SAMPLING PROGRAM
ARGYLE TOWNSHIP, ONTARIO

by

R.A. MacGregor, P. Eng.

January 21, 1987

INDEX

SUMMARY

Two large, differentiated mafic to ultramafic intrusions were located and mapped in Argyle Township following an airborne EM and Magnetometer Input Survey released in 1975 and subsequent geological mapping. The intrusions are of a type which hosts platinum group metal deposits in other locations. The presence of platinum group metals was indicated in these intrusions by analysis of two peridotite samples, however exploration has not been carried out in the past.

A preliminary sampling program was carried out to check for platinum-palladium and gold values in the ultramafic intrusions. Samples were also assayed from other ultramafic areas as a check on background levels.

Platinum-Palladium values appear at or below background levels for the areas sampled. However, interesting gold values are indicated in rocks adjacent to the ultramafic bodies.

INTRODUCTION

In October of 1986 a reconnaissance type sampling program was carried out over claims in Argyle Township to test for platinum-palladium-gold mineralization. The property has previously been explored by some geological mapping which served as a guide.

LOCATION, ACCESS AND OWNERSHIP

The property is located about 13 miles north-west of Matachewan, Ontario. Highway 566 which is maintained year round passes about 2 miles south of the property providing access. It consists of eighteen unpatented contiguous claims in the south-east part of Argyle Township. The claims are currently recorded in the name of 612378 Ontario Inc. and are numbered L859097 to 859114 inclusive.

HISTORY

The property is not known to have been explored prior to the release of an Input-aeromagnetic survey by the Ontario Division of Mines. Some prospecting for gold was done after the Ashley Mine discovery in 1930. Evidence of minor, shallow trenching in granitic rock is noted.

Five miles north of the property is a Cu-Ni-Pt-Pd showing in a lense of pyroxenite to peridotite. Although very high assays were returned for samples from trenches, limited drilling has shown the zone to be very small [1].

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(1) Ministry of Natural Resources, Geological Branch Assessment Files

History (continued)

Following this release, the property was staked, lines cut and VLF-EM, magnetometer and geological surveys were conducted. No further work was carried out subsequent to this, although the platinum group metal potential was recognized.

TOPOGRAPHY

The area is covered by a sand-and-boulder till with less than 10% bedrock exposure. Eskers are common and have steep topographic relief to fifty feet above the surrounding sand plains. About half of the area is muskeg and alder-swamp. Vegetation is spruce-balsam, pine or alder depending on drainage conditions.

REGIONAL GEOLOGY

Argyle Township and vicinity is underlain by Keewatin Volcanics mapped as mafic flows and pyroclastic rocks (O.D.M. map #2205). These are overlain to the south by Cobalt Group sediments. Locally, there are bosses of mafic and ultramafic composition, syenite and other granitic types. Numerous gold and base-metal properties are known in the Matachewan area to the east and southeast. The Ashley Mine, some four miles west-southwest, is a past gold-silver producer. Asbestos in serpentinized peridotites is another important mineral locally.

PROPERTY GEOLOGY

Three major rock units are mapped on the property. They are; felsic to intermediate volcanics, a coarse-grained granitic intrusive and two differentiated ultramafic to mafic plugs.

Property Geology (Continued)

A few occurrences of narrow, aplitic dikes make up a minor, fourth rock type.

Keewatin Volcanics (Units 1, 1a, 1b 1c and 1d)

Exposures of volcanics are mapped in the south and east portions of the property. Flow breccias (1 & 1d) are observed only at the northeast corner (L28E, 21-23N). The breccias are somewhat more felsic than volcanics elsewhere on the property. They are composed of rhyolitic fragments in a well-foliated dacitic matrix. The fragments range in size to several feet across, have a banded, amygdaloidal texture and show partially re-melted margins. Foliation trends slightly north of west. Minor pyrite is noted.

The predominant volcanic type is tuffaceous and classified as rhyodacitic in composition. All exposures of this type (1a & 1b) are structureless except for local lapilli fragmentals ("lithic tuff") and a persistent foliation due to shearing. Crystal tuff (1a) exposures are generally massive except for the shearing which trends northwesterly to westerly. The crystals are usually creamy feldspars oriented parallel to shearing. Euhedral hornblende is occasionally seen either alone or with the feldspar phenocrysts. Some very fine-grained phases without phenocrysts are observed.

