic tuff, augite crystal tuff, and a dark speckled rock that may be altered variations of the dioritic unit noted above. A distinctive coarse andesite porphyry flow is present in the northern claim area.

A few widespaced outcrops of grey fine-grained dacite or rhyodacite have been mapped in the claim area. These outcrops are generally close to the intrusion or siliceous alteration zone, and they may be highly altered phases of the andesitic units. Dacite has been mapped and recorded in the area to the east and south of the current map area and correlation and further comparison of these units would be desirable.

#### DISCUSSION.

The presence of the large granitic mass within the Rainbow claims is surprising in view of the data contained on regional maps of the Tulameen area. The presence of the siliceous rhyolitic unit and the pyroclastic? breccia is important for the following reason:

Many of the mineral occurrences in Nicola rocks near Tulameen occur on the east flank of the Rainbow claims. They are present over several kilometres of a northerly trend from the Tulameen River to Elliot Creek. These occurrences are commonly pyritic veins or strata controlled zones containing significant concentrations of copper, lead, zinc, gold and silver. They are spatially related to the rhyolitic unit, and in part controlled by a regional foliation that dips westerly at shallow or moderate angles.

Given the strong right lateral offsetting along the regional northeasterly faults, it is likely, and is reasonable to suggest that some or many of the siliceous zones and sulphide occurrences were connected prior to faulting, perhaps along a linear nortwesterly belt, or adjacent to a felsic volcanic centre. If this theory is correct, then there is a clear need to further refine the geology and to correlate the exploration data with a view to prioritizing targets for investigation by geophysical methods and possibly by drilling.

T.E.Lisle, P.Eng.

E.Ostensoe. P.Geo.

5

### REFERENCES

Lisle, T.E.	A proposal to re	evaluate the precious metal
Ostensoe, E.	enriched massive	sulphide potential of Nicola
	rocks in the the	Tulameen Area, Similkameen
	Mining Division. Report)	April, 1992.(Private

- Monger, J.W.H. Geology of the Hope-Ashcroft map areas, B.C. Maps 41-1989, 42-1989.
- Morrison, G.W. Stratigraphic control of Copper-Iron skarn ore distribution and genesis at Craigmont, B.C. CIMM Bulletin, August, 1980.
- Nixon, G.T. Alaskan-type ultramafic rocks in B.C. Rublee, V.J. B.C.Ministry of Energy, Mines and Petroleum Resources. Geological Fieldwork, 1987.
- Rice, H.M.A. Geology and Mineral deposits of the Princeton Map Area. GSC Memoir 243. 1947.

B.C.Ministry of Energy, Mines and Petroleum Resources Assessment Reports including: 8411, 9902, 10266, 10777, 13396, 14098, 15315 4588, 944, 3397, 3398, 7159, 10919, 15993, 1156, 1651, 7064, 7710, 16,016, 12434, 17397. 17272, 16826, 16014, 17271, 14717, 15419, 17926, 7995. Reference Map AR 92H/NE.Tulameen.

### APPENDIX 1

STATEMENT OF QUALIFICATIONS, T.E.Lisle.

I, Thomas E. Lisle of 145 West Rockland Road, North Vancouver, British Columbia, do hereby declare:

- That I am a geologist, and hold a Bachelor's of Science degree granted from the University of British Columbia in 1964.
- For several years prior to, and since graduation, I have worked continuously in the field of Exploration Geology, mainly in Western canada.
- 3) I am a member in good standing of :
  - a) The Association of Professional Engineers and Geoscientists of British Columbia.
  - b) The Geological Association of canada.
- 4) That the work described in this report was carried out by me and colleague E. Ostensoe on the dates noted.

T.E.Lislé

January 15, 1993

### STATEMENT OF QUALIFICATIONS

I, Erik A. Ostensoe, of Vancouver, British Columbia state the following:

- 1. B.Sc. (Hons.), University of British Columbia, 1960,
- More than thirty years experience in mineral search and related exporation work in western Canada and western United States for major and junior mining companies,
- 3. More than ten years experience as a consulting geologist,
- 4. Member no. 18727 of the Association of Professional Engineers and Geoscientists of British Columbia.

Fick A. Ostensoe

Erik A. Ostensoe, P. Geo.

# APPENDIX 3

# STATEMENT OF EXPENSES.

WAGES	: T.Lisle.	July 15-21/92, 23(1/2) 29(1/2),30,31, Aug.10(1/2) Aug 11(1/2), 11 @ \$300	\$3300.00
	E.Ostenso	be: July 15-21/92, 29(1/2) 7.5 days at \$300	2250.00
TRUCK	RENTAL:	8 at 55.00	440.00

CONSUMABLES:	Gasoline,	Food,	Supplies	etc.	215.36
--------------	-----------	-------	----------	------	--------

TOTAL

\$6205.36

J.E. Jule " Alstensoe

