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GEOLOGICAL REPORT.
SHAKESPEARE URANIUM MINES LIMITED.
LAKE AGNEW PROPERTY.

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SHAKESPEARE URANIUM MINES LTD.,
LAKE AGNEW PROPERTY.

December 21, 1954.

DECEMBER 21/1954.

By.. Oliver T. Maki.

BY: OLIVER T MAKI

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INTRODUCTION

Between September 4th, 1954, and the middle of November, 1954, an extensive exploration program, consisting of diamond drilling and geological mapping, was carried out on the Agnew Lake property of Shakespeare Uranium Mines Limited. This report sums up the results of this work and presents future recommendations. The property on which the work was performed, consists of 16 unpatented mining claims, Nos. S-70696-7-8-9 inclusive; S-70700-1-2-3 inclusive; and S-71029-30-31-32-34-35-36 inclusive; lying in the north east portion of Shakespeare Township, and the north west portion of Baldwin Township, Sudbury Mining Division. Part of the property is covered by Lake Agnew, and McDonald Bay on the Spanish River. Access to the property is by a gravel road from Webbwood on Highway 17, to Lake Agnew Lodge, and thence by boat and motor requiring a ten to fifteen minute trip.

TOPOGRAPHY

The property is moderate in relief to the north of McDonald Bay with hills rising to less than 150' above Lake Agnew. To the south of McDonald Bay the relief is more pronounced, with granite and diorite ridges forming high bluffs and several steep escarpments rising 300 to 400 feet. Much of the western portion of the property is covered by a gravel plain. In the west central portion some ground of a swampy nature is encountered. Water for diamond drilling was obtained from Lake Agnew. The property is covered by a second growth mixture of hardwoods, poplar, spruce, moose maple, and hazel wood thickets.

GENERAL GEOLOGY

Rocks outcropping on the property in order of abundance consist of arkosic and gritty greywacke quartzite, granite diorite, sheared greywacke schist, volcanics and agglomerates, conglomerate, and siltstone. The sediments and volcanics trend in a north easterly direction, and the sediments occur as 4 distinct bands with the most northerly and southerly bands being approximately 3600 feet apart. The average dip of schistosity and bedding in the quartzites is 70° N.W., except in places where local structural conditions have caused a variance. The volcanics and agglomerates form the basement rocks of the series of sediments and are therefore the oldest members of the rock series. The volcanics are composed of tuffs, basaltic and andesitic rocks. The igneous rocks which consist of granite and diorite occur as large intrusive bodies. The south part of the property is almost entirely composed of these rocks. A few diabase dikes which strike in a N.E. direction, intrude the granite. The conglomerate consists of a heterogenous mixture of pebbles and cobbles in a matrix of arkosic and greywacke quartzite. Some phases of the conglomerates are composed of very small quartz pebbles and may be classified as a pebble conglomerate. The quartzites and conglomerates show considerable sericitization. A zone of disturbance of fracturing, faulting, and drag folding has occurred within the second most northerly quartzite conglomerate zone. A section of this band has been dragged south and along its original north easterly strike, in such a way that the conglomerate beds now strike at near right angles to their original strike, and the dip is flattened to 25° to 15° to the N.E. It may be that this faulting and dragging has occurred at some time prior to the complete consolidation of the sediments and hence has given rise to this zone of disturbance without any great attendant fracturing or brecciation. The sheared greywacke schist is a highly metamorphosed phase of a possible older series of sediments.

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GEOLOGY OF THE ORE DEPOSITS

The radioactive minerals are confined mainly to the conglomerates or the graywacke quartzites which are immediately adjacent to the conglomerates.

The west showing, at present the most important, occurs on claims S-71029-30-33-34. This showing consists of several parallel conglomerate bands which strike N.E. and dip 70° to the N.W. Interbedded and adjacent to these conglomerate bands is a gritty, granular graywacke quartzite. Apparently a section of the S.W. extension of these beds have been rotated to the south by the drag effect of a N.E. striking fault so that now the strike of the beds in this dragged portion are 315° and dip at 15 to 25° N.E. There appears to be a plunge of about 15° to the N.E. of all the sediments in this sector, consequently the S.W. extension into the swampy area, appears to have been eroded off. Geiger and scintillation prospecting reveals the conglomerate bands to be from low to highly radioactive. The width of radioactivity is variable from a few inches to several feet, and is usually delimited by the width of conglomerate. Considerable surface stripping has been done and good geiger readings are obtained in these areas. The fault zone which produced the drag is not radioactive and hence must be of a post mineral age. No visible pitchblende was discernable on surface exposures however there was no opportunity to examine any rocks from immediately below the oxidized surface. In nearly all cases there is an association of minor sulphides with the radioactive areas.

