

GEOLOGICAL SURVEY

ON

CLAIMS NO. 295996-296000 inclusive 296005, 296006, 328044 and 328048 NURSEY AND SOTHMAN TOWNSHIPS FOR DOWA MINING COMPANY LIMITED

Toronto, Ontario August 7, 1973 David F. DesRosiers, B. Sc. Watts, Griffis and McOuat Limited

LOCATION AND ACCESS

The claims are situated in the northwest corner of Sothman Township and the northeast corner of Nursey Township. An all-weather road passes north-south about two miles east of the property and goes north to Timmins, east to Matachewan and south to Shining Tree. A bush road passes through the property to the Grassy River (Kapiskong Lake), which is approximately the western boundary of the property. Edlestone Lake is in the northeast part of the property.

PROPERTY HOLDER

The claims are held by R. H. Clayton, 1406-60 Pavane Linkway, Don Mills, Ontario M3C 1A2.

CLAIMS SURVEYED

Nine claims were surveyed:

Nursey Township:

295996, 295997, 295998, 295999, 296000,

296006, 328044, 328048

Sothman Township:

296005

SUBMITTING PARTY

The work is submitted by Watts, Griffis and McOuat Limited, Consulting Engineers and Geologists, 911-159 Bay Street, Toronto, Ontario M5J 1J7.

COVERING DATES

The geological mapping was carried out between June 12, 1973 and June 18, 1973.

PREVIOUS WORK

63-139 Preliminary Report on the Property of Sirola Gold Mines Limited, Sothman and Nursey Townships, D.E. Sirola, 1947.

This report describes a dip-needle survey and geological mapping. The claims largely coincide with the Nursey claims of the present group. One showing is described as: "-a very strong gossan zone striking N 60°E, and dip appears to be vertical. Random samples from the showing assayed as high as \$4.20 in gold. Sphalerite, chalcopyrite and pyrite are minerals sparingly distributed through the samples assayed".

63A-24 Geologic Report on the Property of Sirola Gold Mines Limited, Sothman and Nursey Townships, D. E. Sirola, 1948.

This report describes further work on the property. There is some confusion over two showings, one at approximately 2800S, 6500W on the present grid, the other at 1200 S, 5000 W. It seems probable that the above quotation refers to the latter location.

63A-32 Geologic Report of Sothman Township Claims, W. E. Clarke, 1947.

This report described geologic mapping and 12 diamond drill holes on behalf of Buffalo Ankerite. Eleven of the holes are on a showing south of the present claim group.

It is reported in "Geology of Sothman Township", E. M. Abraham, Ontario Department of Mines Annual Report, Volume LXII, Part 6, 1953, that Preston East Dome Mines Limited drilled two holes 800 feet southwest of Edlestone Lake. However, it seems probable that these were actually two of the holes drilled by Buffalo Ankerite.

63-1699 Report on Magnetic and Electromagnetic Survey in Sothman Township on behalf of Consolidated Mining and Smelting of Canada Ltd., R.A. Bosschart, H.O. Seigel and Associates, 1965.

This report describes a Turam and magnetometer survey. It states: "Throughout the area geo-electrical distortion is low and of a random nature". A small anomaly is mentioned which is not in the present claim

group. Also, "The electromagnetic survey has shown the area to be geoelectrically undisturbed" -- " The area shows only weak magnetic distortion of less than 600 gamma amplitude".

Dowa Mining Company Limited

Picket lines were cut east-west at 400-foot intervals, tied in with baselines north-south at 1,000-foot intervals. In addition, four lines, 3,000 feet in length, were cut at 200-foot intervals over the largest known anomalies. A total of 12.5 miles was cut and chained.

A vertical loop electromagnetic survey was carried out over the whole of the claim group using the parallel method (moving transmitter). The instrument used was a Scintrex S. E. 250 with a frequency of 1,000 cycles per second. A few lines were surveyed using the Scintrex S. E. 300 unit. This is similar to the S. E. 250, but has frequencies of 400 and 1,600 Hz.

WORK CARRIED OUT

GEOLOGY

General

The claims are underlain by Keewatin volcanics cut by granite, diorite and gabbro intrusives. In the area east of the Edlestone Lake Fault, the volcanics are overlain by Cobalt sediments consisting of interbedded conglomerate and greywacke with lesser amounts of argillite. About 800 feet southwest of the south end of Edlestone Lake, a major shear zone of carbonate rock outcrops near the intersection of the Edlestone Lake Fault and an easterly striking fault.

Cenezoic deposits of sand and swamp cover most of the bedrock on the claims except in the southwest where large ridges of Cobalt sediments occur as bald hills 300-400 feet in length.

Table of Formations

CENOZOIC

Recent: Windblown sand (dunes); organic accumulations;

stream deposits.

Pleistocene: Sand, gravel, and boulders; windblown sand

(dunes).

Great unconformity

PRECAMBRIAN

Keweenawan: Olivine diabase and porphyritic diabase.

Intrusive contact

Huronian: Conglomerate, greywacke, and argillite.

Great unconformity

Algoman: Granite; hybrid granite; diorite; syenite; gabbro.

or

Haileyburian:
Intrusive contact

Basic volcanics: andesite; fragmental lava; talcchlorite and carbonate-chlorite schist; chloritized-

actinolitized and chloritized-carbonatized

volcanics; amphibolitized volcanics.

Keewatin: Acidic to intermediate volcanics: fragmental lava;

agglomerate and black slate; sericite schist;

cherty tuff; chloritized-actinolitized and

chloritized-carbonatized volcanics.

Revised from: E. M. Abraham, "Geology of Sothman Township", Ontario Department of Mines, Vol. LXII, Part 6, 1953.

