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Off Confidential: 89.05.24
District Geologist, Nelson
ASSESSMENT REPORT 17731
                                MINING DIVISION: Trail Creek
PROPERTY:
              Union Jack-Poor Property
                     49 04 05
                                         117 50 04
LOCATION:
              LAT
                                  LONG
              UTM
                     11 5435137 439048
              NTS
                     082F04W
              Union Jack (L.1288), Poor Property (L.1273)
CLAIM(S):
OPERATOR(S):
              Inland Au-Ag Res.
AUTHOR(S):
              Bragg, D.K.
REPORT YEAR:
              1988, 17 Pages
COMMODITIES
SEARCHED FOR: Copper, Gold, Silver, Lead, Zinc
GEOLOGICAL
SUMMARY:
               Mineralization occurs along fault structures within the
          Pennsylvanian Mount Roberts Formation, the Jurassic Rossland Group and
          the Cretaceous-Jurassic Nelson Plutonic Rocks.
WORK
DONE:
          Geological, Geophysical
          GEOL
                   14.0 ha
              Map(s) - 2; Scale(s) - 1:500
                    5.1 km
          MAGG
              Map(s) - 2; Scale(s) - 1:500
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LOG NO:	0908	RD.
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GEOLOGICAL & GEOCHEMICAL REPORT on the UNION JACK Lot. 1288 > Q POOR PROPERTY Lot. 1273 うぼ Ø Ø Trail Creek Mining Division 199 (PH 82 F/4 Ø ø 49°4'N, 117°50'30"W 3 Ĝ ME Owner: Inland Au. - Ag. Resources Ltd. Operator: Inland Au. - Ag. Resources Ltd. ZÞ Author: D. K. Bragg mi feit Date: Aug. 30, 1988)当 (55) *** 77

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Location Map Union Jack L 1288	1 " - 1000 ' Fig	. 3	page 5
Location Map Poor Property L1273	1 '' - 1000 ' Fig	4	page 6
Magnetometer Survey Union Jack	1 - 500 f ig.	5	in pocket
Topography and Geology Union Jack	1 – 500 Fig.	6	in pocket
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APPENDIX

Rock Library Rossland

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INTRODUCTION

The Rossland mining camp in the past has been one of the major gold and silver producers of British Columbia. The camp had it's beginning in the early 1980's when some of the first claims in the area were staked. Since then the camp has produced in excess of five million tons of ore which gave a recorded grade of 15.68 g/ tonne Au., 19.65 g/ tonne Ag. and about 1 % Cu. per tonne.

Since the late 1920's little production has taken place except for leasors on some of the old properties satellite to the main core of the camp and the production of molybdenite from the southern flank of Red Mountain.

It was in the Rossland camp that the Consolidated Mining and Smelting Company got the start that enabled it to become one of the worlds major producers of lead, zinc and silver, and the establishment of its smelter complex at Trail, B. C. This company is now Cominco. ł

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Most of this early production was centered around the northern and western part of the camp where the veins were predominantly copper and gold producers, ie: the War Eagle, Centre Star, Le Roi and Josie crown granted claims. However, many properties satellite to the main producing area were discovered and staked. Many of the veins on these satellite properties contain a different mineralogy than that of the main producing core of the camp, such as lead, zinc,silver and gold veins and arsenic gold veins. It is on these satellite properties that most of the exploration work since the 1920's has taken place, although sporadic.

In the last few years exploration in the Rossland camp has intensified with numerous companies and individuals being actively engaged in exploration. The results of this increased activity has been most encouraging to the extent that the Rossland area may again become a producing camp of some note.

The writer has been intensely involved in the Rossland area since 1970 and had been actively mining on the Snowdrop and Blue Bird crown granted claims from 1970 to 1976. Since then he has been involved in exploration of the whole camp and in particularly in that area that is known as the south belt. This continued exploration has resulted in the accumulation of considerable information and insight-about the Rossland camp which is invaluable. Much of this information is contained in reports previously filed for assessment work requirements and in private reports.

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The Union Jack Lot 1288 and the Poor Property Lot 1273 were acquired by appiication dated May 27, 1980 by D. K. Bragg and have subsequently been transferred to the ownership of Inland Au. - Ag. Resources Ltd.

