

81-1216-10003

DIAMOND DRILL REPORT

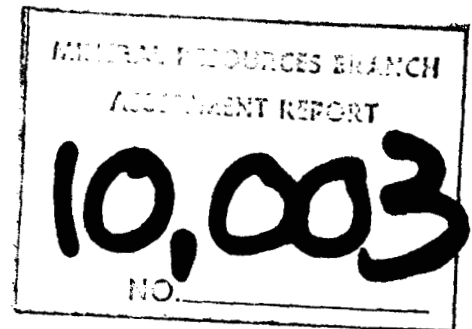
RED CLAIM

RECORD NUMBER 315

ONINECA M.D.

NTS 93L/3

127°00'W/54°08'N



OWNERS: VITAL MINES LIMITED

OPERATOR: MATTAGAMI LAKE EXPLORATION LIMITED

AUTHOR: J. HELSEN

DATE: NOVEMBER 1981

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INTRODUCTION

This assessment report deals with the results of diamond drill hole H-81-12 on the RED claim near Houston. This hole with a total depth of 345 feet was drilled at the end of August 1981. The drill crews were flown in by helicopter of Northern Mountain Helicopter Inc. Engineering supervision was carried out by J. Helsen. Mike Jenner was hired temporarily as an assistant. All people were put up in the Pleasant Valley Inn in Houston.

