82-#922
#11127

CRACK RESOURCES LTD.

Geological, Geochemical, Geophysical

14247 - 72A AVENUE, SURREY, B.C. V3W 2R2 TEL: (604) 594-1993

Geo-exploration Report

on

Discon & Discon South Claim Groups

Alta Lake-Callaghan Creek Area

Vancouver Mining District, B.C.

Location: 50 05' N, 123 05' W
4km SW of Whistler
100 km N of Vancouver, B.C.
Map 92J/3E
Discon: Record # 725, Tag #65179
Discon South : Record # 864, Tag #71638.

Survey Date : 1981 Season

Report by : John B. Davies, Ph.D.
March, 1982.

Enclosed : Geochemical Survey Report
Geophysical Survey Report
Geological Mapping Report.

Owner & Operator: Crack Resources Ltd.

CRACK

RESOURCES LTD. 14247 - 72A AVENUE, SURREY, B.C. V3W 2R2 TEL: (604) 594-1993

GEO-EXPLORATION REPORT
on
INDUCED POLARISATION SURVEY
and
SOIL SAMPLING SURVEY
on the
DISCON CLAIM GROUP
Whistler,
Vancouver Mining District,
British Columbia,
Canada

INTRODUCTION

This report discusses the procedure, compilation and interpretation of a combined induced polarisation and geochemical survey carried out over the Discon claim group during the Spring and Summer of 1981. The surveys were carried out by Dr. J.B. Davies and qualified assistants.

The object of the surveys was to search for economic sulphide and precious metal deposits. The purpose of the geochemical survey was to locate areas of anomalous Silver, Copper and Zinc values. The induced polarisation survey is designed to search for and locate high metal-bearing zones.

The basic property and survey data are first presented below together with the interpretation of these results and their implications. The property was restaked in July, 1980, after payment of assessment dues and submission of this report. It was extended by 3 units on the west, renamed the DISCON claim group and now comprises 15 units covering 2.5 km by 1.5 km. It was grouped in March, 1982, with the Discon South claim group (16 units, 4 x 4) adjacent to and south of Discon, Figure 1.

GEOGRAPHY OF PROPERTY

The property is located geographically 4 km southwest of the ski-resort of Whistler, which is approximately 100 km north of Vancouver, British Columbia. The northerly boundary of the property is adjacent to the Northair Mine, a producer of Gold, Silver, Lead, Copper and Zinc.

It is intended to upgrade recent logging roads leading from the main highway onto and close by the property yielding easy access for equipment and personnel. High tension B.C. Hydro lines pass to the immediate south of the Discon group.

PROPERTY AND OWNERSHIP

The property is comprised of 15 units, 500m x 500m each, of the Discon claim group. They initially were located July 1st, 1979 in the Vancouver Mining District, comprise an area of 2.5 km by 1.5 km, and are wholly owned by Crack Resources Ltd. of Surrey, B.C. Canada. Discon South, a 2 km x 2 km claim group to the immediate south, has also been added.

PHYSIOGRAPHY

The property covers a steeply sloping terrain rising in elevation about 1700 metres from the main highway; the lower portion of the claim has been recently logged. Numerous streams and a few major creeks intersect the property with year round water supply.

REGIONAL GEOLOGY

The basic rock types are the metavolcanics of the Alta Lake Pendant composed mainly of greenstone, phyllites, argillites and limestones. These have a strike approximately due south with steep dips; abundant quartz and quartz-carbonate veins intersect these units. 4 km to the north on strike, Northair Mine, an important Gold, Silver and base metal producer is of similar geological character, with a mainly south - striking quartz-carbonate vein deposit.

Copper minerals have been found on Discon in a number of outcrops of different character, these consisting of Chalcopyrite and leached salts. Zinc salts such as Smithsomite and Hydrozincite are exposed over large areas.

Reference is given to the geological report on the claim group by D.A. Reuben, B.S., for complete details.

GRID DATA

A grid has been laid out over the eastern part of the Discon property with a baseline running due North. Eighteen lines, 50 metres apart and each 1 km long, have been surveyed, cut, blazed and flagged, with a 900m baseline running north-south.

GEOCHEMICAL SURVEY

The total number of soil samples collected was approximately 120.

GEOPHYSICAL SURVEY

The total number of lines surveyed totaled approximately 6 km of IP.

SCALE OF MAPPING & TOTAL AREA SURVEYED

The scale is 50 m to 1 cm and the total area surveyed is one square kilometre.

GEOCHEMICAL SURVEY

The majority of geochemical sampling of the property took place during the Summer of 1981. Soil samples were collected from lines 2+50 N to 7+50 N as well as stream sediments from a variety of creeks draining and running through the property.

In all soil sampling, the B horizon was sampled whenever possible, 25 metres being the sample interval. The data was analysed for Silver, Copper, Lead and Zinc.

These are contour plotted on the adjoining grid map, Figure 2. Cutoff for anomalies is taken to be Copper 150ppm, Zinc 150ppm, Lead 50ppm, Silver 3ppm.

Anomalous zones are extensive in the north of the grid, being mainly for Silver, Zinc, Lead; these are considered to be primary anomalies. To the south, where carbonate rocks occur, Copper and Zinc anomalies occur which could be secondary drainage anomalies.

GEOPHYSICAL SURVEY

An Induced Polarisation survey was undertaken during the Summer of 1981. A Scintrex IPR-8 receiver was used together with a Scintrex IP7/25W transmitter. A Schlumberger array was chosen with two current spacings of approximately 400 km and 200 km. Because of the steep and rough terrain, only certain parts of the grid were capable of being surveyed.

The mean chargeability, averaged over the 6 channels of time-decay data, is contour plotted in Figure 3. Background was measured on line 0+00 and found to give a mean chargeability of 3 to 4. It can be seen from the contour plot, that the chargeability increases northward in two zones that connect and form a horseshoe pattern. The largest values are on line 7+50 N with values greater than 50. This anomalous chargeability is exceptionally high and indicates the possible presence of a high metal content ore-body.

GEOLOGICAL MAPPING

During the Summer of 1981, the Company contracted to D.Reuben, B.S., to map the Discon anomalous region which is shown in Figure 4. Her report is as follows:

INTRODUCTION

The Discon claim group is part of the Alta Lake - Callaghan Creek area of the Coast Plutonic Complex. Strata of the Alta Lake Pendant form a Northwest trending belt of metamorphic rocks bounded by quartz-diorite and diorite. The pendant rocks are dominantly intermediate volcanics, volcanic breccias, tuffs and sandstones with minor amounts of argillite and limestone. The rocks are of Cretaceous age and have been metamorphosed to greenschist facies with assemblages characterized by actinalite, epidote, zoisite, chlorite, biotite and albite. The cleavage strikes north-northwest and dips steeply, parallel to bedding of the pendant and the overall Coast Plutonic Complex. Numerous quartz-carbonate veins intersect the phyllites and greenstones at steep dips.

