

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 93.08.04

ASSESSMENT REPORT 22588

MINING DIVISION: Omineca

PROPERTY: Hal  
LOCATION: LAT 55 25 00 LONG 125 12 00  
UTM 10 6143146 360738  
NTS 093N06E  
CLAIM(S): Hal 2, Hal 4  
OPERATOR(S): Swannell Min.  
AUTHOR(S): Leriche, P.D.; Faulkner, R.L.  
REPORT YEAR: 1992, 52 Pages  
COMMODITIES  
SEARCHED FOR: Copper  
KEYWORDS: Jurassic, Takla Group, Hogem Batholith, Granodiorites, Andesites  
Malachite  
WORK  
DONE: Geological, Geochemical  
GEOL 300.0 ha  
Map(s) - 1; Scale(s) - 1:10 000  
ROCK 5 sample(s) ;ME  
SOIL 110 sample(s) ;ME  
Map(s) - 2; Scale(s) - 1:10 000  
RELATED  
REPORTS: 21734

ARIS SUMMARY SHEET

District Geologist, Prince George

Off Confidential: 92.08.01

ASSESSMENT REPORT 21734

MINING DIVISION: Omineca

PROPERTY: Hal  
LOCATION: LAT 55 25 00 LONG 125 12 00  
UTM 10 6143146 360738  
NTS 093N06E  
CLAIM(S): Hal 1-6  
OPERATOR(S): Swannell Min.  
AUTHOR(S): Pardoe, A.J.; Garratt, G.L.  
REPORT YEAR: 1991, 23 Pages  
COMMODITIES  
SEARCHED FOR: Copper  
KEYWORDS: Jurassic-Cretaceous, Hogem Batholith, Volcanics, Sulphides, Dykes  
WORK  
DONE: Geological, Geochemical  
GEOL 1500.0 ha  
ROCK 5 sample(s) ;ME  
SILT 27 sample(s) ;ME  
RELATED  
REPORTS: 03611

LOG NO:	FEB 05	RD.
ACTION:	<i>Back from assessment</i>	
FILE NO:		

GEOLOGICAL MAPPING, PROSPECTING  
AND STREAM SAMPLING  
ON THE HAL GROUP, HALOBIA CREEK, B.C.  
OMINECA MINING DIVISION

NTS: 93N/6

55 25'N 125 12'W

for

SWANNELL MINERALS CORP.

by

MINCORD EXPLORATION CONSULTANTS LTD.  
110 - 325 HOWE STREET  
VANCOUVER, B.C.  
V6C 1Z7

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,734

November, 1991

A.J. PARDOE, BSc.  
G.L. GARRATT, P.Geo.

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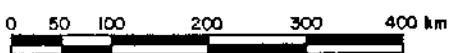
1. LOCATION MAP (1:8,000,000) ✓
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3. CLAIM MAP (1:50,000) ✓
4. PROPERTY GEOLOGY AND SAMPLE SITES (1:25,000) ✓

## APPENDICES


- APPENDIX I: DESCRIPTION OF ROCK SAMPLES ✓
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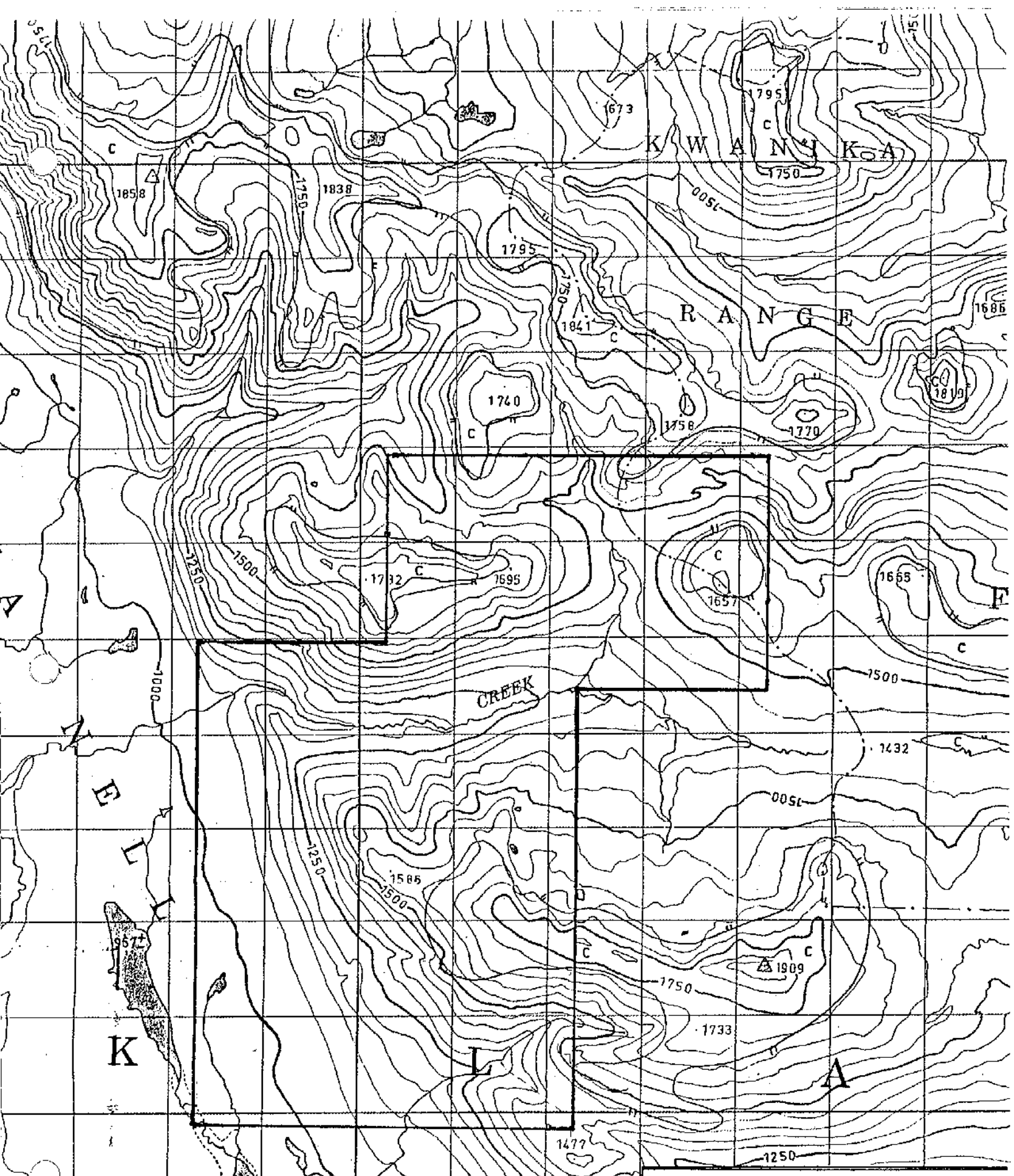


