

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 92.09.19

ASSESSMENT REPORT 21664

MINING DIVISION: Cariboo

PROPERTY: Nel
LOCATION: LAT 53 01 00 LONG 122 20 00
UTM 10 5874115 544724
NTS 093G01W
CLAIM(S): Nel 1
OPERATOR(S): Cooke, D.L.
AUTHOR(S): Cooke, D.L.
REPORT YEAR: 1991, 16 Pages
COMMODITIES
SEARCHED FOR: Copper, Gold
KEYWORDS: Triassic, Takla Group, Syenites, Diorites
WORK
DONE: Prospecting
PROS 500.0 ha
Map(s) - 1; Scale(s) - 1:5000

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1991 ASSESSMENT REPORT
ROCK AND SOIL GEOCHEMISTRY
NEL #1 MINERAL CLAIM

CARIBOO M.D.

N.T.S. 93G1/W

by

David L. Cooke, Ph.D., P.Eng.

D. L. COOKE AND ASSOCIATES LTD.
811 - 675 West Hastings Street,
Vancouver, B.C., V6B 1N2.

September 16, 1991

Work Done: May 15-19, 1991

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,664

Claim on which work was done:

Claim	Units	Record No.	Month of Record
Nel 1	20	10874	September

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LOG NO	SEP 27 1991	RD.
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- 1 -

SUMMARY

The area covered by the Nel #1 mineral claim exhibits geological, geophysical and geochemical features which are indicative of an alkaline porphyry copper-gold environment. The property is located south of Mouse Mtn. along the Barkerville highway, 12.0 kilometres east northeast of Quesnel, B.C.

The area lies within the Quesnel Trough which is underlain by Upper Triassic volcanic and sedimentary rocks, intruded by coeval alkaline syenite, monzonite and diorite stocks and dikes. Copper and gold mineralization occur as chalcopyrite in quartz vein stockworks with disseminated pyrite in association with these alkaline intrusive bodies. The Ahbau Creek and Mouse Mtn. copper-gold prospects occur in close proximity to the Nel claim, on which abundant pyrite and magnetite mineralization occurs.

The Nel sulphide mineralization lies in a glacially covered area which is characterized by a thumb-print aeromagnetic anomaly. A soil survey by a previous operator over portions of the claim was partially negated by glacial cover of unknown thickness. However, scattered gold anomalies were obtained in soils from the northwest area of the survey grid.

The 1991 exploration program consisted of prospecting and soil sampling traverses across the northern boundary and the central area of the claim, and rock chip sampling along the main creek. Rock exposures appear to be confined to the creek bed which is incised some 15 to 30 metres into glacial till.

The spotty nature of anomalous gold values in soils is attributed to deep glacial cover. A program of geophysics is required to further evaluate the Nel claim.

PROPERTY, LOCATION, ACCESS

The property consists of the Nel #1 Claim owned by David L. Cooke.

<u>Claim</u>	<u>Units</u>	<u>Record No.</u>	<u>Record Date</u>
Nel #1	20	10874	Sept. 21, 1990

The Nel #1 Claim is located in the Quesnel Trough (Figure 1), south of Mouse Mtn., Cariboo Mining Division. The Nel claim adjoins the west boundary of the Mouse and the south boundary of the Lyn claim (Figure 2).

Access to the claim is from Quesnel, B.C. by 12 kilometres of paved highway along the Barkerville road. Topographic relief in the area is gentle and the average elevation on the Nel claim is about 900 metres.

HISTORY AND PREVIOUS WORK

The Nel #1 claim covers the former Cot 2 claim. The Cot group of claims was formerly held by First Nuclear Corporation of Calgary, Alberta, between 1980 and 1990.

Previous exploration work on the Cot 2 claim consisted of reconnaissance soil sampling and magnetometer survey at 250 metre line intervals in 1984. A more detailed soil survey was completed in 1987, together with geological mapping. The soil surveys indicated scattered anomalies for gold (15 to 75 ppb Au) and up to 630 ppb Au in the northwest part of the survey grid. The ground magnetometer survey outlined a "thumb-print" magnetic high near the centre of the claim, which in detail consists of two northwest trending lobes.

