

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 94.11.02

ASSESSMENT REPORT 23164

MINING DIVISION: Cariboo

PROPERTY: Nordic
LOCATION: LAT 52 34 00 LONG 121 34 00
UTM 10 5824814 597152
NTS 093A12W

CAMP: 036 Cariboo - Quesnel Belt

CLAIM(S): Nordic 1-5
OPERATOR(S): Big Valley Res.
AUTHOR(S): Wallis, J.E.
REPORT YEAR: 1993, 30 Pages
COMMODITIES
SEARCHED FOR: Copper, Gold, Silver
KEYWORDS: Triassic-Jurassic, Volcanics, Breccia

WORK
DONE: Geochemical, Geophysical, Physical
LINE 12.5 km
MAGG 12.5 km
Map(s) - 2; Scale(s) - 1:2000
SAMP 5 sample(s) ;AU, CU
SOIL 72 sample(s) ;CU, AG, AS
TREN 33.0 m 2 trench(es)

| | | |
|----------|-------------|-----|
| LOG NO: | DEC 23 1993 | RD. |
| ACTION: | | |
| FILE NO: | | |

| | |
|---------------------|-------|
| Sub-Mining Recorder | |
| RECEIVED | |
| DEC 9 1993 | |
| M.R. # | _____ |
| LIKELY, B. C. | |

1993 Exploration Summary
on the
Nordik 1-5 M.C.'s

for

FILMED

BIG VALLEY RESOURCES INC.
Box 4210, Williams Lake, BC
V2G 3V2

Cariboo Mining Division
Likely, British Columbia

N.T.S. 93A/12

✓ 53° 34' N 121° 30' W
32' 34'

GEOLOGICAL BRANCH
ASSESSMENT REPORT

by

23,164

J.E. Wallis, P.Eng.
Williams Lake, BC

November 15, 1993

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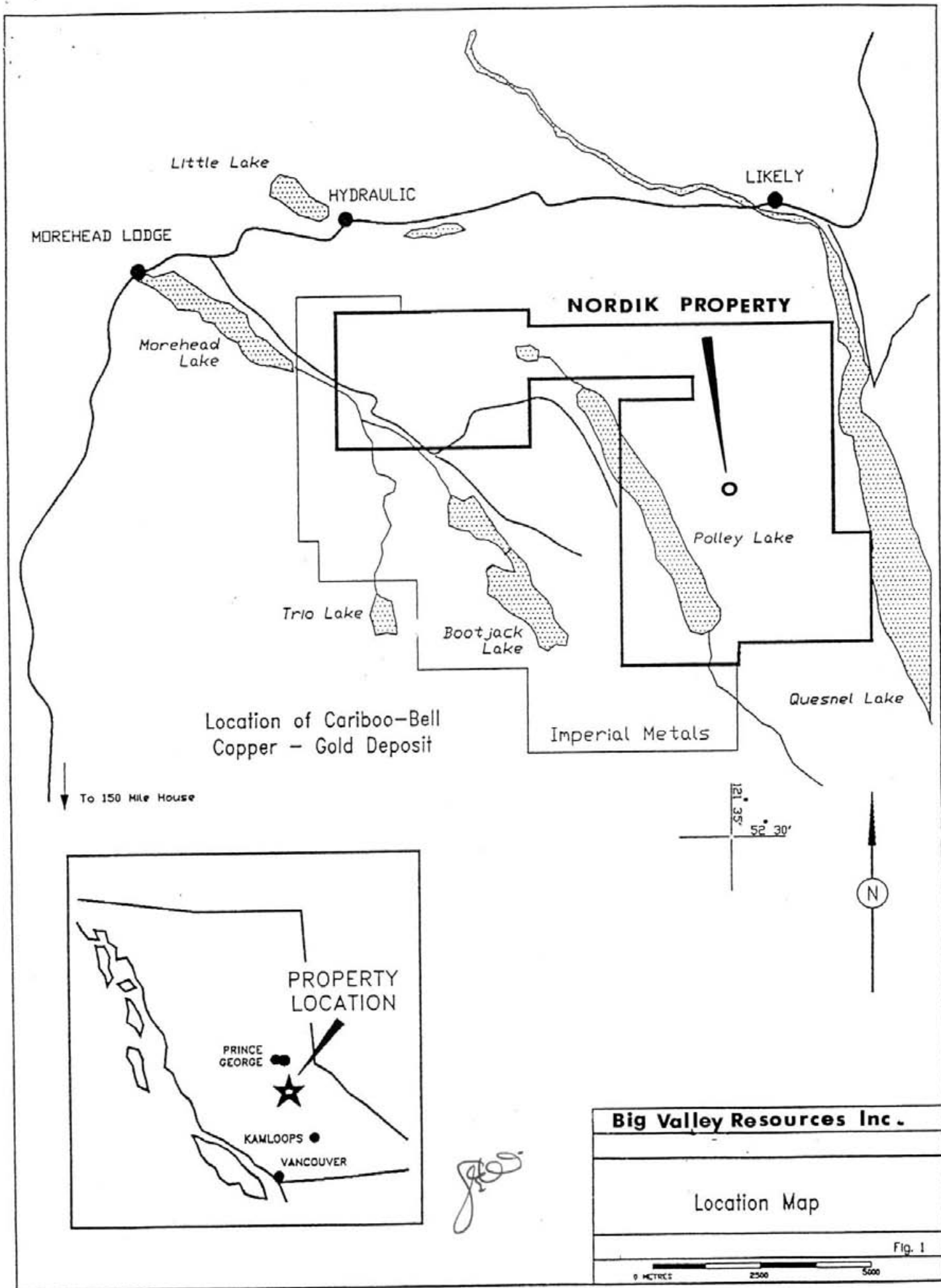
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MOREHEAD LODGE

Little Lake

HYDRAULIC

LIKELY

Morehead Lake

NORDIK PROPERTY

Polley Lake

Trio Lake

Bootjack Lake

Quesnel Lake

Location of Cariboo-Bell
Copper - Gold Deposit

Imperial Metals

To 150 Mile House

121° 35'
52° 30'

N

PROPERTY
LOCATION

PRINCE
GEORGE

KAMLOOPS

VANCOUVER

Big Valley Resources Inc.

