GEOLOGICAL AND GEOCHEMICAL REPORT

on the

HART CLAIM GROUP

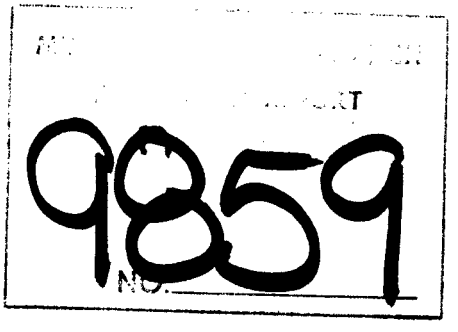
Record Nos: 1319 - 1324

Map Sheet 104K/9E

Latitude: 58°36'N Longitude: 132°03'W

ATLIN MINING DIVISION

B.C.



by

J.C. Stephen

J.M. Pautler

November, 1981

Work Done: June, July, August, 1981

By: J.C. Stephen Explorations Ltd.

Funded by: Newex Syndicate

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SUMMARY AND CONCLUSIONS

(1) The HART claim group consists of 120 units and is located approximately 145 kms southeast of ATLIN, B.C.

(2) The claim group was staked to cover the Heart Peaks Formation from which anomalous silver values were obtained in 1980.

(3) A crew of four to nine people spent 140 man days on the property between June 10 and August 6, 1981.

(4) The claim group is primarily underlain by rhyolites, trachytes and related pyroclastic rocks of the Late Tertiary Heart Peaks Formation. Basaltic rocks of the Level Mountain Group are also exposed on the property.

(5) Detailed mapping of two zones with significant gold-silver results was conducted at scales of 1:200 and 1:500.

(6) A total of 95 chip samples were collected from zones which had high initial gold-silver results. All samples were assayed for gold and silver. A further 104 grab samples were collected and geochemically analyzed and/or assayed for gold, silver and/or arsenic. Results ranged up to 15 oz/ton Ag and 0.288 oz/ton Au.

(7) Several talus lines were run and reconnaissance soil and talus samples were collected. A large percentage of these samples ran <1000 ppm As.

(8) Detailed mapping of the property at a scale of 1:2500 on a topographic base map is recommended for 1982. Extensive rock geochemistry and chip sampling should also be conducted.

INTRODUCTION

The HART claim group, consisting of 120 units, was staked in June, 1981 to cover the Heart Peaks Formation from which anomalous silver values, (up to 12 ppm Ag), were obtained in 1980. The anomalous results were from quartz veins within rusty weathering silicious rhyolite and rhyolite trachyte breccia. The highest values were obtained from the southern of two prominent multicoloured ridges.

Field work was carried out in June, July and August, 1981. Initial prospecting and sampling of the property revealed significant gold and silver values up to 15 oz/ton Ag and 6500 ppb Au. Two grids were established, (the Mogul and Steep Zones), and geological mapping was undertaken on these at scales of 1:200 and 1:500 respectively. A third zone, (the Top Zone), was too steep for detailed work.

A total of 199 rock, 126 talus and 14 soil samples were collected on the property for geochemical analysis.

The property is dominated by two multicoloured ridges referred to as North and South Hart. The topography is rugged and elevation ranges from 3000' to 5500'.

Most of the property lies above tree line. Vegetation in the valleys and smaller ridges consists of dense balsam, spruce, pine and alder forests and buckbrush at higher elevations.

Drainage is provided by a number of northerly and southerly flowing creeks that drain into larger creeks that flow westward into the Sheslay River. The central region of the claim group is marked by swamps, many of which are a result of beaver dams.

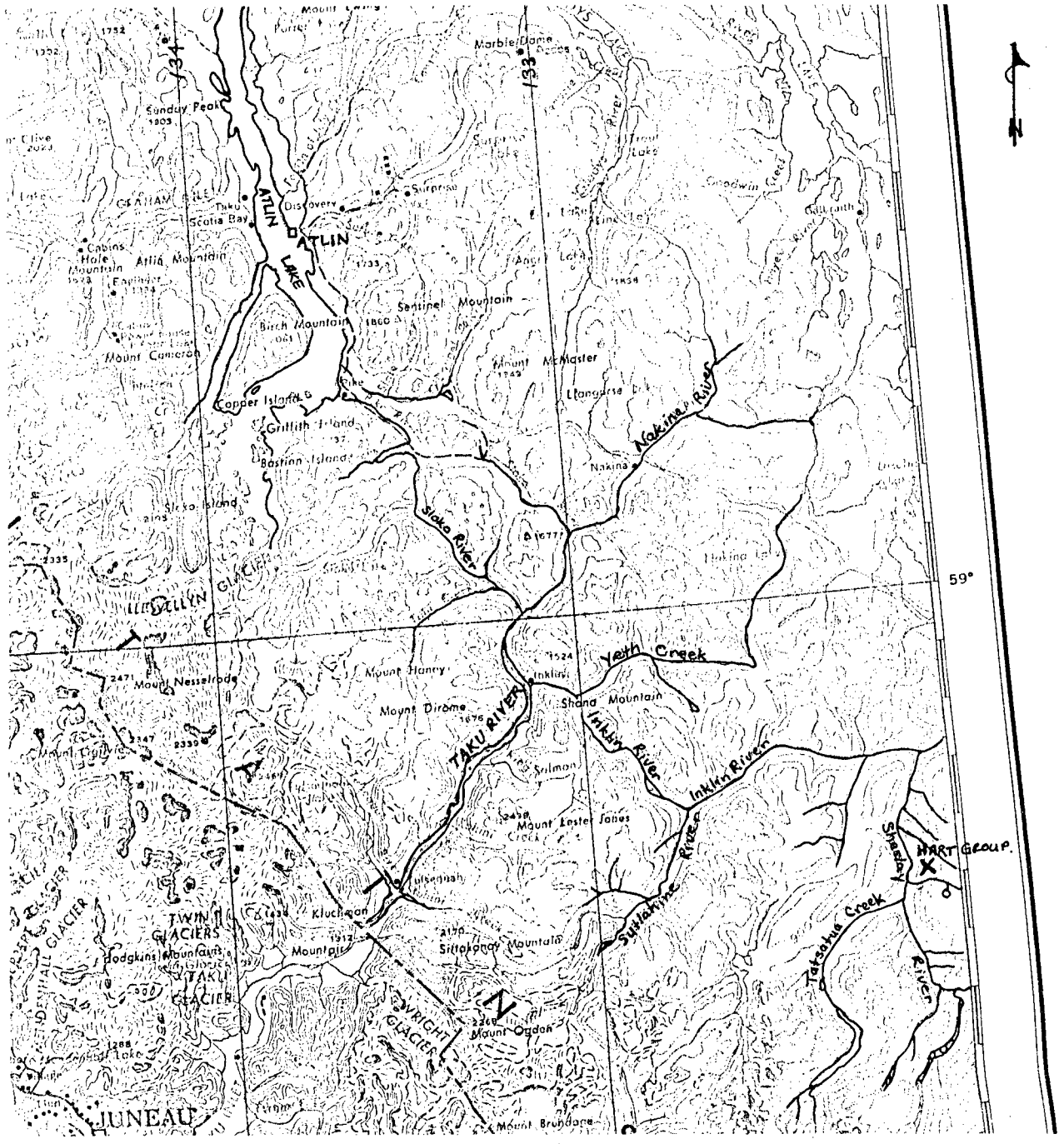
CLAIMS REGISTER

Claim	No. of Units	Record Number	Record Date
Hart 1	20	1319	June 24, 1981
Hart 2	20	1320	June 24, 1981
Hart 3	20	1321	June 24, 1981
Hart 4	20	1322	June 24, 1981
Hart 5	20	1323	June 24, 1981
Hart 6	20	1324	June 24, 1981

LOCATION AND ACCESS

The HART group is located on the west slopes of Heart Peaks approximately 145 kms southeast of Atlin, B.C.(Refer to Figure 1). Latitude and longitude are 58°36'N and 132°03'W.

Access was by helicopter from Atlin, B.C. Helicopter service is also available from Dease Lake.



from SITKA, North America, G.S.C. Map No. 7,8, 1956.

J.C. STEPHEN EXPLORATION LTD.

NEWEX SYNDICATE

HART CLAIM GROUP

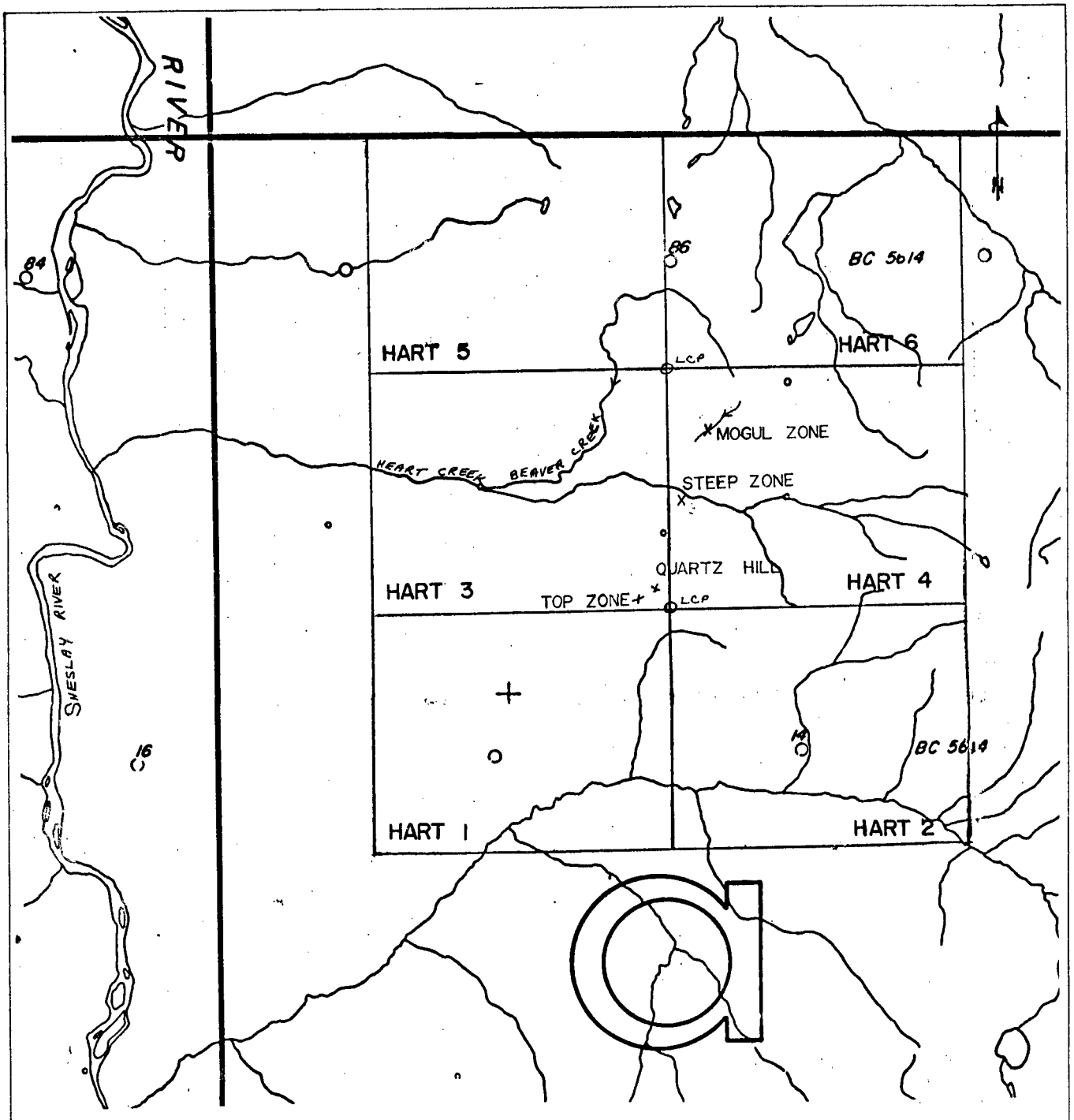
NTS: 104K/9E

LOCATION

SCALE: 1:1,000,000

0 10 20 kms.

FIGURE:1



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 .5 1.0 kms.

FIGURE 2

REGIONAL GEOLOGY

The Geological Survey of Canada has mapped the geology of the area at a scale of 1:250,000. This mapping is published as Map 1262A, Tulsequah and Juneau Map Sheet 104K.

The HART claim group almost entirely consists of rhyolites, trachytes and related pyroclastic rocks of the Heart Peaks Formation. Basaltic rocks of the Level Mountain Group are exposed in the north and east sections of the property. Following is a description of the two, reproduced from GSC Memoir 362. The quartz vein system within the Heart Peaks Formation was the exploration target.

Late Tertiary and (?) Pleistocene

Heart Peaks Formation (Map-unit 17)

The brightly coloured group of pyramid-shaped summits on the western flank of Heart Peaks forms a prominent landmark, visible for many miles. The area is underlain by rhyolitic and trachytic lavas, tuffs, and breccias that weather to bright hues of red, yellow, and orange. All of the rocks have a closely spaced random fracture system, with the result that most slopes are covered with a thick mantle of felsenmeer and talus. Several active rock glaciers have also developed on the slopes and pushed their way well down into the fringing forest.

The fresh lavas have a light grey to purplish grey aphanitic matrix surrounding clear, light grey, tabular phenocrysts of feldspar, occasional books of biotite, and small rounded blebs of quartz. Quartz stringers and quartz-lined vugs are locally abundant. In a few outcrops crude columnar jointing can be recognized but the columns are small and randomly oriented. Under the microscope the flow rocks are seen to have a trachytic texture in which the groundmass, consisting mainly of glass and ores, surrounds a felted mass of plagioclase microlites. Phenocrysts, which comprise up to 20 per cent of the rock, are complexly zoned andesine (An_{35-50}).

The pyroclastic rocks are porous and highly oxidized, comprising fine, scoriaceous ejecta, broken feldspar crystals, and angular blocks of porphyritic lava. Several beds contain accidental fragments from the underlying Takwahoni shale and one bed of which crystal-lithic tuff contains a few carbonized plant stems. In thin section the tuffs are seen to contain a high proportion of glass and several beds near the base of the pile are composed entirely of vitreous, welded shards.

The Heart Peaks Formation appears to be overlain by flat-lying basalt; the base of the sequence was not observed in the vicinity of Heart Peaks. It is possible therefore that the earliest basalt flows may predate the rhyolite-trachyte. This appears to be the case 20 miles farther south, where a similar group of acid tuffs has been studied in detail by Panteleyev (1964). There the tuffs are divisible into two units separated by a 250-foot section of columnar basalt. This basalt is similar to the main basalt above the upper tuff unit and was believed by Panteleyev to represent a series of early flows rather than sills. If this is so, then eruption of the acid tuffs must have been more or less contemporaneous with eruption of the earliest Level Mountain basalt.

A potassium-argon age of 15 m.y., or late Miocene, has been obtained on biotite collected by Mr. C. S. Ney from Panteleyev's upper tuff unit.

Level Mountain Group (Map-unit 18)

The two areas of flat-lying basalt along the eastern boundary of the map-area are small outliers on the western edge of a vast lava field that extends almost 40 miles to the east and underlies over 1,500 square miles. The western limit of the basalt is marked by a steep escarpment that exposes many tiers of reddish brown-weathering columnar flows separated by thin layers of brick-red scoriaceous flow breccia. In Tulsequah area at least 25 flows with an aggregate thickness of over 1,500 feet are exposed. The base of the pile rests on an old erosion surface, exposed in section at several places along the base of the escarpment. Mesozoic sediments below the oldest flow are fractured, deeply weathered and capped by a thin regolith of rounded pebbles in a grey, earthy matrix. A thick layer of ash and cinders separates the regolith from the base of the first flow, forming an effective thermal insulator and preventing any apparent baking or alteration of the underlying soil layer. At several places the basalt has filled old stream channels and near the southern end of the Heart Peaks escarpment the early flows must have entered a large body of water. There the normal columnar jointing gives way to well-developed pillow structure in the lower few hundred feet of the pile.

