ASSESSMENT REPORT

GEOLOGICAL - GEOCHEMICAL - GEOPHYSICAL

SURVEYS OF THE

ORO - ZONE - RENO - NEVA MINERAL CLAIMS

GROUP

OSOYOOS MINING DIVISION

APEX - NICKEL PLATE LAKE AREA

BRITISH COLUMBIA

Latitude: 49° 24' North

Longitude: 119° 59' West

Geological Survey: Allan F. Bellamy, P.Eng.

Geochemical Survey: Allan F. Bellamy, P.Eng.
G. Jones

Geophysical Survey: Allan F. Bellamy, P.Eng.
G. Jones

Chemical Analysis: Eco-Tech Laboratories Ltd.

OCTOBER, 1981

ASSESSMENT REPORT

GEOLOGICAL - GEOCHEMICAL - GEOPHYSICAL

SURVEYS OF THE

ORO - ZONE - RENO - NEVA MINERAL

CLAIMS GROUP

OSOYOOS MINING DIVISION

BRITISH COLUMBIA

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ILLUSTRATIONS

[redacted] September 24, 1981

Mr. F. Gordon Ramsey
R.R. #1
Keremeos, B. C.

Dear Gordon:

Re: Assessment Report
Geological-Geochemical-Geophysical Surveys
Oro-Zone-Reno-Neva Group

Submitted herewith for your information is the Assessment Report relating to Geological-Geochemical-Geophysical Surveys undertaken on the Oro-Zone-Reno-Neva Mineral Claim Group during the 1981 field season.

Geological mapping in the field and correlation at my home was by A. F. Bellamy, P. Eng. Geochemical-Geophysical work was done by A. F. Bellamy, P. Eng. and G. A. Jones. Geochemical analyses were done by Eco-Tech Laboratories Ltd. of Kamloops, British Columbia. Prospecting was carried out by F. G. Ramsey in conjunction with Geological mapping by A. F. Bellamy.

Background technical references to the claims areas are given in the Assessment Report for the above mineral claim group submitted on your behalf by Weymark Engineering Ltd. dated September 20, 1980.

This report is a follow-up to recommendations presented in the Weymark Engineering Ltd. Report of September 20, 1980:

. . . . . 2/

1.0 Property

The claims covered by this report involve the following:

CLAIM	RECORD NUMBER	RECORD DATE
Neva 1-2	896-897	16 Oct. 1979
Neva 3-6	1364-1367	20 Mar. 1981
Reno 3-6	880-883	10 Oct. 1979

The reference Mineral Claim Map of the B.C. Department of Mines is M 82E/5W. See Figure 1. The geographical reference is 49° 24' North and 119° 59' West. The reference Land Map is Grand Forks 83E/5E.

2.0 Access and Location

At the present, access is restricted to the claims area by four-wheel drive vehicle over an old logging/mining road from Apex Ski Resort, a distance of about 8 miles. Some work was done by parties unknown to improve portions of this road in late 1980. See Figure 1. Because of the elevation of the property, access by 4-wheel drive vehicle is restricted between late June to early November.

3.0 Climate

Climatic conditions are semi-arid with precipitation less than 20 inches per annum. Summers are relatively short with temperatures ranging into the high 80° Fahrenheit. Winters are long with temperatures dipping below minus 30° Fahrenheit.

4.0 Physiography

As noted in the Weymark Engineering Report, the claims area is mainly benchland, timbered with Lodgepole Pine and Spruce

. . . . . 3/

in the creek and swamp areas. The claims covered in this report are drained by Strayhorse Creek which drains into Nickle Plate Creek. Elevations range 5500-6000 feet above sea level. Rock outcroppings are few but overburden ranges from about a foot to several feet. Overburden contains shallow organic material overlying glacial silty sandy gravel and residual soil on top of bedrock. Bedrock is oxidized at the overburden interface. Water was abundant during the 1981 Field Season.

5.0 Geology

Reference is made to Weymark Engineering Ltd.'s September 20, 1980 Report for an overall geological description of the Oro-Zone-Reno-Neva Mining Claims.

The claims examined during the 1981 Field Season lie in the Southern half of the claims group. The area is underlain by massive granodiorite characterized by large crystals of pink and white feldspars, quartz, mica and some hornblende. See Figure 2. These granites are barren of mineralization. No evidence of fracture filling by quartz or other igneous intrusive was observed in trenches. However, calcite was evident within fractures in the most Southerly trench. Fire assays on bulk samples from each of these trenches indicated traces of combined gold and silver.

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Further geological investigation towards the Eastern and North-westerly boundaries respectively would be warranted to determine the contact between the massive granodiorite and the granite porphyry and metasediments favourable to metallic mineral deposition.

