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SUMMARY

Airborne magnetic and VLF-EM surveys were carried out over the Hedley Claims owned by Pacific Seadrift Resources Ltd. of Vancouver, B.C. during the first part of 1983. The claims, separated into two large blocks, are located 2 km to the south and 9 km to the west of the Town of Hedley. Access is easily gained by a two-wheel drive vehicle. The terrain consists of mainly moderate to steep slopes forested with moderately dense coniferous trees. The purpose of the surveys was to aid in the mapping of geology as well as to locate probable areas for exploration of gold mineralization.

The north block of claims are mainly underlain by Upper Triassic Nicola Group volcanics and sediments with Upper Cretaceous Otter Intrusives occurring in the southwestern corner. The northwestern corner of the property is underlain by a capping of Tertiary volcanics. The southern block is also mainly underlain by the Nicola Group. The other rock types occurring on the property are Coast Intrusives along the northern boundary, and one or more of the Formations of Bradshaw, Independence, Shoemaker and Old Tom along the eastern boundary. Plugs and dykes of gabbro occur throughout the Nicola Group of rocks. Bands of metamorphosed limestone, calcareous argillites and argillites associated with basic intrusives are mineralized with gold-bearing arsenopyrite in the Hedley Mascot Gold Mines and Nickel Plate Mines. Also gold within quartz veins have been discovered in one of the properties of Banbury Gold Mines located in between the north and south blocks.

The airborne surveys were flown at about a 50-meter terrain clearance on straight lines with a separation averaging about 200 meters. The instruments used were a Sabre Electronics proton precession magnetometer and a Sabre Electronics VLF-EM receiver. The magnetic data were picked from the strip charts and hand contoured. The contours were drawn on a survey plan on which the VLF-EM anomalies were plotted as well.

CONCLUSIONS

1. The magnetic survey over the northern claim group has shown that most of the Pacific Seadrift property is underlain by sediments and non-magnetic volcanics of the Nicola Group. The survey also appears to show the Nicola contact with the Otter Intrusives within the southwestern corner and with the Princeton volcanics within the northwestern corner.

2. (a) The magnetic surveys over the southern group has shown that much of this area is underlain by sediments and non-magnetic volcanics of the Nicola Group as well as Coast Intrusive granites. The magnetic expression for both of these groups appears to be the same.

   (b) The contact between the granites and rocks of the Bradshaw, Independence Shoemaker, and Old Tom Formations was mapped along the eastern boundary.

   (c) Magnetic highs throughout the southern block are probably due to basic volcanic rocks of the Nicola Group.

3. Both the VLF-EM and magnetic surveys revealed lineations within the survey area that are likely caused by fault, shear and/or contact zones. These usually are important indicators of sulphide and native gold mineralization <u>especially where the lineations cross</u>.

RECOMMENDATIONS

These are as follows:

1. Take large soil samples every 50 m along contour lines preferably about 100 m apart in elevation. On this property, use could be made of the roads. In the lab, the total sample should be pulverized, and <u>not</u> screened at all in order to preclude the screening out of coarser gold. The anomalous samples should then be followed up by sampling on a tight grid, say 15 to 20 m centers on a grid, say 200 m square.

2. At the same time, careful geological mapping should be carried out preferably by a geologist familiar with gold occurring within volcanic flows. One large benefit of this will be a better interpretation of any geophysics that are carried out.

3. The defined soil anomalies in gold should then be 'cat' trenched.

4. Resistivity - IP mapping should also be carried out in order to optimize drill targets.

5. Diamond drilling should then be carried out using a large diameter drill and a face discharge bit.

Note: Much of the conclusions and recommendations as above have been reached as a result of personal communication by Marshall Smith, P.Eng., a geological engineer, who is the originator of the model of gold within volcanic flows.

GEOPHYSICAL REPORT

ON

AIRBORNE MAGNETIC AND VLF-EM SURVEYS

OVER THE

HEDLEY CLAIMS

HEDLEY AREA

OSOYOOS AND SIMILKAMEEN MINING DIVISIONS

BRITISH COLUMBIA

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data and the interpretation of low-level airborne magnetic and VLF-EM surveys carried out in the spring of 1983 over the properties within the Hedley Gold Camp belonging to Pacific Seadrift. The surveys were carried out by E.A. Dodd, instrument operator and project manager, and Lloyd Brewer, navigator, both of whom are of Columbia Airborne Geophysical Services Ltd. A total of 559.9 line km of airborne surveys were done over the claims and surrounding area.

The object of the two surveys was to aid in the geological mapping of lithology and structure for the purpose of exploration of the type of gold mineralization as is found in the Hedley mining camp. Magnetic surveys have especially been proven to be a good geological mapping tool.

This work was done on the recommendation of Larry Sookochoff in his geological engineering report dated March 30, 1983. His report has been used as a reference throughout the first part of this report.