Location Map

Fig. 1

0 METRES 2500 5000

Jos

INTRODUCTION

As a result of promising results obtained from a widely-spaced magnetic survey completed in late 1992 on a portion of the Nordik claim group, Big Valley Resources, Inc. conducted a follow-up exploration program on the claims during September and October of 1993. This program consisted of 12.5 kilometers of detailed magnetometer survey, 1.5 kilometers of rough access road, approximately 40 linear meters of trenching, 72 soil geochemistry samples and five rock geochemistry samples.

This report details and interprets the results of this program.

LOCATION AND ACCESS

The Nordic claim group adjoins Imperial Metals Ltd., Mount Polley ore deposit on the east side. The property is located on the east side of Polley Lake, approximately 80 kilometers north-east of the City of Williams Lake, BC, and is 10 kilometers south of the Village of Likely, BC (see Figure 1). The claims are registered on N.T.S. map sheet 93A/12 at 52° 34' north Latitude and 121° 32' west Longitude.

The City of Williams Lake is the major supply center for the area, and is accessible by both highway and scheduled air service from most major cities in British Columbia. The best access to the property from Williams Lake is via Highway 97 southerly to the 150 Mile junction, then north easterly on the Likely highway to the Gavin Lake Forest Service Road, some 50 kilometers from Williams Lake.

Secondary logging roads provide good access to the property, a distance of some 30 kilometers from this junction.

PHYSIOGRAPHY

The Nordik claims cover an area of gentle topography with ground elevations varying from 925 meters to 1050 meters. Approximately 20 percent of the claim area has been clearcut logged over the past 25 years; as a result, timber cover varies from 100-year-old seasoned growth fir, pine and cedar to recent growth seedlings. Dense willows and alder is common along most of the drainage patterns and swampy areas.

Outcrop on the property is sparse and is mostly limited to sporadic occurrences along ridge lines.

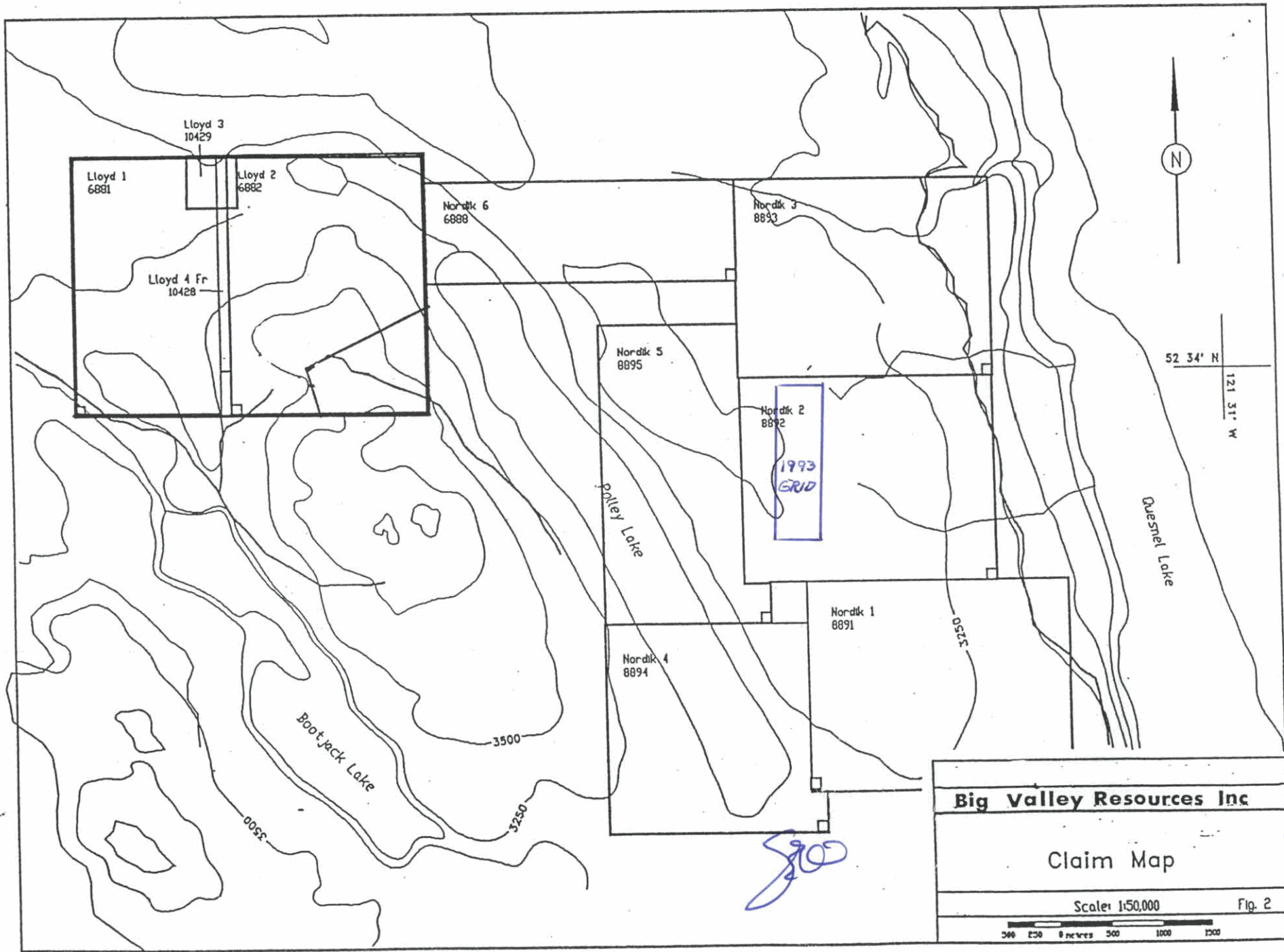
PROPERTY STATUS

The Nordik claim group consists of six contiguous Modified Grid claims; the Nordik 1 to 6 claims, see Figure 2. During the course of the field work the legal corner posts for the Nordik 2 and Nordik 5 claims were located and inspected. The claims appear to have been located as shown.

Claim status, as recorded in the Quesnel mining recorder's office, is as follows:

| Claim Name | Record No. | Expiry Date |
|------------|------------|---------------|
| Nordik 1 | 205623 | Nov. 10, 1994 |
| Nordik 2 | 205624 | Nov. 10, 1994 |
| Nordik 3 | 205625 | Nov. 10, 1994 |
| Nordik 4 | 205626 | Nov. 10, 1994 |
| Nordik 5 | 205627 | Nov. 10, 1994 |
| Nordik 6 | 205628 | Nov. 10, 1994 |

Registered owner of the Nordik claims is Big Valley Resources Inc., 100 percent.



