86-475-15047

GEOLOGICAL REPORT

on the

CRUMP PROPERTY

CRU, F.A.P., ARM CLAIMS

N.T.S. ~~82E/13~~ 82E/12W

49° ~~37'~~ 36.9' N latitude & 119° ~~52'~~ 51.1' W longitude

OSOYOOS MINING DIVISION

Summerland, B.C.

FILMED

Operator/ owned by:

AGIO RESOURCES CORP.
#405-535 W. Georgia St.
Vancouver, B.C.
V6B 1Z6

written by:

Peter Peto, Ph.D., F.G.A.C.
125 Bassett Street
Penticton,
V2A 5W1

and

Dash Duba, M.Sc.

15 August 1986

TABLE OF CONTENTS

ILLUSTRATIONS

APPENDICIES

I INTRODUCTION

The writer was commissioned by Mr. Herman Plank, President of AGIO RESOURCE CORP. to conduct a geological survey over the CRUMP Property and to report on the findings. The mapping was carried out by Ms. Dasha Duba, M.Sc. and she was assisted by Mr. Jacob Kaiser between 29 June and 12 July, 1986. Her contribution to the property geology is wholly incorporated in this report by means of geological maps 1,2 and 3 and the property description given in section V. The principal author, Peter Peto conducted a property examination on 6 July and collected rock samples, as reported in section VI, on July 10, 1986.

II PROPERTY, LOCATION, ACCESS & PHYSIOGRAPHY

The CRUMP Property consists of the following claims:

CLAIM NAME	RECORD NUMBER	ANNIVERSARY DATE
FAP #1	8754(3)	14 March
FAP #2	8755(3)	14 March
ARM #1	1184	11 August
ARM #2	1185	11 August
ARM #3	1186	11 August
CRU	1179	1 August

They are located on Trout Creek, immediately west of Summerland (FIGURE A). It may be accessed by road from Penticton via highway 97 to Summerland and thereafter by a gravel road connecting Summerland to Princeton. The distance by road from Penticton is 38 km. The claims cover both sides of the Trout Creek Canyon, a steep incision in the Okanagan Plateau. The north side of the canyon is covered largely by open grasslands whereas the south side is covered by open pine forest. The property topography is dominated by glacial terraces which blanket large areas of rock above the canyon walls.

III PRIOR PROPERTY WORK

In the early sixties the property underwent limited trenching and diamond drilling under the auspices of Austro-Can Explorations. In 1969 a total of 59 line miles of airborne magnetometer was flown over the immediate area and several strong anomalies were located. R.B. Nelson carried out petrological studies of the property in 1970 and he concluded that the main mineralized zone was underlain by a carbonatitic intrusion. At that time, three drill holes totalling 1,115 feet were completed, but drill logs and core were not kept and the results of a ground magnetometer and copper soil survey were subsequently lost. A VLF-EM 16 survey totalling 5.7 line km. was carried out in 1973 and a multiple induced polarization survey was carried out over the same area in 1985. The results of these surveys are recorded in B.C. Assessment Reports #2198, #4691, #5445 and #10718.

IV REGIONAL GEOLOGY

The CRUMP Property is situated well within the Okanagan batholith, a body of multiple granitic intrusions of Middle Jurassic age, emplaced into an Upper paleozoic and Triassic volcano-sedimentary continenal-island arc tectonic assemblage. Okanagan Lake appears to separate this assemblage from proterozic basement gniesses and schists belonging to the Monashee group. In addition, continental volcanic basins of Tertiary age are preserved locally along the valley and elsewhere. However, amphibolitic gniesses resembling those found east of the Okanagan Valley are found on the CRUMP Property suggesting local preservation of the basement considerably further west. In addition, R.B. Nelson's suggestion that the basement hosts a carbonatite is regionally anomalous although carbonatities have been reported northwest of Revelstoke.

V PROPERTY GEOLOGY

"The CRUMP Property is underlain by a lense shaped body of hornblende gneiss which host the mineralized shear zones. Hornblende gneiss is surrounded on all sides by quartz diorite which was mapped by Little (G.S.C. Map 15-1961) as a part of Nelson batholith.

Page 3....

Hornblende Gneiss - Pre-Cambrian(?) (1)

The hornblende gneiss occurs as northwesterly trending, lense shaped body which extends across the whole length of the property. This rock is cut by veins and pockets of feldspathized material but in its unaltered state it essentially consists of: 40% hornblende, 40% feldspars (plagioclase), 20% biotite. Mafic minerals are typically altered to secondary chlorite.

Gneiss has a well developed foliation and a strong lineation of the mafic minerals. Foliation trends from 90 to 130° with an average of about 100°.

Nelson Plutonic Rocks - Cretaceous (?)

Quartz diorite is the most commonly occuring lithotype on the property. It is typically coarse grained, porphytitic with large (3-10 mm) phenocrysts of biotite and hornblende and composed of quartz (10-15%), plagioclase (45-68%), K-feldspars (2-5%), hornblende (15-25%), biotite (5-10%). The quartz diorite has typical crystalline texture of igneous rock. Epidote and calcite is formed along fractures.

The contacts between quartz diorite and hornblende gneiss are marked by extensive shearing, brecciation and alteration. The western contact is a 20 meter wide, northeasterly trending zone which can be traced along strike for about 100 meters (FIGURE 3). The northeastern contact, on the other hand is up to 5 meters wide and is traceable for about 30 meters (FIGURE 1). These contact shear zones will be discussed in more detail in the following section.

Mineralization (2) Four areas of mineralization are observed on the CRUMP Property.

1) The main mineralization is found within an elongate 25 meter wide and about 170 meter long shear zone. This zone trends northeasterly

Page 4....

(35°-45°), with an average dip of 35° to the east. The elevation difference between the southern part of the zone at Trout Creek and the northern exposure (Trench #3) is about 85 meters.

2) Two smaller areas of alteration are found within a narrow distance (10-30 meters) east and west from the main shear zone. These are, however, not continuous.

3) The other areas of alteration with associated mineralization are two shear-contacts: one, 600 meters northwesterly and the other, 1,000 meters southeasterly from the main mineralized zone.