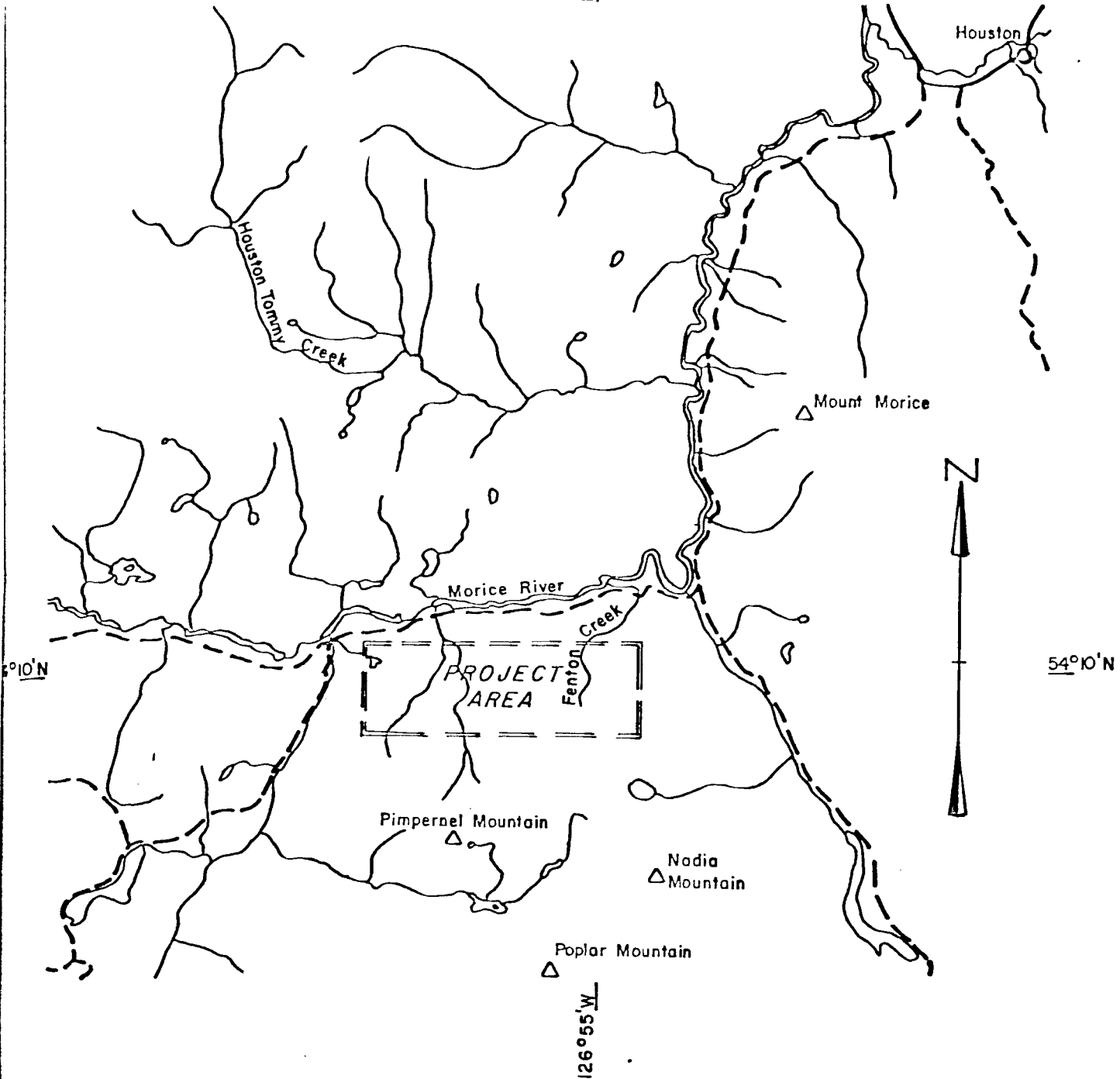
LOCATION AND ACCESS

The RED claim of the Houston Project area is situated at about 35km southwest of Houston, B.C.

Access is possible via the Francois Lake and then the Morice River logging roads with the turn-off at mile 26 (now 42km signpost) towards Fry-pan Lake. The last 5km are in a very poor condition and only accessible with a 4x4 truck. This road, however, is the only one that leads to the general drill area. At the end of this road a heli-pad was built. The drill site is at about 1.5km and can be reached by walking or bulldozer only.

The average altitude of the property is 900m above sealevel. The area consists of steep to rolling hills. Figure 1 shows the location of the area of interest with regards to the nearest town.