At the west end of Ashley lake is a felsic agglomerate (1c). It consits of creamy, light-gray, sub-angular fragments in a dark gray crystal tuff matrix. Fragments make up as much as

Property Geology (Continued)

fifty percent of the rock over large areas and average about six inches across, seldom exceeding a foot across. Very fine pyrite is common in the fragments, but no important concentrations were found.

The lapilli tuffs mentioned previously occur proximal to the agglomerate and to the flows near the north boundary.

Granitic Type (Unit 2)

This unit is a coarse-grained (0.5 to 1 cm), equigranular type which is tentatively labelled as granodiorite. It comprises 50 to 60% potassic (?) feldspar, 10-20% quartz and about 30% chloritic pyroxene (?). The feldspar is creamy white to pale pink and pale green (epidote colouration). Feldspar type is unknown as no distinct crystals or cleavage faces are seen.

Little change is noted in texture or composition over an exposure area in excess of 2,000 by 1,000 feet. At the extreme north end of this area, however, is one thirty-foot exposure which is cut by a network of narrow, calcite-quartz-hematite veins. The veining makes up 5-10% of the rock. At the south end, where the unit is in sharp contact with the ultramafic, there is no obvious mineralization and no observable alteration. Old trenches are seen in the unit at 12N on L8W, but the purpose of these trenches was not determined. It is presumed that they are related to gold prospecting of the 1930's.

Property Geology (Continued)

Ultramafic to Mafic Complexes (Units 3, 3a & 3b)

Two large, differentiated bosses of ultramafic to mafic composition are mapped. The large one, just north of Ashley Lake, is shown by H.C. Rickaby (2) as Haileyburian(?). The present mapping however, indicates that the bosses are younger than the granitic type which was mapped as Algoman by Rickaby. The second (north) mafic complex had not been mapped previous to the current work.

A definite compositional zoning is observed within each of the two mafic bodies. A smaller-scale layering can occasionally be seen. Compositions of the intrusions range from gabbroic to magnetite-rich peridotite. An exposure of quartz-gabbro occurs at the southern end of the north boss.

The three compositional types appear quite fresh in specimen and are described as follows:

(3) Peridotite: Composed mainly of olivine with 5-15% dissolution filaments of magnetite. Secondary minerals are plagioclose, a bronze pyroxene (bronzite ?), interstitial creamy feldspar and minor brown mica(phlogopite?). Secondary minerals make up 5-25% of rock volume.

(3a) Anorthosite and "Porphyritic Type": Composed dominantly of an unidentified black pyroxene in a dark, olivine-feldspar matrix. The anhedral pyroxene is sometimes very coarse (to 1/2 inch) giving the rock a porphyritic texture.

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(2) RICKABY, H.C.: (Bannockburn Gold Area in the 41st Annual Report of the O.D.M., Vol. XLI Part II, 1932, pp. 1-24. Also: Map 41a 1" = 3/4 mile, 1932)

Property Geology (Continued)

(3b) Gabbro: Typical gabbroic texture, medium to coarse-grained with subhedral pyrozenses in a feldspathic matix. Occasionally contains appreciable quartz.

SAMPLING

Samples were taken from a number of locations in and around the south-westerly ultramafic intursive body. Approximately 2-3 lbs. of rock was taken from each sample site. The samples were examined and described, then sent for geochemical analysis for Au, Pt and Pd to Min-En Laboratories in Timmins, Ontario. Several non ultramafic samples were analysed for Au only at Swastika Laboratories, in Swastika, Ontario. A number of representative samples for other ultramafic areas in Skead, Hearst, and McElroy Townships, with and without sulphides were also analysed as a check on background levels. Sample descriptions and results of analysis are listed in Table I.

RESULTS

Sampling of a part of the south-west ultramafic intrusive body on the property indicates platinum-palladium values at or below background levels. Compared with ultramafic samples from the Skead-Hearst-McElroy Townships area, platinum values are lower, while palladium values are very low in both areas.

Two samples taken in a pit just outside the area underlain by the ultramafic intrusive gave highly anomalous values in gold.