# British Columbia



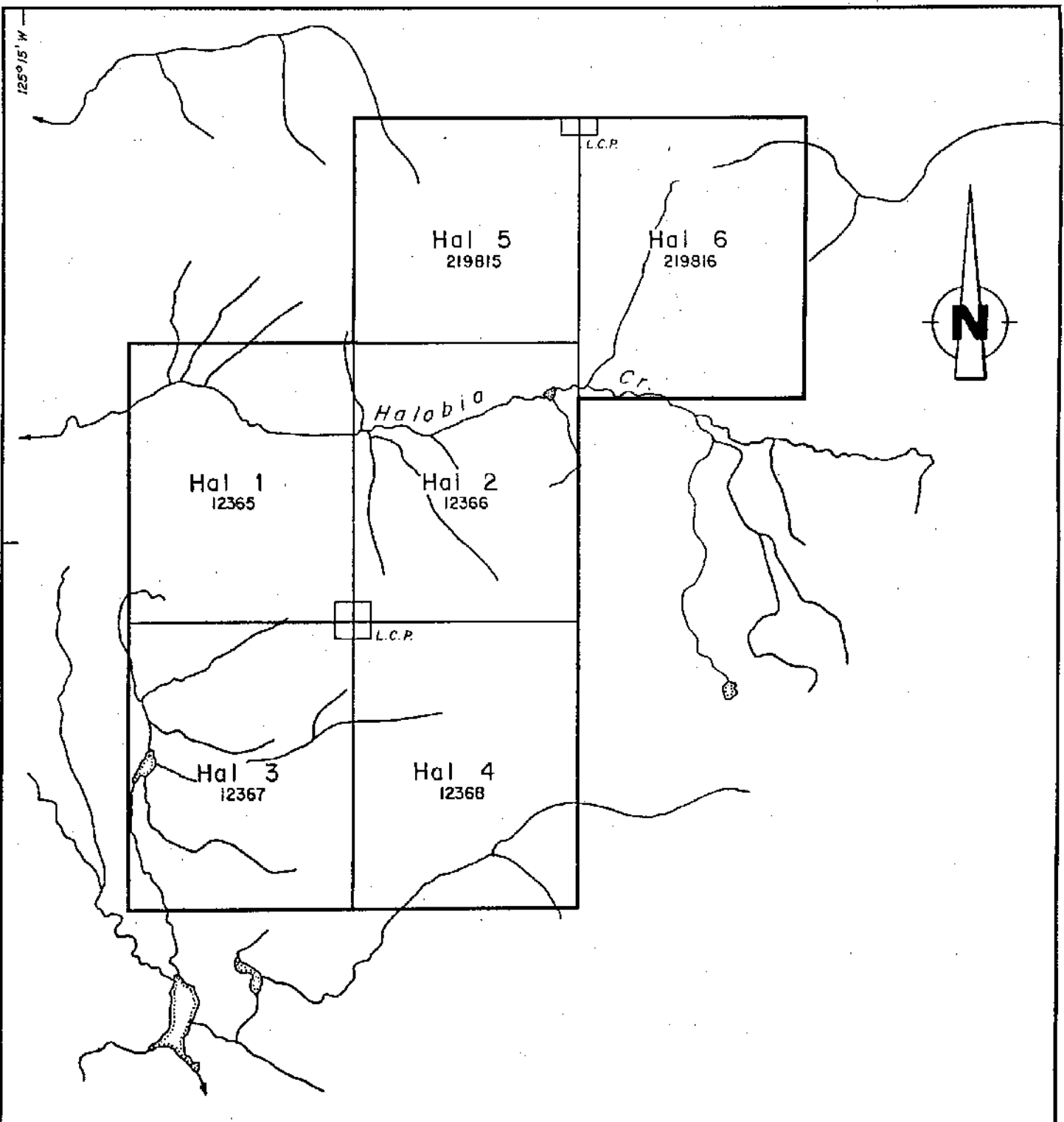
SWANNEL RESOURCES LTD.  
 (TAKLA JOINT VENTURE OPTION)  
 HAL PROPERTY  
 General Location Map