126°55'W



54°10'N

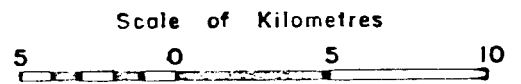
54°10'N

126°55'W

LEGEND

- PAVED ROAD
- - - GRAVEL ROAD
- TOWN
- △ MOUNTAIN SUMMIT

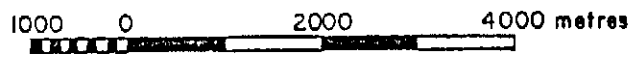
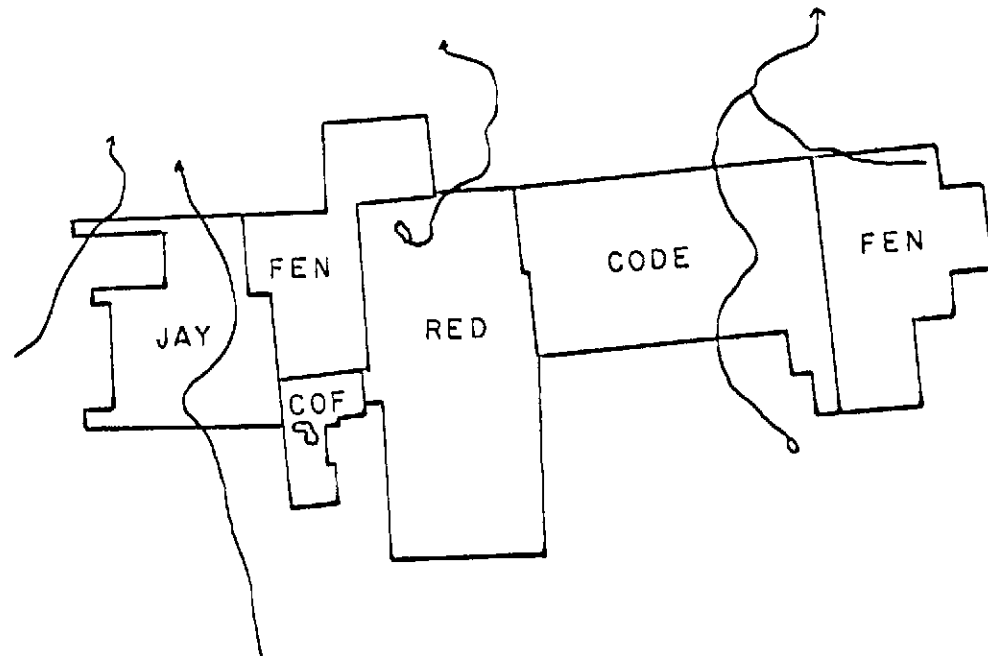
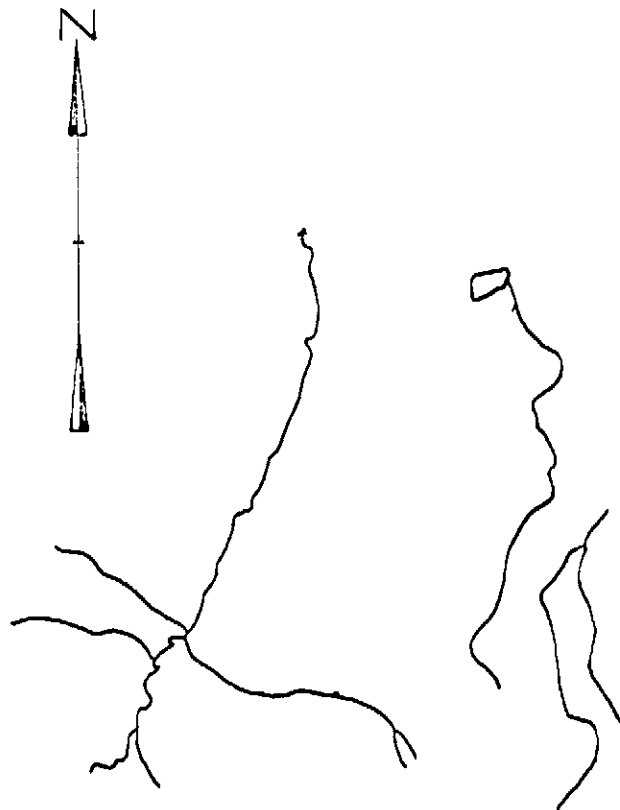
MATTAGAMI LAKE EXPLORATION LIMITED
 HOUSTON PROJECT
 FIGURE I
 LOCATION & ACCESS MAP



PROPERTY DEFINITION

The RED claim (Record #315) was recorded on June 4th. The owner is Vital Mines Limited of Toronto, Ontario.

Figure 2 shows the location of the RED claims with regards to the other claims of the Houston Project area.



MATTAGAMI LAKE EXPLORATION LIMITED
FIGURE 2
HOUSTON PROJECT.
CLAIM MAP

NTS: 93L3E, 93L2W

HISTORY

The first investigations of the property were carried out by Anaconda and Helicon after the discovery of anomalous stream sediments and a mineralized float boulder. No mineralization was obtained in pre-1980 drilling except in Anaconda (Helicon) hole #9. One 5-foot intersection contained some sphalerite and galena.

The work carried out by Mattagami since 1977 includes I.P., Crone Shootback, Radem, VLF EM16R as well as soil surveys (Mercer and Sutherland, 1980). A very limited drill program carried out in 1978 to investigate I.P. anomalies on the JAY-2 claim did not encounter any mineralization.

A second drill program was carried out in September 1980 in the eastern part of the property (Mercer, 1981). Results from this drill program combined with existing airborne geophysics led to the drilling of hole H-81-12 in August 1981 by J.T. Thomas Diamond Drilling Limited.

GEOLOGY

The geological units of the project area have been summarized in Table 1. The only unit of concern is the Telkwa Formation of the Hazelton Group which has been described by Tipper. Both Tipper and Church agree with the name and location of this group and unit.