1991 EXPLORATION WORK

The 1991 exploration work on the Nel #1 claim consisted of rock chip sampling of the rock exposures along the creek canyon, and prospecting and soil sampling. This work was done by geologist David L. Cooke, Ph.D., P. Eng. and field assistant J. L. Cooke, during the period May 15 to 19, 1991.

Two prospecting traverse lines were run southerly from the main highway along old logging roads, and two soil sample lines easterly across the northern boundary of the claim. No rock exposures were found outside of the creek canyon. Soil samples were collected mainly at 50 metre intervals.

REGIONAL GEOLOGY AND MINERALIZATION

The Quesnel Trough terrain in this area consists of Upper Triassic andesite and basalt flows, breccias, volcaniclastics, greywackes, argillites and limestones. These rocks are intruded by coeval syenite, monzonite and monzodiorite stocks, plugs and dikes.

Disseminated sulphide mineralization, associated with the intrusive activity, consists mainly of pyrite and chalcopyrite. Magnetite, pyrrhotite or hematite may also be present. Gold occurs in association with the sulphides. The QR deposit, located on the Quesnel River to the south, contains about 1,000,000 tons of 0.2 oz gold per ton. The Ahbau Creek prospect contains about 50,000 tons of 0.3 oz gold per ton. No tonnage is defined on the Mouse Mtn. prospect which adjoins the northeast boundary of the Nel #1 claim. However, some drill intersections from Mouse Mtn. contain 0.05 - 0.15% copper and 0.005 oz gold per ton.

All these prospects are related to small alkaline intrusive bodies which contain copper and gold. Some prospects exhibit strong structural controls, but all are characterized by distinct magnetic anomalies.

PROPERTY GEOLOGY AND MINERALIZATION

The geology of the Nel #1 claim is obscured by glacial till of unknown thickness. Syenite and diorite intrusions are exposed over a distance of 300 metres in a creek canyon incised in the glacial cover. A prominent aeromagnetic high is centred on this mineralized zone. The intruded rocks are mafic to intermediate in composition, and near the intrusive contacts they have been altered to a hybrid rock consisting of green amphibole, epidote, chlorite and calcite. The contact rocks appear in part to be breccias.

Alteration in the contact area is propylitic in nature. Both the syenite and diorite intrusions contain abundant disseminations of magnetite, estimated to be between 2% and 6%. Lesser amounts of hematite and pyrite occur together with some gypsum along epidote-rich fractures.

GEOCHEMISTRY

Sample Collection and Analysis

Soil samples were taken with a shovel from depths of 15-30 centimetres along the two traverse lines at the northern margin of the Nel #1 claim. Where possible these samples were taken at 50 metre intervals. Sample material consisted of light brown to grey sandy and clayey till. A good orange brown B horizon was developed in less than 20% of the soil sample sites.

Soil samples were placed in numbered Kraft sample bags and shipped to Min-En Laboratories in North Vancouver, B.C. for analysis. Rock samples and stream silt samples were occasionally collected in the course of soil sampling, prospecting, mapping, etc. The sample location sites and numbers are indicated on Figure 3.

The soil samples were dried at approximately 60 C and then sieved to minus 80 mesh. A 1.0 gram sample was then digested with HNO and HClO mixture. These samples were then diluted to standard volume after cooling, and the solutions analyzed for 31 elements by computer operated Jarrell Ash 9000 Induction Coupled Plasma (ICP) Analyzer. Gold was determined on separate solutions by atomic absorption spectrophotometry. Rock samples were crushed and treated in a similar geochemical fashion.

