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MAUDE LAKE GOLD MINES LIMITED

2.13068

GEOLOGICAL REPORT

for

Northeast & Coulson Claim Groups

Beatty, Coulson, and Warden Townships

Larder Lake Mining Division

Ontario

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Sudbury, Ontario

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2.1594



Geological Report for Northeast

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Geological Report for Northeast & Coulson Claim Groups, Ontario.

INTRODUCTION

As part of an on-going exploration program to evaluate Maude Lake Gold Mines Limited's large mineral Property located in the Matheson Area of Northeastern Ontario, and to follow-up earlier prospecting and ground and airborne geophysical surveys, a detailed geological mapping program was completed over the Company's NORTHEAST and COULSON CLAIM GROUPS during the late Summer and Fall, 1989.

The Maude Lake Properties are located in the Larder Lake Mining Division, District of Cochrane, Northeastern Ontario, approximately 65 kilometers (40 miles) east of Timmins, 60 kilometers northwest of Kirkland Lake and 15 kilometers (10 miles) northeast of the Town of Matheson (Figure 1). Matheson is a small rural/mining service and transportation center (population 3200) at the junction of Trans-Canada Highway #11 and Highway #101. The Town is serviced by an active line of the Ontario Northland Railway and has siding and loading facilities.

The NORTHEAST and COULSON CLAIM GROUPS are located in the northeastern corner of Beatty Township, and the southeastern through south-central to western portions of Coulson Township. Also, four claims extend into western Warden Township (Figure 2). Maude Lake holds a total of 453 contiguous claims in the Matheson Area.

Access to the two claim groups is via Highway 101 east from Matheson to the Beatty-Carr Township boundary road and then north and east along all-weather gravel township roads to the Painkiller Lake Road. The seasonal Painkiller road trends north and east to within a mile of the claim groups.



LOCATION MAP

FIGURE 1.

Walker Twp.

Taylor Twp.

WILKIE

COULSON

Warden Twp.

WILKIE

COULSON

CARR

Lady Maude L.

MAIN

Pinkster Lake

NORTHEAST

CARR

Salva Lake

SALVE

Munro Twp.

BEATTY

BENNETT

HWY 101

Bowman Twp.

MATHESON

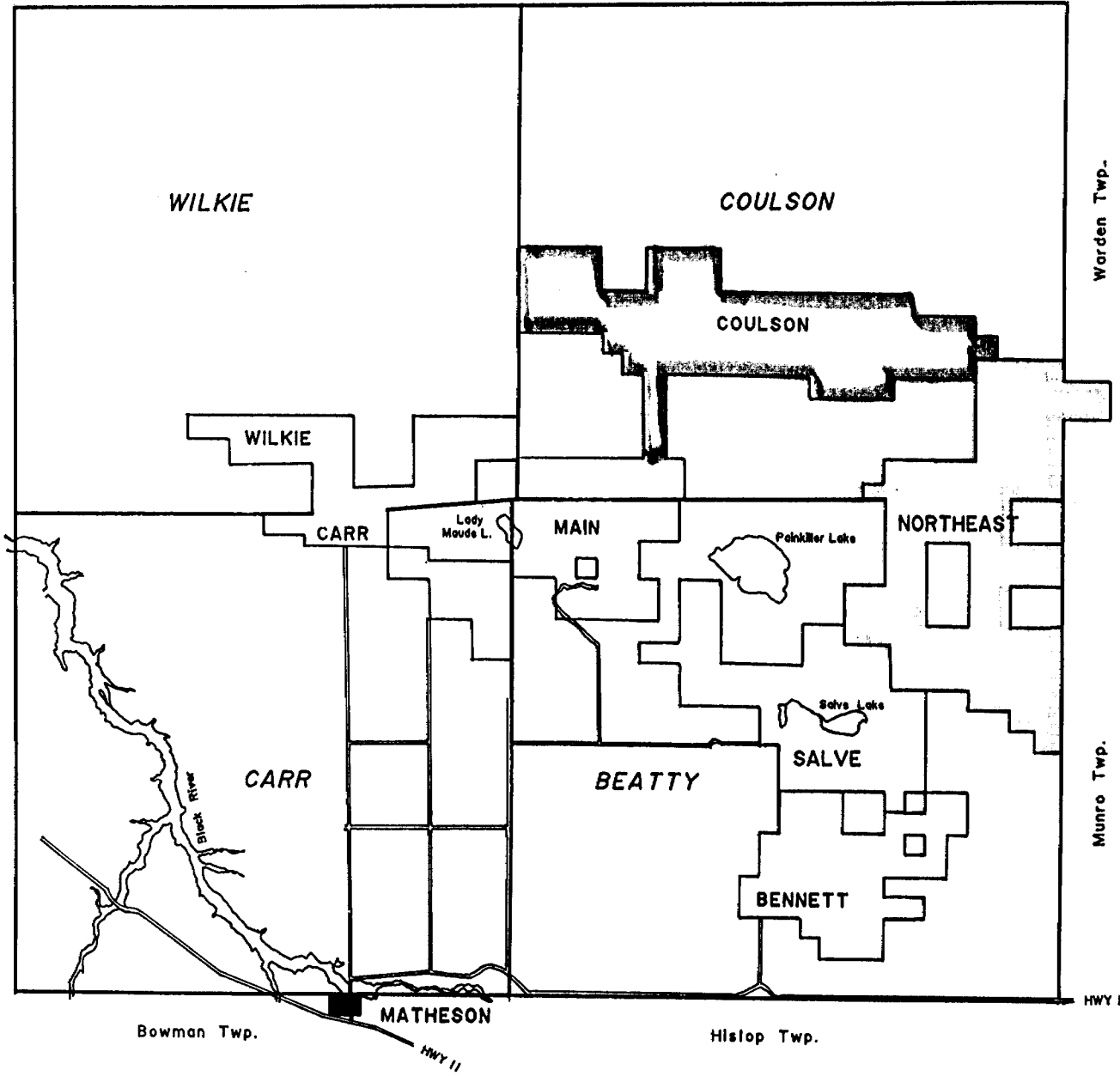
HWY 11

Histop Twp.

MAUDE LAKE GOLD MINES LIMITED
PROPERTY LOCATION PLAN

Scale: 1" = 2 miles

FIGURE 2.



Three old winter drill roads trending east and north from the Painkiller road access part of the two Properties. Several 'bush machine' trails have been cutout to further access the more remote areas of the claim groups. In addition, three of the 5 control baselines within the two claim groups were cut wide enough to be used as access trails for the 16-wheel 'bush machine'.

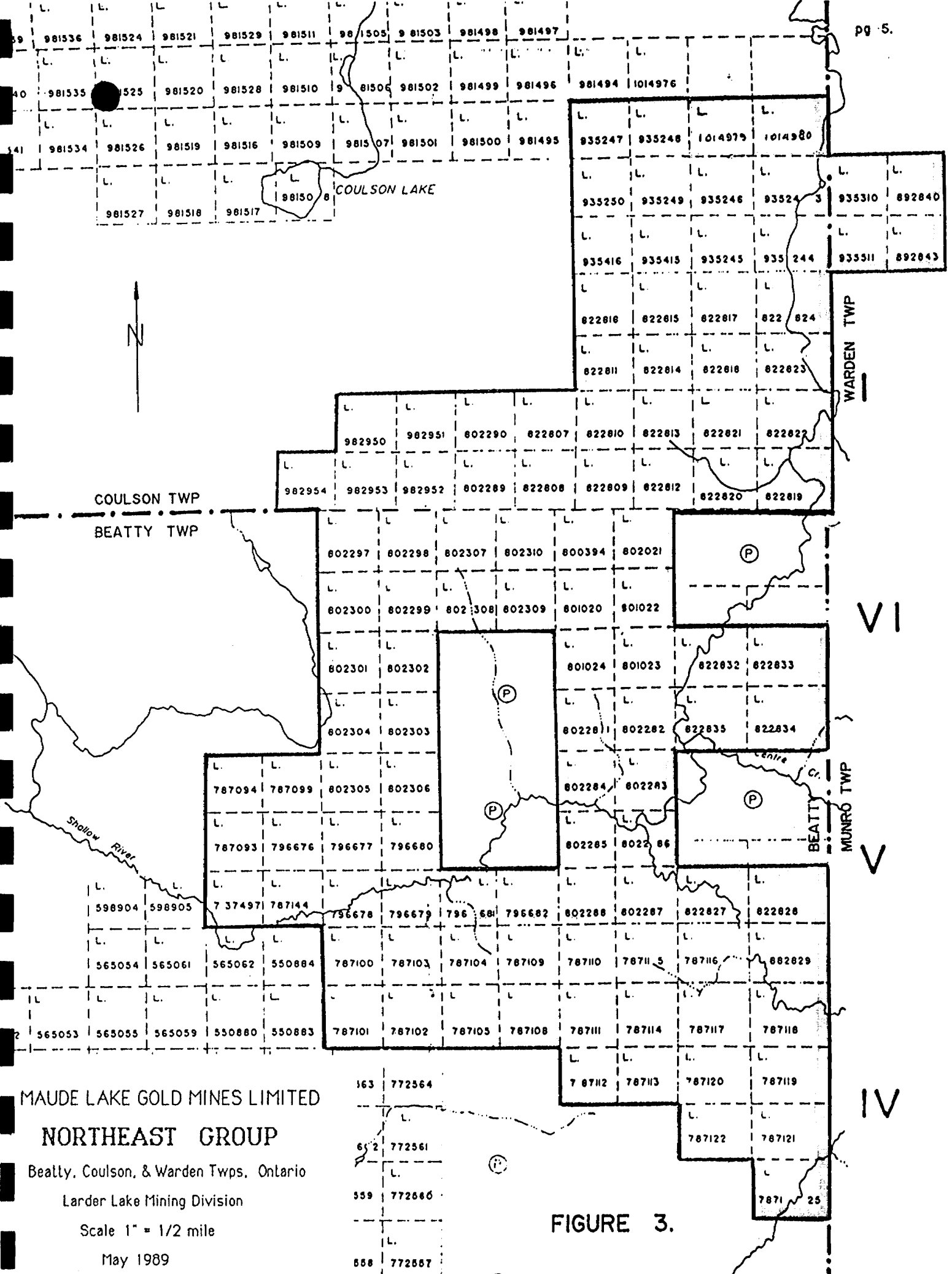
THE PROPERTIES

The NORTHEAST GROUP consists of 110 contiguous staked mineral claims and the COULSON GROUP consists of 118 contiguous staked mineral claims as follows:

NORTHEAST GROUP (110 mineral claims, all mapped) - See FIGURE * 3.