TABLE ONE: GEOLOGICAL UNITS

| AGE | AUTHOR | CHURCH | TIPPER | | | |
|----------|---------------------------|---------------------------------|--|---|-------------------------|---|
| | | B.C. Dept. of Mines GEM 1972 | Geological Survey of Canada Open File (1976) #351 | | | |
| TERTIARY | Fenton Creek Volcanics | | Rhyolite, tradyte breccia and lava | | | |
| | Buck Creek Volcanics | | Fresh brown andesite | Eocene- Oligocene | Buck Creek Volcanics | |
| MESOZOIC | Upper | Tip-Top Volcanics | Dacite | Maetrich- tiano- cene | Ootsa Lake Group | Rhyolite, dacite tuffs and breccia |
| | | Sedimentary Rocks | | | | |
| | Lower- Middle | Hazelton | Maroon, brown grey-green andesites | Hazelton Group Sinemur- ian=L. Pliens- bachian | Telkwa Formation | Red, maroon, grey-green breccia, tuffs flows of basalt to rhyolite |

WORK CARRIED OUT

The diamond drill hole H-81-12 was collared with a Super 38 Longyear drill unit driven by a Magirus-Deutz diesel engine. The drilling was done by J.T. Thomas Diamond Drilling Ltd. of Smithers, B.C. Two drill crews of two people and a fieldman were involved. The geologist present was J. Helsen. Mike Jenner was hired temporarily as an assistant.

The hole was stopped at a depth of 345 feet (105.2m) i.e. 15 feet more than the projected depth. Recovery of the NQ core was very good, i.e. 90 to 95% consistently.

This hole was already projected in 1980 but not carried out because of suspected deep overburden for which the BBS-1 drill (AX size) was not powerful enough. The reasons for drilling this hole include horizontal shootback EM, vertical loop EM as well as the existence of an airborne geophysical anomaly (Mercer, W., August 1981, Ass. Report. Diamond Drill Report RED, CODE 6, CODE 7, CODE 21FR. Claims).

RESULTS AND CONCLUSIONS

The results of the diamond drill hole H-81-12 are given in Figure 3 and in the hole record in Appendix I. The exact location of the hole is indicated on Figure 4.

The overburden proved to be about 87m thick. The hole is barren of mineralization. The lithology is mainly made up of volcanic breccias, grading towards the bottom of the hole into more tuffaceous materials. Alteration, believed to be of a multi-stage sequence, is very complex and almost invariably obliterates the original composition of the rocks.

The airborne anomaly, one of the major reasons for drilling this hole, is believed to be caused by the very thick overburden.

The hole was extended for another 5m because some veins which looked like sphalerite mineralized veins with a flashlight, in the end turned out to be massive chlorite veins.

LIST OF REFERENCES

CHURCH, B.N., 1972, B.C. Dept. of Mines & Petroleum Res., Geology,
Exploration and Mining in B.C. pp. 373-379.

MERCER, W., August 1981, B.C. Ass. Report Omineca Mining Division,
Diamond Drill Report RED, CODE 6, CODE 7, CODE 21FR. Claims.

MERCER, W., and SUTHERLAND, June 1980, B.C. Ass. Report, Omineca Mining
Division, Geochemistry and Geophysics Report, RED, RED 2, CODE Claims.

TIPPER, H.W., 1963, Nechako River Map Area, G.S.C. Memoir 324, 59p.


CERTIFICATE

I, Jan Helsen, of the City of Edmonton, Province of Alberta,
do hereby certify that:

1. I am a geologist residing at 7305 - 180th Street
Edmonton.
2. I am a graduate of the University of Leuven, Belgium
with a "Licenciaat in Geologie".
3. I am a graduate of McMaster University, Ontario,
with a M.Sc. (1970) and a Ph.D. (1976) in geology.
4. I have been practicing my profession since 1976 and
am at present Exploration Geologist with Mattagami
Lake Exploration Limited.
5. I am a fellow of the Geological Association of Canada.
6. I supervised the work that is described in this
report.