East Showing: On the extreme east end of the property on claim S-70700, a series of parallel radioactive conglomerate beds occur in the arkosic quartzites. These beds vary in width from a few inches to one isolated outcrop which was 12 feet wide. The beds strike nearly east and west, and dip rather uniformly north at 60° . The degree of radioactivity noted here was somewhat less than on the west showing. Some surface stripping has been done on these showings. Very little gritty graywacke quartzite was present adjacent to the conglomerate. Immediately to the north of the quartzites is a marked depression which denotes the surface expression of a band of thinly bedded siltstone.

Other Showings: Along the north edge of claim S-71034 is a narrow band of rusty conglomerate which is slightly radioactive. This band strikes N.E. parallel to the main west showing, and dips about 70° to the N.W. Very little work has been done on this showing. The quartzites in this area show some cross fracturing but have no radioactive indications.

In the S.W. corner of claim S-71033 is a limited exposure of arkosic quartzite in which there are four parallel conglomerate bands showing slight radioactivity. These bands attain a maximum width of 4'. The quartzites have an apparent dip to the S.E. of 60° , however, schistosity has so masked out original structures that this condition cannot be stated with certainty. Several barren quartz veins criss cross both the conglomerate and the quartzite. An old adit has been driven a few feet into one of these quartz veins but no mineralization of any kind was noted.

Slight radioactive indications are evident along the lake shore on the southernmost quartzite band. On the north shore of a gravel covered peninsula in the S.E. sector of claim S-71030, a large boulder of highly radioactive conglomerate was found lying on top of arkosic quartzite. From appearances it would seem that this boulder was moved a comparatively short distance and may have been pushed up by the action of ice. Low geiger readings were obtained in arkosic quartzite in a trench dug through overburden on a small point of land in the N.W. corner of claim S-71031. Here the dip of the bedding is 55° S.E.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

RESULTS OF DIAMOND DRILLING

A total of 23 holes were drilled on the uranium bearing zones. The majority of these holes were drilled at a shallow angle to get the maximum information with the minimum of footage expended. The drill intersections indicate that the conglomerate bands carry variable uranium values. The highest value obtained was 0.14% U308 across 1.0 feet in hole #13, in which finely disseminated pitchblende was visible. An intersection of 0.13% U308 was obtained across 1.0 ft. in hole #12, 85 feet to the west of #13. Other intersections varied from sub-marginal to 0.07% U308 across 3 ft. in hole #9. Several intersections gave values slightly below 0.10% U308 but these were usually confined to rather narrow sections, from 1.0 to 2.0 feet. Nearly all intersections of conglomerate were slightly radioactive but samples were only cut from those sections from which higher results could be anticipated. Holes Nos. 7, 8, & 19, were drilled in a southwesterly direction in order to cut the dragged conglomerate beds at as near normal as possible and also to determine their total thickness. Hole #14 which was the easternmost hole drilled, failed to cut any conglomerate due to being at too shallow an angle, and therefore passed over all the beds.

DISCUSSION OF RESULTS

Drilling to date has failed to outline a uranium ore-body. Drill intersections indicate that the conglomerate beds persist to depth with a variable uranium content. However, sufficient drilling has not been performed to determine whether there is a relationship with the attitude of the conglomerate bands and the uranium values. It is quite possible that a change in strike or dip would give rise to a larger area of fracturing and hence a possible ore zone. The west showing was not delimited by hole #14, and in order to prove its northeasterly trend toward the two quartzite islands in Lake Agnew, it is recommended that a vertical hole be drilled in the vicinity of #14 but to keep to the south of the N.E. striking fault. Also to probe the downward continuity of the conglomerate to the north of the fault and also to obtain information from a greater depth where structural changes may have occurred, a hole should be drilled at 45°, slightly east of south, and collared about 200 feet north of holes 16 & 17. If favourable formations are encountered in these holes, further drilling along strike would then be warranted.

The east showing has sufficient length and width to warrant consideration of a drilling program. Structural conditions may be encountered here which would give rise to an ore zone. An initial hole collared at 1000E, 400N, drilled south at a shallow angle, would intersect the widest surface exposure of the conglomerate. Considerable portions of these conglomerates are masked out by a thin layer of overburden.

An exploratory hole should be drilled N.W. at a shallow angle on the small peninsula in the N.W. corner of claim S-71031. The purpose of this hole being to determine if a bed of basal conglomerate is associated with this quartzite in this location and also the large radioactive conglomerate boulder was found on strike to the N.E. there is a possibility of finding a new uranium bearing zone.

