### TITLE PAGE

General Nature of the Report: Electromagnetic evaluation of graphite deposit

<u>Claims Involved</u>: Skeena Report

Skeena Mining Division.

92M15E

Lat. 51° 58' north, Long.126° 43' west.

Owner and Operator of Claims: Wallace G. Wing.

<u>Consultant</u>: David G. Mark P. Geo.

Geotronics Surveys Ltd.,

6204-125<sup>th</sup> St.,

Surrey , B.C. V3X 2E1 Ph. (604) 687-6671

Author(s) : David G. Mark and Wallace G. Wing

<u>Date Submitted</u> : 25 Oct 1999 (originally)

Feb 2000 (revised)

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- Copy Statement of work Cash Payment Rental #3139017d/8 Sep 1999. พ/ คอคะหนึ่ง "ค."

## INTRODUCTIONS'

The subject claims are located on the west shore of South Bentinck Arm about 2 km south of Bentinck Narrows. There is no road access but airplane and boat charters are available at Bella Coola which is about 25 minutes flying time away, or about 84 km by boat. Index map (92 M15E) is attached.

The property consist of nine claims (WM 1-9 incl.) in the Skeena Mining District all in good standing to September 1999 and owned by Wallace G. Wing. MINFILE 093D and 103A Bella Coola and Lorado Sound Sep'89 refers.

Nearly all previous work and testing on the property has been limited to determining viability as a graphite deposit. The exception was a small non-graphitic grab sample of about 1 kg from which a bead of precious metal was extracted. Graphite related test and reports include:

- Demczuk & Zbitnoff (Sep' 91)"Geological and Geochemical Assessment Report on the AA 1-22 claim group;"
- A private report by International Ortech d/25 Feb.1992 identifying commercially viable graphite recovery rates, and marketing strategy;
- Vancouver Petrographics Ltd.Report d/8 Sep1992 verifying flake sizes and grades; and,
- Process Research Associates Ltd. Report d/9 Dec 1992 reporting on test recovery processes and potentials, and recommending further development work to be conducted on a bulk sample.

The non-graphitic grab sample was taken from Wing's claims by M. COUTIER in 1990 and appeared to be a piece of the NSC rock unit identified as a quartz/mica schist with 1-2 % pyrrohtite consistently dessiminated throughout. Ref: Vancouver Petrographics Ltd.Report d/8 Sep 1992;GSC open File 3278 Rivers Inlet-Queens Sound , Rives inlet 92 M Unit NSC; and ,GSC Bella Coola Memoir372, A.J. BAEA 1973 1973 Bella Coola Map Unit 1 (NSC & Unit 1 are one and the same). The 1 kg sample was taken to a private lab by M. CLOUTIER and produced a pin size button of several milligrams indicating possible economic grade precious metal content.

Based on the foregoing, the planned assessment work was to locate the source of CLOUTIERS grab sample; identify the location of any and all related outcroppings; conduct a drilling program of multiple 2 and 4 foot drill holes; and, collect numerous sample for assay. The work was ro consist of collecting chip samples, loose float, rock dust from drill holes using a hand held poingaar drill, and, time and weather permitting, explore/prospect the area north and south of the existing claims for similar out cropping and samples. However, a decision to abandon the precious metal exploration and change the focus to graphite had tobe made because:

- we were unable to locate the source of the original grab sample and any related outcroppings;
- prospecting over 15 kms of abandoned logging roads in the target area north of the existing claims was unreproductive and revealed the metamorphic rock unit shown on regional maps did not exist there and, instead, consisted of barren coast intrusives (thereby negating the intended drilling program);
- The emphasis on graphite encouraged by the BCDM which stated there may be a world class graphite deposit in the vicinity; and,
- The weakness in gold prices at the time.

With the original plan for assessment work no longer applicable and emphasis being shifted to graphite, an ensite decision was made to adopt an alternative salvaging program consisting of:

- extracting and transporting a bulk sample of graphite ore as recommended by Process Research Associates Ltd. Report d/9 Dec1992 as a means of facilitating the next stage of processing development and test work; and,
- site preparation and conduct of a VLF-EM survey as a means of establishing the viability and attractiveness of a program of exploratory drilling and/ or excavation.