Dated: Dec. 7, 1981

J. Helsen



APPENDIX ONE

DIAMOND DRILL HOLE H-81-12 LOG

MATTAGAMI LAKE MINES LIMITED - EXPLORATION DIVISION - DIAMOND DRILL HOLE RECORD

| PROPERTY | HOUSTON - RED Claim | LATITUDE | 1,300N | STARTED | August 30, 1981 | DIP TEST | | | | | | | | |
|------------|---------------------|----------------------------|---|------------|-------------------|----------|-----------|-------------------------------|-----------|---------|-----------|-----|----|--|
| | | | | | | Footage | Corrected | Footage | Corrected | Footage | Corrected | | | |
| HOLE NO. | H-81-12 | DEPARTURE | 525W | FINISHED | August 31, 1981 | | | | | | | | | |
| BEARING | 270° | ELEVATION | | LENGTH | 345 feet (105.2m) | | | | | | | | | |
| DIP-COLLAR | -55° | XXXXXXXX CLAIM: | RED | LOGGED BY | J. Helsen | | | | | | | | | |
| FOOTAGE | | DESCRIPTION | % Mineralization | SAMPLE NO. | FOOTAGE | | | ASSAYS (ppm except Au in ppb) | | | | | | |
| From | To | | | | From | To | Length | Mo | Cu | Pb | Zn | Ag | Au | |
| | 0m | 54.9m | | | | | | | | | | | | |
| | | 54.9m | | | | | | | | | | | | |
| | | 54.9m | | | | | | | | | | | | |
| | | 54.9m-56.4m | Breccias are very altered. Fractures and interstitial spaces occasionally filled with chalcedony like quartz, kaolinite, undefined soft black amorph material, and some pyrite cubes. Fractures and interstices make up some 2 to 3% of rock. | H-81-12-41 | 54.9 | 56.4 | 1.5m | 4 | 70 | 4 | 52 | 0.4 | | |
| | | 56.4m-59.4m | Very altered breccia. Both groundmass and blocks are extremely altered. A few tiny veins but no mineralization. | H-81-12-42 | 56.4 | 59.4 | 3.0m | 4 | 190 | 12 | 50 | 0.4 | | |
| | | 59.4m-62.5m | Same altered volcanic breccia. Some of the bigger blocks are darker inside which may hint at original composition (andesitic?). | H-81-12-43 | 59.4 | 62.5 | 3.0m | 4 | 278 | 8 | 36 | 0.4 | | |
| | | 62.5m-65.5m | Strongly altered volcanic breccias with a few veins containing occasionally some pink quartz(?) | H-81-12-44 | 62.5 | 65.5 | 3.0m | 7 | 278 | 12 | 60 | 0.8 | | |
| | | 65.5m-68.6m | Very light grey volcanic breccia in which the blocks are almost indistinguishable from groundmass due to alteration. Some brown staining occurs along cracks. In the lower half some pyrite occurs in the infrequent joints. | H-81-12-45 | 65.5 | 68.55 | 3.05m | 4 | 58 | 10 | 82 | 0.6 | | |
| | | 68.6m-71.6m | Same altered breccia but no pyrite. | H-81-12-46 | 68.55 | 70.3 | 1.7m | 4 | 50 | 6 | 52 | 0.6 | | |
| | | 71.6m-74.7m | Same altered breccia, no mineralization except at 74.5m some brown staining. | | | | | | | | | | | |
| | | 74.7m-77.7m | Same altered breccia, no mineralization. | H-81-12-47 | 74.4 | 74.6 | 0.2m | 7 | 160 | 16 | 112 | 1.0 | | |
| | | 77.7m-80.8m | Same altered breccia. At 79.0m occur a few pyrite cubes. The alteration pattern reflects a complex multi-stage development. | H-81-12-48 | 77.7 | 78.8 | 1.1m | 4 | 76 | 16 | 108 | 0.6 | | |
| | | 80.8m-83.8m | Same volcanic altered breccia with apparently multi-stage (frequently re-opened) veins of about 1cm wide. These veins contain brown (altered pyrite?) and green (massive chlorite?) minerals. | H-81-12-49 | 78.9 | 80.7 | 1.8m | 7 | 94 | 24 | 112 | 0.6 | | |
| | | 83.8m-86.9m | Medium grey, very altered, finer grained, more tuffaceous rock, unless the blocks and groundmass are equally strongly altered. Consequently masking the previous breccia appearance. | H-81-12-50 | 80.8 | 83.8 | 3.0m | 7 | 214 | 20 | 262 | 0.4 | | |
| | | 86.9m | | | | | | | | | | | | |
| | | 86.9m | | | | | | | | | | | | |
| | | 86.9m-89.9m | Medium grey tuffaceous volcanics with occasionally abundant tiny quartz veins and buff colored coating of wall rock. | H-81-12-51 | 83.8 | 85.7 | 2.9m | 4 | 48 | 70 | 318 | 0.4 | | |
| | | 89.9m-93.0m | Tuffaceous medium-grey volcanics with abundant veinlets. The lower part becomes more vitric in appearance with a few plagioclase phenocrysts. | H-81-12-52 | 86.9 | 89.9 | 3.05m | 7 | 158 | 32 | 124 | 0.4 | | |
| | | | | H-81-12-53 | 89.9 | 92.2 | 2.30m | 7 | 82 | 10 | 48 | 0.6 | | |