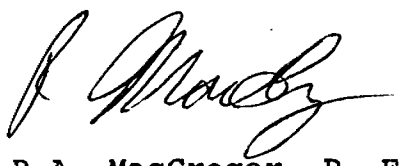
CONCLUSIONS AND RECOMMENDATIONS

The sampling of the south-west intrusion on the property did not give any encouragement for platinum-paladium values. The margins of the intrusion appear prospective for gold mineralization.

In spite of the poor results in the south-west intrusion, the north-east ultramafic intrusive body has not been tested. Some sampling is warranted here for comparison and the possibility the two bodies are not of the same age or composition.

The gold assays are very interesting and should be followed up by further sampling of the showing and prospecting for other showings around the margins of the ultramafic intrusions.

Respectfully submitted



January 21, 1987

R.A. MacGregor, 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 134 Palace Drive, 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 supervised the field work covered by this report.

Jan 21/87
DATE

REGISTERED PROFESSIONAL ENGINEER
R. A. MacGREGOR
PROVINCE OF ONTARIO

R. A. MacGregor

TABLE I

Page 1.

Sample No.	Description	Analysis (ppb) Min-En Au	Pt	Pd	Swastika Au
MGA 1	Breccia anorthositic gabbro with sulphides <1%, non magnetic Location 100' E of L8W-5N	1	2	1	
MGA 2		3	12	1	
MGA 3(12762)		1	6	1	Nil
MGA 4	Dark mafic-ultramafic non magnetic 200'E - 50' N of L8W-5N	8	5	1	
MGA 5	Peridotite-gabbro contact magnetic sulphide <1% L8W-3N	1	10	1	
MGA 6	Gabbroic containing calcite veining non-magnetic L8W-3N	1	11	1	
MGA 7	B.L. 5 + 85W Green mafic with white phenocyrst non-magnetic - S1 min (specularite?)	1	5	1	
MGA 8	B.L. 4W Grey porphyry-non mag. - Sulphide <1% Note: porphyry continues to 0 + 00 on B.L. and then north up claim line 100 south of #1 Post 431406	1	24	1	

TABLE I

Sample No.	Description	Analysis (ppb) Min-En Au	Pt	Pd	Swastika Au
MGA 9	Green chrome garnet? from vein in serpentinized peridotite Lot 9 Con 5 Skead Twp.	1	2	1	
MGA 10	Gabbro with intense epidote alteration L5266 McElroy Twp.	2	35	1	
MGA 11	Bright Green carbonated Komatiitic volacanics 2-3% cubic pyrite L13927 Hearst Twp.	1	14	1	
MGA 12	Loc. L28 W 7 + 50 N	1	12	1	
MGA 13	mafic-highly magnetic-coarse grained friable-minor mineralization	1	13	1	
MGA 14	L28 W 7 + 50N finer grained. sl mineralized	1	2	1	
MGA 15	L28W 6 + 85N	1	10	1	
MGA 16	Mafic-very coarse grained	1	2	1	
MGA 17	highly mag. sl. mineralization	1	3	1	

TABLE I

Sample No.	Description	Analysis (ppb) Min-En Au	Pt	Pd	Swastika Au
MGA 18	30'E L28W 6 + 85N same as 15, 16, 17	6	21	2	
MGA 19	300' W. #1 Post 859102 Dark, med. grained, micaceous olivine highly magnetic	1	4	1	
MGA 20	20" E #19 rusty - same #19	1	12	1	
MGA 21	40' E #19 same #19	1	5	2	
MGA 22	50' E # 19 same #19	2	2	1	
MGA 23	L8W 12 N non-magnetic- mapped as granodiorite appears more anorthositic, hematite staining coarse grained slight mineralization in mafic portions (specularite)	1	6	1	
MGA 24	35" E L8 W-12N not as coarse grained Euhedral sulphide within Alteration fabric non-magnetic	1	2	1	

