



GEOLOGICAL, GEOCHEMICAL, TRENCHING AND ASSAY REPORT

ON THE

JAR 1-8; 9-12; 17-19; 21, 22, 31, 32 MINERAL CLAIMS

LATITUDE 60°24'N

LONGITUDE 131°52'

NTS 105B/5

by

J.C. STEPHEN

H. AWMACK

WORK DONE

July 2-12, 29,31

AUGUST 1983

BY

J.C. STEPHEN EXPLORATIONS LTD.

FUNDED BY

D.C. SYNDICATE

091478



This report was prepared by
 the Geological Survey of Canada
 under contract to the Yukon Quartz
 Mining Syndicate Ltd.
 for a fee of \$5,700 -

P. Walker

for the Regional Mineral
 Geological Survey for Commissioner
 of Yukon Territory.

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MAPS

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GEOLOGICAL, GEOCHEMICAL, TRENCHING AND ASSAY REPORT

ON THE

JAR 1-8, 9-12, 17-19, 21, 22, 31, 32 MINERAL CLAIMS

SUMMARY AND CONCLUSIONS

D.C. Syndicate has conducted exploration in the Hake and Seagull batholith areas since 1976. Regional prospecting in 1981 located small skarn showings with anomalous tin, copper and zinc values. Investigation of some of these results in 1982 resulted in staking JAR 1-8 to the north of the original skarn showing on an east west striking silver bearing galena showing. The 1983 program was intended to further map and sample this silver bearing structure.

Preliminary examination of the silver showing quickly showed the original sampling to have been improperly done resulting in misleading assay results. Work in the vicinity however suggested other mineralized zones might be present and the JAR 9-32 claims were staked. As mapping progressed it was decided to record only JAR 9-12, 17-19, 21, 22, 31 and 32 claims. Subsequently McCrory Holdings were contracted to carry out trenching on JAR 32 to provide for adequate sampling of the original skarn found in 1981.

Data collected to date does not suggest zones of economic size or grade. Further assaying for tin on samples taken from the skarn zone trenches is warranted. The claims should be held pending developments in the region.

LOCATION AND ACCESS

The JAR claims are located 58 kilometres northwest of Swift River or 55 kilometres northeast of Teslin. Access could be achieved along the west side of Morley River to the Alaska highway, a distance of 50 kilometres. See Figure 1.

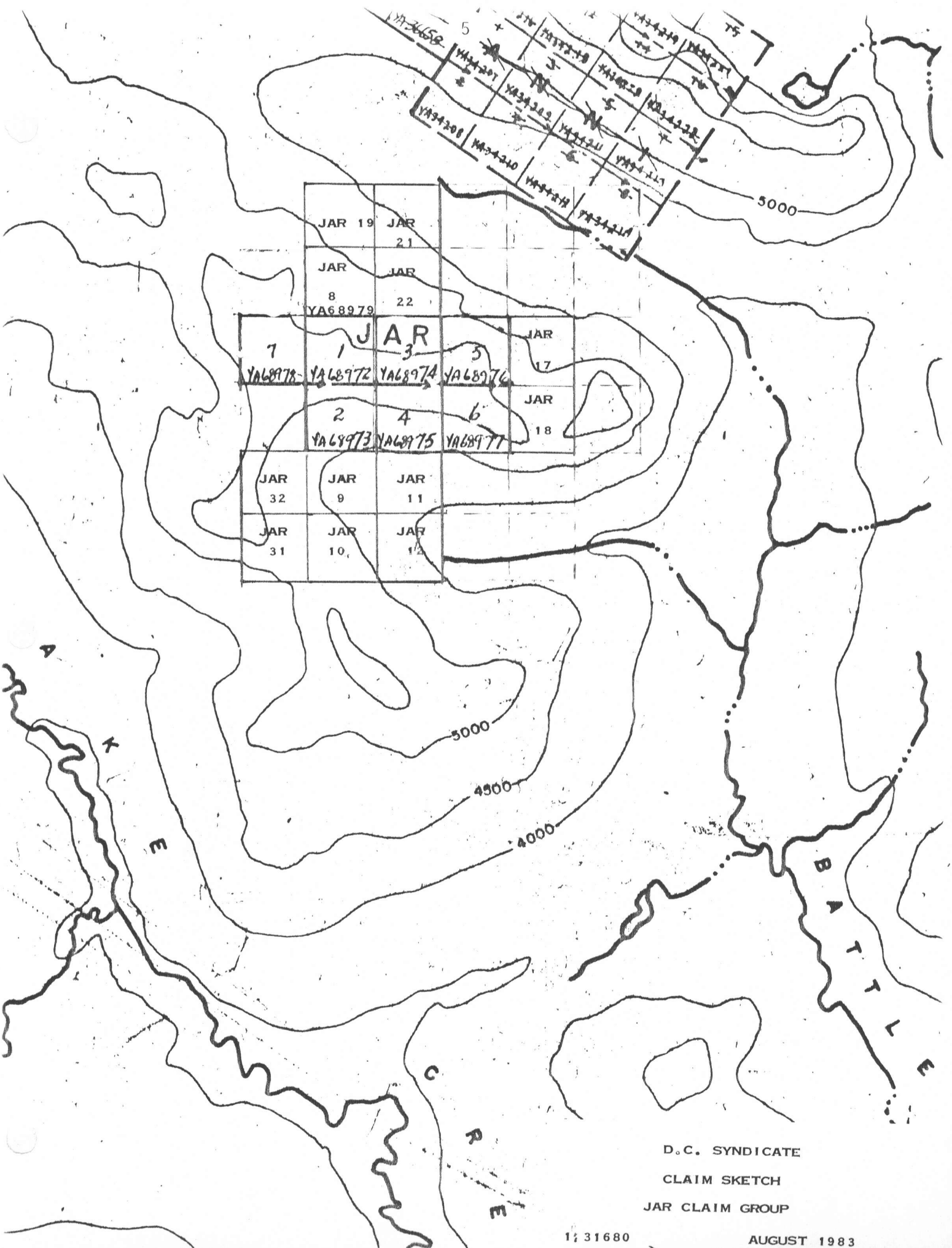
Access to the claim group to date has been entirely by helicopter.

Elevations in the property area range from about 1220 metres to about 1710 metres. Valleys are relatively broad, with moderate slope and marginal "tree line" timber. Most of the prospect area consists of fairly rugged topography above tree line. Outcrop is generally limited to steep north facing cirque faces and scattered small areas on the gentler scree and scrub covered south facing slopes.

CLAIM REGISTER

<u>NAMES</u>	<u>RECORD NO.</u>	<u>RECORD DATE</u>
JAR 1 - 8	YA 68972 - 979	Aug. 26, 1982
JAR 9 - 12		July 28, 1983
JAR 17 - 19		July 28, 1983
JAR 21, 22		July 28, 1983
JAR 31, 32		July 28, 1983

A sketch of the location of these claims follows as
Figure 2.



D.C. SYNDICATE
CLAIM SKETCH
JAR CLAIM GROUP

REGIONAL GEOLOGY

Figure 3 is copied from G.S.C. Map 10-1960 Wolf Lake. More recent mapping by J.G. Abbott "Geology of Seagull Tin District" describes the area to the southeast in more detail. This mapping did not extend northwest of Morley River.

The following is a portion of the descriptive notes on G.S.C. Map 10-1960.

(C)

5	Grey-buff dolomite; underlain by thin-bedded shale and limestone, and buff dolomitic siltstone and quartzite.
---	---

CASSIAR INTRUSIONS



The oldest known, relatively unmetamorphosed rocks in the map-area are thick-bedded, reddish, grey, and white-weathering quartzites (2) containing interbeds of phyllite and slate. The sequence appears to be several thousand feet thick. Unit 2 is conformably overlain by more than 1,000 feet of thick-bedded, light grey limestone (3), which in the southern part of the map-area contains Lower Cambrian archeocyathids. Unit 3c, a dominantly limestone unit, may be older than unit 3 as it appears to be overlain by unit 2 south of the highway near the east edge of the map-area. Metamorphic rocks (1a) in the central part of the map-area seem to grade by decreasing metamorphism into rocks of units 2 and 3. Rocks of unit 4 are generally highly folded and commonly form the loci of major faults. They are chiefly contorted dark grey to brown phyllites and argillites with thin limy interbeds. In places throughout the map-area they have been converted to hornfels (4c). Units 4 and 4c conformably overlie limestone (3). Two or three hundred feet of Middle Silurian graptolitic rocks (5) are overlain by 100 to 200 feet of non-fossiliferous dolomite (also in unit 5), which in turn is overlain by quartzite (6) of probable Middle Silurian age. The quartzite and overlying dolomite (6) are about 2,000 feet thick and are conformably overlain by Devonian and Mississippian rocks (7).

Devonian and Mississippian rocks (7) occupy parts of two faulted major synclines, one on each side of the Cassiar batholith (15a). In the southeast, more than 8,000 feet of these strata are exposed. On Hazel Ridge they are about 9,500 feet thick, the base of the section being exposed west of the map-area. The greenstone (7a), lying above and east of the limestone and dolomite bed (7c) on Hazel Ridge and Englishmans Range, apparently pinches out to the northwest in Teslin map-area. In the fault-slice near Hidden Lake, rocks of map-unit 7 lie conformably on Middle Devonian dolomite (6).

Mississippian rocks (8) in the Dorsey Range are about 14,000 feet thick west of the Pine Lake airstrip and about 25,000 feet thick north of Dorsey Lake. Most of the argillaceous rocks have been metamorphosed to hornfels and hard argillite by the underlying Seagull and Hake batholiths and stocks (16). The Mississippian rocks (8) overlie conformably the greenstone-bearing assemblage (7) along most of the northeast border of Dorsey Range.

Strata of map-units 10 and 11 are about 5,000 feet thick. Rocks of map-unit 12 overlie, apparently unconformably, those of map-units 8 and 11. Conglomerate (12a) near Wolf River is composed of pebbles and cobbles of schist, quartzite, granitic rocks, limestone, and slate, and contains Permian fossils. Tentative lithological correlation with dated formations in nearby parts of Yukon Territory and British Columbia suggests that map-units 12b and 12c are Triassic and/or Jurassic in age.

Massive pink to grey biotite-quartz-monzonite and granodiorite are the characteristic rocks of the Cassiar batholith (15a) and most of the stocks and batholiths to the east (15d). The western margin of the batholith consists of a sheared and foliated zone which, near the highway, is about 4 miles wide. The granitic body around Marker Lake contains conspicuous muscovite, as well as biotite, and areas of gneiss and biotite schist (1d). West of the batholith (15a) the stratified rocks

are cut and extensively metamorphosed by diorite and granitic intrusions. Evidence from other map-areas indicates that most of the granitic rocks (15, 16) were intruded during the Jurassic and/or Cretaceous periods. The granitic rocks of map-unit 16 appear to be younger than those of map-units 14 and 15, as was substantiated by potassium-argon dating (on biotite) of about 59 million years (uppermost Cretaceous or lowermost Tertiary). Diorite and ultramafic bodies (13, 14) are cut by rocks of units 15b, 15e, and 16, but their ages are not otherwise defined.

As much as 250 feet of flat-lying olivine basalt (17) occurs in the Rancheria River valley. The top of the basalt is marked by a relatively flat bench, but the base is everywhere concealed by drift (18). The lavas were probably erupted in the late Tertiary and/or Pleistocene.

Pleistocene ice probably at one time covered the whole map-area. It appears to have moved easterly through and around the Cassiar Mountains in the eastern two thirds of the map-area, and thence southeast on Liard Plain. Direction of ice-movement near the western border is uncertain, but west and north of the map-area, it seems to be westerly and north-westerly.

The dominant structures in the map-area are two northwest-trending major synclines separated by an anticlinal area occupied by the Cassiar batholith (15a), and two major fault systems in the Rocky Mountain Trench (Liard Plain in map-area) and Tintina Valley, which overlap one another in the northeast corner of the map-area. Another major anticline lies a few miles west of Hazel Ridge, and yet another passes through rocks of units 2 and 3b near the highway and the east border of the map-area. The major folds plunge southeasterly from 0 to 15 degrees and have vertical or steeply dipping axial planes. Map-units 2, 3, and 4(?) in the southeast corner of the map-area appear to form major, nearly-isoclinal folds. The rocks (4, 5, 6, 7) of the interior of a major syncline have apparently been broken by tear faults and down-faulted against older rocks (2, 3, 4). These northerly trending faults probably continue northward, but could not be traced. Along the northeast border of Dorsey Range, Middle Devonian and younger rocks (6, 7, 8) are down-faulted against older rocks (2, 3, 4). Along the southwest border of Dorsey and Englishmans Ranges, Mississippian rocks (8) seem to be down-faulted against older rocks (7). Along the southwest contact of the Cassiar batholith (15a), as far northwest as Ice Lakes Creek, rock units 2 and 3 have been down-faulted against the batholith.

