

GM 37604

ASSESSMENT REPORT, GORDON'S LAKE WEST CLAIM BLOCK

Documents complémentaires

Additional Files



Licence



License

Cette première page a été ajoutée
au document et ne fait pas partie du
rapport tel que soumis par les auteurs.

Énergie et Ressources
naturelles

Québec 

URANERZ EXPLORATION & MINING LTD.

URANERZ EXPLORATION & MINING LTD.

ASSESSMENT REPORT

GORDON'S LAKE WEST CLAIM BLOCK

(May, 1981)

**Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique**

DATE: 24 NOV. 1981

No. G.M.: 37604

Z. Madon
Project Geologist

SUMMARY

A series of geological, geophysical and geochemical surveys culminated in the discovery of uranium mineralization at Camie River within the Gordon's Lake grid. This discovery has enhanced the significance of the Otish Basin as a uraniferous province, particularly the Gordon's Lake area.

TABLE OF CONTENTS

	<u>Page No.</u>
1. <u>INTRODUCTION</u>	1
1.1 <u>AREA OF INVESTIGATION</u>	1
1.2 <u>PURPOSE OF INVESTIGATION</u>	1
1.3 <u>TIME OF INVESTIGATION</u>	1
1.4 <u>PERSONNEL</u>	1-2
1.5 <u>INSTRUMENTS, VEHICLES USED</u>	2
2. <u>GENERAL INFORMATION</u>	2
2.1 <u>TOPOGRAPHY</u>	2-3
2.2 <u>CLIMATE</u>	3
2.3 <u>VEGETATION</u>	3
2.4 <u>WATER RESOURCES</u>	3
2.5 <u>POPULATION AND LAND USE</u>	3
2.6 <u>MAGNETIC DEVIATION</u>	3
3. <u>PREVIOUS SURVEYS AND ACTIVITIES</u>	3
3.1 <u>TOPOGRAPHIC MAPPING</u>	3-4
3.2 <u>GEOLOGICAL MAPPING</u>	4
3.3 <u>GEOPHYSICAL SURVEYS AND ACTIVITIES</u>	4
4. <u>MINERAL CLAIMS</u>	4-5
5. <u>GENERAL GEOLOGY</u>	6-9
6. <u>INVESTIGATIONS</u>	9
7. <u>RESULTS</u>	10
7.1 <u>DIAMOND DRILLING</u>	10-13

	<u>Page No.</u>
7.2	<u>GEOPHYSICAL SURVEYS</u> 14
7.2.1	<u>Winter Program</u> 14
7.2.2	<u>Summer Program</u> 15
7.3	<u>GEOCHEMICAL SURVEYS</u> 16
7.3.1	<u>Winter Program</u> 16-17
7.3.2	<u>Summer Program</u> 17
7.4	<u>GEOLOGICAL MAPPING</u> 18-20
7.4.1	<u>Surficial Mapping - Monday Boulder Train</u> 20
7.5	<u>PROSPECTING SURVEY</u> 20
7.6	<u>CORE SAMPLING - PORTABLE DRILL</u> 20
8.	<u>CONCLUSIONS</u> 20-21

FIGURES

Figure 1/1	General Location Map	
Figure 2/554	Gordon's Lake Area-Location Map	
Figure 3/485	General Geology	7
Figure 4/389	Location of Completed Drill Holes	11
Figure 5/374	Outline of Results	19

TABLES

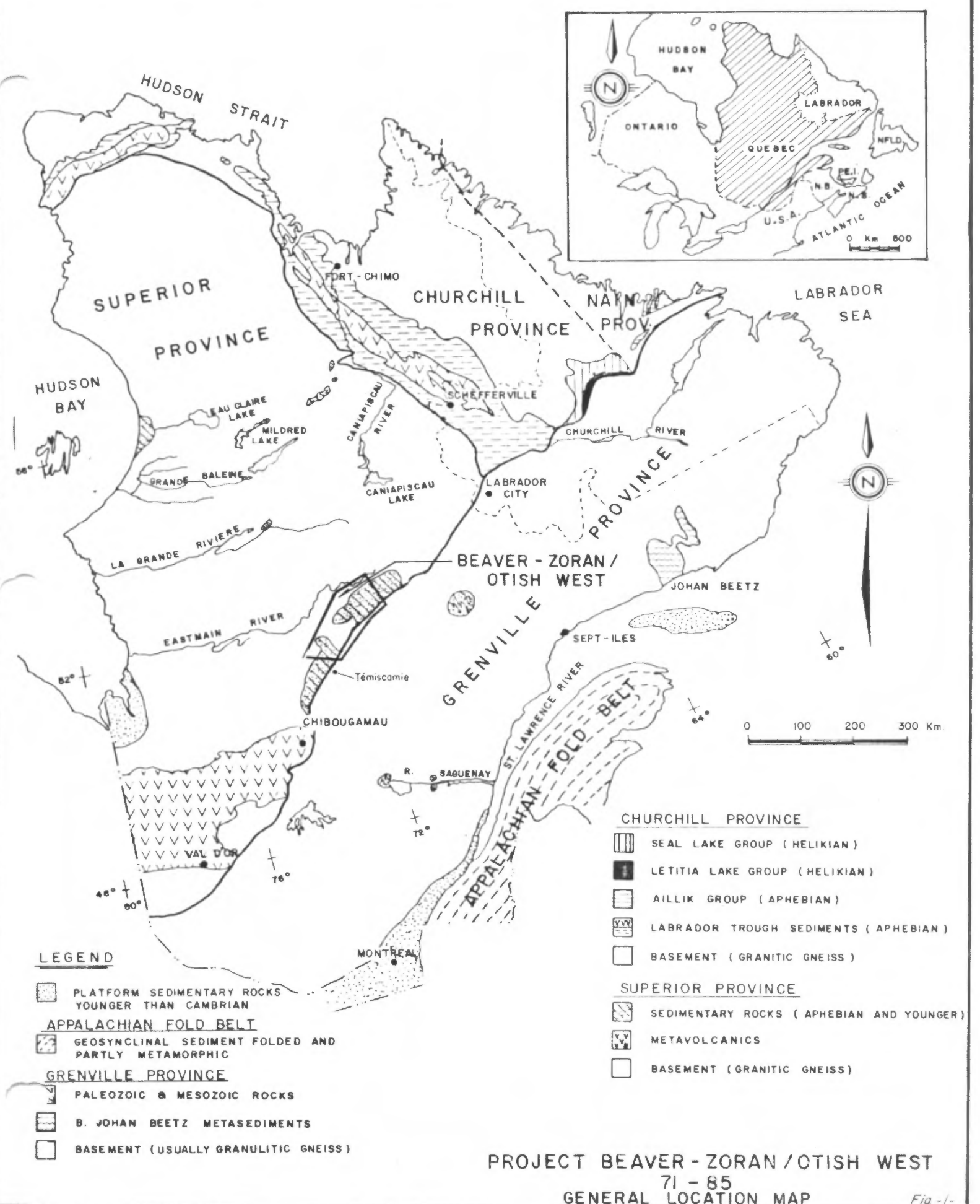
Table 1/375	Table of Formations	8
Table 2	Surveys Completed, 1980	9
Table 3	Diamond Drill Summary	10

MAPS

Map 338	Gordon's Lake West Block - Radon (Track Etch) and Uranium in Soil Survey - Seasonal Geophysical Report 1980.	(Back Folder)
Map 339	Gordon's Lake, Camie River area - Helium & Uranium in Soil Survey - Seasonal Geophysical Report Jan-May/80.	"
Map 390	Camie River Area Claims and Drill Holes	"
Map 410	Gordon's Lake Area Monday Boulder Train Distribution of 'U' Erratics; Postulated Source.	"
Map 488	Gordon's Lake West Claim Block - Claim Boundary & Grid Location	"
Map 552	Gordon's Lake Grid Geology	"
Map 553	Gordon's Lake Grid Compilation of Surveys	"
Map 557	Gordon's Lake Grid (East Half) Soil Geochemical Survey (U,Cu,Co,Ni)	"

APPENDICES

Appendix 1	Geological Core Logs	"
Appendix 2	Seasonal Geophysical Report - Data Maps January - May 1980	"
Appendix 3	Seasonal Geophysical Report - Data Maps June - December 1980	"
Appendix 4	Winter Geochemical Surveys: Data Sheets 4.1 Track Etch Survey 4.2 He Survey 4.3 Chemical Analyses Sheets	"
Appendix 5	Summer Geochemical Survey: Data Sheets	"
Appendix 6	The Monday Uraniferous Erratic Train, Gordon's Lake Area, Otish Mountains	"
Appendix 7	Geochemical Sample Data Sheets - Rocks	"

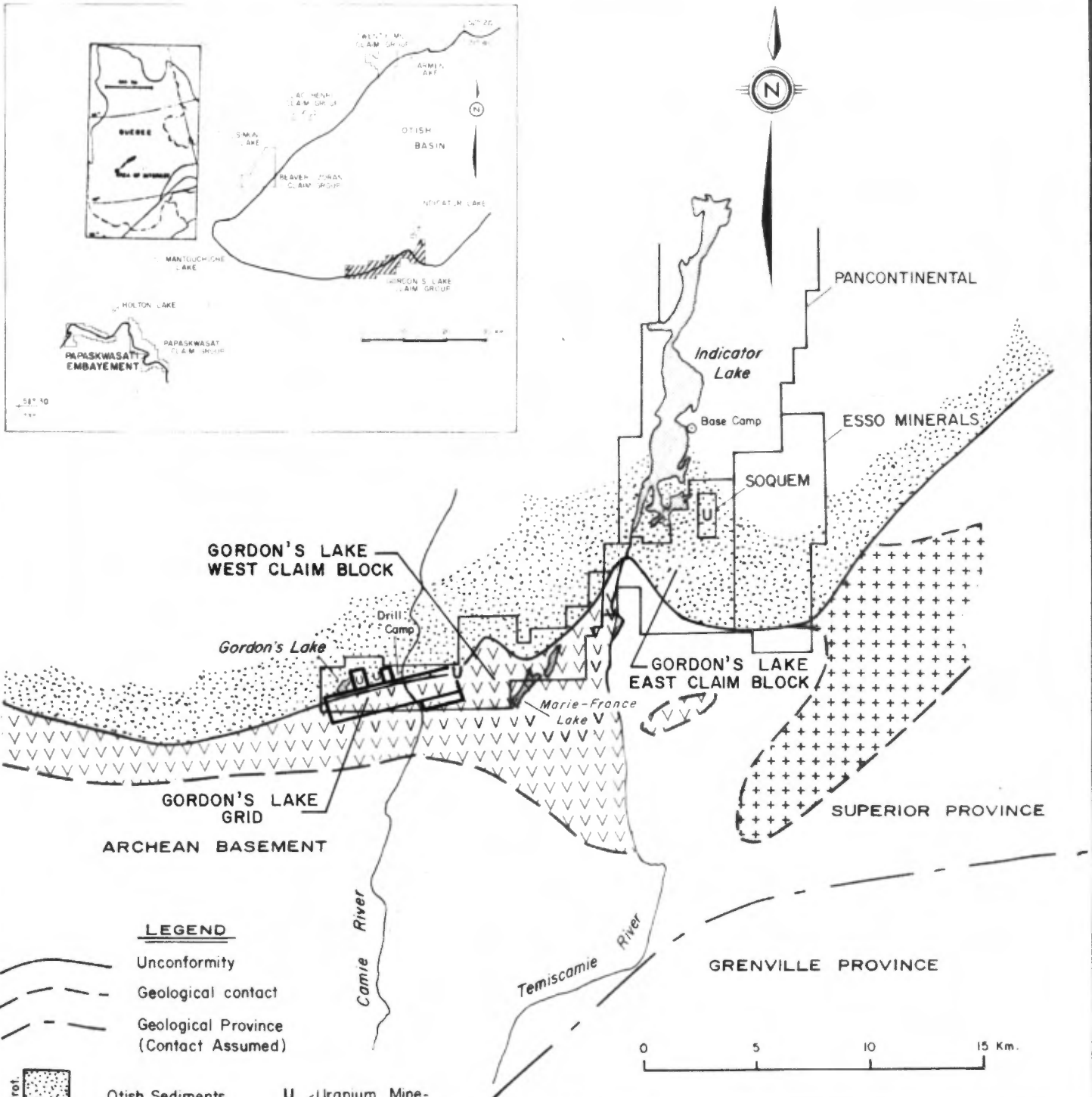
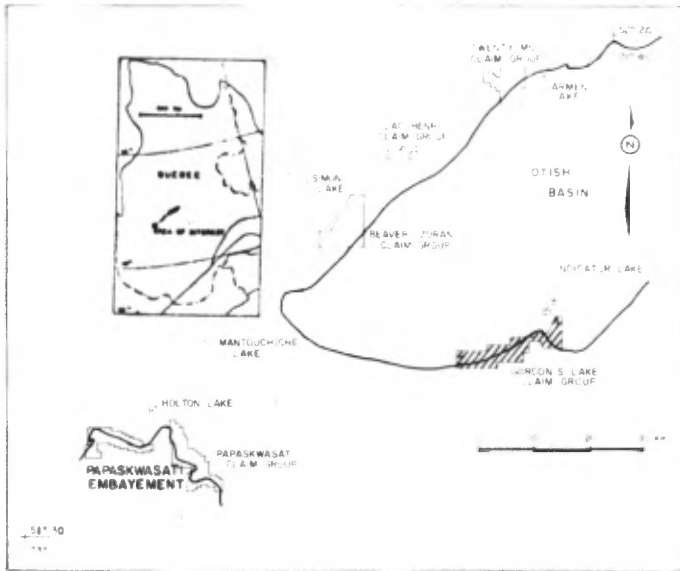


LEGEND

- PLATFORM SEDIMENTARY ROCKS YOUNGER THAN CAMBRIAN
- APPALACHIAN FOLD BELT**
 - ▨ GEOSYNCLINAL SEDIMENT FOLDED AND PARTLY METAMORPHIC
- GRENVILLE PROVINCE**
 - ▨ PALEOZOIC & MESOZOIC ROCKS
 - ▨ B. JOHAN BEETZ METASEDIMENTS
 - BASEMENT (USUALLY GRANULITIC GNEISS)

- CHURCHILL PROVINCE**
 - ▨ SEAL LAKE GROUP (HELIKIAN)
 - ▨ LETITIA LAKE GROUP (HELIKIAN)
 - ▨ AILLIK GROUP (APHEBIAN)
 - ▨ LABRADOR TROUGH SEDIMENTS (APHEBIAN)
 - BASEMENT (GRANITIC GNEISS)
- SUPERIOR PROVINCE**
 - ▨ SEDIMENTARY ROCKS (APHEBIAN AND YOUNGER)
 - ▨ METAVOLCANICS
 - BASEMENT (GRANITIC GNEISS)

PROJECT BEAVER - ZORAN / OTISH WEST
71 - 85
GENERAL LOCATION MAP



LEGEND

- Unconformity
- Geological contact
- Geological Province (Contact Assumed)
- Otish Sediments
- Granitic Terrain
- Metavolcanic Terrain
- Uranium Mineralization

URANERZ EXPLORATION AND MINING LIMITED

**-PROJECT BEAVER-ZORAN / OTISH WEST 71-85
GORDON'S LAKE AREA
LOCATION MAP**

COMP.: Z.M.	DATE: JUNE 1981	REP./RAP No.	MAP CARTE No. 554
DRAWN/DESS.: A.F.	DATE: "		REPORT No.: 7105-39
REVISION:		SCALE: ECH.: 1:250 000	PROJ. No.: 71-85
T.C. TO BONN	REF.:		FILE DOSS.:

1. INTRODUCTION

1.1 AREA OF INVESTIGATION

The Gordon's Lake West claim block is situated approximately 270 km NE of Chibougamau and 110 km NE of Témiscamie. A temporary airbase is accessible by an all weather gravel road from Chibougamau. Both localities offer ski-or-float equipped aircraft during the winter and summer months for transport of personnel and equipment into the area. Transportation within the area requires rotary or fixed wing aircraft. (Fig.1/1, Fig. 2/554)

Regular scheduled air and bus services are available between Montreal and Chibougamau.

1.2 PURPOSE OF INVESTIGATION

The various exploration surveys in the Gordon's Lake West claim block were performed in order to test for uranium mineralization at depth in the vicinity of the surface indications - i.e. Gordon's Lake fracture, Monday Boulder Train, Coon showing. Numerous surveys were done in order to outline appropriate drilling targets (i.e. Track Etch, Helium, U in soils, geophysical surveys).

1.3 TIME OF INVESTIGATION

Winter Program : February 28, 1980 - March 29, 1980

Summer Program : June 2, 1980 - September 8, 1980

1.4 PERSONNEL

Permanent Staff

Dr. R. Lambert -	Exploration Manager - Eastern Canada
Dr. W. Gehrisch-	Senior Geologist
Z. Madon -	Project Geologist
M. Leppin -	Geophysicist
C. Jenkins -	Project Geologist (Research)
Y. Gariépy -	Drill Geologist
R. Cicci -	Landman
P. Martin -	Technician/Field Foreman
K. Hopewell-	Technician
B. Millward-	Technician
R. Faubert -	Technician
B. McKenzie-	Logistician
J. Murphy -	Surficial Geologist

Temporary Staff

1	Senior Geologist (Mapping)
1	Drill Geologist
2	Senior Assistants
3	Junior Assistants
1	Asst. Geophysicist

Temporary Staff (Contd.)

1 Technician
6 Prospectors
1 Cook
1 Camp Manager
1 Dispatcher

1.5 INSTRUMENTS, VEHICLES USED

The following is a list of equipment used:

11 - SPP 2NF scintillometers
1 - GAM-I spectrometer
1 - UG 135 spectrometer
1 - EDA scintillometer
2 - CH-100 radios
1 - SM-5 susceptibility meter
1 - SS-15 VEM unit
2 - MP-2 magnetometer & sensor
4 - Walkie-talkies
1 - MAX.-MIN. HEM unit
1 - EM-16 (VLF) unit
1 - Portable Drill Bits
1 - Level & tripod
1 - Theodolite & tripod
1 - Radon Gas Emanometer *
1 - I.P. Transmitter, Receiver
1 - Binocular Microscope
1 - UV Lamp
1 - Stereoscope

* Survey not completed because of instrument malfunction.

The two Marconi CH-100 radios were used to communicate with the different U.E.M. fly camps as well as Chibougamau & Témiscamie. Transportation of supplies, equipment and personnel from Chibougamau to Témiscamie required the use of a rented SUBURBAN. A 14 ft. Mirage rubber boat with outboard was used where possible within the work area.

2. GENERAL INFORMATION

2.1 TOPOGRAPHY

The Gordon's Lake area lies west of the height of land and drains into Lake Mistassini via the Témiscamie River and thence to James Bay via the Rupert River. Much of the drainage is controlled by glacial deposits. In the mountainous region, however, drainage is controlled by bedrock structures, paralleling foliation within gneisses and metavolcanics and joints within granitic terrain.

Local topography is dominated by glacial features, in particular the drumlinoid ridges which are up to 30 m high and several kilometers long. Most of the hills, streams and lakes are elongated in the 210° glacial direction, although some bedrock ridges do not conform. Drumlines, eskers and kames are common throughout, ranging between 15 m and 35 m in height.

2.2 CLIMATE

The area is classified as subarctic. Average winter temperatures range around - 10° c, summer temperatures are in the +15° c range. A relatively large amount of precipitation falls during both summer and winter seasons, approximately 80 cm of which nearly half falls during the months of July and August. The lakes are relatively ice-free from about the beginning of June to the end of October.

2.3 VEGETATION

Boreal forest-type vegetation covers most of the area. Tops of ridges and other elevated areas display a tundra-like environment.

Black spruce (*Picea Mariana*) and Jack Pine (*Pinus Banksiana*) with a few groves of white Birch (*Betula Papyrifera*) are the main tree-types.

Underbrush is dominated by moss, lichen and Labrador tea.

2.4 WATER RESOURCES

Fresh water is abundant in the area, predominated by long narrow glacial lakes. The Témiscamie River is the main drainage conduit in the area. The Camie River is a principle tributary of the Témiscamie River and runs almost directly through the middle of the Gordon's Lake West claim block.

2.5 POPULATION AND LAND USE

There are no settlements or commercial sites in the immediate area.

2.6 MAGNETIC DEVIATION

The magnetic deviation is in the order of 22°45'W.

3. PREVIOUS SURVEYS AND ACTIVITIES

3.1 TOPOGRAPHIC MAPPING

The following NTS map cover the area of investigation:

<u>Nts Number</u>	<u>Title</u>	<u>Scale</u>
32 N.E.	Mistassini	1:500,000
22 N.W.	Plétipi	1:500,000
32 P	Lac Baudeau	1:250,000
22 M	Plétipi Lake	1:250,000
32 P/16	Lac Hippocampe	1: 50,000
22 M/13	Lac Indicateur	1: 50,000

The following airphotos were used:

<u>Photo Number</u>	<u>Scale</u>
A12496 8-13	1:35,000
A12496 308-311	1:35,000
A21579 190-193	1:44,000
A15590 173-177	1:56,000

3.2 GEOLOGICAL MAPPING

The southwest portion of the Otish basin has been mapped by the MRN and has proved to be fairly reliable in most places.

The Gordon's Lake West claim block is covered by the following reports:

<u>Report</u>	<u>Map Scale</u>	<u>Author</u>
Rivière Savane RG146	1:253,440	E.H. Chown
Hippocampe Lake Area P.R. No.438	1: 63,360	T. Hashimoto
Tichegami RG144	1: 63,360	E.H. Chown

3.3 GEOPHYSICAL SURVEYS AND ACTIVITIES

The area is covered by the following aeromagnetic maps:

<u>Map Number</u>	<u>Scale</u>
7111 G	1:253,440
7112 G	1:253,440
2030 G	1: 63,360
2042 G	1: 63,360

The area of investigation was prospected in the past by Noranda Exploration and Ingamar Exploration. Presently, aside from U.E.M., Pancontinental, SOQUEM and ESSO are actively exploring in the vicinity.

4. MINERAL CLAIMS

A total of 235 claims have been acquired and are listed below: (see Map 488).

<u>Claim No.</u>	<u>Township</u>	<u>Date of Record</u>
347690 (1-5)	2034	August 25, 1974
347691 (1-5)	2034	August 27, 1974
347962 (1-5)	2034	August 24, 1974
347693 (1)	2034	August 26, 1974
374036 (1-5)	2035	August 11, 1978
374037 (1-5)	2035	August 12, 1978

<u>Claim No.</u>	<u>Township</u>	<u>Date of Record</u>
374038 (1-5)	2035	August 13, 1978
374039 (1-5)	2035	August 14, 1978
374040 (1-5)	2035	August 15, 1978
374041 (1-5)	2035	August 16, 1978
374042 (1-5)	2035	August 17, 1978
374043 (1-5)	2035	August 18, 1978
374044 (1-5)	2035	August 10, 1978
374045 (1-4)	2035	August 11, 1978
374046 (1-5)	2035	August 12, 1978
374047 (1-5)	2035	August 13, 1978
374048 (1-5)	2035	August 14, 1978
374049 (1-5)	2035	August 15, 1978
374050 (1-5)	2035	August 16, 1978
374051 (1-5)	2035	August 17, 1978
374052 (1-5)	2035	August 18, 1978
374053 (1-5)	2035	August 10, 1978
374054 (1-5)	2035	August 11, 1978
374055 (1-5)	2035	August 12, 1978
374056 (1-5)	2035	August 13, 1978
374057 (1-5)	2035	August 14, 1978
374058 (1-5)	2035	August 15, 1978
374059 (1-5)	2035	August 16, 1978
374060 (1-5)	2035	August 17, 1978
374061 (1-5)	2035	August 20, 1978
374062 (1-5)	2035	August 10, 1978
374063 (1)	2035	August 11, 1978
374065 (1-5)	2034	August 20, 1978
374066 (2-5)	2034	August 21, 1978
374067 (2-5)	2034	August 22, 1978
374068 (1-5)	2034	August 23, 1978
374069 (1-5)	2034	August 24, 1978
374070 (1-3)	2034	August 25, 1978
(4-5)	2035	August 25, 1978
374071 (1-5)	2035	August 26, 1978
381093 (1)	2034	August 3, 1979
(2-3)	2035	August 3, 1979
(4-5)	2035	January 27, 1980
381094 (1)	2034	August 2, 1979
(2-3)	2035	August 2, 1979
(4-5)	2035	January 27, 1980
381096 (1)	2034	August 1, 1979
(2-3)	2035	August 1, 1979
(4-5)	2035	January 27, 1980
383958 (1, 3-5)	2035	January 27, 1980
(2)	2034	January 27, 1980
383961 (1)	2035	January 27, 1980
(2-3)	2034	January 27, 1980
385055 (1-5)	2035	October 3, 1979
385056 (1-5)	2035	October 4, 1979
385057 (1-5)	2035	October 5, 1979
385058 (1-5)	2035	October 6, 1979
385059 (1-5)	2035	October 7, 1979
385060 (1-3)	2035	October 8, 1979

5. GENERAL GEOLOGY (see Fig. 3/ 485)

Proterozoic Otish sediments occur within the Superior Structural Province near the poorly defined Grenville Orogenic Front. Basement rocks of the Superior Group have been classified into three broad lithological units - (i) gneisses and migmatites, (ii) metavolcanics (metasediments) and (iii) granites. All these units are thought to be Archean although recent age dating indicates that some of them might have been deposited or intruded (extruded) on a pre-existing Archean craton during Aphebian time. However, the high metamorphic grades encountered in the basement rocks, usually ranging from amphibolite to granulite facies (with some retrograde reaction), make it difficult to prove the existence of undeformed sediments and/or volcanics during Aphebian time.

All the basement units were affected by the Hudsonian Orogeny (1750 m.y.) and some, if not all, were also affected by the Kenoran Orogeny (2500 m.y.).

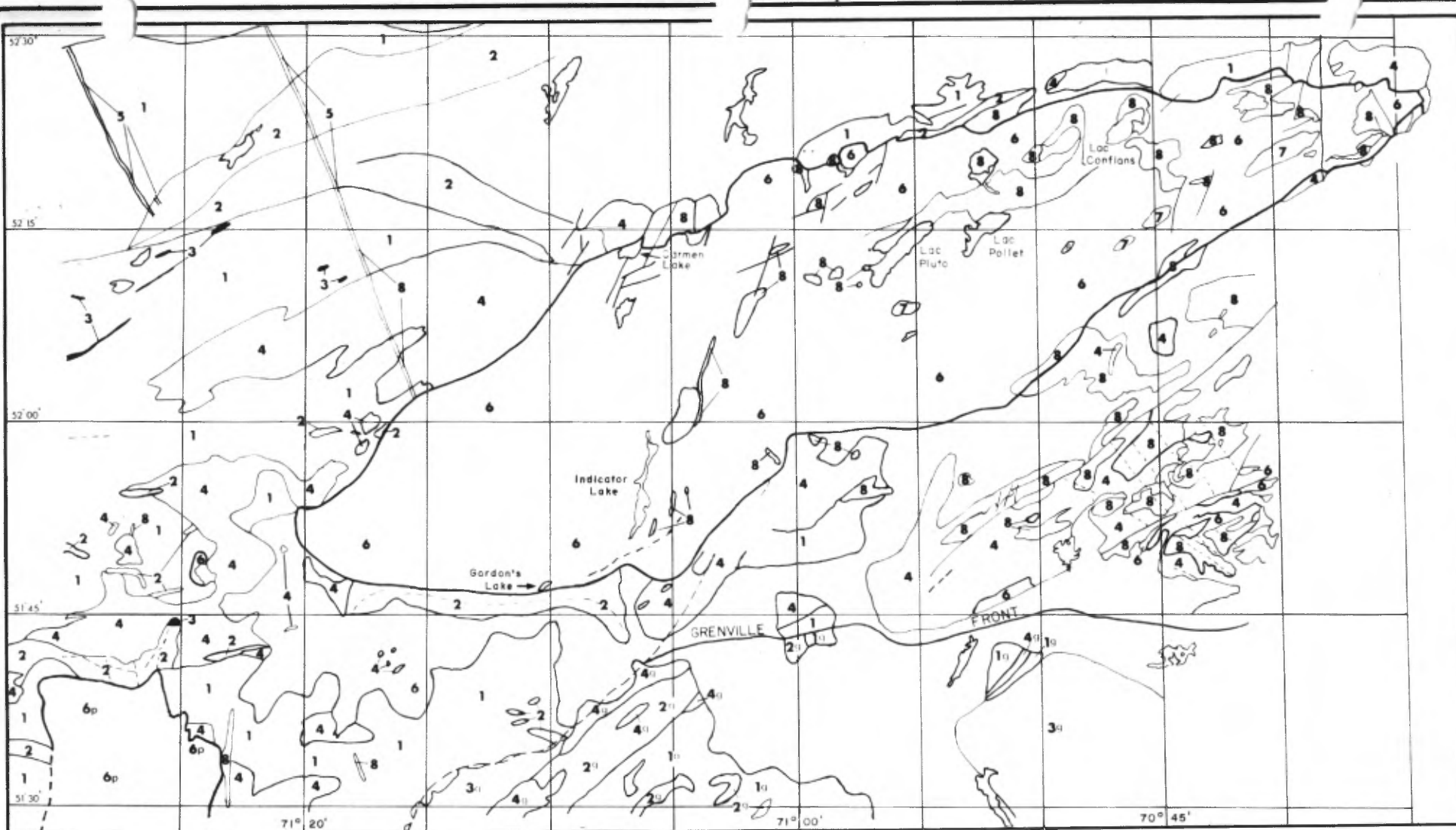
The gneiss and migmatite complex underlies most of the area. It is variable in appearance, ranging from a schistose, layered variety to a nearly massive-type. Compositionally, the quartz-biotite-feldspar gneiss predominates although cordierite and garnets are found within the unit as well. Alternating dark and light bands are a distinctive feature resulting from variations in mafic content (chiefly biotite).

Metavolcano-sedimentary sequences outcrop as narrow east-west trending belts and as small inclusions in granite-gneiss complexes. The unit is composed of metamorphosed intermediate to basic tuffs, flows and fragmented volcanic rock, interlayered with sandstones, conglomerates and cherty iron formation, as well as pelitic and graphitic schists. Narrow sulfide-rich horizons have been intersected within this unit as well.

The granitic complex, typically coarse grained, equigranular, with quartz, K-feldspar and minor mafics is predominant over a large part of the basement. This unit is intrusive into all the above rock-types, usually as concordant sills parallel to the gneissic foliation. Some of the granitic material appears to have been formed from the granitization of gneisses and migmatites.

NW-SE trending diabase dike swarms intrude all the above units.

The basement complex is unconformably overlain by fluvioterrestrial to marginal marine sediments of the Otish Group. The basal formation consists of a quartz pebble or polymictic conglomerate grading up to massive gritty arkoses. These, in turn, grade into well laminated and crossbedded quartzites and arkoses (Indicator Formation). Conformably overlying the terrestrial sediments, dolomitic arkoses and sandstones, dolomites, and argillaceous sandstones of marginal marine origin, predominate (Peribonca Formation). Partly uralitized and fresh olivine gabbro dikes and sills intrude both sedimentary and basement units (see Table 1/375).



QUATERNARY

GLACIAL DEPOSITS

PRECAMBRIAN

SUPERIOR PROVINCE

8 - OTISH MTS. GABBRO

OTISH GROUP

7 - PERIBONCA FM.

6 - INDICATOR FM.

UNCONFORMITY

5 - DIABASE DIKES

4 - GRANITE

3 - META-ULTRAMAFIC

2 - METAVOLCANIC-METASEDIMENTARY ROCKS

1 - GNEISS & MIGMATITE

MISTASSINI GROUP

6p - PAPASKWASATI FM.

GRENVILLE PROVINCE

4g - GRANITE

3g - ANORTHOSITE

2g - METAVOLCANICS

1g - GNEISS

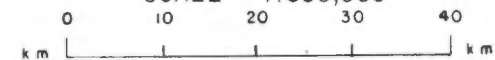
LEGEND

FAULTS

STRUCTURAL TREND (Foliation, Fold Axis)

D.D.H. DIAMOND DRILL HOLE

SCALE = 1:800,000



GENERAL GEOLOGY

TABLE - 1 - Table of Formations.

CENOZOIC			RECENT + PLEISTOCENE	<i>River, lake, swamp deposits Till, sand + gravel.</i>		
	UNCONFORMITY					
P R E C A M B R I A N	P R O T E R O Z O I C	U P P E R A P H E B I A N (?)	OTISH MTS GABBRO INTRUSIVE CONTACT	<i>Dykes and sills of olivine gabbro, partly uraltic</i>		
			OTISH GP	MISTASSINI GP		
				Temiscamie Fm. CONFORMABLE CONTACT	<i>Iron Fm; chert, shale.</i>	
			Peribanca Fm	Albanel Fm Cheno Fm CONFORMABLE CONTACT	<i>Arg. ss, dolomite, dolomite cemented arkose and sandstone</i>	
			Indicator Fm	Papaskwasati Fm	<i>Qtz- pebble cong grading up to massive gritty arkoses + well laminated + cross-bedded quartzites + arkoses</i>	
		UNCONFORMITY				
		A R C H E A N	?	?	Diabase dyke	<i>NW-SE trending swarm, intrusive into all units below.</i>
					Granitic complex	<i>Granite + granodiorite, pegmatite intrusive into older rock (usually as sills), some granitization.</i>
					Metavolcanics and Metasediments	<i>Intermediate to basic tuffs, flows, fragmented volcanics; ss, cong, cherty iron Fm, pelitic + graphitic schists, massive sulfides.</i>
					?	Migmatite, Gneiss Complex

File/Doss. No. 375

The Grenville orogeny (900 m.y.) folded the two basins into broad gently plunging synclines. Thrust faulting and tight folding of the sediments along the southeastern margin is evident in both basins. The Grenville event also induced some retrograde metamorphism in certain Archean units.

