MINERAL RESOURCES DIVISION
ASSESSMENT REPORT
9279
NO.

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE TO 2 CLAIMS

OMINECA MINING DIVISION

LAT. 57°22', LONG. 126°27'

NTS: 94E/7W

Owner of Claims: Du Pont of Canada Exploration Limited

Operator: Du Pont of Canada Exploration Limited

G A Harron

Author: G. A. Harron

Date Submitted: 1981 June 10

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I. INTRODUCTION

a) Location

The TO 2 claim is located on the eastern slope of Mount Graves. A deeply incised creek in the central part of the claim flows northward to Toodoggone Lake. Elevations on the claim range from 1493 m in the northeast corner to about 1995 m in the southeastern and southwestern part of the claim. Low shrubs cover the lower elevations, and above 1676 m only alpine flora exists.

b) Access

Access to the claims is by helicopter from the Sturdee River airstrip; a distance of 22 km to the southwest.

c) Claim Definition

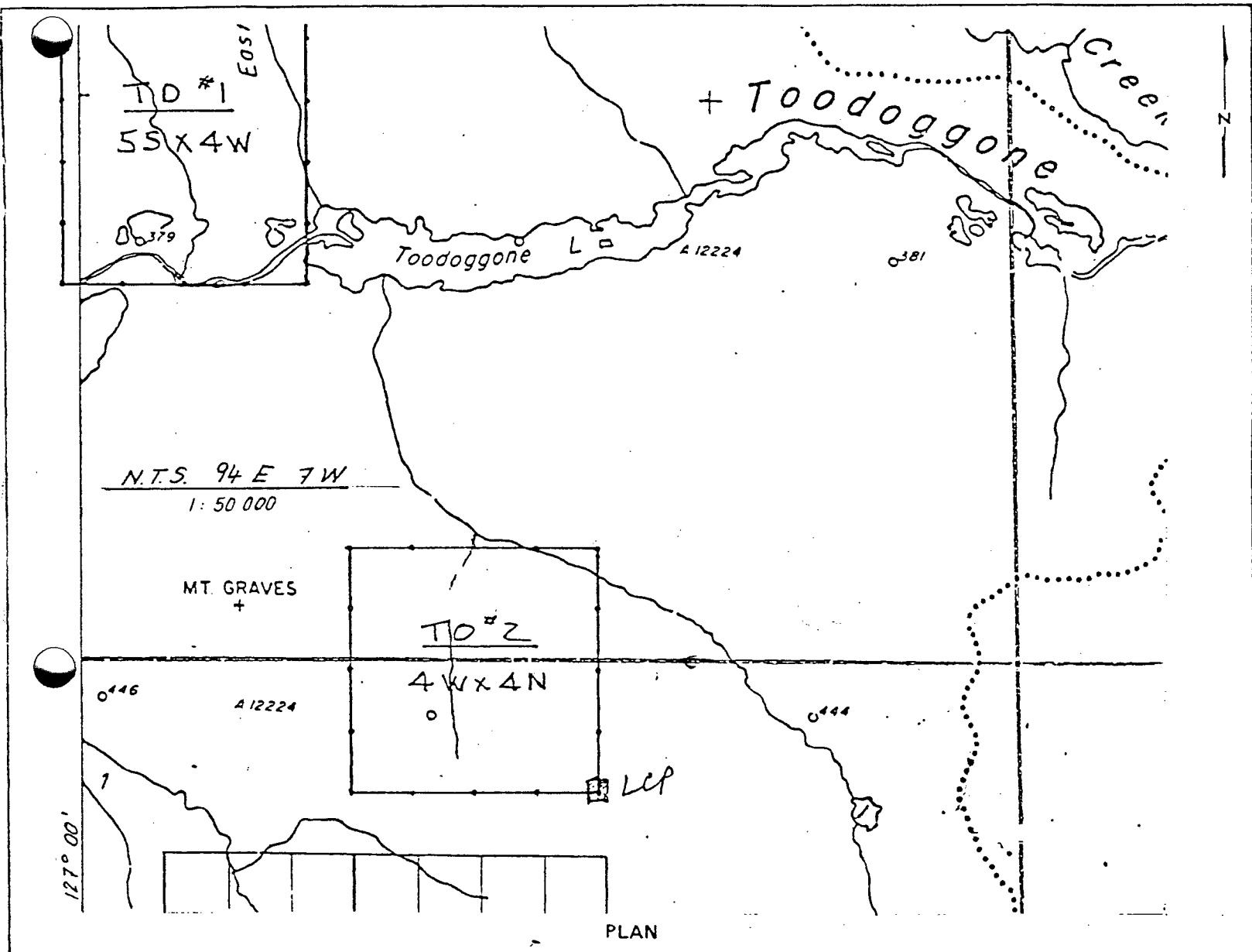
The TO 2 claim consists of 16 units with a record number of 3070, a tag number of 45842, and a record date of July 31, 1980. The current owner and operator of the claim is Du Pont of Canada Exploration Limited. The claim was staked to allow follow-up work on an auriferous heavy mineral concentrate sample collected in the creek near the northern boundary.