Most of the flows are dark grey to black, fine-grained, equigranular basalt. Open vesicles are developed in the upper part of many flows and some contain amygdules of aragonite or chalcedony. Several of the thicker flows are porphyritic, containing 10 to 15 per cent clear, honey-yellow labradorite laths up to ¼ inch across. Microscopically all the non-vesicular flows are porphyritic or micro-porphyritic olivine basalt, comprising about 50 per cent labradorite (An_{50-60}), 30 per cent augite, and 10 per cent olivine. The remaining 10 per cent is made up of basaltic glass, ores, and a trace of apatite.

As outlined in the previous section, the earliest basalt flows may be as old as late Miocene. The youngest flows exposed in the map-area are older than the last stage of Pleistocene glaciation, but a six-foot layer of unconsolidated material resembling till was observed below the uppermost flows east of Heart Peaks. If this material is in fact till, then eruption of the basalt must have continued into the Pleistocene Period.

PROPERTY GEOLOGY

A 1:2500 base map was prepared to aid in geological mapping of the property, but was received subsequent to field work. However, the general outline of the basaltic and rhyolitic units has been transferred to the map and is shown on Maps I and II in the back pocket.

There are seven different units of the Heart Peaks Formation that are exposed on the property, and one Level Mountain unit. One sample of andesite porphyry was found in the northwest part of the claims which may be a member of the Upper Triassic Stuhini Group of volcanic rocks.

ROCK TYPES

Unit 3 - Stuhini Group?

The andesite porphyry is a very fine grained, greenish coloured, heavy and slightly magnetic rock. The phenocrysts are of feldspar. Mn staining is evident on the weathered surface.

Unit 2 - Level Mountain Group

Olivine basalt of this group is exposed in the eastern part of the property and a small body of it lies just north of the claims. The basalt is very fine grained, black in colour, is heavy and is strongly magnetic. Olivine phenocrysts form about 2% of the rock. Biotite phenocrysts may or may not be present. In places good columnar jointing is evident with columns up to 40 cms across. The basalt flows appear to occur interbedded with rhyolitic horizons in the eastern part of the property.

Unit 1 - Heart Peaks Formation

Extrusive phases consist of rhyolitic to trachytic tuffs to agglomerates, pumice and flows. A brecciated rhyolite unit is exposed along the Hart 5 and 6 claim line. Possible intrusive phases include a rhyolite-trachyte porphyry and a rhyolite-trachyte breccia.

Rhyolite-Trachyte

The rhyolite is aphanitic, light grey to dark grey to bluish grey in colour and has a yellow, orange and/or rusty weathered surface. Disseminated pyrite can be present as well as silicification and drusy and vuggy quartz. Mn staining is sometimes evident. Flow banding has also been observed. The trachyte is generally lighter in colour than the rhyolite and is commonly altered or partially altered to white kaolin.

Rhyolitic-Trachytic Tuffs to Agglomerates

Crystal and lithic tuffs and lapilli tuffs are present and form some of the fragments in the rhyolite-trachyte breccia. Agglomerates are not as common as the tuffs. They contain subrounded to subangular kaolinized trachyte fragments and some shale fragments. Pyrite, arsenopyrite, silicification and drusy and vuggy quartz can be present. Weathered surface is yellow, orange to rusty.

Rhyolite Breccia

This unit is separate from the volcanic breccia unit. Very angular fragments of light blue-grey rhyolite porphyry with clear plagioclase phenocrysts are contained within a rusty limonitic matrix. Fragments range in size from 2-3 cms to 20-30 cms.

Ryholite-trachyte Porphyry

The porphyry contains either clear plagioclase phenocrysts (Na-rich) or kaolinized feldspar phenocrysts and has a rhyolite or trachyte matrix. Flow banding was observed in a few samples indicating an extrusive origin for at least some of the porphyritic rocks with minor phenocrysts. Pyrite and silicification can also be present.

Rhyolite-Trachyte Breccia

The breccia generally has a rhyolitic matrix with subrounded to angular fragments of trachyte, kaolinized trachyte, trachytic tuff, rhyolite, Takwahoni shale and a few granitoid fragments. Silicification, drusy and vuggy quartz and quartz veining is common. Pyrite is commonly present in the matrix and is also found within the fragments. In thin section fragments composed of single quartz and potassium feldspar grains and composite quartz grains were observed. This breccia may represent explosive breccia in vent structures.

Sample descriptions of the rocks along with Au, Ag and As assays are enclosed in Appendix I. Petrographic descriptions are provided in Appendix III.

Both the North Hart and South Hart ridges and surrounding areas are extensively covered by talus and felsenmeer and the formations are intensely fractured probably by tectonic activity and extensive frost action.

Mineralization

Pyrite is the most abundant sulfide present. It occurs in quantities up to 5% most commonly within the rhyolite-trachyte

breccia as part of the matrix and as disseminations within the rhyolitic and trachytic fragments. Disseminated pyrite is also found in the porphyries and in the rhyolite, trachyte and related pyroclastic rocks. A few of the quartz veins also contain minor disseminated pyrite. Fine pyrite occurs in pumice-like cavities in quartz rich float which may have come from veins and as fine loose "dusting" along partings between quartz bands in fragments of ribboned quartz.

Arsenopyrite may be present in the rhyolites and trachytes and related tuffs, agglomerates and breccias. However, because it occurs as fine disseminations, it is difficult to positively identify.

Some of the quartz veins, especially from the Top Zone on South Hart, contained a silver coloured (mineral) sulfide with a red streak which has been tentatively identified as hematite. Although, until further thin section results are received, there is still a possibility that the mineral may be ruby silver since it was these quartz veins that returned the highest silver values.

One occurrence of marcasite was noted. Tabular to rounded aggregates of radiating marcasite grains were contained within grey, "honeycomb-like" quartz.

Rare examples of what appears to be stibnite were found along fractures.

Mineralized Zones

There are three zones with significant gold and silver values. These include the Mogul, Steep and Top Zones. Locations of the zones are plotted on Figure 2.

Mogul Zone

The Mogul Zone is located below 'mogul-like' piles of talus south of the North Hart ridge. Initial gold-silver values, associated with quartz veins, ran up to 6500 ppb Au and 51.0 ppm Ag. Hand trenching uncovered five white to black, massive to drusy quartz veins mostly contained in a silicious rhyolite-trachyte breccia which contained kaolinized trachyte, trachyte, rhyolite, shale and chert fragments, and abundant disseminated pyrite. The surrounding rock was a blue-grey rhyolite, aphanitic, strongly fractured, bright yellow to red weathered surface and including a porphyritic phase with both clear plagioclase and kaolinized feldspar phenocrysts. A kaolinized trachytic phase was also present. At 0+30N/0+20W, there exits exposure of a silicious rhyolite agglomerate which contains the same fragments as the above mentioned breccia. Abundant bleby pyrite is present within the groundmass. Graded bedding is also evident. The geology and geochemistry of this zone is illustrated in Figure 3.

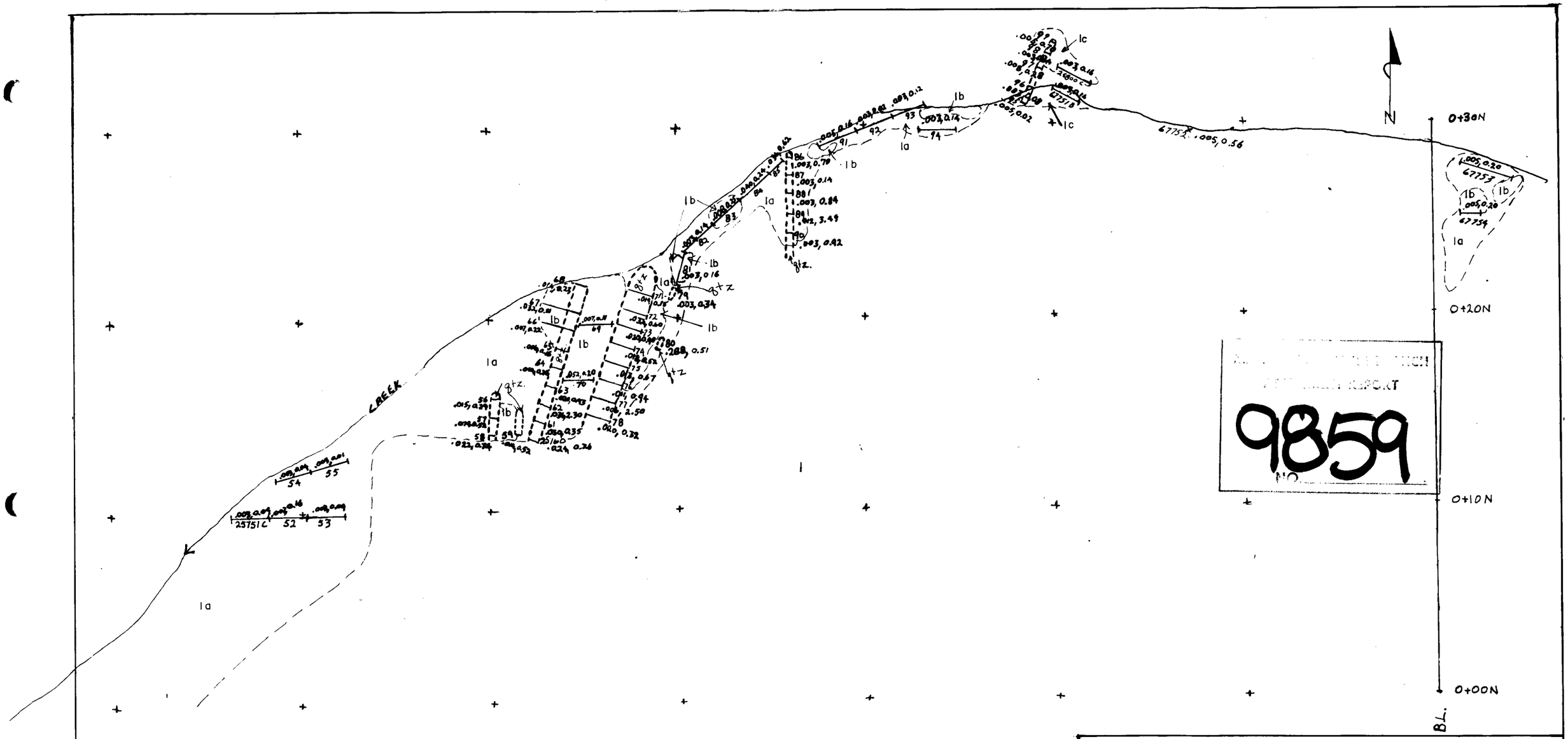
Steep Zone

The Steep Zone is located on Heart Creek between the North and South Hart ridges. Gold-silver mineralization is restricted to massive to drusy quartz veins up to 1.5 metres wide. The host rock is a blue-grey massive to porphyritic, strongly fractured rhyolite which contains pockets of very silicified agglomerate. Initial prospecting returned values up to 880 ppb Au. Silver results were generally low (1.3-2.6 ppm Ag). Figure 4 shows the geology and geochemistry of this zone.

Top Zone

The highest silver values came from quartz veins in the Top Zone which is located at the top of the South Hart ridge. Initial sampling returned values of 15.18 oz/ton and 11.68 oz/ton Ag.

The associated gold values were 0.010 oz/ton and 0.016 oz/ton Au. Since the zone is too steep for detailed work, mapping and hand trenching of the poorly exposed quartz veins could not be undertaken. The quartz veins are white with black layers, and usually vuggy. Kaolinite is commonly present on fracture surfaces. The weathered surface is characteristically bright red. It is these veins that contain very minor amounts of a grey coloured mineral with a red streak that is either hematite or ruby silver. The location of quartz veins in the Top Zone is illustrated in Figure 5.



LEGEND:

25753 – ROCK SAMPLE
(.012, .230) (Au, Ag) .OZ/TON

QUARTZ VEINS

OUTCROP

UNIT I: HEART PEAKS FORMATION

a **RHYOLITE-TRACHYTE, commonly porphyritic**

b **RHYOLITE-TRACHYTE BRECCIA, py.**

c **AGGLOMERATE, silicified, py**

J.C. STEPHEN EXPLORATIONS LTD.

NEWEX SYNDICATE

HART CLAIM GROUP

MOGUL GRID

GEOCHEMISTRY

NTS — 104 K 9

SCALE 1:200

JULY 1981

FIG.3

Heart Creek

N

0+00

0+80S

0+90S

1+00S

1+10S

1+20S

1+30S

1+40S

1+50S

B.L.

MINISTRY OF ENERGY, MINES & PETROLEUM RESOURCES

ASSESSMENT REPORT

NO. 9859

LEGEND:

67765 – ROCK SAMPLE
(.012, 2.45) (Au, Ag) OZ/TON

OUTCROP

qtz. QUARTZ VEINS

UNIT I: HEART PEAKS FORMATION

a RHYOLITE – TRACHYTE, commonly porphyritic

c AGGLOMERATE, very silicified, py.

J.C. STEPHEN EXPLORATIONS LTD.