MAP 10-1960
WOLF LAKE
YUKON TERRITORY
SHEET 105 B

PROPERTY GEOLOGY

The following geological descriptions are taken from H. Awnack's field report.

ROCK UNITS SEE MAP I

1. Argillite (Specimen HA83-36, HA83-44)

The argillite is black soft fine-grained and typically phyllitic, with thinly laminated chloritic (?) cleavages. The cleavage appears to parallel compositional layering and is commonly isoclinally folded; locally contacts between bands of different composition are brecciated.

Minor dark brown siltstone and dark grey cherty argillite, neither with well developed foliation, are included in this unit.

Near the Hake batholith, the argillite is gneissic, with thin alternating white (quartz-rich) and black (biotite-rich) bands, (Specimen HA83-45). A gradual transition to phyllitic argillite occurs away from the contact with the Hake batholith.

The argillite weathers recessively, forming cols in the ridges.

2. "Sedimentary" Hornfels (Specimen HA83-31)

The sedimentary hornfels unit includes a variety of rock types which do not appear to be volcanic in origin. They are thinly interbedded (from a few centimeters to a few meters in thickness). Among the members of the sedimentary hornfels unit are pale blue-green quartzite and meta-siltstone, fine-grained silicious purple hornfels,

crystalline limestone and its associated skarn (mapped separately as unit 2a), and minor phyllitic argillite.

The sedimentary hornfels appears to pinch out to the east and is interbedded with andesitic volcanic hornfels (tuffaceous in part) to the south, in the area of the sphalerite skarn.

This unit is not distinctive and its separation from the volcanic hornfels is imprecise.

2a. Limestone

Limestone beds are rare, occur mainly in the sedimentary hornfels, and are generally only one to two meters thick. The limestone is dark grey to white, finely to coarsely crystalline and contains crinoid (?) fossils from 5 to 20 mm across. Thin bands of fine-grained green actinolite-chlorite-epidote skarn occur in all limestone beds, and some have been completely skarned to green sphalerite $\pm$ arsenopyrite $\pm$ pyrite skarn. Randomly oriented milky quartz veins occur in some of the less skarned limestone beds.

Argillite beds commonly enclose the limestone.

3. "Volcanic" Hornfels

The volcanic hornfels unit includes several volcanic rock types. The most distinctive is the andesitic tuff (Specimen HA83-38) and tuff breccia (Specimen HA83-40). Clasts are mainly white or light grey, hard, oval and aligned. Other clasts are of feldspar porphyry or massive coarse chlorite (after basalt). The matrix is fine-grained and purple or green (generally greener - more chloritic - to the east).

The tuff and tuff-breccia occur almost entirely in the eastern third of the volcanic hornfels, in thick (10 - 50 m) beds alternating with massive flow(?) andesite. Specimen HA83-41 appears to be a highly hornfelsed version of the tuff (from the central third of the volcanic hornfels) and thin (e.g. 30 cm) tuff-breccia beds near the sphalerite skarn may be distal equivalents of these tuffs and tuff-breccias.

The andesite tuff/tuff-breccia has been partially differentiated as unit 3a.

Interbedded with the andesite tuff/tuff-breccia in the eastern third of the unit is a flow andesite (Specimen HA83-39). This andesite is massive, fine-grained, dark green-grey with phenocrysts of feldspar and lesser hornblende. Minor pyrite is disseminated. The andesite is fresh-appearing, without foliation or phenocryst alignment, and contains few chlorite stringers. It weathers light grey and granular.

The distinctive volcanic hornfels of the western two thirds of the air photo is massive, fine-grained, purple to green, and cut by numerous, mainly parallel stringers of chlorite-actinolite $\pm$ quartz $\pm$ rare chalcopyrite with bleached, silicious envelopes. The origin of these stringers is unknown.

4. Hake Batholith

The main body of the Hake batholith is very uniform, where ever it is found. The feldspar (about 55%) are cream colored and euhedral or interstitial to quartz. The quartz (35%) is slightly smoky, and variable from 2-10 mm in size. Biotite (10%) is altered to chlorite.

Near its intrusive contacts, the Hake may be entirely unaltered, may have its feldspars altered to clay minerals, or may be porphyrite and pegmatitic, with much muscovite, no biotite, and rare tourmaline. (Specimen 80666)

Dikes are fairly common near the contact and are often leucocratic and specialized. (Specimen 4A83-42, HA83-47)

5. Silicified Rock - Quartzite, Chert.

The silicified rock (quartzite) is composed largely of granular to cherty quartz with pale yellow muscovite defining foliation planes. It weathers clean and white on surface. At the south contact of the granite body cutting the ridge south of JAR 9 - 12 this rock type includes beds of quartz pebble conglomerate with well rounded quartz pebbles up to 10 cm in diameter.

In the northern portion of JAR 18 the silicified rock consists of a bed of black fine grained chert cut by numerous white quartz stringers and apparently overlain by clean white quartzite. In the gullies to the west of the main outcrop the quartzite contains angular to rounded quartzitic fragments up to 8 cm in diameter. Apparently overlying the quartzite are slate and phyllitic schist of unit 1. The structure is very much more complex than indicated by the map and relationship of this unit to other rock types is obscure in this area.

On the north boundary of JAR 2 the upper outcrop of unit 5 consists of black chert while the lower eastern outcrop consists of white quartzite. Here this unit is separated from Unit 1 micaceous phyllite by an apparent fault.

STRUCTURE

The minor fold axes and axial planes are generally $165^{\circ}/0^{\circ}$ and $165^{\circ}/40^{\circ}\text{S.W.}(?)$ respectively, although there is a wide range. Folding is generally tight to isoclinal; axial planes are curved, indicating at least two phases of folding. Vergence of the minor folds indicates that a syncline underlies the central portion of the volcanic hornfels and anticlinal underlie the argillites on the northern ridge. These synclines and anticlines (with fold axis near horizontal and trending 165° , and axial plane dipping moderately west) have been domed slightly by an anticline running east(?) along the common boundary of JAR 2 and JAR 9.

In the absence of any determination of 'tops' to the stratigraphy, I have assumed that the stratigraphy is right-side-up; the volcanic hornfels overlies the sedimentary hornfels which overlies the argillite. The Hake batholith intrudes all of the above.

MINERALIZATION

Campbell's shear zone, described in the 1982 report, is not of much significance. It can be traced for 122m, oriented at 115°/75S, with only minor offsets. The zone varies from 40 cm to 175 cm wide and consists of limonitic planar fractures in volcanic hornfels with minor quartz veining. Locally the shearing is more intense; galena occurs in a soft, green (epidote-rich?) brecciated gouge. The zone is too narrow, too short in length (it is open to the east but no mineralized float occurs in the talus under its hypothetical extension), too spottily mineralized and has too low an Ag:Pb ratio to merit further work.

There is a prominent gully striking 040° which intersects the shear zone at its most mineralized point (sample 41478C, from 1982). There is much skarn float in this gully; the float boulder 41476C sampled in 1982 (of specimen HA83-46) contains coarse galena in a chloritic (skarn?) matrix. It was not assayed for Sn. About 20 metres south (uphill) from the shear zone, skarn (green garnet-brown garnet-epidote-calcite) outcrops in the gully. Sample 80669 covers a true width of about ten meters of this skarn. (Isoclinal folding has doubled-or-quadrupled-the original thickness, which appears to be from one to three meters farther south). Its orientation is roughly 175/60W, but with its folding, I believe that it continues down the gully (and is recessive). I also believe that the float boulder 41478C came from this skarn mineralizing fluids. South and uphill from 80669, the limestone is less skarned (50 meters uphill from 80669, there is only one meter thickness of skarn and 6 meters of limestone).

A smaller skarn zone occurs a few hundred meters south west of the pond on JAR 5. A prominent gully, trending 045°, is bounded on each side by about twenty meters of very rusty rock. A bed of limestone, one to two meters thick, is chevron-folded in and out of the zone of rusty rock. Sample 80662 is from the galena-pyrrhotite-chlorite-quartz-red garnet skarn developed within the rusty zone. Outside the zone, the limestone is unaltered or weakly skarned (tremolite, micas etc). Of more interest, possibly, is whatever is in the gully, at the center of the alteration and mineralization.

The sphalerite skarn found in 1981 two kilometres southwest of camp was trenched and chip sampled. It appears to be one continuous 1 - 2 m thick skarn which is complexly folded. Exposure consists of various limbs and noses of the skarn.

The narrow width and uncertain (but greater than 200 m) extent make this skarn uneconomic. The best mineralized skarn is diopside ± epidote ± chlorite ± quartz ± calcite, (Specimen 80663) containing varying amounts of sphalerite (up to 100%), galena (up to 5%), chalcopryrite (up to 5%), arsenopyrite (up to 1%), pyrite (up to 1%) and magnetite (70% in the only location noted). This grades into a garnet-green garnet-calcite) skarn (Specimen 80685(?)) similarly mineralized but of a lower grade. Commonly bordering the skarn is a light grey, cherty rock with abundant stringers and pockets of diopside skarn and locally well-mineralized.

On JAR 19 strongly sheared and clay altered Hake quartz monzonite contains quartz chlorite altered fracture and vein selvages striking 110°/75°S. These zones and chloritic greisens are similar to the greisen selvages in some Cornish deposits; e.g. Hemerdon. Most selvages are less than 1 cm wide, the largest noted is about 1 meter wide

and the density of fractures is low (about one per metre). The zone exposed in the creek extends about 200 m x 20 m, no similar alteration was found beyond the creek drainage - where rock outcrop is rather limited.

GEOCHEMISTRY

MAP II

A total of 214 talus samples were collected at 100 to 150 m intervals along contour lines. In some areas two, three or four parallel lines were sampled but generally only one line was used. These samples tested areas beyond the areas sampled in 1982.

Samples were collected from whatever talus or soil material was available in shallow holes dug to about 10 to 25 cm depths. Soils are poorly developed and material varied widely. Data sheets for these samples are included in this report as Appendix I.

Results of analyses for lead, zinc, silver and tin are shown on Map II. This map is intended as an overlay of Map I Geology and may be oriented by means of claim post locations.

The area is strongly anomalous for lead although mineralization was identified in only a few areas and was not extensive in any instance.

The mean value of all talus samples is 143 ppm lead and the standard deviation 290 ppm. Values range to a high of 2450 ppm.

Below the fracture zone containing the galena mineralization sampled in 1982 talus samples range from 44 to 1100 ppm with high values directly below the gully cutting the best galena mineralization.

Other high values were encountered in the gully area immediately west of the chert and quartzite (silicified rock) near the location line of JAR 17 and 18.

Sporadic highs, up to 2400 ppm occur south of the peak on JAR 6.

Two relatively high values were obtained on JAR 2 south of chert and quartzite in the saddle near the location line.

Zinc values are not particularly high ranging in only one instance to 5500 ppm. The mean value is 281 ppm with a high standard deviation of 502 ppm. With the exception of some isolated values, AT-106 61 ppm Pb, 2970 ppm Zn and AT-238 25 ppm Pb, 5500 ppm Zn) there is a general 1:1 correlation between lead and zinc values. The high zinc values with relatively low lead values are AT 238-241 and AT 105-110 on either side of the ridge hosting the main zinc, tin bearing skarn on JAR 32.

The highest silver value obtained was 3.8 ppm. There is only poor correlation of silver with lead and zinc values.

Tin values are low with a mean of 2.78 ppm and a standard deviation of 4.28 ppm. Values are scattered with a high of 47 ppm. Values in the vicinity of the tin bearing skarn range from 5 to 20 ppm. The high of 47 ppm occurs about the middle of JAR 18 with two associated values of 7 and 8 ppm Sn. No mineralization has been found here.

1983 talus sampling, not shown on Map II, was located on JAR 3 west of the main pond and on the south slope of the ridge on JAR 4. These areas are strongly anomalous for lead.