In the Otish area five fault and lineament trends have been recognized: (1) 070° to 090°, (2) 320° to 335°, (3) 025° to 030°, (4) 0° to 10° and (5) 050° to 060°. Subeconomic uranium mineralization which is tectonically controlled appears to be associated with the 070° to 090° system.

6. INVESTIGATIONS

The following table outlines the surveys undertaken in the Gordon's Lake West claim block:

Table 2 - Surveys Completed, 1980

Type of Investigation	Total	Performed By
Diamond Drilling - Camie River Area	1844.6 m (6052 ft.)	Bradley
Mapping - regional Gordon's Lake West block	20 km ²	U.E.M.
- detailed (on grid- Gordon's Lake)	4.5 km ²	U.E.M.
Geochemistry - soil survey	739 samples	U.E.M.
- He survey	99 samples	U.E.M.
- Track-Etch	231 samples	U.E.M.
Prospecting - detailed (on grid) @ 400 x 400 and 200 x 200 meter squares	5.0 km ²	U.E.M.
- regional (0.5 km ² /man-day)	2.0 km ²	U.E.M.
Surveying Claim Boundaries	20 man-days	U.E.M.
Drilling: portable drill	6 man-days	U.E.M.
Surficial Geology	6 man-days	U.E.M.
Linecutting	30/10 line km	Contract/U.E.M.
Surveying Drill Grid	10 man-days	U.E.M.
Ground Geophysics:		U.E.M.
(1) EM-16 (V.L.F.)	20 line km	
(2) Magnetometer	30 line km	
(3) V.E.M.	13.5 line km	
(4) H.E.M.	10.7 line km	
(5) I.P.	19.8 line km	

7.

RESULTS

7.1

DIAMOND DRILLING

Figure 4/389 outlines the general drill hole locations at Camie River. Map 390 (back folder), a more detailed location map, outlines the surveyed drill grid (50 m spacing), hole locations and directions as well as specific claim boundaries in the area.

Appendix 1 contains detailed geological logs of the drill holes.

The following table summarizes the drill hole locations, depths, drilling angles and drilling dates:

TABLE 3 : DIAMOND DRILL SUMMARY

D.D.H. No.	Location	Started/ Completed	Dip/ Azim.	Elev. (m)	Total Depth (m)	Claim No.
OM-1	50+30E 15+50N	01/07/80 03/07/80	-90° 0°	4.37	346.6 (1137')	381094-5
					UEM 69.2 (227')	
OM-2	54+05E 13+61N	06/07/80 09/07/80	-90° 0°	0	106.1 (348')	381096-4
OM-3	53+55E 13+23N	11/07/80 13/07/80	-90° 0°	6.11	108.5 (356')	381096-5
OM-4	54+52E 13+42N	15/07/80 20/07/80	-72° 345°	-1.4	183.2 (601)	381096-5
OM-5	54+55E 14+06N	01/08/80 04/08/80	-90° 0°	-2.12	112.5 (369')	381096-5
OM-6	54+55E 14+06N	05/08/80 09/08/80	-77° 165°	-2.12	107.0 (351')	381096-5
OM-7	56+00E 13+47N	10/08/80 12/08/80	-90° 0°	-1.2	126.5 (415')	374059-5
OM-8	56+00E 13+57N	13/08/80 15/08/80	-90° 0°	-1.85	128.6 (422')	374059-5
OM-9	56+00E 13+47N	16/08/80 19/08/80	-83° 160°	-1.2	142.3 (467')	374059-5
OM-10	56+00E 13+47N	19/08/80 21/08/80	-78° 160°	-1.2	135.3 (444')	374059-5
OM-11	56+00E 13+47N	21/08/80 23/08/80	-73° 160°	-1.2	136.2 (447')	374059-5
OM-12	53+00E 14+65N	25/08/80 30/08/80	-75° 165°	-4.65	227.7 (747')	381096-5
OM-13	53+00E 15+05N	30/08/80 05/09/80	-75° 165°	-7.68	261.5 (858')	381096-5

OM-1 (Noranda hole) was deepened from 277.4 to 346.6 m. The unconformity was reached at 317.1 m. Sediments were conglomeratic, partly silicified, the basement consisted of andesitic metavolcanics.

OM-2 intersected the unconformity at 54.7 m. Sediments were conglomeratic, partly silicified. The contact was relatively fresh. Within the basement, close to the contact, a few graphitic horizons were intersected. Beneath this zone a few meters of altered volcanics (propylitization) grading into fresh andesitic volcanics were encountered.

OM-3 intersected the unconformity at 43.9 m. Sediments were again conglomeratic. At the contact, the basement (metavolcanics) was altered (sericitization and kaolinization?).

OM-4 was drilled to intersect the H.E.M. conductor within the E-W fault zone (Fig. 4/389) at a depth of 150 m. As the dip of the conductor was subparallel to the inclination of the hole, it was intersected for a considerable length: from the unconformity at 95.4 m to 124 m, consisting of massive pyrite in a cherty matrix and graphite schists. In the vicinity of the unconformity a high degree of tectonization (repetitive sequence of Otish sediments [conglomerates] and basement material [volcanics and cherts]) can be observed. The lower part of the conglomerate contains a high percentage of pyrite (up to 80%) in the matrix. The most striking feature is a high degree of chloritization of sediments as well as of basement material in the vicinity of the unconformity. Also observed, within a chloritized zone, was fairly massive siderite. Approximately 25 m of sediments above the unconformity have undergone alteration resulting in a grayish colouration. In addition, the metavolcanics within and below the conductive zone are altered (propylitization?)

OM-5 was located on the northern side of the conductor. It intersected the unconformity at 96.7 m. The conglomerates were again partly silicified and, at the unconformity, kaolinization of the meta-volcanics was observed.

OM-6 was aimed to intersect the unconformity half-way between OM-4 and OM-5. This hole was very similar to OM-5, but did intersect part of the conductor found in OM-4 and encountered 5 cm of chloritized sediments just above the unconformity (88.9 m).

OM-7 was located 10 m south of the V.E.M. axis, east of Camie River. It intersected the unconformity at 119.8 m. The actual contact is a 1 m repetitive zone of basement material and Otish sediments with chloritization and pyrite in fractures (fault). No conductive material was intersected within the basement. Alteration of the conglomerate included silicification and limonitization. The basement was again kaolinized (?) at the unconformity.

OM-8 was located right on the measured axis of the conductor (V.E.M.). It is similar to Hole OM-7 except that chloritization and pyrite along fractures were not observed here.

OM-9 was drilled to intersect the H.E.M. conductor at the unconformity or at greater depth. Between 40 m and 60 m, the hole intersected a fractured (fault) zone of gray alteration within the sediments characterized by dark gray to black aphanitic material as coatings and impregnations along fractures. The unconformity was intersected at 120.4 m with chloritized and pyritized sediments overlying the basement, which was again kaolinized (?) near the unconformity. The conductor, first intersected at 127 m, consisted of massive pyrite (4 m) and graphite schists within cherty sequences.

OM-10 was drilled to intersect the massive sulfide conductor at the unconformity (ca. 10 m south of the previous intersection of the unconformity). This hole went through a similar fractured, in parts even mylonitic (fault) zone of gray alteration, but at greater depth than in OM-9 (65 to 95 m).

From 95 m to the unconformity (119.2 m) the sediments are unaltered except for primary silicification and some limonitization. At the unconformity the massive sulfide conductor was intersected. The rest of the hole went through an alternating sequence of metavolcanics, graphite schists and cherts.

OM-11 was drilled to penetrate the projected intersection of the fractured and mylonitized gray zone as encountered within the sediments (holes OM-9 and OM-10) with the unconformity as well as the intersection of the graphitic sequence of the basement with the unconformity. The fractured to mylonitized gray (fault) zone was encountered from 85 m down to the unconformity (121 m). Core recovery in this intensely tectonized interval was about 70%. Because of the high degree of alteration, it was difficult to distinguish between primary and secondary features, particularly silicification. Aggressive solutions percolated through this zone: much open space (vugs) was produced by leaching of feldspar and other original components of the sediments. Chloritization is recognizable, but is by far not as strong as in OM-4. Siderite may be present. Close to the unconformity the conglomerate was again pyritized.

OM-12 was to intersect the conductor below the unconformity at approximately 130 m. However, the unconformity was intersected at 154.7 m. Some faulting was observed above the unconformity, although the conductor was not encountered in this hole.

OM-13 ($75^{\circ}/165^{\circ}$, total depth: 261.5 m) was to test the possibilities that either the conductor was overshoot with OM-12 or faulted off. The unconformity was met at 194.4 m (40 m deeper than in OM-12). The conductor was encountered at 243 m (6 m of massive sulfides). Grey to white, well banded, cherty sequences were intersected within the sulfide rich portion of the hole, often parallel to the core axis. This feature, along with the extensively thick sulfide zone (which has not been completely delineated) has been interpreted as a change in the dip of the beds (from N to S). These features may also be explained by dragging of the sediments along a fault zone.

7.2 GEOPHYSICAL SURVEYS

Results of both the winter and summer geophysical programs are summarized in the compilation map 553. More detailed geophysical maps can be found in Appendix 2 and Appendix 3.

7.2.1 Winter Program (Appendix 2 for details)

A VEM survey was carried out with a McPhar SS15 unit using a frequency of 1.0 kHz taking readings of the tilt angle of the elliptical polarized magnetic field at a 50 m station interval.

A good conductor trending N73^oE was outlined approximately 200 m north of tie line 1000 N. West of line 68E, the conductor is deep, as indicated by relatively small tilt angles, and probably overlain by quartzite. Keeping in mind that VEM data in general is not well adapted for depth calculations, the depth to the top of the conductor ranges between 150 m and 250 m. East of line 66E tilt angles as high as 45^o were observed indicating a close-to-surface, almost vertical dike-like conductor of high conductivity located in andesitic basement rocks. Between lines 68E and 70E, the dike seems to dip to the south. A major fault zone with vertical displacements of 200-300 m probably is located between lines 66E and 68E.

The conductor is part of a minimum 10-kilometer long zone of high conductivity, the eastern part of which was followed up by INCO Ltd. applying ground geophysics and geology. The magnetometer survey was carried out between March 10th and March 25th, 1980, measuring the earth's total magnetic field with a proton free precession magnetometer (Scintrex MP-2) at a 25 m station interval. Besides corrections for diurnal variations, no other corrections were done.

The magnetometer profiles were plotted separately and an interpretation of the data is shown on Map 553. In the area of investigation, the earth's field local mean value is about 58,800 γ . A zone of increased magnetic response was outlined approximately 200 m north of Tie Line 10 + 00N stretching N73^oE.

The broad magnetic anomaly of 200 γ -300 γ west of line 66E is probably caused by a deep dike-like structure dipping to the south. The dike has a susceptibility of approximately 20,000 emu (equivalent 5% magnetite) and its depth to the top is about 350 m.

East of line 68E a very distinct magnetic anomaly of 6000 γ -12,000 γ was observed. The anomaly is probably caused by two close-to-surface, almost vertical dikes of high susceptibility (20,000 emu - 40,000 emu) located in andesitic basement rocks. The magnetic anomaly is correlated with a conductivity anomaly. As indicated by both the VEM and the magnetic data, a major fault zone with vertical displacements of 200-300 m seems to be located between lines 66E and 68E.

7.2.2 Summer Program (Appendix 3 for details)

Three geophysical surveys, namely horizontal loop electromagnetics (HEM), induced polarisation (I.P.) and very low frequency electromagnetics (VLF), were conducted on the Gordon's Lake east grid. A compilation of the survey results is shown on Map 553.

Detailed VEM and Mag. were performed across the Camie River drill grid. The Mag. response essentially confirmed the deep E-W trending magnetic body. VEM indicated a continuous NE trending conductor across the Camie River grid. However, later surveys (drilling, VLF, HEM) indicated that this feature was due to the survey parameters rather than to a true conductor at depth, which was displaced (in a left-handed manner) near L52E, as previously mentioned.

The location of the unconformity is based on I.P. chargeability data and on the results of geological mapping. The unconformity in general is trending ENE but occasionally it is displaced by NNE and SE trending faults. East of Camie River, between lines 58E and 68E and south of 7 + 00N, the location of the unconformity is undefined because a semi-consolidated sulfide-rich sand deposit covers the area. North of the unconformity both an EM-conductor (conductivity-thickness product between $4 \Omega^{-1}$ and infinite) and a magnetic anomaly were located in a broad zone of low resistivity (I.P. data). The resistivity low is caused by a major fault zone as was confirmed by the 1980 drilling performed in the Camie River area. It is most likely that, where the fault is correlated with the unconformity, vertical displacements of the basement of more than one hundred meters have occurred.

The magnetic anomaly is interpreted as being³ caused by a dike-shaped body having a susceptibility between 20×10^3 and 40×10^3 emu at a depth that varies between 150 m and 350 m. However, the depth to the top of the conductor which seems to be related to the magnetic dike is much less, ranging between 35 m and 120 m.

East of the river, between lines 56E and 66E, both the conductor and the magnetic dike are located deep beneath the sedimentary cover whereas, east of line 66E, both targets are found close to the surface in andesitic volcanics and cherty Iron Fm. From this, it seems most likely that a fault zone with vertical displacements of at least 100 m runs between lines 66E and 68E. The fact that, east of line 68E, the conductor is strongly magnetic (susceptibility 20,000 emu, pyrrhotite?) and that, at Camie River, the conductor consists of graphite and pyrite but is also correlated with a magnetic anomaly from a source at greater depth, led us to believe that the EM and magnetic anomalies are caused by the same geological unit which, with depth, gradually changes from pyrite to pyrrhotite (facies change). East of line 68E however, where no sedimentary cover protects the basement, the pyrite-graphite sequence has been eroded.

7.3 GEOCHEMICAL SURVEYS

7.3.1 Winter Program

In March 1980, the area of investigation was covered by an approximate 1.5 m thick layer of snow. The soil was frozen about 5 cm deep. To prepare a station for taking soil samples for uranium and helium analysis, the snow was removed and the frozen top-layer was loosened up with a steel bar. Samples usually were taken from the organic and clay-rich A-horizon. The Track-Etch (radon) cups were inserted into approximately 25 cm deep holes in the ground and later covered with snow-filled garbage bags. The cups remained in the ground for three weeks.

Each soil sample for helium analysis was hermetically preserved by sealing it in an aluminum sample container. Chemical Projects Ltd., (Toronto) performed the analysis for helium and Bondar-Clegg & Co. Ltd., (Ottawa) for uranium. The radon flux was analyzed by Terradex Corporation (California).

The samples were taken on a grid at 25 m station interval or along a river at a 50 m station interval. The party's sampling efficiency (taking soil samples for uranium and helium analysis or inserting Track Etch cups and taking soil samples for uranium analysis respectively, was about 9 stations per man per day.

To evaluate the data statistically, first the mean of the area's whole population was computed. The regional background was considered to be the mean of the background population which consisted of all the samples that had helium, uranium or radon concentrations equal or less than the mean plus one standard deviation of the whole population. Those samples that had concentrations exceeding the background mean by more than four standard deviations of the background population were considered to be first order anomalies (3 standard deviations = 2nd order, 2 standard deviation = 3rd order, 1 standard deviation = 4th order).

In the Gordon's Lake area the anomalous levels are as follows:

	He in Soil	U in Soil	Rn in soil-gas
	Nl He/l Soil	ppm	Tracks/mm ²
Background mean	378	0.9	12
Standard deviation	148	1.6	6.8
1st Order anomaly	≥970	≥7.3	≥39.2
2nd Order anomaly	822-969	5.7-7.2	32.4-39.1
3rd Order anomaly	674-821	4.1-5.6	25.6-32.3
4th Order anomaly	526-673	2.5-4.0	18.6-25.5

The results of the uranium and helium in soil survey are presented on Map 339; Map 338 shows the radon and uranium data in the area west of the Camie River. (See Appendix 4 for data sheets)

In the region west of the Camie River, the background values of ²²²Rn both the radon and the uranium data are rather low (12 Tracks/mm²; 0.9 ppm). All of the radon and uranium anomalies seem to be related to uranium occurrences in the overburden like mineralized boulders etc. For instance the cluster of anomalies on line 40E is correlated with a train of mineralized quartzite boulders. Of some interest may be the group of radon anomalies on line 54E. They are located in an area in which a NNW trending fault intersects a deep conductor.

Along the Camie River, the helium background value is rather high (378 nl He/l soil), probably caused by the helium flux through a deep fault system. Of particular interest is the group of helium and uranium anomalies located at 55E, 14N in the vicinity of a deep conductor. Another cluster of uranium and helium anomalies, the origin of which is also unknown so far, is located on the baseline at 58E. The highest uranium values (up to 15.3 ppm) were detected in lake bottom sediments from the square-shaped lake on line 48E. The anomaly may be caused by a deep ore body, but more likely seems to be due to a river feeding the lake after intersecting a train of mineralized quartzite boulders. For details covering both surveys, see the consultants reports in Appendix 4.

7.3.2

Summer Program

A soil survey across the unconformity, on the Gordon's Lake grid, (L56E-L80E) was undertaken and samples were analyzed for U, Cu, Co, and Ni in order to outline further uranium and certain base metal anomalies as well as attempt a correlation between the two.

The following table outlines the background and anomalous values with the survey area for each of the elements:

Element	Background (ppm)	Anomalous (ppm)			
		4th order	3rd order	2nd order	1st order
U	0.8	0.9-2.8	2.9-4.8	4.9-6.8	>6.8
Cu	3.7	3.8-12.4	12.5-21.1	21.2-29.8	>29.8
Co	0.4	0.5-1.7	1.8-3.0	3.1-4.3	>4.3
Ni	10.4	10.5-34.1	34.2-57.8	57.9-81.5	>81.5

The results were generally inconclusive - assay values were on the average low (U/3 ppm, Cu/4 ppm, Co/0.4 ppm and Ni/10 ppm) and no particularly interesting trends or correlations were observed (see Map 557)

Appendix 5 contains the data sheets and lab analyses for the survey.

7.4

GEOLOGICAL MAPPING

A geological and structural interpretation of the Gordon's Lake area between Camie River and Témiscamie River can be found on Fig.5/410. In addition, a detailed geological map of the entire Gordon's Lake grid area is illustrated on Map 552 . These maps are based on ground traverses and photo-interpretation.

The three main rock-types encountered in the area are:

- (i) Otish Mts. Gabbro
- (ii) Indicator Fm. sediments
- (iii) Basement metavolcanics, metasediments and associated intrusive granite.

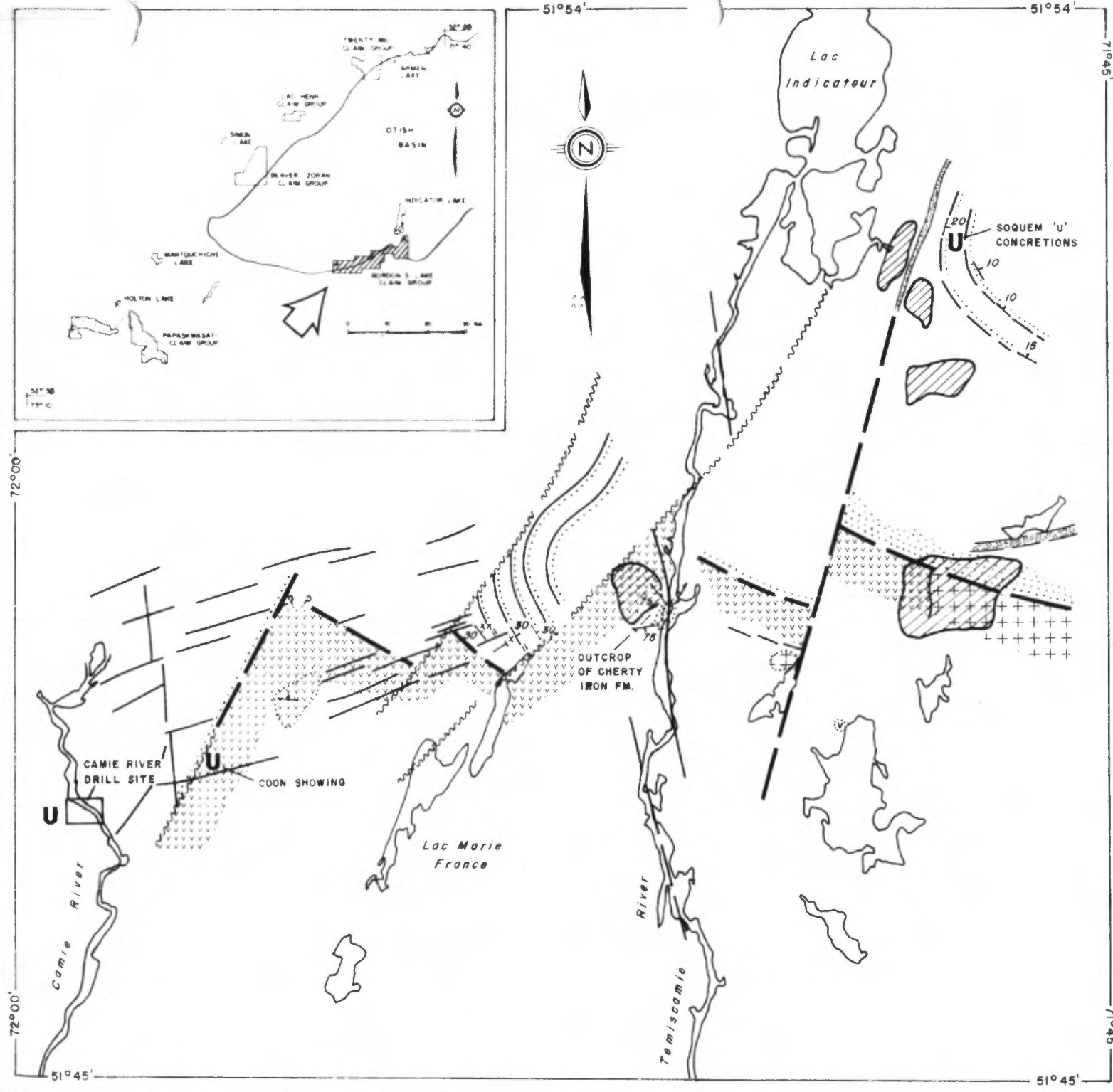
Fresh and partly uralitic gabbro dikes intrude both basement and sedimentary rock, usually along faults. The gabbro is massive and equigranular with trace amounts of pyrite. It ranges in color from black to green, depending on the degree of alteration. The main gabbro dike occurs along a 020° fault zone, southeast of Indicator Lake, outcropping as a prominent ridge for several hundred meters (Fig. 5/374). Other smaller outcrops were found near the unconformity, east of the Témiscamie River.

The principal outcrop areas of Indicator Fr. sediments are at Gordon's Lake, west of the Témiscamie River (near Lac Marie-France) and southeast of Indicator Lake. Peribonca Fm., sediments might subcrop within the Indicator Fm. graben structure although extensive glacial outwash in the area effectively masks any possible indications.

Near the unconformity, a distinctive polymictic conglomerate outcrops, containing mainly quartz pebble clasts and, to a lesser degree, feldspar, chert and volcanic clasts. These clasts are set in a coarse-grained wacke-like matrix with a distinctive apple-green alteration - possibly chromite mica (fuchsite). Massive coarse-grained (in places, conglomeratic) arkoses to subarkoses commonly overly the altered basal conglomerate. These grade up into well laminated and crossbedded (occasionally massive, as well) subarkoses, quartz arenites and well cemented quartz pebble conglomerates.

The general strike of the bedding is E-W with shallow dips to the north. However, near the major faults (trending 020° : Gordon's Lake, south Indicator Lake) bedding is dragged and parallels the strike of the faults.

The main rock-types in the basement are acid to basic metatuffs with interbedded basic flows and magnetite-pyrite-pyrrhotite rich cherty Iron Formation. Foliation trends within these units are generally EW to WNW. Moving east towards the Témiscamie River, the metavolcanic belt begins to veer southward, and the metamorphic grade of this unit steadily increases, as evidenced by the intermediate to basic gneisses, some containing garnet porphyroblasts. These effects have been produced by either the Grenville Orogeny or granitic intrusions that outcrop east of the Témiscamie River. Thorium-rich granitic gneisses, possibly calcareous metasediments (?), outcrop in a few localities east of the Témiscamie River, as well.



51° 50'
72° 10'

51°54'

51°54'










71°45'

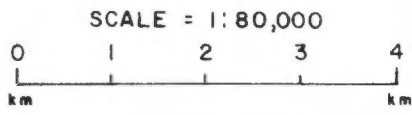
72°00'

72°00'

51°45'

51°45'

-  Gabbro Dyke
-  Indicator Formation
- UNCONFORMITY —
-  Granite, Granite Gneisses
-  Metavolcanics, Mafic Gneisses, Cherty Iron Fm.
-  Bedding Trend
-  Strike & Dip - Bedding
-  Strike & Dip - Foliation
-  Airphoto Lineaments
- GEOCHEM. SURVEY**
-  Anomalous Zones
- U** Uranium Occurrence



PROJECT 71-85,
Gordon's Lake East Area
OUTLINE OF RESULTS
YEARLY REPORT 1980

Fig.-5

The three main structural trends (Map 336) are:

Set I	015°-045°
Set II	060°-070°
Set III	345°-350°

The oldest set (II) contains the mineralization at surface - Gordon's Lake fracture and Coon Showing. Set I appears to have affected the Otish sediments as mentioned above and set III is manifested principally along the Camie and Témiscamie River.

7.4.1 Surficial Mapping - Monday Boulder Train

The Monday Boulder Train within the Gordon's Lake grid (Map 553) was examined briefly during the summer by a glacial geologist. A report and accompanying maps on the findings are located in Appendix 6.

Briefly, the Monday Boulder Train occurs within washed ablation till and is generally less than 50 m wide. The sources are estimated to be between 500 m and 1000 m up ice direction (024°), subcropping along a northeast trending scarp where the mineralization is exposed for between 20 m to 30 m perpendicular to the ice direction.

7.5 PROSPECTING SURVEY

A limited prospecting survey on the Gordon's Lake east grid (L56E - L80E) outlined the main zone of mineralization for the Coon Showing as well as a few additional mineralized metavolcanic boulders to the west (L68E and L70E, 14 25N). Secondary U mineralization is strictly confined to mm thick fractures within the host rock. Highly variable U/Th ratios were found (avg. 10/1) - one sample assayed over 1.6% ThO₂ (231 ppm U₃O₈). Albite alteration appears to be associated with the mineralization.

Map 553 outlines the Coon showing as well as the additional mineralized metavolcanic boulders. Map 552 shows the location of samples analysed and their respective U₃O₈ and ThO₂ values (Appendix 7 for rock description and analyses).

7.6 CORE SAMPLING - PORTABLE DRILL

A portable core sampling drill was used to sample the massive sulfides within the cherty Iron Fm. at some depth (Map 552 - between L70E and L72E, 12 00N). No anomalous concentrations of any base metals were found - the principal minerals being pyrite, magnetite and pyrrhotite. (see Appendix 7 for rock descriptions and analyses).

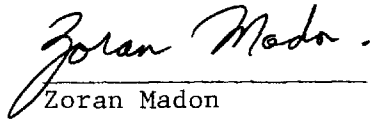
8. CONCLUSIONS

The discovery of uranium mineralization in the Camie River area was the most significant development of the 1930 field program which culminated, in effect, a series of geophysical, geochemical and geological surveys that helped outline potential targets. Two drill holes, 70 m apart intersected an average of 0.52% U₃O₈ over

7.5 meters and 0.43% U_3O_8 over 4 meters.

Within the 1980 drill season, the conductor was outlined for a length of 220 m consisting of sulfides and graphite. The sulfides are principally pyrite with some pyrrhotite.

The significance of the Otish Basin as a uraniferous province was greatly enhanced as a result of this discovery. The mineralization encountered and its petrographic association have increased the potential of the Gordon's Lake area.


Zoran Madon

APPENDIX 1

GEOLOGICAL CORE LOGS

Ministère de l'Énergie et des Ressources

Gouvernement du Québec

Documentation Technique

24 NOV. 1981

DATE:

No. G.M.:

37604

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM-1

PROPERTY: GORDON'S LAKE

CLAIM No: 381094-5
81.9 METERS FROM POST 4
AT 139°

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 50+33E
NORTH 15+50N
ELEVATION 4.87 m (10m-2)

EAST _____
NORTH _____

ACID TEST

FOOTAGE

INCLINATION

DIP -90°
AZIMUTH 0°

DRILLING CONTRACTOR BRADLEY
RIG No: 1
CASING SIZE AW
BIT SIZE _____
CORE SIZE AQ

LENGTH 1137' (344.5M)
227' (68.8M) UEM
COMMENCED 1/07/80
COMPLETED 3/07/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) NO

CORE STORED IN RIVIERE CAMIE

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS MODEL 1/45337
PROBE S.N 248
OPERATOR C. HÉBRARD, Y. GAZIÉPY
DATE 3/07/80

CORE LOGGED

BY C. HÉBRARD
DATE 3/07/80

CHEMICAL ASSAYS

LAB _____
DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈
(ppm)

NO.

FROM
(FT.)

TO
(FT.)

FROM

TO

GEOLOGICAL DESCRIPTION

0' 910'

NORANDA HOLE EB-3

910' 953'08"

MEDIUM TO COARSE GRAINED SANDSTONE INTERLAYERED WITH FEW CONGLOMERATE BEDS.

LIGHT GREEN TO GREY

THE ROCK IS ESSENTIALLY COMPOSED OF QUARTZ (ARENITE)

PALE GREEN CHLORITIZATION MAY SOMETIMES OCCUR IN JOINTS

919' - 919'04"

921'06" - 922'06"

924' - 925'

928' - 928'03"

936' - 938'06"

942' - 943'00"

949'06" - 949'10"

950' - 953'

CONGLOMERATE

CLASTS ϕ ~ .5 - 2.5 CM

SUB ROUNDED - QUARTZ CLASTS

945'06" - 948'

FINE GRAINED (RED) OXIDIZED MATRIX? (KAOLIN?)

CHLORITIZATION IN JOINT

953'08" 1037'06"

BASAL CONGLOMERATE

LIGHT TO DARK GREEN

953'08" - 987' LIGHT GREEN

987' - 1037'06" DARK GREEN (INTENSLY CHLORITIZED MATRIX)

953'08" - 1005" THE PEBBLES ARE CONTAINED IN A VERY FINE

GRAINED FELDSPHATIC MATRIX OFTEN WEATHERED (KAOLINIZED)

FOOTAGE		CORE LOG	CHEMICAL ASSAY			
FROM	TO		GEOLOGICAL DESCRIPTION	SAMPLE		U ₃ O ₈ (ppm)
		NO.		FROM (FT.)	TO (FT.)	
		953'08" - 1026'	BASAL CONGLOMERATE (ARKOSIC?) CLASTS $\phi \sim .5 - 9$ CM SUB ROUNDED TO SUB ANGULAR, DOMINANTLY QUARTZ CLASTS WITH FEW AND OFTEN ALTERED FELDSPAR CLASTS 965' - 972' COARSE GRAINED SANDSTONE			
		1026' - 1037'06"	DARK GREEN POLYMIC TIC CONGLOMERATIC SANDSTONE CLASTS $\phi \sim .5 - 2$ CM SUB ROUNDED TO SUB ANGULAR QUARTZ, SILT? VOLCANIC? CLASTS.			
1037'06"	1040'06"		MEDIUM GRAINED AND EQUIGRANULAR SANDSTONE GRAINS ARE ESSENTIALLY OF GREY TO BLACK TO CLEAR QUARTZ (90%) WITH MAFIC GRAINS (10%) WEATHERED AND OXIDIZED PYRITE ALSO OCCUR			
1040'06"	1137'		BASEMENT VOLCANIC OF MAFIC TO ACIDIC COMPOSITION? 1040'06" - 1043' ALTERED AND CHLORITIZED MINOR PYRITE 1043' - 1059'06" VOLCANIC CONGLOMERATE? (AGGLOMERATE?) MAFIC COMPOSITION? CLASTS $\phi \sim 2 - 7$ CM SUB ROUNDED MAFIC AND QUARTZ CLASTS MAFIC CLASTS MAY SHOW ALTERATION AUREOLE.			

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-35

HOLE No: OM-2

PROPERTY: GORAN'S LAKE

CLAIM No: 381096-4
274 m FROM POST 3
AT 22°

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 54+00E
NORTH 13+60N
ELEVATION 0

EAST 54+05E
NORTH 13+61N

ACID TEST
FOOTAGE
INCLINATION

DIP -90°
AZIMUTH 0°

DRILLING CONTRACTOR BRANSLEY

LENGTH 346' (104.2m)

RIG No: 1

CASING SIZE DW

COMMENCED 6/09/80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 9/17/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) NO

DOWN HOLE LOGGING

CORE STORED IN RIVER CAMIE

INSTRUMENT MT SOPRIS MON I 45337

PROBE S.N. 308

OPERATOR Y. GABIEPY . C. HERBARD

DATE 0/7/80

CORE LOGGED

BY C. HERBARD

DATE _____

CHEMICAL ASSAYS

LAB _____

DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

NO.

