

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,233

GEOLOGICAL AND GEOCHEMICAL REPORT

on the
HART CLAIM GROUP

Map Sheet 104K/9E

Latitude 58°36'N

Longitude 132°03'W

ATLIN MINING DIVISION
B.C.

by

J.C. Stephen
G.W. Hill

Dated September 20, 1982

Work Done: June, July, August 1982
By: J.C. Stephen Explorations Ltd.
Funded by: Newex Syndicate

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SUMMARY AND CONCLUSIONS

Reconnaissance rock geochemical sampling late in the 1980 season returned anomalous silver values from what has now been called the Top Zone on HART claim group.

During 1981 the HART group of 120 units was staked and prospected. Significant gold and silver values were obtained from the Mogul, Steep and Top zones within the Heart peaks formation.

Work conducted during 1982 included geological mapping at 1:5000 scale and trenching and sampling of quartz vein zones. No significant assay values were obtained as a result of this sampling and no drilling target can be recommended.

Chip sampling in trenches during 1982 was done systematically with sample widths varying from 2 to 5 metres. Even in trenches 5a and 5b on the Mogul Zone large percentages of wall rock were included in the chip samples across quartz veins. The best individual assays reported are 0.04 oz Au and 1.10 oz Ag per ton. It is concluded that within the quartz vein zones exposed by trenching no economic mineralization is available.

INTRODUCTION

The 120 units of the HART claim group were staked in 1981 upon the discovery of anomalous gold and silver values in quartz veins within Heart Peaks formation acid volcanics. Preliminary sampling and mapping was done in the more promising zones.

In June, July and August 1982 this work was continued. The purpose of the field work was to produce a map of the geology and to examine the geology of areas of interest.

Ten trenches of various lengths were hand dug or blasted by McCrory Holdings. The trenches were then mapped in detail and chip sampled.

LOCATION AND ACCESS

The HART claim group is located at latitude 58°36'N, longitude 132°03'W on the west slopes of Heart Peaks. Atlin B.C. is 145 km north west. See Figure 1 Location Map.

Access was by means of helicopter from Atlin B.C., or by float plane to Cabin Island Lake and by helicopter from there. Air service is also available from Dease Lake.



HART

LEVEL MOUNTAIN

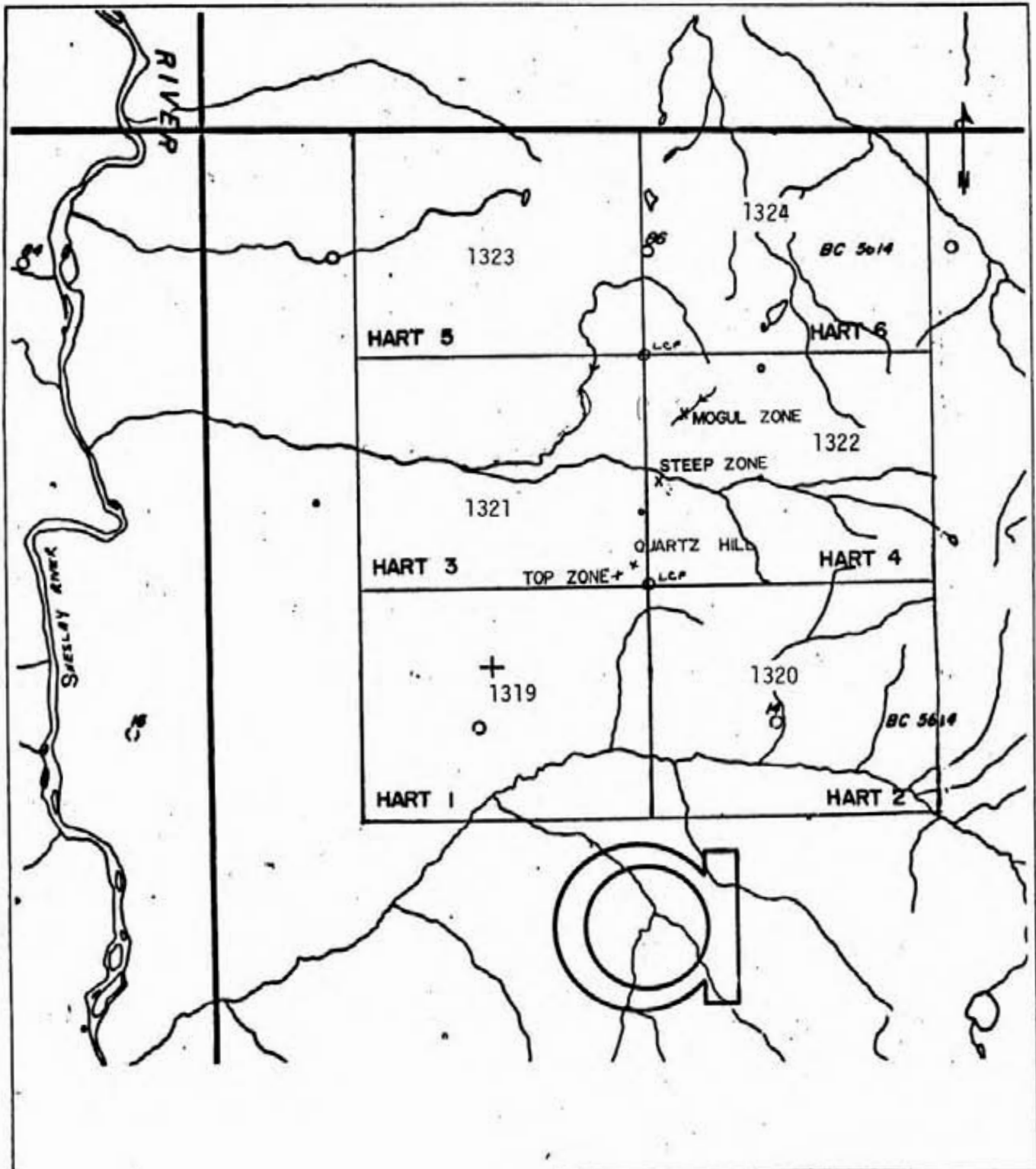
Harbor Island
Midway Point
Point Asley

NEWEX SYNDICATE
HART CLAIM GROUP
LOCATION MAP

CLAIMS REGISTER

<u>Claim</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Record Date</u>	<u>Expiry Date</u>
HART 1	20	1319	June 24, 1981	June 24, 1983
2	20	1320	June 24, 1981	June 24, 1983
3	20	1321	June 24, 1981	June 24, 1983
4	20	1322	June 24, 1981	June 24, 1983
5	20	1323	June 24, 1981	June 24, 1983
6	20	1324	June 24, 1981	June 24, 1983

See Figure 2 Claim Map



CLAIMS SURVEYED by TOPOCHAIN and COMPASS

J.C. STEPHEN EXPLORATIONS LTD.
NEWEX SYNDICATE
HART CLAIM GROUP
NTS: 104K/9E
CLAIM MAP

SCALE: 1:50,000

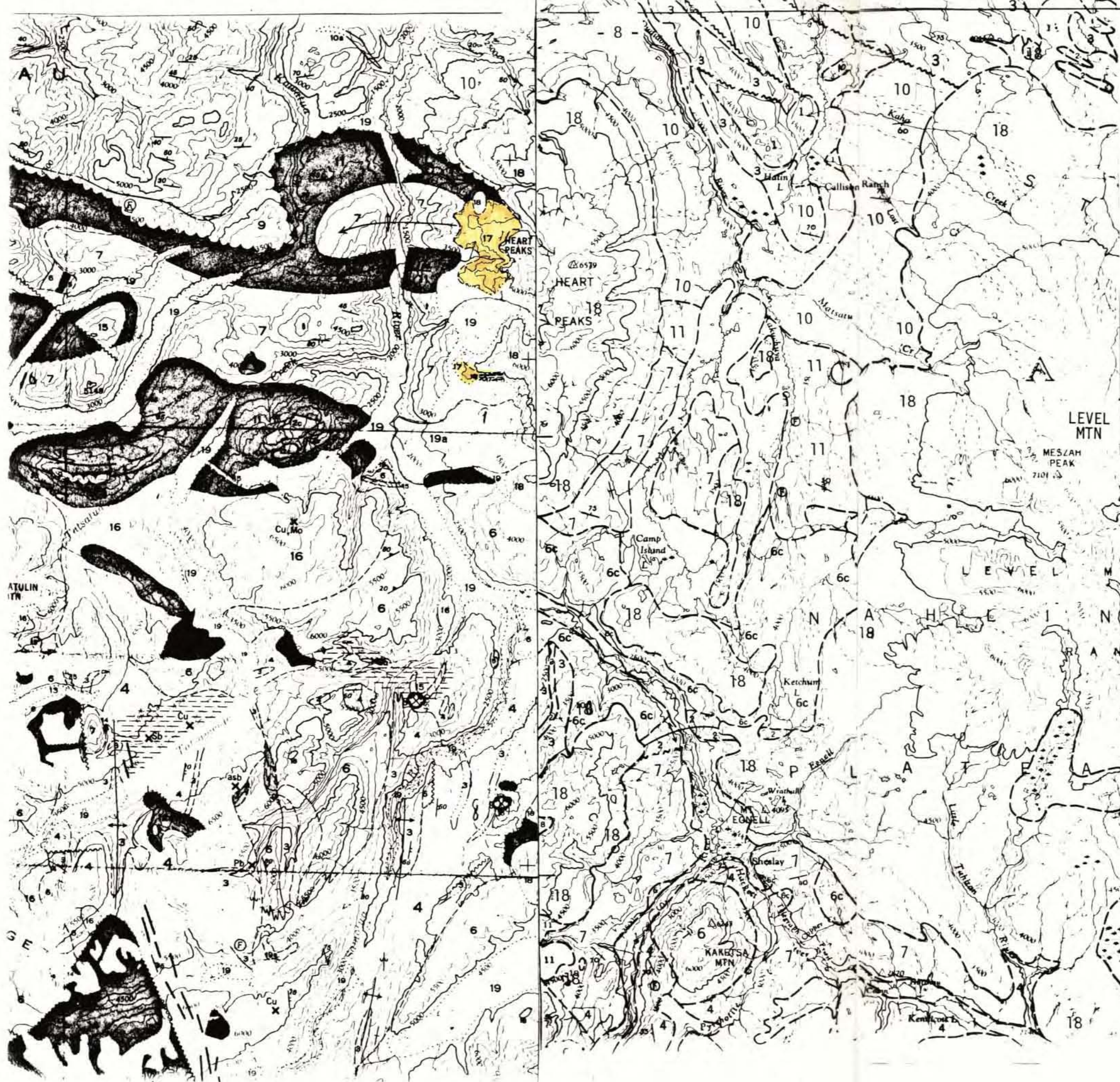
0 0.5 1.0 kms.

REGIONAL GEOLOGY

The geology of the area is illustrated on Map 1262A, Tulsequah and Juneau Map sheet 104K published by the Geological Survey of Canada at a scale of 1:250,000. See Figure 3 Regional Geology.

Major formations of the claim group region are: the Level Mountain group; the Heart Peaks group; the Stuhini group; and the Takwahoni and Inklin formations. The last two of this group represent near shore and deep water facies derived from source rocks to the southwest (J. Casey). They are Jurassic in age and are extensively deformed. The Stuhini group is made up of basaltic and andesitic volcanics of Upper Triassic age. Level Mountain group rocks are made up largely of basaltic to ankaramitic flows and pyroclasts. They, like the Heart Peaks formation are Cenozoic. The Heart Peaks formation is mainly composed of acidic volcanics and pyroclastics.

Heart Peaks is a volcanic centre, smaller, but similar to Level Mountain and Mt Edziza. The trachytic-rhyolitic formations of the Heart Peaks Formation are less well developed in the central portion of the Level Mountain complex but appear to have similar relationships to the basaltic shield volcanics. To the north west similar appearing siliceous extrusive and intrusive rocks occur associated with Sloko volcanics at McGavin Creek and south of Atlin Lake.