EXPLORATION HISTORY

The first serious exploration for mineral potential in the area began in 1964 when Cariboo-Bell Copper Mines Ltd. discovered oxidized exposures of what is now the Mount Polley Cu-Au deposit (Hodgson *et. al.* 1976).

Following this initial discovery, public mine assessment records show that a number of major mining companies and numerous junior companies conducted extensive exploration programs in the area. Some examples are:

- 1) 1971 - Ardo Mines Ltd. - magnetometer surveys.
- 2) 1976 - Amax Exploration Ltd. - extensive regional geochemical surveys.
- 3) 1979 - JMT Services Corp. - auger geochemical surveys.
- 4) 1986 - E&B Explorations Inc. - extensive magnetic surveys, trenching and drilling on the Polley claims.
- 5) 1986 - North west Geological Consulting Ltd. reconnaissance geological and geochemical survey over the Lloyd-Nordik claims.
- 6) 1990 - Romulus Resource Ltd. - I.P. and Magnetic surveys over the southern half of the Lloyd claims - 750 meters of diamond drilling.

Since 1987, extensive drilling by Imperial Metals Ltd. has defined open-pittable reserves of 53 million tons averaging 0.44% copper and 0.017 ozs. gold per ton (Danielson, 1989). In 1992, Imperial Metals Ltd. received mine production permits from the provincial government. Low metal prices have delayed final mine decisions.

Late in the 1992 season, Big Valley Resources, Inc. established a wide-spaced 29.1 kilometre grid over a Geological Survey of Canada 1961 airborne magnetic anomaly on the

Nordik claims. The ground magnetic survey over the grid verified the anomaly outlined in the 1961 airborne survey. The anomalous area appears to be underlain by polymitic basaltic brecciated rocks similar to those immediately overlying the nearby Cariboo-Bell copper-gold deposit. This suggests that the anomaly is reflecting the presence of a higher-than-normal concentration of magnetic minerals in the underlying formation.

REGIONAL GEOLOGY

The Nordik claims are located near the center of a volcanic belt of rocks (Nicola Group) mapped as the Quesnel Trough. This belt is bounded on the east by the Eureka thrust, and on the west by major, regional dextral faults. In the Quesnel Lake area, the rocks of the Nicola Group form a broad, northwest trending syncline.

The basal strata is represented by a middle-to-late Triassic black phyllite which grades locally into siltstone, sandstone and greywacke. Overlying this basal package are Upper Triassic alkali olivine basalt flows and breccias. Monolithic latite breccias are common near volcanic centres.

ECONOMIC GEOLOGY

Locally, the Triassic and Jurassic volcanic rocks are intruded by Lower Jurassic syn-volcanic syenite to dioritic stocks and plugs. Many of these alkalic stocks host or are spatially related to copper-gold mineralization with associated strong K-feldspar and propylitic alteration zones.

Extensive exploration of these alkalic stocks in recent years has been successful in defining two major ore-bodies. These are: the Mount Polley deposit with reserves of 53 millions tons averaging 0.44% copper and 0.017 ozs. gold per ton, and the Q.R. deposit, some 15 kilometers north west of Mount Polley, with reserves of 1.1 million tons averaging 0.21 ozs. gold per ton.

Further to the east, the black Triassic phyllite basal strata has long been known to host erratic gold quartz veins. Examples are Spanish Mountain and Eureka Peak.

LOCAL GEOLOGY

The local geology is best illustrated by Figure 3 - Local Geology, after Bailey 1988.

Bedrock geology underlying the Nordik claims consists of Upper Triassic and Lower Jurassic flow and brecciated basalts (Units 2B, 2C, 2E, 3A, and 3C).