PROPERTY AND OWNERSHIP

The property is comprised of two groups of claim blocks. The North Block of six claims consisting of 118 units and the South Block consisting of twenty claims consisting of 324 units for a total of twenty-six claims consisting of 442 units. Particulars are as follows and as shown on Sheet 2.

NORTH BLOCK

Claim Name	Units	Record No.	Mining Division	Expiry Date
Mills 1	20	1793	Similkameen	Jan. 10, 1984
Mills 2	18	1794	Similkameen	Jan. 10, 1984
Mills 3	20	1795	Similkameen	Jan. 10, 1984
Mills 4	20	1796	Similkameen	Jan. 10, 1984
Hume 1	20	1790	Similkameen	Jan. 10, 1984
Hume 2	20	1791	Similkameen	Jan. 10, 1984
	118			

SOUTH BLOCK

Grumpy	20	1787	Similkameen	Jan. 4, 1984
Bostock 2	20	1798	Similkameen	Jan. 10, 1984
Bostock 3	20	1799	Similkameen	Jan. 10, 1984
Bostock 4	20	1800	Similkameen	Jan. 10, 1984
Rice 1	20	1801	Similkameen	Jan. 10, 1984
Rice 2	20	1657	Osoyoos	Jan. 28, 1984
Rice 3	20	1802	Similkameen	Jan. 10, 1984
Rice 4	20	1658	Osoyoos	Jan. 28, 1984
Camsell 1	12	1655	Osoyoos	Jan. 28, 1984

SOUTH BLOCK

Claim Name	Units	Record No.	Mining Division	Expiry Date
Camsell 2	12	1656	Osoyoos	Jan. 28, 1984
Camsell 3	15	1654	Osoyoos	Jan. 28, 1984
Camsell 4	15	1653	Osoyoos	Jan. 28, 1984
Brown 1	15	1651	Osoyoos	Jan. 28, 1984
Brown 2	16	1650	Osoyoos	Jan. 28, 1984
Brown 3	12	1649	Osoyoos	Jan. 28, 1984
Brown 4	16	1648	Osoyoos	Jan. 28, 1984
Jessie 1	18	1647	Osoyoos	Jan. 28, 1984
Annabree	15	1646	Osoyoos	Jan. 28, 1984
Snafu 1	6	1813	Osoyoos	Jan. 28, 1984
Snafu 2	12	1652	Osoyoos	Jan. 28, 1984
	324			

The expiry dates shown do not take into account the surveys under discussion as being accepted for assessment credits.

All claims are owned by Pacific Seadrift Resources Ltd. of Vancouver, British Columbia.

LOCATION AND ACCESS

The North Block is located 23 km southeast of Princeton and 10 km northeast of Hedley covering predominantly the mouthwaters and drainage of the northeasterly flowing Smith Creek with the southeastern portion in the Whistle Creek drainage.

Access is provided by Highway No. 3 to the northern portion with secondary all-weather roads branching southerly from the highway and sub-paralleling Smith Creek to the north. Access to the southern portion of the North Block is provided by secondary dry weather roads branching westerly from the Whistle Creek

road 7 km north of Hedley.

The South Block is located from 1 to 10 km south of Hedley with access provided by dry weather secondary roads from the main Whistle Creek road and from the Paul Creek road 15 km south of Hedley.

PHYSIOGRAPHY

The two claim blocks lie at the southern end of the physiographic division known at the Thompson Plateau System within the Wilbert Hills area and mainly within the Smith, Pettigrew and Paul Creek drainage areas south and west of Hedley. The terrain varies from moderate slopes throughout most of the properties to steeper slopes occurring along the creeks.

Elevations within the North Block range up to 1,625 m along the Whistle - Pettigrew Creek ridge in the southwest from 550 m in the northeast within the Similkameen River Valley.

Within the South Block, elevations reach 1,980 m in the central south at the headwaters of the easterly flowing Paul Creek from 610 m along the eastern boundary adjacent to Similkameen River.

The main water sources would be the creeks mentioned above and their tributaries which cross the properties. Otherwise the properties are fairly dry and water supply would depend on seasonal run-off.

The forest cover consists of fir, pine and spruce and varies from closely growing, immature stands to more widely spaced, mature stands.

HISTORY OF PREVIOUS WORK

Since the claims have been staked, to the writer's knowledge no previous work has been done.

GEOLOGY

The following is quoted from Sookochoff's March, 1983 report:

"According to Map 88A - Princeton the general area is underlain by the Upper Triassic Nicola Group of volcanics, sediments and schists which are intruded by the Jurrasic Coast Intrusives and intrusives of peridotite, pyroxenite and gabbro.

"The Coast Intrusives are predominant in enveloping the Nicola group which forms a band stretching from south of Princeton to beyond Kamloops Lake in the north. The same intrusives in addition to the more mafic rock intrusives and pink and grey granite and granodiorite of the Upper Cretaceous Otter Intrusions occur as stocks and plugs within the Nicola band.

