GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION, RESISTIVITY, AND

HORIZONTAL LOOP EM SURVEYS

OVER THE SOUTHERN PORTION OF THE

TAY GROUP OF CLAIMS

HIGHWAY NO. 4, SPROAT LAXE, PORT ALBERNI AREA

ALBERNI M.D., ERITISE COLUMBIA

PROPERTY

WRITTEN FOR

WRITTEN BY

DATED

: On Taylor River and Great Central Lake 40 km due west of the town of Port Alberni, B.C.

- : 49° 20' North Latitude 125° 15' West Longitude
- : N.T.S. 92F/6W
- : DALMATIAN RESCURCES LTD. 3585 East 46th Avenue Vancouver, B.C., V5S 187
- Bavid G. Mark, Geophysici GEOTRONICS SURVEYS LTD. 530-800 West Pender Stree Vancouver, B.C., V6C 2V6
- : January 12, 1988



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VANCOUVER, CANADA

District Geolo	ogist, Victoria	Off	Confidential:	89.02.11
_ASSESSMENT RE	PORT 17088 MINING DI	VISION: Alberni		
PROPERTY:	Tay	125 16 40		
-	UTM 10 5463114 334402	125 10 40		
CLAIM(S): OPERATOR(S):	Tay 1-4, Tay 9, Tay 13-14 Dalmatian Res.			
AUTHOR(S): REPORT YEAR:	Mark, D.G. 1988, 40 Pages			
COMMODITIES -SEARCHED FOR:	Gold,Copper			
GEOLOGICAL SUMMARY:	The claims are mostly und	lerlain by dark	green Upper Tr	iassic
- Kari Int	mutsen Formation andesites rusions. Fracture systems	intruded by qua strike (1) 90 t	rtz diorite of o 100 degrees,	the Island (2) 340 to
360 hor	degrees, steeply dipping a izontal. Mineralization co	and (3) 90 to 10 onsists of pyrit	0 degrees, nea e, chalcopyrit	rly e and
WORK ars	enopyrite with gold values.			
DONE: Geo EMG	physical R 7.5 km;HLEM			
IPO	Map(s) - 2; Scale(s) - 1:2 L 6.2 km	2000		
RELATED	Map(s) = 15; Scale(s) = 1;	1000		
REPORTS: MINFILE:	092F 212	1/20,14121,14001		

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SUMMARY

Induced polarization, resistivity, and horizontal loop EM surveys were carried out during April and May 1987 over the southern portion of the Tay property located on Highway No. 4, 40 km due west of the city of Port Alberni, British Columbia. The southern part of the property is easily accessible by 2-wheel drive truck on the highway. The terrain consists of gentle to very steep slopes interspersed with rock cliffs covered with reforested fir, with areas of alder of willows about the property.

The property is underlain by the andesitic volcanics of the Upper Triassic Karmutsen Formation. This formation also contains some tuffs and limestone beds. The Late Triassic granitic intrusive of the Island Formation has invaded this volcanic sequence. Karmutsen andesites form the major rock type on the property. Three major fault systems occur across the property forming bluffs and benches and contain sulphides with gold values.

The horizontal loop electromagnetic survey, which totalled 7.51 km, was carried out with an Apex Parametrics MaxMin II electromagnetometer in the horizontal loop mode. The coil spacings were 50 m and, alternately, 100 m and five frequencies were read, 222, 444, 888, 1777 and 3555 Hz. No anomalies were strong enough to allow for quantitative interpretation.

The IP and resistivity surveys were carried out using a Huntec receiver operating in the time-domain mode with the dipole-dipole array at up to 7 separations. The dipole lengths and reading intervals used were 15 m and 6.21 line km were done. The readings were plotted on pseudosections, contoured and interpreted.

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CONCLUSIONS

- The IP chargeability values have responded very well to the known mineralization on the property. All IP anomalies except for F, H, and I correlate directly with, or occur very close to known mineral zones.
- 2. The strongest IP response is anomaly A which correlates directly with the Main Showing. The anomaly has two arms with the main east-west arm correlating with the mineralization, having a minimum strike length of 240 m and being open to the east. The northwest arm has a minimum strike length of 210 m but does not correlate with any known mineralization.
- 3. Anomaly A shows the mineral zone to dip to the south from 120W to 40E, which was known from previous drilling. However, what was not known was the direction of dip east of 40E which anomaly A shows to dip to the north. This was confirmed by subsequent drilling.
- 4. Anomaly B correlates with showing #3 and is open to the east. This was also subsequently drill-tested and showed the causative source to be sulphide mineralization with gold values.
- 5. Anomaly D strikes northwesterly and correlates with showing #7 at its northwest end. It has good response and shows a minimum strike length of 240 m. The causative source is likely sulphides that may be mineralized with gold.
- 6. Anomaly E correlates with showing #8, G occurs close to showing #6, and C close to showing #5. Therefore, these anomalies are also of strong exploration interest.

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- 7. Anomaly F does mot correlate with any known mineralization but could be related to anomaly A as well as possibly D.
- 8. The resistivity results show some very definite anomalous highs and lows within the survey area. Some lows correlate directly with IP anomalies and/or mineralization. Therefore the causative source is probably fracturing, faulting, and/or alteration associated with the mineralization. At times highs correlate with IP highs indicating silicification within the mineral zone. However, in some cases it may indicate the causative source of the IP high is an intrusive containing minor mineralization.
- 9. Other than those that correlate with IP highs, resistivity highs and lows are likely caused by lithological changes.
- 10. The MaxMin horizontal loop revealed only possible conductors, very few of which correlate with known mineralization. The cause of the conductors is probably geological structure.

RECOMMENDATIONS

The first two recommendations given in the memo to Cukor by the writer in May, 1987 were followed through and were met with positive results. These were (1) to drill-test IP anomaly A east of line 40E, and (2) to drill-test IP anomaly B. Therefore, it is recommended to continue with the recommendations as follows:

- Anomaly D should be drill-tested by at least three holes, the first one preferably with a collar at (0+80W, 2+10N) dipping -45°N. This line contains highest IP reading of 92.7 msec as well as a correlating geochem anomaly. The location of the other two holes depends on the results of the first.
- 2. Anomaly G with collar at (7+20W, 4+15N) and dip of -45°N. This anomaly has a good depth extent and correlates with a strong soil geochemistry anomaly.
- 3. Possibly E and C should be drill tested but it would be preferable to check geology in field.
- 4. Since the IP method is a very successful exploration tool on this property, it should be continued over other areas of exploration interest within the property. If funds are limited, reconnaissance lines can be carried out with a dipole length of 30 m to the first three separations. All anomalous readings should then be detailed with 15 m dipoles at least to the 5th separation.