6.0 Geochemical Survey

As a follow-up investigation to results attained in the Weymark Engineering Ltd. September 20, 1981 Report, geochemical testing of soils for the gold-silver metalliferous possibilities of the Reno-Neva claims group was carried out under the direction of A. F. Bellamy, P. Eng. Soil samples of the B-Horizon were taken on a 100-200 foot grid. See Figure 3. The record of the samples and analyses is given in Appendix A. Chemical analyses were by Eco-Tech Laboratories Ltd. of Kamloops, B.C. using atomic absorption and fire assay for gold and silver diethyl-dithiocarbamate in pyridine for arsenic. Plots of results are given in Figures 5 and 6. Figure 5 summarizes the mathematical characteristics of the sampling results for gold.

Gold	PPB
Average	23.12
Standard Deviation	25.33
Threshold @ 97.5%	165
Variance	641.53

Figure 6 summarizes the mathematical characteristics of the sampling results for arsenic.

. . . . . 5/

Arsenic	PPM
Average	7.4
Standard Deviation	3.19
Threshold	17.5
Variance	10.18

Results: A possible anomalous value at 1+00 East and 1+00 N line intersections is indicated.

7.0 Geophysical Survey

An electromagnetic survey was conducted using a Ronka EM 15 magnetometer specifically suited for shallow depth exploration up to 30 feet. The instrument was zeroed at 0+00 East for reference. The readings are given in Figure 4 and were taken by A. F. Bellamy, P. Eng. Responses were noted at 0+50 East and 12+00 East on 1+00 North; 42+00 East on 1+00 North; 42+50 East on 1+00 South; 10+00 East on 1+00 North; and 2+00 East to 2+40 East on 1+00 South lines. In the vicinities of 9+00 East and 12+00 East on 1+00 North Line and 43+00 East on 1+00 South, outcroppings of granite were observed.

Results: A high response with the EM 15 at 0+50 East on 1+00 North Line indicated possible correlation with a high gold-arsenic geochemical assay. Refer to Figure 4. With the exception of responses at 2+00 E to 2+40 E on 1+00 South, the responses in vicinities of outcrops are suspect since interference in the magnetic scale was noted at exposed outcrops.

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8.0 Conclusions

The results of the Geological-Geochemical-Geophysical Surveys as interpreted in this report are:

The geological formations within the claims group examined in 1981 showed no unusual intrusives or alterations which may be interpreted as conducive to mineralization. However, the contact between the massive granodiorite formation in the south with granite porphyry and metasedimentary deposits within the central and northern portion of the claims group are favourable areas of metallic mineralization which warrant further investigation.

CERTIFICATE

I, Allan Franklin Bellamy, P. Eng., of the Village of Ashcroft, the Province of British Columbia, hereby certify that:

1. I am a graduate of Mineral Engineering of the University of British Columbia, Vancouver, British Columbia, B.A.Sc., 1974 and have been practising my Profession for over seven years.

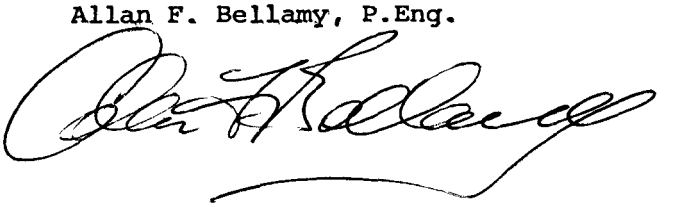
2. I am a member of the Association of Professional Engineers of the Province of British Columbia.

3. I am employed as the Chief Mine Engineer of Bethlehem Copper Corporation of P.O. Box 520, Ashcroft, British Columbia.

4. I am a member of the American Institute of Mining, Metallurgical, and Petroleum Engineers.

Dated at Ashcroft, British Columbia, this 19th Day of October 1981.

Allan F. Bellamy, P.Eng.



APPENDICES

ANNEX A

ENVIRONMENTAL TESTING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY

ECO-TECH LABORATORIES LTD. 783 Notre Dame Drive, Kamloops, B.C. V2C 5N8 — Telephone (604) 372-9700

June 8, 1981

GEOCHEMICAL ANALYSES

CLIENT: Mr. Al Bellamy CONFIDENTIAL

SAMPLE NUMBERS	AU ppb	AS ppm
0+00E, 1+00N	10	9
0+00E, 1+00S	20	10
1+00E, 1+00N	140	16
1+00E, 1+00S	10	6
2+00E, 1+00N	<10	8
2+00E, 1+00S	20	9
3+00E, 1+00N	20	7
3+00E, 1+00S	<10	7
4+00E, 1+00N	<10	6
4+00E, 1+00S	10	4
5+00E, 1+00N	20	10
5+00E, 1+00S	20	3
6+00E, 1+00N	10	8
6+00E, 1+00S	20	7
7+00E, 1+00N	30	9
7+00E, 1+00S	10	4
8+00E, 1+00N	10	12
8+00E, 1+00S	80	6
9+00E, 1+00N	40	10
9+00E, 1+00S	10	10
10+00E, 1+00N	10	10
10+00E, 1+00S	10	7
11+00E, 1+00N	20	9
11+00E, 1+00S	10	7