Discussion of Results

The analytical results are presented in Appendix III. Because of the small sample population, statistical treatment of the data was not attempted. By inspection and experience, the following values were assumed to be anomalous:

gold	:	+ 10 ppb
silver	:	+ 1.2 ppm
arsenic	:	+ 20 ppm
copper	:	+ 70 ppm

Analytical values for gold are plotted on Figure 3. Although there were some high values for silver, there seems to be no clustering of these values together with high gold values. Copper and arsenic values are below the assumed anomalous thresholds.

The analyses of rock samples indicate anomalous levels for gold and silver, and to a lesser extent for copper. Because this gold-copper-silver correlation is absent from the soil sample suite, it is felt that the soil sample results reflect metal contents in the glacial till cover which are not reflected from the underlying bedrock.

CONCLUSIONS

Because of the extensive nature of the glacial till cover it is felt that soil geochemistry may not accurately reflect the underlying geology. Magnetic highs reflect intrusive activity with associated pyrite and magnetite mineralization. At this stage it is not known whether the best concentrations of copper and gold occur near the margins or core of the alkaline intrusions. Further geophysical surveys are therefore necessary to locate the sulphides prior to drilling.

RECOMMENDATIONS

A geophysical survey, using induced polarization methods, is recommended to define significant concentrations of sulphide mineralization. The objective of this program is to define targets for drill testing.

REPORT BY;

D. L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., F.Eng.

September 16, 1991.



REFERENCES

1. Climie, J.A., 1987, Geochemical and Geological Survey Report on the Cot 2 Mineral Claim, Cariboo M.D., Geological Branch Assessment Report #16. 513; 29 pp.
2. Panteleyev, A., 1986, Paper 1987-1, Quesnel Fold Belt, Alkalic Volcanic Terrane between Horsefly and Quesnel Lakes, B. C., M.E.M.P.R.
3. Stewart, P. J., 1982, Geochemical, Geological and Geophysical Report on the MM1, MM4, Cot 1 and Jess 2, Cariboo M.D., Geological Assessment Branch Report #10,506.
4. Tipper, H. W., 1960, Map 49 - 1960, Geology, Prince George, B.C., 1:250,000, Geological Survey Canada.

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APPENDIX I

STATEMENT OF EXPENDITURES

NEL #1 CLAIM

CARIBOO M.D.

SALARIES

D. L. Cooke, Geologist; May 15-19, 1991		
4 1/2 days @ \$350/day	\$1,575.00	
J. L. Cooke, Field Assistant; May 15-19, 1991		
4 1/2 days @ 150/day	<u>675.00</u>	\$2,250.00

GEOCHEMISTRY

Analyses: 52 Soils & 8 Rocks, Min-En Lab	\$791.80	
Materials: Sample Bags, Flagging, Maps	<u>66.63</u>	858.43

DOMICILE

Room and Board: 8 Man days @ \$60/day	\$480.00	
Miscellaneous	<u>31.79</u>	511.79

TRANSPORTATION

Truck Rental: 5 days @ \$60/day	\$300.00	
Gasoline, etc.	94.51	
Mileage: 1,395 km @ 20c/km	<u>279.00</u>	673.51

REPORT

D. L. Cooke, Geologist: 1 day @ \$350/day	\$350.00	
Typing, drafting, reproductions	<u>135.00</u>	485.00

TOTAL EXPENDITURES

\$4,778.73

PREPARED BY:
D. L. COOKE AND ASSOCIATES LTD.

David L. Cooke

David L. Cooke, Ph.D., P.Eng.

September 16, 1991



D. L. COOKE AND ASSOCIATES LTD.
MINERAL EXPLORATION CONSULTANTS

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, DAVID LAWRENCE COOKE, of the Municipality of Surrey in the Province of British Columbia, hereby certify:

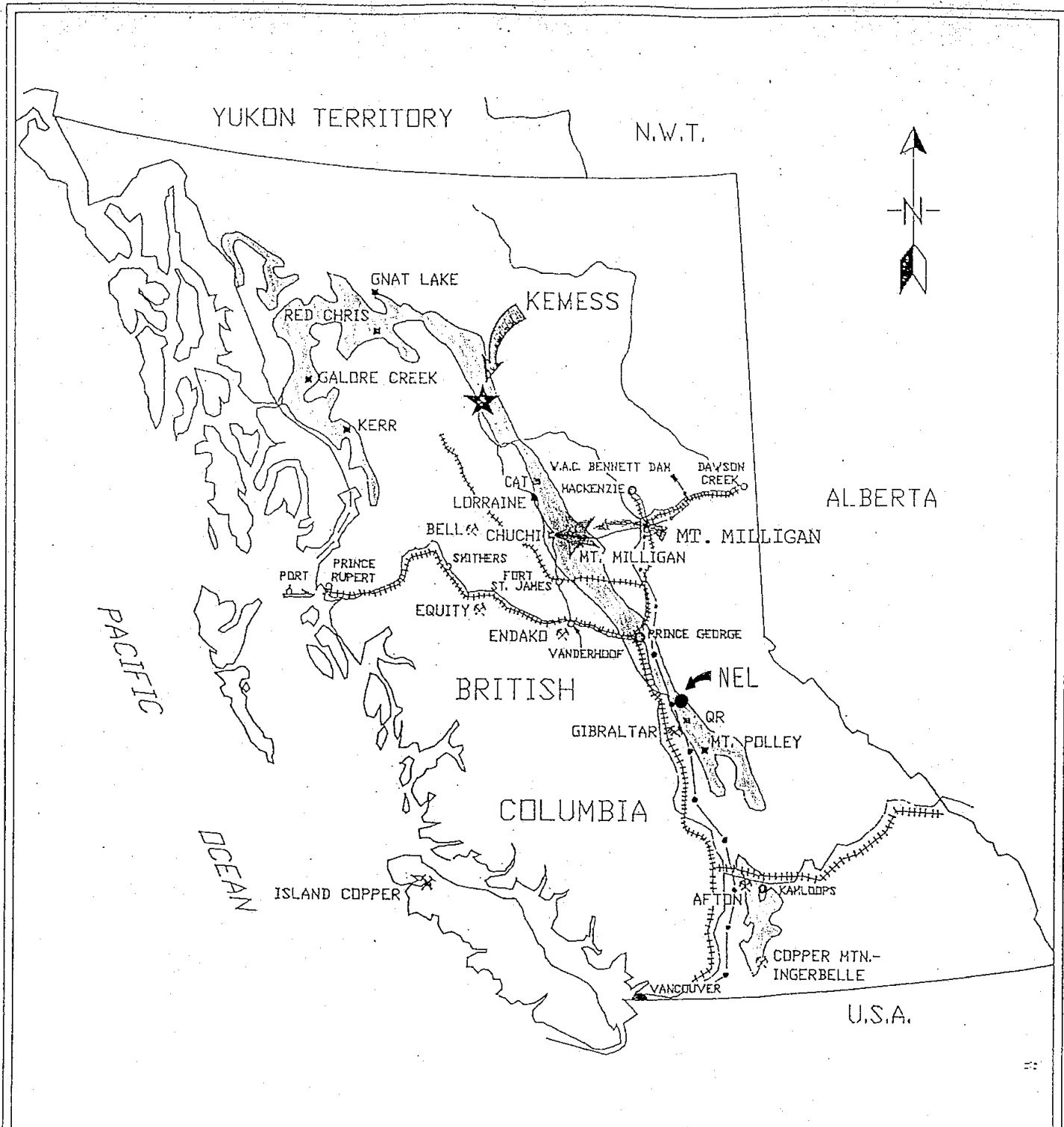
1. That I am a Consulting Geologist, residing at 10667 Arbutus Wynd, Surrey, B.C., V3R 0B5, with a business office at 811 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2.
2. That I graduated with a B.Sc. degree in Geology from the University of New Brunswick in 1959, and with M.A. and Ph.D. degrees in Geology from the University of Toronto in 1961 and 1966 respectively.
3. That I have practised my profession as an exploration geologist from 1959 to the present time in Canada, the U.S.A., Mexico, the Caribbean and South America.
4. That I am a Registered Member of the Association of Professional Engineers of the Province of British Columbia.
5. That I personally performed the exploration work on Nel #1 claim described herein.
6. And that I am the author of this report on the Nel #1 mineral claim, dated September 16, 1991.