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Furthermore, additional IP work should be carried out over the present survey grid by:

- (a) extending it to the east,
- (b) extending it to the north, especially north of IP anomalies D, E, and G,
- (c) detailing anomalies D,E,F, and G,
- (d) extending line 0+00,
- (e) surveying line 2+00W.

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ALBERNI M.D., BRITISH COLUMBIA

INTRODUCTION

This report discusses the instrumentation, theory, field procedure and results of induced polarization (IP), resistivity, and horizontal loop electromagnetic (HLEM) surveys carried out over a southern portion of the Tay group, located near Sproat Lake in the Alberni Mining Division of British Columbia.

The MaxMin HLEM field work was completed from March 7th to March 19th, 1987 by a crew of two headed by Marc Beaupre, geophysical technician.

The IP/resistivity field work was completed from April 2 to April 14, 1987 and from April 25 to May 1, 1987 under the supervision of the writer and under the alternate field supervision of Patrick Cruickshank, geophysicist and Marc Beaupre, geophysical technician. They worked with a crew of one to three geophysical technicians and helpers. The purpose of the geophysical surveys was to extend the known gold mineralized zones as well as to locate new zones. The mineral zones are highly structurally controlled and contain pyritization.

It was expected that (1) the HLEM would respond to the waterfilled structural zones within which the mineralization occurs; (2) the IP would respond to the pyrite and other sulphides contained within the mineral zones; and (3) the resistivity would respond to the water-filled structural zones as resistivity lows, possibly alteration or fracturing associated with the mineralization as resistivity lows, and/or silica or calcite flooding of fractures and amygdules as resistivity highs. In addition it was expected that the resistivity measurements would help map lithology and geological structure.

MaxMin HLEM and IP/resistivity surveys were tested on line 0+00 across the main zone in November, 1985. The HLEM appeared to respond, though weakly, to the mineralization. On the other hand, the IP and resistivity measurements showed good response. However, due to the much higher cost of IP/resistivity it was decided to survey the property with the MaxMin HLEM, and subsequently survey the HLEM conductors (anomalies) with IP/ resistivity. The HLEM survey was carried out but resulted in numerous weak conductors. As a result, no choice was left but to survey the entire grid with IP/resistivity.

The exploration program was under the supervision of V. Cukor, P.Eng., consulting geological engineer, who located the crew onto the property. Much of the following description of the property is taken from his July 1987 report on geochemical soil sampling, trenching and drilling.

The primary purpose of this report was for assessment credits. Geotronics Surveys has supplied Dalmatian Resources with field drawn pseudosections, a survey plan of the anomalies as well as the "Discussion of Results" and the "Recommendations". In order to keep costs down, the maps have not been professionally drafted except for the title block. In addition, the same "Discussion of Results" and "Recommendations" have been used, except for updating to discuss subsequent drilling.

PROPERTY AND OWNERSHIP

The property consists of 25 contiguous claims totalling 149 units. These claims have been grouped into the Tay A Group and the Tay B Group as shown on Map 2 and as described below:

Tay A Group:

Name of Claim	No of Units	Record Number	Expiry Date+
Tay 1 & 3*	2	173 & 175	March 17, 1993
Tay 9 - 15*	7	368 - 374	February 16, 1993
Triumph 2	20	3144	March 6, 1988
Triumph 3	20	3145	March 6 1988
	49		
Tay B Group:			
Tay 2^* , $4 - 8^*$	6	174, 176 - 180	March 17, 1993
Tay 16 - 18*	3	375 - 377	February 16, 1993
Mir	20	2196	May 28, 1988
D.A.	20	2197	May 28, 1988
Triumph 1	20	3170	March 26, 1988
DTN	15	3145	March 6, 1988
Nora 3	16	3146	March 6, 1988
	100		

* denotes two-post claims, the others being under the modified grid system.

+ The expiry dates given do not take into account the present work being accepted for assessment credits. It is planned to file for three years on all claims due in 1988.

All claims are owned by Dalmatian Resources Ltd.

LOCATION AND ACCESS

The Tay group is located on Highway No. 4 west of Sproat Lake. The eastern property boundary is located about 40 km due west of the city of Port Alberni on Vancouver Island, B.C.

The geographical coordinates for the center of the property are 49° 20' north latitude and 125° 15' west longitude.

Access is easily gained from the city of Port Alberni by travelling westerly along Highway No. 4. One travels about 40 km west of the limits of Port Alberni to an access road approximately five km west of the Sproat Lake and approximately one km before the Taylor River crossing.

PHYSIOGRAPHY

The property occurs within the Vancouver Island Mountains, a physiographic division of the Insular Mountain.

"The claims occupy both sides of the Taylor River Valley on the southwest slopes of Mt. Porter. North of Taylor River a gentle slope rises from the valley floor to an elevation of about 400 metres, where barren bluffs start. At about 450 metres of elevation the slope flattens forming a plateau, which generally rises to an elevation of about 1,000 metres. From this elevation the slope descends sharply to Great central Lake. "At Taylor River, between the valley bottom and the plateau, several horizontal benches were formed by a combination of horizontal and vertical fracturing, erosion and infill by glacial material.

"The portion of the property south of the Taylor River covers the fairly steep north facing slope and the mountain ridge which contains Mt. Porter within it.

"South of Taylor River a steep slope sharply rises to elevations of over 1,000 metres, where a fairly flat plateau is covered by the southernmost claims.

"The climate of the area is characterized by hot summers and mild winters, and high atmospheric precipitation. Snow cover is generally light in the lower parts of the property, but exceeds 5 feet of packed snow by the end of winter at higher elevations. These parts of the property are usually snowbound from the end of November until June.

"The lower part of the property has been logged off and subsequently replanted. A thick growth of alder and willows presently covers the area. The higher elvations are covered by mature forst mostly composed of cedar and fir trees. Occasionally there are patches of thick growths of underbrush.

"For exploration and eventually for development purposes, a sufficient supply of water and all the good quality timber necessary are available on the property." - Cukor, 1987.

HISTORY

The following is quoted from Cukor's 1987 report.

"Gold showings on the Morning and Apex veins have been known for a long time. Evidence of old trenches is found also on the Tay Claims at numerous locations.

"The original six Tay claims were staked in 1974 and are located so that they adjoin the Morning and Apex crown grants.

"In 1975 geochemical reconnaissance was carried out revealing some copper anomalies.

"In 1976 limited bulldozer trenching was performed.

