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THE GEOLOGY OF THE OLD CABIN CLAIMS
Latitude 63°42' Longitude 131°29'
NTS - 105 - 0 11/12, MAYO MINING DISTRICT
YUKON TERRITORY

Report Submitted for Assessment Credit
D. H. James
Union Carbide Exploration Corporation
Vancouver, B.C.
August 1982

091076

This report has been examined by the Geological Events for Int under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 60,800 —.

P Watson

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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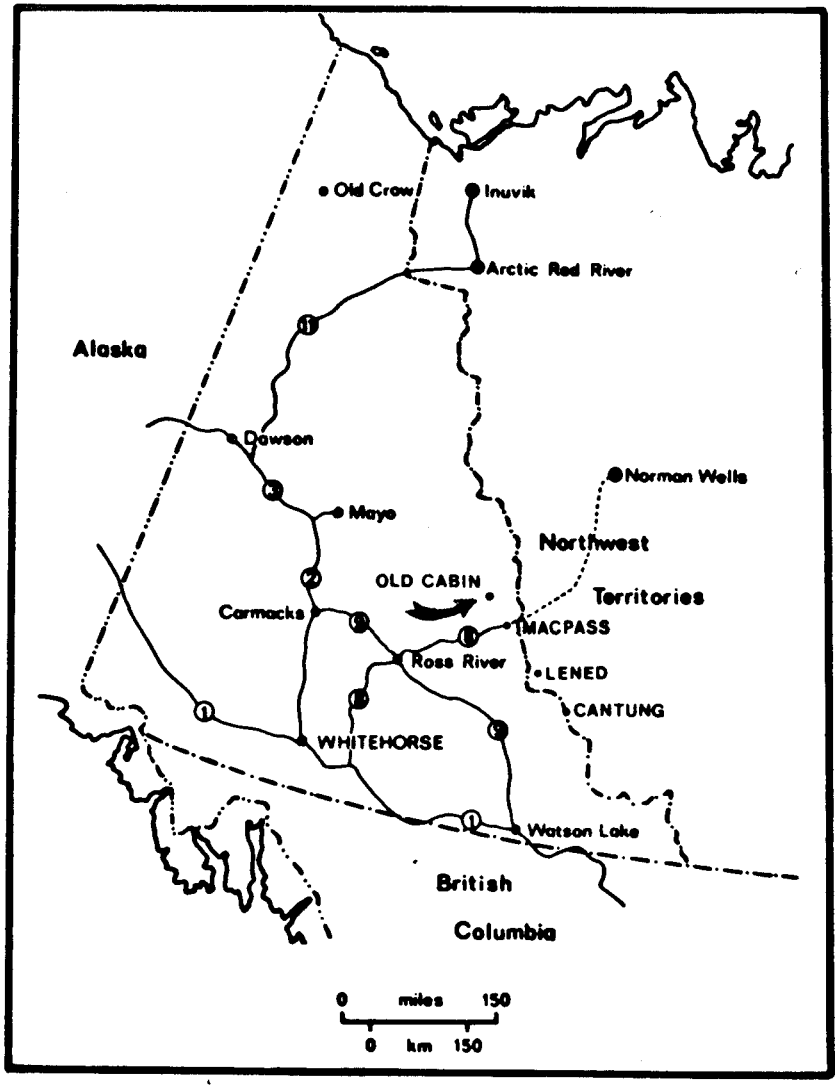

LOCALITY MAP

OLD CABIN CLAIMS, YUKON

N.T.S. 105–O

1. INTRODUCTION

1.1. General

During the years 1971 - 1976 several grass roots exploration programs were conducted in the Niddery Lake area (NTS 105 - O), Yukon. At that time stream concentrates were analysed primarily for WO_3 and Cu. In the first quarter of 1981 the stored samples from selected areas within the Niddery Lake area were re-analysed for gold, silver, molybdenum and arsenic and a number of sites anomalous in these elements were recognised. A small low-key, low budget prospecting program was instituted for the summer of 1981 to follow-up the anomalous gold and silver stream geochemistry.

The majority of the regional geochemical stream concentrate anomalies came from an area near a small granodiorite pluton called Old Cabin. A camp was established at Old Cabin with 5 weeks work planned. The prospecting and follow-up sampling program was carried out with limited helicopter support. During the 5 weeks at Old Cabin 527 stream sediment samples (concentrates and silts) and 400 rock chip samples were collected and sent to Vancouver for geochemical analysis. The results indicated that arsenopyrite veins from the Old Cabin area were enriched in gold with a number of values in the range 4000-8000 ppb Au.

On the basis of these results it was decided to stake the property. Initially 123 claims were staked as the CABIN claims on the 26 - 27 July. With the availability of further geochemical results 62 OLD claims were added on 12 - 13 August, 1981. Semi-detailed sampling

of 5 of the gold showings was conducted by D. H. James and R. Plummer during the OLD staking program. A copy of the subsequent report is submitted as Appendix 1.

Work in 1982 includes

a. A report on the geophysical implications of the OLD CABIN claims and environs by consultant J. B. Boniwell submitted as Appendix 11.

b. Stream geochemistry - not done.

c. Geological mapping to 1:10,000 scale. To facilitate mapping orthophotograph and contour base maps were produced by Pacific Survey Corporation of Vancouver.

1.2 Location

The OLD and CABIN claims are centred about latitude 63°42' N and longitude 131°29' W in the Mayo Mining District of the Yukon Territory. The claim group is situated in mountainous terrain in a fork between the Old Cabin and Rogue Rivers. The nearest road is the Canol Road passing through MacMillan Pass about 87 km to the southeast.

1.3 Access

Access to the property is hampered by extremely rugged terrain. Fixed-wing float planes can land either at Arrowhead Lake (16 km to the east) or Emerald Lake (20 km to the south east). From these lakes access is by helicopter. Contract helicopters are also available from MacMillan Pass which is served by a schedule air service out of Whitehorse. MacMillan Pass is connected to Ross River by the all-weather Canol Road.

1.4 Topography

The property lies within the Hess Mountains, just north of the Rogue Range. Topographic relief is spectacular and varies between 1,000 m and 2,100 m AMSL. The northeastern half of the property is

dominated by a series of steep sided ridges surrounding a number of cirques. Most slopes are largely talus covered while cirque floors consist of scattered rubble piles and boulder fields. Rock slides occur frequently during the summer months. Most of the property is situated above the tree line.

1.5 Climate

The combination of steep terrain and elevation results in a majority of the property being snow covered from early September until late June. During the two short summer months daily weather conditions can be extremely variable, ranging from cool, wet conditions with occasional snowfalls to warm dry weather. Winter snowfall normally exceeds 3 metres and annual temperatures vary from a low near minus forty to highs approaching twenty-five (Celsius).

1.6 Logistics

The crew for the 1981 sampling program was mobilized by helicopter from the Union Carbide camp at Lened 200 km southeast of the OLD CABIN claims.

The 1982 program was conducted from a camp on the property with helicopter support operating from Emerald Lake (20 km to the southeast). The helicopter was used for mobilization, daily setouts and pickups. A fuel cache for helicopter usage was located at Emerald Lake.

1.7 Claims

The CABIN claim block (CABIN 1 -123) was staked on behalf of Union Carbide by Hosford, Impey, Welter and Associates Ltd. towards the end of July, 1981. The OLD claims (OLD 1 - 62) were staked by Union Carbide personnel on the 11 - 12 August 1981.

Claim Name	Claim Registration Numbers	NTS	Acres	Registration Date
CABIN 1-123	YA 63717 - YA 63839	105-0-11/12	6362.95	10 August 1981
OLD 1-62	YA 75930 - YA 75991	105-0-12	3202.30	2 September 1981

2. GEOLOGY OF THE OLD AND CABIN CLAIMS

2.1 Previous Geological Mapping

Previous geological mapping in the area indicated a Cretaceous granodiorite intrusive into a sequence comprising predominantly Hadrynian and Cambrian green and red shales with dark green and brown basic volcanic and volcaniclastic rocks (see Open File 205, June 1974, G.S.C. Ottawa). Mapping and compilation by M. P. Cecile, 1981 (G.S.C. Open File 765) only reached as far west as 131°00'W.

A geological report of the old HORN claims, which were immediately north of the present OLD claims (P.G. Marshall, 1970), describes the underlying geology as carbonate-bearing shales and banded cherts of Silurian-Ordovician age, capped unconformably by Tertiary volcanics.

2.2. General Introduction

The prospecting program in 1981 yielded a geological sketch map that indicated a more complex stratigraphy than that shown on existing regional maps. The primary purpose of the 1982 program was therefore to map the property at 1: 10,000 scale, locate all veins and relate them to a specific geological environment. To this purpose a contour base map and orthophoto were produced by Pacific Survey Corporation of Vancouver. The completed geological map will be used as a basis for future soil sampling grids and geophysical surveys.

Grant Abbot of D.I.A.N.D, Whitehorse, kindly spent 3 days (4th to 6th July 1982) on the property prior to the mapping program to help establish the local stratigraphy.

Mapping on the property was conducted by D. H. James, and P. Sarjeant of Queen's University, Kingston, Ontario.

2.3 Stratigraphic Description

The stratigraphy of the claim block, as established by mapping is as follows.

Mid-Cretaceous	Granodiorite pluton and satellite stocks with minor alaskite dyke swarms. Hornfelses - lithologies surrounding the intrusives are variably altered by thermal metamorphism.
Mid-Ordovician to Silurian(?)	Intermediate to mafic volcanics, lava flows, lapilli tuffs and volcanic breccias. Mafic to ultramafic dykes and sills.
Silurian	Black, maroon and green shales.
Ordovician - Silurian	Cherts with minor intercalated shales, argillites and dolomites.
Lower Cambrian	Argillites, local black shales, grading upwards to fine - to medium - grained quartzites.
Hadrynian and Lower Cambrian	"Grit Unit" maroon and green shales.

Mapping concentrated on those units intruded by granodiorite and overlying the Grit Unit. Very little mapping was conducted within the outcrop limits of the Old Cabin granodiorite pluton, where the terrain is extremely rugged and dangerous. Shales of the Grit Unit invariably occupy the lower debris filled valleys or underlie gentle grass-covered slopes.

The OLD claims are almost entirely underlain by grass and brush covered maroon and green shales of the Grit Unit under gently sloping south-facing topography. Outcrop is rare.

a. Hadrynian to Lower Cambrian Grit Unit

The dominant lithology of the Grit Unit is made up of maroon shales with minor interbedded green shales, brown-weathering shales and argillites

and occasional coarse-grained feldspathic quartzites, grit and conglomerate. Outcrop is usually confined to smooth rounded grass-covered slopes and debris filled valley floors. Good exposures are rare and are usually found only in deeply eroded stream ravines. Recessive weathering shales invariably obscure all contact relationships. The rare exposures indicate a long and complex structural history. Pervasive cleavage of several periods of folding have aided the disintegration of the outcrop.

An irregularly developed succession of brown and green shales and a horizon of black shales occurs in the upper part of the unit.

b. Lower Cambrian

The Lower Cambrian succession overlying the Grit Unit is best developed in the northern half of the property. In the vicinity of the northernmost granodiorite satellite stock the unit comprises rusty red-brown weathering argillites with interbedded quartzite and shales. Shale interbeds are more common lower down in the sequence which grades upwards into quartzites and argillites. Fresh surfaces of the finer grained clastics in this vicinity are cream to buff coloured. Quartzites are buff to glassy. Recrystallization of constituent minerals (quartz and fine mica) in the quartzites causes bedding and foliation surfaces to glisten in the sunlight. Manganese staining appears to favour the quartzitic members.

Towards the east and approaching the Old Cabin granodiorite pluton the rocks of this unit have been variably effected by thermal metamorphism and are partially to completely hornfelsed. Where not mapped as hornfels they grade through brown and maroon weathering argillites

with minor intercalated black shales and quartzites at the base of the succession upwards to dark brown, manganese stained dirty quartzites at the top.

In the northern half of the claim block the contact between this largely argillite succession and the Grit Unit is transitional. Pervasive cleavage destroys the contact relationships. No specific band has been chosen to represent the boundary. The contact is usually mapped as the first appearance of a dominantly maroon or dark purple shale assemblage.

The total thickness of the argillite unit is unknown. Near the northern granodiorite stock the rocks have been draped over, or mantle, the stock giving an incorrect impression of thickness. Further east contact metamorphism has totally destroyed the upper and lower contact relationships, though here the unit appears to be at least 200m thick.

