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Geological and Geochemical Assessment Report
on the Hal Claim
October 22, 1976

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MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. **6055**

6055

Geological and Geochemical
Assessment Report

on the
HAL Claim (9 units)

Lat. $55^{\circ}56'N$ Long. $124^{\circ}42'W$
93N/15

Omineca Mining Division
British Columbia

for
Imperial Oil Limited
#314-1281 West Georgia Street
Vancouver, B.C.

HAL

93N/15E

J.M. Marr
October 22, 1976

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#2-Map 2	Rock Chip Samples	(1"=200')	"
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#4-Map 4	Zinc Soil Survey	(1"=200')	"
#5-Map 5	Silver Soil Survey	(1"=200')	"

Introduction

This report is submitted to obtain assessment credits on the HAL claim, located in the Omineca Mining Division in central B.C. The location of this claim, composed of nine units, is shown on the sketch on the next page and in an insert on map 1.

Access to the group on this occasion was by helicopter from Germansen Landing, approximately 16 km. to the south. A cat road, built by Cominco Ltd., passes about 4 km. to the west of the claim.

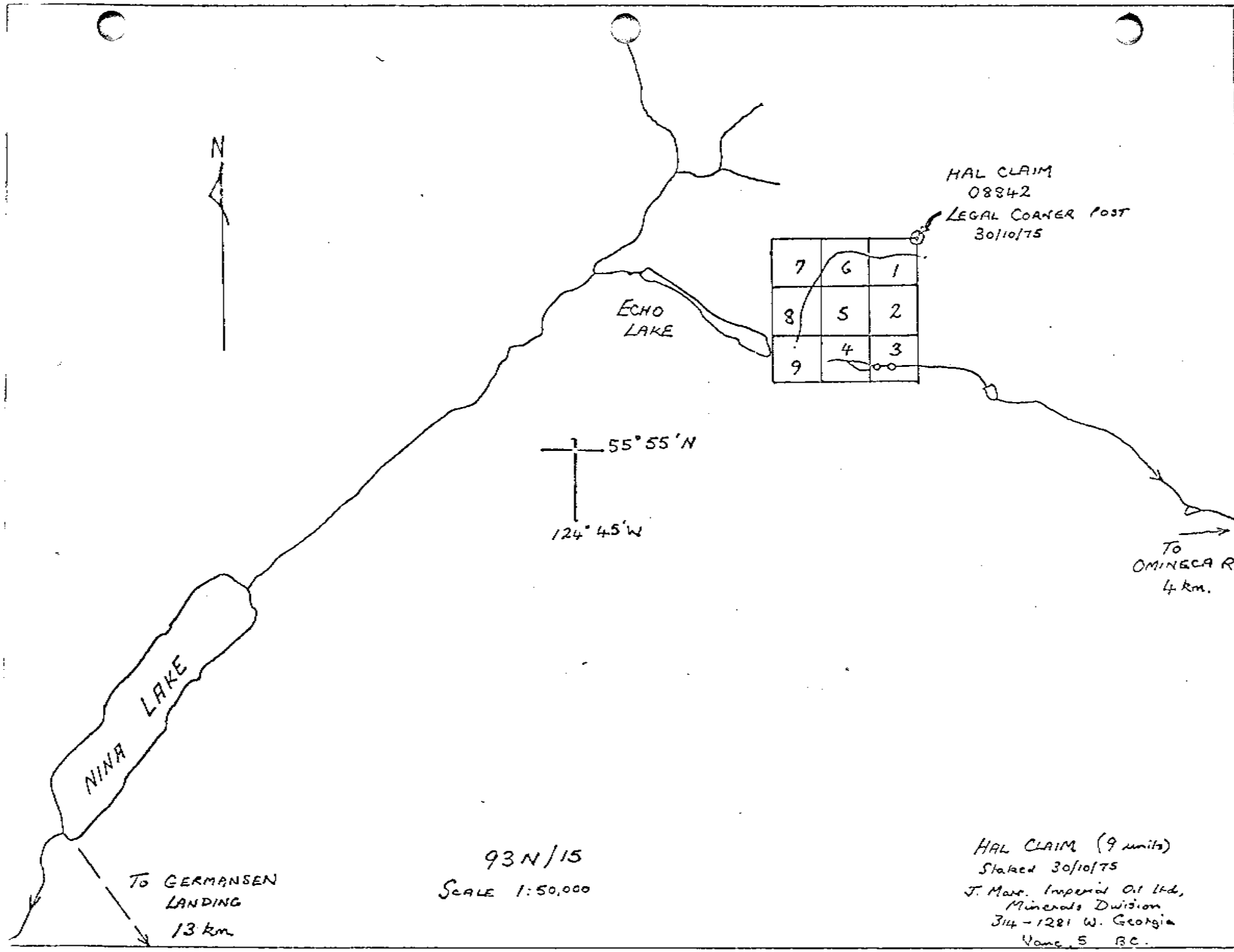
The claim (tag number 08842) was staked on the 30th October, 1975 and recorded on the 4th November, 1975. Two years of credit per claim unit are now applied for as follows:

<u>Claim</u>	<u>Record No.</u>	<u>No. of Years</u>	<u>New Expiry Date</u>
HAL (9 units)	178	2	Nov. 4, 1978
	Costs incurred (see statement)		\$2,090
	9 units x 2 years credits @ \$100/year		<u>1,800</u>
			<u>\$ 290</u>

This claim is wholly owned by Imperial Oil Limited. All the work herein reported was done by Imperial Oil personnel and paid for by the company. All the work was performed from a fly-camp centrally located within the area, from August 18th to 24th, 1976.

Supporting Work

A grid was established within the area by G. Bloy and R. Salkeld in preparation for the surveys, consisting of a baseline with crosslines at 400 foot (125 m.) intervals. This grid, shown in maps 1 - 5, was blazed, flagged, chained and picketed to a total footage of 12,500 feet. No line-cutting was done. The maps are each corrected for the



HAL CLAIM
 08842
 LEGAL CORNER POST
 30/10/75

7	6	1
8	5	2
9	4	3

55° 55' N
 124° 45' W

TO
 OMINECA R.
 4 km.

TO GERMANSEN
 LANDING
 13 km

93 N / 15
 SCALE 1:50,000

HAL CLAIM (9 units)
 Staked 30/10/75
 J. Max. Imperial Oil Ltd.
 Minerals Division
 314-1281 W. Georgia
 Vancouver, B.C.

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effects of topography on the chaining. An altimeter was used to determine the elevation of each station.

Geology

The regional geology is shown on map 876A, on which the limestone underlying the HAL area is believed to be Carboniferous in age and part of the Cache Creek Group. It lies in a belt bordering the Wolverine Complex and stretching northwards from the Omineca River. Detail on the belt has been added by J.W.H. Monger in G.S.C. Papers 73-1 and 74-1, indicating that these rocks are Lower Middle Devonian in age. The stratigraphic sequence is described in these reports, but no detailed maps are as yet available.

Geology within the claim boundaries is shown on map 1 (1"=200'), which also shows the topography and details of the individual claim units.

The mapping was done by G. Bloy, a 1976 graduate of the University of Alberta. He had worked in carbonate rocks elsewhere for this and other companies and was given company instruction prior to the survey.

The area is underlain by a bedded sequence of limestones, from thinly to massively bedded and from light to dark grey in colour. The beds strike NW-SE and dip at around 60° to the southwest, this attitude in relation to the topography being shown on the cross-section on map 1. Shaly intraclasts and calcareous algalaminated structures are present but no reefal material was observed. No definition of more detailed units was possible at this scale of mapping. A black micritic limestone outcrops near the western edge of the grid and one breccia occurrence, with angular limestone fragments in a white, finely crystalline limestone matrix, was mapped on the baseline (7E).

The sequence forms a regular homoclinal succession and no folding was observed. Fracturing appears to be approximately perpendicular to bedding.

Some possible hydrozincite was observed on boulders of partly calcite veined, clayey limestone in the creek above 0+00 on the baseline. No other mineralization was reported.

Geochemistry

The soil and rock chip sampling program was carried out by R. Salkeld, a second year geology student at U.B.C., under the field supervision of G. Bloy. He had received company instruction in sampling procedures and had done the work previously.

Soil samples were collected at 100 foot (30 m.) intervals on the grid with a stainless steel garden trowel. Soil profiles were generally found to be poor, a reddish silty to sandy 'B' horizon being developed only where tree growth was appreciable, on the lower parts of the central crosslines and on both edges of the grid. On the upper slopes, where vegetation is sparse and open areas of talus occur, a brown silty to sandy horizon, probably an 'A' horizon, was sampled. Sample depth averaged about 10 cm. In general terms, the steep slope led to a rapid thinning and stunting of tree growth with height and numerous slides revegetated by alpine flora.