d) Economic Assessment of the Property

No evidence was found on the property to indicate that previous exploration had occurred. No significant economic mineralization was noted as a result of the present exploration.

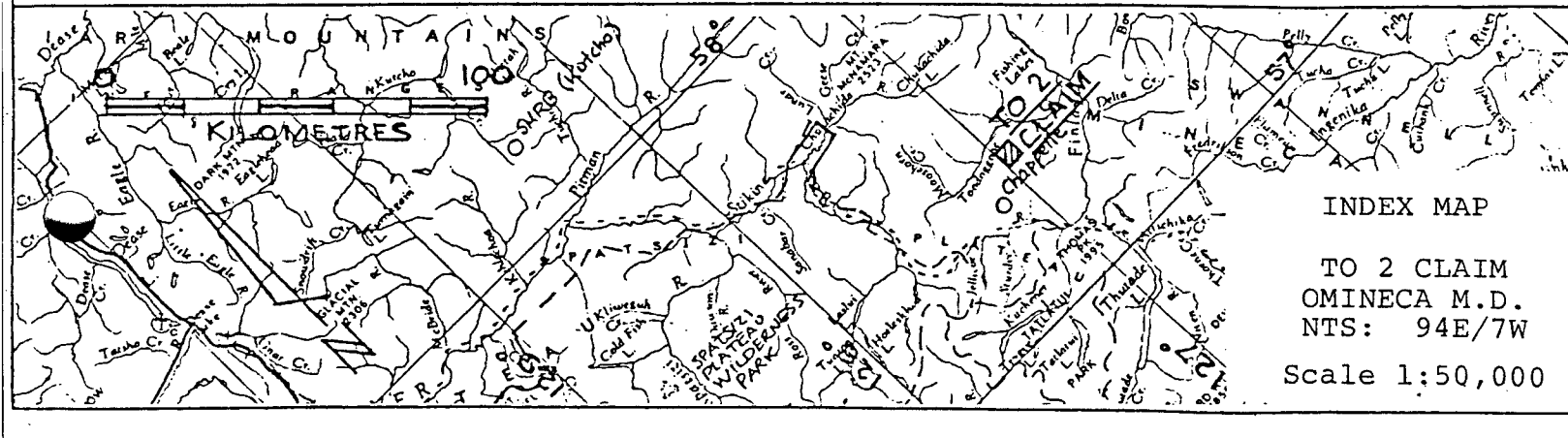
e) Summary of Work Performance

On August 23, 1980 a total of 2 person days were utilized in collecting 10 stream sediment samples, and 3 rock samples. Geological mapping at a scale of 1:10,000 was undertaken in the central portion of the claim.



PLAN

Indicate claim boundaries, permanent watercourses, access road and distance to nearest town, proposed roads, test pits, trenches, adits, drill sites, and camp sites.