TRENCHING AND SAMPLING PROGRAM

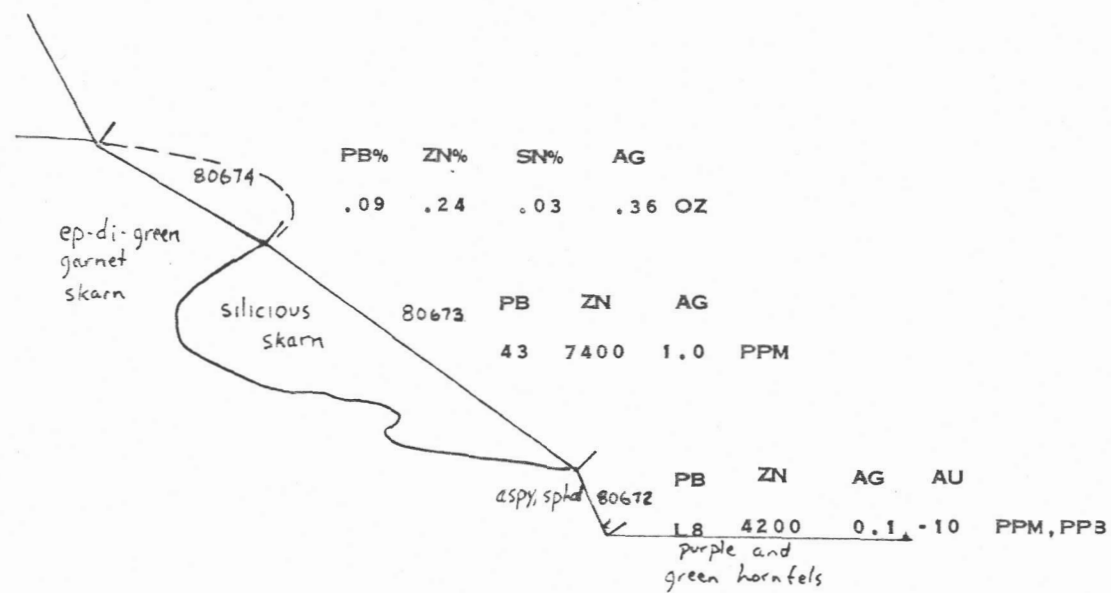
Zinc-Tin Bearing Skarn

Geological mapping indicated the zinc, tin bearing skarn on JAR 32 was more extensive than had been previously reported. McCrory Holdings were contracted to blast a series of trenches across this zone to prove continuity and provide fresh surfaces for sampling.

Trenches were chip sampled and mapped individually after blasting and cleaning. Individual vertical sections follow as Figure 4 to 12 and results are shown in plan view at a scale of 1:200 on Map III

Assay results of significance are confined to the south end of the zone where 28.8% zinc over 0.9 m was obtained in the lower section of Trench 2 and 1.18% tin over 3.1 m was obtained in Trench 4. Because of the complex folding it is difficult to estimate what the true widths might be. Some further assaying for tin may be justified in Trenches 2, 3 and 5.

Prospecting down the west slope of the ridge failed to find a down dip extension of this skarn horizon but talus sampling indicates an anomalous zone near the south limit on this slope.



- 19 -

JAR CLAIM GROUP
TRENCH 1
VERTICAL SECTION LOOKING TO 350°
Scale 1:50 FIGURE 4

UPPER TRENCH

CU PB ZN AG

.16% .01% 2.00% .14 OZ 0.16% SN

80675

Calc-silicate

?

Di-qtz
skarn
(sphal, gal)

80693

PB ZN SN AG

.15% .94% -.01% 0.10 OZ

?

Di skarn
(sphal, aspy, py, gal,
tetrahedrite?)

80692

PB ZN SN AG CU

-.01% 28.8% -.01% .12 OZ .05%

80691

Di-qtz-ep-chl
skarn
(sphal, gal)

PB ZN SN AG

-.01% .96% .02% .01 OZ

?

