82-#564
& -10623

SNAP, CRACKLE, S, and O MINERAL CLAIMS
ATLIN MINING DIVISION
GEOPHYSICS
NTS: 104N/11W,12E

A.G. Troup, M.Sc., P.Eng.
C. Wong, B.Sc.

August, 1982

CLAIM	UNITS	RECORD NO.	ANNIVERSARY
S 1	20	1394	August 4
S 2	18	1395	August 4
O 1	18	1392	August 4
SNAP	18	1535	September 22
CRACKLE	9	1534	September 22

LOCATION: S 1, S 2 - 59°34'N, 133°35'W
O 1 - 59°36'N, 133°23'W
SNAP, CRACKLE - 59°30'N, 133°32'W

OWNER/OPERATOR: Mark Management Ltd.

CONSULTANT: A.G. Troup, Archean Engineering ltd.

TABLE OF CONTENTS

1062 2

TABLES

FIGURES

SNAP, CRACKLE, S and O Mineral Claims
ATLIN MINING DIVISION
GEOPHYSICS
NTS: 104N/11W,12E

SUMMARY

The S 1, S 2, O 1, SNAP and CRACKLE Claims are lode gold prospects located in tjhe Atlin placer mining camp. They consist of 83 mineral units in three claim groups located along Spruce, Otter and Dominion Creeks. The properties were staked in 1981 after Yukon Revenue Mines Ltd. reported a large low-grade discovery in the area.

Reconnaissance VLF-EM surveys carried out over the properties in 1982 detected many conductors trending approximately parallel to known auriferous quartz veins on the Yukon Revenue property. Similar quartz veining may exist adjacent to EM conductors on the S 2 claim.

Follow-up work including prospecting, a detailed VLF-EM survey and rock chip sampling is recommended.

1. INTRODUCTION

the SNAP, CRACKLE, S and O claims are located in the Atlin placer gold camp in northwestern B.C. They were staked in July and September, 1981 after Yukon Revenue Mines Ltd. reported a large low-grade discovery in the area.

in July, 1982 a two man crew led by C. Wong working out of Atlin, B.C. spent three weeks carrying out a reconnaissance geophysical survey over the properties. A.G. Troup of Archean Engineering Ltd. was consulting supervisor of the project.