Values in Pb, Zn and Ag respectively are shown at their sample sites on maps 3, 4 and 5. Map 2 illustrates various rock chip sample locations with their values. Contours added are identified for each element on their respective maps. Values are all in parts per million and are from the -80 mesh fraction.

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Interpretation

Maps 3, 4 and 5 indicate the most anomalous area to lie just above (north of) the baseline on line 00, with some extension to the northwest and southeast. This agrees in general with the very minor mineralization observed. The extent or tenor of the bedrock mineralization is still, however, largely unknown. There is very little outcrop in this area.

A handwritten signature in black ink, appearing to read 'J.M. Marr', with a stylized, looped initial 'J'.

J.M. Marr

JMM/mj

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COST STATEMENT

1. <u>Return airfare</u>		
G. Bloy and R. Salkeld, Vancouver to Prince George		\$212.00
2. <u>Salaries - 18 - 24 August, 1976</u>		
G. Bloy (\$45.00/day)		315.00
R. Salkeld (\$35.00/day)		245.00
J. Marr (\$80.00/day)		
1 day field supervisory		80.00
4 days map and report preparation		320.00
3. <u>Helicopter</u>		
1 hour @ \$308.00/hr. for camp mobilization and demobilization		308.00
4. <u>Laboratory</u>		
Geochemical analyses		
137 Soil		
32 Rock Chip		
(see attached list)		510.00
5. <u>Supplies</u>		
Meals, groceries, equipment, etc.		<u>100.00</u>
	Total	<u>\$2,090.00</u>

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project 6003 (HAL gp) Date of report Sept. 3/76

File No. 2862 Date samples received Aug. 31/76

Samples submitted by: J. Marr

Company: Imperial Oil

Report on: 137 Soil, 32 Rock Geochem samples

..... Assay samples

Copies sent to:

1. Imperial Oil, Vancouver, B.C.
2.
3.

Samples: Sieved to mesh -80 soil Ground to mesh -80 rock

Prepared samples stored discarded

rejects rk stored discarded soil

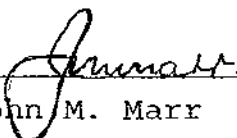
Methods of analysis: nitric, perchloric acids. Read on the Atomic
..... Absorption.

Remarks:

STATEMENT OF QUALIFICATIONS

I, John M. Marr, of North Vancouver, B.C.
hereby certify the following qualifications:

- (a) I obtained a B.Sc.(Hons.) degree in Geology (1968)
from St. Andrews University, Fife, Scotland.
- (b) I obtained an M.Sc. degree in Geology (1970) from
the University of Manitoba, Winnipeg, Manitoba.
- (c) I have been practising my profession as a geologist
in Canada since that time.

