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REPORT ON
OVERBURDEN DRILLING
IN
MCVITTIE TOWNSHIP, ONTARIO
BY

R.A. MacGregor, P. Eng.

July 17, 1989

RECEIVED

JUL 25 1989

MINING LANDS SECTION

I. INTRODUCTION

An overburden drilling program was carried out by Heath & Sherwood Drilling for Sudbury Contact Mines Ltd. on claims owned by Skead Holdings Ltd. from April 18 to 21st, 1989. Three holes were completed. The program was carried out after an unsuccessful attempt to diamond drill through overburden at the same locations.

II. ACCESS, OWNERSHIP AND TOPOGRAPHY

All three holes were drilled on Claim L821910 which adjoins the west boundary of McVittie Township at the One Mile post. A gravel road runs north from Highway 66, and crosses the centre of the claim from north to south about $\frac{1}{2}$ mile north of the highway. The claim is about 5 miles west of the town of Larder Lake, Ontario.

The claim along with some adjoining claims in Gauthier Township is held by Skead Holdings Ltd.

The west part of the claim is crossed by the Misema River. A high gravel esker ridge occupies the east part of the claim. The drilling was carried out on the flat westerly margin of the esker between the steep gravel slope and the Misema River. All the topographic features trend north-south.

III. PREVIOUS EXPLORATION

No exploration is known to have been carried out on the claim, other than some recent geophysical surveys. There are no outcrops known on the east side of the river which appears to follow a fault. West of the river there are scattered rock outcrops with some old pits and trenches on the adjoining claims in Gauthier Township. There are no records for this past work.

IV. OVERBURDEN DRILLING AND LOGGING SYSTEM

A. Overburden Drilling Equipment

The drill system was an Acker Drill MP-100, mounted on a Nodwell F.M. 240. Mounted with drill was a Lister BK Pneumatic Compressor.

The Acker drill has a hydraulic drive system which turns ten foot dual tube reverse circulation rods. The bits used were Greuner tricone skirted bits of diameter 2 15/16th". The bit is coupled to the lowest ten foot rod by an adaptor. The circulation is a mixture of air and water which was varied for different lithological units. The water air mixture is ejected between the tricones of the bit and the sample is circulated up the core of the dual tube rods and reaches the surface through a cyclone collector in the drill shack.

The geologists and assistants log the sample as it is ejected or kept for a reference sample. The silt to gravel size fraction was collected in three gallon plastic bucket from which samples were taken. Samples were taken of different lithological units. Five foot samples were taken continuously through tills. Ten foot samples were taken through gravels and coarse sands.

The holes were drilled to bedrock and an average of five feet of bedrock was drilled. An excess of sample enters the core of the drill rods and cannot be pumped to surface fast enough causing plugging of the rod's sample return passage. Figure #3 is a schematic cross section of the overburden drilling and collection system.

When holes were completed the circulation recycling tank was cleaned out and the Nodwell moved to the next hole location.

Overburden Drilling and Logging System (Continued)

B. Logging Techniques:

The sample exits from the cyclone collector as a slurry. It is logged as it passes through a hand held Canadian standard sieve with a mesh size of 1.7 mm. This sieve is supported by a -10 mesh screen which collects a +10 size fraction of the sample. The -10 fraction collected in the hand held sieve is dumped into the +10 screen and passes through to a sample bucket below. Most of the clay size fractions in the tills decants over the edge of the bucket and settles in the recycling tank below. The sample bucket and screen assembly are seated on top of the 100 gallon recycling tank.

The geologist logging the sample recognized the different lithologies by noting the particle sizes, shapes and compositions. Particle sizes range from clay to cobble. Shape can be angular to very well rounded and lithologies include Paleozoic sediments, Archean volcanics intrusives and metamorphics.

The following paragraphs are a brief summary of the distinguishing features used to differentiate glacial lithologies.

1) Till: Most commonly composed of the complete size range of particles from clay to cobble. Sometimes clay and/or cobble fractions may be absent. The material has a very unsorted consistency. A high clay content intermixed with sand to pebble size fragments which appear to represent the local bedrock is most confidently called a till. Lodgement tills should have angular fragments of local bedrock well supported by sand to a clay size matrix of ground up bedrock material. The clay fraction in till often returns as clay balls studded with pebble and sand size grains of bedrock material. Tills represent short distance ice transported material.

Logging Techniques (Continued)

2) Gravels and sands: These lithologies are quite distinguishable being stratified in most cases and having some degree of grain size sorting. In most cases, clay and silt size material should not be associated. However, seams of clay or silt size material can be interlayered stratigraphically. Pebbles and grains of sand and gravel tend to be more rounded, better sorted and represent a greater distance of transportation because of glacial outwash reworking.

C. Logging Techniques

Recognizing these lithologies is not always simple, since the sample is highly disturbed as it passes up the drill stem core. Thinly bedded sands, gravels and clay units could most likely return to surface as a heterogeneous sized fraction conglomerate resembling till. Other techniques, such as recognizing armoured clasts which are clay filled fractures in pebbles, were used to more confidently identify tills. Some interbedded gravel, sand, silt units may be incorrectly logged and may be tills without a clay fraction. It may be common to have water lain tills or the absence of a good clay fraction in tills formed over the Precambrian volcanic shield. Absence of a clay fraction may be the failure of the ice to grind up a harder bedrock to the clay size fraction.

All the disadvantages of logging a disturbed sample at the site were considered and absolute identities of certain lithologies were not always documented.

Logs for the holes drilled are appended.

V. CONCLUSIONS

The holes were successful in reaching and testing bedrock as well as providing overburden samples of the material above bedrock. Further testing of the samples obtained is still in progress.


Respectfully submitted

A handwritten signature in cursive script, appearing to read 'R. A. MacGregor', written in dark ink.

R.A. MacGregor, P. Eng.

July 17, 1989

I certify that the enclosed invoice of Heath and Sherwood Drilling (1986) Inc. has been paid.

A circular seal for a Registered Professional Engineer in the Province of Ontario. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top and "PROVINCE OF ONTARIO" around the bottom. In the center, there is a signature and the name "R.A. MacGregory".
R.A. MacGregory P. Eng.

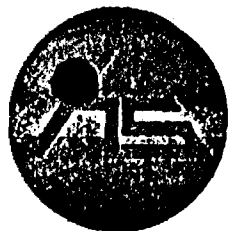
C E R T I F I C A T E

I, Robert A. MacGregor certify:

1. I am a Mining Engineer residing at 28 Ford Street, Sault Ste. Marie, Ontario. I have worked as a mining engineer and geologist for the past 20 years.
2. I am a member of the Association of Professional Engineers of the Province of Ontario and a member of the Canadian Institute of Mining and Metallurgy.
3. I attended Queen's University for two years in the Mining-Geology course.
4. I personally have knowledge of the field work covered by this report.

July 17/89
Date





HEATH & SHERWOOD DRILLING (1986) INC.

FORAGE HEATH & SHERWOOD (1986) INC.