"The latest rocks of the region, the Kingsvale and Princeton Group of volcanics occur as varisized cappings throughout the area.

"The Nicola group consists of a succession of lavas of unknown thickness with irregular intercalations of tuffaceous and argillaceous lenses and occasional beds of limestone. Dawson states that 'there seems to be further in several places, a blending of materials originally volcanic with quartzose sediments,...'

"Flow breccias are probably more common than massive lava with the different types also mixed together. An unusual case

of a flow is a greenish rock containing rounded fragments of what appears to be a red syenite but is actually a flow breccia feldspar porphyry.

"The sedimentary rocks are more restricted with some sediments of considerable extent, however more commonly as small patches of fine-grained, well-bedded tuff or tuffaceous argillite and small lenses of blue-grey limestone all through the volcanic rocks.

"Breccias are common in certain areas. The breccias consist of angular fragments 'half an inch to an inch in size', of predominantly volcanic rocks with argillite which are frequently associated with tuff or greywacke of 'an eighth of an inch across' subangular grains.

"At the Hedley Camp gold deposits at Hedley, the stratified Nicola Rocks of thin bedded quartzite, argillite, tuff and breccia, in part much silicified, are floored of a large body of granodiorite and intruded by gabbro stocks, dykes and sills.

"The granodiorite rarely is found in the sediments, however the basic intrusions are abundantly represented through the ore zone. The 'Climax stock' was originally believed to be a stock, however, the lower contact is concordant with the intruded sediments so that the body closely resembles a large irregular sill. On the eastern part of the Climax stock, the 'sills and dykes' are porphyries.

"Extensive development of coarse garnet and pyroxene skarns occurs as a halo on the surface of the porphyry sills which are in contact with limestone. The known ore shoots occur in the skarn not more than '250 feet' from the limestone contact.

"The main Nickel Plate orebodies varied from '10 feet to more than 100 feet' in thickness and were up to '500 feet in length and 350 feet in width'. The orebodies occurred within a zone plunging N20W at 30 degrees for a slope distance of '3,000 feet'. Within the zone, there were at least seven irregular sheet-like deposits overlapping an echelon. In addition to ore within the skarn zones, gold mineralization also occurs in cross-cutting fractures of the 'dykes and sills'."

"The North Block Hedley property of Seadrift Resources predominantly covers the Nicola group of rocks in contact with intrusives in the northern and southeastern portion. A gabbroic plug is indicated along the central eastern border.

"Mineral showings within one to four km east of the North Block are described as:

> "a thick series of steeply dipping tilted argillites intruded by dykes and irregular masses of diorite. Most of this argillite is massive and black ... not less than 200 feet thick or light coloured rocks consisting of calcareous argillite, chert, some limestone and possibly some tuffs. ... The rocks have been fractured here and there and some of these fractures have been filled by quartz carrying pyrite, arsenopyrite, sphalerite and a little chalcopyrite and pyrrhotite. The quartz stringers are all small and the zones of fracturing generally weak, but some of these small stringers carry more than 2 ounces of gold a ton.
>
> " ... five shear-zones which tend to follow the bedding are light coloured in part calcareous and cherty sediments ... The belt of (light-coloured) sediments is interesting, because in these arsenopyrite, containing variable gold values, seems to occur in preference to the darker argillites ...

"On the showing east of Whistle Creek:

> "the deposit appears to have formed by the replacement of grey, cherty limestone, probably along some sort of a fissure or frature zone, by arsenopyrite and pyrite with calcite about the only introduced gangue mineral

> ... the mineral zone is 6 to 12 inches wide ... another zone is 18 to 24 inches wide. Samples of this material have assayed from 1/4 to 1/2 ounce of gold per ton.

"On a formerly discovered mineral showing four km to the east on which Banbury Gold is conducting exploration and development work, the showings are described as follows:

> "Four shear zones are known on the property, the principal one being on the Maple Leaf claim. This is an irregular, branching zone striking north and dipping 60 degrees to the west, with ore shoots developed at intervals along it. The zone itself is as much as 30 feet wide, but the greatest width of quartz is 12 feet. The ore minerals occur in the quartz, but are not evenly disseminated. The shear meets the diorite at an acute angle, and is best mineralized in the metamorphic rocks near the contact, but is barren in the diorite. ... Gold values are erratic, varying from 0.02 ounces to 0.80 ounce a ton ...

"The South Block is also predominantly underlain by Nicola Volcanics in contact with intrusives along the northern and eastern periphery. Gabbro plugs are also indicated within the granites in the northeast portion of the property.