- L. 737497
- 787093 and 094
- 787099 through 105
- 787108 through 122
- 787125
- 787144
- 796676 through 682
- 800394
- 801020 through 024
- 802281 through 290
- 802297 through 310

continued . .



MAUDE LAKE GOLD MINES LIMITED
 NORTHEAST GROUP
 Beatty, Coulson, & Warden Twps, Ontario
 Larder Lake Mining Division
 Scale 1" = 1/2 mile
 May 1989

163 772564
 652 772561
 359 772666
 658 772657

FIGURE 3.

VI

V

IV

NORTHEAST GROUP ... continued

822807 through 824

822827 through 829

822832 through 835

892840

892843

935310 and 311

935243 through 250

935415 and 416

982950 through 954

1014979 and 980

COULSON GROUP (118 mineral claims, only 102 mapped) - See FIGURE * 4.

L. 737479* through 482*

737493* through 496*) previously mapped and reported on, not included here.

787085* through 092*

943217 through 246

981494 through 512

981516 through 530

981534 through 554

1014976

1014981 through 988

1027937 through 944.

All the above claims are registered in the name of Maude Lake Gold Mines Limited, 300 Elm Street West, Sudbury, Ontario, P3C 1V4.

HISTORY

The NORTHEAST and COULSON CLAIM GROUPS are quite remote and difficult to access, and thus have seen only minor 'grassroots' exploration in the past. This has included several generations of airborne mag and EM surveys, minor ground geophysical surveys, and a limited amount of diamond drilling.

NORTHEAST GROUP HISTORY

In 1946, McIntyre Porcupine Mines Limited completed ground magnetic and self-potential surveys over lot 1, concession 1 of Coulson Township. There is no record of any follow-up exploration.

In 1957, Ornum Copper Mines drilled 5 short pack-sack diamond drill holes into an exposed quartz vein within peridotite in present claim L.787125 with apparently little success. Later, in 1972, Shenandoah Mines Limited completed geophysical and geological surveys over the same claim.

In 1972, Canadian Johns-Manville completed geological and ground geophysical surveys over the the very southeastern portion of the NORTHEAST GROUP. No follow-up was apparently done.

In 1979-80, Amax Minerals completed airborne mag and EM surveys and reconnaissance mapping over the southern portion of the Group. Two follow-up diamond drill holes (plotted on map 1) intersected graphitic interflow sediments with minor pyrite and pyrrhotite.

In the northern portion of the Group near the Coulson-Warden Township boundary, Shallow River Mines Limited drilled numerous diamond drill holes in 1939 (plotted on Map 2) to test a gold showing exposed along the river bank. The best results from this work are tabulated overleaf.

Hole 3 = 0.30 troy oz/ton gold along 7 ft at 113.5 ft.

Hole 2 = 0.56 troy oz/ton gold along 30 ft at 150 ft

Hole 3 = 1.64 troy oz/ton gold along 5 ft at 140 ft

Hole 4 = 0.16 troy oz/ton gold along 1.1 ft at 36 ft.

In 1972, Noranda Exploration Company completed ground magnetometer and electromagnetic surveys over the very northern portions of the Group. There is no record of any follow-up work. The same area was geophysically flown in 1978 and mapped in 1979 by Amax Minerals Corporation. As follow-up, Amax (Canamax Resources) drilled 5 diamond drill holes in 1983 and 1984. The holes tested geophysical anomalies and the Shallow River Showing area. Numerous quartz-fuchsite-pyrite intersections are described in the logs, but no assays were reported. In 1987, the author logged these Amax holes which are stored at the Larder Lake Core Library located in Swastika, Ontario.

In 1964, Kennco Explorations Limited drilled one diamond drill hole east and south of the Shallow River Showing in Warden Township that intersected graphitic interflows within rhyolitic volcanoclastics (in present claim L.935310 plotted on Map 2). Gold assays to 0.05 troy oz/ton were reported.

In 1986, Maude Lake Gold Mines Limited completed reconnaissance prospecting, ground VLF-EM and radiometric surveys over the entire NORTH-EAST GROUP. In 1987, the Maude Lake Joint Venture flew detailed magnetic and electromagnetic surveys over all its 453 claim Property in the Matheson area. In 1988, the Company detail prospected and drilled 8 diamond drill holes in the Shallow River Showing area. Some of the best assays returned include:

Hole 3 = 0.17 troy oz/ton gold along 2 ft

Hole 4 = 0.04 troy oz/ton along 22 ft.

Hole 8 = 0.26 troy oz/ton gold along 5 ft.

COULSON GROUP HISTORY

In 1965, Union Carbide Explorations completed airborne magnetic and electromagnetic surveys over most of the southern half of Coulson Township. There are no records of any follow-up exploration work.

In 1974, Abitibi Paper Company Limited completed airborne electro-magnetics, ground magnetics and electromagnetics, and induced polarization surveys over present claims L. 981537 and 981538. Hole DH1-2, plotted on Map 3, tested the geophysical target and cored rhyolitic volcanoclastics with graphitic interflows. No assays were reported in the log.

In 1975, McIntyre Mines Limited completed ground magnetic and electromagnetic surveys over 6 claims centered around present claim L.943223. No follow-up work is reported.

In 1980, Mattagami Lake Exploration Ltd. drilled one hole, T4B-80-1, in present claim L.981520 that intersected a graphitic volcanopause between tholeiitic and komatiitic lavas. The core for this hole was found in the field, transported to Matheson, and is currently stored at Maude Lake's office. Since none of the core was split, the Company plans to split and assay some of the more altered and quartz-riddled sections before shipping the core to the Larder Lake Core Farm for permanent storage.

In 1982, Canamax Resources Limited flew a magnetic survey over most of Coulson Township. In 1983, Hollinger Argus Limited completed a ground electromagnetic survey over most of the south-central portions of the present COULSON GROUP. Two diamond drill holes tested conductive targets. Hole C# 1-1-84 lies just south of present claim L.981508 near Coulson Lake

(plotted on Map 2). It intersected intermediate, serpentized and ultramafic flows. No assays are provided for the core samples taken. Hole C*1-2-84 in present claim L.981516 (plotted on Map 3) intersected gabbro, graphitic tuff, and intermediate to ultramafic lavas. Again, no assays are provided.

No other exploration work is reported in the assessment files at the Resident Geologist's office in Kirkland Lake. However, the area must have seen some additional prospecting as evidenced by the several old pits and trenches located during the course of the mapping program.

GENERAL GEOLOGY

The NORTHEAST and COULSON CLAIM GROUPS are located within the Abitibi Greenstone Belt in the Superior Province of the Canadian Shield (Figure #1). The Belt is approximately 800 by 250 kilometers in dimension and hosts a large number of world-class gold camps; namely, the Porcupine, the Kirkland Lake-Larder Lake, the Cadillac-Malartic-Val d'Or, and the Casa Berardi Camps. American Barrick's new Holt-McDermott Gold Mine is located 40 kilometers to the east-southeast. The supracrustal lithologies within the Abitibi are dominated by various volcanic formations and their derived sediments which have been folded and intruded by batholiths of granitic composition. The lavas are predominantly tholeiitic basalts with lesser komatiitic basalts, calc-alkaline andesites to rhyolite and rare alkalis. Syn-volcanic intrusives include peridotite and gabbro to syenite and felsic

porphyry. The sediments are locally derived clastics that can contain cherty exhalites, iron formation, and carbonate beds (mostly graphite). The entire volcano-sedimentary succession has been divided stratigraphically and litho-chemically into four mega-cycles. The Maude Lake properties fall near the base of the third mega-cycle in rocks of the Stoughton- Roquemaure mafic volcanic formations, and at the top of the second mega-cycle in the Hunter Mine felsic fragmental formations.

The general geology of the Beatty-Coulson Township area is described by J. Satterly and H. Armstrong (ODM Volume LVI, Part VII - Geology of Beatty Township, 1947), and illustrated on ODM Preliminary Map P-157, Coulson Township by E. Leahy and R. Ginn, 1961. They describe and illustrate the map area as being underlain by Archean pillow lavas, felsic volcanoclastics, and clastic sediments that are intruded by peridotite and gabbro bodies; all of which have been cut by north-trending Matachewan quartz diabase dykes and northeast trending Keweenawan olivine diabase dykes. More recent re-mapping by R. Johnstone from 1984 through 1987 re-classified the volcanic units into the modern geological nomenclature initially described by L. S. Jensen of the Ontario Geological Survey in the 1970's. Johnstone's work further defines and sub-divides the volcanic stratigraphy of the area into Mg and Fe-rich tholeiitic lavas, and basaltic and peridotitic komatiitic flows. Unfortunately, this geological data is unpublished and only available in thesis form (Geology of the Stoughton-Roquemaure Group, Beatty and Munro Townships, N.E. Ontario - 1987, Carlton University MSc. thesis).

GEOLOGICAL MAPPING PROGRAM

Gridding

Four east-west control baselines were cut, chained and picketed within the NORTHEAST CLAIM GROUP for a total of 7 miles. The south baseline extends east from the Salve baseline and approximates the Beatty concession IV/V boundary from lots 5/6 to the eastern boundary of the township (2.64 miles). The central baseline follows the Beatty-Coulson Township boundary from lot 3.5 to the eastern boundary of the township (2.36 miles). The north baseline (1.6 miles) is 7,700 feet north of the Coulson Township boundary and extends across the Shallow River into Warden Township. Finally, a short drill-grid control baseline (0.3 miles) was cut at 74+00N (map 2) to cover the Shallow River Showing area.