"In 1978 the original Tay Claims were abandoned and relocated. Limited geological mapping and electromagnetic VLF survey was performed. The latter one outlined a number of strong conductive zones. During the field work, the gold showing now referred to as the Main Showing was discovered.

"In 1979 the east-west grid was cut, over which a geochemical survey, an EM-16 survey and geological mapping were carried out. A D-6 bulldozer was used to trench the showing and, late in the season, two electromagnetic conductors were tested by very limited diamond drilling. It revealed that the conductivity reflects a gouge within shear zones rather than sulphide mineralization.

"In 1980 a detailed magnetic survey was conducted over the Main Showing area, which was found to be associated with a distinct magnetic low. Three short holes intersected the down dip of the showing.

"In 1983 a total of 1,431 feet were drilled in six holes. Three holes were drilled on the eastern extension of the Main Showing, two of which intersected significant gold values.

"In 1984 the property was optioned to Bowen Lyons Ltd. and Gladiator Resources Ltd. who, under a joint venture, carried out 3,512 feet of diamond drilling after which the property was diverted back to Dalmatian Resources Ltd.

"In 1985 Dalmatian Resources continued a study and sampling of the 1984 drill core, which returned further positive results.

"In the summer of 1985 a new north-south grid was cut, partially overlapping an old, now obliterated grid. A magnetic survey, along with geochemical soil sampling was conducted. In addition, further geological mapping, sampling of newly discovered pyrite veins and areas with intensive alterations were carried out. Line 0+00 only was surveyed at the end of the project by I.P. and EM MaxMin methods, as a test for applicability of the methods for further use."

GEOLOGY:

a) <u>Regional</u>

" The regional geology of the Taylor River area is shown on GSC Map 17-68 which is appended to GSC Paper 68-50, 1969. The author is G.E. Muller.

"According to this report, the property is underlain by the andesitic volcanic rocks of the Upper Triassic Karmutsen Formation. Some tuffs and limestone beds are also present within this Formation.

"The volcanic sequence has been invaded by the Late Triassic granitic intrusive of the Island Formation.

"Regional fault zones strike mostly west-northwest, the direction followed by the Taylor River.

b) Local

"The predominant rock types on the claims are dark green, Karmutsen andesites. This rock is massive, non-descript, with no flows defined. Tuffaceous textures are rare. Conspicuous pillow lavas with well defined pillows were found on the neighbouring property, but not on the Tay Claims. The widespread chloritization, epidotization and pyritization, often accompanied with quartz (fracture filling and/or irregular patches), appear mostly in the vicinity of dioritic intrusive bodies.

"The intrusive is of quartz dioritic composition, and appears as very irregular stocks and dykes. Rock has consistently high quartz content, while the concentration of feldspar and hornblende varies. Pyrite and magnetite are quite uniformly disseminated.

"The contact between volcanics and intrusives is sometimes sharp, but mostly it appears within the wide volcanic xenoliths in the intrusive. Also, this contact zone is often marked with dissemination of fine grained pyrite in both intrusives and volcanics.

"During the exploration program in 1985, it was found that such areas coincide with geochemical soil gold anomalies. The initial rock chip geochemical sampling did not reveal the gold presence in the rocks outcropping there, but much more extensive study and sampling of these areas is necessary in the future.

c) Structure

"A study of the fracturing pattern has been carried out. An equal area stereogram shows the clustering of the measured fractures around strikes of 90° to 100° with almost vertical dip. This corresponds well with the trend of the Main Showing as well as some other, structurally controlled quartz-pyrite veins carrying gold values (Showings 2 and 5). This is also the trend of the Apex gold vein on the neighbouring crown granted claim.

"Two other important fracture systems should be mentioned here. One strikes around 340° to 360°, which is the trend of a number of fracture and/or fault identified by EM-16 surveys. Two if such systems were so far found to carry gold values (Showings 6 and 7), and the other two are believed to have faulted off the mineralized structure of the Main Showing. The other system consists of horizontal or nearly horizontal fractures, which, together with the east-west fractures, are responsible for the conspicuous morphology in that part of the claims. Vertical, eastwest fractures form bluffs and horizontal fractures form benches.

d) Mineralization

"The most widespread type of mineralization are the sulphides, consisting predominantly of pyrite. Pyrite often appears as fine grained disseminations, stockworks and sometimes it forms solid veins. When the pyrite occurs in quartz-carbonate veins, gold values are most likely to follow. In such cases arsenopyrite and usually chalcopyrite are present as well.

"Most of the work to date was done in the area of the Main Showing, also called Showing No. 1. This showing consists of two mineralized outcrops, opened by bulldozer trenching to a width of about 10 feet; numerous samples assayed between .018 and .226 oz/t gold. The mineralized structure coincides with a distinct magnetic low anomaly and with anomalous geochemical gold readings in the soil. Previous diamond drilling indicated that the length of this zone is about 600 feet. The 1987 Spring drilling has located the faulted off eastern extension of this zone to the north of Showing No. 1. The length is this extension is yet un-

tested. Drilling to date has intersected the zone down to a depth of about 250 feet."

"Besides the Main Showing, there are other gold bearing structures within the property area. A narrow quartz-carbonate vein (1.5 feet to 2 feet wide) assaying up to .094 oz/t gold is exposed on three localities, spread over the strike length of about 40 metres, marked on Figure 4 as Showing No. 2. A possible extension of this zone was most likely found this year by hand trenching on the I.P. anomaly at L80E - 30 S, where a 0.5 metre wide pyritized quartz vein assayed .116 oz/t Au and .15 oz/t Ag. If on the same structure, this showing would add considerable length to the zone.

"On Showing No. 5 a shear zone exposed in the old bulldozer trench assayed .04 oz/t gold over 2.5 metres.

"Showing No. 6 is found where a recent rock slide exposed a wide shear structure with abundant quartz-calcite fracture fillings. Pyrite-arsenopyrite-chalcopyrite veins appear in several separate occurrences within the zone and the highest assay returned .088 oz/t gold. A strong and extensive gold geochemical soil anomaly is associated with this structure, part of the anomaly extending uphill from the showing. The I.P. Survey did not respond on this showing but there is a possible anomaly to the north of it.

"Showing No. 7 consists of a narrow quartz-pyrite-arsenopyrite vein, showing the presence of gold. There are other showings on the property; they mostly consist of pyrite with or without quartz but so far in these showings very little or no gold was found."

HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

a) Instrumentation and Theory

A MaxMin II portable 2-man electromagnetometer, manufactured by Apex Parametrics Ltd. of Toronto, Ontario was used for this survey. This instrument is designed for measuring the electromagnetic field which results from a conductive body; that is a structure which conducts electricity better than barren rocktypes do.This particular instrument has the advantage of flex-

ibility over most other EM units in that it can operate with different modes and frequencies as well as having a variety of distances between transmitter and receiver. Five frequencies can be used (222, 444, 888, 1777 and 3555 Hertz) and six different coil separations (25, 50, 100, 150, 200 and 250 metres).

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. The results are expressed as the percent deviation of each component from what the values would be if no secondary field (and therefore no conductor) was present.

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

The MaxMin II EM unit can vary the strength of the primary field and so use different separations between transmitter and receiver coils, change the frequency of the primary field for varying depth penetrations, and use three different ways of orienting the coils to duplicate the survey in three styles so that more accuracy is possible in the interpretation of the data.

The use of the MaxMin II electromagnetometer allows for better discrimination between low conductive structures such as clay beds and barren shear zones and more conductive bodies like massive sulphide mineralization. It also gives several different types of data over a given area so that statistical analysis can result in less error in the interpretation.

b) Survey Procedure

The electromagnetic survey was carried out with the slope separation between the transmitter and receiver being (1) 50 m measured to an accuracy of \pm 0.2 m on lines 1+20E to 7+60W. Readings were taken every 10 m. (2) 100 m measured to an accuracy of \pm 0.3 m on lines 8+00W to 9+20W. Readings were taken every 20 m. The coil separation was increased on these lines for greater depth penetration because of thicker overburden.

The baseline runs in a direction of N80°W - S80°E and the survey lines in a perpendicular direction every 40 m.

The receiver operator read and recorded the in-phase and out-ofphase responses. Calibration and phase mixing tests were also conducted three times a day and the appropriate corrections made when necessary.

All five frequencies were read by the receiver operator, which were 222, 444, 888, 1777, and 3555 Hz.

A total of 7.52 km of electromagnetic survey was carried out over all or portions of lines 1+20E through to 9+20W.

c) Compilation of Data and Interpretation Methods

The EM data for only the 3555 Hz frequency were profiled on Map 4 at a horizontal scale of 1:1,000, showing both the in-phase data and the out-of-phase data. The plotting point is taken at the mid-point between the transmitter and the receiver. The vertical scale used for both the in-phase and out-of-phase data was 1 cm = 5%.

Since not a strong enough response was obtained over any conductors no guantitative interpretation could be carried out. Normally, quantitative interpretation includes:

- (1) the location of the top of the conductor,
- (2) the depth to the top of the conductor,
- (3) the dip of the conductor, and
- (4) the conductivity-thickness of the conductor.

Conductivity-thickness is always described as a product since a poorly conductive, thick conductor can give the same EM profile as a highly conductive, thin conductor.

The EM-mapped conductors normally are divided into 3 classes, definite, probable, and possible conductors. Often, very little quantitative information can be interpreted from the probable and possible conductors, usually because of noise problems and/or a low response parameter. On this property, there are no probable or definite conductors, and the possible conductors are more likely reflecting faults.

The trace of the top of each conductor has been drawn on a survey plan (Map 3).

d) <u>Interpretation Pitfalls</u>

One of the main problems with EM surveying is conductive overburden. If the overburden thickness is uniform, then the problem is minimized. The conductive overburden causes the in-phase and out-of-phase profiles to separate from each other and away from the zero line as well as alters the amplitude of the negative peak for both the in-phase and out-of-phase. One therefore moves the zero line to correlate with the background reading of the inphase profile and/or the out-of-phase profile and then uses special quantitative interpretation procedures. Conductive overburden occurs throughout the survey area.

More difficult problems are produced, however, if the thickness of the conductive overburden undulates, or if there exists a buried bedrock trough, or ridge. This can produce an EM profile similar in shape to that over a normal conductor. However, this feature will become minimal at lower frequencies, and, therefore, this type of "false conductor" can be sorted out.

A related problem to conductive overburden is conductive host rock. This can be seen when the in-phase decreases (goes more -ve) and the out-of-phase increases (goes more +ve) with increasing frequency. In other words the effect is opposite to that of conductive overburden so that on the 3,555 Hz frequency the inphase profile is lower than the out-of-phase profile. The effect of conductive host rock is to lower the response parameter of a bedrock conductor since the conductivity contrast between the bedrock and the conductor is lessened. In other words, it becomes more difficult for the EM system to respond to a bedrock conductor occurring within conductive host rock.

The dip of the conductor is probably the most difficult piece of information to interpret from the EM profiles. The major cause

is non-uniform conductive overburden which tends to affect the shape (from which the dip is taken) of the EM profile over a conductor. Another cause of the problem is 2 closely spaced conductors, as occurs on this survey, so that one affects the shape of the other.

Another problem is geological noise which is produced from such features as faults, fracture zones, contacts, alteration zones, and graphitic horizons. This can also affect the shape of the EM profile over a conductor.

In some cases, an interpretation can be carried out using 2 different models. The most common problem is deciding whether the causative source is one wide conductor or two narrow conductors. Often the interpretation for each case produces similar results (i.e. similar dip, similar depth-to-top).

INDUCED POLARIZATION-RESISTIVITY SURVEY

a) <u>Instrumentation</u>

The transmitter used for the induced polarization-resistivity survey was a Model IPT-1, manufactured by Phoenix Geophysics Ltd. of Markham, Ontario. It was powered by a 2.0 kw motor-generator, Model MG-2, also manufactured by Phoenix.

The receiver used was a model Mark IV manufactured by Huntec ('70) Limited of Scarborough, Ontario. This is state-of-the-art equipment, with software-controlled functions, programmable through the front panel.

The Mark IV system is capable of time domain, frequency domain, and complex resistivity measurements.

b) <u>Theory</u>

When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles that transport current by electrons (most sulphides, some oxides and graphite), then the ionic charges build up at the particleelectrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositelycharged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallic-type conductors.

Most IP surveys are carried out by taking measurements in the "time-domain" or the "frequency-domain".



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Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless paramater, the chargeability, "M" which is a measure of the strength of the induced polarization effect. Measurements in the frequency-domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, "PFE".

The quantity, apparent resistivity, ρ_a , computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they always will in the real world, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the electrode spacing. A single reading cannot therefore be attributed to a particular depth.

The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely depending on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity to the pore water resistivity, as a function of porosity. Such a formula is Archie's Law, which states (assuming complete saturation) in clean formations:

$$\frac{RO}{RW} = 0^{-2}$$

Where: Ro is formation resistivity Rw is pore water resistivity 0 is porosity

c) Survey Procedure

The IP and resistivity measurements were taken in the time-domain mode using an 8-second square wave charge cycle (2-seconds positive charge, 2-seconds off, 2-seconds negative charge, 2-seconds off). The delay time used after the charge shuts off was 200 milliseconds and the integration time used was 1,500 milliseconds divided into 10 windows.