4) The final is the area of mineralization. It is a northeasterly trending shear zone which is located within the quartz diorite, about 300 meters northwest from the shear-contact zone in the western part of the area.

1) Main mineralized zone

The main area of mineralization is exposed in the south-central part of the area and in TRENCHES 2 and 3 (FIGURE 2). It consists of a zoned body of: chlorite-rock border, outer quartz-carbonate mica and inner siliceous gossan.

Chlorite rock (2a) - This is a dark green, medium to coarse grained rock consisting of largely chlorite (70-80%), magnetite, hematite and minor carbonate. Magnetite is not visible but must be fairly abundant (10-15%) since the host rock is thoroughly magnetic.

The chlorite rock forms a border zone to the main mineralized shear which is 20 to 35 meters wide in the southern part of the area but is not observed to be continuous to the north. Rocks within a 120 meter wide area east of the main shear zone in the southern part of the area are also observed to the heavily chloritized and strongly magnetic.

Page 5.....

<u>Quartz-carbonate-mica</u> (2b) - This is the most abundant type of altered rock observed within the main shear zone. It is exposed over a width of maximum 25 meters and length of 170 meters. The rock is rusty brown on the weathering surface and also mottled rusty brown to buff on the fresh surface. It is fairly fine grained and intensely altered which which completely obliterates the original texture and therefore mineralogy of this lithotype cannot be determined with any accuracy. The rock is essentially composed of quartz (40-50% (?)) carbonate, mica, magnetite and minor ±pyrite, ±chalcopyrite, ±hematite and ±sphalerite. Pyrite and chalcopyrite are typically associated with quartz and quartz-carbonate veinlets. These are usually up to 1-2 cm wide. Pyrite can be locally seen to be disseminated throughout the matrix (<1%). Sphalerite (?) (or specularite) forms the several mm wide border to the quartz-Fe-carbonate veinlets. Malachite and azurite staining is commonly observed implying widespread presence of chalcopyrite and other copper minerals which are not ofter macroscopically visible.

<u>Siliceous gossan</u> (2c) - This lithotype forms a narrow band (up to 5 m wide) within the core of the mineralized zone. It can be traced for about 100 meters along the strike. At the southern limit of this very siliceous zone, rocks are intensely sheared, brecciated and broadly folded. Siliceous gossan is yellowish green to buff and light rusty brown on the fresh and weathering surface, respectively. It is slightly to heavily vuggy sometimes and might resemble pumice in appearance. The rock consists of mostly milky quartz (50-75%), feldspars (10-40%), carbonate (10-15%) and fine cubic pyrite (1%). Malachite staining is commonly present. This zone is cut by quartz and quartz-carbonate veinlets carrying pyrite-chalcopyrite mineralization.

2) The two smaller alteration areas are satellite zones to the main mineralized shear zone. The one in TRENCH 3 consists of quartz-carbonate-mica rock (2b) similar to the 2b observed in the main mineralized zone.

3) The northeasterly trending (65°), 20 meter wide zone forms a

Page 6....

contact between younger quartz diorite and hornblende gneiss (FIGURE 3) The rocks within this zone are extensively sheared, brecciated and altered. They strongly resemble 2b lithotype mapped in the main mineralized body. They are essentially quartz-carbonate-mica rocks (2b) (CR-19). Quartz diorite within a 10 meter wide area from the contact is brecciated and bleached. It is called hybrid rock (3a) on the detail map. Rock is coarse grained, light rusty brown on the weathering surface and mottled orange to buff on the fresh surface. The mineralogy is: 25-32% quartz, 65% feldspar and 3-10% mafic minerals (CR-24). The horneblende gneiss within a slightly wider area (25 meters) is locally sheared, silicified and carbonatized.

The northeastern contact between the quartz dirotie and hornblende gneiss trends about northerly. It appears to be a fault zone or shear which is up to 5 meters wide. The rocks are altered to essentially quartz-carbonate with minor malachite staining. These also resemble quartz-carbonate-mica rocks from the main mineralized zones (CR-20-86).

A small (5 meters wide and 15 meters long) mineralized zone is mapped about 10 meters east of the contact within the quartz diorite. It trends subparallel to the contact. The rock is buff to light green, fine grained with a sugary texture (CR-21-86). It consists of quartz (75%), calcite, muscovite and fine disseminated pyrite (<1%). The host quartz diorite has undergone silicification and destruction of some mafic minerals within a 30 meter wide zone (CR-23-86). Rocks within this contact zone are also sheared and brecciated.

4) This shear zone is situated 300 meters northwest from the quartz-diorite/hornblende gneiss shear-contact. The shear zone is delineated by the orientation of the gulley which trneds about 25°. It is hosted by the quartz-diorite intrusive body. Rocks within a 10-15 meter wide area are sheared and brecciated. They are cut by a quartz 1-2 meter wide vein shich is exposed in a cliff where an incline was dug into the vertical slope. Quartz veins contain traces of disseminated pyrite (CR-25-86). Galena is reported to be associated with the alteration zone. This siliceous zone is not found to be continuous along the

Page 7.....

shear. Surronding quartz diorite is extensively silicified (CR-26-86); 40% quartz, 55% feldspar, 5% muscovite) and all the mafic minerals are destroyed."

VI LITHOGEOCHEMISTRY

A total of 20 rock samples were collected for geochemical purposed in order to test for: (1) economically interesting concentrations of gold and (2) The presence of significant concentrations of rare earth elements that might be expected to be associated with carbonatites. Samples were shipped to Acme Analytical Laboratories Ltd. and analyzed by means of ICP mass-spectrometer and results are listed in Appendix 2 and locations are shown in Figures 1, 2, 3 and 4. Sample location descriptions are given below:

R83533: 5 meter chip of rusty, limonitic amphibolitic footwall adjacent to drusy quartz vein. Quartz veinlets strike 110°-40°SE.

R83534: 1.3 meter chip of quartz vein striking 75°-45SE carrying limonite, azurite, malachite and pyrolusite.

R83535: 0.7m chip across altered and sheared footwall showing copper stain adjacent to quartz vein.

R83536: 2.0 meter chip across pink ribbon-veined hanging wall consisting of altered amphibolite with 1 to 5 cm quartz-carbonate veins striking 60º-20SE.