NEWEX SYNDICATE

HART CLAIM GROUP

STEEP GRID

GEOCHEMISTRY

NTS — 104K 9

SCALE 1: 500

JULY 1981

FIG. 4

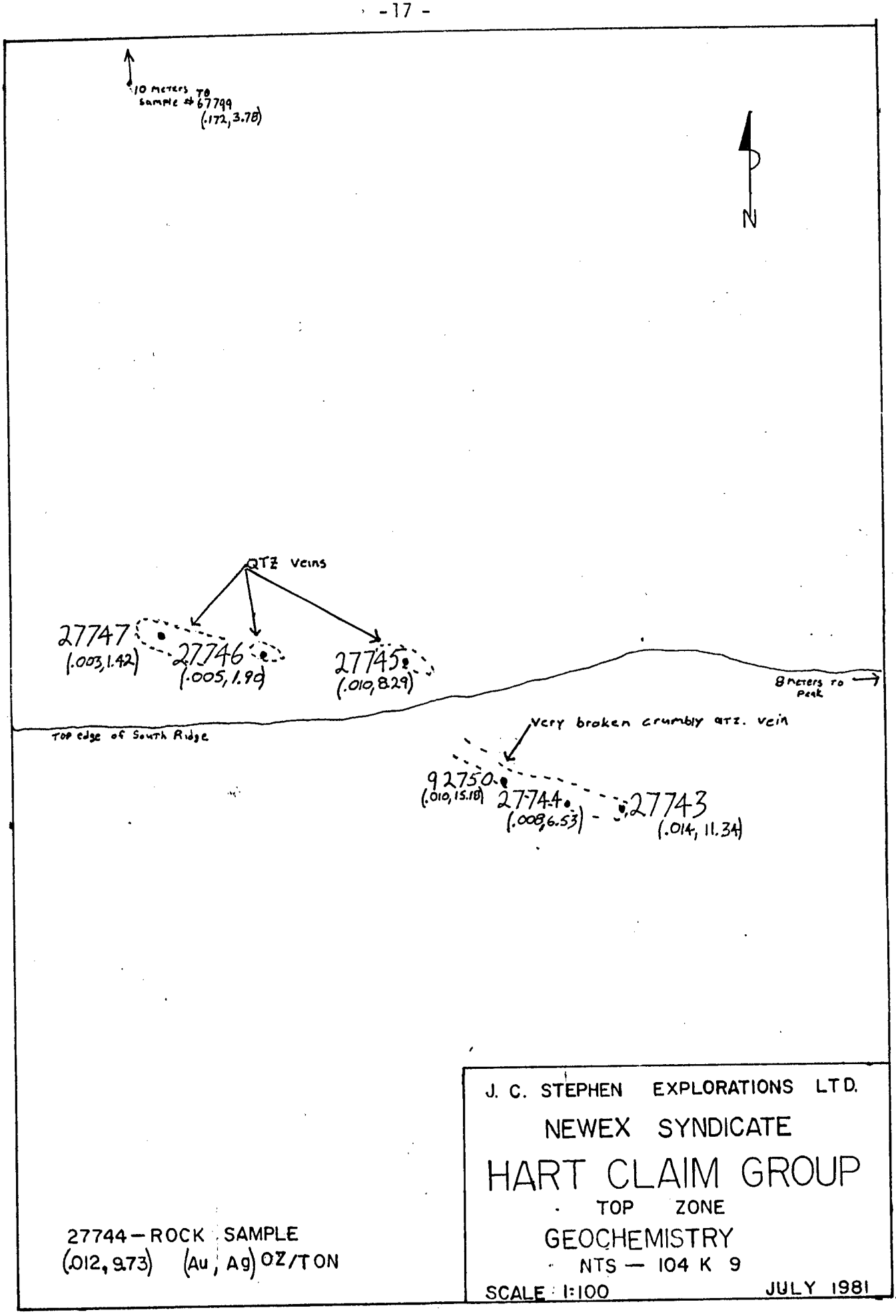

10 meters to sample #67799 (.172, 3.78)
N
QTZ veins
27747 (.003, 1.42)
27746 (.005, 1.98)
27745 (.010, 8.29)
8 meters to Peak
Top edge of South Ridge
Very broken crumbly qtz. vein
92750 (.010, 15.18)
27744 (.008, 6.53)
27743 (.014, 11.34)
27744 — ROCK SAMPLE
(.012, 9.73) (Au, Ag) OZ/TON
J. C. STEPHEN EXPLORATIONS LTD.
NEWEX SYNDICATE
HART CLAIM GROUP
TOP ZONE
GEOCHEMISTRY
NTS — 104 K 9
SCALE 1:100
JULY 1981

FIGURE 5

Structural Model

G.S.C. Memoir 362 includes the basalt on the west side of Heart Peaks as part of the Level Mountain structure. Sufficient regional work has not been done to refute this interpretation but, because of the topography, it is easier to believe that the Heart Peak basalts originate from extrusive centres within that mountain rather than having flowed from Level Mountain.

The shape of the South Hart ridge greatly resembles part of a volcanic cone. (Refer to Photo I)

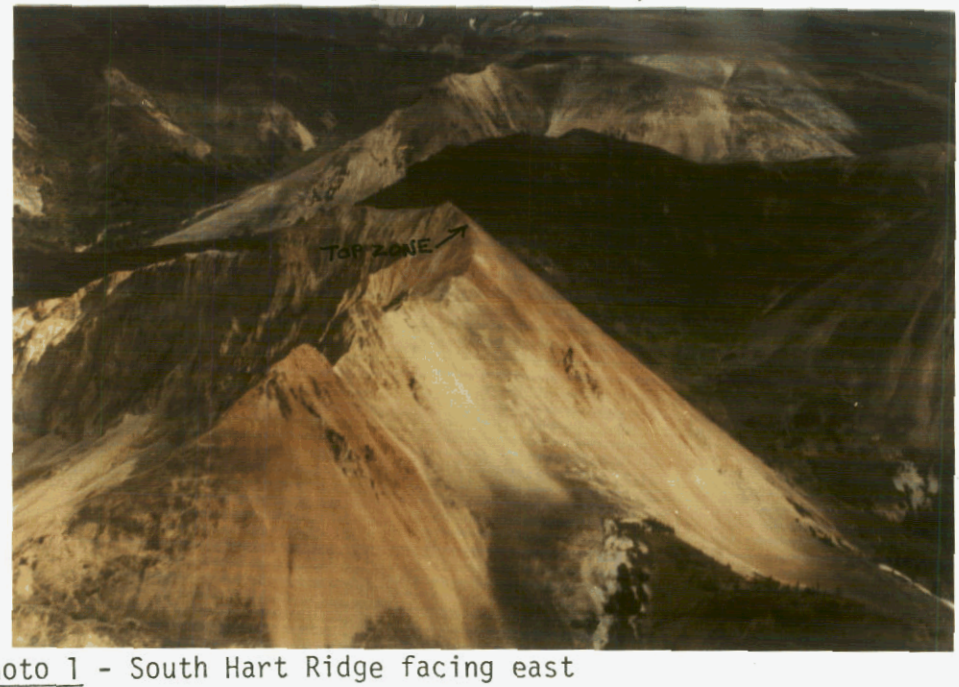


Photo 1 - South Hart Ridge facing east

Flows and fragmentals are present in the west and southeast walls of the cirque suggesting that the peak is formed by extrusive material surrounding a possible volcanic vent. The vent is assumed to lie below the southeast head of the main rock glacier that extends from this cirque. (Photo 2)

Photo 2 - HART Group looking southeast to Main Rock Glacier

The Mogul Zone is characterized by extensive volcanic breccias which suggests that it is also a vent area. Photo 3 illustrates the structure to the north and northeast of the Mogul Zone.

Photo 3 - Facing northeast to basalt topped rhyolite cliffs above Mogul Zone

The quartz veins so far located all appear to trend slightly east of north but this may be misleading as so little exposure is available. The various zones, however, are aligned in this direction as indicated in Photo 4 which is taken from the west side of the Mogul Zone.

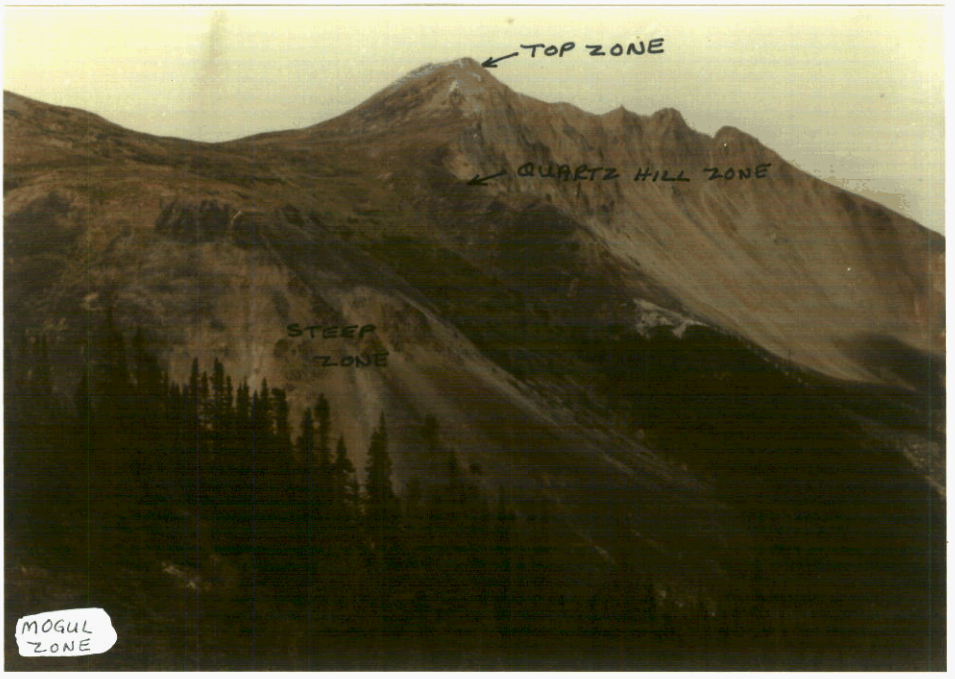


Photo 4 - Facing south showing apparent alignment of quartz vein zones

Our present hypothesis suggests that gold-silver mineralization is associated with quartz veins in the vicinity of one or more explosive rhyolitic to trachytic volcanic vents which are themselves centred along a north-south trending zone of weakness on the west margin of a basaltic volcanic vent centred on Heart Peaks.

GEOCHEMISTRY

Soil and Talus

Several talus lines were run on several slopes including both the North and South Hart ridges. The lines were run along contour and a topochain was used to measure distance. Samples were taken approximately 20 metres apart. Recconnaissance soil and talus samples were also collected. A total of 126 talus and 14 soil samples were collected and all analyzed for Ag, As and Zn. A few samples were analyzed for Au and not Zn.

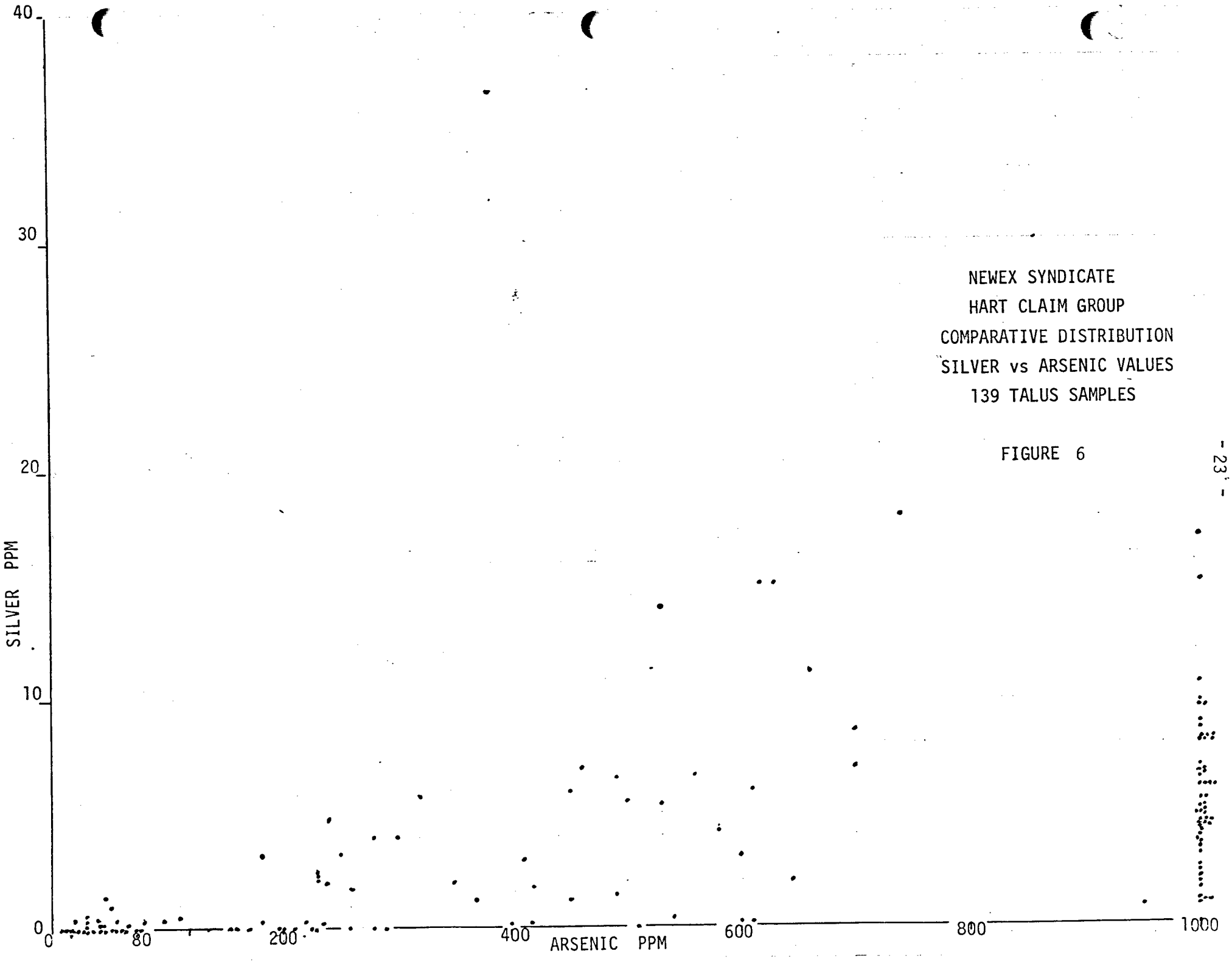
Method

The finest material on the talus slopes was used for the talus samples. The soil samples were collected from the 'B' horizon at depths of 0 to 5 cm, using a rock hammer. Samples were placed in waterproof Kraft bags and sent to base camp where they 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, both the soils and talus 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, As and Zn were determined by perchloric-nitric acid digestion and atomic absorption analyses.

Results

Results ranged from 0.1 to 18.0 ppm Ag, 6 to >1000 ppm As and 3 to 260 ppm Zn. There is a large percentage of As determinations >1000 ppm as well as between 200 and 700 ppm As. Generally, the high Ag values fall within the 1000 ppm As contour, but this is not always the case. The 1000 ppm As and the 5.0 ppm Ag contours are shown on Maps I and II in the back pocket.

Figure 6 shows silver vs arsenic values for 139 talus samples indicating only a general correlation between the occurrence of silver and arsenic.



NEWEX SYNDICATE
HART CLAIM GROUP
COMPARATIVE DISTRIBUTION
SILVER vs ARSENIC VALUES
139 TALUS SAMPLES

FIGURE 6

Silt

Seven silt samples were collected from Heart and Beaver Creeks and analyzed for Ag, As, Zn and Mo, and Mn. The same procedure was followed in preparation and analysis as for the soil and talus samples. No significant results were obtained. Values ranged from 9.1-0.2 ppm Ag, 22-340 ppm As, 25-220 ppm Zn, 1-17 ppm Mo and 184 to 1250 ppm Mn.

Rock

A total of 54 chip samples were taken across the quartz veins and silicified and pyritized host rock in the Mogul Zone. Forty-one chip samples from the Steep Zone, five grab samples from the Top Zone and a few other grab samples near the anomalous zones were also collected. All samples were assayed for Au and Ag. Samples were sent to Chemex Labs in North Vancouver for analysis. The method followed by Chemex is outlined in Appendix IV. Sample locations and results are shown in Figures 3 - 5.

A reconnaissance sampling program was also undertaken. Samples were geochemically analyzed for Au, Ag and As. Locations and results are plotted on Maps I and II in the back pocket.