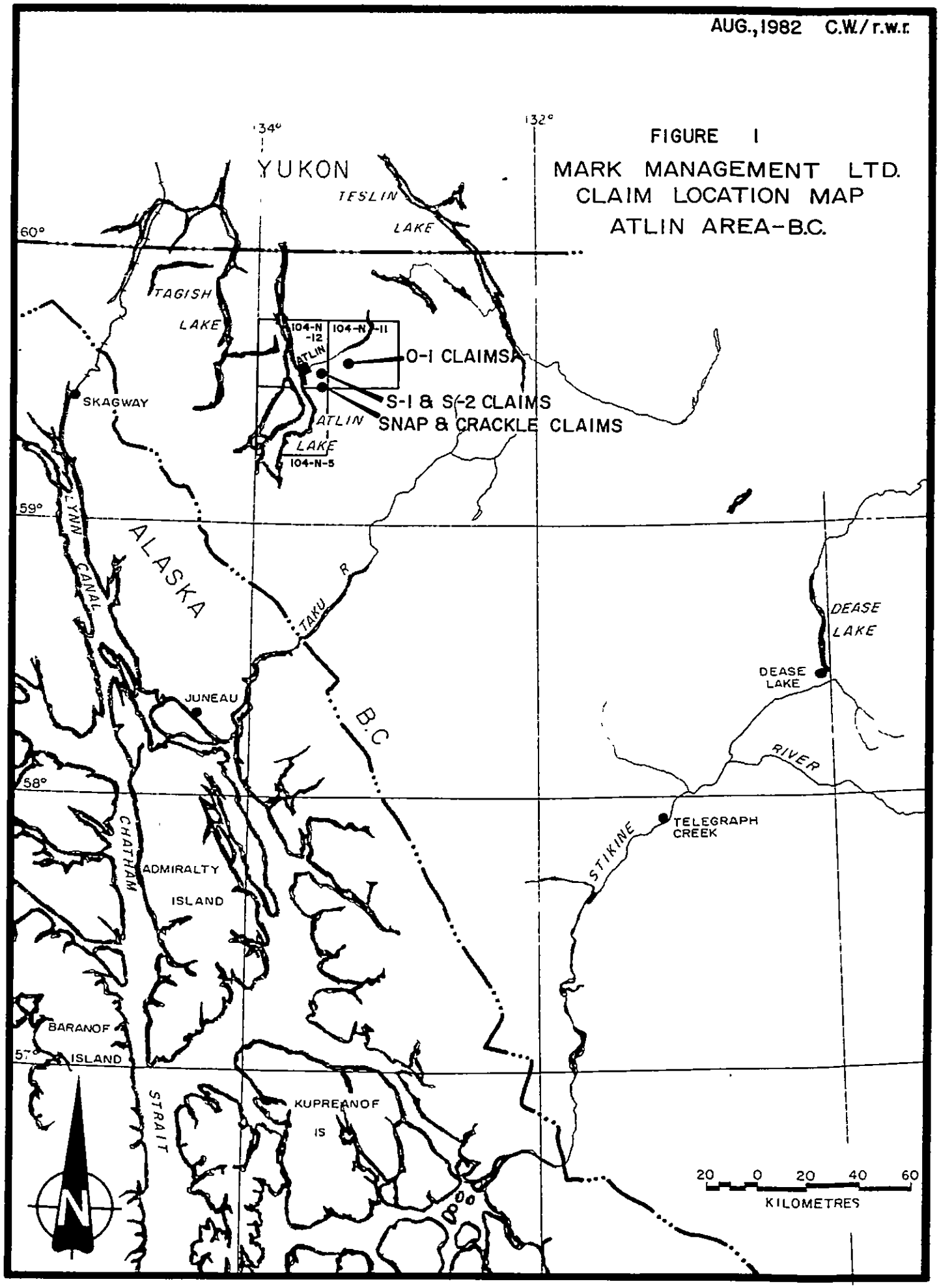
1.1 LOCATION AND ACCESS

The contiquous S 1 and S 2 claims are located seven kilometres east of the town of Atlin (Figure 1). The claims are centred on latitude 59°34' and longitude 133°35' and cover an area of 9.5 km^2 on the south side of Spruce Creek. Access to the north and northeast portions of the property is proveded by a good gravel road that services placer mining operations along Spruce Creek (Figure 2).

The O 1 claim is located approximately 18.5 kilometres east-northeast of Atlin (Figure 1). The claim is centred on latitude 59°36' and longitude 133°23' and straddles the lower portion of Otter Creek. Access into the property is provided by a four-wheel drive road that leaves the main gravel road near the outfall of Otter Creek (Figure 3).

The contiquous SNAP and CRACKLE claims are located 12.5 kilometres southeast of Atlin (Figure 1). The claims are centred on latitude 59°30' and longitude 133°32' and cover the headwaters of Dominion Creek. Access to the northern boundary of the property is provided by a four-wheel drive road which leaves the main Spruce Creek road at the old Noland Mine near the confluence of Dominion and Spruce Creeks (Figure 2).

AUG., 1982 C.W./ r.w.r.



1.2 PHYSIOGRAPHY

The Atlin area is located just east of the Coast Mountains on the Teslin Plateau. This is an area of wide, U-shaped valleys flanked by low, rounded mountains.

On the S 1 and S 2 claims, elavation ranges from 3000 feet (914 m) at the northern boundary to 4200 feet (1280 m) at the southern boundary. The tree line occurs at 3700 feet (1128 m) on the north facing slopes and somewhat higher on south and west slopes. Most of the claim area is forested with lodgepole pine, white and black spruce, aspen and scrub birch. Dense growths of willow, alder and buckbrush occur along streams.

The O 1 claim straddles the narrow valley occupied by Otter Creek. Elevation ranges from 3300 feet (1006 m) at the valley floor to 4000 feet (1219 m) on either side of Otter Creek. The claim is forested with lodgepole pine, aspen and white spruce. Tall dense growths of willow and alder occur along the valley bottom.

On the SNAP and CRACKLE claims, relief is on the order of 1250 feet (381 m) with slopes of up to 30° rising from the valley floor at an elevation of 4400 feet (1341 m) to the crest of the Lina Range at 5650 feet (1722 m). The valley floor is extensively covered with mountain alder and buckbrush. North facing slopes are generally barren while south facing slopes are covered with white moss heather and kinnikinnick.