R83537: 2.0 meter chip of rusty, drusy, apparently barren quartz vein yeilded 1,100 ppb Au.

R83538: 2 meter chip from altered and sheared footwall cut by cross veinlets of carbonate 5 mm to 2 cm wide trending 150°-75NE.

R83539: 1 meter chip of hanging wall similar to R83536.

R83540: character sample of massive, black, coarse grained hornblendite previously classified as "fenite" by Nelson.

R83541: 1 m chip across highly sheared, faulted and altered amphibolite cut by quartz vein showing copper stain yielded 41 ppm Ag and 760 ppb Au.

R83542: intermittant chips across micaceous amphibolite cut by quartz veinlets with secondary carbonate, chlorite and limonite.

Page 8.....

R83543: character sample of relatively unaltered micaceous, "vermiculite" of Nelson, amphibolite.

R83544: 1 m chip across 10 m wide shear zone consisting of secondary quartz, carbonate, clay in altered amphibolite.

R83545: irregular chip across hanging wall granitic dyke adjacent to sample 83544 (FIGURE 3) with minor pyritic quartz veinlets.

R83546: grab of massive coarse grained, massive hornblende gabbro(?) with intercumulus ilmenite(?).

R83547: 0.5 m chip from altered, compact chalcopyrite bearing zone considered "carbonitite" by Nelson.

R83548: grab of massive, coarse grained, ilmenite(?)-rich hornblende gabbro(?).

R83549: intermittant chips over 10 m from rusty, highly altered amphibolite carrying disseminated pyrite.

R83550: intermittant chips over 10 m from rusty, highly altered amphibolite cut by narrow quartz veinlets yielded 1,450 ppb Au.

CRU-20-86 and CRU-20-86 from shear zone see Figure 2 and Appendix 1.

VII INTERPRETATION

On the basis of the above field investigation Dasha Duba could find no evidence for the presence of an intrusive carbonatite on the CRUMP Property. In fact, the area is relatively devoid of carbonate and what carbonate which was observed was clearly of secondary or hydrothermal origin. The low concentrations of REE also does not lend support of a carbonatite intrusive with potential for exotic mineral deposit, however additional analyses should be carried out for a variety of other lithophile elements to confirm this. Nelson claims to have identified a typical carbonatite mineral assembledge but his report is poorly documented and lacks supporting evidence. Therefore I would recommend that the rock samples collected by Ms. Duba be submitted for petrographic examination to establish their mineralogical composition.

At present it is our view that the CRUMP gossen represents a strong fracture zone cutting basement amphibolites which have been metasomatically altered by (1) the intrusion of a small ultrabasic to gabbroic plug (2) hydrothermal fluids derived from the adjacent batholithic intrusions (quartz diorite and granodiorite) and (3) the formation of late quartz veining associated with (2). It is also possible that this fracture may have concentrated retrograde metamorphic fluids derived from the adjacent amphibolite during contact or regional metamorphism of the basement. In our view the most unlikely explanation is the effect of carbonatite intrusion. In any case, precious and base metal concentrations generally occur in uneconomic concentrations and it is difficult to assess how this structural-alteration (gossen) complex can be further tested or explored.

VIII ITEMIZED COST STATEMENT

WAGES

Dasha Duba (geologist) 14 days @ $200/day	$2,800
Peter Peto (consultant) 3 days @ $300/day	900
Transportation: 14 days @ $23.57/day	330
Food & accommodation: 12 days @ $50/day	700
Geochemical analysis: 20 rocks @ $23.05/sample	460
Report preparation (typing, photocopying, materials, etc.)	310
	$5,500