 <b>MIRCORD</b> EXPLORATION CONSULTANTS LIMITED	Scale as shown	N.T.S. 93N/6
	Date Dec. 1991	Figure 1
	By	




HAL GROUP	
LOCATION MAP	
Fig 2	Scale = 1:50,000
DATE: Aug/91	NTS: 93N16

125° 15' W



55° 22' N



SWANNEL RESOURCES LTD. (TAKLA JOINT VENTURE OPTION)		
HAL PROPERTY		
Claim Map		
 <b>MICCORD</b> EXPLORATION CONSULTANTS LIMITED	Scale 1: 50 000	N.T.S. 93N/6
	Date Dec. 1991	Figure
	By	3

## 1.0) SUMMARY

Mincord Exploration Consultants Ltd. were contracted by Swannell Minerals Corp., of Vancouver, to undertake a reconnaissance heavy mineral/stream sediment sampling and prospecting program on the Hal claims, in the Omineca Mining Division, B.C. Swannell holds the property under option from the Takla Joint Venture. The project expenditure totalled \$11,827.79.

The Hal property covers an area where large copper and molybdenum soil geochemical anomalies had been outlined following reconnaissance exploration for porphyry deposits by the UMEGREN Joint Venture in the early 1970's. Limited subsequent exploration programs failed to discover the source of these anomalies and no analyses for gold were undertaken. The regional and local geologic setting combined with known geochemical anomalies suggest that the Hal claims are well situated for the discovery of sub-alkaline to calc-alkaline type porphyry copper-molybdenum (gold) deposits.

The exploration program reported herein was designed as a limited preliminary reconnaissance to determine if other areas of the property might warrant exploration in addition to the area surrounding the known anomalies in the northeastern portion of the property. It was decided that heavy mineral and standard stream sediment sampling, combined with reconnaissance level prospecting and geologic mapping be undertaken. This approach was deemed the most appropriate method to rapidly evaluate the largely overburden covered terrain where the drainages are few and broadly spaced. The standard silt samples were taken for comparison to the heavy mineral samples. The samples were analyzed for Ag, Al, As, Bi, Cu, Fe, Mo, Pb, Sb, Zn and Au by Min-En Labs in Vancouver.

The project was undertaken from July 19 to 23, 1991 and 18 silt samples, 9 heavy mineral samples and 5 rock samples were collected. Due to time limitations, only drainages with water were sampled, to facilitate on-site sieving. The stream sediment sampling indicates that the northeastern portion of the property, covered by the Hal 5 and Hal 6 claims, showed the most anomalous conditions for copper and the only above background molybdenum results. This result indicates that further exploration should be undertaken to the north and northwest of the UMEGREN anomalies. Gold values in the geochemical sampling were generally low, with only one anomalous sample from a drainage flowing westerly from the Hal 4 claim. Prospecting to the east of this drainage located three small copper occurrences but these did not show appreciable gold results. Further reconnaissance work should be undertaken to locate the possible source of the gold anomaly and to further define the controls of the small localized, but widely distributed copper occurrences. Prospecting in the area of the UMEGREN grid anomalies yielded little. Only two sub-outcrops were located and these were essentially barren. Further follow-up on the grid anomalies will have to utilize trenching to determine the character of possible sourcing bedrock in this area.



It is recommended that a phase one follow-up program be expedited to explore to the north of the UMEGREN grid, backhoe trench on the presently known anomalies and undertake reconnaissance exploration on the Hal 4 claim area. It is estimated that this would cost \$69,597.00. A success contingent phase two program to infill and extend grids and complete geophysical surveys is estimated at \$65,000.00.

## 2.0) LOCATION, ACCESS AND PHYSIOGRAPHY

### 2.1) Location

The Hal Claims are located at the headwaters of Halobia Creek, in the Kwanika Range of the Omineca Mountains. The property is 7 kilometers (4.4 miles) east of Tsayta Lake at 55° 25'N latitude and 125° 12'W longitude. Ft. St. James, the regional supply, distribution and transportation centre, lies 64 kilometers (40 miles) southeast of the property.

### 2.2) Access

Access to the property is by helicopter. For the work performed on this project, a helicopter based out of Tchentlo Lake was used.

A two wheel drive gravel road connects Ft. St. James with the small community of Manson Creek (a distance of 256 kilometers). From Manson Creek, a gravel logging road travels west 40 kilometers to Takla Landing, on the B.C. Rail Line. Approximately 25 kilometers along the logging road, at Kwanika Creek, an old mining road heads south, to within 8 kilometers of the northwestern corner of the property. The road is unused and in need of repair, but appears to be traversable by 4 wheel drive vehicle.