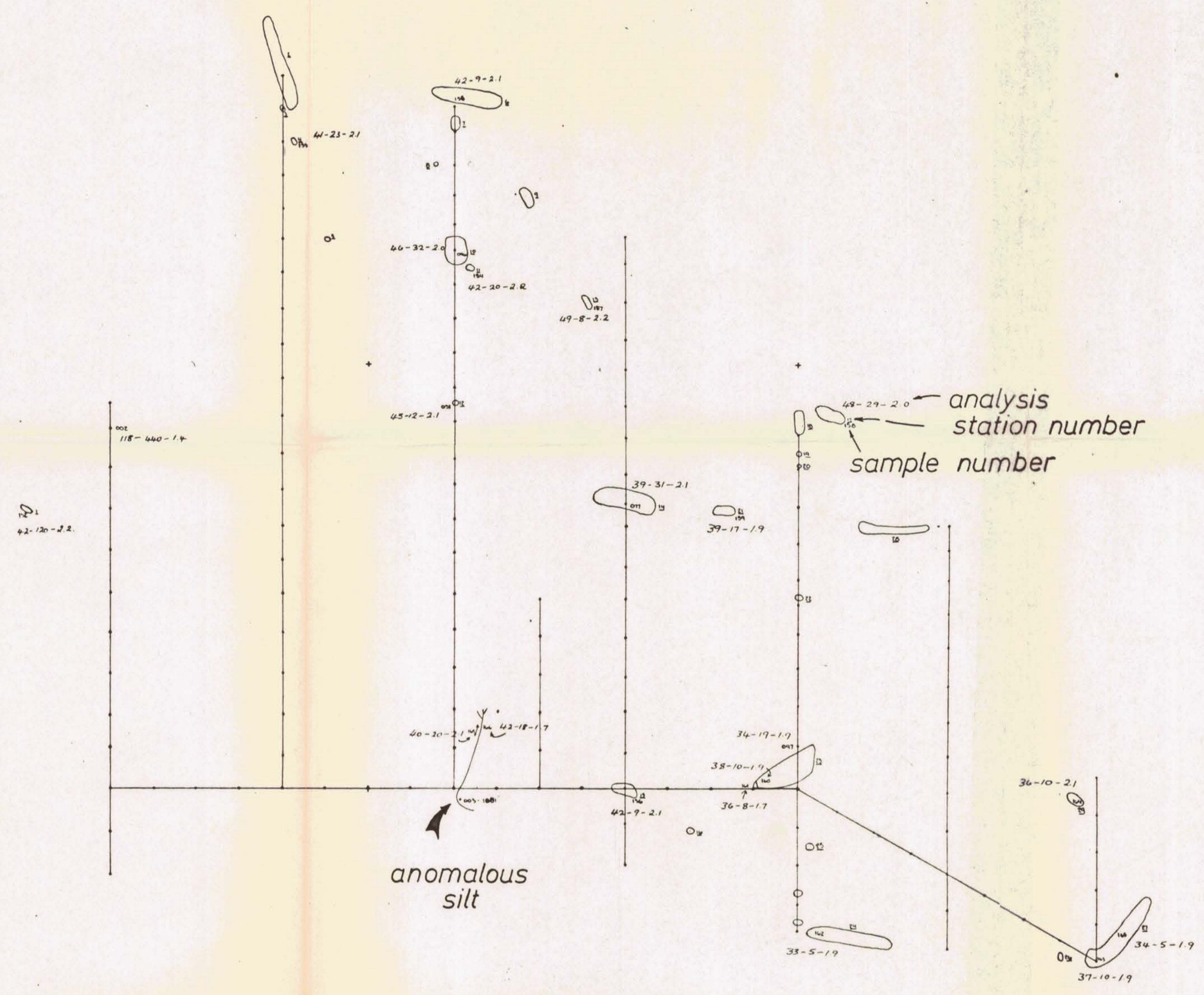


John M. Marr



HAL CLAIMS
Rock Chip Samples

Pb-Zn-Ag



SYMBOLS

- Drift-covered area
 - Rock outcrop, area of outcrop, float
 - Geological boundary (defined, approximate interpreted)
 - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
 - Bedding, tops unknown (inclined, vertical, dip unknown)
 - Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown)
 - Lineation, axes of minor folds (horizontal, inclined, vertical)
 - Drag-fold (arrow indicates plunge)
 - Fault (defined, approximate, interpreted)
 - Fault (inclined, vertical)
 - Fault (solid circle indicated downthrow side, arrows indicate relative movement)
 - Thrust fault (approximate, interpreted)
 - Shearing and dip
 - Joint (horizontal, inclined, vertical, dip unknown)
 - Syncline (defined, approximate)
 - Anticline (defined, approximate)
 - Anticline and syncline (overturned)
 - Intensity (weak, moderate, strong)
-
- Trench
 - Adit or tunnel
 - Rock dump or tailings
 - Quarry or mine
 - Shaft, raise, winze
 - Diamond-drill hole
-
- Contours 2500 C.I.
 - Stream or creek (Perennial, intermittent)
 - Marsh
 - Lake
 - Road
 - Jeep Road
 - Trail
 - Trees

Rock Chip Sample Numbers & Station Numbers (underlined)
IMPERIAL OIL LIMITED - MINERALS

MINERAL RESOURCES BRANCH
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MAP NO. **2**

Project No. 6055 Hal Ag Mining Division Omnesa
 Latitude 55° 54' Longitude 124° 42'
 NTS 9874/15E
 To Accompany A Report By J. Marr
 Dated Oct. 22/76 Map No. 2