Previous work on the property consists of prospecting, the results of which are contained in a Prospecting Report dated July 15, 1982, and a preliminary magnetometer survey which results are contained in a Geophysical Report dated Aug.15, 1984. Other than this no records of any other work having been done on these claims since they were crown granted in 1897 could be found. There are a few old test adits and trenches on the claims that indicate that over the years some work has been done on them.

This current work continues to expand on the magnetic survey and topographical mapping done in 1984 and to map the geology of the survey area. This report incorporates much of the data that was contained in the previous reports in order to make this a more inclusive and comprehensive report.

Although two Statements of Work were filed the results of the survey are contained in this one report.

PROPERTY LOCATION & ACCESSIBILITY

The Union Jack claim lies 3 km. west southwest of the City of Rossland and the Poor Property lies about 500 metres to the south west of the Union Jack. The western portions of both claims lie within the valley of Little Sheep Creek and the eastern portions of the claims lie along the steep west northwestern facing slopes of Deer Park Hill.

The highway between Rossland and Patterson runs through both claims as well as an abandoned rail grade. There are numerous other access roads along the valley floor with a power transmission line and a gas line traversing both claims. The valley floor has been grately culturally modified. There is very little good timber in the valley and much of the area is open grass lands.

That portion of the claims lying to the east of the highway is steep sloped with numerous cliffs and open talus slopes which in places makes traversing slow and hazardus. Here the forest cover is mainly fir, hemlock, larch, minor cedar with both white pine and jack pine and some poplar and birch.

Elevations on the claims range from 850 metres to 1250 metres.

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LOCATION MAP, UNION JACK

LOT 1288

288 Fig.4

Scale approx.

1000



GENERAL GEOLOGY OF THE ROSSLAND CAMP

The Rossland area is underlain by sedimentary and volcanic rocks which have been intruded and metamorphosed by igneous rocks (see GSC Memoir 308 by L.V.Little)

The oldest formation is the Mount Roberts Formation, (Pennsylvanian) which are sediments consisting of slates, limestones, quartzites and greenstones mostly andesites and banded tuffs.

This in turn is overlain by the Rossland Formation (Lower Jurassic) which consists mainly of lava flows of andesitic to basaltic composition, augite porphry, and bodies of tuff and argillite.

The above rocks have all been intruded by a number of different intrusions in the following sequence:

Ultrabasic Intrusions	(Lower Cretaceous)	serpentinized peridotite
Rossland Monzonite	(Lower Cretaceous)	monzonite
Nelson Plutonic rocks	(Lower Cretaceous)	granite and other phases
Coryell Plutonic rocks	(Tertiary)	aikall granite and syenite
Shappard Intrusions	(Tertiary)	alkall granite and syenite

Most of all these formations in turn have been subjected to faulting and the intrusion of numerous dykes of various composition from monzonite to basalts. In general these dykes are steeply dipping and trend to the North.

In the area to the south and south east of Rossland there are east - west fractures or faults along which mineralized stopes are formed. These stopes seem to be well developed vertically, but are limited horizontally. One such stope on the Blue Bird crown grant measures about hundred feet horizontally and has been drilled vertically to a depth of two hundred and forty feet and is open downward.

There are two known mineralized fractures of considerable length in what is known as the south belt. The Blue Bird - Mayflower vein system has been traced over a distance of 1200 metres from the eastern portion of the Hattie Brown crown grant through the Blue Bird, Copper Queen, Olla Podrida and on to the Alfle crown grants and still may be open on both ends. The second vein system is the Homestake vein, and although it is not known for certain that this is a continuous system, mineralization has been found along a strike distance of 2200 metres. This system runs through the Monday, Homestake, Gopher, Maid of Erin, Robert E. Lee, Celtic Queen crown grants and on to the Tigre claim.

There are numerous other short fractures in the area along which mineraliztion has been found, but since information is scarce, it is not known whether these mineralized occurances are aligned and along continuous fracture systems.

The ongoing Geological and Geophysical investigations, along with prospecting is contributing grately to the fund of information on the Rossland camp and the surrounding area.

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FIELD WORK

The field work for this report was commenced on May 19, 1988 and was completed on the 23 of May 1988. A total of 5.1 km of line was put in and partially cut out using a compass and topochain for line control. The line spacing was 25 metres with stations established every five metres along the lines.