The north-south crosslines for the NORTHEAST CLAIM GROUP were turned-off the baselines every 400 feet on a compass line assisted by air-photo location. Fluorescent red flagging was tied to the vegetation every 50 feet. Every second flag was labeled with a permanent ink felt-tipped marker pen. Distances between the flags was measured with a standard "belt chain" and "topoline" string. A total of 96 miles of crosslines were flagged over the Group. Grid control using this method was very good, although there were some magnetic effects near the large olivine diabase dykes. Each grid line has been accurately plotted on Maps 1 and 2 that accompany this report. In addition, most of the claim lines were traversed to help locate and tie-in the claim posts to the grid and geological boundaries.

The 110+00N east-west control baseline for the COULSON CLAIM GROUP approximates the Coulson concession II/III boundary and extends from the Coulson-Wilkie boundary for 5.2 miles east. Most of this baseline was used as an access route for the 16 wheel 'bush machine'.

The mapping grid crosslines for the COULSON CLAIM GROUP were run a maximum of every 400 feet on pace and compass lines turned off the baseline. Large, 1:4800 scale airphoto enlargement white prints were used during traversing and greatly aided in location control. All of the claim lines were traversed and measured with a "belt chain" using "topoline" string. Every claim post and each geological traverse line is accurately plotted on Maps 2 and 3 of this report.

Geological Mapping Survey

Detailed geological and topographic mapping of most of the NORTHEAST and COULSON CLAIM GROUPS was completed between September 10 and November 30, 1989 by:

Robert Bennett, MSc., PEng., Consulting Geologist of Sudbury, Ont.

Guy Royer, BSc. of Timmins, Ontario

Robert Wright, Senior Fieldman of Matheson, Ontario.

In addition, some of the geological mapping data was collected during the 1987 and 1988 field seasons by the author and:

Jannine Smyth, Geo-Technologist of Sudbury, Ontario

Wayne Fuller, Senior Fieldman of Matheson, Ontario

Gordon Addie, BSc. of Vancouver, B.C.

Toivo Taal, BSc. of Vancouver, B.C.

The grid lines and traverse lines were used for mapping control, but in areas of abundant outcrop, many additional pace and compass traverses were made in-between to ensure all the outcrops were charted. A representative suite of rock specimens (totalling 406 samples in all) was collected from most of the bedrock exposures. These samples are stored at Maude Lake's Matheson office and warehouse facility. Each specimen was closely examined with the aid of a binocular microscope. All the suite sample locations and their numbers are illustrated on the maps that accompany this report.

The field data is presented in the form of 3 geology maps drafted at 1 inch = 400 ft scale (1:4,800). All the outcrop areas have been plotted. Geological contacts in the overburden-covered areas of the claims, as well as the structural disruptions were interpreted with the aid of the Company's detailed airborne and ground geophysical survey results. Available assessment data was also used, especially in areas of limited bedrock exposure.

Results

In general, the NORTHEAST and COULSON CLAIM GROUPS are underlain by a complex sequence of Archean-aged, mostly north-facing and nearly vertically dipping, Stoughton-Roquemaure magnesium and iron-rich tholeiitic basalts and komatiitic lavas. These are intruded by sub-volcanic gabbroic sills, some layered. A narrow peridotite sill intrudes komatiites in the very southeastern portion of the Property, east of the Barton Creek Fault. The northernmost portions of the Property are underlain by Hunter Mine felsic volcanoclastics and Porcupine Group metasediments. Both anticlinal and synclinal

structural axes have been identified, and the entire sequence is disrupted by a series of north-northeast and northwest striking faults, some occupied by minor alkalic dykes. The pile is cut by several north-south striking Matachewan diabase dykes that probably formed as a result of crustal cooling. Two major north-east striking (Proterozoic) Keweenawan olivine diabbases cut all the other formations.

UNIT # 1. - Porcupine Group Metasediments

Most of the northern portions of the COULSON GROUP is interpreted to be underlain by Porcupine Group turbiditic sediments. This is based on the detailed airmag results coupled with the bedrock description for an OGS rotary hole drilled in L.1027940; and, available exploration data to the east and west in Warden and Wilkie Townships, respectively. A small outlier of Porcupine Group sediments interfingering with Stoughton-Roquemaure lavas is exposed in the south-central portion of the COULSON GROUP. These sediments consist of grey, thinly bedded, fine to medium grained siltstone and greywacke with lesser aphanitic argillite. The greywackes consist of angular quartz and feldspar grains with minor chlorite and mica. A few of the greywacke beds contained isolated 'pebbles' of rhyolite and andesitic material to 1 cm diameter.

Sedimentary contacts are very sharp and can be traced for several hundreds of feet along strike. One, three-foot wide argillaceous bed contained enough graphite to cause an electromagnetic conductor. The stratigraphy strikes at 110° azimuth and dips steeply to the north. Graded bedding suggests tops are to the south. The sediments are quite fresh and void of any sulphides. Two large, northeast striking white quartz 'swets' were mapped

cutting the sediments (10W, 88N and 36W, 95N), but they contained only very rare pyrite mineralization.

UNIT #2. - Hunter Mine Group Felsic Volcaniclastics

Calc-alkaline rhyolitic to dacitic volcaniclastics and andesitic flows underly much of the northeastern portion of the map area in Coulson and Warden Townships. Although very poorly exposed, information obtained from diamond drill core in the area suggest these formations correlate with the Hunter Mine Group. The most common units within the Hunter Mine Group consist of dacitic tuffs followed by dacite-andesite flows (2f), and finally rhyodacitic to rhyolitic lapilli tuffs, agglomerates, and flow breccias (2a). The dacitic tuffs are pale grey to buff-grey and weather a pale-brownish grey in colour. The rhyolitic units weather an ash-white colour and are light grey to 'black' with altered units a distinct buff-yellow on fresh surfaces. A narrow band of arkosic wacke was intersected in Hole 89-7, but it is interpreted to represent a more distal phase of the Hunter Mine tuffs rather than an outlier of Porcupine Group sediments.

Near the southern contact of the Hunter Mine Group near the Shallow River, are coarse rhyolitic and rhyodacitic volcaniclastics. These units can contain large (10 cm), angular clasts of massive brown pyrite that resemble very proximal "mill rock" as seen near Noranda, Quebec. Similar formations occur south of Salve Lake in Beatty Township, and may be fold equivalents (R. Bennett, private company report for Maude Lake Gold Mines).

The felsics found in claim L.935243 were quite highly sericitized and iron-carbonatized, suggesting local hydrothermal alteration. Gold mineral-

ization has been found in several drill holes and in surface exposures in the immediate area. To date, however, this mineralization appears to be concentrated as isolated and discontinuous patches.

Several graphitic tuff and graphite beds occur within the felsic volcanoclastic pile and along the contact with the Stoughton-Roquemaure tholeiites. These likely mark eruptive volcanopauses and can be easily traced with the aid of airborne and ground electromagnetic surveys. Near the Shallow River, some of these graphitic units host large, pyrite-rich, blue quartz veins carrying minor fuchsite. Although a few of these veins carry 'ore-quality' gold values, most are only geochemically anomalous (200 - 600 ppb Au).

The contact between the Hunter Mine and the Stoughton-Roquemaure volcanics appears to be conformable, with perhaps some minor on-lapping.

UNITS #3 and 4 - Stoughton-Roquemaure Tholeiitic Lavas

Most of the map area is underlain by the Stoughton-Roquemaure tholeiitic suite which consists of a rather repetitive series of alternating and interfingering magnesium-rich and iron-rich submarine basaltic flows and flow breccias. The best exposures of the Fe-tholeiites are in the very southern part of the NORTHEAST GROUP (Map 1). These lavas are typically dark-green to black in colour and weather a grey-brown to rusty colour. They almost always attract a suspended magnet, and are quite soft when compared to the Mg-tholeiites. The magnesium tholeiites are best exposed in the southern COULSON GROUP (Map 3) and the north and central portions of the NORTHEAST GROUP (Maps 1 & 2). They are typically light-grey to green in colour, quite hard, always non-magnetic, and weather a grey to pale grey-

brown colour.

Approximately 60% of the exposed Stoughton-Roquemaure tholeiites are pillow lavas. The pillows average 1 meter in size and are usually sub-rounded with little flattening, and show excellent selvages. A few possible lava 'tubes' were observed near the height of land (L.787113) in the southern NORTHEAST GROUP. Where pillows are well exposed and close-packed, stratigraphic top determinations can be made. Both north-facing and south-facing pillows were observed. Individual lava flows are as thick as 100 meters and as thin as 1 meter. For the thicker units, the base of most of these flows is medium grained, massive, and quite featureless. Approximately midway through the flow, isolated pillows start to appear, and this 'grades' to close-packed pillow lava near the top of the flow. Most of the thicker flows are capped with a balled and shardy, usually hyaloclastite-rich flow top breccia (5 cm to 5 meters thick).

Both the Mg and Fe tholeiites are typically aphanitic to fine grained. However, in some of the thicker flows, grain size can become quite coarse. These flows were termed 'dioritic' lavas in the field. Several exposures of rather coarse variolitic lavas were seen during the mapping program; the best being in claim L.822853 in the central-eastern portions of the NORTHEAST GROUP near the Munro Township boundary. Near the contacts with the Matachewan diabase dykes in the COULSON GROUP (Map 3), the Mg-tholeiites take on a distinct 'burgundy' colour. This observation helped to locate the contacts of the diabase in the field.

Several graphitic interflow horizons are indicated within the lavas in the map area. These have been intersected in diamond drill holes and/or been

extrapolated from electromagnetic survey results. For the graphite intersected in drill holes, it is typically fine grained, black, quite massive, and carries nodular pyrite. To date, no significant mineralization has been found to be associated with these hiatus horizons within the mafic volcanism.