Results

Gold values range from 0.003 to 0.2888 oz/ton in samples taken on quartz vein zones in the Mogul Zone. Silver values range from 0.01 to 3.49 oz/ton. (Figure 3)

Chip sampling on the Steep Zone returned 0.003 to 0.146 oz/ton Au and 0.01 to 2.45 oz/ton Ag. (Figure 4)

Only a small proportion of the samples taken on the above zones returned significant assays and all high assays were

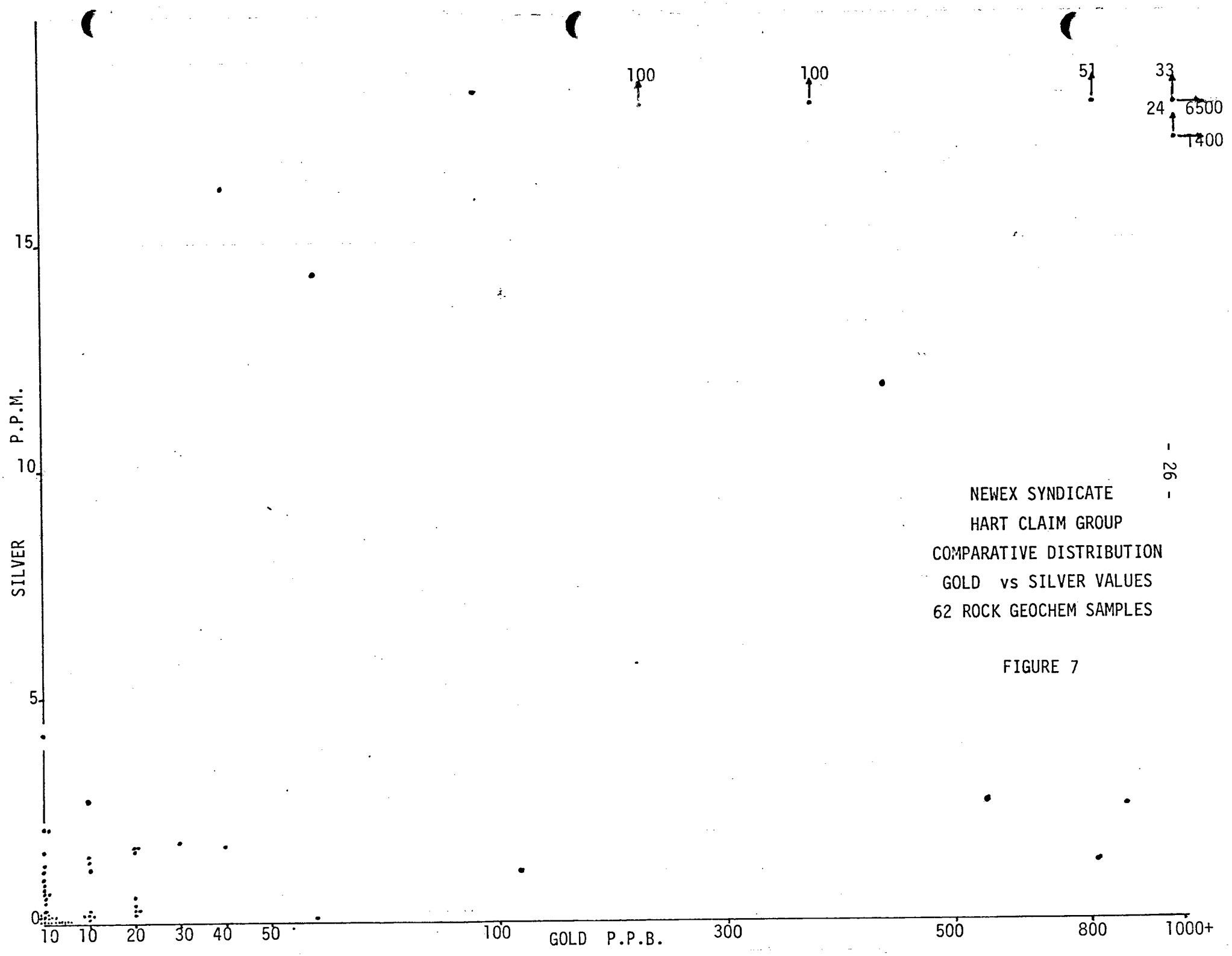
from the quartz veins within the zones.

Poorly exposed quartz veining in the Top Zone assayed 0.003 to 0.014 oz/ton Au and 1.42 to 15.18 oz/ton Ag. (Figure 5)

Low silver values, 3.66 and 4.16 oz/ton were obtained from "pumice" quartz and ribboned quartz at the foot of the main rock glacier. These samples ran only 0.005 and 0.020 oz/ton Au.

Initial sampling of exposed quartz veins on Quartz Hill, which is on the northeastern edge of South Hart ridge, failed to return any values of economic significance. The highest value was 16 ppm Ag.

Figure 7 shows gold vs silver values from 62 rock geochemistry samples indicating little or no positive correlation between the occurrence of gold and silver. A similar lack of correlation is evident in chip sample assays. These are provided in Appendix V.



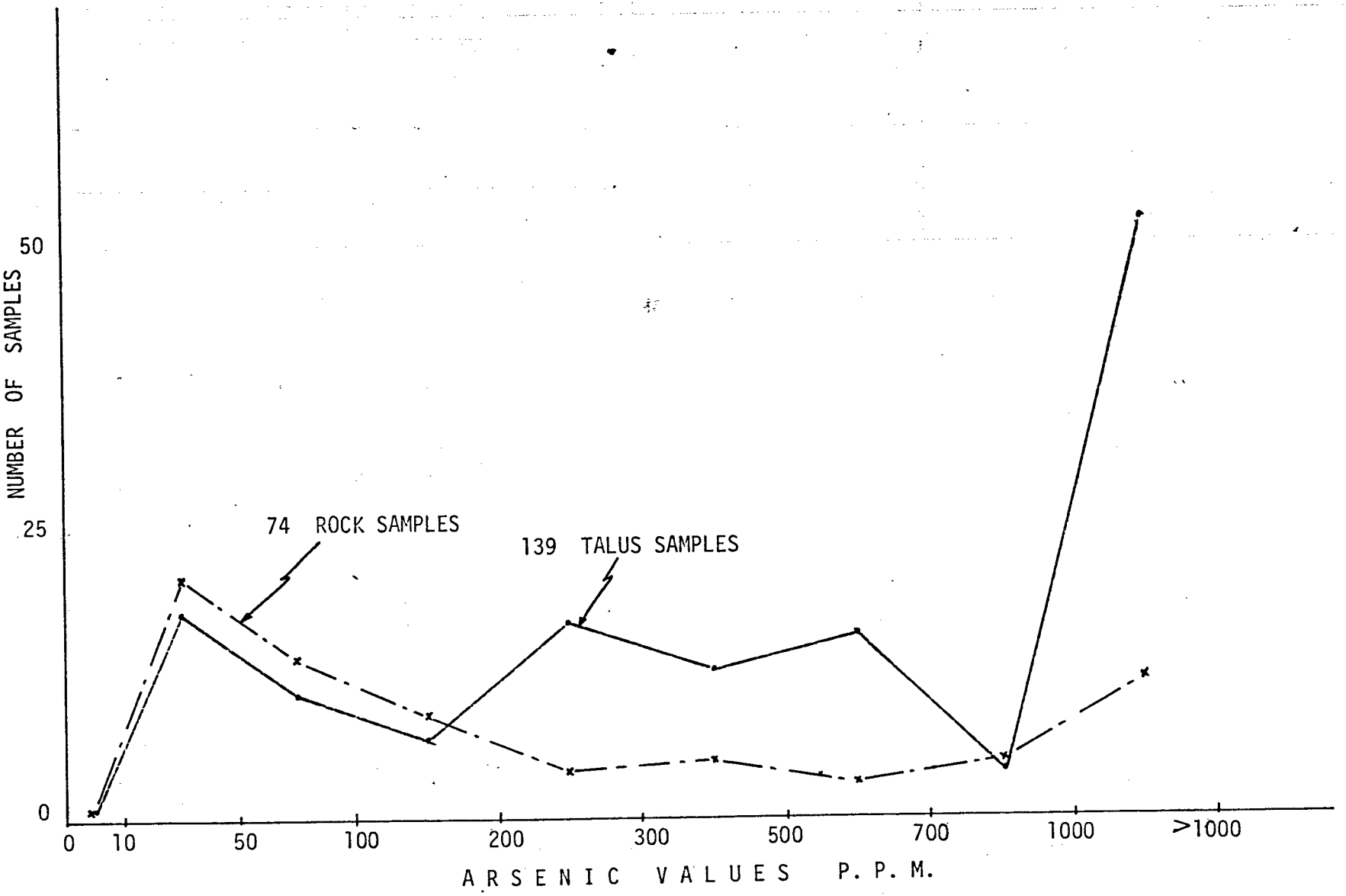
NEWEX SYNDICATE
HART CLAIM GROUP
COMPARATIVE DISTRIBUTION
GOLD vs SILVER VALUES
62 ROCK GEOCHEM SAMPLES

FIGURE 7

Distribution Patterns

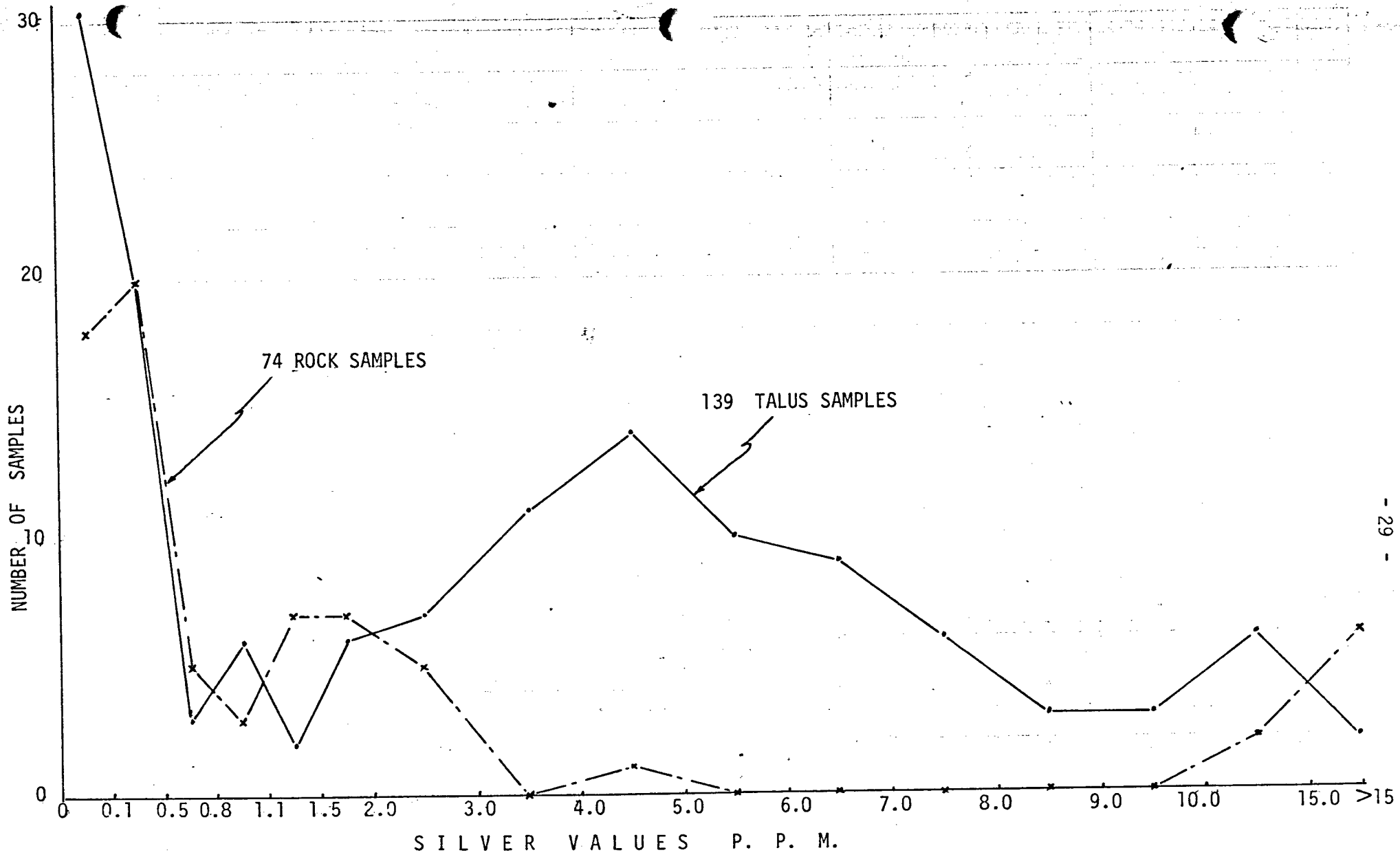
Figure 8 is a histogram of arsenic values in talus and rock samples. The talus samples show a large number of determinations >1000 ppm as well as a large percentage which run between 200 and 700 ppm As. This distribution of high values is compared to the distribution for rock samples. The source of the arsenic in the talus has not been identified and the high values may suggest that mineralization high in arsenic exists but has not been found as yet.

Figure 9 compares distribution of silver values in talus and rock samples. A much higher proportion of the talus samples have values ranging from 2.0 to 9.0 ppm Ag than is the case with rock samples. Again there is a suggestion that silver mineralization exists which is being distributed into the talus but has not been recognized in rock sampling except possibly in the TOP ZONE where assays range from 1.42 to 11.34 oz silver/ton with only traces of gold.



NEWEX SYNDICATE
HART CLAIM GROUP
HISTOGRAM OF ARSENIC VALUES
FOR TALUS AND ROCK SAMPLES

FIGURE 8



NEWEX SYNDICATE
HART CLAIM GROUP
HISTOGRAM OF SILVER VALUES
FOR TALUS AND ROCK SAMPLES

FIGURE 9

CONCLUSIONS AND RECOMMENDATIONS

Three zones carrying significant gold and silver values were outlined by the 1981 program. Detailed mapping and chip sampling of two of the zones was carried out and rock sampling was conducted on the third zone. Reconnaissance prospecting and sampling of the entire property was also conducted.

A total of $22,963 was spent on the 1981 program, $12,000 of which has been applied for 1 year's assessment work. The remainder has been credited to a portable assessment credit account.

Future work should involve detailed mapping of the property on the presently prepared topographic base map and extensive rock geochemistry and chip sampling should be carried out in conjunction with this mapping.

Respectfully submitted,

J.C. STEPHEN EXPLORATION LTD.