D. K. Bragg run in all the lines and conducted the magnetometer survey and mapped the topography and geology. During the course of mapping the geology seven rock samples were collected. A description of these rocks are included in the appendix.

For the purpose of the magnetometer survey a base station was set up on the area to be surveyed and numerous readings were taken prior to commencing the survey in order to establish an average base station reading in order to maintain control over the diurnal fluctuations. The magnetometer had been previously calibrated at a control station for all the surveys in the Rossland area so that the lower range scale would be used in the surveys. As the survey progressed the base station on the survey area was checked into on a regular basis to monitor the diurnal drift. A total of 1080 magnetometer readings were taken over the lines using a M^Cphar M 700, vertical field magnetometer which works on the fluxgate principle. During the survey 28 duplicate readings were taken as a control over the continuity of the survey and as a correlation of all the readings. Also during the survey 124 duplicate readings were taken at stations from the survey of 1984, and these duplicate readings were used to determine a conversion factor for correlating the results of the 1984 survey with the results of this current survey in order to make this report more comprehensive and inclusive. This conversion factor was applied to the 269 readings of the 1984 magnetometer survey that were then plotted in conjunction with the magnetometer readings of this current survey.

The magnetometer readings were corrected for diurnal fluctuations and plotted on map sheets on the scale of 1 - 500, along with the converted results of the 1984 survey. These results were then contoured at a 100 gamma interval.

Similar map sheets of the grid lines were prepared, on a scale of 1 - 500, and the topography and geology was plotted on these to assist in the contouring of the magnetometer results and in the final interpretation. This information was used to contour the effects of the gas pipe line on the magnetometer.

Again during the course of the survey an attempt was made to find some of the old crown granted survey cairns, but only one old post was found on the Union Jack claim area and this was not related to the Union Jack claim itself, so that the accuracy of the claim boundaries as plotted may be in some question.

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RESULTS

Outcrop occurances on the two claims are sparce and would comprise less than one percent of the survey area. From the limited occurance of the outcrop it would appear that this portion of the two claims in this survey is underlain predominantly with serpentinized peridotite and related ultra basic rocks. These rocks generally weather a buff brown on the outcrop surfaces. It would appear that these rocks, in this portion of the claims, intrude mainly rocks of the Rossland Formation which here are mainly fine grained greenish black andesesites. Only one dike rock was observed in the area.

Although in the hand specimen these ultrabasic rocks are strongly magnetic it would appear that the anomalies are for the most part not directly related to the outcroppings of the ultrabasics and in fact in many instances the converse seems to be the case where magnetic lows occur in many areas where the ultrabasic rocks do outcrop. It would appear from this fact that the geology can not be inferred from the magnetics and that the anomalies that do occur may be representative of mineralized zones.

After the diurnal corrections had been made it was found that of the 28 duplicate samples taken 79 % of these were duplicated within 50 gammas. And after the conversion factor had been determined between the results of this survey and that of the 1984 survey of the 122 common stations 65 % of these were duplicated within 50 gammas. With this the results of both these surveys can be accepted with some degree of confidence.

On the Union Jack claim one large irregular or block type anomaly stands out on the survey area. It is centered at 13+00 E, 12+15 S and dominates the central part of the survey area. This anomaly has an average width of about 50 metres and a length of of 150 metres lying along an axis of N 10° E. The anomaly has a gradient range of about 1000 gammas and is almost entirely surrounded by a series of individual magnetic lows. It is suspected that the source of this anomaly may be at some depth, probably approaching 75 metres.

The above anomaly is intersected on its northern extension by a linear type anomaly with a curved east west trending axis through 14+00E, 11+70 S, through 13+50 E, 11+60 S and 13+00 E, 11+75 S. This linear type of anomaly is suggestive of a vein type of mineralization zone that may in effect be part of the larger block anomaly and where the two anomalies intersect may be the site of an economic mineralized zone. This linear anomaly has a gradient range of approximately 1000 gammas.

The next anomaly that stands out is the anomaly in the north west corner of the survey area with the two lobes centered at 12+50 E, 11+30 South and at 11+00 S, 12+60 E. This anomaly has a gradient range of over 4000 gammas and may be the one anomaly that is representative of the ultrabasic rocks rather than sulphide mineral-

ization.