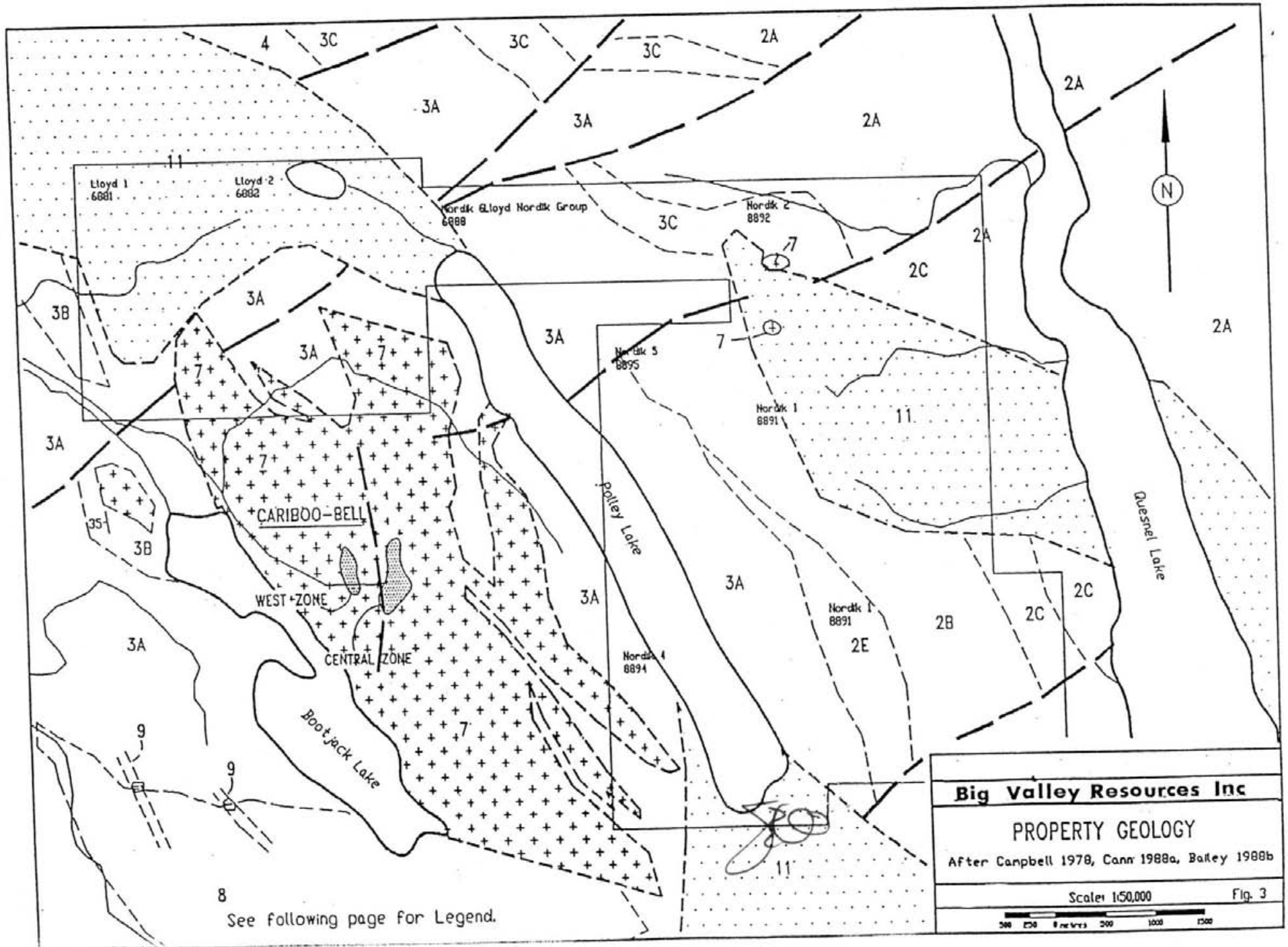
1993 EXPLORATION

A review of the 1992 wide-spaced magnetometer survey results suggested that the next phase of exploration should consist of a lightly-spaced magnetic survey over the northerly portion of the 1992 grid near the head of Cub Creek. On completion of this magnetic survey, two trenches were excavate across the strongest portion of the anomaly and the bedrock sampled and assayed (5-7 meter chip samples). In addition, a total of 72 soil samples were analyzed geochemically for Cu, Ag and As.

Details of the exploration program are as follows:

LINE GRID

The farthest northerly 1500 meter portion of the 1992 baseline was re-cut and crosslines established at 60 meter intervals. The crosslines were cut 300 meters westerly and 200 meters easterly with stations established at 20 meter intervals.



8
See following page for Legend.

| | |
|---|--------|
| Big Valley Resources Inc | |
| PROPERTY GEOLOGY | |
| After Campbell 1978, Cann 1988a, Bailey 1988b | |
| Scale: 1:50,000 | Fig. 3 |
| | |

LEGEND

SEDIMENTARY AND VOLCANIC ROCKS

INTRUSIVE ROCKS

| | | | | | |
|------------|----------------|---------|---|---|--|
| TERTIARY | PLEISTOCENE | 11 | Clastic, fluvio-glacial and fluvial gravel and sand | | |
| | MIOCENE | 10 | Green, grey and maroon pillow basalt (alkali olivine basalt) | | |
| CRETACEOUS | | 9 | Grey hornblende granodiorite and quartz monzonite | | |
| | | 8 | Fine- to coarse-grained grey rhyolite syenite; locally orbicular | | |
| JURASSIC | PLEISTOBAICIAN | 6 | Cobble conglomerate; class of chert, limestone, sandstone; carbonaceous shale and sandstone | | |
| | | 5 | Well bedded dark grey siltstone and sandstone | | |
| | SINEMURIAN | 4 | Maroon, vesicular alkali olivine basalt, commonly analcite-rich | | |
| | | 3C | Felspathic tuffaceous siltstone and sandstone; minor breccia | | |
| | | 3B | Latic crystal tuff, tuff breccia and tuffaceous sandstone; minor lake flow breccia | | |
| | | 3A | Maroon and grey porphyric breccia; class of mafic and intermediate compositions in chaotic and tuffaceous matrix | | |
| | | 2H | Coarse-grained greenish grey and brown sandstone, grey medium-grained sandstone and dark grey siltstone and argillite | | |
| | | 2G | Massive grey limestone and calcareous sandstone | | |
| TRIASSIC | NORIAN | 2F | Interbedded dark grey mafic sandstone and siltstone | | |
| | | 2E | Analcite-bearing maroon and greenish grey alkali basalt; interstitial in places | | |
| | | 2D | Hornblende-bearing pyroxene basalt | | |
| | | 2C | Porphyric, grey and maroon mafic breccia; minor felspathic class | | |
| | | 2B | Maroon, pyroxene-phyric alkali basalt | | |
| | | 2A | Green and grey pyroxene-phyric alkali olivine basalt and alkali basalt | | |
| | | CARNIAN | | 1 | Dark grey siltstone, brown and grey sandstone; unit becomes volcanoclastic towards top. Minor conglomerate and dark grey limestone |

9

8

+7+

ILLEGIBLE T.K.

MAGNETOMETER SURVEY

The magnetometer survey utilized a Scintrex Omni-Plus field unit with an independent Omni-Plus base station. Both units are capable of storing data in a digital format. The data was down loaded at the end of each field day in ASCU format using the software provided. During the data transfer sequence the field data was corrected for diurnal variation and reference field. Reference field for this survey was set at 57,400 gammas. The data in the ASCU files were then imported to a GMS (general mapping system) computer program of Muir & Associates Computer Consultants. Within this program, raw data and contoured data were rendered to digital drawings and grid locations with title blocks added. The drawings were then transferred to Autocad and plotted as Figures 4 and 5 of this report.

GEOCHEMICAL SAMPLING

Soil samples were taken from the "B" horizon at 40 meter intervals on the westerly crosslines beginning with L10+80N and ending with L15+00N. A total of 72 samples were collected and sent to Eco-Tech Laboratories Ltd. in Kamloops, B.C. for analysis of copper, silver and arsenic. Assay certificates are appended to this report as Appendix "A".

TRENCHING

It was elected to trench the strongest portion of the animal located between L12+60N, 1+20W and L14+40N, 1+60W primarily because it appeared that this section had the greatest chance of reaching bedrock with the excavator.

A Drott 140 tracked excavator was trucked to a log landing located approximately 400 meters due south of Sta. 0+00N on the baseline and utilized to build an access trail parallel to the baseline and approximately 100 meters to the west.

Three trench locations were attempted without reaching bedrock. Bedrock was finally reached on L13+20N at Sta. 1+20W at a depth of 3 meters (TR#1). Excavation continued

into bedrock to a depth of 1.0 to 1.5 meters. Bedrock at this location is a well oxidized, sheared hornblende-pyroxene basalt comparable to Unit 2D as mapped regionally. The only mineralization noted was minor amounts of magnetite and pyrite. Chlorite is abundant as an alteration mineral.

Total trench length was 28 meters, approximately 18 meters north of Sta. 1+20W and 10 meters south. Four 7 meter chip samples were cut from the bottom of the trench from the south end of the trench to the north end.

Assay results are as follows:

| Sample | Location | Au-Fire PBB | Cu PPM |
|--------|----------|-------------|--------|
| TR 1 | 0-7 M | 12 | 169 |
| TR 1 | 7-14 M | 9 | 192 |
| TR 1 | 14-21 M | 4 | 215 |
| TR 1 | 21-28 M | 5 | 196 |

Trench No.2 located approximately 15 meters south of the south end of Trench No.1 reached bedrock at a depth of 3.0 meters. Total trench length was approximately 5.0 meters with bedrock diving off steeply to both the north and south. Bedrock geology and mineralization is similar to that in Trench #1.

One chip sample was cut across 3.0 meters of the trench bottom and analyzed for Au and Cu. Assay results returned 5 PPB Au and 187 PPM Cu. Assay certificates are appended to this report as Appendix "B".

DISCUSSION

The results of the 1993 exploration program conducted on the Nordik claims are evaluated and discussed as follows:

1. The ground magnetics appear to define the subtle magnetic differences within the bedrock geology; primarily Upper Triassic flow basalts. In addition, the survey was successful in defining major structural trends. For example, trenching has verified that the long narrow north-south oriented magnetic zone through the central part of the grid is a structural break; i.e.: a major shear or fault zone.
2. Geochemical sampling results indicate that higher than normal background copper and arsenic values are associated with the main structural break. However, trenching and rock geochemistry results indicate that these values are not significantly elevated to suggest that economic mineralization occurs within the structure. However, the structure is strong to the north and is worthy of further examination.

CONCLUSIONS

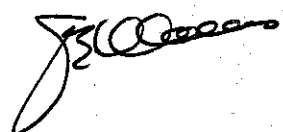
The 1993 exploration program on the Nordik claims was not successful in defining a drill target. However, the program was successful in further defining the bedrock geology and identifying a major north-south oriented structural break through the property. Further exploration on the property should be concentrated along the structural break extension to the north.

RECOMMENDATIONS

A further exploration program consisting of approximately 30 kilometers of line grid followed by a magnetometer survey is recommended for the property. This survey should extend the present grid system to the north to test the potential of the northern extension of the major structural break for economic mineral potential.

The estimated cost of this program is detailed as follows:

| | |
|--|-----------------|
| 30 Kms line grid @ \$300/Km | \$ 9,000 |
| 30 Kms magnetometer survey @ \$150/Km | 4,500 |
| Geologic mapping - 10 days @ \$400/day | 4,000 |
| Vehicle rental | 750 |
| Final report | <u>1,500</u> |
| Sub-total: | \$19,250 |
| Contingency: | <u>2,750</u> |
| Total: | <u>\$22,000</u> |



CERTIFICATE

I, JAMES E. WALLIS, of 96, 414 Avenue South, Williams Lake, BC, DO CERTIFY that:

1. I am a mining engineer registered as a professional engineer with the Association of Professional Engineers of British Columbia.
2. I am a graduate of the Haileybury School of Mines (1958), the University of Alaska (B.Sc. 1965), and Queen's University (M.Sc. [Eng.] 1967).
3. I am familiar with the Lloyd claims through field investigations in 1992 and 1993 and supervised the magnetometer survey detailed in this report.
4. This report may be used for any purpose normal to the business of Big Valley Resources Inc.

DATED this 15 day of November, 1993, at Williams Lake, BC.

J.E. Wallis, P.Eng.

APPENDIX A

Soil Sample Assay Certificates



ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700
Fax (604) 573-4557

SEPTEMBER 28, 1993


CERTIFICATE OF ANALYSIS ETK 93-361

BIG VALLEY RESOURCES
96 4th AVE. SOUTH
WILLIAMS LAKE, B.C.

ATTENTION: J.E. WALLIS

SAMPLE IDENTIFICATION: 72 SOIL SAMPLES received SEPTEMBER 15, 1993

| ET# | Description | Ag (ppm) | As (ppm) | Cu (ppm) |
|-----|------------------|-------------|-------------|-------------|
| 1 | -L10 + 80N 0+00 | .3 | <5 | 123 |
| 2 | -L10 + 80N 0+40W | <.1 | 10 | 26 |
| 3 | -L10 + 80N 0 80 | <.1 | <5 | 28 |
| 4 | -L10 + 80N 1+20W | <.1 | <5 | 38 |
| 5 | -L10 + 80N 1 60 | <.1 | 5 | 23 |
| 6 | -L10 + 80N 2+00W | <.1 | 10 | 58 |
| 7 | -L10 + 80N 2+40 | .1 | 10 | 60 |
| 8 | -L10 + 80N 2+80 | <.1 | 10 | 46 |
| 9 | -L10 + 80N 3+00W | <.1 | 5 | 60 |
| 10 | -L11 + 40N 0+00W | .5 | 40 | 228 |
| 11 | -L11 + 40N 0+40W | .1 | 10 | 63 |
| 12 | -L11 + 40N 0+80W | <.1 | 5 | 33 |
| 13 | -L11 + 40N 1+20W | <.1 | <5 | 51 |
| 14 | -L11 + 40N 1+60W | <.1 | 15 | 62 |
| 15 | -L11 + 40N 2+00W | <.1 | 10 | 49 |
| 16 | -L11 + 40N 2+40W | <.1 | 20 | 54 |
| 17 | -L11 + 40N 2+80W | .1 | 10 | 46 |
| 18 | -L11 + 40N 3+00W | .2 | 5 | 80 |
| 19 | -L12 + 00N 0+00W | .1 | <5 | 24 |
| 20 | -L12 + 00N 40W | .3 | 10 | 92 |
| 21 | -L12 + 00N 80W | .2 | 5 | 67 |
| 22 | -L12 + 00N 1+20W | <.1 | <5 | 45 |
| 23 | -L12 + 00N 60W | .8 | 5 | 124 |
| 24 | -L12 + 00N 2+00W | <.1 | <5 | 65 |
| 25 | -L12 + 00N 2+40W | <.1 | 10 | 83 |
| 26 | -L12 + 00N 2+80W | <.1 | 5 | 58 |


FRANK J. PEZZOTTI, A.Sc.T. B.C. Certified Assayer


PAGE 2

| ET# | Description | Ag (ppm) | As (ppm) | Cu (ppm) |
|-----|--------------------|-------------|-------------|-------------|
| 27 | -L12 + 00N 3+00 | <.1 | 19 | 101 |
| 28 | -L12 + 60N 0+00 | .4 | 9 | 96 |
| 29 | -L12 + 60N 0+40W | .3 | 4 | 79 |
| 30 | -L12 + 60N 0+80W | .4 | 16 | 145 |
| 31 | -L12 + 60N 1+20W | .1 | 10 | 24 |
| 32 | -L12 + 60N 1+60W | <.1 | 12 | 49 |
| 33 | -L12 + 60N 2+00W | .2 | 4 | 47 |
| 34 | -L12 + 60N 2+40W | <.1 | 3 | 45 |
| 35 | -L12 + 60N 2+80W | .2 | 19 | 73 |
| 36 | -L12 + 60N 3+00W | <.1 | 4 | 35 |
| 37 | -L13 + 20N 0+00W | .2 | 17 | 105 |
| 38 | -L13 + 20N 0+40W | 1.5 | 8 | 203 |
| 39 | -L13 + 20N 0+80W | .3 | 10 | 52 |
| 40 | -L13 + 20N 1+20W | .2 | 5 | 30 |
| 41 | -L13 + 20N 1+60W | .2 | 1 | 24 |
| 42 | -L13 + 20N 2+00W | .2 | 5 | 34 |
| 43 | -L13 + 20N 2+40W | .1 | 5 | 68 |
| 44 | -L13 + 20N 2+80W | .2 | 14 | 83 |
| 45 | -L13 + 80N 0+00BL | .1 | 18 | 60 |
| 46 | -L13 + 80N 0+40 | .6 | 21 | 155 |
| 47 | -L13 + 80N 0+80 | .2 | 14 | 49 |
| 48 | -L13 + 80N 1+20 | .2 | 3 | 50 |
| 49 | -L13 + 80N 1+60 | .1 | 10 | 26 |
| 50 | -L13 + 80N 2+00 | .4 | 8 | 164 |
| 51 | -L13 + 80N 2+40W | <.1 | 10 | 56 |
| 52 | -L13 + 80N 2+80W | <.1 | 1 | 31 |
| 53 | -L14 + 40N 0+00NBL | <.1 | 16 | 70 |
| 54 | -L14 + 40N 0+40E | <.1 | 12 | 24 |
| 55 | -L14 + 40N 0+80E | <.1 | 10 | 41 |
| 56 | -L14 + 40N 0+40W | .1 | 3 | 81 |
| 57 | -L14 + 40N 0+80 | <.1 | 11 | 52 |
| 58 | -L14 + 40N 1+20 | <.1 | 8 | 29 |
| 59 | -L14 + 40N 1+60 | <.1 | 11 | 46 |
| 60 | -L14 + 40N 2+00 | <.1 | 7 | 41 |


 FRANK J. PEZZOTTI, A.Sc.T. B.C. Certified Assayer

| ET# | Description | Ag (ppm) | As (ppm) | Cu (ppm) |
|-----|------------------|-------------|-------------|-------------|
| 61 | -L14 + 40N 2+40 | <.1 | 11 | 34 |
| 62 | -L14 + 40N 2+80 | <.1 | 15 | 71 |
| 63 | -L15 + 00N | .3 | 3 | 116 |
| 64 | -L15 + 00N 0+40E | <.1 | 1 | 29 |
| 65 | -L15 + 00N 0+80E | .1 | 5 | 10 |
| 66 | -L15 + 00N 0+40W | .3 | 7 | 112 |
| 67 | -L15 + 00N 0+80 | .5 | 8 | 185 |
| 68 | -L15 + 00N 1+20W | .3 | 14 | 200 |
| 69 | -L15 + 00N 1+60 | .2 | 8 | 244 |
| 70 | -L15 + 00N 2+00 | .2 | 10 | 49 |
| 71 | -L15 + 00N 2+40 | .1 | 10 | 43 |
| 72 | -L15 + 00N 2+80 | .1 | 4 | 30 |

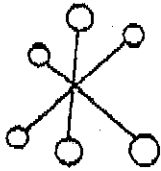
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FRANK J. PEZZOTTI, A.Sc.T.

SC93/Kmisc#2

B.C. Certified Assayer



ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING

10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (804) 573-5700 Fax 573-4557

GEOCHEMICAL LABORATORY METHODS

SAMPLE PREPARATION (STANDARD)

1. **Soil or Sediment:** Samples are dried and then sieved through 80 mesh nylon sieves.
2. **Rock, Core:** Samples dried (if necessary), crushed, riffled to pulp size and pulverized to approximately -140 mesh.
3. **Heavy Mineral Separation:**
Samples are screened to -20 mesh, washed and separated in Tetrabromothane.
(SG 2.96)

METHODS OF ANALYSIS

All methods have either certified or in-house standards carried through entire procedure to ensure validity of results.

1. **Multi-Element** Cd, Cr, Co, Cu, Fe (acid soluble),
Pb, Mn, Ni, Ag, Zn, Mo

Digestion

Hot aqua-regia

Finish

Atomic Absorption, background correction applied where appropriate

A) Multi-Element ICP

Digestion

Hot aqua-regia

Finish

ICP

2. Antimony

Digestion

Hot aqua regia

Finish

Hydride generation - A.A.S.

3. Arsenic

Digestion

Hot aqua regia

Finish

Hydride generation - A.A.S.

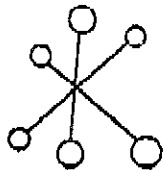
4. Barium

Digestion

Lithium Metaborate Fusion

Finish

I.C.P.



ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING

10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

5. Beryllium

Digestion

Hot aqua regia

Finish

Atomic Absorption

6. Bismuth

Digestion

Hot aqua regia

Finish

Atomic Absorption

7. Chromium

Digestion

Sodium Peroxide Fusion

Finish

Atomic Absorption

8. Fluorine

Digestion

Lithium Metaborate Fusion

Finish

Ion Selective Electrode

9. Mercury

Digestion

Hot aqua regia

Finish

Cold vapor generation -
A.A.S.

10. Phosphorus

Digestion

Lithium Metaborate Fusion

Finish

I.C.P. finish

11. Selenium

Digestion

Hot aqua regia

Finish

Hydride generation - A.A.S.

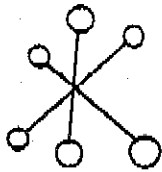
12. Tellurium

Digestion

Hot aqua regia
Potassium Bisulphate Fusion

Finish

Hydride generation - A.A.S.
Colorimetric or I.C.P.



ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING

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13. Tin

Digestion

Ammonium Iodide Fusion

Finish

Hydride generation - A.A.S.

14. Tungsten

Digestion

Potassium Bisulphate Fusion

Finish

Colorimetric or I.C.P.

15. Gold

Digestion

a) Fire Assay Preconcentration followed by Aqua Regia

b) 10g sample is roasted at 800°C then digested with hot Aqua Regia. The gold is extracted by MIBK and determined by A.A.

Finish

Atomic Absorption

16. Platinum, Palladium, Rhodium

Digestion

Fire Assay Preconcentration followed by Aqua Regia

Finish

Graphite Furnace - A.A.S.

APPENDIX B

Rock Geochemistry Assay Certificates



**MINERAL
• ENVIRONMENTS
LABORATORIES**
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

3V-0751-RG1

Company: **WALLIS & ASSOC.**
Project: **NORDIK**
Attn: **J.E. WALLIS**

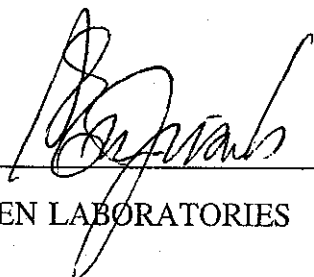
Date: **NOV-05-93**

Copy 1. Wallis & Associates, Williams Lk. B.C.

We hereby certify the following Geochemical Analysis of 5 rock samples submitted NOV-01-93 by J. E. Wallis.

| Sample Number | Au-Fire PPB | Cu PPM |
|---------------|-------------|--------|
| TR-2 | 2 | 187 |
| TR-1 0-7M | 12 | 169 |
| TR-1 7-14M | 9 | 192 |
| TR-1 14-21M | 4 | 215 |
| TR-1 21-28M | 5 | 196 |

Certified by


MIN-EN LABORATORIES



MINERAL
• ENVIRONMENTS
LABORATORIES

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR FIRE GOLD GEOCHEM:

Geochemical samples for Fire Gold processed by Min-En Laboratories., at 705 West 15th Street, North Vancouver Laboratory employing the following procedures.

After drying the samples at 95^o C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 15.00 or 30.00 grams are fire assayed preconcentrated.

After pretreatments the samples are digested with aqua regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 1 ppb.



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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR GOLD ASSAY:

Samples are received, catalogued and dried at 105°C if necessary.

Whole sample is passed through a primary crusher which reduces sample to $-\frac{1}{2}$ inch.

Whole sample is further passed through a secondary crusher which further reduces the sample to -10 mesh.

The whole sample is riffled through a $\frac{1}{2}$ inch riffle to obtain a subsample of approx 300-400 grams. The remaining reject is bagged and stored.

The above 300-400 gram split is then pulverized to obtain the -150 mesh using ring 3 dimensional action mill pulverizer.

Sample pulp is now rolled and analysed.

The sample pulp is assayed for gold using a 1 assay ton fire assay preconcentration and atomic absorption finishing techniques.

The remaining sample pulp is retained and stored.



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LABORATORIES LTD.

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK

PROCEDURES FOR Mo, Cu, Cd, Pb, Mn, Ni, Ag, Zn, As, F

Samples are processed by Min-En Laboratories, at 705 West 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers.

Copper, lead, zinc, silver, cadmium, cobalt, nickel and manganese are analysed using the CH_2H_2 -Air Flame combination but the molybdenum determination is carried out by C_2H_2 - N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

Background corrections for Pb, Ag, Cd upon request are completed.

FOR ARSENIC analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzeit method using $\text{Ag Cs}_2\text{N} (\text{C}_2\text{H}_5)_2$ as a reagent. The detection limit obtained is 1. ppm.

FOR FLUORINE analysis is carried out on a 200 milligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soil samples are measured quantitatively by using fluorine specific