"Two old mineral showings, one of thich is not included in the property are contained within the southeast portion of the South Block. The mineral showing within the crown grants are described as:

> "steeply tilted, banded sediments strike north-south and are intruded by dykes and sills of augite and/or hornblende andesites and diorites. Just northwest of the claims are banded purple and green andesite flows and some breccias, and to the west to at least as far as the 6,616 foot summit (1 mile to the northwest) is a light grey intrusive dacite. Cherty (probably sedimentary) breccias lie between the sediments and dacite on the west. The sediments are argillaceous to quartzite rocks, all metamorphosed, and are in many respects sim-

> ilar to those encountered on Nickel Plate Mountain ... The dacite is a fresh, variable rock of considerable area and contains phenocrysts of quartz and feldspar ... Mineralization includes, besides primary (?) pyrrhotite, arsenopyrite, pyrite and pyrrhotite. It is found almost entirely in the sediments and appears to occur selectively in a fine dense brownish rock which is probably an altered shale ... Alteration of brownish fine sediments in reticulating veinlets, is accompanied by scattered crystals and in seams and blebs of arsenopyrite ...

"On the showing indicated to be covered by the North Block and two and one-half km northeast of the above described crown grant showing the deposit is described as follows:

> "The mineral deposit consists of pyrite, pyrrhotite and arsenopyrite in a sheared and altered zone crossing a 20 foot granitic sill that cuts argillite and limestone and is essentially confined to the sill. The unaltered host rock is a normal amphibolite granodiorite or quartz diorite related to the nearby batholith. While altered it becomes light coloured and fine grained and consists largely or quartz, epidote, calcite, pyroxene (probably diopside, zoisite and apalite). Although restircted in extent, the sulphides are locally massive with much arsenopyrite. However, two samples of this material taken by Heldey only returned 0.02 and 0.01 ounces of gold a ton respectively."

INSTRUMENTATION AND THEORY

a) Magnetic Survey

The magnetic data are detected using a nuclear free precession proton magnetometer, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. The magnetometer measures total count of the earth's magnetic field intensity with a sensitivity of one gamma. The data are recorded on magnetic tape and 12 cm analog strip chart.

The magnetic patterns obtained from a regional airborne survey are directly related to the distribution of magnetite in the survey area. However, the geology cannot be deduced from iso-magnetic maps by simply assuming that all magnetic highs are underlain by gabbro or ultramafic rocks, and that all magnetic lows are caused by limestone or chert. The problem with such a simplistic approach is that magnetite is not uniformly distributed in any type of rock. Other problems arise from the fact that most geologic terrains have rocks of high susceptibility superimposed on less 'magnetic' rocks, and vice versa. Cultural features such as powerlines, pipelines and railways also complicate matters. So many variables can be involved that it may be impossible to make a strictly accurate analysis of the geology of an area from magnetic data alone. It is preferable to use other information such as geological, photogeological and electromagnetic in combination with magnetic data to obtain a more accurate geological analysis.

b) VLF-EM Survey

A two-frequency omni-directional receiver unit, manufactured by Sabre Electronic Instruments Ltd., of Burnaby, B.C., was used for the VLF-EM survey. The transmitters used are NLK Arlington (Seattle), Washington, operating on 24.8 KHz, and Annapolis, Maryland, transmitting at 19.0 KHz. These signals are used due to their ideal orientation with respect to northeast and east-west geological structures, and their good signal strengths. The measurement taken during the survey is the variation in the horizontal component of the signal strength.

The VLF (Very Low Frequency) method uses powerful radio transmitteres set up in various parts of the world for military communications. These powerful transmitters can induce electric currents in conductive bodies thousands of kilometers away from

the radio source. The induced currents set up secondary magnetic fields which can be detected at surface through deviations in the normal VLF field. The VLF method is inexpensive and can be a useful initial tool for mapping structure and prospecting. Successful use of the VLF requires that the strike of the conductor be in the direction of the transmitting station so that the lines of magnetic field from the transmitter cut the conductor. Thus, conductors with northeast to southeast strikes will respond to Annapolis transmissions, while conductors striking north to east will respond to Seattle transmissions. Conductors striking east to northeast may respond to both stations, giving coincident field strength peaks.

The theory of VLF-EM interpretation is quite simple. Conductors are located at field strength maxima. In the Hedley area, one may assume that a Seattle field strength peak represents a conductor with a generally northeast trend, and an Annapolis peak will be a conductor with an east-west trend. This, of course, only applies to conductors with clearly linear trends and cannot be assumed for single line anomalies.

It is impossible to determine the quality of conductors with any reliability, using field strength data alone. The question of linearity is in doubt if the conductor does not appear to cross the adjacent flight lines. The relatively high frequency results in a multitude of anomalies from unwanted sources such as swamps, creeks and cultural debris. However, the same characteristic also results in the detection of poor conductors such as faults, shear zones, and rock contacts, making the VLF--EM a powerful mapping tool.
The interpretive technique requires information from magnetic surveys, air photo analyses, and ground traverses to aid in discrimination between important and unwanted anomalies. Even armed with this information the interpreter can easily be misled.