Respectfully submitted,

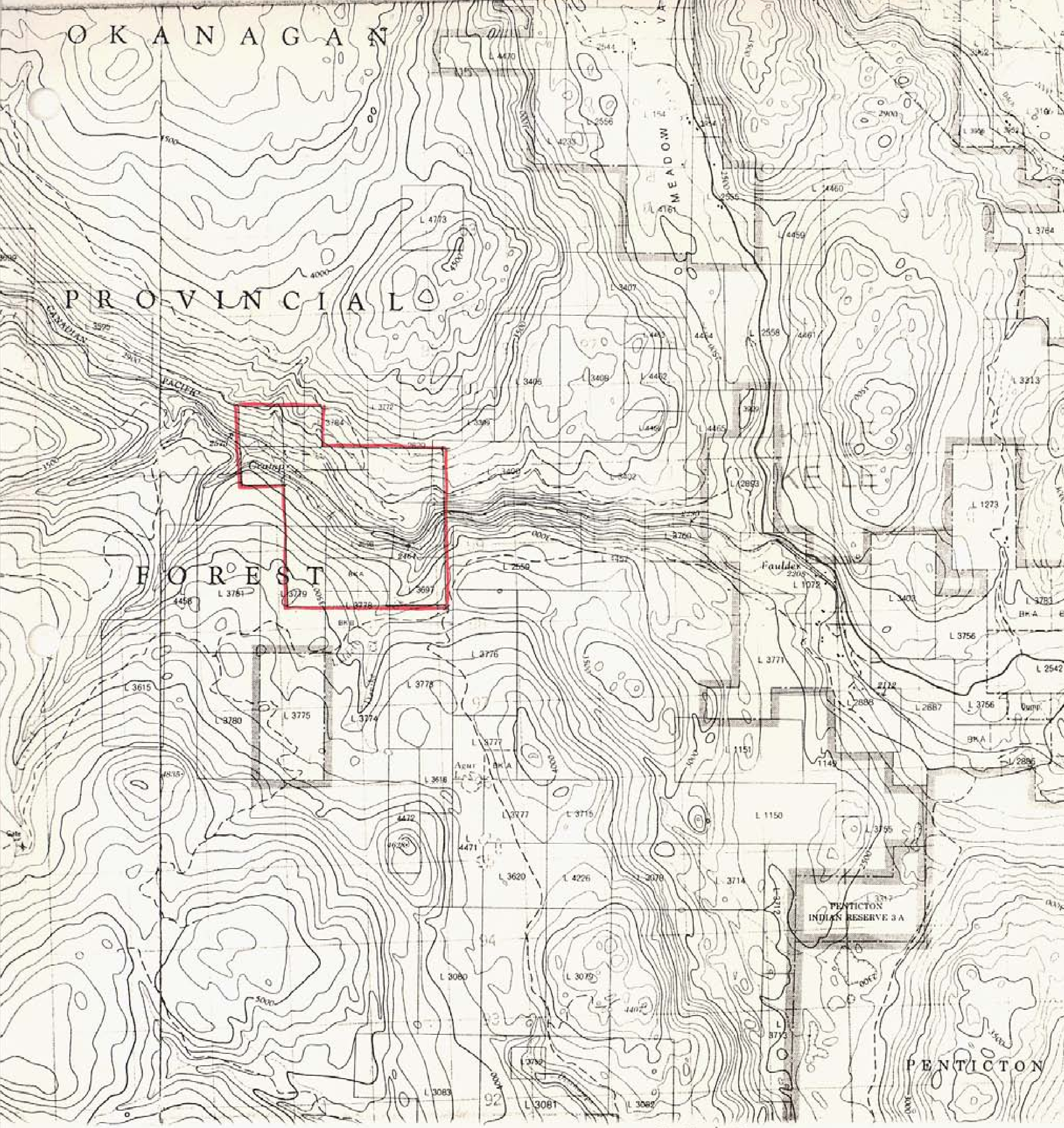
Peter Peto

Peter Peto, Ph.D., F.G.A.C.
Consulting Geologist

8 August 1986

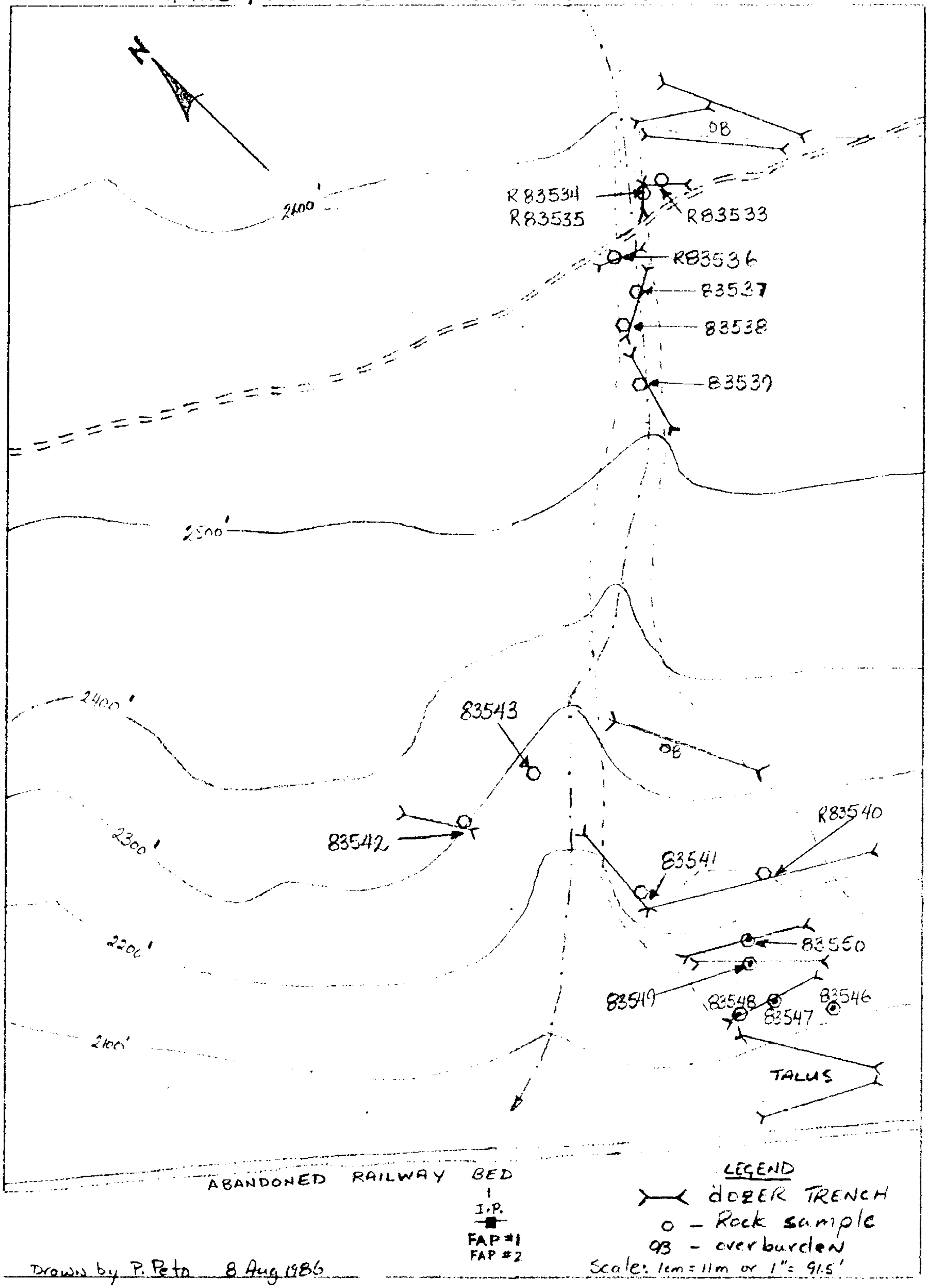
P. PETO

FIGURE A: LOCATION MAP



CRUMP PROPERTY 82E/13

FIGURE 4: ROCK SAMPLE LOCATION SKETCH MAP



Drawn by P. Peto 8 Aug 1986

APPENDIX 1

Description of grab samples collected on the CRUMP Property

CR-1-86 Hornblende gneiss (1). Rusty brown on weathering surface. Brownish green (fresh surface), medium grained; slightly preserved gneissic texture. Alteration: chloritization, silicification. Mineralogy: 40% hornblende, 45% feldspars, 10% biotite, 5% Fe-carbonate. Location: Trench 1.

CR-2-86 Quartz-feldspar vein (1). Feldspathization of hornblende gneiss, 7 cm wide. Coarse grained, buff color. Mineralogy: 25% milky quartz, 65% feldspars, 5% mica, 5% carbonate (calcite & Fe-carbonate ?). Location: Trench 1.