The Callaghan Creek Basalts occurred in four episodes of late Pleistocene volcanism marking the final stages of volcanism. Individual flow-units of olivine-augite basalts erupted approximately 34,200 years ago within the glacially scoured Callaghan Creek and Cheakamus River Valleys with extremely restricted lateral extent, braided and meandering flow patterns in fanned columns with one to two meter zones of platy, vesiculated lasa transverse to the columnar basalts.

The Northair Gold Mine lies four km to the north of the Discon claim group. The mine is hosted by Cretaceous rocks of the Alta Lake Pendant Strata with the greatest mineralisation occurring in the steeply dipping quartz-carbonate veins. Galena, sphalerite, chalcopyrite, pyrite, gold and argentite exist in these vein zones. Core samples containing large irregular crystals of sphalerite, galena and chalcopyrite may indicate that the ore deposit is of hydrothermal origin.

The Discon claim group is located approximately four km down the strike of the Northair auriferous veins in similar rock type and structure. A brief geological reconnaissance survey conducted in late April of 1980 revealed the following evidence for the potential of significant mineralisation. Various types of wall-rock alteration associated with epigenetic gold deposits were observed. Chloritisation is laterally extensive, occurring most prominantly near the fracture zones on quartz veins. Sericitisation, a gradational bleaching of the phyllites towards the fractures, was observed indicating the development of sericite, or hydromuscovite, as a result of the hydration of feldspars within intensely altered wall rocks. Carbonisation, the formation of secondary carbonates, takes place in the phyllites and extends for several meters on the west fracture zone. This is especially interesting because it lies along the approximate strike of the gold bearing quartz-carbonate veins only four km to the North. Pyrite is ubiquitous throughout this area. Although some of the pyrite appears to have formed during regional metamorphism, regions near the fracture zones have undergone pyritisation marked by cross-cutting veins of pyrite and limonite into the schistocity of the phyllites instead of being evenly distributed as in other areas.

Copper and Iron staining, often indicative of gold, is abundant in the shear zones. Hydrozincite is exposed on a large area adjacent to the east fracture zone and may be an altered product of sphalerite.

Chalcopyrite, Argentite, and Gold exist on surface outcrops near the fracture zones.

GRID GEOLOGY, 1981 Season

The geology of the area mapped in detail is shown in Figure 4. The statified sequence consists of a pyroclastic unit overlain by a shale - siltstone unit. The pyroclastic unit is the lower unit of the Gambier Group. It contains Andesitic to Dacitic Greenstone, crystal tuff and agglomerate which have been described as five discrete units by Miller, 1977. Here they are treated as one unit, Greenstone which dominates the map area. They are moderately to intensely sheared parallel to the overall regional strike of schistocity with nearly vertical dips. Rocks vary from grey through dark green colour. The grey rocks are more schistose and have a higher silica content.

Silicious stringers from 1 cm to 1 meter are common parallel to the schistocity. Epidote veins ranging from 5 cm to 2 meters in width cross-cut the green stone at all angles. Minor amounts of pyrite and chalcopyrite are disseminated throughout the greenstone.

Quartz (chlorite) sericite schists are developed in shear zones which are at intermittent intervals and range up to a few meters in width. Rocks within the shear zones have been subjected to intense dynamic and, in places, hydrothermal alteration involving granulation, flattening and recrystallisation. Silicious dikes have been intruded along some of the shear zones. In these areas the schists contain a significant quantity of pyrite with traces of chalcopyrite.

Grey - Green Argillite - Phyllites intercalate and overlay the greenstone. They are moderately to strongly sheared parallel to the regional strike of schistocity with variable dips. They vary in colour from light green to a pale buff. The pale rocks have a higher silica content and are less sheared than the darker rocks. Small laths of weathered sulphides aligned parallel to the schistocity exist within the rocks and form a coating between the schistose layers. Pyrite and minor amounts of chalcopyrite are disseminated throughout the phyllites.

Black Argillite - Phyllites overlay the Green phyllites. They are generally intensely sheared parallel with poorly defined bedding. The rocks are dark grey to black. The black rocks are less schistose and have a higher silica content than the more silty grey rocks. Small laths of weathered sulfides exist within the rocks and form a coating between the schistose layers. Minor amounts of pyrite are diseminated throughout the phyllites.

Buff - Green Silicious Meta Plutonic Dike - intruding the stratified sequence are late stage, highly silicious metaplutonic dikes. They are composed of light grey-green quartz albite with diseminated sulphides and sulfide rich laths containing covelite, bornite and sphalerite. Some are intrusive thin lineal dikes whereas others are wedge shaped bodies with ambiguous relations. These dikes have two types or contacts. First a well sheared contact which has a dark grey-green glassy appearance and contains flakes of biotite oriented parallel to the shearing. Quartz rich bands primarily contain quartz with euhedral cubes of pyrite. The second type of contact involves a highly sheared altered halo with a banded appearance within the dyke which is conformable with the contact.

This unit may correspond with unit 7B a equigranular rhyodacite identified by Miller, 1977 which was previously interpreted by Grove (1974) from a sample taken in the Northair mine area, as a "rhyolite glass". Detailed study of the mine area shows that this glassy material is part of a shear zone cross-cutting stratgraphy. A maximum age of 18 m.y. was given to this unit by Grove (1974).

METAMORPHISM AND ALTERATION

All the rocks except the late stage silicious dikes have been subjected to a low grade regional dynamothermal metamorphism of greenschist facies. Rocks within the shear zones have further undergone intense dynamic metamorphism causing remobilization of the sulphides and recrystallization.

An outward grading alteration from the sulphide rich areas affect the greenstone and argillite-phyllites. The sulphide rich areas are mostly composed of quartz, pyrite, muscovite and minor chlorite. Outward from these areas the intensity of the silicification decreases gradually and its mode changes from complete replacement to fine veinlets and stringers within 150 meters.

MINERALISATION

Pyrite is the most abundant sulphide followed by chalcopyrite, sphalerite, covellite and minor amounts of other sulphides. Some of the grey-green phyllitic argillites within the shear zones contain significant quantities of pyrite with traces of chalcopyrite. Sulphide rich layers are intercalated with the phyllitic argillites in places forming laminae basically composed of massive pyrite. Planes of schistocity and fracture in the argillite are also coated with fine pyrite.

The structure, metamorphism and alteration on the Discon Claims is similar to that of the Northair Mine but the stratigraphy and mineralisation found on the Discon Claims appear to be almost identical to the silicious, pyritic, replacement of the Britannia massive sulphide deposit.