PB ZN AG

34 2420 0.8 PPM

Di-qtz-
ep
skarn

80690

PB ZN AG

22 2150 0.2 PPM

Silicious
skarn

80689

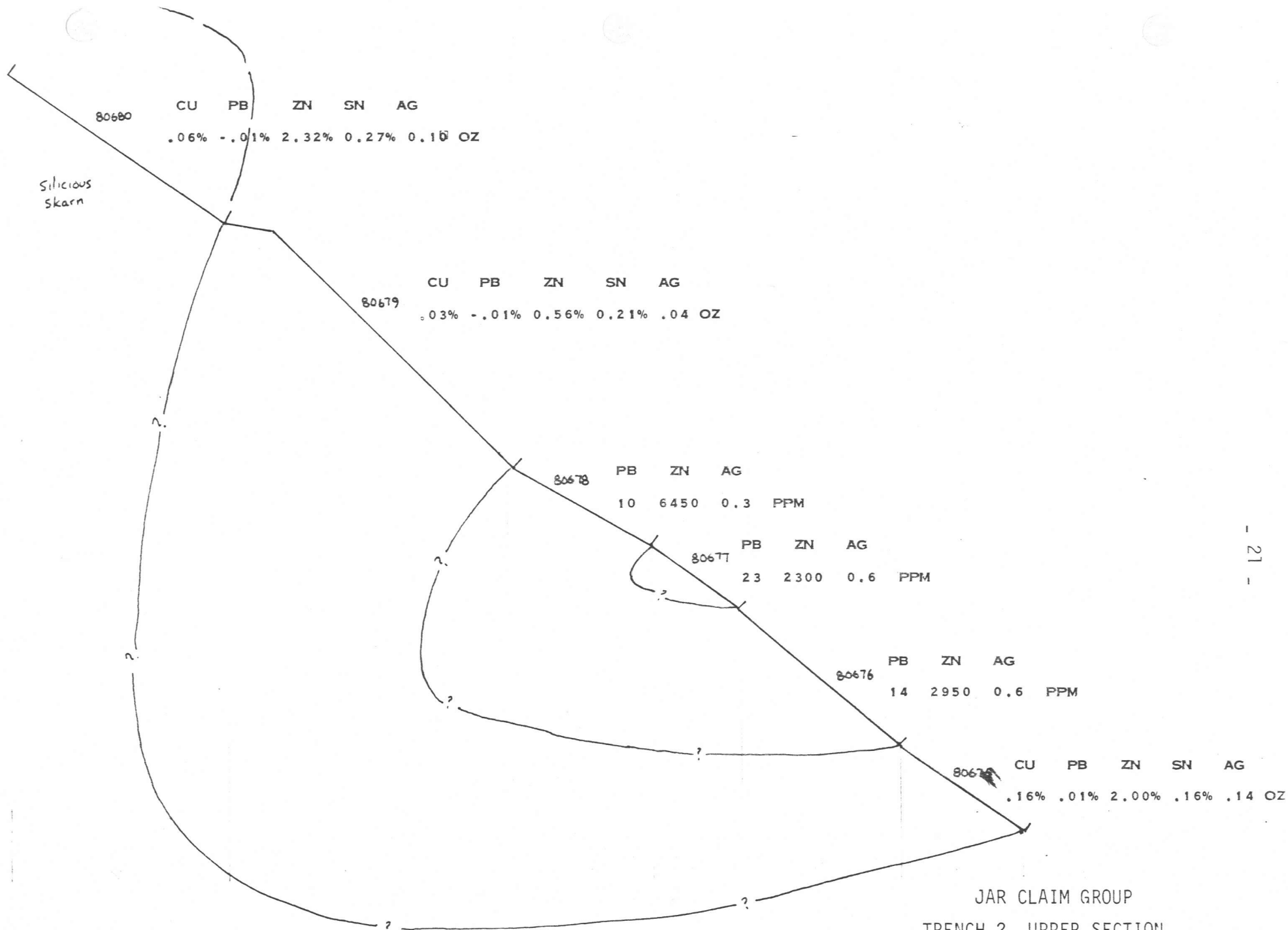
JAR CLAIM GROUP

TRENCH 2 LOWER SECTION

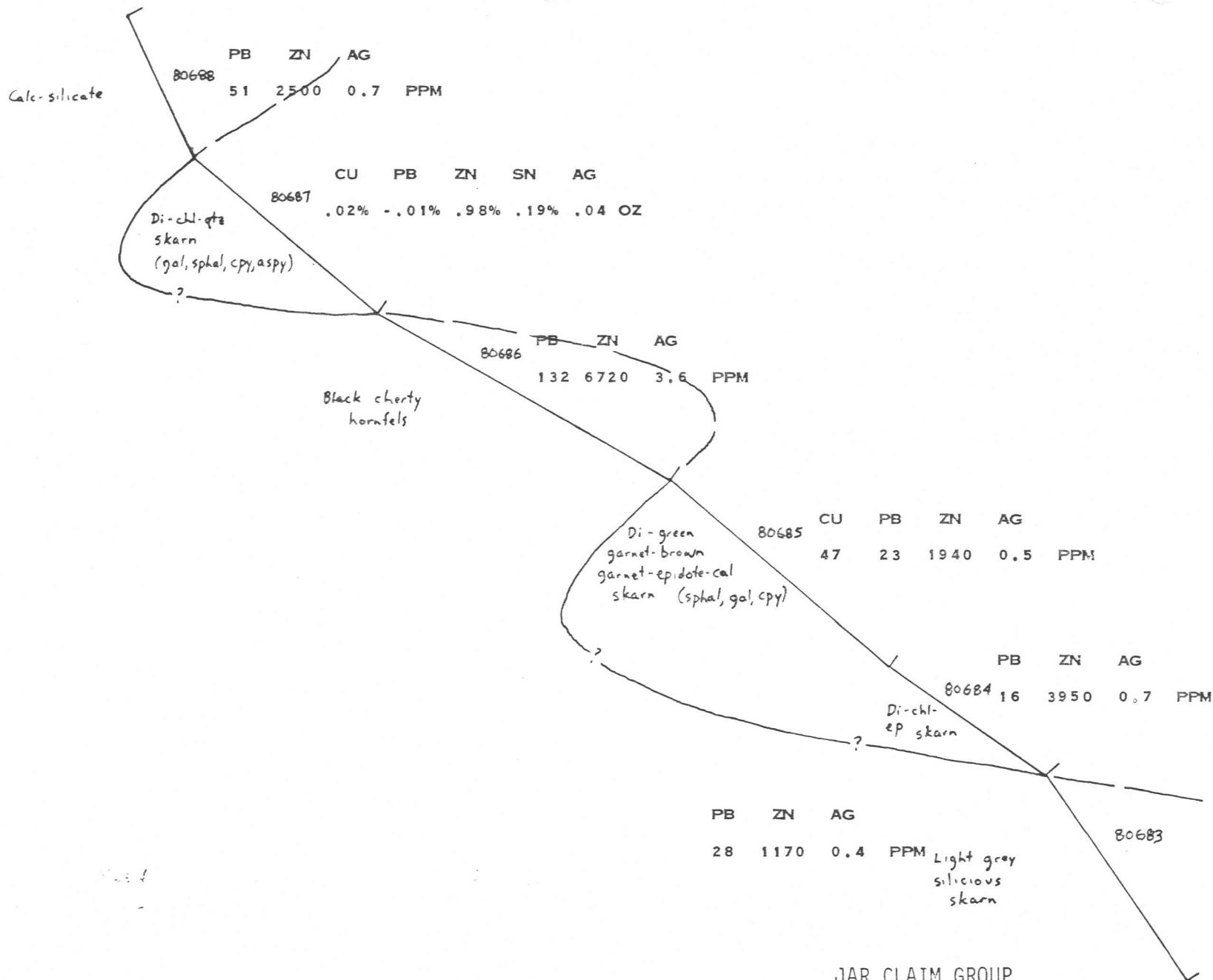
VERTICAL SECTION LOOKING TO 350°

Scale 1:50

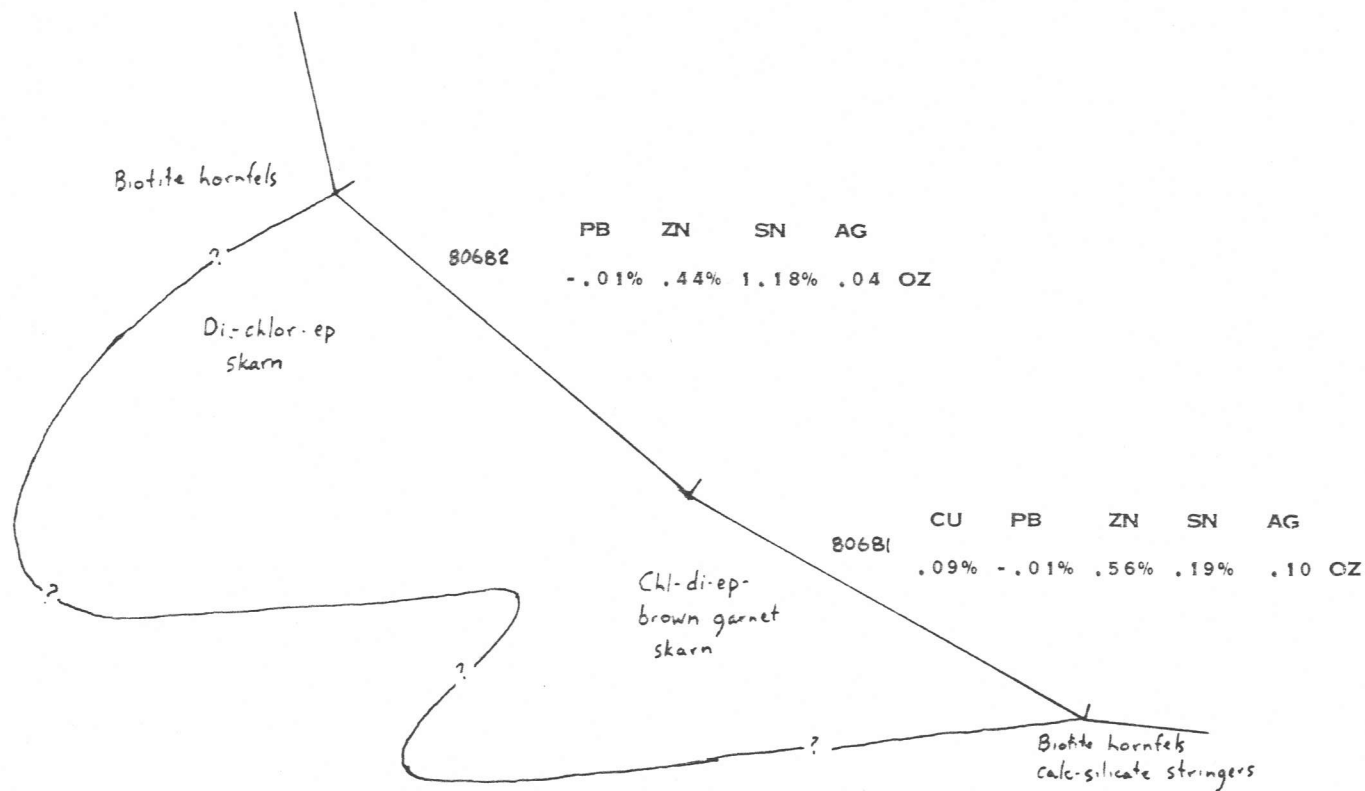
FIGURE 5



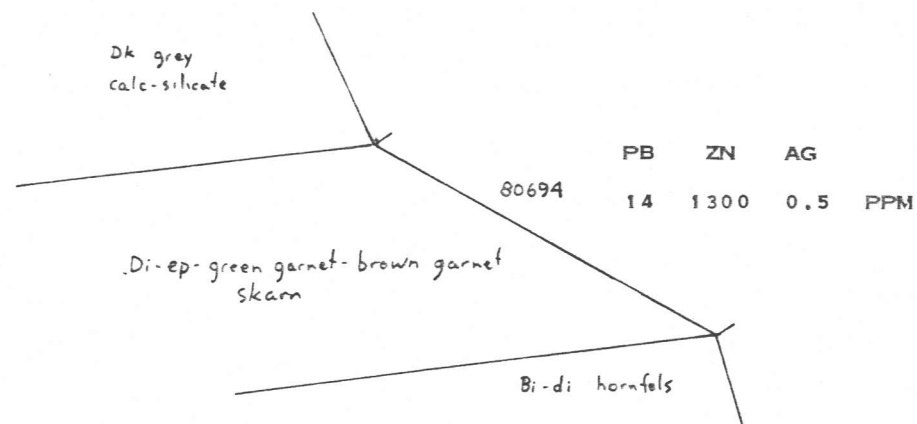
JAR CLAIM GROUP
TRENCH 2 UPPER SECTION
VERTICAL SECTION LOOKING TO 350°
Scale 1:50 FIGURE 6



JAR CLAIM GROUP
TRENCH 3
VERTICAL SECTION LOOKING TO 350°
Scale 1:50 FIGURE 7

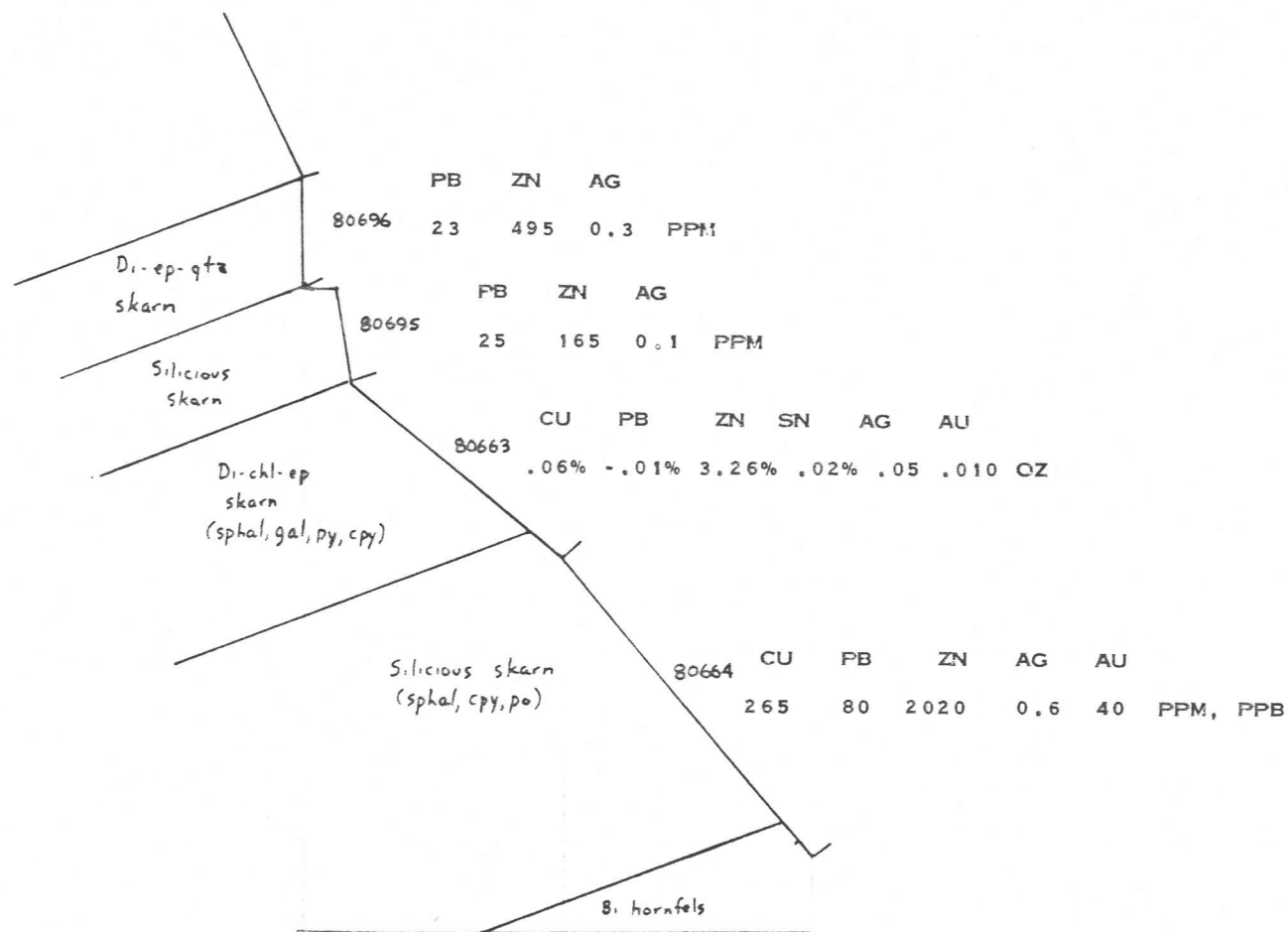


JAR CLAIM GROUP
TRENCH 4
VERTICAL SECTION LOOKING 350°
Scale 1:50 FIGURE 8



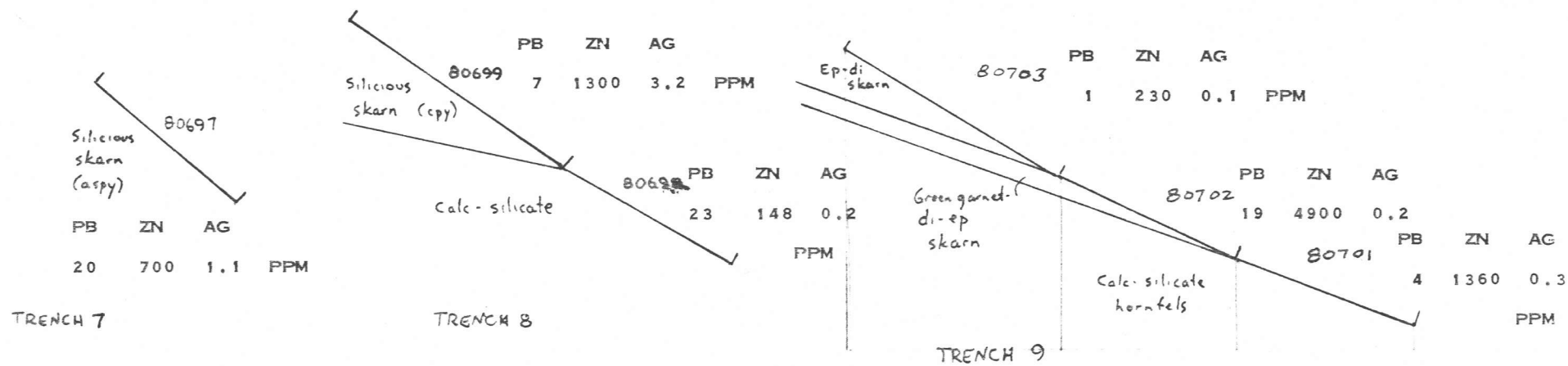
TRENCH 5
1:50

JAR CLAIM GROUP
TRENCH 5
VERTICAL SECTION LOOKING 350°
Scale 1:50 FIGURE 9



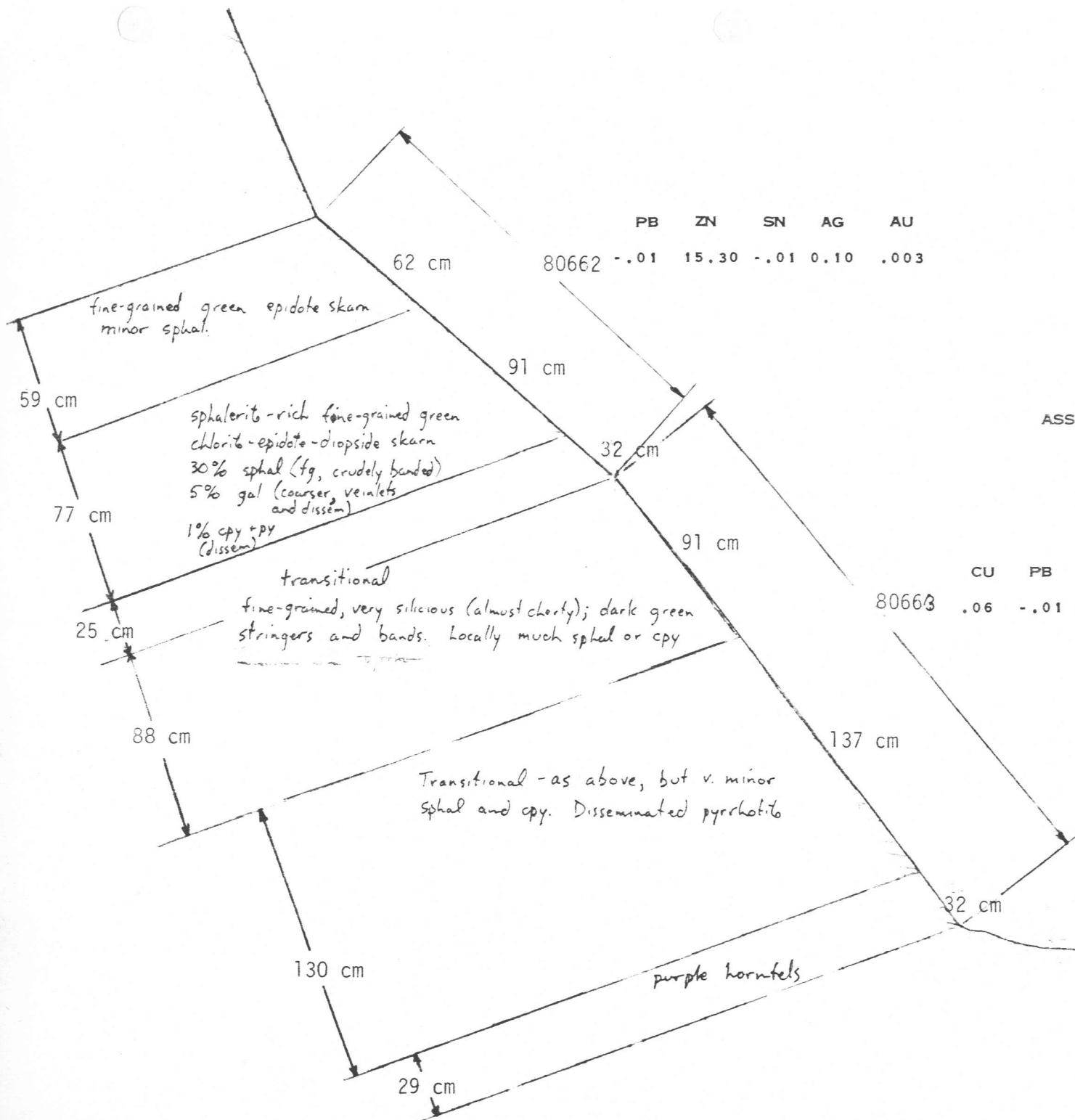
- 25 -

JAR CLAIM GROUP
TRENCH 6
VERTICAL SECTION LOOKING 350°
Scale 1:50 FIGURE 10



VERTICAL SECTIONS LOOKING 350°

JAR CLAIM GROUP
TRENCHES 7, 8 & 9
VERTICAL SECTIONS LOOKING 350°
Scale 1:50 FIGURE 11



	PB	ZN	SN	AG	AU
80662	-.01	15.30	-.01	0.10	.003

ASSAYS IN PERCENT AND OUNCES

	CU	PB	ZN	SN	AG	AU
80663	.06	-.01	3.26	.02	0.02	.010

JAR CLAIM GROUP
SPHALERITE SKARN

1982 SAMPLE 27534 SITE
VERTICAL SECTION LOOKING 350°

Scale 1:25 FIGURE 12

Campbell Lead-Silver "Shear" Zone

The zone reported by Campbell as a mineralized shear at the end of the 1982 field season was examined while mapping JAR 1 - 8 claims.