The Lower Cambrian argillite assemblage is either poorly developed or absent in the south-eastern portion of the map. Some argillites and black shales are present in the upper Grit Unit but have not been distinguished as a separate entity. Here they are regarded as belonging to part of the Grit Unit.

c. Ordovician to Silurian

An Ordovician to Silurian chert succession overlies the transition phase Lower Cambrian argillites and quartzites in the northern half of the map, and the Grit Unit in the south-eastern portion. Brown weathering intercalated argillites and cherts, with minor limey lenses, lie at the base of the succession. These give way upwards

to massive bands of green chert (individual bands up to 20 cm) to rhythmically cm-thick banded black and white cherts. Fine-grained black dolomites may form a small intercalated fraction of this assemblage to be replaced by shales in the upper part of the sequence. Silver weathering black shales and brown weathering green-grey shales in the upper part of this unit yield Silurian fossil graptolites.

d. Silurian

This unit is developed in only one place on the property. The ridge top immediately west of camp is capped by a sequence of maroon and green shales that seem to overlie the chert sequence. Contact relationships with the chert sequence are confused by the volcanic assemblage and faulting but the sequence is probably younger than the Ordovician to Silurian cherts.

e. Mid-Ordovician to Silurian Volcanic Assemblage

The volcanic assemblage comprises a variety of rock types ranging from volcanic breccias, lithic and lapilli tuffs and lava flows with features that suggest both coeval deposition with the sediments as well as crosscutting relationships indicative of the intrusion. Volcanic rocks are found throughout the sedimentary assemblage on the property. No particular stratigraphic interval is favoured.

The volcanics lowermost in the succession lie close to the upper contact of the Grit Unit and within the argillites. They are massive equigranular lava flows resistant to weathering and forming blocky rusty to orange weathering outcrops. The weathered surface

is composed of calcite and limonite. The fresh rock is light grey, equigranular with rare calcite filled amydgales and minor disseminated sulphides (mostly purite). Vesicular lava flows or flow top breccias can be associated with local sedimentation and thin, basic lava flows. At several localities these lavas appear to have suffered post-depositional brecciation and alteration, the fragments altered to kaolinite. The interfragmentary matrix is hematite-rich clay material imparting a maroon to red colour to the outcrop. Hydrothermal alteration has resulted in creamy orange outcrops where the entire rock has altered to kaolinite and limonite.

The volcanic assemblage within the chert succession is fresher in appearance. Most outcrops weather to a rough pitted, almost scoriaceous, grey surface. A characteristic of this part of the volcanic assemblage is the appearance of chert fragments in the pyroclastics suggestive of syn- or post depositional eruptive activity in the chert basin. Chert and other lithic fragments occur within individual flow units. Volcanic fragments range from bomb to lapilli sizes and are always angular. Green vesicular lavas, and fragmented vesicular lavas are particularly rich in calcite as interfragment vesicle fillings. Limestone fragments may indicate volcanism within a restricted carbonate-forming environment and may also account for the abundance of calcite in the matrix of the pyroclastic flows and between brecciated lava fragments. The rough pitted weathered sufraces of the volcanic assemblage is due to solution of calcite from the rock. Crosscutting volcanic breccias represent feeder pipes or fissures. Fine-grained dark green basalt or

andesite flows occur near the top of the succession.

Mafic to ultramafic sills and dykes outcrop sporadically. Composition ranges from dark fine-grained diabase to medium-grained gabbro. An unusual occurrence of pyroxenite with pegmatite sized pyroxene crystals (up to 2 cm in cross section) occurs at the base of a large sill.

f. Mid-Cretaceous Granodiorite and Thermal Metamorphism

The main granodiorite pluton outcrops in the southeastern portion of the CABIN claim block. Two smaller satellite stocks outcrop to the west and northwest of the main pluton.

The mineralogy of the pluton has been described in sufficient detail under the appropriate section in Appendix I. An age dating of the pluton was carried out by D. A. Archibald of Queen's University, Kingston, Ontario. The pluton yielded a K-Ar date of 94.7 million years.

Heat from the granodiorite intrusion was responsible for the aureole of contact metamorphic hornfelses. These are dark fine-grained massive brittle rocks that weather to a light brown-yellow colour. The rock surface has a silky texture. Magnetite concentration throughout the hornfelsed sequence provides a high magnetic contrast with the surrounding units and is reflected in the aeromagnetic maps of the area. The sequence immediately north of the OLD claims boundary has been extensively hornfelsed suggesting the existence of an underlying pluton not yet exposed by erosion. The magnetic data supports this theory. Disseminated pyrrhotite and chalcopyrite occur in the hornfelses, particularly along the northern boundary of the OLD claims. Pyrrhotite adds to the magnetic susceptibility

of the unit and, when oxidized, is responsible for the extensive iron oxide stained outcrops.

2.4 Mineralization

No further vein occurrences other than those already known were found. The localities have been indicated on the map. These veins and their mineralogy are described in Appendix I. No vein, or vein system, wider than 0.5m was found. Most veins rarely exceed 5 cm in width.

Members of the volcanic suite adjacent to some of the N-S trending faults are highly altered. The rocks are now composed entirely of kaolinite and spongy limonite with interstitial light white-blue to green chrysocolla. The altered rocks are confined to ridge tops and saddles and have a limited depth and areal extent.

Pods and lenses of pyrrhotite with ancillary chalcopyrite occur sporadically within the volcanic suite. Sulphide presence is indicated by rounded exfoliated rusty-red and yellow boulders. None is of any economic significance.

3. CONCLUSIONS

More detailed sampling is required in the vicinity of the known veins, particularly those close to N-S faults. The map provides a base for future soil sampling grids and geophysical surveys.

D. H. James
Project Geologist

STATEMENT OF QUALIFICATIONS

I, Dereck H. James, do hereby certify that:-

1. I am a professional geologist employed by Union Carbide Exploration Corporation.

2. I hold the following graduate degrees:-

   a) B.Sc (Eng.) Mining Geology - University of the Witwatersrand, Johannesburg, South Africa.

   b) M.Sc. Mineral Exploration - Royal School of Mines, University of London, England.

3. I have practiced my profession continuously since graduation while being employed by O'Okiep Copper Company, Nababeep, South Africa (1971 - 1976) and Union Carbide Exploration Corporation both in South Africa and Canada (1976 - present)

4. I am a member in good standing of:

   The Institution of Mining and Metallurgy, England
   The Canadian Institution of Mining and Metallurgy
   The Geological Society of South Africa

August 1982
Vancouver, B.C.

D. H. James

SUMMARY OF EXPENSES - OLD CABIN CLAIM GROUP

11 AUGUST, 1981 to 10 AUGUST, 1982

1981 Costs

Helicopter charges - see invoices		1,950.00
Assay costs - see invoices		1,987.50
Dating of granodiorite pluton		300.00
Salaries - 2 geologists for 6 days $135 X 6 X 2		1,620.00
Room and Board - $30 X 6 X 2		360.00
	Sub Total	$6,217.50

1982 Costs - See Invoices

Mobilization costs - Nahanni Air Services		2,103.60
Keystone Helicopters Ltd.		3,337.50
Helicopter Support - Northern Mountain Helicopters Inc.		1,201.20
- Canwest Aviation Ltd. 28.5 hrs. @ $450.00		12,825.00
Fuel for Helicopters - White Pass Petroleum Services		5,754.75
Fuel Haul Costs - Air North Charter and Training Ltd.		5,923.60
Lumber Camp Construction - General Enterprises		476.88
Map Base Costs - Pacific Survey Corporation		4,850.00
		1,900.00
		440.00
Consultants - Excalibur International Consultants		759.33
		478.31
- Barringer Magenta		360.45
Salaries - 1 Senior Geologist, 1 Junior Geologist, 2 Students $367.34 X 35 days X 4		12,856.90
Board and Lodging - $30 per man per day		4,200.00
	Sub Total	$57,467.52
	TOTAL	$63,685.02

CLAIMS LOCALITY MAP

5000

5000

5000

5000

5000

5000

3500

7000

7103

6481

OLD CABIN RIVER

OLD CABIN RIVER

OLD

CABIN

LK

LK

LK

1 - 62 OLD CLAIMS

1 - 123 CABIN CLAIMS

——— , —— Claim boundary, lines

0m 500m 1000m 1500m 2000m 2500m 3000m

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN

CLAIM MAP

COMPILED BY: R.W.PLUMMER		MAP NO: 1D
DRAFTED BY: R.W.PLUMMER	DATE: Oct. 1981	SCALE: 1:50,000
DISPOSITION:		NTS: 105-O-11,12
PROJECT NO: 105	REPORT NO:	

GEOLOGY MAP

APPENDIX I

INVESTIGATION OF SELECTED GOLD SHOWINGS

OLD CABIN CLAIM BLOCK, NTS 105-O 11/12

YUKON TERRITORY

D. H. James

R. Plummer

November 1981

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Figure 1. Old Cabin Property, Location Map of Showings Examined
Figure 2. Gold Zone 1 - Channel Sampling
Figure 3. Gold Zone 2 - Channel Sampling
Figure 4. Caribou Showing - Channel Sampling
Figure 5. Old Trench Ridge Showing - Locality of Trenches
Figure 6. Old Trench Ridge Showing - Sketch of Trenches
Figure 7. Eagle Ridge Showing - Grab Sample Locality Plan
Figure 8. Eagle Ridge Showing - Channel Sampling

Table I. Gold Zone 1 - Channel Samples, description and geochemical analyses
Table II. Caribou Showing - Sampling information and geochemical data
Table III. Eagle Ridge Showing - Channel samples and geochemical data

Appendix I.Geochemical Analyses

1) INTRODUCTION

In the winter of 1981 stream silt and concentrate samples collected in previous exploration programs in the Niddery Lake Area (NTS 105-O) were analysed for gold, silver, copper and molybdenum. A number of sites anomalous in precious metals were detected with the highest anomalous stream geochemistry originating from the vicinity of the Old Cabin granodiortie, a pluton of mid-Cretaceous age.

A follow-up prospecting and sampling program was initiated in the 1981 summer field season. Exploration at Old Cabin located a number of arsenopyrite veins with gold values of up to 0.654 oz/ton. On the basis of these results and competitor activity in the area 185 claims were staked in late July and mid-August, 1981.

Five of the gold showings were selected for semi-detailed channel sampling and trenching. This report relates to those sampled areas. Results indicate that high gold values are associated with arsenopyrite in quartz veins. Gold values are erratically distributed within individual veins and provisional data indicates no wallrock enrichment. Associated vein sulphides are pyrite with interstitial argentiferous galena and chalcopyrite.

Veins crosscutting or occupying faults within sedimentary units tend to be continuous along strike. Wallrock alteration is minimal. Veins detected range between 1cm and 15cm thick though in structurally controlled pockets veins may reach 1m in diameter.

Arsenopyrite veins intruding the mafic to intermediate volcanic suite may yield a "disseminated vein" or stockwork type orebody as these veins are smaller and have a higher density distribution than those in the sediments. Disseminated arsenopyrite, pyrite and pyrrhotite are also present but this sulphide population may be gold deficient. Mineralization in the volcanic suite is surrounded by a zone of alteration and surface oxidation.

The Old Cabin granodiorite is cut by at least 2 periods of molybdenite-bearing quartz veins characterised by K-feldspar and sericitic alteration respectively. A K-Ar date on a biotite yields an age of 94.9 Ma, similar to other biotite-hornblende granodiorites in the Selwyn Mountains.

The relationship between the Old Cabin granodiorite and nearby gold-bearing arsenopyrite veins is unknown. However at several other localities in the Yukon e.g. Dublin Gulch, the genesis of gold-bearing arsenopyrite veins is attributed to nearby Cretaceous plutons (D. Tempelman-Kluit, 1981).

Preliminary results indicate that arsenic should act as an excellent pathfinder element in any future soil geochemistry surveys. Supportive analyses for lead, gold and silver may be used to pinpoint targets within broad arsenic dispersion holes.

A program involving detailed mapping at 1:10000 scale supported by soil and lithogeochemical sampling is proposed for the 1982 field season. Trenching and detailed sampling will be conducted over all mineralized areas. Pending favourable results induced polarization (IP) surveys can be used to define the extent of unoxidized "disseminated vein" or stockwork type mineralization in the mafic and intermediate volcanic suite.

2. GENERAL GEOLOGY

The OLD CABIN claim block is underlain by a Proterozoic and/or Lower Palaeozoic sequence of sediments and volcanics lying west of the shallow water carbonates of the MacKenzie Platform. The sediments are fine-grained clastics and cherts. The volcanic rocks are mafic flows, tuffs, breccias and agglomerates.

During the early mid-Cretaceous the sequence was tightly folded into NW-SE and E-W trending synclines and anticlines. Mid-Cretaceous quartz diorite and granodiorite stocks and plutons intruded along a northwest trend. A biotite from the Old Cabin pluton yielded a date of 94.9 +/- 1.7 Ma (D. Archibald pers. comm. 1981).

East-west faults have been interpreted from aerial photographs and magnetics. These faults, with north and northwesterly faults that displace the granodiorite stock and sediments, are the youngest geological events. Some of the faults may have acted as conduits for the epithermal veins.

3. DESCRIPTION OF THE GOLD-BEARING SHOWINGS

3.1 Introduction

Gold-bearing arsenopyrite veins with anomalous lithogeochemical gold values ranging from 100 ppb (arbitrary chosen lower limit) to 8000 ppb were found at 6 localities. Fire assays of some of these samples yielded gold values of up to 0.654 oz/ton. Associated arsenic values at all localities exceed 1000 ppm - the upper geochemical detection limit.

Five showings were selected for more detailed examination. These are Gold Zone 1, Gold Zone 2, Caribou, Old Trench Ridge and Eagle Ridge showings respectively - see Figure 1 for localities with respect to camp and topography. The showings were sampled between 10 to 15 August 1981. This report relates only to these sampled areas.