QUALIFICATIONS

D. Reuben, B.S., Geology, University of Colorado, 1980.

GEOPHYSICIST'S CERTIFICATE

I, John Bruce Davies, Ph.D., do hereby certify:

1: That I am a Consulting Geophysicist and have been active in Exploration Geophysics for the past seventeen (17) years.

2: That I am a graduate of the following Universities with the particular degree in Geophysics.

a. M.S. 1968 California Institute of Technology.

b. Ph.D. 1980 University of British Columbia.

3. This report is compiled from data obtained by myself and qualified assistants under my supervision.

JOHN BRUCE DAVIES, Ph.D.

June 8th,1980

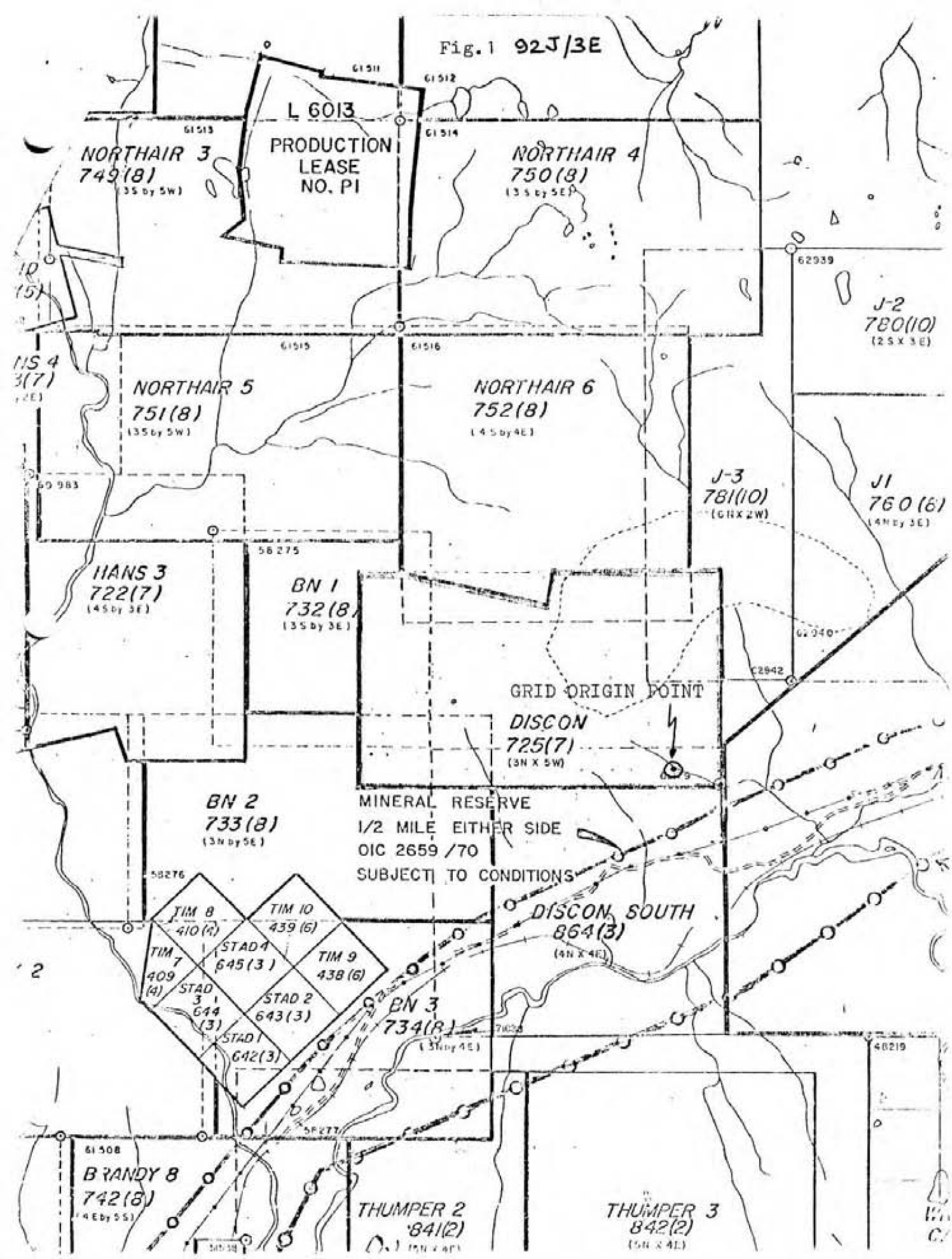
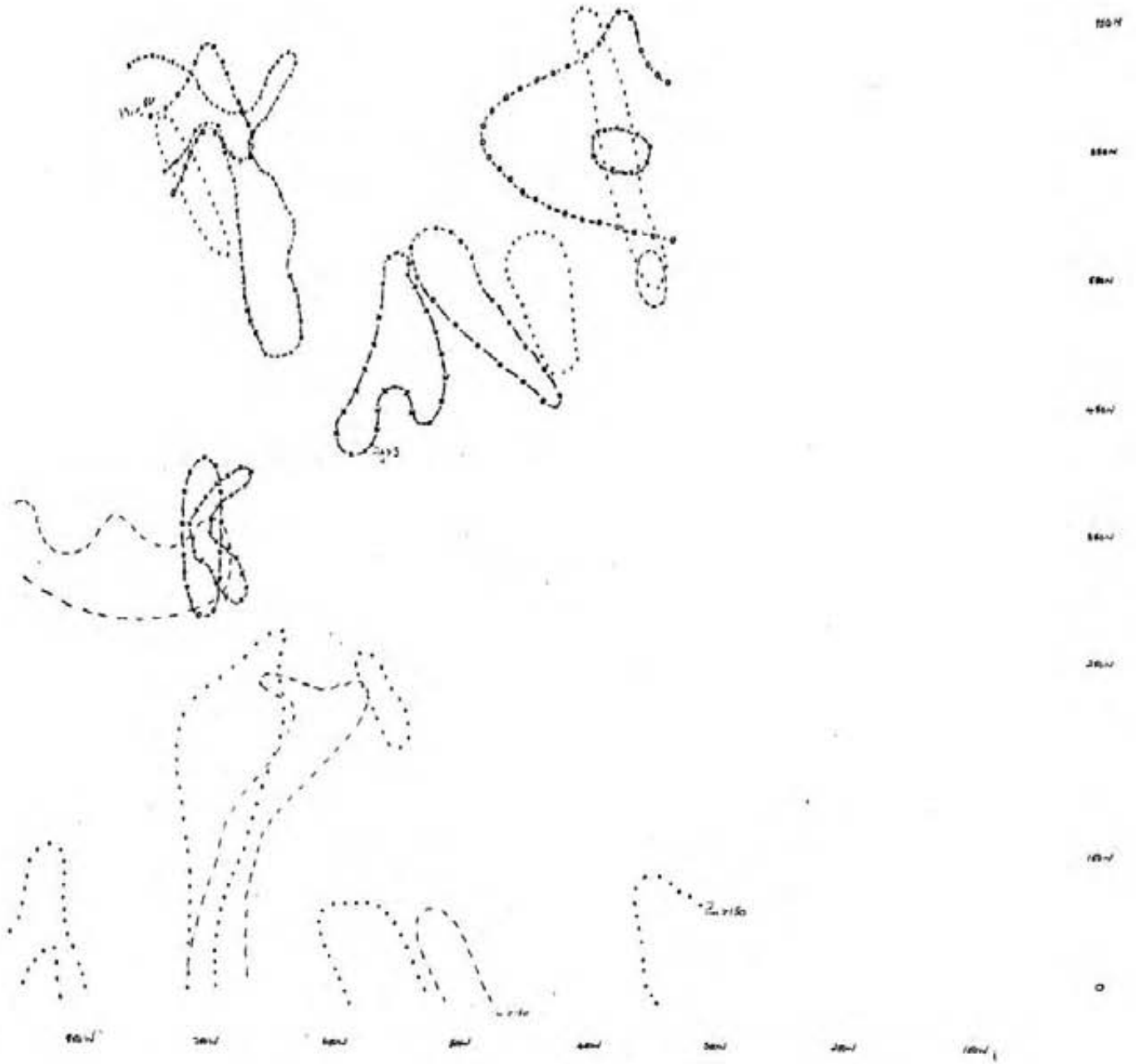