SURVEY PROCEDURE

A two-meter bird was fitted with a magnetometer coil and two omni-directional EM receivers and towed beneath the helicopter on a 10-meter cable. The terrain clearance for the bird was 50 m.

The surveys were straight-line flown and contour flown in areas of steep terrain at an average line spacing of 200 m. Navigation was visual, using 1:50,000 scale maps blown up to 1:10,000.

The aircraft used to conduct this survey was a Bell Jet Ranger helicopter. Airspeed was a constant 60 KPH so that creek valleys and canyons were penetrated thoroughly. The slow airspeed provided safety, detailed coverage of boxed-in areas, and consistency of data retrieval, which is critical in rugged terrain.

The number of line km flown as shown on Sheets 3 to 5 is 559.9.

The project supervisor, Mr. Dodd, has over 14 years of experience in conducting aerial magnetic, electromagnetic and radiometric surveys from fixed-and rotary-wing aircraft, under all types of terrain conditions.

DATA REDUCTION AND COMPILATION

The observant magnetic total field was recorded on analogue strip charts. These were played-back together with audio recordings containing fiducial markers, and the fiducial markers were transferred to the strip charts. The fiducial markers were identified with topographic features along the flight lines.

The magnetic data were taken from the strip charts and plotted on Sheets 3 to 5 at a scale of 1:10,000 (1 cm = 100 m). The data were then contoured at a 100-gamma interval.

The VLF-EM anomalies were taken from the strip charts and plotted on the sheet with the magnetics. For each anomaly, a heavy line along the flight line was drawn showing its half-width. An 'S' or an 'A' designated the anomaly as being from the Seattle transmitter or the Annapolis transmitter.

A question mark on the anomaly indicates that it could be caused by terrain. The survey area was somewhat rugged causing numerous VLF-EM anomalous responses most of which was easily sorted out as being caused by terrain. However, some were difficult to sort out and they were therefore plotted with a question mark.

Strong anomalies were plotted with exclamation marks, and anomalies without any marks indicate average responses. Other symbols are explained on the sheets.

DISCUSSION OF RESULTS

The magnetic field over the greater part of the northern claim block is very quiet and quite low in amplitude. This indicates the property is probably underlain by Nicola sediments or possibly Nicola volcanics that contain very little magnetite. The magnetic field ranges from less than 900 gammas to, say, 1,200 gammas.

Within the southwest corner of the property, the magnetic field is somewhat noisier and of higher amplitude containing a few thumbprint-shaped highs. The magnetic field varies from 1,200 to 2,100 gammas. The G.S.C. geology map shows this area to be

underlain by granites and granodiorites of the Otter Intrusions. The writer has therefore drawn on Sheet 3 what is probably the contact between the Nicola Group and the Otter Intrusions which is considerably further east than the G.S.C.-mapped contact.

It is interesting to note that the highs occur in an arcuate band close to the contact. There is a possibility that the thumbprint highs could be reflecting gabbro intrusives. In the Nickel Plate Mine gabbro intrusives seemed to be related to the gold mineralization and occurred in close proximity. The possibility should also be kept in mind that the southern area of higher magnetics could be caused by Nicola volcanics.

The magnetic field within the northwestern part of the property is somewhat noisy and of higher amplitude which is very typical of Tertiary volcanics (Princeton basalts in this area). As a result, the writer has also drawn in the contact between the Nicola Group and the Princeton basalts based on the magnetics. The magnetic field of this area ranges from 1,400 to 2,200 gammas.

The G.S.C. map shows the northern part of the northern claim group to be underlain by Coast Intrusive granites. It would appear that this rock-type may be reflected by a quiet magnetic field ranging from 1,100 to 1,500 gammas. The writer has therefore drawn in the contact which closely agrees with the G.S.C.--mapped contact.

Along the northern boundary, however, the magnetic field has a range similar to that mapped as Nicola rocks elsewhere on the claims. Though the G.S.C. hasn't mapped it as such, it is therefore possible that this area is underlain by Nicola rocks.

For the southern claim group, the mapping of lithology through the airborne magnetics is not as apparently successful as with the north claim group. For example the contact between the Nicola Group and the Coast Intrusives does not seem to have a magnetic expression. Furthermore, there is no explanation from the G.S.C. geology map for the magnetic highs revealed in the southern block.

However, this does not mean the magnetics are not useful. It simply may take some ground work in order to optimize the magnetics interpretation.

The one contact that does seem to be reflected by the magnetics is that between the Coast Intrusives and the rock formations of the Bradshaw, Independence, Shoemaker, and Old Tom along the eastern boundary. The magnetic field over the latter group ranges from less than 700 to 1,000 gammas.

Occurring along this contact and probably within the granites is an arcuate band of highs reaching 2,000 gammas. The possible causes of these highs are as follows: (1) a pendant of Nicola volcanics; (2) a capping of Princeton volcanics; (3) a remobilization of magnetite within the intrusive body, or, (4) an intrusion of gabbro.