Sampling methods comprised channel chip samples perpendicular to the strike of mineralization at Gold Zones 1 and 2, Caribou Showing and a vein at Eagle Ridge. Soil samples were taken from the sidewalls of trenches at Old Trench Ridge and surface random grab samples

were collected from a zone of limonitic volcanics at Eagle Ridge. Sample channels excavated by grub-hoe were 15-30 cm wide and 10 cm deep. Chips were collected along the sidewall of the channel over lengths of 0.3m if vein material was present to 1.5m in country rock.

The local geology and related mineralization of each showing is discussed below. The descriptions are accompanied by figures and tables representing the data and are followed by an interpretation of the geochemistry.

3.2 Gold Zone 1

Reconnaissance lithogeochemical samples yielded anomalous chemical values in a arsenopyrite vein of up to 4360 ppb gold. Five assays of two anomalous samples were 0.13 oz/ton gold (approximately 4400 ppb) confirming the anomalous geochemistry.

The vein appears to be fault controlled. Along strike it bifurcates to form 2 separate veins. Nearby subsiduary veins were not accessible to sampling. The host rock is a yellow and rust stained siltstone that is locally cut by a 10 m wide quartz porphyry alaskite dyke. The veins outcrop for approximately 50 m and have an average thickness of 15 cm with a maximum of 50 cm. Pockets of mineralization up to 1m in diameter form at the intersection of intense jointing and the fault plane.

Sulphides consist of arsenopyrite and pyrite with minor chalcopyrite and galena. Pyrite-rich portions occur as masses of minute cubic crystals whereas arsenopyrite occurs as coarse-grained anhedral aggregates usually displaying a cataclastic texture. Vein gangue is vuggy quartz, yellow-green clays and oxidized arsenates.

Host rocks are dark brown weathering siltstones and mudstones. Sericitic and green-grey clay wallrock alteration is patchily developed and controlled by adjacent zones of intense jointing.

To investigate the zone in greater detail 11 channels were sited perpendicular to the stike of the vein and 42 rock chip samples collected. Sample information and geochemical results are presented in Fig. 2 and Table I.

The geochemical data proves that gold values are not consistently high within the vein, ranging from not detectable to 7000 ppb. High gold values are associated with high arsenic. The inverse relationship does not exist. Gold probably occurs within the arsenopyrite structure. There is no correlation between gold and silver (correlation coefficient 0.18) therefore it is unlikely that gold occurs as electrum. No free gold has been observed yet. There is a moderate correlation between lead and silver (correlation coefficient 0.60) indicating the presence of intergranular argentiferous galena. Silver values are notable though also spotty. Values range from 0.1 to+100 ppm. The silver value of +100 ppm was obtained from a yellow transported limonite cementing sand-sized quartz grains and silicic rock fragments - collapsed debris proximal to the vein resulting from weathering of the clay-rich alteration zone. The high silver value is due either to some resistate galena or to the scavenging ability of limonite. This downgrades the importance of the high silver value. Copper and zinc values indicate that their sulphides occur only in minor amounts.

Where the vein is poorly exposed or partly talus covered (particularly channel C) inclusion of vein material with the wallrock samples has created erroneous gold and arsenic values.

The results, while not definitive, suggest very little wallrock mineral enrichment has occurred adjacent to the veins. Anomalous gold, silver, copper, lead and zinc is confined to the vein. Arsenic haloes can be ascribed to secondary arsenate oxides (scorodite).

3.3 Gold Zone 2

The showing consists of a 10 cm thick black pyritiferous clay-filled veins of unknown orientation. The host is a cream-coloured fine-grained silicified siltstone with extensive yellow oxide surface staining. The siltstone is part of an interbedded siltstone and mafic volcanic sequence. The outcrop is fractured and frost heaved.

The zone was investigated by a single 53 m channel from which 37 rock chip samples were taken. The sample information and geochemical results are plotted in Figure 3.

Only 2 geochemical samples are anomalous in gold. One of these (380 ppb gold)is anomalous in all elements analysed. This is a selected sample from the black pyritiferous clay. These results accord a very low priority rating to this showing.

3.4 Caribou Showing

Three samples taken here during the reconnaissance program yielded geochemical analyses of 870, 2580 and 7880 ppb gold. The latter assayed 0.29 oz/ton gold (equivalent to 9940 ppb) confirming the anomalous geochemistry.

The mineralization is hosted by an altered volcanic breccia (volcaniclastic) close to the contact with brown and greenish shales and siltstones. The volcanic breccia comprises clay altered, usually whitish, irregularly shaped fragments set in a massive fine-grained maroon hematitic rock. Some altered grey shale and rare chert fragments were noted. Portions of the outcrop display a flow fabric with smaller oriented fragments in a "streaky" matrix.

Three styles of mineralization have been identified:

i) Isolated small quartz veins, usually 1 to 2 cm thick, with arsenopyrite, pyrite and minor galena.

ii) Very fine-grained green chloritic veins with a greyish mass of fine-grained arsenopyrite, pyrite and galena. The veins are surrounded by a zone of white clay wallrock alteration characterized by yellow-green secondary minerals or clays. The veins occur singly and are erractically spaced. Maximum vein width is 15-20cm. The veins appear to dip to the west.

iii) Limonite gossans with skeletal boxworks and associated secondary wall-rock silicification. Gossans are small, less than 1 m in length and erratic. They may represent oxidized remnants of type ii.

The zone was sampled by means of four shallow channels excavated in shattered, frost-heaved outcrop. Thirtysix samples were collected.

Geochemical data and sample localities are presented in Fig. 4 and sample descriptions in Table II.

Geochemistry bears out the geological observations i.e. gold-bearing arsenopyrite veins are thin, discontinuous and erratically distributed. However the host rock has undergone alteration due to invasion of mineralizing solutions as well as later oxidation of the contained sulphides. The combination of both have to be considered in interpreting the geochemistry.

Resistant quartz-arsenopyrite veins and vein fragments account for the isolated high gold values. Limonitic gossan is viewed as oxidized remnants of discrete sulphide concentrations in the host rock. Arsenic is anomalous in limonite zones and may be indicative of earlier disseminated arsenopyrite. Arsenic appears to decrease in intervening hematite-rich zones. Anomalous gold appears to be present only where quartz-arsenopyrite veins have been recorded. Zinc has a high background in the country rock, higher than any other area sampled within the claim block. Copper is uniformly low. Sporadic high lead corroborates the presence of interstitial galena visible in the sulphide-rich veins.

The economic potential of the occurrence lies in the fact that arsenopyrite mineralization may be widespread in the unoxidized rock as numerous small quartz-arsenopyrite veins and discrete concentrations. It remains to be tested as to whether or not gold is associated with only one or both arsenopyrite populations. If associated with both the target will be a large tonnage"disseminated vein" or stockwork type ore body.

3.5 Old Trench Ridge Showing

A float sample originating from the ridge top was found to have a laboratory estimated value of 16000 ppb gold and 3 in-situ vein samples returned geochemical analyses of 3960, 4350 and 7950 ppb gold. A nearby sample assayed 0.654 oz/ton gold (see reconnaissance report by C. Kuss, 1981).

Thin arsenopyrite veins and vein rubble occur on the saddle of a NE-SW trending ridge. At the top of the ridge northeast of the showings the rocks are mafic volcanics partially altered to dark green chlorite, calcite and siderite. Lower down dark maroon hematitic altered volcanics predominate. Brown to black shales outcrop on the saddle and with maroon volcanics are host to most of the mineralization at the showing. Southwest of the showings brownish interbedded shales, siltstones and cherts occur.

One 1 cm thick arsenopyrite-quartz veinlet cuts brown siltstones and cherts a few feet west of trench 5 (see Fig. 5). The contact is sharp with no alteration envelope.

Hairline crosscutting pyrite-pyrrhotite veinlets (1-2mm) fill small fractures and intrude parallel to the fabric in altered volcanics. Pyrite also occurs as small rounded aggregates and lenses in the volcanics.

About50m northeast of trench 1(Fig. 5) another vein, now entirely limonite gossan, cuts the chlorite-calcite-siderite altered volcanics. Maximum thickness of the vein is 20 cm. The original composition was probably pyrite (and pyrrhotite). The vein dips west and is exposed on both sides of the sharp ridge-top outcrop.

Small trenches and pits were excavated near vein rubble to locate the vein and determine its attitude. In the trench sidewalls discoid vein fragments lie close to the bottom of a yellow-orange clay zone dipping moderately westerly (schematically presented in Figure 6). The yellow-orange limonite clay represents a highly altered zone surrounding the vein which is underlain by hematitic, altered volcanics and overlain by brown-black shales. The limonite clay zone surrounding the vein is about 0.6 m wide in the southern-most trench. The alteration envelope (adjacent to the vein) is light green chlorite-sericite clay grading outwards to yellow-orange limonite clay. Vein filling is arsenopyrite with minor quartz gangue. Other visible sulphides are pyrite and galena.

Four soil samples from the limonite alteration zone were collected from 2 of the trenches to ascertain whether or not anomalous metal values relating to the vein were retained in the soil. These results might have applicability to future planned soil surveys. A number of pieces of arsenopyrite-rich vein were composited and sent off for geochemical analysis for comparison with soil samples.

Analysis of the composited sample is as follows:
520 ppm copper, 405 ppm lead, 14 ppm zinc,
5.5 ppm silver, + 1000 ppm arsenic, 5700 ppb gold.

The geochemistry of the soil samples is as follows:
(for sample sites see Figure 6)

Trench	Sample Number	Copper ppm	Lead ppm	Zinc ppm	Silver ppm	Arsenic ppm	Gold ppb
Trench 4	81-C-J-002	85	171	24	2.5	+1000	1100
Trench 5	81-C-J-003	80	284	12	3.5	+1000	2900
"	81-C-J-004	142	140	15	1.9	+1000	1100
"	81-C-J-005	47	18	9	nd	+1000	nd

The low values present in the last sample could be a function of depth, secondary concentration of elements in the other samples due to surface deflation, or the uneven distribution of elements within the vein itself. Arsenic remains noticeably high.

With the exception of the sample collected at 1.6m depth, the shallower soils have retained an anomalous signature that is related to the composited fresh material. The occurrence of copper, lead and zinc in relatively low amounts reflects the interstitial nature of the parent sulphides in the arsenopyrite veins. On the basis of these observations it would appear that arsenic should act as an excellent pathfinder element in any soil geochemical program. Arsenic haloes, even allowing for downslope dispersion, will be broad but targets can be pinpointed by supportive analyses for lead, gold and perhaps silver. These are bold assumptions to be made on such a limited data base.

3.6 Eagle Ridge Showing

Reconnaissance samples collected in the vicinity had anomalous gold values of 3370, 5170 and +8000 ppb. A fire assay of the latter sample yielded 0.588 oz/ton gold stressing the significance of the mineralization.

The ridge north of the saddle is underlain by fine-grained sediments-shales, siltstone and cherts. Outcrop to the south is part of the same volcanic sequence described under Old Trench Ridge Showing (see also Figure 7).

Channel sampling at the showing followed a thin discontinuous arsenopyrite-quartz vein for a distance of 50 m. Country rock is interbedded brown shales, siltstones, cherts and minor limey lenses. The vein obliquely crosscuts the sedimentary layering and structural foliation. The vein pinches and swells, maximum thickness being 18-20 cm. The vein comprises coarse-grained arsenopyrite, with minor pyrite and galena. The vein is enveloped in a very narrow alteration zone of yellow-green clays and secondary minerals. In exposed outcrop the vein is partly gossanous. Channel samples are shown in Figure 8 and geochemical analyses in Table III.

The ridge top south of the showing is composed of altered mafic and intermediate volcanics cut in places by small irregular veinlets of similar composition to that described above. The volcanics are rusty grey and soft in outcrop. Textures include agglomerates, flow breccias, flow banded, vesicular and amygdaloidal (filled with small white radiating zeolites). The rocks are pockmarked with limonite, and skeletal boxworks, crosscut by vuggy calcite veins and networks of hairline calcite veinlets. Orange-yellow weathering zones are characteristic of the ridge top. Other than the sporadic arsenopyrite veinlets, no other sulphides were observed.

Lower down the slope, and perhaps stratigraphically lower, fine-grained massive intermediate volcanics outcrop. They are lighter coloured and are almost entirely altered to whitish clay minerals. In these rocks disseminated pyrite occurs as individual cubes, aggregates and small veinlets all presumably subparallel to original

layering. Hematite and manganese stain the outcrop a dark reddish colour as opposed to the rusty grey of the overlying volcanics.

Channel sampling data is presented in Fig. 8 and Table III. Results from the sampled vein are similar to those at Gold Zone I in that gold values are erratic within the vein and are invariably associated with arsenic. Mineralization is confined to the vein there being no wallrock impregnation. The vein at Eagle Ridge does not have any obvious structural control. The vein itself does not constitute an economic target but should be viewed in the context of its proximity to the altered volcanics which may act as an amenable host to "disseminated" gold-arsenic mineralization.