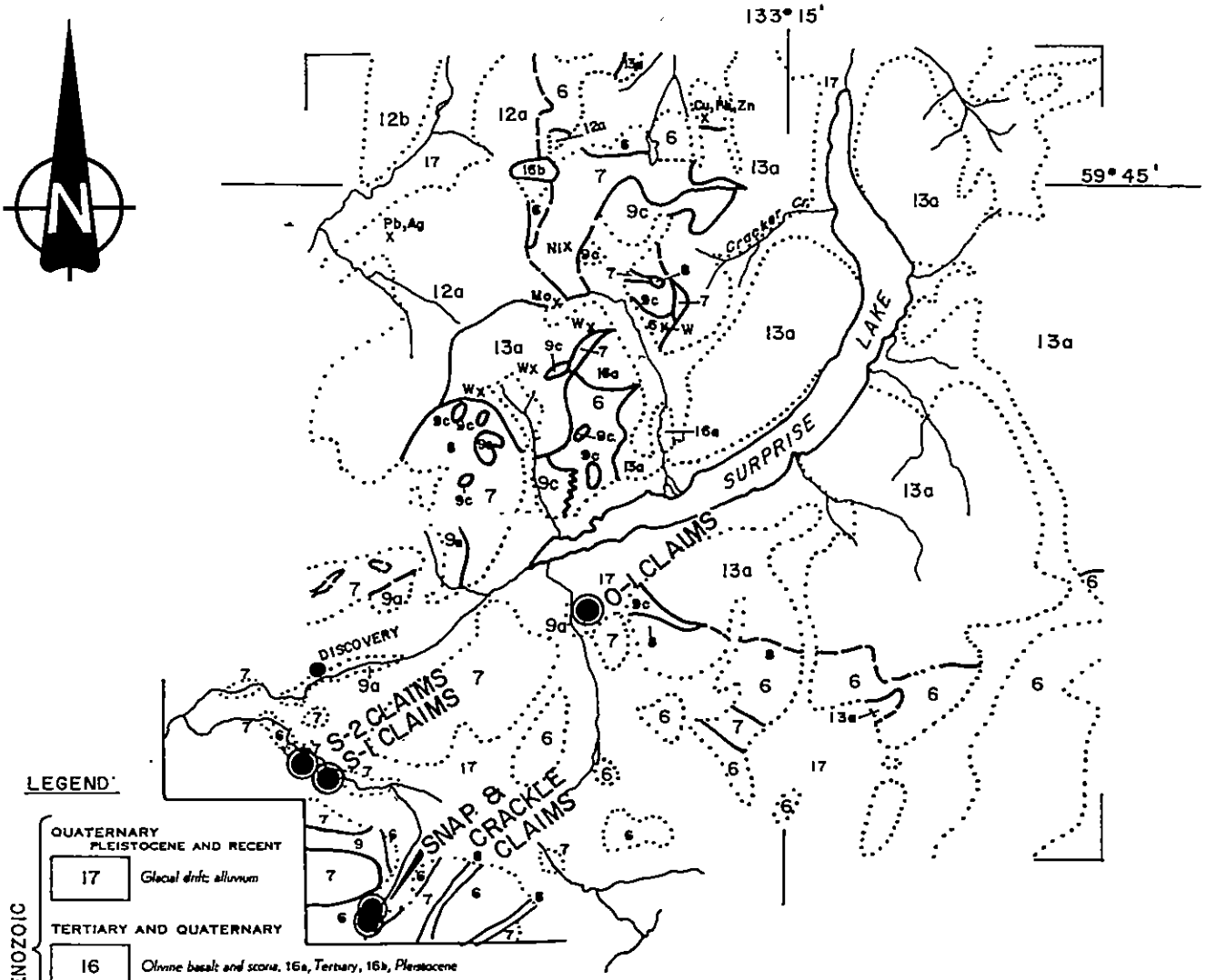
1.3 CLAIM INFORMATION

The properties are located in the Atlin Mining Division and total 83 units. Current claim status is shown in Table 1.

TABLE 1

CLAIM STATUS

CLAIM	UNITS	RECORD NO.	EXPIRY DATE
S 1	20	1394	4 Aug 83
S 2	18	1395	4 Aug 83
O 1	18	1392	4 Aug 83
SNAP	18	1535	22 Sep 83
CRACKLE	9	1534	22 Sep 83



LEGEND:

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

17 — *Glacial drift; alluvium*

TERTIARY AND QUATERNARY

16 — *Olivine basalt and scoria, 16a, Tertiary, 16b, Pleistocene*

TERTIARY (?)

15 — *15a, quartz monzonite; 15b, granophyre; 15c, gabbro and diorite*

x MINERAL OCCURENCE

CRETACEOUS OR TERTIARY
SLOKO GROUP

14 — *Andesite, basalt; albite trachyte, albite rhyolite, dacite, and related pyroclastic rocks, conglomerate, sandstone*

CRETACEOUS

13 — *13a, alaskite, 13b, quartz monzonite*

JURASSIC (*May be in part older and younger*)
COAST INTRUSIONS

12 — *Undifferentiated granitic rocks, 12a, Black Mountain body, 12b, Fourth of July Creek body; 12c, pink granite; 12d, Mount McMaster body; 12e, dionte; 12f, alkaline granite*

JURASSIC
LABERGE GROUP

11 — *Volcanic greywacke, siltstone, mudstone, shale, conglomerate; minor concretionary sandy limestone*

TRIASSIC (?)

10 — *Greywacke, chert, argillite, conglomerate, tuff, slate, greenstone, impure limestone, jasper*

PALEOZOIC

PENNSYLVANIAN AND PERMIAN
ATLIN INTRUSIONS

9 — *Peridotite; meta-diorite and meta-gabbro, 9a, serpentinite; 9b, carbonitized serpentinite; 9c, talc-bearing (steatitized) ultramafic rocks*

CACHE CREEK GROUP

6 7 8 — *6. Chert, argillite, chert-pebble conglomerate and chert breccia, derived quartzite and schist, minor 7 and 8*
7. Greenstone and volcanic greywacke, derived amphibolite, minor 6 and 8
8. Limestone and limestone breccia

MARK MANAGEMENT LTD.

