Geochemical and EM-16 Geophysical Report on the SEQ-1 and SEQ-2 Mineral Claims Record Nos. 933(1) and 934(1) Claim Sheet No. 104K/12E Tulsequah River Area '81-#90-#-8933 Atlin Mining Division, B.C.

February 20, 1981

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Geochemical and EM-16 Geophysical Report

on the

SEQ 1 and SEQ 2 Mineral Claims Record Nos. 933(1) and 934(1) Claim Sheet No. 104K/12E

Tulsequah River Area

Atlin Mining Division, B.C.

58° 45' N. Lat., 133° 35' W. Long.

Owned and Operated

by

Comaplex Resources International Ltd.

Report by

John A. Greig – P. Geol.

February 20, 1981

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#### INTRODUCTION

A program of stream sediment sampling was carried out in June and July of 1980 and an EM-16 survey was conducted over a portion of the SEQ 1 claim in August 1980. All of the above work was carried out by employees of Comaplex Resources International Ltd. under the supervision of geologists K. Lintott, J. Greig and M. Kenyon.

The claims were acquired to cover possible strike extensions of the gold-silver bearing massive sulphide ore horizon of the Tulsequah Chief Mine which is located on certain crowngrant claims within the boundaries of the SEQ 1 claim.

The 1980 program was oriented toward detecting an extension of the Tulsequah Chief mineralized horizon.

#### LOCATION AND ACCESS

The SEQ 1 claim record number 933(1) and the contiguous SEQ 2 claim record number 934(1) are located on the east side of the Tulsequah River valley about 60 miles south of Atlin, British Columbia at about latitude 58° 45' N. and longitude 133° 35' W. The property extends from the valley of the Tulsequah River at an elevation of about 75 meters to the upper reaches of Mt. Eaton at an elevation of about 1,700 meters.

Access was from the town of Atlin, B.C. by fixed wing aircraft to an airstrip at the Polaris Taku Mine some 6 miles south of the property. Alternative access was by float equipped fixed wing aircraft to the old town of Tulsequah at the junction of the Taku and Tulsequah Rivers some 10 miles south of the property. Locally access was provided by helicopter which was contracted for the summer by Comaplex and stationed at the Tulsequah Chief Mine.

#### GEOLOGICAL SETTING

The Tulsequah area lies on the eastern flank of the coast range Batholith and is underlain by a succession of Paleozic and Mesozoic volcanics and sediments of which Mesozoic

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1-A

rocks are most abundantly exposed. The SEQ 1 & 2 claims are underlain entirely by steeply dipping volcanic rocks of the Stuhini Group of Upper Triassic age which locally consists of andesites of flow and fragmental origin.

The Stuhini volcanics are the host rocks for gold and silver bearing exhalative massive sulphide deposits of the Tulsequah Chief Mine. The Tulsequah Chief Mine is owned by Cominco and is located on certain crown-grant claims which are located within the boundaries of the SEQ 1 mineral claim. (Figure 1)

The SEQ 1 & SEQ 2 claims were located to cover possible extensions of the Tulsequah Chief mineralized horizon which strikes north easterly and dips steeply northwest.

For greater geological detail reference may be made to G.S.C. Memoir 362 by J.G. Souther and accompanying map 1262A. The geology of the Tulsequah Chief Mine by W.T. Irvine is published in "Structural Geology of Canadian Ore Deposits", Volume 26, Commonwealth Mining and Metallurgical Congress, 1957.

#### GEOCHEMISTRY

### Sampling and Assay Techniques

Stream sediment sampling crews generally consisted of two persons (for safety reasons); however, since the SEQ claims are located close to the camp, single samplers were utilized. Samples were collected from "center of stream" at approximately 300 meter intervals along the main creeks. Additional samples were collected from all small creeks approximately 50 to 100 meters from the junction of the main creeks. Samples A-135 to A-138 were collected from small creeks crossing the south boundary of SEQ-2. Sufficient fine material could generally be collected to fill a 3" x 6" kraft paper sample bag; however, in areas of fast water flow sieving to minus 20 mesh in the field was necessitated in order to collect sufficient -80 mesh material for multi-element analysis.