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ENVIRONMENTAL TESTING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY

ECO-TECH LABORATORIES LTD. 783 Notre Dame Drive, Kamloops, B.C. V2C 5N8 — Telephone (604) 372-9700

SAMPLE NUMBERS	AU ppb	AS ppm
12+00E, 1+00N	40	7
12+00E, 1+00S	20	7
13+00E, 1+00N	20	11
13+00E, 1+00S	20	/1
14+00E, 1+00N	20	6
14+00E, 1+00S	20	7
15+00E, 1+00N	20	2
15+00E, 1+00S	20	/1

ECO-TECH LABORATORIES LTD.
Ken Swanson
Chief Assayer

KS/te

ANNEX B

GEONICS LIMITED

RONKA EM15

THE NEWEST ONE-MAN OPERATION PORTABLE FEATHERWEIGHT EM DETECTOR.

SPECIFICATIONS AND OPERATING INSTRUCTIONS

The EM15 is another revolutionary solid state electronic instrument designed by Vaino Ronka and engineered for shallow depth exploration.

Weighing only 2.6 lbs. it is easily portable, and involves only a one-man operation.

Superb engineering and advanced design combine to make a rugged instrument which is practical to carry in the field and simple to use. It is specifically for the use of the modern prospector.

A novel coil orientation and other design features reduce the interference from small surface objects and wet overburden.

A direct reading meter dial indicates whether the target is magnetic or conductive. The operational controls are minimal, consisting of an ON-OFF switch and a zero control.

The EM15 is recommended for

- Preliminary examination
- Prospecting in areas of shallow overburden for faults, veins, dikes and other shallow formations.
- Location of shallow spots in anomalous areas.
- Treasure finding.

Designers and Manufacturers of Geophysical Instruments

2 Thorncliffe Park Drive, Toronto 17, Ontario. (416) 425-1821

RONKA EM15

SPECIFICATIONS

Depth of exploration	10 meters (30 ft.) maximum.
Measured quantity	The real component of the secondary field at 16 kHz.
Accuracy	$3 \times 10^{-5} H_p$ per one small division on the direct reading meter. Total of 20 divisions.
Coil separation	83 cm. (33 in.)
Coil orientation	Axes 35° off the vertical.
Readout	Meter indicates negative or positive secondary field, thus identifying conductors or magnetically susceptive targets.
Controls	ON/OFF switch, zeroing adjustment.
Battery	7 volts, 1 ah. mercury battery. Operational life 80 hours.
Accessories	External battery holder for cold weather operation, canvas carrying case, wooden shipping container.
Dimensions	96 x 12 x 2.5 cm. (36 x 5 x 1in.)
Weight	1.2 kg. (2.6 lbs.)
Shipping Weight	3.7 kg. (8 lbs.)
PRICE	$780.00 (Canadian) f.o.b. Toronto Federal sales tax included. $660.00 (U.S.)
note:	Technical specifications may be subject to change as refinements to the instrument are being continually investigated.

The Ronka EM15 is now being used by professional men in Canada, the United States, Central America and Finland. Reports on success in operation indicate that the instrument is opening up new possibilities for maximum use of valuable manpower in the field.

Designed by Ronka

Manufactured by Geonics

Solid state electronic equipment

ONKA EM15

OPERATING INSTRUCTIONS

UNPACKING

When the unit is received, examine the shipping container for signs of damage.

Retain the box and packing material for future shipping use. Examine instrument and auxiliary equipment for damage.

Go outdoors away from metal objects and turn the equipment ON. The pointer will flip to one end of the meter scale.

adjustment is provided on top of the frame in the form of a small potentiometer.

by turning the pot with a small screwdriver, bring the pointer to the centre of the scale. Moving the pot clockwise will move the pointer forward, and counterclockwise, back.

TESTING

To test the battery and the general condition of the instrument, place a penny on the mark on top of the frame. The pointer should move at least ten small divisions on the meter scale. Failure to do so indicates that the battery is weak. It should be noted at this point that if the temperature is below 40 degrees F., the external battery should be used. The power switch should be in the OFF position while using the external battery.

OPERATION

The EM15, like most EM units, will detect anomalies in the earth's conductivity or magnetic permeability. The meter will show directly which of the two is causing the reading.

The coil orientation is so selected that very little interference will be encountered due to conductive overburden, but maximum coupling is provided for deeper bodies. This applies when the instrument is carried at normal carrying height.

The actual manner of operation depends on the purpose of the survey. Let us suppose you have an area of shallow overburden, and you wish to inspect it for conductive structures. Select your direction of traverse across the strike of the rock. Walk at suitable line spacing to cross the smallest suspected body. Otherwise follow the instructions printed on the side panel of the instrument.