Keewatin Volcanics

The volcanic rocks which outcrop on the claims consist of rhyolites interbedded with dacites and andesites. These rocks generally contain minor amounts of disseminated pyrite. In the stripped area, north of line 1,600S about 6,000W, the interbedded dacites and rhyolites contain pyrite and pyrrhotite with minor amounts of chalcopyrite and sphalerite. Here the rocks are highly iron stained and cut with diabase dykes from a few

inches to a few feet in width. The outcrop is cut with small quartz veins and shearing is commonly associated with the more highly mineralized areas. There are six trenches across the length of the stripped area and these were sampled at about five-foot intervals. A total of 32 samples were taken and assayed for copper, zinc, nickel and total iron. Four of the samples were assayed for gold. This area is probably that described by D. E. Sirola, 1947 (63-139).

Three small outcrops of grey-green dacite, south (line 2,000S; 6,000W) and east (line 1,600S; 5,800W) of the trenched area, contain only sparse disseminated pyrite. These rocks are also cut by a few small quartz veins.

There are two outcrops of rhyolite in Claim No. 295999 (line 0; 5, 800W and line 400S; 5, 500W). These contain minor disseminated pyrite and are cut by siliceous bands. The rhyolite outcrop on line 0 is adjacent to an intrusive of diorite.

The only other outcrop of volcanics mapped on the claims occurs in Claim No. 295998, north of line 3, 200S about 4,000W. Here a small outcrop of dacite underlies conglomerate. Quartz veins up to six inches wide were seen in rhyolite boulders south of the outcrop but only minor quartz was found in the outcrop. A few specks of pyrite are visible in the rock.

Intrusive Rocks

The only outcrops of intrusive rocks mapped on the claims were in Claim No. 295999 near line 0 between 5,300 and 5,800W and line 400S at 5,450W, and Claim No. 296000 in the stripped area near line 1,600S; 6,000W. These were small outcrops and dykes of granodiorite, hybrid granite, diorite and gabbro. They are generally close to outcrops of volcanic rocks. In the stripped area on line 1,600S, diabase dykes cut the volcanics. They generally contain minor disseminated pyrite which is weathered to limonite. The two to four inch diabase dykes on line 1,600S in the stripped area contain disseminated pyrite, pyrrhotite and chalcopyrite.

Two small outcrops of pink syenite were mapped on Claim No. 328048. These are under water when the water is high because of Ontario Hydro storage.

Cobalt Sediments

These rocks comprise all of the outcrop east of the Edlestone Lake Fault except for the small outcrop of dacite north of line 3, 200S; 4,000W, mentioned previously, and the carbonate zone between line 800S and 1,200S about 3,200W to be discussed later. These rocks generally occur as cliff faces from one to 30 feet high and as ridges on higher ground. The sediments on the claims consist of interbedded conglomerate and greywacke with lesser amounts of argillite. Often a conglomerate capping occurs on the outcrops with the greywacke underneath of it. In many places these rocks contain fine disseminated pyrite.

Where bedding is visible in the greywacke it is generally flat-lying with dips up to 10-15°, except on line 2, 400S; 5, 800W where it dips at 65°.

The conglomerate contains pebbles and boulders up to a few feet in diameter of intrusives, volcanics, slate and gneiss. The fragments range from well-rounded to very angular and are poorly sorted.

Carbonate Rock

Only one exposure of carbonate rocks was mapped on the claims. This runs from just south of line 1, 200S; 3, 150W, northwest for about 300 feet. It is exposed in trenches, along the road to Kapiskong Lake, in a cliff face and on the surrounding high ground.

The rocks are green carbonate weathered to brown and are cut by quartz and quartz-carbonate veins up to a few inches thick. Only minor pyrite and a few specks of galena were seen associated with these outcrops. A fault or shear was noted along the cliff face striking 155° dipping 59° to the northeast. A quartz-carbonate vein runs along the hanging wall (and the face of the cliff) for about 30 feet. An old diamond drill hole is located about 25 feet north of this outcrop in a swamp and was drilled south (towards the outcrop) at about -45°. E.M. Abraham, Ontario Department of Mines, Volume LXII, Part 6, 1953, states: "two drill holes were put down and, except for two small sections that ran 0,02 ounces of gold per ton, the sample ran nil".

— Samples were collected from the old trenches, various small outcrops and every 15 to 20 feet along the entire length of the cliff face.

GEOPHYSICS

Only a small vertical loop electromagnetic survey was carried out using a McPhar REM with dual frequencies of 1,000 and 5,000 cycles per second. This was done over the stripped area north of line 1,600S around 6,000W. Two pace and compass lines were run over the stripped area in a NW-SE direction at a 300-foot spacing using the parallel method (moving transmitter). A small anomaly was picked up in the area of the mineralized outcrop.

RESULTS AND CONCLUSIONS

The outcrops in the area consist of Cobalt sediments east of the Edlestone Lake Fault and volcanics and intrusives west of the fault.

The volcanic rocks in the stripped area contain small amounts of chalcopyrite and sphalerite and some pyrrhotite. Some of the pyrrhotite gives a positive test for nickel using dimethyl glyoxine. These minerals appear to increase near small intrusive dykes and may have originated from them. There are a few electromagnetic conductors picked up on the ground underlain by the volcanic rocks by a previous electromagnetic survey. These may be due to massive sulphides. Assays of 32 rock samples from the old trenches in stripped area gave only low values in copper, zinc and nickel and from 3.65 to 32.61 per cent total iron. One of the four samples assayed for goldran 0.22 oz/ton and the other three ran less than 0.005 oz/ton. The total assay results are included in Appendix "A" and shown on the "Geological map of Trenched Area Claim 296000. 1"=20" (in pocket).

The trenched area in <u>claim 296000</u> does not contain economic values of base metals but has one interesting gold value.