Accordingly, trenching and trail cutting to extract and transport a bulk sample of about 500 kgs to Vancouver was carried out. Efforts to get interested parties to undertake the cost of doing the process development and testing in return for a property option are continuing. Hand held VLF-EM equipment was located, sent for and deliverd from Vancouver. Site preparation included cutting a baseline of 2000 meters to facilitate prospecting and the location of the best survey site(s). Time and weather subsequently allowed only a minimal survey grid of 1000 meter square with 10 meter intervals. Analyses of the data as presented in Mr. David Mark's report attached is considered significant and encouraging. Nevertheless, several interesting anomalies appeared in collecting the data which should have and would have been investigated ensite if the operator had the knowledge and experience to do so at the time. It is evident that a more and professional and extensive VLF EM is survey warranted and, it is intended this be carried out in the summer of 2000.

## **EXPENDITURES REPORT**

## 1. WAGES, FOOD & ACCOMMODATION:

ades, roop a acc	OTHER PROPERTY		
,		\$100/d	\$60/d
Workers	#Days	<u>Wages</u>	Food/Accom.
Wallace Wing	30	3000.00	1740.00 =
Merle Cloutier	30	3000.00	1740.00
Steve Work	13	1300.00	780.00
		Subtota	l· \$11.560.00

## 2. VEHICLE COSTS

Truck fuel oil		\$181.90
Boat fuel & oil (27' cruiser & 12' skiff w/o.b.)		\$637.39
Freight chgs. (transport bulk ore to Vanc.)		\$160.59
	Subtotal:	\$979.88

## 3. ANALYSES/ASSAY COSTS

VLF EM Data	\$450.00
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# **4. TRAVEL** (meals & lodging en route Vancouver to) (Bella Coola return)

\$332.26

## 5. EQUIPMENT RENTALS/SUPPLIES

Rental 12' aluminum skiff	\$200.00
Purchase 4HP Evinrude O.B.	\$350.00
Purchase G.P.S. Magellan	\$250.89
Purchase Husqvarna chainsaw	\$150.00
Purchase Transceiver	\$239.03
Purchase *Miscel. Supplies	\$273.43

Subtotal: <u>\$1423.35</u>

*	i.e. 12 ga. Slugs	39.98
	.44 cal-mags	39.95
	camp chains (2)	32.98
	machetes (2)	31.81
	hand lens	31.36
	bear spray	59.85
	rice sacks	<u>37.50</u>
		273.43

TOTAL: \$14,745.49

## **DAILY ACTIVITY REPORT**

	Work Area	<u>Date</u>	<u>Prospecting</u>	Work Performed
Day 1	South Bentinck Arm	June 28/99	2	Win & Cloutier (W&C). Dep. Vanc. by Truck
Day 2	South Bentinck Arm	June 29	2	W&C. Arr. Bella Coola
Day 3	South Bentinck Arm	June 30	2	W&C. Anchored. Rough Weather
Day 4	South Bentinck Arm	July 1	2	W&C. Boat travel. Set up camp.
Day 5	South Bentinck Arm	July 2	2	W&C. Landslide. Relocate camp.
Day 6	South Bentinck Arm	July 3	2	W&C. Locate posts, trails and ore deposit.
Day 7	South Bentinck Arm	July 4	2	W&C. Prospect WM2 claim.
Day 8	South Bentinck Arm	July 5	2	W&C. Prospect WM4 claim.
Day 9	South Bentinck Arm	July 6	2	W&C. Clear baseline 9 yr. growth.
Day 10	South Bentinck Arm	July 7	2	W&C. Illness. Transp. to nearest lodging camp. Possible
				evaco call for replacement.
Day 11	South Bentinck Arm	July 8	2	W&C. Prospect WM4 claim.
Day 12	South Bentinck Arm	July 9	2	W&C. Prospect WM2 claim & baseline.
-		-		