RONKA EM15

Designed by Ronka
Manufactured by Geonics
Solid state electronic equipment

NOTES ON INTERPRETATION

Sometimes we encounter an area of large magnetic rock. This will give a reading in the blue scale. The strength of the reading will depend, among other things, upon the depth of the overburden. If you also have a conductor in this area, you must be alert for the movement of the pointer towards the red scale, but not necessarily reaching it. The difficulty is in determining whether this movement was due to deeper overburden (greater distance) or to actual conductivity.

We can get some idea of the depth of the overburden by lifting the instrument up approximately 2 ft. from the normal carrying altitude. The reading should decrease at the rate of slightly more than the inverse 3rd power of the distance for the relatively large bodies. Thus, every 10% increase in distance would decrease the reading by 30-40%. Supposing your original anomaly is full 10 small divisions, and lifting the equipment 1.5 ft. drops the reading to 6.5 divisions. The orebody may be at the depth of 15 ft. This rule, of course, should not be applied blindly, as the circimstances can be effected by such things as the shape and properties of the orebody.

SERVICING AND WARRANTY

Servicing necessary in the field is usually limited to exchanging worn out batteries. If the unit should malfunction, it is suggested that the instrument be returned to Geonics Limited for overhaul. This service will be carried out for a very nominal charge plus the cost of new components.

Geonics Limited guarantees its products against defects in either parts or workmanship for a period of one year. In the event that repairs are necessary under the terms of this warranty, the only charges will be for shipping.

GEONICS LIMITED

2 Thorncliffe Park Drive, Toronto 17, Ontario, Canada. Telephone: 425-1821 Area Code 416

EM15 DIRECT-READING COMPACT ELECTROMAGNETIC UNIT

This unit was designed by Vaino Ronka to fill the requirement for a one-man, self-contained electromagnetic unit for rapid shallow depth exploration.

Advanced circuitry and packaging have been combined to produce a rugged, lightweight, direct-reading instrument, extremely simple to operate and maintain.

The novel coil orientation and other features reduce interference from wet overburden and small surface objects.

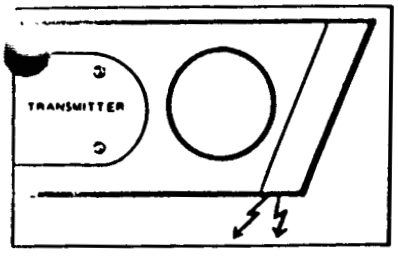
The versatile EM15 is in world-wide use by professional exploration teams and modern prospectors.

Recommended uses:
- Prospecting in areas of shallow overburden
- Preliminary examination of properties
- Location of shallow portions of anomalous areas
- Guidance of trenching operations
- Location of buried pipelines, watermains, electrical conduits and other metallic objects.

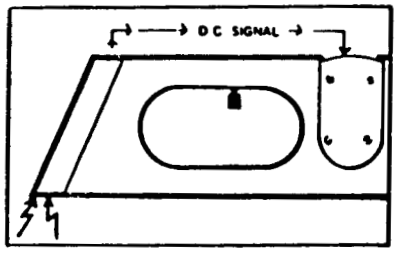
SPECIFICATIONS

Penetration:	30 feet (10 metres) maximum.
Coil separation:	33 inches (0.83m).
Measured Quantity:	The in-phase (real) component of the secondary field at 16kHz.
Resolution:	$3 \times 10^{-5} H_p$ per one small division on the direct reading meter. Total of 20 divisions.
Coil Orientation:	Axes 35° off the vertical for greater sensitivity to deeper targets with minimum interference from conductive overburden.
Readout:	Meter shows negative or positive secondary field, thus indicating conductors or magnetically permeable bodies.
Controls:	On/Off switch, zeroing adjustments.
Temperature range:	-45° to $+60^{\circ}$C.
Battery:	One 7 volt, 1 ah. mercury battery. Operational life 80 hours. Two batteries supplied.
Dimensions:	36 x 5 x 1 inches (96 x 12 x 2.5 cm).
Weight:	2.6 lbs. (1.2 kg).
Standard Accessories:	External battery holder for cold weather operation, canvas carrying case, wooden shipping container.

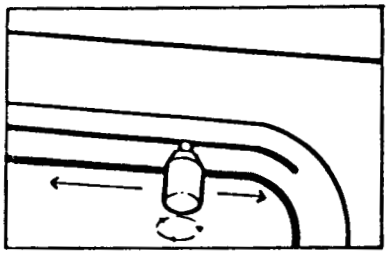
SIMPLE ONE-MAN OPERATION



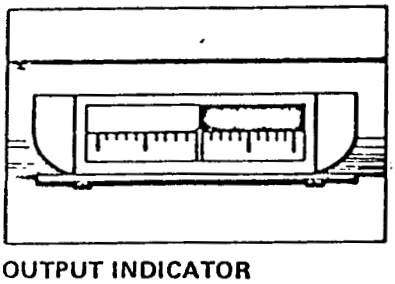
TRANSMITTING COIL
receives alternating current from transmitter, and produces primary field to penetrate formations.