RECOMMENDATIONS

Because of the relatively high gold value from sample 53 (0.22 oz/ton) it is recommended that the remaining 28 samples from the trenches of claim 296000 be assayed for gold. If these samples indicate an area of good gold potential representative chip sampling across the higher grade area is recommended to be followed by drilling if warranted.

Respectfully submitted,

WATTS, GRIFFIS AND McOUAT LIMITED

David F. Des Pasus

David F. DesRosiers, B.Sc.

Toronto, Ontario August 7, 1973.

- CHEMICAL RESEARCH AND ANALYSIS
- CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

355 KING ST. W., TORONTO 2B, ONT., CANADA

TELEPHONE: 362-4248 - AREA 416
CABLE ADDRESS - TECSERV TORONTO

SAMPLE(S) FROM

CERTIFICATE OF ANALYSIS

Watts Griffiths and McOuat Limited 911 - 159 Bay Street

Toronto Ontario

Attn: Mr. D.F. Desrosiers

REPORT NO.

T-3878

SAMPLE(S) OF

ROCK

Sample Number	Gold (Au)oz/Ton
51	< 0.005
53	Ů.22
59	< 0.005
68	< 0.005

< less than

Samples, Pulps and Rejects discarded after two months

DATE _____July_9/73_____

SIGNED U. Keeduik

CYA (V)

• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

355 KING ST. W., TORONTO 2B, ONT., CANADA

TELEPHONE: 362-4248 - AREA 416 CABLE ADDRESS - TECSERV TORONTO

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Vatts Griffiths and McOuat Limited 911 - 159 Bay Street

REPORT NO.

T-3878

Toronto, Ontario Attn: Mr. D.F. Desrosiers

SAMPLE(S) OF

ROCK

Sample Number	Copper (Cu)%	Zinc (Zn)%	Nickel (Ni)%	Total Iron (Fe)%
47	0.024	NIL	0.16	6.91
48	0.043	0.10	0.19	9.03
49	0.033	0.10	0.13	7.10
50	0.13	0.27	0.11	7.82
51	0.022	NIL	0.033	7.95
52	0.035	0.15	0.058	32.61
53	0.017	0.12	0.15	5.07
54	0.027	0.10	0.16	28.84
55	0.012	NIL	0.16	8.96
56	0.012	NIL	0.12	9.48
57	0.017	0.13	0.13	10.93
58	0.023	NIL	0.096	16.27
59	0.012	NIL	0.090	5.75
60	0.017	NIL	0.11	10.53
61	0.020	NIL	0.12	17.68
62	0.012	NIL	0.14	8.11
63	0.038	NIL	0.11	9.62
pies, Puips and Reje	cts discarded after two mo	ontns	0. 1)	13
TE	July 9/73	signed	M. Red	Willia CTA
	A			177

• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES

355 KING ST. W., TORONTO 2B, ONT., CANADA

TELEPHONE: 362-4248 - AREA 416 **CABLE ADDRESS - TECSERV TORONTO**

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Watts Griddiths and McOuat Limited 911 - 159 Bay Street Toronto, Ontario Attn:Mr. D.F. Desrosiers

REPORT NO.

T-3878

SAMPLE(S) OF

ROCK

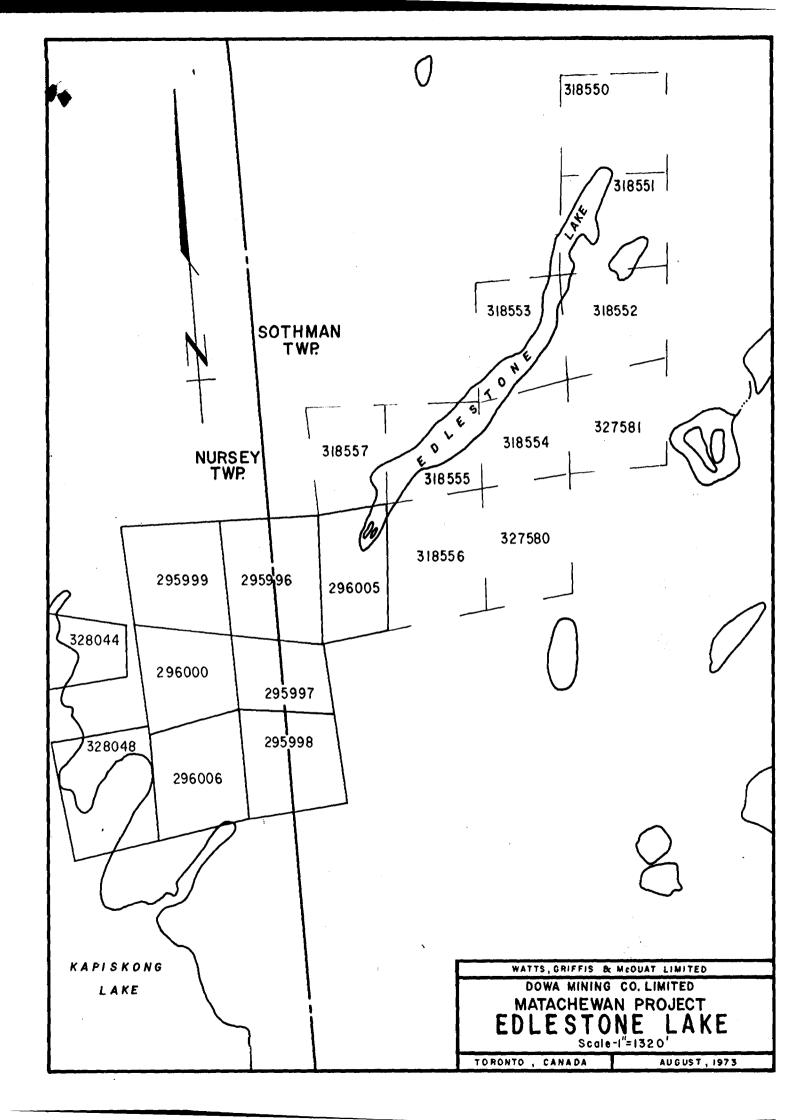
Sample Number 64	Copper (Cu)% 0.044	Zine (Zn)% NIL	Nickel (N1)\$ 0.076	Total Iron (Fe)%
65	0.012	NIL	0,18	7.57
66	0.020	0.23	0.12	17.22
67	0.028	NIL	0.082	29.94
68	< 0.01	NIL	0.040	3.65
69	< 0.01	NIL	0.12	8.31
70	0.014	NIL	0.11	9•37
71	0.023	NIL	0.10	12.74
72	0.032	NIL	0.11	11.48
73	0.017	TRACE	0.11	10.96
74	0.016	TRACE	0.19	9.09
75	0.035	TRACE	0.12	13.22
76	0.015	NIL	0.13	. 9.23
96	0.029	NIL	NIL	7.86
97	0.015	NIL	0.14	6,15