CENOZOIC

TERTIARY AND QUATERNARY
LATE TERTIARY AND PLEISTOCENE
LEVEL MOUNTAIN GROUP

- 18** Basalt, olivine basalt, related pyroclastic rocks; in part younger than some of 19
- 17** HEART PEAKS FORMATION: rusty-weathering trachyte and rhyolite flows, pyroclastic rocks, and related intrusions

MESOZOIC

JURASSIC
LOWER AND MIDDLE JURASSIC
LABERGE GROUP (10, 11)

- 11** TAKWAHONI FORMATION: granite-boulder conglomerate, chert-pebble conglomerate, greywacke, quartzose sandstone, siltstone, shale
- 10** INKLIN FORMATION: well bedded greywacke, graded siltstone and silty sandstone, pebbly mudstone, limy pebble conglomerate; 10a, limestone

TRIASSIC
UPPER TRIASSIC

- 9** SINWA FORMATION: limestone; minor sandstone, argillite, chert
- STUHINI GROUP (7, 8)
- 7** Mainly volcanic rocks; andesite and basalt flows, pillow lava, volcanic breccia and agglomerate, lapilli tuff; minor volcanic sandstone, greywacke, and siltstone
- 8** KING SALMON FORMATION: thick bedded, dark greywacke, conglomerate, mudstone, siltstone, and shale; minor andesitic lava, volcanic breccia, tuff, limestone, limy shale; locally enclosed in 7

LOWER OR MIDDLE TRIASSIC (?)

- 6** Fine- to medium-grained, strongly foliated diorite, quartz diorite; and minor granodiorite; age uncertain

LOGICAL BRANCH
REPORT

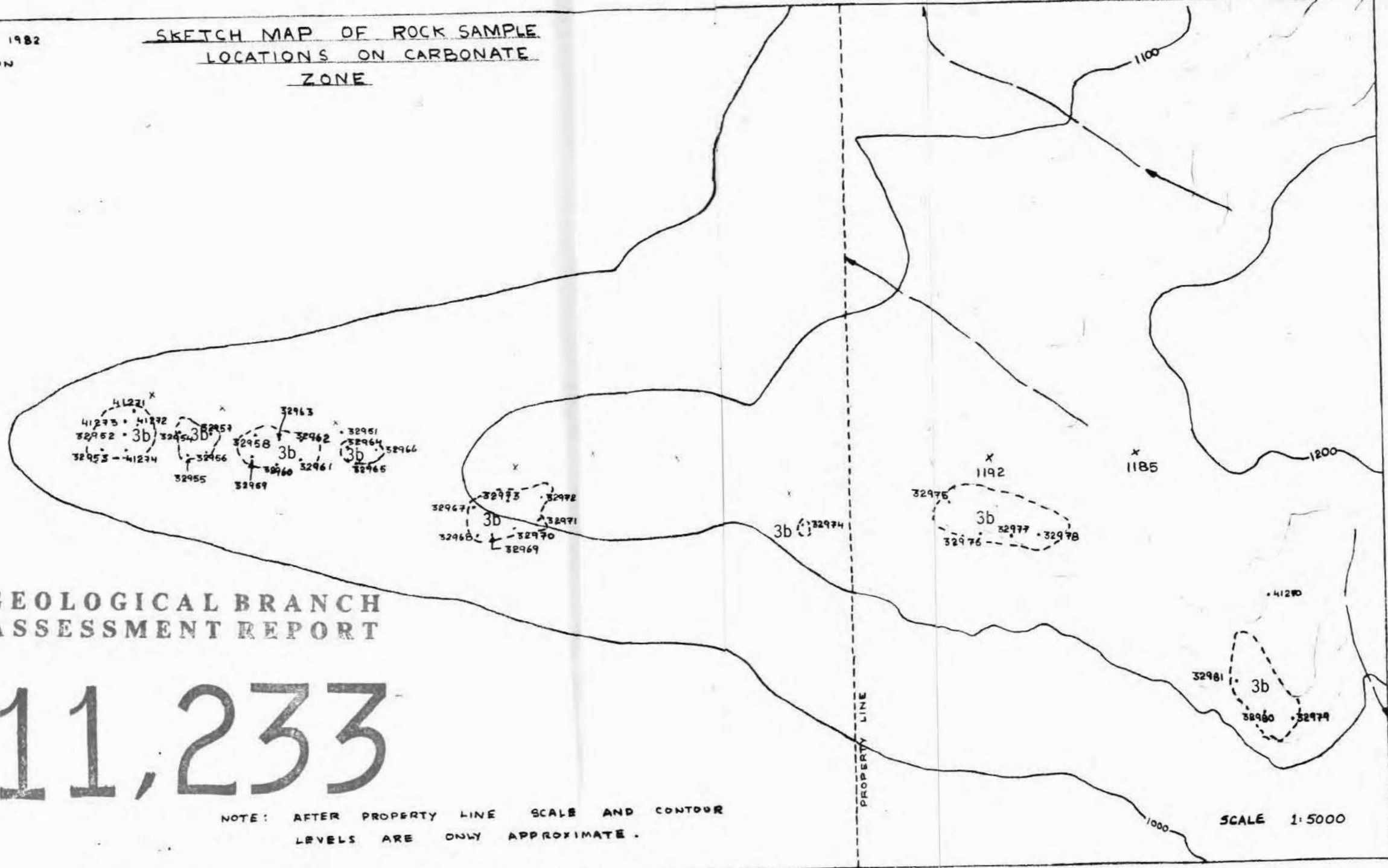
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NEWEX SYNDICATE
HART CLAIM GROUP
REGIONAL GEOLOGY
1:250,000
Figure 3

AUGUST 13 1982

J. LAWTON

SKETCH MAP OF ROCK SAMPLE
LOCATIONS ON CARBONATE
ZONE



GEOLOGICAL BRANCH
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NOTE: AFTER PROPERTY LINE SCALE AND CONTOUR
LEVELS ARE ONLY APPROXIMATE.

SCALE 1:5000

FIGURE 13

ROCK SAMPLE LOCATIONS
ON
CARBONATE ZONE

PROPERTY GEOLOGY

TABLE OF FORMATIONS

LATE TERTIARY AND QUATERNARY

- 3 LEVEL MOUNTAIN GROUP (a) Basalt and Related Pyroclastics
(b) Basalt Tuff and Agglomerate

- 2 HEART PEAKS FORMATION (a) Andesite Porphyry
(b) Rhyolite Porphyry
(c) Rhyolite
(d) Rhyolite Tuff and Agglomerate
(e) Rhyolite Breccia
(f) "Mogul Zone" Breccia
(g) "Steep Zone" Breccia

LOWER AND MIDDLE JURASSIC

- 1 TAKWAHONI FORMATION (?) Siltstone, Mudstone, Conglomerate

Geology of the property has been mapped at 1:5000 scale and is presented as Maps I and II in the pocket of this report.

LEVEL MOUNTAIN GROUP

(a) Basalt and Related Pyroclastics

Basaltic rocks of the Level Mountain group appear in the claim area as a series of flows and pyroclastics. Occasionally possible remnant lava tubes were observed and small areas containing what may be ill defined pillows have been reported to exist. Basalt dykes usually striking north south may be seen.

In general, the basalts outcrop as a series of flat lying flows which extend to form the plateau on the eastern side of the property. In places they appear interbedded with the Heart Peaks acidic rocks indicating more or less simultaneous periods of eruption. A definite columnar appearance is seen in some basalt flows.

The basalts of the Level Mountain group are light to dark grey in colour. When weathered, rusty red colouration is apparent. Texturally they can be (1) porphyritic with phenocrysts of plagioclase and/or hornblende, (2) massive or (3) scoriaceous, in nature. They are usually fine to medium grained.

Ankaramite - The unit is black in colour and weathers to a dark grey. It is fine grained but may contain "blebs" of glass up to one centimeter across.

Tuff and Agglomerates - The tuff of this group are usually light grey in colour. They vary from ash to lapilli and often contain small irregular fragments of obsidian. Generally these rocks are found as localized beds. Vent agglomerates has been reported in the area but none identifiable as Level Mountain group rock was seen by this writer.

(b) Basaltic Tuff and Agglomerate

A poorly sorted 'conglomerate' is found on the western part of the property. It is reddish brown or grey with (mostly) grey or black clasts. The unit is poorly indurated and contains thin carbonate veins on fractures which cut through the clasts. The framework is mostly of lithic clasts, usually of basaltic origin. They are rounded to sub-rounded although some sub-angular and even angular clasts are present. The matrix is unsorted sand or silt which contains some hematite or limonite. The cement is probably carbonate as the rock reacts to HCl although hematite or limonite is present as well. The unit is cut by basaltic dykes some of which are porphyritic in nature. In places it appears to show a localized stratification. Extensive outcrops are available but were not mapped in detail.

HEART PEAKS GROUP

The Heart Peaks group consist of mostly acidic volcanics of rhyolitic to dacitic composition. Textures vary from porphyritic to massive and tuffs and breccias are frequently encountered. Heart Peaks group rocks are marked by distinctive orange-red and cream weathering. Much of this rock exhibits kaolinization. Rapid weathering and erosion causes extensive talus slopes. Sharp "cirques" and ridges are characteristic of the Heart Peaks formation and closer examination usually shows a series of ridges and troughs on the inner face where the weathered rock sloughs off and falls away. Both Big Cirque and Mogul Zone Cirque have rock glaciers associated with them; Big Cirque having one extending from each of the north cirque and the south rear slope.

(a) Andesite Porphyry

This rock is green-grey in colour. It has an aphanitic matrix with feldspar phenocrysts and may contain fine darker coloured magnetite rich "lines" in it, possibly from old fractures. The rock is slightly magnetic.

(b) Rhyolite Porphyry

This unit varies from grey to white in colour. It contains feldspar phenocrysts of up to three quarters of a centimetre in length in an aphanitic matrix. Flow banding may be seen in some examples of the rock.

(c) Rhyolite

The rhyolite varies in colour from blue-grey to light or dark grey to cream. It usually appears red to orange or yellow on weathered surface. The rock is aphanitic and occasionally exhibits flow banding. Pyrite or marcasite may be found in this unit and quartz veining and quartzose vugs may be observed.

(d) Rhyolite Tuffs and Agglomerates

Tuffs tend to be grey to grey-brown in colour in the Heart Peaks formation and weather to a light, rusty orange. Crystal, lithic and lapilli tuffs may be seen in the formation. Agglomerates are a patchy white to rusty brown and grey in colour. They also weather to an orange red colour. The fragments vary from sub-angular to subrounded are poorly sorted and may be up to several decimetres in size. Sphericity tends to be reasonably poor. Most fragments are of kaolinized rhyolite although some shale or siltstone may be present. True agglomerates are rare in the formation.

(e) Rhyolite Breccia

This unit is blue-gray to dark gray to a kaolinized creamy white in colour with gray to creamy white patches. It weathers to a rusty orange-red colour or to a fine grey mud. The angular rhyolite fragments may contain marcasite or pyrite and often show flow banding or, occasionally a porphyritic texture. In the main creek below Steep Zone an area of massive porphyritic rhyolite of gray to mauve colour contains disseminated pyrite. This rock may contribute the pyritic angular fragments contained in the Rhyolite Breccia. The rock may contain tuffaceous or other fragments of rhyolitic composition. The matrix is usually silicious in composition although occasionally it too may look highly kaolinized.

(f) "Mogul Zone" Breccia

This is a striking black with white tan and gray fragments. The fragments are generally of kaolinized rhyolite with the tan colouration coming from the iron staining. The gray fragments are probably of tuffaceous material of rhyolitic composition. The matrix is of a dead black cherty material of siliceous composition. As fragments look relatively "unaltered" (aside from the kaolinization which is probably a pre-brecciation feature) this is probably low temperature brecciation. The matrix of this rock often contains trace amounts of marcasite, another indication of low temperature emplacement. In some areas the "mogul zone" breccia has been re-brecciated and the result closely resembles a much fresher version of the "Steep Zone" breccia but in a siliceous matrix.

(g) "Steep Zone" Breccia

While this unit is found elsewhere than in Steep Zone it is dominant in the upper slopes of this area. It is generally light gray with creamy white, black and gray patches. The fragments are angular and generally are of kaolinized rhyolite which may or may not be rusty, possibly due to the oxidation of pyrite or marcasite. The gray and black fragments are usually of a shale or siltstone. Some of these however appear cherty and may be rebrecciated from the matrix of the "Mogul Zone" Breccia. The matrix is gray in colour and is generally composed of very fine fragments of framework material. There is some evidence that the siliceous rims around some of the larger fragments indicate alteration after emplacement. Size varies from fractions of a millimeter to more than a decimeter.

TAKWAHONI FORMATION

A sediment, tentatively identified as part of the Takwahoni formation occurs in outcrop in the mid-western portion of the property. It is mudstone, gray to dark gray in appearance and is fairly well indurated. Some beds contain very well rounded pebbles. Fossil molds of ammonites up to fifteen centimeters in diameter and casts of belemnites and small bivalves were noted. The sediment tends to become less clastic, both with pebbles and fossils toward the west.

MINERALIZATION

Pyrite and marcasite are the two most common sulphides on the property. Pyrite may be found in amounts approaching 5% in the "Mogul Zone" breccia and in the silicified brecciated blue-gray rhyolite. Disseminated pyrite is present in the rhyolite porphyry. Trace amounts of disseminated pyrite may be found in the quartz veins and both in place and in the float found in the rock glaciers north and south of "Big Cirque." The "Mogul Zone" veins contain occasional clots of marcasite.