Numerous quartz 'swets' and black chert 'swets' within individual pillows were seen during the course of the mapping program. Several larger quartz veins were also seen and charted (claims L.787102, 787108, and 787114 in the southern NORTHEAST GROUP). These veins strike both northeast and northwest and typically follow small structural zones. The quartz is usually milky white and carries only very rare pyrite mineralization and an occasional speck of chalcopyrite. Several old pits and trenches have tested these quartz structures. No significant assays have yet to be returned from samples taken of these veins.

UNITS #5 and 6 - Stoughton-Roquemaure Komatiitic Lavas

Stoughton-Roquemaure komatiitic lavas are exposed and/or have been intersected in diamond drill holes in both the NORTHEAST and COULSON GROUPS. They are often described as the basal member for volcanic piles (Jensen), but occur inter-stratified with the tholeiitic flows in the map area. (Perhaps the komatiites represent folded members of the same horizon; but the data is too limited to make such a determination.) The best komatiite bedrock exposures occur along the Beatty-Coulson Township boundary. There are two varieties of komatiitic lavas; basaltic komatiites and peridotitic komatiites.

The basaltic komatiites are characterized in outcrop by their smooth

weathering surface, dark grey-green colour, and weak polysuturing. They are quite soft, weakly magnetitic, often are weakly serpentized, and can show poor to irregular spinifex textures (pyroxene). The peridotitic komatiites are very soft, black, strongly magnetic and polysutured, often showing well-developed olivine spinifex and serpentization along fractures and joints. Many of the flow boundaries are marked by balled and hyaloclastite-rich flow top breccias. Since the bedrock exposures are so limited and poor, it was very difficult to map individual flows. However, diamond drill cores in the area suggest individual flows can be as thin as 1 meter and as thick as 30 meters. Classic upward-fining spinifex textures to a flow top breccia were logged in the Mattagami Lake drill hole located in claim L.981520. This indicates stratigraphic tops are up the hole, or to the north.

Graphite and black graphitic chert with nodular pyrite also occur along flow boundaries within the komatiitic sequence. No quartz veins or sulphide mineralization was seen within the komatiites.

UNIT #7 - Stoughton-Roquemaure Gabbroic Sills

Five, elongate, seemingly conformable, thick gabbroic sills intrude the Stoughton-Roquemaure lavas. The sills strike at 100° to 130° azimuth, dip vertically, and parallel the volcanic stratigraphy. These intrusives are generally massive, medium to coarse grained and show subtle compositional layering. Due to the limited bedrock exposures it was not possible to break-out the gabbro versus hypersthene gabbro versus norite as mapable units.

The large gabbro sill near the Beatty-Coulson Township boundary has

been extrapolated from the detailed airmag data. This unit lies directly along strike from Warden Hill, a local landmark and height of land in northwestern Munro Township. This sill appears to have caused several minor dislocations of the volcanic stratigraphy in the northern portions of the NORTHEAST GROUP.

The gabbroic sill exposed along the Beatty-Coulson boundary in claim L.802298 strikes directly southeast from a large, well-exposed layered sill south of the fire tower hill in Coulson Township. This sill has a distinct peridotite base and is known to top to the south. Air magnetic data further suggest that some of the other gabbro sills may have peridotitic bases.

The thin gabbroic sill in the southern NORTHEAST GROUP may, in fact, just be a thick tholeiitic 'dioritic' flow. No significant structures, veins or sulphide mineralization was noted in any of the gabbro outcrops.

UNIT #8 - Peridotite Intrusives

Only one small peridotite intrusive was charted in the map area. This lies in the very southeastern area of the NORTHEAST GROUP, east of the Barton Creek Fault. The peridotite is massive, medium grained, black, strongly magnetic, and consists of approximately 70% rounded olivine grains. The peridotite body intrudes spinifexoidal peridotitic komatiites. A pit and several trenches, test a north-trending quartz-carbonate vein with minor pyrite mineralization cutting the komatiities immediately to the north. At least one drill hole, as evidenced from casing still in the rock, tested the vein.

UNIT # 9 - Gabbroic Intrusives

Two, irregular gabbroic intrusives were mapped just west of Coulson Lake in claims L.981517 and 18, and in the south-central portions of the NORTHEAST GROUP. The intrusives are massive, homogeneous, medium to coarse grained, and appear to cross-cut the volcanic stratigraphy. These gabbros contain more mafic minerals than the larger, layered sills.

UNITS #10 & 11 - Lamprophyre and Porphyry Dykes

Two, northeast striking, vertically dipping lamprophyre dykes were mapped in the southern portion of the NORTHEAST GROUP in claims L.787105 and 787122. They appear to follow minor shear zones cutting the volcanic stratigraphy. The lamprophyres are fine to medium grained and are readily distinguished by their pinkish-brown colour and the presence of biotite.

Two quartz-feldspar porphyry dykes cross-cut the volcanic stratigraphy in the Shallow River Area. These trend west-northwest and dip steeply to the north. The porphyries have euhedral, often zoned feldspar crystals to 1 cm in diameter, and smaller, grey, rounded quartz-eyes. The porphyries carry disseminated pyrite and both appear weakly sericitized and carbonatized.

UNIT #12 - Matachewan Quartz Diabase

Six exposed and 4 interpreted (from airmag) Matachewan quartz diabase dykes cut the volcanic stratigraphy in the central and western portions of the COULSON GROUP. The dykes strike north-south and dip vertically. They are massive, medium to coarse grained, dark green-black in colour and consist of feldspar, hornblende (now chlorite), and rare quartz. The Matachewan diabases exhibit very sharp, chill margins and often silicify their enclosing host rocks.

UNIT #13 - Keweenawan Olivine Diabase

Two large, 700 ft thick, northeast striking and vertically dipping, highly magnetic Keweenawan olivine diabase dykes cross-cut all the other units in the map area. One dyke is exposed in the central NORTHEAST GROUP while the other, in northwestern COULSON GROUP, has been interpreted from the airmag results. The olivine diabase dykes are coarse grained, very granular, and weather to form a rusty and crumbly gravel-like product. The contacts show a good chill margin as evidenced in outcrop in claim L.787094. The dykes consist of coarse grained feldspar (labradorite) with interstitial pyroxene, magnetite, and lesser olivine.

Structural Geology

The structural interpretation presented here is based on top determinations from graded bedding in the Porcupine sediments, pillow configurations in the lavas, spinifex textures in the komatiites, and layering within gabbroic sills. In addition, established structural data beyond the limits of the map area are also considered.

One synclinal and one anticlinal axis are illustrated on the maps accompanying this report. It is likely that other, minor folds also exist. The synclinal axis (map 1) is interpreted to be the major regional isoclinal fold, such that the Porcupine Group sediments and Hunter Mine felsic volcaniclastics in the northern portions of the map area are fold equivalents of the same stratigraphy south of Salve Lake. The anticlinal axis through the center of the COULSON GROUP is interpreted to be a minor limb-anticlinal fold and only causes local repetition of the Stoughton-Roquemaure stratigraphy.

Several northeast trending and a few northwest trending cross-faults are

illustrated in the map area. The northeast trending faults in the NORTHEAST GROUP show only minor disruption of the stratigraphy and were likely formed as a result of gabbroic sill intrusion. The best evidence for these faults comes from the dislocation of the graphitic interflow beds seen in the electromagnetic results. An exception to this is the northeast-striking Barton Creek Fault which has considerable lateral and/or vertical displacement as evidenced by the abrupt termination of the Fe-tholeiites against the komatiites. The northeast trending fault in central COULSON GROUP shows at least 1,500 feet sinistral movement. It was interpreted from the detailed airmag survey results. Similarly, the northwest trending fault in the same area shows about 1,400 feet sinistral movement.

Regionally, the westerly trending North Branch of the Porcupine Destor Fault Zone has been interpreted to pass through the center of the COULSON CLAIM GROUP. Since evidence of the structure could not be identified, the location of the Fault was not drafted onto the geological maps. However, it is likely, should it exist, that the North Branch of the Porcupine Destor Fault Zone follows a path parallel to and likely within the komatiitic lava unit (unit 5-6) that strikes east then southeast through the northern portion of the map area.

Two strike faults were mapped in the southern outcrop area of the NORTHEAST GROUP. These faults likely have only very minor displacement. A few pits and trenches have been blasted along these shear zones by past explorers. Samples collected of quartz vein material within these structures failed to return any significant gold assays.

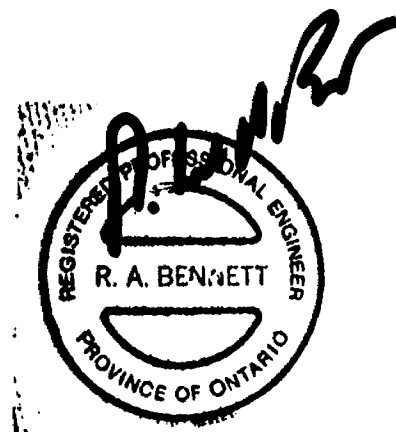
CONCLUSIONS and RECOMMENDATIONS

From the results of the detailed geological and topographical mapping program completed over Maude Lake Gold Mines Limited's 212 claim NORTHEAST and COULSON CLAIM GROUPS, the following interpretations and conclusions can be made:

1. The Properties are underlain by a complex pile of Archean-aged Porcupine Group metasediments, Hunter Mine Group felsic volcanoclastics, and Stoughton-Roquemaure Group tholeiitic and komatiitic lavas. The volcanics have been intruded by several gabbroic sills and irregular bodies. One peridotite sill was also mapped. The entire sequence is cut by at least 10 north-striking Matachewan diabase dykes, which have in turn been cut by two large, northeast trending, Proterozoic-aged Keweenawan olivine diabase dykes.
2. The volcano-sedimentary pile has been isoclinally folded, causing some repetition of stratigraphy. Numerous northeast striking faults of minor displacement, probably formed as a result of the gabbro intrusion emplacements, and at least two other major northeast striking faults further disrupt the stratigraphy. One major northwest striking and two strike faults were also identified.
3. The North Branch of the Porcupine Destor Fault Zone is interpreted to cut through the northern portions of the map area. Much more work will be needed to pinpoint its exact location.