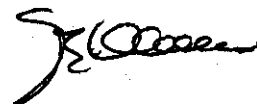
APPENDIX C

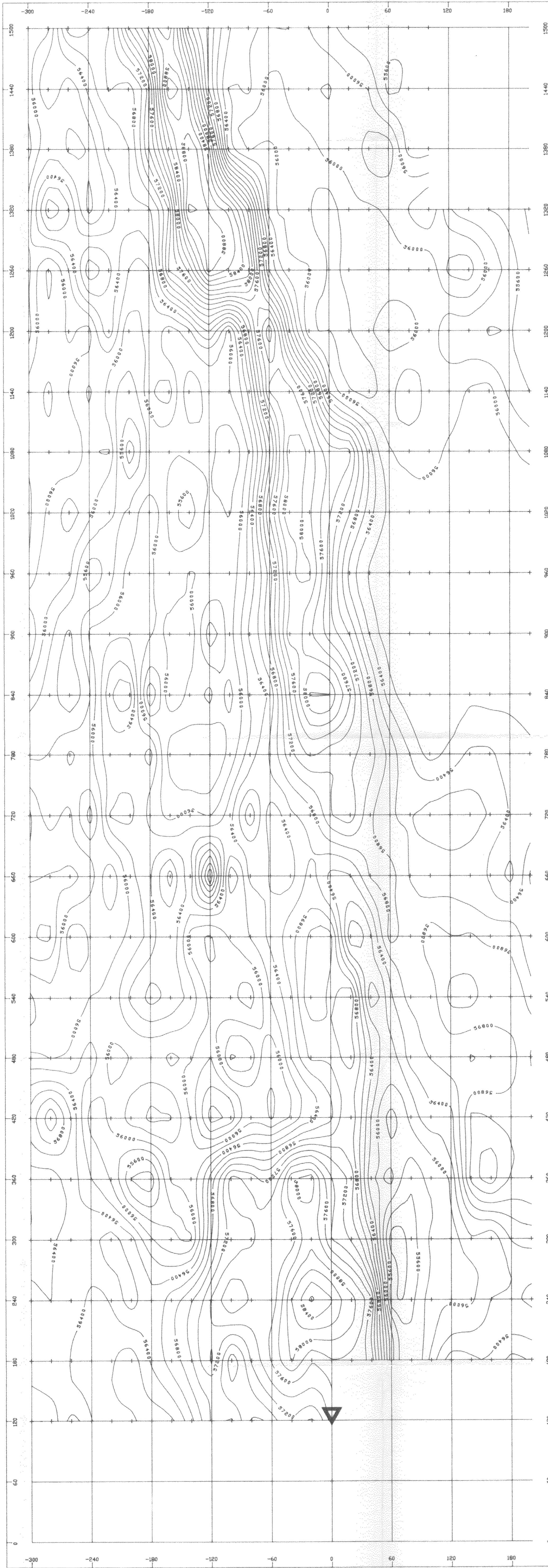
Statement of Expenditures

1993 EXPLORATION EXPENDITURES




NORDIK PROPERTY

| | |
|--|--------------|
| 12.5 kms line grid \$ \$300/km | \$ 3,750 |
| 12.5 kms magnetometer survey, @ \$150/km | 1,875 |
| Geology, geochemical sampling 10 days @ \$400/day | 4,000 |
| Excavator, 110 hrs. @ \$100/hr. | 11,000 |
| Assaying | 586 |
| Truck rental, 14 days @ \$50/day | 700 |
| Final report | <u>2,000</u> |
| Total | \$23,911 |





LEGEND

-  Location of base station
-  Survey Station Location
-  Magnetic contour interval 200 gammas
- Base Value: 57400 gammas

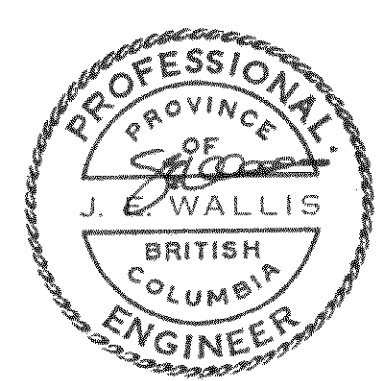



FIGURE 4

BIG VALLEY RESOURCES INC.

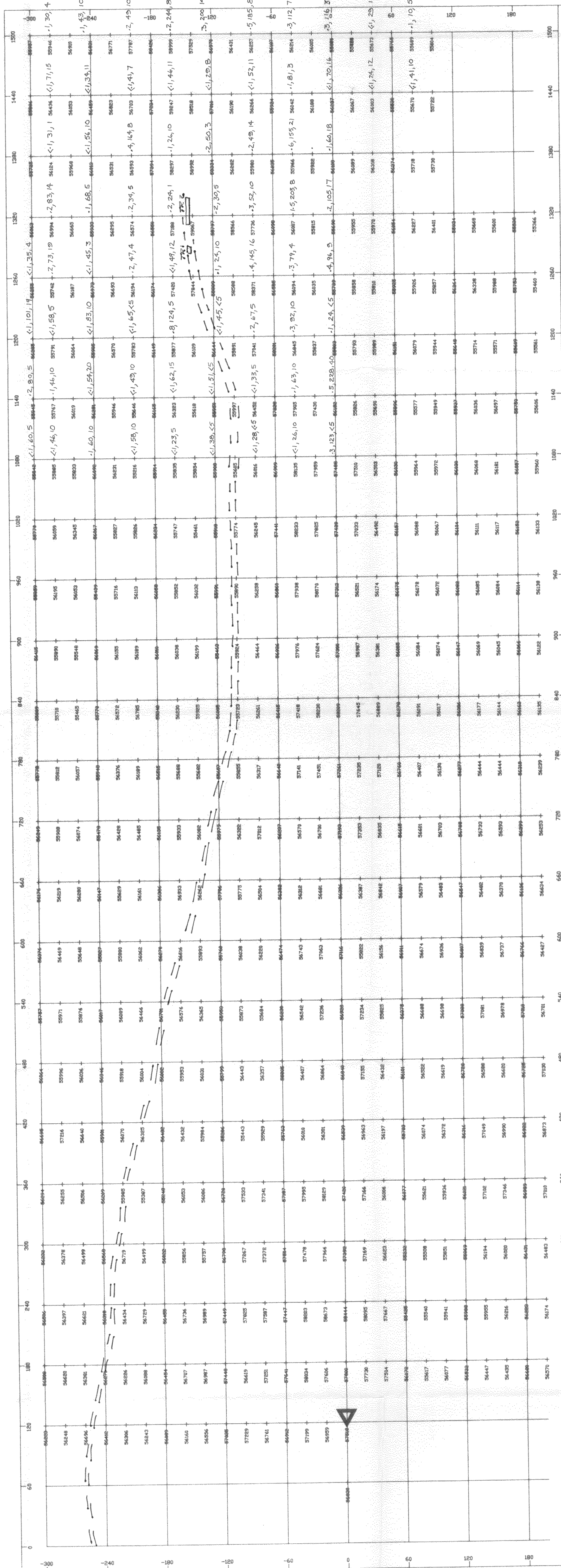
NORDIC GRID 93
GEOPHYSICAL PLAN
CONTOURED MAGNETICS (GAMMAS)

Scale 1: 2000.0



Date: OCTOBER 93 | Drawn By: RMD | QUESNEL, B.C.

WALLIS AND ASSOCIATES



LEGEND

- Location of base station
- Trench
- | Geochem Values ppm | | |
|--------------------|----|----|
| Ag | Cu | As |
| 7 | 18 | 15 |
- Survey station with corrected magnetic reading in gammas
- Access Road

Base Value: 57400 gammas

PROFESSIONAL
ENGINEER
J. E. WALLIS
BRITISH COLUMBIA
PROVINCE OF

FIGURE 5

BIG VALLEY RESOURCES INC.
NORDIC GRID 93
COMPOSITE PLAN

Scale 1: 2000.0

Date: OCTOBER 93 Drawn By: RMD QUESNEL, B.C.

WALLIS AND ASSOCIATES