P.O. BOX 998
 34 DUNCAN AVE. NORTH
 KIRKLAND LAKE, ONTARIO, CANADA
 P2N 3L3

TO: Sudbury Contact Mines Ltd.
 c/o W.A. Hubacheck Consultants Ltd.
 141 Adelaide Street West, Suite 603
 Toronto, Ontario
 M5H 3L5

No 1889

DATE: April 21, 1989

D.O. NO. 3055

TERMS: NET 30 DAYS OR AS PER CONTRACT. April 18th - 21st, 1989

Reverse Circulation Rotary Drilling Program On The Diamond Lake Property Near The Town of Larder Lake, Ontario

Mobilization And Demobilization

| | | | | |
|-------------------------------------|----------------|----------|---------------|------------|
| LUMP SUM OF | | | \$ 600.00 | |
| Move In And Set Up, Ready To Drill: | | | | |
| April 18th | .5 Rig Hours | \$166.00 | 83.00 | |
| | 2.75 Rig Hours | 112.00 | 308.00 | |
| Move Out: | | | | |
| April 21st | 2.25 Rig Hours | 112.00 | <u>252.00</u> | \$1,243.00 |

Drilling And Related Operations

| | | <u>Drilling</u> | <u>Moving</u> | |
|------------|-----------------|-----------------|---------------|----------|
| April 18th | | 5.75 | | |
| 19th | | 10.25 | .5 | |
| 20th | | 6.75 | .25 | |
| 21st | | <u>4.5</u> | | |
| | | 27.25 | .75 | |
| Drilling | 27.25 Rig Hours | 187.00 | 5,095.75 | |
| Moving | .75 Rig Hours | 187.00 | <u>140.25</u> | 5,236.00 |

Water Hauling

| | | |
|--|-------|--------|
| April 18th to 21st incl. = 4 Days x 5 Hrs. = 20 Hrs. | 29.00 | 580.00 |
|--|-------|--------|

Materials

| | | | | |
|--------|--------------------------|--------|---------------|----------|
| 3 Only | R.C. Carbide Button Bits | | | |
| | Nos. CB70249, 294, 296 | 630.00 | 1,890.00 | |
| 1 Only | Skirted Bit Sub | | <u>314.00</u> | |
| | | | 2,204.00 | |
| | Plus 10% | | <u>220.40</u> | 2,424.40 |

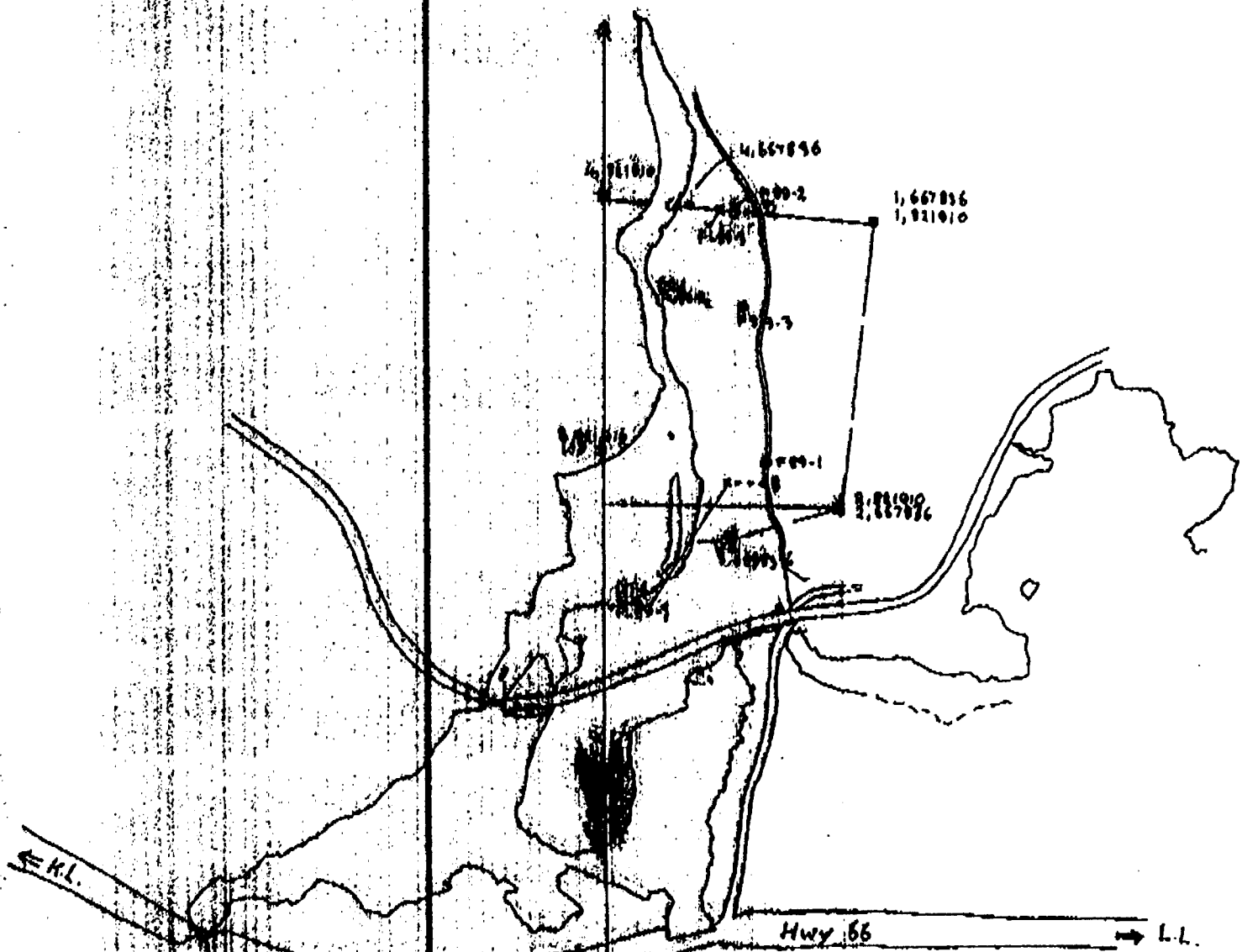
\$9,483.40

To: R. A. MacGregor

From: Peter C. Hubacheck

Sudbury Contact
 (Diamond Lake Option)

6/21/89



R.C. Hald
 F 89-1 225m N. along rd. from 'A' → B.
 50m QueW.
 F 89-2 275m N along rd. from B,
 60m QueW
 F 89-3 75m E from C., behind DVH F89-2

60m
 1,667896
 1,921010
 1,667836
 1,921010
 1,667896
 1,921010

1:10000

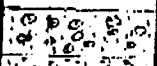

REVERSE CIRCULATION DRILL HOLE LOG

DATE 12-4 1980
 HOURS 7:00 - 7:00

HOLE NO. EL 89-1 LOCATION Check on Air Photo 1:10K Cont.
 DRILLER F. Wong BIT NO. 2070249 BIT FOOTAGE 0-39
 MOVE TO HOLE 7:15 - 7:35
 DRILL 10:20 - 4 pm
 MECHANICAL DOWN TIME Warm Up Machine, Valve blown, Repair.
 DRILLING PROBLEMS 7:30-10:00 am Necessary? - to clean bit for pack.
 OTHER Metre - 3 m. Reels.
 MOVE TO NEXT HOLE _____
 GEOLOGIST TNSH SAMPLER OC.