< less than

ples, Pulps and Rejects discarded after two months

July 9/73

SIGNED



If space insufficient, attach list

ASSESSMENT WORK DETAILS



COVERING DATES Line Cutting Field JUNE 11, 1973 - JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973	296000 296006 296005 328044 328048
Or Contractor Address Party Chief D.F. DESROS/ERS Name 205 SEATON ST. TORONTO.ONT. MSA2JS Address Consultant NATTS, GRIFFIS & McOUAT LTD. Name 911-158 BAY ST. TORONTO.ONT. MSJ 137 Address COVERING DATES Line Cutting Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	295998 296000 296006 296005 328048 RECEIVED
Party Chief D.F. DESROSIERS Name 205 SEATON ST. TORONTO ONT. MSA218 Address Consultant NATTS, GRIFFIS & McOUAT LTD. Name 911-159 BAY ST. TORONTO ONT. MST 137 Address COVERING DATES Line Cutting Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973 : JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	296000 296005 328048 RECEIVED
Party Chief D.F. DESROSIERS Name 205 SEATON ST. TORONTO ONT. MSA238 Address Consultant WATTS, GRIFFIS & McOUAT LTD. Name 911-159 BAY ST. TORONTO, ONT. MSJ 157 Address COVERING DATES Line Cutting Field JUNE 11, 1973 ~ JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; SUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	296000 296006 296005 328044 328048
205 SEATON ST. TORONTO ONT. MSA218 Address Consultant WATTS, GRIFFIS & McOUAT LTD. Name 911-158 BAY ST. TORONTO, ONT. MSJ 137 Address COVERING DATES Line Cutting Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	296000 296005 328044 328048
Consultant WATTS, GRIFFIS & MCOUAT LTD. Name 911-159 BAY ST. TORONTO, ONT. MST 157 Address COVERING DATES Line Cutting Field JUNE 11, 1973 ~ JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	296006 296005 328049 328048
Address COVERING DATES Line Cutting Field JUNE 11, 1973 ~ JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	296005 328044
COVERING DATES Line Cutting Field JUNE 11, 1973 ~ JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	328048 328048 RECEIVED
Field JUNE 11, 1973 ~ JUNE 18, 1973 Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	328048 RECEIVED
Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	RECEIVED
Instrument work, geological mapping, sampling etc. Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	RECEIVED
Office JUNE 21-22, 1973; JUNE 25-27, 1973 NSTRUMENT DATA Make, Model and Type	
Make, Model and Type	AUG 1.6.1973
Make, Model and Type	
	PROJECTS
ocale Constant or Sensitivity	SECTION
Or provide copy of instrument data from Manufacturer's brochure.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Radiometric Background Count	
	••••••••••••••••
Number of Stations Within Claim Group	
Number of Readings Within Claim Group	er af en en kommune en e
Number of Miles of Line cut Within Claim Group 9.4	
Number of Samples Collected Within Claim Group98	***************************************

REDITS REQUESTED 20 DAYS per claim per claim (Line cutting) TOTA	AL 9 Claims.
Geological Survey	
scopitysical burvey	duplicate to:
Check ✓ FRED W.	MATTHEWS SOR-PROJECTS SECTION
DEPARTA	MENT OF MINES &
NORTHER WHITNEY	RN AFFAIRS ' BLOCK
NORTHEIN WHITNEY QUEEN'S TORONTO SIGNED Dan 7. Dor Com TORONTO Performance and coverage credits do not apply to airborne surveys	PARK O, ONTARIO
SIGNED ATTOMATION OF THE STATE	

SUBMISSION OF GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SURVEYS



AS ASSESSMENT WORK

In order to simplify the filing of geological, geochemical and ground geophysical surveys for assessment work, the Minister has approved the following procedure under Section 84 (8a) of the Ontario Mining Act. This special provision does not apply to airborne geophysical surveys.

If, in the opinion of the Minister, a ground geophysical survey meets the requirements prescribed for such a survey, including:

- (a) substantial and systematic coverage of each claim
- (b) line spacing not exceeding 400 foot intervals
- (c) stations not exceeding 100 foot intervals or
- (d) the average number of readings per claim not less than 40 readings

it will qualify for a credit of 40 assessment work days for each claim so covered. It will not be necessary for the applicant to furnish any data or breakdown concerning the persons employed in the survey except for the names and addresses of those in charge of the various phases (linecutting contractor, etc.). It will be assumed that the required number of man days were spent in producing the survey to qualify for the specified credit.

Each additional ground geophysical survey using the same grid system and otherwise meeting these requirements will qualify for an assessment work credit of 20 days.