The configuration used in the field was the dipole-dipole array shown as follows:

DIPOLE-DIPOLE ARRAY



The testing done in November, 1985 across the Main showing on line 0+00 was carried out with an electrode spacing or dipole length (denoted at 'a' in above diagram) of 15 m. When the present survey work was started in April, 1987, line 0+00 was tested with a dipole length of 30 m to a dipole separation of four. As a result, it was decided to carry out the survey with a dipole length of 15 m. The 'n' was read from one or two to four, five, or six dipole separations ('na') resulting in a total separation of 60, 75, or 90 m. This gives a theoretical depth penetration of 35 to 60 m which depends not only on the 'na' spacing but also on the ground resistivity. The dipole-dipole array was chosen because of its symmetry. Nonsymmetrical arrays such as pole-dipole present interpretational difficulties.

Stainless steel stakes were used for current electrodes. For the potential electrodes, metallic copper in copper sulphate solution, in non-polarizing, unglazed, porcelain pots were used.

The survey grid's baseline runs in a direction of N80°W - S80°E and the survey lines on which the IP and resistivity readings were taken occur every 40 m at a direction perpendicular to the baseline. Not all lines were surveyed, however. These were 2+00W, 2+80W, 3+20W, 4+00W, 4+80W, 5+60W, 6+00W, and 6+80W. The IP/resistivity surveys covered 6.21 km.

The survey's progress was hampered by:

- rough terrain. As can be seen on the pseudosections, there are numerous rock bluffs throughout the grid area. At times the field crew had to use ropes to scale the bluffs;
- (2) little or nor soil cover on many parts making it difficult to plant the electrodes. It was necessary at times to pack soil; and
- (3) an abundance of rain. Sometimes the survey had to be suspended in order to dry out instruments or because of inconsistent readings.

d) Compilation of Data

The chargeability (IP) values are read directly from the instrument and no data processing is therefore required prior to plotting. The resistivity values are derived from current and voltage readings taken in the field. These values are combined with the geometrical factor appropriate for the dipole-dipole array, to compute the apparent resistivities. The IP and resistivity pseudosections are plotted on Map #'s 5 to 18 at a scale of 1:1,000. Each value is plotted at the intersection of a 45° line from the midpoint of the receiver dipole and a 45° line from the midpoint of the current dipole. The IP chargeability data were contoured as a four millisecond contour interval, and the resistivity data at a 100 ohm-m contour interval. The IP and resistivity anomalies are shown on the survey plan, Map #3, which is at a scale of 1:2,000. The base map used including the geology was drawn by Vladimir Cukor.

DISCUSSION OF RESULTS

The discussion of results were given in memo form to Dalmatian shortly after the field work was completed and is given in its entirety as follows. The exceptions are additions to IP anomalies A and B which were drilled on recommendations in the same memo subsequent to the completion of the geophysics.

The results are discussed from the point of view of the IP results since the IP has responded to the mineralization to a much stronger degree than any of the other geophysical methods. The IP anomalies that appeared to show continuity on at least two lines have been labelled by the capital letters A to I. They are classified into three types according to their strength: definite, probable, and possible.

It is expected that each anomaly reflects sulphide mineralization that may contain gold values.

Anomaly A

- classification: east-west arm - definite northwest arm - probable to possible

- correlates directly with main showing
- strikes westerly, from L1+20E to L1+20W, where it appears to begin to strike NW, through to 1+60W and perhaps as far as 2+40W.

Evidence:

- fault running northwesterly approximately 30 m SW of anomaly
- nearby fracture systems, mapped as striking roughly NW, steeply dipping SW -- similar to attitude of chargeability anomalies.
- direct correlation of magnetic low with main showing which strikes westerly and then changes direction to northwesterly though not as far as 2+40W.
- E-W strike length 240 m open to east NW-SE strike length - 210 m open to northwest
- anomaly appears to widen at depth on line 40E. This could be the result of anomaly faulted off at 40E or the joining of two E-W veins. The anomaly indicates the mineralization dips southerly but near vertical west of 40E and northerly east of 40E. This has been verified by subsequent drill holes 87-4, 87-5 and 87-6, which encountered sulphide mineralization with gold values (see "Geology").
- east-west arm of anomaly has good depth extension but northwest arm does not

Correlations:

- resistivity low over much of length
- magnetic low across entire surface length, which bends northwesterly with the mapped fault
- partial correlations with gold geochem values, over lines 80E to 0+00. (Interesting note: geochem anomaly also splits at 40E, stretching up to IP anomaly F on line 0+00.)
- partial correlation with weak Max/Min conductor from 1+20E to 0+00.

Anomaly B

- classification - definite

- anomaly trends easterly from 0+80E to 1+20E and is open to east
- appears to widen at depth on L1+20E, with perhaps two separate zones at depth
- generally vertical, or near-vertical dipping southerly
- sulphides being the causative source of anomaly B has been verified by drill holes 87-1, 87-2, and 87-3 (see "Geology").

Correlations:

- good correlations with major geochemical anomaly
- occurs in area of low magnetic values indicating a different rock-type
- no definite correlation with resistivity

Anomaly C

- classification: definite to probable
- trending roughly westerly, from line 40W to 2+40W giving a length of 200 m
- disappears between 2+40W and 3+60W
- has good strength on line 1+20W
- generally dips steeply northward, agreeing with surface structures striking westerly and dipping steeply southward
- generally has good depth extent
- disseminated pyrite correlates with south side of anomaly on 2+40W

Correlations:

- almost entirely with resistivity high
- correlates with mag high from 1+20W to 2+40W; 80W to 40W correlates with mag low
- no Max/Min correlation
- only geochem correlation is a strong one-value high of 2700 ppb occuring just downhill of anomaly on 80W

Anomaly D

- classification: definite to possible
- in NE corner of grid
- strikes NW, approximately from 40W to 2+40W
- 230 m long and open to NW
- near vertical, dipping steeply northward; good depth extent
- NW end correlates with showing #7 which contains fault striking in similar direction - also some pyritization is noted along strike length to the SE
- may extend onto anomaly F

Correlations:

- very little geochem expression, as the geochem survey was run short of this anomaly. One point geochem high at north end of line 80W directly above D
- generally with magnetic low though parts of IP anomaly occur north of magnetic survey area
- generally with resistivity high
- resistivity sections show flat-lying low which is indicative of fault and which cuts across IP high
- no Max/Min correlation