The mineralized zone is described under "Mineralization" by Awwack. A brief examination by Stephen indicates the zone is part of a strong east trending system of near vertical joint like fractures. Significant galena mineralization occurs over a width of only 20 cm in a limited portion of the fracture zone on the east wall and bottom of a north trending steep gulley. This is the location of sample 41478C which was painted up over a width of one metre and assayed 19.9% Pb, 0.46% Zn, 16.5 Ag/ton. It would seem the mineralization constituting only 20% of the sample length would have to be selectively sampled to give such an assay. The grade over one metre would appear to be very much lower.

On the west wall of the gully the zone is relatively tight with little sign of mineralization. Sampling had been done over about one metre at the top of the gully in rusty fractured rock.

To the west the fracture zone includes widths up to 1 metre of quartz filled breccia with limonite and manganese stain but only minor galena, sphalerite mineralization. The zone extends west to the top of precipitous slopes above the pond on JAR 5 and is probably responsible for the high lead assay in talus samples there.

To the east the zone is generally weak but a similar, if not the same, fracture zone was sampled over 25 cm returning 1.02 oz Ag and <.003 oz Au at the eastern edge of the outcrop area.

CONCLUSIONS AND RECOMMENDATIONS

The shear zone reported by Campbell in 1982 consists of a series of rather tight east trending, near vertical joints or fractures. Sulphide mineralization occurs only over a few centimetres in portions of a few of the fractures. In the area of strongest development the series of fractures occupies a width of up to 20 metres but generally the zone is 2 metres or less in width. It has no apparent economic significance for lead silver mineralization.

On JAR 19 a wide zone of Hake batholith is highly sheared and clay altered. It contains widely spaced chloritic greisens which have yet to be assayed for tin. These greisen zones trend 110° to 115° similar to the Campbell shear and may be part of the same structure. The appearance of the zone, or zones, is very similar to the east striking greisen zones on the MC, ZINC and DU claim groups on the Seagull batholith. Those zones contain galena, sphalerite, pyrite, cassiterite and manganese mineralization but are not apparently of economic size or grade.

Some further assaying for tin should be done on rock samples from these zones to test for tin content.

The skarn zone trenched on JAR 32 returned one significant tin assay 1.18% across 3.1 metres. Further assaying for tin should be done in adjoining trenches.

Work done to date should be recorded as assessment work and the claims held pending developments in the area.

Respectfully submitted

J.C. Stephen Explorations Ltd.

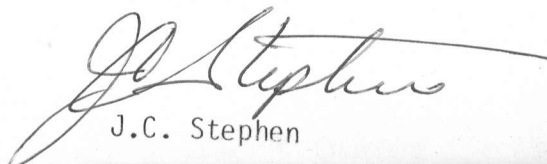

J.C. Stephen

TABLE OF EXPENDITURES

EXPENDITURES RE JAR 1 - 8 PRIOR TO RECORDING OF OTHER CLAIMS

WAGES

H. Awmack	July 2-12(Less 2 days staking)	9 days @ \$85.	\$765.00
I. Stephen	July 2-12(Less 2 days staking)	9 days @ \$45.	\$405.00
J. Lawton	July 2-12(Less 2 days staking)	9 days @ \$60.	\$540.00

FOOD AND CAMP SUPPLIES

Grocery order of July 2, 1983	\$378.16
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HELICOPTER

Charge 1 hour Hughes 500-C Helicopter @ \$450./hour + fuel	\$522.50
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CHEMEX LABS LTD. GEOCHEM

Talus 214 samples for Pb Zn Sn Ag	\$1,464.29
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TO BE APPLIED TO JAR 1 - 8

TOTAL

\$4074.95

EXPENDITURES RE JAR 9-12, 17-19, 21, 22, 31, 32
AFTER RECORDING DATE OF JULY 28, 1983

WAGES

H. Awmack	July 29-31	3 days @ \$85.	\$255.00
I. Stephen	July 29-31	3 days @ \$45.	135.00
J. Lawton	July 29-31	3 days @ \$60.	180.00

McCRORY HOLDINGS LTD.

Trenching and blasting in rock. See
map in accompanying Report.

Labour, equipment and supplies	\$2,196.60
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FOOD AND SUPPLIES

3 men x 3 days x \$10.	\$90.00
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HELICOPTER

Hughes 500C Mobilization	
2 hours @ \$450./hour + fuel	\$1,045.00

CHEMEX LABS LTD.

Assay 12 rock samples assayed	\$303.87
33 rock samples geochem	<u>346.34</u>
Total	\$4,551.81

To be applied to JAR 9-12, 17-19, 21, 22, 31, 32

A P P E N D I X I

GEOCHEMICAL DATA SHEETS

SAMPLER J. LAWTON

DATE _____

PROJECT JAR D.C. SYNDICATENTS 105 35

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	As	Sn
83 DCAT 5 1		Surface		light brown	fine	5%		moderate	grass and buckbush	some stones	190	470	0.8	1
2		"		brown	"	5-10%		"	grass & moss	"	920	1260	1.4	2
3		"		"	"	"		"	"	taken 2m from rivulet, some small stones	237	900	0.8	2
4		"		light brown	"	20%		steep	moss	damp, $\approx$ 1m from rivulet	730	1140	0.9	3
5		"		beige brown	"	5%		slight	moss	damp some small stones	760	1150	0.8	2
6		"		light brown	"	0%		moderate	no veg.	some small stones	620	950	1.0	2
7		"		light brown	"	5%		"	moss	"	495	720	1.3	1
8		"		dark brown	"	25-30%		"	moss	steep	70	157	0.5	1
9		"		"	coarse	10%		"	"	slightly damp	200	146	0.5	1
10		"		brown	"	"		"	"	some small stones	165	172	0.3	4
11		"		"	medium	0-5%		"	no veg.	"	198	440	0.4	1
12		"		"	"	"		"	"	"	273	240	0.8	1
13		"		"	"	0%		"	"	"	1100	690	1.1	3
14		"		"	fine	"		"	"	"	1100	365	2.0	1
15		"		rust brown	"	"		"	"	"	88	160	0.8	1
16		"		brown	"	5%		"	moss	"	44	175	0.4	1
17		"		"	"	0-5%		"	"	"	94	170	0.2	1
18		"		"	"	5%		"	"	"	44	123	0.1	1
19		"		"	medium	0%		"	no veg	"	30	98	0.1	1
20		"		"	"	"		"	"	"	26	104	0.4	1

SAMPLER J. LAWTON

DATE _____

PROJECT JAR - D.C. SYNDICATE

NTS 105 B 5

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
ES JCAT 21		"		brown	medium	10%		moderate	moss	some small stones	48	92	0.2	1
22		"		"	fine → medium	5%		"	"	"	54	26	0.4	1
23		"		"	"	0%		"	"	"	43	110	0.4	1
24		"		"	medium	0-5%		"	"	taken 1m from creek, some small stones	28	74	0.1	1
25		"		"	"	0%		"	no veg.	some small stones	115	220	1.0	1
26		"		"	fine	"		"	"	"	335	167	0.7	6
27		"		"	"	"		"	"	"	120	153	0.3	1
28		"		light brown	"	"		"	"	"	203	320	2.1	1
29		"		brown	"	10%		"	"	"	48	153	0.5	1
30		"		"	"	0%		"	moss	"	73	67	0.9	1
31		"		"	"	0-5%		"	moss	"	80	300	0.4	1
32		"		dark brown	"	0%		moderate-steep	no veg.	"	105	450	1.1	1
33		"		brown	fine → medium	"		"	"	"	188	650	1.4	1
34		"		"	fine	"		"	"	"	765	220	1.7	1
35		"		light brown	"	"		moderate	grass	"	550	143	1.2	1
36		"		brown	"	5-10%		"	moss	"	315	225	1.1	1
37		"		"	"	10%		"	grass	"	168	290	0.4	1
38		"		"	fine → medium	"		steep	"	"	105	172	0.6	1
39		"		"	"	0%		"	no veg.	"	51	109	0.3	1
40		"		"	fine	"		moderate	moss	"	37	96	0.2	1

NTS 105-B5

SAMPLER Ran Stephen

LINE

DATE

PROJECT JAR - DC SYNDICATE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
83 DCAT 40I		3"		Dark Brown	fine	10%		moderate- vertical	Patchy grass, moss		53	110	0.2	1
83 DCAT 42I		3"		Medium Brown	fine	5%		moderate	Patchy moss		31	81	0.4	1
83 DCAT 43I		3"		Dark Brown	fine	20%		slight- moderate	Patchy moss		178	250	0.6	1
" 44I		3"		Medium Brown	fine	10- 20%		very steep	Patchy moss, grass	Like wet beach sand. Taken 45m from 43I	45	98	0.1	1
" 45I		3"		Medium- Dark Brown	fine	10- 20%		moderate- steep	Patchy moss, grass		49	110	0.1	1
" 46I		3"		Medium- Dark Brown	fine	20%		very steep- vertical	Patchy moss, grass	Pebbly	33	92	0.1	1
" 47I		3"		Dark Brown	moderate	30%		very steep- vertical	sparse moss	Pebbly	23	94	0.2	1
" 48I		3"		Dark Brown	fine	30%		steep- very steep	Patchy moss, grass	Line was to follow top of ridge, but looking at top 30m of peak decided to go across for 47I & 48I, not over.	13	91	0.2	1
" 49I		3"		Dark Brown	fine	20%		very steep	Patchy grass	≈ 30m above unmarked pair of claim posts.	20	100	0.2	1
" 50I		3"		Medium- Dark Brown	fine	20%		steep	sparse grass, moss	≈ 20m below unmarked pair of claim posts.	25	99	0.2	2
" 51I		3"		Dark Brown	fine	10- 20%		very steep	sparse moss		24	98	0.3	1
" 52I		3"		Brown- Gray/black	fine	5%		moderate	Patchy grass, moss	Looks like someone poured used motor oil on the dirt.	36	98	0.7	1
" 53I		3"		Dark Brown	fine	20- 30%		moderate- steep	Patchy grass, moss		320	370	1.6	7
" 54I		3"		Medium Brown	fine	0%		slight- moderate	moss, thin grass		325	97	1.4	8
" 55I		3"		Dark Brown	moderate	10%		moderate- steep	Patchy grass, moss		425	280	2.1	1
" 56I		3"		Medium- Dark Brown	course	5%		moderate	sparse grass	gravel gravel	20	440	2.7	6
" 57I		3"		Medium- Dark Brown	moderate	30%		moderate	grass, moss	stone	570	430	1.0	7
" 58I		3"		Gray- Black	course	0%		slight	sparse moss	gravel	263	810	1.0	2
" 59I		3"		Medium Brown & gray	fine	5%		moderate	moss, grass		39	134	0.2	2
83 DCAT 60I		3"		Medium Brown	fine	10- 20%		moderate	moss	stone	32	140	0.2	1

SAMPLER Ian Stephen

PROJECT 1AR -DC SYNDICATE

LINE

DATE _____

AIR PHOTO NO.