FROM (FT.)

TO (FT.)

(ppm)

FROM

TO

GEOLOGICAL DESCRIPTION

0 13' 10"

OVERBURDEN

13' 10" 126' 10"

MEDIUM TO COARSE GRAINED LIGHT GREEN TO BROWN CONGLOMERATIC SANDSTONE (ARKOSE) SOME CONGLOMERATE BEDS THE FELDSPATH MATRIX IS ALTERED: CHLORITIZATION (KAOLINIZATION)? INTENSE CHLORITIZATION AT SOME JOINTS.

42' 3" - 51' 6"

54' 8" - 59' 6"

78' - 78' 3"

70' - 77' 2"

87' - 87' 09"

89' 3" - 91' 3"

117' - 118' 4"

120' 9" - 125'

LIGHT GREEN CHLORITIZED ARKOSIC MATRIX

LIGHT RED TO BROWN ARKOSIC CHLORITIZED MATRIX

CONGLOMERATE CLAST QTZ $\phi = 1-5\text{cm}$ SUBANGULAR TO ROUNDED

JOINTS 29' 9": 20° to C.A.

39' 16° to C.A.

77.3: 15° to C.A.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM TO

GEOLOGICAL DESCRIPTION

SAMPLE NO. FROM (FT.) TO (FT.) U₃O₈ (ppm)

179'5" 348'

BASEMENT : DARK GREEN VOLCANIC OF MAFIC COMPOSITION
FOLIATIONS WELL DEVELOPED
CHLORITIZATION IN JOINTS

JOINTS : 47' - 56" TO CORE END
163' - 64" 5' C.A.
172' - 56" TO C.A.

184' 4" - 186' 06" }
188' 08" - 189' 06" } GRAPHITIC VEINS, STRONGLY CHLORITIZED
195' 1" - 195' 7" }

207' - 224' }
232' - 252' } LIGHT GREEN VOLCANIC, MORE ACID
COMPOSITION?
SOFT, VERY CHLORITIZED.
PYRITE

206' - 327' MICROCRISTALLINE PYRITE IN FOLIATION
OR FRACTURE OF THE ROCK

327' - 348' PYRITE DECREASE STRONGLY

333' - 333' 1" }
303' - 306' }
248' - 252' }
208' 03" - 208' 07" } QTZ VEINS CUTTING THE VOLCANIC

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

SAMPLE

U₃O₈
(ppm)

NO.

FROM
(FT.)

TO
(FT.)

FOLIATIONS 181° - 37° TO C.A.
 217 - 25° TO C.A.
 339° - 20° TO C.A.
 340° - 24° TO C.A.

JOINTS 238' - 72° TO C.A.
 254' - 69° TO C.A.
 296' - 52° TO C.A.
 301' - 67° TO C.A.
 328' - 58° TO C.A.
 348' - 55° TO C.A.

CRUSHED CORE

184'4" - 186'06"
 188'8" - 189'6"
 193'6" - 194'6"
 195'1" - 195'7"
 203'6" - 205'
 213' - 215'
 220' - 222'
 225' - 225'03"

229'03" - 230'
 243'6" - 244'
 273' - 273'4"
 293' - 293'4"
 306'3" - 307'
 319'6" - 321'5"
 336'10" - 337'5"

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM-3

PROPERTY: GORDON'S LAKE

CLAIM No: 321096-5

212.5 METERS FROM POST 3
AT 17°

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 53+52E

EAST 53+55E

NORTH 2+10N

NORTH 13+23N

ELEVATION 6.11 m (10m-2)

ACID TEST

FOOTAGE

INCLINATION

DIP -90°

AZIMUTH 0°

DRILLING CONTRACTOR BRADLEY

LENGTH 356' (108.5m)

RIG No: 1

CASING SIZE BW

BIT SIZE _____

CORE SIZE BQ

COMMENCED 11/7/80

COMPLETED 13/7/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) _____

CORE STORED IN CAMIE RIVER

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS MOD I/45337

PROBE S.N. 248

OPERATOR C. HERRARD

DATE 13/7/80

CORE LOGGED

BY C. HERRARD

DATE 15/7/80

CHEMICAL ASSAYS

LAB BONDAR CLEGG

DATE _____

FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
0'	34'	OVERBURDEN
34'	53' 8"	<p>INTER LAYERING OF CONGLOMERATE AND CONGLOMERATIC SANDSTONE</p> <p>ARKOSIC COMPOSITION, VERY ALTERED</p> <p>CONGLOMERATE: BROWN TO RED CONGLOMERATE OXYDATION? IN MATRIX (HEMATTITE?)</p> <p>QZ CLASTS $\phi = .5$ TO 6 cm</p> <p>SUB ANGULAR TO SUB ROUNDED</p> <p>IRON STAIN IN SOME PLACE</p>
		<p>34' - 35' 06" } LIGHT GREEN CONGLOMERATIC SANDSTONE</p> <p>36' 09" - 40' 2" } MEDIUM TO COARSE GRAINED</p> <p>46' 6" - 48' } CHLORITISED (STRONGLY IN SOME FOLIATION)</p> <p>QZ CLASTS ϕ 1-3 cm</p> <p>SUB ROUNDED TO ROUNDED.</p>
53' 8"	143' 8"	<p>BASAL CONGLOMERATE</p> <p>LIGHT GREEN TO DARK GREEN</p> <p>INTENSE CHLORITIZATION</p> <p>QZ CLASTS ϕ .3 - 6 cm</p> <p>ANGULAR TO SUB ROUNDED</p>
		<p>59' 8" - 61' 6" } OXIDIZED MATRIX</p> <p>66' 10" - 68' 2" } IRON STAIN AT SOME PLACE</p> <p>70' 4" - 71' 8"</p> <p>74' - 76' 6"</p> <p>79' - 79' 6"</p>

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM	TO	GEOLOGICAL DESCRIPTION				
			NO.	FROM (FT.)	TO (FT.)	U ₃ O ₈ (ppm)
		JOINTS 68' : 34° TO C.A. 91' : 45° TO C.A. 120' : 25° TO C.A. 143' : 34° TO C.A. CRUSHED CORE : 72'2" - 72'8" 77' - 78" THE CORE CHECKED WITH A SCINT. (SPP2-MF) SHOWS 2 HIGHS : - 160 CPS AT 77' - 200 CPS AT 103'				
143'8"	356'	BASEMENT : LIGHT GREEN TO DARK GREEN VOLCANIC SOME QTZ VEINS CUTTING THE CORE PYRITE AND CHLORITIZATION GOOD FOLIATIONS 143'8" - 150' LIGHT GREEN VOLCANIC ACID COMPOSITION? VERY ALTERED KAOLINIZATION? CHLORITIZATION 150' - 164' INTERLAYERING OF RED AND LIGHT GREEN VOLCANIC (PYROCLASTIC TUFF) VERY ALTERED SMALL AMOUNT OF PYRITE.				

HOLE No.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

NO.

FROM (FT.)

TO (FT.)

(ppm)

FROM

TO

GEOLOGICAL DESCRIPTION

164' - 356' VOLCANIC OF MAFIC COMPOSITION
 164 - 323'06" MICROCRISTALLINE PYRITE IN JOINTS AND FRACTURES
 165' calcopyrite & pyrrhotite
 323'06" - 356' THE PYRITE DECREASE

186' - 187' LARGE QTZ VEIN

339' - 339'04" RED ALTERATION IN THE VOLCANIC

THE CORE CHECKED WITH A SCINT. SHOWS A GENERAL BACKGROUND OF 50 TO 100 CPS WITH A "HIGH" OF 110 - 120 CPS AT: 341' TO 346'

FOLIATIONS:

- 154' : 38° TO C.A.
- 210' : 20° TO C.A.
- 226'06" : 10° TO C.A.
- 262' : 10° TO C.A.
- 296' : 16° TO C.A.
- 326'06" : 17° TO C.A.
- 348' : 18° TO C.A.

HOLE No.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

(ppm)

NO.

FROM (FT.)

TO (FT.)

FROM

TO

GEOLOGICAL DESCRIPTION

CRUSHED CORE :

144' - 145'

157' - 161'

163' - 164'

166' - 167'8"

172' - 174'

174'9" - 175'6"

181'6" - 183'

185' - 187'

190' - 190'03"

193 - 194'4" *

224'6" - 225'

267' - 267'9"

339 - 339'4'

340'9" - 341'06"

345'6" - 346'6"

354' - 354'3"

HOLE No.

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-35

HOLE No: OM-4

PROPERTY: GORDON'S LAKE

CLAIM No: 381696-5
45m at 1850. From post 1 of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 5A+50 E
 NORTH 2+25N
 ELEVATION -1.4m / AM2

EAST 54+52 E
 NORTH 13+39N

ACID TEST

FOOTAGE

INCLINATION

40G'	601'		
73°	75°		

DIP -72°

AZIMUTH 345°

DRILLING CONTRACTOR BRANLEY

LENGTH 601' (183.2m)

RIG No: 1

CASING SIZE BW

COMMENCED 15/07/80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 20/07/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) _____

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS IND I 145337

PROBE S: 208

OPERATOR C. HERRARD

DATE 20/07/80

CORE STORED IN RIVIERE CAMIE

CORE LOGGED

CHEMICAL ASSAYS

BY C. HERRARD

LAB BONDAR CLEGG

DATE 21/07/80

DATE _____

FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
0	42	OVER BURDEN
42	224	MEDIUM TO COARSE GRAINED LIGHT GREEN TO BROWN CONGLOMERATE SANDSTONE OF ARKOSIC COMPOSITION QTZ CLASTS ϕ .3 TO 4 CM SUB ANGULAR TO SUB ROUNDED CHLORITIZATION IN MATRIX AND JOINTS
		113'4" — 116' 117'9" — 118'3" 120' — 121' 134' — 137'2" 138'6" — 139'6" 146' — 147' 149'2" — 150'6" 156' — 156'4" 158' — 160' 162'3" — 169' 170' — 171' 179' — 182' 187'9" — 188'4" 199' — 200' 204' — 204'6" 207'7" — 208' 208'6" — 209' 214' — 215'6"
		CONGLOMERATE OF ARKOSIC COMPOSITION QTZ CLASTS ϕ .5 TO 5 cm SUB ANGULAR TO SUB ROUNDED

FOOTAGE		LOG
FROM	TO	GEOLOGICAL DESCRIPTION
		117'9" - 118'8" } 191'9" - 192'2" } STRONGLY CHLORITIZED 205'9" - 206'1" }
		149'8" - 151'6" } 156' - 156'3" } STRONGLY HEMATIZED 165'8" - 167' } 168' - 168'3" } 183'9" - 185' }
224'	307'	LIGHT GREEN TO GREY TO DARK GREY BASAL CONGLOMERATE . MEDIUM TO COARSE GRAINED MATRIX QTZ CLASTS ϕ 0.5 TO 5 cm , SUB ANGULAR TO SUB ROUNDED . CHLORITIZATION IN JOINTS AND MATRIX MEDIUM TO COARSE GRAINED MATRIX . SMALL AMOUNT OF PYRITE
		273'6" - 276' } 277'6" - 280' } MEDIUM GRAINED CONGLOMERATIC SANDSTONE
		255' - 256'3" } 265' - 266' } STRONGLY CHLORITIZED , ALMOST BLACK

FOOTAGE

CORE LOG

FROM

TO

GEOLOGICAL DESCRIPTION

268' - 269' COMPLETELY ALTERED MATRIX, KAOLINIZATION?

303'6" - 304'6" INTENSE ALTERATION: CHLORITE?, BIOTITE?, SIDERITE?

263 - 266 MISTAKE IN NUMEROTATION 266' = 263"
3' MISSING

307'

321'6"

TRANSITION ZONE, MIX OF VOLCANIC AND CONGLOMERATE.

20% OF SULFIDES FRAGMENTS (MOSTLY PYRITE WITH CHLORITE IN MATRIX)

QTZ CLASTS (ϕ .5 - 6 cm, SUB ROUNDED) CORRODED AND BROKEN WITH PYRITE IN FRACTURE.

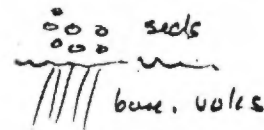
BRECCIA?

307'4" - 307'8"

310' - 311'

} SIDERITE + LIMONITE

D.B. (316 - 317) / angular unconformity



FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
321'6"	601'	BASEMENT : LIGHT GREEN TO DARK GREEN VOLCANICS CUT BY QTZ VEINS INTERLAYERED BY SEDIMENTARY ROCKS . COMPOSITION INTERMEDIATE TO MAFIC
321'6"	408'	MASSIVE PYRITE CONTENTS IN LIGHT GREEN ALTERED RHYOLITE KAOLINIZATION + SERITIZATION (PROPYLITIZATION?)
321'6"	408'	RHYOLITIC TUFF ? ALTERED. SERITIZATION + KAOLINIZATION
327'	330'6"	} PHYLLITE
331'3"	331'9"	
333'	333'4"	
337'	338'	
330'6"	331'3"	} CHERTY SEDIMENT
334'	336'	
338'	341'	
350'	356'10"	} MIX OF GRAPHITE, PHYLLITE AND CHERTY SEDIMENTS, INTENSE DEFORMATION
360'	375'4"	
377'4"	378'6"	
383'4"	389'	
401'	405'4"	
406'9"	408'	

FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
		<p>341' - 350' } 389' - 401' } BOXWORK, LEACHED PYRITE</p>
	408' - 560'	<p>PYRITE IN FRACTURE AND JOINTS, MAFIC COMPOSITION 408' - 420' ACID COMPOSITION 420' - 440' CHANGE OF COMPOSITION FROM ACID (420') TO INTERMEDIATE (440') ALTERATION CHANGE FROM PROPYLITIZATION TO CHLORITIZATION MINERALIZATION CHANGE FROM PYRITE TO PYRROTITE</p>
		451' 4" - 458' RHYOLITIC TUFF
		" 491' - 511' MASSIVE VOLCANIC OF ACID COMPOSITION BOXWORK
		<p>FOLIATION 390' : 15° TO C.A. 452' = 12° TO C.A.</p>

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM-5

PROPERTY: GORDON'S LAKE

CLAIM No: 381096-5
43m at 290° from post 1 of this claim

MAIN GRID LOCATION

EAST 54+55 E
NORTH 14+06 N
ELEVATION -2.12 (10m 2)

DRILL GRID LOCATION

EAST _____
NORTH _____

ACID TEST
FOOTAGE
INCLINATION

DIP -90°
AZIMUTH 0°

DRILLING CONTRACTOR BRADLEY
RIG No: 1
CASING SIZE BW
BIT SIZE _____
CORE SIZE BQ

LENGTH 112.5m (369')
COMMENCED 1-08-80
COMPLETED 4-08-80

CASING REMOVED YES NO
PLASTIC PIPE (LENGTH) 369'

CORE STORED IN CAMIE RIVER

CORE LOGGED

BY C. HERRARD
DATE 9/8/80

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS MOD I 45337
PROBE S: 208
OPERATOR C. HERRARD
DATE 4/08/80

CHEMICAL ASSAYS

LAB _____
DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

SAMPLE

FROM (FT.)

TO (FT.)

U₃O₈ (ppm)

213'6" - 216'6" INCREASE OF CHLORITE IN MATRIX

- 61'6" - 68'
- 116' - 117'
- 146' - 148'3"
- 155' - 158'
- 169'6" - 172'
- 176'6" - 177'4"
- 182' - 187'6"
- 190' - 193'3"
- 199' - 201'3"
- 212' - 215'

QUARTZITIC COMPOSITION

230' 316'6"

LIGHT TO DARK GREEN, MEDIUM TO COARSE GRAINED
BASAL CONGLOMERATE

QTZ CLASTS: ϕ 5 TO 60 mm SUB ANGULAR TO
ROUNDED.

SERITIZATION AND CHLORITE FRAGMENTS IN MATRIX,
SMALL AMOUNT OF PYRITE SEEMS CONTROLLED BY QTZ
VEINS CUTTING THE CORE

HEMATIZATION CONTROLLED IN PART BY FRACTURE.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

NO.

FROM (FT.)

TO (FT.)

(ppm)

FROM

TO

GEOLOGICAL DESCRIPTION

233' 3" - 233' 6"

238' - 239'

243' 2" - 244' 3"

246' - 247' 2"

247' 8" - 250' 4"

255' - 256' 6"

258' - 258' 6"

263' - 266'

277' - 282'

293' - 294'

295' - 297'

300' - 301'

318' 08" - 313' 06"

MEDIUM GRAINED ARKOSIC CONGLOMERATIC SANDSTONE

276' 4" - 276' 6"

305' 3" + 305' 5"

306' - 306' 1"

306' 8" - 307' 6"

309' 4" - 310'

HEMATIZATION IN MATRIX

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

(ppm)

NO.

FROM (FT.)

TO (FT.)

FROM

TO

GEOLOGICAL DESCRIPTION

314' - 316'6" FINE TO MEDIUM GRAINED POLYMICT CONGLOMERATIC SANDSTONE (LESS THAN 5% OF VOLCANICS FRAGMENTS)

259'6" - 261'3" STRONG SERITIZATION AND KAOLINISATCON.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈
(ppm)

NO.

FROM
(FT.)

TO
(FT.)

FROM TO

GEOLOGICAL DESCRIPTION

316'6" 369'

BASEMENT: LIGHT GREEN TO GREY TO DARK GREY
VOLCANIC CUT BY QTZ VEINS.
CALCITE IN FRACTURES.
SOME PYRITE DISSEMINATED IN FRACTURE
(MOSTLY) AND MATRIX
INTERMEDIATE TO MAFIC COMPOSITION

316'6" - 327' VERY ALTERED RHYOLITE (TUFF?), LIGHT
GREEN, SERITIZATION AND KAOLINIZATION
CHLORITE IN PLANE 65° TO C.A. WITH
SULPHIDES (BEDDING?)

327' - 344' CHLORITE ALTERATION ZONE

344' - 369' ALMOST UNALTERED CORE

339'6" - 340'8"
345'11" - 347'2"
357'2" - 359'10"
366'6" - 366'8" } QTZ VEINS

356'10" - 357'2" } IRON STAIN (OXYDIZED PYRITE?)
342'2" - 342'4" } LIMONITE

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 7185

HOLE No: OM 6

PROPERTY: GORDON'S LAKE

CLAIM No: 381096 - 5
43m at 290° from post 1
of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 54+55 E
NORTH 14+06 N
ELEVATION -2.12m (/om2)

EAST _____
NORTH _____

ACID TEST

FOOTAGE

INCLINATION

351'			
77°			

DIP -77°
AZIMUTH 165°

DRILLING CONTRACTOR BRADLEY

LENGTH 110.0m (351')

RIG No: 1

CASING SIZE BW

COMMENCED 5/08/80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 9/08/80

CASING REMOVED YES NO

DOWN HOLE LOGGING

PLASTIC PIPE (LENGTH) NO

INSTRUMENT MT SOPRIS MOD. I 4537

PROBE SN 248

CORE STORED IN CAMIE RIVER

OPERATOR W

DATE 9/08/80

CORE LOGGED

CHEMICAL ASSAYS

BY W. GEHRISH

LAB BONDAR CLEGG

DATE 10/08/80

DATE _____

HOLE NO: OM 6		URANERZ EXPLORATION AND MINING		PAGE 1	OF 3			
FOOTAGE		CORE LOG		CHEMICAL ASSAY				
FROM	TO	GEOLOGICAL DESCRIPTION	SAMPLE		U ₃ O ₈ (ppm)			
			NO.	FROM (FT.)				TO (FT.)
0	16'	OVERBURDEN						
16'	291	OTISH SEDIMENTS: ORTHO QUARTZITES, SUBARCOSIC QUARTZITES, ARCOSES, CONGLOMERATES. Coloration is given by matrix which usually makes up ~ 10% of rock.						
	16' - 31'	White to greenish, med. to coarse grained SS, partly subarcosic, partly silicified.						
	31' - 39'	Brown coarse grained to conglomeratic arcose SS.						
	39' - 54'	White to greenish, med. to coarse grained, with variable amounts of feldspar (subarcosic)						
	54' - 59'	White to gray, med. to coarse grained silicified SS.						
	59' - 84'	White to greenish, fine to med. grained SS (ortho-quartzite) only partly with significant amounts of feldspar.						
	84' - 86'	Brecciated. Traces of limonitization and hematization. Some aphanitic gray material on fractures.						
	86' - 93'	White to gray, fine to med. grained silicified SS.						
	93' - 103'	White to greenish, very coarse grained arcose SS.						
	103' - 113'	White White to greenish, fine, med. and coarse grained SS.						
	113' - 137'	Greenish brown and white SS, med. grained, fractured with hematization and limonitization on fractures. Most fractures subparallel to c.a.						
	135' - 137'	highly fractured.						
	137' - 204'	White and greenish white, fine and med. grained SS, partly coarse grained.						
HOLE No. OM 6								

FOOTAGE

CORE LOG

FROM

TO

GEOLOGICAL DESCRIPTION

Conglomeratic are the following intervals:
 157' - 159'; 164' - 169'; 175' - 176'; 179' (10 cm);
 180' - 185'; 190' - 192'; 195' - 196';

From 152 to 170: a few fractures subparallel to c. a. with limonitization of matrix adjacent to fractures.

204' - 212': Conglomerate with brown (buff) matrix. Quartz-pebbles are subrounded to rounded. $\phi \approx 1-5$ cm.

212' - 221': Basal (Quartz Pebble) Conglomerate with finer grained sections. Greenish gray and gray to greenish white. Pebbles are subangular to subrounded. $\phi = 1-5$ cm. A few fractures with limonitization.

223' - 231': Silicified with dark gray to black schmitzen.

291': 5 cm sediments are chloritized at contact with Basement.

291'

→ UNCONFORMITY

291': 3 cm buff and black altered basement (volcanic U-mineralization; 250 c/s (SPP II)).

291'

351'

BASEMENT: INTERMEDIATE VOLCANICS (altered), Siliceous METASEDIMENTS with some GRAPHITE and ABUNDANT PYRITE MINERALIZATION.

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM 7

PROPERTY: GORDON'S LAKE

CLAIM No: 374059-5
45m at 96° from post 3 of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 56 + 00
NORTH 13 + 47
ELEVATION -1.2m / om2

EAST _____
NORTH _____

ACID TEST
FOOTAGE
INCLINATION

415			
89°			

DIP -90°
AZIMUTH 0°

DRILLING CONTRACTOR BRADLEY BROS

LENGTH 126.5m

RIG No: _____

CASING SIZE BW

COMMENCED 10.8.80

BIT SIZE (BQ)

CORE SIZE BQ

COMPLETED 12.8.80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) -

DOWN HOLE LOGGING

INSTRUMENT MT. Sopn's Mod. T

PROBE S.N. 248

OPERATOR W. GEHRISCH

DATE 12.8.80

CORE STORED IN CARIE RIVER

CORE LOGGED

BY W. GEHRISCH

DATE 13.08.80.

CHEMICAL ASSAYS

LAB BONDAR CLEGG

DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

FROM
(FT.)TO
(FT.)

(ppm)

0 30'

OVERBURDEN

30' 393'

OTISH SEDIMENTS: Orthoquartzite, subarcose SS,
Arcose and (quartz pebble) conglomerate

30' - 37' : silicified SS

37' - 94' : Med. and coarse grained SS with 15-20%
feldspar and light green matrix alternating with
sections of same composition but without the light
green matrix (white to grayish white)

42' - 44' : a few quartz veins ~ 4 cm thick at
45° to c.a.

The whole section is fractured at 10-15' to c.a.
and 40-50' to c.a. as maximum.

94' - 162' : Same as above, but the sections without greenish
matrix tend to be brownish, and are more silici-
fied (e.g. : 122' - 127'; 129' - 132'; 141' - 146')

127' - 129' : all broken core (poor core recovery)

133' - 135' : no core recovery

155' - 156' : all broken core

162' - 200' : Same as above with coarse to very coarse grained
(to conglomeratic : 195' - 197') sections prevailing.
Characteristic to this interval are limonitic and
hematized sections:

163' : 30 cm broken and hematized

165' - 174' : partly broken, hematized and limonitic.

HOLE No. OM 7

HOLE NO: <u>OM 7-Page 3</u>		URANERZ EXPLORATION AND MINING
FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
		<p><u>389.5 - 393</u> <u>TRANSITION ZONE or UNCONFORMITY</u></p> <p>Partly chloritized ss and conglomerate with pyrite veins mixed with volcanic material</p> <p>A 392': 160 c/s SPP II in volcanic rock containing pyrite.</p> <p>392 - 393 : conglomerate is again partly limonitized.</p>
<u>393</u>	<u>415</u>	<p><u>VOLCANIC BASEMENT</u></p> <p>393 - 410 : chloritized, sericitized (and kaolinized?) volcanic stuffs (of rhyolitic composition?) with little pyrite (< 1%)</p> <p>410 - 415 Volcanics have fresher appearance but are still chloritized and contain more sulfide (> 1%): pyrite, pyrrhotite and chalcopyrite.</p> <p>↳ (polished): 50° to c.a.</p>
		<p>TEND OF HOLE.</p>

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71 - 85

HOLE No: OM 8

PROPERTY: GORDON'S LAKE

CLAIM No: 374059-5
42m at 76° from post 3
of the claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 56.00
NORTH 13 + 57
ELEVATION -1.85 m / om 2

EAST _____
NORTH _____

ACID TEST

FOOTAGE

422			
87°			

INCLINATION

DIP 90°
AZIMUTH —

DRILLING CONTRACTOR BRADLEY

LENGTH 128.6 m

RIG No: _____

CASING SIZE BW

BIT SIZE _____

CORE SIZE BQ

COMMENCED 13.08.80

COMPLETED 15.08.80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) —

CORE STORED IN CAMIE RIVER

DOWN HOLE LOGGING

INSTRUMENT Mt Sopris 1700 1

PROBE S.N. 248

OPERATOR V. GEHRISCH

DATE 15.08.80

CORE LOGGED

BY V. GEHRISCH

DATE 16.08.80

CHEMICAL ASSAYS

LAB _____

DATE _____

HOLE NO: OM 8		URANERZ EXPLORATION AND MINING		PAGE 1	OF 3
FOOTAGE		CORE LOG		CHEMICAL ASSAY	
FROM	TO	GEOLOGICAL DESCRIPTION	SAMPLE		U ₃ O ₈ (ppm)
			NO.	FROM (FT.) TO (FT.)	
0	30'	OVERBURDEN			
30'	387'	OHISH ORTHOQUARTZITE SUBARCOSIC TO ARCOSIC SS, CONGLOMERATES.			
	30' - 87'	Very coarse grained subarcosic to arcosic sandstone of buff to brownish colour. A few light green fine to med. grained intervals.			
	41' : $\lambda = 70^\circ$ to c.a.				
	42' : $\lambda = 58^\circ$ to c.a.				
	58' : $\lambda = 50^\circ$ to c.a.				
	38' - 39' } 50' }	limonitized (dark brown) intervals with a few reduction patches			
	56' and 57'	strong jointing at 25° to c.a. with limonitization.			
	76' - 78'	Fault zone (35° to c.a.) with soft material + hematization.			
	85' - 86'	fractures // to c.a.			
	87' - 107'	light green medium grained - gray to brownish silicified - light green med. grained SS.			
	107' - 158'	red. and coarse (mainly) grained, partly very coarse grained, buff (partly limonitized) and light green (partly hematitized along fractures and in patches) sandstone, partly sub arcosic			

FOOTAGE CORE LOG CHEMICAL ASSAY

FROM	TO	GEOLOGICAL DESCRIPTION	SAMPLE		U ₃ O ₈ (ppm)
			NO.	FROM (FT.) TO (FT.)	

partly arcenic.
 The whole section is highly fractured (Fault zone) at angles between 10° and 30° to c.a. Distinctive faults at: 111' (25°, 10cm soft material, light green and dark brown); 134' (30° to c.a., soft light green and dark brown material).

158'-281' Red. and coarse grained greenish (matrix rich) and gray to buff (silicified) SS with a few very coarse grained sections of subarcenic to arcenic composition.

- 163' : 20 cm all broken core
- 172-174 : highly fractured, some Pyrite
- 160'.05" : 5 cm pyrite in two layers with an offset of 3cm along fracture.
- 171' : 5cm : Pyrite impregnation + thin layer (1-2mm)
- 178' : 3cm : two pyrite layers (massive [1cm] and impregnation)
- 196'.05" : 20 cm conglomerate
- 214 : leached and limonitized Quartz-Pyrite vein
- Silicification at: 179-196', 225-227'
- 234'-244' (with dark gray to black shipp)
- 246'-248' (" " " " ")

- 215 : 20 cm Quartz vein with pyrite lenses
- 234 : graded bedding λ : 70-80° to c.a.

Conglomerate (Quartz pebbles subangular to subrounded, ϕ : 1-3cm : 260'-262', 263'-265', 268'-269', 271'-273', 275'-276', 278'-279'.

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM TO

GEOLOGICAL DESCRIPTION

SAMPLE NO. FROM (FT.) TO (FT.) U₃O₈ (ppm)

281' - 387' : BASAL CONGLOMERATE. Quartz pebbles subangular to subrounded, Ø: 1-5cm and more.

281' - 370' : Matrix of basal conglomerate is mostly buff to pink to brown, with some greenish and gray sections.

285' - 293' - silicified buff

301' - 305' } - silicified gray with dark

316' - 318' } gray to black shalms.

Moderately to strongly fractured:

293' - 294', 305' - 319', 325', 300', 337',

341' - 342', 345' - 355' (strongly fractured with chloritization or fractures). 372' - 375' (fract. // to c.a., with chloritization or fractures); 381' - 382'; 387'.

370' - 387' : More greenish matrix, probably locally derived from volcanic basement. Scarcity of clasts diminishes. Right above contact: 20 cm very fine grained Quartzite (Boulder?).

387' 422' VOLCANIC BASEMENT

387 - 387' 06" : limonitized (uncompactly) volcanic kaolinized light grey to greenish (near surface) partly chloritic fine grained tuffs (intermediate to acidic) with minor sulfides (pyrite, pyrrhotite, chalcopyrite) grading into fresh grey tuffitic intermediate volcanics at 403' and into more massive dark green (basic) fine grained chloritic volcanics at 416'

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-86

HOLE No: 017 9

PROPERTY: GORDON'S LAKE

CLAIM No: 374059-5
45m at 96° from post
3 of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 56+00

EAST _____

NORTH 13+47

NORTH _____

ELEVATION -1.2m / om2

ACID TEST

FOOTAGE

467			
-83			

INCLINATION

DIP -83

AZIMUTH SOUTH (along line)

DRILLING CONTRACTOR BRADLEY BROS.

LENGTH 142.3

RIG No: _____

CASING SIZE 80

COMMENCED 16.08.80

BIT SIZE _____

CORE SIZE 80

COMPLETED 18.08.80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) No

DOWN HOLE LOGGING

INSTRUMENT 177 Sopn's I

PROBE 248

OPERATOR U. GEHRISCH

DATE 18.08.80

CORE STORED IN CAMIE RIVER

CORE LOGGED

BY U. GEHRISCH

DATE 18.08.80

CHEMICAL ASSAYS

LAB BONDAR CLEGG

DATE _____

FOOTAGE		CORE LOG GEOLOGICAL DESCRIPTION	CHEMICAL ASSAY			
FROM	TO		SAMPLE		U ₃ O ₈ (ppm)	
			NO.	FROM (FT.)		
0'	30'	OVERBURDEN				
30'	395'	OTISH SEDIMENTS (see previous holes)				
	30'-44'	White subarcose, arcose and silicified fractured SS. Black coating on fractures with slight increase in radioactivity (75 c/s SPP II)				
	44'-117'	Med. and coarse grained SS with 15-20% feldsp. and light green matrix (clay minerals), alternating with sections of same composition but without the light green matrix and partly silicified: white to grayish white to gray.				
	97'-101'	patchy limonitization with well defined rims or "fronts" at 97': A dark gray reduction halo or "front" is developed around a limonitization tongue (condition). at 105': dark gray ophanitic material on fractures.				
	117'-126'	Strongly fractured (subparallel to 30° to c.a.) and slightly limonitized (buff), originally gray and green SS, coarse grained.				
	126'-130'	Green SS, med. and coarse grained.				
	130'-138'	Gray silicified SS. at 135': 20 cm dark gray very fine grained alteration (?) zone with transition on both ends. 130 c/s SPP II				
	138'-170'	Fine, med. and coarse grained to very coarse grained pink and buff and brown (limonitized) SS, partly silicified. Fractured at: 144'; 149'; 152'-162' with fault between 157' and 159'. At 153'-153'06": quartz vein with pyrite. At 167: 0.5 cm pyrite large				
	170'-181'	Greenish gray to greenish brown silicified (?) SS, fractured with dark gray to black ophanitic material on fractures (slightly increased radioactivity - SPP II)				

FOOTAGE CORE LOG

FROM TO GEOLOGICAL DESCRIPTION

At 170': 3 pyrite layers (~ 1cm each) over 10 cm. $\angle = 70^\circ$

181'-189': Highly fractured to brecciated zone. Faulting apparent. Core shows overall brown alteration colour (previous limonitization) and pervasive black coating on fractures. Red. active! (180% SPP)

189'-300': Fine, med. and coarse grained SS with predominant light green matrix. Some limonitization, some mica-
 Conglomeratic intervals at: 209' (30cm), 226'-227', 252' (30cm), 254-258; 276'-282'; 285'-288'; 291'-292'; 294'-298'.
 Fracturing: 202-205, 207-210 (// to c.a. to 35 to c.a.)
 228': 3cm Quartz vein
 233': graded bedding (not well developed) $\angle 70^\circ$ to c.a.