TOTAL HOURS _____

CONTRACT HOURS _____

| IN FEET m | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------------|---|------------|--|-------|
| 0 | | | 0-1.2 Poor return -> Nil. | |
| 1 | | | 1.2-1.8 Cobbles of dacite in moderately sorted, fine sandy gravel. | |
| 2 |  | | 1.8-2.0 Sandy gravel. 60%+ dacite, 10% granodiorite, 5% silt. 5-6% clay, mafic ves. F. med. sand matrix. v. little silt fraction. | |
| 3 | | | | |
| 4 | | | 2.0-4.0 C-g. Sandy Gravel. Mod. well sorted. 65-75% Int. Mafic clasts, nr. diabase. | |
| 5 | | | | |
| 6 | | | 4.0-6.5 Same, w/ 10-15% f-m-g. granodiorite + felsic. 10% diabase. Dacite-Andesite dominant. 1/2% Q.V. Poor H ₂ O return. Moderately sorted c-g. sand. | |
| 7 |  | | 6.5-8.5 C-sand. Phenocryst. well sorted. Hy. input. 60%+ Int. Mafic clasts & Sandy Gravel. | |
| 8 | | | | |
| 9 | | | 8.5-11.0 M-c-g. sandy matrix. | |
| 10 | | | 11.0-17.1. Sandy gravel, well sorted. Incl. 2-3% Q ₂ & brown α fragments (tabular). O'rite, as above. non-magnetic. Contains Int-Mafic, dominant clasts & nr. gabbroic pebbles/cobbles. C-matrix. 3% m-g. granodiorite/granitic clasts. | |
| 11 | | | | |
| 12 | | | 17.1-18.0 sandy gravel. More heterogeneous, Moderately sorted, w. m-c-g. sand matrix. | |
| 13 | | | | |
| 14 | | | 18-19. Pebbly-sandy gravel. 80%-85% Mafic clasts (Andesite) slightly coarser matrix. 18.4-19.3. Pebbly sand. | |
| 15 | | | 19.3-19.9. sandy gravel. 65-70% Int-Mafic clasts. Hy. c-sand influx. Moderately sorted. S-R. > S-A. clasts. | |
| 16 | | | | |
| 17 | | | 10-12% felsic, granitic clasts. Nr. Q.V. | |
| 18 | | | 19.9-23.2 Predominantly pebbly sand w/ weathered pebbly gravel, well sorted/washed. 65-75% Int-Mafic clasts, nr. diabase & gabbro + nr. Andesite. Incl. 2-3% Q ₂ . 4% pale grey dacite | |
| 19 | | | | |

| N FEET | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------|-------------|------------|--|-------|
| 20 | | | 23.7-24.8 Pebbly gravel. essentially as above, w/ coarse matrix. | |
| 21 | | | 24.8-26.9. Pebbly sand to sandy gravel. More heterogeneous clast content. Generally finer-grained matrix, w/ local pebbly beds. 65' + mafic - int. (often ?-tuffaceous) or massive, mafic + 10-12% granitic (quartzite, qz-Monz, or syenite). | |
| 22 | | | Moderately to well-sorted. M-c matrix S-R to S-A. w/ some clast abrasion & crushed debris. | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | 26.9-27.2 Reworked Till. S-A-S-R abraded grains / clasts. Sandy cr. commonly pebbly gravel. 85' + diabase or Andesite tuff. or andesite, s.s. Non-magnetic. F-g. grey granitic clasts (10% or less). G-g. sandy matrix moderately well sorted. | |
| 27 | | | | |
| 28 | | | | |
| 29 | | | 27.2-27.4 As 25.9-26.9 | |
| 30 | | | 27.4-27.5 Pebbly sand. Finer grained than 27.2-27.4. Probably truncated stream alluvia. | |
| 31 | | | | |
| 32 | | | 27.5-27.6. Up to 45-55% Gabbro or An-gabbro chips (cubical/pillbox). increasing to 65% @ depth | |
| 33 | | | 27.6-28.0 ? Reworked till (sandy-pebbly). As 26-27.2. Includes Hyperkalsite tuff. with 65-80% Andesite-Basalt volcanic clasts. | |
| 34 | | | 28.0-28.3 Pebbly sandy till? incl. 12% qz-sy / Monz. w/ 50-60% And. tuff. 1-2' silt. S-A-S-A; moderately sorted clasts. | |
| 35 | | 4 | 28.3-28.5. As 28.0-28.3. Int. increasingly pink - use Monzonite | |
| 36 | | 5 | 28.5-28.8 80%-90% grey, And. tuff, + Int. lithic - xl. tuff. 85% sy / Monzodiorite. Tubular elongate chips. Sandy m-c. granitic matrix. Probably a pebbly sand. | |
| 37 | | | 28.8-28.9 sandy gravel 55-65% And. tuff & diabase Basalt volcanic. 15-20% Monzonite 37% qz-sy. 10% feldspar. Moderately sorted. clast size 5mm | |
| 38 | | | | |
| 39 | | | | |
| 40 | | | | |

↓ Poor stream, slow
 reduction.
 Below 27.2, sm. size chips
 or sem. width (tubular-
 elongate).

#7 B/R
 sieved

| IN FIRST LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------------|------------|---|---------|
| | | <p>28.9-30.6. Pebbly gravel / sand. As 28.8-28.9. s-sand matrix w hy. influx. Contains 58' + diabase in dominantly grey. And. volcanics & tuffs. (75' + mafic content). Moderately sorted, s-r-s-a.</p> <p>30.6-30.9 75' + Diabase clasts. Diminishing @ depth.</p> <p>30.9-31.1 Dimict. Diabase - And.</p> <p>31.1-33.3 Dimict. Green diorite & grey diorite - andesite + 15-18'. Qz. Monz., sy., granitoid. Hy. sand influx. Still a pebbly coarse sand fluviatile.</p> <p>33.3-34.7 Increasingly heterotithic w heavier sand influx. (c. 4). Fairly - moderately sorted; slightly more granitoids. Pebbly s-sand w locally, gravel, s.s.</p> <p>34.7-35.0. Increasing diorite - chl ? schist, w some taluse(?) - No. chl fragments, in a diorite - And. predom- inant. sandy - (Pebbly) gravel. Hy. sand influx. w 60-75% chl. diorite & 5-6% white Ab rich clasts (H 21).</p> <p>35.0-35.2. As 34.7-35.0, w rhyolite - rhyodacite cobbles (sm. chips). mt hy, a 1' clay partings.</p> <p>35.2-35.5. 60-70' + Diabase - ser. tuff. Pale grey green. w 5-8'. albitic, → clayey, seritic sh. rhyo- dacitic tuff clasts. Also contains up to 25% diorite - Andesite volcanics & 1-4% Monz. - sy. diorite. & dk grey mafic? mafic volcanics (seritic dyke??)</p> <p>35.5-38.5. As #4 sample, pebbly to cobbly, with regolith. 75% diorite- ser. tuff. locally schistose. (8% kaolin - Ab- Qz. schist). 10-15% dk grey (green) mafics. still hy. sand influx. probably in a cobble bed on B/R.</p> <p>37-37.5. Dominantly diorite - rhyolitic Pale grey to greenish / yellow grey. v. soft, micaceous. w depth. mt hy.</p> <p>37.5-38. 90-95% ser-Ab schist ± 4-5'. clay-Ab nodules. non-magnetic. B/R. Fert. av. Pale buff green - brown.</p> <p>38-39. locally av in buff - pale grey. or grey green ± yellow Ab-ser schist, to ju. mt hy</p> | |
| | | E.O.H 39.0 m. | 127.95' |