Arsenopyrite is probably present in the "Mogul Zone" breccia and the silicified blue-gray rhyolite breccia. The mineral is very fine however and thus difficult to identify without polished sections.

Extensive manganese staining may be found on some of the rocks near particular quartz and amethyst veins in "Steep zone". Iron staining is a relatively common phenomenon in the gossanous Heart Peaks formation rocks.

Stibnite has reportedly been seen in fractures in the area.

Zones of Mineralization

Three zones of potential economic interest were originally located on the Hart Claim group; "Steep Zone," "Mogul Zone," and "Top Zone". Two or more zones of potential interest were added to that this year; "Bottom Zone" and "Carbonate Veined Zone." Extensive sampling has been carried out on these areas.

Mogul Zone

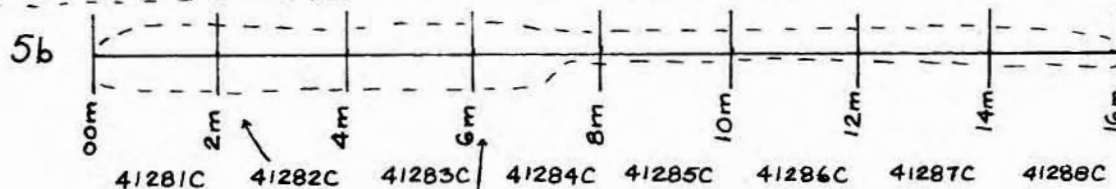
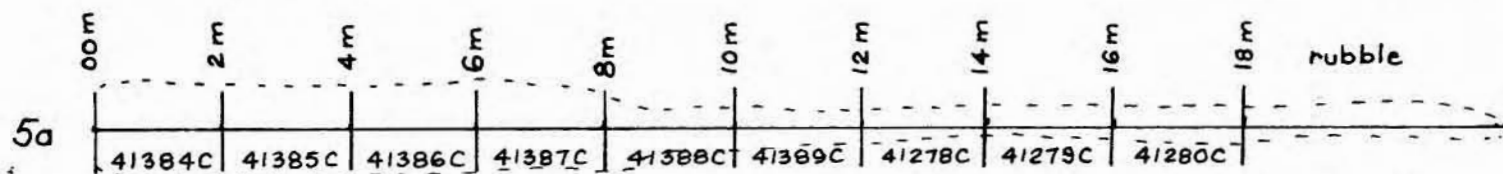
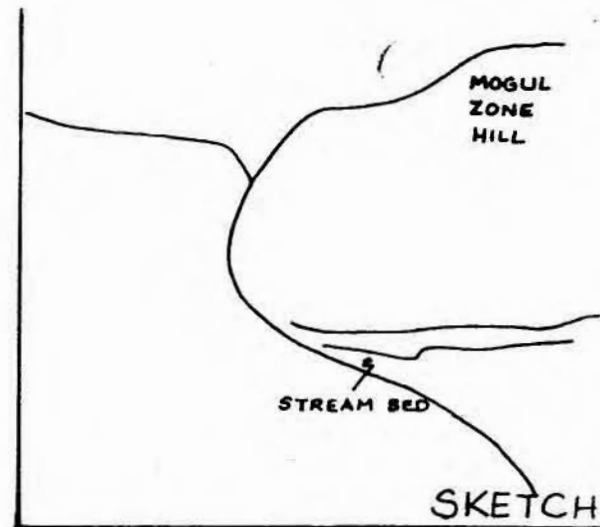
This zone is located below an area of dome shaped mounds of talus. These "moguls" form part of the slope below the North Hart rhyolite ridge cirque. 1981 gold values ran up to 6500 ppb although silver achieved a high of only 51.0 ppm. The values were associated with five quartz veins in the area.

This year two of these veins were chosen and trenches were blasted and dug along their length exposing the veining. See Figure 4, Trenches 5 a and b. The first trench ran just over 22 metres long before it began to lose contact with the quartz vein. The reason for loss of contact was the weathering away of the vein due to the slope of the hill. The second trench maintained contact with the vein for approximately 17 metres before the trench was discontinued. These trenches were chip sampled continuously over their length with a new sample being started every two meters. Pieces of the rock in contact with the vein were included in the samples with each sample ending up being about 40% vein quartz and 60% wall rock. There are two samples which had considerably more quartz. These are indicated on the accompanying diagram.

Two more trenches were added to try to trace the extent of veining. One was placed higher and further east (trench nine) Figure 5, while the other was placed south along the trend of the fractures at approximately 022° (trench ten). Trench nine encountered no veining although an area of "mogul zone" breccia cut vertically through the rhyolite encountered. The only mineralization was in the breccia. The trench was chip sampled over its 7.6 meter extent in one 3 meter long and one 4.6 meter long sample. Trench ten, Figure 6, encountered no quartz veins. The rock was extremely fragmented and nothing solid was reached at a four foot depth. At this point perma-frost made more digging impractical.

follows quartz vein
through "rhyolite" breccia;
black cherty matrix

rock extremely
fragmentary

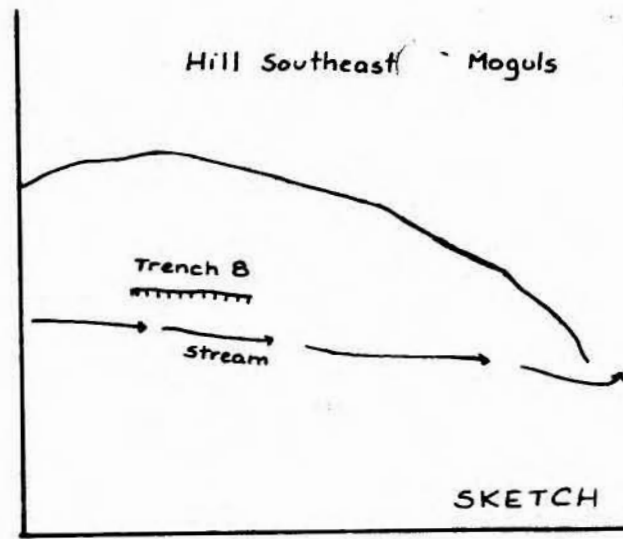
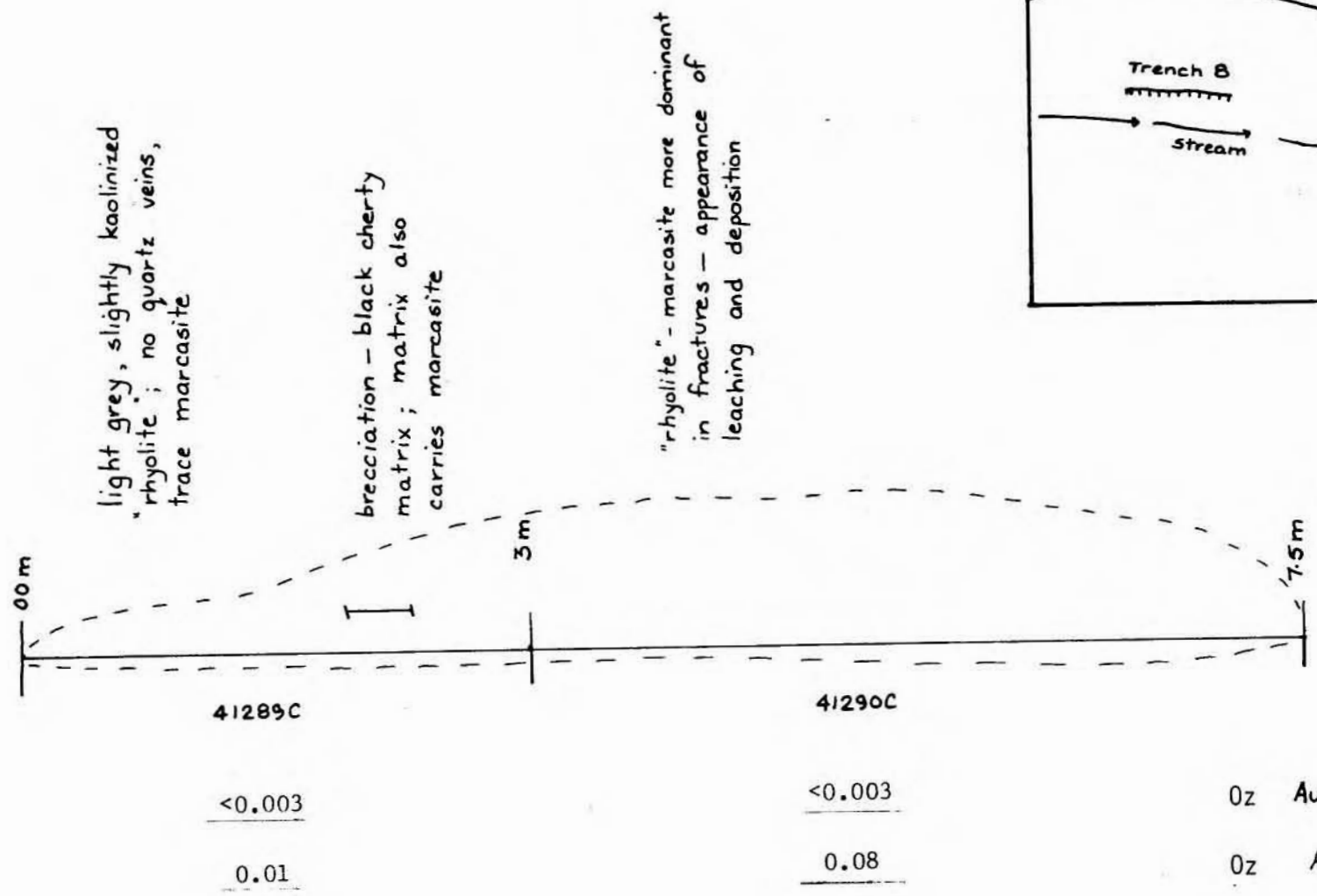


	0.030	0.032	0.018	0.028	0.028	0.030	0.010	0.008	0.010	
Oz Au			0.014	0.020	0.028	0.008	0.040	0.008	0.006	0.005
	0.62	0.34	0.52	0.60	0.56	0.62	0.25	0.29	0.27	
Oz Ag			0.22	0.34	0.35	0.42	1.10	0.45	0.33	0.42

zone of
distinct
quartz
increase

TRENCHES 5a, 5b
MOGUL ZONE
FACING EAST
SCALE 1" = 3 metres

FIGURE 4



MOGUL ZONE
TRENCH 9
FACING SOUTH

SCALE: 1" = 1 metre

FIGURE 5

The rubble was continuously sampled along its nine meter length in three, three meter long samples. The rock type was porphyritic rhyolite with phenocrysts of plagioclase and exhibited a high degree of kaolinization. No quartz veining was encountered, however rust staining increases towards the east in the trench. The rubble around the trench was examined but no quartz vein material was discovered.

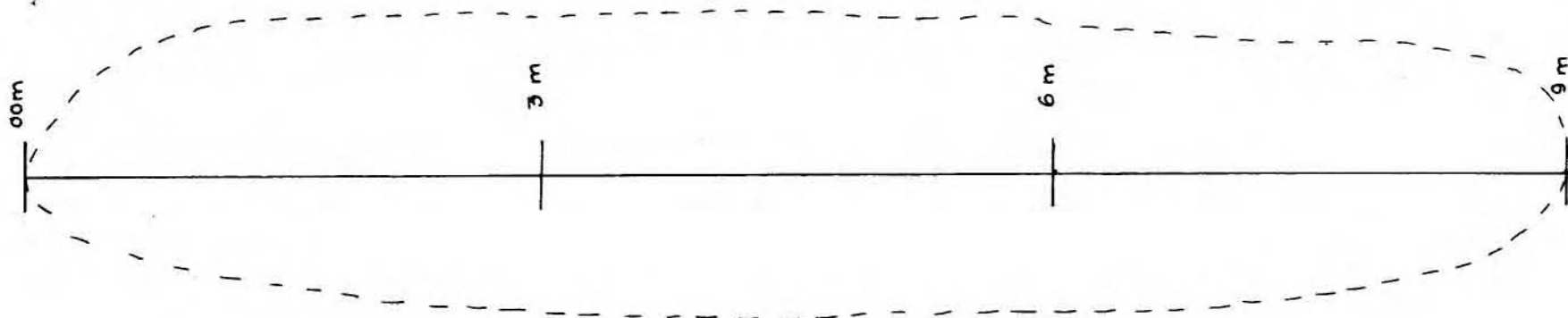
The general Mogul Zone geology consists of blue-gray rhyolite and porphyritic kaolinized rhyolite. The latter is more pervasive on the west side of the hill and both units are cut by areas of re-brecciated "Mogul Zone" breccia or "Mogul Zone" breccia. The former fragmental is located closer to the fractures and veins. A possible water lain tuff can be seen in fragments near the hill.