Day 13 South Bentinck Arm	July 10	2	W&C. Trenching.
Day 14 South Bentinck Arm	July 11	2	W&C. Trenching.
Day 15 South Bentinck Arm	July 12	2	W&C. Prospect WM3 claim.
Day 16 South Bentinck Arm	July 13	2	W&C. Prospect WM193 claims.
Day 17 South Bentinck Arm	July 14	2	W,C&S (Steve). Bulk sample.
Day 18 South Bentinck Arm	July 15	3	W,C&S. Bulk sample. Relocate camp.
Day 19 South Bentinck Arm	July 16	3 3	W,C&S. Prospect logging rds.
Day 20 South Bentinck Arm	July 17	3	W,C&S. Prospect logging rds.
Day 21 South Bentinck Arm	July 18		W,C&S. Prospect logging rds.
Day 22 South Bentinck Arm	July 19	3 3	W,C&S. Prospect logging rds.
Day 23 South Bentinck Arm	July 20	3	W,C&S. Prospect logging rds.
Day 24 South Bentinck Arm	July 21	3	W,C&S. Prospect logging rds.
Day 25 South Bentinck Arm	July 22	3 3	W,C&S. Trenching and move ore.
Day 26 South Bentinck Arm	July 23	3	W,C&S. Gridwork & EM Survey.
Day 27 South Bentinck Arm	July 24	3	W,C&S. Gridwork & EM Survey.
Day 28 South Bentinck Arm	July 25	3	Delay. Rough weather.
Day 29 South Bentinck Arm	July 26	3	W,C&S. Gridwork & EM Survey.
Day 30 South Bentinck Arm	July 27	3	W&C. Load ore. Transport to Bella Coola.
Day 31 Bella Coola	July 28	0	W&S. Meet w/local tribe reps.
Day 32 Bella Coola	July 29	0	W&S. Meet w/local tribe reps.
Day 33 Bella Coola	July 30	0	W&S. Dep. Bella Coola by truck.
Day 34 Bella Coola	July 31	0	W&S. Arr. Vanc.
	-		