J.M. Pautler

J.C. Stephen
J.M. Pautler

Transportation

Flight Ticket	Date	Hours
2620	June 11	1.7
2624	June 12	1.8
003126	June 17	0.7
003128	June 18	1.6
003454	July 17	2.4
003466	July 20	1.5
003481	July 24	1.7
003528	August 7	1.8

Flying:	13.2 hrs @ $400/hr	$5,280
Fuel:	13.2 hrs @ $ 56/hr	739
		$6,019.00

Geochemistry and Assaying

Invoice	Amount
11527	$181.69
11529	408.00
11683	48.88
11684	517.65
11795	421.81
11796	41.22
11800	295.59
12183	28.90
12836	285.60
13052	790.50
13182	153.00

(Refer to Appendix V for invoices) 3,172.84

TOTAL EXPENDITURES $22,963.08

SUMMARY OF EXPENDITURES

Salaries and Benefits

Name	Date	Rate	Amount	
S. Angus	June 10-17 July 17 - August 6	$1900/m+15%	$2,039.33	
Mike Radan	June 10-17 July 17- Aug 6	$1750/m+15%	1,878.33	
J. Pautler	June 10-17 July 17-20	$1950/m+15%	822.25	
M. Hughes	June 10-17 July 17-20	$1750/m+15%	737.92	
N. Silins	June 10-16 July 21-Aug 6	$1000/m+15%	920.00	
J. Lawton	June 10-16	$1000/m+15%	268.33	
M. Masson	June 10-16 July 21-Aug 6	$1750/m+15%	1,610.00	
G. Prior	June 10-16	$1900/m+15%	509.83	
J.C. Stephen	June 12	$150/day	150.00	
				$8,935.99

Food and Camp Supplies

140 man days @ $14.00 — 1,960.00

Petrographic Analysis

Invoice 2857 -	2 polished section @ $16.00 ea.	$ 32.00	
	1 thin section @ $6.00 ea.	6.00	
	3 reject slices @ $ .75 ea.	2.25	
	3 K-spar stains @ $1.00 ea.	3.00	
	Petrographic Report (3/10 X$440.00)	132.00	
			175.25

Base Map

Integrated Resources Photography — 2,700.00

APPENDIX I

ROCK DESCRIPTIONS AND RESULTS

Sample No.	Remarks	Geochem or Assay		
		Au	Ag	As
Quartz Veins:				
92749 B	very white coloured, in part vuggy quartz, layered in centre; minor grey sulfide (hematite); kaolinization fracture surfaces; red weathering	0.016 oz	11.68 oz	22 ppm
27744 C	white quartz, some vugs; some kaolinization, minor hematite (?); red weathering	0.008 oz	6.53 oz	
27745 C	vuggy quartz vein; minor grey sulfide, (hematite); kaolin present; red-orange weathering	0.010 oz	8.29 oz	
27746 C	white quartz vein	0.005 oz	1.90 oz	
67799 B	white to grey drusy quartz vein; minor sulfides; kaolin around edges	0.172 oz	3.78 oz	
27833 C	layered crystalline and vuggy quartz vein; volcanic breccia host with minor pyrite	570 ppb	2.6 ppm	>1000 ppm
27715 C	"honeycomb" quartz vein breccia, vuggy, with colloform quartz; highly silicified rhyolitic host rock with fine disseminated pyrite	1400 ppb	24.0 ppm	>1000 ppm
27716 C	vuggy "honeycomb" quartz vein-breccia; rhyolite breccia host, angular to subangular trachyte fragments	820 ppb	51.0 ppm	>1000 ppm
25555 C	grey quartz, "honeycomb-like" in places; tabular to rounded aggregates of marcasite about 5mm in size; rhyolite breccia host	200 ppb	50.0 ppm	150 ppm
27747 C	quartz vein; rhyolite and kaolin fragments	0.003 oz	1.42 oz	
27710 C	vuggy quartz; altered angular fragments of silicified rhyolite ?	820 ppb	1.3 ppm	>1000 ppm

Sample No.	Remarks	Geochem or Assay Au	Ag	As
27703 C	drusy and vuggy quartz; silicified rhyolite breccia host with subangular fragments of banded rhyolite and kaolinized trachyte	10 ppb	1.4 ppm	110 ppm
27702 C	quartz vein; trachytic host rock with minor pyrite	20 ppb	1.6 ppm	130 ppm
27704 C	vuggy quartz vein; rhyolite porphyry host with disseminated pyrite, ± arsenopyrite	60 ppb	14.3 ppm	380 ppm
25553 C	quartz pyrite pumice-like seam up to 5 cm wide; silicified rhyolite breccia with angular to subangular trachyte fragments	0.020 oz	4.16 oz	
27743 C	vuggy quartz veining; very silicified rhyolite porphyry host; kaolin present	0.014 oz	11.34 oz	
27808 C	drusy quartz veinlet; rhyolite porphyryhost, minor disseminated pyrite	<10 ppb	1.2 ppm	50 ppm
27708 C	quartz lense; rhyolite breccia host with pyrite in matrix, angular to subangular kaolinized trachyte fragments and shale fragments	<10 ppm	1.3 ppm	830 ppm
27711 C	8 mm wide drusy quartz vein; silicified rhyolite breccia host with minor disseminated phrite and fragments of shale and trachyte	20 ppb	0.3 ppm	650 ppm
Rhyolite-trachyte porphyry - quartz rich:				
27617 C	quartz in vugs; radiating, needle-like grey sulfide on fracture surface, (stibnite); clear plagioclase phenocrysts	<0.003 oz	0.14 oz	

Sample №.	Remarks	Geochem or Assay		
		Au	Ag	As
27618 C	quartz lined vugs; disseminated pyrite; plagioclase and quartz phenocrysts	<0.003 oz	0.10 oz	
27616 C	very silicified; disseminated pyrite; clear plagioclase and clay altered phenocrysts; slight greenish staining near weathered surface	<0.003 oz	0.06 oz	
27719 C	very silicified; quartz crystals present; pyrite throughout, clay altered phenocrysts	<10 ppm	0.1 ppm	5 ppm
27832 C	very silicified; disseminated pyrite throughout ± arsenopyrite; clay altered feldspar phenocrysts	60 ppb	0.1 ppm	950 ppm
27805 C	silicified; pyrite mainly on fracture surfaces; clay altered phenocrysts	20 ppb	0.3 ppm	920 ppm
Ryholite-trachyte porphyry:				
27851 C	minor silicification; highly kaolinized; clay altered feldspar phenocrysts			
27852 C	minor silicification; highly kaolinized; grey sulfide, (henatite); clay altered feldspar phenocrysts	<10 ppb	0.1 ppm	11 ppm
73661 B	seam of pyrite 1 cm. wide; clay altered feldspar phenocrysts	20 ppb	1.6 ppm	420 ppm
27835 C	highly kaolinized; abundant pyrite		0.1 ppm	100 ppm
27712 C	abundant fine pyrite	<10 ppb	0.1 ppm	95 ppm
27834 C	pyrite; Mn stained weathered surface	20 ppb	0.3 ppm	390 ppm
27859 C	disseminated pyrite	<10 ppb	0.2 ppm	45 ppm

Sample No.	Remarks	Geochem or Assay		
		Au	Ag	As
27619 C	very minor disseminated pyrite; clay altered phenocrysts	<0.003 oz	0.08 oz	
27856 C	very minor disseminated pyrite	<10 ppb	2.1 ppm	173 ppm
73659 B	very minor pyrite; clay altered phenocrysts	<10 ppb	0.1 ppm	11 ppm
27858 C	very disseminated pyrite; clay altered feldspar phenocrysts; layering formed by kaolin-rich layers	<10 ppb	0.7 ppm	50 ppm
27810 C	very very minor pyrite; flow banding	10 ppb	2.7 ppm	360ppm
27701 C	flow banded; clay altered phenocrysts	20 ppb	1.7 ppm	55 ppm
27838 C	clay altered phenocrysts		0.1 ppm	7 ppm
27854 C	Clay altered feldspar phenocrysts	<10 ppb	0.2 ppm	36 ppm
73662 B	Clear plagioclase and clay altered phenocrysts			
27853 C	few clear plagioclase phenocrysts	<10 ppb	0.1 ppm	11 ppm
27855 C	clear plagioclase phenocrysts; slaty cleavage	<10 ppb	0.1 ppm	15 ppm
Trachyte-rhyolite:				
27826 C	quartz line jugs; colloform quartz coating one surface; rhyolite brecciated at one end with small very angular fragments; Mn staining	30 ppb	1.8 ppm	580 ppm
27806 C	rusty drusy quartz on one surface	40 ppb	16.2 ppm	310 ppm
27804 C	very silicified; quartz lined vugs	<10 ppb	1.0 ppm	61 ppm

Sample No.	Remarks	Geochem or Assay As	Ag	As
27614 C	very silicious; quartz lined vugs; minor disseminated pyrite	<0.003 oz	0.01 oz	
73660 B	quartz line vugs	<10 ppb	0.2 ppm	210 ppm
27615 C	minor pyrite; flow banded	<0.003 oz	0.04 oz	
27706 C	pyrite & kaolin mainly on fracture surface; remnant feldspar phenocrysts	<10 ppb	0.1 ppm	>1000 ppm
27659 C	very altered, heavily Mn stained	10 ppb	0.1 ppm	320 ppm
Rholitic Pumice:				
27837 C	quartz crystal; few small angular shale fragments visible	10 ppb	0.1 ppm	32 ppm
Trachyte-Rhyolite tuff:				
27801 C	silicified, disseminated fine pyrite; ± arsenopyrite	40 ppb	1.7 ppm	>1000 ppm
27613 C	silicified; minor py	<0.003 oz	0.10 oz	
67703 B	trachytic tuff in contact with rhyolitic lapilli tuff with some kaolin fragments; silicious; minor disseminated sulfide	<0.003 oz	0.12 oz	
27830 C	altered; abundant pyrite	20 ppb	0.2 ppm	235 ppm
Trachyte-Rhyolite agglomerate:				
67796 B	very silicified quartz rich; drusy quartz; minor disseminated sulfides in matrix	0.003 oz	0.07 oz	
67798 B	very silicified; drusy quartz; minor pyrite; subrounded to subangular trachytic fragments	0.012 oz	0.21 oz	

Sample No.	Remarks	Geochem or Assay Au	Au	As
67797 B	very silicified; areas of free quartz; minor sulfides in matrix; kaolinized trachytic fragments; subround to subangular	0.005 oz	0.02 oz	
27748 C	silicified rounded to angular trachytic fragments in very silicified rhyolite matrix in contact with trachyte porphyry; slight greenish staining	<0.003 oz	0.12 oz	
67705 B	quartz-rich areas; very minor disseminated pyrite; fragments of kaolin, trachyte and some shale, all subrounded	<0.003 oz	0.16 oz	
Rhyolite-Trachyte breccia (volcanic):				
27611 C	few drusy quartz veinlets; kaolinized angular trachyte to trachytic tuff fragments	<0.003 oz	0.12 oz	
27612 C	drusy quartz on one surface; silicified rhyolite matrix with angular trachyte fragments; disseminated pyrite	<0.003 oz	0.14 oz	
27802 C	drusy quartz on one surface; rhyolite matrix; angular to subangular kaolinized trachyte fragments; few subangular shale and greywacke(?) fragments	<10 ppb	0.9 ppm	380 ppm
67704 B	rusty quartz line vugs; silicified rhyolite breccia with subangular trachyte fragments; very minor disseminated pyrite	<0.003 oz	0.14 oz	

Sample No.	Remarks	Geochem or Assay Au	Ag	As
27829 C	small vuggy quartz veinlets; silicified; angular rhyolite; subangular trachyte and angular to subangular shale fragments; pyrite blebs, aggregations and disseminations throughout matrix, some in fragments	20 ppb	0.4 ppm	1000 ppm
27750 C	highly silicified with free quartz; rhyolite with remnant, barely visible fragments	0.005 oz	0.04 oz	
27717 C	silicified rhyolite matrix with pyrite; subround to subangular trachyte shale and bedded shale fragments; pyrite mainly in matrix but also in fragments	440 ppb	11.8 ppm	700 ppm
67000 B	very silicious; angular to subangular trachyte fragments	<0.003 oz	0.04 oz	
27857 C	abundant pyrite; very altered and porous in places; kaolinized trachyte fragments	<10 ppb	4.2 ppm	17 ppm
25554 C	disseminated pyrite especially on fracture surfaces; angular to subangular fragments of trachytic tuff	40 ppb	7.0 ppm	65 ppm
Mogul Zone	abundant pyrite in matrix and fragments; angular to subangular rhyolite trachyte, subangular shale and bedded shale and few granitic fragments			
27807 C	disseminated pyrite in rhyolite matrix; subangular to subround kaolinized trachyte rhyolite and some shale fragments	120 ppb	1.1 ppm	>1000 ppm
27862 C	minor disseminated pyrite in rhyolitic matrix; subangular altered trachyte fragments	<10 ppb	0.6 ppm	19 ppm

Sample No.	Remarks	Geochem or Assay Au	Ag	As
27707 C	disseminated pyrite in matrix and fragments; angular trachyte fragments in rhyolite matrix	10 ppb	0.2 ppm	>1000 ppm
27661 C	minor pyrite; angular to subangular shale and rhyolite fragments; black rhyolite matrix		0.1 ppm	530 ppm
27749 C	subrounded to angular kaolinized trachyte fragments; some small subrounded to subangular shale fragments; greenish staining	<0.003 oz	0.10 oz	
27860 C	angular kaolinized trachyte fragments and shale fragments	10 ppb	1.5 ppm	15 ppm
27861 C	angular to subround kaolinized trachyte fragments in rhyolite matrix	<10 ppb	2.1 ppm	15 ppm
27863 C	angular shale and kaolinized trachyte fragments in rhyolite matrix	<10 ppb	0.5 ppm	22 ppm
Rhyolite breccia:				
27827 C	very angular fragments of rhyolite porphyry with clear plagioclase phenocrysts; very rusty limonitic matrix		0.1 ppm	35 ppm
27825 C	very fractured rhyolite; some flow banding; few feldspar phenocrysts; rusty, limonitic fracture surfaces; heavily Mn stained weathered surface; aggregates of quartz crystals in rhyolite; grades into 27827 C		0.1 ppm	85 ppm

Sample No.	Remarks	Geochem or Assay Au	Ag	As
Andesite Porphyry:				
27824 C	heavy; slightly magnetic; Mn stained weathered surface		0.8 ppm	>1000 ppm
Olivine Basalt:				
27828 C	olivine, minor biotite phenocrysts; heavy; strongly magnetic; very fine grained; black colour		0.1 ppm	55 ppm
27831	olivine phenocrysts; heavy; strongly magnetic; very fine grained, black colour		0.1 ppm	10 ppm
27660 C	strongly magnetic; heavy; very fine grained; black colour; calcite coating on weathered surface	<10 ppb	0.1 ppm	16 ppm

APPENDIX II

CHIP SAMPLE RESULTS

J.C. STEPHEN EXPLORATIONS LTD.

MOGUL GRID channel samples.

GEOCHEMICAL DATA SHEET — ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

NTS

LINE

AIR PHOTO No.

SAMPLER S. ANGUS

PROJECT NEWEX

DATE JULY 23 1981

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH / TRUE WIDTH	ASSAYS Au.	Ag	Sb.	
(1)	25751	MOGUL GRID	RYH	~~QTZ~~	minor sulfides		2 meter channel		0.003	0.04		
(2)	25752	"	"		"		"		0.007	0.16		
(3)	25753	"	Black chert Breccia				"		0.003	0.09		
(4)	25754	"	RYH	Chert brecciation and veining	minor sulfides		"		<0.003	0.04		
(5)	755	"	"	"	"		"		<0.003	0.01		
(6)	756	"	QTZ. vein		"		50 cm channel		0.015	0.29		
(7)	757	"	"		"		"		0.070	0.52		
(8)	758	"	"		"		"		0.022	0.74		
(9)	759	"	QTZ. Breccia vein		"		1 meter sample wall of vein		0.014	0.52		
(10)	760	"	"		sulphides in chert.		1.2 meter sample wall of vein		0.024	0.26		
(11)	761	"	"		"		1 meter " "		0.030	0.35		
(12)	762	"	"		"		75 cm. " "		0.036	2.35		
(13)	763	"	"		"		65 cm. " "		0.020	0.95		
(14)	764	"	~~QTZ~~ "		"		75 cm. channel		0.014	0.26		
(15)	765	"	"		sulphides throughout.		1½ meter ~~QTZ~~ wall of vein		0.006	0.16		
(16)	766	"	"		"		"		0.027	0.22		
(17)	767	"	"		~~QTZ~~		"		0.032	0.51		
(18)	768	"	RYH.	minor druzy QTZ.			½ meter channel		0.014	0.23		
(19)	769	"	Chert Breccia	"	minor sulfides		2 meters.		0.007	0.11		
(20)	770	"	"	"	"		"		0.052	0.20		

J.C. STEPHEN EXPLORATIONS LTD.

MOGUL GRID channel sampling

GEOCHEMICAL DATA SHEET — ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

SAMPLER S. ANGUS

PROJECT NEWEX

NTS

LINE

DATE JULY 23-24 / 1981

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH / TRUE WIDTH	ASSAYS Au.	Ag.	Sb.	
(1)	25771	MOGUL GRID	Chert Breccia				1 meter channel		0.019	0.15		
(2)	772	"	Druzy qtz. vein.				"		0.032	0.60		
(3)	773	"	qtz vein				1½ meter.		0.020	0.90		
(4)	774	"	white to blk qtz. vein		Sulphides in dark qtz.		"		0.018	0.52		
(5)	775	"	qtz vein				"		0.013	0.67		
(6)	776	"	"				"		0.011	0.94		
(7)	777	"	"				1 meter.		0.006	2.50		
(8)	778	"	"				"		0.020	0.32		
(9)	779	"	"				24 cm.		<0.003	0.24		
(10)	780	"	"				"		0.288	0.51		
(11)	781	"	RYH.	Chert Brecciation	Sulphides in Chert		2 meters.		0.003	0.16		
(12)	782	"	RYH	minor Chert	Sulphides throughout		"		<0.003	0.14		
(13)	783	"	RYH. phorphyr	minor massive Black Chert	"		"		0.008	0.25		
(14)	784	"	RYH	Small qtz. vein.	minor sulphides		"		0.040	0.24		
(15)	785	"	chert to qtz. breccia		"		1 meter.		0.036	0.62		
(16)	786	"	qtz. breccia vein				25 cm.		0.003	0.70		
(17)	787	"	"				"		<0.003	0.14		
(18)	788	"	"				"		0.003	0.84		
(19)	789	"	"		Minor Sulphides		"		0.012	3.49		
(20)	790	"	"		"		"		0.003	0.92		

J.C. STEPHEN EXPLORATIONS LTD.