Float plane bases are located at both Tsayta Lake and Takla Landing. At Takla Landing, the old B.C. Rail Line has been restored to active use which enhances the economics of a low grade, bulk tonnage mining prospect in the area.

### 2.3) Physiography

The Kwanika range is a local range of rounded mountains and modestly serrated peaks that lies within the Omineca Mountains. Elevations in the Kwanika Range extend from 1000 meters (3280 feet) to 1950 meters (6400 feet). Property elevations range from 1000 meters to 1800 meters (5900 feet).

Most of the claim group is covered by a mix of moderately open pine and brush. Above 1600 meter (5250 feet) elevation is dominantly open alpine. Local swampy areas are present in the creek valleys. Although overburden thickness is relatively thin (averaging 3.6 meters in the area of the old UMEX grid), exposures of bedrock are limited.

### 3.0) CLAIM STATUS

The Hal claims consist of 6 contiguous claims totalling 116 units and covering an area of 2,900 Ha (7,160 acres). The claims are illustrated in figure 2 and details of their status follow below:

Claim Name	Record #	# of units	Expiry Date
HAL 1	12365	20	Aug. 3/92
HAL 2	12366	20	Aug. 3/92
HAL 3	12367	20	Aug. 3/92
HAL 4	12368	20	Aug. 3/92
HAL 5	12487	16	Aug. 24/92
HAL 6	12488	20	Aug. 24/92

### 4.0) PROPERTY HISTORY

Initial reconnaissance work was done in the Halobia Creek area in 1969 under the UMEGREN Joint Venture's Omineca Exploration project. Anomalous molybdenum values in stream sediments led to the staking of 41 Noble mineral claims in July 1971. In July and August of 1971, Union Miniere Exploration and Mining (UMEX), established a chain and compass grid and 369 soil samples were collected and analyzed for copper, molybdenum and zinc. In 1972, a detailed property exploration program of line cutting, geological mapping, 6.8 line-miles (10.9 line-kilometers) of IP survey and 12.5 line-miles (20 line-kilometers) of magnetometer survey was conducted on the property. This was followed by 5 short diamond drill holes totalling 1,139 feet (347.3 meters).

Most of the Noble claims were held in good standing until 1975 and the remaining claims were allowed to lapse in 1978.

In March of 1980, the Halo 1 mineral claim was staked, covering the area of the UMEX grid. In August of the same year, J.C. Stephen consultants conducted a program of geological mapping and prospecting on and adjacent to the UMEX grid. At the same time, a ground magnetometer survey totalling 52.5 line-kilometers, 10 soil profile holes testing UMEX geochemical anomalies and sampling of silt from adjacent drainages was carried out.

Assessment was applied to the claim, but it was allowed to lapse in 1983.

In August of 1990, the Hal claims were staked on behalf of the Takla Joint Venture to cover the former Noble group and an area to the southwest of it.

The historical exploration of the Hal property area served to outline at least two large copper-molybdenum soil geochemical anomalies. The copper anomalies measure approximately 240 meters by 1,100 meters and 370 meters by 490 meters and display a gross northwesterly trend across the southern portion of the Hal 6 claim. The ground magnetic and I.P. surveys covered a portion of

the geochemical anomalies and the lack of correlatable results from the geophysics was concluded to be due to the broad spacing and incomplete coverage of the surveys (Chow and Kahlert, 1990). Three diamond drill holes were completed in the vicinity of the geochemical anomalies but appear to have been placed outside the anomalous areas and returned poor results. The drilling encountered diorite (granodiorite), syenite and volcanics, showing moderate alteration of the syenite in what is an almost entirely overburden covered area. These potential host rocks and the observance of minor amounts of chalcopyrite in drill core suggest suitable host rocks for a porphyry style source to the adjacent geochemical anomalies. Additionally, no analyses for gold were undertaken or reported in previous work, leaving this potential undefined.