CR-3-86 Hornblende gneiss (1). Typical foliated hornblende gneiss at the contact with the main shear zone. Heavily chloritized hornblende. Location: 10 meters SW of Trench #2.

CR-4-86 Quartz-carbonate mica rock (2b). Rusty brown on the weathering surface. Mottled brown-green on the fresh surface, fine grained. Original texture of the rock is destroyed. Mineralogy: quartz, carbonate, mica. Trench 2.

CR-5-86 Quartz-carbonate mica rock (2b). The same as CR-4-86. Cut by 1 cm wide quartz-Fe-carbonate veinlet; veinlet is rimmed by a few mm wide zone of sphalerite (?) (specularite). malachite staining. Trench 2.

CR-6-86 Siliceous gossan (2c). Light rusty brown weathering surface; yellowish green; coarse grained, slightly vuggy. Mineralogy: 50% milky quartz; 40% feldspars, 10% carbonate, malachite staining. Trench 2.

CR-7-86 Quartz-carbonate mica rock (2b). The same as CR-4-86. Cut by three parallel quartz-carbonate veinlets, each ½ - 1 cm wide. Cross-cut by a few mm wide veinlets of quartz-carbonate. <1% pyrite associated with veining and also disseminated throughout the host rock. Trench 2.

CR-8-86 Siliceous gossan (2c). Light rusty brown weathering surface; buff to rusty buff vuggy appearance. Mineralogy: 70% milky quartz, 20% feldspars, 9% carbonate, 1% pyrite (cubes up to a few mm in diameter). Trench 2.

CR-9-86 Siliceous gossan (2c). The same as CR-8-86. Vugs are rusty red and some have cubic shapes (often pyrite which has weathered out). Trench 3.

CR-10-86 Hornblende Gneiss (1). Slightly rusty brown weathering surface, dark green (fresh surface); fine grained; chloritized hornblende gneiss. Gneissic texture is not preserved, slightly magnetic. Mineralogy: 40% hornblende (mostly chlorite); 43% feldspars; 5% calcite; 2% magnetite; malachite stain. Trench 3.

CR-11-86 Hornblende gneiss (1). Medium grained, dark green rock. Foliated; strongly chloritized hornblende; malachite and azurite staining. Cut by hair-thin calcite veinlets. Trench 4.

CR-12-86 Hornblende gneiss (1). Foliated hornblende gneiss cut by 1 cm wide quartz vein with 3% chalcopyrite and 1% pyrite. Several meters from the contact with the main shear zone.

CR-13-86 Chlorite rock (amphibolite) (2a). Dark green, buff color on the weathering surface. Coarse grained; strongly magnetic. Mineralogy: 75% chlorite; 15% (?) magnetite; hematite (?). At the railway track west contact with mineralized zone.

CR-14-86 Quartz-carbonate mica rock (2b). Rusty brown weathering surface; mottled buff and rusty brown on the fresh surface. Mineralogy: quartz-carbonate-mica. 2% hematite, <<1% pyrite. The large outcrop first north of rail.

CR-15-86 Quartz-carbonate mica rock (2b). Rusty brown weathering surface; mottled rusty buff and green; mineralogy: quartz-carbonate-mica 1-2% pyrite. Pyrite is associated with quartz veinlets. The large outcrop first north of the rail.

CR-16-86 Siliceous gossan (2c). Greenish buff to rusty brown; slightly vuggy; sheared mineralogy. Dominantly quartz (60%), carbonate (20%), feldspars (10%), mica (7%), hematite (3%). The same area as CR-13 to 15.

CR-17-86 Chlorite rock (2a). Chloritized amphibolite; dark green, medium grained, moderately magnetic. The same area as above.

CR-18-86 Dyke (vein) within 2b. Up to 5 cm wide dykelets (veins) cut by the 2b zone. They are composed of dark green mafic material and milky quartz. Quartz makes up about 20% of the dyke. The same location as above.

CR-19-86 Quartz-carbonate mica rock. Mottled brick red to light brown. Similar to the altered rocks (2b) from the main mineralized shear zone. Contact shear between quartz diorite/hornblende gneiss (western part of the property).

CR-20-86 Quartz-carbonate rock. Mottled rusty brown; rusty brown on the weathering surface. Essentially composed of quartz-carbonate. Minor malachite staining. Eastern part of the property contact between quartz-diorite/hornblende gneiss.

CR-21-86 Siliceous rock. Light rusty brown on weathering surface; buff to light green; fine grained, sugary texture. Mineralogy: quartz (75% ?); calcite, muscovite, pyrite (<1%). Eastern part of the area (close to the contact quartz-diorite/hornblende gneiss.

CR-22-86 Altered hornblende gneiss. Rusty brown (weathering surface); grey-green, fine grained, gneissic texture is completely destroyed. Alteration: mostly silicification. Contact zone (quartz diorite hornblende gneiss); eastern part of the area.

CR-23-86 Altered quartz diorite. Rusty brown on the weathering surface. Mottled rusty orange. Igneous (hypidiomorphic) texture. Coarse grained. Mineralogy: 25% quartz; 65% feldspars; 7% hornblende (chlorite); 3% biotite. Alteration: silicification. The same location as above.

CR-24-86 Altered quartz diorite. Light rusty brown (on weathering surface). Mottled orange; coarse grained. Mineralogy: 32% quartz; 65% feldspars; 3% mafic minerals; trace of pyrite. Alteration - silicification. The western part of the area, contact with hornblende gneiss.

CR-25-86 Quartz vein. Mottled greenish to buff. Heavily sheared and brecciated; quartz-mica rock with traces of disseminated pyrite, mica-carbonate. The western most shear zone.

CR-26-86 Altered quartz diorite. Slightly rusty on the weathering surface; mottled buff to brick red; coarse grained. Mineralogy: 40% quartz; 55% feldspars; 5% muscovite, hematite staining. (no mafic minerals present). Alteration: silicification. The same area as above.