BELLA COOLA

BRITISH COLUMBIA COLOMBIE-BRITANNIQUE

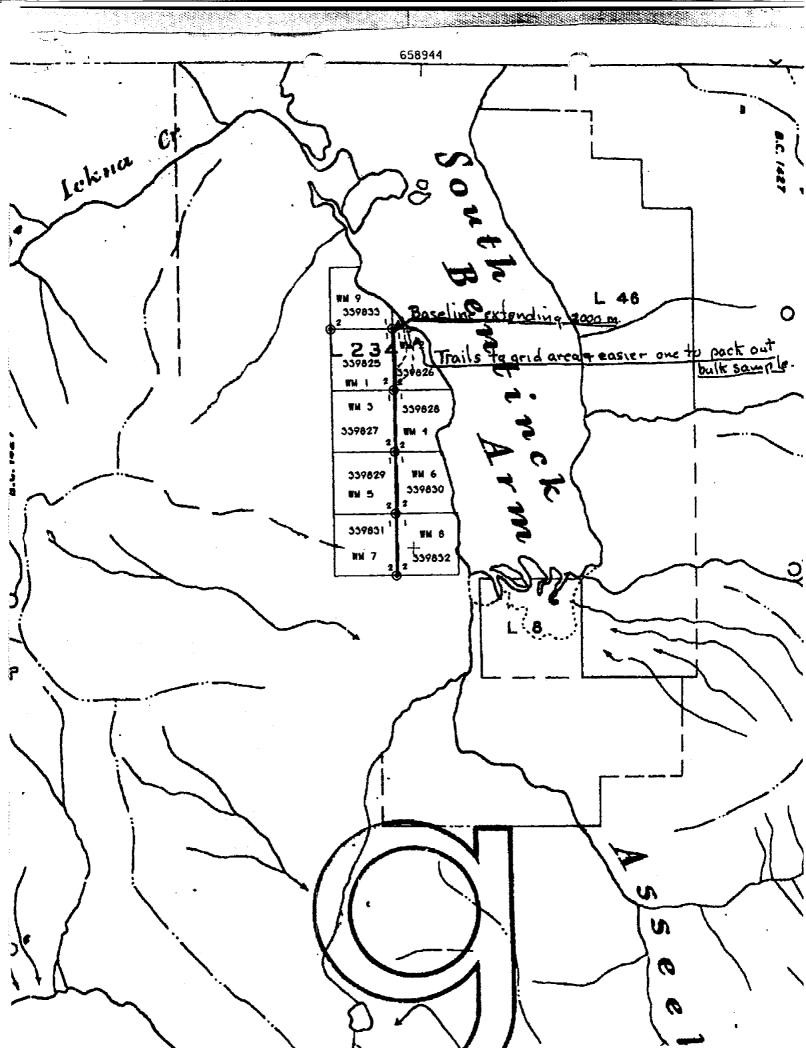
Reference Map 92M 15E

Scale 1:250 000 Échelle

COORDINATES

126° 43' 00 West 51 58 00 North

20 Milles





September 17, 1999

WALLY G. WING #445 – 5880 Dover Crescent Richmond, B.C. V7E 5P5

Dear Sirs:

Re:

VLF-EM Survey WM 1 – 9 CLAIMS

VVIVI I - 9 CLAIIVIS

Bella Coola Area, Skeena M.D., B.C.

I have reviewed data from a very low frequency electromagnetic (VLF-EM) survey carried out on the above-named property. The work was carried out by Wally Wing of Richmond, B.C. on July 26<sup>th</sup> and 28<sup>th</sup>, 1999. The purpose was to determine the response to the graphite showings on the property and also map the length of the showings.

### Instrumentation and Theory

The VLF-EM survey was carried out with a VLF-EM receiver, Model 27, manufactured by Sabre Electronic Instruments Ltd. of Vancouver, B.C. This instrument is designed to measure the electromagnetic component of the very low frequency field (VLF-EM), which for this survey is transmitted at 24.8 kHz from Jim Creek, Washington, which is east of Arlington.

In all electromagnetic prospecting, a transmitter induces an alternating magnetic field (called the primary field) by having a strong alternating current move through a coil of wire. This primary field travels through any medium and if a conductive mass such as a sulphide body is present, the primary field induces a secondary alternating current in the conductor, and this current in turn induces a secondary magnetic field. The receiver picks up the primary field and, if a conductor is present, the secondary field. The fields are expressed as a vector which has two components, the "in-phase" (or real) component and the "out-of-phase" (or quadrature) component. For the VLF-EM receiver, the tilt angle in degrees of the distorted electromagnetic field with a conductor is measured from that which it would have been if the field was not distorted without any conductors present.

Since the fields lose strength proportionally with the distance they travel, a distant conductor has less of an effect on the field than a close conductor does. Also, the lower the frequency of the primary field, the further the field can travel and therefore the greater the depth penetration.

Interpretive letter VLF-EM Survey -WM 1-9 Claims September 17, 1999

The VLF-EM uses a frequency range from 13 to 30 kHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a much lower conductivity and therefore is more susceptible to clay beds, electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods to pick up. Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization. (In places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

## Survey Procedure

The survey grid was put in with a baseline running in a due north direction and the survey lines running in 110°E-290°E (S70°E-N70°W) directions, as shown on the accompanying contour map. One short line was also done in a 315°E (NW) direction. The survey lines were placed 10 m apart with stations put in every 10 m.

Tilt angle readings of the electromagnetic field from the transmitter station, Seattle (Jim Creek) at 24.8 kHz, were taken at the 10 m stations with the operator facing towards the transmitter in a southeasterly direction. VLF-EM readings were also taken every 10 meters along the baseline.

A total of 1,230 m of VLF-EM surveying was carried out.

### Compilation and Data

The VLF-EM tilt angle data were hand-plotted onto a plan map at a scale of 1:750. This was then given to the writer for interpretation. The writer then Fraser-filtered all the data in order to determine more accurately where the conductors were located. The conductors were then plotted onto the plan map.