This arcuate band of highs appears to be connected to large magnetic highs within the center of the western portion of the southern claim block. In fact, these highs, which reach 2,200 gammas, are the most prominent feature of the southern group. The most likely causative source is basic volcanic rocks of the Nicola Group since this area is mapped by the G.S.C. to be underlain by Nicola rocks and since the northern boundary of the highs correlates with the G.S.C.-mapped contact between the Nicola Group and the Coast Intrusives. That is, if the causative source was a capping of the Princeton volcanics, the capping would cross the Nicola/Coast Intrusive contact.

The magnetic field over the rest of the southern block is fairly quiet with a range of 900 to 1,100 gammas. This magnetic field is therefore probably reflecting Nicola sediments, non-magnetic Nicola volcanics, and Coast Intrusive granites.

The major cause of VLF-EM anomalies, as a rule, are geologic structure such as fault, shear and breccia zones. It is therefore logical to interpret VLF-EM anomalies to likely be caused by these structural zones. Of course, sulphides may also be a causative source. But in the writer's experience, when VLF-EM anomalies correlate with sulphide mineralization, the anomalies are usually reflecting the structure associated with the mineralization rather than the mineralization itself.

There is some variation in intensity from one VLF-EM anomaly to the next. This is not only due to the conductivity of a causative source, but also the direction it strikes relative to the direction to the transmitter. In other words, those conductors lying close to the same direction as the direction to the transmitter can be picked up easier than those that are lying at a greater angle. Depending upon its conductivity, a conductor may not be picked up at all if it is at too great an angle. Lineal trends considered to be indicative of geological structure have been drawn on Sheets 3 to 5 taking into account:

a) Magnetic lows which are often caused by the magnetite within the rocks being altered by geological structure processes.

b) VLF-EM anomalies which more often than not are reflecting structure.

c) Topographic depressions such as creek valleys which are usually caused by structure.

Several lineations that are indicative of faults have been mapped across the property striking in virtually all directions. The lineations cross each other on the property in different areas. Structure is often important for the emplacement of mineralizing fluids especially where lineations intersect. Thus these areas may have greater exploration interest. A number of these intersections are especially prominent on Sheet 4, some of which are near the intrusive contact.

Throughout the survey area, there are some strong EM conductors occurring on only one flight line that could well be related to mineralization. These are marked as such on Sheet 3, 4 and 5. Of special interest would be those occurring within the Nicola Group.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark,
Geophysicist

February 16, 1984

SELECTED BIBLIOGRAPHY

Barr, D.A. - Gold in the Canadian Cordillera, C.I.M. Bulletin Vol. 73, No. 818, June 1980, P. 68-69.

Bayle - Geochemical Methods for the Discovery of Blend Mineral Deposits, C.I.M. Bulletin, September 1982, P. 113-132.

B.C. Mines and Petroleum Resources
Annual Reports 1966 P. 170.

Cockfield, W.E. - Geology and Mineral Deposits of Nicola Map - Area B.C., G.S.C. Memoir 249, 1947.

Economic Geology - Seventy-fifth Anniversary Volume 1905-1980, Economic Geology Publishing Company 1981.

Geology of Canadian Gold Deposits, C.I.M. 1982.

Geology of Canadian Ore Deposits, - 6th Commonwealth Mining and Metallurgical Congress Canada 1957, C.I.M. Geology Division 1957.

Preto, V.A., Kalvins, T.E., Thompson, N.A., and Nebocat, J., Preliminary Geological Map of the Aspen Grove Area, (part of 92H/15 and 92I/2E, B.C. Department of Mines and Petroleum Resources, Map 15, 1974.

Rice, H.M.A., Geology & Mineral Deposits of the Princeton Map-Area, British Columbia, Geol. Survey of Canada, Mem. 243, 1960.

Sookochoff, L., Geological Evaluation Report for Pacific Seadrift Resources Ltd. on the Hedley Property, Similkameen and Osoyoos M.D.'s, B.C., March 30, 1984.

GEOPHYSICIST'S CERTIFICATE

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

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices located at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

1. That 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 15 years and have been active in the mining industry for the past 18 years.

3. That I am an active member of the Society of Exploration Geophysicists and a member of the European Association for Exploration Geophysicists.

4. This report is compiled from data obtained from airborne magnetic and VLF-EM surveys carried out by Columbia Airborne Geophysical Services Ltd., under the supervision of E.A. Dodd during the spring of 1983.

5. I have no direct or indirect interest in any of the properties mentioned within this report, nor in Pacific Seadrift Resources Ltd., nor do I expect to receive any interest as a result of writing this report.