## 5.0) GEOLOGY

### 5.1) Regional Geology

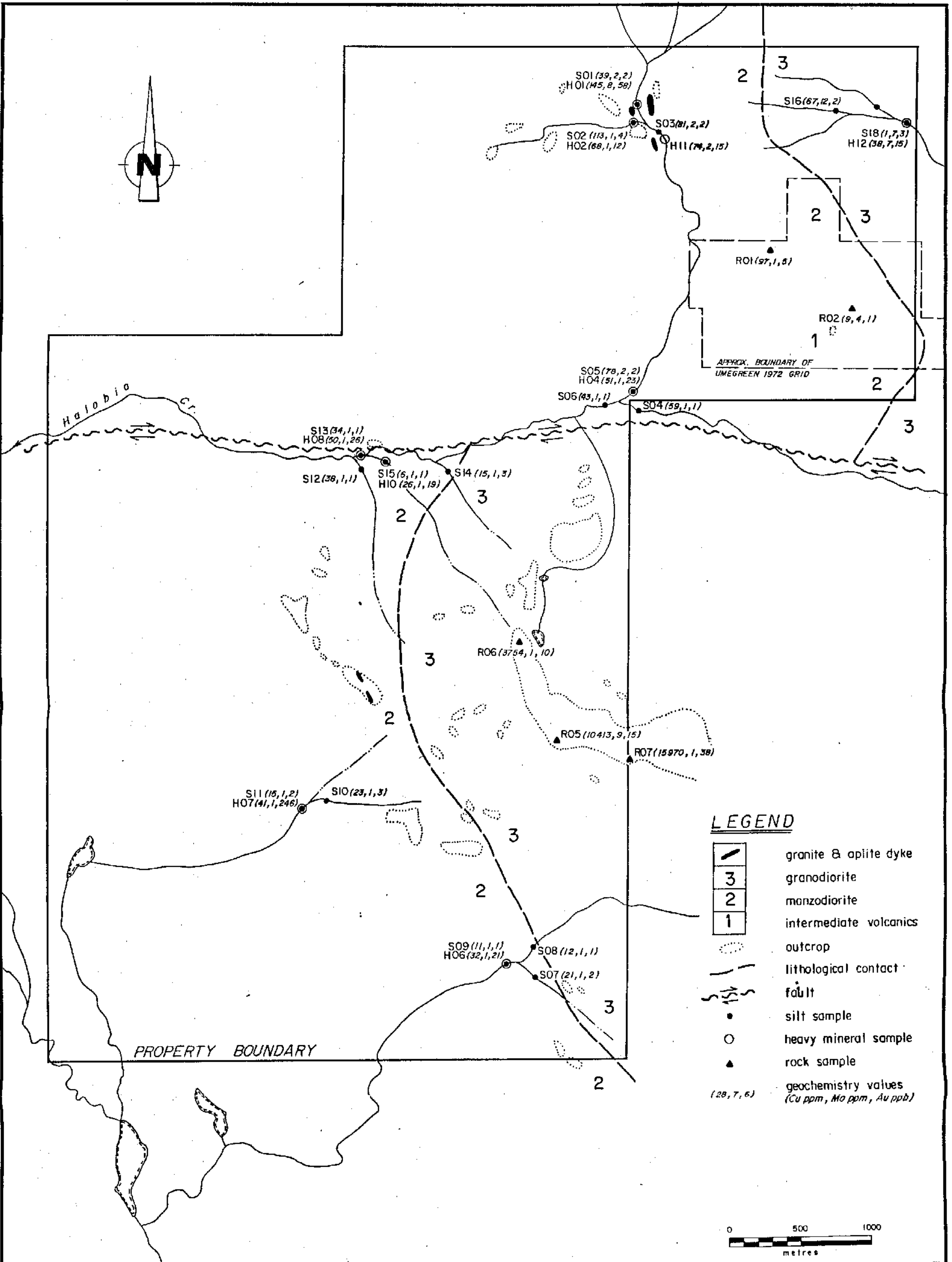
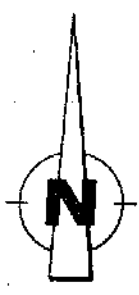
The Hal Group lies entirely within the Hogem Batholith, a composite pluton of Lower Jurassic to Lower Cretaceous age. The Hogem Batholith is bounded to the west by the Pinchi fault zone, a major transcurrent fault that defines the boundary of the Cache Creek and Quesnellia terranes. The batholith intrudes rocks of the Takla group; on its western margin, wedges of fine grained Takla sediments occur between the intrusion and the Pinchi fault trace, whereas on its eastern margin, there are dominantly andesitic to basaltic Takla volcanics.

The southern Hogem Batholith has been divided by Garnett (BCDM Bulletin 70) into three intrusive phases. Phase I is Lower Jurassic to Upper Triassic in age, and consists of a basic suite of rock (dominantly monzonites and monzodiorites) which envelopes and is transitional into a felsic core of granodiorite. Phase II rocks are Middle to Lower Jurassic syenites, subdivided into two widely separated bodies: one at Duckling Creek and the other near Chuchi Lake. Phase III rocks are Lower Cretaceous granites which cut all other intrusive rocks in three main localities: west of Duckling Creek, south of Kwanika Creek, and in the Chuchi Mountain area.












According to Garnett's map, phase I and III rocks underlie the Hal claims. A core of granodiorite, plus minor quartz monzonite, tonalite, quartz diorite and granite is enveloped by monzonite, monzodiorite, quartz monzonite and quartz monzodiorite and underlies the majority of the claims. A narrow strip of leucocratic granite, alaskite and quartz syenite cuts northwesterly along the western edge of the property and may also outcrop in the far northeast corner.

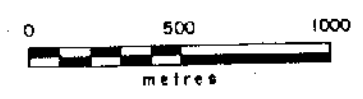
### 5.2) Property Geology

The Hal property was mapped with the use of black and white airphotos at approximately 1:30,000 scale and 1:50,000 topographic maps. Geological units are largely based on regional mapping conducted by Garnett (1974). Mapping is of a reconnaissance nature, focusing on ridges, where outcrop was more



**LEGEND**

-  granite & aplite dyke
-  granodiorite
-  monzodiorite
-  intermediate volcanics
-  outcrop
-  lithological contact
-  fault
-  silt sample
-  heavy mineral sample
-  rock sample
-  geochemistry values  
(28, 7, 6)  
(Cu ppm, Mo ppm, Au ppb)



<b>SWANNEL RESOURCES LTD.</b> (TAKLA JOINT VENTURE OPTION)		
HAL PROPERTY		
Sample Locations & Property Geology		
<b>MINCORD</b> EXPLORATION CONSULTANTS LIMITED	Scale 1: 25 000 Date Dec. 1991 By	N.T.S. 93N/6 Figure 4

likely to be exposed, and areas proximal to heavy mineral sampling sites. As well, roughly one and a half days were spent on the UMEX grid.