300'-395' BASAL CONGLOMERATE, mostly buff to brown, with a few greenish intersections. Quartz pebbles: subangular to rounded, $\phi = 1-5$ cm and more. Some limonitization.

319'-327': Abundant dark gray to black fragments (whips) 368': Fault with slightly increased red. activity (80% SPP)

382-383': some chloritization of matrix, fractured subparallel to c.a.

391': chloritization along fracture.

50 cm above unconformity: fragments of metabasaltic

At 395': 20 cm chloritized and pyritized SS (black) with U-mineralization (120% SPP). Pyrite crystals are mostly euhedral. Some pyrite seems to have red. altered from colloform masses.

At 395': UNCONFORMITY with BASEMENT

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

SAMPLE

FROM (FT.)

TO (FT.)

U₃O₈

(ppm)

395'

467'

BASEMENT: Metavolcanics, graphitic schist and massive sulfides (Pyrite).

395' - 419'06": Rhyolitic (?) tuff with thin sulfide bands (alum)

395' - 406': strongly sericitized and kaolinized (progressively towards unconformity).

396'06" (4cm) } two massive sulfide layers.
406'06" (4cm) }

419'06" - 432'06": massive sulfides, partly with cherty matrix. Recrystallized Pyrite within fine grained sulfidic matrix in porphyroblastic (more or less rounded grains), $d: \sim 0.5 \text{ cm}$. They show some spherulitic brecciated features. Some primary sedimentary features are preserved. The last 40 cm are in graphitic cherty sediments.

432'06" - 441': Same volcanics as above with some disseminated pyrite, partly sericitized (propylitization?).

441' - 448': Pyritic graphitic schist (pelitic sediment?).

448' - 462': Banded rhyolitic (?) tuff (or tuffite?), folded (+slumping features?), containing pyrite and pyrrhotite (1-3%). Partly sericitized.

462' - 467': Transition zone from above volcanics to graphitic schist, strongly reworked (brecciation!). Towards end of section: Pyrite content increasing (30%).

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM 10

PROPERTY: GORDON'S LAKE

CLAIM No: 374059-5
45m at 96° from post 3 of this claims

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 56+00

EAST _____

NORTH 13+42

NORTH _____

ELEVATION -1.2m / OM2

ACID TEST

FOOTAGE

444			
-----	--	--	--

INCLINATION

78°			
-----	--	--	--

DIP -78°

AZIMUTH South (along line)

DRILLING CONTRACTOR BRADLEY BROS

LENGTH 135.3

RIG No: _____

CASING SIZE BW

COMMENCED 19.08.80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 21.08.80

CASING REMOVED YES NO

DOWN HOLE LOGGING

PLASTIC PIPE (LENGTH) 394'

INSTRUMENT Mt. Sopis I

PROBE SN 248 / AI - 21-200

OPERATOR U. GEHRISCH

CORE STORED IN CAMIE RIVER

DATE 21.08.80

CORE LOGGED

CHEMICAL ASSAYS

BY U. GEHRISCH

LAB BONDAR CLEGG

DATE 21.08.80

DATE _____

FOOTAGE		CORE LOG GEOLOGICAL DESCRIPTION	CHEMICAL ASSAY			
FROM	TO		SAMPLE		U ₃ O ₈ (ppm)	
			NO.	FROM (FT.)		
0'	30'	OVERBURDEN				
30'	321'	ATISH SEDIMENTS (description see previous holes) pervasive gray alteration of the whole sedimentary sequence, except the lower part of the basal conglomerate				
		30'-33' Green arcotic coarse grained SS.				
		33'-42'06" : Gray micafied arcotic coarse grained SS, fractured. some aphanitic black material on fractures				
		42'06"-43' : Faulting + Quartz vein slightly radioactive (100 cps - SPP 6)				
		43' - 130' : Fine, med-coarse and very coarse grained green and gray and buff SS, partly subarcotic and arcotic (117'-121' : micafied) (87'-88' : strong limonitization) Fracturing : 48' : 20 cm (limonitization) 60'-62' (subparallel to c.a. - slightly) 65'-68' (slightly) 72'-74' (brecciated) 94'-96' : Fault zone (parallel to c.a. to 15° to c.a.) 99'-102' : Shear zone // to c.a. with aphanitic material. 126'-127' : // to c.a. 129' : (slightly)				
		130' - 153' : Buff and micafied SS. 134' : } graded bedding 148' : } 1. 75° to c.a. 151' : graded bedding at 65° to c.a. Fracturing : 132'-133' : sub// to c.a.				

FOOTAGE		CORE LOG
FROM	TO	GEOLOGICAL DESCRIPTION
	273' - 391'	BASAL CONGLOMERATE (QTZ PEBBLES $\phi \sim 1-5\text{cm}$ AND MORE SUBANGULAR TO ROUNDED, MATRIX 20-30% GREEN AND GRAY)
	291' - 293'08"	ALTERED ZONE: HEAVY CHLORITIZATION SOME LIMONITIZATION AND TOGETHER WITH THIS: U-MINERALIZATION (1500 cps WHITE SPP-2)
	293'08" - 295'08"	COMPLETE SILICIFICATION
	310'06" - 312'	SOME CHLORITIZATION AND POSSIBLY SIDERITE PLUS U-MINERALIZATION (900 cps WHITE SPP-2)
	326' - 331'	ZONE WITH ABUNDANT BLACK FRAGMENTS OR WHISPS PLUS PYRITE UP TO 2% SILICIFIED
	344' - 346'	FRACTURED // TO C.A. CHLORITIZATION ALONG FRACTURES PARTLY HEAVY LIMONITIZATION OF MATRIX
	348' - 350' } 362' - 364' }	FRACTURED // TO CA WITH LIMONITIZATION IN MATRIX
	386' - 388'03"	MATRIX DARK GREEN FRAGMENTS OF METAVOLCANICS FROM BASEMENT

HOLE NO: 0M-16		URANERZ EX. ORATION AND MINING	Page:)
FOOTAGE		CORE LOG	
FROM	TO	GEOLOGICAL DESCRIPTION	
		388'03" - 391'	MATRIX OF CONGLOMERATE IS PYRITE
391'		UNCONFORMITY	
391'	444'	BASEMENT	
		391'	3 cm OF PYRITE ORE 20 m OF TUFF
		392' - 393'	FRACTURED CHERT WITH SOME PYRITE DISSEMINATED AND ON FRACTURES + MO?
		393' - 401'	MASSIVE PYRITE ORE WITH SOME REMNANTS OF CHERT. RECRYSTALLIZED PYRITE PORPHYROBLASTS
		401' - 405'	MASSIVE, PARTLY SERITIZED METAVOLCANICS WITH PYRITE MOSTLY ON FRACTURES (2-5%) BANDED STRUCTURE OBLITERATED (RHYOLITIC?)
		405' - 407'	GRAPHITE SHIST WITH HEAVY PYRITE MINERALIZATION (50-60%) REWORKED
		407' - 410'06"	BANDED METAVOLCANICS (RHYOLITE) SERITIZED A: 50-55° TO C.A.
		410'06" - 412'	REWORKED PYRITIC GRAPHITE

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

SAMPLE

FROM (FT.)

TO (FT.)

U₃O₈ (ppm)

412' - 444'

ALTERNATION OF TUFF AND PELTIC MATERIAL (GENERALLY GRAPHITE AND PYRITE RICH) + SOME CHERT (CONTAINING LITTLE GRAPHITE BUT SOME PYRITE : 10-15% STRONGLY REWORKED TO BRECCIATED PYRITE AND PYRHOTITE. PYRHOTITE PREDOMINANT (MOSTLY IN STRINGERS BUT ALSO MASSIVE (EX: 434' 06" / 10cm AND 441' / 7cm))

216' - 217'

BLACK CARBONACEOUS (NOT YET GRAPHITIC) MATERIAL, U-MINERALIZATION 200 c/s WITH SPP-2 PYRITE

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM-11

PROPERTY: GORDON'S LAKE

CLAIM No: 374059-5
45m at 96° from post
3 of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST 56+00E
NORTH 13+47N
ELEVATION -1.2m / om 2

EAST _____
NORTH _____

ACID TEST

FOOTAGE

447			
73°			

INCLINATION

DIP -73°

AZIMUTH 160°

DRILLING CONTRACTOR BRADLEY

LENGTH 447'

RIG No: 1

CASING SIZE BW

COMMENCED 21/08/80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 23/08/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) _____

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS model I 45337

PROBE SN 208

OPERATOR C. HEBRARD

DATE 23/08/80

CORE STORED IN CAMIE RIVER

CORE LOGGED

BY C. HEBRARD

DATE 25/08/80

CHEMICAL ASSAYS

LAB _____

DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

SAMPLE

FROM (FT.)

TO (FT.)

U₃O₈ (ppm)

0

30'

OVERBURDEN

30

275'

(FINE) MEDIUM TO COARSE GRAINED LIGHT GREEN, GREY AND REDDISH ARKOSIC CONGLOMERATIC SANDSTONE CHLORITIZATION IN FRACTURE

186' - 196'

204' - 205'

221' - 222'

222' 6" - 223' 08"

228' - 230' 10"

232' - 236' 6"

SILICIFIED ZONES

160' - 275'

GREY ALTERATION

179' 10" - 181' 6"

183' 9" - 186' 6"

204' 6" - 207'

228' 8" - 230' 4"

235' - 238' 6"

239' 8" - 241' 3"

248' 4" - 252'

257' - 259'

CONGLOMERATE
QTZ CLASTS ϕ 2 - 50 mm
SUB ANGULAR TO SUB ROUNDED

FOOTAGE

CORE LOG

FROM

TO

GEOLOGICAL DESCRIPTION

275' 397' 5"

BASAL CONGLOMERATE
 GREY TO BROWN TO LIGHT GREEN CONGLOMERATE
 QTZ CLAST 5-90 mm SUB ROUNDED
 VERY ALTERED BOXWORK
 KAOLINIZATION, CHLORITIZATION.

330' FRACTURE SUB // TO C.A.

305' 6" - 307'

310' 6" - 312' 6"

313' - 316' 10"

320' - 327'

346' - 347'

352' - 354'

359' - 362'

363' - 366'

369' - 371'

373' - 376'

391' - 395'

336' - 340'

GRINDED CORE

HOLE NO:

OM11-Page 4

URANERZ EXPLORATION AND MINING

FOOTAGE

CORE LOG

FROM

TO

GEOLOGICAL DESCRIPTION

292 - 293
 296 - 305'
 308' - 317'
 346' - 346'
 347' - 349'
 379' - 380'
 371' - 373'
 367'6" - 368'6"

BOXWORK

327' - 330' SILICIFIED

282' - 292'
 330'4" - 349'6"
 350'3" - 369'
 377' - 383'

BRECCIATED, KAOLINIZATION IN MATRIX: FAULT ZONE
SOME CHLORITE366' BLACK, VERY FINE GRAINED MINERAL IN FRACTURES
AND MATRIX
SOME CALCITE IN FRACTURES ALSO.

390'8" - 391'7"

SPPE: 1200 cps
CHLORITE IN FRACTURES
OXYDATION OF THE MATRIX ON SOME PARTS.

391'7" - 396'5"

LIGHT GREEN CONGLOMERATIC SS.
CHLORITE IN FRACTURE
SOME KAOLINIZATION IN MATRIX
Ø CLASTS 2-5mm SUBROUNDED

FOOTAGE		CORE LOG	CHEMICAL ASSAY			
FROM	TO		SAMPLE		U ₃ O ₈ (ppm)	
		NO.	FROM (FT.)	TO (FT.)		
397'3"	447'	BASEMENT: LIGHT GREEN VOLCANICS INTERLAYERED WITH DARK GREY PELTIC MATERIALS.				
		397'3" - 397'6" RUBANNED VOLCANIC PLUS PYRITE.				
		397'6" - 402' MASSIVE LIGHT GREEN ACID VOLCANIC. (RHYOLITE?) AND PYRITE (5-60%) PROPYLITIZATION SMALL FRACTURES. (graphite) in some sections				
		402' - 403'6" } STRONGLY REWORKED. PYRITE AND ORGANIC. MATERIAL (GRAPHITE?) RICH ROCKS. (Rhyolitic)				
		404'10" - 410' }				
		412' - 412'3" }				
		415'6" - 419' }				
		419' - 425' PYRITE RICH MASSIVE VOLCANICS. 10% < PY < 30%				
		422' - 423' STRONGLY REWORKED FAULT?				
		428' - 430' CHLORITIZED VOLCANICS. BLACK, VERY FINE GRAINED MINERALIZATIONS IN FRACTURES. 250 cps (428') WITH SRAT				
		430' - 447' LIGHT GREEN RHYOLITIC TUFF PROPYLITIZATION.				

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM12

PROPERTY: GORDON'S LAKE

CLAIM No: 381096-5
65m. at 150° from post
 4 of this claim.

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST _____
 NORTH _____
 ELEVATION -4.65 (10m2)

EAST 53+00E
 NORTH 14+65N

ACID TEST
 FOOTAGE
 INCLINATION

637	792		
670	650		

DIP -75°
 AZIMUTH 165°

DRILLING CONTRACTOR BRADLEY
 RIG No: 1
 CASING SIZE BW
 BIT SIZE _____
 CORE SIZE BQ

LENGTH 261.5 m (858')

COMMENCED 25/08/80

COMPLETED 30/08/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) _____

CORE STORED IN CAMIE RIVER

DOWN HOLE LOGGING

INSTRUMENT MT SOPRIS MON-T
 PROBE _____

OPERATOR C. HEBBARD

DATE 30/08/80

CORE LOGGED

BY C. HEBBARD

DATE 01/09/80

CHEMICAL ASSAYS

LAB _____

DATE _____

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM

TO

GEOLOGICAL DESCRIPTION

NO.

FROM (FT.)

TO (FT.)

U₃O₈ (ppm)

85'6" - 87'6"
 171'8" - 172'6"
 189' - 192'
 205' - 237'
 273' - 281'

Quartzite composition

78'6" - 82'2"
 89'10" - 91'6"
 92'8" - 95'8"
 97'7" - 98'4"
 98'6" - 99'4"
 101'4" - 102'6"
 105'5" - 108'

(some oxydation in fracture)

KAOLINIZATION

109'2" - 112'
 114'6" - 115'
 133' - 135'
 138'2" - 147'
 148'6" - 150'

151' - 152'8"
 263'3" - 265'

281'4" - 281'6" (matrix destroyed)

300'8" - 301'

362'16" - 363'

398'6" - 398'10"

HOLE NO: OM 12

URANERZ EXPLORATION AND MINING

PAGE

4

OF

7

CHEMICAL ASSAY

SAMPLE

U₃O₈

(ppm)

NO.

FROM (FT.)

TO (FT.)

FOOTAGE

CORE LOG

FROM

TO

GEOLOGICAL DESCRIPTION

364'6" - 366' (+LIMONITIZATION)

370'10" - 375'

376' - 380'

383' - 385'

392' - 397'

399' - 409'4"

411'10" - 412'4"

416' - 425'

428' - 429'

OXYDATION

417 - 424'

SCATTERED FRAGMENTS? OF PYRITE SUBANGULAR TO ANGULAR ϕ 2 - 4mm

381' - 381'3" BOXWORK

244'6" - 245'6"

252'6" - 253'10"

CORE BROKEN

108' - 109'

155'6" - 156'6"

281'4" - 281'8"

242'3" - 342'4"

INTENSE ALTERATION, MATRIX DESTROYED

70' - 74'

85' - 87'

UNRECOVERED CORE

HOLE No. OM 12

HOLE NO: <u>OM12</u>		URANERZ EXPLORATION AND MINING		PAGE <u>7</u>	OF <u>7</u>
FOOTAGE		CORE LOG		CHEMICAL ASSAY	
FROM	TO	GEOLOGICAL DESCRIPTION	SAMPLE		U ₃ O ₈ (ppm)
			NO.	FROM (FT.)	
		509'8" - 539'6" } LIGHT GREEN INTERMEDIATE VOLCANICS. 549' - 593' } WEAK CHLORITIZATION, SMALL QUANTITY OF PYRITE (.1-2%) MOSTLY IN FRACTURES. FOLIATION: 38° TO C.A. AT 533' 38° TO C.A. AT 582'			
		539'6" - 539'9" QTZ VEINS			
		539'9" - 547' INCREASE OF CHLORITIZATION IN VOLCANICS. PYRITE IN FRACTURES.			
		593' - 616'5" QTZ VEINS WITH VOLCANICS CLASTS INSIDE THE CLASTS AR CHLORITIZED, BOXWORK. VERY TECTONIZED (FRAGMENTS ARE DEFORMED) PY ≈ 10%.			
		616'5" - FIN MAFIC VOLCANICS, DARK GREY CUT BY CALCITE VEINS PYRITE, PYRRHOTITE CHLORITIZATION			
		661'8" - 662' } PYRRHOTITE 666' - 666'4" } 677' - 677'6" }			
		589 - 591 UNRECOVERED CORE			

URANERZ EXPLORATION AND MINING LIMITED

DIAMOND DRILL LOG

PROJECT No: 71-85

HOLE No: OM-13

PROPERTY: GORDON'S LAKE

CLAIM No: 381096 CL5
37m at 139° from post
 4 of this claim

MAIN GRID LOCATION

DRILL GRID LOCATION

EAST _____

EAST 53+00E

NORTH _____

NORTH 15+05N

ELEVATION -7.68m / om?

ACID TEST

FOOTAGE

INCLINATION

587°	807°		
78°	77°		

DIP -75°

AZIMUTH 165°

DRILLING CONTRACTOR BRADLEY

LENGTH 858'

RIG No: 1

CASING SIZE BW

COMMENCED 30/08/80

BIT SIZE _____

CORE SIZE BQ

COMPLETED 05/09/80

CASING REMOVED YES NO

PLASTIC PIPE (LENGTH) 0

CORE STORED IN RIVER CAMIE

DOWN HOLE LOGGING

INSTRUMENT MFT SORIS MORTI-45337

PROBE SN 208

OPERATOR C. HERRARD

DATE 05/06/80

CORE LOGGED

CHEMICAL ASSAYS

BY C. HERRARD

LAB _____

DATE 06/09/80

DATE _____

FOOTAGE		CORE LOG	CHEMICAL ASSAY			
FROM	TO		SAMPLE		U ₃ O ₈	
		GEOLOGICAL DESCRIPTION	NO.	FROM (FT.)	TO (FT.)	(ppm)
		103'2" - 103'4"				
		103'9" - 104'				
		107'4" - 107'6"				
		111'6" - 112'3"				
		116'6" - 117'				
		119'3" - 119'6"				
		121'9" - 123'8"				
		148'10" - 149'8"				
		150'4" - 152'2"				
		181'9" - 182'3"				
		188' - 196'				
		193' - 200' (+ LIMONITIZATION)				
		200'9" - 206' (+ LIMONITIZATION)				
		214'6" - 216'				
		223'3" - 226'				
		237' - 238'6" (+ LIMONITIZATION)				
		241'2" - 243'9"				
		246'6" - 246'9"				
		251'8" - 253'				
		284'16" - 288'				
		308'6" - 315' (WEAK, SCATTERED)				
		326' - 327'				
		328'9" - 329'				
		337' - 338'				
		344'3" - 344'9"				
		346'6" - 348'9"				
		349'6" - 352'8" (VERY STRONG)				

HEMATIZATION, MOST OF THE TIME SEEMS CONTROLLED BY FRACTURES

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM TO

GEOLOGICAL DESCRIPTION

NO.

SAMPLE

FROM (FT.)

TO (FT.)

U₃O₈ (ppm)

357' - 358'
365' 2" - 367'
368' - 369'
445' - 445' 6" } HEMATIZATION

352' 8" - 353'
369' - 369' 6" } KAOLINIZATION

273' 9" - 274' 2"
391' - 391' 3" } STRONG HEMATIZATION AND KAOLINIZATION

346' 2" - 348' 5" VERY ARGOSIC SECTION, KAOLINIZATION + CHLORITIZATION.

276' - 277'
292' 4" - 293' 3"
315' 6" - 317' 6"
327' - 330' 4"
348' - 348' 6"
377' - 378' 4"
382' 6" - 383' 2"
386' 10" - 391' 4"
399' 10" - 404' } SILICIFICATION

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈
(ppm)

NO.

FROM
(FT.)

TO
(FT.)

FROM

TO

GEOLOGICAL DESCRIPTION

406' - 409'
415' 2" - 416' 10"
418' 2" - 422' 4"
435' 6" - 437' 9" } SILICIFICATION

452' 636'

BASAL CONGLOMERATE : LIGHT GREEN TO RED TO
BROWN CONGLOMERATE WITH INCREASING CHLORITIZATION
MATRIX MEDIUM TO COARSE
QTZ CLASTS ϕ 5-70 mm SUBANGULAR TO
SUB ROUNDED

465' - 469' 6"
471' 8" - 486' 10"
491' 7" - 493'
495' - 497' } SILICIFICATION

HOLE NO:

Om-13

URANERZ EXPLORATION AND MINING

PAGE

5

OF

7

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

NO.

FROM
(FT.)TO
(FT.)U₃O₈
(ppm)

FROM

TO

GEOLOGICAL DESCRIPTION

505' - 512' 6"
518' 9" - 520' 3"
523' 5" - 539' } SILICIFICATION

454' 10" - 455'
455' 6" - 456'
456' 10" - 459' 6"
463' 1" - 464'
467' - 469' 8"
523' 6" - 527'
530' - 531'
534' 2" - 535' "
532' 16" - 533' 6"
568' 5" - 569' 4"
579' 5" - 595' 9" (+ LIMONITIZATION) } HEMATIZATION

469' 8" - 470' 6"
476' - 477' 2"
483' 3" - 492'
493' - 494'
533' 6" - 534' 2"
546' - 547'
549' 6" - 551' 2"
561' - 562'
577' 4" - 577' 6"
605' 6" - 606' 5"
607' - 609' 3" } LIMONITIZATION

HOLE No.

Om-13

FOOTAGE

CORE LOG

CHEMICAL ASSAY

SAMPLE

U₃O₈
(ppm)

NO. FROM (FT.) TO (FT.)

FROM

TO

GEOLOGICAL DESCRIPTION

615 - 616'4" } LIMONITIZATION
627' - 629' }

494'2" - 495'5" LIMONITIZATION + HEMATIZATION

497'3" - 505' INTENSE KAOLINIZATION AND HEMATIZATION

512'8" - 519'
522 - 523'6" } KAOLINIZATION
534'6" - 536'
549'2" - 549'6"
565' - 565'8" }

612 - 636 VOLCANIC CLASTS . POLY MIC TIC

FOOTAGE

CORE LOG

CHEMICAL ASSAY

FROM TO

GEOLOGICAL DESCRIPTION

SAMPLE NO. FROM (FT.) TO (FT.) U₃O₈ (ppm)

636' 852'

BASEMENT: LIGHT GREEN TO DARK GREY CHERTY SEDIMENTS AND VOLCANIC.

632 - 660'10" LIGHT GREEN ACID (RHYOLITE?) TUFF
PROPYLIZATION

FOLIATION 23° TO C.A. AT 644'

MINOR PYRITE AROUND QTZ VEINS AND FRACTURE

VERY SIMILAR TO OM 4

660'10" - 852' CHERTY SEDIMENTS INTLAYERED WITH PYRITIC MATERIAL

VERY FRACTURED PYRITE IN FRACTURE

(2-5%)
SOMETIME CHLORITE IN FRACTURE

706' - 708' } LIMONITIZATION
711'8" - 712'4"

712' - 720' LIMONITIZATION OF PYRITE

741'10" - 743' } CHLORITIZATION
768 - 768'6"

780'8" - 784'6" }
785'4" - 786'5" } MASSIVE PYRITE ZONE (50-80%)
787'2" - 795'10" } MICROCRYSTALLINE PYRITE (530'-827') AND
800'10" - 803' } MICRO. AND PORPHYROBLASTIC PYRITE (827'-855'8")
829 - 836' } VERY SIMILAR TO OTHERS HOLES. CONTACT OF PY
844'9" - 855'8" } SUB// TO C.A. SMALL AMOUNTS OF CALCO PYRITE
SOME CHORITE WITH THE PYRITE

795'10" - 800'10" }
803' - 829' } QTZ VEINS?
836 - 844'

APPENDIX 2

SEASONAL GEOPHYSICAL REPORT - DATA MAPS

JANUARY - MAY 1980

Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique

DATE: 24 NOV. 1981

No. G.M.: 37604

Prepared by:

Dr. Michael Leppin
UEM-Montreal

ML/yn

TABLE OF CONTENTS

	<u>Page No.</u>
1. <u>GORDON'S LAKE AREA</u>	1
1.1 <u>INTRODUCTION</u>	1
1.2 <u>VERTICAL LOOP ELECTROMAGNETICS, RESULTS</u>	1
1.3 <u>GROUND MAGNETICS, RESULTS</u>	1 - 2
1.4 <u>SUMMARY AND CONCLUSION</u>	2

MAPS

Map: 336 Vertical Loop Survey, Gordon's Lake Area

Map: 337 Magnetometer Survey, Gordon's Lake Area

1. GORDON'S LAKE AREA

1.1 INTRODUCTION

In March 1980, two geophysical surveys, namely vertical loop electromagnetics (VEM) and ground magnetics (Mag.), were conducted on the Gordon's Lake grid east of the Camie River to locate both a conductor and a magnetic dike considered to be favourable structures for unconformity-type uranium deposits. A total of 10 line kilometers were surveyed with VEM and 24 line kilometers with ground magnetics.

1.2 VERTICAL LOOP ELECTROMAGNETICS, RESULTS

The VEM survey was carried out with a McPhar SS15 unit using a frequency of 1.0 kHz taking readings of the tilt angle of the elliptical polarized magnetic field at a 50 m station interval. The survey results are shown on Map 336.

A good conductor trending N73°E was outlined approx. 200 m north of tie line 1000 N. West of line 68E, the conductor is deep, as indicated by relatively small tilt angles, and probably overlain by quartzite. Keeping in mind that VEM data in general is not well adapted for depth calculations, the depth to the top of the conductor ranges between 150 m and 250 m. East of line 66 E tilt angles as high as 45° were observed indicating a close-to-surface, almost vertical dike-like conductor of high conductivity located in andesitic basement rocks. Between lines 68E and 70E, the dike seems to dip to the south. A major fault zone with vertical displacements of 200-300 m probably is located between lines 66E and 68E.

The conductor is part of an at least 10-kilometer long zone of high conductivity, the eastern part of which was followed up by INCO Ltd., applying ground geophysics and geology. According to information from INCO, the conductor is graphite.

1.3 GROUND MAGNETICS, RESULTS

The magnetometer survey was carried out between March 10th and March 25th, 1980, measuring the earth's total magnetic field with a proton free precession magnetometer (Scintrex MP-2) at a 25 m station interval. Besides corrections for diurnal variations, no other corrections were done.

The magnetometer profiles are shown on Map 337. In the area of investigation, the earth's field local mean value is about 58,800 γ . A zone of increased magnetic response was outlined approx. 200 m north of tie line 10 + 00N stretching N73°E.

The broad magnetic anomaly of 200 γ - 300 γ west of line 66E is probably caused by a deep dike like structure dipping to the south. The dike has a susceptibility of approx. 20,000 emu (equivalent 5% magnetite) and its depth to the top is about 350 m.

East of line 68E a very distinct magnetic anomaly of 6000 γ -12,000 γ was observed. The anomaly is probably caused by two close-to-surface, almost vertical dikes of high susceptibility (20,000 emu-40,000 emu) located in andesitic (rhyolitic?) basement rocks. The magnetic anomaly is correlated with a conductivity anomaly. As indicated by both the VEM and the magnetic data, a major fault zone with vertical displacements of 200-300 m seems to be located between lines 66E and 68E.

1.4

SUMMARY AND CONCLUSION

The location of the unconformity west of the Camie River is based on I.P. chargeability data. North of the unconformity, both an EM conductor (conductivity-thickness product $\rightarrow \infty$) and a magnetic dike (susceptibility 20-40 10^3 emu) were mapped located in a broad zone of low resistivity (I.P. data). The resistivity low probably is caused by a broad fault zone (block-faulting of the basement with vertical displacements of at least 300 m).

The depth to the top of the magnetic dike probably ranges between 170 m and 300 m. However, the depth to the top of the conductor, which also seems to be related to the fault zone and to the magnetic dike, is much less, ranging between 35 m and 100 m.

As indicated on airphotos, the Camie River seems to be located along a major fault system trending W 320° to 335°N. Tectonical events may have displaced the magnetic dike to the south at the Camie River between lines 52E and 56E.

East of the river, between lines 56E and 66E, both the conductor and the magnetic dike are located deep beneath the sedimentary cover, however east of line 66E, both targets are located close to the surface in andesitic rocks. From this, it seems most likely that a fault zone with vertical displacements of at least 300 m runs between lines 66E and 68E.

Microfilm

PAGES DE DIMENSION HORS STANDARD

**MICROFILMÉE SUR 35 MM ET
POSITIONNÉES À LA SUITE DES
PRÉSENTES PAGES STANDARDS**

Numérique

PAGES DE DIMENSION HORS STANDARD

**NUMÉRISÉE ET POSITIONNÉE À LA
SUITE DES PRÉSENTES PAGES STANDARDS**

APPENDIX 3

SEASONAL GEOPHYSICAL REPORT - DATA MAPS

JUNE - DECEMBER 1980

Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique

DATE: 24 NOV. 1991

No. G.M.: 37604

Prepared by:

Dr. Michael Leppin,
UEM-Montreal

TABLE OF CONTENTS

	<u>Page No.</u>
1. <u>GORDON'S LAKE (CAMIE RIVER) AREA</u>	1
1.1 <u>INTRODUCTION</u>	1
1.2 <u>INDUCED POLARISATION RESULTS</u>	1
1.3 <u>VLF RESULTS</u>	2
1.4 <u>HORIZONTAL LOOP EM RESULTS</u>	2
1.5 <u>SUMMARY AND CONCLUSION</u>	2-3
 <u>MAPS</u>	
342 Induced Polarisation Survey, Gordon's Lake Area	
347 Induced Polarisation Survey, Contoured Data	
343 VLF Survey, Gordon's Lake Area	
344 Horizontal Loop Survey, Gordon's Lake Area	

1. GORDON'S LAKE (CAMIE RIVER) AREA

1.1 INTRODUCTION

In July and August 1980, three geophysical surveys, namely horizontal loop electromagnetics (HEM), induced polarisation (IP) and very low frequency electromagnetics (VLF), were conducted on the Gordon's Lake grid to locate a conductor and a fault both considered to be favourable structures for unconformity-type uranium deposits.

A total of 11 line kilometers were surveyed with HEM, 21 line kilometers with IP and 18 line kilometers applying the VLF method.

1.2 INDUCED POLARISATION RESULTS

The time domain induced polarisation survey was conducted with a 250W portable system (transmitter: CRONE N250, receiver: SCINTREX IPR8). Applying the double dipole electrode configuration ($n=1$) the separation between the electrodes was 50 m ($a=50$ m). Readings of the apparent chargeability M_a and of the apparent resistivity S_a were taken at a 50 m station interval. The survey results are shown on Map 342. In the Camie River area, the unconformity is interpreted as being the contact between two areas of different mean chargeabilities, namely an area of 5 m V/V (quartzite) to the north and an area of 20 m V/V (rhyolitic basement) to the south. Between lines 52E and 56E the unconformity is trending 135° (SE) and seems to be controlled by a tectonic structure whereas in the area west of Camie River in general the unconformity trends 75° (E). East of line 66E where, at least north of $13+00N$, the basement mainly consists of rhyolitic tuff, the unconformity does not cause any anomaly in the chargeability data.

Of some interest might be a group of chargeability anomalies in the sediments on line 64E at $11+00N$ trending 50° (NE). The anomalies are correlated with an area of low apparent resistivity (fault) and a deep EM conductor and possibly are caused by remobilized sulfides along the fault.

Contours of the apparent resistivity data of the entire Gordon's Lake grid are shown on Map 347. Resistivities in the range between $5\ \Omega\text{-m}$ and $20,000\ \Omega\text{-m}$ were measured. Zones of resistivities lower than $300\ \Omega\text{-m}$ in general are caused by massive sulfides at shallow depth. Resistivities greater than $10,000\ \Omega\text{-m}$ can be interpreted as due to fresh bedrocks. Of particular interest is the zone within patterned lines of resistivities lower than $3,000\ \Omega\text{-m}$ trending approximately 75° (E) which probably is the surface expression of a major fault.

It is believed that in areas where the fault is correlated with the unconformity, vertical displacements of the basement of several hundred meters have occurred. Geological mapping in the region east of Camie River and south of $7+00N$ resulted in the discovery of a semi-consolidated sand deposit which is correlated with a broad zone of low resistivities (less than $1,000\ \Omega\text{-m}$). The depth to the bedrock in the centre of the resistivity low seems to be greater than 50 m.