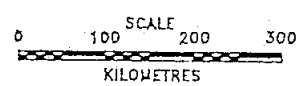
DAVID L. COOKE, PH.D., P.ENG.

September 16, 1991

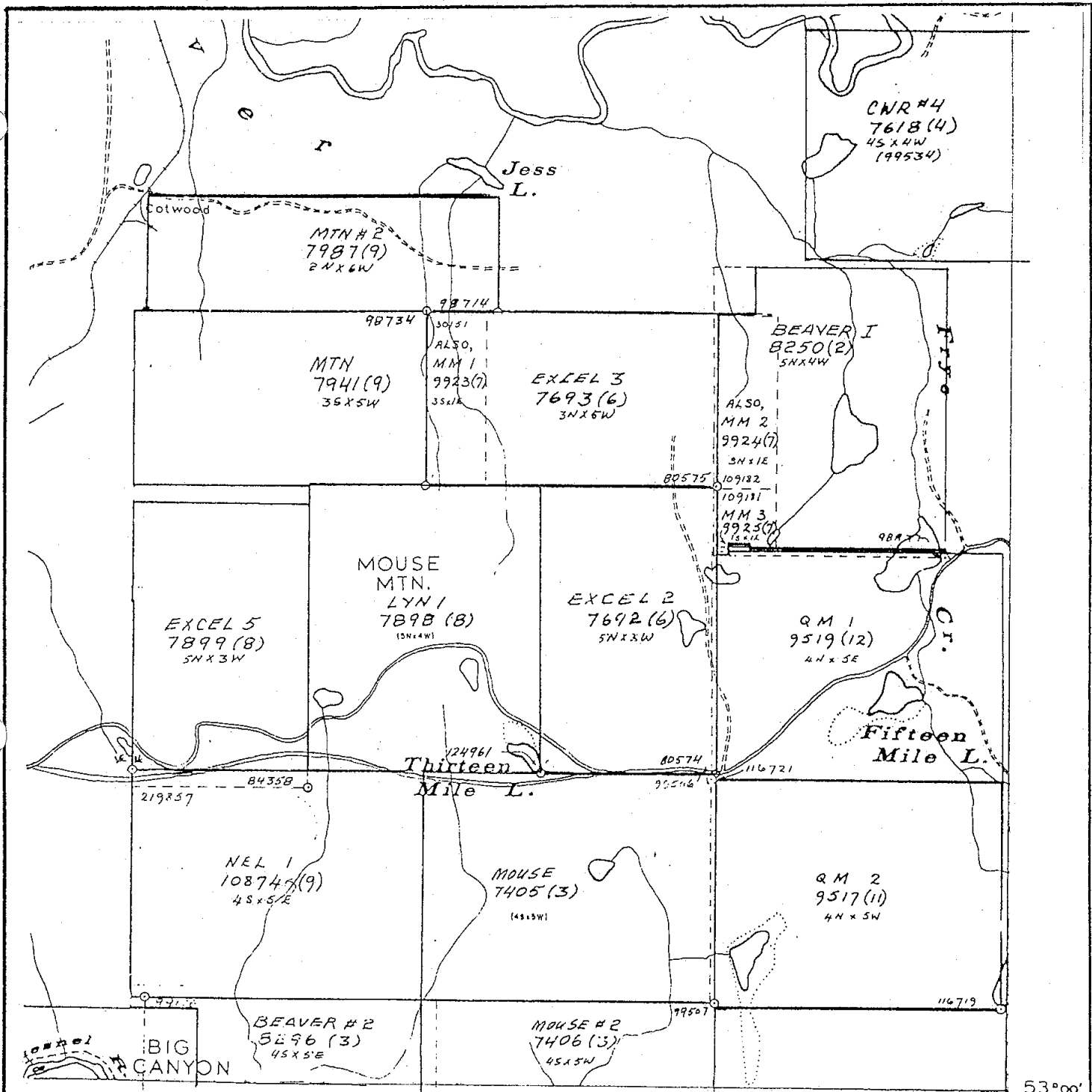




- ROAD
- +++ RAILWAY
- - - MAJOR POWER LINE
- == QUESNEL TROUGH
- * PRODUCING PORPHYRY MINES
- COPPER AND/OR GOLD DEPOSIT