Anomaly E

- classification: definite
- occurs just south of showing #8
- northeast corner of grid, from L40E to 40W
- generally near vertical, dipping steeply southward as it strikes westerly
- 80 m strike length open to west
- shows good depth extent on line 0+40W

GEOTRONICS SURVEYS LTD. --

Correlations:

- correlates with resistivity high
- no correlation with other surveys, as they did not cover this far north

Anomaly F

- classification: definite
- north of anomaly A, striking west northwest
- generally dips steeply northward or vertically
- 80 m strike length
- appears to merge with anomaly A near line 40E
- could also be extension of anomaly D

Evidence:

- widening of A at depth on line 40E
- geochem anomaly over A splits and stretches out toward anomaly F

Correlation:

- with edge of resistivity high
- local geochem, as stated above
- no definite mag or Max/Min

Anomaly G

- classification: probable
- in NW quadrant of grid, striking NW and apparently dipping steeply southward
- occurs just north of showing #6 on 7+20W
- extends from line 7+20W to 6+40W, and possibly as far as 5+20W for a total minimum strike length of 200 m $\,$

Evidence:

- local mag high elongated and trending NW
- structural features, including mapped vertical joints and a long, high bluff. All strike roughly NW from same area as anomaly on 5+20W
- best part of anomaly occurs on 7+20W near showing #6

Correlations:

- mag, as stated above
- with resistivity high on 5+20W and 6+40W
- no Max/Min
- geochem anomaly occurs on 7+20W directty above G. There was no geochem survey carried out as far as G on line 6+40W
- fault zone, with oxidized gouge, located directly with anomaly G on 7+20W. These also are almost vertical

Anomaly H

- classification: probable
- southern, central portion of grid
- strikes west-northwest, between L4+40W and 5+20W, dipping steeply south. Therefore, minimum strike length of 80 m
- occurs on L4+40W as two probable zones dipping in opposite directions, approximatley at right angles to each other

Correlations:

- with resistivity high
- local mag high, trending west-northwest from 4+00W; reaches H on 4+40W directed toward H on 5+20W but no extension beyond 4+40W
- no Max/Min
- very minor geochem

Anomaly I

- classification: definite to probable
- southwest quadrant of grid, from 5+20W to 7+20W
- strikes westerly, dipping steeply southward
- open to the south on both 7+20W and 5+20W

Correlations:

- no real resistivity correlation

- other surveys did not extend this far south

As seen in the above discussion, IP anomalous highs usually correlate with resistivity lows, but also with resistivity highs. The best example is IP anomaly A which correlates with a resistivity low along much of its east-west length. However, on two of the lines, A correlates with a resistivity high. As mentioned in the introduction, the normal cause of resitivity lows which correlate with IP highs is fracturing and/or alteration associated with the sulphides (which cause the IP high).

However, where resistivity highs correlate with IP highs, and the IP highs are thought to be caused by sulphides, the cause of the resistivity highs, therefore, is often quartz carbonate veining and/or surrounding silicification. All of the above are seen in the drill holes intersecting the Main Showing (cause of IP anomaly A). This indicates that all IP anomalies should be looked at, no matter what the correlation is with the resistivity results. However, the writer feels that IP highs correlating with resistivity lows are of stronger exploration interest.

Away from the IP highs, there is a strong variance in the resistivity values. Much of this is caused by lithological changes. Considering that most of the rocks on the survey area are volcanics, the variance in the resistivity values is probably reflecting different volcanic flows.

There is a definite correlation between the resistivity values and the topography. This is very normal since rocks of higher resistivities are usually also more resistive to weathering and erosional forces. On the survey grid, the much higher resistivities, in general, occur east of 200 W where the topography is also much steeper. On the other hand, west of 200 W, the resistivities are significantly lower and the topography is much more moderate as well. In addition, cliffs occurring throughout correlate with high resistivities.

The resistivity survey does not differentiate between the andesites and the quartz diorites as mapped by Cukor and as shown on Map 3. However, some of the resistivity highs are probably caused by intrusives, especially some of the lineal-shaped highs which could well be caused by intrusive dykes.

On the other hand, lineal-shaped resistivity lows (such as at 40+00E, 2+65N), are quite likely caused by geological structure such as faults, shears and contacts.

Some of the IP anomalies correlate with magnetic lows, especially anomaly A. This is quite common and is usually caused by alteration of the magnetite into other iron oxides and is associated with the mineralizing process.

As mentioned above, there was little response of the MaxMin HLEM survey to known mineralization and/or IP anomalies. At best the survey revealed possible conductors, some of these being quite doubtful. There is continuation of a few of the possible conductors from one line to the next suggesting the probable causative source being geological structure. One of these sub-parallels volcanics, the variance in the resistivity values is probably reflecting different volcanic flows.

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Respectfully submitted, GEOTRONICS SURVEYS LTD.

David G. Mark, Geophysicist

January 12, 1988 42/G411

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- Muller, G.E., Taylor River Map-Area, (Geology), Geological Survey of Canada, Map 17-68, Paper 68-50, 1969.

GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That am a Consulting Geophysicist of Geotronics Ι Surveys Ltd., with offices located at #530-800 West Pender Street, Vancouver, British Columbia.

I further certify:

- 1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
- 2. I have been practising my profession for the past 20 years and have been active in the mining industry for the past 23 years.
- 3. I am an active member of the Society of Exploration Geophysicists and a member of the European Association for Exploration Geophysicists.
- This report is compiled from data obtained from induced 4. polarization, resistivity and horizontal loop EM surveys carried out by a crew of Geotronics Surveys Ltd., under my supervision and under the field supervision of Marc Beaupre, geophysical technician, and alternately, Pat Cruickshank, geophysicist, during March 7 to 19, April 2 to 14 and April 25 to May 1, 1987.
- I do not hold any interest in Dalmatian Resources Ltd. 5. Ltd., nor in the property discussed in this report, nor will I receive any interest as a result of writing this report.