DATE 12-4 1986
 SHIFT 7 TO 7
 TOTAL HOURS _____
 CONTRACT HOURS _____

HOLE NO. F 89-2 LOCATION See 1:10000 Map
 DRILLER J. Howy BIT NO. CB 2029 BIT FOOTAGE 39.63
 MOVE TO HOLE 7-7.20
 DRILL 7.30 - 11.35, 12.00 - 14.15
 MECHANICAL DOWN TIME _____
 DRILLING PROBLEMS 11.35 No sample, A.V. prior to Return. Rocks
 OTHER Pulled. Bit lost all cones. Redull Norm, 8'E.
 MOVE TO NEXT HOLE _____
 GEOLOGIST TJH SAMPLER DC

| IN FEET | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|---------|-------------|------------|--|-------|
| 1 | | | 0-3.5. Gravel. + 1.11% fine sand. 70%+ S-R-S.A. Matrix. Amphibole clasts, incl. plug. porphyry. Mr. diabase | |
| 2 | | | 3.5-5.0. Poor return. F-m. sand only. Intermittent | |
| 3 | | | 5.0-8.0. Hy. influx. F-m. sand. 2-3' sm. heterolithic S-A-S-R frags. Fluviatile sand or glauconitic. Coarsened depth to a fine gravelly sand. | |
| 4 | | | 8.0-9.7. Sand - Gravelly sand. | |
| 5 | | | 9.7-11. As 5-8. heavily coarse sand. | |
| 6 | | | 11.0-13.5. Hy. influx, f-m. sand 1/2'. S-R. pebbles. Poor thro return. | |
| 7 | | | 13.5-16.2 Gravelly sand / Pebbly sand. Heterolithic, S-R-S.A. 75%+ Matrix. Snt. clasts of Mr. Monz. sy. granitic. 1/2' debris. Bimodal Matrix. Still hy. sand. | |
| 8 | | | 16.2-17.2 Fining of matrix sand. | |
| 9 | | | 17.2-18.5 Hy sand (m-c) w/ local gravel beds. | |
| 10 | | | 18.5-18.6. As 13.5-16.2 | |
| 11 | | | 18.6-18.9 As 17.2-18.5 | |
| 12 | | | 18.9-20.6 Coarsens to a pebbly sand w/ gravel beds & pers gravel flintstones. exp. below 20.6 | |
| 13 | | | 20.6-23.0. Coarsening of clast size. often S-R, well-sorted, more heterolithic. Same as 13.5-16.2 | |
| 14 | | | 23.0-25 Pebbly c-sand. w 15' granitoids. & 65' bimodal volcanics. incl. diabase-gabbro. well-sorted. c-sand matrix. | |
| 15 | | | 25.0-26.0 Some abraded material. inc pers. crushed debris. overall increase in clast size. from 23.0. 7.5% + | |
| 16 | | | Snt. Matrix, w massive Porphyritic Quartz - Andesite & Mr. diabase & grey granoblastic? basic volcanics. To be noted as flakes. 15-20% Qz-Monz-sy. | |
| 17 | | | Below 24.0. possibly a reworked litt. w 5-7' gabbro-clinobase clasts. | |
| 18 | | | Overall, less heterogeneous, more bimodal & slightly less sand influx though still | |
| 19 | | | | |
| 20 | | | | |

| DEPTH FEET M | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------------------|----------------|---------------|--|-------|
| 20 | ● | | C.O. 25.0-26.0 sandy gravel. S-R, with increasing granitic, gneissic clast content. Moderately sorted. | |
| 21 | ✓ | | | |
| 22 | | | 26.0-27.4 sandy gravel. locally, pebbly gravel / v.c. sand. | |
| 23 | | | Increasingly heterogeneous, S-R. but Andersite - dacite dominant. | |
| 24 | | | | |
| 25 | | | 27.4-29.8 sandy gravel to pebbly sand. Finer version w.r.t. clasts & matrix, of 26-27.4. Units are graded fluvial. | |
| 26 | | | | |
| 27 | | | 29.8-47.0 pebbly sand. + sandy gravel. S-R. to, locally, abraded. or partially rounded fluvial. | |
| 28 | | | Q ₁ in 27.4-28.8 still essentially bimodal, w/ nr. gabbro clasts. | |
| 29 | | | 30.4+, Noticeable increase in diabase- gabbro which are always abraded Overall, S-A. to S-R. dacite & S-R >> S-A. grey massive mafic & rare trya- loclastic. Matrix is c-sand. | |
| 30 | | | | |
| 31 | | | 30.7-31.1. Finer sandy gravel, & more S-R. | |
| 32 | | | | |
| 33 | | | 31.1-31.5 More abraded clasts. Pers. a rounded till / debris flow. C-sand to gravel matrix. | |
| 34 | | | | |
| 35 | | | 31.5-33.4. More S-R, heterolithic, & smaller clast size, 15% felsic. locally abraded. 70% + Mafic. Int. clasts | |
| 36 | | | 33.4 slightly finer, pebbly sand! gravelly sand. | |
| 37 | | | 35.0-41.1 Transitional c-f.-c. pebbly sand. or sandy gravel. F-m. sand matrix. overall. relatively well sorted. 5-6% diabase / gabbro. Predominantly And-Mafic volcanics (trondhjemite), 10% Monz. sy, 3% QV. | |
| 38 | | | | |
| 39 | | | | |
| 40 | | | 41.1-41.5 pebbly gravel. Finer clasts & coarser matrix. i.e. gravel to c. sand. Rel'y. well sorted. Heterolithic w/ 15% felsic (granitic + quartz-carbonate) & 3-4% QV. | |
| | | | 41.5-42.4. C-sand influx v. hy. becoming fine gravel @ depth. well- sorted pebbles | |

