

**BS CLAIMS**  
*Prospecting & Assessment*  
*Report*

82E/15E SS

by: R.W. Yorke-Hardy M.T. C.E.T.

1979

B S CLAIM GROUP

INTRODUCTION:

This report provides an outline of the prospecting and assessment work performed on the B S CLAIM GROUP and indicates the extent of the mineralization discovered on the claims to date.

The property consists of "19" claims and is located just south of the junction of Stove Creek and the Kettle River, about 15 miles southwest of the Monashee Pass Summit on Hwy. #6.

Both the maps of the Geological Survey of Canada 1" = 2 mi. Geological Series and image photography work carried out for the Earth Resources Technology Satellite program show this area to be in a zone of considerable faulting. Mineralization occurs in quartz veins adjacent to a porphyry granite segment of the greater Nelson Batholith. Interesting values of Au, Ag, Pb, and Zn have been obtained with additional minor showings of Cu. There are also large gossan zones which are intensely altered and well pyritized.

this report is submitted as a prospecting report for assessment credit. It will also be available to companies requesting additional information in order to determine the extent of their interest in the property.

|                                   |          |
|-----------------------------------|----------|
| Department of                     |          |
| Mines and Metallurgical Resources |          |
| ASSESSMENT REPORT                 |          |
| NO. 4979                          | MAP..... |

- #1 Location map
- #2 Geology map
- #3 Map showing relationship to Greater Nelson batholith
- #4 Claim location & prospecting map

LOCATION AND ACCESS:

The B S claim group lies on the west bank of the Kettle River near the junction with Stove Creek. The main location line runs south from a point 1200 ft. west of this junction which is reached by 11 mi. of forestry access road heading south west from Spruce Grove Cafe which in turn is located 5 mi. south of the Monashee Pass Summit on Hwy. #6; 33 mi. south of Lumby. Within the claim boundary a system of logging haul roads provide fair access to the different showings. Road conditions vary depending on logging activity but normally the claims are accessible throughout the year. Forest closures due to fire hazards are not uncommon during the hot summer months, but permission to work and travel in the area is usually granted provided proper precautions are taken.

OWNERSHIP:

The property consists of 19 claims. The original 12 B S claims were staked by R. W. Yorke-Hardy in July/72. An additional 2 claims were added in Oct/72. In June/73, S. E. Arnold staked 5 adjoining B S claims. The 19 claims were grouped in June/73.

B S CLAIM GROUP

| Claim Name  | Date Staked |      | Record No.    | Grouping Date |
|-------------|-------------|------|---------------|---------------|
|             | Anniv. Date | Year |               |               |
| B S 1 - 12  | 11 July     | 72   | 16531 - 16542 | June 5/73     |
| B S 13 - 14 | 10 Oct.     | 72   | 16737 - 16738 | "             |
| B S 15 - 19 | 5 June      | 73   | 17077 - 17081 | "             |

## Ownership Cont.

The B S claim group is owned by S. E. Arnold and R. W. Yorke-Hardy, each of whom holds a 50% interest in the property. The initial discovery was made in June 1972 by S. E. Arnold while road building as part of a logging contract under the Stove Creek Cut Permit. There is no evidence of previous mineral exploration work on this property.

The logging rights are held by Riverside Forest Products Ltd; of Lumby under cutting permit #6 A03502 Stove Creek. The main haul roads were put in by Riverside or at their expense, all other roads and trails were put in by Seaco Logging, owned by S. E. Arnold.

## TOPOGRAPHY AND CLIMATE:

The rejuvenated Kettle River is now downgrading a steep sided valley through a more mature rolling upland plateau with summits rising to 7000 ft. above sea level. The junction of Stove Creek and the Kettle River is at elev. 3300 ft. and the valley sides rise away from the river at an average grade of about 40% to the level of the plateau. Within the claim boundary, elevations range from river level to 4700 feet. The main showing occurs between 3300 and 3700 ft. elevation over an area of about  $\frac{1}{2}$  sq. mi. (four claims)

The area is forested with moderate to heavy cover of lodge pole pine and white spruce. Underbrush can be heavy and consists of alder and some devils club.

Snow precipitation in the season November to March results in a snow pack level between 3 & 5 feet in depth. Most of this has melted by the end of May, but parts of the claim ground remain quite wet until mid July. Weather conditions are unpredictable up to the end of May, but from then to the end of October, conditions are warm and dry except for occasional thunder storms, as the proximity to the Okanagan Valley would suggest.

## GENERAL INFORMATION AND HISTORY:

The majority of the B S claim group has already been logged. About one seasons work still remains on the extreme south end and the top end of the claims.

Logging in the Upper Kettle R. is quite active and there is generally no shortage of labour. Lumby and Vernon are the closest hiring points and there is a manpower centre in Vernon. At present there is no hydro power supply to the Monashee - Kettle R. area. The closest power source is approximately 30 mi. away by road. There is however, a transmission line that crosses the Monashee Pass right at the Summit. Communications have to be maintained by radio telephone. Gas and restaurant facilities are available at the Spruce Grove Cafe. It may also be possible to arrange accomodations or trailer hook-ups there.

A number of old producing mines have operated in the Monashee Pass - Kettle R. area in the past. The closest of these mines were the Waterloo, Lightning Peak, Rampalo and Dictator mines on Lightning Peak which is about 6 mi. east of the B S claim group. According to the old B. C. Minister of Mines Reports, the geology and mineral occurances of the Lightning Peak group appear similar to those encountered on the B S claim group. The St. Paul Mine, east of the summit of the Monashee Pass is reported to be planning work for this year. There have also been numerous other mineral occurances reported in the area as can be seen on the claim maps at the Vernon Mining Recorders' Office. At present there are claims on the Bruer Creek, only a few miles north of the B S claim group along the geological strike and on Jubilee Mtn., 6 mi. to the west. A few years ago, a copper showing near Bisson Lake, 2 mi. west of Spruce Grove, was being worked by one of the mining companies.

## GENERAL GEOLOGY:

The B S claim group lies on intrusives of the Nelson group, mainly granodiorite, porphyry granite and quartz monzonite. Roof pendants of gneiss or paragneiss of precambrian age are indicated on the regional geological map sheet (Map 6 - 1957 Kettle R. East half). Rocks of the Anarchist group of Permian age occur in the area to the east. It is possible that the roof pendants shown at the junction of the Kettle R. and Bruer Cr. and on Winnifred Cr. are actually remnants of the Anarchist group as positive age identification has not been made. As a result of the logging, most of the claim area has been opened up by skid trails which cut across the general geological strike at a shallow angle. Even with this series of trails the percent outcrop is less than 20%. Main outcrops are in the form of steep bluffs, mostly formed in porphyritic granite. Rocks mapped in the claim area are porphyritic granites, granodiorites and quartz monzonites with some basic dykes. These vary in condition from relatively fresh to highly altered.

Most of the mineralization is found in the tight intensely fractured quartz veins which occur mainly in zones of altered granite rock although some occur in direct contact with relatively fresh porphyry granites. The veins consist of milky white quartz with galena, sphalerite, iron pyrite and some chalcocite. Traces of greenockite have been seen as well, while assay results indicate the existence of interesting gold and silver values. The more altered zones generally contain considerable finely disseminated iron pyrite.

The quartz veins on the upper (west) central part of the claim group differ in that the quartz is vuggy and well crystallized. The only mineralization remaining in these upper veins is leached iron pyrite. In both types of veins surface water has resulted in the leaching of minerals leaving behind distinctive rusty limonite and red zincite and litharge.

DESCRIPTION OF DISCOVERIES:

A. Main Fractured Veins:

The main showings occur on the B S #6, 7, 8, 10 and 12 mineral claims which are described in some detail below.

1. B S #12 - In this claim, strong quartz veining exists over a length of 600 ft. The vein, or possibly a series of sub-parallel veins have been exposed by trenching along the existing road cuts. Towards the south end of this claim a section of vein has been exposed for 93 ft. The southern most 30 ft. has been fully exposed while the remaining portion appears in the road surface. The fully exposed section is 4 to 4.5 ft. wide. The vein occurs in highly altered granitic rock - both the foot wall and hanging wall are highly altered. The host rock contains finely disseminated iron pyrite and the vein itself contains disseminated blebs and some semi-massive zones of iron pyrite, galena and sphalerite. The vein appears to have been faulted off at the south end but three conductors have been detected and a smaller vein located. Further work was impossible because of the high water content in the overburden and because this area had still to be used for a logging landing. Assays for the vein and host rock are listed below.

| ROCK |                         |       | oz/T | oz/T | %    | %    | %    |  |
|------|-------------------------|-------|------|------|------|------|------|--|
| Type | Material Sampled        | Width | Au   | Ag   | Pb   | Zn   | Cu   |  |
| Chip | Quartz vein             | 4'    | .317 | 4.58 |      |      |      |  |
| Grab | Graphitic gouge in vein | 6"    | .005 | 1.37 |      |      |      |  |
| Grab | Foot wall host rock     | 6"    | .004 | 0.04 |      |      | .005 |  |
| Chip | Quartz vein             | 4'    | Tr.  | 0.07 | 0.07 | 0.02 |      |  |

| ROCK or SOIL GEOCHEMS |                         |       | ppm |  |  |  |  |
|-----------------------|-------------------------|-------|-----|--|--|--|--|
| Type                  | Material Sampled        | Width | Cu  |  |  |  |  |
| RG                    | Hanging wall host rock  | n/a   | 44  |  |  |  |  |
| RG                    | Graphitic gouge in vein | n/a   | 28  |  |  |  |  |
| RG                    | Foot wall host rock     | n/a   | 04  |  |  |  |  |

Discoveries Cont.  
 I. B S #12 - Cont.

A second exposure of quartz veining is separated from that just described by 50 to 55 ft. overburden, up to 8' thick, containing porphyry granite float. This vein appears to be too high to be a strike extension of the above vein. It strikes N30° W and dips 35° W. It would appear to be an intersecting structure. This vein has been exposed for 82 ft. and averages 4 to 6 ft. in width. It is poorly mineralized over the exposed length, but does contain disseminated iron pyrite and galena. The northern end of the exposure has considerably more mineralization than the south end. The next occurrence of quartz veining is 220 ft. further to the north along the road cut. This vein is slightly lower in elevation than the above 2 veins. It may be an extension of the vein first described or a sub parallel structure to it. Its first appearance is as an 8" vein in porphyry granite about 20 ft. above the road surface. The vein is faulted and offset downwards to the road level about 40 ft. from the first appearance. At this point the vein is 30 ft. lower in elevation than the extreme south end vein. It quickly swells to an average of 4 to 6 ft. with a horse of host rock towards the hanging wall contact. The vein is quite well mineralized. Several 2" bands of massive to semi-massive sulphides are separated by disseminated blebs of sulphides are iron pyrite, galena and sphalerite. Considerable leaching of the sulphides has taken place. The host rock on the hanging wall contact is a porphyry quartz monzonite and contains some finely disseminated iron pyrite. A rock geochem of this material gave 10 ppm copper. The foot wall is a highly altered granitic rock with finely disseminated iron pyrite. Assays for this vein and host rock are listed below.

| ROCK |                              |                              | oz/T | oz/T  | %    | %    |      |  |
|------|------------------------------|------------------------------|------|-------|------|------|------|--|
| Type | Material Sampled             | Width                        | Au   | Ag    | Pb   | Zn   |      |  |
| Chip | Quartz vein                  | 4'                           | .021 | 1.33  |      |      |      |  |
| Grab | High grade - quartz + pyrite | n/a                          | .283 | 27.20 |      |      |      |  |
| Grab | High grade - w/FeS, PbS, ZnS | n/a                          | .003 | 2.57  |      |      |      |  |
| *    | Grab                         | High grade - w/FeS, PbS, ZnS | n/a  | .015  | 7.29 | 9.20 | 0.50 |  |
| Chip | Quartz vein                  | 4'                           | Tr.  | 1.50  | 2.20 | 0.59 |      |  |



Discoveries Cont.  
 1. B S #12 - Cont.

| METALS   | %     | ROCK FORMING MINERALS          | %      |
|----------|-------|--------------------------------|--------|
| Bismuth  | .03   | Al <sub>2</sub> O <sub>3</sub> | .1     |
| Chromium | .03   | CaO                            | .1     |
| Copper   | .01   | Fe                             | 3.0    |
| * Gold   | Trace | MgO                            | .1     |
| * Lead   | .3 +  | Silica                         | Matrix |
| * Silver | .03   | Na <sub>2</sub> O              | Trace  |
| Titanium | .005  | K <sub>2</sub> O               | Trace  |
| * Zinc   | .3 +  |                                |        |

\* This sample sent in for spectrographic analysis of which the main results are listed above, other elements were not detected or not looked for.

2. B S #10 - A 6" - 8" quartz vein has been discovered in the middle landing. No work has been done because of logging operations. No assays have been performed but galena and pyrite mineralization could be clearly seen. Minor disseminated chalcocite has been detected in a fresh dark grey diorite dyke just above this landing.

Discoveries Cont.

3. B S #7 & 8 - A gossan or possible shear zone has been exposed for more than 1/5 mi. along the lower road cut. The zone extends up the hill to the S W for greater than 1000 ft. The gossan material is a highly altered granitic rock with kaolinized feldspars and considerable limonite, similar to that which occurs on both the hanging wall and foot wall sides of the southern vein on B S #12. The gossan material has considerable finely disseminated iron pyrite as well as some hematite and minor copper values.

| ROCK or SOIL GEOCHEMS |                              |       | ppm | ppm  | ppm |  |  |
|-----------------------|------------------------------|-------|-----|------|-----|--|--|
| Type                  | Material Sampled             | Width | Cu  | Ag   | Pb  |  |  |
| RG                    | Highly altered granitic rock | n/a   | 42  | <1.0 | 16  |  |  |
| RG                    | Highly altered granitic rock | n/a   | 27  | <0.1 | 16  |  |  |
| RG                    | Fresh dark grey diorite      | n/a   | 18  |      |     |  |  |
| RG                    | Mod. altered granitic rock   | n/a   | 04  |      |     |  |  |

| ROCK or SOIL GEOCHEMS |                            |       | oz/T | oz/T | %    | %    |  |
|-----------------------|----------------------------|-------|------|------|------|------|--|
| Type                  | Material Sampled           | Width | Au   | Ag   | MoS  | Cu   |  |
| RG                    | Basic dyke in altered zone | n/a   | .003 | .01  |      |      |  |
| RG                    | Altered granite            | n/a   | .003 | .01  |      |      |  |
| soil                  | Altered granite            | n/a   | Tr.  |      | .001 | .005 |  |
| soil                  | Altered granite            | n/a   |      |      | .001 | .005 |  |

A further quartz vein was discovered on these claims while running a location line. No work has yet been done on this vein but it is likely that it is the source of the quartz float encountered on the switch back on B S #6.  
(See Below)

4. B S #6 - A quartz vein occurs in the road surface below a large bluff outcrop of porphyry granite. Some pyrite and galena can be found but further work could not be done due to logging activity. The vein has been exposed for 30 to 35 ft. and strikes northerly. Highly altered zones occur just to the south along the road cut. Rock samples from these zones ran less than .01% copper. Noticeable quartz float occurs in the cut bank on the switchback on B S #6. The float contains pyrite, chalcocite, sphalerite and galena.

Discoveries Cont.  
4. B S #6 - Cont.

It is unlikely that this material has been transported far from its source, but the vein has not yet been located. (See B S #7 & 8) Overburden in the immediate area is at least 8 ft. thick and the ground is generally quite wet due to a small creek. Samples from this float assayed as follows.

| ROCK |                  |       | oz/T | oz/T | %   | %   | %   |
|------|------------------|-------|------|------|-----|-----|-----|
| Type | Material Sampled | Width | Au   | Ag   | Pb  | Zn  | Cu  |
| Grab | Quartz float     | n/a   | .003 | 1.46 |     |     |     |
| Grab | Quartz float     | n/a   | Tr.  | 0.71 | .11 | .05 | .08 |

Minor chalcocite and iron pyrite has been encountered in the quartz stringers in the porphyry granite along the upper limb of the switchback. Two small gossan zones occur towards the north end of the claim group. The alteration is not nearly as intense as the larger gossans but there is considerable finely disseminated pyrite.

B. Upper Quartz Veins:

Three parallel to sub parallel vuggy quartz veins occur along the upper boundary of the B S claims #6 and #8. The centre one of these has been traced over several hundred feet in length. The veins, containing coarse iron pyrite and limonite boxwork, are quite different in character from the veins occurring down the hill. The lower veins are a massive milky quartz while the upper veins contain large crystal filled vugs. To date, these veins have only been exposed on the surface where they have been subjected to intense weathering. The veins occur in relatively fresh porphyry granite containing finely disseminated iron pyrite. The pyrite which remains in the veins appears

### Discoveries Cont.

to be highly leached and the crystal lattice has an etched appearance. Assays of trace, .003 Oz/ton, 0.23 Oz/ton Au and .005 % Cu have been obtained. There is a large bench at this point on the hill and a fault is indicated on the regional geology sheet.

### Additional Prospecting Information.

**Panning:** Stream sediments from Stove Creek and numerous small waterways have been panned in an effort to trace the mineralization. Magnetite (S.G. 5.18) and some pyrite are always present. One sample obtained on B S #6 north of the vuggy quartz veins showed a yellow-orange fluorescent mineral with a specific gravity greater than that of magnetite. The same mineral can be detected in minor quantities in quartz veins and in fair abundance along fracture planes in the veins. It has not yet been identified but may be scheelite?

**Geophysics:** A metal detector capable of penetrating 18 ft. of overburden has been used in order to try to trace the veining. Readings were just made in areas of known veins for control purposes. Three conductors were located in the landing at the south end of B S #12; two conductors in the middle landing on B S #10; three conductors in the area where the chalcopyrite and pyrite occurs in the quartz stringers on B S #6 and two conductors along the road between the first and third occurrences of quartz veining on B S #12. One of these latter conductors showed up to 5 times the magnitude of the control readings.

On two different occasions (Aug/73 and May/74) a light aircraft, chartered from Cariboo Airways in Kelowna, was used to fly photographic - prospecting missions over the claim group. On both occasions slides were taken using both infrared and normal light films. The object of the flights was to locate faulting and possible veins as well as differences in vegetation which may be related to mineral enriched soils. The first trip showed very few anomalous conditions. The second trip has not yet been analyzed. At least one more flight is planned in this series.

ASSESSMENT WORK AND COSTS:

Work Recorded to June 1973:

The initial discovery was made during the road work for the logging operation. Because of his interest in the mineral showings, S.E. Arnold spent extra time and effort trenching interesting areas in an effort to expose further mineralization. He was not compensated in any way for this extra work. To date this extra work comprises the major portion of the assessment work done. \$1900.00 in assessment work has been filed on this group (see details below). This money represents the total work done on the claim group up until July 1973 as per certificate of work numbers 10371 to 10389.

| AUDIT NO. <u>73058</u> MINING REC. NO. <u>695058</u> AMT. \$ <u>95.00</u> |               |                     |                                    | NUMBER OF YEARS AND TYPE OF WORK (EACH CLAIM) |     |                              |               | TOTAL YEARS |              |        |
|---|---------------|---------------------|------------------------------------|---|-----|------------------------------|---------------|-------------|--------------|--------|
| NAME OF GROUP (IF ANY)  |               | GROUP NOTICE NUMBER | DATE RECORDED                      | N/G   | C/W | ORDINARY                     | ROAD OR TRAIL |             | LEGAL SURVEY | SURVEY |
| CERTIFICATE OF WORK NUMBER(S)   | NAME OF CLAIM | RECORD NUMBER(S)    | WORK DONE SINCE (LAST ANNIV. DATE) | PENALTY FEES                                  |     |                              |               |             |              |        |
| 10371-75  | B.S. #1-5     | 16531-35            | 11/7/72                            |   |     | 1.                           |               |             |              | 5      |
| 10376-77  | B.S. #6       | 16536               | 11/7/72                            |   |     | 2                            |               |             |              | 2      |
| 10378   | B.S. #7       | 16537               | 11/7/72                            |   |     | 1                            |               |             |              | 1      |
| 10379-80  | B.S. #8       | 16538               | 11/7/72                            |   |     | 2                            |               |             |              | 2      |
| 10381   | B.S. #9       | 16539               | 11/7/72                            |   |     | 1                            |               |             |              | 1      |
| 10382-83  | B.S. #10      | 16540               | 11/7/72                            |   |     | 2                            |               |             |              | 2      |
| 10384   | B.S. #11      | 16541               | 11/7/72                            |   |     | 1                            |               |             |              | 1      |
| 10385-86  | B.S. #12      | 16542               | 11/7/72                            |   |     | 2                            |               |             |              | 2      |
| 10387   | B.S. #13      | 16737               | 10/10/72                           |   |     | 1                            |               |             |              | 1      |
| 10388-89  | B.S. #14      | 16738               | 10/10/72                           |   |     | 2                            |               |             |              | 2      |
| MINING DIV. <u>VERNON</u>   |               |                     |                                    | TOTAL PENALTY FEES                            |     | TOTAL CERTIFICATES <u>19</u> |               |             |              |        |

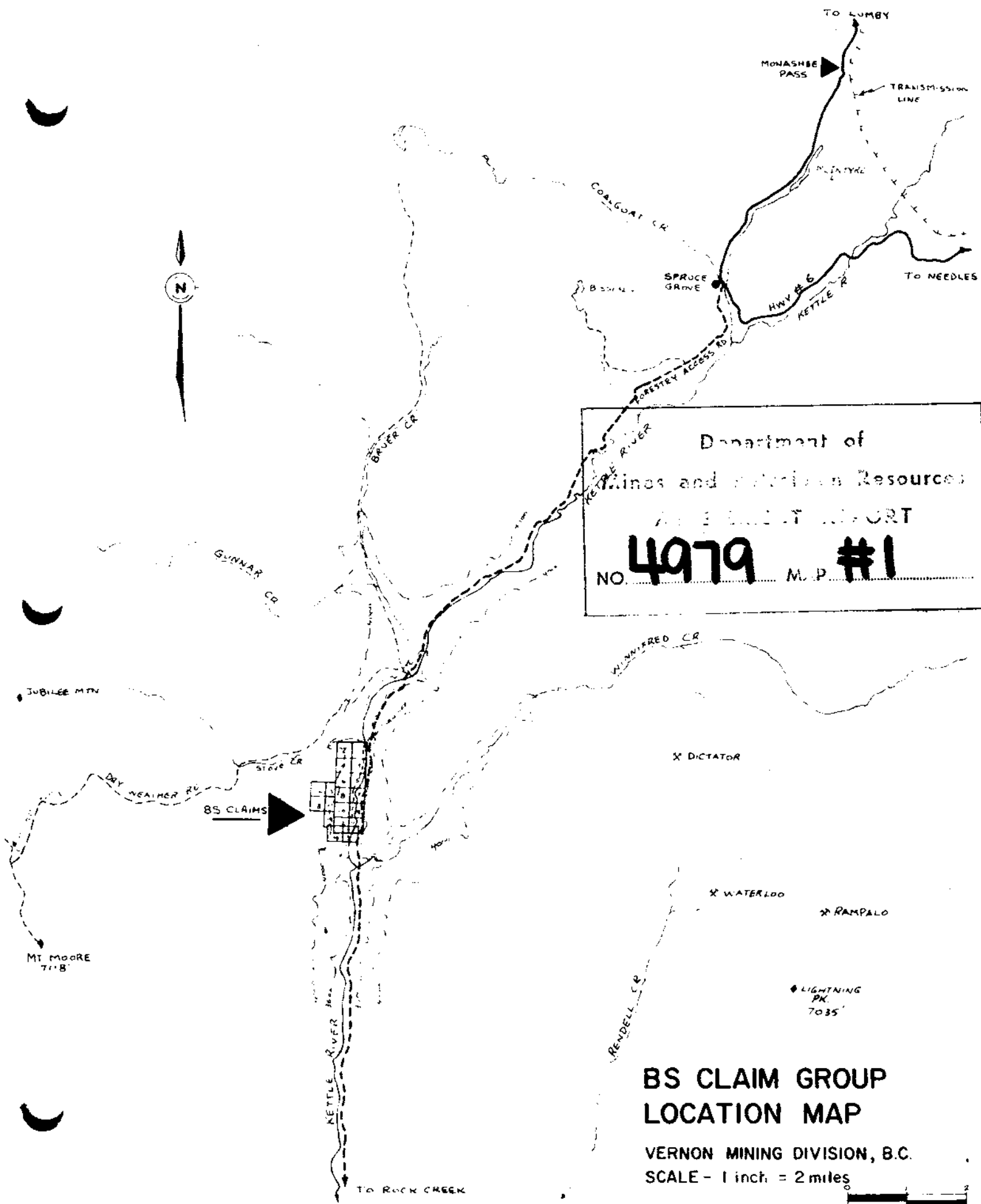
CONCLUSIONS:

Prospecting on the property took place during the summer and fall of 1973 and the spring of 1974. In total 9 days were spent prospecting, including the equivalent of .75 man days spent on air reconnaissance.

Considering the limited work and the low percentage outcrop relative to the number of mineralized veins discovered, there is a high probability that additional veins will be found. This in turn indicates that potential exists for a medium to high grade - low tonnage underground mining operation.

Respectfully Submitted  
W. J. Hardy, M.T., C.E.T.

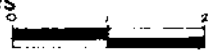
June 5, 1974



Department of  
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 NO. **4979** M.P. **#1**

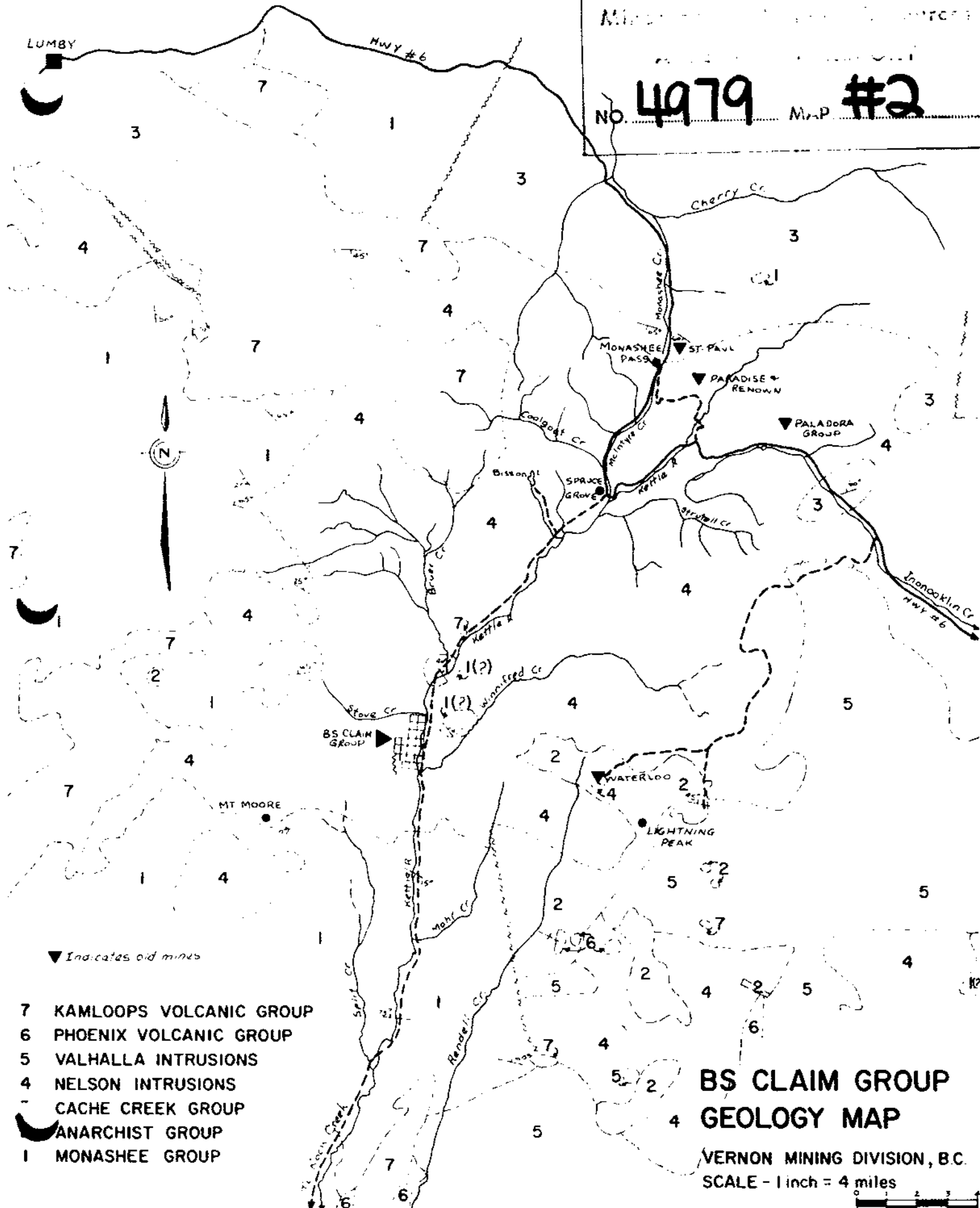
**BS CLAIM GROUP  
 LOCATION MAP**

VERNON MINING DIVISION, B.C.  
 SCALE - 1 inch = 2 miles



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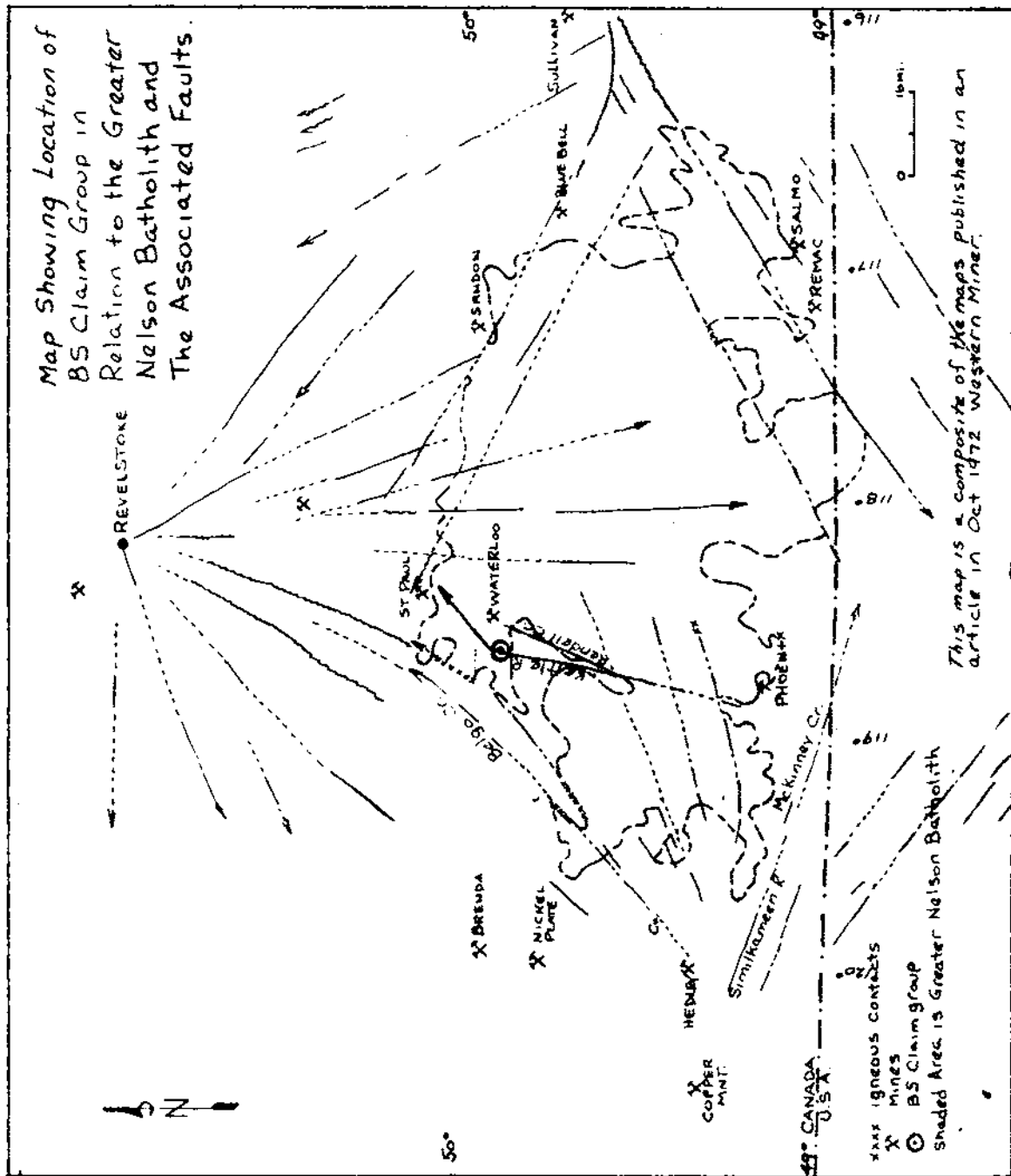
Department of  
 Mines and Geology  
 No. **4979** Map **#2**



TO ACCOMPANY REPORT BY R.W. YORKE-HARDY M.T., C.E.T.



Map Showing Location of  
BS Claim Group in  
Relation to the Greater  
Nelson Batholith and  
The Associated Faults.



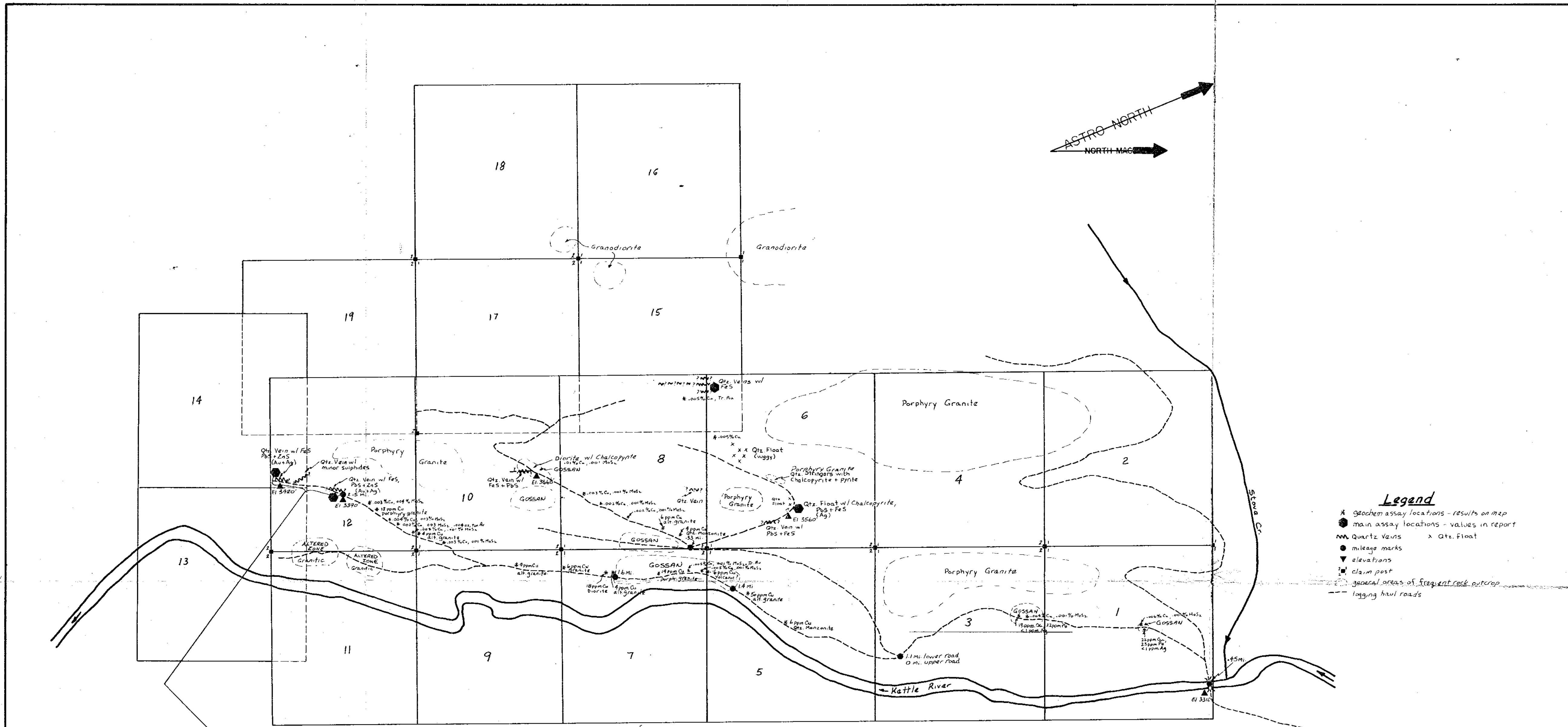
This map is a composite of the maps published in an article in Oct 1972 Western Miner.

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Assessment Work Cont.

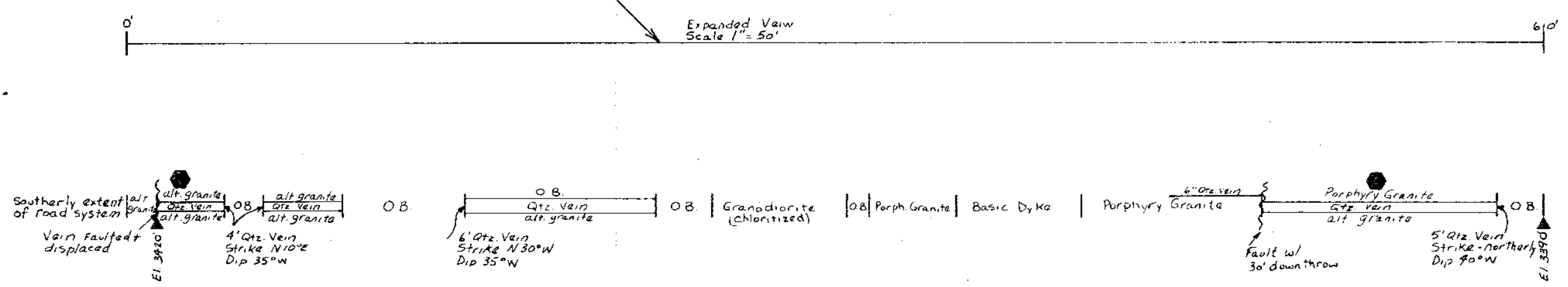
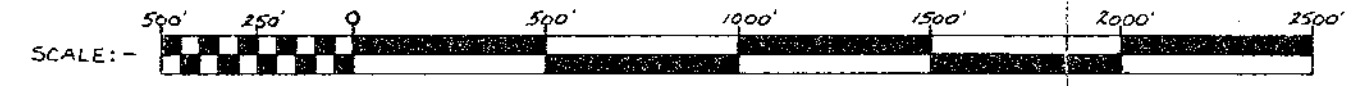
Analysis of Costs for 1973 - 74 Seasons:

| Description                | Man Days @ Rate Per Day        | Costs              |
|----------------------------|--------------------------------|--------------------|
| Hand cleaning trenches     | 3 Days @ \$ 50.00              | \$ 150.00          |
| Prospecting                | 18 " " 100.00                  | 1,800.00           |
| Report writing             | 4 " " 110.00                   | 440.00             |
| Map work                   | 2 " " 110.00                   | 220.00             |
| Airplane Costs             | 2 Trips - Kelowna - B S Claims | 150.00             |
| Food and Camp Costs        | 21 " " 10.00                   | 210.00             |
| Material, Typing, Printing |                                | 50.00              |
| Assays                     |                                | 140.00             |
| Maps                       |                                | 20.63              |
| Transportation Costs       | (5,600 Mi. @ 20c + Incl. Time) | 1,120.00           |
| Total                      |                                | <u>\$ 4,300.63</u> |



Department of  
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VERNON MINING REPORT  
NO. **4979** M.P. **#4**

**BS CLAIM GROUP  
CLAIM LOCATION &  
PROSPECTING MAP**  
VERNON MINING DIVISION, B.C.



**4979**  
**M4**