David G. Mark
Geophysicist

February 16, 1984

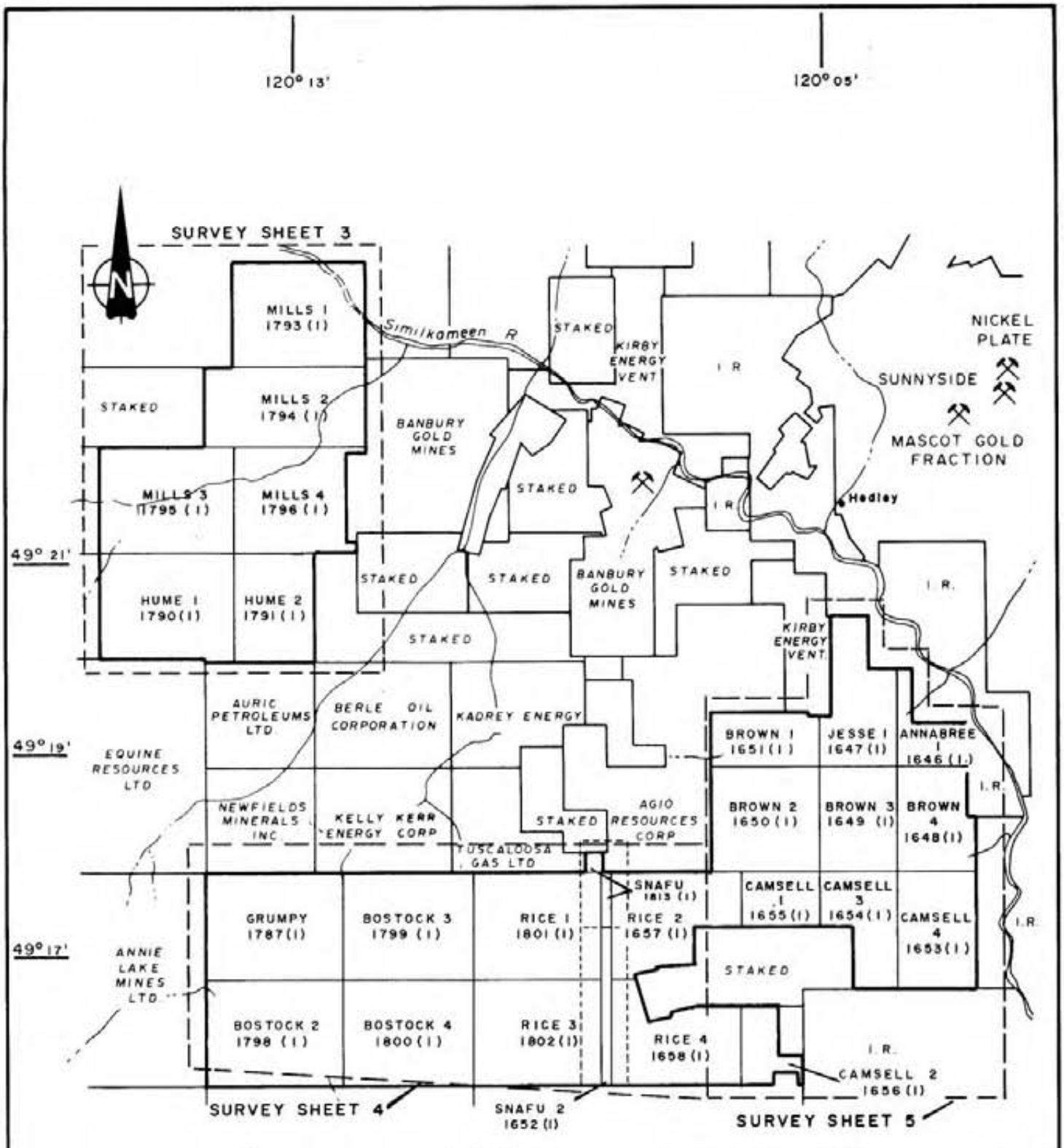
AFFIDAVIT OF COSTS

I, Eugene A. Dodd, president of Columbia Airborne Geophysical Services Ltd., certify that the airborne magnetic and VLF-EM surveys were flown in the spring of 1983, and that they were flown at a cost of $100/km, the total number of km being 559.9, to give a total cost of $55,990.00.

Eugene A. Dodd

October 14, 1983


PROPERTY LOCATION
135°
130°
125°
120°
60°
Cassiar
Juneau
Williston L.
Fort St. John
Stewart
B R I T I S H
55°
135°
55°
Smithers
Prince Rupert
Terrace
ALBERTA
PRINCE GEORGE
Queen Charlotte Islands
C O L U M B I A
N
Revelstoke
Lillooet
Port Hardy
KAMLOOPS
50°
Merritt
50°
130°
Vancouver Island
Princeton
Penticton
Trail
VANCOUVER
120°
Pacific Ocean
VICTORIA
125°
UNITED STATES
PACIFIC SEADRIFT RESOURCES LTD.
100 0 100 200 300 400 Km.
100 0 100 200 Mi.
SHEET 1
BRAD'S DRAFTING SERVICE



PACIFIC SEADRIFT RESOURCES, LTD.