| FEET m | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY | |
|-----------|-------------|------------|--|---|--|
| 40 | | | 42.4 - 47m. Gravelly - Pebbly Sand. Coarsening matrix & clast size. Heterolithic, v. well-sorted 65% + dacite - andesite. Non-magnetic. 2' gabbro / diabase / peridotite. 15' granitoids + Jasper, Matachewan diabase. Hy. sand influx. Feining cycles continue below 47m. | | |
| 41 | | | 47.0 - 47.9. Hy. sand influx still heterolithic, v. sed. clasts. Moderately sorted. S-R. to S-L. No evidence of abrasion / renormalizing. M-c sand matrix. | | |
| 42 | | | 47.9 - 48.7. Pebbly sand. Argand. AS 42.4 - 47.0. Graded fluvialites. | | |
| 43 | | | 48.7 - 49.5. Pebbly - sandy. Till. Red-grey haematized distal tuffite (80%+). M-g. sand matrix. S-A. Moderately sorted | | |
| 44 | | | 1 | 49.5 - 50.2. Gravelly sand. well washed, moderately to well-sorted. Commonly abraded. 75%+ Andesite-Mafic clasts + nr. dacite. + F-m-g mafic mafics. 15' 5mm to 2mm diam. 22-134 Muz/Oz. Diomite / No Tuffite. Ir. Jasper, siltstone. | |
| 45 | | | 2 | 50.2 - 52.1. More heterolithic, commonly abraded - tubular andesite / and. tuff. w. increasing dacite. Probably debris flow. | |
| 46 | | | 3 | 52.1 - 53.7. Sandy Gravel - Pebbly. C. sand. w. nr. pebble beds. AS 50.2 - 53.7. Moderately sorted. locally abraded. Sandy Gravel. Dimict. And. & And. tuff. w. 1-2' gabbro / diomite & F-M-g. massive mafic. non-magnetic. Fe. Jerni volcanics. 1/2' diabase. 3' rusty Qz - α ser. schist. 2-3' QV. 15% granitoid. | |
| 47 | | | 4 | 53.7 - 54.2. 15% Brown & 3 Qz. clast in 3' andesite - dacite. + a.v., sy, 1-2' Jerni volcanics. 5-7' Coxy mafic. 3-5' Granitoid. | |
| 48 | | | 5 | 54.2 - 55.0. 85% And. ± And. tuff. ± grey or green dimict. basic volcanics. 6-8' a.v. + granodiorite, diomite, sy. Partially debris in origin, heavily abraded. Part. is mixed with M-g. sand matrix | |
| 49 | | | 6 | | |
| 50 | | | 7 | | |
| 51 | | | 8 | | |
| 52 | | | | | |
| 53 | | | | | |
| 54 | | | | | |
| 55 | | | | | |
| 56 | | | | | |
| 57 | | | | | |
| 58 | | | | | |
| 59 | | | | | |
| 60 | | | | | |

| IN FEET | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|---------|-------------|------------|---|-------|
| 60 | | | <p>55.0-56.0. Still Reworked. c-sandy Till. 75% trinitic And-Daite + grey basics. 15-6% az-d., az.v. + 10%. Sj / Sycnodinite. M-c. sand matrix. Relatively medly - well sorted. S-A > S-R.</p> | |
| 61 | | 9 | | |
| 62 | | 10 | | |
| 63 | | | <p>56.0-58.9. As 55.0-56.0. w increasing grey basics, & trinitic mafic-sub. & decreasing granitoids.</p> <p>56.9-57.3 Regolith of ? exotic dyke often soft, clayey ?-taluse. Grey, f-g. granoblastic. (60-65% of sample). Bte rich, w 2% idio-blastic Xls. (up to 5mm diam.). Also contains ? amygdaloidal / vermicular fel (pale grey-green f-g. no-aphanitic or porphyroblastic varieties)</p> <p>57.3-59 B/R. ss. Still sand influx (Hydrostatic Pressure) 45% Dyke. Gravel to sm. pebble size. Abraded. + clasts - And. & nr. granodiorite Sj. + a.v. Matrix is m-c. sand. but decreasing in vol. Fairly mag- netic. Blue - dk grey dyke clasts.</p> <p>59-60.5. 90-95% Grey f-g. ntly mag. trinitic dyke. Contains 1/4% 1mm pyroxene xls, commonly in G.C.B. Magnetic "sludge" 1/4% Sphenite / granitoid. Dyke. is grey, granoblastic or rarely, epithermal, f-g to aphanitic. (latter are ? vermicular or ? vermicular).</p> <p>60.5-63 95% + Dyke. As 59-60.5 59-63 Also contains 15-8% bluish pale grey green granoblastic ? veins. H ~ 4-5.</p> <p>E.O.H. 63.0m.</p> | |

REFURBISHED RECONSTRUCTION DRILL HOLE LOG

DATE 19.4.1986
 SHIFT 20.4.
 7 TO 7
 TOTAL HOURS
 CONTRACT HOURS

HOLE NO. F 89-3 LOCATION see 1:10000 Grid.
 DRILLER J. Mowg BIT NO. B70256 BIT FOOTAGE 0-52m
 MOVE TO HOLE 7-7.25
 DRILL 7.30 - 8.30, 7.00 - 12.30
 MECHANICAL DOWN TIME 1.15-4pm. Repair compressor. Gas in oil.
 DRILLING PROBLEMS + Pepture crystals, fillers.
 OTHER Stabilize hole w mud in hole pm. Pressure 7um - No
 MOVE TO NEXT HOLE skip for 1 hr. Paused. Resume 7.45.
 GEOLOGIST SAMPLER

| IN FEET | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|---------|-------------|------------|--|------------------|
| 1 | | | 0-1.9 Ablation Till. Poor return. 75% + Phytic Dacite + Basie vol's. (s.s.). M-C. sand matrix. Rel. well sorted. S.A. 75-R. | |
| 2 | | | 1.9-2.1. same, but increasingly fluviatile, i.e. rounded. & more granodiorite & S-R. clasts. | |
| 3 | | | 2.1-2.2. Poor return. & increasingly c-sand. & a fine gravel. | |
| 4 | | | 2.2-6.1 C-gravel. Relatively little f. sand matrix. well sorted. 30% granitoid / sy / Monz / Mat. diab. clasts. | |
| 5 | | | 0' size. And. - Mafic volcs. & 2' gabbro. | |
| 6 | | | Below 3.0. 85% phytic andesite + basie. & more massive dacite. 3-4' granitoid / a.v. M. diabase. 5-8% .rel. (a. (?) Dyke. .) - Non-magnetic. | |
| 7 | | | 5% pink or white granodiorite | |
| 8 | | | 6.1-6.5. smaller fragments. still bimodal. v. little sand influx. | ← Added more mud |
| 9 | | | 6.5-7.3. C-sandy Gravel to Pebbly Gravel. & 7% Qz. & brown schist + granitoid + 80' bimodal volcanics. | |
| 10 | | | 7.3-19.9. M. sand thuricites. Relatively few clasts, which are abraded, & coarse. < 1' clasts & sand coated. 4% G.C.B. & partially fluorapatite or crushed. Clasts are granitoid andesite & a2. granodiorite, chlorite | |
| 11 | | | 19.9-20.4. Sandy Gravel. well washed. Mud. to well sorted. M-C. sand matrix. Intermittent influx. clast | |
| 12 | | | contains 75% Andesite - Mafic. & 10-12% pink granitoid / Monzite. | |
| 13 | | | 20.4-20.5. Fine-Med. sand Beige | |
| 14 | | | 20.5-22.2 Pebbly sand. 65% + Gmit Mafic - Int. (Phytic, & massive x2). | |
| 15 | | | 5-8' Granite / sy. a.v. + 3-4' Gabbro-diorite. well sorted. 5% sediments | |
| 16 | | | incl. Jasper, tuffaceous | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

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22.2-23.1 M-c. Sand Suffex. Beige
well rounded. Fluvial

23.1-25.1 As 22.2-23.1, becoming
increasingly pebbly

25.1-25.6 pebbly sand bed
distinctly distinct Andesite flow, tuff
& phytic. w 5' gabtro & 5-7' brown,
unsorted & aspers - turbidite. Absorted
irregularly reworked debris. 2' cov. 45'

25.6-27.1. As 25.1-25.6. w coarsening
of matrix & decrease in clast size.