Random grab surface samples of the volcanics have the following geochemistry:

Sample Number	Copper ppm	Lead ppm	Zinc ppm	Silver ppm	Arsenic ppm	Gold ppb
1-105-P144	96	3340	119	21.2	+1000	2100
-P145	16	44	158	0.2	600	20
-P146	20	58	199	0.4	+1000	160
-P147	127	39	75	nd	200	20
-P148	11	17	95	0.2	150	10
-P149	54	29	122	nd	200	60
-P150	21	59	123	nd	150	10

Sample - P144 contained a vein fragment which accounts for its geochemistry. Minor pyrite occurs in sample - P150. There were no visible sulphides in any of the other grab samples of limonitic, calcitic altered volcanics. Arsenic values of this suite remain moderately anomalous, but generally gold values are disappointingly low.

3.7 Old Cabin Granodiorite

The granodiorite at Old Cabin forms a jagged peak with some steep sided cliff faces surrounded by rugged topography. Traversing parts of the granodiorite outcrop is extremely dangerous and best left to personnel with appropriate skills.

The Old Cabin granodiorite is a medium-grained equigranular rock composed of quartz, plagioclase, biotite and hornblende. In places it contains well rounded mafic xenoliths and subangular xenoliths of thermally metamorphosed sediments. The thermal contact aureole of the granodiorite is a narrow zone several metres wide. Fine-grained clastics between Gold Zone 1 and camp (Figure 1) have been metamorphosed to a dark fine-grained, magnetite-bearing hornfels. The eastern contact has been displaced by younger north-south faulting. The southern contact is not exposed.

A K-Ar date on biotite from the granodiorite yeilded an age of 94.9 +/- 1.7 Ma. Similar ages have been obtained from other boitite-hornblende granodiorites in the Selwyn Mountains. These include Cirque, North Glacier, Nahanni, Mt. MacBrien and Aurora stocks (D. Archibald, Pers. comm. 1981).

The granodiorite is cut by pyrite-pyrrhotite-molybdenite quartz veins with a thin (1-2 mm) K-feldspar alteration envelope. These veins are about 1 cm wide. Larger veins have quartz crystal lined vugs (implying open space filling) with individual molybdenite flakes up to 1 cm in size. Another generation of quartz-pyrite-molybdenite veins is surrounded by a prominent rusty weathering zone of sericitic alteration up to 2 cm wide on either side of the veins. These observations relate to talus the foot of the granodiorite peak. The age relationships, distribution and frequency of the veins, degree of K-feldspar alteration and molybdenum potential of the granodiorite pluton were not assessed in the reconnaissance program. The relationship between the Old Cabin granodiorite and nearby gold-bearing arsenopyrite veins is unknown. However, at several other localities in the Yukon i.e. Dublin Gulch, AJ and Thor claims the genesis of gold-bearing arsenopyrite veins is attributed to nearby Cretaceous plutons. (D. Templeman - Kluit, Yukon - Geology and Exploration 1979-80, Dept. of Indian and Northern Affairs, Whitehorse - pg 23). About 75 percent of the pluton is covered by the CABIN claims. It would require a further 20 claims to stake the remainder of the pluton if deemed necessary by future work.

4. CONCLUSIONS

The veins intersect fine-grained clastic sediments with interbedded chert and minor mafic volcanics, and a sequence of mafic to intermediate volcanics. The age of these rocks is unknown but is assumed to be Proterozoic or Lower Palaeozoic. In mid-Cretaceous time this sequence was intruded by the Old Cabin granodiorite pluton. The granodiorite yields a K-Ar date on biotite of 94.9 Ma. The granodiorite intrusion may have been partly responsible for the generation of the hydrothermal gold-bearing arsenopyrite veins.

Gold values of up to 0.654 oz/ton have been proved in preliminary work on this property. High gold values are associated with arsenopyrite in quartz veins. Gold values are erratically distributed within individual veins and provisional data indicates no enrichment in the wallrock. Associated vein sulphides are pyrite with interstitial argentiferous galena and chalcopyrite.

Veins crosscutting or occupying faults within the sediments tend to be continuous along strike. Wallrock alteration is minimal and is confined to a narrow yellow-green envelope of clay and secondary arsenates. Subsiduary veins are widely spaced. Veins observed to date range between 1 cm and 15 cm wide though structurally controlled pockets can reach 1 m in diameter. Viable targets may yet be found occupying major fault or shear zones.

In contradistinction arsenopyrite veins intruding mafic and intermediate volcanics are smaller, more erratically distributed and numerous. Arsenopyrite, pyrite and pyrrhotite without a quartz component are also present and may be gold deficient. The host mafic volcanics have been altered to chlorite and calcite, intermediate volcanics to white clays. Surface oxidation has resulted in the widespread development of limonite and small limonite gossans. Mineralized and altered zones within the volcanics may be several tens of metres wide. The extent of this style of mineralization has not been tested yet but it is envisaged that the volcanics may be host to a "disseminated vein" or stockwork type of deposit.

Preliminary results indicate that arsenic should act as an excellent pathfinder element in any soil geochemical program. Supportive analyses for lead, gold and silver can be used to pinpoint targets within broad arsenic dispersion haloes.

5. RECOMMENDATIONS

i) Detailed mapping within the claim block specifically to identify and evaluate the 2 possible gold-bearing type targets i.e.
   - altered mafic and intermediate volcanics with "disseminated vein" or stockwork deposits.
   - arsenopyrite veins occupying major fault or shear zones.

   It is recommended that 1:10000 scale topographic base maps of the claim block be produced for this purpose.

ii) Soil geochemistry surveys should be conducted in areas of poor outcrop where topography permits. Arsenic is recommended as a pathfinder element to be used in conjunction with lead, silver and gold.

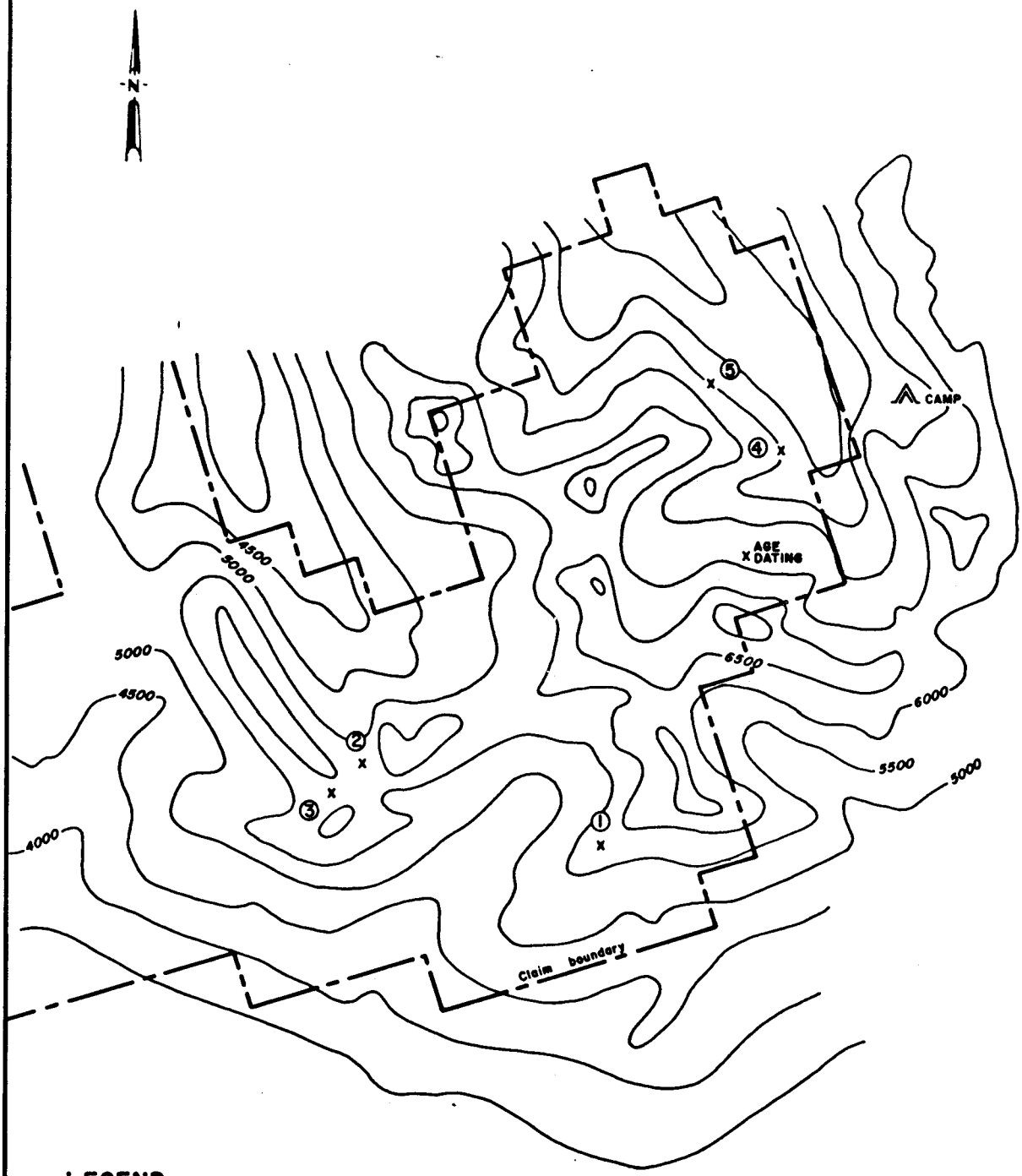
iii) Lithogeochemical sampling should be conducted throughout the volcanic suite.

iv) Zones of alteration within the volcanics should be trenched and sampled in detail to determine the style and extent of vein mineralization, and the possibility of other phases of sulphide mineralization that may be gold-bearing.

v) Pending favourable results induced polarization (IP) surveys can be used to define the extent of unoxidised "disseminated vein" or stockwork type mineralization in the mafic and intermediate volcanic suite.

D. H. James

R. Plummer



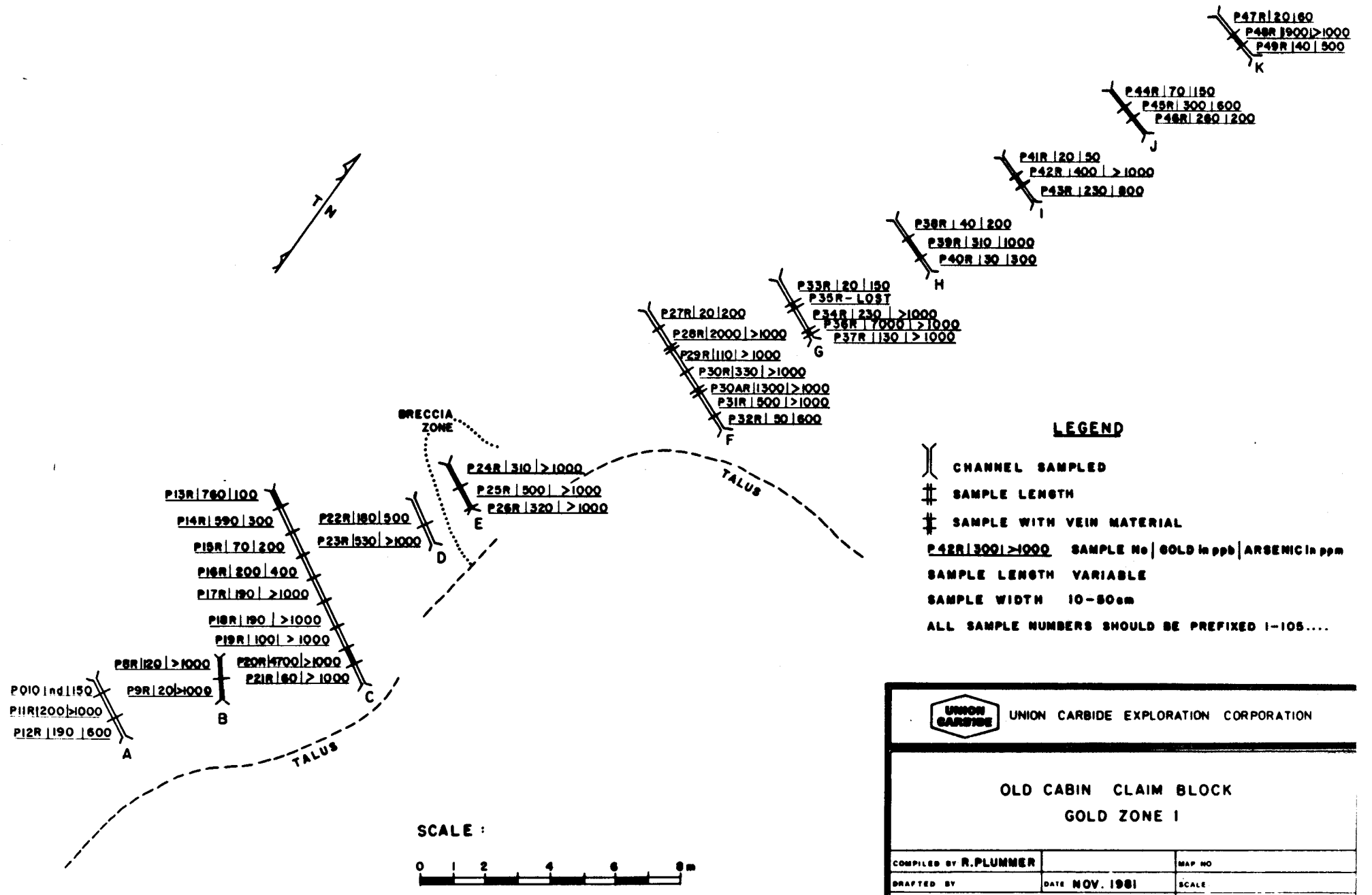
LEGEND

1. CARIBOU SHOWING
2. OLD TRENCH RIDGE SHOWING
3. EAGLE RIDGE SHOWING
4. GOLD ZONE 1 SHOWING + GRANODIORITE
5. GOLD ZONE 2 SHOWING