II. GEOLOGY

a) Introduction

The claim is located in the Intermontane Belt, which is underlain by Mesozoic volcanic, sedimentary, and intrusive rocks. Minor amounts of Paleozoic rocks are also present. Published geology maps suggest that the claim is underlain by Lower Jurassic Hazelton Group volcanic and intrusive rocks. The distribution of rock types observed on the property is shown on Drwg. No. AR. 80-254.

b) Lithology

(i) Dacite

This rock unit is maroon coloured on both fresh and weathered surfaces. The rock is aphanitic and breaks with a semi-conchoidal fracture. All outcrops examined are moderately to heavily fractured, however it suggested that this unit occurs as massive flows. Quartz veins averaging 2-3 cm wide are common in the dacite near the centre of the claim. These veins are composed of 90% milky white quartz and 10% disseminated euhedral pyrite.

(ii) Lithic Tuff

This rock unit is composed of maroon angular dacite fragments averaging 6 cm in diameter hosted in a reddish brown medium grained matrix. The lithic fragments constitute about 40% of the rock. A 10 cm wide milky white quartz vein was observed in an outcrop near the northern boundary of the claim. This vein contains about 10% combined pyrite, chalcopyrite, sphalerite and galena, (sample #8018D).

(iii) Granite

This rock type is pink to red in colour on both fresh and weathered surfaces. The rock is coarse grained and contains about 5% biotite. Subhedral to euhedral potassic feldspar crystal constitute about 50% of the rock, and the remainder is euhedral white quartz. The two outcrops examined show moderate to heavy fracturing with minor epidote in the fractures.

c) Mineralization

Narrow quartz veins (2-3 cm) containing pyrite are common in the dacite. Samples 8016D and 8017D are grab samples of these veins, and each sample returned values of 25 ppb Au. A 10 cm wide quartz vein hosted in lithic tuff contained pyrite, chalcopyrite, sphalerite and galena, and returned assays as follows:

Sample No.	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %
8018	0.002	0.19	0.276	0.10	0.52

d) Structure

The tuffs strike north-northwest and dip 35-45° to the west, and presumably the dacite has a similar attitude.

No faults were recognized during the course of the mapping.

e) Conclusions

The claim is underlain by volcanic rocks similar to published descriptions of the Toodoggone Group of Lower or Middle Jurassic age. The volcanic rocks are intruded by a granite pluton of unknown dimensions. Mineralization noted consists of narrow quartz veins, with and without base and precious metal values.

III. GEOCHEMICAL SURVEY

a) Sample Collection, Preparation and Analyses

A total of 10 stream sediment samples were collected from the stream that traverses the central part of the claim. Sample intervals of 200 m were measured with a "hip-chain" and the sample line followed the course of the stream. The starting point for the sampling was the headwaters of the stream, about 250 m north of the southern claim boundary. At each sample site a metal scoop was used to collect about 500 gms of silt-sand sized material from the stream bed and placed in a wet strength soil sample envelope. The sample was numbered, and specific information describing the sample and the stream characteristics was recorded on a data

card. A flag bearing the sample number was placed at the collection site.

The stream sediment samples were sent to Min-En Laboratories in North Vancouver for preparation and analysis for Au. The samples were oven dried and sieved to -80 mesh. The -80 mesh fraction was analyzed for Au according to the procedures outlined in Appendix A.

Further analyses for Ag, Cu, Pb, Zn, Cr, Mo, were performed on the pulps by Riocanex, using standard analytical techniques equivalent to those listed in Appendix A.

b) Results and Interpretation

Drawing No. AR. 80-255 shows the sample numbers, locations, and the values for Au, Ag, Cu, Pb, Zn, Cr, Mo obtained. The following table sumamrizes the results obtained:

No. of Samples	Element	Range	Units
10	Au	5-30	ppb
7	Ag	0.3-0.8	ppm
7	Cu	33-123	ppm
7	Pb	48-117	ppm
7	Zn	208-313	ppm
7	Mo	0-4	ppm
7	Cr	6-12	ppm

Visual interpretation of the data suggests that gold values of 25 ppb or greater are of further interest. Thus, further sampling of both soils and rocks is warranted to define an auriferous anomaly. Four of the 7 samples analyzed for Pb show values in excess of 100 ppm, which may indicate a wider distribution of galena bearing quartz veins than is presently known. However, the elevated zinc values are thought to be related to the use of a galvanized metal scoop for sample collection. Silver, copper and molybdenum values are interpreted to be at background levels.