#### Discussion of Results

Three of the conductors have the crossover occurring in the right direction, that is, positive readings to the west and negative readings to the east. All these conductors strike northerly. However, the northernmost conductor strikes in a southeasterly direction and has a crossover direction opposite to that of the other three conductors. This is probably caused by the survey direction of the lines being not the most ideal considering the direction to the transmitter at Jim Creek. Contributing causes are probably the strong conductivity of graphite and the terrain effect on the VLF-EM field.

The survey has revealed four conductive zones within the survey area. These have been labeled by the lower case letters, 'a' to 'd', respectively.

The probable cause of the four conductors is graphite because of the occurrence of the graphite float within the southeastern part of the survey area and the graphite showing occurring within the trench found within the center of the survey area.

Interpretive letter VLF-EM Survey --WM 1-9 Claims September 17, 1999

Conductor 'a' is the second strongest conductor within the survey area reaching a Fraser-filter high of 66° on the northernmost line. The greater strength indicates a higher percentage of graphite. It is also the longest with a minimum strike length of 80 m and open to the northwest and to the southeast. This is the only one of the three that strikes in a northwesterly direction.

Conductor 'b' is also a strong conductor with the greatest strength being on the southern end where the Fraser-filter high reaches 54°. It strikes in a northerly direction with it being open to the south. The minimum strike length is 30m.

Conductor 'c' is a northerly conductor occurring between conductors 'a' and 'b'. It occurs on only two lines and therefore only has a strike length of no more than 15 meters. The Fraser-filter is 50°. This conductor could be related to the graphite showing within the adjacent trench.

Conductor 'd' is the strongest conductor reaching a Fraser-filter high of 76° suggesting a graphite vein with a higher amount of graphite than that of the other three conductors. It also strikes northerly and is open to the south or southwest and somewhat to the north. Its minimum length is 30 m.

There is no direct correlation of VLF-EM conductors with the graphite showing within the trench. The main reason is likely that the showing, in effect occurs on the edge of the survey area. Also conductor 'd' could be the southern extension of the trench showing.

In conclusion, it is obvious that there are strong conductors occurring within the VLF-EM survey area and that these conductors are, in all likelihood, caused by graphite. However, the exact location may not be as shown on the plan map because of the less than ideal survey direction.

It is recommended to carry out further VLF-EM surveying but on a grid with the baseline running in a north-northwest/south-southeast direction. The survey lines would then run orthogonal to this, that is, in a west-southwest/east-northeast direction.