RECEIVING COIL
receives secondary field induced in bodies by primary field, and feeds signal through the receiver to the output indicator.

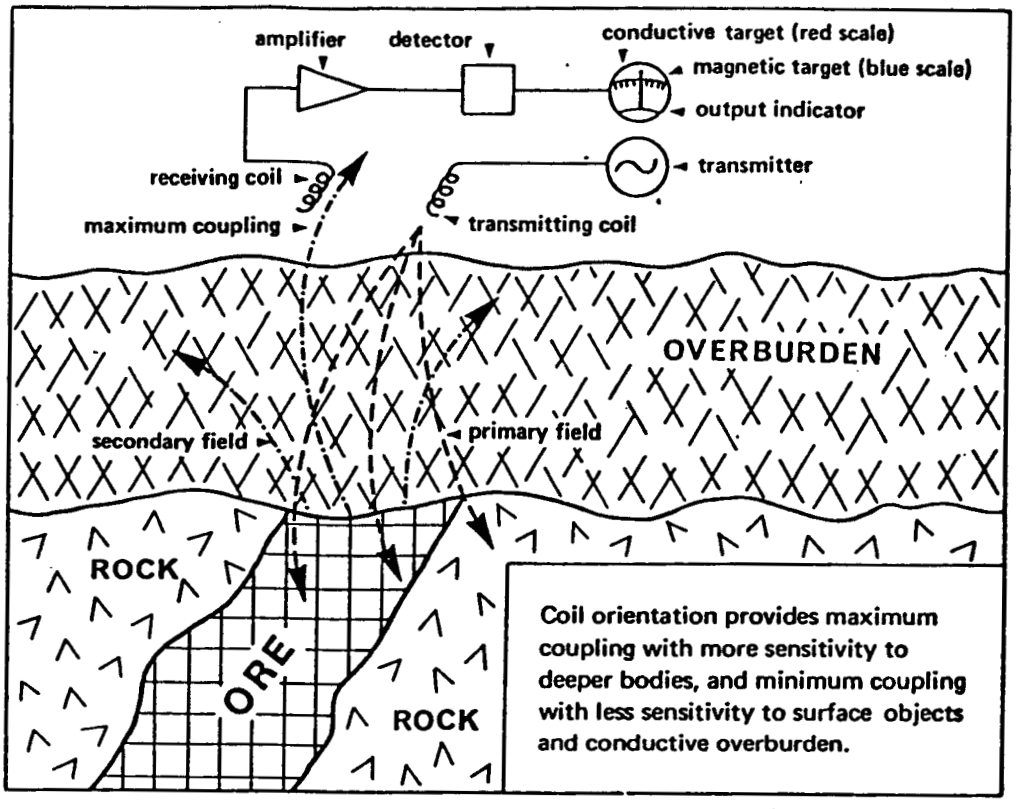


ZERO ADJUSTER
used to zero output indicator at start of survey.



OUTPUT INDICATOR
Pointer movement indicates effect of target conductivity (red scale) or magnetic permeability (blue scale).

COIL ORIENTATION PROVIDES MAXIMUM COUPLING WITH DEEPER BODIES



Field experience in many parts of the world has proven the EM15 to be a versatile and trouble-free instrument.

Ability to work in the vicinity of streams and swampy areas with minimum disturbance from wet overburden, makes the EM15 practical for exploration teams and prospectors.

Experience has shown that sophisticated use can be made of the data obtained to estimate depth to body by lifting the unit upward, and to provide some indication of body characteristics by evaluating the changes in readings in different directions.

Engineering use has been made of the EM15 to locate buried metallic objects.

Unusual examples of EM15 versatility reported by clients:

Outlining silver veins in Bolivia (disseminated argentite). Veins outlined in the morning were in production in the afternoon.

Treasure hunting on Oak Island, Nova Scotia (300 objects located).

Re-locating showings buried under snow in the Yukon Territory.

Surveying aircraft accident site (buried debris recovered).

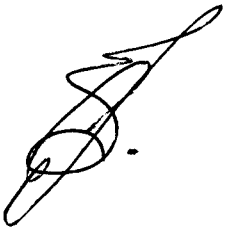
AUTHORIZED AGENT:

ANNEX C

ASSESSMENT WORK

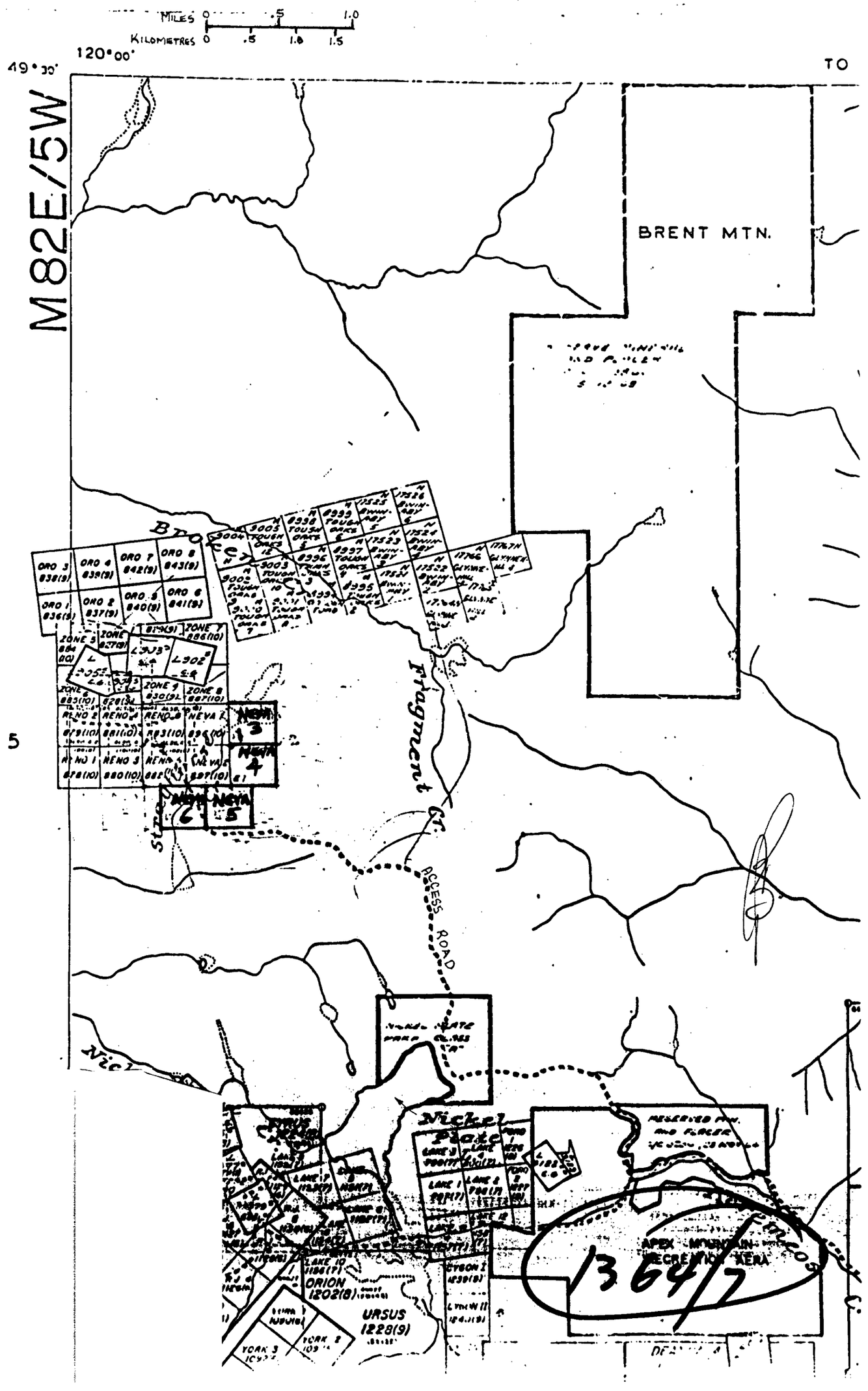
Cost Distribution

A. Geochemical Survey May 31/81		
1. Chemical Analyses	$283.20	
2. A. Bellamy, Ashcroft,B.C.	150.00	
3. G.Jones, Ashcroft,B.C.	150.00	
4. 4x4 Truck Rental	100.00	
Subtotal		$683.20
B. Geophysical Survey July 4/81		
1. A. Bellamy, Ashcroft, B.C.	150.00	
2. G. Jones, Ashcroft, B.C.	150.00	
3. 4x4 Truck Rental	100.00	
4. Two Motorcycle Rentals @ 50.00/	100.00	
Subtotal		500.00
C. Geological Survey-Prospecting Aug.20-21/81		
1. Rental JD-450-B Tracked Back-hoe All-found Aug. 20-21/81	573.00	
2. A. Bellamy, Ashcroft, B.C.	300.00	
3. G. Ramsey, Ashcroft, B.C.	300.00	
4. 4x4 Truck Rental	150.00	
Subtotal		1323.00
D. Assessment Report by A.F.Bellamy	750.00	
Subtotal		750.00
TOTAL		$3256.20