4. Most of the Property has seen only very minor, grassroots-type exploration in the past. One area, the Shallow River Showing has been extensively diamond drill tested. Several 'ore-quality' gold assays are reported. The mineralization occurs within carbonatized felsic volcanoclastics and graphitic tuffs cut by large blue, pyritic quartz veins.

The results of the 1989 geological mapping program over Maude Lake Gold Mines Limited's NORTHEAST and COULSON CLAIM GROUPS will be used to help plan the next stage of exploration. It is recommended that additional diamond drilling in the Shallow River Showing area and other geological/structural targets be continued. Special emphasis should be directed towards defining the location of the North Branch of the Porcupine Destor Fault Zone.



February 2, 1990
Sudbury, Ontario.

R. A. Bennett, MSc., PEng.

REFERENCES

- Bennett, R. A., PEng.
Private Company Reports for Maude Lake Gold Mines Ltd - 1984 - 1989
- Jensen, L. S. and Langford, F. F.
Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area, OGS Miscellaneous Paper 123
- Johnstone R. M.
Geology of the Stoughton-Roquemaure Group, Beatty and Munro Townships, Northeastern Ontario - MSc. Thesis, Carlton University - 1987.

Precambrian Geology of Coulson, Warden, and Milligan Townships in OGS Miscellaneous Paper 132
- Gordon, J. B., etal
Gold Deposits of Ontario, OGS Mineral Deposits Circular #18 - 1979
- Ontario Department of Mines
Coulson Township Preliminary Map P.157 - 1961

Wilkie Township Preliminary Map P.156 - 1961
- Ontario Geological Survey, Office of the Resident Geologist, Kirkland Lake
Assessment File Reports for Beatty, Coulson, Warden, Wilkie Townships

Geological Data Inventory Folios * 266, 361, 369, 381, 401.
- Satterly, J. and Armstrong, H.
Geology of Beatty Township, ODM Vol LVI, Part VII - 1947

M.L.

DOCUMENT No. W9008.008



Mining Act Report of Work **2.1306**
(Geophysical, Geological and Geochemical Surveys)

900

Type of Survey(s) GEOLOGICAL	Mining Division Larder Lake	Township or Area Beatty, Coulson, Warden
Recorded Holder(s) MAUDE LAKE GOLD MINES LIMITED	Prospector's Licence No. T 1181	
Address 300 ELM STREET WEST, SUDBURY, ONT, P3C1V4		Telephone No. 674-2724
Survey Company R.A. BENNETT, PENG., Consulting Geologist		
Name and Address of Author (of Geo-Technical Report) R.A. Bennett, R.R. 4, Site 37, Box 1, Sudbury Ont P3C1V4		
Date of Survey (from & to) 10 06 89 30 11 89		

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)	- Other Geological Geochemical	20
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic - Magnetometer - Other Geological Geochemical	
RECEIVED FEB 16 1990		
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic - Magnetometer - Other Geological Geochemical	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Mining Claim		Mining Claim	
Prefix	Number	Prefix	Number	Prefix	Number
L.	943217	L.	943234	L.	981496
L.	943218	L.	943235	L.	981497
L.	943219	L.	943236	L.	981498
L.	943220	L.	943237	L.	981499
L.	943221	L.	943238	L.	981500
L.	943222	L.	943239	L.	981501
L.	943223	L.	943240	L.	981502
L.	943224	L.	943241	L.	981503
L.	943225	L.	943242	L.	981504
L.	943226	L.	943243	L.	981505
L.	943227	L.	943244	L.	981506
L.	943228	L.	943245	L.	981507
L.	943229	L.	943246	L.	981508
L.	943230	L.	981494	L.	981509
L.	943231	L.	981495	Continued over leaf...	
L.	943232				
L.	943233				

Total number of mining claims covered by this report of work. **212**

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

Name and Address of Person Certifying
Robert A. Bennett, M.Sc., P.Eng.
SUDBURY, ONT. P3C1V4
Telephone No. **674-2724**
Date **JAN 8/90**
Certified By (Signature) *[Signature]*

For Office Use Only

APR 18 1990

Total Days Cr. Recorded: **4240**

Date Recorded: **Jan 4/90**

Date Approved as Recorded: **April 12/90**

Mining Recorder: *[Signature]*

Provincial Manager, Mining Lands: *[Signature]*

Received Stamp

RECEIVED
JAN 4 1990
9:15am

JAN 8 / 90

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L. 1014986	L. 801020	L. 822827	
L. 1014987	L. 801021	L. 822828	

TOTAL = 212

2.13068

Instructions
 - Please type or print.
 - Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
 - If number of mining claims traversed exceeds space on this form, attach a list.
 - Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

Report of Work
 (Geophysical, Geological and Geochemical Surveys)

Type of Survey(s) GEOLOGICAL	Mining Division Larder Lake	Township or Area Beatty, Coulson, Warden
Recorded Holder(s) MAUDE LAKE GOLD MINES LIMITED	Prospector's Licence No. T 1181	
Address 300 ELM STREET WEST, SUDBURY, ONT, P3C1U4		Telephone No. 674-2724
Survey Company R.A. BENNETT, PENG., Consulting Geologist		
Name and Address of Author (of Geo-Technical Report) R.A. Bennett, RR4, Site 37, Box 1, Sudbury ON P3E4M9		Date of Survey (from & to) 10 06 89 30 11 89 Day Mo. Yr. Day Mo. Yr.

Credits Requested per Each Claim in Columns at right			Mining Claims Traversed (List in numerical sequence)					
Special Provisions	Geophysical	Days per Claim	Mining Claim		Mining Claim		Mining Claim	
			Prefix	Number	Prefix	Number	Prefix	Number
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic		L.	943217	L.	943234	L.	981496
	- Magnetometer		L.	943218	L.	943235	L.	981497
For each additional survey: using the same grid:	- Other		L.	943219	L.	943236	L.	981498
Enter 20 days (for each)	Geological	20	L.	943220	L.	943237	L.	981499
	Geochemical		L.	943221	L.	943238	L.	981500
Man Days	Geophysical	Days per Claim	L.	943222	L.	943239	L.	981501
Complete reverse side and enter total(s) here	- Electromagnetic		L.	943223	L.	943240	L.	981502
	- Magnetometer		L.	943224	L.	943241	L.	981503
	- Other		L.	943225	L.	943242	L.	981504
	Geological		L.	943226	L.	943243	L.	981505
	Geochemical		L.	943227	L.	943244	L.	981506
Airborne Credits		Days per Claim	L.	943228	L.	943245	L.	981507
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic		L.	943229	L.	943246	L.	981508
	Magnetometer		L.	943230	L.	981494	L.	981509
	Other		L.	943231	L.	981495	continued over leaf	
Total miles flown per claim(s)			L.	943232				
Date JAN 8/90	Recorded Holder or Agent (Signature) <i>R.A. Bennett</i>		L.	943233			Total number of mining claims covered by this report of work.	212

Certification Verifying Report of Work

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

Name and Address of Person Certifying
Robert A. Bennett, M.Sc., P.Eng. RR4 SITE 37 BOX 1
SUDBURY, ONT. P3E4M9 Telephone No. 522-7682

Date
JAN 8/90

Certified By (Signature)
R.A. Bennett

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Provincial Manager, Mining Lands

Received Stamp

Jan 8/90

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L. 981511✓	L. 1027937✓	L. 801023✓	L. 822832✓
L. 981512✓	L. 1027938✓	L. 801024✓	L. 822833✓
L. 981516✓	L. 1027939✓	L. 802281✓	L. 822834✓
L. 981517✓	L. 1027940✓	L. 802282✓	L. 822835✓
L. 981518✓	L. 1027941✓	L. 802283✓	L. 892840✓
L. 981519✓	L. 1027942✓	L. 802284✓	L. 892843✓
L. 981520✓	L. 1027943✓	L. 802285✓	L. 935310✓
L. 981521✓	L. 1027944✓	L. 802286✓	L. 935311✓*
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L. 1014986✓	L. 801020✓	L. 822827✓	
L. 1014987✓	L. 801021✓	L. 822828✓	

TOTAL = 212

Kerrs Twp.

THE TOWNSHIP OF
OF

WARDEN

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH= 40 CHAINS

LEGEND

- PATENTED LAND (P)
- CROWN LAND SALE (CS)
- LEASES (S or L)
- LOCATED LAND (Loc)
- LICENSE OF OCCUPATION (L.O.)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES

NOTES

100' Surface rights reservation around all lakes and rivers.