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP-MS ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
ANALYSIS BY ICP-MASS SPECTROMETER.
- Sample Type: ROCK

DATE RECEIVED: JULY 15 1986 DATE REPORT MAILED: July 31/86 ASSAYER. [signature] ...DEAN TOYE, CERTIFIED B.C. ASSAYER

AGIO RESOURCES File # 86-1482 Page 1

SAMPLE#	Be PPM	Ga PPM	Ge PPM	Rh PPM	Pd PPM	Ag PPM	Cd PPM	In PPM	Sn PPM	Sb PPM	Te PPM	I PPM	Ir PPM	Pt PPM	Au PPM	Hg PPM	Tl PPM	Th PPM	U PPM	AU* PPB
R83533	2	2	2	.1	.1	.1	2.7	.1	.3	.1	.1	.1	.1	.1	.1	.1	.4	1.3	1.4	2
R83534	2	2	1	.1	.1	21.2	6.9	.3	.2	.2	.2	.1	.1	.1	.2	.1	.1	.1	.7	85
R83535	2	2	2	.1	.1	10.4	5.6	.3	.3	.1	.1	.1	.1	.1	.1	.1	.5	.5	2.6	33
R83536	2	2	1	.1	.1	.1	3.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.7	.5	19
R83537	2	2	1	.1	.1	2.4	.3	.1	.2	.1	.2	.1	.1	.1	.5	.1	.1	.2	.1	1100
R83538	2	2	2	.1	.1	.1	33.8	1.0	.1	.1	.2	.1	.1	.1	.1	.1	.1	.7	1.0	2
R83539	2	2	1	.1	.1	7.6	2.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.6	1.2	145
R83540	2	2	1	.1	.1	.1	.1	.1	.6	.1	.5	.1	.1	.1	.1	.1	.1	.2	.1	1
R83541	2	2	1	.1	.1	41.7	2.9	.1	.2	.3	.1	.1	.1	.1	.9	.4	.1	.6	2.6	760
R83542	2	2	1	.1	.1	.1	.1	.1	.1	.3	.1	.1	.1	.1	.1	.1	.1	2.4	1.5	3
R83543	2	2	1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.3	.1	.8	.1	6
R83544	2	2	1	.1	.1	.1	.9	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.7	2.7	4
R83545	2	2	1	.1	.1	.1	1.8	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	1.5	2.0	5
R83546	2	2	2	.1	.1	.1	.9	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	1
R83547	2	2	4	.1	.1	25.5	.1	.1	.1	.1	.4	.1	.1	.1	.1	.1	.6	.1	.6	280
R83548	2	4	4	.1	.1	.1	.1	.1	.1	.1	.9	.1	.1	.1	.1	.1	.1	.1	.1	1
R83549	2	2	1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.3	36
R83550	2	2	1	.1	.1	12.3	.1	.1	.1	.1	.1	.1	.1	.1	1.0	.1	.1	.1	1.0	1450
CR-20-86	2	2	1	.1	.1	.1	.8	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	1.2	.6	3
CR-22-86	2	4	1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	3.5	.8	1
DETECTION LIMIT	2	2	1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	1

APPENDIX 3

CERTIFICATION

I, DARIA DUBA, of #306-769 Winnipeg Street, Penticton, British Columbia, hereby certify as follows:

1) THAT I am a graduate of McGill University, Montreal, with a M.Sc. degree in geology and Concordia University, Montreal with B.Sc. degree in geology.

2) THAT I am a registered member of the Geological Association of Canada.

3) THAT I have no interest in the CRUMP Property.

4) THAT the information contained on the geologic maps was compiled as a result of my examination of the CRUMP Property on June 29 to July 12, 1986.

<u>AUTHOR'S QUALIFICATIONS</u>

I, Peter S. Peto, of 125 Bassett Street, Penticton, British Columbia, DO HEREBY CERTIFY:

That I am a professional exploration geologist with a business address at 125 Bassett Street, Penticton, British Columbia V2A 5W1

That I am a fellow of the Geological Association of Canada in good standing.

That I am a graduate of the University of Alberta where I obtained a B.Sc. and M.Sc. in geology in 1968 and 1970 respectively and that I am also a graduate of the University of Manchester where I obtained a doctoral degree for geological research in 1975.

That I have actively practised my profession in the province of British Columbia for 10 years.

That the information contained in this report was obtained as a result of field work carried out my myself and/or my associates.

Peter Peto

Peter Peto, Ph.D., F.G.A.C.