Fig. 1 92J/3E
L 6013
PRODUCTION LEASE NO. P1
NORTHAIR 3
749(8)
(3S by 5W)
NORTHAIR 4
750(8)
(3S by 5E)
NORTHAIR 5
751(8)
(3S by 5W)
NORTHAIR 6
752(8)
(4S by 4E)
J-2
780(10)
(2S X 3E)
J-3
781(10)
(6N X 2W)
J1
760(6)
(4N by 3E)
HANS 3
722(7)
(4S by 3E)
BN 1
732(8)
(3S by 3E)
BN 2
733(8)
(3N by 5E)
BN 3
734(8)
(3N by 4E)
DISCON
725(7)
(3N X 5W)
GRID ORIGIN POINT
MINERAL RESERVE
1/2 MILE EITHER SIDE
OIC 2659/70
SUBJECT TO CONDITIONS
DISCON SOUTH
864(3)
(4N X 4E)
TIM 8
410(4)
TIM 10
439(6)
TIM 7
409
(4)
STAD 4
645(3)
TIM 9
438(6)
STAD 3
644
(3)
STAD 2
643(3)
STAD 1
642(3)
BRANDY 8
742(8)
(4E by 5S)
THUMPER 2
841(2)
THUMPER 3
842(2)
(5N X 4E)
61511
61512
61513
61514
61515
61516
61508
62939
62940
62942
58275
58276
58277
58278
60983
48219

Fig.2



DISCON GEOCHEMICAL SOIL SAMPLING 1981 (1980 + 1979 included)

--- Cu >150 ... Zn >150 o-o-o Pb> 50 x-x-x Ag > 3

Anomalous Zones (ppm)

ITEMIZED COST STATEMENTS

June 1,81 - Nov. 10,81

A. Physical - Grid, Trenching and Road work.

Wages - 50 man days (see note 1)	$6024.00
Food and accomadations	2086.01
Transportation	939.70
Helicopter	308.77
Exploration supplies	696.30
Small tools & equipment	305.00
D-8 rental	800.00
	$11159.78

D. Geological Mapping

Wages - 53.5 days (see note 2)	6590.00
Food & accomadations	2052.90
Transportation	927.74
Helicopter	303.86
Exploration supplies	261.11
Small tools	72.89
Report	714.00
	$10922.50

D. Geophysical Survey

Wages - 43.5 days (see note 3)	7155.00
Food and accomadations	1655.56
Transportation	748.17
Helicopter	245.05
Exploration supplies	348.34
Small tools	93.15
Equipment rental	1339.00
Report	350.00
	$11934.07

Geochemical Survey

Wages - 22 days (see note 4)	$1916.00
Food and accomadation	827.78
Transportation	374.09
Helicopter	122.52
Exploration supplies	435.00
Small tools	150.00
Assays	1001.65
Report	350.00
	$5177.04

Note 1. A. Physical (grid, trenching, road work)

Grid work - 18 lines @ 1 km per line	18 km
1 baseline @ 900 m	.9 km
	18.9 km

John Peters @ $120.00 per day
Aug. 6-10,15-21,26 - Sept.1,4 — 16 days
Barry Nuttall @ $100.00 per day
Aug 6-11, 28 - Sept 3 — 12 days
Alec Binnie @ $100.00 per day
Aug 6-11, 16, 17 — 8 days

Geochemical soil sampling was done at the same time as the grid work. For the purpose of this report, 28 days physical work for a value of $3064.00 has been allocated to grid work, with a similar division applied to other expenses involved.

Trenching & Road work -
Open cut work in earth - approx 30m x 3m x 3m = 270m^3
Open cut work in rock - 10 locations 2m x 1m x 1m = 10m^3
Road scraping & cleaning - 2km using D-8

John Peters @ $120.00
Oct. 1-4, 15 - 18 — 8 days
Peter Garnett @ $100.00
Oct 17-19, 23, 24, 27-29 — 8 days
John Davies @ $200.00
Sept. 25,29,30, Oct 13-15 — 6 days

value $2960.00

Total wages for Physical work $6024.00

te 2. D. Geological mapping

John Peters @ $120.00		
Sept 25-30	5.5 days	$640.00
Debra Reuben @ $125.00 per day		
Sept 23 - Nov 9	46 days	5750.00
Peter Garnett @ $100.00 per day		
Oct. 16,25	2 days	200.00
Total	53½ days	$6590.00

note 3. D. Geophysical Survey

John Peters @ $120.00 per day		
June 16,17, Aug 11,12 Sept 4, 10-13,		
Sept 14, 17-20	13½ days	$1615.00
Pat Cowan @ $80.00 per day		
½ day Jun 17	½ day	40.00
Peg Middlestead @ 100.00 per day		
Sept 17-20	4 days	400.00
John Davies @ 200.00 per day		
Jun 16,17 ½ of 19		
Aug 6-9, 10-13, 15, 26-28,30		
Sept 3,4, 10-14, 17-20	25½ days	4600.00
	43½ days	$7155.00

note 4. Geochemical Survey

per note 1 -	12 days	$1456.00
Adam Binnie @ 20.00		
Aug. 6-11	6 days	120.00
Peter Garnett @ $110.00		
Oct 20, 26	2 days	220.00
John Peters @ $120.00		
Oct. 19,20	2 days	240.00
	22 days	$1916.00