A further ten claims adjoining the north boundary of the property have been acquired since the work, summarized in this report, was performed. At the time of writing of this report, the numbers of the claims were not available. and as far as is known. no detailed work

has been performed on this ground. From viewpoint of location the ground is highly important since it offers ample protection for a northeastward continuation of the west showing. Prior to any tentative diamond drilling being performed on this newly acquired ground, it is strongly urged that a detailed geological mapping program be done first. This is ~~not~~ important in order to prevent an expensive, misguided diamond drilling program from which erroneous conclusions can be derived.

In summing up the results of the work performed, it can be stated, that the property of Shakespeare Uranium Mines Ltd., has sufficient unexplored geologic structures to warrant consideration of further diamond drilling and exploration work. The work performed thus far has not delimited the economic possibilities.

Respectfully submitted,

"Oliver T. Maki"
Oliver T. Maki

Approved;

R. G. Hoillis.

**DUPLICATE COPY
POOR QUALITY ORIGINAL
TO FOLLOW**

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Respectfully submitted,

"Oliver T. Maki"
Oliver T. Maki

Approved:

R. G. Hollis.

Mississauga, Ont
Oct. 21/58

Mr. J. C. Thomson,
Asst. Provincial Geologist,
Dept. of Mines,
Toronto 2, Ontario



411055W0023 0028A1 BALDWIN

900

Dear Sir.

As per your request of your letter dated Oct. 16th regarding engineers report on manium occurrences in Shakespeare Twp. I am forwarding you a copy of an engineers report on ground-staked by me.

Would appreciate the return of this report when you are through with it as it is the only one I have left.

Thanking you I remain,

Yours truly
S. Pellegrini

Oct.24,1958

Mr.S. Pileggi
Missanabic, Ontario

Dear Mr. Pileggi:

I am returning herewith the report on
Shakespeare Uranium Mines,Ltd.

I wish to thank you for making this
available to our Department.

Yours very truly,

J.E. Thomson

enc.

EASTERN ONTARIO
MINING DIVISION



DEPARTMENT OF MINES

OFFICE OF MINING RECORDER

63A.518

PARLIAMENT BUILDINGS
TORONTO 2, ONTARIO
TEL. 365-1322

July 24, 1967.

Dear Sir:

The enclosed copy of a geological survey was found among our dormant files and it may be of some value in your records. No assessment credits were given for this survey.

Yours very truly,

Fred W. Matthews,
Mining Recorder.