MOGUL GRID & STEEP GRID Channel Samples

GEOCHEMICAL DATA SHEET – ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

NTS

SAMPLER S. ANGUS

PROJECT NEWEX

LINE

DATE JULY 26 - 28/1981

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH / TRUE WIDTH	ASSAYS Au.	Ag	Sb.	
(1)	25791	MOGUL GRID	RYH. and RYH phorphyr. Chert breccia		minor Sulfhides		2 meter channel		<0.005	0.16		
(2)	792	"	RYH and RYH phorphyr	Chert Brecciation	Sulfhides throughout		"		<0.003	0.02		
(3)	793	"	RYH	"	"		1½ meters		<0.003	0.12		
(4)	794	"	"	"	"		2 meters		<0.003	0.14		
(5)	795	"	Aglomerate		minor Sulfhides		½ meter		0.005	0.02		
(6)	796	"	RYH		"		"		<0.003	0.06		
(7)	797	"	Aglomerate	Silicified	Sulfhides in RYH.		"		<0.003	0.28		
(8)	798	"	"	"	Sulfhides throughout		"		0.003	0.84		
(9)	799	"	"	"	minor Sulfhides		"		0.005	0.70		
(10)	25~~2~~800	"	"	"	Abundant Sulfhides		2 meters		<0.003	0.16		
(11)	67751	"	RYH with Aglomerate		"		1½ meters		<0.003	0.14		
(12)	67752	"	Aglomerate	Silicified	Sulfhides throughout		GRAB SAMPLE		0.005	0.56		
(13)	753	"	RYH & RYH Breccia		minor Sulfhides		3 meter channel.		0.005	0.20		
(14)	754	"	"		"		1 meter.		0.005	0.20		
(15)	755	STEEP GRID	RYH to RYH ~~Porph~~ Porph.	minor Qtz.	"		2 meter.		<0.003	0.02		
(16)	756	"	"	"	"		"		<0.003	0.08		
(17)	757	"	RYH	"			3 meter channel.		<0.003	0.12		
(18)	758	"	"	Minor Qtz. veining and drusy Qtz.			"		<0.003	0.01		
(19)	759	"	Qtz Breccia vein.				½ meter		<0.003	0.01		
(20)	760	"	Qtz. RYH Vein		minor Sulfhid		1½ meter		0.018	0.14		

STEEP GRID channel samples

J.C. STEPHEN EXPLORATIONS LTD.

GEOCHEMICAL DATA SHEET – ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

NTS

SAMPLER S ANGUS

PROJECT NEWEX

LINE

DATE JULY 26 - 30 1981

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS Au.	Ag	Sb.	
(1)	67761	STEEP GRID	RYH	Qtz. veins	minor sulfides		3 meter channel sample			<0.003	0.08		
(2)	762	"	Agglomeratic				"			0.003	0.08		
(3)	763	"	"	minor Qtz.	"		2 meter			0.010	0.13		
(4)	764	"	RYH.		"		3 meter.			0.003	0.06		
(5)	765	"	"		"		"			0.008	0.03		
(6)	766	"	"	minor qtz.	"		"			0.005	0.07		
(7)	767	"	Qtz. vein	some druzy			½ meter			0.003	0.01		
(8)	768	"	"		minor sulfides		25 cm.			0.005	0.18		
(9)	769	"	"				½ meter			<0.003	0.24		
(10)	7670	"	RYH.	Qtz. veining & Qtz. Breccia			5 meter			<0.003	0.14		
(11)	771	"	RYH. TO Agglom	minor Qtz	minor sulfides		3½ meter.			0.018	0.04		
(12)	772	"	Agglomerate.	Sil. minor Qtz. vein.	Abundant pyrite		3 meter.			<0.003	0.10		
(13)	773	"	"	Sil.	Minor sulfides		"			<0.003	0.10		
(14)	774	"	RYH.	Sm all Qtz. veins and stringers	"		"			<0.003	0.08		
(15)	775	"	"	"	"		5 meters.			0.012	0.73		
(16)	776	"	Druzy to massive white	Qtz. vein.			2 meters.			0.008	2.45		
(17)	777	"	"	"			"			0.146	0.83		
(18)	778	"	Qtz. vein.				½ meter			0.022	0.73		
(19)	779	"	"		minor sulfides		25 cm			<0.003	0.04		
(20)	780	"	RYH.	Qtz. veining.			1½ metres.			0.016	0.67		

J.C. STEPHEN EXPLORATIONS LTD.

STEEP GRID - channel sampling

GEOCHEMICAL DATA SHEET — ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

NTS

SAMPLER S. ANGUS

PROJECT NEWEX

LINE

DATE JULY 30 - Aug 2 1981

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS Au.	Ag.	Sb.	
(1)	67781	STEEP GRID	RYH	Drusy Qtz. veining			1½ meter channel			0.020	0.04		
(2)	782	"	"	"			"			0.005	0.16		
(3)	783	"	"	"	minor sulphides		1 meter			0.005	0.08		
(4)	784	"	Qtz. vein				"			0.014	0.03		
(5)	785	"	S.I. RYH.	Qtz. veining	Sulphides in RYH.		2 meter			0.006	0.07		
(6)	786	"	Qtz. vein.				25 cm.			0.022	0.21		
(7)	787	"	Agglomerate	Drusy Qtz. veining	Sulphides throughout.		3 meter			0.005	0.08		
(8)	788	"	"	very qtz. rich.	"		25 cm [redacted]			0.028	1.25		
(9)	789	"	Qtz. vein.				1 meter			0.003	1.34		
(10)	790	"	RYH	minor drusy Qtz veining	minor sulphides in RYH.		"			<0.003	0.18		
(11)	791	"	Agglomerate	minor qtz.	minor sulphides		2 meter			0.003	0.12		
(12)	792	"	"	"	"		"			0.003	0.10		
(13)	793	"	RYH.	Qtz. rich.	"		3 meter			0.003	0.14		
(14)	794	"	S.I. Agglomerate.	Drusy qtz veining			1½ meters			0.005	0.25		
(15)	795	"	"	qtz veining			1½ meters			0.003	1.02		
(16)	796	QTZ HILL	RYH	Qtz. and drusy qtz. rich.	Sulphides in RYH.					0.008	0.07		
(17)	797	"	Qtz Breccia to agglomerate	vein.	"					0.005	0.02		
(18)	798	South ridge.	Agglomerate	very qtz rich. vein.	minor sulphides					0.012	0.21		
(19)	799	white to black qtz. vein.			"		South ridge			0.172	3.78		
(20)	67800	SOUTH RIDGE.	Agglomerate,	Rusty with.	sil. some drusy					<0.003	0.04		

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GEOCHEMICAL DATA SHEET — ROCK GEOCHEM SAMPLING

HART CLAIMS

B.C. GOLD SYNDICATE

SAMPLER M. RADAN

PROJECT NEWEX

NTS

LINE

DATE AUG '81

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH / TRUE WIDTH	ASSAYS Au.	Ag	Sb.	
(1)	27611c	HART CLAIMS	BRECCIATED TRACHYTE		NONE VISIBLE		- trachyte fragments occur in minor qty. veins; similar to [illegible] - matrix ranges from qty. to qty rich rhyolite		<0.003	0.12		
(2)	27612	"	"		DISSEMINATED SULFIDES				<0.003	0.14		
(3)	27613	"	TRACHYTE	RUSTY WEATHERING	"		- rock is only mod. fractured		<0.003	0.10		
(4)	27614	"	"		DISSEM. PY. &/OR ARSENOPY.		- [illegible] - highly fractured		<0.003	0.01		
(5)	27615	"	"		POSSIBLE CHALCOPY. ?		- flow banding visible		<0.003	0.04		
(6)	27616	"	RHYOLITE		DISSEM. SULFIDES		- qtz rich.		<0.003	0.06		
(7)	27617	"	"		POSSIBLE ARSENOPY.		- fracture surface is infilled by clayey material		<0.003	0.14		
(8)	27618	"	"		DISSEM SULFIDES		- blue grey rock - qtz & plag rich		<0.003	0.10		
(9)	27619	"	"	RUSTY	MINOR "		- dark blue grey rock		<0.003	0.08		
(10)												
(11)												
(12)												
(13)												
(14)												
(15)												
(16)												
(17)												
(18)												
(19)												
(20)												

HART CLAIMS

J.C. STEPHEN EXPLORATIONS LTD.

GEOCHEMICAL DATA SHEET — ROCK GEOCHEM SAMPLING

B.C. GOLD SYNDICATE

NTS

SAMPLER S. ANGUS

PROJECT NEWEX

LINE

DATE Aug-2-6 1981

AIR PHOTO No.

	SAMPLE NUMBER	LOCATION	ROCK TYPE	ALTERATION	MINERALIZATION	STRIKE / DIP	ADDITIONAL REMARKS	APPARENT WIDTH	TRUE WIDTH	ASSAYS Au.	ASSAYS Ag		
(1)	27743 C	TOP Zone	WHITE TO BLACK QTZ. VEIN	WITH Altered Kaolanite	Silver Black mineral.		Greq of 15 OZ per TON Sample.			0.014	11.34		
(2)	27744	"	"	"	"		"			0.008	6.53		
(3)	27745	"	"	"	"		"			0.010	8.29		
(4)	27746	"	"	"	"		"			0.005	1.90		
(5)	27747	"	½ metre wide QTZ vein.		"		"			0.003	1.42		
(6)	27748	HART 5	Agglomerate.	green staining on fresh surfaces.	minor Sulphides		float boulder area.			0.003	0.12		
(7)	27749	"	"	"	"		"			0.003	0.10		
(8)	27750	HART A. head of mogul creek	Altered RYH.	minor QTZ.						0.005	0.04		
(9)													
(10)													
(11)													
(12)													
(13)													
(14)													
(15)													
(16)													
(17)													
(18)													
(19)													
(20)													

APPENDIX III

PETROGRAPHIC DESCRIPTIONS

Specimen : 27709

Classification : Crystal-lithic tuff-breccia

Mode :		
	Quartz	40-45%
	K-spar	40-45%
	White mica, clayminrls etc.	<5%
	Jarosite, limonite	5%
	Opaques	5%

Handspecimen : Grey, siliceous (probably silicified), quartzveined volcanic breccia containing a variety of pebble sized, subrounded to angular lithic and crystal fragments. A few elongate fragments faintly define a plane of stratification. Small patches of pyrite are scattered through the rock. Much of the matrix, as well as many fragments, are rich in K-spar (yellow in stained block).

Thin section : The matrix of this specimen is composed of very fine grained, murky nondescript material which is rather dark on account of it's abundant dusty component. It is likely rich in silica and K-spar, as well as secondary (alteration) products, and is probably chemically related to the dominant clastic phase (trachyte).

Fragments ranging up to 7 mms. in size form approx. 70% of this specimen. A variety of types, both crystal and lithic, are present. Conspicuous among the latter are fragments of porphyritic alkali-trachyte and alkali rhyolite, sometimes with a trachytic texture. Many of these are dusted with fine grained opaque material. Fragments composed of clay-minerals and/or white mica are probably alteration products of these feldspathic particles.

Other fragments include chert, composite granular quartz, dark, limonite stained material, fragmental tuffaceous particles and single grain quartz and K-spar fragments. One granitoid fragment containing vermicular quartz in feldspar was observed.

The specimen is penetrated by quartz and jarosite(?) veinlets. The jarosite(?) is locally a bit altered to limonite, and appears to be a late stage hydrothermal product as it coats idiomorphic crystals within the quartz veinlets.

Pyrite occurs as euhedral, disseminated granules up to 1 mm. in size, both in the matrix and in the fragments. Locally it forms small aggregates.

Other opaques include irregular patches of Ti-oxides, anisotropic hematite and micaceous graphite.

No gold was observed in polished section.

Specimen : 27714

Classification : Vuggy chalcedony/quartz vein-breccia

Mode : Quartz 70-75%
Jarosite/limonite <5%
K-spar + kaolinite(?) 25%
Pyrite & opaque dust <1%

Hand specimen : Vuggy chalcedony and quartz vein-breccia containing irregular kaolinite(?) patches and inclusions of trachyte porphyry. A few fine grained pyritic patches occur in a few places. The specimen is locally limonite stained. Texturally the handspecimen is reminescent of spec. 92750, and it is evidently closely related. The kaolinitic patches are derived from alteration of K-spar rich inclusions (trachyte). This rock provides conclusive evidence linking it to specimens 92750 and 27709.

Thin section : Quartz vein textures (honeycomb masaic) similar to those in specimen 92750 are well developped in this rock. Grainsize ranges from cryptocrystalline to 2 mms., and locally a complete zonal gradation is from chalcedony to granular, locally idiomorphically terminated quartz. Dusty inclusions often outline growth patterns.
Small amounts of jarosite(?) and limonite are present throughout the specimen, as well as lesser amounts of kaolinite(?).
The trachytic inclusions have locally been recrystallized, but mostly retain their original trachytic texture. These fragments are similar to clastic fragments in spec. 27709, but none appear to be fragmental themselves. They may have been part of a (massive) flow or plug, rather than a pyroclastic lithology. In any case, all three rocks appear to be from a trachytic volcanic domain or center, which was extensively veined by quartz and chalcedony.

Specimen : 92750

Classification : Vuggy quartz vein

Mode :

Quartz	90-95%
Claymineräls	5%
K-spar(?)	2-3%
Opaques etc.	<1%

Handspecimen : White, fine grained, vuggy quartzite or quartz-vein containing irregular, vaguely preferentailly oriented patches of white, soft clayminerals (kaolinite?) and a dark, very fine grained siliceous seam. The vugs are lined with small, idiomorphic quartz crystals. Widely scattered tiny black metallic specks are probably hematite (they scratch red with a needle). A small patch of sericite or K-spar is yellow in stained block. The rock is probably from a quartz vein, with kaolinitic patches due to hydrothermal alteration of country-rock inclusions.

Thin section : The rock is almost entirely composed of quartz. The yellow staining feldspars(?) are @ the top of the section, where they are too thin to be positively identified. It is biaxial, and therefor tentatively designated K-spar.

The soft, white claymineral is present in minor amounts only in thin section, interstitial to quartz. It is very fine grained to cryptocrystalline, and is probably kaolinite.

Texturally this rock is a bit peculiar. On the whole it is granular or aplitic, containing ill defined domains of relatively coarse grained quartz up to 1 mm. in size. In many places groups of grains are bounded by very straight edges, resulting in a distinctive honeycomb mosaic. Many of the individual grains are radiating or have radially arranged dusty inclusions. Quartz crystals with idiomorphic terminations are present here and there, especially in vugs. Locally a few very small, extremely fine grained brownish aggregates (jarosite?) occur interstitial to quartz. The dark seam is composed of fine granular quartz dusted with opaques and other very fine grained, nondescript material.