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN PROPERTY
LOCATION MAP
SHOWINGS EXAMINED
YUKON TERRITORY

COMPILED BY D.H. James		MAP NO:
DRAFTED BY K. Gibson	DATE September, 1981	SCALE 1 : 50,000
DISPOSITION		N.T.S.
PROJECT NO 105	REPORT NO	FIG 1



LEGEND

- CHANNEL SAMPLED
- SAMPLE LENGTH
- SAMPLE WITH VEIN MATERIAL

P42R|300|>1000 SAMPLE No | GOLD in ppb | ARSENIC in ppm

SAMPLE LENGTH VARIABLE

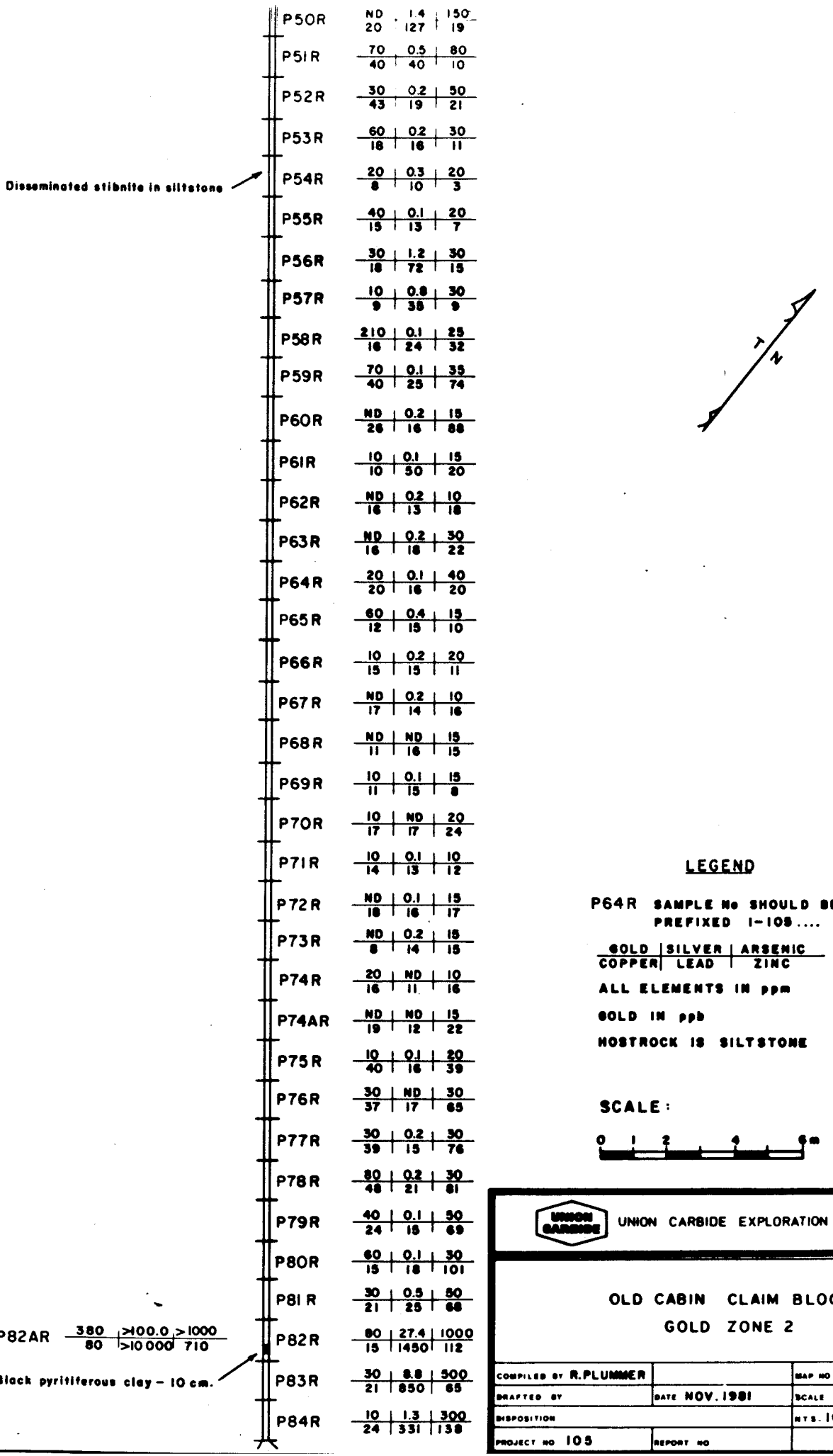
SAMPLE WIDTH 10-80cm

ALL SAMPLE NUMBERS SHOULD BE PREFIXED 1-105....

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
GOLD ZONE I

COMPILED BY R.PLUMMER		MAP NO
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION:		NTS 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 2



LEGEND

P64R SAMPLE No SHOULD BE PREFIXED 1-105....

GOLD	SILVER	ARSENIC
COPPER	LEAD	ZINC

ALL ELEMENTS IN ppm

GOLD IN ppb

HOSTROCK IS SILTSTONE

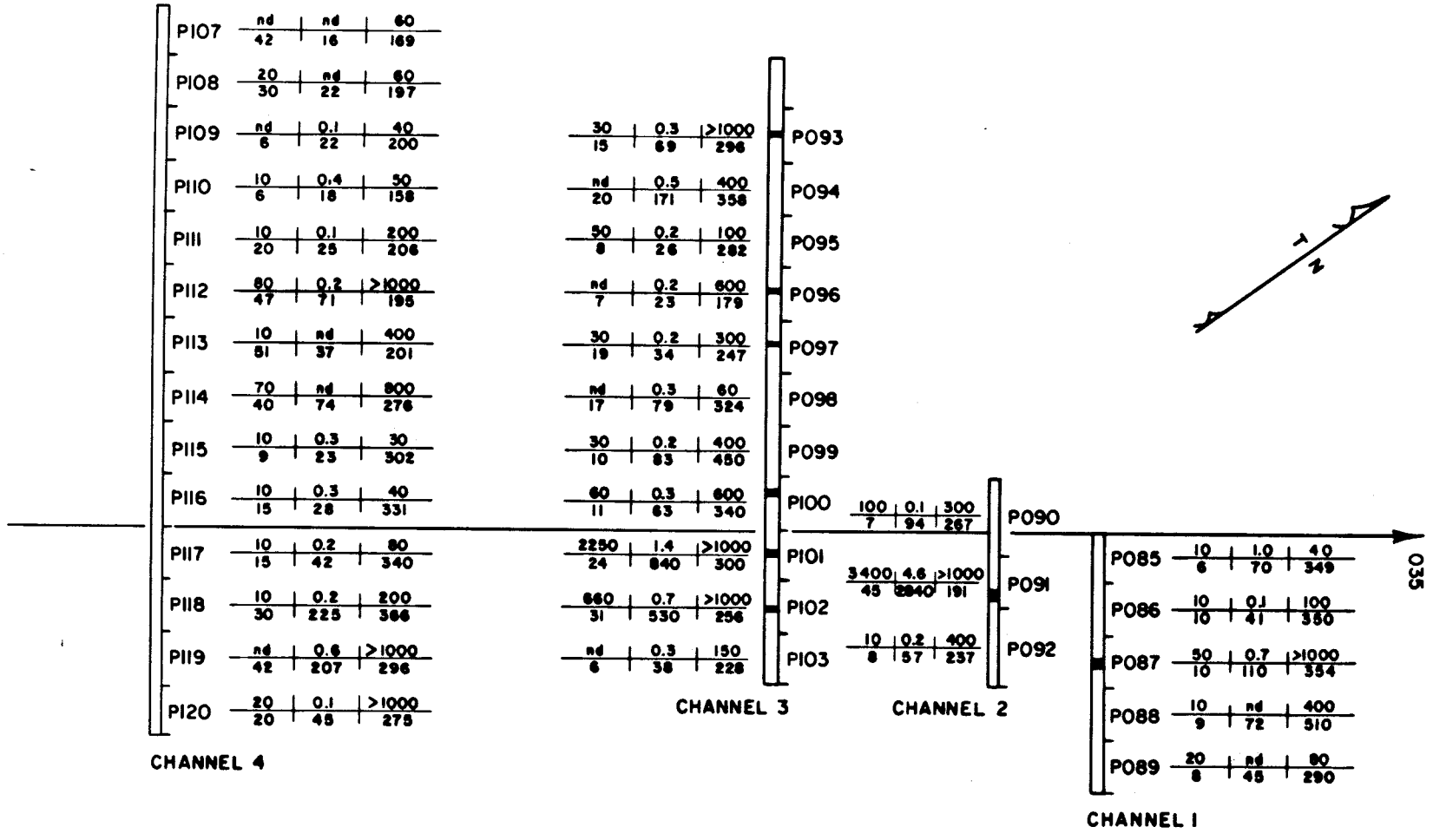
SCALE:

0 1 2 4 6m

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
GOLD ZONE 2

COMPILED BY R.PLUMMER		MAP NO
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION		NTS. 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 3



LEGEND

GOLD | SILVER | ARSENIC
COPPER | LEAD | ZINC

ALL VALUES IN ppm

GOLD VALUES IN ppb

SAMPLE Nos SHOULD BE PREFIXED 1-105....

SAMPLE CHANNEL

SAMPLE NUMBER (abbreviated)

VEIN PRESENT

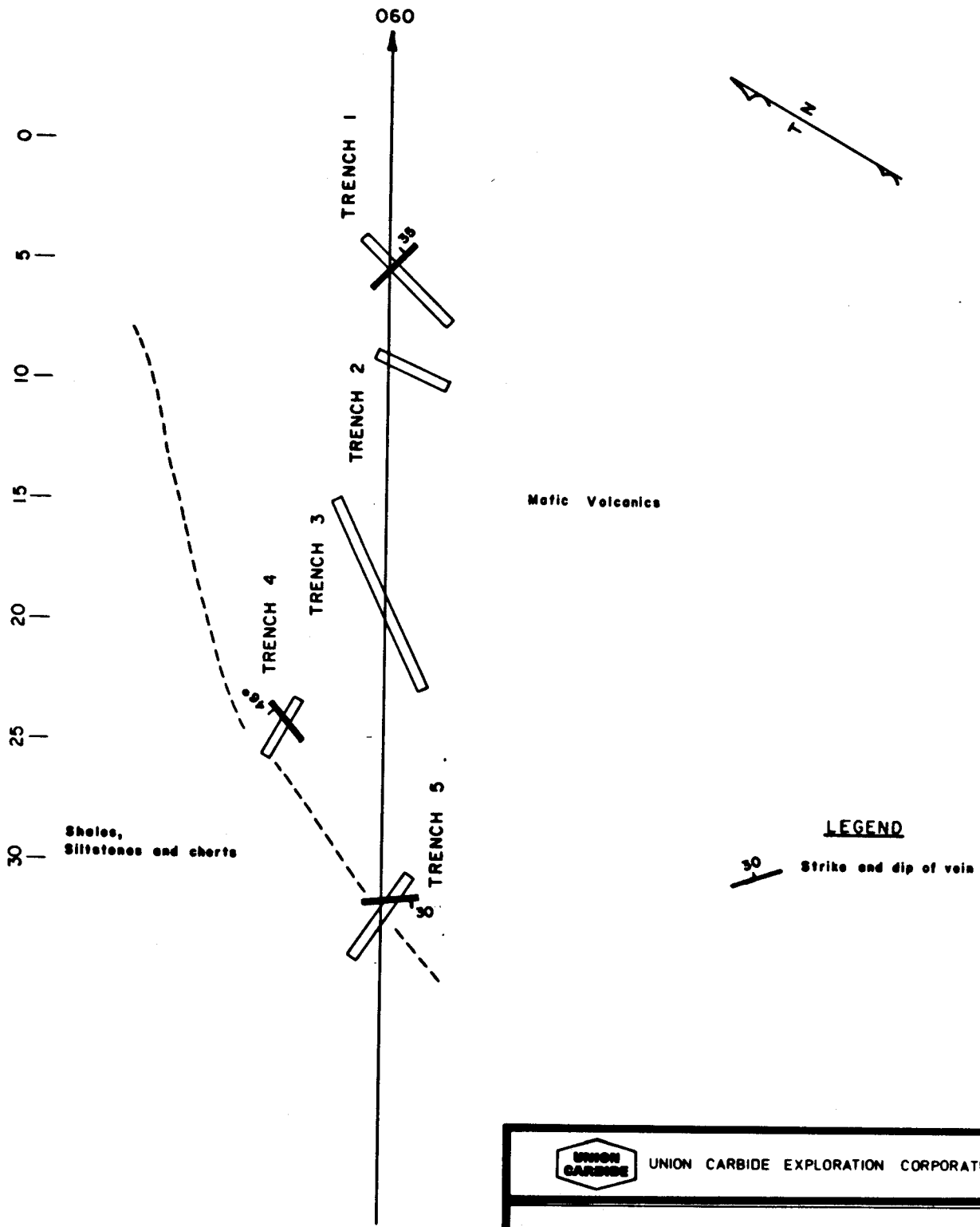
SCALE:

0 1 2 3 4 5m

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
CARIBOU SHOWING

COMPILED BY: D.H. JAMES		MAP NO:
DRAFTED BY:	DATE: NOV. 1981	SCALE:
DISPOSITION:		NTS 105 - O 11/12
PROJECT NO: 105	REPORT NO:	FIG. 4

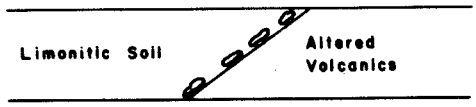


UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
OLD TRENCH RIDGE SHOWING
LOCALITY OF TRENCHES

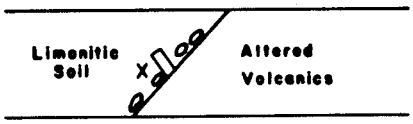
COMPILED BY D.H. JAMES		MAP NO
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION		NTS 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 5

TRENCH 1



VEIN RUBBLE

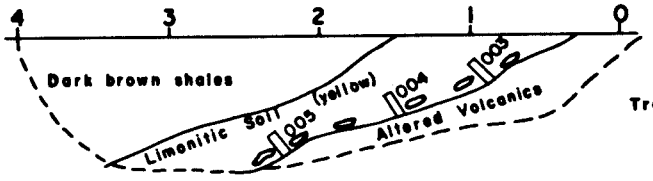
TRENCH 4



VEIN RUBBLE

X SOIL SAMPLE 81-OC-J-002

TRENCH 5



LOOKING NE.

VEIN RUBBLE

X SOIL SAMPLES 81-OC-J-003 TO 005

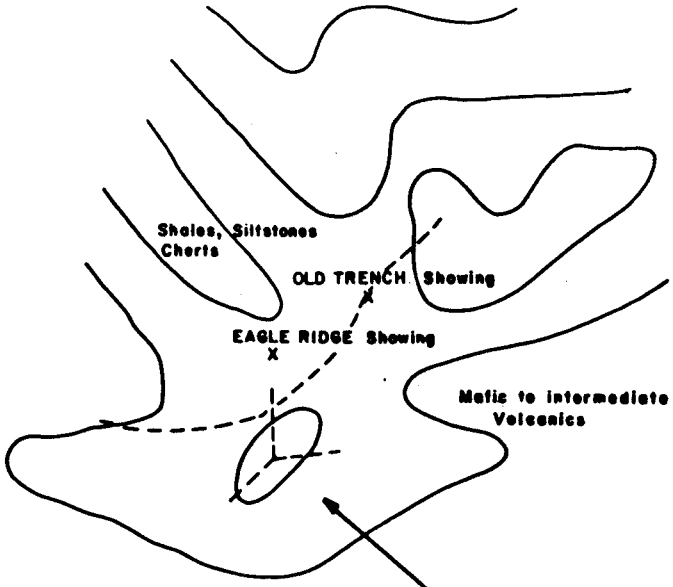
SCALE FOR TRENCH 5

2cm REPRESENT 1 metre

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
OLD TRENCH RIDGE SHOWING
SKETCH OF TRENCHES

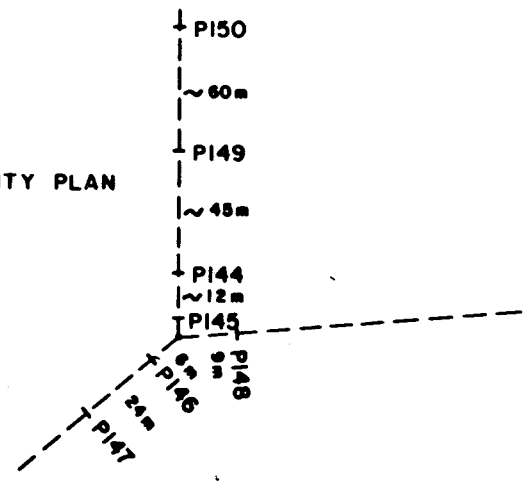
COMPILED BY D.H. JAMES		MAP NO.
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION		NTS 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 6



SCALE = 1:20000

ENLARGEMENT OF ABOVE

GRAB SAMPLE LOCALITY PLAN

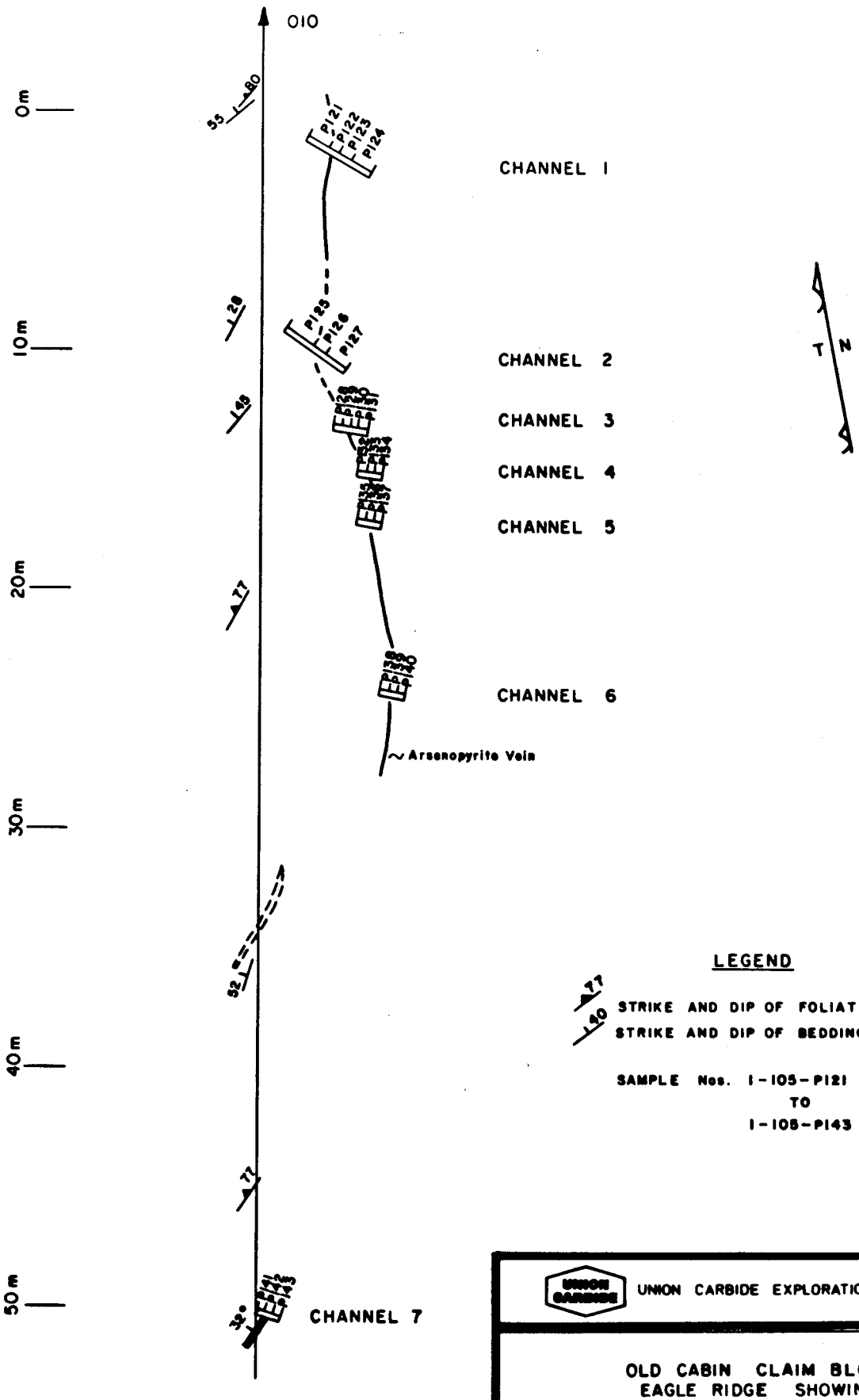


SAMPLES 1-105-R144 TO R150

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
EAGLE RIDGE SHOWING

COMPILED BY D.H. JAMES		MAP NO
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION		NTS 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 7



UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN CLAIM BLOCK
EAGLE RIDGE SHOWING
CHANNEL SAMPLING

COMPILED BY D.H. JAMES		MAP NO
DRAFTED BY	DATE NOV. 1981	SCALE
DISPOSITION		NTS 105-O 11/12
PROJECT NO 105	REPORT NO	FIG. 8

Table I Gold Zone 1 - Channel samples, description and geochemical analyses

Channel	Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb **
A	010R	0-1.0m	Siltstone; rusty weathering, fine-grained cream coloured highly fractured and broken.	18	95	90	0.6	150	nd
	011R	1.0-2.0m	Siltstone; rusty weathering, fine-grained cream coloured.	30	1010	170	5.6	+1000	200
	012R	2.0-3.0m	" " " " "	74	251	217	1.2	600	190
B.	008R	0.-1.0m	Quartz-feldspar dyke; yellow weathering, fine-grained white, no mafic minerals.	14	710	155	1.6	+1000	120
	009R	1.0-2.0m	Siltstone; yellow and brown weathering, very fine-grained, cream coloured.	74	560	241	0.6	1000	20
C.	013R	0-1.0	Vein; rusty weathering, medium grained pyrite and arsenopyrite with fine-grained specks of galena.	196	5200	96	12.3	100	760
	014R	1.0-2.0	Sandstone; rusty weathering, fine-grained white, silicified, pyrite and arsenopyrite, fine-grained galena.	88	1960	81	9.2	300	590
	015R	2.0-3.0	Siltstone, rusty weathering with white clay zones, extensively fractured. No sulphides.	29	790	49	19.6	200	70
	016R	3.0-4.0	" " " " "	22	1460	44	13.4	400	200
	017R	4.0-5.0	" " " " "	25	460	18	30.4	+1000	190
	018R	5.0-6.0	" " " " "	17	570	45	16.5	+1000	190
	019R	6.0-7.0	" " " " "	69	244	124	2.0	+1000	100
	020R	7.0-7.4	Vein; yellow and grey weathering, fine-grained arsenopyrite and pyrite. Abundant white to cream flowers of sulphur and/or carbonate.	194	+10000	216	11.0	+1000	4700
	021R	7.4-8.4m	Sediment; rusty weathering, fine-grained, dark brown.	72	460	187	1.6	+1000	60

Channel	Sample Number*	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb **
D	022R	0-1.0m	Siltstone; yellow weathered, fine-grained cream coloured extensively fractured.	45	315	115	2.0	500	180
	023R	1.0-2.0m	Gossan; yellow orange weathering.	96	3550	22	+100.0	+1000	530
E	024R	0-1.0m	Gossan; brown weathering gossanous quartz breccia.	147	6900	21	55.6	+1000	310
	025R	1.0-2.0m	Gossan; yellow-brown weathering.	140	4500	16	65.4	+1000	500
	026R	2.0-2.5m	Siltstone; yellow-brown weathering, fine-grained, silicified, brown coloured.	139	3480	9	59.2	+1000	320
F	027R	0-1.0m	Siltstone; brown weathering, fine-grained, cream coloured, 3mm thick rusty brown gossanous band in middle.	25	179	70	1.4	200	20
	028R	1.0-2.2m	Vein yellow and grey weathering, fine-grained arsenopyrite and pyrite.	106	+10000	96	44.0	+1000	2000
	029R	2.2-3.2m	Siltstone; rusty weathering, fine-grained, pale brown coloured.	25	840	144	2.7	+1000	110
	030AR	3.2-4.2m	A-vein material.	136	+10000	480	52.0	+1000	1300
	030BR		Chert; yellow green weathering, very fine-grained, pale grey-green coloured, specks of pyrite throughtout	18	550	90	5.9	+1000	330
	031R	4.2-5.2m	Siltstone; pale brown weathering, white coloured, fine-grained and silicified.	42	820	183	3.1	+1000	500
	032R	5.2-6.2m	Quartz-feldspar porphyry: dark brown weathering, fine-grained and light brown coloured.	48	141	158	0.7	600	50