The cirque above the zone had marginally anomalous results for gold and arsenic. Extensive sampling was done of the inside of the cirque. The major unit were porphyritic blue-grey rhyolite to the east and a breccia consisting of kaolinized rhyolite fragments in a matrix of limonite to the west. Two alterations are seen in this rhyolite unit that are not seen in the others. One of these is a bright green, probably epidote stained rhyolite. The other rock is royal purple and possibly manganese or iron stained. The two occur together in all cases. Possible fragments of the green zone rock are seen in the purple one. Cherty brown, probably limonite stained veins containing kaolinized rhyolite fragments cut all of these units.

porphyritic kaolinized "rhyolite"
 weathers slightly rusty; no
 quartz veins

slightly more rusty on
 weathered surface

more rusty where
 weathered



		41275C
Oz	Au	<0.003
Oz	Ag	0.01

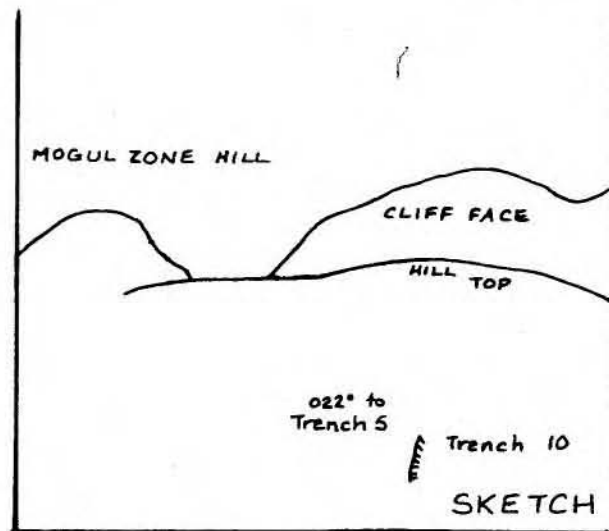
		41276C
		<0.003
		0.04

		41277C
		<0.003
		0.01

MOGUL ZONE
 TRENCH 10
 FACING NORTH

SCALE 1" = 1 metre

FIGURE 6

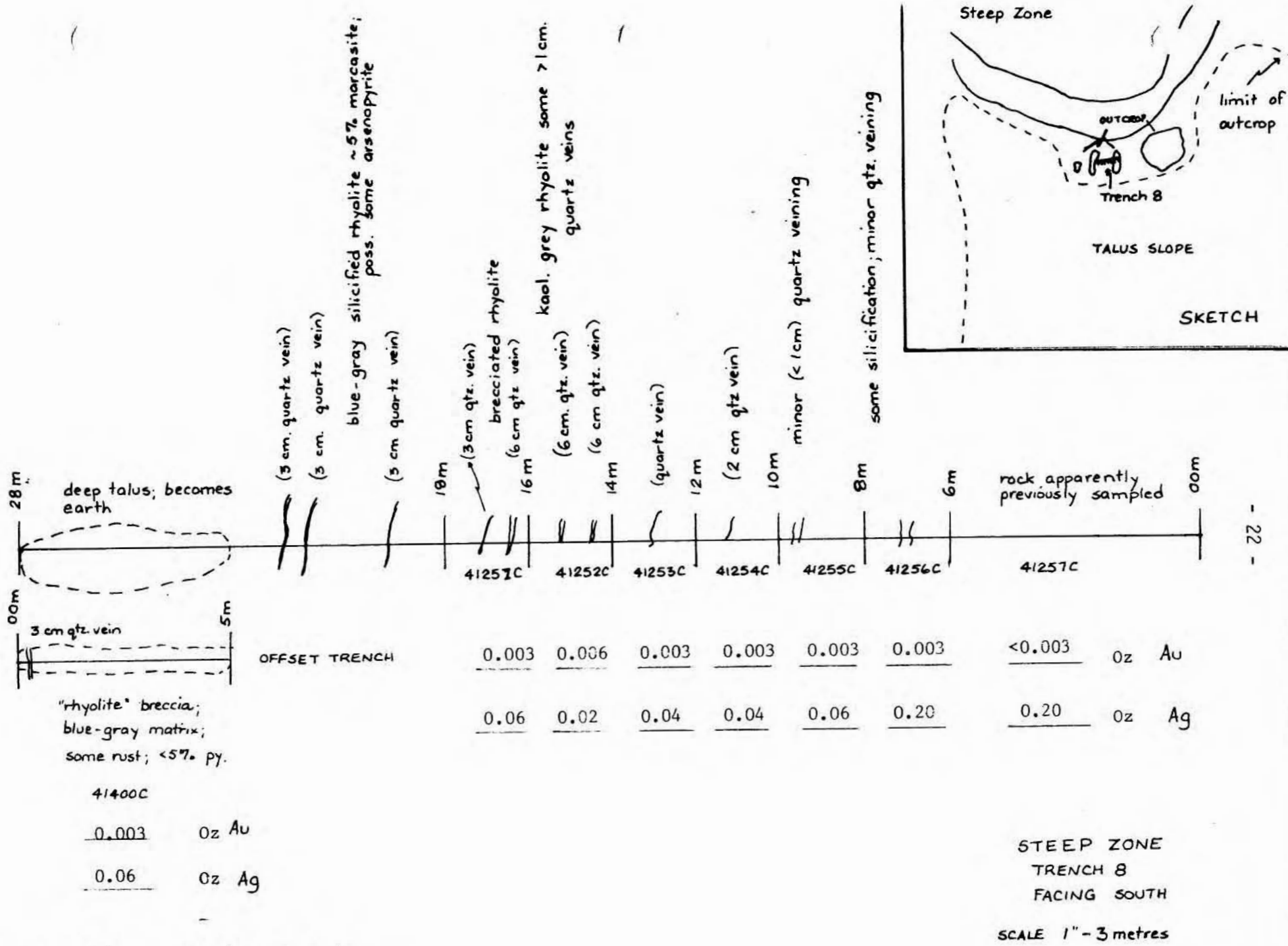


Steep Zone

This zone is located in the cliff south of Hart Creek and north east of Big Cirque. It is heavily quartz veined with some of the veins having widths of up to 1.5 meters. These veins are massive to drusy or vuggy and box like structures are occasionally seen. Quartz crystals up to 5 centimeters in length are encountered in places. Some of the quartz veins contain amethyst (?). Manganese staining is usually found in these areas indicating that both this element and ferric iron were to be found in the original siliceous fluids.

The rock in these areas is composed mostly of massive to porphyritic rhyolite with areas of "Steep Zone" breccia. In places this is heavily silicified achieving an almost vitreous luster. The rock is strongly fractured in roughly the same orientation as the Mogul Zone fracturing although the rock appears more fragmented and thus the orientation is more difficult to determine. At the base of Steep Zone near the creek an outcrop of more competent rock is exposed. From east to west it appears to be formed of a porphyritic rhyolite with disseminated pyrite; then a siliceous breccia resembling "mogul zone" breccia and then about 10 meters of strongly fractured rhyolite with pyrite in the fractures. This is roughly the same pattern as occurs at mogul zone but without the re-brecciated breccia.

Gold values in this zone from the previous years sampling attained about 880 ppb although silver values were lower (1.3 to 2.6 ppm). This year a trench was run across the top of steep zone. See Figure 7 Trench 8. The trench exposed eight



NB: quartz veins are not drawn to scale

FIGURE 7

quartz veins ranging from 3 to 6 centimeters in width and numerous veins of a centimeter or less over twenty two meters of its length. This extent was continuously sampled in two five meter samples and six two meter samples. Some of these veins contained carbonate. The highest values obtained were 0.20 oz/ton silver and 0.006 oz/ton gold.



PHOTO 1

SOUTH SLOPE OF BIG CIRQUE
TOP ZONE AREA
FACING NORTHWEST

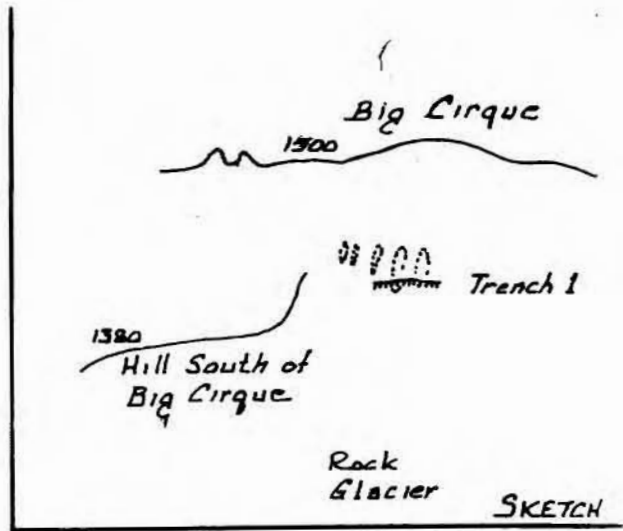
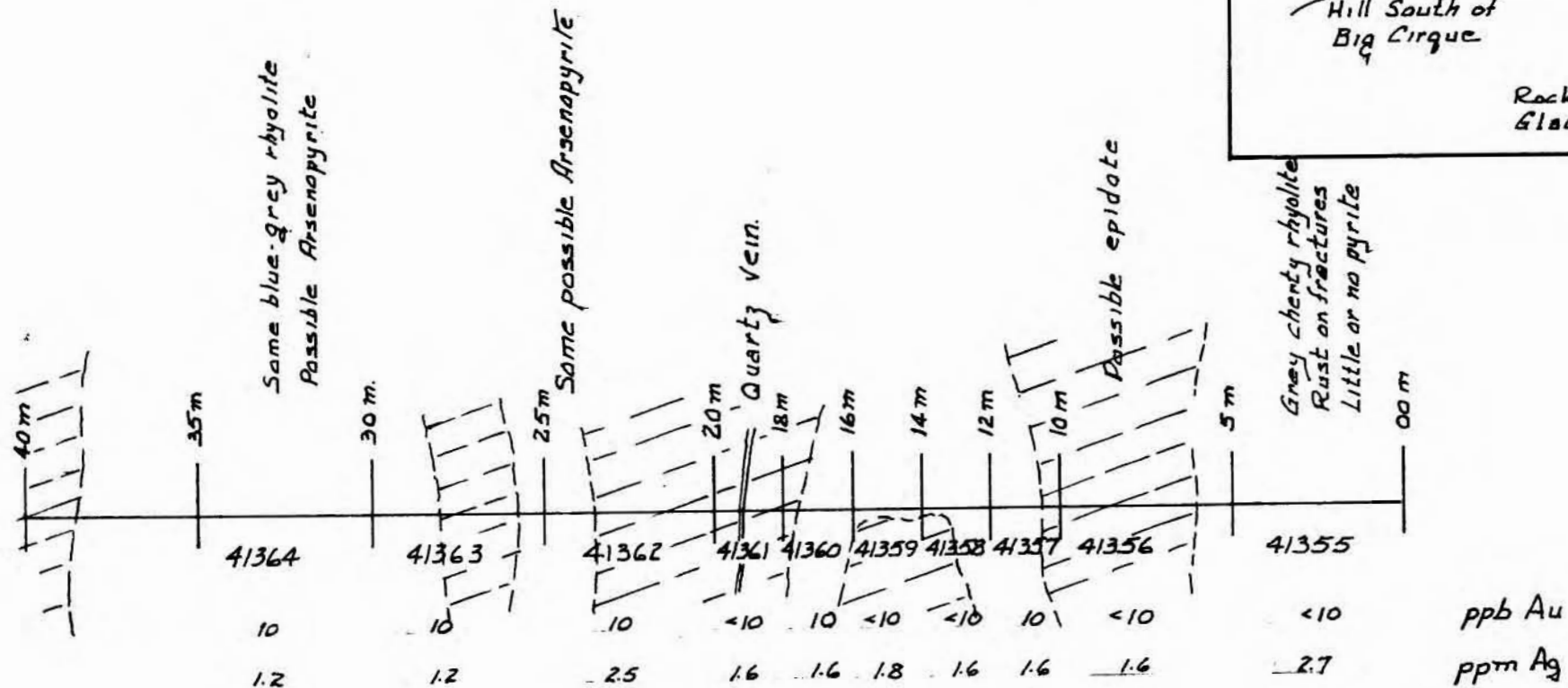
Top Zone

The highest silver values from the previous year came from quartz veins in this area. Values of 15.18 oz/ton and 11.68 oz/ton silver and 0.010 and 0.016 oz/ton gold were returned. The rock in the area is kaolinized rhyolite with a characteristically bright red weathered surface. Due to the steep nature of Top Zone no trenches or detailed work was done.