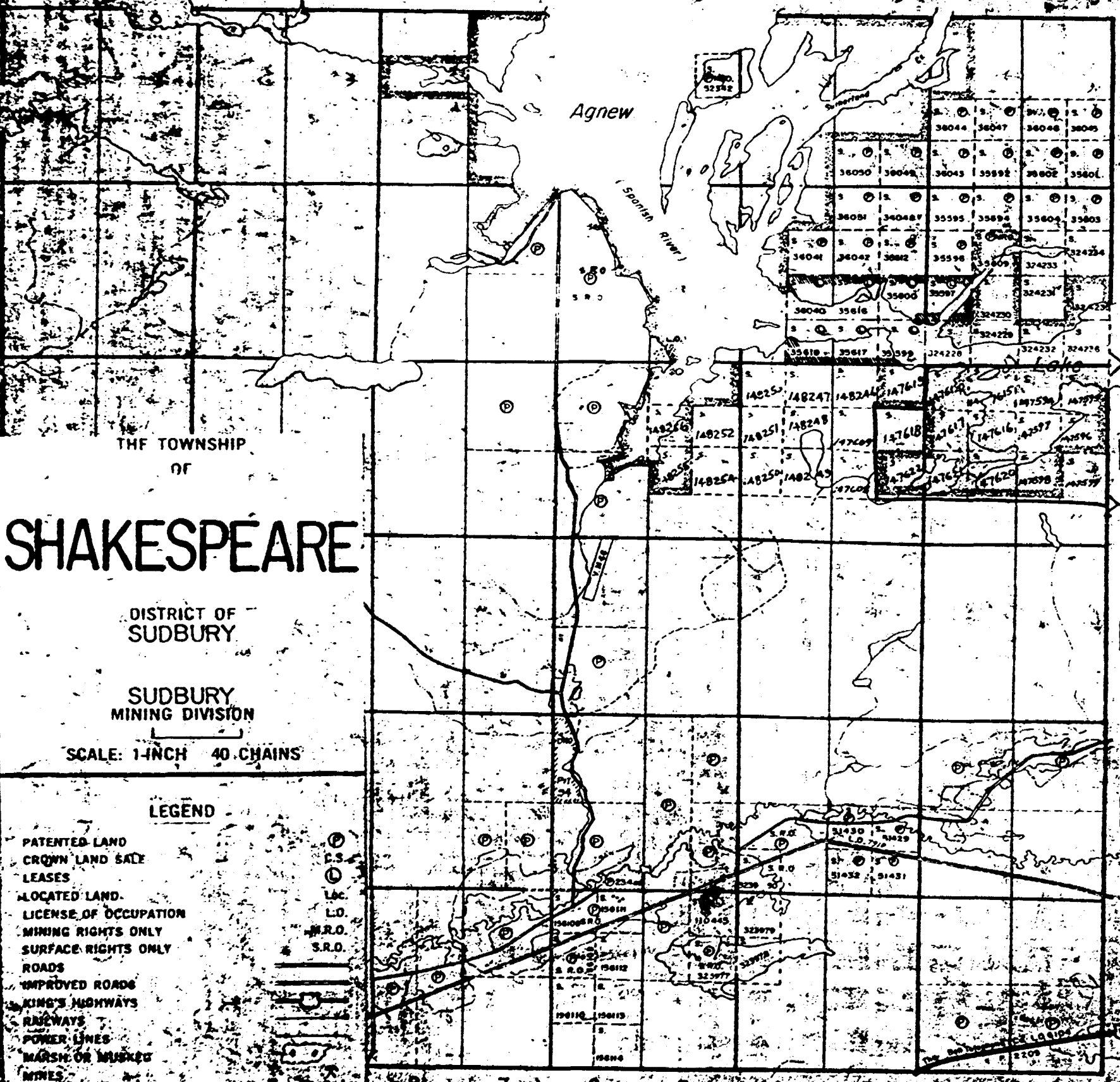
FWM:msw

Dr. J.F. Donovan,
Resident Geologist,
172 Elm Street West,
Sudbury, Ontario.

Dunlop Twp. (M. 771)

Agnew

Spanish River



THE TOWNSHIP
OF

SHAKESPEARE

DISTRICT OF
SUDBURY

SUDBURY
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

- PATENTED LAND
- CROWN LAND SALE LEASES
- LOCATED LAND
- LICENSE OF OCCUPATION
- MINING RIGHTS ONLY
- SURFACE RIGHTS ONLY
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED

- C.S.
- L.C.
- L.O.
- M.R.O.
- S.R.O.

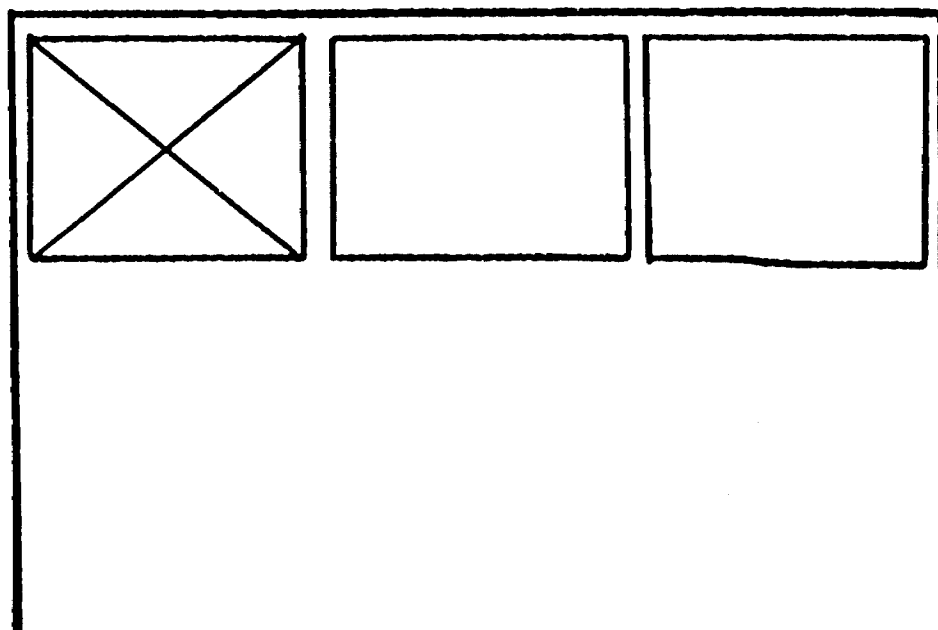
Hallow Twp. (M. 909)