The geology of the Hal claims is plotted at 1:25,000 scale in figure 4. Geological units are based on field identification; no rock staining nor thin sections have been done to confirm lithologies. Three main rock types outcrop on the property: monzodiorite, granodiorite and granite/aplite dykes. Intermediate volcanics occur locally as subcrop.

The eastern edge of the property is dominated by granodiorite. The rock is light grey, often with a pale pink tone and medium to locally fine grained. It is composed of roughly 50 to 60% feldspar, 20 to 30% quartz, 10 to 20% mafics (hornblende >= biotite), plus accessory minerals (apatite generally is visible). It is variably weak to moderately magnetic. Locally mafic minerals are weakly chloritized and minor epidote is present. Dark grey, fibrous xenoliths (similar to descriptions given by Garnett) are seen in float on the knoll on Hal 6. Outcrops are abundant on the ridges along the eastern borders of Hal 2 and 4, but only subcrop and float was found on the knoll on Hal 6.

Much of the central and western portions of the property is thought to be underlain by monzodiorite. This rock is generally medium grained to locally coarse grained and overall darker in colour than the granodiorite. It is composed of 60% feldspar, 30% mafics (hornblende + clinopyroxene >> biotite; chloritization of mafics obscures primary mineral identification); 5% quartz, plus accessory minerals including apatite and magnetite. The pinkish tone of the rock is more pronounced, mafic minerals are chloritized and the rock generally exhibits a well developed foliation. It is moderately to strongly magnetic. Epidote occurs on fractures and is locally pervasive. The unit is regionally metamorphosed to greenschist facies. Minor amounts of granite are seen in outcrop, generally intruding the monzonitic rocks. The granite is coarse grained to locally pegmatic and composed of roughly 30% quartz, 50% feldspar, 5 to 10% biotite, plus minor accessory minerals. Monzodiorite in contact with granite is locally potassic altered in the north end of the property. No significant alteration was seen in outcrops in the south-central portion of the property.

Subcrop of dark green, aphanitic andesite (probable Takla group) is found near L24 south/420 east on the UMEX grid. This subcrop may correlate with layers intersected in diamond drillholes in 1972.

As the mapping done was of reconnaissance nature, very little structural data was gathered. The strong foliation in the monzonitic rocks strikes north-northwest, which is also the general trend of the monzodiorite/granodiorite contact. The offset of this contact suggests an east-west dextral fault with Halobia Creek as its trace.

## 6.0) PROSPECTING

In conjunction with the reconnaissance mapping, areas traversed were also prospected.

Three copper showings were discovered on the ridge south of Halobia Creek, near the eastern edge of the Hal 2 and 4 claims. Samples H91R05 and H91R07 were collected from rubbly, gossanous outcrop with malachite stain and chalcocite on fractures, in otherwise unaltered granodiorite. Sample H91R06 is gossanous float found in a gully north of the other showings.

No significant mineralization was encountered elsewhere on the property. However, the three copper showings are found in an area with some of the best rock exposure and overburden covers much of the rest of the property, particularly in the area of the old UMEX grid. Erratic, barren quartz stringers were observed locally in monzodiorite, but none were found in granodiorite.

## 7.0) GEOCHEMISTRY

### 7.1) Method

A total of 18 silt and 9 heavy mineral samples were collected from drainages on the property. To facilitate sampling only drainages containing sufficient water for sieving were sampled.

Silt samples of roughly 0.4 kilograms were collected in kraft paper envelopes. Heavy mineral samples were sieved on site using a Min-En heavy mineral sieve of 10 and 40 mesh. Samples of 0.8 to 1.2 kilograms of sieved material were collected in white sludge bags.

Five rock samples of 2 to 3 kilograms were collected in plastic bags. A specimen rock was taken from each sample and the remainder sent for analysis.

All samples were taken to Min-En Labs Ltd. in Smithers, B.C. where they were dried, crushed (in the case of the rock samples) and sieved to 80 mesh. The prepared samples were shipped from Smithers to Min-En's facilities at 705 W. 15th St., North Vancouver, B.C. All samples were analyzed by 10 element ICP (see Appendix II) and fire assay for gold.

### 7.2) Silt and Heavy Mineral Results

Reasonable correlation is shown between the geochemical response of silts and heavy mineral samples. No anomalous response were yielded in zinc and antimony, and only spot anomalies occur in bismuth and arsenic. Gold anomalies were not picked up in the silts but occur in heavy mineral samples.

Most of the anomalous geochemical response occurs north of Halobia creek. Copper and silver show a weak to moderate response in most samples from this area.

The north end of the property on the Hal 5 and Hal 6 claims is the only area with anomalous molybdenum and lead. Anomalous silver (>2.0 ppm in heavy mineral samples) and copper (up to 145 ppm) also occur in the area. One sample, H91R01, in addition to anomalous molybdenum, lead, silver and copper, also yielded the highest arsenic (8 ppm) and gold (58 ppb) values for this area.