The forth ranked anomaly lies on a S 50° W axis through 14+00 E, 10+50 S, through 13+75 E, 10+60 S and 13+50 E, 10+85 S. This has a gradient range of about 600 gammas and appears to be a linear vein type anomaly with a source at some depth, and exhibits lows on either side of it.

Three other single point highs are of interest as they may be part of something larger. They occur at 14+00 E, 12+60 S, and at 12+00 E, 13+30 S and 13+00 E, 10+25 S.

The small linear type of anomaly with a gradient range of 400 gammas at 14+00 E, 13+20 South is probably related to the mineralization the old timers were after in the adit just 3 metres to the north. Minor sulphides were observed on the dump.

In looking at the magnetics on the Poor Property the first ranked anomaly is an east westerly curved linear anomaly lying through 12+00 E 16+10 S, through 11 +50 E, 16+25 S and 11+ 00 E, 16+15 S with a gradient range between 600 and 1500 gammas. Parallel lows exist on both sides of this linear vein type anomaly.

The second ranked anomaly is again an east west linear vein type anomaly lying along 15+75 S line between 13+75 E and 14+00 E. This anomaly has a gradient of about 2000 gammas with lows on both sides of the anomaly. It is interesting that this anomaly is parallel and in close proximity to the first ranked anomaly and since they both exhibit the same characteristics and gradient ranges one may be the faulted off extension of the other.

The third ranked anomaly is centered at 10+75 E, 16+80 S along a axis of S 45° W and is more like the block type anomaly with lows surrounding it rather than the vein type linear anomaly. The gradient range is about 1000 gammas and the anomaly probably reflacts somet ing at some depth.

There is a forth anomaly with an apparent east westerly trend with a width of 30 metres lying between 14+85 S and 15+45 S on line 12+00 E, and extending eastward to the rail grade. This anomaly has a gradient range of about 2000 gammas, appears to be dipping to the north and is suspected to be representing something at some depth.

There are few other anomalies of interest within the survey area. The 400 gamma gradient anomaly at 12+00 E, 16+40 S is suspected to be due to contamination within the road fill. The 300 gamma gradient anomaly at 18+00 S, 10+05 E is due to the presence of a 3 foot diameter mineralized boulder on the surface. This boulder contains galena, sphalerite and pyrrhotite and is thought to have been transported by the glaciers from the east sholder of Red Mountain. This portion of Sheep Creek is an out wash plain with eskers and Kettles found to the north on the Union Jack.

A magnetic low exhists along the general trend of Little Sheep Creek and may be reflecting a fault zone along the creek valley.

CONCLUSIONS AND RECOMMENDATIONS

The results of this follow up of the preliminary magnetometer work done in 1984 has in consequence reestablished and defined more clearly most of the anomalies indicated by the earlier survey. However it has become very apparent that in order to get a comprehensive picture of the magnetics of an area within the Rossland Camp the magnetic sample density must be high. The anomalies found on these two claims would suggest that the mineralized trends found to the east in the south belt in all probability continue at least as far westward as the Little Sheep Creek valley, and that both the linear vein type anomalies and the broken block type anomalies exhibit characteristics similar to those found to the east.

These anomalies should be followed up with V L F and or S P surveys. Since the valley bottom of Little Sheep Creek is culturally modified to a great extent and the valley is also an out wash plain it is unlikely that geochemistry will be of much help in defining the type of mineralization that these magnetic anomalies reflect.

STATEMENT OF COSTS

D. K. Bragg	May 19 to May 23, 1988	
	Wages 5 man days at \$ 200.00 per day	\$ 1000,00
Board	5 man days at \$ 40.00 per day	\$ 200.00
Truck costs	5 days at \$ 50.00 per day	\$ 250.00
Equipment rent	and supplies	\$ 50.00
Pro rated trans	portation costs to Rossland and return to Vancouver	\$ 150.00
Report preparat	Ion	\$ 950.00

Total

\$ 2600.00

About equal time and effort was spent on each of the two claims

R.K. Bragg

STATEMENT OF QUALIFICATIONS

D. K. Bragg supervised and did most of the work involved in this investigation, including the line cutting, prospecting, mapping the geology, soil sampling, magnetometer survey and report preparation. His qualifications are as follows:

Graduated Armstrong High School, Armstrong, B.C., 1951

Attended U.B.C. from 1958 to 1962 in the faculty of Arts and Science, in Honors Geology.