QUESNEL TROUGH		
D. L. COOKE & ASSOCIATES LTD.		
NEL #1 CLAIM LOCATION MAP		
CARIBOO M.D.		NTS.93G/1W
SCALE: AS SHOWN	DATE: SEPT. 80	PROJECT: ProComp GeoDraft Ltd.
		PAGE: 1



MAP 93B/16W

NTS 93G/1W
1:50,000

122°15' 53°00'

ND PETROLEUM RESOURCES



D. L. COOKE & ASSOCIATES LTD	
MOUSE MTN. AREA	
NEL #1 CLAIM	
CLAIM MAP	
CARIBOO M.D.	NTS93G/1W
1:50,000	Sept. /91
	Figure 2

APPENDIX III

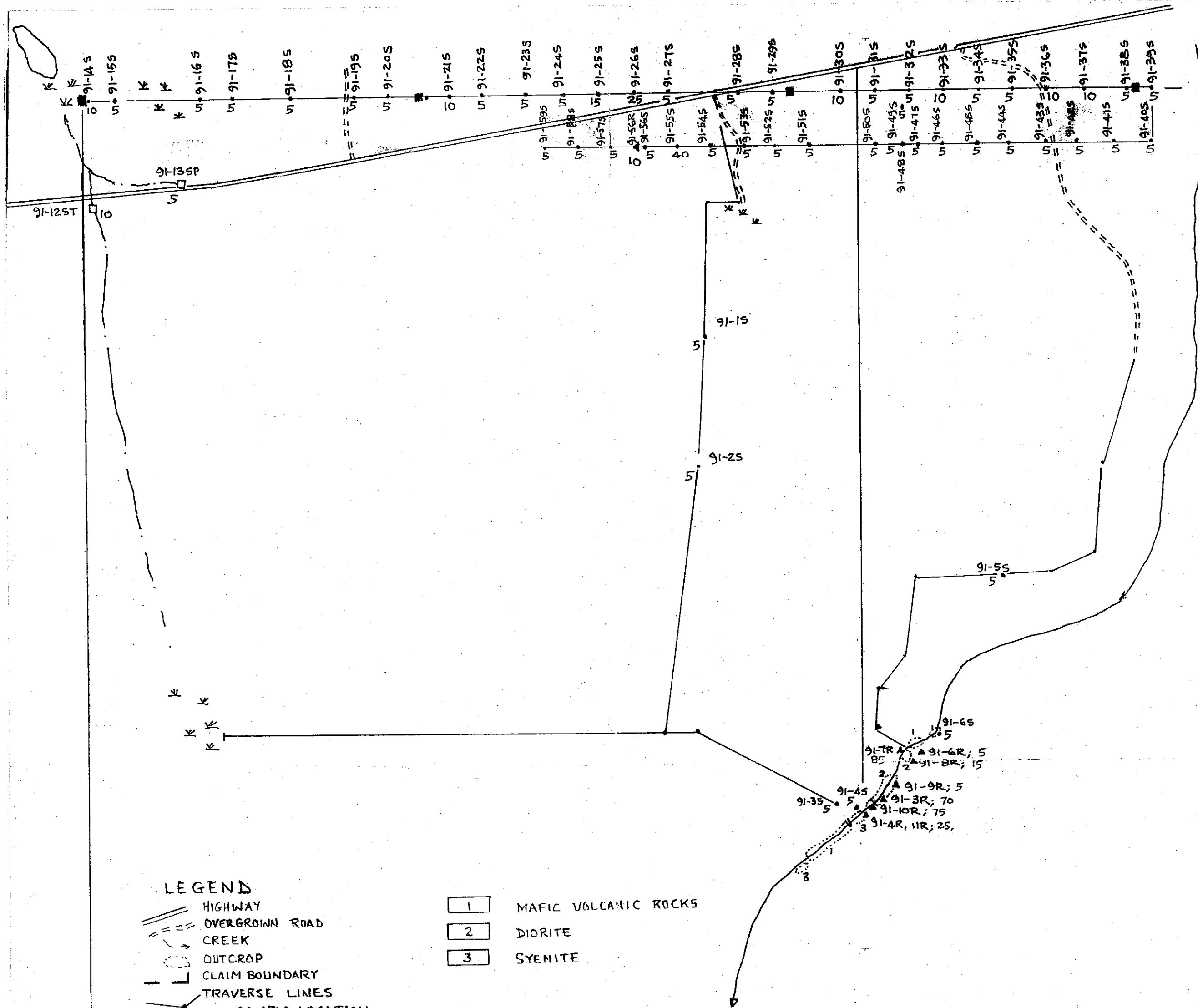
ANALYTICAL RESULTS

COMP: D.L.COOKE & ASSOCIATES LTD.
 PROJ: NEL
 ATTN: DAVID COOKE

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

FILE NO: 1V-0471-RJ1
 DATE: 91/06/03
 * ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	U PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	AU PPM
N91-03 R	2.8	32830	1	23	275	.1	5	39500	.1	25	46	61520	5650	19	12340	704	1	1010	1	3220	6	1	52	1	1	307.6	58	1	1	2	40	70
N91-04 R	2.0	14270	1	16	609	.1	2	43750	.1	13	124	35250	4720	9	5820	1095	1	550	1	1900	26	1	19	1	1	145.7	82	1	1	1	41	25