David G. Mark

Geophysicist

January 12, 1988 42/G411

AFFIDAVIT OF EXPENSES

This is to certify that induced polarization, resistivity, and horizontal loop EM surveys were carried out over the southern portion of the Tay group of claims, located on Taylor River and Great Central Lake 40 km due west of the town of Port Alberni, in the Alberni M.D., B.C., from March 7 to 19, April 2 to 25 and April 25 to May 1, 1987, to the value of the following:

Field:

Mobilization-demobilization	\$ 2,500.00
2-man geophysics crew, 10 days @ \$700/day	7,000.00
4-man geophysics crew, 13.5 days @ 1,500/day 4-man geophysics crew, 5 days @ \$900/day	20,250.00
(standby rate due to bad weather)	4,500.00
	\$34,250.00
Report:	
Senior geophysicist, 25 hours at \$45/hr.	1,125.00
Junior geophysicist, 45 hours at \$35/hr.	1,575.00
Geophysical technician, 90 hours at \$25/hr	2,250.00
Drafting and printing	1,000.00
Report typing and compilation	200.00
	6,150.00

GRAND TOTAL

NOTE: The amount of work done on each of the claim groups is as follows:

TAY A Group - \$16,000.00. TAY B Group - \$24,400.00

> Respectfully submitted, GEOTRONICS SURVEYS LTD.

David G. Mark, Geophysicist

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\$40,400.00









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LEGEND
% OUT-OF-PHASE % IN-PHASE INSTRUMENTATION: Apex Parametrics MAX MIN II
COIL SPACING: Line 1+20 E to 7+60 W - 50 meters Line 8+00 W to 9+20 W - 100 metres
GEOLOGICAL BRANCH ASSESSMENT REPORT
METRE 0 50 100
GEOTRONICS SURVEYS LTD DALMATIAN RESOURCES LTD. TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION; B.C.
HORIZONTAL LOOP EM PROFILES-3555 Hz.



GEOLOGICAL BRAN ASSESSMENT REPO

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LEGEND

INSTRUMENTATION

RECEIVER . HUNTEC MODEL MK IV TRANSMITTER : PHOENIX I PT - I GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 4 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY

Potential Curren Electrodes Electrod

PLOTTING METHOD

Potential Dipoles Dipole Ist, 2nd. 3rd Plotting

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL, 1000 ohm-metre

- RESISTIVITY LOW
<u>APPARENT CHARGEABILITY</u> CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

10

METRES 20 30 40

FIELD WORK FROM APRIL 2 - MAY 1, 1987

To sacompany geophysical report by DAVID G MARK, Geophysicist dated January 12, 1988

GEOTRONICS SURVEYS LTD.

TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

DATA AND CONTOURS

PSEUDOSECTION: LINE 1+20E.



APPARENT CHARGEABILITY

LEGEND

INSTRUMENTATION RECEIVER : HUNTEC MODEL MK IV TRANSMITTER PHOENIX I PT - I GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY : DIPOLE - DIPOLE DIPOLE LENGTH : 15 metres DIPOLE SEPARATION: n = 1 to 4 DELAY TIME: 200 milliseconds INTEGRATION TIME : 1500 MILLISECONDS CHARGE CYCLE : 8 second square wave

seconds J 8 seconds

DIPOLE - DIPOLE ARRAY

Potentia Electrodes Electrode

PLOTTING METHOD

Potential Dipoles Ist. 2nd. 3rd Pletting -Points -

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: 2000 ohm-metres

- RESISTIVITY LOW

APPARENT CHARGEABILITY CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

CH ZC METRES 10 20 25 20 JF FIELD WORK FROM APRIL 2 - MAY 1, 1987 OGICAL To accompany geophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988 GEOTRONICS SURVEYS LTD. DALMATIAN RESOURCES LTD. 三百 TAY CLAIM GROUP OU TATLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C. 04 INDUCED POLARIZATION AND RESISTIVITY SURVEYS PSEUDOSECTION: LINE 0+80E. DATA AND CONTOURS DRAWN BY DATE PROJECT NO N.T.S. SCALE MAP NO 6





LEGEND

INSTRUMENTATION RECEIVER: HUNTEC MODEL MK. IV TRANSMITTER: PHOENIX I PT - 1 GENERATOR: PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 10 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY

Potential Electrodes Electrodes

PLOTTING METHOD

Current Dipole Plotting Points

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW
<u>APPARENT CHARGEABILITY</u>
CONTOUR INTERVAL: As Shown

- CHARGEABILITY LOW

METRES 20 30 40 10

FIELD WORK NOV., 1985

accompany geophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988					
GEOTRONICS SURVEYS LTD.					
DALMATIAN RESOURCES LTD.					
TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C					
INDUCED POLARIZATION AND RESISTIVITY SURVEYS TESTING					
DATA AND CONTOURS					
WN BY P C	DATE JAN . 1988	PROJECT NO 87/07/08	N T S. 92F/6W	SCALE I 1000	MAP NO 8A













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FIELD WORK FROM APRIL 2 - MAY 1, 1987

npany geophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988

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TAY CLAIM GROUP

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE 0+40W. DATA AND CONTOURS

DRAWN BY DATE PROJECT NO N.T.S. SCALE MAP NO. P.C. JAN, 1988 87/07/08 92F/6W 1 1000 MAP NO.

LEGEND

INSTRUMENTATION

RECEIVER: HUNTEC MODEL MK IV TRANSMITTER: PHOENIX I PT -1 GENERATOR: PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 4 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY



PLOTTING METHOD

Potential Dipoles

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: 1000 ohm-metres

- RESISTIVITY LOW

METRES 20

CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW







APPARENT RESISTIVITY

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LEGEND

INSTRUMENTATION

RECEIVER HUNTEC MODEL MK IV TRANSMITTER PHOENIX I PT - I GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 6 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY

Potential lectrodet

PLOTTING METHOD

Potential Dipoles Ist. 2nd 3rd Plotting Points

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: 1000 ohm-metres

- RESISTIVITY LOW <u>APPARENT CHARGEABILITY</u> CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

METRES 20

FIELD WORK FROM APRIL 2 - MAY 1, 1987

o accompany geophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988

GEOTRONICS SURVEYS LTD.

TAY CLAIM GROUP

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE O+80W. DATA AND CONTOURS DRAWN BY DATE PROJECT NO N.T.S. PC DATE PROJECT NO N.T.S. SCALE MAP NO B7/07/08 92F/6W SCALE MAP NO

APPARENT CHARGEABILITY



LEGEND

INSTRUMENTATION

RECEIVER HUNTEC MODEL MK. IV TRANSMITTER PHOENIX I PT - I GENERATOR PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 5 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY



PLOTTING METHOD

Potential Dipoles Dipole ist. 2nd 3rd Plotting

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW

APPARENT CHARGEABILITY CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

METRES

FIELD WORK FROM APRIL 2 - MAY 1, 1987.

GEOTRONICS SURVEYS LTD.

DALMATIAN RESOURCES LTD. TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C.