Has worked in the mineral exploration industry since 1956.

Worked for Kennco Explorations during the summers of 1956, 1957, and 1959 in the Yukon and northern B.C. as an assistant prospector and geochem sampler under the direction of Dr. R. Campbell and R. Woodcock.

Worked as head prospector for the Nahanni 60 Syndicate in the Northwest Territories in 1960 under the direction of Doug Wilmont.

Worked as head prospector in the Yukon for Dualco in 1961 under the supervision of E. Wozniak.

Worked as head prospector for Mining Corp. of Canada in southwest B.C. in 1962 under J. S. Scott and Dr. K. Northcote.

Worked as head prospector during the summer of 1963 for the Francis River syndicate in the central Yukon, under the direction of Dr. A. Aho.

Worked as field geologist in the Greenwood area of B.C. for Scurry Rainbow 011 in 1965 under the direction of Bill Quinn.

Worked as field supervisor for Alrae Explorations Ltd. from sept 1965 to April 1967 under the direction of Rae Jury.

Since 1956 has also worked as a self employed contractor, working for various mining companies in the following fields: prospecting, property examination, * . staking, line cutting, topographical mapping, geological mapping and reconnaisance, mineral sampler, draughting, air photo interpretation, geochemistry, geophysics, and supervising property exploration programs.

Since 1956 has also been a self employed prospector working in various areas in 8.C. on numerous properties.

Has assisted in teaching the geochemical section of the Ministry of Energy, Mines and Petroleum Resources Mineral Exploration Course For Prospectors under the direction of Dr. S. Hoffman in 1984, 1985, 1986, 1987, 1988

Has recieved the B.C. Provincial Grubstake for the years 1964, 1968, 1969, 1970, 1980, 1981, 1982, 1983, and 1985, 1986, 1987, 1988

Has worked in the Rossland camp since 1971 as a miner on the Snowdrop and BlueBird claims. Has spent considerable time in the camp as a prospector and mining exploration contractor.

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1948	Rossland Camp in Structure Construction $r = 33$
	Deposits, (Jubilee Vol.), C I.M., pp 189 - 196

ROCK LIBRARY ROSSLAND

- UJ 88 1 Serpentinized peridotite medium grained dark greenish black with white and buff alteration patches. Strongly magnetic.
- UJ 88 2 Float boulder. Fine grained greenish black altered andesite. Very rusty on fractured surfaces. Contains 3 % sulphides, pyrite and pyrrhotite. Slightly magnetic.
- UJ 88 3 Medium grained dark greenish black serpentinized peridotite. (similar to UJ 88 - 1)Strongly magnetic. Contains parallel streaks of black material that may be manganese.

UJ 88 - 4 Medium grained dark greenish black serpentinized peridotite. (Similar to UJ 88 - 3). Strongly magnetic. Contains streaks of black material.

Fine grained buff grey granitic dike rock. Very hard. Contains a high percentage of silica, much as quartz eyes. Mica partially chloritized. Non magnetic.

PP 88 - 1

UJ 88 - 5

Fine grained greenish black andesite. Contains 1 % finely disseminated pyrrhotite and pyrite. Weakly magnetic. Rusty on fract-ured surfaces.

PP 88 - 2

Fine grained greenish black andesite. Minor sulphides. Very weakly magnetic.





123 S of Union JACK 1070-1031 1013 895 1000 1197 2 ,700 /700 /700 1300 -----700 1200 TRUE NORTH GEOLOGICAL BRANCH ASSESSMENT REPORT





MAGNETOMETER SURVEY POOR PROPERTY L.t 1273 ROSSLAND B.C.

82 F 4 W 49° 4' N , 117° 50' 30" W 25 20 15 10 5 0 20

To accompany Geological & Geophysical Report on the Poor Property L 1279 <u>Rossland B.C., Trail Creek M.D.</u> by D.K. Bragg Dated July 30 1888 SCALE: 1-500 DATE: July 30, 1988 DRAWN BY: D.K. Bragg F16: 7

10+00E

<u>||+00E</u>

Metres