S-1, S-2, O-1, SNAP & CRACKLE CLAIMS
ATLIN M.D. – B.C. NTS 104-N-11,12,5

GENERAL GEOLOGY MAP

SCALE 1:253,440 (1"=4 Miles)

DATE: SEPT. ,1982 C.W. / r.w.r.

AFTER GSC MAP 1082A

FIGURE 3

1.4 WORK DONE BY MARK MANAGEMENT LTD. IN 1982

The following field work was completed on the properties by Mark Management Ltd. during the period July 4 - 28, 1982:

1) Reconnaissance EM-16 survey over the S 2 claim.

2) Reconnaissance EM-16 survey over the southern half of the O 1 claim.

3) Reconnaissance EM-16 survey over the SNAP claim.

2. GEOLOGY

2.1 GENERAL GEOLOGY

The properties are underlain by Cache Creek Group metasediments intruded by Pennsylvanian and Permian talc-bearing ultramafics and on the O 1 claim by a bretaceous alaskite stock as well. Till extensively covers the valley floors (Figure 4).

The Cache Creek Group of metasediments are of Pennsylvanian and Permian age and consist of grey to rusty weathering siltstones, dark grey graphitic argillites, grey cherty argillite, greenstone, volcanic greywache and well bedded impure carbonate.

The Pennsylvanian and Permian ultramafics are part of the Atlin Intrusions and consist of serpentinite, carbonatized serpentinite and talcose ultramafic rocks. The carbonatized serpentinite was not observed on the properties.

The centre of the O 1 claim is underlain by a bretaceous alaskite. This rock is light coloured and varies in texture from coarse-grained to the more common fine-grained variety.

Till is evident near creeks and varies in thickness from 20 feet (6.0 m) to 100 feet (30 m) or more.

2.2 ECONOMIC GEOLOGY

Placer gold was first discovered in the Atlin area in 1897 and by the end of 1898 more than 3,000 people were camped there.

Most of the gold has been produced from eight creeks, namely Spruce, Pine, Boulder, Ruby, Mckee, Otter, Wright and Birch Creeks. Table 2 gives the gold production from these creeks up to 1946, the last year for which individual creek recoveries were obtained.

TABLE 2
(From Holland, 1950)

GOLD RECOVERY FROM PRODUCTIVE CREEKS IN THE ATLIN AREA, 1898 - 1946

STREAM NAME	OUNCES OF GOLD PRODUCED
Spruce Creek	262,603
Pine Creek	138,144
Boulder Creek	67,811
Ruby Creek	55,272
McKee Creek	46,953
Otter Creek	20,113
Wright Creek	14,729
Birch Creek	12,898
All Others (21 Creeks)	15,624
	634,147

All gold recovered from the Atlin area is very coarse and many large nuggets have been found in the camp. The fine gold as well as the nuggets is often found intergrown with quartz which in many cases occurs as euhedral crystals. All important placer gold production has been from rich tertiary gravels buried beneath a thick blanket of barren till. On Spruce Creek, the south side of the pay streak is observed to extend onto the northern portion of the S 2 claim. Similarly, the Tertiary gravels on Otter Creek are expected to extend onto the northern portion of the O 1 claim.

Gold bearing quartz veins were not discovered until the early 1900's. Since then, there has been relatively little activity in lode gold exploration. In 1981, Yukon Revenue Mines Ltd. reported a large low-grade gold discovery over the old Lakeview property. Work by Yukon Revenue showed that gold values occurred in quartz veins and over an extensive but delicate stockwork of carbonatized and silicified andesite adjacent to a serpentine intrusive. A similar geologic situation is believed to exist on the SNAP claim.

3. GEOPHYSICS

3.1 INSTRUMENT AND SURVEY TECHNIQUES

Reconnaissance VLF-EM surveys were conducted over the three properties using a Geonics EM-16 instrument. A total of 33 line kilometres were surveyed with readings taken at 25 m intervals along east-west lines. Using the submarine transmitting station in Hawaii (Station NPM, 23.4 kHz), in-phase and quadrature readings were taken in a northwesterly direction (300°) to insure that east and south dips were indicated as negative readings by the instrument. The in-phase readings were later reduced by use of the Fraser Filtering Technique (Fraser, 1969) and contoured.

3.2 PRESENTATION AND DISCUSSION OF RESULTS

Results of the surveys are shown in Figures 4, 5, and 6. In-phase and filtered in-phase readings are shown, with the filtered in-phase readings contoured at 10% contour intervals.

Results over the S 2 claim show many sub-parallel conductors trending between 010° and 040°. The strongest conductor has a maximum Fraser Filter value of +57 and a strike length of one kilometre. A number of other conductors exceed this strike length. Discussions with placer miners along Spruce Creek revealed that quartz veins striking north-northeast were found in bedrock in the creek over a conductor at L15+00N, 27+00E. Therefore, it is believd that the other conductors over the S 2 claim aresimilarly associated with quartz veins. This is encouraging because Yukon Revenue reports gold-bearing quartz veins striking 025°, just 10 kilometres to the northeast.