1.3 VLF RESULTS

The transmitter used for the VLF survey was Seattle, Washington (18.6 kHz). In the Camie River area, the inducing magnetic field almost points to the north and is directed approximately perpendicular to the direction of the foliation of the basement rocks. All lines were surveyed with a Geonics EM-16 receiver facing 340° (NNW), taking inphase and quadrature readings of the magnetic field's vertical component at a 25 m station interval. The EM-16 data is shown on Map 343. Two zones of increased conductivity within the sediments were outlined, indicated by crossovers of the inphase data. The crossovers are correlated with resistivity lows (IP data) and most likely are caused by open faults.

1.4 HORIZONTAL LOOP EM RESULTS

The HEM survey was carried out with an Apex Max. Min. II unit. East of line 66E, where the mapped basement conductors are overlain by only a few meters of overburden, a coil separation of 50 m and a frequency of 3.55 kHz were used (station interval = 25 m). The area west of line 66E was surveyed at a frequency of 1.77 kHz and a coil separation of 250 m (station interval = 50 m). The survey results are shown on Map 344. The deep conductor west of line 62E at $10^{\circ} 75'N$, trending 270° (W), is correlated with a zone of low surface resistivities ($1.5-3.0 \times 10^3 \Omega m$) which is interpreted as due to an open fault. The location of the HEM conductor's axis is shifted approximately 30 m to the south with regard to the axis of crossovers of a recently performed VEM survey. The VEM data probably is influenced by both structures, the deep EM conductor and the low resistivity zone in the sediments and is to a lesser degree diagnostic. The depth to the top of the conductor east of Camie River is 120 m and greater, resulting in a weak HEM signal, of which the quadrature component was used for the interpretation. In the area between lines 62E and 66E however the anomaly totally is masked by the response of cover rocks of very low resistivities (fault?, $.5-1.5 \times 10^3 \Omega m$).

1.5 SUMMARY AND CONCLUSION

The location of the unconformity is based on IP chargeability data and on the results of geological mapping. The unconformity in general is trending 75° (ENE) but occasionally it is displaced by approximately 25° (NNE) or 135° (SE) trending faults. East of Camie River between lines 58E and 68E and south of $7^{\circ} 00'N$ the location of the unconformity is undefined so far because a semi-consolidated sand deposit covers the area. North of the unconformity both an EM-conductor (conductivity-thickness product between $4 \Omega^{-1}$ and infinite) and a magnetic anomaly were mapped located in a broad zone of low resistivity (IP data). The resistivity low is caused by a major fault zone as was confirmed by the 1980 drilling performed in the Camie River area. It is most likely that there, where the fault is correlated with the unconformity vertical displacements of the basement of more than one hundred meters have occurred.

The magnetic anomaly is interpreted as being caused by a dike-shaped body having a susceptibility between 20×10^3 and 40×10^3 emu at a depth that varies between 150 m and 350 m. However, the depth to the top of the conductor which seems to be related to the magnetic dike is much less, ranging between 35 m and 120 m.

East of the river, between lines 56E and 66E, both the conductor and the magnetic dike are located deep beneath the sedimentary cover, however east of line 66E, both targets are located close to the surface in andesitic rocks. From this, it seems most likely that a fault zone with vertical displacements of at least 100 m runs between lines 66E and 68E. Both facts that east of line 68E the conductor is strongly magnetic (susceptibility 20,000 emu, pyrrhotite?) and at Camie River the conductor consists of graphite and pyrite but it is also correlated with a magnetic anomaly from a source at greater depth led us to the conclusion that in general the EM and the magnetic anomalies are caused by the same geological unit which in vertical direction gradually changes from pyrite to pyrrhotite (facies change). East of line 68E however, where no sedimentary cover protected the basement rocks, the pyrite-graphite sequence has been eroded.

Microfilm

PAGES DE DIMENSION HORS STANDARD

**MICROFILMÉE SUR 35 MM ET
POSITIONNÉES À LA SUITE DES
PRÉSENTES PAGES STANDARDS**

Numérique

PAGES DE DIMENSION HORS STANDARD

**NUMÉRISÉE ET POSITIONNÉE À LA
SUITE DES PRÉSENTES PAGES STANDARDS**

APPENDIX 4

WINTER GEOCHEMICAL SURVEYS: DATA SHEETS

- 4.1 Track Etch Survey
- 4.2 He Survey
- 4.3 Chemical Analyses Sheets

Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique

DATE: 24 NOV. 1981

No. G.M.: 37604

122
1981
2/17

4.1 TRACK ETCH SURVEY.

RECEIVED
APR 29 1981

APR 29 1981

TRACK ETCH® SERVICE PROGRAM
FOR
GORDONS LAKE WEST BLOCK AREA



TERRADEX CORPORATION

460 N. Wiget Lane
Walnut Creek, CA 94598, U.S.A
(415) 938-2545 • Telex 33-7793

April 21, 1980

Dr. Klaus Lehnert - Thiel
Uranerz Exploration & Mining Ltd.
204-229 4th Ave. South
Saskatoon, Saskatchewan S7K 1N1
Canada

Dear Dr. Lehnert-Thiel:

I am enclosing two sets of final tabulated data from your recent 237 cup Track Etch survey of the Gordons Lake West Block Area. The Improved System Track Etch cups were utilized for this survey. The Track Etch readings are reported in units of tracks per square millimeter (T/sq.mm) and they are normalized to equivalent 30 day exposures. The data have been tabulated in two different ways for easy use; firstly by ascending Track Etch readings and secondly, by ascending serial numbers. The readings ranged from 0.4 to 127.4 T/sq.mm and the mean of the background distribution for the area was 12.0 T/sq.mm. The standard deviation of the background mean was 6.8 T/sq.mm or 56.2%. All statistics on the program are also included on the attached statistics sheet. Readings on 6 cups were not available for mapping or statistical analysis because the cups were either lost during field operations or were unusable because of damage.

The background mean and its standard deviation are related to shallow mineralization of uranium at ppm levels. For this survey the background mean is much less than your recent Maurice Bay 71-41 program average of 39.8 T/sq.mm.

High ranking points may be expressed in terms of "Z", the number of standard deviations above background. Rudimentary statistics imply that values with Z greater than three have a very low probability of belonging to the background distribution and hence are anomalous. The range of "Z" for the high ranking points in your survey are shown below together with the more conventional ratio to background.

<u>Range of Z</u>	<u># of Points</u>	<u>Range of T/sq.mm</u>	<u>Range of Ratio to Background</u>
2 - 3	8	25.8 - 32.0	2.1 - 2.7
3 - 4	4	34.0 - 37.4	2.8 - 3.1
4 - 5	3	41.7 - 43.2	3.5 - 3.6
OVER 5	2	49.0 - 127.4	4.1 - 10.6

It is highly improbable that points with Z greater than 3 are part of the background distribution; hence they are almost certainly anomalous. In this survey 9 points have a Z greater than 3, or 3.9% of the total. This, in our experience, is a lower than average percentage and represents a lower overall potential for mineralization, unless there is strong spatial clustering of high ranking points. The slightly elevated magnitude of

the high ranking points is only somewhat encouraging, especially if the mineralized horizon is very deep or beneath relatively gas-impermeable overburden.

No contour map was prepared because a "fence-line" type map is not amenable to computer contouring. Included is a map which shows the measured detector readings (rounded to full T/sq.mm values) at their correct relative locations with boxes around the higher readings that are at least two standard deviations above the background values. This map drawn to the same scale as the field location map you prepared so it can be easily used by overlaying on this base map.

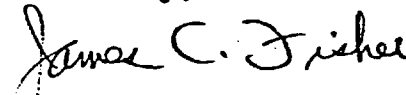
The map show four major anomalies as follows:

<u>Anomaly</u>	<u>High Cup Serial Number</u>	<u>Anomalous Points in Cluster</u>	<u>High Cup T/Sq.mm</u>	<u>Ratio to Background</u>
A	1569	4	127.4	10.6
B	1639	3	49.0	4.1
C	1419	2	43.2	3.6
D	1607	1	43.2	3.6

These are only slightly encouraging anomalies as compared to known successful surveys. Only drilling, of course, can establish if the origin of the radon anomaly is shallow and low grade or deep and high grade.

It has been a pleasure to work with you on this program and we look forward to serving you again in the future.

Sincerely,


James C. Fisher
Senior Geologist

JCF/bam
Enclosures

TRACK ETCH SURVEY RESULTS AND STATISTICS

VALUES GIVEN IN T/SQ. MM. NORMALIZED TO 30 DAY EXPOSURE

NO. USEFUL PTS. : 231

HIGH (T/SQ. MM.): 127.4

LOW (T/SQ. MM.): 0.4

BACKGROUND MEAN (T/SQ. MM.): 12.0

STD. DEVIATION OF BKG. MEAN (T/SQ. MM.): 6.8

RELATIVE STD. DEVIATION (PERCENT): 56.2

HIGH RANKING POINTS

<u>RANGE OF Z</u>	<u>NO. OF PTS.</u>	<u>RANGE OF Y</u>	<u>RANGE OF RATIO TO BACKGROUND</u>
2 - 3	8	25.8 - 32.0	2.1 - 2.7
3 - 4	4	34.0 - 37.4	2.8 - 3.1
4 - 5	3	41.7 - 43.2	3.5 - 3.6
OVER 5	2	49.0 - 127.4	4.1 - 10.6

NO. OF PTS. ABOVE Z = 3: 9

PERCENT OF TOTAL PTS. : 3.9

(Z IS THE NUMBER OF STD. DEVIATIONS ABOVE BKG. MEAN)

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
	1559.	3800E	1350N	95	17	30	02M149
	1414.	1000E	1800N	50	15	25	02M004
	1477.	2600E	1850N	45	15	15	02M067
	1554.	3800E	1475N	100	16	25	02M144
	1585.	4200E	1505N	115	17	30	02M175
	1446.	2000E	1775N	25	14	40	02M036
0.4	1440.	2000E	1625N	60	15	30	02M030
0.6	1460.	2400E	1775N	45	16	20	02M050
0.6	1430.	1400E	1825N	45	16	40	02M020
1.0	1420.	1000E	1650N	45	15	15	02M010
1.0	1480.	2600E	1925N	30	16	25	02M070
1.0	1500.	3000E	1750N	40	15	35	02M090
1.0	1450.	2200E	1875N	40	15	20	02M040
1.0	1452.	2200E	1825N	40	15	35	02M042
1.0	1422.	1400E	1640N	40	15	35	02M012
1.0	1540.	3600E	1425N	50	10	15	02M130
1.1	1551.	3800E	1550N	45	17	25	02M141
1.1	1590.	4200E	1400N	80	14	20	02M180
1.1	1561.	3800E	1300N	115	14	20	02M151
1.2	1640.	TL10N	5350E	30	13	25	02M230
1.2	1620.	5000E	1325N	30	16	35	02M210
1.2	1610.	4800E	1225N	30	08	25	02M200
1.2	1622.	5000E	1375N	30	03	15	02M212
1.6	1530.	3400E	1375N	50	14	50	02M120
2.2	1421.	1400E	1625N	45	13	30	02M011
2.2	1444.	2000E	1725N	50	16	20	02M034
2.5	1560.	3800E	1325N	75	16	20	02M150
2.5	1580.	4000E	1700N	55	16	25	02M170
2.6	1638.	TL10N	5400E	55	16	15	02M228
2.6	1650.	TL10N	5500E	60	16	25	02M240
3.5	1510.	3200E	1725N	40	18	20	02M100
3.5	1504.	3000E	1850N	65	15	25	02M094
3.5	1492.	2800E	1750N	50	16	25	02M082
3.7	1539.	3600E	1400N	50	15	25	02M129
3.8	1570.	4000E	1450N	70	16	20	02M160
4.1	1643.	TL10N	5275E	50	15	20	02M233
4.7	1470.	2400E	2025N	60	16	15	02M060
4.7	1482.	2600E	1975N	40	18	25	02M072
4.7	1496.	3000E	1650N	40	15	15	02M086
5.0	1548.	3600E	1625N	50	13	20	02M138
6.0	1467.	2400E	1950N	50	16	35	02M057
6.0	1427.	1400E	1750N	45	15	20	02M017
6.0	1425.	1400E	1700N	50	15	35	02M015
6.0	1495.	2800E	1675N	45	12	20	02M085
6.0	1429.	1400E	1800N	50	15	25	02M019
6.0	1459.	2400E	1750N	40	15	30	02M049
6.0	1509.	3200E	1750N	50	15	15	02M099
6.0	1423.	1400E	1660N	60	15	50	02M013
6.0	1494.	2800E	1700N	40	15	15	02M084
6.6	1577.	4000E	1625N	60	18	15	02M167

URANERZ GORDONS LAKE WEST BLOCK 4-18-89

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
7.0	1631.	5400E	1100N	60	16	25	02M221
7.2	1499.	3000E	1725N	40	16	30	02M089
7.2	1447.	2000E	1800N	40	15	25	02M037
7.2	1469.	2400E	2000N	90	15	45	02M059
7.2	1463.	2400E	1850N	40	14	30	02M053
7.2	1471.	2400E	2050N	50	12	15	02M061
7.2	1487.	2800E	1875N	55	15	20	02M077
7.2	1458.	2400E	1725N	40	16	20	02M048
7.2	1454.	2200E	1775N	50	15	35	02M044
7.2	1516.	3200E	1575N	50	19	15	02M106
8.0	1557.	3800E	1400N	60	18	15	02M147
8.0	1550.	3800E	1575N	50	15	25	02M140
8.0	1584.	4200E	1525N	90	20	20	02M174
8.1	1472.	2600E	2600E	45	12	20	02M062
8.1	1476.	2600E	1825N	50	13	15	02M066
8.4	1611.	4800E	1250N	50	14	20	02M201
8.4	1644.	TL10N	5250E	50	13	20	02M234
8.4	1609.	4800E	1210N	25	11	35	02M199
8.4	1441.	2000E	1650N	45	15	15	02M031
8.4	1483.	2600E	2000N	50	14	25	02M073
8.4	1497.	3000E	1675N	35	16	20	02M087
8.4	1491.	2800E	1775N	40	15	15	02M081
8.4	1433.	1800E	1725N	60	14	15	02M023
8.4	1519.	3400E	1650N	40	12	20	02M109
8.4	1453.	2200E	1800N	50	15	30	02M043
8.4	1490.	2800E	1800N	40	14	25	02M080
8.4	1481.	2600E	1950N	40	17	20	02M071
8.4	1520.	3400E	1625N	55	12	15	02M110
8.4	1464.	2400E	1875N	40	12	25	02M054
8.4	1432.	1800E	1750N	45	16	30	02M022
8.9	1531.	3600E	1200N	55	14	25	02M121
8.9	1521.	3400E	1600N	60	15	20	02M111
9.2	1475.	2600E	1800N	40	15	15	02M065
9.3	1558.	3800E	1375N	55	13	25	02M148
9.3	1565.	4000E	1325N	70	15	40	02M155
9.3	1568.	4000E	1400N	95	15	30	02M158
9.7	1435.	1800E	1675N	60	15	35	02M025
9.7	1442.	2000E	1675N	50	16	30	02M032
9.7	1505.	3000E	1875N	75	15	30	02M095
9.7	1486.	2800E	1900N	60	16	25	02M076
9.7	1465.	2400E	1900N	40	14	25	02M055
9.7	1478.	2600E	1875N	50	15	25	02M058
9.7	1462.	2400E	1825N	40	14	25	02M052
9.7	1436.	1800E	1650N	50	15	25	02M026
9.7	1456.	2200E	1725N	60	15	15	02M046
9.7	1512.	3200E	1675N	55	16	25	02M102
9.9	1596.	4400E	1200N	50	15	25	02M186
9.9	1598.	4400E	1250N	80	22	30	02M188
9.9	1603.	4400E	1375N	80	16	15	02M193
9.9	1600.	4400E	1300N	75	12	15	02M190

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
10.2	1547.	3600E	1600N	65	14	25	02M137
10.4	1474.	2600E	1775N	55	14	30	02M064
10.7	1591.	4200E	1375N	70	18	20	02M181
10.7	1588.	4200E	1445N	110	21	25	02M178
10.7	1556.	3800E	1425N	115	16	25	02M146
10.7	1552.	3800E	1525N	80	15	25	02M142
10.9	1455.	2200E	1750N	60	15	20	02M045
10.9	1411.	1000E	1875N	55	15	15	02M001
10.9	1461.	2400E	1800N	40	15	30	02M051
10.9	1485.	2800E	1925N	50	14	20	02M075
10.9	1513.	3200E	1650N	50	17	15	02M103
10.9	1434.	1800E	1700N	45	15	15	02M024
10.9	1466.	2400E	1925N	60	15	30	02M056
10.9	1484.	2600E	2025N	30	12	20	02M074
10.9	1428.	1400E	1775N	45	16	25	02M018
11.3	1642.	TL10N	5300E	80	16	40	02M232
11.3	1617.	4800E	1400N	20	18	30	02M207
11.3	1646.	TL10N	5200E	55	14	25	02M236
11.5	1527.	3400E	1450N	55	16	20	02M117
11.5	1534.	3600E	1275N	40	14	20	02M124
11.5	1536.	3600E	1325N	45	17	25	02M126
12.1	1583.	4200E	1550N	80	15	15	02M173
12.2	1437.	1800E	1625N	80	20	30	02M027
12.2	1417.	1000E	1725N	45	13	20	02M007
12.2	1451.	2200E	1850N	40	15	25	02M041
12.2	1506.	3000E	1900N	50	13	20	02M096
12.2	1439.	2000E	1600N	50	14	25	02M029
12.2	1426.	1400E	1725N	35	16	35	02M016
12.2	1518.	3400E	1675N	65	13	30	02M108
12.2	1488.	2800E	1850N	45	13	25	02M078
12.8	1629.	5400E	1050N	75	12	15	02M219
12.8	1625.	5000E	1450N	35	16	15	02M215
12.8	1608.	4400E	1500N	80	18	20	02M198
12.8	1630.	5400E	1075N	80	14	20	02M220
12.8	1606.	4400E	1450N	85	16	20	02M196
12.8	1602.	4400E	1350N	80	13	15	02M192
12.8	1529.	3400E	1400N	50	15	15	02M119
12.8	1522.	3400E	1575N	40	16	25	02M112
13.4	1445.	2000E	1750N	50	15	15	02M035
13.4	1501.	3000E	1775N	60	14	30	02M091
13.4	1457.	2200E	1700N	60	16	20	02M047
13.4	1415.	1000E	1775N	45	12	45	02M005
13.4	1449.	2200E	1900N	50	13	25	02M039
13.4	1418.	1000E	1700N	130	15	40	02M003
13.4	1503.	3000E	1825N	45	16	15	02M093
13.4	1412.	1000E	1850N	45	15	20	02M002
13.5	1594.	4200E	1300N	80	14	20	02M184
13.5	1567.	4000E	1375N	80	16	25	02M157
14.0	1473.	2600E	1750N	50	14	12	02M063
14.1	1538.	3600E	1375N	65	16	25	02M128

DETECTOR READING (T/50. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
14. 1	1532.	3600E	1225N	90	18	35	02M122
14. 1	1543.	3600E	1500N	50	18	15	02M133
14. 1	1541.	3600E	1450N	60	17	20	02M131
14. 1	1525.	3400E	1500N	50	14	25	02M115
14. 2	1604.	4400E	1400N	55	17	15	02M194
14. 2	1618.	4800E	1450N	30	14	20	02M208
14. 2	1647.	TL10N	5175E	70	10	15	02M237
14. 7	1438.	1800E	1600N	40	14	15	02M028
14. 7	1511.	3200E	1700N	45	18	20	02M101
14. 7	1448.	2200E	1925N	60	14	20	02M038
14. 7	1479.	2600E	1900N	40	14	20	02M069
14. 7	1468.	2400E	1975N	45	16	40	02M058
14. 7	1493.	2800E	1725N	50	14	30	02M083
14. 7	1489.	2800E	1825N	40	15	30	02M079
14. 8	1572.	4000E	1500N	65	17	30	02M162
15. 4	1524.	3400E	1525N	60	14	25	02M114
15. 4	1523.	3400E	1550N	50	13	20	02M113
15. 4	1537.	3600E	1350N	65	14	40	02M127
15. 6	1613.	4800E	1300N	45	16	20	02M203
15. 6	1634.	5400E	1175N	35	13	30	02M224
15. 9	1502.	3000E	1800N	75	15	20	02M092
15. 9	1424.	1400E	1680N	35	15	60	02M014
15. 9	1517.	3200E	1550N	50	14	20	02M107
16. 2	1562.	3800E	1275N	75	14	30	02M152
16. 2	1564.	4000E	1300N	70	16	20	02M154
16. 2	1581.	4200E	1600N	75	19	20	02M171
16. 7	1542.	3600E	1475N	55	19	30	02M132
16. 7	1535.	3600E	1300N	50	16	30	02M125
17. 1	1628.	5400E	1025N	70	13	20	02M218
17. 1	1624.	5000E	1425N	55	15	30	02M214
17. 1	1605.	4400E	1425N	120	20	20	02M195
17. 1	1614.	4800E	1325N	50	15	25	02M204
17. 1	1615.	4800E	1350N	35	09	20	02M205
17. 1	1601.	4400E	1325N	75	12	10	02M191
17. 6	1566.	4000E	1350N	110	16	30	02M156
17. 6	1553.	3800E	1500N	75	12	25	02M143
17. 6	1563.	3800E	1250N	70	15	30	02M153
18. 4	1514.	3200E	1625N	40	15	35	02M104
18. 4	1498.	3000E	1700N	40	14	30	02M088
18. 4	1443.	2000E	1700N	50	16	40	02M033
18. 4	1515.	3200E	1600N	60	17	30	02M105
18. 4	1431.	1800E	1775N	60	16	20	02M021
18. 5	1645.	TL10N	5225E	50	12	25	02M235
18. 5	1616.	4800E	1375N	45	14	20	02M206
18. 5	1627.	5000E	1500N	50	12	30	02M217
18. 5	1621.	5000E	1350N	30	17	40	02M211
18. 9	1575.	4000E	1575N	65	18	25	02M165
19. 3	1526.	3400E	1475N	55	12	30	02M116
19. 3	1544.	3600E	1525N	65	15	20	02M134
19. 3	1533.	3600E	1250N	55	14	30	02M123

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
19.6	1413.	1000E	1825N	50	17	20	02M003
19.6	1507.	3200E	1800N	50	14	20	02M097
20.0	1597.	4400E	1225N	55	15	25	02M187
20.0	1648.	TL10N	5425E	70	16	30	02M238
20.3	1555.	3800E	1450N	95	14	20	02M145
21.7	1595.	4200E	1275N	75	15	15	02M185
21.7	1576.	4000E	1600N	90	14	20	02M166
21.7	1573.	4000E	1525N	55	12	20	02M163
21.7	1579.	4000E	1675N	100	13	20	02M169
22.9	1632.	5400E	1125N	75	17	20	02M222
22.9	1623.	5000E	1400N	45	09	25	02M213
23.1	1578.	4000E	1650N	50	14	25	02M168
23.1	1586.	4200E	1485N	75	16	15	02M176
23.1	1582.	4200E	1575N	100	15	20	02M172
23.1	1587.	4200E	1465N	100	17	25	02M177
23.1	1592.	4200E	1350N	80	14	25	02M182
23.2	1528.	3400E	1425N	55	16	35	02M118
24.3	1641.	TL10N	5325E	90	14	25	02M231
24.3	1636.	5400E	1225N	65	16	25	02M226
24.4	1549.	3800E	1600N	55	15	20	02M139
25.8	1637.	5400E	1250N	55	12	30	02M227
27.2	1612.	4800E	1275N	55	15	30	02M202
28.3	1508.	3200E	1775N	55	15	20	02M098
28.7	1649.	TL10N	5450E	60	15	15	02M239
29.7	1546.	3600E	1575N	45	15	15	02M136
31.0	1545.	3600E	1550N	75	16	25	02M135
31.6	1619.	5000E	1300N	45	18	30	02M209
32.0	1416.	1000E	1750N	60	15	25	02M006
34.0	1593.	4200E	1325N	80	15	20	02M183
34.0	1571.	4000E	1475N	110	17	40	02M161
35.4	1574.	4000E	1550N	85	14	20	02M164
37.4	1626.	5000E	1475N	55	17	25	02M216
41.7	1635.	5400E	1200N	75	17	20	02M225
43.2	1607.	4400E	1475N	75	15	15	02M197
43.2	1419.	1000E	1675N	60	12	30	02M009
49.0	1639.	TL10N	5375E	75	16	15	02M229
127.4	1569.	4000E	1425N	145	13	25	02M159

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1411.	10.9	1000E	1875N	55	15	15	02M001
1412.	13.4	1000E	1850N	45	15	20	02M002
1413.	19.6	1000E	1825N	50	17	20	02M003
1414.		1000E	1800N	50	15	25	02M004
1415.	13.4	1000E	1775N	45	12	45	02M005
1416.	32.0	1000E	1750N	60	15	25	02M006
1417.	12.2	1000E	1725N	45	13	20	02M007
1418.	13.4	1000E	1700N	130	15	40	02M008
1419.	43.2	1000E	1675N	60	12	30	02M009
1420.	1.0	1000E	1650N	45	15	15	02M010
1421.	2.2	1400E	1625N	45	13	30	02M011
1422.	1.0	1400E	1640N	40	15	35	02M012
1423.	6.0	1400E	1660N	60	15	50	02M013
1424.	15.9	1400E	1680N	35	15	60	02M014
1425.	6.0	1400E	1700N	50	15	35	02M015
1426.	12.2	1400E	1725N	35	16	35	02M016
1427.	6.0	1400E	1750N	45	15	20	02M017
1428.	10.9	1400E	1775N	45	16	25	02M018
1429.	6.0	1400E	1800N	50	15	25	02M019
1430.	0.6	1400E	1825N	45	16	40	02M020
1431.	18.4	1800E	1775N	60	16	20	02M021
1432.	8.4	1800E	1750N	45	16	30	02M022
1433.	8.4	1800E	1725N	60	14	15	02M023
1434.	10.9	1800E	1700N	45	15	15	02M024
1435.	9.7	1800E	1675N	60	15	35	02M025
1436.	9.7	1800E	1650N	50	15	25	02M026
1437.	12.2	1800E	1625N	80	20	30	02M027
1438.	14.7	1800E	1600N	40	14	15	02M028
1439.	12.2	2000E	1600N	50	14	25	02M029
1440.	0.4	2000E	1625N	60	15	30	02M030
1441.	8.4	2000E	1650N	45	15	15	02M031
1442.	9.7	2000E	1675N	50	16	30	02M032
1443.	18.4	2000E	1700N	50	16	40	02M033
1444.	2.2	2000E	1725N	50	16	20	02M034
1445.	13.4	2000E	1750N	50	15	15	02M035
1446.		2000E	1775N	25	14	40	02M036
1447.	7.2	2000E	1800N	40	15	25	02M037
1448.	14.7	2200E	1925N	60	14	20	02M038
1449.	13.4	2200E	1900N	50	13	25	02M039
1450.	1.0	2200E	1875N	40	15	20	02M040
1451.	12.2	2200E	1850N	40	15	25	02M041
1452.	1.0	2200E	1825N	40	15	35	02M042
1453.	8.4	2200E	1800N	50	15	30	02M043
1454.	7.2	2200E	1775N	50	15	35	02M044
1455.	10.9	2200E	1750N	60	15	20	02M045
1456.	9.7	2200E	1725N	60	15	15	02M046
1457.	13.4	2200E	1700N	60	16	20	02M047
1458.	7.2	2400E	1725N	40	16	20	02M048
1459.	6.0	2400E	1750N	40	15	30	02M049
1460.	0.6	2400E	1775N	45	16	20	02M050

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1461.	10.9	2400E	1800N	40	15	30	02M051
1462.	9.7	2400E	1825N	40	14	25	02M052
1463.	7.2	2400E	1850N	40	14	30	02M053
1464.	8.4	2400E	1875N	40	12	25	02M054
1465.	9.7	2400E	1900N	40	14	25	02M055
1466.	10.9	2400E	1925N	60	15	30	02M056
1467.	6.0	2400E	1950N	50	16	35	02M057
1468.	14.7	2400E	1975N	45	16	40	02M058
1469.	7.2	2400E	2000N	90	15	45	02M059
1470.	4.7	2400E	2025N	60	16	15	02M060
1471.	7.2	2400E	2050N	50	12	15	02M061
1472.	8.1	2600E	2600E	45	12	20	02M062
1473.	14.0	2600E	1750N	50	14	12	02M063
1474.	10.4	2600E	1775N	55	14	30	02M064
1475.	9.2	2600E	1800N	40	15	15	02M065
1476.	8.1	2600E	1825N	50	13	15	02M066
1477.		2600E	1850N	45	15	15	02M067
1478.	9.7	2600E	1875N	50	15	25	02M068
1479.	14.7	2600E	1900N	40	14	20	02M069
1480.	1.0	2600E	1925N	30	16	25	02M070
1481.	8.4	2600E	1950N	40	17	20	02M071
1482.	4.7	2600E	1975N	40	18	25	02M072
1483.	8.4	2600E	2000N	50	14	25	02M073
1484.	10.9	2600E	2025N	30	12	20	02M074
1485.	10.9	2800E	1925N	50	14	20	02M075
1486.	9.7	2800E	1900N	60	16	25	02M076
1487.	7.2	2800E	1875N	55	15	20	02M077
1488.	12.2	2800E	1850N	45	13	25	02M078
1489.	14.7	2800E	1825N	40	15	30	02M079
1490.	8.4	2800E	1800N	40	14	25	02M080
1491.	8.4	2800E	1775N	40	15	15	02M081
1492.	3.5	2800E	1750N	50	16	25	02M082
1493.	14.7	2800E	1725N	50	14	30	02M083
1494.	6.0	2800E	1700N	40	15	15	02M084
1495.	6.0	2800E	1675N	45	12	20	02M085
1496.	4.7	3000E	1650N	40	15	15	02M086
1497.	8.4	3000E	1675N	35	16	20	02M087
1498.	18.4	3000E	1700N	40	14	30	02M088
1499.	7.2	3000E	1725N	40	16	30	02M089
1500.	1.0	3000E	1750N	40	15	35	02M090
1501.	13.4	3000E	1775N	60	14	30	02M091
1502.	15.9	3000E	1800N	75	15	20	02M092
1503.	13.4	3000E	1825N	45	16	15	02M093
1504.	3.5	3000E	1850N	65	15	25	02M094
1505.	9.7	3000E	1875N	75	15	30	02M095
1506.	12.2	3000E	1900N	50	13	20	02M096
1507.	19.6	3200E	1800N	50	14	20	02M097
1508.	28.3	3200E	1775N	55	15	20	02M098
1509.	6.0	3200E	1750N	50	15	15	02M099
1510.	3.5	3200E	1725N	40	18	20	02M100

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1511.	14.7	3200E	1700N	45	18	20	02M101.
1512.	9.7	3200E	1675N	55	16	25	02M102
1513.	10.9	3200E	1650N	50	17	15	02M103
1514.	18.4	3200E	1625N	40	15	35	02M104
1515.	18.4	3200E	1600N	60	17	30	02M105
1516.	7.2	3200E	1575N	50	19	15	02M106
1517.	15.9	3200E	1550N	50	14	20	02M107
1518.	12.2	3400E	1675N	65	13	30	02M108
1519.	8.4	3400E	1650N	40	12	20	02M109
1520.	8.4	3400E	1625N	55	12	15	02M110
1521.	8.9	3400E	1600N	60	15	20	02M111
1522.	12.8	3400E	1575N	40	16	25	02M112
1523.	15.4	3400E	1550N	50	13	20	02M113
1524.	15.4	3400E	1525N	60	14	25	02M114
1525.	14.1	3400E	1500N	50	14	25	02M115
1526.	19.3	3400E	1475N	55	12	30	02M116
1527.	11.5	3400E	1450N	55	16	20	02M117
1528.	23.2	3400E	1425N	55	16	35	02M118
1529.	12.8	3400E	1400N	50	15	15	02M119
1530.	1.6	3400E	1375N	50	14	50	02M120
1531.	8.9	3600E	1200N	55	14	25	02M121
1532.	14.1	3600E	1225N	90	18	35	02M122
1533.	19.3	3600E	1250N	55	14	30	02M123
1534.	11.5	3600E	1275N	40	14	20	02M124
1535.	16.7	3600E	1300N	50	16	30	02M125
1536.	11.5	3600E	1325N	45	17	25	02M126
1537.	15.4	3600E	1350N	65	14	40	02M127
1538.	14.1	3600E	1375N	65	16	25	02M128
1539.	3.7	3600E	1400N	50	15	25	02M129
1540.	1.0	3600E	1425N	50	10	15	02M130
1541.	14.1	3600E	1450N	60	17	20	02M131
1542.	16.7	3600E	1475N	55	19	30	02M132
1543.	14.1	3600E	1500N	50	18	15	02M133
1544.	19.3	3600E	1525N	65	15	20	02M134
1545.	31.0	3600E	1550N	75	16	25	02M135
1546.	29.7	3600E	1575N	45	15	15	02M136
1547.	10.2	3600E	1600N	65	14	25	02M137
1548.	5.0	3600E	1625N	50	13	20	02M138
1549.	24.4	3800E	1600N	55	15	20	02M139
1550.	8.0	3800E	1575N	50	15	25	02M140
1551.	1.1	3800E	1550N	45	17	25	02M141
1552.	10.7	3800E	1525N	80	15	25	02M142
1553.	17.6	3800E	1500N	75	12	25	02M143
1554.		3800E	1475N	100	16	25	02M144
1555.	20.3	3800E	1450N	95	14	20	02M145
1556.	10.7	3800E	1425N	115	16	25	02M146
1557.	8.0	3800E	1400N	60	18	15	02M147
1558.	9.3	3800E	1375N	55	13	25	02M148
1559.		3800E	1350N	95	17	30	02M149
1560.	2.5	3800E	1325N	75	16	20	02M150