IV. COST STATEMENT

a) Wages

	Daily Rate	Specific Dates	No. of Days	Cost
1 geologist	$172.00	Aug 23/80, Apr 28/81	2	$344.00
1 asst.	46.58	Aug 23/80	1	46.58
1 asst.	39.18	Feb 11/81	1	39.18
				$429.76

b) Room and Board

A per diem rate of $49.56 applies to 2 person days for Aug 23/80 — $ 99.12

c) Transportation

(i) Transportation to the field area:

The total cost of transporting the field crew to the Sturdee River airstrip is $6,170.63, and is prorated over 19 claim groups. The amount applying to this claim is .... — $324.77

(ii) In support of field work:

Terr-Air Invoice 490
Aug 23/80, 0.8 hrs @ $366/hr
Fuel - 24 gal @ $3.00 — $364.80

$689.57

d) Analytical Services

No. of Samples	Type	Elements	Unit Cost	
10	stream sediments	Au	$ 4.25	$ 42.50
10	stream sediments	preparation	.60	6.00
7	stream sediments	Ag, Cu, Pb, Zn, Mo, Cr	4.75	33.25
1	rock	Au, Ag, Cu, Pb, Zn assay	31.00	31.00
1	rock	preparation	2.50	2.50
2	rock	Au	4.25	8.50
2	rock	preparation	2.00	4.00
				$127.75

e) Report Preparation

	Type	Specific Date	No. of Days	Cost
Drafting	$147.00	May 22/81	1	$147.00
Typing	62.00	May 22/81	1	62.00
				$209.00

GRAND TOTAL $1,555.20

V. QUALIFICATIONS

I, Gerald A. Harron, do hereby certify that:

1. I am a geologist residing at 2810 Sechelt Drive, North Vancouver, British Columbia and employed by Du Pont of Canada Exploration Limited.

2. I am a graduate of the University of Western Ontario with a M.Sc. degree in geology.

3. I am a registered Professional Engineer in the Province of Ontario.

4. I have practised my profession in geology continuously for the past 11 years in various provincial jurisdictions in Canada.

5. Between August 23, 1980 and May 22, 1981, I supervised/ directed a field program on the TO 2 claim on behalf of Du Pont of Canada Exploration Limited.

Gerald A. Harron

Gerald A. Harron

May 22, 1981

PHONE 980-5814

APPENDIX A

MIN-EN Laboratories Ltd.
Specialists in Mineral Environments
Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and $HClO_4$ mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.

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CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURES FOR Mo, Cu, Cd, Pb, Mn, Ni, Ag, Zn, As, F

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO_3 and $HClO_4$ mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by Atomic Absorption Spectrophotometers.

Copper, Lead, Zinc, Silver, Cadmium, Cobalt, Nickel and Manganese are analysed using the CH_2H_2-Air flame combination but the Molybdenum determination is carried out by C_2H_2-N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzit method using Ag $CS_2N(C_2H_5)_2$ as a reagent. The detection limit obtained is 1. ppm.

Fluorine analysis is carried out on a 200 milligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soil samples are measured quantitatively by using fluorine specific ion electrode. Detection limit of this test is 10 ppm F.

127° 00'

126° 55'

57° 25'

MT. EASTERBROOK

L.C.P.

EASTBROOK CREEK

MULVANEY CREEK

dyke of 5

water fall

TOODOGGONE RIVER

TOODOGGONE LAKE

57° 23'

MT. GRAVES

94 E 6E

94 E 7W

8018D
Q.V.

8017D

8016D

2

L.C.P.

MINERAL RESOURCES BRANCH
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NO.