[illegible]

[illegible]

NTS 105-B5

SAMPLER Ian Stephen

PROJECT JAR - DC SYNDICATE

LINE

DATE 7. 1982

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
83 ACAT 84		3"		Dark Brown	fine	5%		moderate	grass	taken at mouth of gopher hole; 60 m below claimpost ^{Porc. chert}	39	128	0.4	1
85		4"		"	moderate	20%		moderate-steep	grass, moss	stoney	30	95	0.8	1
86		4"		Dark Brown	fine	10%		moderate-steep	"	stoney	260	350	1.8	1
87		3"		Medium Brown	"	5%		moderate	"	Taken at mouth of gopher hole	195	156	1.9	7
88		"		Dark Brown	"	5%		"	"		26	67	0.4	1
89		"		Medium Brown	"	5%		"	"		44	97	0.2	1
90		"		Dark Brown	"	20%		"	"		82	138	0.1	1
91		"		Dark Brown	"	10%		moderate	grass, moss		24	105	0.2	1
92		"		Medium Brown	"	10%		slight-moderate	grass		27	101	0.5	1
93		3"		Medium-Dark Brown	"	100%		moderate	moss, sparse grass		70	145	1.2	2
94		4"		Brown/gray	"	10-20%		"	moss	stoney	28	153	0.2	1
95		4"		Dark Brown	"	10%		moderate	moss, grass	stoney	24	155	0.2	1
96		3"		Dark Brown	fine	30%		Moderate-steep	moss		38	126	0.7	1
97		4"		Medium Brown	moderate	10%		"	patchy grass, moss	stoney	31	220	0.2	1
98		4"		Gray/brown	moderate	10%		"	patchy moss	stoney	50	374	0.3	2
99		4"		Dark Brown	fine	10-20%		Moderate-steep	grass, moss	stoney	36	128	0.4	1
100		3"		"	"	10-20%		steep	"		13	167	0.3	6
101		3"		"	"	10-20%		"	grass, moss	solid rock 3" down	11	240	0.4	5
102		5"		"	"	10%		"	patchy grass		9	162	0.3	3
83 ACAT 103		8"		Dark Brown	fine	30%		steep	grass, moss	stoney End-line	33	345	0.6	6

NTS 105-B5

SAMPLER Don Stephen

PROJECT JAR - DC SYNDICATE

LINE

DATE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
83 DCAT 104		4"		Medium Brown	moderate	5%		steep	sparse moss	stoney, sandy feeling.	8	285	0.2	20
105		3"		Medium Brown	fine	20%		"	"	stoney	72	400	1.1	2
106		4"		Dark Brown	"	10-20%		"	"		61	292	0.3	6
107		3"		Dark Brown	"	5%		"	sparse moss		23	700	0.3	1
108		2"		Medium Brown	"	5%		"	patchy moss		12	220	0.1	2
109		3"		Dark Brown	"	10%		"	"		30	500	0.2	2
110		1"		"	"	5%		"	patchy moss		18	890	0.7	1
111		4"		"	"	10%		steep	grass, moss	stoney	26	190	0.2	1
112		3"		Dark Brown	fine	10%		moderate-steep	grass, moss	stoney	18	102	0.1	2
113		3"		Gray	moderate	0%		moderate-steep	patchy grass		38	200	0.1	2
114		3"		Gray	fine	5%		steep	sparse grass		52	340	0.3	1
115		2"		Medium Brown	fine	10-20%		"	patchy moss		41	350	0.3	3
116		3"		Dark Brown	coarse	30%		"	patchy moss	stoney	114	292	0.3	1
117		1"		Medium Brown	moderate	30%		"	sparse moss		112	440	0.7	2
118		2"		Medium Brown	fine	20%		moderate-steep	sparse moss		102	480	0.4	10
119		8"		Dark Brown	moderate	5%		"	grass		74	480	0.4	5
120		3"		Medium Brown	coarse	10-20%		"	grass, moss	taken at mouth of gopher hole	85	330	0.7	4
121		3"		Medium Brown	moderate	10-20%		moderate-steep	sparse grass		50	340	0.5	1
83 DCAT 122		3"		Gray	moderate	5%		steep	patchy grass	End Line	24	97	0.7	1

SAMPLER Tom Stephen

DATE 1985-12-12

PROJECT JAR - DC SYNDICATE

NTS 105-B5

LINE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
83 DCAT 123		4"		Medium Brown	fine	20%		moderate	grass Buckbrush		50	110	0.6	1
" 124		3'		Gray & Dark Brown	moderate fine	10%		moderate	grass Buckbrush	Gray surface to 2", then brown, stoney in Gray	79	76	0.3	7
" 125		6"		Medium Brown	course	10%		moderate	"	stoney	80	85	0.3	2
" 126		3"		Medium Brown	fine	5-10%		moderate steep	"		100	85	0.6	1
" 127		6"		Dark Brown	course	10%		"	"	stoney	42	77	0.3	1
" 128		11"		Medium-Dark Brown	moderate	10%		moderate steep	"		72	79	0.9	2
" 129		11"		Medium Brown	course	0%		moderate steep	"		160	145	0.9	1
" 130		13"		Gray/Brown	course	10%(0%)		moderate steep	"	All grey layer $\approx$ 1" thick at 6" down, 0% organics here End Line	150	154	0.5	3
" 131		7'		Dark Brown	fine	20%		moderate steep	"	stoney	42	96	0.3	1
" 132		6"		"	"	"		moderate	"		42	8	0.7	1
" 133		7"		Dark Brown	fine	20%		moderate steep	grass, Buckbrush		49	72	2.3	1
" 134		12"		Gray/Brown	course	5%		moderate steep	grass	stoney	35	83	0.8	2
" 135		4"		Gray & Brown	fine fine	10-20% 10%		steep	Buckbrush	Gray surface $\approx$ 2" deep, then brown, stoney in brown	26	92	0.2	3
" 136		4"		Medium Brown	fine	10-20%		moderate steep	"		28	84	0.2	3
" 137		4"		Dark Brown	"	20%		steep	Buckbrush		22	80	0.7	2
" 138		3"		Medium Brown	"	30%		moderate	grass	taken at mouth of gopher hole	22	110	0.6	2
" 139		4"		Gray/Brown	fine	20%		"	grass Buckbrush		45	77	0.3	4
" 140		6"		Dark Brown	moderate	"		moderate	"	stoney	49	172	0.7	1
" 141		8"		Dark Brown	moderate	20%		moderate steep	grass, buckbrush	stoney	50	103	1.5	1
83 DCAT 142		3"		Dark Brown	very fine	10%		moderate	grass buckbrush		76	92	1.7	1

SAMPLER Tom Stephen

PROJECT JAR - DC SYNDICATE

LINE

DATE _____

AIR PHOTO NO.

[illegible]

SAMPLER J. LAWTONPROJECT JAR - D.C. SYNDICATENTS 105 B5

LINE _____

DATE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
BSICAT 201		6"		brown	fine → med.	10-20%		moderate	moss & grass	some small stones	15	88	0.1	1
202		"		"	"	"		"	"	"	28	93	0.1	1
203		"		"	"	20%		"	moss	"	35	92	0.1	2
204		surface		"	"	10%		"	"	"	100	120	0.1	2
205		"		gray brown	fine	0%		"	"	"	400	2600	1.1	8
206		"		brown	"	10%		"	"	"	415	410	0.3	4
207		"		"	fine → med.	0-5%		"	"	"	125	185	0.2	9
208		"		"	fine	10-15%		"	"	"	350	500	0.5	10
209		"		"	"	0%		"	"	"	87	124	0.2	5
210		"		gray & brown	"	"		"	"	"	72	138	0.4	2
211		8"		brown	"	25%		"	moss & grass	"	145	188	0.5	1
212		4"		gray-brown	fine → med.	5%		flat	"	"	660	88	0.8	13
213		"		brown	"	10%		slight	moss	"	195	177	0.8	2
214		3"		"	"	0%		"	"	"	208	220	0.6	2
215		3"		"	"	"		"	"	"	85	201	0.6	2
216		4"		"	fine	5%		"	"	"	305	900	1.0	8
217		8"		"	"	0-5%		"	"	"	850	580	1.2	47
218		"		"	"	"		"	"	"	35	440	0.6	7
219		"		"	fine → med	10%		"	"	"	46	152	0.3	1
220		"		"	"	"		"	"	"	72	120	1.2	2
221		"		"	"	"		"	"	"	105	96	0.6	3
222		"		"	"	"		"	"	"	78	118	0.1	1

SAMPLER J. LAWTON

DATE _____

PROJECT JAR - D.C. SYNDICATENTS 105 75

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Pb	Zn	Ag	Sn
83 JCAT 223		surface		beige-brown	fine → med.	0-5		moderate	no veg.	some small stones	12	94	0.1	1
224		"		"	"	"		"	"	"	39	84	0.3	2
225		"		brown	fine	10		"	moss	"	15	700	0.4	5
226		"		"	"	0		"	no veg.	"	48	370	0.4	11
227		"		"	"	0-5		"	moss	"	26	176	0.2	5
228		"		"	"	0		"	no veg.	"	34	185	0.1	2
229		"		beige-brown	fine → med.	0-5		"	moss	"	16	160	0.1	6
230		"		brown	fine	0		"	no veg.	"	17	146	0.1	2
231		"		"	"	"		"	"	"	21	195	0.1	19
232		"		"	"	"		"	"	"	19	130	0.1	2
233		"		"	"	10		"	moss	"	20	166	0.2	1
234		10"		"	"	15-20		"	grass & moss	"	26	126	0.2	1
235		"		"	"	"		"	"	"	13	90	0.1	2
236		3"		"	"	10		"	"	"	12	94	0.2	1
237		4"		"	"	20		"	"	"	15	104	0.1	2
238		surface		"	"	0		"	no veg.	"	25	5500	0.4	18
239		8"		"	"	10		"	grass & moss	"	16	900	0.1	13
240		surface		"	"	0		slight	no veg.	wet some small stones	17	610	0.4	6
241		6"		"	"	10		slight → moderate	grass & moss	some small stones	13	780	0.2	5
242		surface		"	"	0		"	"	taken at animal burrow, some small stones	17	140	0.1	2

AIR PHOTO NO.

**J.C. STEPHEN
EXPLORATIONS LTD.**

GEOCHEMICAL DATA SHEET – SOIL SAMPLING

SAMPLER J. LAWTON

PROJECT JAR - D.C. SYNDICATE

NTS 105 R 5

LINE

DATE _____

AIR PHOTO NO.

[illegible]

GEOCHEMICAL DATA SHEET - ROCK GEOCHEM SAMPLING

SAMPLER HW MACK

PROJECT DC SYNDICATE - JAR

NTS

LINE

DATE

AIR PHOTO No.

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS			
									Cu/Pb/Zn	Ag	Au	Sn
80661 B	JAR 3	Silicious skarn; Pale green f.g. actinolite, quartz		Minor gal in stringers Minor sphal Scheelite (?)	170°	Adjacent to rusty NE gully.	2+ m		650/1440	1.4	410	6/1
80662	JAR 3 - 30 m S of	Skarn - chlorite qtz, red gar	Supergene ruby silver???	60% galena (?), 20% po. Minor tetrahedrite	190/30 E locally	In chevron-folded limestone band 20 m from gully	30 cm exposed	2 m	20.01/15.3	0.1	0003	40.0
80663	JAR 32	59 cm epidote skarn; 77 cm sphal-chlor-ep-di-gal cpy + py skarn;	25 cm silicious skarn		170/20 W	Continuous chip sample at 080° Site of 1982 sample 27534	ASSAY 161 cm		0.4/10.01/3.26	0.05	0.1	0.00
80664	JAR 32	218 cm silicious skarn stringers; 25 cm f.g. silicious	skarn; almost cherty locally sphal or cpy. purple hornfels	(grey) with green Dissem po	170/20 W	Continuous chip sample at 080° Continues east from 80663		247 cm	265/20.0	0.6	40	6
80665	Ridge south of JAR 12	Extreme qtz- muscovite Argillite	Extreme qtz- muscovite	V rare tourmaline and dissem sphal (?)		Adjacent (to east) to contact with Hake	19 m		63	0.1	20	2
80666	" " (10 m W of 80665)	Hake QM Border phase	Mainly f.g. Much muscovite. Clay altered felspars. Minor peg.				5 m			0.1	10	3
80667	Gully at south edge air photo	Hake QM	V. silicified (vuggy qtz + massive silic)	Hematite (cinnabar?) staining	080/90 (?)	Hake is porphyritic, pink for 20 m either side. Intrusion fault?	1+ m			0.1	20	3
80668	Ridge south of JAR 12	Argillite	Silicified	Limonic	Rubble	10 m North of Hake contact				0.1	410	2
80669	JAR 17 25 m S of 41487C	Skarn- greengar-browgar-ep-cal			175/60 W	Doubled or quadrupled by isoclinal folding (bedwidth 1-2 m?)	10 m					2
80670	JAR 17 20 m S of	Skarn greengar-redgar-	act-cal-oxinita (?)				1 m					1
80671 B	JAR 19	Hake QM - very Qtz-gal veinlet with	clay-altered. (pervasive) qtz-chlorite selvage	Gal (v. minor)	110/75 S	Selvages on parallel fractures common, most < 1 cm, up to 100 cm. Pink staining.	10 cm		60.3			
96680 B	CAMPBELL JAR SHEAR	10" SHEAR + VEIN, EAST END CAMPBELL		Ag Pb Zone			25 cm		1.020g	1.003		
681 B	CAMPBELL SHEAR 50' W. OF	QTZ BRECCIA SHOWING EDGE	BLACK (Mn?) STAIN	-			50 cm?		0.420g	1.003		
682 B	N. CONTACT GRANITE ON S. RIDGE S. OF JAR	SILICIOUS SINTER LIKE LIMONITE + CHERTY FRAGS		-					0.1	10		

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SAMPLER ALPHA

PROJECT DC - JAR SPHALERITE SKARN

LINE

DATE

All chip samples trend 080

AIR PHOTO No.