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,127

N

900W 850W 800W 750W 700W 650W 600W 500W 450W 400W 350W 300W 250W 200W 150W 100 50W

950N 900N 850N 800N 750N 700N 650N 600N 550N 500N 450N 400N 350N 300N 250N 200N 150N 100N 50N 0N

#1 vertical 500'
#2 NE ∅ 45° 250'
#3 SE ∅ 60° 700'
#4 15°south E ∅ 60° 700'
#5 15°East ∅ 60° 500'

LEGEND

- BLACK - DARK GREY ARGILLITE - PHYLLITE
- GREY - GREEN ARGILLITE - PHYLLITE INTERCALATED WITH ACIDIC VOLCANICS
- GREENSTONE ; ANDESITIC TO DACITIC COMPOSITION
- BUFF - GREEN ACID VOLCANICS (RHYOLITE DIKES)
- DISSEMINATED SULPHIDES
- MAGNETITE VEIN
- CALCIUM CARBONATE

SYMBOLS

- GEOLOGICAL BOUNDARY : DEFINED / APPROXIMATE / ASSUMED
- FAULT : APPROXIMATE / ASSUMED
- BEDDING
- SCHISTOCITY , FOLIATION
- TRENCH , PROSPECT
- STREAM
- ROAD
- HYDROTHERMAL ALTERATION (INTENSE)

SCALE

0 100 200 METERS

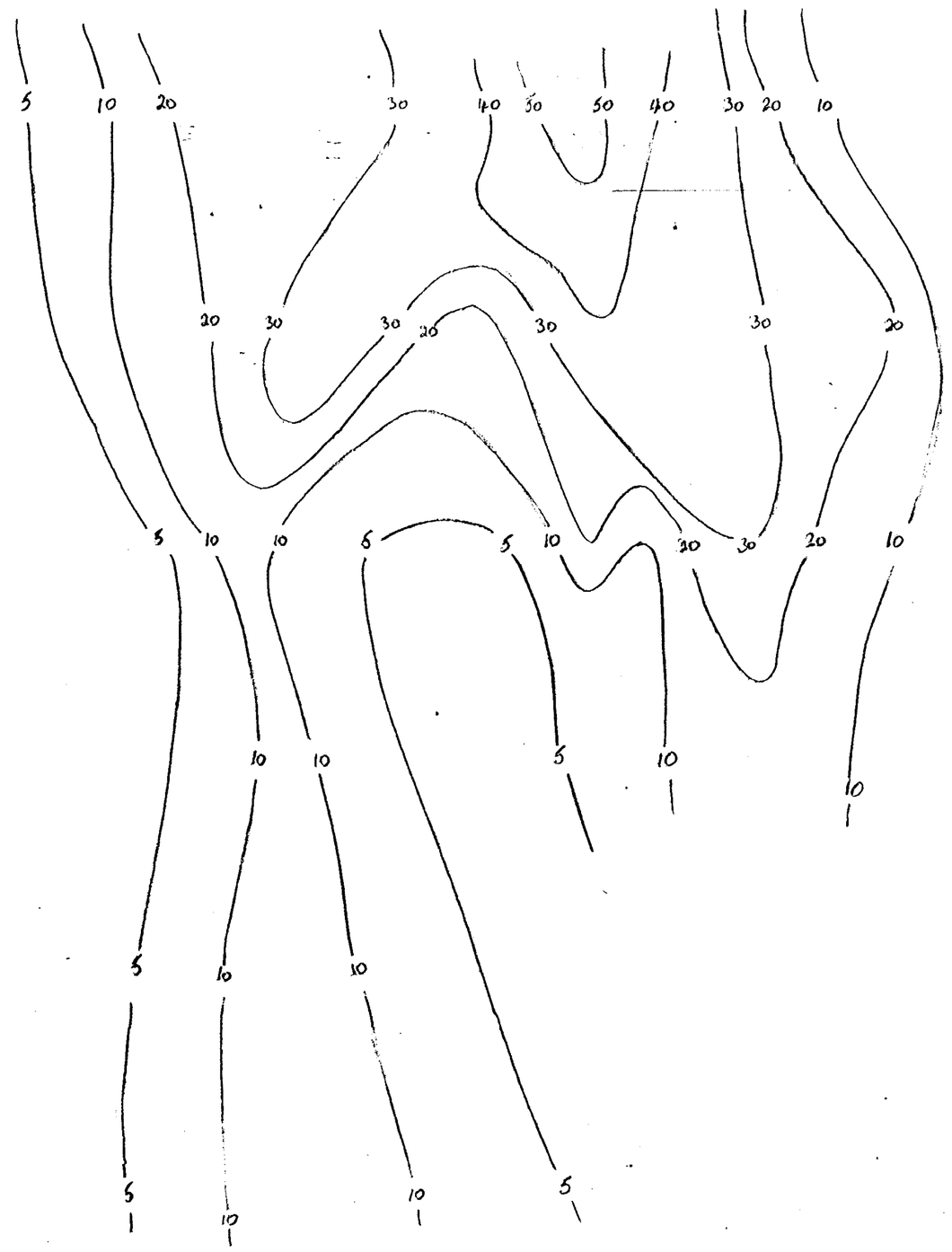
#1,2,3

#4,5

TRENCHING

ROAD (SCRAPED)