27.1-29.0. Graded fluvialites
continue. A fining of matrix &
coarsening of clast size. More sorted
Predominantly massive sub-Mafic.
(Trinitite). S-R. to S.A. 5' gabtro. 2'
cov. 7' brown? - aspers.

29.0-31.1. As 27.1-29.0. Increase
in distinct nature of pebbles.

31.1-31.2. As 29-31.1. w dominantly
grey - pale grey pebbles of dacite
andesite. 6' - m. sand matrix. Mod. w
sorted. w occasional a-ser-az. clasts
or monomils. - sy. still a trinitite presence
trace. in a finely or locally pebbly
gravel / or sand. Braided fluvialite.
Some attrition. noted (? Reworked).

4 fining cycles to 31.2.

31.2-31.3. Gravel bed. Few pebbles.
well sorted. & washed.

31.3-31.8. M-c. sand matrix in
pebbly sand / gravel.

31.6-31.7 ? Till. Sandy. No monomils
& 5' Hbl. phytic Andesite / Dacite
No magnetic.

31.7 Pebbly - sandy Gravel.
65-70' F. M-g. Hbl. phytic Andesite
& m. xl. lithic dacite. 5' rusty
schist ± cov. Matrix is m-c. sand.

31.7-32.1. Pebbly sand. Every phytic
dacite pebbles or pebbles.

32.1-50.1. Pebbly sand / Gravel.
Thick sequence of often graded/
cyclically deposited fluvials.
exhibiting several fining stages
& minor, sporadic evidence of
reworking (debris).

Grinitoid:

← Rocks Pulled. (Raised)
Re-run.

| IN FEET M | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------------|----------------|---------------|---|------------|
| 40 | | | 34.0. Cobbles/pebbles of Dauite - Andesite in m-c sand. | Hand added |
| 41 | | | 34.9. Pebbly gravel. Relatively little m. c. sand. matrix. well sorted. Contains grey dauite pebbles (60') + demilit andesite & subordinate felsic. & sediments. | |
| 42 | | | | |
| 43 | | | | |
| 44 | | | Below 35.1 Relatively sm. clasts & v. few. dauite pebbles. Hly. influx of sand. well sorted & washed | |
| 45 | | | Pebbly sand. 10-12% granitoids. More S-R. than S-A. locally pebbly gravel | |
| 46 | | | Below 41m. Pebbly sand (med-g.). Rel. well sorted. Predom. S-R. dauite | |
| 47 | | | And. Rel. heterogeneous. 5% Mg. 2% Qz. Below 42.6. More abraded clasts. 70% + Trinit. Sub-Mafic clasts. incoming granitoids, incl. Mat. Ob. | |
| 48 | | | + 5% S. & sillstone. 2% Qz. Moderately sorted. Rare Jasper | |
| 49 | | | 47-48.1. Usually pebbly f-m. sand. locally, c.g. exotics incl. Jasper, Sillstone. 2% mi. haem. sed's. 60-65% mafic. (usually massive). 10% johannes-lucifer grey, sub. volc. stuff. | |
| 50 | | 3 | 8% Qz - pink granochaine, or sy, ss. or diomite, 3% galena/cb. | |
| 51 | | 4 | 48.14, coarser sand & more abraded clasts. & higher mafic % age. Remixed till or debris flow. 70% sub-Mafic. 5% sy - etc. 5-7% Fe x / haem. sed's. Tr. Jasper. Traces below 48.5m. of grano. cobbles & rare phlogopite / bte on screen. | |
| 52 | | 5 | Matrix is f → m - c. sand. Moderately sorted. Rel. heterogeneous & often abraded. still re-washed. Often, hly. influx of c. sand. | |
| | | | Below 48.7. Increasingly abraded. Relatively sub-Mafic volc. with hly. few "exotics". Pebbly sand. Below 50m. well-washed. pebbly sand. in a more f-m. sand matrix | |
| | | | 85% And. Dauite, 10% sy. - Diorite ± Qz. 1-2% Haem. trachyte 4-5% Grey rhyolauite. | |

+ B/R
Sillstone
sample

| IN FEET m | GRAPHIC LOG | SAMPLE NO. | DESCRIPTIVE LOG | ASSAY |
|--------------|----------------|---------------|---|-------|
| | | | <p>* From 48.3. Start to see Brown-eyed slt. in ? till. v. poor sand return on screen. but 'big' in bucket.</p> <p>Below 50.0 increasingly grey green lined clasts. + 3-4% granitic clasts. + av. Mafic volcanics are only 3% by vol. + 9.0% on screen in some thin pebble beds. Rel. well washed. clasts are flat-tubular subrounded & sym. (chips) w. many pebble/cobble beds. + rare G.C.B. (? f. dypk).</p> <p>At depth, increasingly and. - clasts tuffaceous clasts or sub-Mafic flow clasts, & concomitant pale brown grey laminated to lined silt/cliff or distal turbidite.</p> <p>50.1-52.0 B/R. Non-magnetic, lined to massive grey-green grey f-g distal turbidite w. 1/2" yellow to pale yellow orange thread veinlets.</p> <p style="text-align: center;">E.O.H. 52 m</p> | |



DOCUMENT No. **W8908.223**

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Mining Act

M.L.

Type of Survey(s) **Overburden Drilling 2.12.89** Township or Area **McVittie, Gauthier**

Claim Holder(s) **SKEAD HOLDINGS LTD.** Prospector's Licence No. **T-1956**

Address **c/o P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7**

Survey Company **HEATH & SHERWOOD** Date of Survey (from & to) **18, 04, 89. 21, 04, 89.** Total Miles of line Cut

Name and Address of Author (of Geo-Technical report) **R.A. MacGREGOR, 28 Ford Street, Sault Ste. Marie, Ontario P6A 4N4**

Credits Requested per Each Claim in Columns at right

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line cutting) | - Electromagnetic | |
| | - Magnetometer | |
| For each additional survey: using the same grid: Enter 20 days (for each) | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Man Days | Geophysical | Days per Claim |
| Complete reverse side and enter total(s) here | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Airborne Credits | Geophysical | Days per Claim |
| Note: Special provisions credits do not apply to Airborne Surveys. | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |

Mining Claims Traversed (List in numerical sequence)

| Prefix | Mining Claim Number | Expend. Days Cr. | Prefix | Mining Claim Number | Expend. Days Cr. |
|--------|------------------------|------------------|--------|---------------------|------------------|
| L | 1045614 | 40 ✓ | | | |
| | 1014694 | 60 ✓ | | | |
| | 821910 | 60 | | | |
| | 821927 | 6.2 | | | |
| | <i>not contiguous.</i> | | | | |