6055

6055

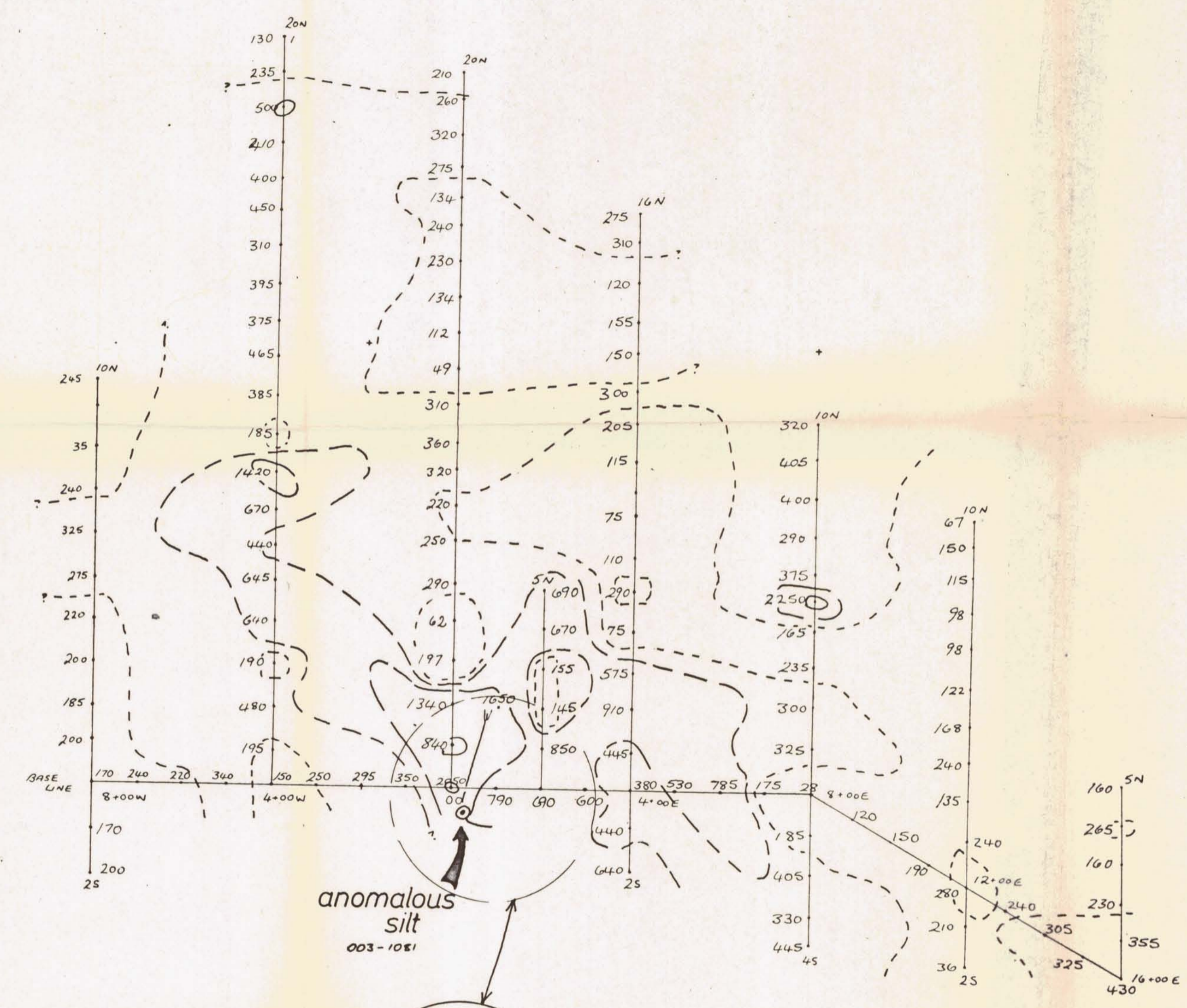
J. Marr
Oct 22 1976



HAL CLAIMS

SOILS

ZINC



anomalous silt
003-1081

Zn values from local silt. See 1975 Report.

EL-19 * 1100 ppm.
EL-18 * 1100 ppm.
EL-17 * 1100 ppm.
EL-11 1700 ppm (same as 1081)

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float X (XXX) X
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

- - - - - > 250 ppm.
- - - - - > 500 ppm.
- - - - - > 1000 ppm.
- - - - - > 2000 ppm.