DEBRA REUBEN

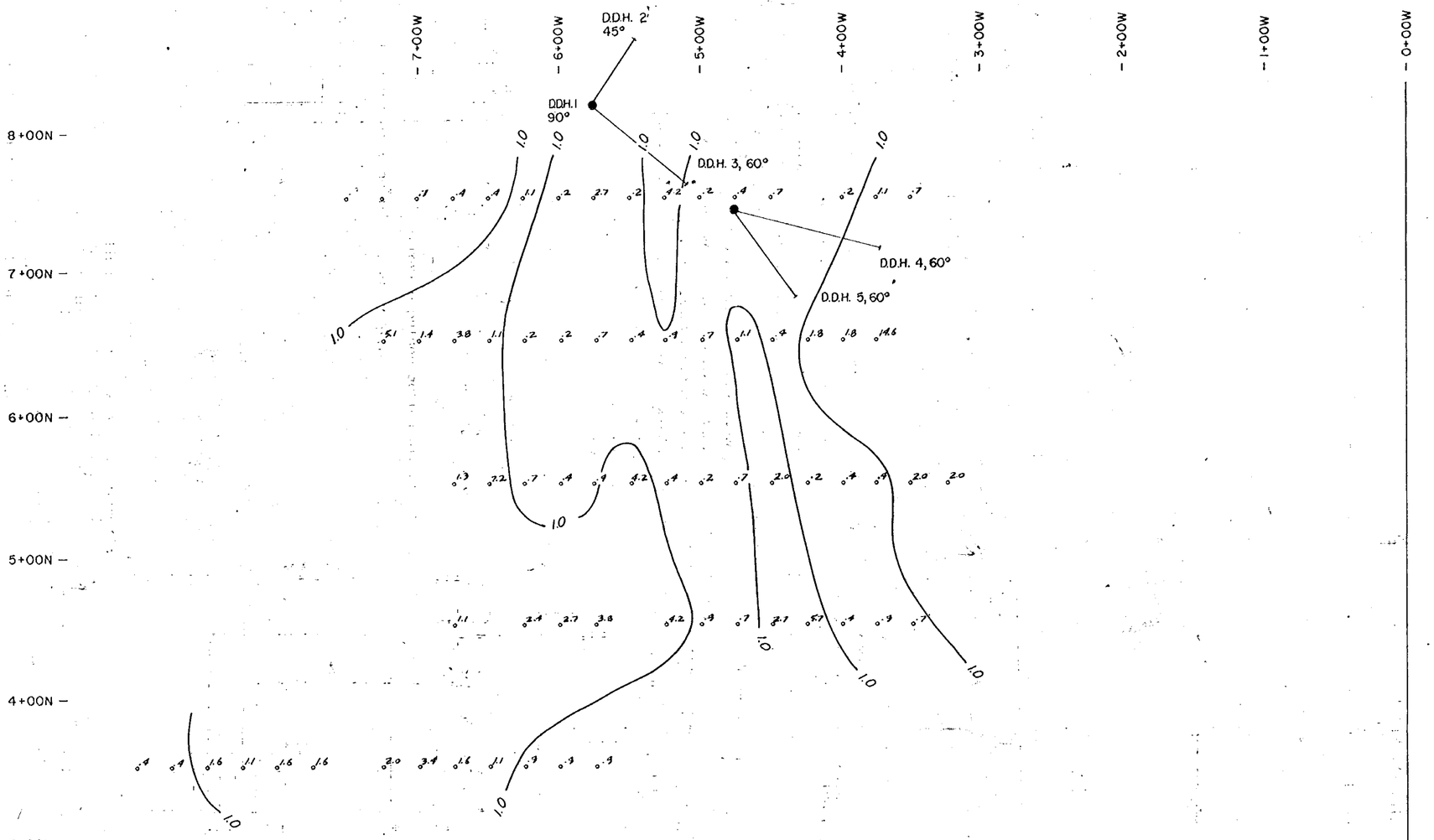


DISCON 1981

MEAN CHARGEABILITY (SCINTREX IPR-8)

750N
650N
550N
450N
350N
250N
150N

1000W 900W 800W 700W 600W 500W 400W 300W 200W 100W 0



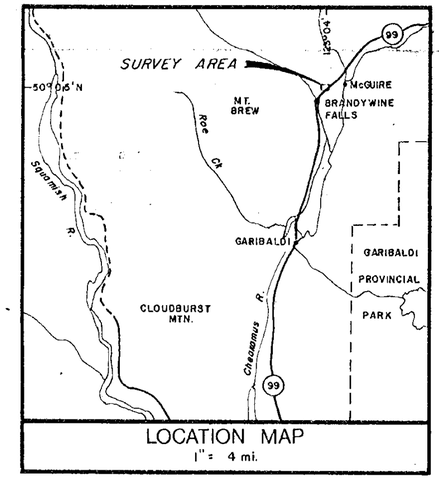
LEGEND:

1.0 GEOCHEMISTRY CONTOUR - 1.0 P.P.M. SILVER

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,127

N.T.S. 92 J/3E



50m 25m 0 50m 100m 150m
1 : 2500

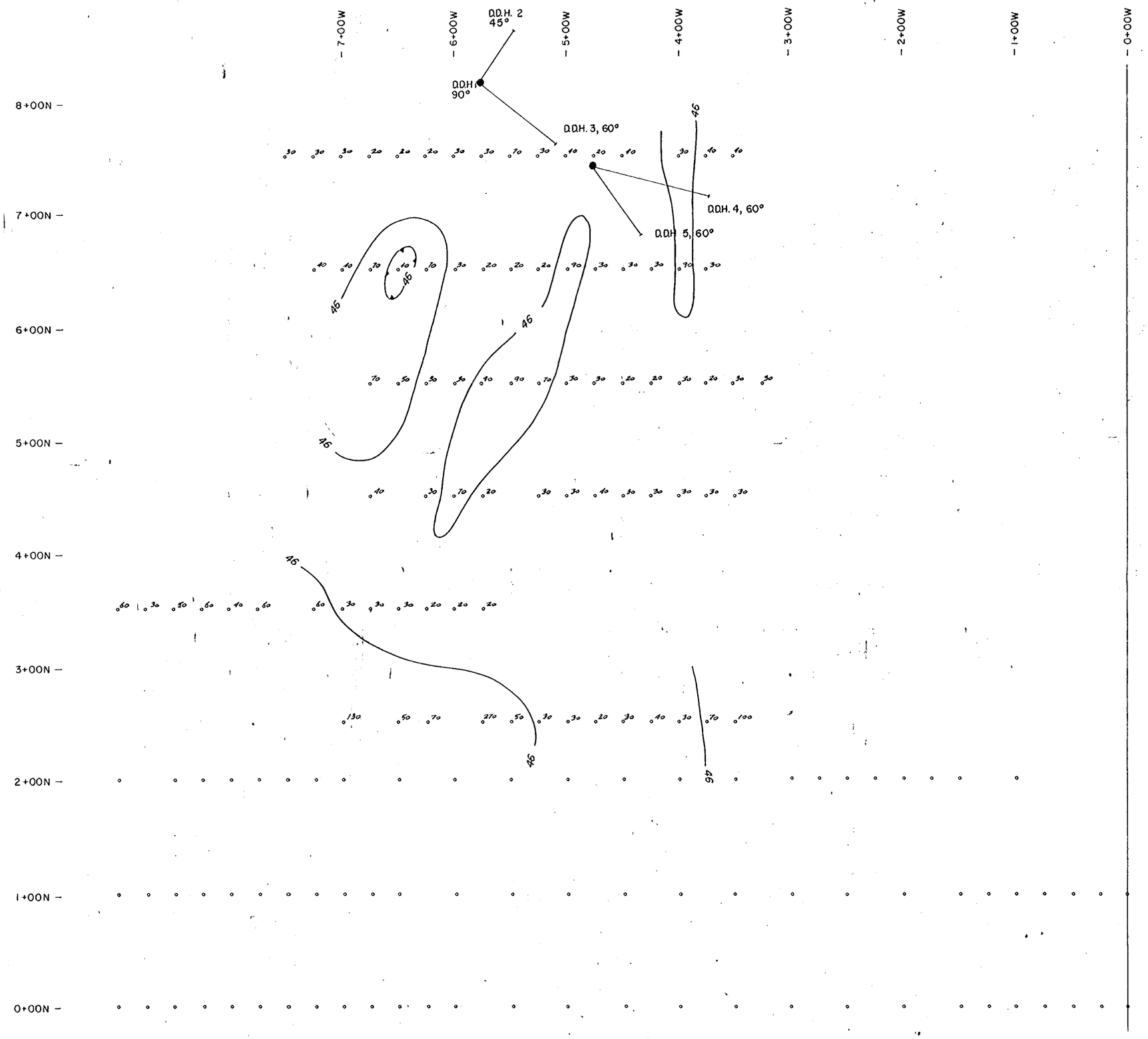
CRACK RESOURCES LTD.
DISCON CLAIMS
VANCOUVER MINING DIVISION — BRITISH COLUMBIA

GEOCHEMISTRY MAP
SILVER - P.P.M.

Glen E. White geophysical consulting & services ltd.

Interpreted By:	J.S.V.
Drawn By:	FINELINE DRAFTING
Checked By:	J.S.V.
Date:	OCT. /82
Fig. No:	5A

VANCAL 7134



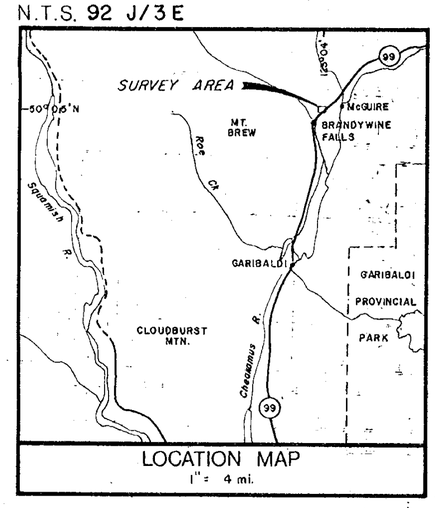
LEGEND:

46 GEOCHEMISTRY CONTOUR – 46 P.P.B. GOLD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,127

N.T.S. 92 J/3E



LOCATION MAP
1" = 4 mi.

50m 25m 0 50m 100m 150m
1 : 2500

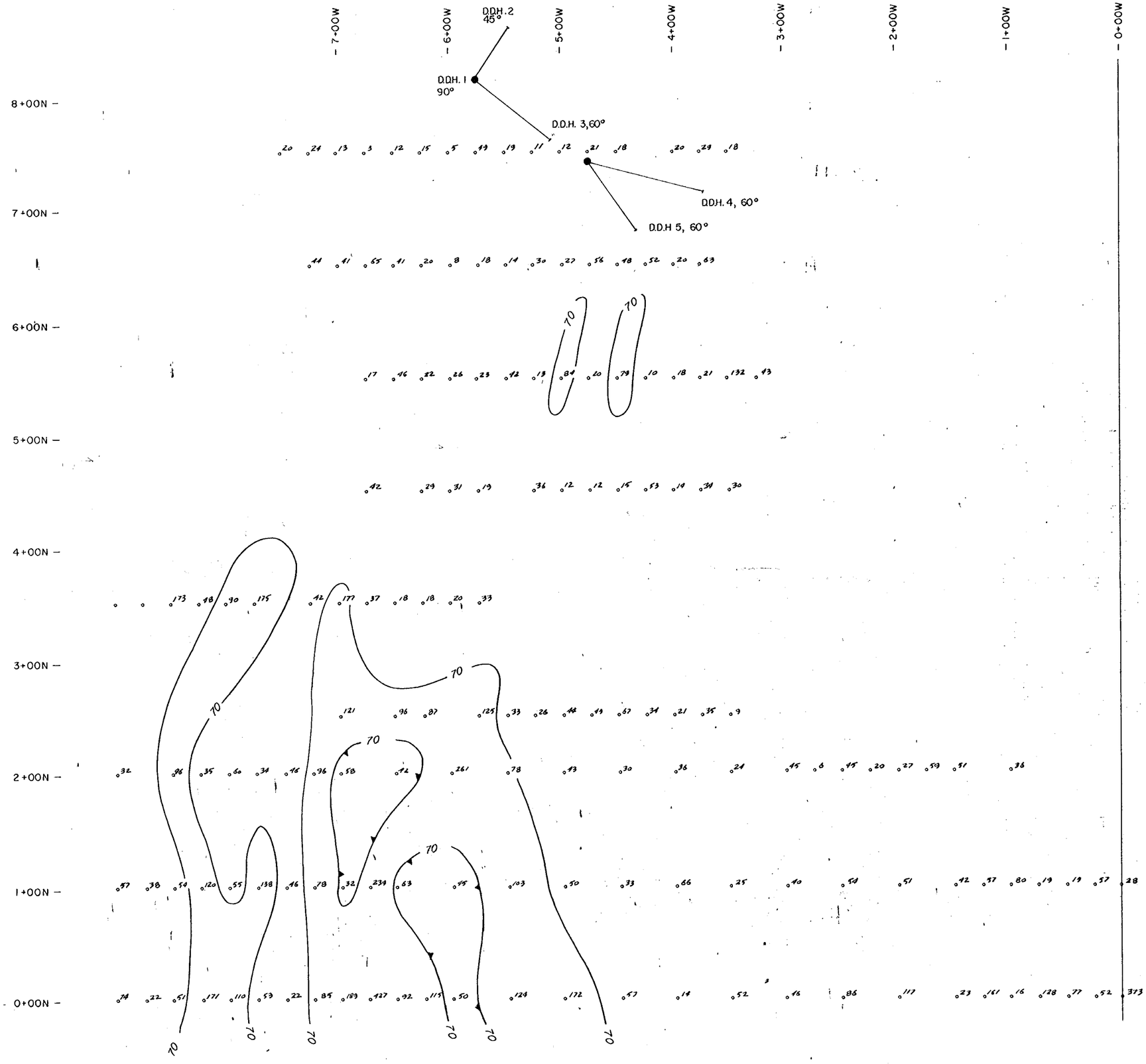
CRACK RESOURCES LTD.
DISCON CLAIMS
VANCOUVER MINING DIVISION — BRITISH COLUMBIA

GEOCHEMISTRY MAP
GOLD - P.P.B.

Glen E. White geophysical consulting & services ltd.