Claims L616990 498 See staking sketch for actual location of mine

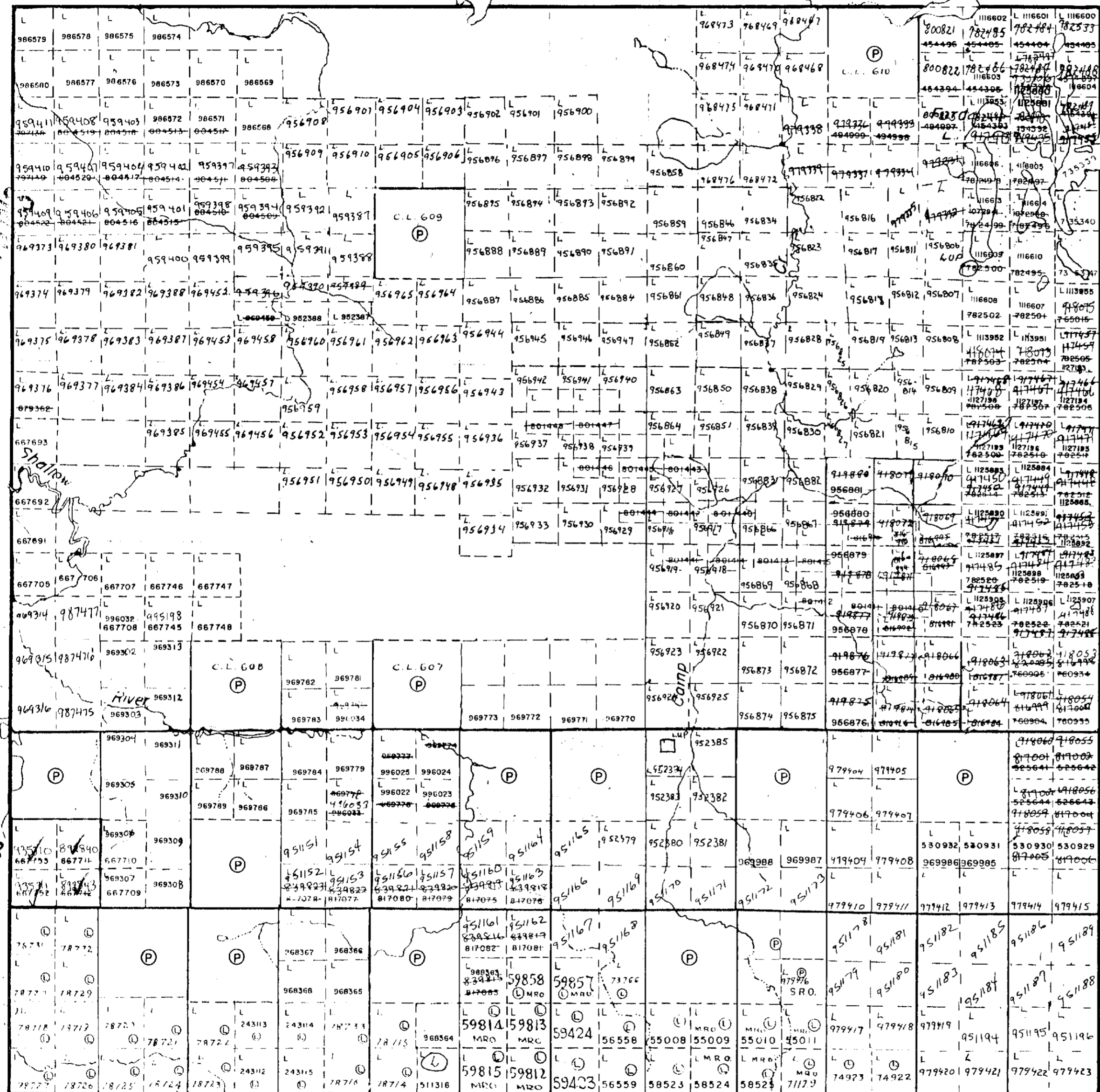
DATE OF ISSUE
JAN 30 1990
LARDER LAKE
MINING RECORDER'S OFFICE

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE
WATABEAG MANAGEMENT UNIT
AND MAY BE SUBJECT TO FORESTRY OPERATIONS.
THE MNR UNIT FORESTER FOR THIS AREA CAN BE
CONTACTED AT: P.O. BOX 129
SWASTIKA, ONT.
POK ITO
705-642-3222

PLAN NO.- M 3971

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



VI
Eastford L.

V

IV

III

II

I

Not Surveyed

Milligan Twp.

Coulson Twp.

2.13068

Munro Twp.



Knox Twp.

THE TOWNSHIP OF

COULSON

DISTRICT OF COCHRANE

LARDER LAKE MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

- PATENTED LAND (P)
- CROWN LAND SALE (C.S.)
- LEASES (L)
- LOCATED LAND (Loc.)
- LICENSE OF OCCUPATION (L.O.)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES

NOTES

400' Surface rights reservation around all lakes and rivers.

0-93/87 NR Opens W-8/86 NR.
 Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W-8/86-244.
 TAILINGS APPLICATION SEPT. 6/78.

DATE OF ISSUE
 JAN 8 1990
 LARDER LAKE MINING RECORDER'S OFFICE

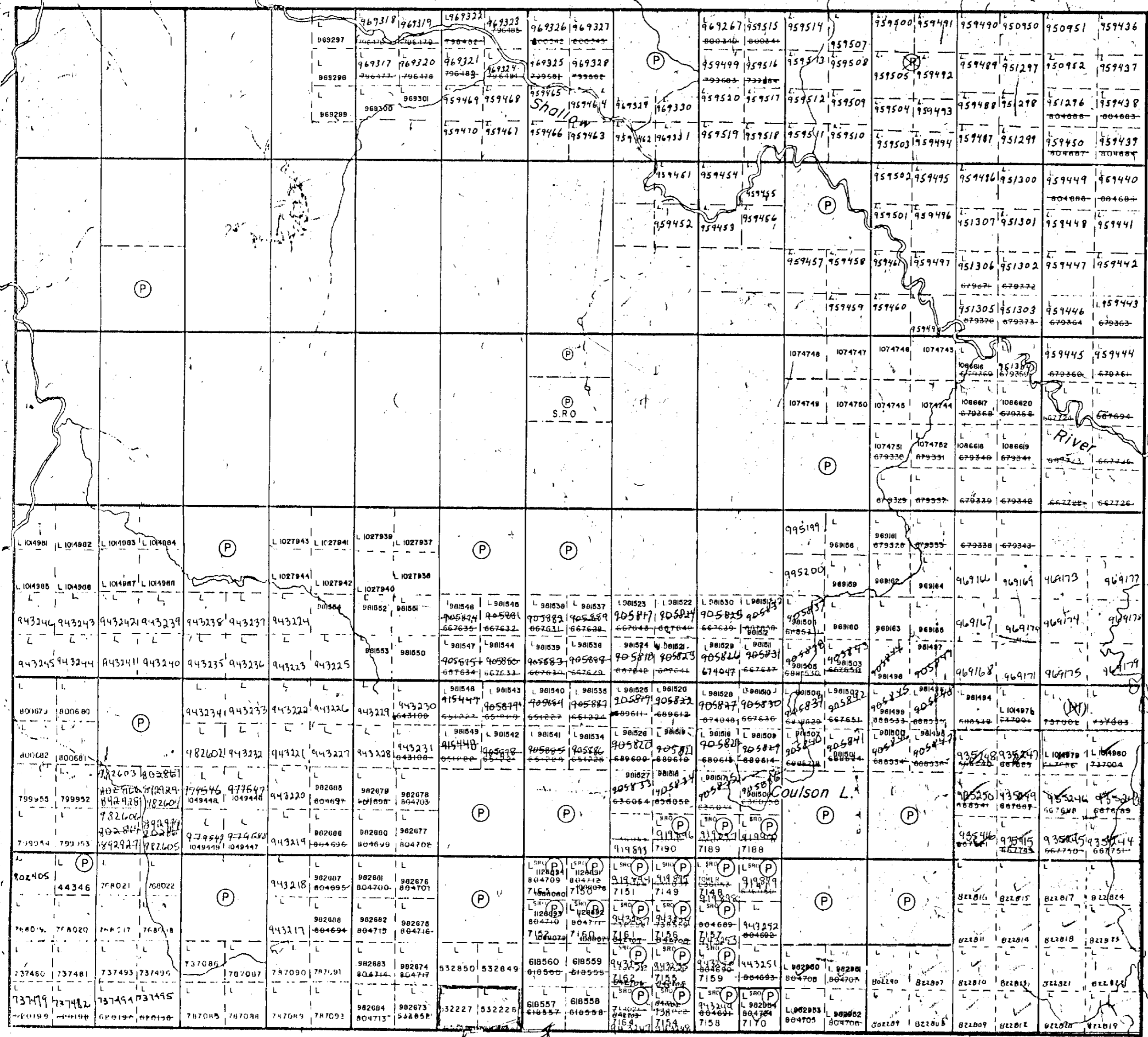
PLAN NO.- M-340/21

ONTARIO
 MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

Wilkie Twp.

Warden Twp.



Beatty Twp.

Patent forfeit
 S. 2, Lot 6, Con 1, 5
 May 15, 1981



210

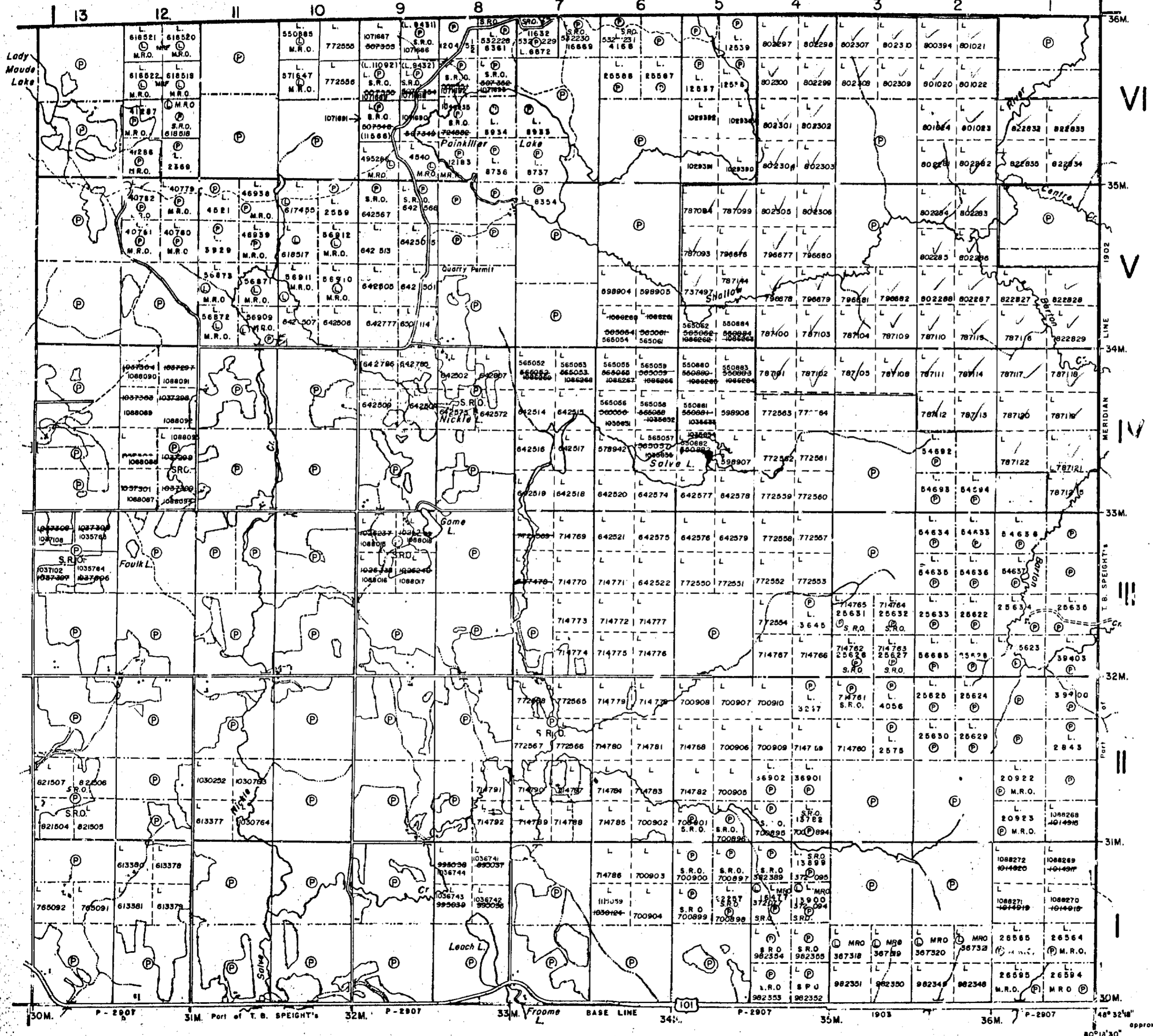
B.D.