Samples were sent to Barringer Magenta Ltd. in Whitehorse for Gu, Pb, Zn, Ag, Mo, Au, and Sb analysis and the remaining -80 mesh material was sent to Barringer Magenta Ltd. in Calgary for As analysis.

Cu, Pb, Zn, Mo, Ag, and Au were analyzed by atomic absorption spectrometry, Sb by fusion, and As by colorimetric techniques.

Threshold values were selected from the regional sampling program data and consist of the following concentrations:

Cu	100 ppm	Αυ	100 ppb
РЬ	20 ррт	Ag	1.0 ppm
Zn	100 ppm	As	25 ppm
Mo	10 ppm	Sb	15 ррт

The following samples were collected on the SEQ claims. Concentrations at threshold and above are underlined.

Sample No.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	As ppm	Sb ppm	Au ppb
A-1	76	18	112	2	.2	37	<u> </u>	140
A-2	45	14	40	1	.4	<1	I	90
A-3	65	35	70	1	Tr	144	1	100
A-4	68	28	110	2	.4	26	1	40
A-5	260	30	770	1	Tr	8	4	200
A6	495	42	1300	1	.6	23	2	20
A-7	4000	250	4500	1	1.2	<u>92</u>	N.D.	40
A-13	80000	600	51000	1	4.0	95	N.D.	<u>400</u>
A-14	73	<u>24</u>	126	2	.2	18	N.D.	100
A-135	29	11	45	3	<u>1.1</u>	17	9	50
A-136	34	10	48	1	.6	9	10	40
A-137	52	10	53	1	.6	20	10 -	100
A-138	37	9	54	2	1.8	13	11	40
E-177	35	10	70	2	.8	<u>61</u>	2	50
E-178	51	9	98	5	1.0	<u>46</u>	8	30
E-179	49	10	67	2	.7	<u>49</u>	<u>16</u>	60
E-180	50	10	67	3	.6	<u>45</u>	<u>17</u>	20
E-181	52	11	65	4	.6	47	18	20

#### Interpretation of Results

Samples A-5 to A-7 and A-13 are contaminated by water and silt draining from an old adit. Sample A-13 is particularly high and obvious colloidal malachite was observed in the sample. These samples do indicate, however, the multi-element response due to volcanogenic massive sulphide mineralization which exists on the Tulsequah Chief property. Also of particular interest is the lack of antimony in these samples which in other areas of the region are indicative of Au – Ag mineralization and therefore the absence or presence of antimony in stream sediment samples associated with high base metal values may give some indication of whether massive sulphide deposits or vein type Au – Ag deposits are the cause of the anomalies.

Samples A-1, A-3, and A-4 are anomalous in arsenic and sporadically anomalous in Pb, Zn, and Au.

Samples E-177 to E-181 are anomalous in As and the latter three samples are weakly anomalous in Sb content.

The cause of the above anomalies is as yet unknown.

#### EM-16 GEOPHYSICAL SURVEY

A pyritic alteration zone is exposed in a road cut on Cominco's Crown granted claims immediately above the Tulsequah River. In order to determine whether conductive massive sulphides may exist immediately north of Cominco's property an EM-16 survey was carried out on the SEQ-1 mineral claim.

A Crone VLF-EM instrument was used utilizing both the Seattle and Cutler transmitting stations. The purpose of utilizing both stations was to delineate any conductors which trend in an easterly or northerly direction.

The grid was laid out in a north-south direction in relatively difficult steep terrain with dense underbrush. Lines were chained and flagged at 200 foot (61 meter) intervals and the dip angle was recorded at 100 foot (30 meter) intervals using both of the above transmitting stations.

#### Interpretation of Results

A bowed northerly trending conductor was delineated using the Seattle transmitter with generally correlative results using the Cutler transmitter particularly where the conductor is bowed in a more easterly direction. The cause of the conductor is as yet unknown.

### CONCLUSIONS AND RECOMMENDATIONS

The SEQ claims surround Cominco's Crown granted mineral claim which host the Tulsequah Chief orebody. Stream sediment samples were collected and analyzed for Cu, Pb, Zn, Mo, Ag, As, Sb, and Au and a VLF-EM survey was conducted on a portion of the SEQ-1.