The survey results over the O 1 claim shows two sets of conductors trending 000° and 160°. The 160° trending conductors have a maximum Fraser Filter value of +84 and a strike length of at least 700 metres. This set of conductors is believed to be caused by a shallow geologic feature because in-phase readings show sharp crossovers. The north trending set of conductors parallels Otter Creek and has somewhat lower Fraser Filter values.

Results over the SNAP claim show numerous sub-parallel conductors trending between 010° and 050°. The strongest conductor has a maximum Fraser Filter value of +63 and a strike lenght of 1.8 kilometres. Many of the conductors are believed to be near surface because of their narrow width and sharp crossovers in in-phase readings. Overall, the conductors on the SNAP claim have higher Fraser Filter values than the S 2 or O 1 conductors. This might be explained by the close proximity of bedrock on the SNAP claim and the masking of the EM response by till cover on the S 2 and O 1 claims.

4. CONCLUSIONS AND RECOMMENDATIONS

The work completed in the 1982 field season may be summarized as follows:

1) VLF-EM results show that sub-parallel conductors on the S 2 and SNAP claims run approximately parallel to known auriferous veins on the Yukon Revenue property.

2) The discovery of north-northeast trending quartz veins up to 15 cm wide in bedrock along Spruce Creek over an EM conductor which suggests that similar veining may occur adjacent to other conductors on the S 2 claim.

Additional work entailing prospecting, detailed VLF-EM, and rock chip sampling surveys is recommended.

Respectfully submitted,

C. Wong, B.Sc.
Project Geologist

STATEMENT OF QUALIFICATIONS

A. TROUP, P.Eng.

Academic

1967	B.Sc. Geology	McMaster University, Ontario
1969	M.Sc. Geochemistry	McMaster University, Ontario

Practical

1980 -	45 - 4100 Salish Dr. Vancouver, B.C.	Consulting Geologist
1977 - 1980	Geological Survey of Malaysia	Project Manager on a CIDA supported mineral exploration survey over peninsular Malaysia.
1969 - 1977	Rio Tinto Canadian Exploration Ltd.	Geologist involved in all aspects of mineral exploration in B.C., the Yukon and N.W.T.
1968 (Summer)	McMaster University Dept. of Geology Hamilton, Ontario	M.Sc. thesis work. Reconnaissance mapping and geochemical study, Lake Shubenicadia Area, Nova Scotia.
1967 (Summer)	Canex Aerial Exploration Ltd. Toronto, Ontario	Geologist in charge of detailed mapping and reconnaissance geochemical programme in Gaspe, Quebec.
1966 (Summer)	McMaster University Dept. of Geology Hamilton, Ontario	Summer vacation work. Detailed and reconnaissance mapping in Northern Ontario.
1965 (Summer)	International Nickel Co. of Canada Thompson, Manitoba	Summer vacation work. Detatiled mapping in the Thompson Area, Manitoba.
1964 (Summer)	Geological Survey of Canada Ottawa, Ontario	Summer vacation work. Regional geochemical survey in the Keno Hill Area, Yukon.

STATEMENT OF QUALIFICATIONS

COLMAN WONG, B.Sc.

Academic

1981	B.Sc. Geology	University of British Columbia

Practical

1981 -	Mark Management Ltd. Vancouver, B.C.	Project Geologist in charge of a detailed mapping, geochemical, and geophysical programme in Central B.C. Regional exploration programme in B.C. and Yukon.
1980 (Summer)	Hudson Bay Expl. and Dev. Co. Ltd. Vancouver, B.C.	Prospecting and detailed mapping in Central and West-Central B.C.
1979 (Summer)	Hudson Bay Expl. and Dev. Co. Ltd. Vancouver, B.C.	Regional geochemical survey and prospecting in South-Central and South-Eastern B.C.
1978 (Summer)	Hudson Bay Expl. and Dev. Co. Ltd. Whitehorse, Yukon	Property work in West-Central Yukon and MacMillan Pass, Yukon.

BIBLIOGRAPHY

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Fraser, D.C., 1969, Contouring of VLF-EM Data: Geophysics, v. 34, No. 6, p. 958-967.