RECEIVED
JUN 25 1989
MINING LANDS SECTION

LARDER LAKE MINING DIV.
RECEIVED
JUN 02 1989
AM 9:15 PM
7 18 19 11 12 1 1 2 13 14 15 16

Expenditures (excludes power stripping)

Type of Work Performed **Overburden Drilling**

Performed on Claim(s) **L821910**

Calculation of Expenditure Days Credits

Total Expenditures **\$ 3,052.05** ÷ Total Days Credits **15** = **203.5**

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **4**

For Office Use Only

Total Days Cr. Date Recorded **160 2P June 2/89** Mining Recorder

Date Approved as Recorded **30 Aug 89 R.M.** Branch Director

Date **June 2/89** Recorder/Holder/Agent (Signature) *[Signature]*

Certification Verifying Report of Work

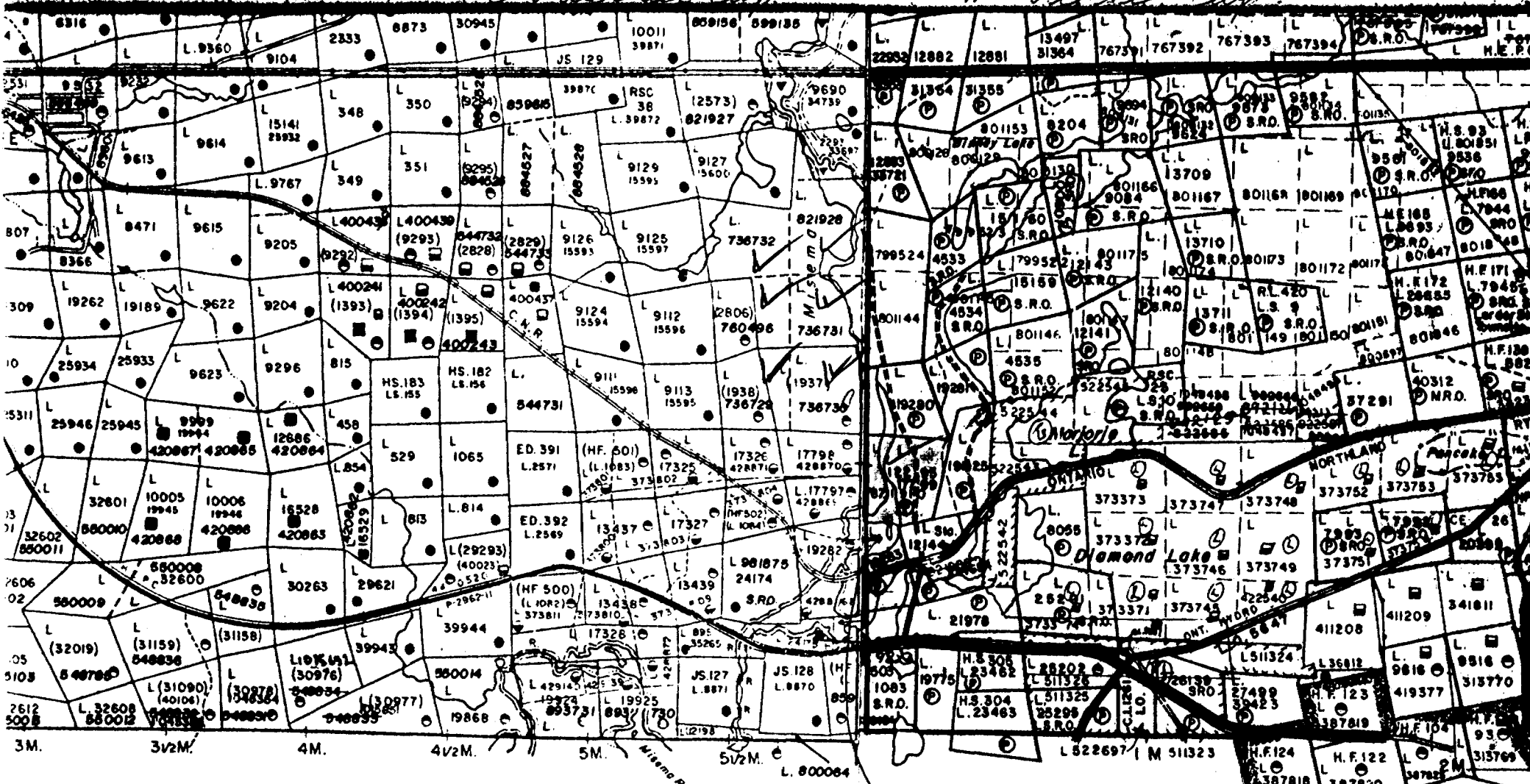
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying **R.A. MacGREGOR, 28 Ford Street, Sault Ste. Marie, Ontario P6A 4N4**

Date Certified **June 2/89** Certified by (Signature) *[Signature]*

113
402
HS.
LS.
106
L.814
L.294
1400
1532
296-4
3944
304
9868

South Township *37th Village Township*



TP.

1045614

NOTE
STAKING OF MINING CLAIMS WITHIN
TOWN OF LARDER LAKE - SUBJECT
TO SEC. 37(b) OF MINING ACT (R.S.O. 1970).

Town of
Larder Lake
Municipality of
He



Ministry of
Northern Development
and Mines

**REVISED
Report of Work**

(Geophysical, Geological,
Geochemical and Expenditures)

89-08-071



32D045W0002 2.12632 MCVITTIE

900

Type of Survey(s) **Overburden Drilling** Township or Area **McVittie, Gauthier**

Claim Holder(s) **SKEAD HOLDINGS LTD. 2.12632** Prospector's Licence No. **T-1956**

Address **c/o P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7**

Survey Company **HEATH & SHERWOOD** Date of Survey (from & to) **18, 04. 89. 21, 04. 89.** Total Miles of line Cut

Name and Address of Author (of Geo-Technical report)
R.A. MacGREGOR, 28 Ford Street, Sault Ste. Marie, Ontario P6A 4N4

Credits Requested per Each Claim in Columns at right

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line cutting) | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| For each additional survey: using the same grid: Enter 20 days (for each) | Geological | |
| | Geochemical | |
| | Other | |
| Man Days Complete reverse side and enter total(s) here | Geophysical | Days per Claim |
| | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys | Other | Days per Claim |
| | Geological | |
| | Geochemical | |
| | Electromagnetic | |
| | Magnetometer | |
| | Radiometric | |

**ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE**

SEP 07 1989

RECEIVED

Mining Claims Traversed (List in numerical sequence)

| Prefix | Mining Claim Number | Expend. Days Cr. | Prefix | Mining Claim Number | Expend. Days Cr. |
|--------|---------------------|------------------|--------|---------------------|------------------|
| L | 1045614 | 20 | | | |
| | 736729 | 54 | | | |
| | 736730 | 60 | | | |
| | 736731 | 60 | | | |
| | 736732 | 60 | | | |
| | 760496 | 60 | | | |
| | 821927 | 54.0 | | | |
| | 821928 | 60 | | | |

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JUN - 8 1989

MINING LANDS SECTION

**LARDER LAKE
MINING DIV.**

RECEIVED

MAY 26 1989

9:15 AM

7 8 9 10 11 12 1 2 3 4 5 6

L.P.