This year three trenches were placed below Top Zone and offset slightly to the east. It was hoped that trench 1(Figure 8)would expose veining indicated by fragments of quartz in the talus. In fact, this trench encountered only two quartz veins. It was continuously sampled in five and two meter samples. No significant values were obtained.

Trench 3(Figure 9)was offset slightly to the west and higher than number one. It encountered only one quartz vein in its thirty meter extent. It was sampled in four, five meter samples. No significant values was obtained from this trench.

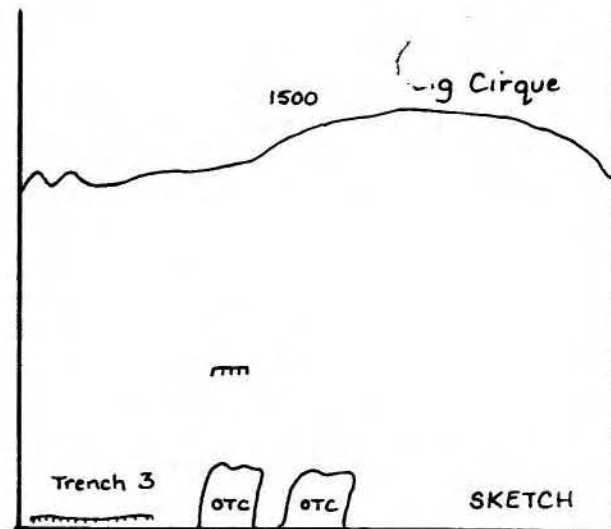
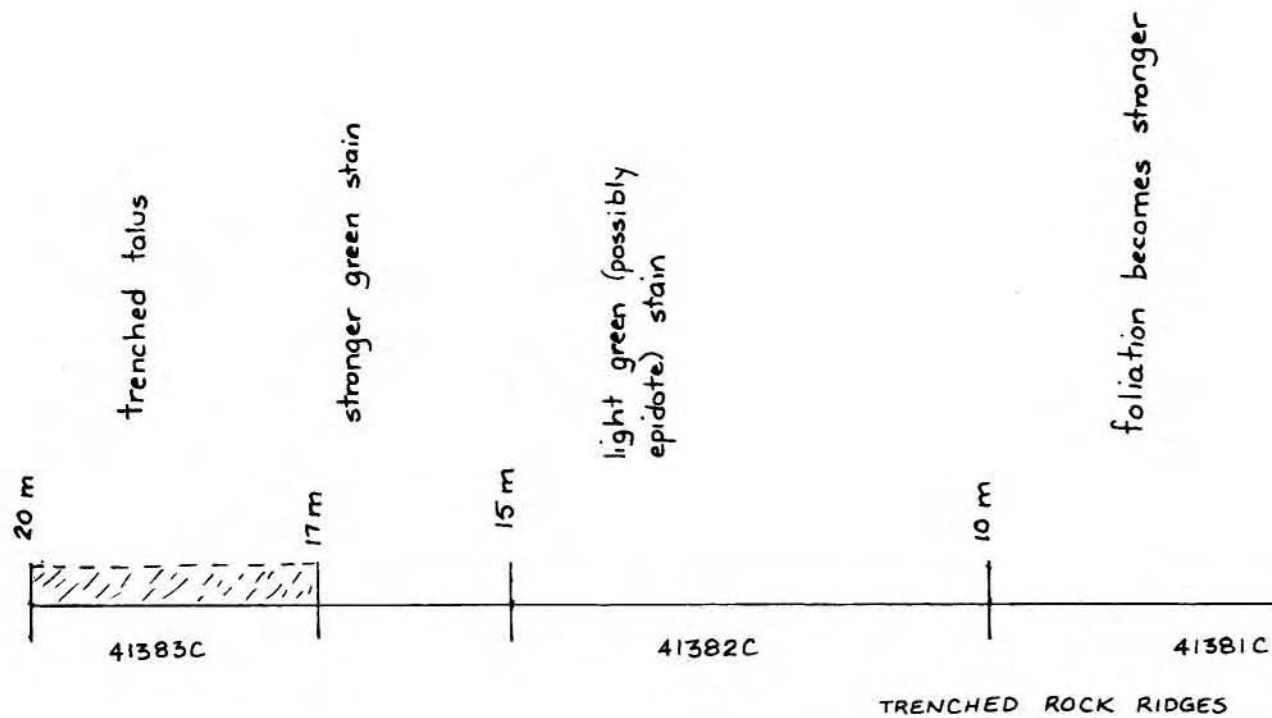
Trench 4(Figure 10)was emplaced in hopes of encountering one of the amethyst veins that were indicated by some talus fragments. The trench did expose some amethyst veining in blue-gray brecciated rhyolite. The values obtained from the one three meter sample that encompassed its length, however contained no significant gold or silver. This area is composed mainly of kaolinized white or blue-gray rhyolite. Vertical brecciated areas in a silicic matrix are exposed, running down the middle of the trenched area. They are harder than the surrounding rock and form small ridges usually of about two or three decimeters relief from the surrounding talus slope.



SKETCH

TRENCH 1
SCALE 1" = 5 metres
FACING NORTH

FIGURE 8

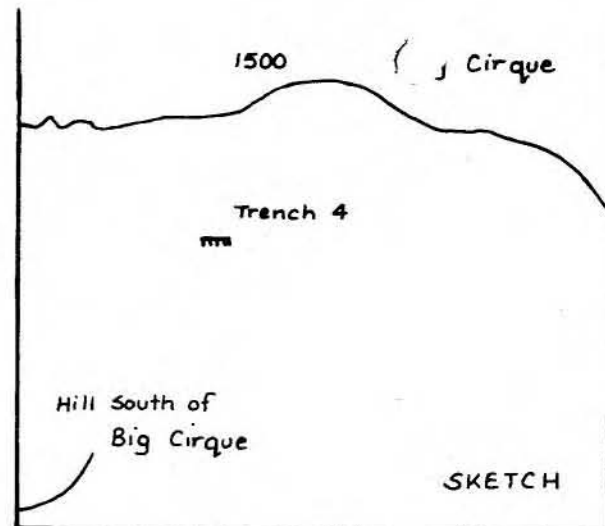
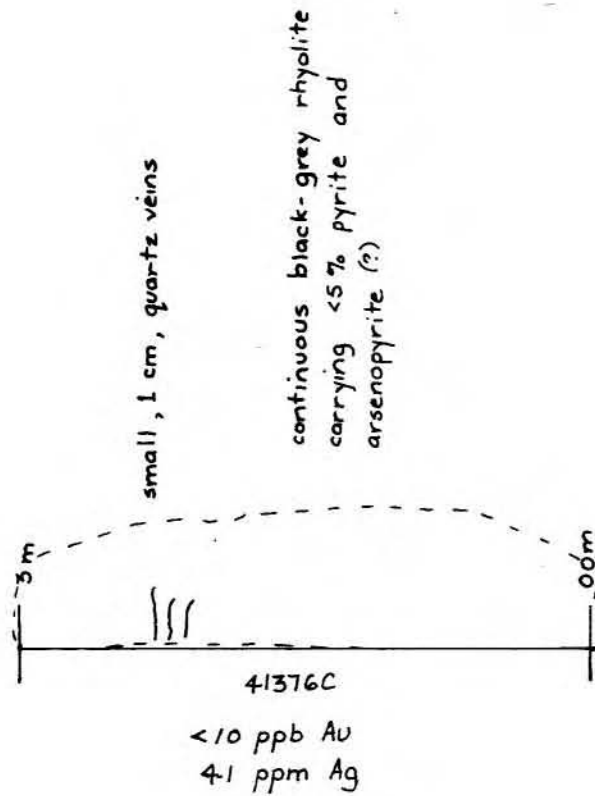


light gray
rhyolite;
slightly kaol.,
some horiz.,
foliation

TOP ZONE
TRENCH 3
FACING NORTH

SCALE 1" = 2 metres

FIGURE 9



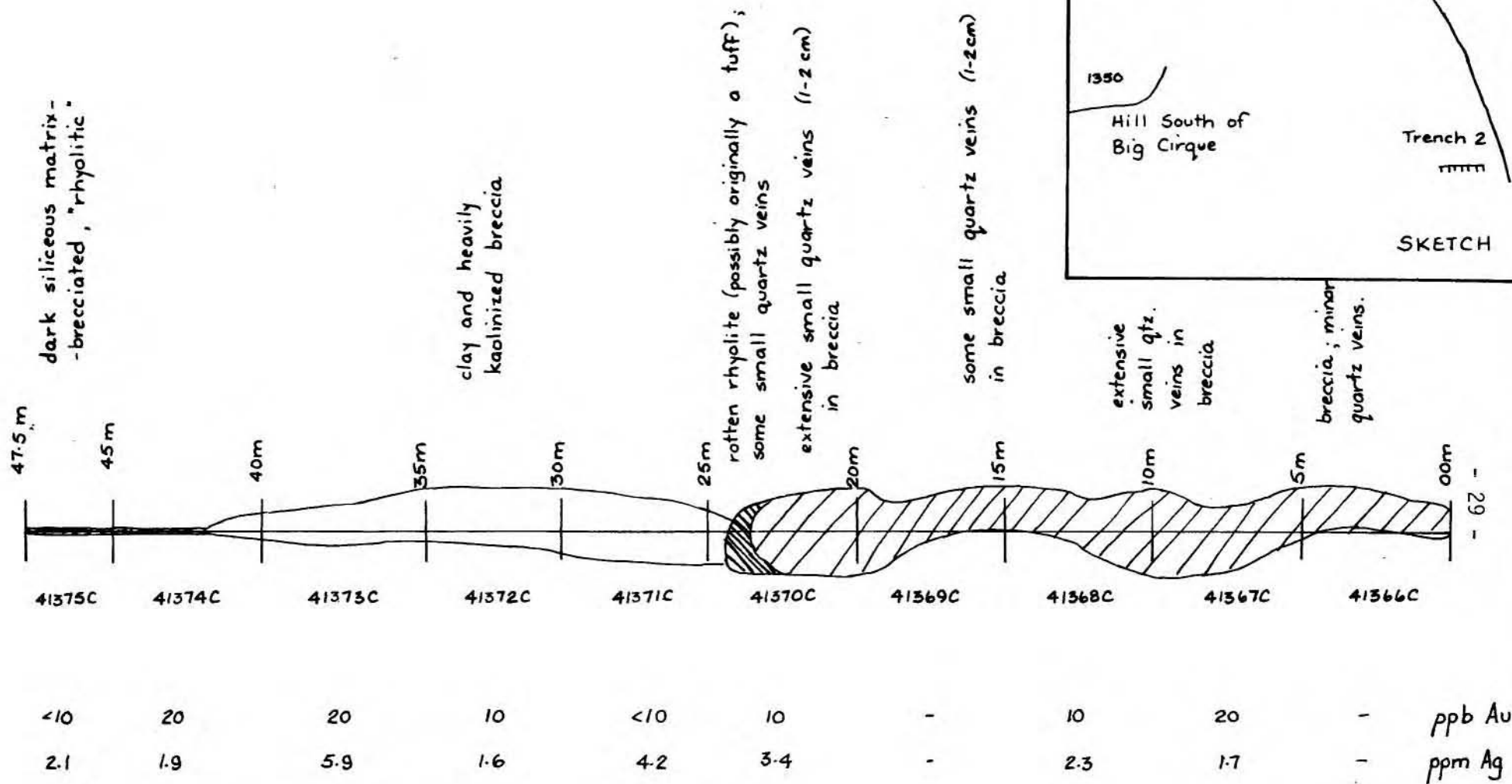
TOP ZONE
TRENCH 4
FACING NORTH
SCALE 1" = 1 metre

FIGURE 10

Bottom Zone

The rock in this area is of three major types. In the east section of the trench is a breccia which resembles the black matrixed silicified rich "Mogul Zone" breccia with less matrix. It contains minor quartz veins, vuggy to drusy in nature and appears to have been highly fractured with erratic veining. Some of the quartz is lightly coloured violet as if amethyst may occur nearby. West of this is a zone of material which has been nearly completely converted to clay-mud. The western most part of the trench is composed of a breccia more strongly resembling "Mogul Zone" breccia than the east end as the black siliceous matrix becomes the dominant part of the rock.

This trench (Trench 2 Figure 11) was sampled continuously over its forty eight meter extent with five metre and three metre samples. No significant values were obtained.