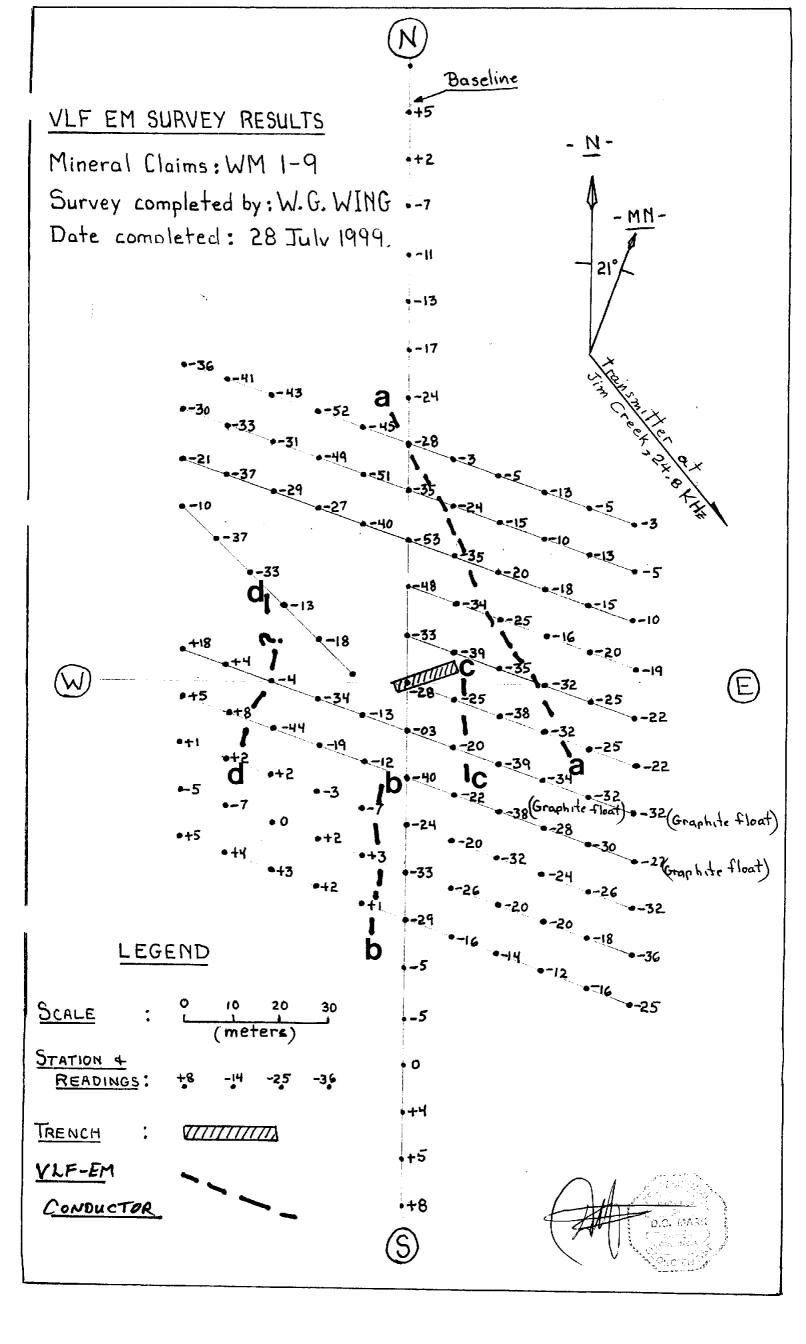
A preferable survey to map and explore for graphite on this property would be a horizontal loop electromagnetic (HLEM) survey. The coil separation can be increased to give better depth penetration and lessened to give better resolution. It is probable that better resolution is desired and therefore the recommended coil separation would be 50 meters. The other reason for carrying out an HLEM survey would be to give better drill and/or trench targets.

Respectfully, submitted

GEOTROMICS SURVEYS LTD.

D.G. MARK

David G. Mark, P. Geo Senior Geophysicist



ATTACHMENT 1 to Statement of Work on claims WM 1-9 per W.G. WING

1) Hand trenching w/o explosives, recovery, sacking and handing 1000 lbs plus of one as a bulk sample. Trench dimensions were 2 m. x 2.3 m x 11.5 m. totaling 52.9. cubic meters.

2 menx 5 days x 8 hrs. x \$20 = \$ 1600.00 "supply" costs 2 men x 5 days x \$60 = \$ 600.00

\_ \_ \$ 2200.00

@ Linecutting baseline in preparation for geophysical survey extending 2000 meters from post #1 on WMZ to post #2 on WM8.

> 2 men x 3 2 days x 8 hrs. x \$20 = \$1120.00 "supply" costs 2 men x 3 2 days x \$60 = \$ 420.00

> > \$1540.00

(3) Initial ground geophysical survey using handheld VLF EM rented from Geotronics Surveys Ltd for \$2000 for 2 wks covering a 1000 square meter grid with readings every 10 meters plas baseline readings. Grid map attached

2 men x 3 days x 8 hrs x \$20 "supply"costs 2 menx 3 days x \$60 = \$ 360.00

\$ 1320.00

4) Trail construction to access grid area & remove bulk ore samples by hand over length totaling 1000 meters.

2 men x 2 days x 8 hrs x \$20 = \$ 640.00 "supply"costs 2 men x 2 days x \$60 =\$ 240.00

\$ 880.00

(5) Transportation costs 20% of work done: = 1/5 x\$5940 =

TOTAL: \$ 5940.00

† 11 88.<u>°°</u> \$ 7128.00

GRAND TUTAL: