ARIS SUMMARY SHEET

District Geologist, Kamloops — Off Confidential: 92.08.19

ASSESSMENT REPORT 21805 — MINING DIVISION: Similkameen

PROPERTY:	Val				
LOCATION:	LAT	49 29 00	LONG	121 02 00	
	UTM	10	5482827	642450	
	NTS	092H06E			
CLAIM(S):	Val 5-6				
OPERATOR(S):	Mowry, B.R.				
AUTHOR(S):	Bysouth, G.D.				
REPORT YEAR:	1991, 54 Pages				
COMMODITIES SEARCHED FOR:	Gold				
KEYWORDS:	Cretaceous,Pasayten Group,Greenstones,Diorites,Granodirites Shear zones,Quartz-ankerite veins,Gold,Pyrite,Chalcopyrite				

WORK DONE: Geological,Geophysical

GEOL 4.4 ha
Map(s) - 2; Scale(s) - 1:200

MAGG 5.7 km
Map(s) - 1; Scale(s) - 1:5000

RELATED REPORTS: 13829,17865,19306,20470

MINFILE: 092HSW048,092HSW049,092HSW050

DETAILED GEOLOGICAL AND GROUND MAGNETOMETER REPORT

ON THE

VAL CLAIM GROUP

SIMILKAMEEN MINING DIVISION

92H6
(Latitude 49° 29', Longitude 121° 02')

OWNER AND OPERATOR
B.R. MOWRY
PRINCETON, B.C.

Author: G.D. Bysouth

Submitted: November 1991

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,805

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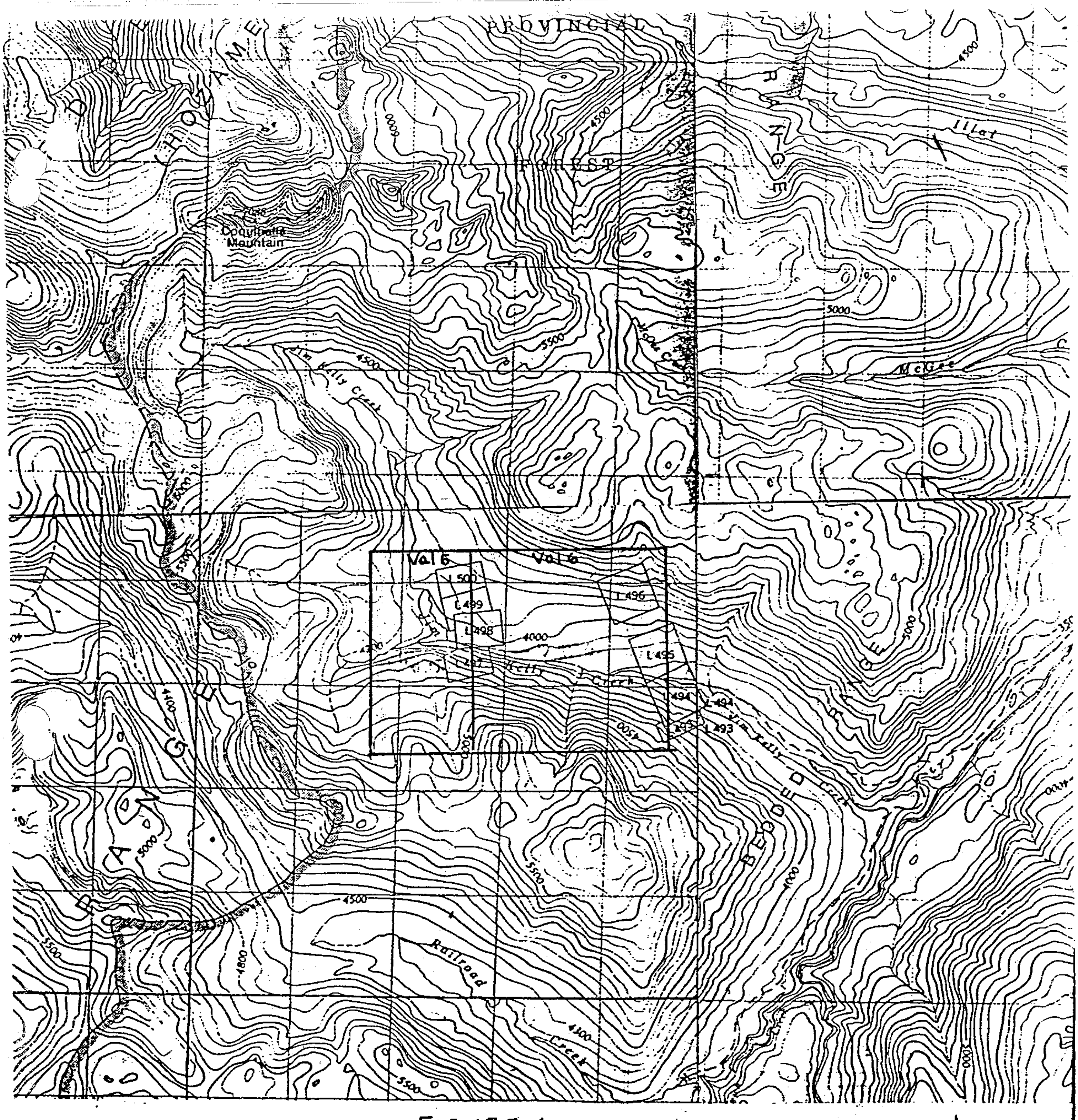


FIGURE 1

LOCATION MAP
VAL GROUP
SIMILKAMEEN M.D.

Scale 1:50,000 Échelle

Miles 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Mètres
Yards 1000 0 1000 2000 3000 4000 Verges

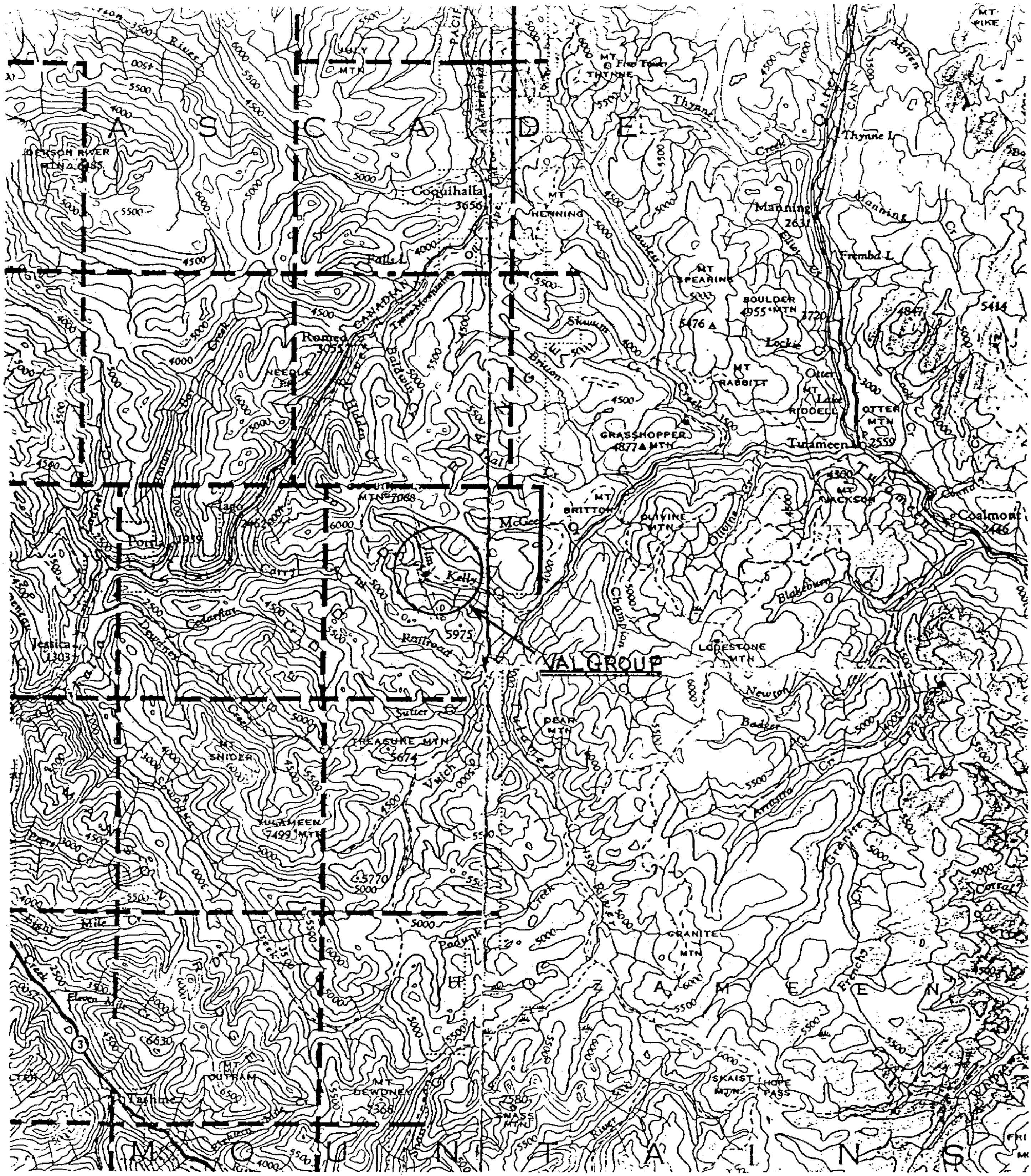


FIGURE 2

LOCATION MAP

VAL GROUP

Scale 1:250,000

0 5 10 Miles

0 5 10 15 Kilometers

North

1.0 INTRODUCTION

The Val Mineral Claim Group is a gold-silver property located in the valley of Jim Kelly Creek about 4.8 kilometers from the Tulameen River. The nearest settlement is Tulameen, B.C., which lies about 24 kilometers to the northwest. The general area can be reached from either Tulameen Village via the Tulameen River road, or from the Coquihalla Highway via inter-connecting logging roads. Access to the claims is provided by a bulldozed trail which leaves the Tulameen River road near the Jim Kelly Creek bridge and extends westerly up the creek valley.

The claims cover a number of old gold and silver prospects which were originally worked on near the turn of the century. Most important of these are the John Bull, Gold Mountain and Marks showings. The John Bull and Gold Mountain prospects have been described in the B.C. Minister of Mines Report for 1913. The Marks prospect does not appear in any of the previous literature.

This report covers a detailed geological mapping project and ground magnetometer survey completed during the period July 16 to August 18, 1991 on both the Val 5 and Val 6 Mineral Claims. The geological work was done on a scale of 1:200 and covered an area of 4,400 square meters. The magnetometer survey covered approximately 5680 line - meters.

2.0 MINERAL CLAIMS

Location and configuration of the Val Claims are shown in Figure 1. Claim details are as follows:

Claim Name	Record No.	No. Of Units	Anniversary Date
Val 5	2994	8	August 20
Val 6	2995	16	August 20

The Val Claims are owned by B.R. Mowry, of Princeton, B.C. The claims were staked in 1987.

3.0 PREVIOUS WORK

Jim Kelly Creek takes its name from an early prospector, James Kelly, who held claims in the area from 1896 to the time of his death in about 1923. The 1908 Minister of Mines Report also lists the well-known pioneers Robert Stevenson and Dan Ross as co-owners of the Kelly Creek properties.

The first detailed account of the area is given in the 1913 Minister of Mines Report[1] which provides descriptions of John Bull and Gold Mountain showings. The following information was taken from the 1913 report. The John Bull prospect was explored by a 20-foot open cut and an adjoining 25-foot tunnel which was driven along a quartz vein system mineralized with pyrite and chalcopyrite. A sample taken across 8-inches of mineralized quartz vein assayed .70 oz. per ton gold and .50 oz. per ton silver, while a picked sample returned 1.40 oz. per ton gold. The Gold Mountain prospect was explored by a 125 foot tunnel driven along a narrow quartz vein system mineralized with pyrite, chalcopyrite, galena, arsenopyrite and minor tetrahedrite. A sample across 10-inches of vein returned .02 oz. per ton gold and a trace of silver. A picked sample yielded .42 oz. per ton gold and 20.0 oz. per ton silver.

No account of the Marks prospect could be found. It had been explored by a tunnel approximately 9-meters long which was developed along a quartz vein system sparsely mineralized with chalcopyrite. A picked sample taken by the writer assayed .20 oz. per ton gold and 1.06 oz. per ton silver.

The next major amount of work done in the Jim Kelly Creek area is described in the 1966 Minister of Mines Report[3]. During this time, the west part of the area, now covered in part by the Val claims, was explored as a porphyry copper prospect by Bethex Explorations Limited. A large amount of bulldozing was done, followed by an I.P. survey and a 2832-foot diamond drill program.

During 1988 and 1989 the writer carried out a series of EM-16 geophysical surveys within the Val claims. A large significant westerly trending conductor was outlined along the Jim Kelly Creek valley between the Superior and Marks prospects. Details of this work is provided in geophysical assessment reports for 1988 and 1989[4].

In 1990 the writer mapped the geology of the general area encompassing the Gold Mountain, Marks and John Bull adits on a scale of 1:5000. A close relationship was established between faulting, alteration, acid dyke formation and gold-quartz mineralization. This work was outlined in an assessment report for 1990[4].

4.0 OBJECTIVE

The purpose of the 1991 detailed mapping project was to determine the geological controls of the gold-bearing quartz-pyrite vein systems exposed in the John Bull and Marks prospects in order to establish future targets for trenching and drilling.

The main objective of the ground magnetometer survey was to test the magnetic susceptability of the EM-16 anomalies outlined by previous work.

5.0 TOPOGRAPHY AND SURFICIAL GEOLOGY

As shown in Figure 2, the Val Claim block straddles the valley of Jim Kelly Creek. Maximum elevation is about 1700 m. Minimum elevation is about 1100 m. Within the claim block the creek trends westerly to the West Fork then abruptly swings to the northwest; both trends very likely reflect bedrock structure. The southside of the valley has been oversteepened, and is now subject to rock failures and avalanches. Bedrock exposures are very plentiful here and in the creek canyons below. Along the northside of the valley, above the rock canyons to about the 1300 m. level, the valley slope is very gentle, in places plateau-like, due to thick deposits of glacial material, and rock exposures are virtually nonexistant.

A thin layer of lodgement till covers most of the area and even appears along the steep southern slopes of the valley. Below the 1130 m. elevation, the bed of Jim Kelly Creek rests on the till. Above that elevation it appears entirely entrenched in bedrock. A thick deposit of glaciolacustrine sand, silt and clay overlies the till to about the 1260 m. elevation. Along the eastern edge of the property, the base of this deposit is a varved clay. In general, the lake deposits have greatly hindered the exploration of the Val property.

6.0 RESULTS OF THE GEOLOGICAL SURVEY

6.1 INTRODUCTION

This project involved the detailed geological mapping of the John Bull and Marks adit areas on a scale of 1:200. The location of the work is shown in Figure 3. Geological relations established by the mapping are shown in Figures 4 and 5. Field notes and binocular microscope data are appended.

A good elevation control was required for this work since both adit areas lie within the canyon-like topography of the Jim Kelly creek. Accordingly, the stadia method was adopted using a Wilde T1A Theodolite and conventional stadia rod. Key topographic and geologic features were surveyed and located in plan, then a topographic map was created in the field and adjusted according to observed field conditions. Survey notes and a compilation of survey data are provided in the Appendix.

It should be noted that the John Bull open cut and adit were originally mapped using a compass, chain and hand level for control. This work was later checked by transit and found to be sufficiently accurate to be incorporated within the survey map. In all geological mapping, the transit survey stations were used as basic control points from which geological features were located by chain and compass, and plotted directly on to the topographic map.

In both adit areas, the elevation of the survey base station was interpolated from a 1:50,000 scale topographic map. Elevations shown in the maps are therefore accurate in a relative sense, but only an approximation of actual heights above sealevel.

6.2 GREEN DIORITE

A hybrid greenstone-diorite rock is the host for the John Bull and Marks zones. This rock has been referred to as the Green Diorite in the 1990 mapping project, and is considered to underlie most of the valley bottom within the claim area. In outcrops, the Green Diorite resembles either an agmatite migmatite or a hybrid intrusive rock, such as would be formed by a process of magmatic stoping. That is, it is a two-component rock consisting of a dark green, fine grained greenstone phase and a green medium grained dioritic phase. The greenstone appears to be the dominant phase. Contacts are generally sharp or gradational over short widths, usually less than 5-cm., with no chilling effects apparent in the diorite. The greenstone appears to consist mainly of chloritized mafic minerals and saussaritized plagioclase. In places it is weakly banded by alternating laminae of light green saussarite and dark green chlorite. The diorite displays a fairly uniform composition averaging about 45% plagioclase and about 40% chloritized mafic minerals. Actinolite is probably also present, and quartz has been seen in some specimens. Hematite is a common accessory mineral. The diorite is essentially equigranular with grain sizes about 1-5 mm.

Both phases of the host rock have undergone various degrees of cataclastic deformation. The resulting rock fabric is generally sheared or crushed but lacks any obvious directional component except along the John Bull type quartz-carbonate vein systems. In most cases the open spaces caused by the deformation have been filled by rusty brown weathering carbonate, often in the form of stockworks.

6.3 FELSITE DYKES

Westerly trending felsite dykes are common throughout the lower canyons of Jim Kelly Creek. In both the John Bull and Marks zones, a major dyke lies along the major axis of brecciation and carbonate alteration, and has in turn undergone the same deformation and alteration. Typically, the dykes are fine grained to aphanitic and pale grey in color. Altered variations are generally soft, cream colored and readily recognized in outcrop by a rusty brown weathered surface. Most dykes appear equigranular but some varieties have tiny phenocrysts of quartz. The dominant constituent appears to be white feldspar which in altered zones seems to be variously changed to mixtures of iron carbonate, sericite and clay. These rocks do not fizz strongly in acid, and it is assumed the carbonate content is much less than that of adjacent altered dioritic host rocks. The dykes usually contain sparse disseminated pyrite, and in places, segregations of quartz-pyrite, quartz pyrite-chalcopyrite and quartz-hematite. The hematite often imparts a reddish hue to the rock.

In Marks zone, the felsite dyke lies along the bed of the creek, near the footwall of a large zone of deformation and alteration exposed in the steep south wall of the canyon. This dyke strikes at about 285° and dips 45° southerly. It is altered throughout to a soft buff to rusty brown weathering material, and forms sharp but irregular contacts with the dioritic host rock. Average thickness of the dyke is about 4 m.

The John Bull dyke lies along the south wall of the canyon and appears to be incorporated within a subparallel zone of brecciation and carbonate alteration also exposed along the canyon south wall. This dyke shows a lesser degree of alteration except at the western edge of the mapping, beyond station 22, where the rock has been altered to a soft, rusty brown weathering rock identical to that of the Marks zone. The John Bull dyke is about 2.5 m. thick and strikes at about 295°. Due to the brecciated nature of the contacts, the angle and direction of dip is uncertain. The dyke also has several northwest striking small conjugate dykes. These are quite irregular and often have been reduced to dyke segments by later shearing. The largest conjugate dyke lies about 10 m. west of the John Bull open cut and appears to follow a zone of quartz veining and carbonate alteration.

In general, the dykes do not appear to be as sheared, crushed and altered as the adjacent dioritic host rock.

6.4 MAJOR SHEAR ZONES

Geological mapping done in 1990 has revealed the presence of a large westerly striking shear system along the lower Jim Kelly Creek valley. Components of this system are exposed in both the Marks and John Bull zones. In both cases the deformation is marked by extreme brittle, or cataclastic, deformation accompanied by strong carbonate alteration.

In the Marks zone, the major axis of dislocation is defined by intense shattering of the host rock and subsequent development of strong carbonate stockworks. The general axis of this deformation strikes about 295° and dips 30-50° southerly. The width of the structure has not been determined but it appears to at least exceed 5 m. Bordering this structure are zones of lesser deformation in which the host rock still has an obvious crushed fabric but shows weaker stockwork development. The footwall of the structure is clearly exposed along the north rim of the stream cut as a competent, relatively unfractured and unaltered rock.

In the John Bull zone a strong zone of brecciation defines the central axis of dislocation which strikes at about 300-310° and dips 40-70° southerly. The breccia typically occurs as subangular dioritic fragments, about 1-3 cm. in diameter which are contained in a soft, dark green matrix consisting of granulated rock, clay gouge and carbonate. The breccia system is about 4.5 m. wide and bordered on both sides by zones of intense crushing and carbonate stockwork development similar to that of the Marks zone. In a footwall direction, the intense stockwork zone only extends about 1-5 m. and, like the Marks zone, the north rim of the creek is generally underlain by more competent and less altered rocks. The hanging wall of the breccia zone is clearly exposed along the south wall of the canyon but the extent of the adjacent intense stockwork development has not been determined. It does however, appear to extend over an apparent width of at least 10 m.

6.5 QUARTZ CARBONATE VEIN SYSTEMS

The best gold values obtained to date have been from quartz-carbonate vein systems which are associated wide zones of schistose wall rock. The quartz in all cases is milky white and occurs not only as major vein structures but also as fine laminae in the schistose wall rock. Carbonate occurs within the quartz as irregular segregations or as discontinuous envelopes along vein boundaries, and is considered to be contemporaneous with quartz. The carbonate generally weathers to a pale buff color except along vein contacts where orange-brown colors prevail. Dark grey chlorite is a common constituent of the vein material, either as ribbons within the veins, or as thin laminae along vein contacts. The schistose wall rock appears to consist mainly of crushed and foliated diorite or greenstone which has been variously altered to chlorite, sericite and iron carbonate. Major quartz-carbonate vein systems occur at both the John Bull and Marks zones, and had been the focus of earlier exploration work.

The John Bull vein system has been exposed by an 7.5 m. long open cut and an adjoining 7.0 m. long adit. As shown in Figure 4 the system consists of three major subparallel veins confined to a zone of schistose wall rock which is up to 10 m. wide. The most easterly of the three veins is exposed only along a portion of the trench near the adit entrance. It is up to .42 m. thick, strikes at 05° and dips westerly at 35°. The central vein extends the full length of the open cut but is not exposed within the adit. It has a strike of about 5-10°, dips westerly at 45° and attains a maximum thickness of .4 m. Both the central and eastern veins contain massive segregations of pyrite and show a well developed ribbon structure imparted by laminae of dark grey chlorite and by septa of altered wall rock. The wall rock septa consists of dark grey chlorite, a pea green talcose material, brown weathering carbonate and minor apple green mariposite, plus varying amounts of disseminated pyrite. This type of alteration is readily identified in the field and is used to identify certain vein systems as the John Bull-type. Rod-like striations and crenulations along the vein contacts suggest some component of the system plunges 40° to the northwest. The third, or mostwesterly vein extends the full length of both the open cut and adit. It has the same general strike as the central vein but dips at about 50° to the west. It is narrower than the other two veins and contains only minor disseminated pyrite. Near the adit entrance it breaks into numerous small subparallel branches which continue on to the end of the adit. None of these veins appear strongly mineralized, and it is not certain why the adit was driven along here rather than along the central vein. As shown in Figure 4, the John Bull vein system lies along the eastern or footwall side of the associated zone of schistose and altered host rocks. A minor quartz vein system also lies along the west side of this zone. The largest vein of the system is about .07 m. thick, strikes about 335° and dips westerly at 50°. It has the same mineralogy as the John Bull veins except that it is only sparsely mineralized with disseminated pyrite. Lineations and crenulations along the vein walls show a plunge of 30° at approximately 310°. The schistose alteration zone hosting these vein systems is not strongly foliated. The strongest foliation planes seem to strike about 350° and dip westerly at 60°. Specimens of the zone examined by binocular microscope showed a strongly crushed, weakly foliated texture consisting of clay altered feldspar, dark green chlorite, minor sericite and randomly dispersed nodes and laminae of rusty weathering carbonate.

A minor quartz-carbonate vein system occurs about 10 m. west of the John Bull open cut. It consists of similar sheared and altered rock but the vein structure is limited to numerous sub-parallel veinlets with minor disseminated pyrite and hematite. As mentioned in the previous section, this zone also hosts small felsite dykes and dyke segments. It appears to have a distinct topographic expression as shown by the small abrupt re-entrant east of survey station 19B.

In the Marks zone, an adit was driven along a system of quartz lenses for a distance of about 9 m. Some north trending zones of foliation were noted but it is not clear whether or not this was associated with the quartz deposition. The quartz is milky white and weakly ribboned by dark chloritic material. In places, it also carries coarse chalcopyrite. The long axes of the quartz lenses appear to trend northerly, but in sectional view, lenses form a discontinous curved, or antiform structure along the roof of the adit with the westerly limb extending to the adit floor at a dip of about 45° west. At the adit entrance a John Bull-type shear zone is prominently exposed which strikes at about 270° and dips northerly at 40°. It is readily identified by foliation planes consisting of dark green and grey chlorite, a pea green talcose mineral and rusty weathering carbonate. Quartz occurs throughout the system as nodes and lenses aligned along the foliation planes. The quartz is similar to that of the adit but is commonly mineralized with chalcopyrite, pyrite and hematite. Bornite was also seen in some specimens. The largest lense encountered was .30 m. thick but most are much smaller. The geology here is quite complex since the north dipping John Bull-type system lies along the major axis of the south dipping carbonate altered shear zone described in the previous section. The evidence to date suggests further that the John Bull-type system has been dislocated by later shearing along the south dipping shear zone and now consists of ruptured segments dispersed along the south wall of the canyon. Large quartz lenses, mineralized by minor chalcopyrite and hematite, are exposed on the canyon wall at the eastern edge of the mapped area and may also be part of the north-dipping system. Other vein systems have been mapped along the north wall of the creek. These are only minor systems and are neither extensive nor well mineralized.

6.6 INTERPRETATION

The dominant structure in both the John Bull and Marks zones is the south dipping system of cataclastic deformation, felsite dyke intrusion and carbonate alteration. These events were probably related to the same tectonic event during which the carbonate alteration was preceded by structural deformation and dyke intrusion. The relationship between this episode and the formation of the quartz carbonate vein systems has not been established. The two events could have been contemporaneous since there is neither a large difference in structoral style nor alteration pattern, nor is there any significant difference in mineralization.

This study provides a framework from which to compare known assay data. Clearly, the best gold values are obtained from quartz vein systems which are associated with strong sulfide mineralization, and are enclosed in broad zones of foliated altered rock. The assemblage of quartz veins, mineralization and altered rock has been referred to in this report, and the preceding report, as a John Bull-type system. It is best displayed in the vicinity of the John Bull adit. Here, the total system is about 10 m. wide, strikes at 350° and dips at 50° westerly. The quartz veins contained within the system are interpreted to be dilation structures and may or may not reflect the true attitude of the system. That is, individual veins would be expected to be more irregular than planer, possibly with pinch and swell characteristics, or lense-like with the long axes plunging to the northwest. In other words, the exploration target for this type of system is the total system and not any specific vein within it.

The John Bull-type system exposed in the Marks zone could not be completely delineated. The only exposure of the system is a broadside view of the footwall which indicates a strike of about 270° and a dip of about 40° north. The thickness remains unknown. Thelarge quartz lenses exposed in the adit and along the canyon wall to the east are interpreted to be dilation structures lying at a large angle to the axis of the system. Quartz structures lying concordant to the system are confined to nodes and small lenses. There is, however, a distinct possibility of large concordant quartz veins occuring within the hanging wall and central portions of the system, which would not be revealed by the present exposure. This, of course, is an intriguing possibility since all the quartz-sulfide material assayed to date from this system has been gold bearing.

7.0 GROUND MAGNETOMETER SURVEY

7.1 INSTRUMENTATION

A Geometrics Proton Magnetometer, Model G816, was used in this survey. The instrument provides an absolute 1.0 gamma measurement of the earth's total field intensity and does not require leveling, calibration or temperature compensation. Each measurement is displayed on a 5-digit illuminated readout directly in gammas. A backpack sensor was used in this survey.

7.2 FIELD PROCEDURES

The magnetometer survey was conducted by John Chapman, P. Eng., and Barry Mowry during August 15 and August 16. The major part of the survey was done over the former EM-16 grid and involved readings being taken at 25 m. intervals along north trending lines spaced 100 m. apart. For data processing purposes, 500 m. was added to the northings and 2500 m. added to the eastings of the old grid. A road which cuts across the grid has been used as a magnetic baseline: that is, at the beginning of survey, readings were taken at the road-gridline intercepts to determine the magnitude of diurnal changes. Another part of the survey involved taking readings at 25 m. intervals along a bulldozed trail in the vicinity of the Marks and John Bull prospects. This was mainly a quick reconnaissance survey to determine if any large magnetic gradients existed within the general area.

7.3 RESULTS AND INTERPRETATION

The location of magnetic readings obtained in this survey are provided in Figure 3. A table of magnetic readings with grid co-ordinates, reading times and closure readings is provided in the Appendix.

The main objective of this survey was to determine the magnetic properties of EM-16 anomalies outlined by previous work. In this regard, the results were disappointing. None of the anomalies showed any magnetic expression, and in general the results throughout the area were magnetically flat.

It should be noted that some precision was lost in this survey since both the 15th and 16th of August were days of geomagnetically unsettled conditions. Heavy rains near the completion of the August 16th traverse also caused some instrument problems and prevented an important closure from being achieved. For these reasons no effort has been made to correct the survey by closure adjustment. Since only obvious magnetic anomalies were being sought, this lack of precision is quite insignificant.

8.0 STATEMENT OF EXPENDITURES

8.1 GEOLOGICAL SURVEY

1. Field Work

   G. Bysouth (geological mapping)
   July 16 . . . . 10 hours
   August 15 . . . 10 "
   August 16 . . . 10 "
   August 17 . . . 10 "
   August 18 . . . 10 "
   Total 50 hours @ $28/hr — $1400.00

   G. Kurz (chain, compass, level work)
   July 16 . . . . 10 hours
   Total 10 hours @ $15/hr — $ 150.00

   B.T. Mowry (surveying, map making)
   August 15 . . . 10 hours
   August 16 . . . 10 hours
   August 17 . . . 10 hours
   August 18 . . . 10 hours
   Total 40 hours @ $18/hr — $ 720.00

2. Report Writing
   G. Bysouth
   30 hours @ $28/hr — $ 840.00

3. Vehicle
   1989 4x4, 5 days @ $20.00 — $ 100.00

4. Camp Costs
   5 days @ $35/day — $ 175.00

5. Binocular Microscope Work
   G. Bysouth
   8 hours @ $28/hr — $ 224.00

6. Equipment and Supplies — $ 41.00

Total Cost $3650.00

8.2 MAGNETOMETER SURVEY

1.	Field Work	John Chapman P. Eng. August 15 and 16 @ $300/day	$ 600.00
		B.R. Mowry August 15 . . . 10 hours August 16 . . . 10 hours 20 hours @ $12/hr	$ 240.00
2.	Data Compilation	John Chapman 1/2 day @ $300/day	$ 150.00
3.	Camp Costs	2 days @ $35/day	$ 70.00
4.	Travel Costs	John Chapman August 14, August 17	$ 140.00
		Total	$1200.00

10.0 CONCLUSIONS

A program of trenching and sampling of the major John Bull-type systems should be implemented. Emphasis should be placed on the total system rather than any specific vein.

Neither the EM-16 anomalies nor any other zone has shown a recognizable magnetic expression. Further magnetic surveying is probably not feasible.

Garry D. Bysouth
Geologist

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Garry D. Bysouth, of Williams Lake, British Columbia, do certify that:

1. I am a geologist.
2. I am a graduate of the University of British Columbia, with a B.Sc. degree in Geology in 1966.
3. From 1966 to the present I have been engaged in mining and exploration geology in British Columbia.
4. I personally did the geological field work contained in this report and interpreted the results.

Garry D. Bysouth

APPENDIX B

STATEMENT OF QUALIFICATIONS

I, Brian T. Mowry, of Nanaimo, B.C., do certify that:

1. I am a Civil Engineering Technologist.
2. I am a graduate of the B.C. Institute of Technology in 1989 with a degree in Civil Engineering Technology, and from 1989 to the present I have been engaged in the practice of civil engineering.
3. I personally did all the topographic surveying contained in this report using a Wilde T14 Theodolite.

Brian T. Mowry

APPENDIX C

STATEMENT OF QUALIFICATIONS

I, John A. Chapman of Surrey, B.C. do certify that:

1. I am a Mining Engineer.
2. I am a graduate of the B.C. Institute of Technology in Mining Technology in 1967.
3. I am a graduate of the Colorado School of Mines with a degree in Mining Engineering in 1979.
4. I am a Professional Engineer registered in the Province of B.C. since 1973.
5. I have practised my profession continuously since 1973 in Canada, United States and Philippines.
6. I personally conducted the magnetometer survey contained in this report and interpreted the results.

John A. Chapman

APPENDIX D

REFERENCES

(1) B.C. Minister of Mines, Annual Report, 1913, pp 232-233.

(2) Cairnes, C.E., 1924, Coquihalla Area B.C., Geol. Survey of Can. Mem. 139.

(3) B.C. Minister of Mines, Annual Report, 1966, pp 174.

(4) Bysouth, G.D., 1988, E.M. 16 Survey on the Val Group (Assessment Report).

(5) Bysouth, G.D., 1989, E.M. 16 Survey on the Val Group (Assessment Report).

(6) Bysouth, G.D., 1990, Geological Survey on the Val Group (Assessment Report).

(1)

July 16 Mapping John Bull adit
- control: chain, compass & hand level
- starting point @ ∅ @ s. end of J.B. open cut ~ 30 cm N. of w.L.
All mapping projected to the floor of the open cut/adit. Stn ∅ @ ∅ elev.

Stn ∅ .3m W: qtz vein .7cm app. width strike 310°/30° sw - seams of py ~20% - main J.B. vein - minor carb
.5m W: qtz vein, barren, 3cm wide, strike 310°/30° sw
.8m W. shear planes shown by devl of chl. and yellowish mica (ser?) ~10 cm wide strike 310°/30° sw
~1.0m W vert. wall of open cut also jointing and shears 320°/45 sw.
Stn 0-1 3m N. of point ∅
0w qtz vein - 20cm app. width strike ~350-0/40° sw - ribboned with chl-ser-mariposite septa ~20-50% py in clots, lenses and irreg. seg.'s - same vein as at ∅ (7cm wide)
.3m.W Vert. wall of open cut - second vein in wall

(2)

July 16 Mapping John Bull adit
Stn 1 : this point lies 5.8m N. of point ∅ at an elevation of 1.65 m.
.4 m W. Vert. wall of open cut
.1 m W. zone mod. shearing from 1.0w to 0w and qtz vein strike ~0-350°/50 NW
0m W qtz vein, .2m wide and branching towards N.; minor carb; ~10-1% diss. py. strike 350°/50 sw; this vein extends along floor and face of adit as many small veins due to branching
.49m W hanging wall edge of main vein avg. .2m wide but extends up to .4m wide in places - appears lensoid, well-ribboned with septa of green chlorite, yellowish sericite and minor apple green mariposite; 30-60% py gen. as massive seg.'s but also dissem. in sheared wall rx.; strike 5°/45° sw

Page 2 July 16 : Mapping John Boll adit

Stn 1 (cont'd)	.69 w to 1.4 m W	- sheared zone ; complex but overall trends are 330°/55 SW ; mainly planes of green chl. and yellowish ser. - closely spaced + minor qtz-carb veins and dissem py.
	1.4 m W	third qtz vein ; .12 m wide, ribboned as above with 30-50% py as coarse seg's. ; strike 0°/35° SW This vein extends up the E wall of open cut — see field mapping plan.
	∴	these two large veins and the intervening shearing indicate a plunge to shearing and min. That is, the py segs and the axial planes of fold crenis along shears indicate a plunge of 35°-40° to the N.W. at ~320°.

July 16, 1991 Mapping - John Boll adit

General Obs. : the J.B. system consists of three main veins, and numerous veins and veinlets too small to be mapped. The quartz is milky-white. Most of the qtz is marked by dark ribbons - mainly dk green chl. but also yellow sericite and apple-green mariposite. The ribbons are often slickensided or sheared. Carbonate also occurs with qtz - weathers to a pale yellowish grey and is prob not iron-bearing - carb. in the wall rx does appear to be iron-rich - poss. ankerite. The carb. occurs as patches with the qtz. and is likely contemporaneous with qtz. Sulfides consist mainly of whitish py with minor inclusions of cp. Py is most abundant in the open cut near the adit entrance where it may form up to 60% of the vein matter. The diorite wall rx is variously sheared and altered to green chlorite, buff weathering carbonate, and minor yellowish sericite. Jointing is not common nor well developed.

(2)

Aug 18/91 - Mapping John Bull area.

Stn 23 (cont'd) – gen. weak buff weathering, shearing consists of numerous foliation planes along which the rx appears granulated and often alt'd to chl + minor ser. The overall trend of shearing is ≈ 330°/70 S or subpar. with the cream-col. alt'n zone.

(4) the fourth rx type is a relatively unalt'd dioritic migmatite? consisting of med grn diorite (minor) and fine grn dark green greenstone in a chaotic mix. The diorite consists of anhedral grns of white spar and clots of dk green chl. in approx equal proportion plus minor ep and or actinolite – some specimens are noticeably saussurit. This rx is not strongly sheared and doesn't contain carb. stkwks. it is however weakly carb alt'd and cut by numerous orange weath. qtz-carb veins and veinlets

(1)

Aug 18 - Mapping John Bull area.

Mapping done from transit survey stns. using compass and chain:

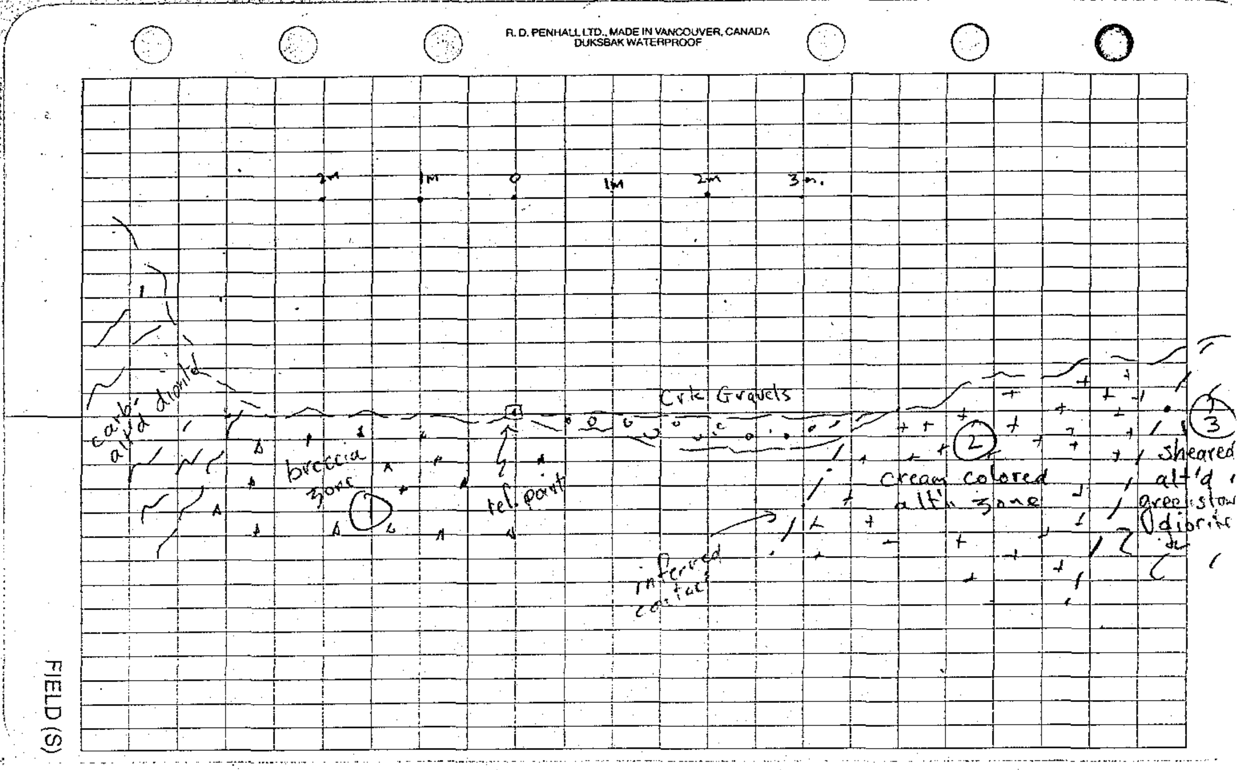
Stn 23. four rx types are present –

(1) a soft, green, orange weathering, carb-healed, breccia zone consisting of ang. – sub rounded dioritic frag's, generally 1-5 cm dia in a crushed or granulated matrix – trend of shearing 310°/80 SW. The bx clearly zones to S, to a highly frac. greenstone with int. qtz-carb stkwks: carb in all cases appears Fe-bearing – poss. ankerite

(2) a buff weathering, cream-colored, fine grn alt'n zone prob. carb-ab-ser-qtz assemblage. qtz is not readily abundant – alt'd white spar forms most of rx. – contact with the bx is not exposed – contact with (3) appears grad. The alt'n zone is not strongly sheared or deformed; contact ≈330/70 SW

(3) sheared alt'd greenstone – weak orange weathering qtz-carb stkwks.

over


R. D. PENHALL LTD., MADE IN VANCOUVER, CANADA
DUKSBAK WATERPROOF
2m
1m
0
1m
2m
3m.
carb' alt'd diorite
breccia zone
ref. point
Crk Gravels
cream colored alt'n zone
inferred contact
sheared alt'd greenstone diorite
FIELD (S)

Page 31

(3)

Aug 18/91 - Mapping John Bull area

Stn 23. Sec. constructed – see sketch – ~~pa~~ mid point of sec. 296° and ~~8~~ 7.0m from stn 23.

Stn 22 ~1m S – contact between bx (1) and leucocratic dyke – fine grn to aphan. sl sugary texture, scattered qtz pheno's (~1m-2m): brittle, shattered diff to get a fresh sample – avg trend of contact is 295°, dip uncertain.: dyke extents along crk bed to cream colored alt'n zone and also extends along scarp to stn 21

Stn 21 – 1.2m S. of 21 lies faulted contact between alaskite dyke and alt'd diorite-greenstone (3) – fault zone bx + gg ~ ~~4~~.3 m. wide striking 310°/70 SW.

– 5 M. E of 21 → smaller fault zone @ 290°/80SW which may sep. (3) and rx type (4) to the N.E.

– small <.5 m. wide alaskite dykes also occur, faulted and displaced,

(4)

Aug 18/91 Mapping – John Bull area

Stn 21 Cont'd. but appear to trend N.E. across crk (sketch on topo map.)

Stn. 20 + 19C mainly rx type (4) – gen. solid wk'ly sheared outcp of diorite-greenstone migmatite – 6.35 m E of stn 20 → qtz-carb vein system – veins 2 to 5 cm wide – orange weathering . strike ~310/80 SW.

Stn 19B. rx type (4) but also large alaskite dyke on point 2.60 m. @ 45° ~.5 – 1m wide – N.E contact 330°/40° SW.

Stn 8 rx type (4) – qtz-carb vein system @ ~310/80 SW – same as that of stn 20, but also vein-shear zone ~ .25m. wide @ 338/40 SW – qtz-carb vein in chloritic shear envelope extending to 19C and 19B – prob. responsible for topo illustrated by 19C and 19B.

Stn 7 rx type (4) ~ .75m W hanging wall of large shear-alt'n zone with numerous subpar. qtz-carb veinlets – shear zone 2m wide, 345/40 SW, shearing

plotted →

carb. alt'n, alaskite dykes and dyke segments

Aug 18/91 cont'd.: John Bull area

Stn 18 along footwall of strong shear zone in type (3) host rx. - trend 335°/50W, ~1.7m wide, central qtz-carb vein system up to 7 cm wide, shearing evident by the planar development of green chl, yellowish sericite and apple green mariposite ~1.0% dissem py — a J.B. type shear zone; this system and the adit system intersect at the deep pool → cause of deep pool. ∴ lineations and crenulations show a plunge of ~20-30° at a direction of 310° along shear planes.

Stn 17 shearing along the w. wall of adit strikes ~310°/60W.

(5)

Aug 18/91 cont'd

Stn 6 - rx type 4: Joint patterns 10°/vert, 355°/60 N.

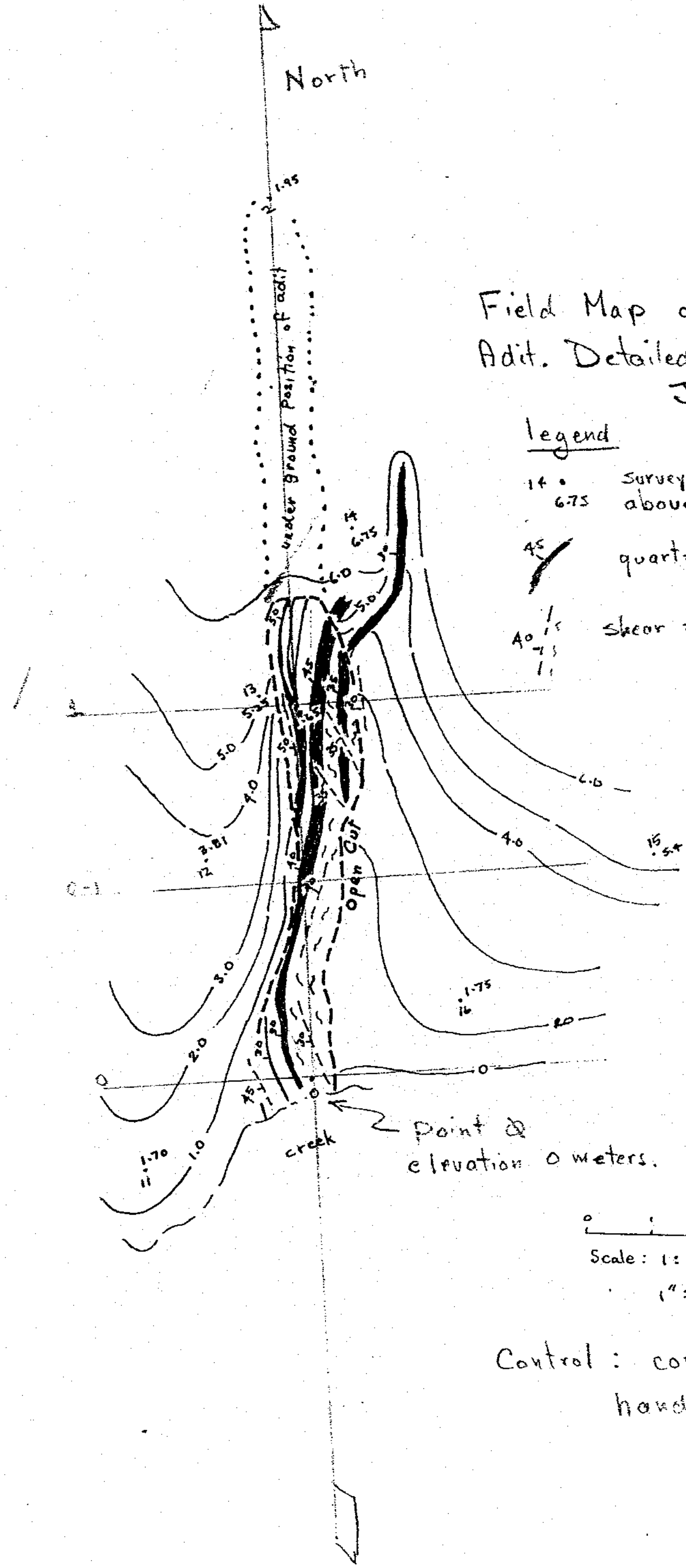
Stn 4 - dark green breccia - dioritic frags - sub rounded to angular up to 5 cm dia in a soft dk green matrix - some carb.

Stn 3 - dark green breccia as above plus fault ~1.5 m wide (gs + bx) 342°/70 NE

Stn 1+2 - same bx zone but also includes bx alaskite → sharp angular alaskite frags, up to 1.5 cm wide in a granulated, carbonate cemented matrix.

Stn 15 - rx type 4: solid massive greenstone cut by numerous orange weathering qtz-carb veinlets - trends N, NW, NE

Stn 17 - rx type 3?: gen. sheared with numerous chl.-shear planes and high fractured - ie diff to get a fresh fist-sized sample - most shearing trends ~350-355/60-70 SW. - strong qtz-carb stwk is not present



Field Map of John Bull
Adit. Detailed Mapping
July 16, 1991

legend

14 • 6.75 survey point and meters above point ⊗

45 quarts vein

40 shear zone and sub par. shearing

point ⊗ elevation 0 meters.

0 1 2 3 4 5 meters

Scale: 1:100

1" ≈ 8.0'

Control: compass, chain and hand level.

Stn. Geology - Marks. Aug 17/91

M-1 "flat" zone of intense qtz-carb alt'n (pale grey to white) lying along base of cliffs at crk level. Zone is at least 3m wide; rx above zone is a dark to med. green fine grn rx laced by qtz-carb veinlets approaching a stockworks. The contact between the two is readily seen by the weathering surface — the intense white alt'n weathers a orange brown. the above green zone appears mainly dark grey with minor brown weathering (symbols; lc = white alt'n, gc = green alt) Contact between the two is a g.g.y shear zone in lc which strikes 210° @ 15° E dip. (x-section)

M-3 major shear zone 270°/30s to 280°/35 (x-section) containing 1-2" qtz (hem) veins parallel and conjugate to the shear planes. the gc rx above the shear is not sheared but shattered - it is diff. to obtain a fresh sample over 3" dia as the rx breaks on weathered surfaces — rx contains

Aug 17/91 Geol. — Marks Adit

M-3 (cont'd) qtz-carb stockwork veinlets - large dilation zones occur above the shear mineralized with qtz (cp) (hem) - qtz. veins up to 2' thick — in places ribboned by some dark material poss chl + ground sulfides.

M-6 same shear zone but poorly exposed below rubble - conjugate shear zones @ 280°/45N occur here which are curved - see plan.

M-10 north wall of crk → foot wall of shear zone clearly showing irreg. contact between lc and gc - lc here has a reddish hue (hem?) of fresh surfaces lc is not highly frac. nor is gc which is weakly laced by orange weathering qtz-carb veinlets.

M-13 Secondary shear planes along footwall; 320°/40SW, 330°/40SW, 330°/50 SW, 320°/45SW - mineralized by qtz-carb - are these J.B. cross-linking veins (ie gash or shear related to major E-W zone.

M-17 same geology as M-13 + M10 - a J.B. shear zone @ 340°/20 SW - foot wall shear plane @ 270°/30°S. rx remains "solid" relative to S. side of crk.

M-19 good exposure of footwall shear planes: 285/20S, 290/20S, 290/50S 290/45°S and a conjugate @ 260/20 S; the l.c. zone lies in the crk bed - the q.c. zone here appears thin - most of the exposed rx is a recognizable diorite ~ med grn, equigranular, 50-50 chl. and plag. - The plag in places is reddish.

M-34 ① l.c. zone is exposed @ crk level, approx attitude 280-290°/45°S; the shear zone is poss. steeping up which may explain the lack of q.c. at M-19 (i.e. narrower apparent width)

② conjugate shear zone @ 270°/40 N - chl, ser and yellowish green mica along shear planes similar to that of the J.B adit, plus nodes and lenses of ribboned qt3(cp)(py) - ribbons are dk grey material -

M-34 cont'd ③ a curving fault zone dipping steeply south may cut off the Marks adit vein - see working plans.

M-28 Marks Adit: entrance lies ~ 5' south of M-28 stn.; the conjugate shear zone describe in M-34 lies along the adit entrance and host 2-12" qtz-lenses. - shear zone strikes 260°/50°N - lineations defined by the shear planes plunge 35° toward the N.W. (~35-45°). The veins within the adit are confined to northerly shear plane - tend to be lensoid - up to 2' dia - are weakly ribboned and in places mineralized with cp. The veins strike northerly and dip in such a way as to form curves. (see X sec.) - steepest dip is ~45° W.

Geol. Marks Adit.

M-25 to M-26 mainly along the dip face of the conjugate shear zone - green chl. and yellow green mica along shear planes ident. this system (similar to that of the J.B. adit) - numerous lenses and clots of qtz (cp)(py)(hem) attitude ~ 280°/40°N

M-#26 the high fractured g.d. is exposed north of the conj. shear zone as the canyon wall swings to the N.W. from a prevailing westerly trend. A l.c. zone occurs @ ~ crk level. The shear zone appears either narrow or steeper or bends to the south in this area. - gen. attitudes taken suggest both a southern swing and steeper dips - attitudes 270°/50S 290°/60S

M-35 (~~28~~) to M-44 (~~to~~) a mixed assemblage of med grn diorite and fine grn green dense rx. The diorite consists of ~50:50 chl (+actinolite) and reddish plag. The fine grn. material shows a rel. sharp contact with the diorite

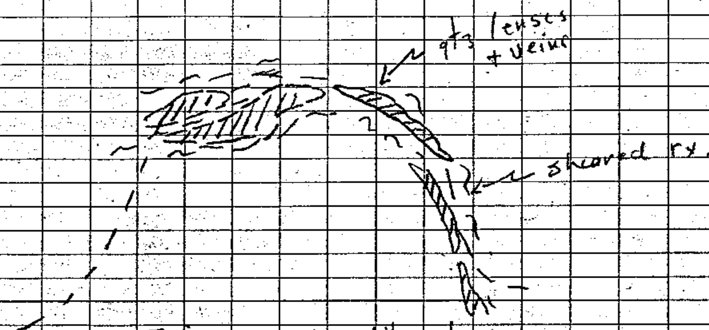
over.

Geol. Marks Adit

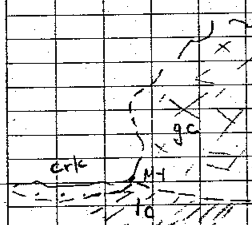
M-35 to M-44 cont'd and in places is banded by streaks of ep.-rich material. The fine grn phase appears to occur as large blocks within the diorite but greatly predom. in abundance - the otcps to the north are all of fine grn rx.

These rx appear less alt'd and deformed than the g.d. phase which occurs here @ creek level and may mark the "unaltered" footwall of the system.

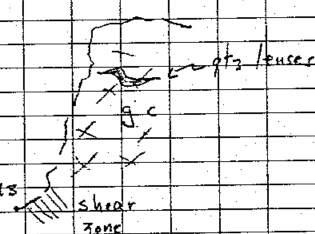
Contact with the alt'd rx strikes a ~ 290°. Shear planes within the alt'd rx are ~ 290°/80S - linking qtz-carb filled shear zones strike ~ 345/70S



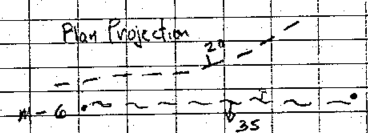
Facing S and adit entrance



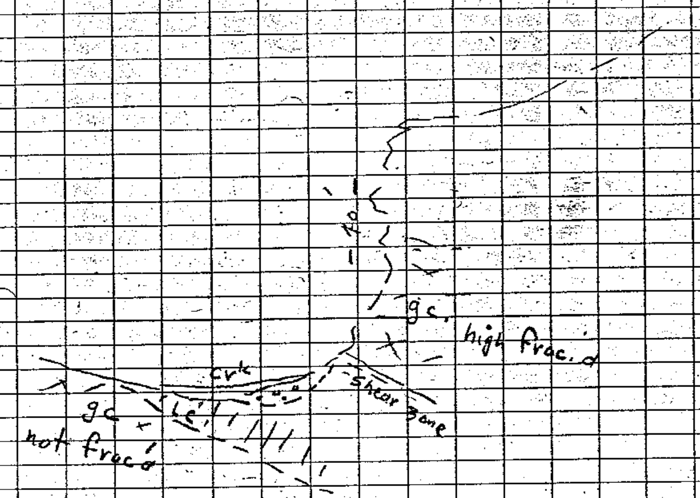
looking E



looking E



R. D. PENHALL LTD., MADE IN VANCOUVER, CANADA
DUKSBAK WATERPROOF



FIELD (S)

AUG 15

⊼ = WILD TIA #142122
STADIA JOHN BULL ADIT
FEET DECIMAL

SUNNY HUMID
+20° → 25°

VERT = 90°
180°

⊼ B Mowry
Ḇ G Bysouth

ELEV @ STA = 3900' + 20'
Above adit L/S ~ 20' ABOVE CK.

⊼ set @ 00.0000 @ South
tree left "A"

STA	HI	UH	MH	LH	HCR	VCR	HD	V	ELEV	
"A" = JB	55 3/8"	= 4.61'								
#1 "JB"		3.42	2.74	2.05	333.5800	99.4620	133.05'	-22.9	3899.0	L/S CREEK BANK
#2		4.70	4.05	3.44	343.4920	99.4550	122.38'	-21.0	3899.5	" " "
#3		6.96	6.44	5.93	352.2300	100.4800	99.38'	-19.0	3899.2	" " "
#4		6.44	5.95	5.53	07.0400	100.0040	88.25	-15.6	3903.1	" IN ROCK "
#5		3.55	3.15	2.78	18.3100	107.0400	70.37	-21.6	3899.8	ON LOG
#6		1.53	1.27	1.01	26.3520	107.0420	47.52	-14.6	3908.7	ALL CLOSE TO WATER LEVEL
		ON ROCK ~ 8-10' ABOVE H_2O								
#7		2.89	2.65	2.40	49.3720	114.1820	40.70	-18.4	3903.6	@ CK LEVEL L/S
#8		4.33	4.02	3.73	74.2840	104.4440	56.11	-14.8	3905.8	" " "
#9		2.36	2.04	1.73	62.4940	84.4600	62.48	5.7	3928.3	TOP ROCK FACE L/S
#10		3.18	2.79	2.36	33.0040	90.2150	82.00	-0.5	3921.3	UP HILL L/S
#11		5.04	4.51	3.99	13.1740	88.5740	104.96	1.9	3922.0	" " "
#12		5.23	4.61	3.999	01.3000	86.3640	122.67	7.3	3927.3	CK " "
#13		7.35	7.08	6.80	340.1450	106.3550	50.51	-15.0	3902.5	CK LEVEL R/S
#14		11.25	11.06	10.98	357.2320	116.1840	21.70	-10.7	3902.8	MOUTH @ CK JB ADIT R/S
#15		1.95	1.67	1.39	318.5420	97.4220	54.99	-7.4	3915.5	ABOVE #13
15A		3.26	3.13	3.01	278.1700	80.2400 9.36	24.30	4.1	3925.6	TOP TRENCH R/S
15B		9.09	9.00	8.90	270.1840	81.3600 8.24	18.59	2.7	3918.4	BOT " "

CONT AUG 15
JB

STA	HI	UH	MH	LH	HCR	VCR	HD	V	ELEV	
JB#16	55 3/8"	11.05	11.00	10.95	278.1520	134.5120	5.02	-5.0	3908.6	MOUTH ADIT
16A		3.09	3.00	2.91	221.1530	66.0320	15.04	6.7	3928.3	LIP TRENCH L/S
16B		4.07	3.99	3.90	161.2100	(23.5640) 65.3700 (24.23)	14.10	6.4	3927.0	TRAIL ABOVE ADIT
#17		5.09	5.00	4.92	16.1420	109.3720	15.08	-5.4	3914.2	ABOVE MOUTH ADIT R/S
										CK R/S
#18		8.16	8.00	7.83	39.1920	115.5020	26.73	-12.9	3903.7	CK R/S
#19		7.19	7.00	6.81	86.4300	110.4920	33.20	-12.6	3905.0	" "
#19A		11.21	11.00	10.79	106.5000	102.3700	40.00	-9.0	3904.6	" "
19B		6.35	6.00	5.65	102.1800	102.2340	66.78	-14.7	3903.9	" "
19C		6.33	6.00	5.67	93.4400	102.3000	62.91	-13.9	3904.7	" "
#20		5.47	5.00	4.53	89.4900	92.3240	93.81	-4.2	3915.4	CK R/S TOP/FALLS
#21		3.58	3.00	2.43	81.0020	92.3300	114.77	-5.1	3916.5	CK L/S TOP/FALLS
21A		1.50	1.00	0.50	81.5040	94.5640	99.26	-8.6	3915.0	" " " "
#22		4.79	4.00	3.21	86.5740	91.1420	157.93	-3.4	3917.2	" " " "
#23		4.00	3.00	2.00	91.3540	91.0400	199.93	-3.7	3917.9	" " "
23A		10.30	10.00	9.70	133.1030	82.3940	59.02	7.6	3922.2	UP BANK CK R/S
B		6.15	6.0	5.84	222.2120	(7.202) 60.2940	23.48	13.3	3921.9	RD ABOVE ADIT
C		5.20	5.0	4.79	262.2220	(29.302) 77.2140	39.04	8.8	3928.4	" "
D		5.31	5.0	4.69	275.4740	(12.982) 73.1800	56.88	17.1	3936.7	" "
E		2.35	2.0	1.67	315.4120	(16.42) 88.5140	67.97	1.4	3924.0	ON RIDGE
F		6.35	6.0	5.67	323.4640	(1.082) 92.3840	67.86	-3.1	3915.5	"
G		6.39	6.0	5.58	339.0440	100.3830	78.24	-14.7	3903.9	RIDGE @ CK R/S
H		5.51	5.0	4.48	337.4800	101.4200	98.76	-20.4	3899.2	CK LEVE R/S

AUG 16 MARK'S ADIT

⊼ @ 00°-00-00 SET TO WEST

SUNNY +15→25°

CK @ BOT OF ROCK FACE L/S ⤳ 100-300' HIGH

STA	HI	UH	MH	LH	HCR	VCR	HD	V	ELEV	
	⊼ @	40" FROM R/S CK = STA M'								
HI =	68.0" = M' ELEV = 3800'									
M#1	5.7'	7.79	7.00	6.22	188.3730	90.2820	156.99	-1.3	3797.4	L/S CK @ EDGE
#2		7.73	7.00	6.27	193.2040	90.3740	145.98	-1.6	3797.1	AWAY FROM
#3		3.77	3.00	2.23	196.3440	90.4820	153.97	-2.2	3800.5	EDGE OF CK
#4		3.78	3.00	2.21	193.4020	90.5320	156.96	-2.4	3800.3	
5		6.63	6.00	5.36	196.1800	90.5420	126.97	-2.0	3797.7	EDGE @ CK
6		4.61	4.00	3.38	199.2600	90.4320	122.98	-1.6	3800.1	10' AWAY/EDGE @ ROCK FACE
7		6.47	6.00	5.52	202.1620	90.5820	94.97	-1.6	3798.1	5' " "
8		10.61	10.00	9.40	187.2400	89.1500	120.98	1.6	3797.2	R/S CK @ EDGE
9		9.40	9.00	8.61	188.3420	89.0000	78.98	1.4	3798.1	" " "
#10		8.33	8.00	7.67	193.3940	88.3740	65.96	1.6	3799.3	" " "
#11		3.29	3.00	2.72	197.2700	94.1520	56.69	-4.2	3798.5	" " "
#12		4.18	4.00	3.82	197.5940	93.5640	35.83	-2.5	3799.2	" " "
#13		2.15	2.00	1.86	184.5640	92.3920	28.94	-1.3	3802.4	8' AWAY/EDGE RS
14		5.10	5.00	4.90	208.2820	93.5720	19.90	-1.4	3799.3	EDGE CK RS
15		4.21	4.00	3.81	219.1320	93.3300	39.85	-2.5	3799.2	LS EDGE CK & ROCK FACE
16		3.34	3.00	2.66	207.1940	93.3640	67.73	-4.3	3798.4	" " " RS ?LS
17		1.14	1.00	0.86	05.2740	95.2340	27.75	-2.6	3802.1	RS EDGE CK
18		4.20	4.00	3.79	11.1820	90.1200	41.00	-0.1	3801.6	" " "
19		3.42	3.00	2.57	08.0000	89.5840	85.00	.0	3802.7	" " "
20		6.63	6.00	5.37	09.0020	87.5540	125.84	4.6	3804.3	" " "
21	↓	3.68	2.88	2.06	09.4320	89.3100	161.99	1.4	3804.2	" " "

Page 4

AUG 16 CONT MARKS'

STA	HI	UH	MH	LH	HCR	VCR	HD	V	ELEV	
22	68.0"	7.13	6.00	4.88	08.5700	88.0220	224.74	7.7	3807.4	L/S CK @ EDGE
23		6.98	6.00	5.01	07.1520	87.5400	196.74	7.2	3806.9	" "
24		7.96	7.00	6.05	04.0140	85.2600	189.78	15.2	3813.9	L/S UP BANK
25		6.83	6.00	5.17	04.5920	88.3220	165.89	4.2	3803.9	L/S CK @ EDGE
26		5.68	5.00	4.32	00.2800	88.2740	135.90	3.6	3804.4	" "
27		5.53	5.00	4.47	358.3720	88.3640	105.94	2.6	3803.3	" "
28		5.43	5.00	4.56	355.5100	86.3000	86.68	5.3	3806.0	AWAY = 8' L/S
29		6.39	6.00	5.60	358.3140	88.0340	78.91	2.7	3802.4	CK EDGE (ADJ) "
30		1.59 *	2.00	2.42	348.4020	83.5040	82.04	8.8	3812.5	UP BANK "
31		2.71	2.36	2.00	343.2700	83.4000	70.14	7.8	3811.1	" "
32		5.31	5.00	4.69	353.0840	89.1800	61.99	0.8	3801.4	CK EDGE
33		5.19	5.00	4.82	340.4900	89.4820	37.00	0.1	3800.8	" "
34	↓	2.27	2.00	1.73	347.0020	89.3700	54.00	0.4	3804.1	UP BANK
STA M"A"	↓	10.2	9.0	7.6	12.5100	87.2220	259.45	11.9	3808.6	NEW STA M"A"
⊼@	M"A"	BS TO	STA M	00°00-00 ⟷		@ CK EDGE	R/S ⟷			
STA	HI	UH	MH	LH	HCR	VCR				
#35	67.75"	2.35	2.00	1.61	191.3800	89.5920	74.00	0.0	3812.2	L/S CK EDGE
36	~~%~~ 56.0'	5.46	5.00	4.54	201.2520	87.1240	91.78	4.5	3813.7	R/S CK EDGE
37		6.30	6.00	5.70	212.4240	87.3020	59.89	2.6	3810.8	" "
38		4.16	4.00	3.84	222.1040	87.3840	31.94	1.3	3811.5	NAIL @ CK EDGE
39		5.35	5.00	4.65	245.1520	67.3940	59.89	24.6	3833.8	UP BANK R/S 1/2 WAY
40		8.59	8.00	7.39	258.5200	58.0320	86.41	53.9	3860.1	TOP SLUFF BANK
41	↓	5.30	5.00	4.70	271.3300	63.5800	48.44	23.7	3832.9	1/2 WAY UP

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AUG 16 CONT.

STA	HI	UH	MH	LH	HCR	VCR					
42	67.75"	6.32	6.00	5.68	315.0100	67.2820	54.60	22.6	3830.8	1/2 WAY UP.	
43		3.08	3.00	2.91	61.2740	99.4500	16.51	-2.8	3808.4	L/S CK	EDGE
44	~~6.77~~	6.17	6.00	5.83	351.3300	90.5720	33.99	-0.6	3807.6	R/S CK	EDGE
45		6.31	6.00	5.70	00.3600	91.2240	60.96	-1.5	3806.7	"	"
46		2.09	2.00	1.90	134.2640	101.4400	18.2	-3.8	3808.4	L/S CK	EDGE

Garry Bysouth
Box 15, Kemps Site 4, RR 2
Williams Lake, B.C.
V2G 2P2

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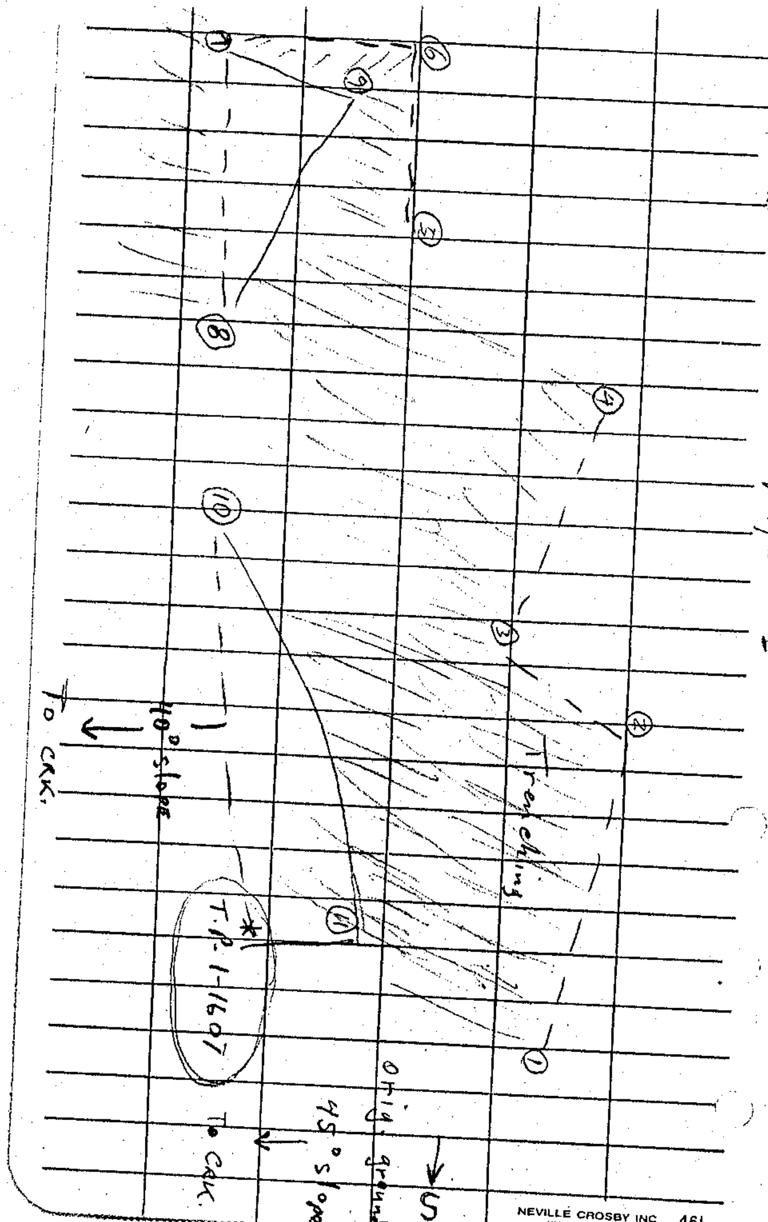
Azimuth	Cosine Horiz. Dist.	Sine Elev. Diff	Elevation	Comments
262°				CREST NE edge of trenching
209°				CREST W. of #1
193°				CREST S. of #2
180°				CR W. of #3
151°				CR not joined with previous shots
144°				CR W. of #5
139°				CR
142°				CR + Toe
146°				Toe below #6
152°				CR + TOE
256°		Same elev. as 1-1607		Toe of trenching
				End of adit 30 cm off floor
178°	13.75	+1.20	+1.95	2" Qtz vein
178°	5.70	-.10	+1.65	Stn. #2 adit
62°	2.90	-.05	+1.70	Rock W of adit
155°	3.88	+2.06	+3.81	"
173°	6.06	+3.5	+5.25	"
184°	8.66	+5.0	+6.75	Rock N of adit
237°	6.32	+3.65	+5.4	Rock E " "
242°	2.6 m	—	+1.75	" " " "



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July 16, 1991; John Bull

Station	Point No.	Instr. Height	Height of Shot	Slope Dist.	Vertical Angle
1-1607	1	1.75	Ø m	4.50	+36°
"	2	"	0 m	6.60	+30°
"	3	"	"	4.10	+15°
"	4	"	"	5.70	+10°
"	5	"	"	7.40	-17°
"	6	"	"	10.30	-11°
"	7	"	"	10.10	-16°
"	8	"	"	6.20	-29°
"	9	"	"	10.20	-16°
"	10	"	"	3.90	-36°
"	11	"	"	1.70	—
Ø Base Point	10	1.75	Ø	13.80	+5°
"	2	"	"	5.70	-1°
"	11	"	"	2.90	-1°
"	12	"	"	4.40	+28°
"	13	"	"	7.00	+30°
"	14	"	"	10.00	+30
"	15	"	"	7.30	+30
"	16	"	"	2.60	Ø

NEVILLE CROSBY INC VANCOUVER, B.C. 46L

July 16, 1991 John Bull

Station Ø (10' above crk. @ S. end of J.B. Quartz Vein)

	Point No.	Slope Dist.	Vert. Angle	Azimuth	Height of Shot	
T.P.	1-1607	11.90	+9.5°	300°	Ø m	I.H. 1.75 m
		(11.73)	(+1.96)		Elevation +3.71 m	

Commenced Survey at Station Ø which is a point on bedrock 3 meters above Jim Kelly Crk. at the South end of the John Bull Quartz Vein.

T.P. 1-1607 is a point of bedrock on the crest of the trenching approx. 10 m East of the John Bull Adit.

NEVILLE CROSBY INC VANCOUVER, B.C. 46L

APPENDIX G
SURVEY CALCULATIONS

JOHN BULL ADIT, INST. AT STA 'JB' ELEV=3920.0ft =
BACKSITE TO SOUTH AT 00-00-00

STATION	DEG	HD(m)	ELEV(m)
1	338.8	40.55	1188.42
2	343.8	37.30	1188.57
3	352.4	30.29	1188.48
4	7.1	26.90	1189.66
5	18.5	21.45	1188.66
6	26.6	14.48	1191.37
7	49.6	12.41	1189.82
8	74.5	17.10	1190.49
9	62.8	19.04	1197.35
10	33.0	18.90	1195.21
11	13.3	31.99	1195.43
12	1.5	37.39	1197.04
13	340.2	15.40	1189.48
14	357.4	6.61	1189.57
15	318.9	16.76	1193.44
15A	278.3	7.41	1196.52
15B	270.3	5.67	1194.33
16	278.3	1.53	1191.34
16A	221.3	4.58	1197.35
16B	161.4	4.30	1196.95
17	16.2	4.60	1193.05
18	39.3	8.15	1189.85
19	86.7	10.12	1190.24
19A	106.8	12.19	1190.12
19B	102.3	20.35	1189.91
19C	93.7	19.17	1190.15
20	89.8	28.59	1193.41
21	81.0	34.98	1193.75
21A	81.8	30.25	1193.29
22	87.0	48.14	1193.96
23	91.6	60.94	1194.18
23A	133.2	17.99	1195.49
23B	222.4	7.16	1198.44
23C	262.4	11.90	1197.38
23D	275.8	17.34	1199.91
23E	315.7	20.72	1196.04
23F	323.8	20.68	1193.44
23G	339.1	23.85	1189.91
23H	337.8	30.10	1188.48

MARKS ADIT, INST. AT STA 'M' ELEV=3800ft = 1158.24 m.
BACKSITE TO WEST AT 00-00-00

1	188.6	47.85	1157.45
2	193.3	44.49	1157.36
3	196.6	46.93	1158.39
4	193.7	47.84	1158.33
5	196.3	38.70	1157.54
6	199.4	37.48	1158.27
7	202.3	28.95	1157.66
8	187.4	36.87	1157.42
9	188.6	24.07	1157.66
10	193.7	20.10	1158.03
11	197.5	17.28	1157.78
12	198.0	10.92	1158.00
13	184.9	8.82	1158.97
14	208.5	6.07	1158.03
15	219.2	12.15	1158.00
16	207.3	20.64	1157.75
17	5.5	8.46	1158.88
18	11.3	12.50	1158.73
19	8.0	25.91	1159.06
20	9.0	38.36	1159.55
21	9.7	49.37	1159.52
22	9.0	68.50	1160.50
23	7.3	59.97	1160.34
24	4.0	57.84	1162.48
25	5.0	50.56	1159.43
26	0.5	41.42	1159.58
27	358.6	32.29	1159.25
28	355.9	26.42	1160.07
29	358.5	24.05	1158.97
30	348.7	25.01	1162.05
31	343.5	21.38	1161.62
32	353.1	18.89	1158.67
33	340.8	11.28	1158.48
34	347.0	16.46	1159.49
M"A"	12.9	79.08	1160.86

MARKS ADIT, INST. AT STA 'MA' ELEV=1160.86m
BACKSITE TO STA 'M' AT 00-00-00

35	191.6	22.56	1161.96
36	201.4	27.97	1162.42
37	212.7	18.25	1161.53
38	222.2	9.74	1161.75
39	245.3	18.25	1168.54
40	258.9	26.34	1176.56
41	271.6	14.76	1168.27
42	315.0	16.64	1167.63
43	61.5	5.03	1160.80
44	351.6	10.36	1160.56
45	0.6	18.58	1160.28
46	134.6	5.55	1160.80

JIM KELLY CREEK PROJECT
SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
TOTAL FIELD MAGNETIC SURVEY, AUGUST 1991
INSTRUMENT: GEOMETRICS PORTABLE PROTON MAGNETOMETER, MODEL G816
OPERATORS: JOHN CHAPMAN, P.ENG.; BARRY MOWRY

DATE AUG./91	TIME HOUR	MINUTE	TF.MAG. GAMMAS	NORTHING GRID	ADJUSTED	EASTING GRID	ADJUSTED	COMMENTS
15	13	30	57350	25	525	-750	1750	Road Traverse/Control-Line
15	13	35	57400	0	500	-650	1850	
15	13	37	57300	-15	485	-550	1950	
15	13	45	57350	-35	465	-450	2050	
15	13	55	57400	-25	475	-350	2150	
15	14	0	57400	-10	490	-250	2250	
15	14	2	57500	0	500	-150	2350	
15	14	6	57350	-65	435	-75	2425	
15	14	10	57400	-240	260	0	2500	
15	14	20	57350	-320	180	100	2600	
15	14	42	57400	25	525	-750	1750	Road CLine Closure
15	14	52	57300	0	500	-750	1750	
15	14	54	57400	-25	475	-750	1750	
15	14	55	57400	-50	450	-750	1750	
15	14	57	57400	-75	425	-750	1750	
15	14	59	57400	-100	400	-750	1750	
15	15	5	57450	-125	375	-750	1750	
15	15	6	57400	-150	350	-750	1750	
15	15	8	57400	-175	325	-750	1750	
15	15	15	57400	-175	325	-650	1850	
15	15	17	57350	-150	350	-650	1850	
15	15	20	57400	-125	375	-650	1850	
15	15	25	57400	-100	400	-650	1850	
15	15	27	57400	-75	425	-650	1850	
15	15	28	57450	-50	450	-650	1850	
15	15	30	57450	-25	475	-650	1850	
15	15	31	57400	0	500	-650	1850	Road (closure)
15	15	37	57400	-25	475	-550	1950	
15	15	39	57350	-50	450	-550	1950	
15	15	40	57400	-75	425	-550	1950	
15	15	42	57350	-100	400	-550	1950	
15	15	43	57400	-125	375	-550	1950	
15	15	45	57200	-150	350	-550	1950	
15	15	47	57400	-175	325	-550	1950	
15	15	48	57400	-150	350	-450	2050	
15	15	50	57400	-125	375	-450	2050	
15	15	52	57450	-100	400	-450	2050	
15	15	55	57400	-75	425	-450	2050	
15	15	57	57400	-50	450	-450	2050	
15	16	0	57400	-35	465	-450	2050	Road (closure)
15	16	11	57450	-25	475	-350	2150	
15	16	12	57400	-50	450	-350	2150	
15	16	14	57400	-75	425	-350	2150	
15	16	16	57400	-100	400	-350	2150	
15	16	17	57350	-125	375	-350	2150	
15	16	19	57400	-150	350	-350	2150	

15	16	21	57400	-175	325	-350	2150	
15	16	23	57400	-200	300	-350	2150	
15	16	30	57400	-175	325	-250	2250	
15	16	32	57400	-150	350	-250	2250	
15	16	35	57400	-125	375	-250	2250	
15	16	40	57450	-100	400	-250	2250	
15	16	42	57450	-75	425	-250	2250	
15	16	44	57400	-50	450	-250	2250	
15	16	45	57400	-25	475	-250	2250	
15	16	46	57400	-10	490	-250	2250	Road (closure)
15	16	50	57400	-25	475	-150	2350	
15	17	0	57400	-50	450	-150	2350	
15	17	5	57400	-75	425	-150	2350	
15	17	7	57450	-100	400	-150	2350	
15	17	8	57450	-125	375	-150	2350	
15	17	10	57400	-150	350	-150	2350	
15	17	12	57450	-175	325	-150	2350	
15	17	14	57400	-200	300	-150	2350	
15	17	16	57400	-225	275	-150	2350	
15	17	18	57400	-250	250	-150	2350	
15	17	30	57500	-275	225	-75	2425	
15	17	32	57400	-250	250	-75	2425	
15	17	35	57400	-225	275	-75	2425	
15	17	38	57400	-200	300	-75	2425	
15	17	40	57400	-175	325	-75	2425	
15	17	45	57400	-150	350	-75	2425	
15	17	47	57400	-125	375	-75	2425	
15	17	50	57400	-100	400	-75	2425	
15	17	52	57400	-75	425	-75	2425	
15	17	53	57400	-65	435	-75	2425	Road (closure)
15	18	0	57450	-240	260	0	2500	
15	18	3	57400	-250	250	0	2500	
15	18	8	57400	-275	225	0	2500	
15	18	10	57400	-300	200	0	2500	
15	18	15	57400	-325	175	0	2500	
15	18	30	57400	25	525	-750	1750	Road (closure)
16	7	30	57400	25	525	-750	1750	Road (base station)
16	7	33	57500	50	550	-750	1750	
16	7	36	57550	75	575	-750	1750	
16	7	38	57550	100	600	-750	1750	
16	7	39	57500	125	625	-750	1750	
16	7	40	57550	150	650	-750	1750	
16	7	42	57650	175	675	-750	1750	
16	7	44	57600	200	700	-750	1750	
16	7	46	57500	225	725	-750	1750	
16	7	50	57550	250	750	-750	1750	
16	7	53	57500	275	775	-750	1750	
16	7	55	57550	300	800	-750	1750	
16	7	58	57500	325	825	-750	1750	
16	8	2	57500	350	850	-750	1750	
16	8	5	57550	375	875	-750	1750	
16	8	8	57600	400	900	-750	1750	
16	8	10	57600	425	925	-750	1750	
16	8	12	57550	450	950	-750	1750	
16	8	15	57600	475	975	-750	1750	
16	8	17	57600	500	1000	-750	1750	

16	8	20	57550	525	1025	-750	1750	
16	8	33	57500	575	1075	-600	1900	
16	8	35	57550	550	1050	-600	1900	
16	8	38	57550	525	1025	-600	1900	
16	8	40	57500	500	1000	-600	1900	
16	8	42	57500	475	975	-600	1900	
16	8	45	57450	450	950	-600	1900	
16	8	47	57500	425	925	-600	1900	
16	8	48	57450	400	900	-600	1900	
16	8	50	57500	375	875	-600	1900	
16	8	53	57450	350	850	-600	1900	
16	8	55	57450	325	825	-600	1900	
16	8	57	57450	300	800	-600	1900	
16	9	0	57450	275	775	-600	1900	
16	9	5	57500	250	750	-600	1900	
16	9	7	57550	225	725	-600	1900	
16	9	10	57450	200	700	-600	1900	
16	9	12	57450	175	675	-600	1900	
16	9	15	57500	150	650	-600	1900	
16	9	17	57550	125	625	-600	1900	
16	9	20	57550	100	600	-600	1900	
16	9	25	57550	75	575	-600	1900	
16	9	30	57550	50	550	-600	1900	
16	9	32	57500	25	525	-600	1900	
16	9	35	57550	0	500	-600	1900	
16	9	37	57500	-15	485	-550	1950	Road (closure)
16	10	2	57550	-25	475	-450	2050	
16	10	4	57550	0	500	-450	2050	
16	10	6	57550	25	525	-450	2050	
16	10	10	57500	75	575	-450	2050	
16	10	12	57500	100	600	-450	2050	
16	10	14	57400	125	625	-450	2050	
16	10	16	57450	150	650	-450	2050	
16	10	17	57400	175	675	-450	2050	
16	10	19	57450	200	700	-450	2050	
16	10	21	57450	225	725	-450	2050	
16	10	23	57450	250	750	-450	2050	
16	10	26	57450	275	775	-450	2050	
16	11	30	57500	200	700	-150	2350	
16	11	35	57400	175	675	-150	2350	
16	11	40	57400	150	650	-150	2350	
16	11	42	57400	125	625	-150	2350	
16	11	44	57400	75	575	-150	2350	
16	11	45	57400	50	550	-150	2350	
16	11	46	57400	25	525	-150	2350	
16	11	50	57400	0	500	-150	2350	Road (closure)
16	12	45	57450	75	575	-850	1650	
16	1	0	57450	135	635	-1050	1450	
16	1	3	57400	165	665	-1150	1350	
16	1	5	57450	190	690	-1250	1250	
16	1	7	57450	220	720	-1350	1150	
16	1	10	57450	170	670	-1450	1050	
16	1	12	57450	155	655	-1550	950	
16	1	15	57450	180	680	-1650	850	
16	1	30	57400	150	650	-1700	800	
16	1	45	57400	120	620	-1810	690	At John Bull adit

16	2	20	57350	650	1150	-2210	290
16	2	22	57450	625	1125	-2215	285
16	2	23	57450	600	1100	-2220	280
16	2	24	57450	575	1075	-2210	290
16	2	25	57450	550	1050	-2200	300
16	2	26	57400	525	1025	-2200	300
16	2	27	57400	500	1000	-2200	300
16	2	28	57300	480	980	-2170	330
16	2	30	57250	465	965	-2150	350
16	2	32	57300	440	940	-2140	360
16	2	34	57400	430	930	-2130	370
16	2	36	57350	415	915	-2110	390
16	2	37	57350	395	895	-2100	400
16	2	38	57350	375	875	-2075	425
16	2	39	57300	360	860	-2050	450
16	2	40	57300	350	850	-2030	470
16	2	41	57350	345	845	-2005	495
16	2	42	57200	335	835	-1975	525
16	2	43	57250	330	830	-1955	545
16	2	44	57250	305	805	-1950	550
16	2	46	57300	260	760	-1950	550
16	2	47	57300	245	745	-1925	575
16	2	48	57275	248	748	-1905	595
16	2	49	57200	205	705	-1900	600
16	2	50	57300	185	685	-1870	630
16	2	51	57300	175	675	-1850	650
16	2	52	57250	170	670	-1830	670
16	2	54	57250	160	660	-1810	690
16	2	56	57200	140	640	-1800	700
16	3	2	57350	120	620	-1790	710
16	3	4	57350	100	600	-1770	730
16	3	5	57400	90	590	-1740	760
16	3	7	57300	80	580	-1720	780
16	3	9	57300	75	575	-1700	800
16	3	10	57250	70	570	-1680	820
16	3	12	57250	60	560	-1660	840
16	3	14	57400	50	550	-1640	860
16	3	16	57350	45	545	-1610	890
16	3	17	57350	40	540	-1590	910
16	3	19	57300	40	540	-1560	940
16	3	20	57300	45	545	-1540	960
16	3	22	57300	45	545	-1515	985
16	3	25	57200	50	550	-1490	1010
16	3	27	57350	45	545	-1460	1040
16	4	0	57350	40	540	-1440	1060
16	4	2	57400	30	530	-1415	1085
16	4	3	57400	25	525	-1400	1100
16	4	4	57400	20	520	-1375	1125
16	4	5	57400	10	510	-1350	1150
16	4	6	57400	15	515	-1325	1175
16	4	7	57400	20	520	-1305	1195
16	4	10	57300	15	515	-1280	1220
16	4	12	57200	10	510	-1260	1240
16	4	15	57150	15	515	-1240	1260
16	4	16	57250	25	525	-1220	1280
16	4	17	57200	30	530	-1200	1300

16	4	20	57300	50	550	-1180	1320	
16	4	22	57300	50	550	-1160	1340	
16	4	23	57250	50	550	-1140	1360	
16	4	27	57200	55	555	-1110	1390	Very heavy rain, wet instrument, no closure

NOTE 1: August 15th and 16th were geomagnetically active days and heavy rainfall on the 16th caused an instrument malfunction. Hence no adjustment has been made on the magnetic readings. The survey detected no definite anomalies. As the survey area appears to be relatively "flat" magnetically any future magnetics survey should be accomplished with the aid of a base station magnetometer - and surveys only done on geomagnetically quiet days.

NOTE 2: In order to plot the above values 500 meters has been added to the northings and 2500 meters has been added to the eastings.

APPENDIX I: BINOCULAR MICROSCOPE DATA

Number	HCl	Color	Texture	General Description
M 1	nil	pale grey	equigran. - sugary - avg. grn size ~ 1mm.	orange-brown weathering; a qtz-white spar rx; soft H.~4; bx'd with py fillings; an alt'd felsite
M 1a	strong	dk greenish-grey	fine grn (≤1mm)	rx appears crushed, broken and healed by orange-brown weathering carbonate stwks; soft, H. 2½-4; stwk. devl. is intense. - carbonate alt'd greenstone.
M-10	strong	dk grey	fine grn (≤1mm)	vesicles filled by qtz-calcite - basalt
M-6	strong	dk green	aphanitic	similar to M1a; soft, laced by rusty carb. veinlets
M-16	weak	pale grey reddish hue	fine grn - sugary -	a qtz-spar rx; cut by blk veinlets (crush py-chl?); minor hem.; alt'd felsite
M-10	mod.	grey-green	med. grn (2mm)	10-15% qtz, 40% chl, 40% plag.; laced by qtz-carb veinlets; red hem staining; crushed texture; Diorite
M-19	weak	greenish-grey	seriate texture ~ 2mm. to 4mm.	20% interstit. qtz; 45% plag - crushed; 20-25% chl as ragged wisps and clots; chl in places as ghost relicts; diorite
M-23	strong	grey-green	fine grn, 1-2mm equigran.	laced by carb veinlets; crushed; diff. to get fresh surface ie, breaks on rusty shears: alt'd diorite
M-26	strong	grey-green	fine grn (1-2mm)	soft, crushed, laced by carb.; same as M-23: alt'd diorite
M-28	nil	variable	foliated	qtz-chl-carb rx; chl as clots, grns, wisps and ribbons in a foliated qtz-rich matrix minor pea green ser.?; 5mm. milky qtz veins John Bull-type wall rx.
M-28	weak	*variable	foliated	*a mottled yellow-brown, dark green, grey green rusty brown rx; streakly or foliated by alternation laminae of yellowish grey sericite, dark green chl., dark grey chl. and rusty weathering carb. John Bull-type wall rx.
M-38a	strong	grey-green	seriate, up to 5mm, anhedral.	45% chl as ragged clots, 40% white plag. as anhedral grns; 15-20% interstitual qtz (under magnification) - minor carb veining diorite

Number	HCl	Color	Texture	General Description
M-38b	strong	dark green	fine grn (≲ 1mm) sl. porph. with 2mm plag. pheno's.	under magnification - rounded plag. pheno's in a fine grn - aphanitic matrix of chl., plag. and minor qtz - minor carb. veining greenstone
J.B 8	mod.		vein material - foliated walls	qtz-carb-chl-py-hem vein; ~50:50 qtz-car ~1.0% diss. py., .5% diss. hem; carb. is ~~light~~ buff weathering; wall rx of green chl. and pea green talcose mineral John Bull-type vein
J.B 3	strong	pale grey	breccia < 1m to 8mm dia. frags.	intensely brecciated rx; subangular to sharp frags in a granulated matrix; large frags ~60% of rx - finer matrix consists of rx frags, clay and carbonate brecciated felsite
J.B. 15	mod.	dark green	crushed tex. - size reduction due to def.	rusty brown weathering - obvious granulation of mineral components - chl. - ser along wk foln. planes altered diorite
J.B. 17	mod	pale green	schistose - crushed	a chl - ser - ankerite rx - sheared and crushed - original tex. and minerals obliterated - poss. some clay alt'n. John Bull - type wall rock
J.B. 3	strong	med. grey	brecciated - crushed	orange-brown weathering soft (H ~3-4) intense ankerite stkwks + minor ankerite healed breccia carbonate alt'd diorite
J.B 23a	nil	med green	schistose	a qtz - chl - ankerite folated rx
J.B. 23a	nil	pale grey	porph. - 2mm qtz 'eyes' in aphanitic matrix	qtz - white spar rx; sparse dissem cp; septa of dk grey chl.; sparse cp. felsite
J.B.-7-8	mod	pale grey	aphanitic	hard (~6) buff weathering; veinlets of ank (felsite
J.B. 14	nil to weak		ribboned	qtz - vein material; 20% buff weathering carbonate as irregular segregations; massive irregular clots of white py; fine ribbons of dk grey material - prob. crushed chl-py; ribbons of wall rx septa variously containing green chl, pea green talcose mineral, iron carbonate plus minor dissem. py. John Bull-type vein
J.B. 14	weak	med. green	schistose	foliation planes - dk. green chlorite, laminae of rusty carbonate, apple green mariposite and crushed host rock. ⇒ as above.

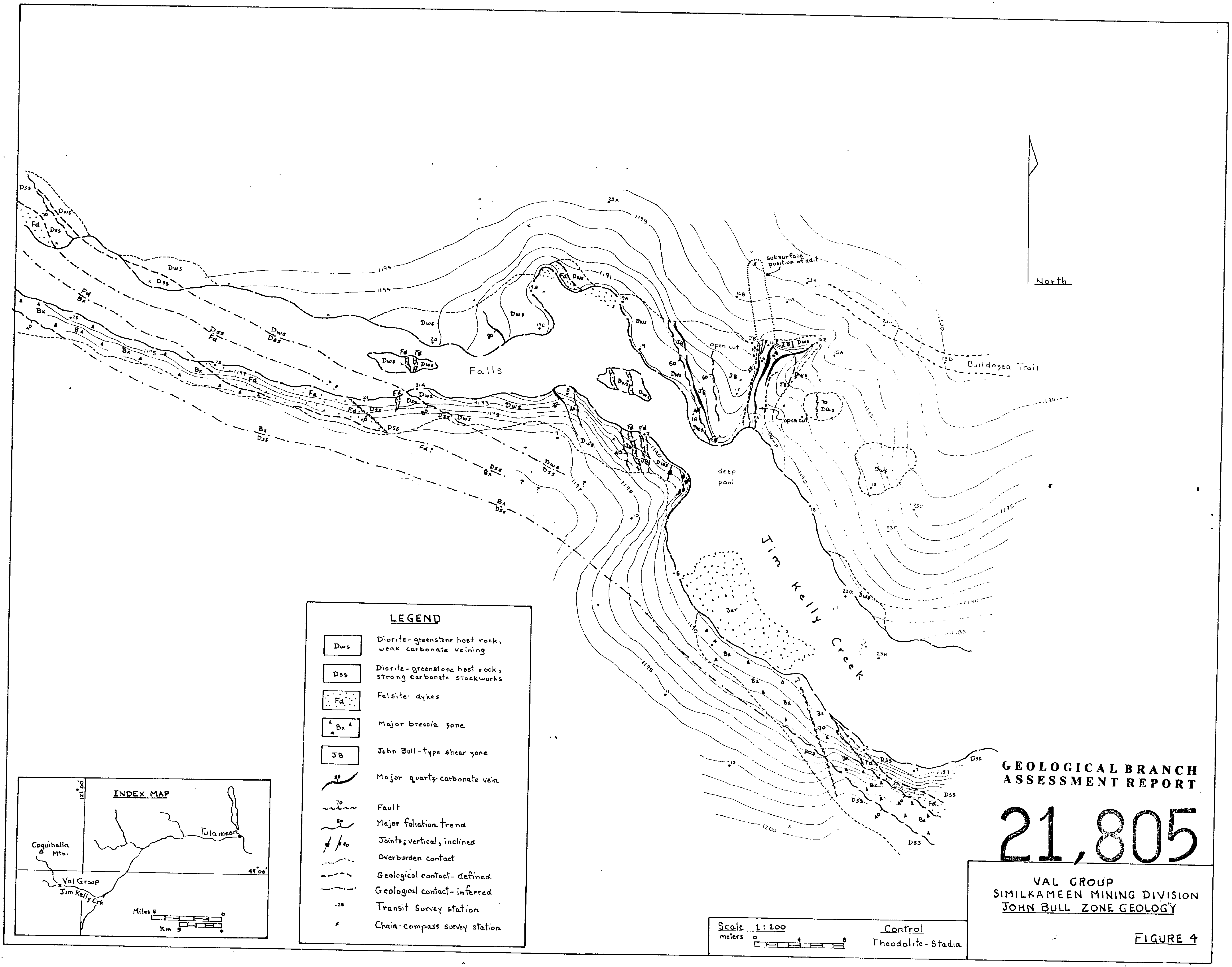
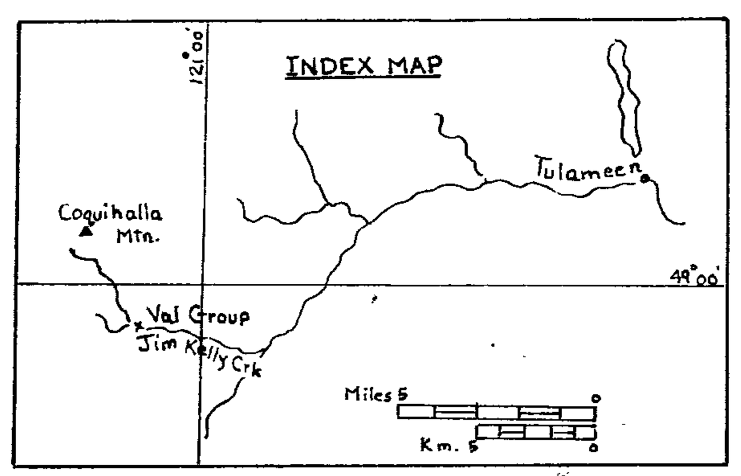

North
Falls
Jim Kelly Creek
deep pool
Bar
open cut
subsurface position of adit
Bulldozed Trail
LEGEND
Dws — Diorite-greenstone host rock, weak carbonate veining
Dss — Diorite-greenstone host rock, strong carbonate stockworks
Fd — Felsite dykes
Bx — Major breccia zone
JB — John Bull-type shear zone
Major quartz-carbonate vein
Fault
Major foliation trend
Joints; vertical, inclined
Overburden contact
Geological contact-defined
Geological contact-inferred
Transit Survey station
Chain-compass survey station
INDEX MAP
Coquihalla Mtn.
Tulameen
Val Group
Jim Kelly Crk
49°00'
121°00'
Miles 5
Km 5
Scale 1:200
meters
Control
Theodolite-Stadia
GEOLOGICAL BRANCH ASSESSMENT REPORT
21,805
VAL GROUP
SIMILKAMEEN MINING DIVISION
JOHN BULL ZONE GEOLOGY
FIGURE 4

FIGURE 3 MAGNETOMETER SURVEY

LEGEND

- Dws — Diorite-greenstone host rock, weak carbonate veining
- Dss — Diorite-greenstone host rock, strong carbonate stockworks
- Fd — Felsite dykes
- JB — John Bull-type shear zone
- Fault
- Major quartz-carbonate vein
- Foliation plane
- Major foliation trend
- Joint
- Overburden contact
- Geological contact - defined
- Geological contact - inferred
- •28 Transit Survey station



GEOLOGICAL BRANCH ASSESSMENT REPORT

21,805

Scale 1:200
meters

Control
Theodolite-Stadia

VAL GROUP
SIMILKAMEEN MINING DIVISION
MARKS ZONE GEOLOGY

FIGURE 5