Coulson Twp. (M.340)

2.13068

Carr Twp. (M.335)

Munro Twp. (M.376)



NOTES

400' Surface Rights Reservation along the shores of all lakes and rivers.

Surface and Mining Rights Withdrawn from Staking, section 36/80 order No. W-29/88
O-04/88L OPENS W-29/88

DATE OF ISSUE
SEP 15 1989
LARDER LAKE
MINING RECORDER'S OFFICE

NOTICE OF FORESTRY ACTIVITY
THIS TOWNSHIP / AREA FALLS WITHIN THE
WATABEAG MANAGEMENT UNIT
AND MAY BE SUBJECT TO FORESTRY OPERATIONS.
THE MNR UNIT FORESTER FOR THIS AREA CAN BE
CONTACTED AT: P.O. BOX 129
POK ITO
705-642-3222

LEGEND

- PATENTED LAND (P or ●)
- PATENTED FOR SURFACE RIGHTS ONLY (P)
- LEASE (L)
- LICENSE OF OCCUPATION (L.O.)
- CROWN LAND SALE (C.S.)
- LOCATED LAND (loc.)
- CANCELLED (C)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- HIGHWAY & ROUTE No. (Hwy symbol)
- ROADS (Road symbol)
- TRAILS (Trail symbol)
- RAILWAYS (Railway symbol)
- POWER LINE (Power line symbol)
- MARSH OR MUSKEG (Marsh symbol)
- MINES (Mine symbol)

used only with summer resort locations or where space is limited.

TOWNSHIP OF
BEATTY

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

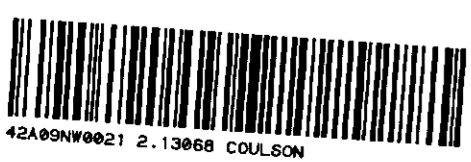
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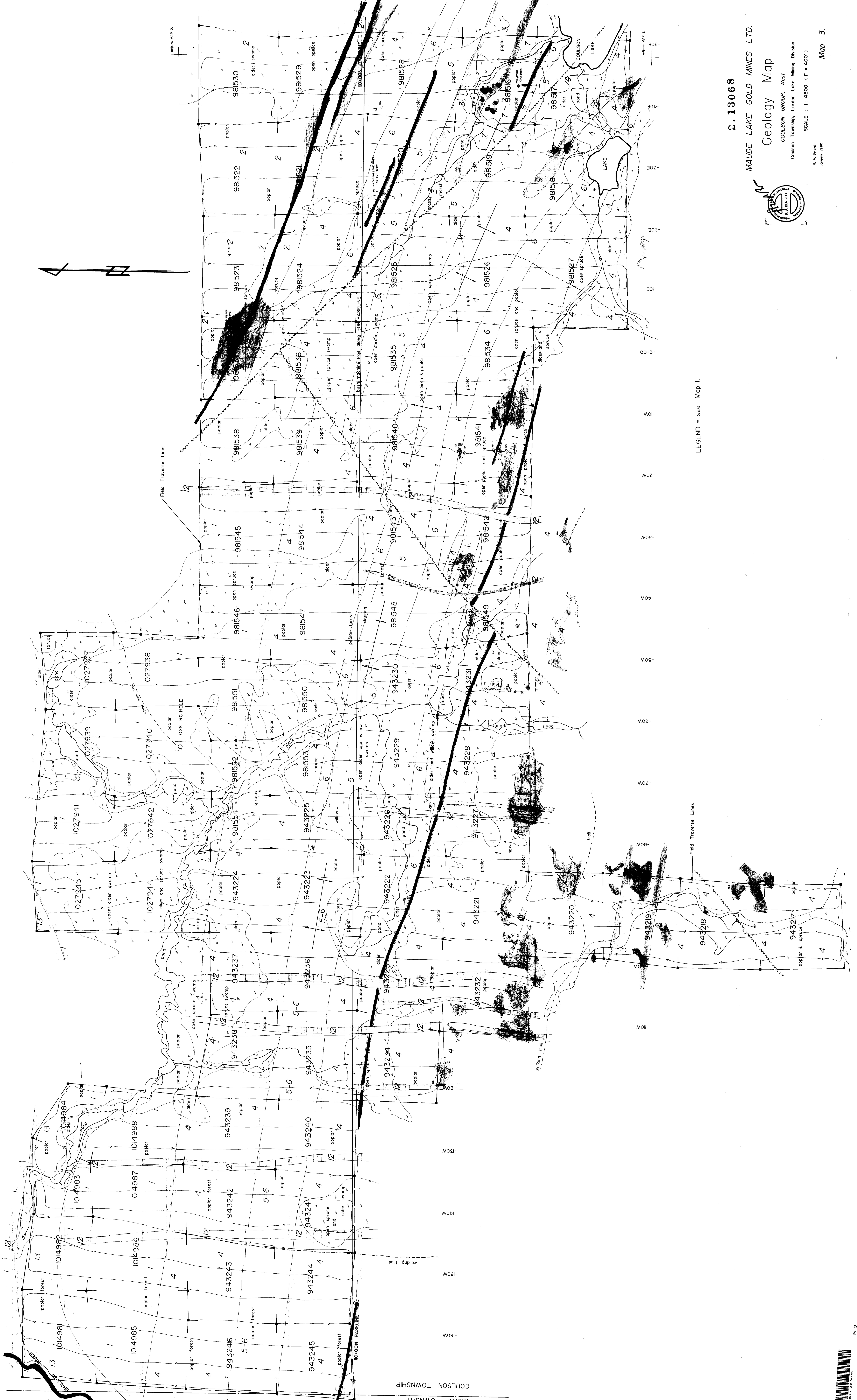
DR. k.k.
DATE Oct./71 PLAN No. **M.324**

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

Hislop Twp. (M.355)

TOWNSHIP SUBJECT
TO
FORESTRY OPERATIONS





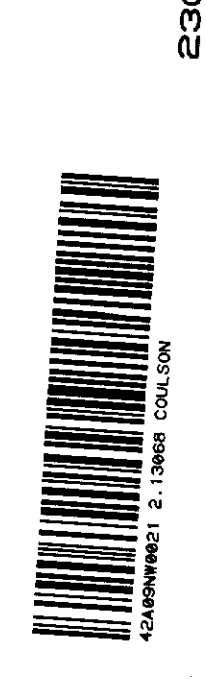
LEGEND = see Map I.