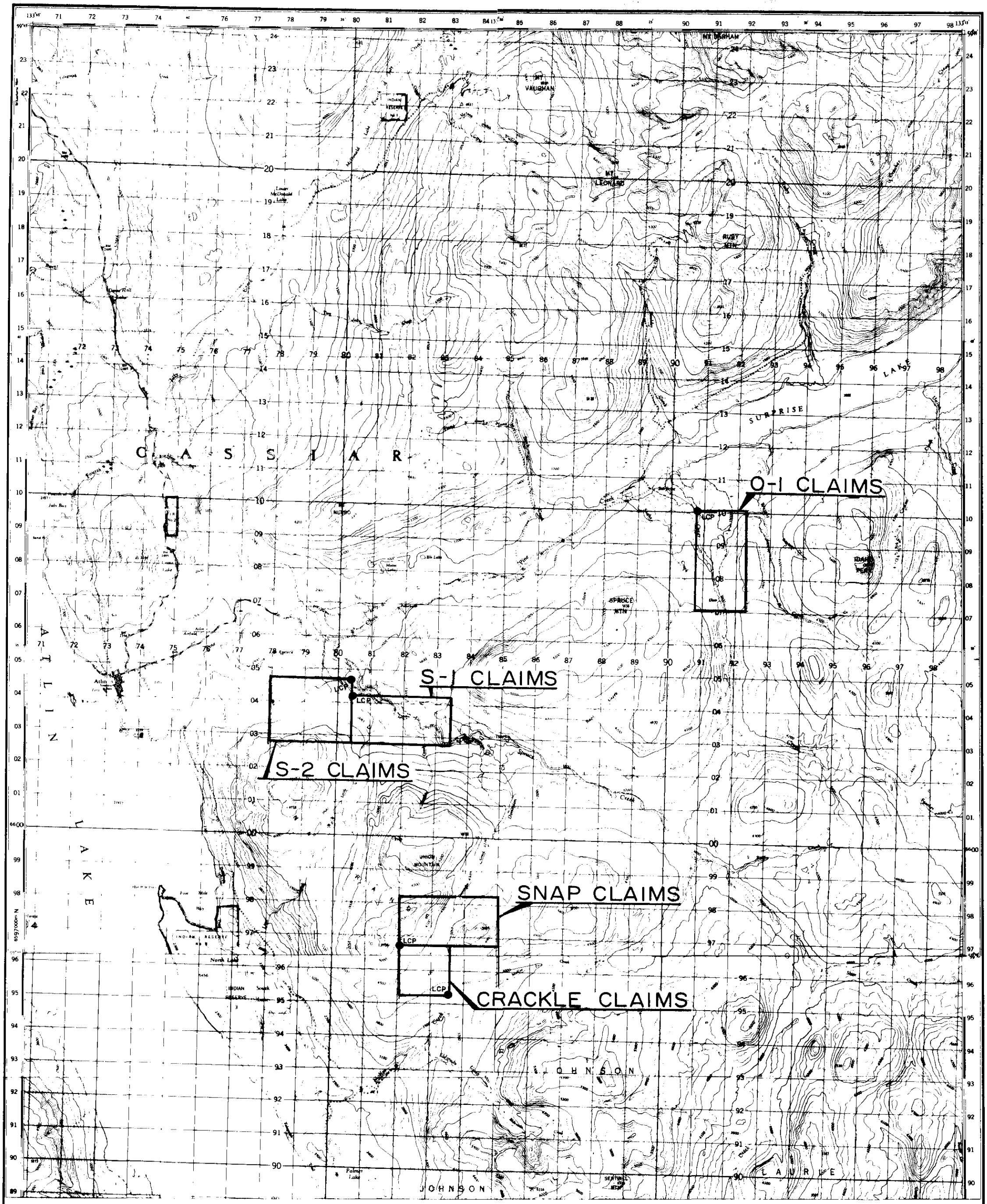
Holland, S.S., 1950, Placer Gold Production of British Columbia: B.C. Ministry of Mines and Petroleum Resources, Bulletin 28, 89pp.

COSTS STATEMENT
O, S, SNAP and CRACKLE CLAIMS
GEOPHYSICS SURVEY
July 4 through 28, 1982