Trace amounts of very fine grained hematite occur interstitial to quartz, widely scattered through the rock. No other opaques were observed.

APPENDIX IV

GEOCHEMICAL PROCEDURE

GEOCHEMICAL PREPARATION
AND
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 50°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.

2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% $HClO_4$ and concentrated HNO_3. Digestion time = 2 hours.

3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

4. Detection limits using Techtron A.A.5 atomic absorption unit.

Copper	1 ppm
Molybdenum	1 ppm
Zinc	1 ppm
*Silver	0.2 ppm
*Lead	1 ppm
*Nickel	1 ppm
Chromium	5 ppm

*Ag, Pb & Ni are corrected for background absorption.

5. Elements present in concentrations below the detection limits are reported as one half the detection limit, ie. Ag - 0.1 ppm

APPENDIX IV

B./80

Joe Shearer - J. C. Stephen Expl.

GEOCHEM PROCEDURES

PPM Antimony: a 1.0 gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe^{+2} state and the Sb complexed with I^-. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm ± 0.2 Detection limit.

PPM Arsenic: a 1.0 gram sample is digested with a misture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with Kl and mixed. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content determined using flameless atomic absorption.
Detection limit - 1 PPM

PPB Gold: 5 gm samples ashed @800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCl^-, the gold then extracted as the bromide complex into MIBK and analyzed via A.A.
Detection limit - 10 PPB

ASSAY PROCEDURES

Gold: - Fire Assay Method.

0.5 assay ton sub samples are fused in litharge, carbonate and silicious fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The combined Ag & Au is weighed on a microbalance, parted, annealed and again weighed as Au. The difference in the two weighing is Ag.

APPENDIX V

GEOCHEMICAL CERTIFICATES

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : STEPHEN, J.C. EXPLORATION LTD;
1458 RUPERT ST;
NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111527-001-A
INVOICE # : I8111527
DATE : 23-JUN-81
P.O. # : NONE
NEWEX

CC: S. ANGUS

Sample description	Prep code	Ag ppm	AS ppm	Au -(AA) ppb	Hg ppb	Sb ppm	
27851	205	0.1	15	<10	40	--	--
27852	205	0.1	11	<10	70	--	--
27853	205	0.1	11	<10	30	--	--
27854	205	0.2	36	<10	390	--	--
27855	205	0.1	15	<10	60	--	--
27856	205	2.1	173	<10	80	--	--
27857	205	4.2	17	<10	70	--	--
27858	205	0.7	50	<10	30	--	--
27859	205	0.2	45	<10	30	13.2	--
27860	205	1.5	15	10	20	5.6	--
27861	205	2.1	15	<10	130	5.0	--
27862	205	0.6	19	<10	40	3.8	--
27863	205	0.5	22	<10	40	3.4	--

Certified by .....

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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111529-001-A
INVOICE # : I8111529
DATE : 24-JUN-81
P.O. # : NONE
NEWEX

CC: S. ANGUS

Sample description	Prep code	Ag ppm	AS ppm	Au -(AA) ppb	Hg ppb		
27701	205	1.7	55	20	110	--	--
27702	205	1.6	130	20	90	--	--
27703	205	1.4	110	10	320	--	--
27704	205	14.3	200	60	60	--	--
27801	205	1.7	>1000	40	50	--	--
27802	205	0.9	380	<10	20	--	--
27803	205	0.2	130	10	1400	--	--
27804	205	1.0	61	<10	120	--	--
27805	205	0.3	920	20	60	--	--
27806	205	16.2	310	40	60	--	--
27807	205	1.1	>1000	120	40	--	--
27808	205	1.2	50	<10	80	--	--
27809	205	0.2	190	<10	30	--	--
27810	205	2.7	360	10	50	--	--
27811	205	1.2	110	10	30	--	--
27812	205	1.6	175	<10	30	--	--
27813	205	0.8	140	<10	30	--	--
27814	205	0.7	210	<10	30	--	--
27815	205	0.3	55	<10	30	--	--
27816	205	0.2	63	<10	40	--	--
27817	205	0.2	59	<10	30	--	--
27818	205	0.1	22	<10	20	--	--
27819	205	0.2	39	<10	20	--	--
27820	205	0.1	67	<10	30	--	--
27821	205	0.2	55	<10	40	--	--
27822	205	0.3	53	10	40	--	--
27823	205	1.7	285	20	30	--	--
73659	205	0.1	11	<10	30	--	--
73660	205	0.2	210	<10	20	--	--
73661	205	1.6	420	20	4300	--	--
92749	205	>100.0	22	380	260	--	--
92750	205	>100.0	19	230	440	--	--

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V7J 1E9

CERT. # : A8111683-001-A
INVOICE # : I8111683
DATE : 01-JUL-81
P.O. # : NONE
NX

Sample description	Prep code	Ag ppm	AS Au -(AA) ppm	ppb			
25551 C	205	3.5	220	10	--	--	--
25552 C	205	1.4	>1000	940	--	--	--
25553 C	205	>100.0	115	500	--	--	--
25554 C	205	7.0	65	40	--	--	--
25555 C	205	50.0	150	200	--	--	--

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V7J 1E9

CERT. # : A8111684-001-A
INVOICE # : I8111684
DATE : 01-JUL-81
P.O. # : NONE
NX

Sample description	Prep code	Zn ppm	Ag ppm	AS ppm			
81 NX-T-1	203	190	4.1	170	--	--	--
81 NXH-AT-1	203	8	6.5	490	--	--	--
81 NXH-AT-2	203	5	6.0	>1000	--	--	--
81 NXH-AT-3	203	11	0.7	45	--	--	--
81 NXH-AT-4	203	99	0.2	57	--	--	--
81 NXH-AT-101	203	100	3.3	>1000	--	--	--
81 NXH-AT-102	203	170	0.2	30	--	--	--
81 NXH-AT-103	203	100	0.2	20	--	--	--
81 NXH-AT-104	203	124	0.3	30	--	--	--
81 NXH-AT-105	203	35	0.6	370	--	--	--
81 NXH-AT-106	203	84	4.1	>1000	--	--	--
81 NXH-AT-107	203	109	2.0	>1000	--	--	--
81 NXH-AT-108	203	260	0.1	29	--	--	--
81 NXH-AT-210	203	8	9.5	550	--	--	--
81 NXH-AT-301	203	100	1.0	>1000	--	--	--
81 NXH-AT-302	203	34	4.7	>1000	--	--	--
81 NXH-AT-303	203	39	5.4	>1000	--	--	--
81 NXH-AT-304	203	28	4.8	>1000	--	--	--
81 NXH-AT-305	203	25	1.5	>1000	--	--	--
81 NXH-AT-306	203	15	17.0	>1000	--	--	--
81 NXH-AT-307	203	9	8.5	>1000	--	--	--
81 NXH-AT-308	203	10	9.5	>1000	--	--	--
81 NXH-AT-309	203	7	10.5	>1000	--	--	--
81 NXH-AT-311	203	30	5.4	530	--	--	--
81 NXH-AT-312	203	18	6.6	560	--	--	--
81 NXH-AT-313	203	49	4.8	240	--	--	--
81 NXH-AT-314	203	35	4.0	300	--	--	--
81 NXH-AT-315	203	71	3.2	135	--	--	--
81 NXH-AT-316	203	30	5.5	500	--	--	--
81 NXH-AT-317	203	18	7.0	700	--	--	--
81 NXH-AT-318	203	15	6.0	450	--	--	--
81 NXH-AT-319	203	16	11.2	660	--	--	--
81 NXH-AT-320	203	9	14.0	530	--	--	--
81 NXH-AT-321	203	7	8.0	>1000	--	--	--
81 NXH-AT-322	203	25	8.0	>1000	--	--	--
81 NXH-AT-322(A)	203	6	14.0	>1000	--	--	--
81 NXH-AT-323	203	12	9.5	>1000	--	--	--
81 NXH-AT-324	203	13	3.8	>1000	--	--	--
81 NXH-AT-325	203	10	6.4	>1000	--	--	--
81 NXH-AT-326	203	17	5.5	>1000	--	--	--

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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111684-002-A
INVOICE # : I8111684
DATE : 01-JUL-81
P.O. # : NONE
NX

Sample description	Prep code	Zn ppm	Ag ppm	AS ppm			
81-NXH-AT-327	203	39	8.8	>1000	--	--	--
81-NXH-AT-329	203	80	2.3	>1000	--	--	--
81-NXH-AT-330	203	17	6.6	>1000	--	--	--
81-NXH-AT-331	203	8	4.2	>1000	--	--	--
81 NXH-AT-401	203	45	3.2	600	--	--	--
81 NXH-AT-403	203	75	2.0	235	--	--	--
81 NXH-AT-404	203	15	1.8	420	--	--	--
81 NXH-AT-405	203	11	3.0	410	--	--	--
81 NXH-AT-406	203	36	8.6	700	--	--	--
81 NXH-AT-408	203	20	5.8	320	--	--	--
81 NXH-AT-409	203	17	15.0	615	--	--	--
81 NXH-AT-410	203	18	18.0	740	--	--	--
81 NXH-AT-411	203	10	15.0	630	--	--	--
81 NXH-AT-412	203	8	8.0	>1000	--	--	--
81 NXH-AT-413	203	89	2.1	230	--	--	--
81 NXH-AT-414	203	76	2.5	230	--	--	--
81 NXH-AT-417	203	11	7.0	460	--	--	--
81 NXH-AT-418	203	10	3.0	>1000	--	--	--
81 NXH-AT-419	203	36	4.0	>1000	--	--	--
81 NXH-AT-420	203	12	15.0	>1000	--	--	--
81 NXH-AT-421	203	60	0.1	>1000	--	--	--
81 NXH-AT-422	203	50	4.4	>1000	--	--	--
81 NXH-AT-423	203	8	2.0	350	--	--	--
81 NXH-AT-424	203	6	4.2	580	--	--	--
81 NXH-AT-425	203	8	6.0	610	--	--	--
81 NXH-AT-427	203	13	4.0	280	--	--	--
81 NXH-AT-428	203	10	8.0	>1000	--	--	--
81 NXH-AT-429	203	7	3.0	>1000	--	--	--
81 NXH-AT-430	203	11	3.0	>1000	--	--	--
81 NXH-AT-431	203	6	6.0	>1000	--	--	--
81 NXH-AT-432	203	7	4.5	>1000	--	--	--
81 NXH-AT-433	203	40	4.0	>1000	--	--	--
81 NXH-AT-434	203	80	0.9	>1000	--	--	--
81 NXH-AT-435	203	110	0.4	540	--	--	--
81 NXH-AT-436	203	10	0.3	80	--	--	--
81 NXH-AT-437	203	15	0.1	50	--	--	--
81 NXH-AT-438	203	17	0.1	40	--	--	--
81 NXH-AT-601	203	17	3.3	250	--	--	--
81 NXH-AT-602	203	6	6.5	>1000	--	--	--
81 NXH-AT-603	203	10	5.0	>1000	--	--	--

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TELEPHONE: (604)984-0221
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

TO : STEPHEN, J.C. EXPLORATION LTD;
1458 RUPERT ST;
NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111684-003-A
INVOICE # : I8111684
DATE : 01-JUL-81
P.O. # : NONE
NX

Sample description	Prep code	Zn ppm	Ag ppm	AS ppm			
81 NXH-AT-604	203	106	0.1	30	--	--	--
81 NXH-AT-701	203	300	0.2	43	--	--	--
81 NXH-AT-702	203	390	0.2	39	--	--	--
81 NXH-AT-703	203	60	0.1	30	--	--	--

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TO : STEPHEN, J.C. EXPLORATION LTD;
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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111795-001-A
INVOICE # : I8111795
DATE : 09-JUL-81
P.O. # : NONE
NX SYNDICATE

Sample description	Prep code	Mo ppm	Zn ppm	Ag ppm	Mn ppm	AS ppm	
81 NXH Z-1	203	1	102	0.1	710	63	--
81 NXH Z-2	203	1	90	0.1	645	59	--
81 NXH Z-3	203	1	68	0.1	625	22	--
81 NXH Z-4	203	1	25	0.2	184	340	--
81 NXH A-5	203	--	22	1.0	--	645	--
81 NXH A-6	203	--	135	0.2	--	39	--
81 NXH A-7	203	--	44	0.6	--	450	--
81 NXH A-8	203	--	32	0.4	--	950	--
81 NXH A-9	203	--	3	0.1	--	45	--
81 NXH A-10	203	--	20	7.9	--	>1000	--
81 NXH A-11	203	--	73	1.8	--	260	--
81 NXH Z-51	203	10	220	0.1	1150	33	--
81 NXH Z-52	203	14	210	0.2	1000	29	--
81 NXH Z-53	203	17	210	0.1	1250	27	--
81 NXH AT-109	203	--	8	0.5	--	110	--
81 NXH AT-110	203	--	6	1.0	--	55	--
81 NXH AT-111	203	--	34	0.1	--	43	--
81 NXH AT-112	203	--	220	0.2	--	95	--
81 NXH AT-113	203	--	145	0.1	--	610	--
81 NXH AT-333	203	--	40	2.5	--	1000	--
81 NXH AT-334	203	--	33	3.6	--	990	--
81 NXH AT-335	203	--	32	3.4	--	>1000	--
81 NXH AT-336	203	--	24	4.3	--	>1000	--
81 NXH AT-337	203	--	25	4.9	--	>1000	--
81 NXH AT-338	203	--	22	6.0	--	>1000	--
81 NXH AT-339	203	--	16	4.4	--	>1000	--
81 NXH AT-340	203	--	90	9.7	--	>1000	--
81 NXH AT-341	203	--	90	4.2	--	>1000	--
81 NXH AT-342	203	--	58	6.9	--	>1000	--
81 NXH AT-343	203	--	67	4.7	--	>1000	--
81 NXH AT-344	203	--	49	6.5	--	>1000	--
81 NXH AT-345	203	--	72	1.4	--	490	--
81 NXH AT-346	203	--	62	0.1	--	195	--
81 NXH AT-347	203	--	112	0.1	--	290	--
81 NXH AT-348	203	--	94	0.2	--	45	--
81 NXH AT-349	203	--	50	0.1	--	170	--
81 NXH AT-350	203	--	79	0.1	--	23	--
81 NXH AT-351	203	--	110	0.1	--	160	--
81 NXH AT-352	203	--	90	0.1	--	70	--
81 NXH AT-353	203	--	125	0.2	--	63	--

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CERTIFICATE OF ANALYSIS

O : STEPHEN, J.C. EXPLORATION LTD;
1458 RUPERT ST;
NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111795-002-A
INVOICE # : I8111795
DATE : 09-JUL-81
P.O. # : NONE
NX SYNDICATE

Sample description	Prep code	Mo ppm	Zn ppm	Ag ppm	Mn ppm	AS ppm	
81 NXH AT-354	203	--	110	0.2	--	73	--
81 NXH AT-355	203	--	48	0.1	--	53	--
81 NXH AT-356	203	--	155	0.2	--	6	--
81 NXH AT-357	203	--	230	0.1	--	32	--
81 NXH AT-439	203	--	88	0.2	--	400	--
81 NXH AT-441	203	--	120	0.9	--	>1000	--
81 NXH AT-442	203	--	105	0.9	--	>1000	--
81 NXH AT-443	203	--	116	0.1	--	280	--
81 NXH AT-444	203	--	133	0.1	--	210	--
81 NXH AT-445	203	--	170	0.3	--	220	--
81 NXH AT-446	203	--	165	0.3	--	185	--
81 NXH AT-447	203	--	110	0.1	--	255	--
81 NXH AT-448	203	--	114	0.2	--	415	--
81 NXH AT-449	203	--	70	1.8	--	>1000	--
81 NXH AT-451	203	--	115	0.2	--	600	--
81 NXH AT-452	203	--	110	0.2	--	230	--
81 NXH AT-453	203	--	115	0.1	--	510	--
81 NXH AT-454	203	--	130	0.1	--	77	--
81 NXH AT-455	203	--	90	0.1	--	225	--
81 NXH AT-456	203	--	90	0.1	--	230	--
81 NXH AT-457	203	--	74	0.1	--	60	--
81 NXH AT-458	203	--	98	0.1	--	200	--
81 NXH AT-459	203	--	91	0.1	--	155	--
81 NXH AT-605	203	--	85	0.1	--	14	--
81 NX T-2	203	--	108	0.3	--	46	--
81 NX T-3	203	--	65	0.1	--	13	--
81 NX T-4	203	--	40	0.1	--	9	--

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TO : STEPHEN, J.C. EXPLORATION LTD;
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V7J 1E9

CERT. # : A8111796-001-A
INVOICE # : I8111796
DATE : 03-JUL-81
P.O. # : NONE
NX SYNDICATE

Sample description	Prep code	Ag ppm	AS ppm	Au -(AA) ppb			
25556 C	205	0.1	23	<10	--	--	--
27659 C	205	0.1	320	10	--	--	--
27660 C	205	0.1	16	<10	--	--	--
27661 C	205	0.1	530	--	--	--	--
27662 C	205	0.1	145	--	--	--	--

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TO : STEPHEN, J.C. EXPLORATION LTD;
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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111800-001-A
INVOICE # : I8111800
DATE : 07-JUL-81
P.O. # : NONE
NEWEX SYNDICATE

CC: S. ANGUS, ATLIN, B.C.