ILLUSTRATIONS

FIGURE : 1 - MINERAL CLAIM MAP



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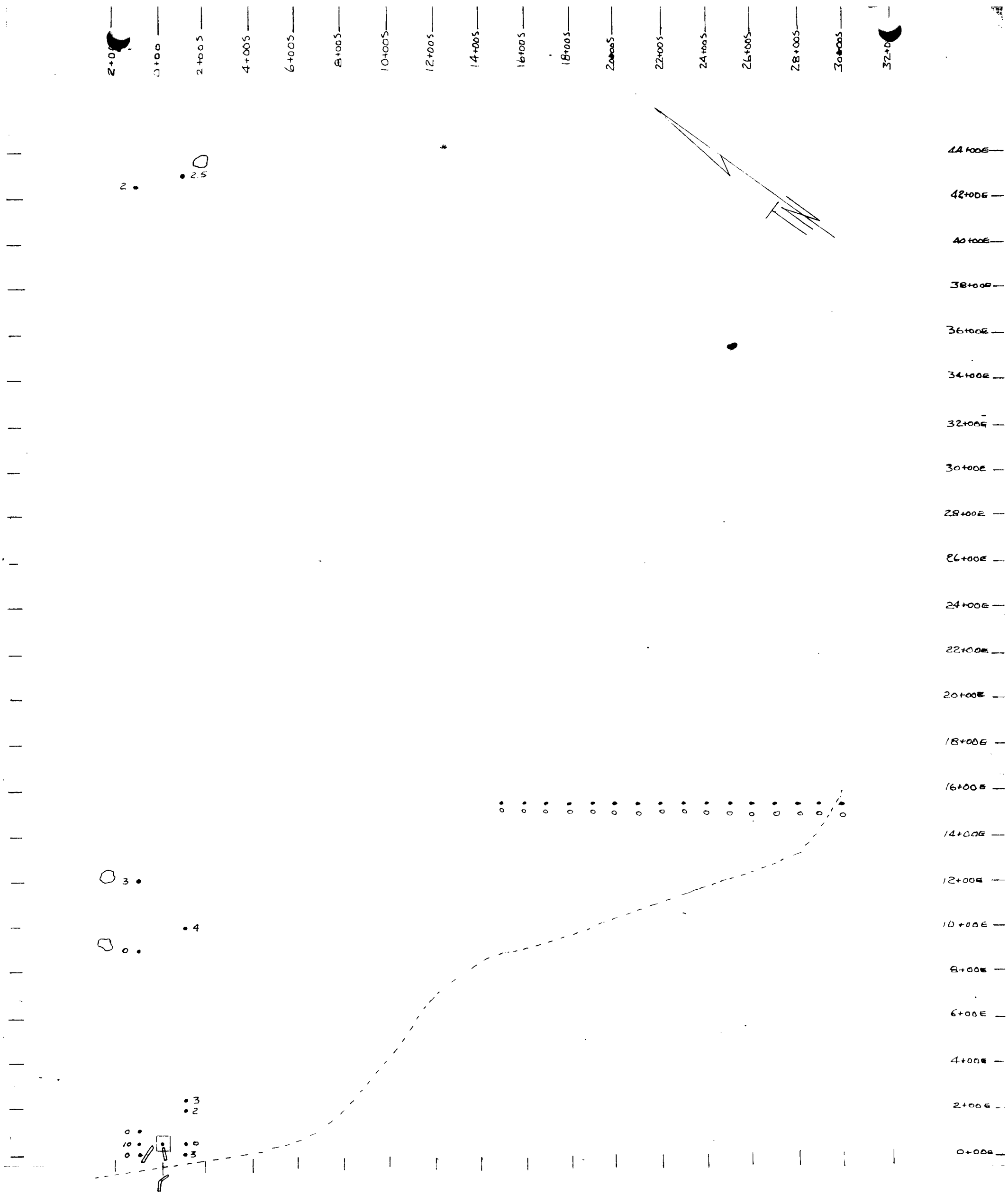


FIGURE: 4

LEGEND:

- ⊡ No. 2 Post Reno 3, 4, 5, 6 M.C.'s
- • Electromagnetic Readings (Instrument EM15) 10 units on Scale at Maximum Penetration of 30 feet.
- ▭ Trench
- ○ Outcropping
- --- Road (Old Hedley-Penticton Road)

NOTE: EM Readings Greater than 0 indicate Possible Anomaly.

OSOYOOS MINING DIVISION

ORO-ZONE-RENO-NEVA GROUP

GEOPHYSICAL WORK

ELECTROMAGNETIC

DRAWN BY: AFB

DATE: SEPT. 20, 1981

SCALE: 1" = 400'

1+00 N

1+00 S

BASELINE

15+00 E	20/2		20/<1
14+00 E	20/6		20/7
13+00 E	20/11		20/<1
12+00E	40/7		20/7
11+00E	20/9		10/8
10+00E	10/10		10/7
9+00E	40/10		10/10
8+00E	10/12		80/6
7+00E	30/9		10/4
6+00E	10/8		20/7
5+00E	20/10		20/3
4+00E	<10/6		10/4
3+00E	20/7		<10/7
2+00E	<10/8		20/9
1+00E	140/16		10/6
0+00E	10/9		20/10

49°24' NORTH

119°59' WEST

LEGEND:

⊡ No. 2 Post Reno 3, 4, 5, 6 M.C.'s

Gold: Au ppb / Arsenic, As ppm

• Sample Site - Surface Below Organic Till. (Approximately 8" to 12" deep)

ppb Parts per Billion

ppm Parts per Million

< Less Than

Trench

---- Road (Old Hedley - Penticton Road)