N91-06 R	2.5	26590	1	11	78	.1	4	39570	.1	19	45	50150	2480	19	11860	658	1	690	2	2070	6	1	31	1	1	264.5	48	1	1	3	66	5
N91-07 R	1.9	11060	13	49	512	.7	1	43010	.1	20	187	50520	6270	2	13590	1881	1	430	1	2220	17	63	26	1	1	99.2	94	1	1	1	20	85
N91-08 R	3.5	32860	1	12	523	.1	7	39540	.1	23	39	55230	3760	19	16830	993	1	1030	1	3090	6	1	94	1	1	265.4	66	1	1	1	38	15
N91-09 R	3.4	43630	1	16	287	.1	6	43590	.1	26	47	62850	7250	16	17430	953	1	2030	1	4030	6	1	100	1	1	327.6	60	1	1	1	28	5
N91-10 R	1.8	7060	1	1	267	.3	4	9590	.1	6	71	15860	2830	3	1740	252	1	840	1	290	14	1	118	1	1	78.0	28	1	1	2	75	75
N91-56 R	.7	15970	3	5	5926	.4	1	4310	.1	20	46	29070	2010	20	6390	1127	2	400	19	1100	18	1	61	1	1	54.4	61	1	1	3	130	10



LEGEND

HIGHWAY
 OVERGROWN ROAD
 CREEK
 OUTCROP
 CLAIM BOUNDARY
 TRAVERSE LINES
 SOIL SAMPLE LOCATION AND NUMBER
 91-23 5
 ROCK SAMPLE LOCATION AND NUMBER
 91-4R 25

1 MAFIC VOLCANIC ROCKS
 2 DIORITE
 3 SYENITE



D. L. COOKE & ASSOCIATES LTD.
 NEL #1 CLAIM
 SAMPLE LOCATIONS AND
 ppb GOLD
 CARIBOO HD. NTS 93G 1W
 1:5,000 SEPT /91
 GEOLOGICAL BRANCH
 ASSESSMENT REPORT

21,664