NORTH AND SOUTH CLAIM GROUPS

HEDLEY AREA, B.C.

SIMILKAMEEN, OSOYOOS M. D.

CLAIM LOCATION MAP

SCALE:	DATE:	SHEET	DRAWN BY:
1: 100,000	Feb. 84.	2	B. D. S.

120° 15'

120° 13'

49° 23'

49° 21'

Possibly Nicola Rocks.

PRINCETON VOLCANICS

COAST INTRUSIVES

NICOLA GROUP
Sediments and/or altered volcanics.

NICOLA GROUP
Sediments and/or altered volcanics.

OTTER INTRUSIVES ?

OTTER INTRUSIVES ? / NICOLA GROUP

LEGEND

- Lineation produced from magnetic and E.M. results suggesting geological structure.
- ! , !! — V.L.F.-EM anomaly.
- T+ — Strong, extra strong anomaly.
- ?, ?? — Terrain anomaly with a conductor anomaly superimposed.
- Questionable anomaly, anomaly possible caused by noise eg. topography.
- Magnetic depression.
- Property boundary.
- O — Legal corner post.
- Flight line, direction flown.
- Claim boundary.
- Geological contact.

ANNAPOLIS 21.4 KHz. — A

SEATTLE 24.8 KHz. — S

100 gamma contour interval.

30m mean terrain clearance.

500m 0 500m 1Km

Survey Flown By: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES LTD.

A! GEOLOGICAL BRANCH ASSESSMENT REPORT

11,874

To Accompany Report By: D.G. MARK, GEOPHYSICIST.

PACIFIC SEADRIFT RESOURCES LTD.

HEDLEY CAMP PROJECT

NORTH CLAIM GROUP

HEDLEY, B.C.

AIRBORNE SURVEY

MAGNETIC CONTOURS & VLF-EM ANOMALIES

Scale:	Date:	Sheet no:	Drawn by:
1:10,000	Feb. 84.	3	B.D.S.

120° 13'

120° 08'

49° 16'

1787 (1)

1798 (1)

1652 (1)

1799 (1) 1801 (1)
1800 (1) 1802 (1)

LEGEND

- Lineation produced from magnetic and E.M. results suggesting geological structure.
- V.L.F - E.M. anomaly.
- I, II — Strong, extra strong anomaly.
- T+ — Terrain anomaly with a conductor anomaly superimposed.
- ? — Questionable anomaly.
- Magnetic depression.
- Property boundary.
- Claim boundary.
- Flight line, direction flown.
- S — Seattle.
- A — Annapolis.

N — ANNAPOLIS 21.4 KHz. — A

S — SEATTLE 24.8 KHz.

100 gamma contour interval.

30m mean terrain clearance.

500m 0 500m 1 Km

Survey Flown By: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES LTD.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,874

To Accompany Report By: D.G. MARK, GEOPHYSICIST.

PACIFIC SEADRIFT RESOURCES LTD.

HEDLEY CAMP PROJECT
SOUTH CLAIM GROUP
(WESTERN PART)
HEDLEY, B.C.

AIRBORNE SURVEY

MAGNETIC CONTOURS & VLF-EM ANOMALIES

Scale	Date	Sheet no.	Drawn By
1:10,000	Feb. 84.	4	B.D.S.

COAST INTRUSIVES.

BRADSHAW, INDEPENDENCE, SHOEMAKER and OLD TOM FORMATIONS.

49° 18'

COAST INTRUSIVES

BRADSHAW, INDEPENDENCE SHOEMAKER and OLD TOM FORMATIONS.

120° 05'

ANNAPOLIS 21.4 KHz — A

SEATTLE 24.8 KHz — S

LEGEND

- Lineation produced from magnetic and E.M. results suggesting geological structure.
- VLF-EM anomaly.
- !, !! Strong, extra strong anomaly.
- T+ Terrain anomaly with a conductor anomaly superimposed.
- ? Questionable anomaly.
- Magnetic depression.
- Property boundary.
- Claim boundary.
- Flight line, direction flown.
- O Legal corner post.
- S Seattle anomaly.
- A Annapolis anomaly.
- Geological contact.

100 gamma contour interval.

30 m. mean terrain clearance.

Survey Flown By: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES LTD.

500m 0 500m 1 Km

To Accompany Report By: D.G. MARK, GEOPHYSICIST.

PACIFIC SEADRIFT RESOURCES LTD.

HEDLEY CAMP PROJECT

SOUTH CLAIM GROUP
(EASTERN PART)
HEDLEY, B.C.

AIRBORNE SURVEY

MAGNETIC CONTOURS & VLF-EM ANOMALIES

Scale:	Date:	Sheet no:	Drawn by:
1:10,000	Feb. 84.	5	B.D.S.