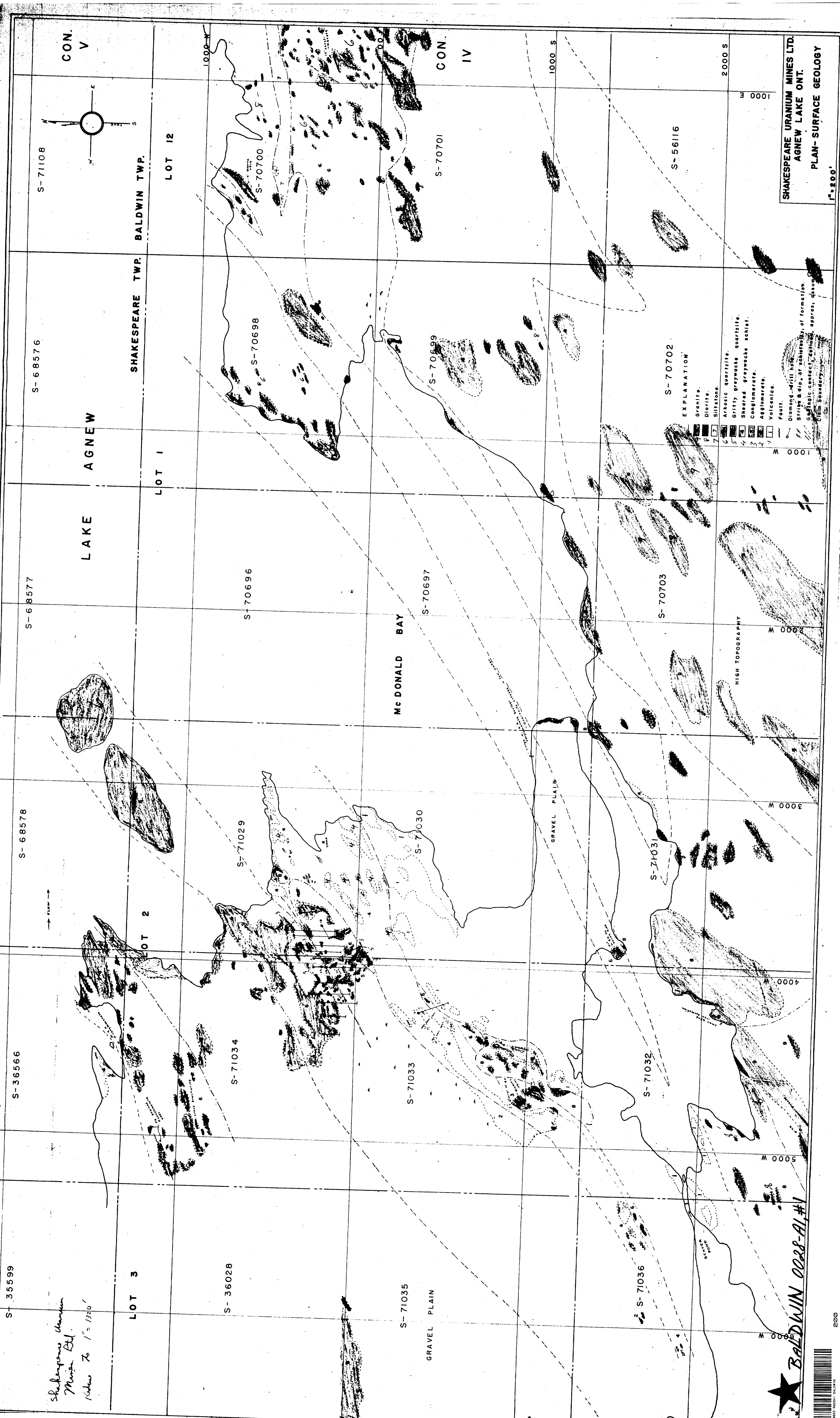
Baldwin Twp. (M. 645)

SEE ACCOMPANYING
MAP(S) IDENTIFIED AS

BALDWIN 0028-A1, #1

LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)





Shakespeare Uranium
Mines Ltd.
Notes to 1" = 1250'

BALDWIN CORP. #1

EXPLANATION

- 1 Granite.
- 2 Diorite.
- 3 Siltstone.
- 4 Arkosic quartzite.
- 5 Grifty graywacke quartzite.
- 6 Sheared graywacke schist.
- 7 Conglomerate.
- 8 Agglomerate.
- 9 Volcanics.
- 10 Fault.
- 11 Diamond-drift hole.
- 12 Strips & dip, of schistosity, of formation.
- 13 Stratigraphic contact: (a) unconformity, (b) disconformity, (c) appress, (d) disjunctive.
- 14 Clim. boundary.

**SHAKESPEARE URANIUM MINES LTD.
AGNEW LAKE ONT.
PLAN - SURFACE GEOLOGY**