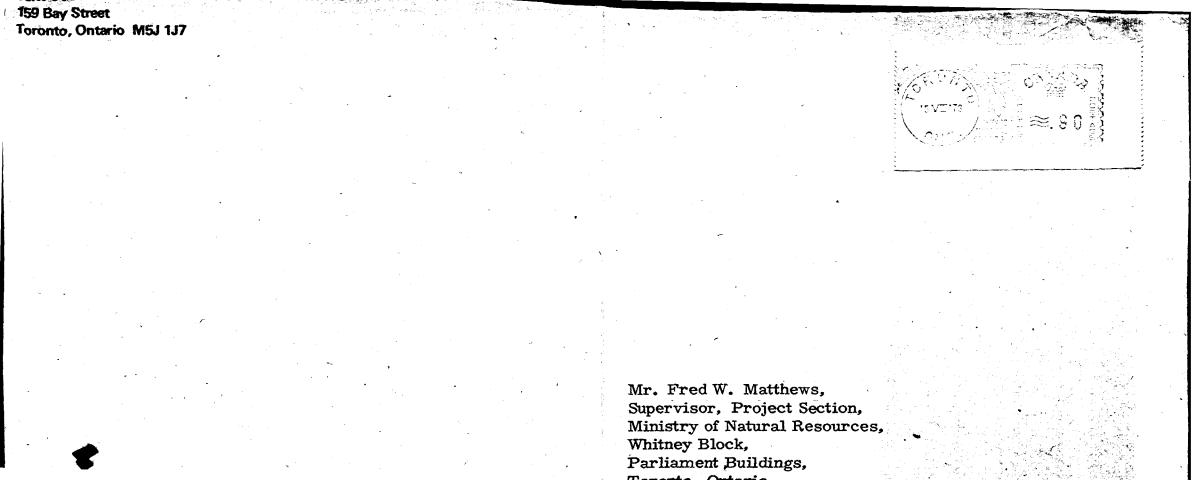
A geological survey using the same grid system, and meeting the requirements for submission of geological surveys for maximum credits will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geological survey a credit of 40 days per claim will be allowed for the survey.

Similarly, a geochemical survey using the same grid system with the average number of collected samples per claim being not less than 40 samples, and meeting the requirements for the submission of geochemical surveys for maximum credits, will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geochemical survey a credit of 40 days per claim will be allowed for the survey.

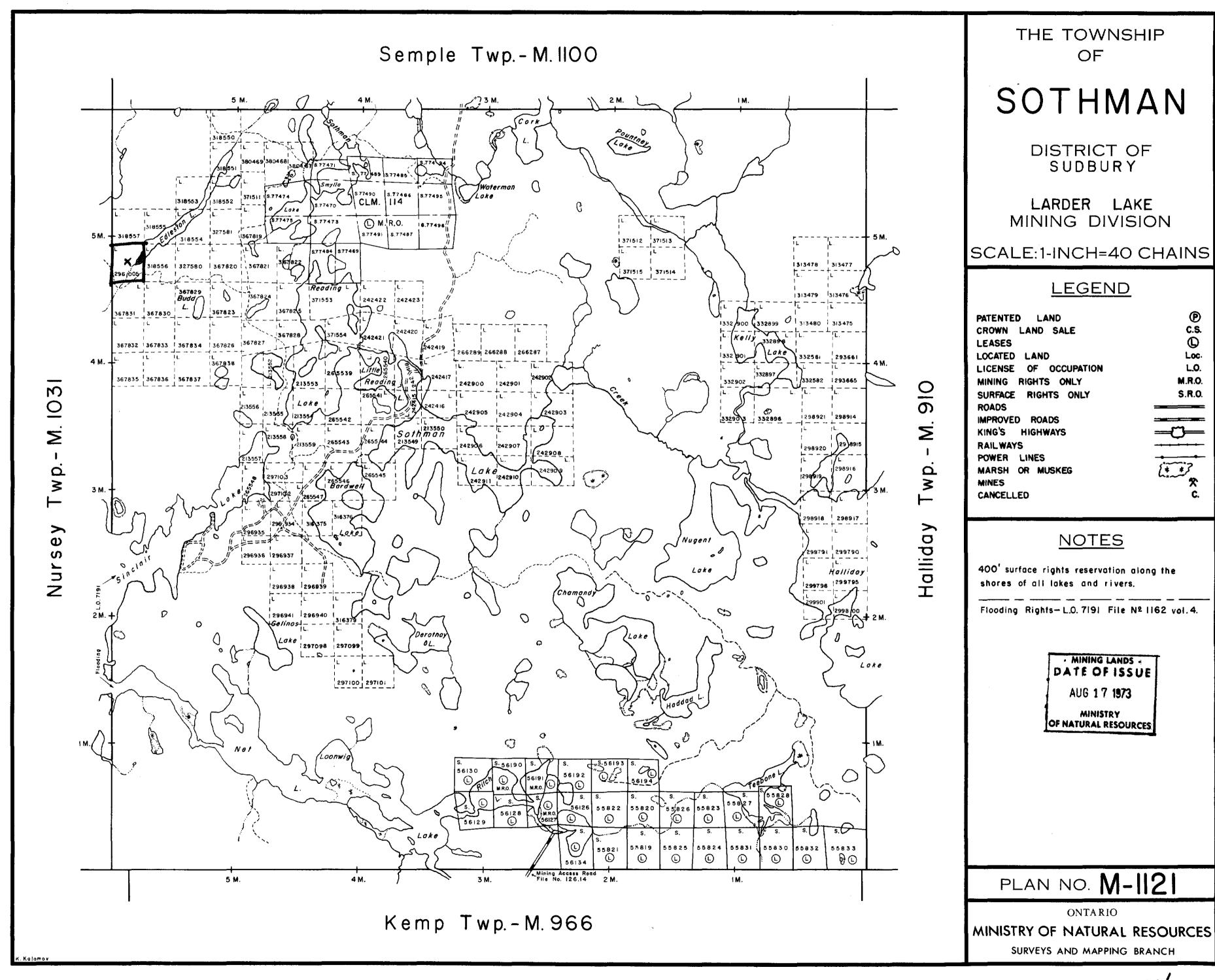
Credits for partial coverage or for surveys not meeting requirements for full credit will be granted on a pro-rata basis.