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MINERAL RESOURCES BRANCH
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MAP NO. **4**

IMPERIAL OIL LIMITED - MINERALS

Project No. 6057 Hal 40 Mining Division 0-10000

Latitude 36° 54' Longitude 124° 42'

NTS 1/24 / 1/56

To Accompany A Report By: J. MARR
Dated: Oct 22, 1976 Map No. 4

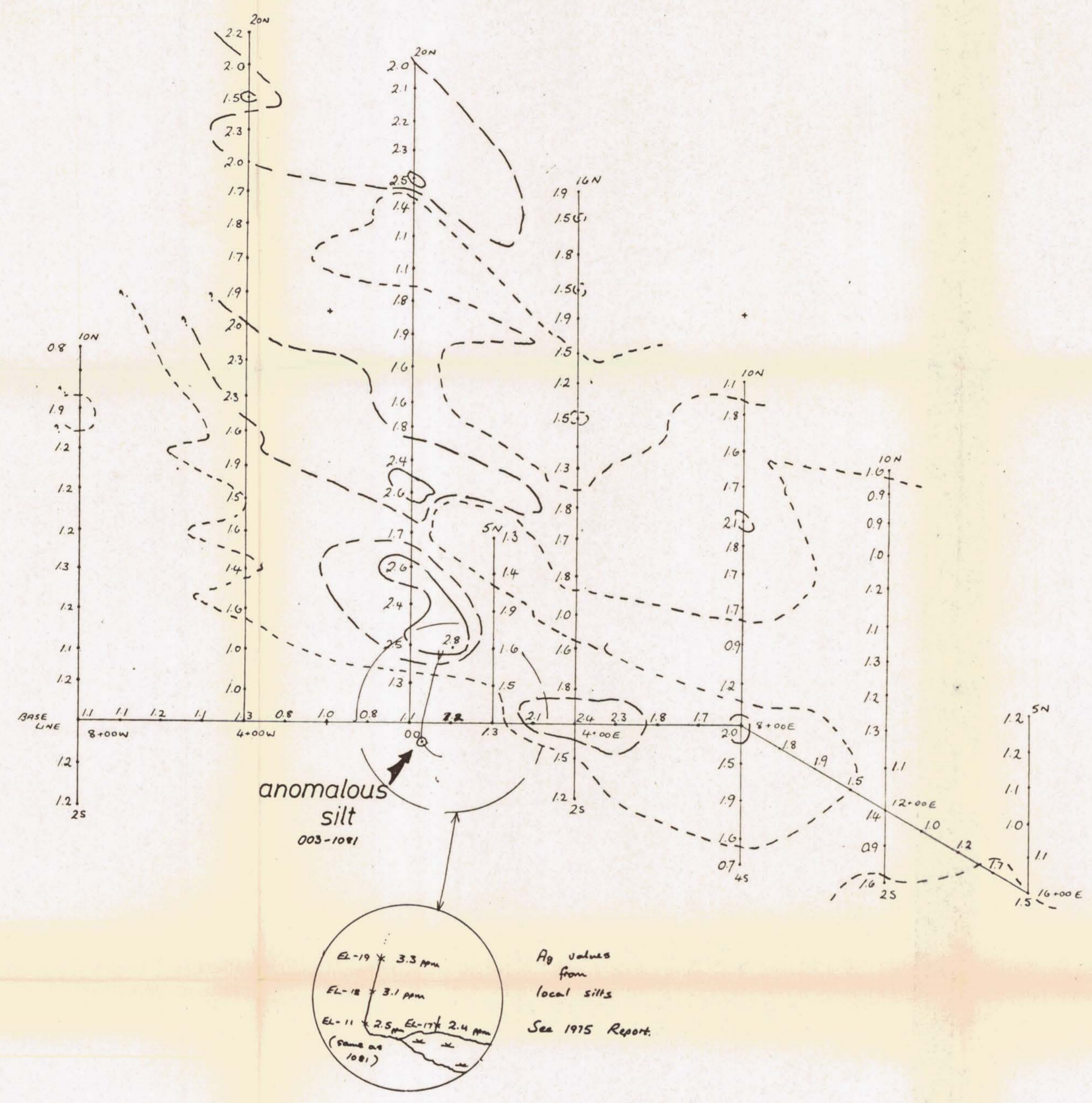
Oct 22, 1976



HAL CLAIMS

SOILS

SILVER



SYMBOLS

- Drift covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown)
- Limestone, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

- - - - - > 1.5 ppm.
- - - - - > 2.0 ppm.
- - - - - > 2.5 ppm.

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MINERAL RESOURCES BRANCH
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NO. **6055**
MAP NO. **5**

IMPERIAL OIL LIMITED - MINERALS

Project No. 6057 Hal 50 Mining Division Omineca

Latitude 56° 52' Longitude 124° 42'

NTS 1:25,000

To Accompany A Report By: J. MARR & COMPANY P. BIRD

Dated: Oct 22 1976 Map No. 5

Oct 22 1976