GEOLOGICAL ASSOCIATION · FELLOW
P. PETO, PH.D

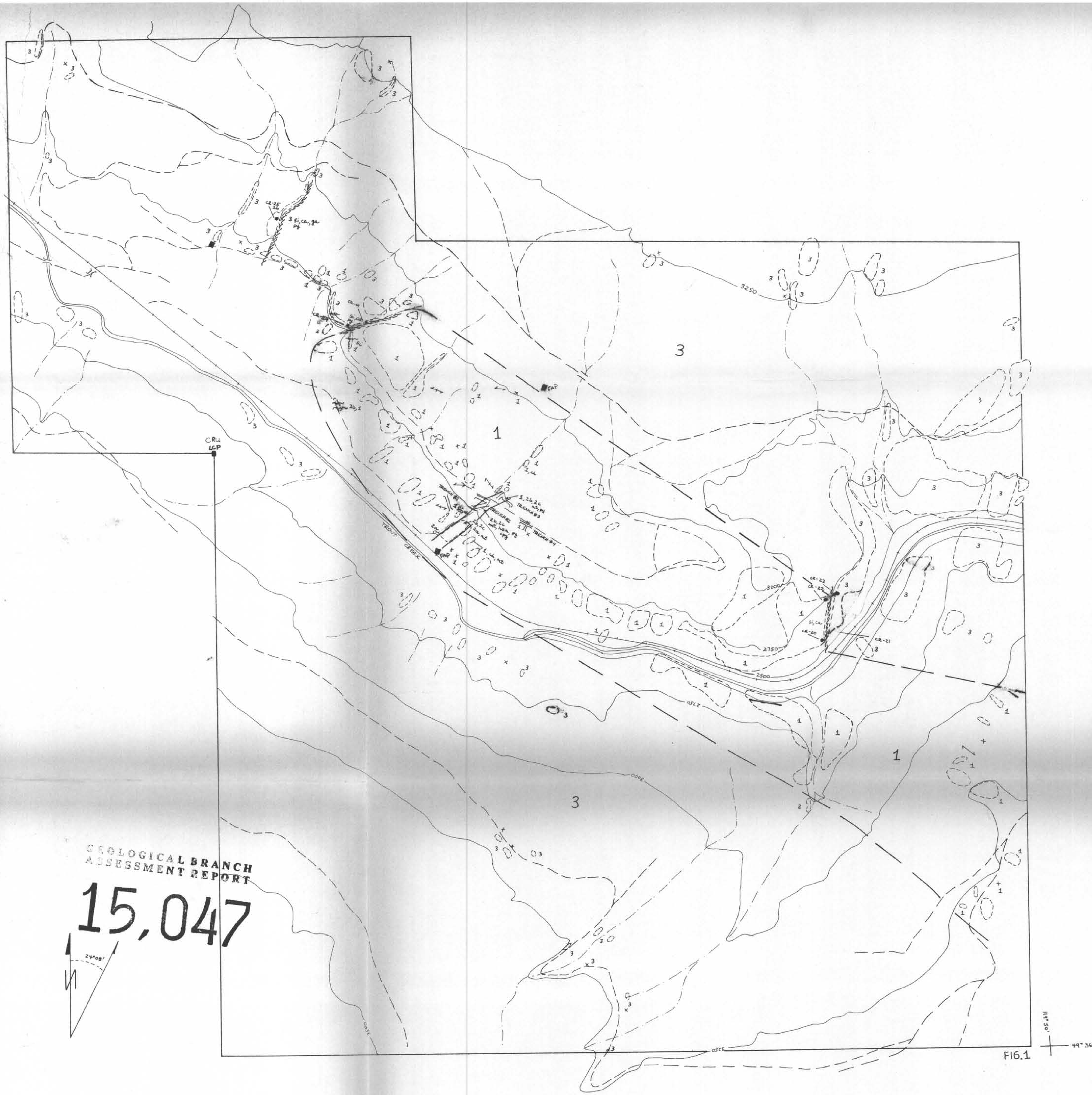


FIG. 1

LEGEND

3	NELSON PLUTONIC ROCKS QUARTZ DIORITE
2	MINERALIZED SHEAR ZONE 2a CHLORITE ROCK 2b QUARTZ-CARBONATE-MICA ROCK 2c SILICEOUS GOSSAN
1	HORNBLENDE GNEISS

FOLIATION (GNEISSOSITY)
a) INCLINED
b) VERTICAL
c) DIP UNKNOWN

si SILICIFICATION
ch CHLORITIZATION
ca CARBONATIZATION
py PYRITE
cpy CHALCOPYRITE
mt MAGNETITE
hem HEMATITE
GEOLOGICAL CONTACT
SHEAR ZONE
MAIN MINERALIZED SHEAR ZONE
ga GALENA