APPENDIX TWO
STATEMENT OF COSTS

STATEMENT OF COSTS

The drilling of DDH H-81-12 was carried out by J.T. Thomas Diamond Drilling Ltd. at \$ 34.00/foot, all costs included except material. Consequently the total cost for this hole is as follows:

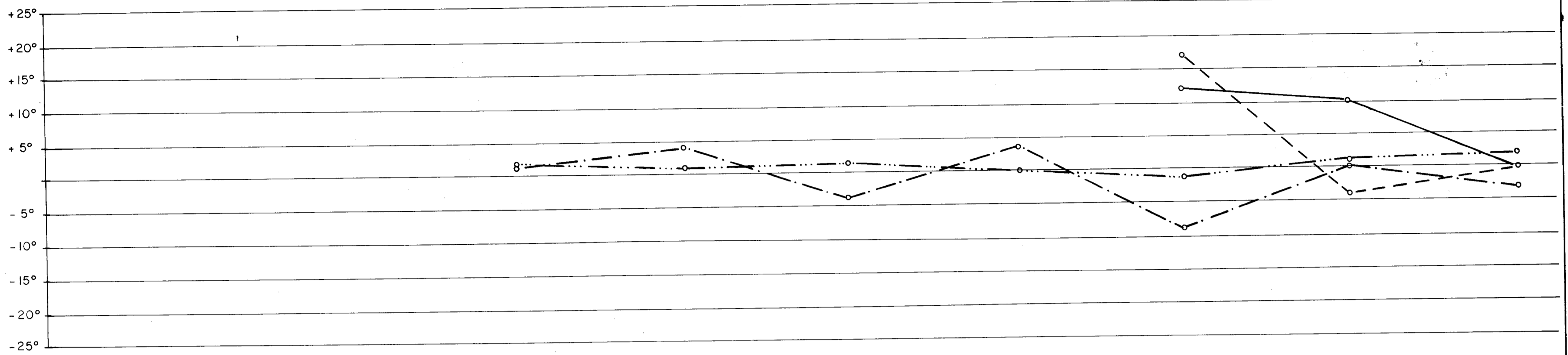
| | | |
|---------------------------------|---|----------------------------|
| 345 feet @ \$ 34.00/foot | = | \$ 11,730.00 |
| 10 x 5 ft. NW Casing @ \$ 86.00 | | 860.00 |
| 13 x10 ft. NW Casing @ \$155.00 | | 2,015.00 |
| 1 NW Casing Shoe @ \$ 250.00 | | <u>250.00</u> |
| TOTAL COST OF H-81-12 | | <u><u>\$ 14,855.00</u></u> |

C.E.M. Instrument Horizontal Shootback E.M.

○ — — — — — ○ 1830 Hz.
○ ··········· ○ 390 Hz.

Vertical Loop E.M.

○ — — — — — ○ In Phase
○ - - - - - ○ Quadrature (out of phase)