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE 1+20W. DATA AND CONTOURS DRAWN BY DATE PROJECT NO N.T.S. PC DATE PROJECT NO N.T.S. 92F/6W SCALE MAP NO 11



LEGEND

INSTRUMENTATION

RECEIVER HUNTEC MODEL MK IV TRANSMITTER PHOENIX I PT - 1 GENERATOR PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 5 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave







INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE 1+60W. DATA AND CONTOURS

DRAWN BY DATE PROJECT NO N.T.S. SCALE SCALE 1000

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APPARENT CHARGEABILITY

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APPARENT RESISTIVITY







LEGEND

INSTRUMENTATION

RECEIVER : HUNTEC MODEL MK IV TRANSMITTER : PHOENIX I PT - I GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 5 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave



DIPOLE - DIPOLE ARRAY

Potential Current Electrodes Electrodes

PLOTTING METHOD

Potentiol Dipoles Current Dipole ist 2nd 3rd Plotting Points

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW APPARENT CHARGEABILITY

CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

METRES 10 20 30 40

FIELD WORK FROM APRIL 2 - MAY 1, 1987

TO BECOMPONY GEOPTING I REPORT by DAVID & MARK, Geophysicist dated January 12, 1988 GEOTRONICS SURVEYS LTD. DALMATIAN RESOURCES LTD. TAY CLAIM GROUP TAY OR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C INDUCED POLARIZATION AND RESISTIVITY SURVEYS PSEUDOSECTION: LINE 3+60W. DATA AND CONTOURS DRAWN BY P.C. DATE PROJECT NO N.T.S 92F/6W SCALE MAP NO 14



LEGEND

INSTRUMENTATION

RECEIVER : HUNTEC MODEL MK IV TRANSMITTER : PHOENIX I PT-1 GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 6 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave

2 seconds 8 seconds

DIPOLE - DIPOLE ARRAY

Potential Electrodes Current Electrodes 1111

PLOTTING METHOD

Potential Dipoles Dipole) Ist. 2nd. 3rd Plotting

APPARENT RESISTIVITY (Ohm-metres X (00) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW

APPARENT CHARGEABILITY

CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

METRES 10 20 30

FIELD WORK FROM APRIL 2 - MAY 1, 1987

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DALMATIAN RESOURCES LTD. TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C.

INDUCED POLARIZATION AND RESISTIVITY SURVEYS PSEUDOSECTION: LINE 4+40W.

DATA AND CONTOURS

MAP NO.

DRAWN BY DATE PROJECT NO. N.T.S. SCALE STITUTION 92F/6W 1 1000

ASSESSMENT REPOR

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LEGEND

INSTRUMENTATION

RECEIVER : HUNTEC MODEL MK IV TRANSMITTER : PHOENIX I PT - I GENERATOR : PHOENIX MG-2

SURVEY PARAMETERS

SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 6 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave

2 seconds 8 seconds

DIPOLE - DIPOLE ARRAY

Potential Electrodet Electrod

PLOTTING METHOD

Potential Dipoles Dipole) Ist. 2nd. 3rd Plotting Points

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW

APPARENT CHARGEABILITY CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

4

FIELD WORK FROM APRIL 2 - MAY 1, 1987

To accompany Rephysical report by DAVID G. MARK, Geophysicist dated January 12, 1988

D'ALMATIAN RESOURCES LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE 5+20W

DATA AND CONTOURS

MAP NO LE

DRAWN BY DATE PROJECT NO N T S SCALE PC JAN, 1988 87/07/08 925/6W 1 1000

ASSESSMENT REPORT

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APPARENT CHARGEABILITY

APPARENT RESISTIVITY

10.8

LEGEND INSTRUMENTATION APPARENT RESISTIVITY RECEIVER : HUNTEC MODEL MK. IV TRANSMITTER PHOENIX I PT - I GENERATOR : PHOENIX MG-2 SURVEY PARAMETERS SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH : 15 metres DIPOLE SEPARATION: n = 1 to 5 DELAY TIME: 200 milliseconds INTEGRATION TIME : 1500 MILLISECONDS CHARGE CYCLE : 8 second square wave second 8 seconds DIPOLE - DIPOLE ARRAY PLOTTING METHOD Potential Dipoles Dipole Ist. 2nd. 3rd Plotting Points APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.) - RESISTIVITY LOW APPARENT CHARGEABILITY CONTOUR INTERVAL: 4 milliseconds - CHARGEABILITY LOW NC METRES 20 30 40 < P-N E F -10 -25 EULUGICAL SSESSMENT FIELD WORK FROM APRIL 2 - MAY 1, 1987 To accompany peophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988. APPARENT CHARGEABILITY GEOTRONICS SURVEYS LTD. DALMATIAN RESOURCES LTD. TAY CLAIM GROUP D C INDUCED POLARIZATION AND RESISTIVITY SURVEYS itim. PSEUDOSECTION: LINE 6+40W. DATA AND CONTOURS DRAWN BY DATE PROJECT NO N.T.S. SCALE. MAP NO 17

LEGEND

INSTRUMENTATION RECEIVER: HUNTEC MODEL MK. IV TRANSMITTER: PHOENIX I PT - I GENERATOR: PHOENIX MG-2

SURVEY PARAMETERS SURVEY MODE: TIME DOMAIN ARRAY: DIPOLE - DIPOLE DIPOLE LENGTH: 15 metres DIPOLE SEPARATION: n = 1 to 6 DELAY TIME: 200 milliseconds INTEGRATION TIME: 1500 MILLISECONDS CHARGE CYCLE: 8 second square wave

seconds 8 seconds

DIPOLE - DIPOLE ARRAY

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PLOTTING METHOD Potential Dipoles

Dipole Ist. 2nd. 3rd Plotting Points

APPARENT RESISTIVITY (Ohm-metres X 100) CONTOUR INTERVAL: Doubling from 100 ohm-metres (100, 200, 400 etc.)

- RESISTIVITY LOW <u>APPARENT CHARGEABILITY</u> CONTOUR INTERVAL: 4 milliseconds

- CHARGEABILITY LOW

UR ZC AA 2 . NH AZ UM GI S M 00 OL 10 UN

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ALC MARKING

METRES 20 30 4

FIELD WORK FROM APRIL 2 - MAY 1, 1987.

To accompany geophysical report by DAVID G. MARK, Geophysicist dated January 12, 1988

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TAY CLAIM GROUP TAYLOR RIVER, SPROAT LAKE AREA ALBERNI MINING DIVISION, B.C. INDUCED POLARIZATION AND RESISTIVITY SURVEYS

PSEUDOSECTION: LINE 7+20W

DATA AND CONTOURS