Contamination from the old workings account for the strongest geochemical anomalies, however, a source of possible mineralization is indicated above and north of the highest workings. Prospecting, geological mapping and soil geochemistry where possible should be carried out in the vicinity of samples A-1 and A-3 and E-178.

The VLF-EM survey delineated a moderate conductor, the cause of which is unknown. A vertical loop Max-Min survey is recommended to be carried out to determine the conductivity, depth, and dip of the conductor.



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# STATEMENT OF COSTS

### Geochemical

Wages 3 man days	213.40
Field Supervision	60.00
Field Support (food and camp costs) 3 days @\$35/day	105.00
Helicopter 3 days @ .25 hr./day @ \$345/hr.	258,75
Assay Costs 16 samples x 16.65	266.40
Mobilization - Demobilization-proportionate costs 3 man days	45.00
Report preparation 2 days \$ \$200/day x 20%	80.00
	1,028.55

## Geophysical

Wages 12 man days	853.60	
Field Supervision	240.00	
Field Support 12 days @ \$35/day	420.00	
VLF EM Rental-1 month minimum @\$300/month	300.00	
Mobilization-Demobilization-proportionate costs 12 man days	180.00	
Report preparation 2 days @\$200/day x 80%	320.00	
	2,313.60	

LABOUR

Total

3,342.15

## Geochemistry

Bill Goble June 15, July 27/80 Kim Conway July 6/80		2 days @ \$100,00 1 day @ \$' 63,25		
Geophysics				
Bill Goble	Aug. 1,2,/80	2 days @\$ 100.00		
Rob Hancock	Aug. 1,2,/80	2 days @ \$ 100.00		
Linda Nesset	Aug. 1,2,/80	2 days @ \$ 57.50		
Carrie Frechette	Aug. 1,2,/80	2 days @ \$ 57.50		
David Pyke	Aug. 1/80	1 day @ \$ 57.50		
Sandy Lysenko	Aug. 1/80	1 day @\$ 74.75		
Charles Britton	Aug. 2/80	1 day @\$ 57.50		
Kim Conway	Aug. 2/80	1 day @\$ 63.25		
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#### Addresses

- Linda Nesset
   529 de Gaspe, Apt. 104
   Verdun Mt.1., Quebec
   H3E 1E7
- Carrie Frechette

   c/o Wollex Exploration
   901–1015–4th St., S.W.
   Calgary, Alberta
   T2R 1J4
- Dave Pyke 14003 Parkland Blvd., S.E. Calgary, Alberta T2J 3Y2
- 4. Sandy Lysenko Box 2084 Fernie, B.C. VOB 1M0
- Charles Britton
   1418 Ave. N., South
   Saskatoon, Saskatchewan
   S7M 2T3

- Kim Conway
   #226–1020 Pembroke St.,
   Victoria, B.C.
   V8T 4Z6
- Rob Hancock 3136–11th Ave., W., Vancouver, B.C. V6K 2M7
- Bill Goble
   94 Cartier Cres.,
   Saskatoon, Saskatchewan
   S7L 4L7
- Ken Lintott c/o Wollex Exploration 901–1015–4th St., S.W. Calgary, Alberta T2R 1J4
- John Greig
   36 Georgia Wynd
   Delta, B.C.
   V4M 1A5

I certify that employee Bill Goble who conducted the stream sediment sampling and the EM-16 survey is qualified to carry out such work.

### STATEMENT OF QUALIFICATIONS

Name:	John A. Greig
Profession:	Geologist
Education:	McGill University B.Sc. 1964 Geology University of Alberta M.Sc. 1971 Geology
Professional Association:	Professional Geologist – Association of Professional Engineers, Geologists and Geophysicists of Alberta
Experience:	2 years seasonal employment : Quebec, British Columbia
	3 years Cominco Ltd. : N.W.T., Ontario, Manitoba, Saskatchewan and Alberta
	10 years Vestor Explorations Ltd., Pacific Cassiar Limited, Redfern Resources Ltd.: British Columbia, Yukon, N.W.T. and Ireland.





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