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GEOPHYSICAL AND GEOLOGICAL EVALUATION  
of the  
**BOULDER GOLD PROPERTY**  
(Boulder 1 to 4 Claims)  
Fort Steele Mining Division  
N.T.S. 82-G/11W, 82-G/12E  
Latitude 49°43' North  
Longitude 115°31' West  
British Columbia

April 30, 1990

on behalf of  
John M. Kruszewski  
Calgary, Alberta

by  
T. Bojczyszyn, P.Geol.  
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Calgary, Alberta T2S 0B1

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**20,061**

ABSTRACT

In 1989, Mr. John M. Kruszewski of Calgary, Alberta, began acquiring ground in the vicinity of the Wild Horse River near Cranbrook, British Columbia. The BOULDER 1-4 claims, which comprise part of the Boulder Gold property, are situated adjacent to the Cash property. The Cash property is currently under intensive exploration for gold and base metals by Kokanee Explorations Ltd.

Placer mining within the Boulder Gold property and region historically produced significant quantities of gold. The Kootenay King Mine, located adjacent to the property, produced 14,000 tons of 11.1% zinc, 11.1% lead, and 3.8 oz/ton silver from bedrock sources.

Mineralized occurrences, consisting of base metals, silver, gold, and tungsten, are found in sheared sediments and dykes or as skarn in dolomite. They are spatially related to mafic sills, mafic dykes, porphyritic monzonite, and syenite. A crude zonation of metals may exist with respect to the Boulder Gold property. A previous zinc/lead/silver mine lies west of the property. Gold and silver occur on Crown grants within the property. Tungsten occurs east of the property.

Assessment work for 1990 included flagged grid emplacement, VLF-EM and magnetic surveying, local geological mapping, lithogeochemical sampling, and literature compilation. Previous work in 1989 involved brush clearing on trails and cleaning old trenches for future access and sampling.

Favourable structures and sulphide occurrences have been located within the property. Visible gold was observed in a fingernail size pod of pyrite in quartzite adjacent to carbonate-sericite schist. Detailed follow-up work is recommended.

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## INTRODUCTION

Taiga Consultants Ltd. was contracted by Mr. John M. Kruszewski of Calgary to undertake a geophysical and geological evaluation of the gold and base metal potential of the BOULDER 1-4 claims in southeastern British Columbia.

Work commenced on the property on March 8 and was completed by March 19, 1990. A 800 m base line and 6.4 km of grid lines were established. Litho-geo-chemical sampling, geological mapping, and VLF-EM and magnetometer surveying were completed over the grid area. The writer also conducted a literature search of past silver, lead, and zinc producers in the immediate area and a review of pertinent assessment files.

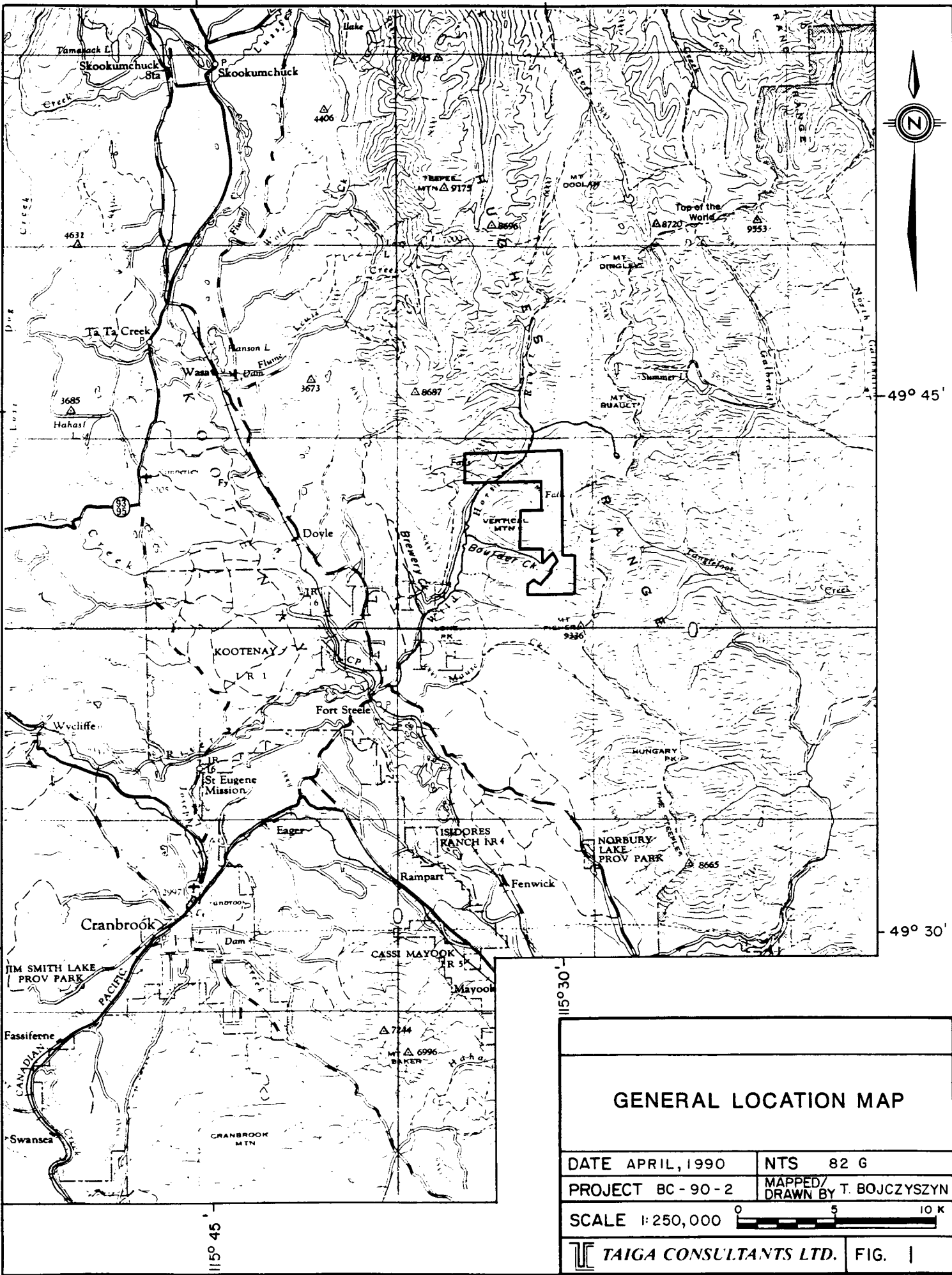
### Property Status

The Boulder Gold property is located within the Fort Steele Mining Division of British Columbia, on N.T.S. map-sheets 82-G/11W and 82-G/12E. The property, which is registered in the name of John M. Kruszewski, comprises four contiguous mineral claims, which (excluding interior Crown grants) total approximately 1,600 hectares or 4,000 acres (Figures 1, 2, 3). The claim status is tabulated below:

TABLE 1 - Claims Status

| <u>Claim Name</u> | <u>No. of Units</u> | <u>Record Number</u> | <u>Date of Record</u> | <u>Expiry Date</u> |
|-------------------|---------------------|----------------------|-----------------------|--------------------|
| BOULDER 1         | 20                  | 3337                 | March 19, 1989        | March 19, 1991     |
| BOULDER 2         | 20                  | 3338                 | March 19, 1989        | March 19, 1991     |
| BOULDER 3         | 18                  | 3339                 | March 19, 1989        | March 19, 1992     |
| BOULDER 4         | <u>18</u>           | 3340                 | March 19, 1989        | March 19, 1991     |
|                   | 76                  |                      |                       |                    |

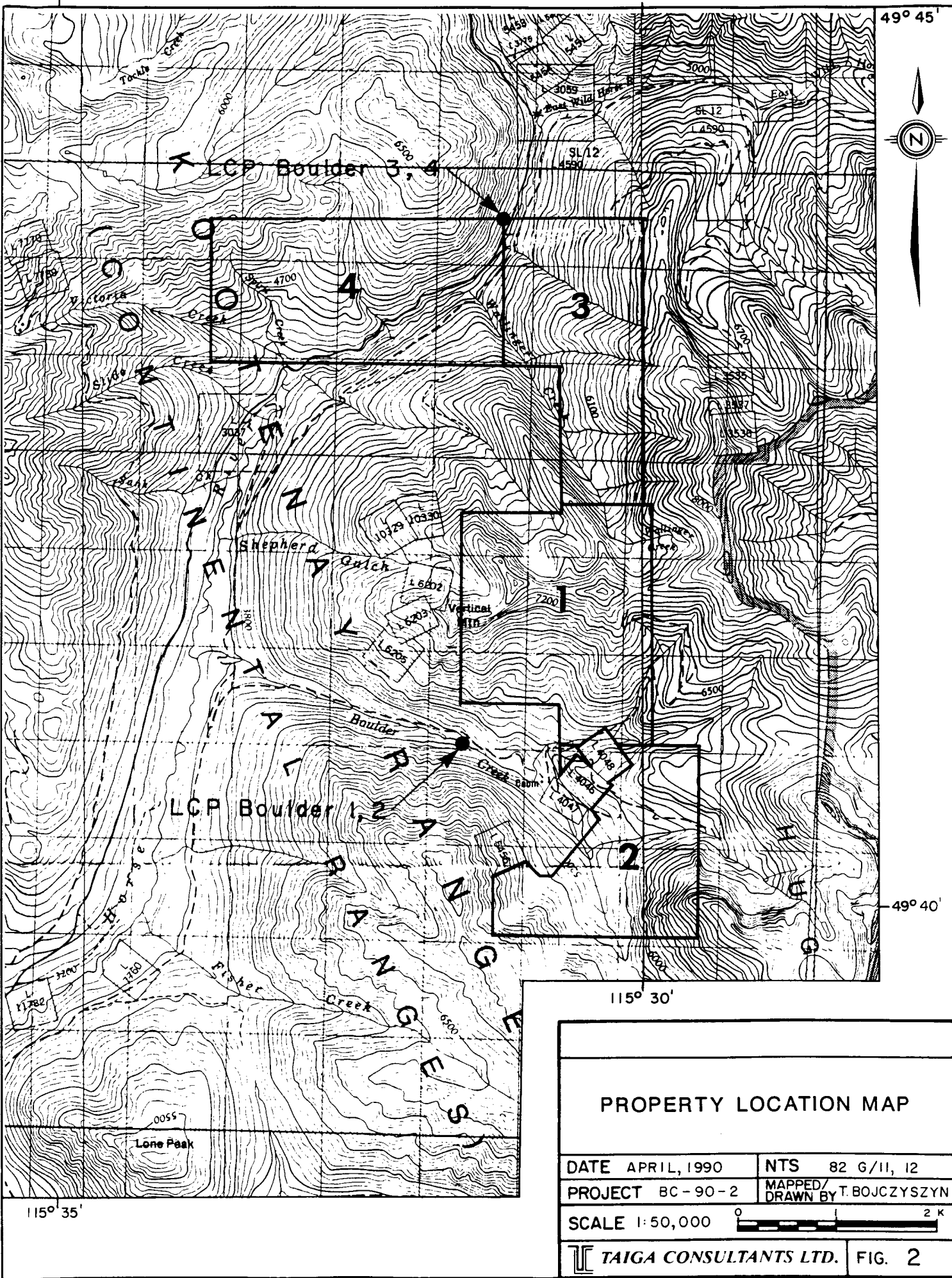
Assessment work requirements under the "Mineral Tenure Act Regulations (B.C. Reg. 297/88)" necessitate an exploration expenditure of \$100 per unit for the first three years and \$200 per unit for each subsequent year. Hence, the yearly assessment requirements are currently \$7,600. Recording fees of \$5 per \$100 of exploration/development expenditures filed are also required.



### GENERAL LOCATION MAP

|                     |                                   |
|---------------------|-----------------------------------|
| DATE APRIL, 1990    | NTS 82 G                          |
| PROJECT BC - 90 - 2 | MAPPED/<br>DRAWN BY T. BOJCZYSHYN |
| SCALE 1:250,000     | 0 5 10 K                          |

**TAIGA CONSULTANTS LTD.** FIG. 1

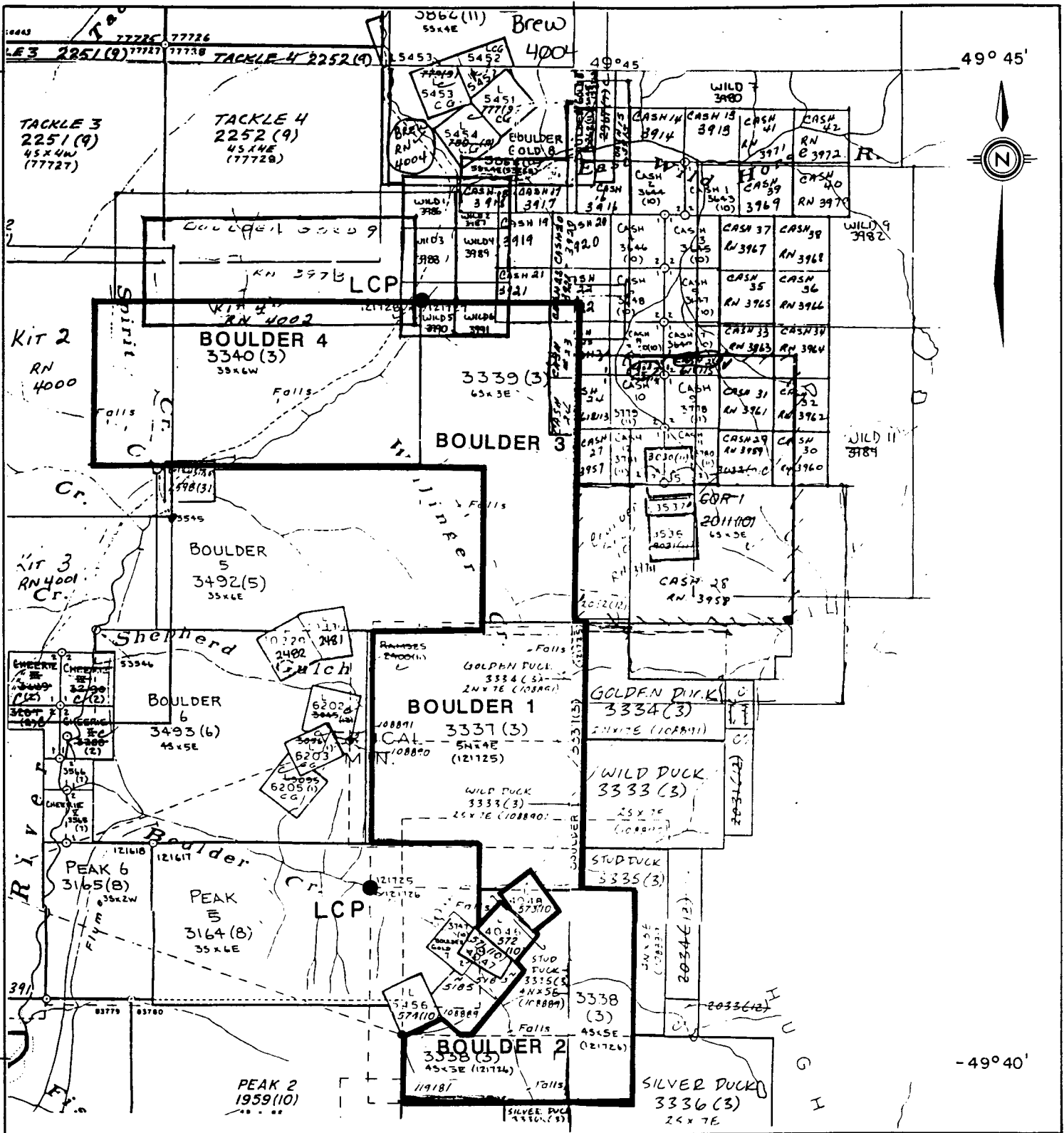


PROPERTY LOCATION MAP

|                  |                               |
|------------------|-------------------------------|
| DATE APRIL, 1990 | NTS 82 G/11, 12               |
| PROJECT BC-90-2  | MAPPED/DRAWN BY T. BOJCZYSZYN |

SCALE 1:50,000 

 TAIGA CONSULTANTS LTD. FIG. 2



### CLAIM MAP

|                  |                                   |
|------------------|-----------------------------------|
| DATE APRIL, 1990 | NTS 82 G/11, 12                   |
| PROJECT BC-90-2  | MAPPED/<br>DRAWN BY T. BOJCZYSZYN |

SCALE 1:50,000 

**TAIGA CONSULTANTS LTD.** FIG. 3

The BOULDER 1-4 claims were grouped as the Boulder Gold Group and \$9,400 of assessment work was filed on March 19, 1990.

As of March 12, 1990, a claim dispute was pending on the BOULDER 1 and 3 claims. The complaint was filed under Section 35(1a) of the B.C. Mineral Tenure Act by Mr. L. Stephenson on behalf of Kokanee Explorations Ltd. Section 35(1a) is a complaint to the Chief Gold Commissioner that a claim has been located or recorded contrary to the Act or the Regulations.

#### Location and Access

The property is located 30 km northeast of Cranbrook, B.C., within the Hughes Range, between 1065 and 2315 m (3500 and 7600 feet). Access is from Fort Steele (the nearest settlement) via all-weather and dry-weather gravel roads paralleling the Wild Horse River. Part of the BOULDER 3 claim was logged over in the late 1960's. Access to the higher elevations in this area is via logging road switchbacks located south of the East Wild Horse River.

#### Physiography

The Hughes Range is a prominent strike ridge with rugged peaks and spurs which culminate in the 2845 m summit of Mount Fisher. Maximum elevation between Mount Fisher and the Kootenay River is approximately 2000 m. The Rocky Mountain Trench is located 10 km southwest of Mount Fisher.

Treeline is located approximately at elevation 2285 m. The west side of the Hughes Range is marked by continuous steep slopes down to elevation 1065 m while the east side consists of less precipitous slopes with cirque incisions between elevations 1675 m and 2135 m.



PREVIOUS WORK

The geology of the area was mapped by government agencies at the following approximate scales:

|                    |                                          |           |
|--------------------|------------------------------------------|-----------|
| H.M.A. Rice (1937) | Geological Survey of Canada              | 1:125,000 |
| G.B. Leach (1960)  | Geological Survey of Canada              | 1:250,000 |
| T. Höy (1978)      | B.C. Energy, Mines & Petroleum Resources | 1: 50,000 |

The area has been actively explored for silver, lead, zinc, tungsten, and gold. Some of the better adjacent prospects, such as the Kootenay King (located 2 km west of the BOULDER 4 claim) and the Dardenelles (located adjacent to the western BOULDER 1 claim boundary), have seen limited production.

Initial exploration focused on placer gold on the Wild Horse River tributaries, and it is reported that in 1893, six million dollars in placer gold was won from the Wild Horse River. The BOULDER 3 and 4 claims are drained by tributaries entering the upper reaches of the Wild Horse River. The BOULDER 1 and 2 claims, located south of the BOULDER 3 and 4, are drained mostly by Boulder Creek. The most important placer gold deposits occur on the Wild Horse River between Boulder Creek and Brewery Creek (see Figure 1). Placer gold found above the confluence of Boulder Creek and the Wild Horse River is much finer and lighter in colour from the placer gold on Boulder Creek (personal communication, J. M. Kruszewski).

In 1894, gold was discovered in the area within bedrock sources. One of the more important discoveries included the Dardenelles deposit. At this site, gold in quartz veins was worked periodically from 1896 to 1919, and included mining from an inclined shaft over a distance of 217 feet along the vein. In 1975, Magnum Enterprises of Cranbrook shipped 95 tons to the Trail smelter (B.C. Dept. of Mines, assess.report #12252).

The former Kootenay King mine has also had a long history of exploration. The property was staked prior to 1898, but not seriously explored until the 1920's. There was limited mining and milling in 1951 and 1952. The orebody (250' long x 6'-20' wide x 160' deep) produced 14,000 tons grading in the order of 11.1% zinc, 11.1% lead, and 3.8 oz/ton silver.

A summary of pertinent assessment reports in relation to the Boulder Gold property is briefly listed in point form below:

- #2574 (1970 by F. D. Gill for Cominco): target - tungsten; located northeast of BOULDER 3; green diopsidic skarn with muscovite occurs in contact with a small monzonite plug; scheelite confined to tremolite is found 2500'-3000' away from the monzonite.
- #3382 (1971 by Eagle Geophysics for Placid Oil Company): target - tetrahedrite in dolomite; located east of BOULDER 3; three IP zones up to 2000' long and 250' wide were delineated.
- #5436 (1974 by Pighim for Cominco): target - base metals; located east of BOULDER 1,2,3 claims; soil grids: Coronado, Wallinger, Boulder, analyzed for lead, zinc, copper.
- #5584 (1975 by Webber for Cominco): target - tungsten, base metals; located northeast BOULDER 3; DDH C75-1, 710', syenite porphyry, pyrite, tremolite alteration, magnetite, serpentinite, tremolite, actinolite, pseudobreccia, fractures, up to 20% pyrite, no reported assays; currently Kokanee Exploration Ltd.'s "Cash" Property.
- #12252 (1983 by L.Sookochoff for Justice Mining Corp.): target - gold, north of Dardenelles and Motherlode targets; located in BOULDER 5 area; recommended follow-up work.
- #12991 (1984 by Godall et al. for Dome Exploration Canada Ltd.): target - base metals; located east of BOULDER 3; 75 rocks, 393 soils.
- #13106 (1984 by Corvalan for Imperial Metals): target - gold; located east of BOULDER 2; silt and soil sampling.
- #13200 (1984 by Nelles, Golden Porphyrite Ltd.): target - Dardenelles, Motherlode; located west of BOULDER 1.
- #13658 (1984 by Nelles for Hammond Explorations Ltd.): target - gold, Golden Coin, Big Chief, Ames; located in BOULDER 2 area.
- #15036 (1985 by Grooves for Justice Mining Corp.): target gold; location north of Dardenelles; Dardenelles thrust fault.

Detailed compilation of assessment data is recommended prior to any additional work on the Boulder Gold property.

### MINERAL OCCURRENCES

A summary of mineral occurrences located on or in close proximity to the BOULDER 1-4 claims is excerpted below from a summary report by Kruszewski (1989) and illustrated on Figure 4. Information in that report was obtained primarily from G.S.C. Memoir 207 (Rice, 1937).

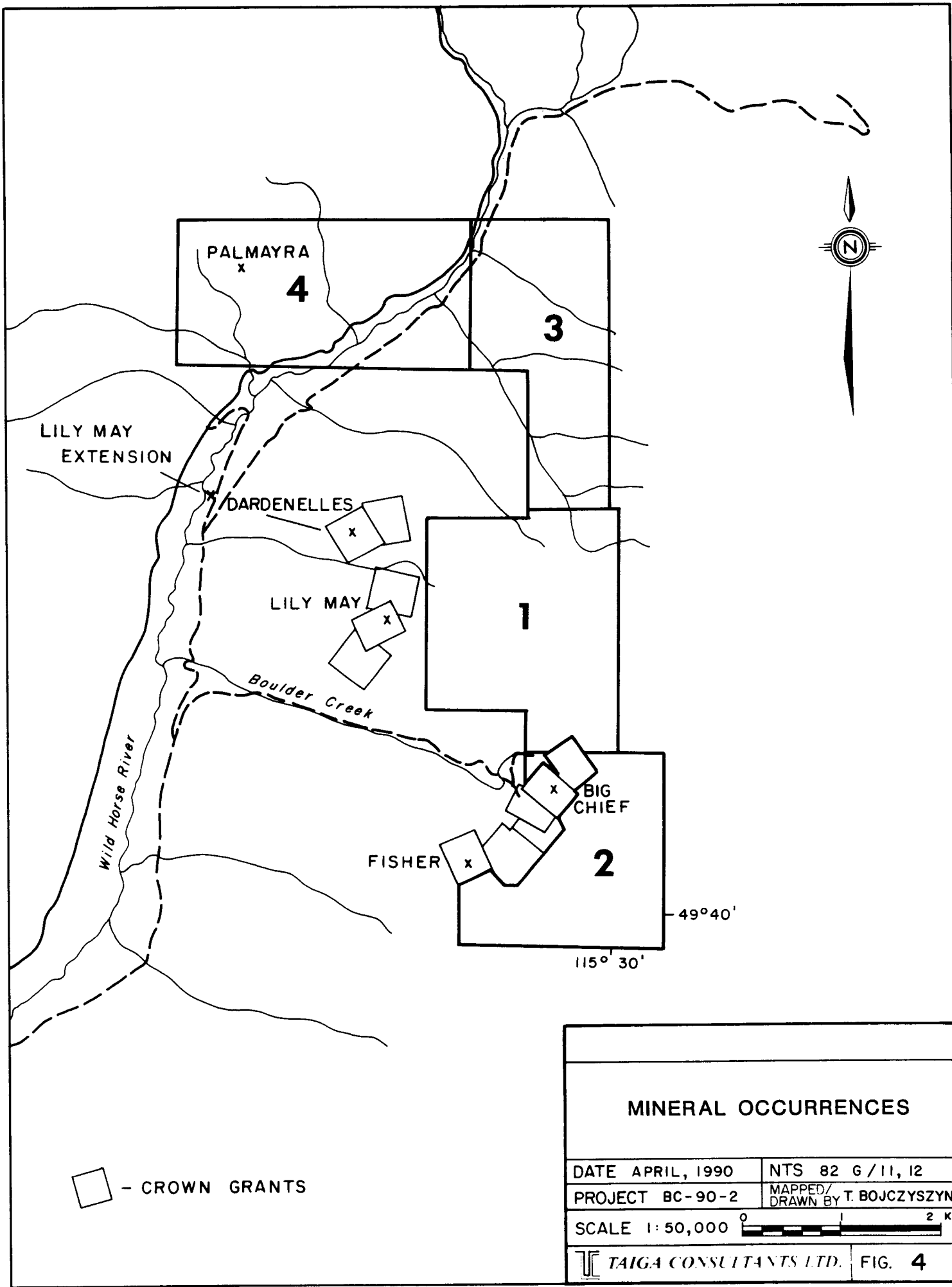
#### 1. Palmayra

The Palmayra workings are located on the northwest side of the Wild Horse River at an elevation of 4,700 feet alongside a trail which is approximately three-quarters of a mile in length. Five tunnels, a shaft, and several open cuts have exposed one or more syenite dykes cutting Aldridge Argillites. The dykes have been faulted and shattered, creating fractures which have been filled with quartz stringers mineralized in pyrite and galena. Within tunnel 5, galena is fairly abundant on the hanging wall of the dyke where the vein dips at a low angle into the hillside.

#### 2. Dardenelles

The Dardenelles workings are located on the west slope of Vertical Mountain at an elevation of 6,000 feet, just west of the BOULDER 1 claim within competitor Crown grants. Several shafts and open cuts expose a quartz vein in and along the margin of a severely altered, carbonatized syenite dyke which cuts Creston argillaceous quartzites. This vein strikes N40°W and dips 20°S. The vein and dyke both appear to occupy a thrust fault which has been subjected to later movements. The vein varies from one to three feet in width and carries lenses of galena and chalcopyrite.

At a point 300 feet southwest of the first vein, a 55-foot shaft exposes another vein striking N60°E and dipping 25°S which measures 3 to 4.5 feet in width along the footwall of an altered and partially brecciated syenite dyke. Two samples, taken in the 55-foot inclined shaft, assayed 0.20 oz/ton and 1.0 oz/ton gold over a 4.5-foot interval.



PALMAYRA  
x

4

3

LILY MAY  
EXTENSION

DARDENELLES  
x

LILY MAY  
x

1

Boulder Creek

Wild Horse River

FISHER  
x

BIG  
CHIEF  
x

2

49°40'

115°30'

□ - CROWN GRANTS

MINERAL OCCURRENCES

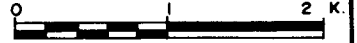
DATE APRIL, 1990

NTS 82 G / 11, 12

PROJECT BC-90-2

MAPPED/  
DRAWN BY T. BOJCZYSZYN

SCALE 1:50,000



TAIGA CONSULTANTS LTD.

FIG. 4

A streak of almost solid galena, approximately 7" wide, occupies the centre of the vein and is situated parallel to its walls. A sample across this galena occurrence, taken by the Resident Engineer, assayed 0.08 oz/ton gold and 5.0 oz/ton silver with 43% lead and trace zinc.

### 3. Lily May

The Lily May workings are located on the west side of Vertical Mountain at an elevation of 6,500 feet, just west of the BOULDER 1 claim, within a competitor Crown grant. Four shallow shafts and a short crosscut tunnel have exposed a quartz vein that varies in width from 6 inches to 3 feet over a length of some 260 feet. The vein is mineralized with traces of pyrite, galena, and near the surface, some secondary anglesite ( $\text{PbSO}_4$ ). The vein strikes  $\text{N}10^\circ\text{-}20^\circ\text{W}$  and dips  $30^\circ\text{-}40^\circ\text{E}$  into the mountain, occupying a fault with a displacement of several feet. At the south end, the quartz vein is covered by overburden. A quarter of a mile south of the visible portion of the vein, sparsely mineralized quartz veins have been exposed in two short tunnels.

A sample, taken at the face across 12 inches of iron-stained quartz and containing some galena, assayed 0.22 oz/ton gold, 2.4 oz/ton silver, 4% lead, and a trace of zinc. A sample, taken across 16 inches at the face, assayed 0.38 oz/ton gold, 3.2 oz/ton silver, 5% lead, and a trace of zinc.

#### 3a. Lily May Extension

The Lily May Extension is on the west side of the Lily May workings, about a mile north of the mouth of Boulder Creek, at an elevation of 3,100 feet. Several tunnels and open cuts have exposed a syenite dyke of irregular shape which cuts the Aldridge Argillites and is up to 7 feet wide. This dyke has been extensively shattered and carbonatized with quartz veinlets filling the resulting fractures. The quartz veinlets carry galena, chalcopryite, pyrite, and a small amount of siderite.

#### 4. Big Chief

The Big Chief workings are located on the north side of Boulder Creek, about three miles from the mouth of the creek, at an elevation of 5,000 feet, just west of the BOULDER 2 claim, within a competitor Crown grant. Several tunnels expose the contact between a syenite porphyry dyke, which is approximately 30 feet wide, and the Eager Argillites. The dyke is considerably altered and contains quartz stringers in joints and fractures with widths ranging from a fraction of an inch up to 3". The stringers carry galena, chalcopyrite, and pyrite, and some of them have visible native gold. Parts of the dyke have been silicified and mineralized with pyrite.

In the main working, 50 feet in from the portal, an assay of the two-foot-square mineralized patch yielded 0.68 oz/ton gold and 1.2 oz/ton silver.

#### 5. Fisher

The Fisher workings are located on the south side of Boulder Creek at an elevation of 6,500 feet, just west of the BOULDER 2 claim. Here, a 7' bed of dolomitic limestone is situated in the Cranbrook Formation in a greatly disturbed part of the Wild Horse River Fault zone that has been shattered and filled with quartz veinlets an inch or so wide, which traverse the bed. The mineralized bed is exposed in a deep open cut, which runs for several hundred feet, revealing visible galena, pyrite, and some chalcopyrite. Samples taken from these veinlets have been reported to contain up to 1.56 oz/ton gold and 104 oz/ton silver.

KOOTENAY KING MINE - A REVIEW

Mineralization, alteration, and structure for the former Kootenay King Mine (see Figure 5) are reviewed (after Ney, 1957):

Sulphides (consisting of galena, sphalerite, and pyrite) are finely laminated. Sphalerite is grey-green and iron-poor. The host is dolomitic argillite within a 150' thick coarse white quartzite. A diorite sill intrudes within 2000' of the orebody while irregular dykes of monzonite and porphyritic monzonite are common within the mine area and the main fault zone.

Mineralization has concentrated in the drag-folded crestal region of an anticlinal fold. Vein-type mineralization consisting of coarse ore minerals and up to 6" thick quartz-carbonate stringers parallels the ore zone but also persists beyond the limits of the ore. Mineralization dies out to the west of the crest and below towards a disturbed region above a fault. Minor mineralization is found in the fault as irregular veinlets of coarse ore minerals with quartz gangue away from the ore zone. Irregular monzonite dykes are localized preferentially within the fault zone which generated the drag fold. The dykes are in turn displaced by later movements along the fault. There appears to be a genetic relationship between monzonite, ore, and the fault.

"Dolomitic argillite" type alteration appears throughout the mine as a variably intense unit. Crystals of dolomite lie in an irregular halo up to 20' wide around the ore zone.

Fractures and planes of schistosity may facilitate replacement alteration. Ore minerals occasionally display a lineation along planes which transect bedding, while small faults or fractures follow the walls of the ore. Bands and fragments of unreplaced rock are seen laterally from ore zones.

## REGIONAL GEOLOGY

The BOULDER 1 to 4 claims are located 2.0 km east of the Kootenay King deposit, and are situated within the Purcell Anticlinorium portion of an important lead/zinc metallogenic province which extends from northern Idaho and Montana, to north of Revelstoke in southeastern British Columbia. The anticlinorium is a broad north-plunging structure transected by longitudinal and transverse faults that have been active intermittently since at least Hadrynian time. The oldest rocks consist of the Helekian Purcell Supergroup of argillites, mudstones, intercalated sandstones, and stromatolitic carbonates (Höy, 1977). Rocks encountered on the BOULDER claims (Figure 5), within the survey area, include the following units:

The Upper Aldridge Formation consists of thin-bedded, carbonaceous argillites. Primary structures consist of ripple-marked bedding surfaces and very minor load-casting. The transition into the overlying Creston Formation is gradational, occurring over a thickness of 300 m (although, locally, it may be abrupt). The transition is marked by the appearance of thin cross-bedded quartzite lenses and a greenish appearance in weathered outcrop.

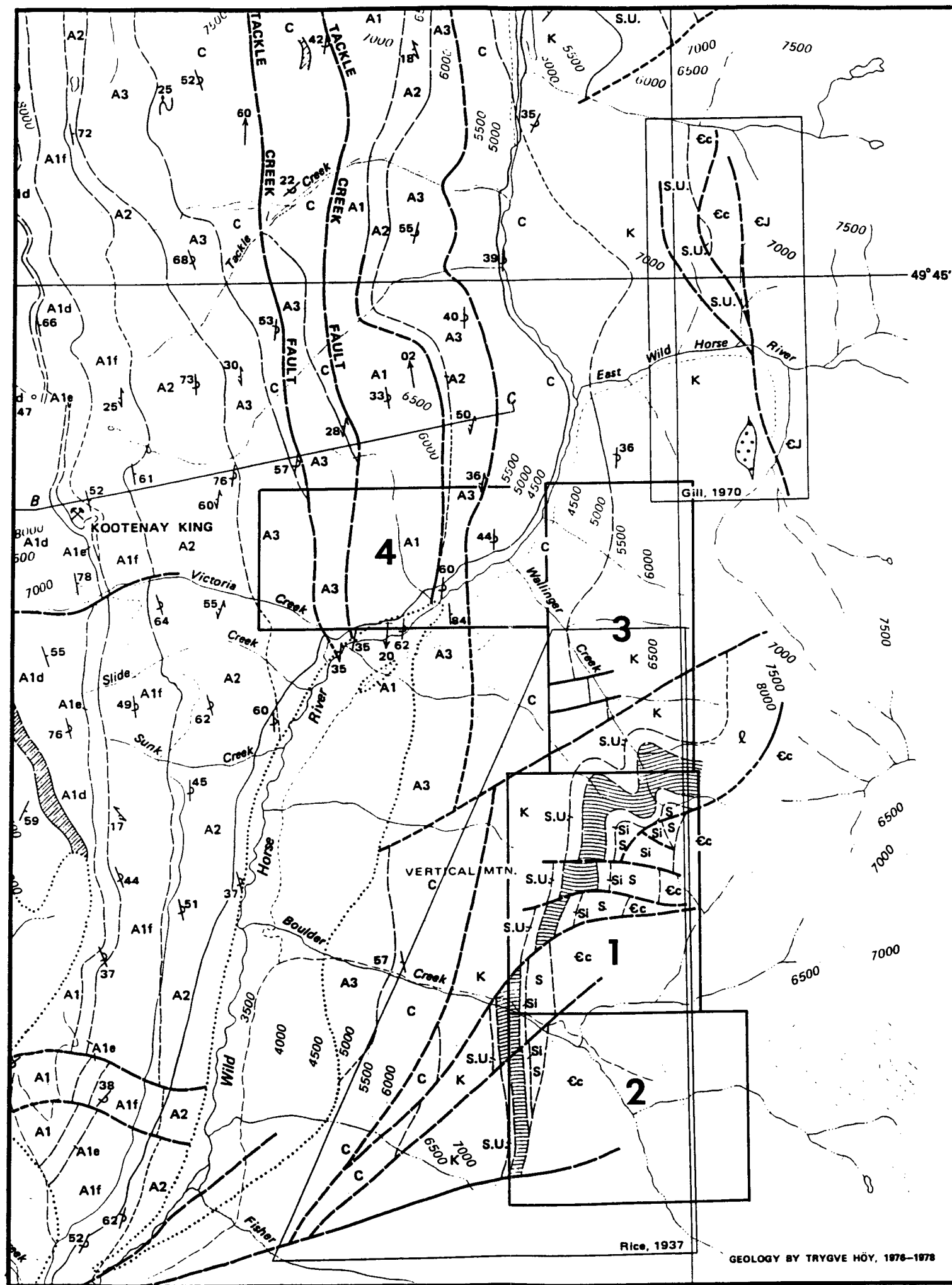
The Creston Formation is composed of purple, grey, and green argillites and siltstones, with sequences containing thin ( $\pm 5$  cm) cross-bedded metasandstone (Höy, 1977).

The Kitchener Formation usually consists of a sequence of grey to buff weathering dolomites, argillaceous dolomites, and grey argillites. Where present near andesitic lavas, the dolomites characteristically weather red and brown, while the argillites weather green (Leech, 1960).

The Purcell Lavas consist of massive fine-grained porphyritic or amygdaloidal flows of andesitic composition. Purcell sills and dykes consist mainly of medium- to coarse-grained amphibole and plagioclase. Contact metamorphism occurs along the borders of the larger bodies.

A pink porphyritic syenite intrudes the Sheppard and Jubilee Formations.





**LEGEND**

- CRETACEOUS**  
 [Symbol] QUARTZ MONZONITE, SYENITE
- CAMBRIAN**  
 [Symbol] CRAMBROOK FORMATION: QUARTZITE  
 [Symbol] JUBILEE FORMATION: DOLOMITE, CALCITE MARBLE
- HADRYNIAN**  
 [Symbol] TOBY FORMATION: CONGLOMERATE, SILTSTONE, ARGILLITE
- HADRYNIAN/HELIKIAN**  
 PURCELL SUPERGROUP  
 [Symbol] PURCELL SILLS AND DYKES  
 [Symbol] ROOSVILLE FORMATION: GREEN SILTSTONE AND ARGILLITE; MINOR STROMATOLITIC DOLOMITE AND OOLITIC LIMESTONE  
 [Symbol] PHILLIPS FORMATION: RED TO PURPLE ARGILLITE AND SILTSTONE  
 [Symbol] GATEWAY FORMATION: SILTSTONE, ARGILLITE; DOLOMITE, LIMESTONE  
 [G1] SILTSTONE, ARGILLITE  
 [G2] DOLOMITE, LIMESTONE, SILTSTONE  
 [Symbol] SHEPPARD FORMATION: DOLOMITE; MASSIVE, STROMATOLITIC, OOLITIC; SILTSTONE, QUARTZITE  
 [S] DOMINANTLY SILTSTONE  
 [Symbol] PURCELL LAVA: INTERLAYERED SILTSTONE, ARGILLITE, AND ANDESITIC LAVA  
 [Symbol] LAVA FLOWS  
 [S.U.] SILTSTONE UNIT: GREEN SILTSTONE AND ARGILLITE  
 [K] KITCHENER FORMATION: DOLOMITE, SILTY DOLOMITE, LIGHT GREEN SILTSTONE; MINOR LIMESTONE  
 [K1] INTERLAYERED SILTSTONE AND DOLOMITE  
 [C] CRESTON FORMATION: GREEN AND PURPLE ARGILLITE AND SILTSTONE, WHITE AND GREEN QUARTZITE; MINOR DARK ARGILLITE
- ALDRIDGE FORMATION**  
 [A3] DARK GREY FINELY LAMINATED ARGILLITE; MINOR SILTSTONE  
 [A31] DARK GREY ARGILLITE WITH LENTICULAR BEDDING  
 [A2] QUARTZITE, SILTSTONE; INTERLAYERED WITH DARK ARGILLITE  
 [A1] FINELY LAMINATED ARGILLITE, SILTSTONE; MINOR DOLOMITE, QUARTZITE  
 [f] MEDIUM TO DARK GREY SILTSTONE, ARGILLITE  
 [d] THICK-BEDDED QUARTZITE; MINOR CONGLOMERATE  
 [a] BUFF-COLOURED DOLOMITIC SILTSTONE, DOLOMITIC ARGILLITE; ABUNDANT LENTICULAR BEDDING AND RIPPLE CROSSBEDDING  
 [c] GREY SILTSTONE, ARGILLITE; TAN SILTSTONE, BLACK GRAPHITIC ARGILLITE  
 [b] SILTY DOLOMITE, DOLOMITIC SILTSTONE; MINOR LIMESTONE  
 [e] GREY TO BLACK SILTSTONE AND ARGILLITE
- F** FORT STEELE FORMATION: WHITE CROSSBEDDED QUARTZITE, MUD-CRACKED SILTSTONE, ARGILLITE

**SYMBOLS**

- GEOLOGICAL CONTACT:**  
 DEFINED, APPROXIMATE, ASSUMED
- FAULT:** DEFINED, APPROXIMATE, ASSUMED
- ANTICLINE - AXIAL SURFACE**
- BEDDING (S<sub>1</sub>):** VERTICAL, INCLINED, OVERTURNED
- FOLIATION, CLEAVAGE (S<sub>1</sub>)**
- LINEATION (S<sub>0</sub> - S<sub>1</sub> INTERSECTION)**
- FOLD AXIS**
- MINERAL DEPOSIT**
- LIMITS OF OUTCROP (OR MAPPING)**
- ROAD:** HARD SURFACE, LOOSE SURFACE
- CART TRACK; TRAIL**
- RAILROAD**
- SOURCES OF INFORMATION**

**REGIONAL GEOLOGY**

**GEOLOGY OF THE KOOTENAY KING AREA**  
 HUGHES RANGE  
 SOUTHEASTERN BRITISH COLUMBIA  
 (NTS 828/11, 12, 13, 14)

|                  |                     |
|------------------|---------------------|
| DATE April, 1990 | NTS                 |
| PROJECT BC-90-2  | MAPPED/<br>DRAWN BY |
| SCALE 1:50,000   |                     |

Rice, 1937  
 GEOLOGY BY TRYGVE HÖY, 1976-1978

### SURVEY SPECIFICATIONS

The property evaluation by this writer included VLF-EM and magnetic surveying and geological mapping. A 800 m long base line was established on the ridge using a hip-chain measuring device. The line was compassed, flagged, and blazed. Cross-lines were turned off the base line at irregular intervals, blazed, and flagged at 25 m stations. Slope angles were measured and corrections to the grid were made when the data were plotted.

The snow pack at the time varied in thickness from 2 m at the ridge top to minor snow patches on south-facing slopes at lower elevations.

### VLF-EM SURVEY

A VLF-EM survey (Geonics EM-16) was completed at 25 m station intervals over the grid using the Seattle, Washington (24.8 KHz) and Cutler, Maine (24.0 KHz) transmitting stations. The results are presented in profile format on Map 1.

The Seattle station was used for most of the survey, except when Seattle was not transmitting. Both Cutler and Seattle stations were used on a 300 m test line. Cutler is a weak station and is difficult, at times, to use in this area.

The optimum line direction for Seattle would be 150° Azimuth, although line directions between 105° and 195° are acceptable. Steep topography and deep snow conditions necessitated an 80° line direction. Stratigraphy and major structures trend approximately north-south, and therefore present less than optimum VLF-EM targets.

Conductors with strikes similar to the direction to the transmitting stations generally make more suitable VLF targets than those lying at greater angles. Depending upon its conductivity, a target may not be picked up at all if it is at too great an angle to the transmitter. However, the author has

observed conductors in previous surveys that exhibit strong responses yet were at low optimum directions to Seattle. No topographic corrections were applied to the data.

No conductors were detected in the survey area. Subtle inflections in the profiles may be used for mapping possible weak structures or stratigraphic contacts. However, the large line spacing prevents making this interpretation with any confidence. In addition, these inflections may be the result of a variation in overburden, or a reflection of noisy data.

### MAGNETOMETER SURVEY

A magnetometer survey was completed over the grid using a Scintrex MP-2 portable proton precision magnetometer. Readings were taken at 25 m stations along the grid lines, with the sensor head mounted on a harness fastened to the back of the operator. Looping to previously measured stations was used to correct for diurnal fluctuations in the earth's magnetic field. All readings were corrected to a common datum. Survey data have been plotted and contoured on Map 2 at a scale of 1:2,500.

Magnetic contours, corresponding to a magnetic high in the western portion of the grid, generally outline the areal extent of a syenite at L.6S 18+50W and the edges of Purcell metagabbro dykes or sills located between 10W and 16W on lines 4S, 6S, and 8S.

A magnetic low at L.8S 16+00W may be significant in that samples of rusty quartz vein with ankerite and cherty quartzite were located adjacent to this low.

Quartz veins, and fault structures which often host vein structures, often exhibit magnetic lows. Magnetic gradients east of the Purcell dykes or sills trend northerly and appear to define stratigraphy.

### PROPERTY GEOLOGY

The property, where mapped (Map 3), is underlain by Kitchener and Creston Formations and intruded by Purcell sills/dykes and syenites. Sample descriptions are presented in the Appendix. Four samples were analyzed for gold and silver by fire assay pre-concentration followed by atomic absorption determination.

The Kitchener Formation consists of interbedded dolomite, siltstone, and green argillite. The rocks weather red and are strongly fractured (<10 cm massive layers) and include white and pink carbonate staining. Quartz vein stringers were noted locally. Iron carbonate (ankerite and siderite) and sericite alteration are prevalent. White carbonate and pyrolusite are common in fracture zones. One quartz vein grab sample (BR0-3) yielded analyses of 26 ppb gold and 0.25 ppm silver.

The Creston Formation consists of interbedded quartzites, siltstones, and green argillites. Quartzites appear whitish, greenish, or purplish, and are often silicified and altered. Alteration products include muscovite, sericite, quartz, siderite, and ankerite. Sample BR0-21 yielded analyses of 14 ppb gold and 0.07 ppm silver. Subhedral to euhedral crystals of ankerite are commonly dispersed throughout the sequence but especially in the vicinity of quartzites.

Numerous quartz veins were observed on the property. Most appear conformable to bedding and vary in thickness from 15 to 30 cm. Some may be recrystallized quartzites or replacements. White quartz 'tension' veins, measuring 0.5 x 20 cm and perpendicular to bedding, were also observed.

White quartz veins (15 to 30 cm thick), located in the western portion of the grid, commonly contain large euhedral crystals of ankerite that, in part, have weathered out. The ankerite is generally confined to the margins of the veins. One grab sample (BR0-4) yielded analyses of 14 ppb gold and 0.21 ppm silver.

White quartzite, 2 m wide at L.20S 0+00, contains random quartz vein stringers and pods with ankerite and sulphides (mostly pyrite, minor chalc-

pyrite). One pod, fingernail size, composed almost entirely of sulphides, contains a few small grains of visible gold. A 0.5 to 1 m thick, strongly sheared sericite-carbonate schist and argillaceous quartzite lie above the 2 m quartzite. Laminations in argillaceous quartzite below this unit are replaced by ankerite near fractures.

A syenite located west of L.6S 18+50W contains medium-grained euhedral and very fine-grained anhedral pyrite. Some hand specimen samples with up to 5% pyrite contain quartz veins and pods of ankerite. One grab sample (BR0-13) yielded analyses of 8 ppb gold and 0.14 ppm silver.

The Purcell sills or dykes, where sampled, contained 1%-2% disseminated, very fine-grained pyrite or pyrrhotite. No contacts between this unit and the hosts rocks were observed because of snow cover. Fractures and quartz veinlets contain iron carbonate and pyrite. Some of the Purcell rocks were relatively fresh, but others appeared strongly altered.

Structural and stratigraphic contacts shown on Map 3 were interpreted from geological and magnetic data. The interpretation is very tentative because of the snow cover and the large line spacing on the grid.

### CONCLUSIONS AND RECOMMENDATIONS

The Wild Horse River was a rich gold placer producer in the 1890's. Additional exploration led to the discovery of the Dardenelles vein system located immediately adjacent to the BOULDER 1 claim. Assays of 0.20 oz/ton gold and 1.0 oz/ton silver over a 4.5' interval were reported from this vein system..

A tungsten skarn, located distal to a syenite intrusion, was previously explored for on the Cash property immediately adjacent to the Boulder claims. Recent work has focused on skarn mineralization in contact with syenite.

The BOULDER 1-4 claims cover an area of favourable geology with structures and stratigraphy similar to adjacent gold occurrences. Skarn deposits in B.C. have produced significant amounts of gold as a primary commodity. The source of placer gold may originate from structures and skarn targets located within the claims.

It is possible that mineralizing fluids were derived from crustal rocks during regional metamorphism or by hydrothermal leaching when monzonite or syenite intrusions were emplaced late in the tectonic cycle during a period of fault readjustment. Fluids penetrating folded, overturned strata precipitated mineralized quartz veins in brittle ductile environments, or as dilatant fold structures within carbonate beds as massive sulphide lenses. A crude metal zonation in the region may have developed from west to east Zn/Pb/Ag; Au/Ag; W/Cu/Zn/Pb, approaching the site of the intrusions.

Favourable structures and sulphide occurrences have been located in this survey which may be a continuation of the Dardenelles trend. In addition, the Purcell dykes and sills may be a favoured brittle ductile site.

Previous work in the area has shown that there are numerous unmapped displaced fault blocks, and that these areas and their associated faults are the loci of base metal and gold mineralization.

A Phase I program of detailed prospecting, geological mapping, grid emplacement, soil geochemical sampling, trenching, and geophysical (magnetometer,

VLF-EM, I.P.) surveying is recommended to locate and sample possible faults and shear zones within the BOULDER claims. A detailed budget totalling \$85,000 is presented overpage. Subject to favourable results from Phase I, provision should be made for a Phase II diamond drill program which is expected to cost approximately \$240,000.

Prior to the commencement of field work, a compilation of previously filed assessment work should be completed. These data should be plotted on a 1:10,000 scale orthophoto which will provide a suitable base map for any subsequent work.

PROPOSED EXPLORATION BUDGET - PHASE IIPre-Field Preparation

|                                        |                    |            |       |
|----------------------------------------|--------------------|------------|-------|
| Compilation of assessment file data    |                    |            |       |
|                                        | 5 days @ \$375/day | 1,875      |       |
| Orthophoto                             |                    | 3,200      |       |
| Work permit, crew & equipment assembly |                    | <u>800</u> | 5,875 |

Field Program

|                                   |  |  |       |
|-----------------------------------|--|--|-------|
| Mobilization/demobilization       |  |  |       |
| Travel expenses and accommodation |  |  | 1,000 |

Personnel

|                    |                         |               |        |
|--------------------|-------------------------|---------------|--------|
| Project Supervisor | 4 days @ \$450/day      | 1,800         |        |
| Project Geologist  | 28 days @ \$375/day     | 10,500        |        |
| Junior Geologist   | 28 days @ \$275/day     | 7,700         |        |
| Linecutters        | 2 x 15 days @ \$250/day | 7,500         |        |
| Labourers/Samplers | 2 x 28 days @ \$190/day | <u>10,640</u> | 38,140 |

Support Costs

|                                              |                         |            |        |
|----------------------------------------------|-------------------------|------------|--------|
| Food and Accommodation                       | 146 man days @ \$50/day | 7,300      |        |
| 4x4 truck rental                             | 28 days @ \$50/day      | 1,400      |        |
| Chainsaw                                     | 28 days @ \$ 7/day      | 196        |        |
| Rock saw rental                              | 7 days @ \$20/day       | 140        |        |
| rock saw blades @ cost                       |                         | 514        |        |
| VLF-EM-16 rental                             | 15 days @ \$18/day      | 270        |        |
| Mag w/ base station                          | 15 days @ \$50/day      | 750        |        |
| Disposables                                  |                         | 1,148      |        |
| Freight, expediting, long-distance telephone |                         | <u>820</u> | 12,538 |
| Back-hoe/cat                                 | 60 hours @ \$80/hr      | 4,800      |        |
| Trucking (mob/demob of back-hoe)             |                         | <u>500</u> | 5,300  |

Geochemical Analyses (Au/Ag/Pb/Zn)

|              |                   |              |        |
|--------------|-------------------|--------------|--------|
| Soil samples | 700 @ \$12/sample | 8,400        |        |
| Rock samples | 250 @ \$14/sample | <u>3,500</u> | 11,900 |

Post-Field (data compilation, report writing)

|                             |                     |            |              |
|-----------------------------|---------------------|------------|--------------|
| Geologist                   | 10 days @ \$375/day | 3,750      |              |
| Drafting                    | 65 hours @ \$25/hr  | 1,625      |              |
| Secretarial                 | 8 hours @ \$25/hr   | 200        |              |
| Reproductions, photocopying |                     | <u>625</u> | <u>6,200</u> |

SUB-TOTAL 80,953

Management Fee @ 5% 4,047TOTAL, Phase II \$85,000Provision should be made for a diamond drill program,  
contingent upon the success of Phase II Phase III \$240,000



CERTIFICATE

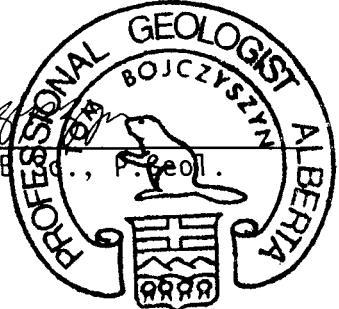
I, Tom Bojczyszyn, of 8906 - 34th Avenue N.W. in the City of Calgary in the Province of Alberta, do hereby certify that:

1. I am a Consulting Geologist with the firm of Taiga Consultants Ltd. with offices at Suite 400, 534 - 17th Avenue S.W., Calgary, Alberta.
2. I am a graduate of the University of Alberta, B.Sc. in Geology (1976), and have practised my professions continuously since then.
3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. I am the author of the report entitled "Geophysical and Geological Evaluation of the Boulder Gold Property, Fort Steele Mining Division, British Columbia", dated April 30, 1990. I directly supervised the work described herein.
5. I do not own or expect to receive any interest (direct, indirect, or contingent) in the properties described herein, in respect of services rendered in the preparation of this report.

DATED at Calgary, Alberta, this 30th day of April, A.D. 1990.

Respectfully submitted,

*T. Bojczyszyn*  
\_\_\_\_\_  
T. Bojczyszyn, P. Geol.

A circular seal for the Professional Geologist of Alberta. The outer ring contains the text "PROFESSIONAL GEOLOGIST ALBERTA". Inside the ring, the name "BOJCZYSZYN" is written in an arc. The center of the seal features a stylized figure of a geologist standing on a rock, with a pickaxe and a hammer. Below the figure is a shield with a mountain range and the letters "P.G." inside.

BIBLIOGRAPHY

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- Kruszewski, J.M. (1989): Summary Report on the Boulder Creek Gold Prospects of the Fort Steele Mining District in Cranbrook, British Columbia; for Boulder Gold Corporation, private company report
- Leach, G.B. (1958): Fernie Map-Area, West Half; Geol.Surv.Cda., Paper 58-10
- (1960): Geology, Fernie (West Half), Kootenay District; Geol.Surv. Cda., Map 11-60
- Ney, C.S. (1957): Kootenay King Mine; in "Structural Geology of Canadian Ore Deposits - Volume II", pp.153-159; Cdn.Inst.Min.& Met., 6th Commonwealth Mining and Metallurgical Congress
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## A P P E N D I X

Summary of Personnel  
 Statement of Expenditures  
 Rock Sample Descriptions  
 Analytical Procedures  
 Certificates of Analyses  
 Instrument Specifications

SUMMARY OF PERSONNEL

| <u>Name / Address</u>                                             | <u>Position</u>                        | <u>Dates Worked</u> | <u>Man Days</u> |
|-------------------------------------------------------------------|----------------------------------------|---------------------|-----------------|
| T. Bojczyszyn, P.Geol.<br>8906 - 34th Ave. NW<br>Calgary, Alberta | Proj.Geol./<br>Geophysical<br>Operator | Mar.9-Apr.10/90     | 18              |
| John M. Kruszewski<br>#520, 521 - 3rd Ave. SW<br>Calgary, Alberta | Geophysical<br>Operator/<br>Linecutter | March 8-19, 1990    | 12              |
| Ellis Goodland<br>#520, 521 - 3rd Ave. SW<br>Calgary, Alberta     | Linecutter                             | March 8-19, 1990    | 11              |
| Vaughan Patenaude<br>P. O. Box 523<br>Marysville, B.C.            | Geophysical<br>Operator                | March 14-19, 1990   | 6               |
| J. J. Kruszewski<br>#520, 521 - 3rd Ave. SW<br>Calgary, Alberta   | Linecutter                             | March 8-11, 1990    | 3               |
|                                                                   |                                        | TOTAL MAN DAYS      | <u>50</u>       |

STATEMENT OF EXPENDITURESPre-Field Personnel

|           |                    |  |        |
|-----------|--------------------|--|--------|
| Geologist | 2 days @ \$325/day |  | 650.00 |
|-----------|--------------------|--|--------|

Field Personnel

|                      |                     |                 |          |
|----------------------|---------------------|-----------------|----------|
| Geologist            | 3 days @ \$325/day  | 975.00          |          |
| Geophysical Operator | 5 days @ \$250/day  | 1,250.00        |          |
| Geophysical Operator | 6 days @ \$100/day  | 600.00          |          |
| Linecutter           | 12 days @ \$250/day | 3,000.00        |          |
| Linecutter           | 14 days @ \$150/day | <u>2,100.00</u> | 7,925.00 |

Camp Support

|                         |                       |                 |          |
|-------------------------|-----------------------|-----------------|----------|
| Food and Accommodation  | 44 man days @ \$27.67 | 1,217.48        |          |
| 4x4 truck rentals (two) | 23 days @ \$50/day    | 1,150.00        |          |
| mileage                 | 2880 km @ 25¢/km      | 720.00          |          |
| Snowmobile              | 7 days @ \$84.37      | 590.59          |          |
| VLF-EM-16 rental        | 9 days @ \$20/day     | 180.00          |          |
| Magnetometer            | 9 days @ \$30/day     | 270.00          |          |
| Disposable Supplies     |                       | <u>1,506.18</u> | 5,634.25 |

Geochemical Analyses

|                                                  |  |  |       |
|--------------------------------------------------|--|--|-------|
| 4 samples analyzed for gold/silver @ \$11/sample |  |  | 44.00 |
|--------------------------------------------------|--|--|-------|

Post-Field (data compilation, report writing)

|                             |                    |               |                 |
|-----------------------------|--------------------|---------------|-----------------|
| Geologist                   | 8 days @ \$325/day | 2,600.00      |                 |
| Drafting                    | 17 hrs @ \$25/hour | 425.00        |                 |
| Secretarial/word processing | 8 hrs @ \$25/hour  | 200.00        |                 |
| Reproduction of Maps        |                    | <u>152.93</u> | <u>3,377.93</u> |

|           |  |  |           |
|-----------|--|--|-----------|
| SUB-TOTAL |  |  | 17,631.18 |
|-----------|--|--|-----------|

Management Fee @ 5%

|  |  |  |               |
|--|--|--|---------------|
|  |  |  | <u>881.56</u> |
|--|--|--|---------------|

|       |  |  |                    |
|-------|--|--|--------------------|
| TOTAL |  |  | <u>\$18,512.74</u> |
|-------|--|--|--------------------|

ROCK SAMPLE DESCRIPTIONS

|        |                                                                                                                                                                                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BRO-01 | lithology: dolomite<br>sulphides:<br>alteration: fractures, carbonate, sericite, pyrolusite<br>comments: light green, weathers red (lichen)                                                                                                   |
| BRO-02 | lithology: dolomite<br>sulphides: zinc oxide (?) staining<br>alteration:<br>comments: hairline fractures and quartz stringers                                                                                                                 |
| BRO-03 | lithology: quartz vein<br>sulphides:<br>alteration: up to 4x4 mm ankerite crystals (weathered), siderite, sericite, talc, pyrolusite<br>comments: clear quartz envelope around ankerite, both surrounded by white quartz                      |
| BRO-04 | lithology: quartz vein<br>sulphides: minor pyrite, trace chalcopyrite<br>alteration: ankerite, siderite, quartz, sericite<br>comments: strong alteration features as described above                                                          |
| BRO-05 | lithology: argillaceous quartzite<br>sulphides:<br>alteration: sericite<br>comments: light green                                                                                                                                              |
| BRO-06 | lithology: white quartzite<br>sulphides:<br>alteration: fractures, iron carbonate<br>comments:                                                                                                                                                |
| BRF-7  | lithology: white, clean quartzite<br>sulphides:<br>alteration: ankerite, pyrolusite<br>comments: 1 mm iron carbonate fractures, 10-20 cm apart                                                                                                |
| BRF-8A | lithology: white quartzite<br>sulphides: 0.5 mm euhedral pyrite, striated, trace chalcopyrite<br>alteration: anhedral iridescent pyrite associated with ankerite<br>comments: ankerite in 1-2 mm fractures every 1 cm, anhedral 0.5 mm quartz |
| BRF-8B | lithology: quartz vein with ankerite in mafic host rock<br>sulphides:<br>alteration: chlorite<br>comments:                                                                                                                                    |
| BRF-8C | lithology: quartz vein with ankerite in graphitic argillite<br>sulphides:<br>alteration: sericite                                                                                                                                             |

- BR0-09 lithology: argillaceous quartzite  
sulphides:  
alteration:  
comments:
- BR0-09b lithology: sheared argillaceous quartzite  
sulphides:  
alteration: sericite, iron carbonate, pyrolusite  
comments: light green
- BR0-11 lithology: argillaceous quartzite  
sulphides:  
alteration: ankerite  
comments: ankerite replacing bedding laminations, 1-2 mm, in vicinity of fracture
- BR0-12 lithology: white quartzite  
sulphides:  
alteration: ankerite  
comments:
- BR0-13 lithology: grey fine-grained syenite  
sulphides: 2 phases pyrite: 1-3 mm euhedral; anhedral; up to 5% in hand specimen, trace chalcopyrite  
alteration: quartz vein, pod ankerite  
comments: pyrite along 1 mm cross-cutting fractures
- BR0-14 lithology: very fine-grained mafic sill or dyke  
sulphides: pyrite in fractures and disseminated  
alteration:  
comments: dark green; cut by 4 mm quartz iron carbonate veinlets; serpentinite(?)
- BR0-15,16 lithology: very fine-grained mafic sill or dyke  
sulphides: disseminated very fine-grained pyrite  
alteration: iron carbonate in fractures, strong sericite  
comments: weathered surface: 60% <1 mm plagioclase, 30% hornblende
- BR0-20 lithology: cherty quartzite  
(sampled sulphides: fractures, very fine-grained pyrite, chalcopyrite  
by JK) alteration: tourmaline(?)  
comments:
- BR0-21 lithology: oxidized iron carbonate replaced quartzite  
(sampled sulphides: pyrite, trace chalcopyrite  
by JK) alteration: siderite, ankerite  
comments: laminated ankerite, siderite, quartz, cut by fracture-veinlet with ankerite fractures developing in micro-fold



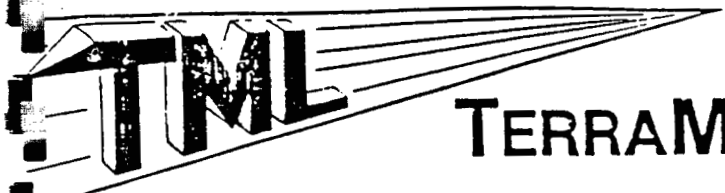
# TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## SAMPLE PREPARATION

Soil and sediment samples are dried and sieved through 80 mesh nylon screen (maximum particle size 200 microns).

Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 100 mesh (180 micron particle size).



# TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7  
(403) 276-8668

## FIRE ASSAY/AA METHOD FOR GOLD AND SILVER PLATINUM AND PALLADIUM

Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotometry to determine the precious metals.



TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Taiga Consultants Ltd.

Tom Bojczyszyn

10000 100th Ave

Job No: 90-083

Sample BC-90-2

Lot

Box

Signed \_\_\_\_\_



Job#: 91-062

Project: DC-90-0

| Sample<br>Number | AL<br>ppb | PH<br>ppm |
|------------------|-----------|-----------|
| BR0 3            | 26        | 0.25      |
| 4                | 14        | 0.21      |
| 10               | 8         | 0.14      |
| 11               | 14        | 0.07      |

## VLF EM



### EM16

One of the most popular and widely used electromagnetic instruments, the EM16 VLF receiver makes the ideal reconnaissance EM. This can be attributed to its field reliability, operational simplicity, compactness and mutual compatibility with other reconnaissance instruments such as portable magnetometers and radiometric detectors.

The VLF method of EM surveying, pioneered by Geonics, has proven to be a simple economical means of mapping geological structure and fault tracing. The applications are many and varied, ranging from direct detection of massive sulphide conductors to the indirect detection of precious metals and radioactive deposits.

#### FEATURES

- The EM16 is the only VLF instrument that measures the quad-phase as well as the in-phase secondary field. This has the advantage of providing an additional piece of data for a more comprehensive interpretation and also allows a more accurate determination of the tilt angle.
- The secondary fields are measured as a ratio to the primary field making the measurement independent of absolute field strength.
- The EM16 is the only VLF receiver that can be adapted to measure VLF resistivity.

### Specifications

|                            |                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MEASURED QUANTITY</b>   | In-phase and quad-phase components of vertical magnetic field as a percentage of horizontal primary field. (i.e. tangent of the tilt angle and ellipticity) |
| <b>SENSITIVITY</b>         | In-phase : $\pm 150\%$<br>Quad-phase: $\pm 40\%$                                                                                                            |
| <b>RESOLUTION</b>          | $\pm 1\%$                                                                                                                                                   |
| <b>OUTPUT</b>              | Nulling by audio tone. In-phase indication from mechanical inclinometer and quad-phase from a graduated dial.                                               |
| <b>OPERATING FREQUENCY</b> | 15-25 kHz VLF Radio Band. Station selection done by means of plug-in units.                                                                                 |
| <b>OPERATOR CONTROLS</b>   | On/Off switch, battery test push button, station selector switch, audio volume control, quadrature dial, inclinometer.                                      |
| <b>POWER SUPPLY</b>        | 6 disposable 'AA' cells                                                                                                                                     |
| <b>DIMENSIONS</b>          | 42 x 14 x 9 cm                                                                                                                                              |
| <b>WEIGHT</b>              | Instrument: 1.6 kg<br>Shipping : 5.5 kg                                                                                                                     |

# Technical Description of MP-2 Portable Proton Precession Magnetometer



MBS-2 Magnetic Base Station

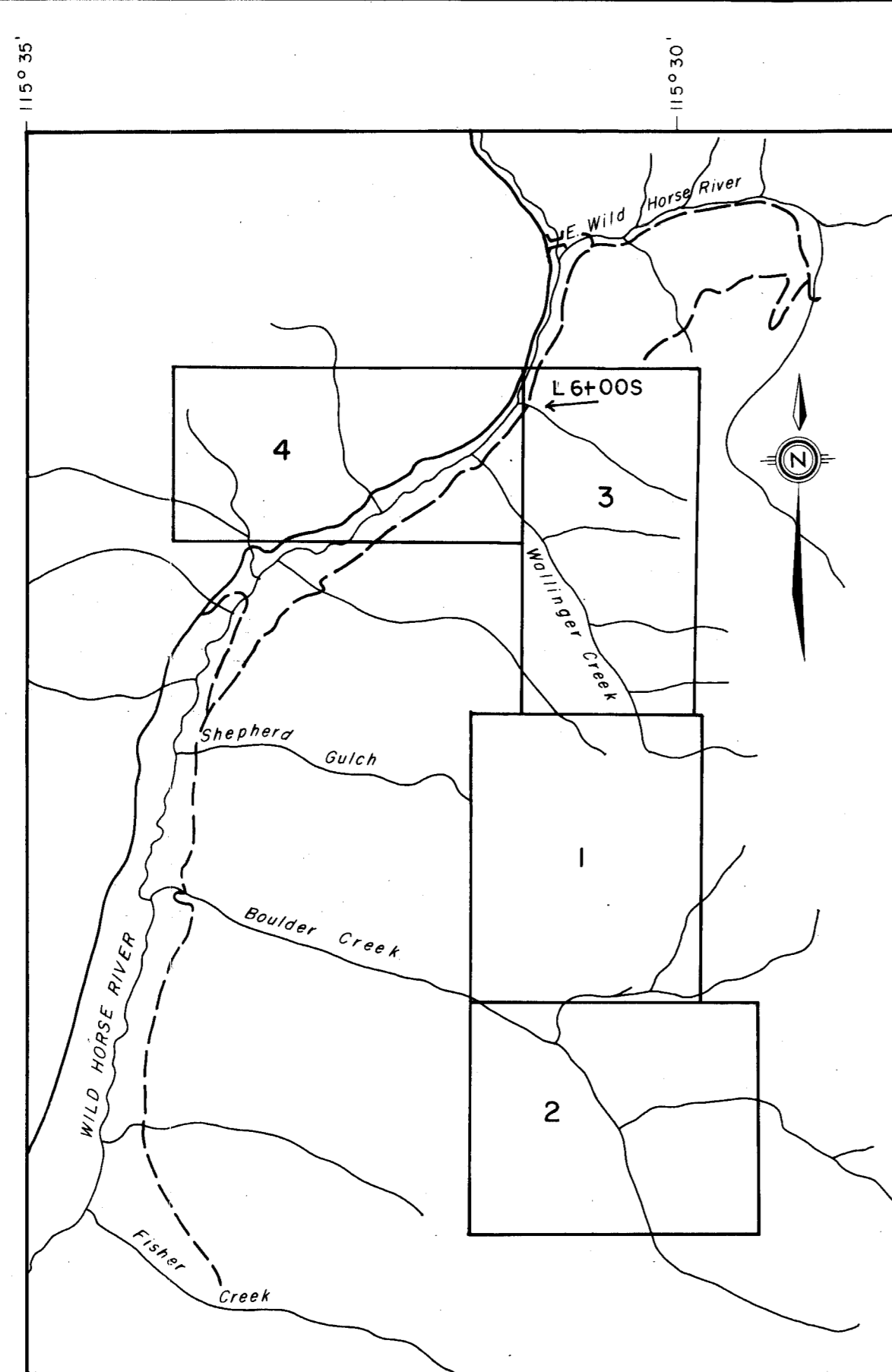


MP-2 in Operation with Back Pack Sensor

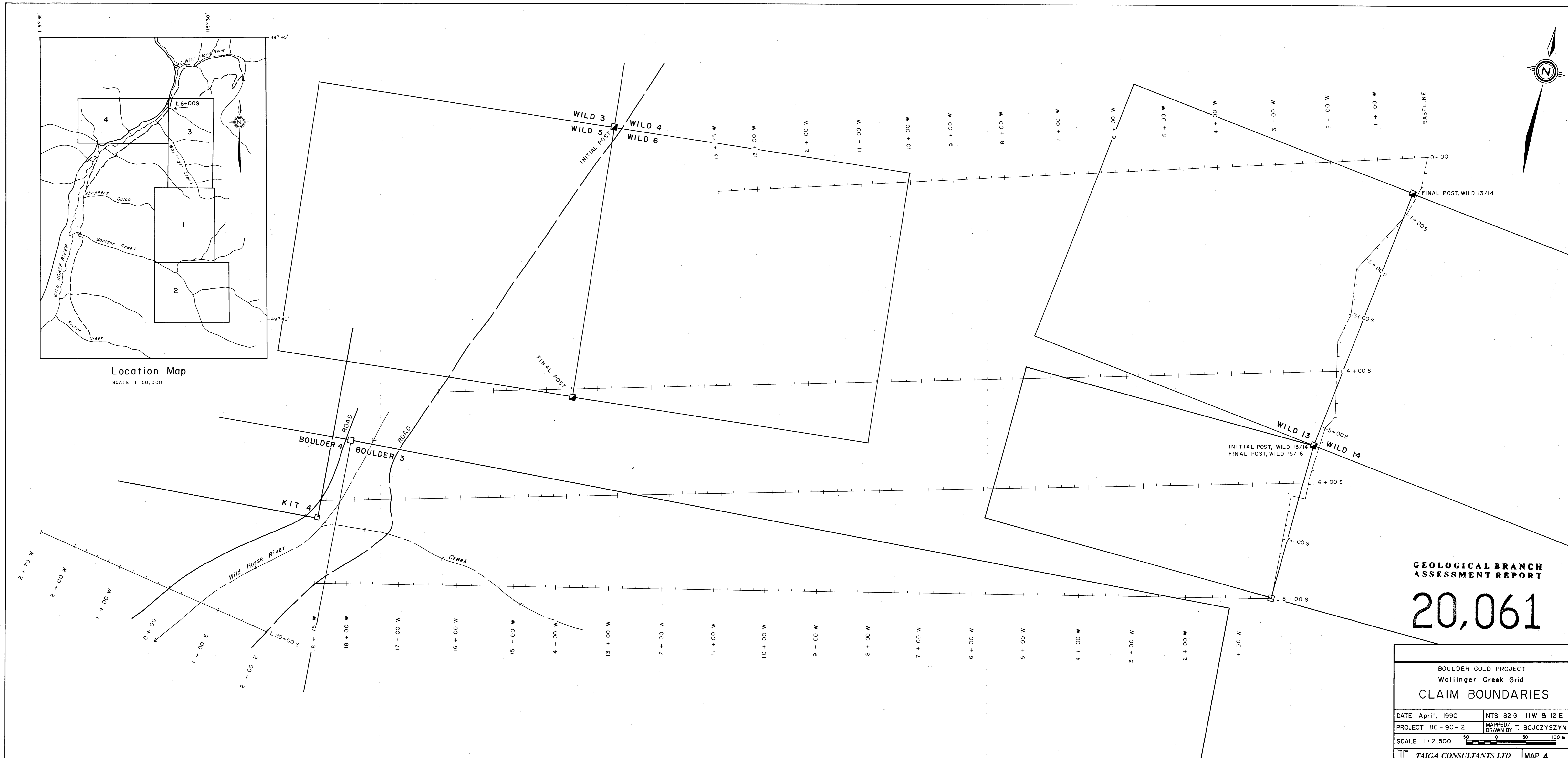
|                                    |                                                                                                                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Resolution</b>                  | 1 Gamma                                                                                                                                                                                      |
| <b>Total Field Accuracy</b>        | $\pm 1$ Gamma over full operating range                                                                                                                                                      |
| <b>Range</b>                       | 20,000 to 100,000 gammas in 25 overlapping steps                                                                                                                                             |
| <b>Internal Measuring Program</b>  | Single reading — 3.7 seconds. Recycling feature permits automatic repetitive readings at 3.7 second intervals                                                                                |
| <b>External Trigger</b>            | External trigger input permits use of sampling intervals longer than 3.7 seconds                                                                                                             |
| <b>Readout</b>                     | 5 digit LED (Light Emitting Diode) readout displaying total magnetic field in gammas or normalized battery voltage                                                                           |
| <b>Digital Output</b>              | Multiplied precession frequency and gate times                                                                                                                                               |
| <b>Base Station Mode</b>           | MP-2 console slips into a base station module which provides external triggering as well as digital and analogue outputs. The complete unit is called the MBS-2 Magnetic Base Station        |
| <b>Gradient Tolerance</b>          | Up to 5000 gammas/meter                                                                                                                                                                      |
| <b>Power Source</b>                | 8 alkaline "D" cells provide up to 25,000 readings at 25°C under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number |
| <b>Sensor</b>                      | Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance                                                                                                 |
| <b>Harness</b>                     | Complete for operation with staff or back pack sensor                                                                                                                                        |
| <b>Operating Temperature Range</b> | -35°C to +60°C                                                                                                                                                                               |
| <b>Size</b>                        | Console, with batteries: 80 x 160 x 250mm<br>Sensor: 80 x 150mm<br>Staff: 30 x 1550mm (extended)<br>30 x 600 mm. (collapsed)                                                                 |
| <b>Weights</b>                     | Console, with batteries: 1.8 kg<br>Sensor: 1.3 kg<br>Staff: 0.6 kg                                                                                                                           |
| <b>Standard Accessories</b>        | Sensor, Staff, Cable, Harness, Carrying Case, Manual                                                                                                                                         |
| <b>Shipping Weight</b>             | Approximately 9.5 kg                                                                                                                                                                         |

Scintrex Limited  
222 Snidercroft Road  
Concord (Toronto) Ontario  
Canada L4K 1B5  
Tel: (416) 669-2280  
Telex: 06-964570  
Cable: Scintrex Toronto

Complete Geophysical  
Instrumentation  
and Services



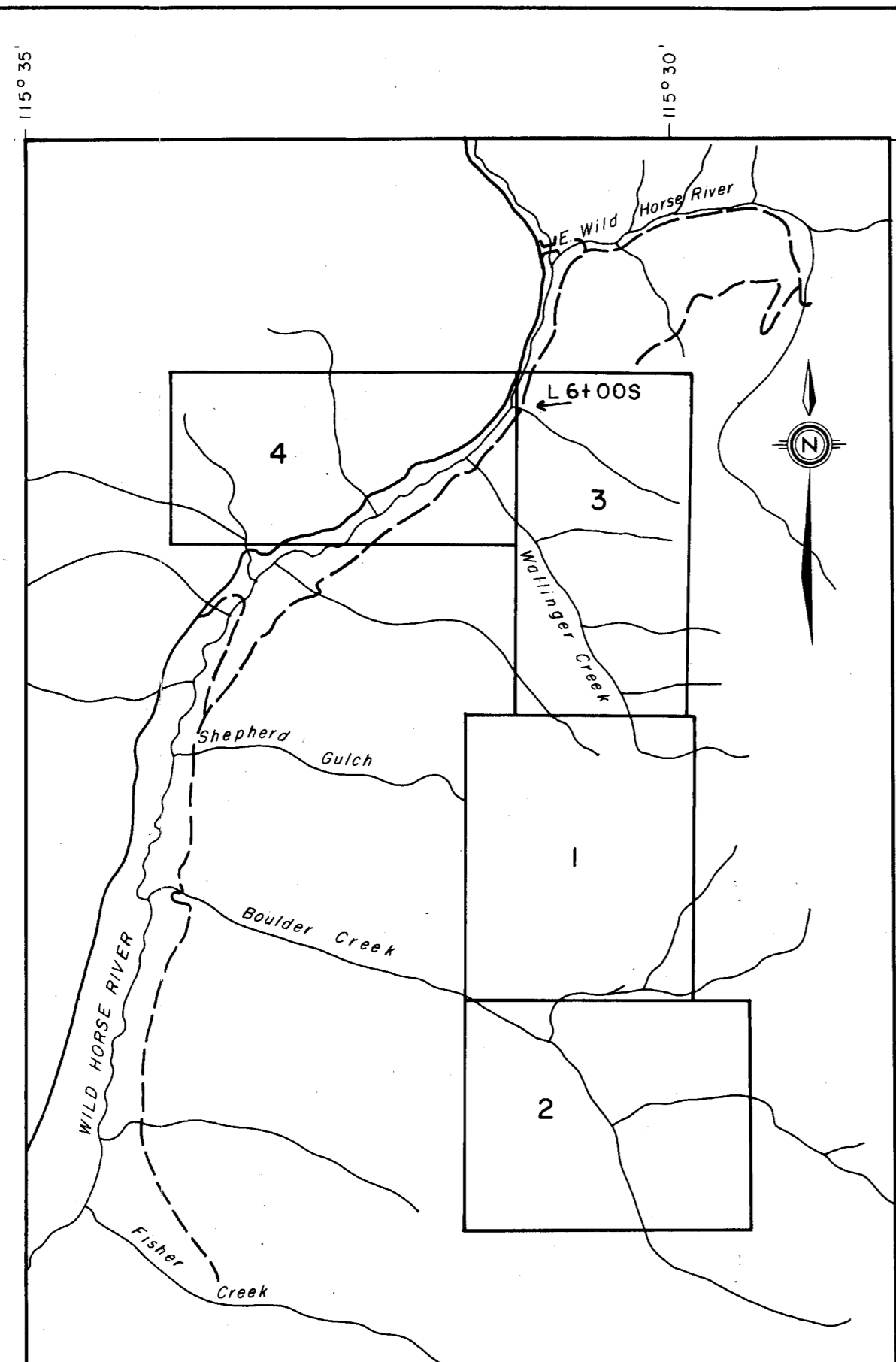
Location Map  
SCALE 1:50,000



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,061

|                                                                  |                               |
|------------------------------------------------------------------|-------------------------------|
| BOULDER GOLD PROJECT<br>Wallinger Creek Grid<br>CLAIM BOUNDARIES |                               |
| DATE April, 1990                                                 | NTS 82 G 11W 8 12 E           |
| PROJECT BC-90-2                                                  | MAPPED/DRAWN BY T. BOJCZYSHYN |
| SCALE 1:2,500                                                    | 50 0 50 100 m                 |
| TAIGA CONSULTANTS LTD                                            | MAP 4                         |

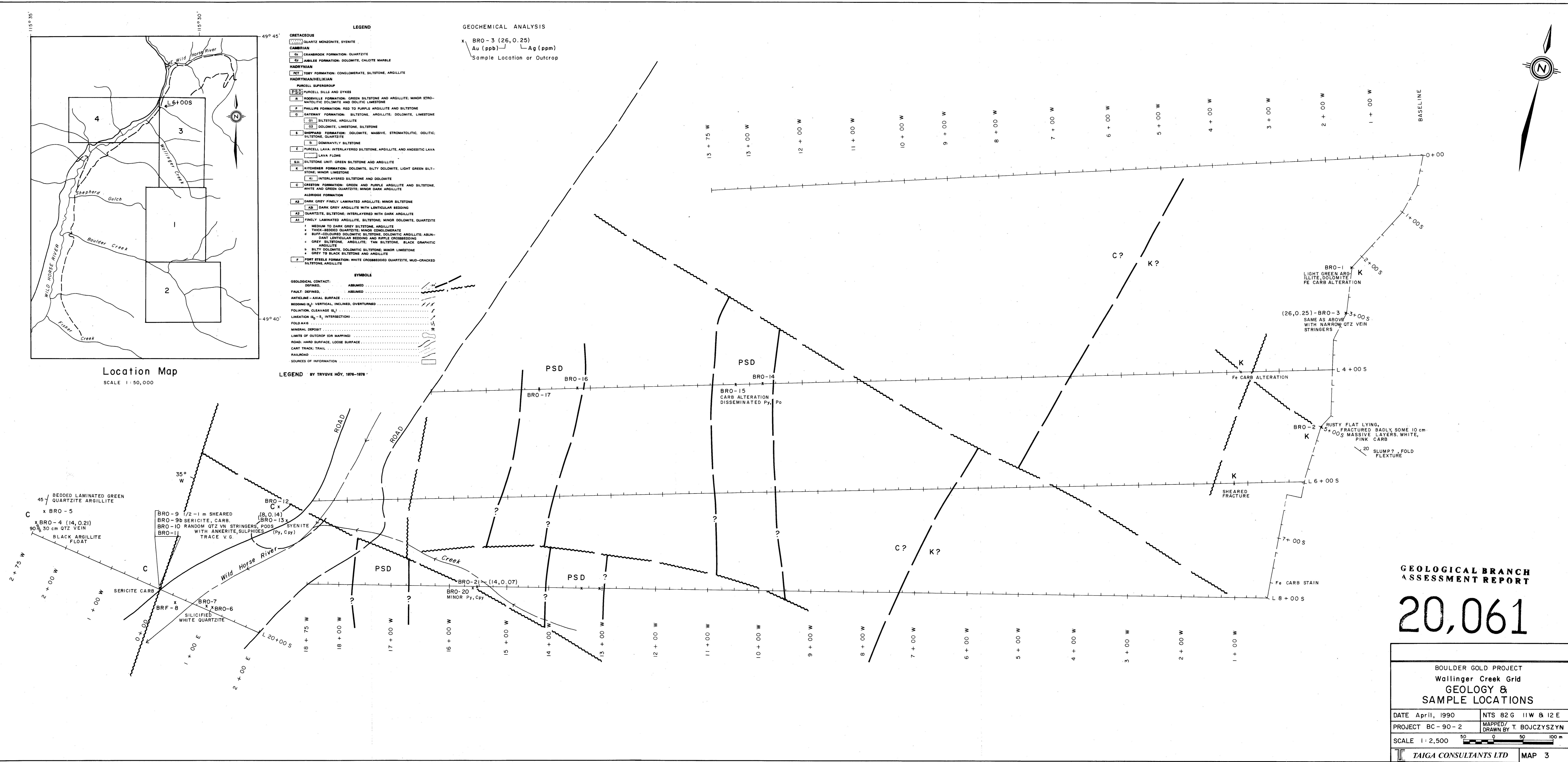


Location Map  
SCALE 1:50,000

- LEGEND**
- CRETACEOUS**
- QUARTZ MONZONITE, SYENITE
  - CAMBRIAN
  - CRANBROOK FORMATION: QUARTZITE
  - ABELLE FORMATION: DOLOMITE, CALCITE MARBLE
  - HADRYNMAN
  - HÖY FORMATION: CONGLOMERATE, SILTSTONE, ARGILLITE
  - HADRYNMAN/ABELLE
- PURCELL SUPERGROUP**
- PODOLITE SILLS AND DYKES
  - PODOLITE FORMATION: GREEN SILTSTONE AND ARGILLITE, MINOR STROMATOLITIC DOLOMITE AND DOLOMITIC LIMESTONE
  - PHLEPS FORMATION: RED TO PURPLE ARGILLITE AND SILTSTONE
  - SATONAY FORMATION: SILTSTONE, ARGILLITE, DOLOMITE, LIMESTONE
  - SILTSTONE, ARGILLITE
  - SHERRARD FORMATION: DOLOMITE, LIMESTONE, SILTSTONE
  - SHERRARD FORMATION: DOLOMITE, MASSIVE, STROMATOLITIC, DOLOMITIC SILTSTONE, QUARTZITE
  - SHERRARD FORMATION: DOMINANTLY SILTSTONE
  - SHERRARD LAVA: INTERLAYERED SILTSTONE, ARGILLITE, AND ANDESITIC LAVA
  - LAVA FLOWS
  - SILTSTONE UNIT: GREEN SILTSTONE AND ARGILLITE
  - STONEMAN FORMATION: DOLOMITE, SILTY DOLOMITE, LIGHT GREEN SILTSTONE, MINOR LIMESTONE
  - INTERLAYERED SILTSTONE AND DOLOMITE
  - STONEMAN FORMATION: GREEN AND PURPLE ARGILLITE AND SILTSTONE, WHITE AND GREEN QUARTZITE, MINOR DARK ARGILLITE
- ALBIDOUS FORMATION**
- DARK GREY FINELY LAMINATED ARGILLITE, MINOR SILTSTONE
  - DARK GREY ARGILLITE WITH LENTICULAR BEDDING
  - QUARTZITE, SILTSTONE, INTERLAYERED WITH DARK ARGILLITE
  - FINELY LAMINATED ARGILLITE, SILTSTONE, MINOR DOLOMITE, QUARTZITE
  - MEDIUM TO DARK GREY SILTSTONE, ARGILLITE
  - THICK-BEDDED QUARTZITE, MINOR CONGLOMERATE
  - RUFF-COLOURED DOLOMITIC SILTSTONE, DOLOMITIC ARGILLITE, ABUNDANT LENTICULAR BEDDING AND RIPPLE CROSSBEDDING
  - GREY SILTSTONE, ARGILLITE, TAN SILTSTONE, BLACK SPANITIC ARGILLITE
  - SILTY DOLOMITIC DOLOMITIC SILTSTONE, MINOR LIMESTONE
  - SILTY DOLOMITE, DOLOMITIC ARGILLITE
  - PORT STEEL FORMATION: WHITE CROSSBEDDED QUARTZITE, MUD-CRACKED SILTSTONE, ARGILLITE
- SYMBOLS**
- GEOLOGICAL CONTACT:**
- DEFINED: ASSUMED
  - FAULT DEFINED: ASSUMED
  - ANTICLINE-AXIAL SURFACE
  - BEDDING: VERTICAL, INCLINED, OVERTURNED
  - FOLIATION CLEAVAGE
  - LINERATION: INTERSECTION
  - FOLD AXIS
  - MINERAL DEPOSIT
  - LINER OF OUTCROP OR MAPPING
  - ROAD: HARD SURFACE, LOOSE SURFACE
  - CART TRACK: TRAIL
  - RAILROAD
  - SOURCE OF INFORMATION
- LEGEND BY TRYGVE HÖY, 1978-1979

**GEOCHEMICAL ANALYSIS**

BRO-3 (26,0.25)  
Au (ppb) Ag (ppm)  
Sample Location or Outcrop



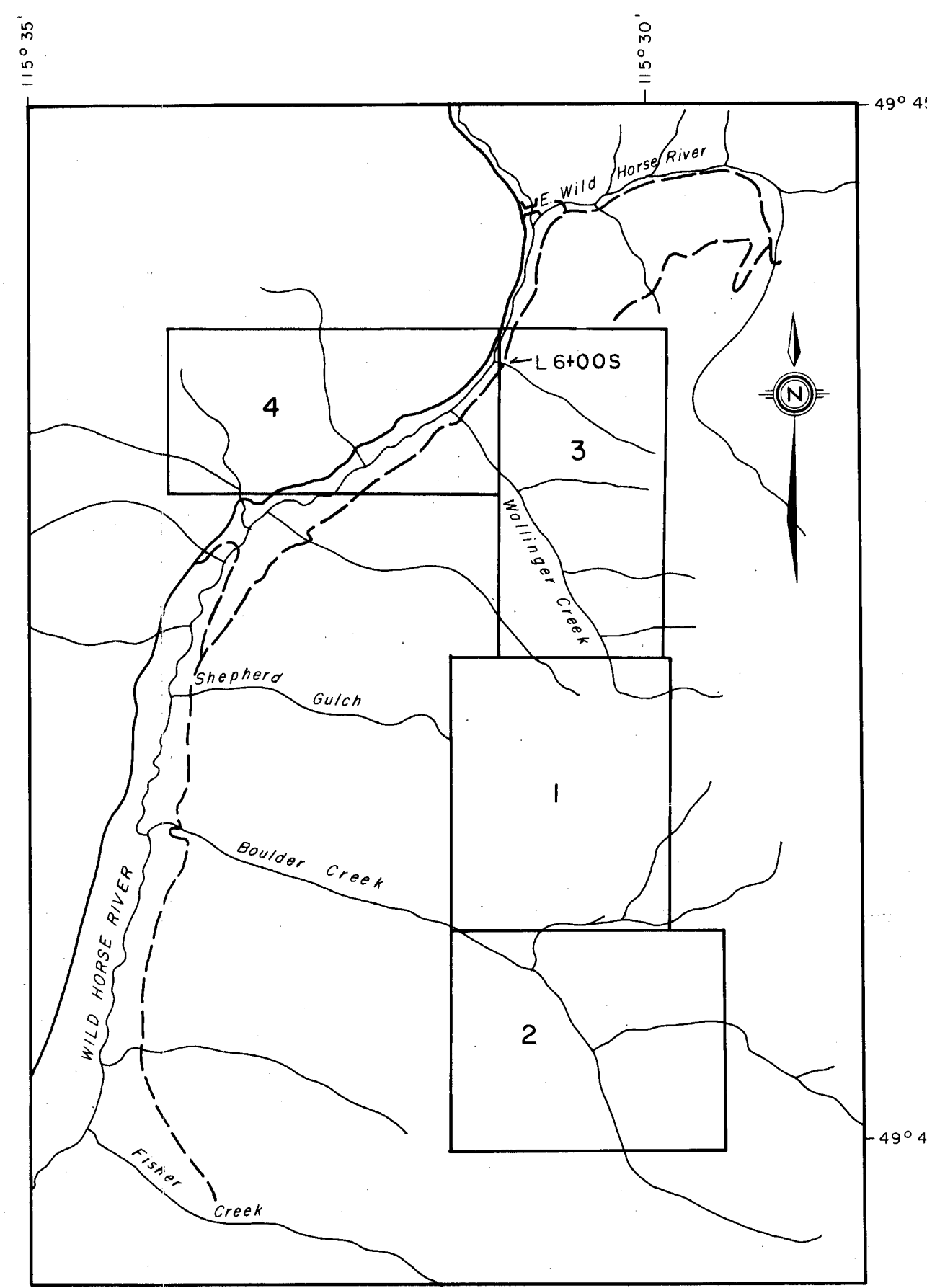
**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**20,061**

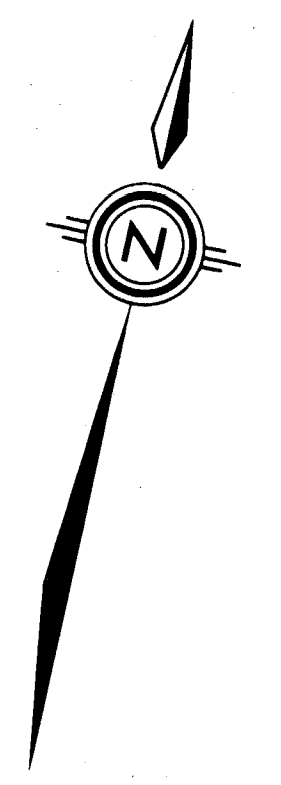
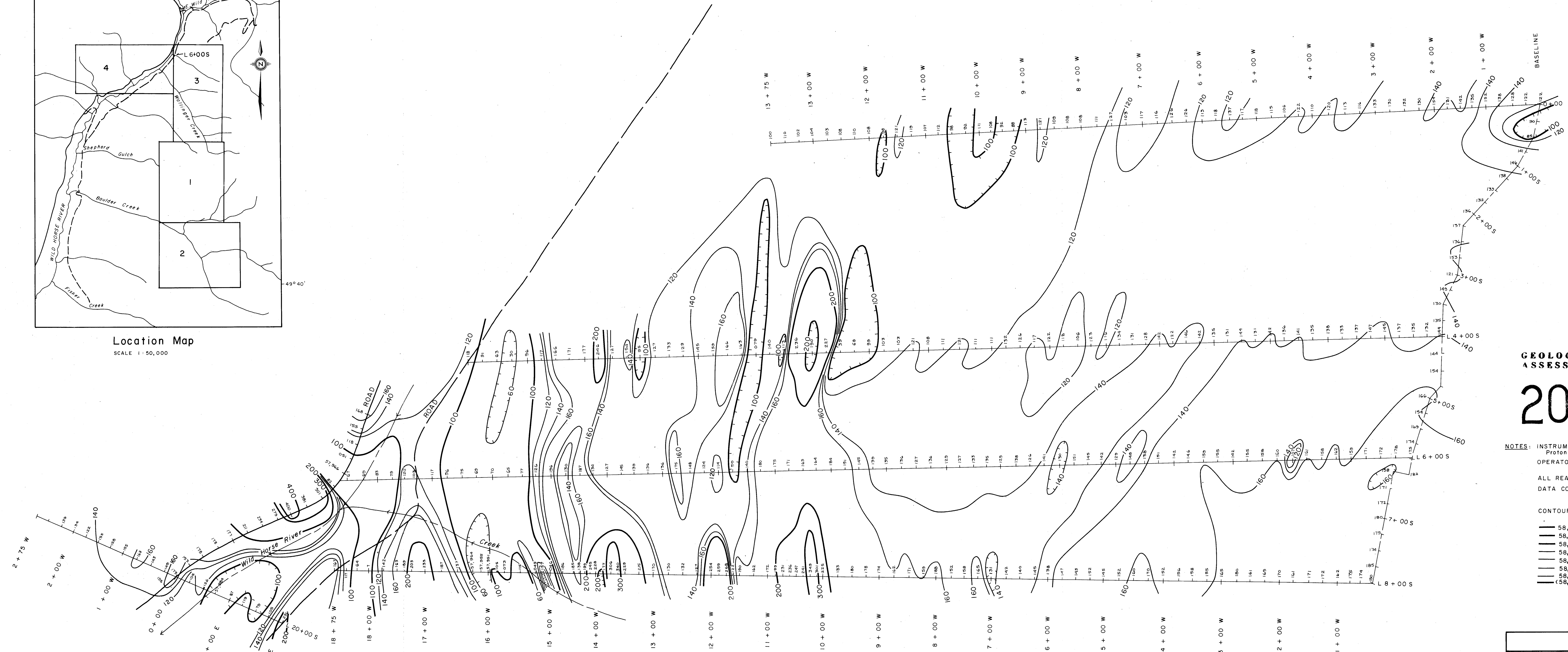
BOULDER GOLD PROJECT  
Wallinger Creek Grid  
GEOLOGY & SAMPLE LOCATIONS

DATE April, 1990 NTS 82 G 11W & 12 E  
PROJECT BC-90-2 MAPPED/DRAWN BY T. BOJCZYNSZYN  
SCALE 1:2,500

TAIGA CONSULTANTS LTD MAP 3



Location Map  
SCALE 1:50,000



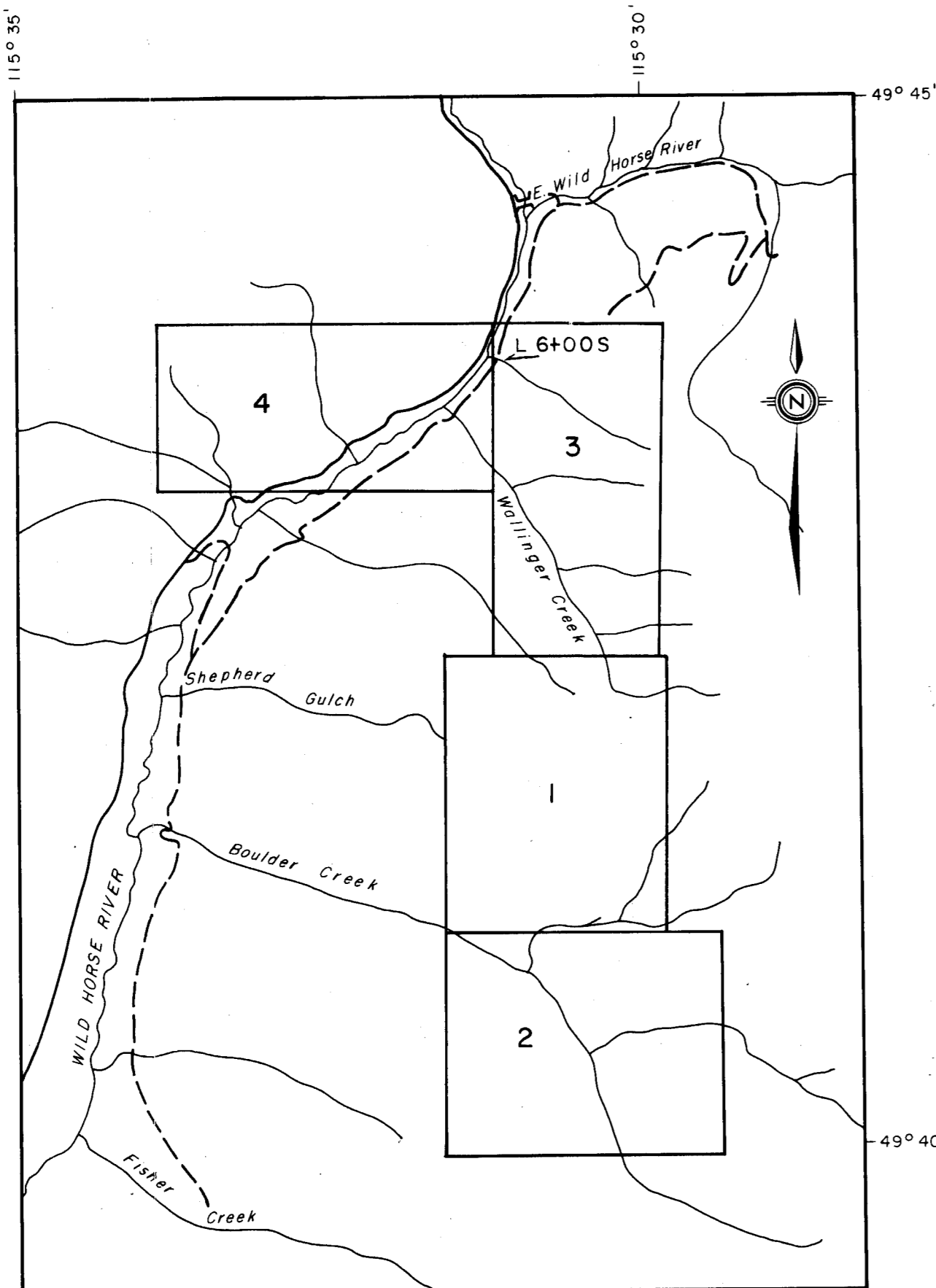
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,061

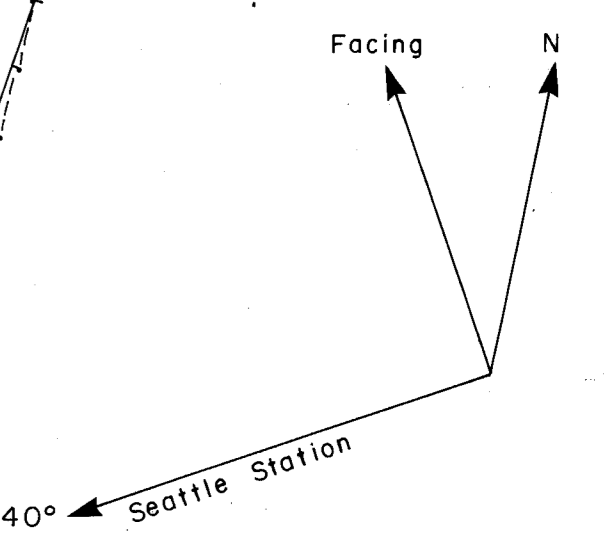
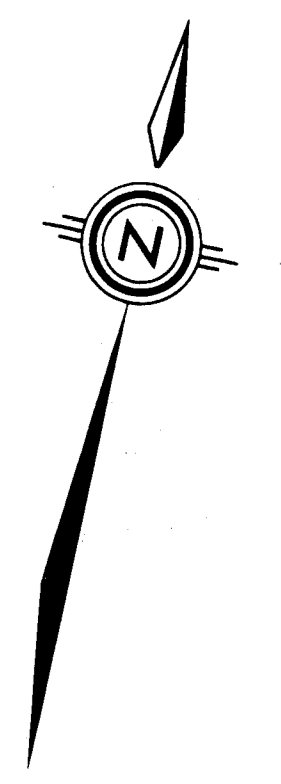
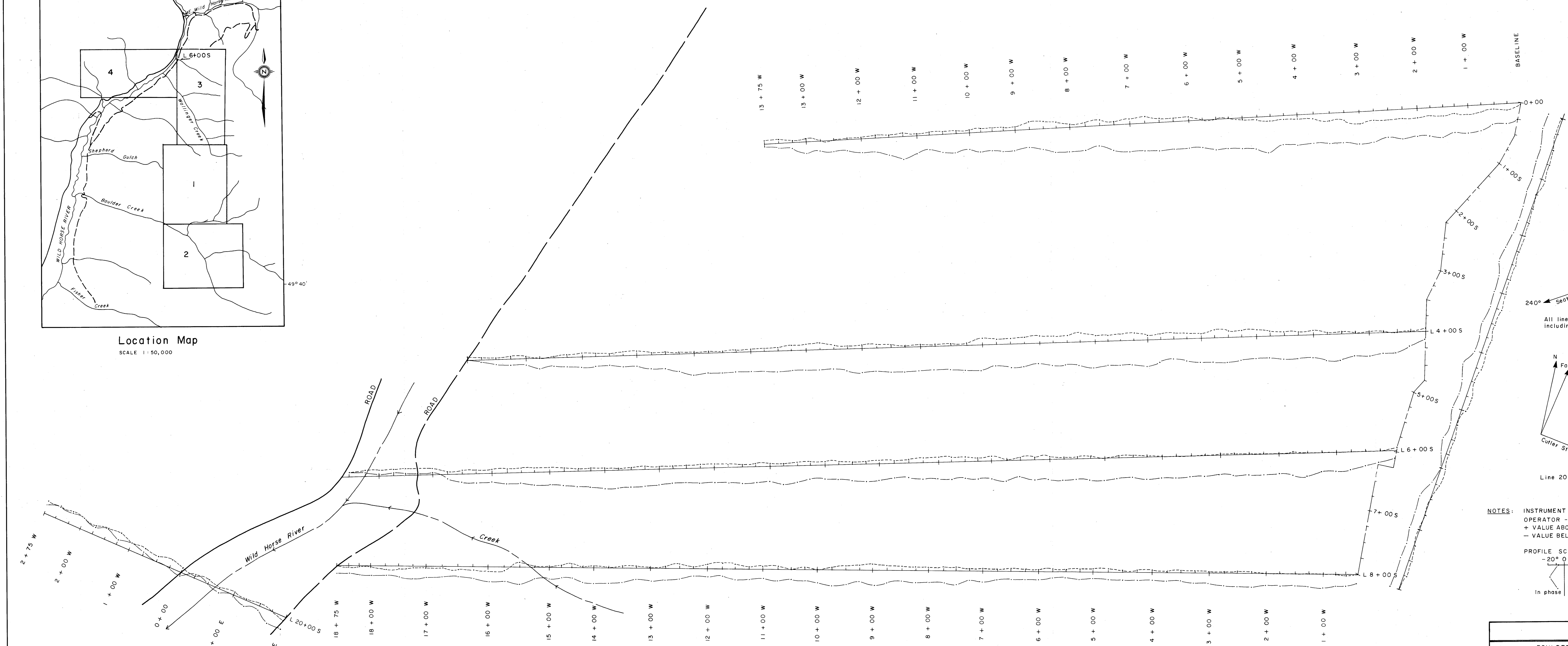
NOTES: INSTRUMENT - Scintrex MP-2  
Proton Magnetometer  
OPERATOR - T. BOJCZYSHYN  
ALL READINGS 58,000 + GAMMAS  
DATA CORRECTED FOR DIURNAL VARIATION

- CONTOUR INTERVAL
- 58, 400
  - 58, 300
  - 58, 200
  - 58, 160
  - 58, 140
  - 58, 120
  - 58, 100
  - 58, 100

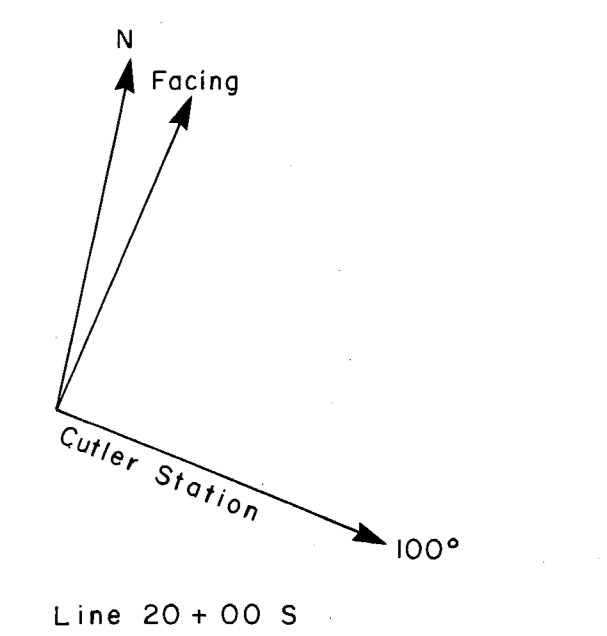
|                                                                     |                                   |
|---------------------------------------------------------------------|-----------------------------------|
| BOULDER GOLD PROJECT<br>Wallinger Creek Grid<br>MAGNETOMETER SURVEY |                                   |
| DATE April, 1990                                                    | NTS 82 G 11W & 12 E               |
| PROJECT BC-90-2                                                     | MAPPED/<br>DRAWN BY T. BOJCZYSHYN |
| SCALE 1:2,500                                                       | 100 m                             |
| TAIGA CONSULTANTS LTD MAP 2                                         |                                   |



Location Map  
SCALE 1:50,000

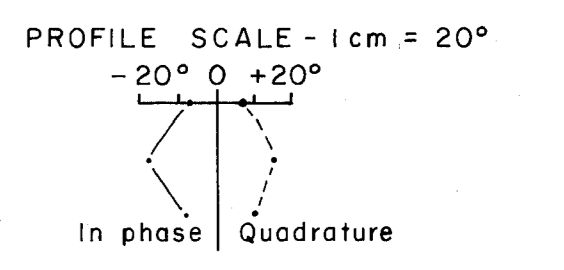


All lines except L 20 S including Baseline.



Line 20+00 S

NOTES: INSTRUMENT - Geonics EM-16  
OPERATOR - T. BOJCZYNSZYN  
+ VALUE ABOVE OR RIGHT OF LINE  
- VALUE BELOW OR LEFT OF LINE



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**20,061**

|                       |                                    |
|-----------------------|------------------------------------|
| BOULDER GOLD PROJECT  |                                    |
| Waller Creek Grid     |                                    |
| VLF-EM PROFILES       |                                    |
| DATE April, 1990      | NTS 82 G 11W & 12 E                |
| PROJECT BC-90-2       | MAPPED/<br>DRAWN BY T. BOJCZYNSZYN |
| SCALE 1:2,500         | 0 50 100 m                         |
| TAIGA CONSULTANTS LTD | MAP 1                              |