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE DIP	ADDITIONAL REMARKS	Sample Plunge	APPARENT WIDTH cm	ASSAYS				
									Cu	Pb	Zn	Ag	Sn
1) 80672	TRENCH 1	Ep-di skarn		aspy, sphal py		Geochem Pb Zn Ag Sn	65°	47		18	4200	0.1	41
2) 3	1	Silicious skarn				"	35°	260		43	7400	1.0	
3) 4	1	Ep-di-green garnet skarn		sphal		"	30°	125		0.09	0.24	0.36	0.03
4) 5	TRENCH 2	Di-cal-ep skarn		sphal, py, cpy, gal		Assay Pb Zn Ag Sn Cu	35°	155	0.16	0.01	2.0	0.14	0.16
5) 6	2	Brown gar-ep-cal-di skarn				Geochem	40°	215		14	2950	0.6	
6) 7	2	Silicious skarn				Geochem	35°	110		23	2300	0.6	
7) 8	2	Brown gar-green gar-cal				Geochem	30°	160		10	6450	0.3	
8) 9	2	Di-cal-chl skarn		aspy, sphal, gal, cpy, py, po		Assay	40°	340	0.03	40.01	0.56	0.04	0.21
9) 80680	2	Silicious & di-gte-chl skarn. V. oxidized. Sheared		sphal, py, cpy	125/70S	"	35°	270	0.06		2.32	0.1	0.27
10) 1	TRENCH 4	Chl-di-ep-br garnet skarn		sphal, gal, aspy, cpy		"	30°	305	0.09		0.56	0.1	0.19
11) 2	4	Di-chl-ep skarn		sphal, py		"	40°	310			0.44	0.04	1.1E
12) 3	TRENCH 3	Silicious skarn				Geochem	30°	220		28	1170	0.4	
13) 4	3	Di-chl-ep-gar skarn				"	40°	215		16	3950	0.7	
14) 5	3	Di-gar-ep-cal skarn		sphal, gal, cpy		"	30°	305		47 23	1940	0.5	
15) 6	3	Black cherty hornfels				"	40°	266		132	6720	3.6	
16) 7	3	Di-chl-gte skarn		gal-sphal, cpy, aspy		Assay	35°	170	0.2		0.98	0.04	0.19
17) 8	3	Calc-silicate				Geochem	55°	140		51	2500	0.8	
18) 9	TRENCH 2	Silicious skarn				"	45°	115		22	2150	0.2	
19) 80690	2	Di-gte-ep skarn				"	45°	230		34	2420	0.8	
20) 80691	2	Di-gte-ep-chl skarn		sphal gal		Assay	35° 15°	90 75			0.96	0.01	0.02

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STATEMENT OF QUALIFICATIONS

J.C. STEPHEN

Academic

1950 Associate Member British Institute Engineering Technology
1950-1951 One year Geology University of Alberta

Experience Summary

1947-1955 Development and production experience in engineering and geology at Central Patricia Gold Mines, Eldorado Mining and Refining, Madsen Gold Mines, Hasaga Gold Mines, Pickle Crow Gold Mines as Surveyor, Assistant to the Engineer, Geologist.
1955-1959 Regional exploration experience with Pickle Crow Gold Mines, Combined Developments Ltd., R.G. Crosby and Associates, Jay-Kay Syndicate as Field Geologist.
1959-1961 Municipal construction including monolithic concrete tunnels as Senior Inspector.
1962-1968 Regional exploration with Mastodon Highland Bell Mines as field geologist.
1968-1976 Regional exploration with Bacon and Crowhurst Ltd., as supervisor of exploration syndicates.
1977-Present President J.C. Stephen Explorations Ltd.

During summer 1983 I supervised the program on the JAR Mineral Claims and prepared this report.

J.C. Stephen

091478

STATEMENT OF QUALIFICATIONS

HENRY J. AWMACK

Graduated from University of British Columbia in May 1982 with Bachelor of Applied Science (Honors) in Geological Engineering (Mineral Exploration Option).

Registered as Engineer-In-Training with B.C. Association of Professional Engineers.

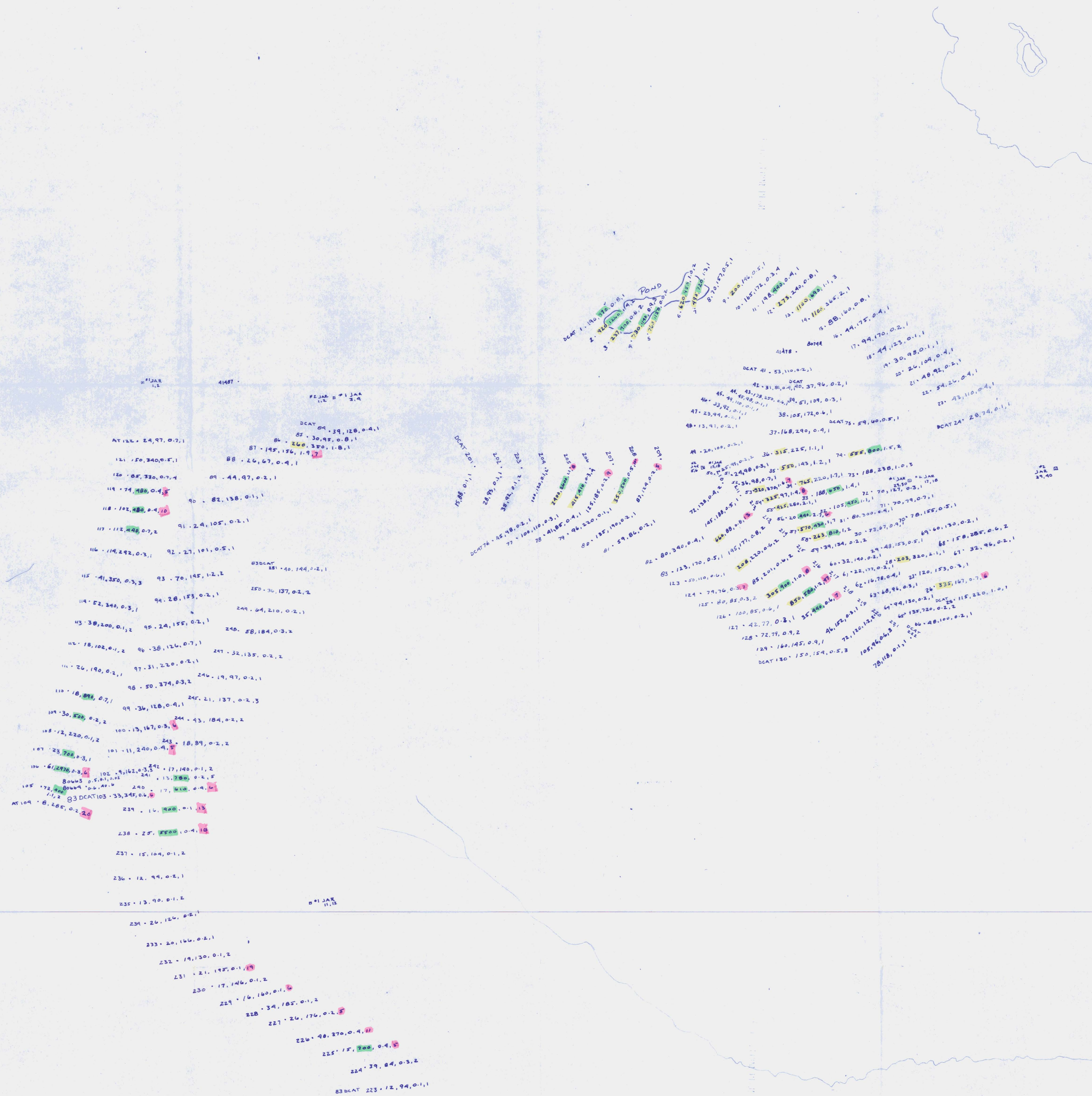
Six field seasons of work in all aspects of mineral exploration, most recently as Field Geologist with J.C. Stephen Explorations Ltd.