If the credits are reduced for any reason, a fifteen day Notice of Intent will be issued. During this period, the applicant may apply to the Mining Commissioner for relief if his claims are jeopardized for lack of work or, if he wishes, may file with the Department, normal assessment work breakdowns listing the names of the employees and the dates of work. The survey would then be re-assessed to determine if higher credits may be allowed under the provisions of subsections 8 and 9 of section 84 of the Mining Act.

If new breakdowns are not submitted, the Performance and Coverage credits are confirmed to the Mining Recorder at the end of the fifteen days.



NAMHTO

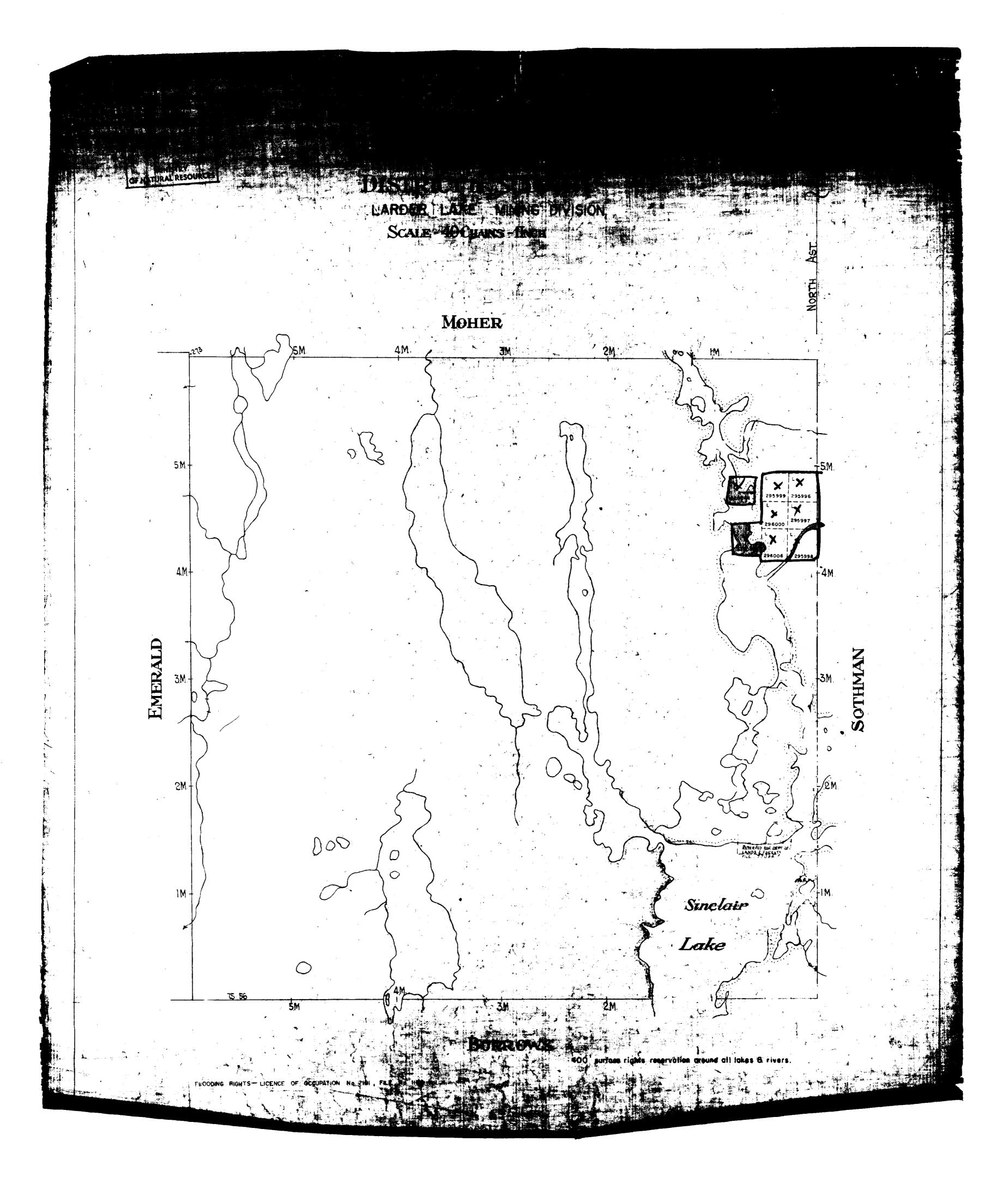


N.IISI

ИАМНТО2

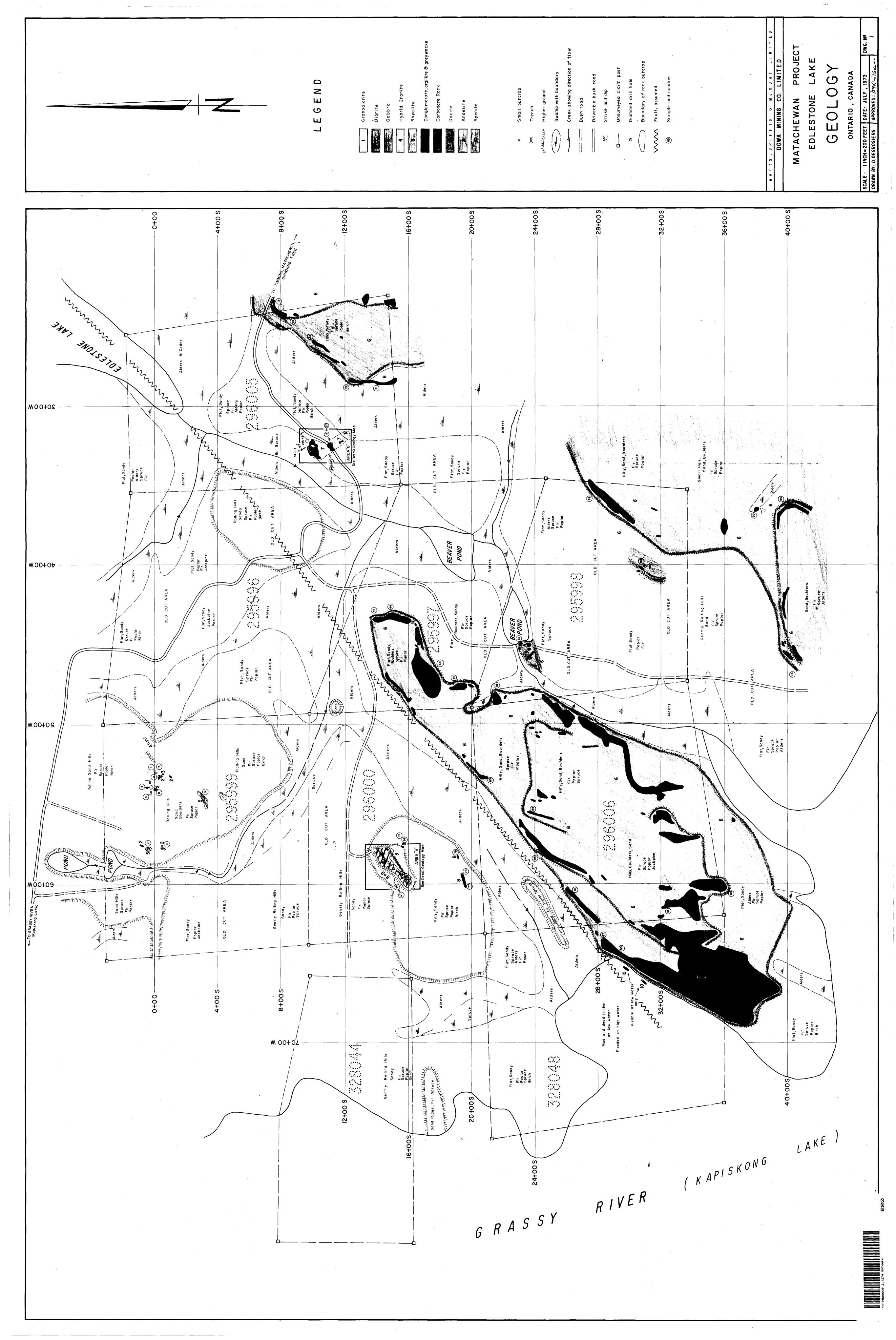
TRIM LINE

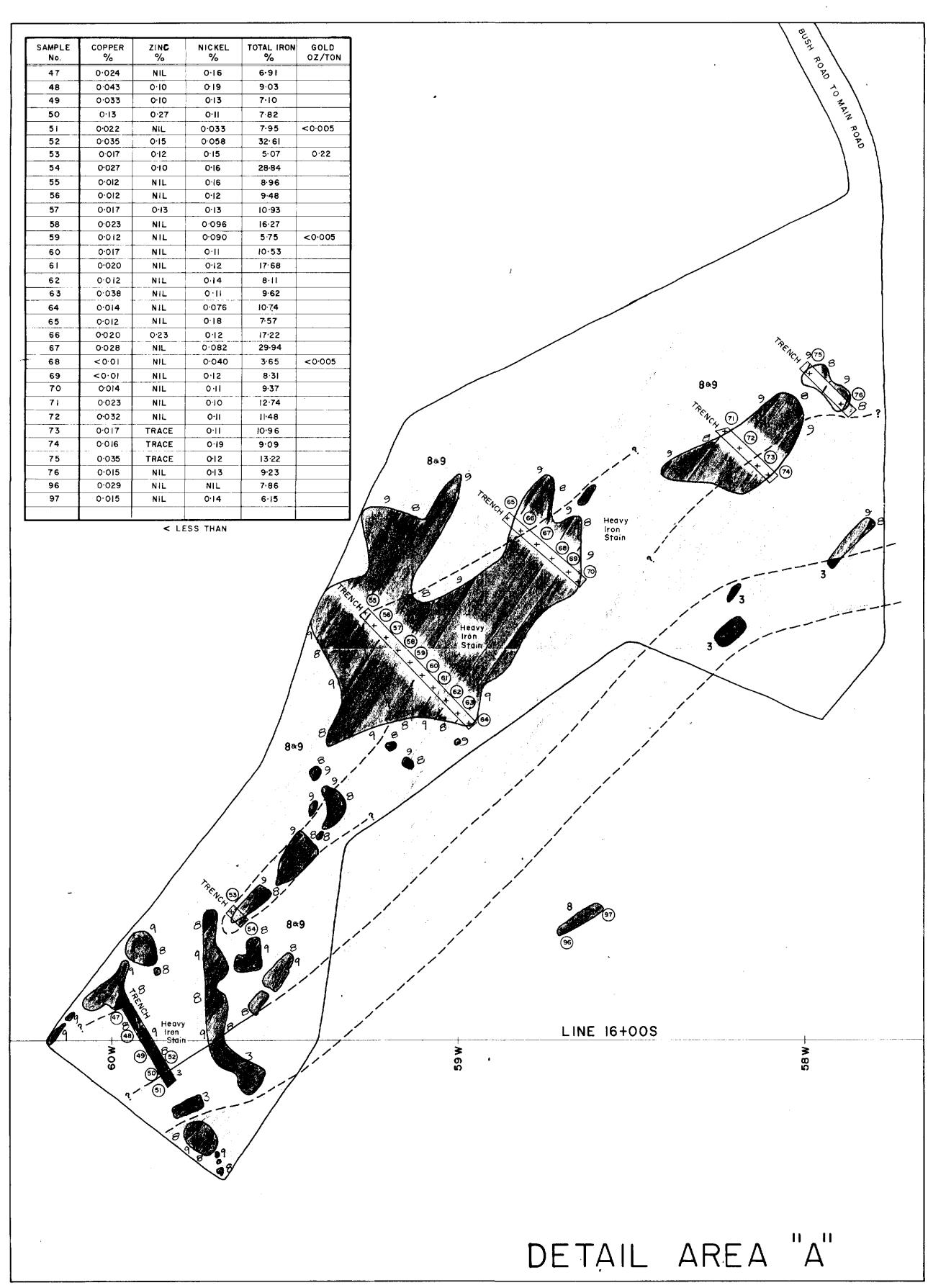