Channel	Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb *
G	033R	0.-1.0m	Siltstone; rusty weathering, white, fine-grained.	45	56	78	0.1	150	20
	034R	1.1-2.1m	Siltstone; rusty weathering, white, fine-grained, silicified.	37	2730	171	13.4	+1000	230
	035R	1.0-1.1m	Vein; grey and yellow weathering, fine grained composed of arsenopyrite and pyrite.	sample lost in field					
	036R	2.1-2.2m	Vein; as above	650	2440	1750	12.6	+1000	7000
	037R	2.2-2.3m	Siltstone, rusty weathering, white, fine-grained silicified.	38	750	368	1.6	+1000	130
H.	038R	0-1.0m	Siltstone; rusty weathering, white, fine-grained silicified.	38	104	66	0.3	200	40
	039R	1.0-1.7m	Siltstone and Veins; 2 yellow-grey coloured pyrite-arsenopyrite veins 10cm wide separated by 50cm of rusty weathering white, fine-grained, silicified siltstone.	35	2090	180	3.4	1000	310
	040R	1.7-2.7m	Siltstone; rusty weathering, white, fine-grained, silicified.	20	74	182	0.1	300	30
I	041R	0-1.0m	Siltstone; rusty weathering, white, fine to very fine-grained.	42	59	100	0.2	50	20
	042R	1.0-1.4m	Veins; yellow and grey weathering, very fine grained grey coloured arsenopyrite and pyrite.	44	1890	1000	6.0	+1000	400
	043R	1.4-2.4m	Siltstone; rusty weathering, white, fine-grained.	29	221	266	1.4	800	230

Channel	Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb **
J	044R	0-0.5m	Siltstone; rusty stained, white, fine-grained quartz or siltstone. Abundant pyrite in fractures.	61	111	29	0.7	150	70
	045R	0.5-1.5m	Vein; rusty weathering, medium to coarse-grained pyrite and/or arsenopyrite. Numberous 5-6cm thick white clay horizons throughout.	125	2180	800	15.0	600	300
	046R	1.5-2.5m	Siltstone; rusty weathering, white, fine-grained chert or siltstone.	20	72	120	0.6	200	260
K	047R	0-1.0m	Siltstone; purple stained, cream-coloured, silicified with fractures filled with pyrite, pyrrhotite and arsenopyrite.	69	45	104	0.2	60	20
	048R	1.0-1.5m	Vein; yellow and grey-green weathering, pyrite-arsenopyrite.	302	4200	1060	35.3	+1000	1900
	049R	1.5-2.5m	Siltstone; rusty weathering, pale cream coloured, fine-grained siltstone in a fault zone.	26	322	110	2.2	500	40

* All sample numbers should be prefixed 1-105-P
** gold values expressed in ppb 1000 ppb = 1ppm
nd denotes not detectable.

Table II Caribou Showing - sampling information and geochemical data

Trench 1

Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
P085	0.1m	Volcanic breccia, fragments altered to white clay. Brown matrix. Mn coating on joints. Hematitic clay-filled veinlets. Some shale fragments.	6	70	349	1.0	40	10
P086	1-2m	Volcanic breccia. Hematite and limonite content of matrix increases. Some Mn staining on joint surfaces.	10	41	350	0.1	100	10
P087	2-3m	Volcanic breccia; extensive limonite. Vein; arsenopyrite-pyrite-quartz-clay. Minor arsenopyrite in fractures. Extensive hematite clay in breccia matrix, with fragments of chert and shale. Volcanic breccia with coarser fragments (1cm) fragments are hematite stained.	10	110	354	0.7	+1000	50
P088	3-4m	Volcanic breccia, hematite stained, minor limonite. White clay zone of 15 cm. Volcanic breccia.	9	72	510	nd	400	10
P089	4-5m	Volcanic breccia - altered shale fragments in brown matrix. More limonite than hematite.	8	45	290	nd	80	20

* Sample numbers prefixed by 1-105-.....

Trench 2

Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
P090	0.1.5m	Volcanic breccia, white kaolinized fragments in a dark maroon-red hematite clay matrix. Some limonite and Mn staining.	7	94	267	0.1	300	100
P091	1.5-2.5m	Volcanic breccia, white, fine-grained, clayey. Vein, quartz-clay-galena-stibnite-arsenopyrite - about 15cm. Extensive hematite.	45	2840	191	4.6	+1000	3400
P092	2.5-4m	Volcanic breccia, limonitic. followed by increase in hematite content plus some Mn staining.	8	57	237	0.2	400	10
	4-7m	Not sampled						
P104	7-8m	Volcanic breccia; limonitic, large fragments (+1cm). Vein; disseminated pyrite, limonite, development of clay	16	264	520	0.3	+1000	60
P105	8-8.5m	Volcanic breccia; highly altered to clays, slightly sheared. Vein; fine-grained arsenopyrite, pyrite and quartz in a very fine-grained green chloritic matrix.	19	690	660	1.4	+1000	300
P106	8.5-10m	Fragmentary shales, limonite alterations extending inwards from joints and cracks. Secondary silica flooding.	31	157	155	0.2	600	20

Trench 3

Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
	0-1m	No sample						
P093	1-2m	Volcanic breccia - fragments altered white to pink in a hematitic matrix. Limonite staining in matrix increases. Quartz veining, small vugs, white clay, Mn staining along joints. Limonite volcanic breccia, partially gossanous with minor limonite filled shears/veins.	15	69	296	0.3	1000	30
P094	2-3m	Volcanic breccia with limonite gossan, white clay and grey shale fragments.	20	171	358	0.5	400	nd
P095	3-4m	Flow fabric in volcanic breccia, maroon and grey-coloured alteration. Mn staining.	8	26	282	0.2	100	50
P096	4-5m	Volcanic breccia, Mn stained. Vein; vuggy limonitic gossan.	7	23	179	0.2	600	nd
P097	5-6m	Vein material and limonitic altered volcanic breccia with flow fabric.	19	34	247	0.2	300	30
P098	6-7m	Volcanic breccia; flow fabric, white fragments in a brownish hematitic matrix.	17	79	324	0.3	60	nd
P099	7-8m	Volcanic breccia, white clay-altered fragments in a hematite-clay matrix. Vuggy in part with hematite lined cavities. Some limonite staining.	10	83	450	0.2	400	30
P100	8-9m	Volcanic breccia, flow fabric, small shears white aligned fragments (altered) Extensive limonite staining. Vein: limonite gossan.	11	63	340	0.3	600	60
P101	9-10m	Vein: limonite gossan Extensive limonite and clay. Minor boxworks. Small vein: completely limonite. Vein; clays, stibnite, arsenopyrite. Extensive limonite, Vein; galena, pyrite, arsenopyrite limonite gossan.	24	840	300	1.4	+1000	2250

Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
P102	10-11	Extensive limonite Vein: quartz-arsenopyrite Extensive hematite.	31	530	256	0.7	+1000	660
P103	11-12	Volcanic breccia, large fragments (+1cm) now white to pinkish. Matrix slightly hematized.	6	38	228	0.3	150	nd

Trench 4

Sample Number *	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
P107	0-1m	Gossanous breccia zone. Some Mn staining Limonite and clay.	42	16	169	nd	60	nd
P108	1-2m	As above grading to an altered hematite volcanic breccia.	30	22	197	nd	60	20
P109	2-3m	Hematite altered volcanic breccia, slight increase in hematite content.	6	22	200	0.1	40	nd
P110	3-4m	Volcanic breccia; hematitic, vuggy, silica enrichment. Some Mn Staining.	6	18	158	0.4	50	10
P111	4-5m	Limonite gossan, vuggy and siliceous. Extensive limonite.	20	25	206	0.1	200	10
P112	5-6m	Limonite gossan and clay. Some Mn staining.	47	71	195	0.2	+1000	80
P113	6-7m	Limonite gossan and clay. Hematite clay and extensive Mn staining.	51	37	201	nd	400	10
P114	7-8m	Extensive limonite and hematite alteration with Mn staining along joints and fractures.	40	74	276	nd	800	70
P115	8-9m	Volcanic breccia; extensively limonite and hematite altered. Vugs with limonitic boxworks. Mn staining along joints. Changes to a dark hematite-clay altered breccia.	9	23	302	0.3	30	10
P116	9-10m	Extensive limonite, hematite and clay alteration.	15	28	331	0.3	40	10
P117	10-11m	Volcanic breccia - hematite altered.	15	42	340	0.2	80	10
P118	11-12m	Volcanic breccia - hematite alteration and minor limonite. Some Mn staining along joints.	30	225	366	0.2	200	10
P119	12-13m	Volcanic breccia now a limonite gossan. Veining: quartz-pyrite-arsenopyrite-hematite.	42	207	296	0.6	+1000	nd
P120	13-14m	Limonite gossan Limonite alteration. Dark Mn-stained, fine-grained rock with hematite clays.	20	45	275	0.1	+1000	20

Table III Eagle Ridge Showing - channel samples and geochemical data

Trench	Sample Number	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
1.	1-105-P121	0-1.0	grey siltstone, chert and brown-green shales.	45	13	44	0.3	+1000	30
	1-105-P122	1.0-1.3	Vein 2cm thick with arsenopyrite in dark grey siltstones and shales.	292	51	28	1.2	+1000	3400
	1-105-P123	1.3-2.0	Shales and siltstones.	68	17	93	0.1	+1000	20
	1-105-P124	2.0-3.0	as above	24	22	143	nd	500	20
2.	1-105-P125	0-1.3	Shales and siltstones.	91	20	54	0.3	+1000	10
	1-105-P126	1.3-2.0	Shales, cherts and yellow limonitic shales.	165	41	55	0.2	+1000	10
	1-105-P127	2.0-3.0	Shales and siltstones, minor chert.	131	20	100	nd	+1000	10
3.	1.105-P128	0-0.2	Shales.	120	19	92	nd	500	nd
	1-105-P129	0.2-0.7	1cm wide arsenopyrite vein in shales.	141	116	105	1.5	1000	260
	1-105-P130	0.7-1.5	Shales, siltstones and minor chert.	70	24	127	0.2	1000	30
	1-105-P131	1.5-2.0	Shales and cherts.	51	21	121	nd	500	150
4.	1-105-P132	0-0.3	Shales and siltstones.	72	27	130	nd	950	30
	1-105-P133	0.3-0.6	Vein (arsenopyrite) about 3 cm thick in trench. Shales	115	266	169	1.8	+1000	1300
	1-105-P134	0.6-0.9	Shales and siltstones.	78	57	126	0.2	+1000	60
5.	1-105-P135	0-0.3	Siltstones and shales.	33	50	169	0.2	+1000	20
	1-105-P136	0.3-0.6	Vein bearing 170°, 50°W is about 18cm thick Vuggy green chlorite, clays and arsenopyrite.	136	700	67	8.6	+1000	4900
	1-105-P136	0.6-0.9	Shales and siltstones.	30	33	100	0.1	+1000	70
6	1-105-P138	0-0.3	Brown silty shales	104	74	248	0.3	400	30
	1-105-P139	0.3-0.6	Vein in brown silty shales	168	90	182	0.4	+1000	380
	1-105-P140	0.6-0.9	Brown silty shales	114	89	244	0.4	+1000	90
7	1-105-P141	0-0.3	Brown shales and interbedded, boudinaged cherts.	99	39	76	0.3	+1000	60

Trench	Sample Number	Sample Interval	Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
7 cont'd	1-105-P142	0.3-0.6	Vein, gossanous, 1 cm thick 045°, 32° NW in lithology as above.	143	32	100	nd	500	50
	1-105-P143	0.6-0.9	Brown shales and interbedded boudinaged cherts.	84	59	173	nd	1000	30

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Union Carbide Exploration
Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention: Old cabin

Report No: 81-93-042 Page 1 of 4
Samples Arrived: August 21, 1981
Report Completed: September 15, 1981
For Project: 105
Analyst: E.T. & VGC Staff
Invoice: 6488 Job # 81-268

Sample Marking	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	
81-OC-J- 002S	85	171	24	2.5	>1000	1100	
003	80	284	12	3.5	>1000	2900	
004	142	140	15	1.9	>1000	1100	
81-OC-J- 005S	47	18	9	nd	>1000	nd	
1-105- P008R	14	710	155	1.6	>1000	120	Rock
009	74	560	241	0.6	1000	20	
010	18	95	90	0.6	150	nd	
011	30	1010	170	5.6	>1000	200	
012	74	251	217	1.2	600	190	
013	196	5200	96	12.3	100	760	
014	88	1960	81	9.2	300	590	
015	29	790	49	19.6	200	70	
016	22	1460	44	13.4	400	200	
017	25	460	18	30.4	>1000	190	
018	17	570	45	16.5	>1000	190	
019	69	244	124	2.0	>1000	100	
020	194	>10000	216	11.0	>1000	4700 ✓	
021	72	460	187	1.6	>1000	60	
022	45	315	115	2.0	500	180	
023	96	3550	22	>100.0 ✓	>1000	530	
024	147	6900	21	55.6	>1000	310	
025	140	4500	16	65.4 ✓	>1000	500	
026	139	3480	9	59.2	>1000	320	
027	25	179	70	1.4	200	20	
028	106	>10000	96	44.0	>1000	2000	
029	25	840	144	2.7	>1000	110	
030 A	136	>10000	480	52.0 ✓	>1000	1300	
030 B	18	550	90	5.9	>1000	330	
031	42	820	183	3.1	>1000	500	
032	48	141	158	0.7	600	50	
033	45	56	78	0.1	150	20	
034	37	2730	171	13.4	>1000	230	
036	650 ✓	2440	1750	12.6	>1000	7000 ✓	
037	38	750	368	1.6	>1000	130	
038	38	104	66	0.3	200	40	
039	35	2090	180	3.4	1000	310	
040	20	74	182	0.1	300	30	
041	42	59	100	0.2	50	20	
1-105- P042R	44	1890	1000	6.0	>1000	400	Rock