Only one significant anomaly was reported south of Halobia creek, in a drainage flowing east from the ridge with several small copper showings. Sample, H91H07 yielded 246 ppb gold and 41 ppm copper.

### 7.3) Rock Sample Results

Of the five rock samples, three samples returned strongly anomalous copper (up to 59690 ppm) and silver (up to 20.8 ppm). One sample, H91R07, also contains anomalous arsenic (753 ppm), antimony (197 ppm) and zinc (1880 ppm) with minor gold (38 ppb). All three samples were collected from the ridge on the eastern edge of the Hal 2 and 4 claims.

The two rock samples from the UMEX grid yielded no anomalous values.

### 8.0) DISCUSSION

Silt and heavy mineral sampling has shown that anomalous copper, silver and local molybdenum and zinc occur in drainages proximal to the old Umex grid. Prospecting of the grid has done little to determine a source for the UMEX soil anomalies, as no outcrop was found and the two samples of subcrop collected yielded no anomalous results. Nonetheless, soil profiles done in 1980 by J.C. Stephen consultants indicate that the anomalies are real and are not transported. Given the lack of outcrop and a confirmation of the soil anomalies, a program of trenching to determine the bedrock source is recommended.

The molybdenum and lead anomalies occur only in the drainage directly north of the UMEX grid, which receives most of its flow from the north. Copper anomalies are also reported from proximal drainages with sources to the north. It is recommended that ground be staked to the north of the Hal 5 and 6 claims and reconnaissance soil grids established to check for more extensive mineralization.

The best gold anomaly, 246 ppb gold, occurs in heavy mineral sample H91H07, which was collected from a west flowing drainage off the ridge with the copper showings. As no anomalous gold occurs in the showings, the gold anomaly is unexplained. Further prospecting is recommended to determine the source of the gold and to explore for extensions of the copper showings. Reconnaissance soil lines, west of and subparallel to the ridge may help to trace mineralization obscured by overburden.

## 9.0) RECOMMENDATIONS

Recommendations for follow-up exploration on the Hal property are summarized as follows:

1. Reconnaissance mapping and broad spaced (200 m) soil geochemical sampling grids north and northwest from the UMEGREN grid to locate possible sources of stream geochemical signatures and extensions of known soil anomalies. (Approximately 18 line kilometers).
2. Reconnaissance mapping and sampling on the Hal 4 claim to locate the source of the gold anomaly in sample H-07 and to further evaluate the copper showings to the east; should overburden covered areas with positive indications (alteration or mineralization) in surrounding outcrops be located, then soil grids should be placed. (Potentially 10 line kilometers grid).
3. Backhoe trenching on the UMEGREN grid anomalies to locate the source mineralization and/or define the geological and alteration character of the area.
4. Should time permit, reconnaissance prospecting traverses across other unexplored portions of the property could be undertaken.

If the results of the above work prove encouraging then a second phase should be designed to detail the grids where necessary and subsequently undertake ground geophysical surveys to delineate drill targets. The cost for this first phase of follow-up exploration is estimated at \$69,597.00. A second phase of geophysics and detailed grid work would be estimated to cost \$65,000.00. At the end of the second pass the data should be reviewed to determine possible drill targets.

### Phase 1: Estimated Budget

#### PROFESSIONAL FEES:

Geologist/Manager - 20 days @ \$350/day	\$ 7,000.00
Cook - 15 days @ \$200/day	3,000.00
Field Assistants - 4 men @ \$200/day for 15 days	12,000.00
CAMP RENTAL: 15 days @ \$200/day	3,000.00
FOOD: 60 man/days @ \$20/man/day	1,200.00
FIELD EQUIPMENT AND SUPPLIES:	1,000.00
HELICOPTER:	
20 hrs @ \$675/hr. (mob., demob., set-outs, backhoe)	13,500.00
FREIGHT:	2,500.00
TRAVEL EXPENSES: (commercial airfare, etc.)	3,000.00
ANALYSES: 560 soil samples @ \$14.50/sample	8,120.00
200 rock samples @ \$16/sample	3,200.00



BACKHOE CONTRACT: 5 days (estimated)	3,750.00
REPORT AND DRAFTING	<u>2,000.00</u>
SUB TOTAL	\$63,270.00
CONTINGENCY @ 10%	<u>6,327.00</u>
TOTAL	\$69,397.00

Phase 2: Estimated Budget

20 kilometers I.P. and Mag/VLF-EM survey; in-fill and extension of geochemical grids; support costs: (Approximately)	<u>\$65,000.00</u>
TOTAL: Phase 1 and 2:	\$134,597.00

10.0) REFERENCES

Adamson, R.S., Geochemical Report on the Noble Claims, Assessment Report #3611. Sept, 1971.

Chow, F. and Kahlert, B.H., Hal Property: Compilation of geological, Geochemical, Geophysical, Diamond Drilling and Other Data on the Hal Group of Mineral Claims, in-house report for Takla Joint Venture. Nov. 19, 1990.