LEGEND

- 5 GRANITE
- 4 DACITE
- 3 LITHIC TUFF
- 2 PORPHYRITIC ANDESITE
- 1 BASALT

SYMBOLS

- OUTCROP
- CONTACT
- 35 BEDDING, STRIKE & DIP
- X-8016D ROCK SAMPLE LOCATION & No.
- Q.V. QUARTZ VEIN
- CLAIM BOUNDARY & LEGAL CORNER POST

ROCK ASSAYS

Tag No.	Au ozs/ton	Ag ozs/ton	Cu %	Pb %	Zn %
8018D	0.068 / 0.002	6.51 / 0.19	0.276	0.10	0.52

ROCK GEOCHEMISTRY

Tag No.	Au P.P.B.	Ag P.P.M.	Cu P.P.M.	Pb P.P.M.	Zn P.P.M.
8016D	25				
8017D	25				

DU PONT CANADA EXPLORATION

ARGONAUT PROJECT
TO CLAIMS
GEOLOGY

CHAPPELLE AREA, BRITISH COLUMBIA

S.A. Herron

1:10000

m 300 0 300 600 m

SCALE

ft. 1000 0 1000 2000 ft.

1 INCH = 833 FEET

MAPPED BY	G.A.H.	REVISED	N.T.S. No.: 94 E 7W
DATE	80 08 16 & 23		ACCT No.: 347-74 & 79
DRAWN BY	K.L.J.		DRWG. No.: AR.80-254
DATE	81 08 22		

127° 00'

126° 55'

57° 25'

57° 23'

MT. EASTERBROOK

L.C.P.

9513A ○ 5

9514A ○ <5

9515A ○ 25

9516A ○ 5

9517A ○ 285

9518A ○ No Results

9519A ○ 10

9520A ○ 5

MULVANEY CREEK

EASTBROOK CREEK

waterfall

X-2824D

RIVER

TOODOGGONE

TOODOGGONE LAKE

8015D ○ No Results

0843D — X — 0842D

8014D ○ 15

8013D ○ 25

8012D ○ 30

8011D ○ 15

8010D ○ 25

8009D ○ 20

8008D ○ 15

8007D ○ 10

8006D ○ 5

8005D ○ 10

MT. GRAVES

94 E 6E

94 E 7W

2

1

L.C.P.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9279
NO.

LEGEND

8010D ○ — STREAM SEDIMENT SAMPLE LOCATION & No.

○25 — -80 MESH VALUE FOR Au IN P.P.B.

X-0842D — ORIGINAL STREAM SEDIMENT SAMPLE LOC. & No.

ORIGINAL SAMPLE RESULTS

Tag	Mesh	Au P.P.B.	As P.P.M.	Pb P.P.M.	Cu P.P.M.	Ag P.P.M.	%.H.M.
2824	- 20	35					9.65
	-100	700	4	32	23	0.8	
0842	- 20	15					4.07
	-100	15	11	54	154	1.7	
0843	- 20	40					4.56
	-100	1200	5	31	34	0.7	

Note Regarding Original Sample Results:

The results of the analysis of the heavy mineral concentrate from the -20(-20 +100 mesh) fraction are not weighted.

FOLLOW UP SOIL SAMPLE RESULTS (-80 MESH)

Sample No.	Ag P.P.M.	Cr P.P.M.	Cu P.P.M.	Mo P.P.M.	Pb P.P.M.	Zn P.P.M.	
8006D	.6	9	33	4	103	208	
8007D	.8	12	43	4	117	249	
8009D	.8	9	44	1	81	340	
8011D	.5	11	66	1	93	330	
8012D	.3	8	123	1	101	282	
8013D	.3	6	88	0	48	208	
8014D	.6	8	73	0	103	313	
9514A	.0	8	30	0	24	280	
9515A	.2	9	34	1	25	294	
9517A	.1	10	25	2	22	207	
9520A	.0	6	18	0	14	238	-20 mesh

DU PONT EXPLORATION
CANADA

ARGONAUT PROJECT
TO CLAIMS
GEOCHEMISTRY
A IN P.P.B. & Ag, Cr, Cu, Mo, Pb, Zn IN P.P.M.
CHAPPELLE AREA, BRITISH COLUMBIA

S.A. Anderson

m 300 0 300 600 m
1:10000
SCALE
ft. 1000 0 1000 2000 ft.
1 INCH = 833 FEET

MAPPED BY	G.A.H.	REVISED	N.T.S. No.: 94 E 7W
DATE	80 08 16 & 25		ACCT No.: 347-74 & 79
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