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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Report No: 81-93-042 Page 2 of 4
Samples Arrived:
Report Completed:
For Project:
Analyst:

Rock samples

Sample Marking	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
1-105- P043R	29	221	266	1.4	800	230
044	61	111	29	0.7	150	70
045	125	2180	800	15.0 ✓	600	300
046	20	72	120	0.6	200	260
047	69	45	104	0.2	60	20
048	302	4200	1060	35.3 ✓	>1000	1900 ✓
049	26	322	110	2.2	500	40
050	20	127	19	1.4	150	nd
051	40	40	10	0.5	80	70
052	43	19	21	0.2	50	30
053	18	16	11	0.2	30	60
054	8	10	3	0.3	20	20
055	15	13	7	0.1	20	40
056	18	72	15	1.2	30	30
057	9	35	9	0.8	30	10
058	16	24	32	0.1	25	210
059	40	25	74	0.1	35	70
060	26	16	88	0.2	15	nd
061	10	50	20	0.1	15	10
062	16	13	18	0.2	10	nd
063	16	18	22	0.2	30	nd
064	20	16	20	0.1	40	20
065	12	15	10	0.4	15	60
066	15	15	11	0.2	20	10
067	17	14	16	0.2	10	nd
068	11	16	15	nd	15	nd
069	11	15	8	0.1	15	10
070	17	17	24	nd	20	10
071	14	13	12	0.1	10	10
072	18	16	17	0.1	15	nd
073	8	14	15	0.2	15	nd
074	16	11	16	nd	10	20
074 B	19	12	22	nd	15	nd
075	40	16	39	0.1	20	10
076	37	17	65	nd	30	30
077	39	15	76	0.2	30	30
078	48	21	81	0.2	30	80
079	24	15	69	0.1	50	40
1-105- P080R	15	18	101	0.1	30	60

REMARKS:

Signed: [signature]

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Report No: 81-93-042 Page 3 of 4
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
1-105- P 081R	21	25	68	0.5	50	30
082	15	1450	112	27.4	1000	80
082 A	40	>10000	710	>100.0 ✓	>1000	380
083	21	850	65	8.8	500	30
084	24	331	138	1.3	300	10
085	6	70	349	1.0	40	10
086	10	41	350	0.1	100	10
087	10	110	354	0.7	>1000	50
088	9	72	510	nd	400	10
089	8	45	290	nd	80	20
090	7	94	267	0.1	300	100
091	45	2840	191	4.6 ✓	>1000	3400 ✓
092	8	57	237	0.2	400	10
093	15	69	296	0.3	>1000	30
094	20	171	358	0.5	400	nd
095	8	26	282	0.2	100	50
096	7	23	179	0.2	600	nd
097	19	34	247	0.2	300	30
098	17	79	324	0.3	60	nd
099	10	83	450	0.2	400	30
100	11	63	340	0.3	600	60
101	24	840	300	1.4	>1000	2250 ✓
102	31	530	256	0.7	>1000	660
103	6	38	228	0.3	150	nd
104	16	264	520	0.3	>1000	60
105	19	690	660	1.4	>1000	300
106	31	157	155	0.2	600	20
107	42	16	169	nd	60	nd
108	30	22	197	nd	60	20
109	6	22	200	0.1	40	nd
110	6	18	158	0.4	50	10
111	20	25	206	0.1	200	10
112	47	71	195	0.2	>1000	80
113	51	37	201	nd	400	10
114	40	74	276	nd	800	70
115	9	23	302	0.3	30	10
116	15	28	331	0.3	40	10
117	15	42	340	0.2	80	10
1-105- P 118R	30	225	366	0.2	200	10

REMARKS:

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Report Completed:
For Project:
Analyst:

Sample Marking	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb
1-105- P119R	42	207	296	0.6	> 1000	nd
120	20	45	275	0.1	> 1000	20
121	45	13	44	0.3	> 1000	30
122	292	51	28	1.2	> 1000	3400
123	68	17	93	0.1	> 1000	20
124	24	22	143	nd	500	20
125	91	20	54	0.3	> 1000	10
126	165	41	55	0.2	> 1000	10
127	131	20	100	nd	> 1000	10
128	120	19	92	nd	500	nd
129	141	116	105	1.5	1000	260
130	70	24	127	0.2	1000	30
131	51	21	121	nd	500	150
132	72	27	130	nd	950	30
133	115	266	169	1.8	> 1000	1300
134	78	57	126	0.2	> 1000	60
135	33	50	169	0.2	> 1000	20
136	136	700	67	8.6 ✓	> 1000	4900 ✓
137	30	33	100	0.1	> 1000	70
138	104	74	248	0.3	400	30
139	168	90	182	0.4	> 1000	380
140	114	89	244	0.4	> 1000	90
141	99	39	76	0.3	> 1000	60
142	143	32	100	nd	500	50
143	84	59	173	nd	1000	30
144	96	3340	119	21.2 ✓	> 1000	2100
145	16	44	158	0.2	600	20
146	20	58	199	0.4	> 1000	160
147	127	39	75	nd	200	20
148	11	17	95	0.2	150	10
149	54	29	122	nd	200	60
1-105- P 150R	21	59	123	nd	150	10
81-0J-2-6	520	405	14	5.5 ✓	> 1000	5700 ✓

REMARKS:

Signed: _____

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APPENDIX II

GEOPHYSICAL IMPLICATIONS
OLD CABIN CLAIMS AND ENVIRONS
YUKON TERRITORY

for

UNION CARBIDE EXPLORATION CORP.

by

J. B. Boniwell
Exploration Geophysical Consultant
April 5, 1982

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GEOPHYSICAL IMPLICATIONS
OLD CABIN CLAIMS AND ENVIRONS
YUKON TERRITORY

for

UNION CARBIDE EXPLORATION CORP.

INTRODUCTION

A regional programme of stream silt sampling and pan concentrates in the Niddery Lake area of the Yukon (N.T.S. 105-0) produced a most anomalous shedding from an area dominated by the so-called Old Cabin granodiorites pluton. Claims were staked in mid-1971 to protect the find.

GROUND INVESTIGATION

Follow-up prospecting located and examined five gold showings in the immediate vicinity of the outcropping intrusive. These each constituted vein quartz carrying auriferous arsenopyrite together with accessory pyrite argentiferous galena and chalcopyrite. Gold values proved erratic and confined to the vein material. On this basis, it has been projected that for an improved potential, veins need to be larger or more prolific than what was evident in these specific testings, no matter whether the enlargement takes place through lithologic or structural agencies or a combination of both.

Happily both type-possibilties are feasible on present evidence. More to the point, the most encouraging drainages lie to the west of these

showings and independent of them. At the same time however according to outcrop geology, moving west thus takes exploration further away from the Old Cabin stock, and the supposed primary source for the quartz injection.

AEROMAGNETIC IMPLICATIONS

Governmental aeromagnetics are available for the area. They have been collected on lines ½ mile apart flown N-S. Data as per usual have not been corrected for altitude variation.

The results returned from this coverage are quite revealing. Along with regional geology compiled by the G.S.C. it is very clear that the Old Cabin pluton is not an isolated occurrence but one of a kind, albeit somewhat outflung from its brethren. Each member of this family of intrusions is identified as a Cretacceous granodiorite, and each gives rise to a rather distinctive magnetic signature involving a ring of high relief surrounding the stock. The ring is often not complete or is otherwise distorted but is is nearly always present. Moreover it occurs not so much over the border phases of the intrusion as it does over the country rocks adjoining; in other words it almost surely represents a wall rock alteration.

In these respects the Old Cabin pluton is no different from its neighbours (in the Rogue Range). Yet it is the import of the geochemistry that the Old Cabin setting is abnormally auriferous; therefore it ought to possess some other properties that are relatively unique. One suggested by geology is the local incidence of basic volcanics, these late Proterozoic in age. Such volcanics are a rarity in the region and exist only in the Rogue River valley for the environment under consideration. The Old Cabin pluton in fact is the only stock where these volcanics are known to reside in its setting, and that indeed seems more than coincidence. On the ground it is noticed that where cross-cutting veins enter the volcanics they immediately

become much better developed there.

Such volcanics are also manifestly magnetic but variably so. For instance, the volcanic section mapped above the creek north of the Horn prospect at Old Cabin is at best only weakly magnetic, likewise the volcanics mapped adjoining the Old Trench and Eagle Ridge showings to the south, while those prescribed in the vicinity of the camp are seemingly quite magnetic. There is thus sufficient variance to make it difficult if not impossible to distinguish volcanic occurrence from the alteration effects of the plutons. This problem is of course virtually exclusive to the Old Cabin stock. It becomes exacerbated there by the appearance of a separate magnetic anomaly 4 miles to the west of the outcroppping intrusive, and so located such anomaly is not part of the alteration halo of that intrusion. Yet on present mapping there is no other evident source to it, the anomaly completely falling in non-magnetic sediments. It is postulated therefore that another small pluton must exist here, buried just under the peak of the Old Camp ridge. Its ring structure is barely perceptible but can be projected to be squashed flat under the exigencies of the powerful tectonic forces of the region (Dwg. No. EIC-1242).

This hypothesis raises the possibility that another factor peculiar to the Old Cabin setting is the manner of structure that threads its environment. As perceived in the aeromagnetics, there are three if not four major faults that impinge on the locality. Topographically the mountain comprising the Old Cabin pluton stands apart from the main range to a noticeable degree, as though it were bounded on all sides by faulting. Whether entirely valid or not, some of this faulting is surely present, and the sum effect is a magnetic grain at Old Cabin that has been heavily oriented in the NW-SE direction, or that is in the direction of the Selwyn Valley thrusting, the largest structure in the region and an approximate 25 miles to the east. In magnetic terms, this elongation is more marked at Old Cabin than anywhere else among the Rogue Range plutons.

Whether there are volcanics present also at the second Old Cabin pluton (Old Cabin West) is unclear but certainly it would not hurt if there were. Thus even if the favoured second pluton concept is rejected and volcanics are placed here instead to cater to the magnetic relief, then the highly sheared nature of the occurrence still makes for excellent prospecting ground at the head of the region's most anomalous drainages. The hope of course is that both the projected pluton and wallrock volcanics will prove to exist in this western sector.

ADDITIONAL WESTERN AEROMAGNETIC ANOMALIES

Two aeromagnetic features on the south side of the Rogue River valley are worth passing mention inasmuch as some anomalous gold values were obtained in streams draining from them. Neither of these anomalies possess the stature of the Old Cabin expressions, nor do they look like them. Nevertheless both have intrusive connotations.

The first, the more easterly of the two, is a compound anomaly made up of two quasi-separate parts: one a shallow-seated relief correlating directly with basic volcanics mapped on a local ridge, and the other, a buried near-circular closure peaking in a swampy valley to the south. The latter can be taken to be an intrusive plug topping about 500' from surface and raking to the south, but this presumes it to be more mafic in composition than all other plutons of the district. Thus geologic probability requires that it be another member of the Rogue Range granodiorites, and in fact it is possible to detect an embryonic ring internally. This of course is not proof, and it also places the flanking volcanics almost 2 miles away from the intrusive core. In such circumstances what effect one may have had on the other is debatable. The only evidence of a linking structure is a NNW-SSE fault lying to the intrusive's west side.

The second anomaly is clearly due to an established pluton of the Rogue Range family. It is small but sits comfortably within its rimming aeromagnetic relief. There is no indication of volcanics in this particular locality but the lack of magnetic expression, as seen elsewhere, is not to say they do not exist. Indeed it is the chance that again the promising combination of late stage felsic intrusion with mafic volcanics will exist here in both these situations which provides their current exploration appeal.

RECOMMENDATIONS

It is recommended that in the ground mapping programme proposed for the summer of 1982, an early accommodation be made for magnetic surveying of all revealed mafic volcanics. The range of their lithologic response needs to be understood more fully before too many further projections based on magnetic data be made. It is particularly recommended that the magnetic anomaly of the Old Cabin West pluton be described in some detail for this same reason.

In due course, magnetics and V.L.F. can be applied to wider sections as the need to map certain structures and lithologic boundaries develops. Since this is already incorporated into current planning, no further recommendation to this end is demanded here.

JBB:sb
April 5, 1982

J. B. Boniwell
Exploration Geophysical Consultant

132°00'
63°45'
45'
30'
15'
131°00'
63°45'

Rogue River

OLD CABIN WEST

OLD CABIN

Arrowhead Lake

Old Cabin Creek

Rogue River

Emerald Lake

63°30'
132°00'
45'
30'
15'
131°00'
63°30'

LEGEND

Interpreted fault
Projected ring structure
Mafic volcanics
Granodiorite pluton
Syenite pluton

From G.S.C. 1"= 4 mile mapping 1974

Base map overlays.
G.S.C. Aeromagnetic maps 4341 G & 4346 G
N.T.S. Ref. 105 O/11 & 12

UNION CARBIDE EXPLORATION CORPORATION

OLD CABIN PROJECT
Yukon Teritory

AEROMAGNETIC INTERPRETATION

SCALE 1"= 1mile APRIL 1982

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TORONTO, CANADA

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Dwg. No. E.I.C.- 1242

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