725 W

700 W

675 W

650 W

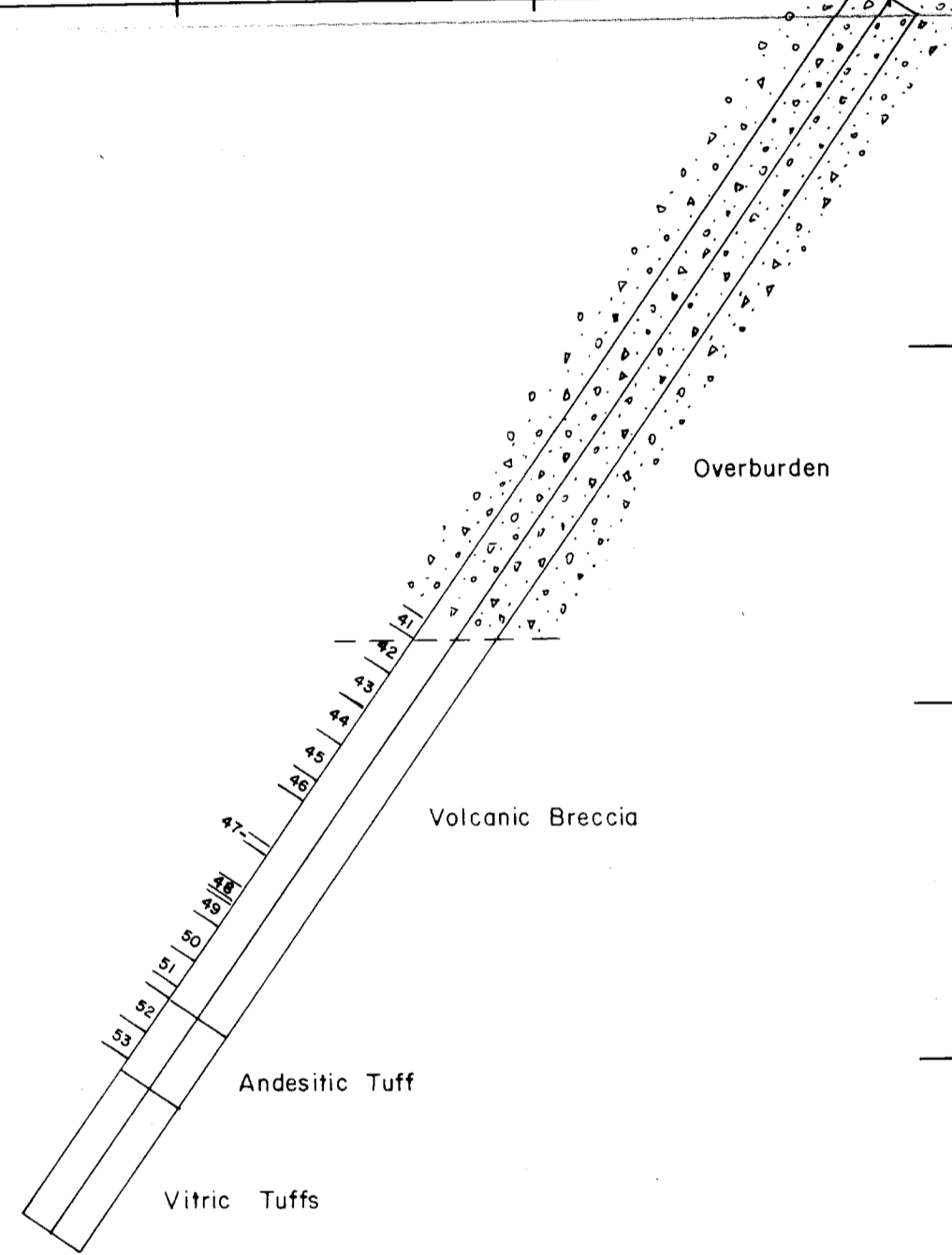
625 W

600 W

575 W

550 W

525 W



End of hole 105.2 metres

MINERAL RESOURCES BRANCH
 ANOMALY REPORT
19003
 NO. _____

FIGURE 3

| | |
|--|----------------------|
| MATTAGAMI LAKE EXPLORATION LIMITED. | |
| WESTERN FIELD OFFICE EDMONTON - ALBERTA | |
| PROJECT: HOUSTON | LATITUDE: 1300 N |
| ANOMALY: - | DEPARTURE: 525 W |
| SECTION: - | BEARING: 270° |
| D.D. HOLE NO: H-81-12 | DIP AT COLLAR: -55° |
| LOGGED BY: J. HELSEN. | DRAWN BY: D.R. BULL. |
| | DATE: NOVEMBER 1981 |
| SCALE OF METRES | |
| 0 5 10 15 20 25 30 35 40 45 50 m | |