Fraser, B., Geological, Geochemical Report on the Halo 1 Mineral Claim. Assessment Report #8988. Dec. 11, 1980.

Garnett, J.A., The Southern Hogem Batholith, BCDM Bulletin 70. 1974.

11.0) STATEMENT OF COSTS

PROFESSIONAL FEES:

G. Garratt (Supervision) 2 days @ \$350/day	\$ 700.00
J. Pardoe (Geologist) 10 days @ \$350/day	3,500.00

FIELD PERSONNEL FEES:

U. Yeker (Sampler) 6 days @ \$200/day	1,200.00
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CAMP COSTS:

2 persons x 5 days x \$150/person/day	1,500.00
---------------------------------------	----------

TRANSPORTATION:

Helicopter 4.3 hrs x \$689.62/hr	2,965.36
Fixed Wing-Charter	808.00

FIELD EQUIPMENT:

200.00

ANALYSES:

9 Heavy Mineral Samples x \$46.75/sample	420.75
18 Silt Samples x \$13/sample	234.00
5 Rock Samples x \$15.50/sample	77.50

SECRETARIAL: Report Preparation	200.00
---------------------------------	--------

COMMUNICATION: Telephone	<u>22.18</u>
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TOTAL	\$11,827.79
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12.0) STATEMENT OF QUALIFICATIONS

I, Allison Jill Pardoe, certify that:

1. I am a geologist, residing at R.R.#1, Quick West Road, Telkwa, B.C.
2. I completed the requirements of my degree in December of 1987, graduating in 1988 from the University of Saskatchewan, Saskatoon, Saskatchewan, with an Honours Bachelor of Science degree in Earth Sciences.
3. As a student, I spent twenty months employed in mineral exploration with several mining companies in British Columbia.
4. I was employed as an exploration geologist with Total Energold Corporation, Vancouver, B.C. from January to April of 1988. Since May of 1988, I have worked as a consulting geologist for several mining companies based in British Columbia.
5. I am an Associate Member of the Geological Association of Canada.
6. I personally supervised the work program described in this report.

*A.J. Pardoe*


A.J. Pardoe  
Consulting Geologist

August, 1991.

STATEMENT OF QUALIFICATIONS

I, Glen L. Garratt, of 110 - 325 Howe Street, in the City of Vancouver, British Columbia do hereby state that:

1. I am a practising geologist and have been since 1973 after completing the requirements for a B.Sc. (Geology) at the University of British Columbia.
2. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of British Columbia and a Fellow of the Geological Association of Canada.
3. The work reported herein was carried out under my supervision; the conclusions and discussions of the data are my own.
4. I consent to the use of this report by Canevex Resources Ltd. to fulfill the requirements of regulatory agencies. Excerpts or quotations or summaries from this report may only be used with my consent.

  
G. L. Garratt, P. Geol. Eng. & Geophys. C.



Dated at Vancouver, British Columbia, this 22nd day of November, 1991.

**APPENDIX I: DESCRIPTION OF ROCK SAMPLES**

DESCRIPTION OF ROCK SAMPLES

- H91R01: Monzodiorite subcrop from approximately L12+00S/9+00W on the old UMEX grid. The rock is composed of 50% feldspar, 30-40% mafics (strongly chloritized hornblende >> biotite) and < 5% quartz. It is coarse grained and crystalline with local feldspar crystals up to 6 millimetres in diameter; moderately magnetic (approximately 2% magnetite) and weakly mineralized with less than 1% pyrite + chalcopyrite?
- H90R02: Angular float/subcrop from approximately L16+00S/2+00W on the UMEX grid. Monzodiorite similar to sample H91R02, but slightly less chloritic and with weak salmon colour (possible potassic alteration?). 1-2% disseminated, very fine grained magnetite and possibly minor molybdenite.
- H91R05: Strongly gossanous and weathered granodiorite talus from the edge of the ridge south of Halobia Creek. The rock has a patchy malachite stain and moderate chalcocite on fractures. Original textures are generally obliterated by weathering, but locally, translucent feldspar crystals are visible in a salmon coloured groundmass. The sample is weakly magnetic. The gossanous, malachite stained zone is 5 to 6 meters wide and grades rapidly into unaltered granodiorite on both sides.
- H91R06: Angular float from a gully north of sample H91R06 along same ridge. Sample is strongly gossanous, weathered and seems to be a skarn. One piece of float was found with granodiorite in contact with the skarn rock. On fresh surface, the rock is dark green, grainy and vuggy with drusy quartz in some vugs. It is weakly carbonaceous and epidote, chlorite and local irregular quartz veinlets are present. 1 to locally 3% pyrite (often cubic) is disseminated in the rock.
- H91R07: Gossanous, weathered talus from edge of ridge to the south of sample H91R05. No fresh surfaces were attained on the sample, but surrounding outcrops are granodiorite, suggesting it is altered granodiorite similar to H91R05. A weak malachite stain and moderate chalcocite are present, but unlike H91R05, the sample is non-magnetic. The gossanous zone is roughly 4 meters wide, however the zone with malachite and chalcocite seems to be only 1 meter in width.

**APPENDIX II: GEOCHEMICAL ANALYSIS OF HEAVY MINERAL,  
SILT AND ROCK SAMPLES**