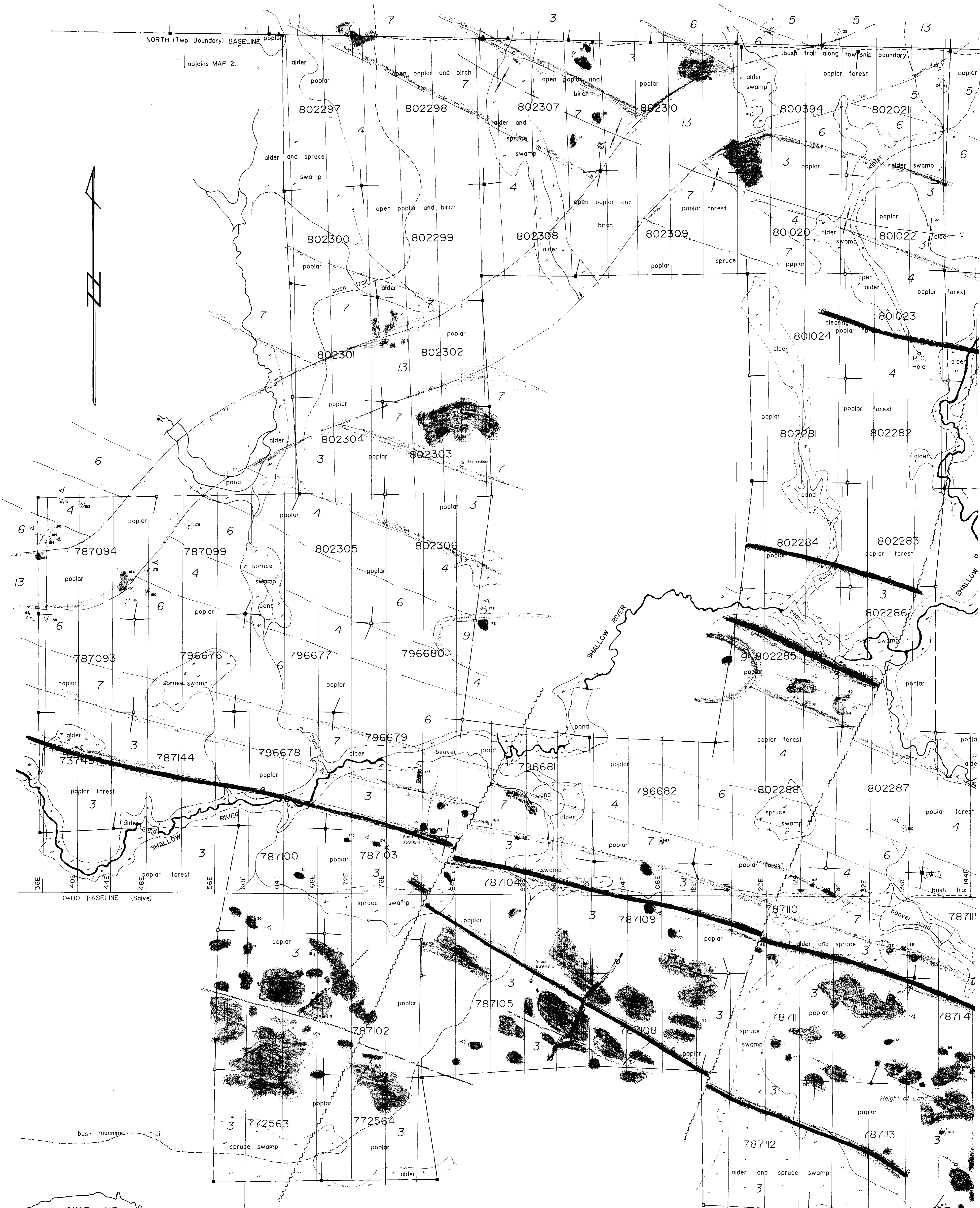
2.13068
 MAUDE LAKE GOLD MINES LTD.
 Geology Map
 COULSON GROUP, West
 Coulson Township, Larder Lake Mining Division
 SCALE : 1 : 4800 (1" = 400')



R. A. Bennett
 January 1990

Map 3.





NORTH (Twp. Boundary) BASELINE
 adjoins MAP 2.

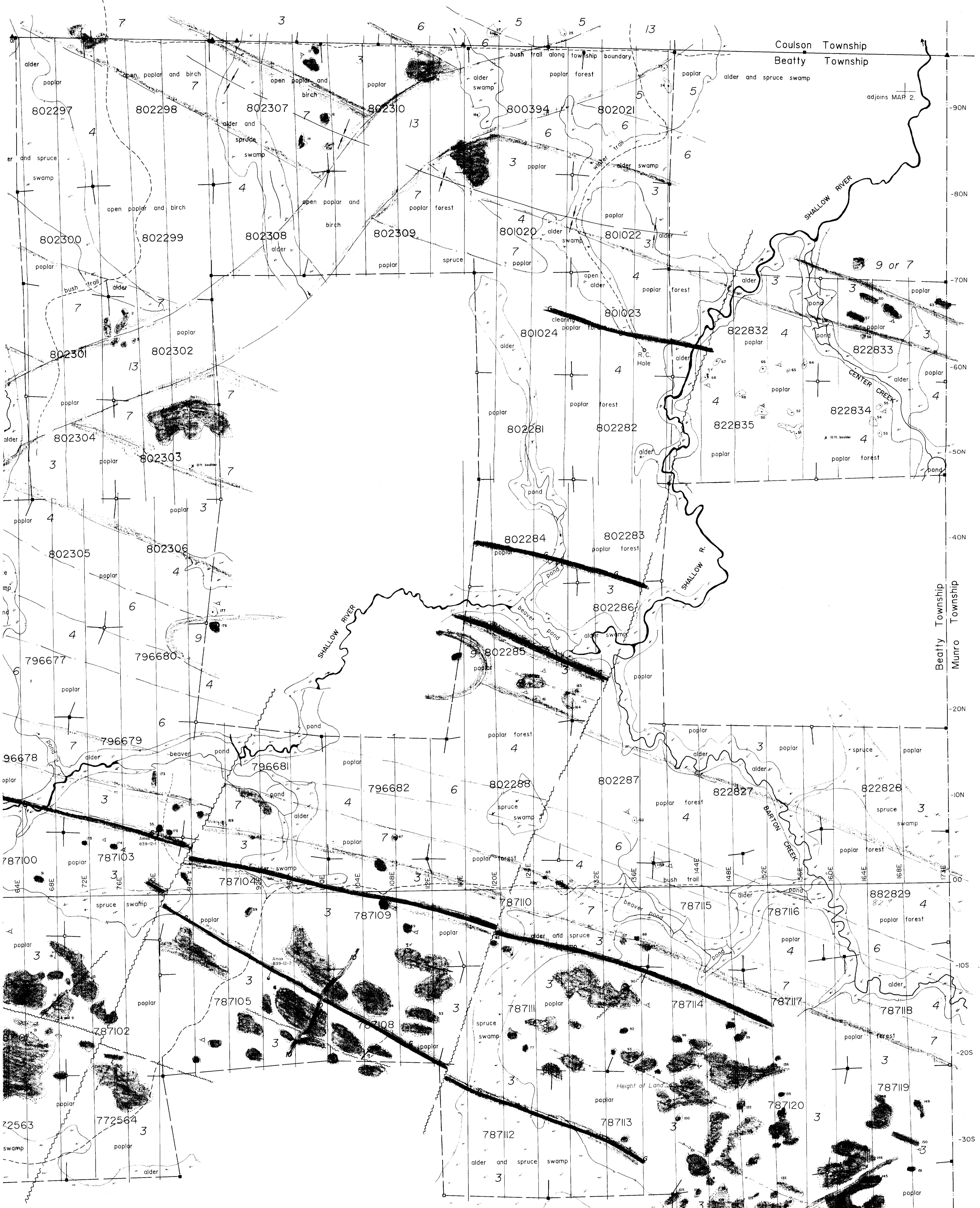


0-00 BASELINE (Salve)

- LEGEND**
- Proterozoic
 - 13 Keweenaw Olivine Diabase
 - Archean
 - 12 Matachewan Quartz Diabase
 - 11 Quartz-Feldspar Porphyry Dykes
 - 10 Lamprophyre Dykes
 - 9 Gabbroic Intrusives
 - 8 Peridotite Intrusives
 - STOUGHTON-ROQUEMAURE GROUP
 - 7 Layered Subvolcanic Gabbroic Sills
 - 6 Komatiitic Volcanics
 - Basaltic Komatiitic Lavas
 - Peridotitic Komatiitic Lavas
 - 4 Tholeiitic Volcanics
 - High Magnesium Basalts
 - High Iron Basalts
 - HUNTER MINE GROUP
 - 2 - Dacite and Rhyodacite Tuff, f=flow
 - 1 - Rhyolite and Rhyodacite Agglomerate, Lapilli Tuff
 - PORCUPINE GROUP
 - 7 Metasediments = a. = greywacke/siltstone, b. = argillite
 - 8 Graphitic Interflow Sediment & Tuff

- SYMBOLS**
- Faults
 - Shears
 - Joints
 - Pillow Lavas showing tops
 - Flow Top Breccias
 - Swampy Wet Ground
 - Outcrop Outline
 - Swamp Outline
 - Claim Post, located in the field
 - Diamond Drill Hole Collar
 - Pit, Trench
 - Sample Location & Number
 - Geological Contact, defined
 - Bush Trail, Bush Machine Access Only



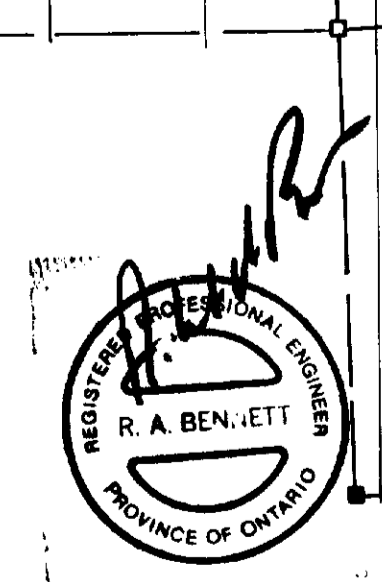


LEGEND

Proterozoic	
	Keweenaw Olivine Diabase
Archean	
	Matatchewan Quartz Diabase
	Quartz-Feldspar Porphyry Dykes
	Lamprophyre Dykes
Gabbroic Intrusives	
	Peridotite Intrusives
STOUGHTON-ROQUEMAURE GROUP	
	Layered Subvolcanic Gabbroic Sills
	Komatiitic Volcanics
	Basaltic Komatiitic Lavas
	Peridotitic Komatiitic Lavas
Tholeiitic Volcanics	
	High Magnesium Basalts
	High Iron Basalts
HUNTER MINE GROUP	
	Dacite and Rhyodacite Tuff, f=flow
	Rhyolite and Rhyodacite Agglomerate, Lapilli Tuff
PORCUPINE GROUP	
	Metasediments = a. = greywacke/siltstone, b. = argillite
	Graphitic Interflow Sediment & Tuff

SYMBOLS

	Faults
	Shears
	Joints
	Pillow Lavas showing tops
	Flow Top Breccias
	Swampy Wet Ground
	Outcrop Outline
	Swamp Outline
	Claim Post, located in the field
	Diamond Drill Hole Collar
	Pit, Trench
	Sample Location & Number
	Geological Contact, defined
	Bush Trail, Bush Machine Access Only



2.13068
MAUDE LAKE GOLD MINES LTD.

Geology Map
 NORTHEAST GROUP, South Half
 Beatty Township, Larder Lake Mining Division

SCALE : 1 : 4800 (1" = 400')

R. A. Bennett
 January 1990

Map 1.