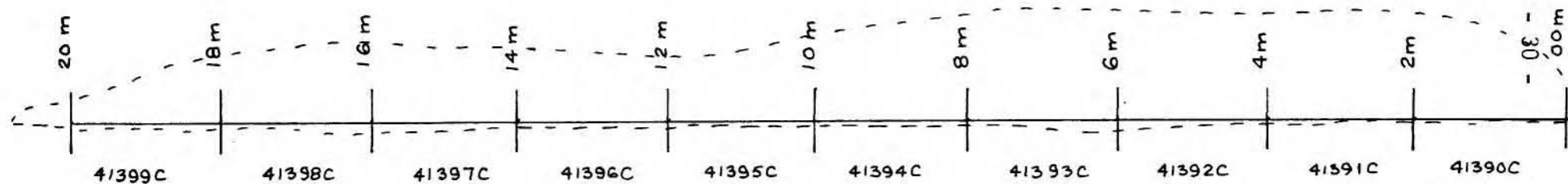
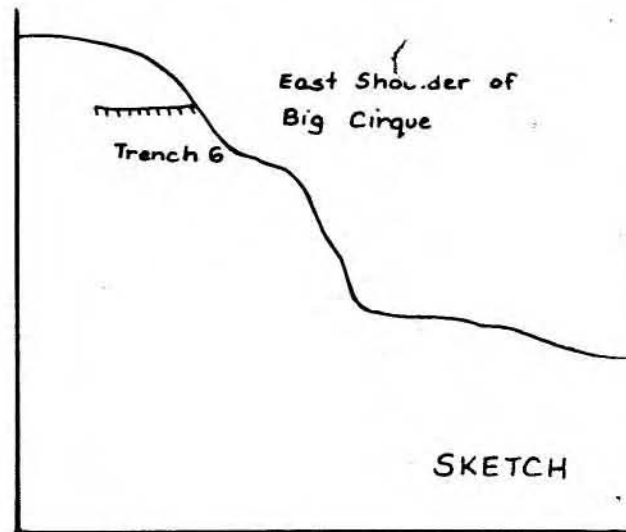


BOTTOM ZONE
TRENCH 2
FACING NORTH

SCALE 1" = 5 metres

FIGURE 11

rock extremely fragmented - most is probably approximately in place - some fragments of tiny (~1 cm) quartz veins found; rock overall is vuggy (containing quartz) heavily kaolinized rhyolite and breccia



oz Au <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003 <0.003

oz Ag 0.05 0.03 0.07 0.04 0.04 0.02 0.03 0.02 0.04 0.04

EAST SHOULDER ZONE
TRENCH 6
Facing West

SCALE 1" = 2 metres

FIGURE 12

Carbonate Veined Zone Figure 13

An area of extensive carbonate and quartz-carbonate veining was discovered, located partially on the western boundary of the Hart claims. The veins occur in fractures in the basalt tuff and agglomerate unit. The fractures are extensive throughout the unit becoming wider and more extensively carbonate veined to the west. Extensive sampling has been done on the veins but results indicate no significant values. Gold geochemical values range from <10 to 20 ppb, silver is consistently 0.1 ppm and arsenic is very low ranging from 2 to 29 ppm.

STRUCTURE Figures 14 and 15

Outcrops of siltstone and conglomerate of the Takwahoni Formation occur in the main west flowing creek just west of the toe of the main rock glacier. Siltstone beds strike approximately 320° and dip 65° north east. Rhyolitic debris occurs in a small gully at about elevation 990 metres in close association with apparent siltstone outcrop. There may be a narrow vertical fault zone in the gully causing minor offset in the formations but this elevation is taken as the location of the unconformity between Takwahoni and Heart Peaks Formations. No data is available on the possible trend of the unconformity surface.

The Hart Peaks formation itself is a series of acidic domes formed by the eruption of high viscosity lavas. A large amount of tuff and breccia is common in the Hart Peaks formation reflecting the explosive nature of the original eruptions. Big Cirque and possibly Mogul Zone cirque are probably volcanic vents. Both the shape of the peaks and the extensive brecciation associated with the two indicate this. Another possible vent lies to the north west of Mogul Zone cirque where another rhyolite dominated area is indicated on the map. While no real peak is found there the breccia becomes quite massive with fragments more than two meters across in places. At Big Cirque the vent is probably to the north of the ridge and below the rock glacier.

Basalt flows and pyroclastics form a relatively flat plateau on the eastern part of the property. This is part of the Level Mountain formation as described by G.S.C. Memoir 362. John J. Casey (MSc. Thesis University of Alberta) however states that there are chemical differences between the basalt of Heart Peaks and that of Level Mountain. This and the general topography indicates that the

basalt of Heart Peaks, while related to the Level Mountain group are from a local eruptive center.

On HART claim group basalt flows (or sills?) appear to be interbedded with the upper portions of the Heart Peaks formation. On the east side of Heart Peaks Mountain no light colored rusty Heart Peaks formation was observed and the mountain appears to be entirely of basaltic formations on that side.

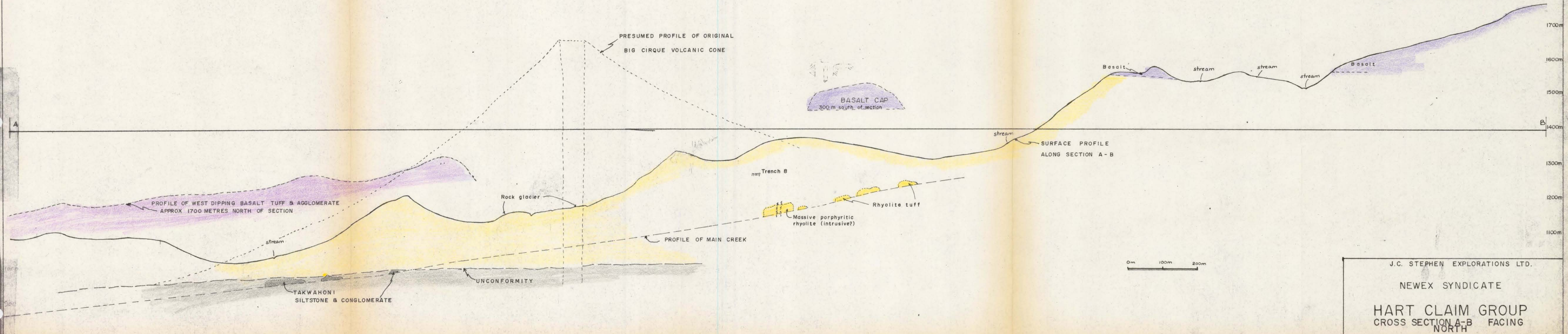
On claim HART 3 extensive outcrops of basaltic agglomerate occur which may, in part, be lahars. This poorly consolidated formation has an apparent west dip and is cut by numerous carbonate bearing fractures which transect clasts in the agglomerate.

North west of the main rock glacier rhyolite debris was observed on the hillside and may represent debris from explosive destruction of the north side of Big Cirque volcanic cone.

The porphyritic rhyolite outcropping in the main creek directly below the east side of Steep Zone is massive with pale feldspar phenocrysts and about 3% disseminated pyrite. This rock may be a sub volcanic intrusive.

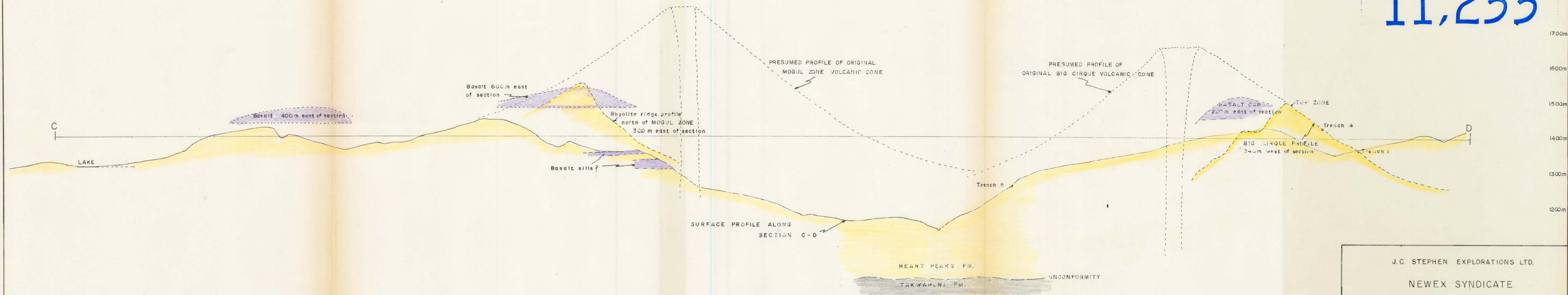
The quartz vein zones, Mogul, Steep and Top zones, appear to be aligned along a zone trending N22°E. Quartz veins in Mogul and Steep Zone are themselves oriented at N22°E. Veining in the region of Top Zone is more erratic.

11,233



J.C. STEPHEN EXPLORATIONS LTD.
NEWEX SYNDICATE
HART CLAIM GROUP
CROSS SECTION A-B FACING
NORTH
Scale 1: 5000 August 1982

FIGURE 14



J.C. STEPHEN EXPLORATIONS LTD.
NEWEX SYNDICATE
HART CLAIM GROUP
CROSS SECTION C-D FACING
EAST
Scale 1:5000 August 1982

FIGURE 15

It is suggested that quartz veining is related to a N22°E trending zone of fracturing along a line approximately joining the supposed volcanic vents in the Mogul and Main Cirque areas. This series of fracture zones extends over an apparent strike length of 1800 metres. The straight alignment indicates an essentially vertical dip.

GEOCHEMISTRY

Talus

Talus lines were run on several slopes in the Heart Peaks area. One line was on the slope below the rhyolite horizon north west of Mogul Zone cirque. A second line was run on the mountain east of Big Cirque and on the south face of Big Cirque itself. A third was on a talus slope north east of Mogul Zone Cirque. A topochain was used to measure distances varying from twenty to one hundred meters between samples. (See Maps I and II, talus sample sketch Figure 13).

Method

The finest material on the talus slopes was used for the talus samples. This was placed in waterproof Kraft bags and sent to base camp where samples were dried and sifted to -35 mesh. The samples were then sent to Chemex Labs, 212 Brooksbank Avenue, North Vancouver, B.C. for analysis. In the lab the samples were first pulverized to 100 mesh. The gold content in ppb was determined by aqua-regia digestion and chemical extraction followed by atomic absorption. Ppm Ag and As were determined by perchloric-nitric acid digestion and atomic absorption analysis.

Results

No new zones of anomalous values were encountered.

ROCK SAMPLES

Grab samples were taken from all quartz or quartz carbonate veins encountered outside the trenched zones that showed signs of mineralization. Alteration and gossan areas were also sampled by this method. Trenches were chip sampled continuously along their length. The length of the sample was varied with the amount of quartz veins or mineralization. Some large veins and sheared areas on the carbonate veined zone were also chip sampled.

Rock samples were sent to Chemex Labs in North Vancouver for analysis. Results are listed on data sheets supplied with this report as Appendix I. Geochemically anomalous gold and silver results were obtained, together with anomalous arsenic; at the Mogul Zone and in the face of the cirque to the north.

CONCLUSIONS AND RECOMMENDATIONS

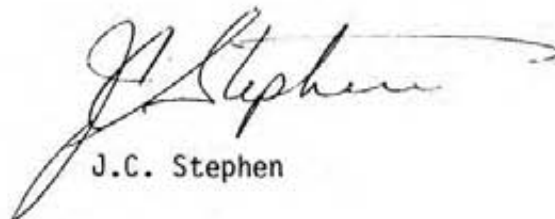
Significant assays for gold and/or silver were obtained on the HART group during 1981 from samples of quartz vein material. No precious metals were visually identified and no specific mineralization was identified as being associated with the assays. The majority of the samples showing interesting values were grab samples of quartz vein material.

During the 1982 program trenches were excavated across indicated quartz vein zones and these trenches were sampled in one to five metre sections. No single vein structure is considered large enough or persistent enough to indicate economic possibilities.

Assay results of the trench sampling returned extremely low values over the sample widths chosen. No possibly economic mineralization is indicated.

No further exploration on the claim group is presently recommended.

Respectfully submitted
J.C. Stephen Explorations Ltd.