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1561.	1. 1	3800E	1300N	115	14	20	02M151
1562.	16. 2	3800E	1275N	75	14	30	02M152
1563.	17. 6	3800E	1250N	70	15	30	02M153
1564.	16. 2	4000E	1300N	70	16	20	02M154
1565.	9. 3	4000E	1325N	70	15	40	02M155
1566.	17. 6	4000E	1350N	110	16	30	02M156
1567.	13. 5	4000E	1375N	80	16	25	02M157
1568.	9. 3	4000E	1400N	95	15	30	02M158
1569.	127. 4	4000E	1425N	145	13	25	02M159
1570.	3. 8	4000E	1450N	70	16	20	02M160
1571.	34. 0	4000E	1475N	110	17	40	02M161
1572.	14. 8	4000E	1500N	65	17	30	02M162
1573.	21. 7	4000E	1525N	55	12	20	02M163
1574.	35. 4	4000E	1550N	85	14	20	02M164
1575.	18. 9	4000E	1575N	65	18	25	02M165
1576.	21. 7	4000E	1600N	90	14	20	02M166
1577.	6. 6	4000E	1625N	60	18	15	02M167
1578.	23. 1	4000E	1650N	50	14	25	02M168
1579.	21. 7	4000E	1675N	100	13	20	02M169
1580.	2. 5	4000E	1700N	55	16	25	02M170
1581.	16. 2	4200E	1600N	75	19	20	02M171
1582.	23. 1	4200E	1575N	100	15	20	02M172
1583.	12. 1	4200E	1550N	80	15	15	02M173
1584.	8. 0	4200E	1525N	90	20	20	02M174
1585.		4200E	1505N	115	17	30	02M175
1586.	23. 1	4200E	1485N	75	16	15	02M176
1587.	23. 1	4200E	1465N	100	17	25	02M177
1588.	10. 7	4200E	1445N	110	21	25	02M178
1590.	1. 1	4200E	1400N	80	14	20	02M180
1591.	10. 7	4200E	1375N	70	18	20	02M181
1592.	23. 1	4200E	1350N	80	14	25	02M182
1593.	34. 0	4200E	1325N	80	15	20	02M183
1594.	13. 5	4200E	1300N	80	14	20	02M184
1595.	21. 7	4200E	1275N	75	15	15	02M185
1596.	9. 9	4400E	1200N	50	15	25	02M186
1597.	20. 0	4400E	1225N	55	15	25	02M187
1598.	9. 9	4400E	1250N	80	22	30	02M188
1600.	9. 9	4400E	1300N	75	12	15	02M190
1601.	17. 1	4400E	1325N	75	12	10	02M191
1602.	12. 8	4400E	1350N	80	13	15	02M192
1603.	9. 9	4400E	1375N	80	16	15	02M193
1604.	14. 2	4400E	1400N	55	17	15	02M194
1605.	17. 1	4400E	1425N	120	20	20	02M195
1606.	12. 8	4400E	1450N	85	16	20	02M196
1607.	43. 2	4400E	1475N	75	15	15	02M197
1608.	12. 8	4400E	1500N	80	18	20	02M198
1609.	8. 4	4800E	1210N	25	11	35	02M199
1610.	1. 2	4800E	1225N	30	08	25	02M200
1611.	8. 4	4800E	1250N	50	14	20	02M201
1612.	27. 2	4800E	1275N	55	15	30	02M202

SERIAL NUMBER	CUP DETECTOR READING (T/50. MM.)	FIELD NOTES AND DATA					
1613.	15. 6	4800E	1300N	45	16	20	02M203
1614.	17. 1	4800E	1325N	50	15	25	02M204
1615.	17. 1	4800E	1350N	35	09	20	02M205
1616.	18. 5	4800E	1375N	45	14	20	02M206
1617.	11. 3	4800E	1400N	20	18	30	02M207
1618.	14. 2	4800E	1450N	30	14	20	02M208
1619.	31. 6	5000E	1300N	45	18	30	02M209
1620.	1. 2	5000E	1325N	30	16	35	02M210
1621.	18. 5	5000E	1350N	30	17	40	02M211
1622.	1. 2	5000E	1375N	30	03	15	02M212
1623.	22. 9	5000E	1400N	45	09	25	02M213
1624.	17. 1	5000E	1425N	55	15	30	02M214
1625.	12. 8	5000E	1450N	35	16	15	02M215
1626.	37. 4	5000E	1475N	55	17	25	02M216
1627.	18. 5	5000E	1500N	50	12	30	02M217
1628.	17. 1	5400E	1025N	70	13	20	02M218
1629.	12. 8	5400E	1050N	75	12	15	02M219
1630.	12. 8	5400E	1075N	80	14	20	02M220
1631.	7. 0	5400E	1100N	60	16	25	02M221
1632.	22. 9	5400E	1125N	75	17	20	02M222
1634.	15. 6	5400E	1175N	35	13	30	02M224
1635.	41. 7	5400E	1200N	75	17	20	02M225
1636.	24. 3	5400E	1225N	65	16	25	02M226
1637.	25. 8	5400E	1250N	55	12	30	02M227
1638.	2. 6	TL10N	5400E	55	16	15	02M228
1639.	49. 0	TL10N	5375E	75	16	15	02M229
1640.	1. 2	TL10N	5350E	30	13	25	02M230
1641.	24. 3	TL10N	5325E	90	14	25	02M231
1642.	11. 3	TL10N	5300E	80	16	40	02M232
1643.	4. 1	TL10N	5275E	50	15	20	02M233
1644.	8. 4	TL10N	5250E	50	13	20	02M234
1645.	18. 5	TL10N	5225E	50	12	25	02M235
1646.	11. 3	TL10N	5200E	55	14	25	02M236
1647.	14. 2	TL10N	5175E	70	10	15	02M237
1648.	20. 0	TL10N	5425E	70	16	30	02M238
1649.	28. 7	TL10N	5450E	60	15	15	02M239
1650.	2. 6	TL10N	5500E	60	16	25	02M240

TRACK ETCH SURVEY RESULTS AND STATISTICS

VALUES GIVEN IN T/SQ. MM. NORMALIZED TO 30 DAY EXPOSURE

NO. USEFUL PTS. : 231
 HIGH (T/SQ. MM.): 127.4
 LOW (T/SQ. MM.): 0.4

BACKGROUND MEAN (T/SQ. MM.): 12.0
 STD. DEVIATION OF BKG. MEAN (T/SQ. MM.): 6.8
 RELATIVE STD. DEVIATION (PERCENT): 56.2

HIGH RANKING POINTS

<u>RANGE OF Z</u>	<u>NO. OF PTS.</u>	<u>RANGE OF T</u>	<u>RANGE OF RATIO TO BACKGROUND</u>
2 - 3	8	25.8 - 32.0	2.1 - 2.7
3 - 4	4	34.0 - 37.4	2.8 - 3.1
4 - 5	3	41.7 - 43.2	3.5 - 3.6
OVER 5	2	49.0 - 127.4	4.1 - 10.6

NO. OF PTS. ABOVE Z = 3: 9

PERCENT OF TOTAL PTS. : 3.9

(Z IS THE NUMBER OF STD. DEVIATIONS ABOVE BKG. MEAN)

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1411.	10.9	1000E	1875N	55	15	15	02M001
1412.	13.4	1000E	1850N	45	15	20	02M002
1413.	19.6	1000E	1825N	50	17	20	02M003
1414.		1000E	1800N	50	15	25	02M004
1415.	13.4	1000E	1775N	45	12	45	02M005
1416.	32.0	1000E	1750N	60	15	25	02M006
1417.	12.2	1000E	1725N	45	13	20	02M007
1418.	13.4	1000E	1700N	130	15	40	02M008
1419.	43.2	1000E	1675N	60	12	30	02M009
1420.	1.0	1000E	1650N	45	15	15	02M010
1421.	2.2	1400E	1625N	45	13	30	02M011
1422.	1.0	1400E	1640N	40	15	35	02M012
1423.	6.0	1400E	1660N	60	15	50	02M013
1424.	15.9	1400E	1680N	35	15	60	02M014
1425.	6.0	1400E	1700N	50	15	35	02M015
1426.	12.2	1400E	1725N	35	16	35	02M016
1427.	6.0	1400E	1750N	45	15	20	02M017
1428.	10.9	1400E	1775N	45	16	25	02M018
1429.	6.0	1400E	1800N	50	15	25	02M019
1430.	0.6	1400E	1825N	45	16	40	02M020
1431.	18.4	1800E	1775N	60	16	20	02M021
1432.	8.4	1800E	1750N	45	16	30	02M022
1433.	8.4	1800E	1725N	60	14	15	02M023
1434.	10.9	1800E	1700N	45	15	15	02M024
1435.	9.7	1800E	1675N	60	15	35	02M025
1436.	9.7	1800E	1650N	50	15	25	02M026
1437.	12.2	1800E	1625N	80	20	30	02M027
1438.	14.7	1800E	1600N	40	14	15	02M028
1439.	12.2	2000E	1600N	50	14	25	02M029
1440.	0.4	2000E	1625N	60	15	30	02M030
1441.	8.4	2000E	1650N	45	15	15	02M031
1442.	9.7	2000E	1675N	50	16	30	02M032
1443.	18.4	2000E	1700N	50	16	40	02M033
1444.	2.2	2000E	1725N	50	16	20	02M034
1445.	13.4	2000E	1750N	50	15	15	02M035
1446.		2000E	1775N	25	14	40	02M036
1447.	7.2	2000E	1800N	40	15	25	02M037
1448.	14.7	2200E	1925N	60	14	20	02M038
1449.	13.4	2200E	1900N	50	13	25	02M039
1450.	1.0	2200E	1875N	40	15	20	02M040
1451.	12.2	2200E	1850N	40	15	25	02M041
1452.	1.0	2200E	1825N	40	15	35	02M042
1453.	8.4	2200E	1800N	50	15	30	02M043
1454.	7.2	2200E	1775N	50	15	35	02M044
1455.	10.9	2200E	1750N	60	15	20	02M045
1456.	9.7	2200E	1725N	60	15	15	02M046
1457.	13.4	2200E	1700N	60	16	20	02M047
1458.	7.2	2400E	1725N	40	16	20	02M048
1459.	6.0	2400E	1750N	40	15	30	02M049
1460.	0.6	2400E	1775N	45	16	20	02M050

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1461.	10.9	2400E	1800N	40	15	30	02M051
1462.	9.7	2400E	1825N	40	14	25	02M052
1463.	7.2	2400E	1850N	40	14	30	02M053
1464.	8.4	2400E	1875N	40	12	25	02M054
1465.	9.7	2400E	1900N	40	14	25	02M055
1466.	10.9	2400E	1925N	60	15	30	02M056
1467.	6.0	2400E	1950N	50	16	35	02M057
1468.	14.7	2400E	1975N	45	16	40	02M058
1469.	7.2	2400E	2000N	90	15	45	02M059
1470.	4.7	2400E	2025N	60	16	15	02M060
1471.	7.2	2400E	2050N	50	12	15	02M061
1472.	8.1	2600E	2600E	45	12	20	02M062
1473.	14.0	2600E	1750N	50	14	12	02M063
1474.	10.4	2600E	1775N	55	14	30	02M064
1475.	9.2	2600E	1800N	40	15	15	02M065
1476.	8.1	2600E	1825N	50	13	15	02M066
1477.		2600E	1850N	45	15	15	02M067
1478.	9.7	2600E	1875N	50	15	25	02M068
1479.	14.7	2600E	1900N	40	14	20	02M069
1480.	1.0	2600E	1925N	30	16	25	02M070
1481.	8.4	2600E	1950N	40	17	20	02M071
1482.	4.7	2600E	1975N	40	18	25	02M072
1483.	8.4	2600E	2000N	50	14	25	02M073
1484.	10.9	2600E	2025N	30	12	20	02M074
1485.	10.9	2800E	1925N	50	14	20	02M075
1486.	9.7	2800E	1900N	60	16	25	02M076
1487.	7.2	2800E	1875N	55	15	20	02M077
1488.	12.2	2800E	1850N	45	13	25	02M078
1489.	14.7	2800E	1825N	40	15	30	02M079
1490.	8.4	2800E	1800N	40	14	25	02M080
1491.	8.4	2800E	1775N	40	15	15	02M081
1492.	3.5	2800E	1750N	50	16	25	02M082
1493.	14.7	2800E	1725N	50	14	30	02M083
1494.	6.0	2800E	1700N	40	15	15	02M084
1495.	6.0	2800E	1675N	45	12	20	02M085
1496.	4.7	3000E	1650N	40	15	15	02M086
1497.	8.4	3000E	1675N	35	16	20	02M087
1498.	18.4	3000E	1700N	40	14	30	02M088
1499.	7.2	3000E	1725N	40	16	30	02M089
1500.	1.0	3000E	1750N	40	15	35	02M090
1501.	13.4	3000E	1775N	60	14	30	02M091
1502.	15.9	3000E	1800N	75	15	20	02M092
1503.	13.4	3000E	1825N	45	16	15	02M093
1504.	3.5	3000E	1850N	65	15	25	02M094
1505.	9.7	3000E	1875N	75	15	30	02M095
1506.	12.2	3000E	1900N	50	13	20	02M096
1507.	19.6	3200E	1800N	50	14	20	02M097
1508.	28.3	3200E	1775N	55	15	20	02M098
1509.	6.0	3200E	1750N	50	15	15	02M099
1510.	3.5	3200E	1725N	40	18	20	02M100

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1511.	14.7	3200E	1700N	45	18	20	02M101
1512.	9.7	3200E	1675N	55	16	25	02M102
1513.	10.9	3200E	1650N	50	17	15	02M103
1514.	18.4	3200E	1625N	40	15	35	02M104
1515.	18.4	3200E	1600N	60	17	30	02M105
1516.	7.2	3200E	1575N	50	19	15	02M106
1517.	15.9	3200E	1550N	50	14	20	02M107
1518.	12.2	3400E	1675N	65	13	30	02M108
1519.	8.4	3400E	1650N	40	12	20	02M109
1520.	8.4	3400E	1625N	55	12	15	02M110
1521.	8.9	3400E	1600N	60	15	20	02M111
1522.	12.8	3400E	1575N	40	16	25	02M112
1523.	15.4	3400E	1550N	50	13	20	02M113
1524.	15.4	3400E	1525N	60	14	25	02M114
1525.	14.1	3400E	1500N	50	14	25	02M115
1526.	19.3	3400E	1475N	55	12	30	02M116
1527.	11.5	3400E	1450N	55	16	20	02M117
1528.	23.2	3400E	1425N	55	16	35	02M118
1529.	12.8	3400E	1400N	50	15	15	02M119
1530.	1.6	3400E	1375N	50	14	50	02M120
1531.	8.9	3600E	1200N	55	14	25	02M121
1532.	14.1	3600E	1225N	90	18	35	02M122
1533.	19.3	3600E	1250N	55	14	30	02M123
1534.	11.5	3600E	1275N	40	14	20	02M124
1535.	16.7	3600E	1300N	50	16	30	02M125
1536.	11.5	3600E	1325N	45	17	25	02M126
1537.	15.4	3600E	1350N	65	14	40	02M127
1538.	14.1	3600E	1375N	65	16	25	02M128
1539.	3.7	3600E	1400N	50	15	25	02M129
1540.	1.0	3600E	1425N	50	10	15	02M130
1541.	14.1	3600E	1450N	60	17	20	02M131
1542.	16.7	3600E	1475N	55	19	30	02M132
1543.	14.1	3600E	1500N	50	18	15	02M133
1544.	19.3	3600E	1525N	65	15	20	02M134
1545.	31.0	3600E	1550N	75	16	25	02M135
1546.	29.7	3600E	1575N	45	15	15	02M136
1547.	10.2	3600E	1600N	65	14	25	02M137
1548.	5.0	3600E	1625N	50	13	20	02M138
1549.	24.4	3800E	1600N	55	15	20	02M139
1550.	8.0	3800E	1575N	50	15	25	02M140
1551.	1.1	3800E	1550N	45	17	25	02M141
1552.	10.7	3800E	1525N	80	15	25	02M142
1553.	17.6	3800E	1500N	75	12	25	02M143
1554.		3800E	1475N	100	16	25	02M144
1555.	20.3	3800E	1450N	95	14	20	02M145
1556.	10.7	3800E	1425N	115	16	25	02M146
1557.	8.0	3800E	1400N	60	18	15	02M147
1558.	9.3	3800E	1375N	55	13	25	02M148
1559.		3800E	1350N	95	17	30	02M149
1560.	2.5	3800E	1325N	75	16	20	02M150

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1561.	1. 1	3800E	1300N	115	14	20	02M151
1562.	16. 2	3800E	1275N	75	14	30	02M152
1563.	17. 6	3800E	1250N	70	15	30	02M153
1564.	16. 2	4000E	1300N	70	16	20	02M154
1565.	9. 3	4000E	1325N	70	15	40	02M155
1566.	17. 6	4000E	1350N	110	16	30	02M156
1567.	13. 5	4000E	1375N	80	16	25	02M157
1568.	9. 3	4000E	1400N	95	15	30	02M158
1569.	127. 4	4000E	1425N	145	13	25	02M159
1570.	3. 8	4000E	1450N	70	16	20	02M160
1571.	34. 0	4000E	1475N	110	17	40	02M161
1572.	14. 8	4000E	1500N	65	17	30	02M162
1573.	21. 7	4000E	1525N	55	12	20	02M163
1574.	35. 4	4000E	1550N	85	14	20	02M164
1575.	18. 9	4000E	1575N	65	18	25	02M165
1576.	21. 7	4000E	1600N	90	14	20	02M166
1577.	6. 6	4000E	1625N	60	18	15	02M167
1578.	23. 1	4000E	1650N	50	14	25	02M168
1579.	21. 7	4000E	1675N	100	13	20	02M169
1580.	2. 5	4000E	1700N	55	16	25	02M170
1581.	16. 2	4200E	1600N	75	19	20	02M171
1582.	23. 1	4200E	1575N	100	15	20	02M172
1583.	12. 1	4200E	1550N	80	15	15	02M173
1584.	8. 0	4200E	1525N	90	20	20	02M174
1585.		4200E	1505N	115	17	30	02M175
1586.	23. 1	4200E	1485N	75	16	15	02M176
1587.	23. 1	4200E	1465N	100	17	25	02M177
1588.	10. 7	4200E	1445N	110	21	25	02M178
1590.	1. 1	4200E	1400N	80	14	20	02M180
1591.	10. 7	4200E	1375N	70	18	20	02M181
1592.	23. 1	4200E	1350N	80	14	25	02M182
1593.	34. 0	4200E	1325N	80	15	20	02M183
1594.	13. 5	4200E	1300N	80	14	20	02M184
1595.	21. 7	4200E	1275N	75	15	15	02M185
1596.	9. 9	4400E	1200N	50	15	25	02M186
1597.	20. 0	4400E	1225N	55	15	25	02M187
1598.	9. 9	4400E	1250N	80	22	30	02M188
1600.	9. 9	4400E	1300N	75	12	15	02M190
1601.	17. 1	4400E	1325N	75	12	10	02M191
1602.	12. 8	4400E	1350N	80	13	15	02M192
1603.	9. 9	4400E	1375N	80	16	15	02M193
1604.	14. 2	4400E	1400N	55	17	15	02M194
1605.	17. 1	4400E	1425N	120	20	20	02M195
1606.	12. 8	4400E	1450N	85	16	20	02M196
1607.	43. 2	4400E	1475N	75	15	15	02M197
1608.	12. 8	4400E	1500N	80	18	20	02M198
1609.	8. 4	4800E	1210N	25	11	35	02M199
1610.	1. 2	4800E	1225N	30	08	25	02M200
1611.	8. 4	4800E	1250N	50	14	20	02M201
1612.	27. 2	4800E	1275N	55	15	30	02M202

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
1613.	15.6	4800E	1300N	45	16	20	02M203
1614.	17.1	4800E	1325N	50	15	25	02M204
1615.	17.1	4800E	1350N	35	09	20	02M205
1616.	18.5	4800E	1375N	45	14	20	02M206
1617.	11.3	4800E	1400N	20	18	30	02M207
1618.	14.2	4800E	1450N	30	14	20	02M208
1619.	31.6	5000E	1300N	45	18	30	02M209
1620.	1.2	5000E	1325N	30	16	35	02M210
1621.	18.5	5000E	1350N	30	17	40	02M211
1622.	1.2	5000E	1375N	30	03	15	02M212
1623.	22.9	5000E	1400N	45	09	25	02M213
1624.	17.1	5000E	1425N	55	15	30	02M214
1625.	12.8	5000E	1450N	35	16	15	02M215
1626.	37.4	5000E	1475N	55	17	25	02M216
1627.	18.5	5000E	1500N	50	12	30	02M217
1628.	17.1	5400E	1025N	70	13	20	02M218
1629.	12.8	5400E	1050N	75	12	15	02M219
1630.	12.8	5400E	1075N	80	14	20	02M220
1631.	7.0	5400E	1100N	60	16	25	02M221
1632.	22.9	5400E	1125N	75	17	20	02M222
1634.	15.6	5400E	1175N	35	13	30	02M224
1635.	41.7	5400E	1200N	75	17	20	02M225
1636.	24.3	5400E	1225N	65	16	25	02M226
1637.	25.8	5400E	1250N	55	12	30	02M227
1638.	2.6	TL10N	5400E	55	16	15	02M228
1639.	49.0	TL10N	5375E	75	16	15	02M229
1640.	1.2	TL10N	5350E	30	13	25	02M230
1641.	24.3	TL10N	5325E	90	14	25	02M231
1642.	11.3	TL10N	5300E	80	16	40	02M232
1643.	4.1	TL10N	5275E	50	15	20	02M233
1644.	8.4	TL10N	5250E	50	13	20	02M234
1645.	18.5	TL10N	5225E	50	12	25	02M235
1646.	11.3	TL10N	5200E	55	14	25	02M236
1647.	14.2	TL10N	5175E	70	10	15	02M237
1648.	20.0	TL10N	5425E	70	16	30	02M238
1649.	28.7	TL10N	5450E	60	15	15	02M239
1650.	2.6	TL10N	5500E	60	16	25	02M240

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA
------------------------------------	-------------------------	----------------------

	1559.	3800E 1350N 95 17 30 02M149
	1414.	1000E 1800N 50 15 25 02M004
	1477.	2600E 1850N 45 15 15 02M067
	1554.	3800E 1475N 100 16 25 02M144
	1585.	4200E 1505N 115 17 30 02M175
	1446.	2000E 1775N 25 14 40 02M036
0.4	1440.	2000E 1625N 60 15 30 02M030
0.6	1460.	2400E 1775N 45 16 20 02M050
0.6	1430.	1400E 1825N 45 16 40 02M020
1.0	1420.	1000E 1650N 45 15 15 02M010
1.0	1480.	2600E 1925N 30 16 25 02M070
1.0	1500.	3000E 1750N 40 15 35 02M090
1.0	1450.	2200E 1875N 40 15 20 02M040
1.0	1452.	2200E 1825N 40 15 35 02M042
1.0	1422.	1400E 1640N 40 15 35 02M012
1.0	1540.	3600E 1425N 50 10 15 02M130
1.1	1551.	3800E 1550N 45 17 25 02M141
1.1	1590.	4200E 1400N 80 14 20 02M180
1.1	1561.	3800E 1300N 115 14 20 02M151
1.2	1640.	TL10N 5350E 30 13 25 02M230
1.2	1620.	5000E 1325N 30 16 35 02M210
1.2	1610.	4800E 1225N 30 08 25 02M200
1.2	1622.	5000E 1375N 30 03 15 02M212
1.6	1530.	3400E 1375N 50 14 50 02M120
2.2	1421.	1400E 1625N 45 13 30 02M011
2.2	1444.	2000E 1725N 50 16 20 02M034
2.5	1560.	3800E 1325N 75 16 20 02M150
2.5	1580.	4000E 1700N 55 16 25 02M170
2.6	1638.	TL10N 5400E 55 16 15 02M228
2.6	1650.	TL10N 5500E 60 16 25 02M240
3.5	1510.	3200E 1725N 40 18 20 02M100
3.5	1504.	3000E 1850N 65 15 25 02M094
3.5	1492.	2800E 1750N 50 16 25 02M082
3.7	1539.	3600E 1400N 50 15 25 02M129
3.8	1570.	4000E 1450N 70 16 20 02M160
4.1	1643.	TL10N 5275E 50 15 20 02M233
4.7	1470.	2400E 2025N 60 16 15 02M060
4.7	1482.	2600E 1975N 40 18 25 02M072
4.7	1496.	3000E 1650N 40 15 15 02M086
5.0	1548.	3600E 1625N 50 13 20 02M138
6.0	1467.	2400E 1950N 50 16 35 02M057
6.0	1427.	1400E 1750N 45 15 20 02M017
6.0	1425.	1400E 1700N 50 15 35 02M015
6.0	1495.	2800E 1675N 45 12 20 02M085
6.0	1429.	1400E 1800N 50 15 25 02M019
6.0	1459.	2400E 1750N 40 15 30 02M049
6.0	1509.	3200E 1750N 50 15 15 02M099
6.0	1423.	1400E 1660N 60 15 50 02M013
6.0	1494.	2800E 1700N 40 15 15 02M084
6.6	1577.	4000E 1625N 60 18 15 02M167

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
7.0	1631.	5400E	1100N	60	16	25	02M221
7.2	1499.	3000E	1725N	40	16	30	02M089
7.2	1447.	2000E	1800N	40	15	25	02M037
7.2	1469.	2400E	2000N	90	15	45	02M059
7.2	1463.	2400E	1850N	40	14	30	02M053
7.2	1471.	2400E	2050N	50	12	15	02M061
7.2	1487.	2800E	1875N	55	15	20	02M077
7.2	1458.	2400E	1725N	40	16	20	02M048
7.2	1454.	2200E	1775N	50	15	35	02M044
7.2	1516.	3200E	1575N	50	19	15	02M106
8.0	1557.	3800E	1400N	60	18	15	02M147
8.0	1550.	3800E	1575N	50	15	25	02M140
8.0	1584.	4200E	1525N	90	20	20	02M174
8.1	1472.	2600E	2600E	45	12	20	02M062
8.1	1476.	2600E	1825N	50	13	15	02M066
8.4	1611.	4800E	1250N	50	14	20	02M201
8.4	1644.	TL10N	5250E	50	13	20	02M234
8.4	1609.	4800E	1210N	25	11	35	02M199
8.4	1441.	2000E	1650N	45	15	15	02M031
8.4	1483.	2600E	2000N	50	14	25	02M073
8.4	1497.	3000E	1675N	35	16	20	02M087
8.4	1491.	2800E	1775N	40	15	15	02M081
8.4	1433.	1800E	1725N	60	14	15	02M023
8.4	1519.	3400E	1650N	40	12	20	02M109
8.4	1453.	2200E	1800N	50	15	30	02M043
8.4	1490.	2800E	1800N	40	14	25	02M080
8.4	1481.	2600E	1950N	40	17	20	02M071
8.4	1520.	3400E	1625N	55	12	15	02M110
8.4	1464.	2400E	1875N	40	12	25	02M054
8.4	1432.	1800E	1750N	45	16	30	02M022
8.9	1531.	3600E	1200N	55	14	25	02M121
8.9	1521.	3400E	1600N	60	15	20	02M111
9.2	1475.	2600E	1800N	40	15	15	02M065
9.3	1558.	3800E	1375N	55	13	25	02M148
9.3	1565.	4000E	1325N	70	15	40	02M155
9.3	1568.	4000E	1400N	95	15	30	02M158
9.7	1435.	1800E	1675N	60	15	35	02M025
9.7	1442.	2000E	1675N	50	16	30	02M032
9.7	1505.	3000E	1875N	75	15	30	02M095
9.7	1486.	2800E	1900N	60	16	25	02M076
9.7	1465.	2400E	1900N	40	14	25	02M055
9.7	1478.	2600E	1875N	50	15	25	02M068
9.7	1462.	2400E	1825N	40	14	25	02M052
9.7	1436.	1800E	1650N	50	15	25	02M026
9.7	1456.	2200E	1725N	60	15	15	02M046
9.7	1512.	3200E	1675N	55	16	25	02M102
9.9	1596.	4400E	1200N	50	15	25	02M186
9.9	1598.	4400E	1250N	80	22	30	02M188
9.9	1603.	4400E	1375N	80	16	15	02M193
9.9	1600.	4400E	1300N	75	12	15	02M190

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
10.2	1547.	3600E	1600N	65	14	25	02M137
10.4	1474.	2600E	1775N	55	14	30	02M064
10.7	1591.	4200E	1375N	70	18	20	02M181
10.7	1588.	4200E	1445N	110	21	25	02M178
10.7	1556.	3800E	1425N	115	16	25	02M146
10.7	1552.	3800E	1525N	80	15	25	02M142
10.9	1455.	2200E	1750N	60	15	20	02M045
10.9	1411.	1000E	1875N	55	15	15	02M001
10.9	1461.	2400E	1800N	40	15	30	02M051
10.9	1485.	2800E	1925N	50	14	20	02M075
10.9	1513.	3200E	1650N	50	17	15	02M103
10.9	1434.	1800E	1700N	45	15	15	02M024
10.9	1466.	2400E	1925N	60	15	30	02M056
10.9	1484.	2600E	2025N	30	12	20	02M074
10.9	1428.	1400E	1775N	45	16	25	02M018
11.3	1642.	TL10N	5300E	80	16	40	02M232
11.3	1617.	4800E	1400N	20	18	30	02M207
11.3	1646.	TL10N	5200E	55	14	25	02M236
11.5	1527.	3400E	1450N	55	16	20	02M117
11.5	1534.	3600E	1275N	40	14	20	02M124
11.5	1536.	3600E	1325N	45	17	25	02M126
12.1	1583.	4200E	1550N	80	15	15	02M173
12.2	1437.	1800E	1625N	80	20	30	02M027
12.2	1417.	1000E	1725N	45	13	20	02M007
12.2	1451.	2200E	1850N	40	15	25	02M041
12.2	1506.	3000E	1900N	50	13	20	02M096
12.2	1439.	2000E	1600N	50	14	25	02M029
12.2	1426.	1400E	1725N	35	16	35	02M016
12.2	1518.	3400E	1675N	65	13	30	02M108
12.2	1488.	2800E	1850N	45	13	25	02M078
12.8	1629.	5400E	1050N	75	12	15	02M219
12.8	1625.	5000E	1450N	35	16	15	02M215
12.8	1608.	4400E	1500N	80	18	20	02M198
12.8	1630.	5400E	1075N	80	14	20	02M220
12.8	1606.	4400E	1450N	85	16	20	02M196
12.8	1602.	4400E	1350N	80	13	15	02M192
12.8	1529.	3400E	1400N	50	15	15	02M119
12.8	1522.	3400E	1575N	40	16	25	02M112
13.4	1445.	2000E	1750N	50	15	15	02M035
13.4	1501.	3000E	1775N	60	14	30	02M091
13.4	1457.	2200E	1700N	60	16	20	02M047
13.4	1415.	1000E	1775N	45	12	45	02M005
13.4	1449.	2200E	1900N	50	13	25	02M039
13.4	1418.	1000E	1700N	130	15	40	02M003
13.4	1503.	3000E	1825N	45	16	15	02M093
13.4	1412.	1000E	1850N	45	15	20	02M002
13.5	1594.	4200E	1300N	80	14	20	02M184
13.5	1567.	4000E	1375N	80	16	25	02M157
14.0	1473.	2600E	1750N	50	14	12	02M063
14.1	1538.	3600E	1375N	65	16	25	02M128