TABLE I

Sample No.	Description	Analysis (ppb) Min-En Au	Pt	Pd	Swastika Au
MGA 25	50W L8W-12N coarse grained same as MGA 24 Note: high Specific gravity	1	1	1	
MGA 26	L8W 10+75N slightly magnetic med. grained Brown Rind ½" olivine mafic-appears in contact with anorthosite Peridotitic	1	4	1	
MGA 27	75' W. L8W 10 + 50 N Non-magnetic med grained lots of olivine, mafic	1	10	1	
MGA 28	50'E L8W 10+50N mafic, slightly magnetic , olivine coarse fragmental appearance micaceaous - med to coarse grained	1	2	1	
MGA 29	25'E L8W 9N Non-magnetic, coarse grained, mafic	1	3	1	
MGA 30 (12763)	175'E L8W-3N Breccia, sulphides >1% siliceous same Loc. as DB98 previous sampling noted	1	4	1	Nil

TABLE I

Sample No.	Description	Analysis (ppb) Min-En Au	Pt	Pd	Swastika Au	Second Pulp
MGA 31	75'N @ 3N on B.L. Siliceous, non-magnetic, fine sulphide non brecciated but similar in appearance to MGA 30	8	14	5		
MGA 32	Brecciated ultramafic skarn? .5-1% molybdenite with trace pyrite West-central part McElroy Twp.	7	31	10		
MGA 33	Highly sheared, talcose ultramafic rock from mine dump Lot 6 Con 6 Skead Twp.	8	22	6		
MGA 34	Massive sulphide, mostly pyrrhotite from mine dump L5266 McElroy Twp.	39	35	6		
12770	50' South #1 Post 431406				1030/1510	1170
12771	Pits, trenches, dump				1510/1320	
12772	Alteration zone-qtz carbonate-sulphides Green xenoliths within euhedral pyrite Tourmaline				Nil	

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 64924 Date: November 26th, 1986

Received Nov. 19th, 1986 13 Samples of Ore

Submitted by Mr. R. McGregor, Sault Ste. Marie, Ontario

SAMPLE NO.	GOLD PPB
12762	Nil
12763	Nil
12764	Nil
12765	60
12766	Nil
12767	Nil
12768	Nil
12769	Nil
12770	1030/1510
Second Pulp	1170
12771	1510/1320
12772	Nil
12773	Nil
12774	Nil

Per G. Lebel - Manager

**** Certificate of GEOCHEM ****

Company: R.A.MACGREGOR
Project:
Attention: R.A.MACGREGOR

File: 62-641/P1
Date: DEC 23/86
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB	PD-FIRE PPB	PT-FIRE PPB
MGA 1	1	1	2
MGA 2	3	1	12
MGA 3	1	1	6
MGA 4	8	1	5
MGA 5	1	1	10
MGA 6	1	1	11
MGA 7	1	1	5
MGA 8	1	1	24
MGA 9	1	1	2
MGA 10	2	1	35
MGA 11	1	1	14
MGA 12	1	1	12
MGA 13	1	1	13
MGA 14	1	1	2
MGA 15	1	1	10
MGA 16	1	1	2
MGA 17	1	1	3
MGA 18	6	2	21
MGA 19	1	1	4
MGA 20	1	1	12
MGA 21	1	2	5
MGA 22	2	1	2
MGA 23	1	1	6
MGA 24	1	1	2
MGA 25	1	1	1
MGA 26	1	1	4
MGA 27	1	1	10
MGA 28	1	1	2
MGA 29	1	1	3
MGA 30	1	1	4

Certified by _____

MIN-EN LABORATORIES LTD.

**** Certificate of GEOCHEM ****

Company: R.A.MACGREGOR
Project:
Attention: R.A.MACGREGOR

File: 62-641/P2
Date: DEC 23/86
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB	PD-FIRE PPB	PT-FIRE PPB
MGA 31	8	5	14
MGA 32	7	10	31
MGA 33	8	6	22
MGA 34	39	6	35

Certified by _____

MIN-EN LABORATORIES LTD.