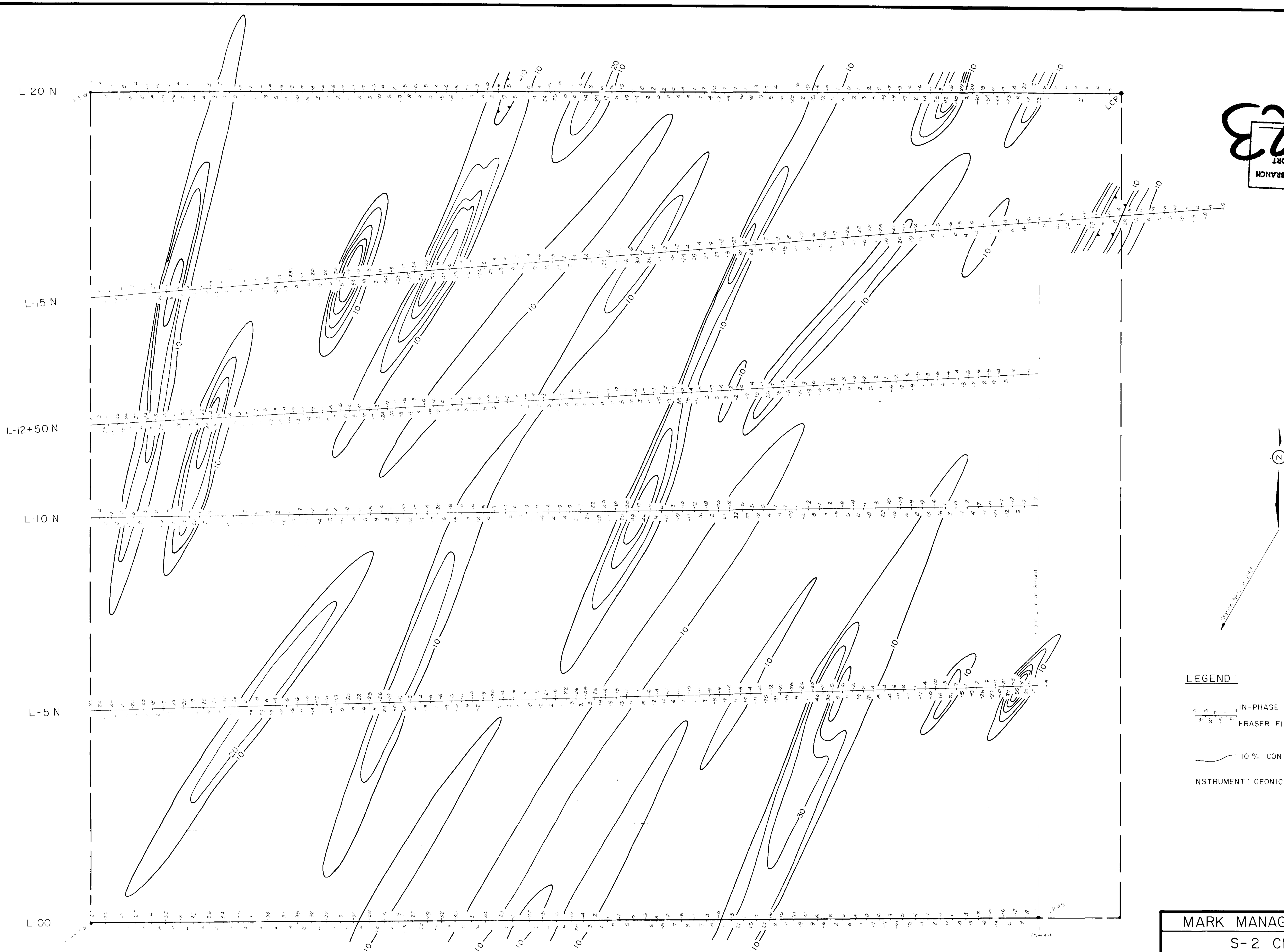
Salary and Wages		
2 Men, 43 Man Days @ $68		$ 2,924.00
BENEFITS @ 20%		584.80
FOOD and ACCOMMODATION		
2 Men, 48 Man Days @ $20.73		994.96
RENTAL EQUIPMENT		
Mark Management '81 Bronco, 24 Days @ $40	$960.00	
3793.4 km @ $0.15	569.01	
Gabriel Resources Field Equipment, 43 Man Days @ $6	258.00	
Dora Exploration EM16, 24 Days @ $25	576.00	2,369.01
FUEL		303.47
VEHICLE MAINTENANCE		936.52
SUPPLIES		70.00
REPORT PREPARATION		3,050.00
TOTAL		$11,232.76

COSTS APPORTIONED TO CLAIMS

CLAIM	RECORD	UNITS	LINE KM	COSTS
O 1	1392	18	6.0	$ 2,042.32
S 1	1394	18		
S 2	1395	20	15.0	5,105.80
SNAP	1535	18	12.0	4,084.64
CRACKLE	1534	9		
		83	33.0	$11,232.76



MARK MANAGEMENT LTD.	
S-1, S-2, O-1, SNAP & CRACKLE CLAIMS	
ATLIN MINING DIVISION B.C.	
CLAIM MAP	
0 1000 2000 3000 4000 5000 METRES	
BY: C.W. / r.w.r.	NTS. 104-N-11,12,5 DATE: SEPT., 1982 FIGURE 2



LEGEND

IN-PHASE READING
FRASER FILTER RESULT (%)
10 % CONTOUR INTERVALS

INSTRUMENT: GEONICS EM-16

MARK MANAGEMENT LTD.