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
14. 1	1532.	3600E	1225N	90	18	35	02M122
14. 1	1543.	3600E	1500N	50	18	15	02M133
14. 1	1541.	3600E	1450N	60	17	20	02M131
14. 1	1525.	3400E	1500N	50	14	25	02M115
14. 2	1604.	4400E	1400N	55	17	15	02M194
14. 2	1618.	4800E	1450N	30	14	20	02M208
14. 2	1647.	TL10N	5175E	70	10	15	02M237
14. 7	1438.	1800E	1600N	40	14	15	02M028
14. 7	1511.	3200E	1700N	45	18	20	02M101
14. 7	1448.	2200E	1925N	60	14	20	02M038
14. 7	1479.	2600E	1900N	40	14	20	02M069
14. 7	1468.	2400E	1975N	45	16	40	02M058
14. 7	1493.	2800E	1725N	50	14	30	02M083
14. 7	1489.	2800E	1825N	40	15	30	02M079
14. 8	1572.	4000E	1500N	65	17	30	02M162
15. 4	1524.	3400E	1525N	60	14	25	02M114
15. 4	1523.	3400E	1550N	50	13	20	02M113
15. 4	1537.	3600E	1350N	65	14	40	02M127
15. 6	1613.	4800E	1300N	45	16	20	02M203
15. 6	1634.	5400E	1175N	35	13	30	02M224
15. 9	1502.	3000E	1800N	75	15	20	02M092
15. 9	1424.	1400E	1680N	35	15	60	02M014
15. 9	1517.	3200E	1550N	50	14	20	02M107
16. 2	1562.	3800E	1275N	75	14	30	02M152
16. 2	1564.	4000E	1300N	70	16	20	02M154
16. 2	1581.	4200E	1600N	75	19	20	02M171
16. 7	1542.	3600E	1475N	55	19	30	02M132
16. 7	1535.	3600E	1300N	50	16	30	02M125
17. 1	1628.	5400E	1025N	70	13	20	02M218
17. 1	1624.	5000E	1425N	55	15	30	02M214
17. 1	1605.	4400E	1425N	120	20	20	02M195
17. 1	1614.	4800E	1325N	50	15	25	02M204
17. 1	1615.	4800E	1350N	35	09	20	02M205
17. 1	1601.	4400E	1325N	75	12	10	02M191
17. 6	1566.	4000E	1350N	110	16	30	02M156
17. 6	1553.	3800E	1500N	75	12	25	02M143
17. 6	1563.	3800E	1250N	70	15	30	02M153
18. 4	1514.	3200E	1625N	40	15	35	02M104
18. 4	1498.	3000E	1700N	40	14	30	02M088
18. 4	1443.	2000E	1700N	50	16	40	02M033
18. 4	1515.	3200E	1600N	60	17	30	02M105
18. 4	1431.	1800E	1775N	60	16	20	02M021
18. 5	1645.	TL10N	5225E	50	12	25	02M235
18. 5	1616.	4800E	1375N	45	14	20	02M206
18. 5	1627.	5000E	1500N	50	12	30	02M217
18. 5	1621.	5000E	1350N	30	17	40	02M211
18. 9	1575.	4000E	1575N	65	18	25	02M165
19. 3	1526.	3400E	1475N	55	12	30	02M116
19. 3	1544.	3600E	1525N	65	15	20	02M134
19. 3	1533.	3600E	1250N	55	14	30	02M123

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
19.6	1413.	1000E	1825N	50	17	20	02M003
19.6	1507.	3200E	1800N	50	14	20	02M097
20.0	1597.	4400E	1225N	55	15	25	02M187
20.0	1648.	TL10N	5425E	70	16	30	02M238
20.3	1555.	3800E	1450N	95	14	20	02M145
21.7	1595.	4200E	1275N	75	15	15	02M185
21.7	1576.	4000E	1600N	90	14	20	02M166
21.7	1573.	4000E	1525N	55	12	20	02M163
21.7	1579.	4000E	1675N	100	13	20	02M169
22.9	1632.	5400E	1125N	75	17	20	02M222
22.9	1623.	5000E	1400N	45	09	25	02M213
23.1	1578.	4000E	1650N	50	14	25	02M168
23.1	1586.	4200E	1485N	75	16	15	02M176
23.1	1582.	4200E	1575N	100	15	20	02M172
23.1	1587.	4200E	1465N	100	17	25	02M177
23.1	1592.	4200E	1350N	80	14	25	02M182
23.2	1528.	3400E	1425N	55	16	35	02M118
24.3	1641.	TL10N	5325E	90	14	25	02M231
24.3	1636.	5400E	1225N	65	16	25	02M226
24.4	1549.	3800E	1600N	55	15	20	02M139
25.8	1637.	5400E	1250N	55	12	30	02M227
27.2	1612.	4800E	1275N	55	15	30	02M202
28.3	1508.	3200E	1775N	55	15	20	02M098
28.7	1649.	TL10N	5450E	60	15	15	02M239
29.7	1546.	3600E	1575N	45	15	15	02M136
31.0	1545.	3600E	1550N	75	16	25	02M135
31.6	1619.	5000E	1300N	45	18	30	02M209
32.0	1416.	1000E	1750N	60	15	25	02M006
34.0	1593.	4200E	1325N	80	15	20	02M183
34.0	1571.	4000E	1475N	110	17	40	02M161
35.4	1574.	4000E	1550N	85	14	20	02M164
37.4	1626.	5000E	1475N	55	17	25	02M216
41.7	1635.	5400E	1200N	75	17	20	02M225
43.2	1607.	4400E	1475N	75	15	15	02M197
43.2	1419.	1000E	1675N	60	12	30	02M009
49.0	1639.	TL10N	5375E	75	16	15	02M229
127.4	1569.	4000E	1425N	145	13	25	02M159

Serial Number						Installed Mo. Da. Yr.			Removed Mo. Da. Yr.			Customers Notes and Additional Data															Lab Use																							
1	2	3	4	5	6	8	9	10	11	12	13	17	18	19	20	21	22	LINE	STAIN	c/s	SNOW (in)	MOON (in)	SAMPLE	56	57	58	59	60	61	62	63	64	65																	
1	1	5	5	1		0	3		0	7		0	3		2	6		3	8	0	E	1	5	5	0	4	5		1	7		2	5		0	2	M	1	4	1										
2	1	5	5	2																				1	5	2	5	8	0		1	5		2	5		1	4	2											
3	1	5	5	3																				1	5	0	0	N	7	5		1	2		2	5		1	4	3										
4	1	5	5	4																				1	4	7	5	N	1	0	0		1	6		2	5		1	4	4									
5	1	5	5	5																				1	4	5	0	N	9	5		1	4		2	0		1	4	5										
6	1	5	5	6																				1	4	2	5	N	1	1	5		1	6		2	5		1	4	6									
7	1	5	5	7																				1	4	0	0	N	6	0		1	8		1	5		1	4	7										
8	1	5	5	8																				1	3	7	5	N	5	5		1	3		2	5		1	4	8										
9	1	5	5	9																				1	3	5	0	N	9	5		1	7		2	0		1	4	9										
10	1	5	6	0																				1	3	2	5	N	7	5		1	6		2	0		1	5	0										
11	1	5	6	1																				1	3	0	0	N	1	1	5		1	4		2	0		1	5	1									
12	1	5	6	2																				1	2	7	5	N	7	5		1	4		3	0		1	5	2										
13	1	5	6	3																				1	2	5	0	N	7	0		1	5		3	0		1	5	3										
14	1	5	6	4														4	0	0	E	1	3	0	0	N	7	0		1	6		2	0		1	5	4												
15	1	5	6	5																				1	3	2	5	N	7	0		1	5		4	0		1	5	5										
16	1	5	6	6																				1	3	5	0	N	1	1	0		1	6		3	0		1	5	6									
17	1	5	6	7																				1	3	7	5	N	8	0		1	6		2	5		1	5	7										
18	1	5	6	8																				1	4	0	0	N	9	5		1	5		3	0		1	5	8										
19	1	5	6	9																				1	4	2	5	N	1	4	5		1	3		2	5		1	5	9									
20	1	5	7	0																				1	4	5	0	N	7	0		1	6		2	0		1	6	0										

GEOCHEMICAL SAMPLE DATA SHEET

- LAKE AND STREAM SEDIMENTS -

SAMPLE#	AREA NTS MAP#	LINE	STATION	TYPE	WIDTH/DEPTH (m)	FLOW RATE	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		pH	PERMIT NO.	COMMENTS
11/3 02M 251				LAKE	300	NIL	111	BR GRN	CL	5.3				1 m of ice
252				"	"	"	"	"	"	4.7				"
253				"	"	"	"	"	"	7.1				"
254				"	"	"	"	"	"	6.0				"
255				"	"	"	"	"	"	6.7				"
256				"	"	"	"	"	"	15.3				"
257				"	"	"	"	"	SLTY-CL	12.7				"
258				"	150	"	V HI	GRN	"	4.0				"
259				RIVER BAY		"	H.I.	"	"	1.1				0.5 m of ice
260				STREAM		MODERATE	V HI	GRN-BR	"	3.6				no ice
261				RIVER		slow	HI	GRN.	CL (SLT)	1.2				0.7 m of ice
262				"		"	"	"	SLTY-CL	0.4				"
263				"		"	MED	GRN-BR.	SNDY-CL	0.7				0.5 m of ice
13/3 264				SOIL		-	NIL	BR	SLTY-SND	1.8				river bank
265				"			NIL	LT BR	Pabbly SND	1.9				"
266				"			LO	DK BR.	SNDY-CL	0.7				"
267				"			LO	LT BR	Pabbly SND (SLT)	1.4				"
268				"			NIL	LT BR	COARSE Pabbly SND (SLT)	8.5				"
269				"			LO	DK BR	Pabbly SND (SLTY CL)	0.6				"
270				"			MED	- " -	SLTY CL	0.7				"
14/3 271				"			LO	BR	SNDY-CL	0.7				wet
272				"			MED	DK BR	SLTY-CL	1.1				large
273				"			LO	BR	SNDY CL	0.7				"
274				"			NIL	RUSTY BR	SAND (SLT)	0.7				"
275				"			MED	BL	SLTY CL	2.5				"
276				"			HI	DK BR	CL (SLT)	1.7				"
277				"			HI	BR	SLTY CL	1.5				"
278				"			LO	"	SLTY SND (CL)	1.4				partly frozen
279				RIVER (near shoreline)			NIL	RUSTY-LT BR	COARSE Pabbly SND	1.3				(at base) wet
280				SOIL			MED.	BR	SLTY-CL	0.9				river bank (banking)

GEOCHEMICAL SAMPLE DATA SHEET

- LAKE AND STREAM SEDIMENTS -

14/3
15/3

16/3

17/3

SAMPLE#	AREA NTS MAP#	LINE	STATION	TYPE	WIDTH/DEPTH (m)	FLOW RATE	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		pH	PERMIT NO.	COMMENTS
02A 281				SOIL			HL	DK BR.	SLTY-CL.	0.6	bouldery			river banks; wet
282				"			LO	BR	SND/CL	0.7				" " " moist
283				"			MEID	DK BR-BL	SLTY-CL	0.8				" " " "
284				"			H1	BR-BL	"	1.4	bouldery			" " " "
285				"			LO	LT BR	SLTY SND(CL)	0.4	"			" " " "
286				"			LO	- " -	SND(SLT CL)	0.9	"			" " " frozen
287				SOIL			H1	BR	CL(SLT) (RESID CL)	0.6				valley; head of stream
288				"			H1	BL	SND/CL (LT BR SND)	0.7				shallow depression; " "
289				"			MEID	LT BR	SND (ORG BL CL)	0.4				shallow depression
290				"			LO	LT-DK BR	SNDY-CL	0.4	bouldery,			damp moist
291				"			MEID	DK BR-BL	SLTY-CL (LT BR SND)	0.2	bouldery,			moist frozen
292				"			H1	DK BR	"	0.1	bouldery,			
293				"			V H1	"	CL(SLT)	0.9				moist, wet
294				"			H1	"	SLTY CL (YELLOW SOY SND)	0.9	moist			
295				"			MEID	"	"	0.4	"			
296				"			H1	"	CL(SLT)	0.2	"			
297				"			MEID	LT BR	SND (BL SLTY CL)	0.7	"			
298				"			LO	BR	SND/CL	0.2	"			
299				RIVERBAY SAND (near shoreline)			NIL	BUFF TO BR	SNT(CL)	0.7	"			
300				SOIL			LO	BUFF	" (BL CL)	0.2	"			bouldery
301				"			MEID	DK BR	SNT/CL (BUFF SNT)	0.7	"			" "
302				"			H1	BL	CL	0.4	"			" "
303				"			H1	DK BR-BL	CL(SLT)	0.8	"			" "
304				"			H1	DK BR	SLTY CL	1.0	"			" "
305				"			H1	BR	"	0.4	"			" frozen
306				"			H1	DK BR-BL	"	1.8	moist			"
307				"			MEID	BR	"	0.8	"			"
308				"			H1	BR	"	1.0	"			"
309				"			H1	DK BR-BL	"	0.2	"			"
310				"			H1	BL	CL	0.7	"			"

GEOCHEMICAL SAMPLE DATA SHEET

- LAKE AND STREAM SEDIMENTS -

SAMPLE#	AREA NTS MAP#	LINE	STA-TION	TYPE	WIDTH/DEPTH (m)	FLOW RATE	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		pH	PERMIT NO.	COMMENTS
12/3 021				SOIL			H1	DK BR	SLTY CL. (BUFF SAND)	0.2		moist		top of ridge (20m)
312				"			L0	LT BR	Coarsly SLT	N/D		dry		"
313				"			V H1	BL	CL	0.1		moist		"
314				"			L0	LT BR	Coarsly SAND	0.2		dry		"
315				"			L0	" - DK BR	SAND-CL	N/D		partly frozen of slightly moist		"
316				"			L0	LT BR	Coarsly SAND (SLTY CL)	0.3		dry		"
317				"			V H1	LT-DK BR	SLTY CL	0.3		"		"
318				SOIL (near RIVER BY)			H1	RUSTY BR	"	0.2		moist		"
13/3 319				SOIL			MEID	BR	SAND (BR-CL SLTY CL)	0.6		"		"
320				SOIL			H1	DK BR - CL	SAND CL (LT BR SAND)	4.0		"		"
321				"			"	LT-DK BR	SLTY-CL	0.4		"		"
322				"			V H1	DK BR	"	0.4		"		"
323				"			MEID	LT BR - GREY	SLTY SAND (CL)	0.4		"		"
324				"			H1	BR	SLTY-CL	0.5		"		"
325				"			H1	DK BR	CL (SLT)	0.9		"		"
326				"			MEID	DK BR - GREY	SAND (ORG H1 BR SLTY CL)	0.9		"		"
327				"			H1	DK BR - BL	SLTY CL	8.2		"		"
328				"			H1	DK BR - BL	"	0.7		"		"
329				"			H1	RUSTY BR-CL	SANDY-CL	1.0		"		"
330				SOIL (near RIVER BY)			L0	DK BR	SAND (CL)	2.9		"		"
14/3 331				LAKE BOTTOM SEDIMENT			H1	BR-GRN	CL	1.1		"		"
332				"			H1	"	"	1.0		"		"
333				"			"	"	"	0.4		"		"
334				STREAM SEDIMENT			"	"	CL (SET)	0.6		"		"
335				"			V H1	BR-GRN	SANDY CL	0.6		"		"
336				"			NIL	LT GRN-GREY	SLTY-CL (SAND)	4.1		"		"
337				"			NIL	BR	SAND (SET)	8.8		"		"
338				"			MEID	LT BR	COARSE SAND (DK BR SLTY CL)	1.0		"		"
339				SOIL			H1	BR	SLTY CL	4.9		moist		beside small pond
340				"			H1	DK BR	CL (LT BR SLTY SAND)	1.3		"		"

GEOCHEMICAL SAMPLE DATA SHEET

41

- LAKE AND STREAM SEDIMENTS -

19/3

SAMPLE#	AREA NTS MAP#	LINE	STATION	TYPE	WIDTH/DEPTH (m)	FLOW RATE	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		pH	PERMIT NO.	COMMENTS
034 341				SOIL			MEID	DK BR	SLTY-CL (BNFF-LT GREY SND/CL)			moist	1.2	
342				"			MEID	"	SLTY-SND (LT BR SLT + DARK BR ORG CL)			"	0.2	
343				"			NIL	LT BR-RUST	SND (SLT)	0.1		"		
344				"			H1	DK BR-BL	CL (SLT)	6.9		"		next to small pond
345				"			V H1	BR	SLTY-CL	0.2				fragments boulders
346				SOIL			V H1	DK BR	- " - (LT BR SNI)	0.2		partly frozen		vegetative matter; boulders
347				"			H1	DK BR-BL	SLTY-CL	0.7		moist		on W side of lake
348				"			L0	DK BR-GRAY	SLTY-SND (CL)	0.2		partly frozen		boulders
349				"			H1	DK BR-BL	SLTY-CL (LT BR SANDY CL + 20 ORG)			moist	1.1	

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

①

SAMPLE #	AREA NTS MAP #	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		PERMIT NO.	COMMENTS
1/3 02M-001		1000E	1875N	LEVEL			HIGH	BLACK	SILTY SAND	1.8			Boulders
002		"	1850N				LOW	GRY-BR	SANDY	0.7			
003		"	1825N				LOW	BR-BL	SILTY SAND	0.9			
004		"	1800N				LOW	GR-LT.BR.	SANDY	0.4			
005		"	1775N				HIGH	BLACK	CLAY-SILT	1.0			lots of moss & leaf litter
006		"	1750N				HIGH	DK.BR.	SILTY-CLAY	0.4			
007		"	1725N				LOW	BR	SILTY SAND	0.9			
008		"	1700N				HIGH	BL-BR	SILTY CLAY	0.7			Boulders present
009		"	1675N				HIGH	LT-BR	SILT-CLAY	0.4			
010		"	1650N				MED.	LT BR	SILTY SAND	0.2			
011		1400E	1625N				MED	BR	SANDY-SILT	0.7			
012		"	1640N				LOW	BR-RED	SANDY-CLAY	0.9			
013		"	1660N				HIGH	DK BR-BL	SILTY-CLAY	0.9			
014		"	1680N				V. HIGH	BLACK	CLAY	1.5			lots of moss & leaf litter
015		"	1700N				MED	BLACK	SILTY SAND	0.7			
016		"	1725N				MED	BR	SANDY-SILT	0.9			Boulders present
017		"	1750N				LOW	LT BR	SAND	0.9			
018		"	1775N				MED	LT BR-BL	SAND-CL	0.8			
019		"	1800N				LOW-MED	LT-MED BR	SANDY-CL	0.9			
020		"	1825N				LOW	LT BR	SANDY	1.1			
4/3 021		1800E	1775N	LEVEL			MED	BR	SANDY-SILT	0.7			boulders
022		"	1750N				HIGH	BL-BR	CL	0.2			
023		"	1725N				V. HI.	LT BR	SILTY SAND	0.2			boulders
024		"	1700N				LO	MED BR	SANDY SILT	0.7			
025		"	1675N				HI	BL BR	SANDY CL.	0.4			
026		"	1650N				LO	LT YELL. BR	SILTY-SND	0.4			boulders
027		"	1625N				HI	BR	SILTY-SND	0.2			(off line ~3m) tree roots, logs, leaf litter
028		"	1600N				LO	LT BR	SNDY-SLT	0.4			
029		2000E	1600N				HI	BR	SILTY-CL.	0.2			twigs & branches
030		"	1625N				V. HI.	BL	SILTY-CL	0.7			lots of moss
031		"	1650N				HI	BL-BR	SILTY-CL.	0.9			moss & litter
032		"	1675N				V HI	BR	SILTY-CL.	1.8			moss & litter
033		"	1700N				HI	BL	SILTY-CL.	1.5			

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

SAMPLE #	AREA NTS MAP #	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm			PERMIT NO.	COMMENTS
027-034		2000E	1725N	LEVEL			NIL	LT BR	SND.	0.7				probably
035		"	1750N				LO	LT BR.	SND	0.7				" "
036		"	1775N				H1	BL.	CL.	5.1				very clean soil
037		"	1800N				MED	RED-BR	SNDY-CL.	0.7				
038		2200E	1925N				MED	MED. BR	SNDY-CL	0.2				some pebbles
039		"	1900N				H1	BL	CL.	0.7				most lichen
040		"	1875N				V. H1.	LT BR	?	N.D			could be	all lichen root material
041		"	1850N				H1	BR-BL	SLTY CL	1.1				
042		"	1825N				V H1	BL-BR	CL.	0.2				
043		"	1800N				V H1	BR	SLTY-CL	0.2				
044		"	1775N				V H1	BL.	CL.	0.9				
045		"	1750N				LO	BR.	SLTY-SND.	0.2				
046		"	1725N				H1	BR	SANDY-CL	0.2				
047		"	1700N				LO	LT BR.	SNDY-SLT	some clay	0.2			
048		2400E	1725N				H1	BR-BL.	CL.	0.8				more lichen
049		"	1750N				H1	BL	CL.	0.7				
050		"	1775N				H1	BL	CL	1.1				
051		"	1800N				H1	BL	CL	0.7				some moss & lichen
052		"	1825N				H1	BR	CL.	0.2				
053		"	1850N				V. H1.	BR.	SLTY-CL.	0.2				
054		"	1875N				H1	BL-BR	"	0.2				
055		"	1900N				H1	BR-BL	"	0.7				
056		"	1925N				V H1	BR-BL	"	0.2			(boundary at bottom)	moss & lichen
057		"	1950N				H1	BR-BL	"	0.4				
058		"	1975N				V H1	BR-BL	"	4.9				
059		"	2000N				V H1	BR	SLTY	0.2			(frozen) (boundary)	mostly moss & lichen
060		"	2025N				MED-LO	LT-DK BR.	SLTY-CL	0.2				
061		"	2050N				V H1	LT BR	SNDY-SLT.	0.3				all tree root
062		2600E	1725N				NIL	LT BR	SND (SLT)	N.D				
063		"	1750N				LO	MED BR	SNDY-SLT.	(some CL.)	0.4			
064		"	1775N				H1	BL	SLTY-CL.	0.2			(boundary)	veg.
065		"	1800N				LO	BR	SANDY-CL	N.D				
066		"	1825N				LO	LT BR	SND.	(probably)	0.2			

GEOCHEMICAL SAMPLE DATA SHEET

3

- SOILS -

PROJECT

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm			PERMIT NO.	COMMENTS
02M-067		2600E	1850N	LEVEL			LO	BR	SNDI-SLT	0.2				
068		"	1875N				HI	DK BR	SNDI-SLT (CL)	0.7				
069		"	1900N				MED	LT BR	SNDI-SLT	0.2				
070		"	1925N				V HI	BR-BL	SLTY-CL	(more lichen)	0.2			
071		"	1950N				HI	BR	SLTY-SND	(more + lichen + org. material)	0.2			frozen
072		"	1975N				V HI	BR	SLTY-CL		0.2			more lichen
073		"	2000N				HI	BR	"		0.8			"
074		"	2025N				HI	BR	"		0.2			"
075		2800E	1925N				V HI	BR-BL	"		0.4			
076		"	1900N				LO	LT BR	PROBLY-SND		ND			
077		"	1875N				HI	LT-DK BR	SANDY-CL		0.2	(mg)		frozen
078		"	1850N				HI	DK BR	SNDI-SLT (CL)	very pebbly	0.2			
079		"	1825N				MED	YELL BR	SNDI-CL		0.5			
080		"	1800N				MED	LT BR	SNDI-SLT	(pebbly)	ND			
081		"	1775N				MED	LT RUSTY BR	SNDI-CL		0.2			
082		"	1750N				LO	LT BR	PROBLY-SND (CL)	→ BLACK	0.1			
083		"	1725N				LO	LT RUSTY BR	PROBLY-SND		0.4			
084		"	1700N				LO	LT BR	"		(some blk cl)	0.2		
085		"	1675N				HI	DK BR	SLT (CL)		0.2			
086		3000E	1650N				HI	BR	SNDY-CL		(lots of tree roots)	0.6		
087		"	1675N				V HI	DK BR	SLTY-CL		0.2			
088		"	1700N				V HI	DK BR	"		0.2			
089		"	1725N				HI	BL	CL (SLT)		0.4			
090		"	1750N				V HI	BL	CL		0.2			(more lichen)
091		"	1775N				LO	LT-DK BR	PROBLY-SND+SLT		(BL CL) ND			
092		"	1800N				V HI	BL	SLTY-CL		0.9 (more roots throughout)			
093		"	1825N				HI	BL	"		ND			
094		"	1850N				MED	LT BR	PROBLY-SND		(more org. BL CL)	0.8		
095		"	1875N				V HI	BL	SNDI-CL		0.6			
096		"	1900N				MED	BR	SLTY-SND		0.5			
097		3200E	1800N				V HI	BR	SLT (CL)		(lots of wood fibre)	ND		
098		"	1775N				MED	BL	PROBLY-SND (CL)		1.3			boundary
099		"	1750N				HI	BL-BR	SLTY-CL (SND)		3.4			

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

4

PROJECT

5/3

1/3

SAMPLE #	AREA NTS MAP#	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		PERMIT NO.	COMMENTS	
02M-100		3200E	1725N	SLOPE			HI	BR	SLTY-SND (CL) N/D					
101		"	1700N	BASE OF SMALL HILL			LO	LT BR	" (pebbles) 0.2					
102		"	1675N	LEVEL			LO	LT BR	" " 0.2					
103		"	1650N	↓			V HI	DR BR	SLTY-CL (root matter) 0.2					
104		"	1625N		V HI	BR	(SLTY-CL)	(mostly veg) N/D						
105		"	1600N		HI	BL	SNDY-CL	N/D					bouldery	
106		"	1575N		MED	LT BR	"	N/D						
107		"	1550N		HI	BL	CL	(some pebbles) 0.2						
108		3400E	1675N		V HI	BL	SLTY-CL	N/D						bouldery
109		"	1650N		MED	BR	SNDY-CL	N/D						
110		"	1625N		HI	BR	SLTY-CL	N/D						bouldery
111		"	1600N		HI	DR-BR-BL	"	0.4						"
112		"	1575N		base of slope			LO	LT BR	SNDY-CL	N/D			
113		"	1550N	top of hill			NIL	"	SLTY-SND (pebbly) N/D					
114		"	1525N	LEVEL			LO	"	PEBBLY-SND N/D					
115		"	1500N				LO	"	"	N/D				
116		"	1475N				NIL	"	SLTY-SND (pebbly) N/D					
117		"	1450N				LO	LT-DK BR	PEBBLY-SND (CL) N/D					
118		"	1425N				NIL	LT BR	"	0.2				
119		"	1400N				LO	"	" (BL CL) N/D					
120		"	1375N				V HI	BR-BL	SLTY-CL	0.6			more root material	
121		3600E	1200N				HI	BR	SNDY-CL	0.2			bouldery	
122		"	1225N				HI	BR	SLTY-CL	0.4				
123		"	1250N				V HI	BL	CL (pebbly)	0.7				
124		"	1275N				MED	BR	SLTY-CL	N/D			partly brown	
125		"	1300N				MED	BR-BL	SNDY-CL	0.7			bouldery	
126		"	1325N				LO	LT BR	COARSE PEBBLY SND (CL) 0.2				"	
127		"	1350N				V HI	BL	SLTY-CL	1.5				
128		"	1375N				V HI	BR	"	0.2				
129		"	1400N				HI	BR-BL	" (pebbly)	0.4				
130		"	1425N				LO	LT BR	SNDY-SLT (pebbly)	1.1				
131		"	1450N	on slope			LO	LT BR	SLTY-SND (pebbly)	0.7				
132		"	1475N	slope			NIL	LT BR	pebbly SND	0.7				

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

5

6/3

7/3

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		PERMIT NO.	COMMENTS
021-133		3600E	1500N	moderate slope			LO	LT BR	SNDY-SLT (CL)	0.2			
134		"	1525N	LEVEL			LO	" (buff)	SND	4.1			on outcrop (?)
135		"	1550N				NIL	BR	PEBBLY SND (CL)	0.7			
136		"	1575N				V HI	BL	CL	0.7			root material
137		"	1600N				LO	BR	Pebbly SND (CL)	0.5			
138		"	1625N				MED	BR	SLTY CL	0.6			partly frozen
139		3800E	1600N				MED	RUSTY BR.	SNDY-SLT (pebbly)	0.9			
140		"	1575N				NIL	LT BR.	PEBBLY SND.	0.4			
141		"	1550N				MED	BR.	SLT (CL)	0.2			frozen
142		"	1525N				HI	BR	SLTY-CL.	0.8			partly frozen boundary
143		"	1500N				V HI	"	" 0.6	(↑ veg matter)			bouldery (off line & Smt)
144		"	1475N				HI	"	SNDY-CL.	0.9			frozen
145		"	1450N				HI	BR-BL	SLTY-CL.	1.5			partly frozen
146		"	1425N				HI	BR	SNDY-CL.	0.4			(↑ veg matter)
147		"	1400N				"	"	CL	0.7			frozen, bouldery
148		"	1375N				LO	GT-DK BR	Pebbly SND (CL)	0.2			" - "
149		"	1350N				V HI	BR	SLTY CL	0.4			partly frozen - "
150		"	1325N				MED	"	"	0.6			" - "
151		"	1300N				"	BR-BL	"	0.1			partly frozen
152		"	1275N				HI	BR	"	0.7			" - "
153		"	1250N				"	"	CL	1.3			" - "
154		4000E	1300N				"	"	SLTY CL	0.6			
155			1325N				"	"	"	1.2			hollow; tree roots
156			1350N				"	"	"	2.0			↑ veg matter
157			1375N				"	BR-BL	"	4.1			bouldery
158			1400N				"	"	CL	4.0			bouldery
159			1425N				"	BR.	SLTY-CL.	0.6			
160			1450N				"	BL	CL	1.5			
161			1475N				V HI	BL	SLTY-CL	1.8			boulder field
162			1500N				MED	DK BR	CL (SLT)	1.5			" - "
163			1525N				V HI	BR	SNDY-CL.	0.4			(↑ veg matter)
164			1550N				LO	LT BR	Pebbly SND (some rusty silt)	0.9			
165			1575N				MED	DK BR	" - " (CL)	1.3			

INCLINE (S slope)

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

6

PROJECT

SAMPLE #	AREA NTS MAP#	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm			PERMIT NO.	COMMENTS
1/3 02M-166		4000E	1600N	INCLINE (S slope)			LO	LT BR	Pebbly SWD	0.6				
167		"	1625N	" " "			H1	LT GRAY-BR	SNIDY-CL	0.3	(bouldery)			partly frozen
168		"	1650N	SMALL INCLINE (S slope)			LO	DK BR	SNIDY-SLT	0.4				
169		"	1675N	LEVEL			V H1	" - BL	CL	1.1				bouldery
170		"	1700N				LO	LT BR	Pebbly SWD (CL)	0.4				
171		4200E	1600N				MED.	LT BR	SLTY-CL	0.8	(bouldery)			partly frozen
172		"	1575N				"	DK BR-BL	SNIDY-CL	4.5	" "			
173		"	1550N				"	BR	SLTY-CL	0.8	(bouldery)			partly frozen
174		"	1525N				MED	LT BR	SNIDY-CL	0.2	" "			" "
175		"	1505N				"	"	"	1.4	" "			
176		"	1485N				LO	"	PROBABLY SWD (SLT)	1.8				
177		"	1465N				H1	DK BR	CL	0.4	(boulder field)			
178		"	1445N				MED	LT BR	SLTY-CL	0.4	" "			
179		"	1425N				LO	"	SNID (CL)	2.6	" "			
180		"	1400N				MED	"	SLTY CL	0.4	" "			
181		"	1375N				"	DK BR	"	1.0	" "			
182		"	1350N				LO	BR	SNIDY-SLT (pebbles)		" "	0.4		
183		"	1325N				NIL	LT BR	Pebbly SWD (SLT)	1.3				
184		"	1300N				H1	BR	SLTY-CL		" "	1.5		partly frozen
185		"	1275N				NIL	"	SNIDY-SLT (pebbles)	0.9				
3/3 186		4400E	1200N	on E facing slope			H1	DK BR-BL	Pebbly SLT (CL)	0.9				
187		"	1225N	" " "			H1	BR-BL	CL (SLT)	1.3				partly frozen
188		"	1250N	" " "			V H1	BR	SLT (CL)		boulder field (↑ neg matter)	0.1		partly frozen
189		"	1275N	" " "			NIL	LT BR	Pebbly SWD (SLT)		" "	9.1		
190		"	1300N	TOP OF HILL			LO	" - "	" - "		bouldery	0.9		
191		"	1325N	LEVEL			NIL	" - "	same pebbly SWD		" - "	(outrage?)	0.8	
192		"	1350N	N facing slope			V H1	BR	SLTY-CL (↑ neg matter)	0.4				partly frozen
193		"	1375N	LEVEL			NIL	LT BR	Pebbly SWD (SLT)		(bouldery)	0.4		
194		"	1400N	on steep N facing slope			MED	BR	SLTY-CL	0.3				partly frozen
195		"	1425N	on S facing slope			H1	BR	" - "	0.6				
196		"	1450N	LEVEL			V H1	BL	" - " (pebbles)		(↑ neg matter)	0.9		
197		"	1475N				NIL	LT BR	Pebbly SWD	0.6				bouldery
198		"	1500N				LO	" - "	" - "	0.5				" "