FEET 0 200 400

0 50 100 METRES

FIGURE: 3

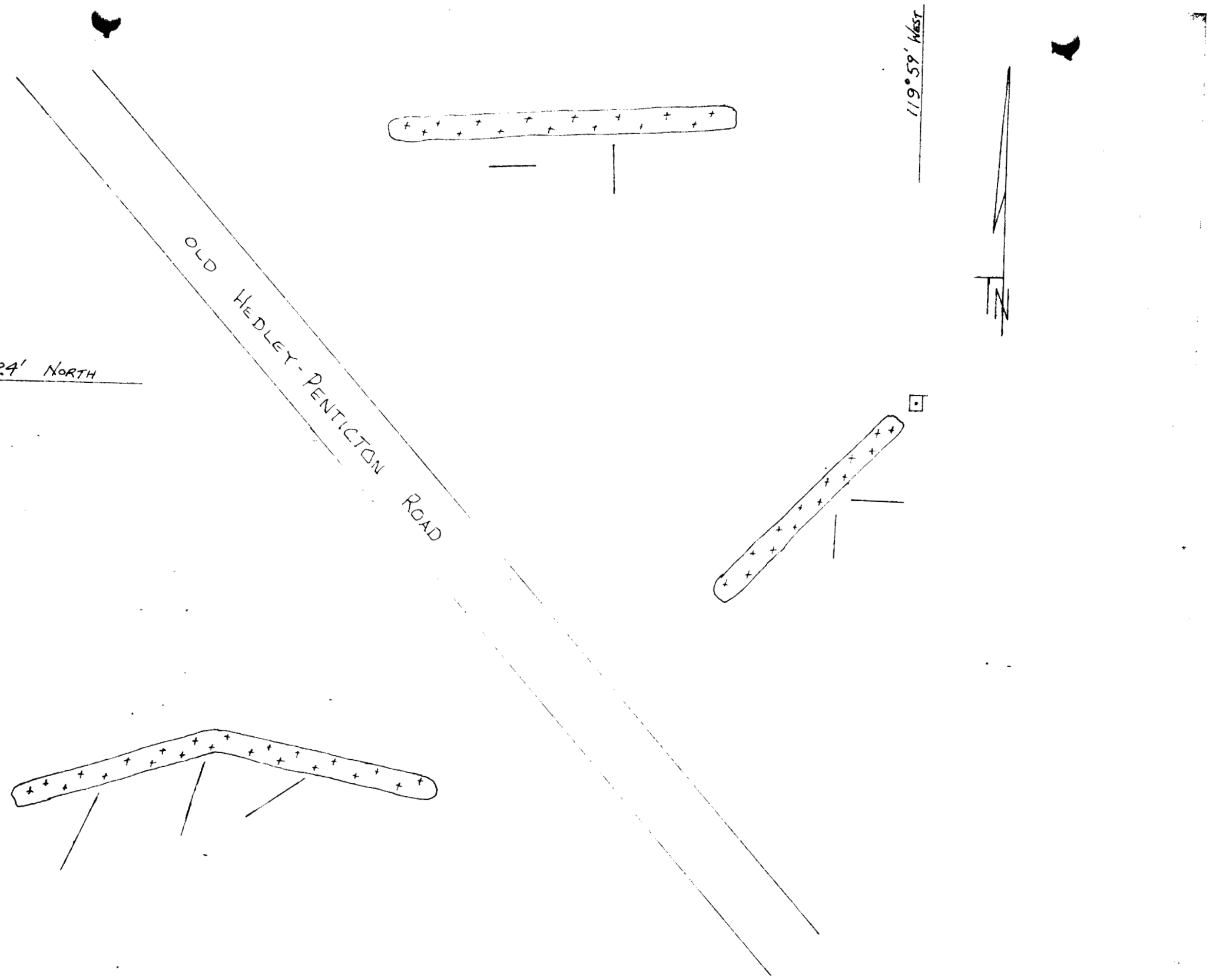
OSOYOOS MINING DIVISION

ORO-ZONE - RENO - NEVA GROUP

GEOCHEMICAL WORK

SAMPLING

DRAWN BY: A.F.B. SCALE: 1" = 200' DATE: SEPT. 19, 1981



LEGEND

⊡ No.2 Post Reno 3,4,5,6 M.C.'s

Medium to Coarsed Granodiorite Containing Pink to White Feldspars, Quartz, Biotite and Horneblende. Oxidized and Brownish in Colour At Contact with Residual Sediments.

——— Jointing

FEET 0 20 40
0 5 10 METRES

FIGURE: 2

Osoyoos Mining Division

Oro-Zone-Reno-Neva Group

Geological Work

Trenching

Drawn By: A.F.B. Scale: 1" = 20' Date: Sept. 19, 1981