Sample description	Prep code	Cu ppm	Mo ppm	Zn ppm	Ag ppm	Mn ppm	AS ppm
27705	205	--	--	--	0.1	--	>1000
27706	205	--	4	--	0.1	--	>1000
27707	205	--	--	--	0.2	--	>1000
27708	205	--	--	--	1.3	--	830
27709	205	--	--	--	2.5	--	>1000
27710	205	--	--	--	1.3	--	>1000
27711	205	--	--	--	0.3	--	650
27712	205	--	9	--	0.1	--	95
27713	205	--	--	--	1.6	--	980
27714	205	--	--	--	33.0	--	>1000
27715	205	--	--	--	24.0	--	>1000
27716	205	--	--	--	51.0	--	>1000
27717	205	--	--	--	11.8	--	700
27824	205	--	--	220	0.8	--	>1000
27825	205	4	--	93	0.1	--	85
27826	205	--	--	--	1.8	--	580
27827	205	--	--	370	0.1	--	35
27828	205	--	--	--	0.1	--	55
27829	205	--	--	--	0.4	--	1000
27830	205	--	2	--	0.2	--	235
27831	205	--	--	97	0.1	--	10
27832	205	--	--	--	0.1	--	950
27833	205	--	--	--	2.6	--	>1000
27834	205	--	1	--	0.3	--	390
27835	205	--	6	--	0.1	--	100
27836	205	--	--	--	0.1	--	85
27837	205	--	--	--	0.1	--	32
27864	205	--	--	115	0.2	345	50
27865	205	--	--	54	0.2	144	240
27866	205	--	--	108	0.1	315	23
27867	205	--	--	17	1.2	17	310
27869	205	--	--	11	0.2	130	95

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CERTIFICATE OF ANALYSIS

TO : STEPHEN, J.C. EXPLORATION LTD;
1458 RUPERT ST;
NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8111800-001-B
INVOICE # : I8111800
DATE : 07-JUL-81
P.O. # : NONE
NEWEX SYNDICATE

CC: S. ANGUS, ATLIN, B.C.

Sample description	Prep code	Au -(AA) ppb	Sb ppm				
27705	205	<10	--	--	--	--	--
27706	205	<10	--	--	--	--	--
27707	205	10	--	--	--	--	--
27708	205	<10	--	--	--	--	--
27709	205	880	--	--	--	--	--
27710	205	820	--	--	--	--	--
27711	205	20	--	--	--	--	--
27712	205	<10	--	--	--	--	--
27713	205	--	--	--	--	--	--
27714	205	6500	--	--	--	--	--
27715	205	1400	--	--	--	--	--
27716	205	820	--	--	--	--	--
27717	205	440	--	--	--	--	--
27824	205	--	--	--	--	--	--
27825	205	--	--	--	--	--	--
27826	205	30	--	--	--	--	--
27827	205	--	--	--	--	--	--
27828	205	<10	--	--	--	--	--
27829	205	20	--	--	--	--	--
27830	205	20	--	--	--	--	--
27831	205	--	--	--	--	--	--
27832	205	60	--	--	--	--	--
27833	205	570	--	--	--	--	--
27834	205	20	--	--	--	--	--
27835	205	--	--	--	--	--	--
27836	205	--	--	--	--	--	--
27837	205	10	--	--	--	--	--
27864	205	--	4.0	--	--	--	--
27865	205	--	1.2	--	--	--	--
27866	205	--	5.2	--	--	--	--
27867	205	--	26.0	--	--	--	--
27869	205	--	7.2	--	--	--	--

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CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

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TO : STEPHEN, J.C. EXPLORATION LTD;
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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8112183-001-A
INVOICE # : I8112183
DATE : 23-JUL-81
P.O. # : NONE
NEWEX

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
92749	214	11.68	0.016	--	--	--	--
92750	214	15.18	0.010	--	--	--	--
25553 C	214	4.16	0.020	--	--	--	--
25555 C	214	3.66	0.005	--	--	--	--

B. L. Swarts

Registered Assayer, Province of British Columbia

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CANADA V7J
TELEPHONE: (604)984-0
TELEX: 043-52

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: STEPHEN, J.C. EXPLORATION LTD;
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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8112836-001
INVOICE # : I8112836
DATE : 27-AUG-81
P.C. # : NONE

CC: S. ANGUS ATLIN OFFICE

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
25751	207	0.04	0.003	--	--	--	--
25752	207	0.16	0.007	--	--	--	--
25753	207	0.09	0.003	--	--	--	--
25754	207	0.04	<0.003	--	--	--	--
25755	207	0.01	<0.003	--	--	--	--
25756	207	0.29	0.015	--	--	--	--
25757	207	0.52	0.070	--	--	--	--
25758	207	0.74	0.022	--	--	--	--
25759	207	0.52	0.014	--	--	--	--
25760	207	0.26	0.024	--	--	--	--
25761	207	0.35	0.030	--	--	--	--
25762	207	2.30	0.036	--	--	--	--
25763	207	0.93	0.020	--	--	--	--
25764	207	0.26	0.014	--	--	--	--
25765	207	0.16	0.006	--	--	--	--
25766	207	0.22	0.027	--	--	--	--
25767	207	0.51	0.032	--	--	--	--
25768	207	0.23	0.014	--	--	--	--
25769	207	0.11	0.007	--	--	--	--
25770	207	0.20	0.052	--	--	--	--
25771	207	0.15	0.019	--	--	--	--
25772	207	0.60	0.032	--	--	--	--
25773	207	0.90	0.020	--	--	--	--
25774	207	0.52	0.018	--	--	--	--
25775	207	0.67	0.013	--	--	--	--
25776	207	0.94	0.011	--	--	--	--
25777	207	2.50	0.006	--	--	--	--
25778	207	0.32	0.020	--	--	--	--

B. Stewart

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CERTIFICATE OF ASSAY

STEPHEN, J.C. EXPLORATION LTD;
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NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8113052-C01-A
INVOICE # : I8113052
DATE : 27-AUG-81
P.O. # : NONE
NEWEX SYNDICATE

ATTN: S. ANGUS CC J.C.S. ATLIN B.C.

Sample description	Prep code	As (%) (N.A.A.)	Ag (FA) oz/t	Au (FA) oz/t			
25779 C	207	--	0.34	<0.003	--	--	--
25780 C	207	--	0.51	0.288	--	--	--
25781 C	207	--	0.16	0.003	--	--	--
25782 C	207	--	0.14	<0.003	--	--	--
25783 C	207	--	0.25	0.008	--	--	--
25784 C	207	--	0.24	0.040	--	--	--
25785 C	207	--	0.62	0.036	--	--	--
25786 C	207	--	0.70	0.003	--	--	--
25787 C	207	--	0.14	<0.003	--	--	--
25788 C	207	--	0.84	0.003	--	--	--
25789 C	207	--	3.49	0.012	--	--	--
25790 C	207	--	0.92	0.003	--	--	--
25791 C	207	--	0.16	0.005	--	--	--
25792 C	207	--	0.02	<0.003	--	--	--
25793 C	207	--	0.12	<0.003	--	--	--
25794 C	207	--	0.14	<0.003	--	--	--
25795 C	207	--	0.02	0.005	--	--	--
25796 C	207	--	0.08	<0.003	--	--	--
25797 C	207	--	0.28	<0.003	--	--	--
25798 C	207	--	0.84	0.003	--	--	--
25799 C	207	--	0.70	0.005	--	--	--
25800 C	207	--	0.16	<0.003	--	--	--
27611 C	207	--	0.12	<0.003	--	--	--
27612 C	207	--	0.14	<0.003	--	--	--
27613 C	207	--	0.10	<0.003	--	--	--
27614 C	207	--	0.01	<0.003	--	--	--
27615 C	207	--	0.04	<0.003	--	--	--
27616 C	207	--	0.06	<0.003	--	--	--
27617 C	207	DELAYED	0.14	<0.003	--	--	--
67703 B	207	--	0.12	<0.003	--	--	--
67704 B	207	--	0.14	<0.003	--	--	--
67705 B	207	--	0.16	<0.003	--	--	--
67751 B	207	--	0.14	<0.003	--	--	--
67752 B	207	--	0.36	0.005	--	--	--
67753 B	207	--	0.20	0.005	--	--	--
67754 B	207	--	0.20	0.005	--	--	--
67755 B	207	--	0.02	<0.003	--	--	--
67756 B	207	--	0.08	<0.003	--	--	--
67757 B	207	--	0.12	<0.003	--	--	--
67758 B	207	--	0.01	<0.003	--	--	--

B. Stewart

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CERTIFICATE OF ASSAY

STEPHEN, J.C. EXPLORATION LTD;
1458 RUPERT ST;
NORTH VANCOUVER, B.C.
V7J 1E9

CERT. # : A8113052-C02-A
INVOICE # : I8113052
DATE : 27-AUG-81
P.O. # : NONE
NEWEX SYNDICATE

ATTN: S. ANGUS CC J.C.S. ATLIN B.C.

Sample description	Prep code	As (%) (N.A.A.)	Ag (FA) oz/t	Au (FA) oz/t			
67759 B	207	--	0.01	<0.003	--	--	--
67760 B	207	--	0.14	0.018	--	--	--
67761 B	207	--	0.08	<0.003	--	--	--
67762 B	207	--	0.08	0.003	--	--	--
67763 B	207	--	0.13	0.010	--	--	--
67764 B	207	--	0.06	0.003	--	--	--
67765 B	207	--	0.03	0.008	--	--	--
67766 B	207	--	0.07	0.005	--	--	--
67767 B	207	--	0.01	0.003	--	--	--
67768 B	207	--	0.18	0.005	--	--	--
67769 B	207	--	0.24	<0.003	--	--	--
67770 B	207	--	0.14	<0.003	--	--	--
67771 B	207	--	0.04	0.018	--	--	--
67772 B	207	--	0.10	<0.003	--	--	--
67773 B	207	--	0.10	<0.003	--	--	--
67774 B	207	--	0.08	<0.003	--	--	--
67775 B	207	--	0.73	0.012	--	--	--
67776 B	207	--	2.45	0.008	--	--	--
67777 B	207	--	0.83	0.146	--	--	--
67778 B	207	--	0.73	0.022	--	--	--
67779 B	207	--	0.04	<0.003	--	--	--
67780 B	207	--	0.07	0.016	--	--	--
67781 B	207	--	0.04	0.020	--	--	--
67782 B	207	--	0.16	0.005	--	--	--
67783 B	207	--	0.08	0.005	--	--	--
67784 B	207	--	0.03	0.014	--	--	--
67785 B	207	--	0.07	0.006	--	--	--
67786 B	207	--	0.21	0.022	--	--	--
67787 B	207	--	0.08	0.005	--	--	--
67788 B	207	--	1.25	0.028	--	--	--
67789 B	207	--	1.34	0.003	--	--	--
67790 B	207	--	0.18	<0.003	--	--	--
67791 B	207	--	0.12	0.003	--	--	--
67792 B	207	--	0.10	0.003	--	--	--
67793 B	207	--	0.14	0.003	--	--	--
67794 B	207	--	0.25	0.005	--	--	--
67795 B	207	--	1.02	0.003	--	--	--

R. Iwaniw

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INVOICE # : I8113182
DATE : 01-SEP-81
P.O. # : NONE
NEWEX SYNDICATE

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
27618 C	207	0.10	<0.003	--	--	--	--
27619 C	207	0.08	<0.003	--	--	--	--
27743 C	207	11.34	0.014	--	--	--	--
27744 C	207	6.53	0.008	--	--	--	--
27745 C	207	8.29	0.010	--	--	--	--
27746 C	207	1.90	0.005	--	--	--	--
27747 C	207	1.42	0.003	--	--	--	--
27748 C	207	0.12	<0.003	--	--	--	--
27749 C	207	0.10	<0.003	--	--	--	--
27750 C	207	0.04	0.005	--	--	--	--
67796 B	207	0.07	0.008	--	--	--	--
67797 B	207	0.02	0.005	--	--	--	--
67798 B	207	0.21	0.012	--	--	--	--
67799 B	207	3.78	0.172	--	--	--	--
67800 B	207	0.04	<0.003	--	--	--	--

B. Swaite

Registered Assayer, Province of British Columbia

CTA MEMBER CANADIAN TESTING ASSOCIATION

APPENDIX VI

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Jean Pautler, am a graduate of the Honours Bachelor of Science program at Laurentian University, Sudbury, Ontario, 1980.

I have the following employment experience:-

April 1981 to present Geologist with J.C. Stephen Explorations Ltd. North Vancouver, B.C.

May to October 1980 Geologist with J.C. Stephen Explorations Ltd.

May to August 1979 Assistant geologist with Kelvin Energy Ltd. Calgary Alberta.

May to September 1978 Assistant geologist with the Ontario Geological Survey, Toronto, Ontario

Jean Pautler

NOVEMBER 1981 JEAN PAUTLER

58°36'00"

132°40'00"

6,498,000 mN

6,497,000 mN

6,496,000 mN

58°34'20"

132°40'00"

STEEP GRID

SLIDE

QTZ HILL

TOP ZONE

HART 3

HART 4

HART 2

HART 1

BC 5614

LEGEND

1 — RHYOLYTE

2 — BASALT

— ROCK GLACIERS

— ANOMALOUS QUARTZ VEINS

SYMBOLS

92749 – ROCK

AT-103 – TALUS

A-324 – SOIL

Z-52 – SILT

GEOCHEM RESULTS — Ag, As, Au, Zn, Hg,

9859

SOUTH SHEET

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HART CLAIM GROUP

GEOLOGY & GEOCHEMISTRY

NTS — 104 K 9

SCALE 1:5,000

JULY 1981

MAP I

58°37'40"

132°04'00"

6,502,000mN

6,501,000mN

6,500,000mN

6,499,000mN

58°36'00"

HART 5

HART 6

HART 3

HART 4

SLIDE

MOGUL GRID

CAMP

W.L. 1317

W.L. 1452

W.L. 1496

NORTH SHEET

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MAP II