J.C. Stephen

JCS/ms

HART CLAIM GROUP

DISTRIBUTION OF COSTS 1982

WAGES AND SALARIES

		July 24-Aug14;21-30	
G.W. Hill	Geologist	June 20-July 8 @ \$2000/m +15%	3,858.
J. Lawton	Assistant	June 20-July 8	
		Aug 4-14 @ \$1400/m +15%	1,610.
J.C. Stephen	Manager	5 days @ \$ 150/day	<u>750.</u>
			\$ 6,218.00

CONTRACT TRENCHING

McCrorry Holdings Ltd.	B. Preston	July 24-Aug.4	
		Including powder, etc.	\$ 6,934.00

FOOD AND CAMP SUPPLIES

106 man days @ \$15.	\$ 1,590.00
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ASSAYS AND GEOCHEMISTRY

Chemex Labs Invoices		
# 11785	20 rocks for Ag, As, Au	236.75
11930	17 talus for Ag, As, Au @ 11.65	198.05
12039	20 talus for Ag, As, Au @ 11.65	233.00
12044	14 rocks for Ag, As, Au	176.10
12403	3 rock assay for Au, Au	41.20
12404	18 rock geochem for Ag, Au	247.50
12405	8 rock geochem for Ag, Au @9.40	75.20
12718	25 rock assay for Ag, Au	343.75
12719	11 rock geochem for Ag, As, Au	139.15
12841	51 rock geochem for Ag, As, Au	656.40
12843	17 rock assay for Ag, Au	<u>233.75</u>
		\$ 2,580.00

HELICOPTER KEYSTONE HELICOPTERS ATLIN

<u>Flight Report</u>	<u>Date</u>	<u>Hours</u>
3724	June 22	2.0
3737	July 1	1.2
3679	July 8	1.6
3773	July 24	3.7
3880	July 28	1.7
3882	July 29	1.0

3789	July 31	2.1		
3894	Aug. 4	2.8		
3799	Aug. 8	1.8		
4028	Aug. 14	<u>2.1</u>		
	Total	20.0 Hours @ \$500.	\$	<u>10,000.00</u>
			TOTAL	\$ 27,322.00

A P P E N D I X I

GEOCHEMICAL AND ASSAY DATA SHEETS

SAMPLER Y LAWTON

PROJECT HEART PEAKS ALPHA

DATE JUNE 21 - 28

NTS

LINE

AIR PHOTO NO.

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS		
				Colour	Part Size	% ORG.	Ph				Au	As	Ag
52 next AT 1		surface		reddish brown		0		base of cliff	/	taken at foot of filled fracture in megacrystic basalts	<10	61	0.1
2		"		light grey brown		"		moderate	/		<10	7	0.1
3		4"		gray brown		0-5%		mod. to steep	slight occasional moss		10	5	0.1
4		"		light brown		5-10%		mod.	grass & moss		<10	7	0.2
5		6"		brown and grey white		0%		mod. to steep	/	taken 30m from last sample	<10	4	0.1
6		surface		white grey		0%		steep	/	6-10 taken at 25 m intervals	40	420	1.0
7		"		white grey brown		"		"	/	some small pebbles	140	71000	2.4
8		"		light brown		"		"	/	"	70	71000	2.4
9		"		white brown		"		"	/	"	70	71000	2.2
10		"		"		"		"	/	"	70	71000	2.4
11		"		brown		"		"	/	damp ; 11-13 taken at random	50	>1000	2.0
12		2"		light brown		"		"	/	some small pebbles	70	71000	4.8
13		"		blood red		"		"	/	"	10	310	0.5
14		"		light brown		"		"	/	"	<10	300	0.5
15		"		white brown		"		"	/	"	<10	125	0.3
16		"		light brown		"		"	/	"	<10	155	0.1
17		"		"		"		"	/	"	<10	65	0.1

SAMPLER JAMES LAWTON

PROJECT HEART PEAKS - ALPHA CAMP

DATE JULY 6 1982

NTS _____

LINE _____

AIR PHOTO NO. _____

SAMPLE NO.	LOCATION	Depth	Horiz	DESCRIPTION				SLOPE	VEG.	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
				Colour	Part Size	% ORG.	Ph				Ag	As	Aq	
82 NRH AT 18	big cirque	surface		beige-brown		0%		steep	/	taken at 25m	160	>1000	4.6	
19		"		"		"		"	/	" , some small pebbles	260	>1000	5.7	
20		"		"		"		"	/	"	120	>1000	5.1	
21		"		"		"		"	/	" , some small pebbles	100	980	15.3	
22		"		dark red		"		"	/	taken at 200m , some small pebbles	40	390	10.0	
23		"		brown		"		"	/	" "	20	295	5.2	
24	Long Talus zone	4"		beige brown		0%		moderate	some moss	samples below taken at 100 meters	410	57	0.3	
25		surface		"		0-5%		steep	minor moss & grass	taken 169 m from last sample	410	83	0.4	
26		"		brown		0%		steep	isolated moss		40	720	1.0	
27		6"		"		10-15%		"	moss & pine bushes		410	32	0.3	
28		surface		"		0%		"	/	some small pebbles	10	101	0.1	
29		"		"		"		"	/		410	43	0.2	
30		"		"		0-5%		"	clumps of moss		410	38	0.2	
31		"		beige brown		0%		"	/		410	35	0.2	
32		"		brown		0%		"	/	some small pebbles	410	36	0.3	
33		"		"		"		"	/	"	410	100	0.3	
34		3"		beige brown		0-5%		"	isolated scrub brush	some white claylike bits	410	35	0.3	
35		surface		brown		0%		"	/	taken 150 m from last sample	10	27	0.1	
36		"		beige brown		"		"	/	taken 164 m from last sample	410	51	0.2	
37		"		brown		"		"	/	taken 75 m from last sample	410	170	0.1	

NTS 10 L.R. / 25

SAMPLER G. Phén

PROJECT MARK I GROUP

LINE _____

DATE June 1980

AIR PHOTO No. _____

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS		
									Au.	As.	Ag.
(1) 256-01		Basalt							<10	-	0.1
(2) 602		"							<10	-	0.1
(3) 603		"							<10	-	0.1
(4) 604		Andesite							<10	-	0.2
(5) 605		"							40	25	1.3
(6) 606		"							10	165	0.7
(7) 607		"							<10	"	0.1
(8) 608		"							<10	150	0.1
(9) 609		"							40	700	2.4
(10) 610		"	Chlorite						60	175	3.3
(11) 611		Andesite/Basalt	Chlorite						<10	75	0.7
(12) 612		"	"						20	41	3.5
(13) 613		Andesite/Basalt	"						<10	16	2.4
(14) 614		Basalt							10	6	0.4
(15) 615		Basalt	Chlorite						<10	5	0.1
(16) 616		Basalt							10	35	0.1
(17) 617		Andesite/Basalt							<10	-	0.1
(18) 618		"	Chlorite						<10	7	0.1
(19) 619		Andesite/Basalt							<10	6	0.2
(20) 256-20		"							10	3	0.1

SAMPLER _____

PROJECT HART CLAIM GROUP

LINE _____

DATE AUG 1982

AIR PHOTO No. _____

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS		
									Au.	As.	Ag
1) 32951 C		BASALT TUFF	CARBONATE VEINS						<10	29	0.1
2) 952		"	"	CHALCITE					10	5	0.1
3) 953		"	"	"					<10	4	0.1
4) 954		"	"	"					<10	4	0.1
5) 955		"	"	"					<10	3	0.1
6) 956		"	"	"					10	2	0.1
7) 957		"	"	"					10	6	0.1
8) 958		"	"	"					10	3	0.1
9) 959		"	"	"					<10	9	0.1
10) 32960C		"	"	"					<10	6	0.1
11) 961		"	"	"					<10	12	0.1
12) 962		"	"	"					<10	3	0.1
13) 963		"	"	"					<10	3	0.1
14) 964		"	"	"					<10	3	0.1
15) 965		"	"	" FROM SHEAR ZONE					<10	6	0.1
16) 966		"	"	"					10	10	0.1
17) 967		"	"	"					10	4	0.1
18) 968		"	"	"					<10	7	0.1
19) 969		"	"	"					20	7	0.1
20) 970		"	"	"					10	3	0.1

NTS 104K/9E

SAMPLER G. Hill

PROJECT Newer Hart

LINE _____

DATE 27-08-82

AIR PHOTO No. _____

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	ASSAYS				
								TRUE WIDTH	Au.	Ag	As	
41251c	Steep zone Trench #8	Beccia → Blue Grey Rhy.	Silicification			30tz Uclns Chip Sampl.	↑	3cm	0.003	0.06		
52c	"	Beccia				20tz Uclns	ASSAYS	3cm	0.006	0.02		
53c	"	Grey Rhyolite Breccia				20tz Uclns		6cm	0.003	0.04		
54c	"	Grey Rhyolite	Kaolinization			10tz Ucln		1cm	0.003	0.04		
55c	"	"	"			10tz Ucln		2cm	0.003	0.06		
56c	"	"	"			<1mm 0tz Uclns			0.003	0.20		
57c	"	"	"			20tz Uclns		1cm	<0.003	0.20		
58c	McGill zone Cinghe	Blue grey Rhyolite						↑	<10	0.1	225	
59c	"	Beccia						<10	0.5	405		
60c	"	"						10	1.9	450		
61c	"	Green altered rhyolite	Epidote				GEOCHEM	10	0.1	48		
62c	"	Beccia						60	2.3	580		
63c	"	"						<10	0.1	71		
64c	"	"						140	4.8	71000		
65c	"	"						10	1.6	71000		
66c	"	Green altered Rhyolite	Epidote					<10	0.1	550		
67c	"	Beccia						180	16.9	71000		
68c	"	"						220	20.0	>1000		
69c	"	"						20	42.0	750		
70c	"	0tz Ucln				0tz Ucln		↓	5cm	<10	0.1	12

SAMPLER G. Hill

PROJECT Newex Hart

LINE _____

DATE 27-08-82

AIR PHOTO No. _____

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH		ASSAYS				
							TRUE WIDTH	Au.	Ag	As			
41271c	Bischof Cove	rhyolite Breccia				Qtz Ucin	5cm		<10	0.1	3		
72c	"					Qtz Ucin	3cm		<10	0.1	3		
73c	"					Qtz Ucin	1cm		<10	0.1	6		
74	Carbonat - Veh Zone	conglomerate				Qtz-carb. Ucin	3cm		<0.003	0.04			
76c	Trench 10	Porphyritic Rhyolite	Kaolinized			Chip Sample 3m			<0.003	0.01			
76c	"	"	"			" "			<0.003	0.04			
77c	"	"	"			" "			<0.003	0.01			
78c	Trench 5a	Qtz Ucin Breccia		25% pyrite		Chip Sample 2m	7cm		0.010	0.25			
79c	"	"		"		" "	"		0.008	0.29			
80c	"	"		"		" "	"		0.010	0.27			
81c	Trench 5b	"		"		" "	25m		0.014	0.22			
82c	"	"		"		" "	"		0.020	0.34			
83c	"	"		"		" "	"		0.028	0.35			
84c	"	"		"		" "	"		0.008	0.42			
85c	"	"		"		" "	"		0.040	1.10			
86c	"	"		"		" "	"		0.008	0.45			
87c	"	"		"		" "	"		0.006	0.33			
88c	"	"		"		" "	"		0.005	0.42			
89c	Trench 9	Rhyolite & Breccia		"		Chip Sample 3m			<0.003	0.01			
90c	"	"		"		" " 4.6m			<0.003	0.08			

SAMPLER G. Hill

PROJECT NEWEX HEART PEAKS

LINE

DATE 28-07-82

AIR PHOTO No.

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE DIP	ADDITIONAL REMARKS	APPARENT WIDTH		ASSAYS				
							TRUE WIDTH	Au.	As.	Sb.	Ag		
41354C	Big Cirque Trench #1	Altered (Kaolinite) Amphibole-Qtz	Kaolinitization	~ 1% Pyrite			3"	3"	0.003%				0.74
41355	"	Altered Amphibole	"	"		Chip Sample 5M			<10				2.7
6	"	"	"	< 5% Pyrite		" 5 meters			<10				1.6
7	"	"	"	~ 1% pyrite		" 8 meters			10				1.6
8	"	"	"	25% pyrite		" " "			<10				1.6
9	"	"	"	~ 1% pyrite		" " "			<10				1.8
60	"	"	"	"		" " "			10				1.6
1	"	"	"	"		" " "	2"	2"	<10				1.6
2	"	"	"	Possible Arsenopyrite		" 5 "			10				2.5
3	"	"	"	"		" " "			10				1.2
4	"	"	"	Pyrite < 1%		" " "			10				1.2
5	Trench #2	Altered Blue Grey Amphibole	"	Pyrite ~ 1%		" " "	AU 1"	AU 1"					
6	"	"	"	mostly in matrix		" " "	AU 1"	AU 1"	<0.003%				0.24%
7	"	Isocrystalline Grey Amphibole	"	"		" " "	"	"	20				1.7
8	"	"	"	"		" " "	"	"	10				2.3
9	"	"	"	"		" " "	"	"	0.003%				0.26%
70	"	"	"	"		" " "	"	"	10				3.4
1	"	Extensive Qtz	"	"		" " "	"	"	<10				4.2
2	"	Extensive Amphibole	Extensive Kaolinitization	"		" " "	"	"	10				1.6
3	"	"	"	"		" " "	"	"	20				5.9

SAMPLER G. Hill

PROJECT NEWEX HEART PEAKS

LINE

DATE 28-07-82

AIR PHOTO No.

SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE DIP	ADDITIONAL REMARKS	APPARENT WIDTH		ASSAYS				
							TRUE WIDTH	Au.	As.	Sb.	Ag		
41374c	Big Cirque Trench #2	Brecciated Rhyolite with Qtz veins	Kaolinization	Pyrite <5%		Chip Sampling 5m	1"	1"	20				1.9
5c	"	no Qtz veins	Very little "	"		" " "			<10				2.1
41376c	Trench #4	Brecciated Rhyolite	Silicified	Pyrite, arsenic		" " 3m			<10				4.1
377c	Big Cirque	Blue-Gray Rhyolite				Rock sample			<10				2.8
378c	"	"				Rock sample			<10				2.6
379c	"	"				Rock sample			<10				9.6
380c	TRENCH #3	Light Grey Rhyolite	Kaolinization			Chip sample 5m			<10				1.2
381c	"	"	"			" "			<10				0.8
382c	"	"	"			" "			<10				0.8
383c	"	"	"			" "			<10				1.0
41384c	Trench #5a	Blue-Gray Rhyolite Qtz		Pyrite <5%		Chip Sample 2m			0.0300g				0.62g
385c	"	"		"		" "			0.032				0.34
386c	"	"		"		" "			0.018				0.52
387c	"	"		"		" "			0.028				0.60
388c	"	"		"		" "			0.028				0.56
389c	"	"		"		" "			0.030				0.62
390c	Trench #6	Kaolinized Rhyolite Small Qtz veins	Kaolinization			Chip Sample 2m			<0.003				0.04
391c	"	"	"			" "			<0.003				0.04
392c	"	"	"			" "			<0.003				0.02
393c	"	"	"			" "			<0.003				0.03

A P P E N D I X II

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

GEORGE WESLEY HILL

EDUCATION

1978 Graduate B.A.(Honours) English Carleton University
1982 Graduate B.Sc. Geology Queen's University

EXPERIENCE

June - September	1982	J.C. Stephen Explorations Ltd. Geologist
May - August	1981	Gold Fields Mining Co. Geological Assistant
May - August	1980	Gold Fields Mining Co. Geological Assistant
May - August	1979	Eldorado Nuclear Ltd. Geological Assistant

September 1982

G.W. Hill

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.

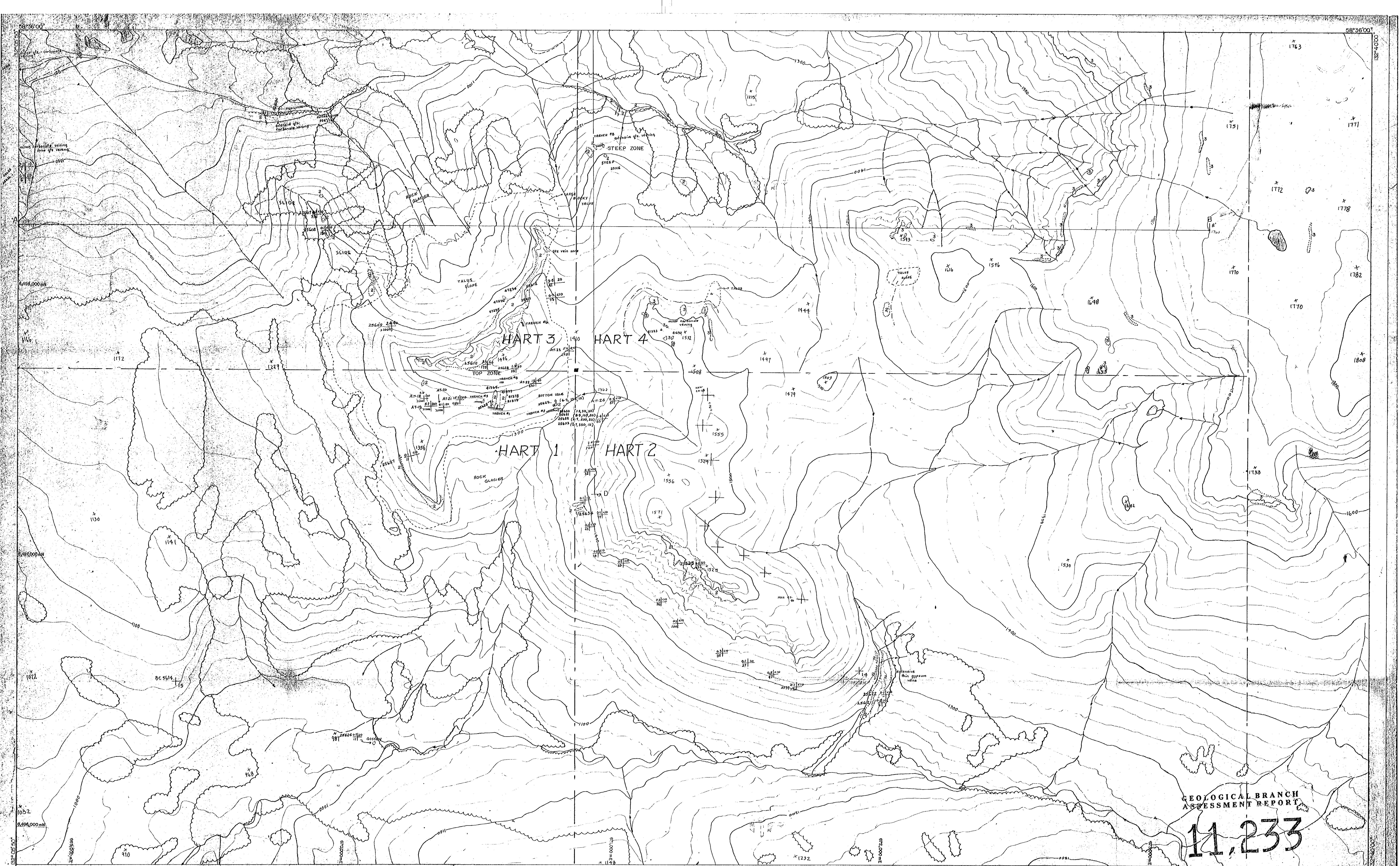
1977-Present President J.C. Stephen Explorations Ltd.

Manager	D.C. Syndicate	(Dome, Cominco)
Manager	Target Project	(Dome Exploration)
Manager	B.C. Gold Syndicate	(Newmont, McIntyre, Canada Tungsten)
Manager	Newex Syndicate	(Newmont, Lornex)

During June, July, Aug. 1982 I was responsible for supervision of the field crew on HART GROUP and prepared this report from the data collected.

September 10, 1982

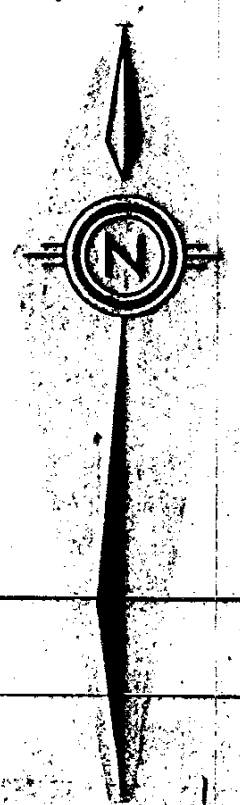

J.C. Stephen



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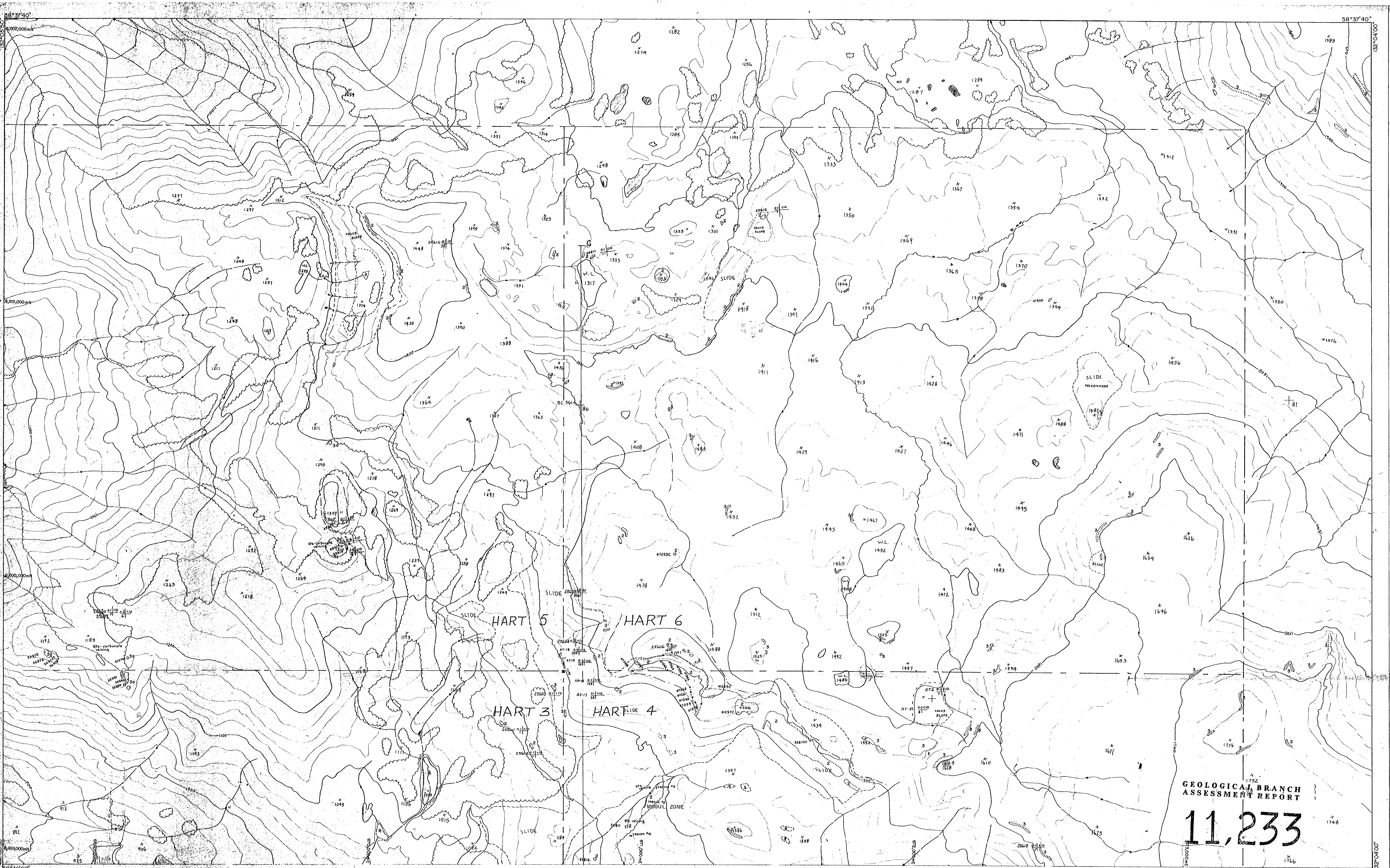
- LEGEND
- 3 LEVEL MTN. FM. BASALT FLOWS
3s BASALT TUFF, AGGLOMERATE
 - 2 HEART PEAKS FM. RHYOLITE, TRACHYTE
porphyry, breccia, tuff
 - JURASSIC
 - 1 TAKWAHONI FM. SILTSTONE, MUDSTONE, CONGLOMERATE
 - TRENCH QUARTZ VEIN
 - 1/2 TALUS SAMPLE ppm 1/25 ppb



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HART CLAIM GROUP
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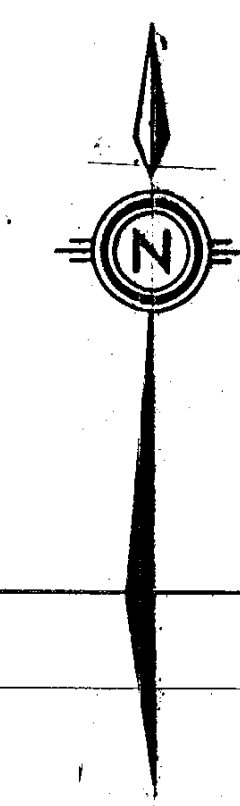
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SOUTH SHEET MAP I



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NORTH SHEET MAP II