CLAIM POST
CONTOUR LINE
STREAM
RIVER
RAILWAY
ROAD
OUTCROP AREA
OUTCROP
TRENCH
SAMPLE LOCATION
CR-21 SAMPLE NUMBER

SCALE 1:5000

CRUMP PROPERTY
OSOYOOS MINING DIV.
BRITISH COLUMBIA

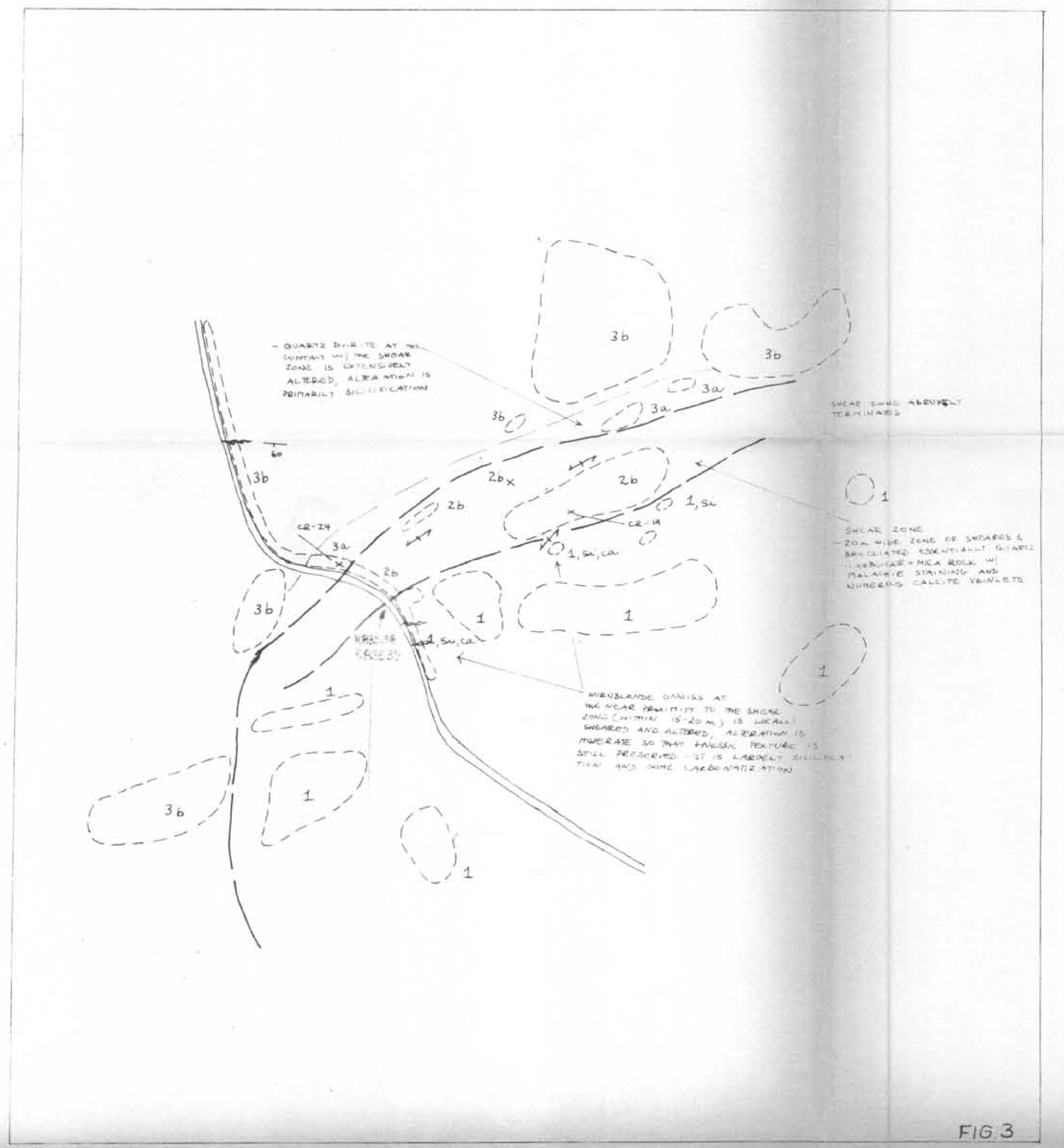


FIG 3

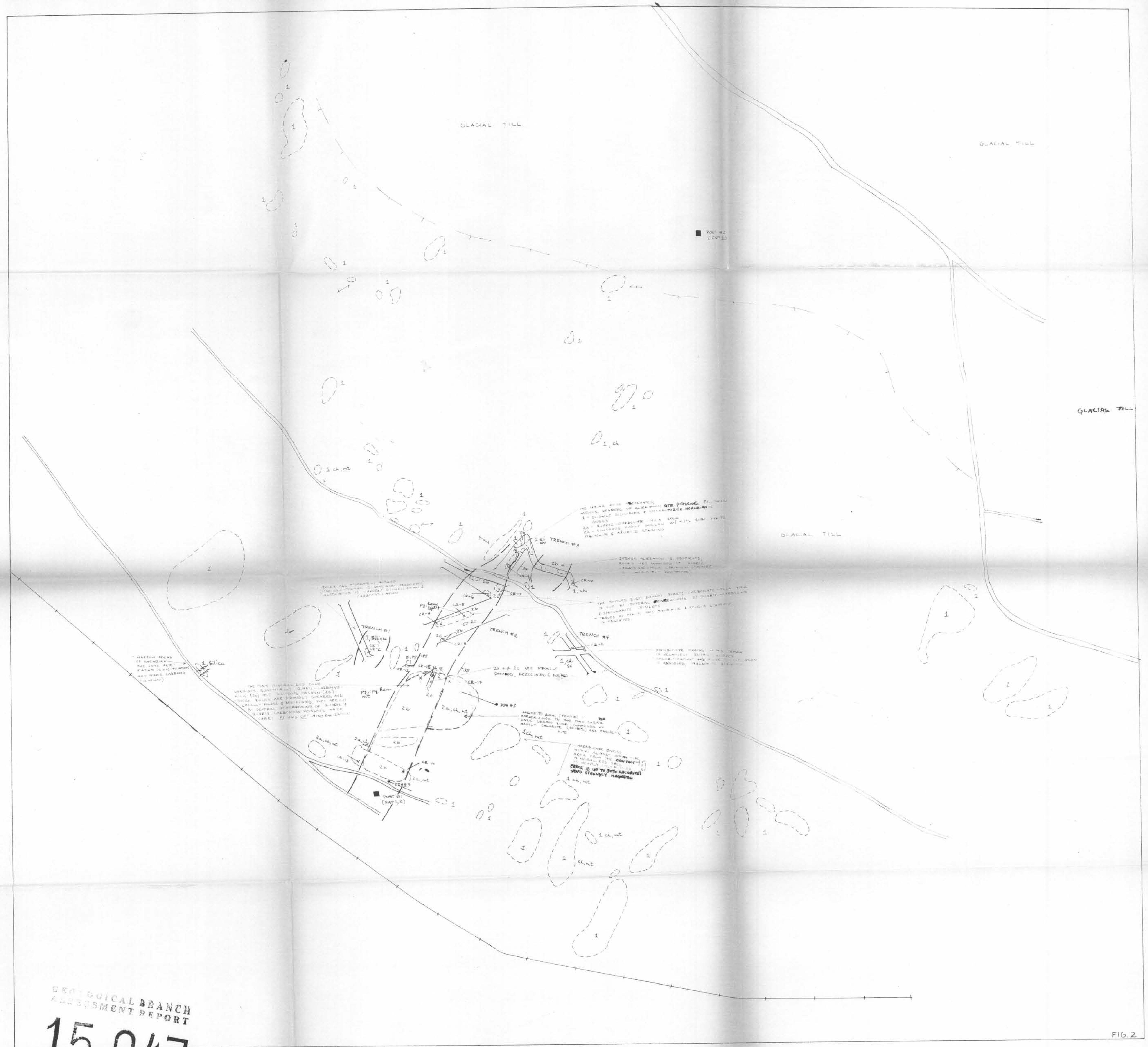


FIG 2

LEGEND

3	NELSON PLUTONIC ROCKS 3a HYBRID ROCK - SILICIFIED QUARTZ DIORITE 3b QUARTZ DIORITE
2	MINERALIZED SHEAR ZONE 2a CHLORITE ROCK 2b QUARTZ - CARBONATE - MICA ROCK 2c SILICEOUS GOSSAN
1	HORNBLENDE GNEISS

35	STRIKE AND DIP OF SHEAR ZONE	■	CLAIM POST
	FOLIATION (GNEISSOSITY) a, INCLINED b, VERTICAL c, DIP UNKNOWN		ROAD
			RAILWAY
si	SILICIFICATION		OUTCROP AREA
ca	CARBONATIZATION		TRENCH
ch	CHLORITIZATION	x	SAMPLE LOCATION
py	PYRITE	CR-9	SAMPLE NUMBER
cpy	CHALCOPYRITE		GLACIAL DEPOSIT (BENCH)
mt	MAGNETITE		SHEAR ZONE
hem	HEMATITE		GEOLOGICAL CONTACT
sph	SPHALERITE		DIAMOND DRILL HOLE

N

SCALE 1:1000

20 10 0 20 40 60 METERS

CRUMP PROPERTY

OSOYOOS MINING DIV.
BRITISH COLUMBIA