S-2 CLAIM

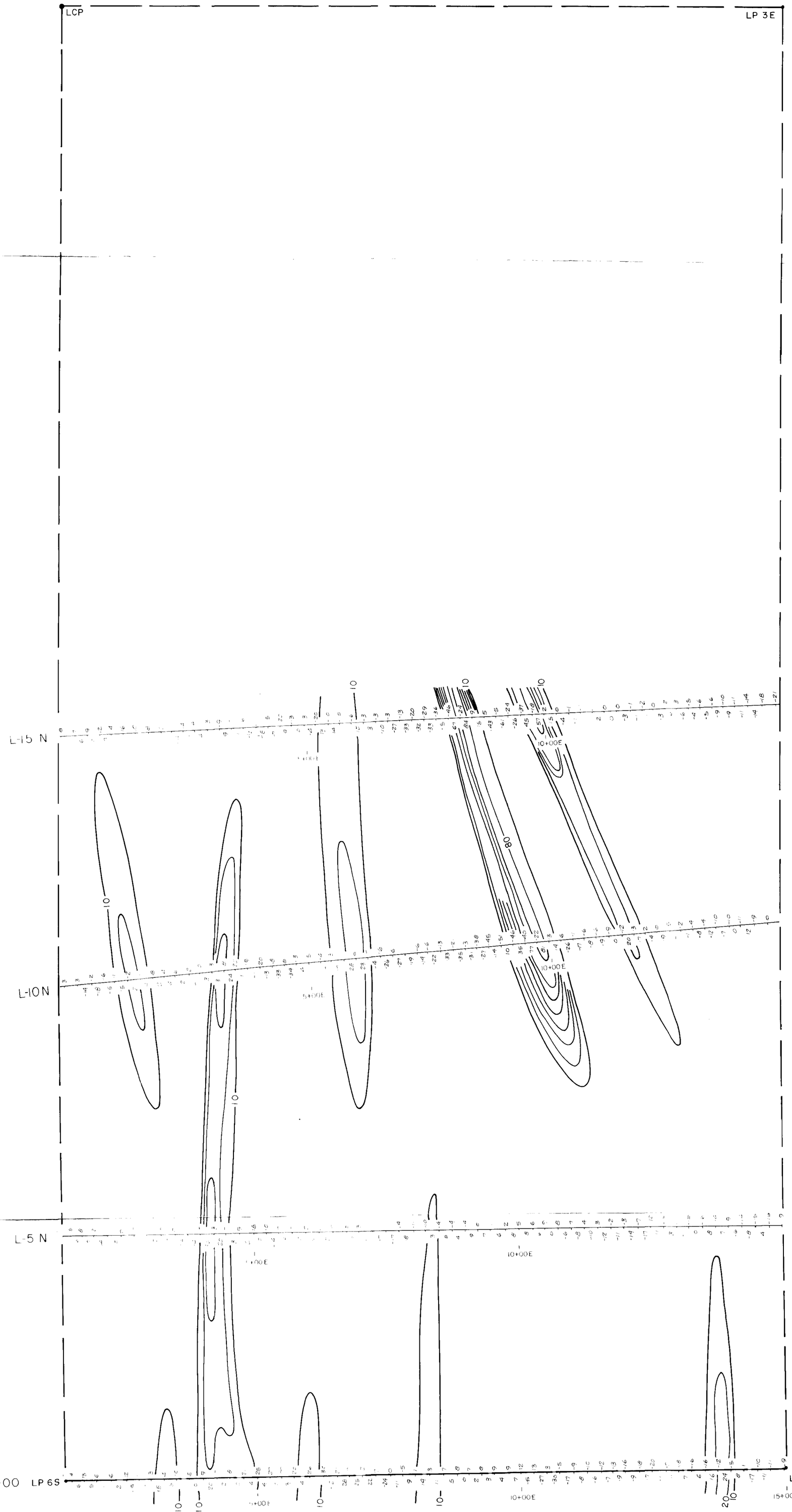
ATLIN MINING DIVISION - B.C.

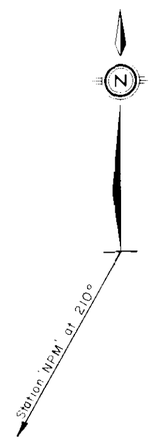
VLF-EM SURVEY

CONTOURS OF FRASER FILTER RESULTS (%)

SCALE 1:5,000

NTS 104-N-12
DATE AUGUST 1982
BY C.W./rwr
FIGURE 4





LEGEND:

IN-PHASE READING

FRASER FILTER RESULT (%)

10 % CONTOUR INTERVALS

INSTRUMENT: GEONICS EM-16

MARK MANAGEMENT LTD.

O-1 CLAIM

ATLIN MINING DIVISION - B.C.

VLF-EM SURVEY

CONTOURS OF FRASER FILTER RESULTS (%)

0 100 200 300 400 500m

SCALE 1:5,000

NTS 104-N-11

DATE: AUGUST 1982

BY C.W./r.w.r.

FIGURE 5

00
5+00 E
10+00 E
15+00 E
20+00 E
25+00 E
30+00 E
L-15 N LP 3N
LP 3N 6E
L-10 N
L-5 N
L-00
LCP
LP 6E
10E
20E
10+00E
Station NSW at 210°

LEGEND:

IN-PHASE READING

FRASER FILTER RESULT (%)

10 % CONTOUR INTERVALS

INSTRUMENT: GEONICS EM-16

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10,623

MARK MANAGEMENT LTD.

SNAP CLAIM

ATLIN MINING DIVISION - B.C.

VLF-EM SURVEY

CONTOURS OF FRASER FILTER RESULTS (%)

0 100 200 300 400 500m

SCALE 1:5000

NTS 104-N-12

BY C.W.Ltd.

DATE AUGUST 1982

FIGURE 6