Ministry of Northern Development and Mines

Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures

8708.261

42A02SW0069 2.9910 ARGYLE

900

Type of Survey(s)	Township or Area
Section 77 (19)	Argyle
Claim Holder(s)	**Prospector's Licence No.**
612378 Ontario Inc.	T-4558
Address	
c/o Box 1110, Sault Ste. Marie, Ontario P6A 5N7	
Survey Company	**Date of Survey (from & to)** Day Mo. Yr. Day Mo. Yr. / **Total Miles of line Cut**
Colex Exploration Inc.	11 10 86 23 12 86 / --
Name and Address of Author (of Geo-Technical report)	
R.A. MacGregor, 134 Palace Dr., Sault Ste. Marie, Ontario P6B 5H5	

Credits Requested per Each Claim in Columns at right

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

RECEIVED JAN 23 1987 MINING LANDS SECTION

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	859097	20
	859098	20
	859099	20
	859100	20
	859101	20
	859102	20
	859103	20
	859104	20
	859105	20
	859106	20
	859107	20
	859108	20
	859109	14.9

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECEIVED FEB 17 1987 MINING LANDS SECTION

See revised work statement A

Total number of mining claims covered by this report of work. 13

Expenditures (excludes power stripping)

Type of Work Performed: Sampling

Performed on Claim(s): ~~L859099, 859101-2~~ 859105-6

Calculation of Expenditure Days Credits

Total Expenditures: $ 3,823.98 ÷ 15 = Total Days Credits: 254.9

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.

Date	Recorded Holder or Agent (Signature)
Jan. 21/87	J. MacGregor

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
254.9	JAN 26 1987	Acting J. Blessin
	Date Approved as Recorded	Branch Director

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 Address of Author (or Consultant Certifying Report)

R.A. MacGregor, 134 Palace Dr., Sault Ste. Marie, Ontario P6B 5H5

Date Certified	Certified by (Signature)
Jan. 21/87	J. MacGregor

2-9910

April 22, 1987

Your File: 26/87
Our File: 2.9910

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

RE: Property Evaluation on Mining Claims
L 859099, et al, in AEgyle Township

The enclosed statement of assessment work credits for Property Evaluation have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

J.C. Smith, A/Manager
Mining Lands Section
Mineral Development and Lands Branch
Mines and Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

DK/mc
cc: 612378 Ontario Inc
c/o Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

R.A. MacGregor
134 Palace Drive
Sault Ste. Marie, Ontario
P6B 5H5

Resident Geologist
Kirkland Lake, Ontario

Encl.

Ministry of Northern Development and Mines
Ontario

Technical Assessment Work Credits

File 2.9910

Date: April 22, 1987

Mining Recorder's Report of Work No.: 26/87

Recorded Holder: 612378 ONTARIO INC

Township or Area: ARGYLE TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	$3823.98 SPENT ON A PROPERTY EVALUATION ON MINING CLAIMS:
Electromagnetic _____ days	L 859099
Magnetometer _____ days	859101 - 02
Radiometric _____ days	859105 - 06
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	254.9 ASSESSMENT WORK DAYS ARE ALLOWED WHICH MAY BE GROUPED IN ACCORDANCE WITH SECTION 76(6) OF THE MINING ACT.
Man days ☐ Airborne ☐	
Special provision ☐ Ground ☐	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

Mc Neil Twp.

Robertson Twp.

Baden Twp.

Bannockburn Twp.

THE TOWNSHIP
OF

ARGYLE

DISTRICT OF
TIMISKAMING

LARDER LAKE
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

NOTES

400' Surface rights reservation [illegible] rivers.

(R1) Sec 36/80 W.5/86 20/01/86 mrs
(R2) Sec 36/80 W 18/86 14/02/86 mrs
~~Order No. O-85-86 NR Reopens land originally withdrawn by Order No. [illegible]~~ (Nov. 28/86) (Jan. 20/87)
(R3) ~~Sec 36/80~~ W 101/86 NR 28/11/86 Mining rts & Surface Rts

DEC 1-1 1986

PLAN NO.- M-203 #5

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

M-203

42A02SW0069 2.9910 ARGYLE

200

POWELL CREEK

Log Bridge Ruins

granodiorite

peridotite

anorthosite

(Breccia w/sulphides)

sample DB 98

peridotite, outcrop not found

ESKER

859101

859106

859102

29910

210

W.P.

L G

H G

Till

1a

1b

1c

2

3

3a

33 D

34

34 A

36

N

...c Gregor Claims, SW
...t of Argyle Twp.
...perty 42A/2

1" = 200'