Interpreted By:	J.S.V.
Drawn By:	FINELINE DRAFTING
Checked By:	J.S.V.
Date:	OCT. /82
Fig. No.	5B

VANCAL 7134



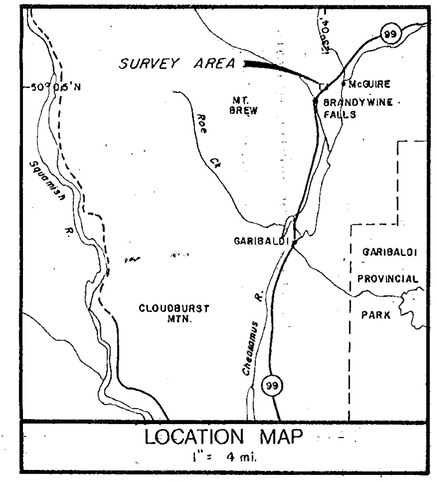
LEGEND:

70 GEOCHEMISTRY CONTOUR - 70 P.P.M. COPPER

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,127

N.T.S. 92 J/3E



50m 25m 0 50m 100m 150m

1 : 2500

CRACK RESOURCES LTD.
DISCON CLAIMS

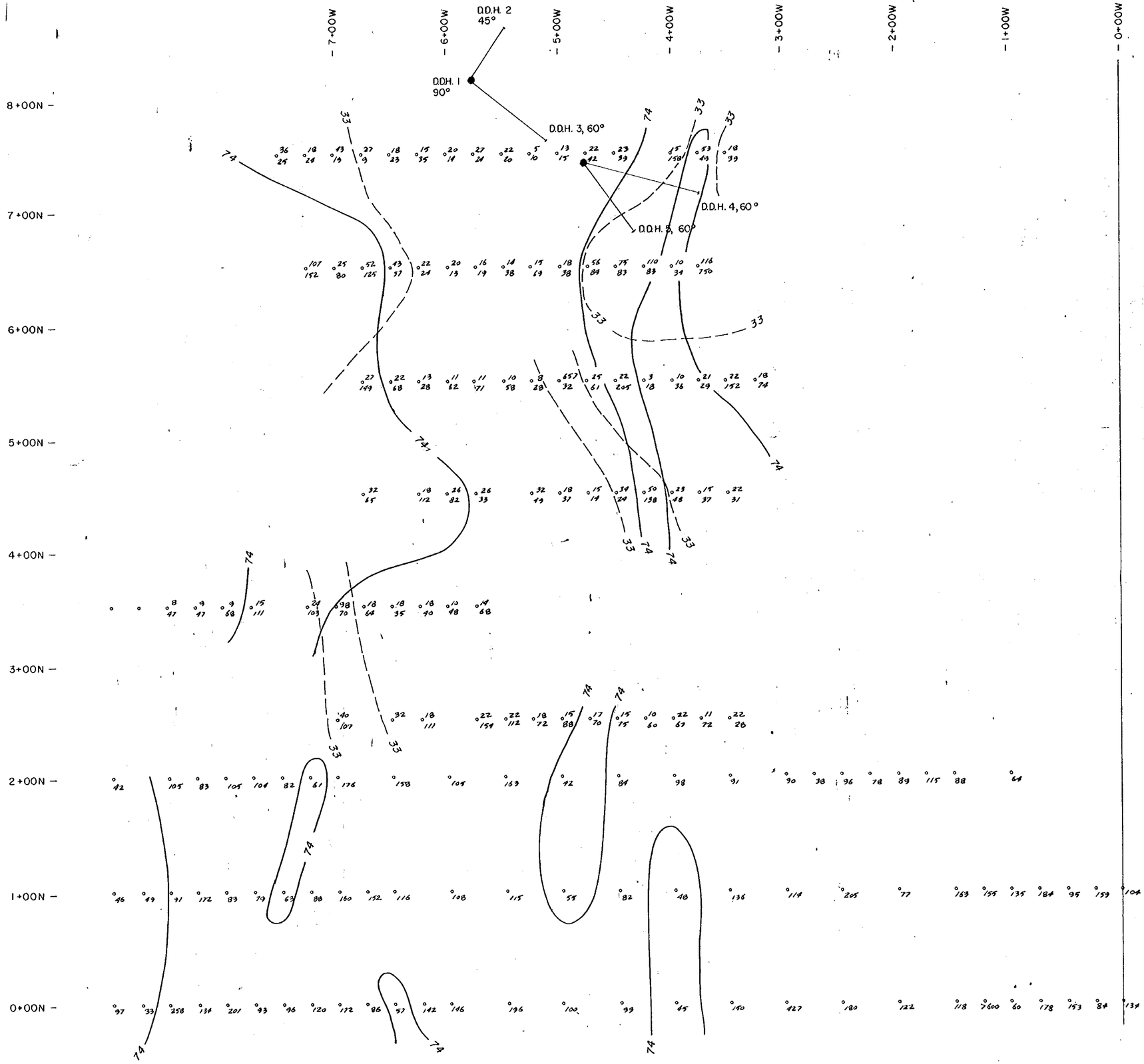
VANCOUVER MINING DIVISION — BRITISH COLUMBIA

GEOCHEMISTRY MAP
COPPER - P.P.M.

Glen E. White
geophysical consulting
&
services ltd.

Interpreted By	J.S.V.
Drawn By	FINELINE DRAFTING
Checked By	J.S.V.
Date	OCT. /82
Fig. No.	5C

VANCAL 7134



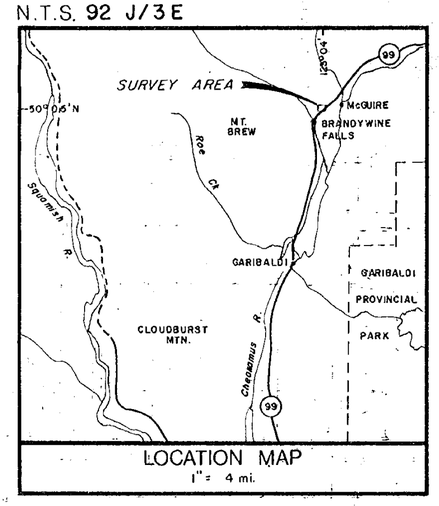
LEGEND:

GEOCHEMISTRY CONTOUR - 33 P.P.M. LEAD
- 70 P.P.M. ZINC

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,127

N.T.S. 92 J/3E



LOCATION MAP
1" = 4 mi.

50m 25m 0 50m 100m 150m
1 : 2500

CRACK RESOURCES LTD.
DISCON CLAIMS
VANCOUVER MINING DIVISION — BRITISH COLUMBIA

GEOCHEMISTRY MAP
LEAD & ZINC P.P.M.

Glen E. White geophysical consulting & services ltd.

Interpreted By	J.S.V.
Drawn By	FINELINE DRAFTING
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