210

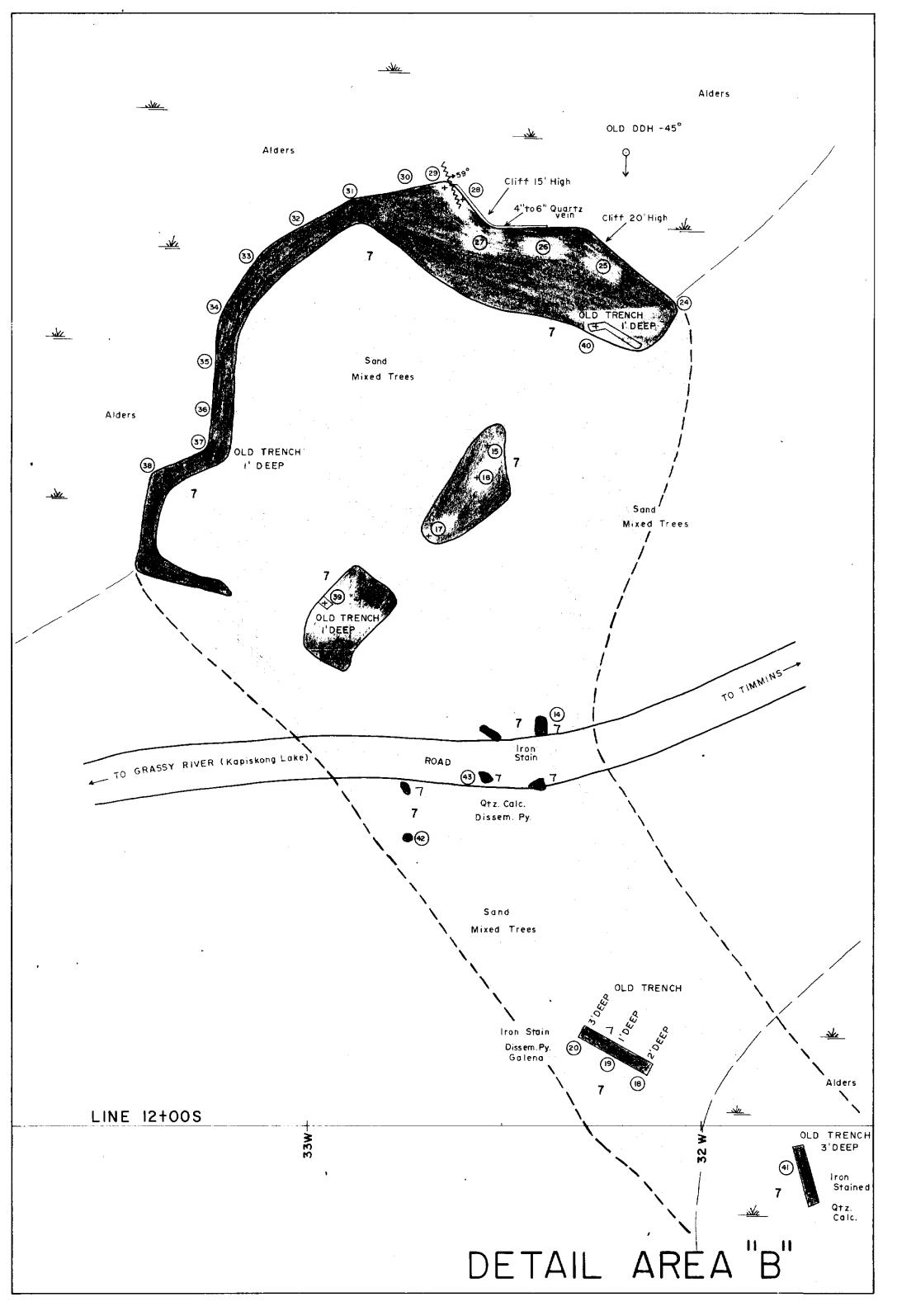


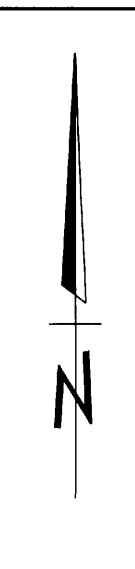


2.1274









LEGEND



Boundary of rock outcrop

Sample number

____ Assumed geological contact

? ---? Heavy iron stain outline

DOWA MINING CO. LIMITED

MATACHEWAN PROJECT

EDLESTONE LAKE

DETAIL GEOLOGY

ONTARIO, CANADA

SCALE: I INCH=20 FEET DATE: JULY, 1973 DWG.№

DRAWN BY: D.DESROSIERS APPROVED: AFROS Tosis 2