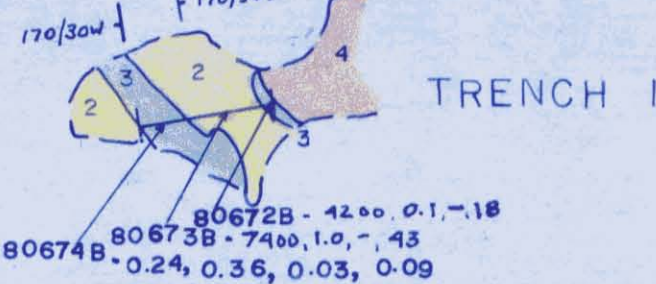
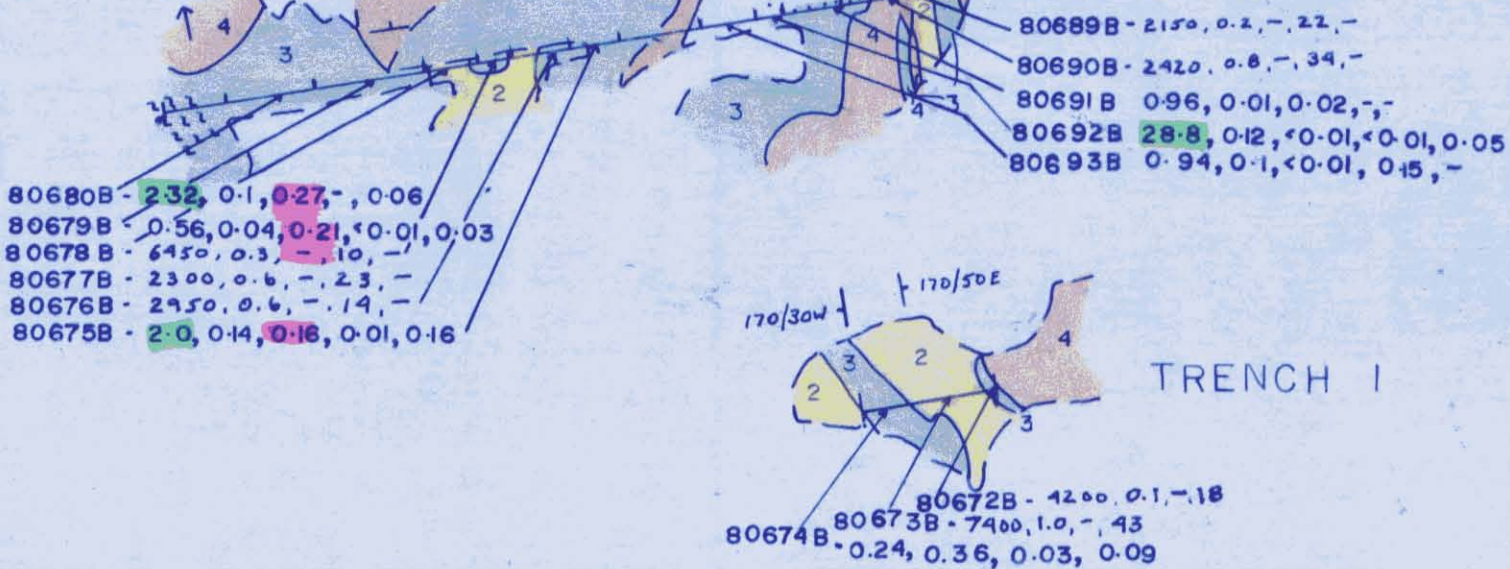
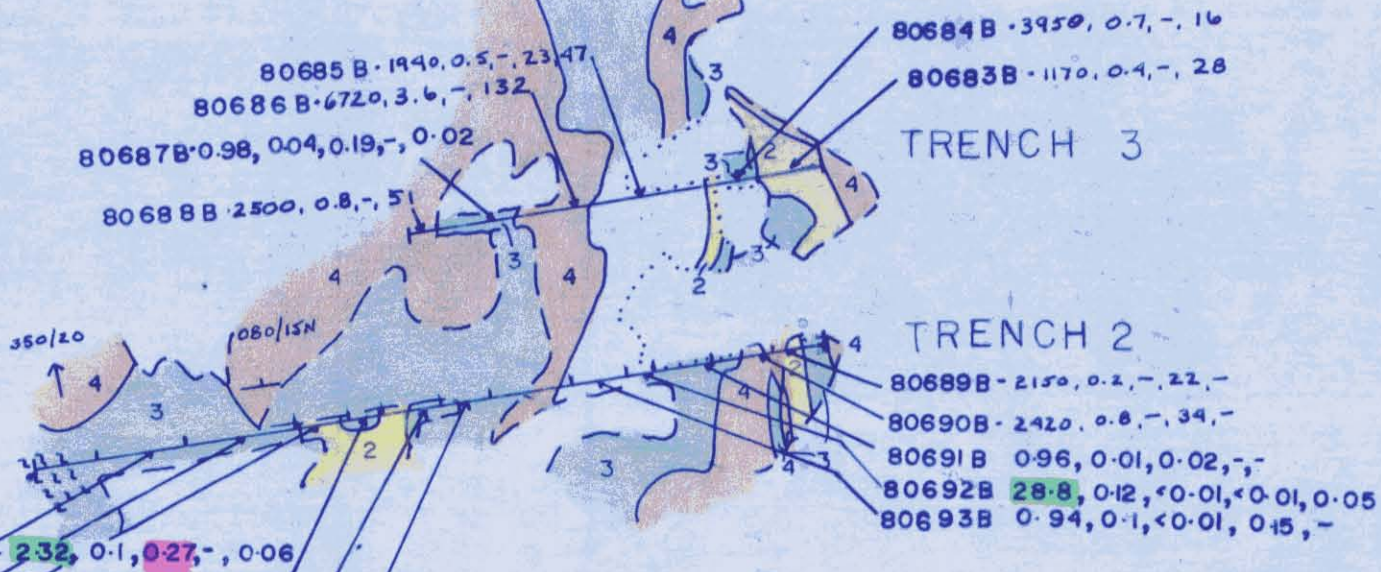
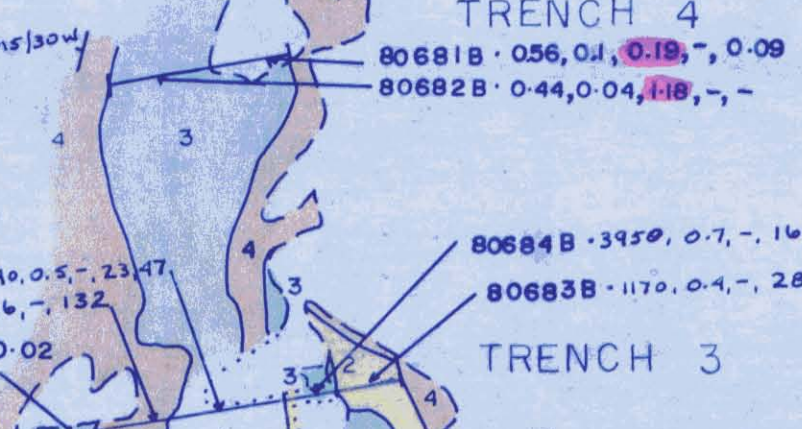
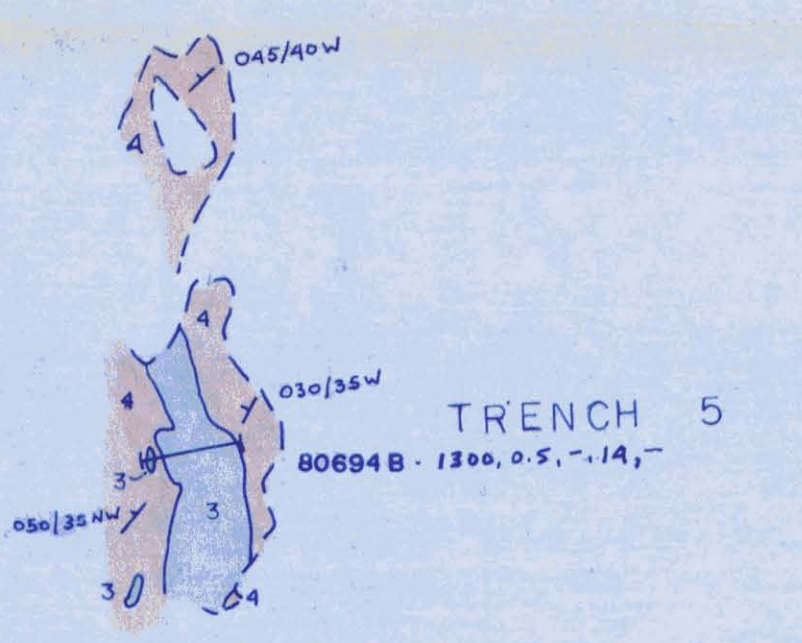
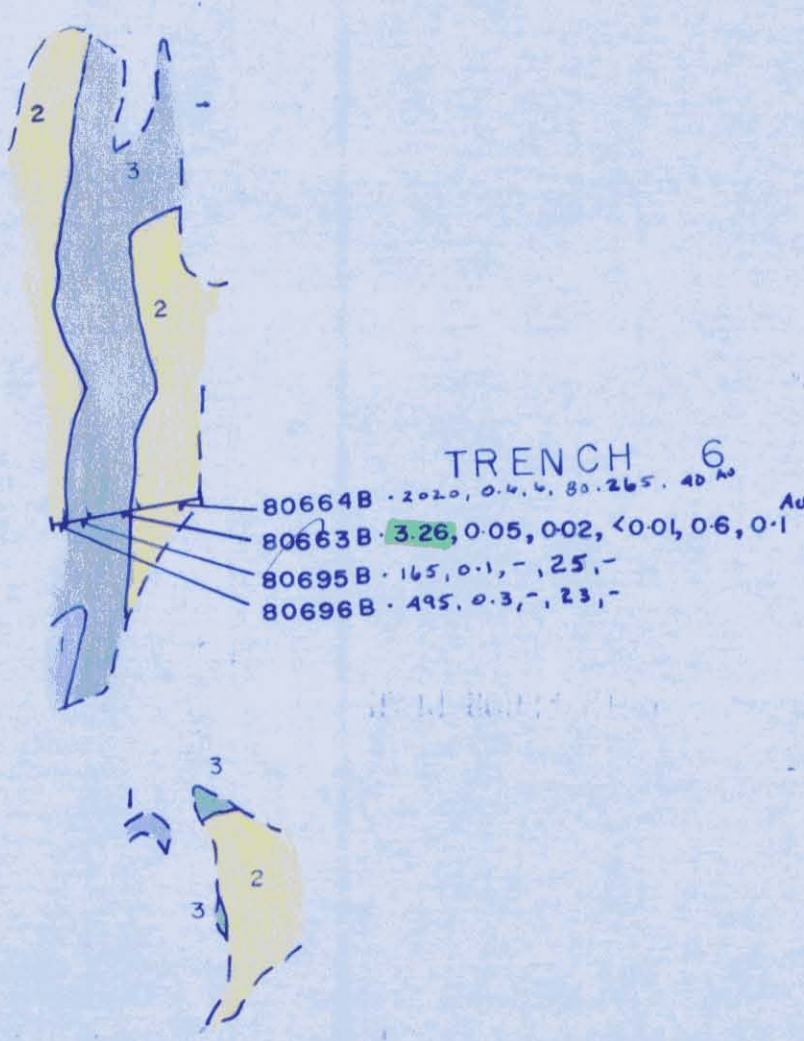
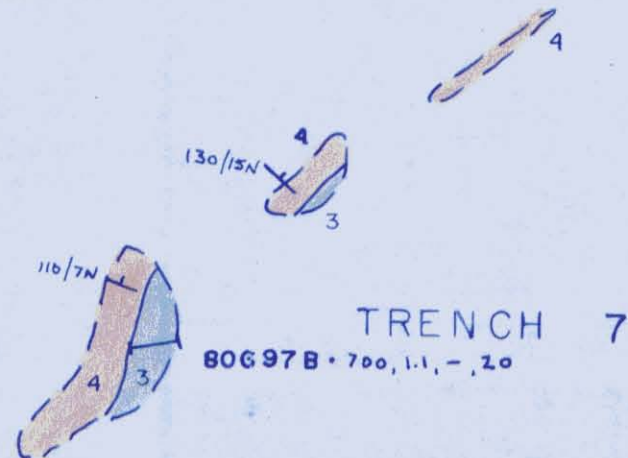
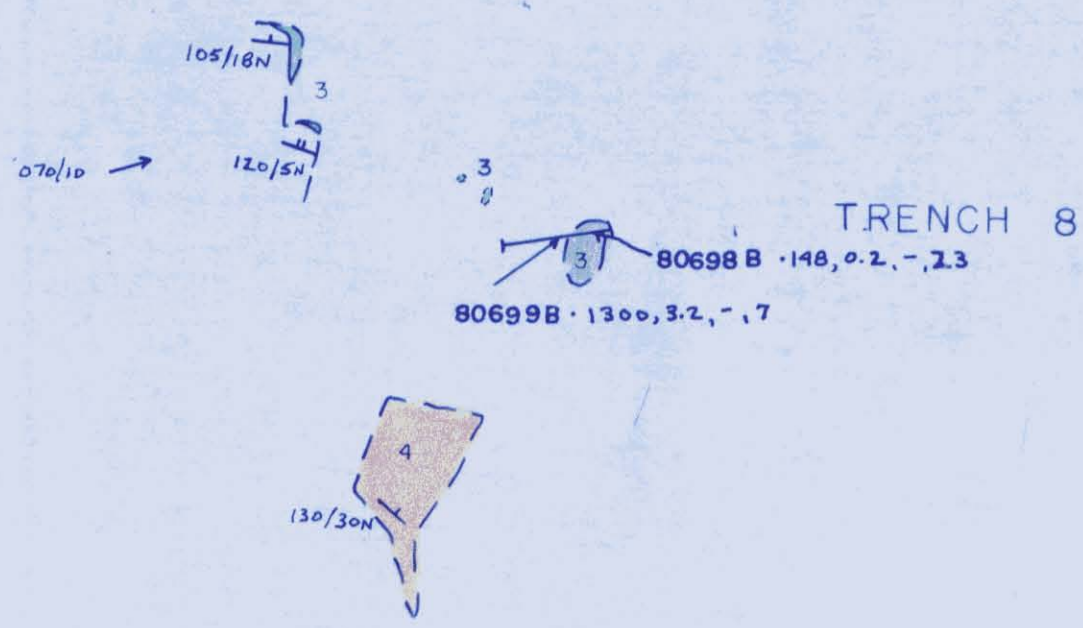
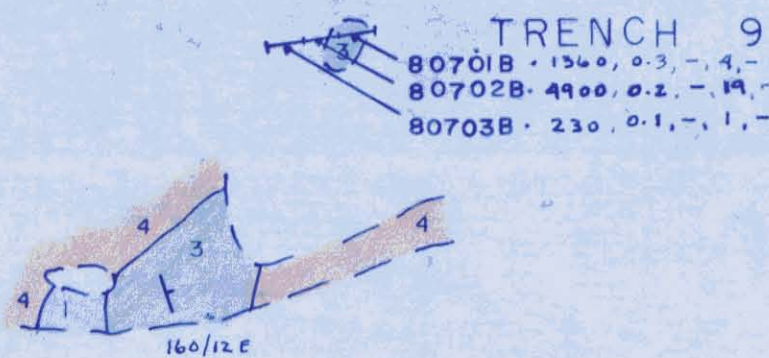
Henry J. Awmack



- LEGEND:
- ARGILLITE
 - EDIMENTARY
 - LIMESTONE
 - VOLCANIC
 - MAFIC BATHOLITH
 - gneiss

JAR CLAIM GROUP
091478
GEOLOGY
MAP 10595
Scale 1:45,000 (approx)
AUG, 1962
MAP I





LEGEND

- 1 LIMESTONE
- 2 SILICIOUS SKARN
- 3 DIOPSIDE SKARN
- 4 HORNFELS, CALC-SILICATE

BEDDING
AXIAL PLANE
FOLD AXIS
SHEAR

J.C. STEPHEN EXPLORATIONS LTD.
D. C. SYNDICATE

JAR CLAIM GROUP

TRENCH GEOLOGY

091478

1:200

AUGUST 1983