Expenditures (excludes power stripping)

Type of Work Performed **Overburden Drilling**

Performed on Claim(s) **L821910**

Calculation of Expenditure Days Credits

Total Expenditures **\$ 6,431.35** ÷ **15** = **428.8** Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **87**

Date **May 23/89** Recorded by or Authorized (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded **374** Date Recorded **May 24/89** Mining Recorder *[Signature]*

Date Approved as Recorded **27 Aug 89** Branch Director *[Signature]*

[Signature] R.M.

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

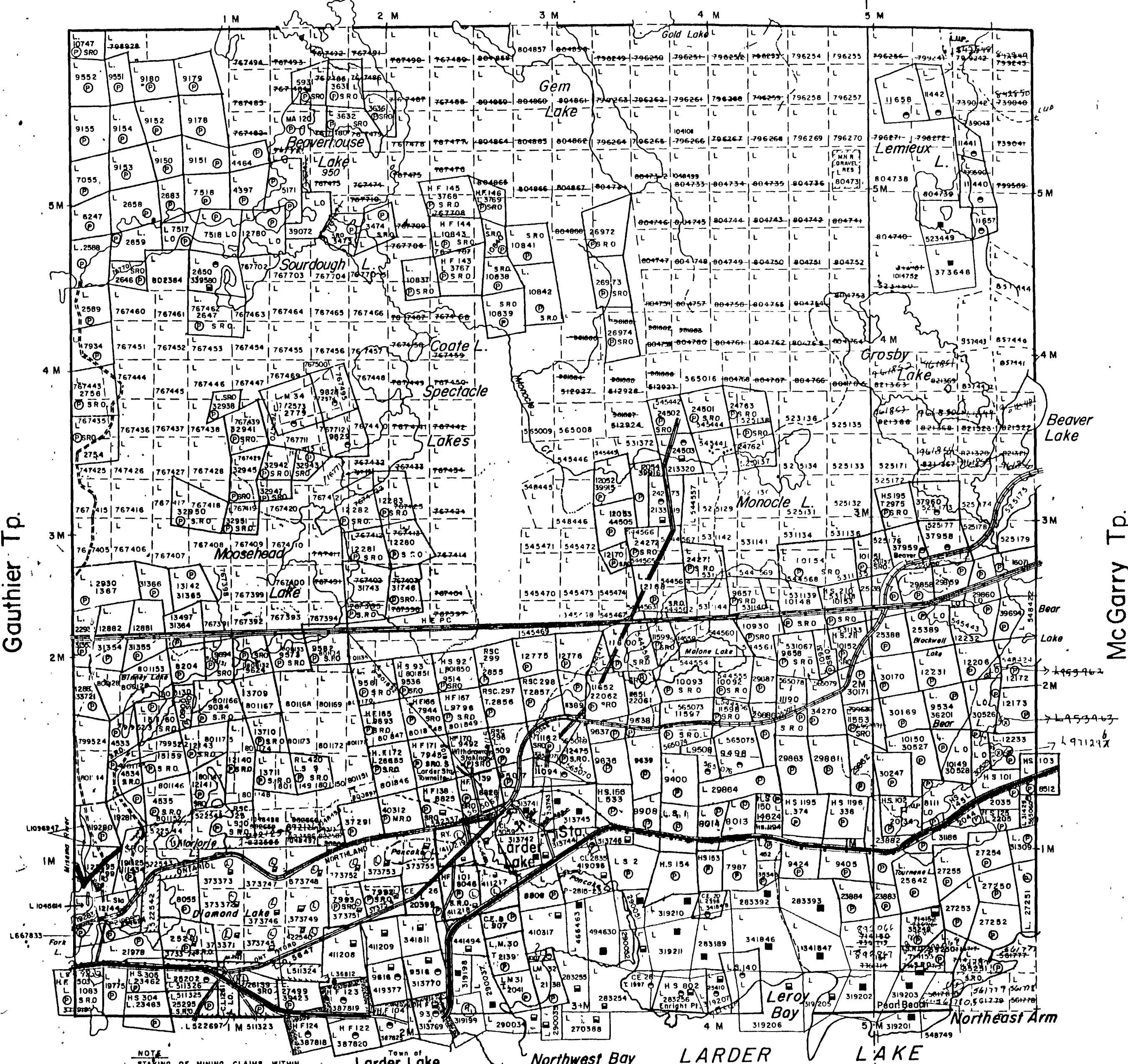
Name and Postal Address of Person Certifying **R.A. MacGREGOR, 28 Ford Street, Sault Ste. Marie, Ontario P6A 4N4**

Date Certified **May 23/89** Certified by (Signature) *[Signature]*

Katrine Tp.

MUNICIPALITY OF LARDER LAKE

IMPROVEMENT DISTRICT OF
MC GARRY



NOTE
STAKING OF MINING CLAIMS WITHIN
TOWN OF LARDER LAKE - SUBJECT
TO SEC. 37(1) OF MINING ACT (R.S.O. 1970).

MUNICIPALITY OF LARDER LAKE

IMPROVEMENT DISTRICT OF
MC GARRY

Hearst Tp.

DATE OF ISSUE

JUN 8 1989

LARDER LAKE
MINING RECORDER'S OFFICE

LEGEND

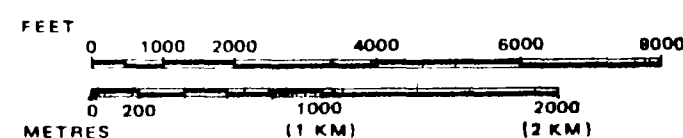
- HIGHWAY AND ROUTE No
- OTHER ROADS
- TRAILS
- SURVEYED LINES
- TOWNSHIPS, BASE LINES, ETC
- LOTS, MINING CLAIMS, PARCELS, ETC
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

| TYPE OF DOCUMENT | SYMBOL |
|---------------------------------|--------|
| PATENT, SURFACE & MINING RIGHTS | |
| " SURFACE RIGHTS ONLY | |
| " MINING RIGHTS ONLY | |
| LEASE, SURFACE & MINING RIGHTS | |
| " SURFACE RIGHTS ONLY | |
| " MINING RIGHTS ONLY | |
| LICENCE OF OCCUPATION | |
| ORDER-IN-COUNCIL | |
| RESERVATION | |
| CANCELLED | |
| SAND & GRAVEL | |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1

SCALE: 1 INCH = 40 CHAINS



① SEC 36/80 NRW41/34 0110384 mrt5R
 ② SEC 36/80 NRW41/34 0110384 mrt5R
 ③ SEC 36/80 NRW41/34 0110384 mrt5R
 ④ W-22/86 6/3/86 SEC 36/80 m v3
 TOWNSHIP O-02/88L OPENS W-22/86

McVITTIE

M.N.R. ADMINISTRATIVE DISTRICT
 KIRKLAND LAKE
 MINING DIVISION
 LARDER LAKE
 LAND TITLES / REGISTRY DIVISION
 TIMISKAMING



Ministry of Land
 Natural Management
 Resources Branch
 Ontario

Date SEPTEMBER 1984

Number
G-3163



320645W0002 2.12632 MCVITTIE