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

7

PROJECT

SAMPLE #	AREA NTS MAP #	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm		PERMIT NO.	COMMENTS
13 02M 199		4800E	1210N	LEVEL			HI	BL	CL	0.7			(just at bottom) on S side of Bay
200		"	1225N				V HI	DK BR	SNDY SLT (CL)	0.9			(--- " ---)
201		"	1250N				MED	LT BR	Pebbley SND (BL CL)	N/D			
202		"	1275N				LO	LT BR	SND	0.6			
203		"	1300N				NIL	LT BR	Pebbley SND (SLT)	0.4			rounded boulders
204		"	1325N				LO	- " -	- " -	N/D			"
205		"	1350N				LI	BR-BL	CL (SLT)	0.3			
206		"	1375N				MED	LT BR	SND (ORG BL CL)	0.4			
207		"	1400N				V HI	BR	SLTY-CL	0.2			slightly moist at bottom
208		"	1450N				MED	"	- " -	0.4			partly frozen
209		5000E	1300N				HI	LT BR-BL	SNDY-CL	0.3			
210		"	1325N				V HI	BR-BL	CL	(↑ very little)	0.4		
211		"	1350N				- " -	BR	SLTY-CL	- " -	N/D		
212		"	1375N				HI	"	- " -	0.2			mostly frozen
213		"	1400N				NIL	LT BR	Pebbley SND (BR CL)	0.2			
214		"	1425N				"	- " -	- " -	0.2			
215		"	1450N				LO	BR	SLT	0.2			
216		"	1475N				NIL	BR	Pebbley SND	0.7			
217		"	1500N				"	LT BR	- " -	0.3			
218		5400E	1025N				MED	BR	SNDY-SLT (CL)	0.3			
219		"	1050N				NIL	LT BR	Pebbley SND	0.2			boundary
220		"	1075N				MED	BR	SLTY CL	0.9			- " -
221		"	1100N				LO	LT BR	Pebbley SLT (CL)	0.7			
222		"	1125N				LO	- " -	Pebbley SND (ORG BL CL)	0.4			
223		"	1150N				LO	LT BR	SLT (CL)	0.2			
224		"	1175N				V HI	BR-BL	CL	(↑ very little)	0.7		
225		"	1200N				LO	BR	Pebbley SLT (CL)	0.3			
226		"	1225N	on S facing slope			MED	BR	SLTY (BL CL)	0.3			
227		"	1250N	LEVEL			LO	"	SNDY-SLT (pebbly)	0.1			
228		TL 1000N	5400E				MED	LT BR-BL	SNDY CL	N/D			
229			5375E				- " -	BR	Pebbley SND (CL)	0.7			
230			5350E	HUMMOCKY			HI	"	SLTY CL	N/D			
231			5325E	"			HI	BR-BL	SNDY CL	0.2			partly frozen

GEOCHEMICAL SAMPLE DATA SHEET

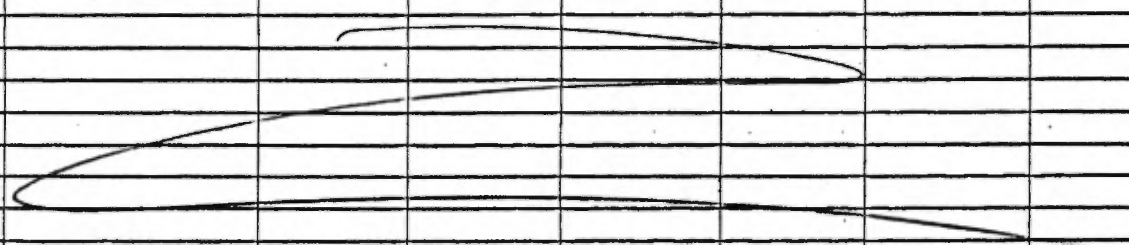
- SOILS -

8

PROJECT

9/3

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm			PERMIT NO.	COMMENTS
02M-232		TL1000N	5300E	HUMMUCKY			V HI	BL	SLTY CL	0.4				
233			5275E	"			HI	BR-BL	CL	0.9				
234			5250E	"			MEID	LT BR	SDY SWS (ORG. BL CL)	0.1				
235			5225E	"			NIL	" "	Pebbly SWS	0.2				
236			5200E	"			LO	BR	" " (SLT)	0.3				
237			5175E	"			LO	LT BR	" " "	0.2				boundary
238			5125E	LEVEL			LO	BR	" " (SLT)	0.1				
239			5150E	"			MEID	BR	SET (CL)	0.9				
240			5500E	on E facing slope			HI	BR-BL	SLTY CL	1.1				
241			5565E	on E shore of dunes			MEID	DK BR	SNDY-CL	0.7				
242			5600E	on E side of dunes (LEVEL)			HI	BR	SLTY-CL	N/D				
243			5650E	LEVEL			NIL	LT BR	Pebbly SWS	0.2				
244			5700E				LO	" "	SWS (SLT)	N/D				
245			5750E				V HI		SLTY-CL	N/D				↑ see notes
246			5800E				LO	RUSTY BR	Pebbly SLT (CL)	0.2				
247			5850E				MEID	DK BR	SET (CL)	0.2				
248			5900E				V HI	DK BR	SLTY CL	0.4				↑ see notes
249			5950E				V HI	BR	" " "	1.1				" "
250			6000E				V HI	"	SNDY-CL	0.1				" "



swampy area

4.2 HELIUM SURVEY



HELIUM

SURVEYS

PROJECT REPORT CPL-488-4

A HELIUM SURVEY OF A URANIUM PROSPECT
AT GORDON'S LAKE, QUEBEC

June 13 , 1980

Submitted to:

Dr. Michael Leppin
Uranerz Exploration and Mining Limited
Dollard-des-Ormeaux, Quebec

URANIUM DEPOSITS
GEOHERMAL ENERGY
PETROLEUM RESERVOIRS



CHEMICAL PROJECTS LIMITED

TABLE OF CONTENTS

1. INTRODUCTION	<u>Page</u> 1
2. SURVEY TECHNIQUES	2
3. RESULTS	3
4. COMMENTS	14

List of Tables-

Table 1	Helium and light hydrocarbon results for 99 mud samples (07M-251 to 07M-349)	4
Table 1A	Helium results for the mud samples (07M-251 to 07M-349) listed in ascending order	9
Table 1B	Statistical parameters for 99 mud samples (07M-251 to 07M-349)	10

List of Figures

Figure 1	Helium survey dot map illustrating the mud sampling locations and results for the Gordon's Lake area, Quebec	(map pocket)
Figure 2	Histogram of the helium results for the mud samples in Table 1	13

1. INTRODUCTION

The results for this report were compiled from those mud samples collected in the Gordon's Lake area of Quebec, during the early part of 1980.

This study area was selected by Uranerz Exploration and Mining Limited for the purpose of carrying out a near surface helium survey to locate any potential uranium deposits.

The collection of these mud samples were carried out by the exploration crew of Uranerz Exploration and Mining Limited.

The analysis of the samples and the interpretation of the resulting data were performed at the laboratories of Chemical Projects Limited, Toronto, Ontario.

2. SURVEY TECHNIQUES

2.1 Sampling Methods

The sample collection of the lake and stream bottom mud samples was performed by drilling through the ice and sending a hornbrook sampler or shovel to the bottom to retrieve a mud sample. Subsequently, the mud sample was hermetically preserved by sealing it in an aluminum sample container. Each container was partially filled, leaving an air pocket before it was sealed.

During the sampling procedure, the station pressure, sampling depth and the air temperature were measured and recorded at each soil sampling station.

2.2 Analytical Procedures

When the mud samples were received at the laboratory, they were subjected to a period of equilibration at a constant temperature after which two gas samples were extracted from each container and stored in Bistable gas samplers.

The gaseous contents of one set of these Bistables were analyzed, employing a helium analyzer developed by Chemical Projects Limited, in order to determine the helium concentration in each sample. During each analyses, the concentration in each sample was compared with that of standards 8.30 ± 0.05 ppm (by volume).

As the helium concentration in the samples is also a function of these variables, the hydrocarbon (C_1-C_3) concentration in each of the gas samples and the mud and water parameters were also determined.

The practical detection limit for the helium analysis is 10 ppb (by volume) while that for the hydrocarbons, if present at concentrations of less than 10,000 ppm, is approximately 1 ppm, the detection limit is 500 ppm (by volume).

3. RESULTS

3.1 Data Tables

The corrected helium, methane, ethane and propene (= propene + propane) results for the mud samples are listed in Table 1. The preliminary data which was previously submitted to Uranerz Exploration and Mining Limited, Montreal, correspond to those in this report.

In these data tables, the following nomenclature is employed:

Table 1

Sample Number	= The number that was assigned to each mud sample by the project geologist employed by Uranerz Exploration and Mining Limited.
Depth	= The depth at which the mud samples were obtained, expressed in meters.
Helium	= The concentration of helium in the saturated soil sample which was dissolved in the interstitial soil water and bubble phase of the sample. Each concentration is expressed as $\text{cm}^3 \text{ He at NTP/cm}^3 \text{ mud}$ and has been multiplied by a factor of 10^{-8} .
Helium Contrast	= The ratio of the helium concentration in the mud samples to that of the appropriate background mean. This quantity is unitless.
He log (e)	= The natural logarithm (\log_e) of the concentration of helium present in the mud samples.
Methane *	= The concentration of each of these gases in the mud samples. Each concentration is expressed as $\text{cm}^3 \text{ gas at NTP/cm}^3 \text{ mud}$ and it has also been multiplied by a factor of 10^{-8} .
Ethane	
Ethene	
Propene	

COMPANY : URANERZ EXPLORATION
 GORDON'S LAKE
 DATE : JUNE 9, 1980

CHEMICAL PROJECTS LTD.

TABLE NUMBER 1

PAGE 1

MUD SAMPLES : (07M-251 TO 07M-349)

(*)-CONCENTRATIONS OF ALL GASES ARE IN (CC GAS AT NTP/CC MUD) X E-08

SAMPLE NUMBER	DEPTH (M)	HELIUM (*)	HELIUM CONTRAST	HELIUM LOG(E)	METHANE (*)	ETHANE (*)	ETHENE (*)	PROPENE (*)
07M-251	3.5	52.9	1.93	3.97	1120000.	0.	0.	0.
07M-252	3.0	55.7	2.03	4.02	1370000.	0.	0.	0.
07M-253	3.0	55.2	2.01	4.01	122000.	0.	0.	0.
07M-254	4.0	34.8	2.00	4.00	659000.	0.	0.	0.
07M-255	3.5	57.5	2.10	4.05	641000.	0.	0.	0.
07M-256	1.5	54.2	1.98	3.99	1530.	0.	0.	0.
07M-257	1.5	50.8	1.85	3.93	11400.	0.	0.	0.
07M-258	1.0	55.8	2.04	4.02	694000.	0.	0.	0.
07M-259	--	35.4	1.29	3.57	133000.	0.	0.	0.
07M-260	--	48.0	1.75	3.87	684000.	54.	83.	68.
07M-261	--	58.7	2.14	4.07	4120000.	0.	0.	0.
07M-262	--	47.6	1.74	3.86	2160000.	15.	20.	0.
07M-263	--	40.2	1.47	3.69	1370000.	0.	0.	0.
07M-264	--	33.1	1.21	3.50	23700.	15.	19.	90.
07M-265	--	20.9	0.76	3.04	11500.	91.	103.	47.
07M-266	--	29.9	1.09	3.40	202.	0.	0.	0.
07M-267	--	57.8	2.11	4.06	178.	0.	0.	0.
07M-268	--	71.2	2.60	4.27	6530.	63.	53.	33.
07M-269	--	72.1	2.63	4.28	402.	115.	602.	0.
07M-270	--	12.9	0.47	2.56	27500.	65.	2751.	140.
07M-271	--	72.5	2.65	4.28	9450.	2131.	1495.	1287.

COMPANY : URANERZ EXPLORATION
 GORDON'S LAKE
 DATE : JUNE 9, 1980

CHEMICAL PROJECTS LTD.

TABLE NUMBER 1

MUD SAMPLES : (07M-251 TO 07M-349)

PAGE 2

(*)-CONCENTRATIONS OF ALL GASES ARE IN (CC GAS AT NTP/CC MUD) X E-08

SAMPLE NUMBER	DEPTH (M)	HELIUM (*)	HELIUM CONTRAST	HELIUM LOG(E)	METHANE (*)	ETHANE (*)	ETHENE (*)	PROPENE (*)
07M-272	--	23.3	0.85	3.15	1670.	174.	3377.	768.
07M-273	--	1.09	0.04	0.09	480.	79.	3404.	174.
07M-274	--	31.6	1.15	3.45	82.	0.	150.	0.
07M-275	--	108.0	3.94	4.68	374.	0.	1503.	0.
07M-276	--	10.5	0.38	2.35	487.	94.	5539.	104.
07M-277	--	4.91	0.18	1.59	879.	288.	6277.	155.
07M-278	--	22.6	0.82	3.12	112.	26.	57.	0.
07M-279	0.1	34.2	1.25	3.53	48600.	35.	149.	25.
07M-280	--	54.7	2.00	4.00	686.	0.	1482.	0.
07M-281	--	47.5	1.73	3.86	562000.	26.	94.	0.
07M-282	--	33.2	1.21	3.50	16.	0.	0.	0.
07M-283	--	19.6	0.72	2.98	390.	0.	528.	0.
07M-284	--	63.5	2.32	4.15	599000.	76.	831.	130.
07M-285	--	210.0	7.66	5.35	2760.	315.	824.	345.
07M-286	--	19.7	0.72	2.98	178.	89.	453.	0.
07M-287	--	71.6	2.61	4.27	180.	0.	2217.	0.
07M-288	--	46.3	1.69	3.84	191.	0.	2501.	0.
07M-289	--	26.6	0.97	3.28	15.	0.	231.	0.
07M-290	--	52.3	1.91	3.96	180.	0.	4776.	0.
07M-291	--	43.0	1.57	3.76	289.	0.	5211.	0.
07M-292	--	80.2	2.93	4.38	257000.	0.	0.	0.

- 5 -

COMPANY : URANERZ EXPLORATION
 GORDON'S LAKE
 DATE : JUNE 9, 1980

CHEMICAL PROJECTS LTD.

TABLE NUMBER 1

PAGE 3

MUD SAMPLES : (07M-251 TO 07M-349)

(*)-CONCENTRATIONS OF ALL GASES ARE IN (CC GAS AT NTP/CC MUD) X E-08

SAMPLE NUMBER	DEPTH (M)	HELIUM (*)	HELIUM CONTRAST	HELIUM LOG(E)	METHANE (*)	ETHANE (*)	ETHENE (*)	PROPENE (*)
07M-293	--	42.0	1.53	3.74	2310.	211.	302.	81.
07M-294	--	27.1	0.99	3.30	44.	0.	279.	0.
07M-295	--	1.00	0.04	-0.00	914.	183.	3057.	100.
07M-296	--	65.2	2.38	4.18	626.	0.	3559.	111.
07M-297	--	42.2	1.54	3.74	25.	0.	1050.	0.
07M-298	--	49.7	1.81	3.91	33.	0.	2531.	0.
07M-299	--	21.1	0.77	3.05	598.	0.	0.	0.
07M-300	--	14.9	0.54	2.70	314.	303.	5595.	0.
07M-301	--	31.7	1.16	3.46	15.	0.	1058.	0.
07M-302	--	48.4	1.77	3.88	295.	0.	3806.	0.
07M-303	--	44.3	1.62	3.79	498.	0.	3936.	0.
07M-304	--	28.3	1.03	3.34	313.	0.	7951.	0.
07M-305	--	30.8	1.12	3.43	382.	0.	5104.	0.
07M-306	--	48.8	1.78	3.89	538000.	0.	170.	0.
07M-307	--	29.8	1.09	3.39	1510.	0.	3557.	0.
07M-308	--	45.8	1.67	3.82	526.	123.	3593.	268.
07M-309	--	42.9	1.57	3.76	1180.	193.	6745.	408.
07M-310	--	47.1	1.72	3.85	207.	0.	2024.	102.
07M-311	--	22.8	0.83	3.13	90.	75.	1814.	83.
07M-312	--	12.3	0.45	2.51	360.	173.	350.	0.
07M-313	--	48.9	1.78	3.89	16.	0.	588.	0.

COMPANY : URANERZ EXPLORATION
 GORDON'S LAKE
 DATE : JUNE 9, 1980

CHEMICAL PROJECTS LTD.

TABLE NUMBER 1

PAGE 4

MUD SAMPLES : (07M-251 TO 07M-349)

(*)-CONCENTRATIONS OF ALL GASES ARE IN (CC GAS AT NTP/CC MUD) X E-08

SAMPLE NUMBER	DEPTH (M)	HELIUM (*)	HELIUM CONTRAST	HELIUM LOG(E)	METHANE (*)	ETHANE (*)	ETHENE (*)	PROPENE (*)
07M-314	--	11.5	0.42	2.44	8860.	2087.	3045.	1882.
07M-315	--	30.7	1.12	3.42	2520.	313.	2900.	332.
07M-316	--	41.4	1.51	3.72	14900.	3286.	6505.	2776.
07M-317	--	40.6	1.48	3.70	807.	193.	7334.	407.
07M-318	--	53.6	1.96	3.98	974.	94.	10471.	635.
07M-319	--	27.1	0.99	3.30	11800.	21.	89.	39.
07M-320	--	32.0	1.17	3.47	48.	0.	353.	43.
07M-321	--	35.4	1.29	3.57	26800.	70.	3119.	475.
07M-322	--	35.8	1.31	3.58	1050.	116.	6971.	375.
07M-323	--	24.2	0.88	3.19	12.	0.	60.	0.
07M-324	--	45.4	1.66	3.82	583.	80.	5615.	360.
07M-325	--	50.5	1.84	3.92	2450.	93.	1796.	107.
07M-326	--	21.7	0.79	3.08	341.	112.	2540.	239.
07M-327	--	50.9	1.86	3.93	59.	0.	216.	0.
07M-328	--	47.7	1.74	3.86	295000.	0.	1935.	150.
07M-329	--	40.5	1.48	3.70	900.	74.	5508.	504.
07M-330	--	36.6	1.34	3.60	14600.	0.	0.	0.
07M-331	0.3	56.2	2.05	4.03	1920000.	14.	40.	0.
07M-332	0.7	51.4	1.88	3.94	262000.	2.	9.	0.
07M-333	--	80.3	2.93	4.39	8340000.	0.	47.	0.
07M-334	0.2	54.2	1.98	3.99	6880000.	24.	0.	0.

- 7 -

COMPANY : URANERZ EXPLORATION
 GORDON'S LAKE
 DATE : JUNE 9, 1980

CHEMICAL PROJECTS LTD.
 TABLE NUMBER 1

PAGE 5

MUD SAMPLES : (07M-251 TO 07M-349)

(*)-CONCENTRATIONS OF ALL GASES ARE IN (CC GAS AT NTP/CC MUD) X E-08

SAMPLE NUMBER	DEPTH (M)	HELIUM (*)	HELIUM CONTRAST	HELIUM LOG(E)	METHANE (*)	ETHANE (*)	ETHENE (*)	PROPENE (*)
07M-335	0.3	42.6	1.55	3.75	409000.	12.	83.	42.
07M-336	0.2	32.5	1.19	3.48	41500.	0.	0.	0.
07M-337	0.4	41.7	1.52	3.73	59400.	28.	36.	0.
07M-338	0.5	38.9	1.42	3.66	25200.	0.	0.	0.
07M-339	--	46.5	1.70	3.84	28400.	0.	64.	0.
07M-340	--	46.0	1.68	3.83	346.	0.	0.	0.
07M-341	--	33.0	1.24	3.52	256.	0.	169.	0.
07M-342	--	22.4	0.82	3.11	6.	0.	0.	0.
07M-343	--	8.66	0.32	2.16	118.	115.	587.	0.
07M-344	--	38.5	1.41	3.65	800.	0.	104.	0.
07M-345	--	33.0	1.20	3.50	1150.	158.	6553.	339.
07M-346	--	28.8	1.05	3.36	843.	164.	3366.	182.
07M-347	--	48.9	1.78	3.89	561.	106.	5574.	234.
07M-348	--	39.7	1.41	3.66	2680.	584.	2782.	615.
07M-349	--	48.7	1.78	3.89	73.	0.	178.	0.

1
8

TABLE 1A

HELIUM VALUES IN ORDER

- 6 -

07M-295	1.00	07M-266	29.90	07M-297	42.20	07M-290	52.30
07M-273	1.09	07M-315	30.70	07M-335	42.60	07M-251	52.90
07M-277	4.91	07M-305	30.80	07M-309	42.90	07M-318	53.60
07M-343	8.66	07M-274	31.60	07M-291	43.00	07M-256	54.20
07M-276	10.50	07M-301	31.70	07M-303	44.30	07M-334	54.20
07M-314	11.50	07M-320	32.00	07M-324	45.40	07M-280	54.70
07M-312	12.30	07M-336	32.50	07M-308	45.80	07M-254	54.80
07M-270	12.90	07M-345	33.00	07M-340	46.00	07M-253	55.20
07M-300	14.90	07M-264	33.10	07M-288	46.30	07M-252	55.70
07M-283	19.60	07M-282	33.20	07M-339	46.50	07M-258	55.80
07M-286	19.70	07M-341	33.90	07M-310	47.10	07M-331	56.20
07M-265	20.90	07M-279	34.20	07M-281	47.50	07M-255	57.50
07M-299	21.10	07M-259	35.40	07M-262	47.60	07M-267	57.80
07M-326	21.70	07M-321	35.40	07M-328	47.70	07M-261	58.70
07M-342	22.40	07M-322	35.80	07M-260	48.00	07M-284	63.50
07M-278	22.60	07M-330	36.60	07M-302	48.40	07M-296	65.20
07M-311	22.80	07M-344	38.50	07M-349	48.70	07M-268	71.20
07M-272	23.30	07M-348	38.70	07M-306	48.80	07M-287	71.60
07M-323	24.20	07M-338	38.90	07M-313	48.90	07M-269	72.10
07M-289	26.60	07M-263	40.20	07M-347	48.90	07M-271	72.50
07M-294	27.10	07M-329	40.50	07M-298	49.70	07M-292	80.20
07M-319	27.10	07M-317	40.60	07M-325	50.50	07M-333	80.30
07M-304	28.30	07M-316	41.40	07M-257	50.80	07M-275	108.00
07M-346	28.80	07M-337	41.70	07M-327	50.90	07M-285	210.00
07M-307	29.80	07M-293	42.00	07M-332	51.40		

TABLE NUMBER 1B
 MUD SAMPLER (07M-251 TO 07M-349)

STATISTICAL PARAMETERS

	<u>NUMBER</u>	<u>MEAN</u>	<u>MEDIAN</u>	<u>STANDARD DEVIATION</u>	<u>VARIANCE</u>
TOTAL POPULATION	99	42.50	42.00	24.80	615.00
BACKGROUND POPULATION	51	27.40	29.90	11.00	121.00

ANOMALY RANGE
 =====

(> 4 S.D.)	>	71.40
(> 3-4 S.D.)	60.41	- 71.40
(> 2-3 S.D.)	49.41	- 60.40
(> 1-2 S.D.)	38.41	- 49.40

* Note: The quantity of light hydrocarbons determined for each sample may not be indicative of the in situ levels present where the sample was taken. If bacteriological or other mechanisms which generate light hydrocarbons in the sample continue to operate after the sample has been sealed in the container, this may result in enhanced hydrocarbon levels in the confined gaseous volume of the sample container. Consequently, these light hydrocarbon data can be used only as a qualitative indication of the current presence of a reducing environment. In the interpretive calculations, a correction is made to compensate for the effect of any gas added to the gaseous volume of the sealed container, prior to and during the equilibration interval.

3.2 Statistical Evaluation of the Data

In preparing Figure 1, all of the data were treated in the same statistical manner. The determination of the background population for the data set was commenced by first sorting and listing the results (X_i) in ascending order. The mean (\bar{X}_T) was then calculated for the entire set of values. The subset of data having values equal to or less than \bar{X}_T was then defined. The mean (\bar{X}_b) and standard deviation (S_b) for this subset were calculated and estimated to be the background mean and standard deviation. Anomalous values were assumed to be those results that exceeded the background mean by more than one standard deviation of the background population, that is, data greater than $\bar{X}_b + S_b$ were taken so being anomalous. In terms of $Z_i = (X_i - \bar{X}_b)/S_b$, anomalous values correspond to those for which $Z_i > 1$.

The anomalous values in each data set were ordered as indicated below, into four categories according to the number of background standard deviations (S_b) by which they exceeded the background mean. Increasingly anomalous categories are shown by color coding in the following manner:

<u>Range of Values</u>	<u>Color Code</u>
(In values of Z_i or the number of standard deviation (S_b) that the data exceed the background mean (\bar{X}_b))	
> 4	Red
> 3 - 4	Orange
> 2 - 3	Yellow
> 1 - 2	Green

The above range of helium values for the mud samples are listed respectively in Table 1B. The ordered helium listings of each data set for the mud samples are given in Table 1A.

The histograms for the helium results for the lake bottom water and sediment samples are presented respectively in Figure 2.

3.3 Maps

The sampling locations and helium concentrations for the mud samples are plotted in Figure 1. This map was prepared from a base map provided by Uranerz Exploration and Mining Limited. The scale has been enlarged to 1:5,000, to allow adequate space for the sample number and helium concentration at each station.

On this map, the sampling stations are designated by hollow circles. Each of the hollow circles is colored to accentuate any anomalous helium values exceeding the background mean.

Each helium concentration is marked in a heavier type size below the appropriate sampling site while the number assigned to each sampling station is given in a lighter type. The symbol "*" was placed below each sample location at which no data was received.

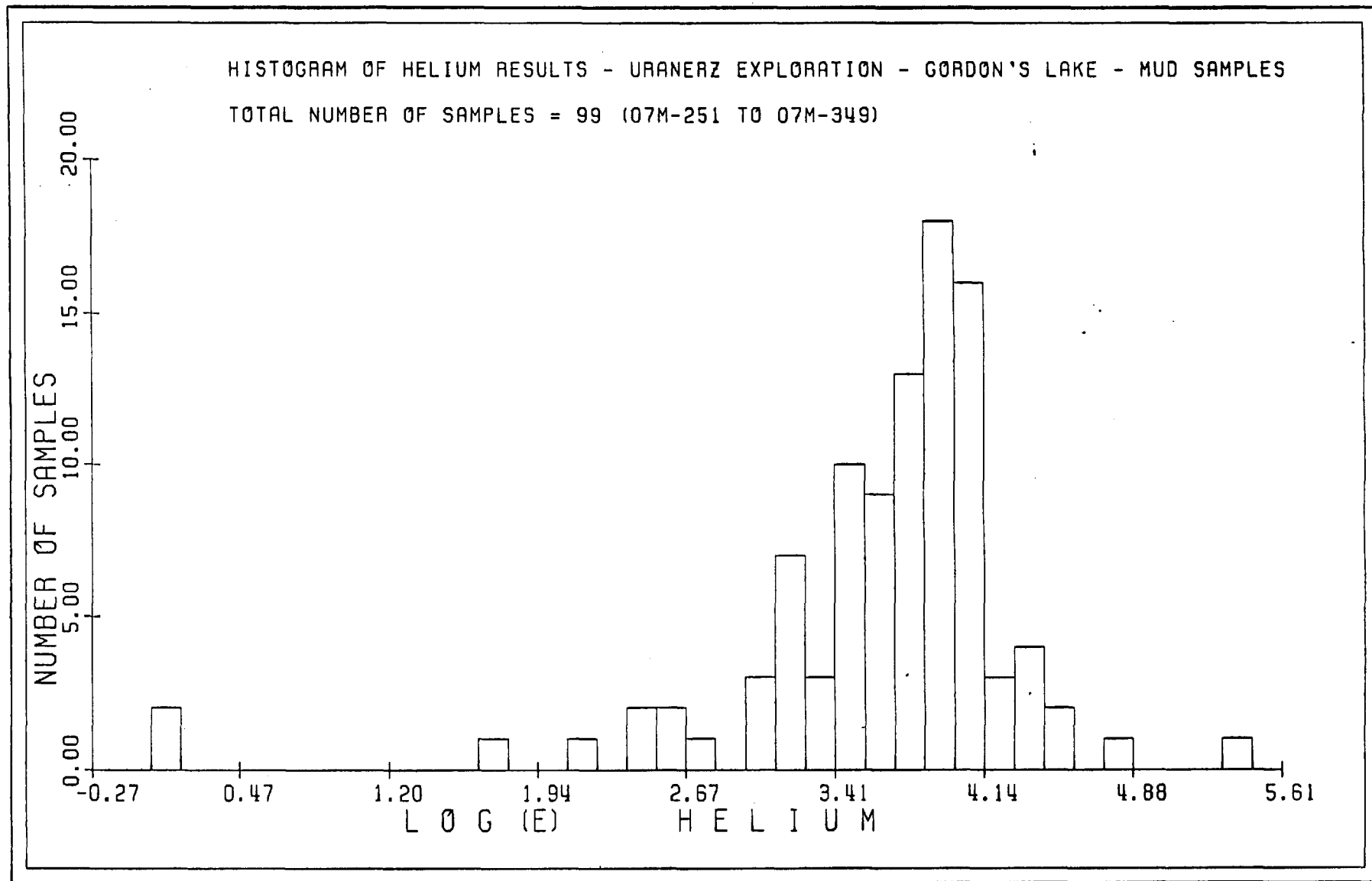


Figure 2. Histogram of the helium results for the mud samples in Table 1.

4. COMMENTS

The most significant helium levels found in the mud samples exceed the background mean by at least 3 standard deviations. Sampling stations at which values of this magnitude were found are designated by orange and red dots in Figure 1.

According to the survey statistics, the following sampling stations are of interest and should be investigated more thoroughly:

07M-268	07M-285
07M-269	07M-287
07M-271	07M-292
07M-275	07M-296
07M-284	07M-333

HELIUM SURVEY SAMPLING RECORD

①

PROJECT NAME: 713

CLIENT: _____

AREA: GOR 201 - 41.5

SAMPLED BY: 2 MADON

DATE	TIME	SAMPLE TYPE	GRID REFERENCE	SAMPLE NUMBER	DEPTH	AIR TEMP	SOIL TEMP	WATER TEMP	AIR PRES.	PRECIPITATION	ELEVATION
					m	C	C	C	mt/R		
11/3/80	9:25	LAKE SEDIMENT		02M 251	3.5	-2	4	0	916		
"	9:49	"		252	3.0	-3	4	0	916		
"	10:04	"		253	3.0	-3	3	0	915.5		
"	10:24	"		254	4.0	-3	4	0	916		
"	10:33	"		255	3.5	-3	4	0	916		
"	10:50	"		256	1.5	-2	3	0	919		
"	11:40	"		257	1.5	-1	3	0	920		
"	11:57	"		258	1.0	-1	2	0	918.5		
"	1:30	RIVER BED		259	-	-2	0	-	921		
"	1:49	"		260	-	-2	2	-	921		
"	2:12	"		261	-	-3	0	-	922.5		
"	2:34	"		262	-	-4	0	-	921.5		
"	3:02	"		263	-	-5	0	-	923		
13/3/80	9:55	RIVER BANK SOIL		264	-	-20	0	-	959		
"	10:45	"		265	-	-11	0	-	959		
"	11:30	"		266	-	-11	0	-	959		
"	1:38	"		267	-	-7	0	-	959		
"	2:10	"		268	-	-12	0	-	963		
"	2:37	"		269	-	-10	0	-	963		
"	2:58	"		270	-	-8	0	-	963.5		
14/3/80	9:25	"		271	-	-9	2	-	953		
"	9:46	"		272	-	-8	2	-	956		
"	10:25	"		273	-	-8	0	-	962		
"	11:08	"		274	-	-9	0	-	973		
"	1:55	"		275	-	-6	0	-	968		
"	2:55	"		276	-	-8	0	-	967		
"	2:37	"		277	-	-8	-1	-	967		
"	3:35	"		278	-	-7	0	-	967		
"	4:10	RIVER BOTTOM (near channel)		279	0.1	-7	0	0	967		
"	4:40	RIVER BANK SOIL		280	-	-7	-1	-	966		
"	5:05	"		281	-	-8	1	-	966		
15/3/80	12:00	"		282	-	-15	0	-	964		
"	12:25	"		283	-	-15	0	-	964		
"	12:58	"		284	-	-14	0	-	965		
"	1:42	"		285	-	-15	-1	-	965		
"	2:30	"		286	-	-13	0	-	968		
"	3:15	SOIL (HEAD stream)		287	-	-13	0	-	967		
"	3:41	"		288	-	-12	0	-	968		
"	4:15	SOIL (in stream)		289	-	-15	0	-	969		
16/3/80	10:11	SOIL (stream)		290	-	-21	0	-	984		
"	10:27	SOIL		291	-	-19	0	-	985		
"	10:56	"		292	-	-17	-2	-	985		
"	11:20	"		293	-	-16	0	-	984		
"	11:54	"		294	-	-15	0	-	984		
"	12:32	SOIL (stream)		295	-	-14	0	-	982		

HELIUM SURVEY SAMPLING RECORD

(2)

PROJECT NAME: 2151
 AREA: 001002 1A

CLIENT: _____
 SAMPLED BY: Z. MADON

DATE	TIME	SAMPLE TYPE	GRID REFERENCE	SAMPLE NUMBER	DEPTH	AIR TEMP	SOIL TEMP	WATER TEMP	AIR PRES.	PRECIPITATION	ELEVATION
					M.	C	C	C	mbAR		
16/3/80	12:48	SOIL (river bank)		02M 296	—	-14	0	—	983		
"	1:08	"		297	—	-13	-1	—	982		
"	1:27	"		298	—	-13	-1	—	983		
"	1:46	RIVER BANK SEDIMENT		299	—	-13	0	—	982		
"	2:08	SOIL (river bank)		300	—	-14	0	—	982		
"	2:25	"		301	—	-15	0	—	983		
"	2:46	"		302	—	-14	0	—	982		
"	3:21	"		303	—	-13	0	—	982		
17/3/80	9:57	"		304	—	-14	0	—	980		
"	10:05	"		305	—	-13	-2	—	978		
"	10:34	"		306	—	-12	0	—	977		
"	11:10	"		307	—	-11	0	—	976		
"	11:35	"		308	—	-11	0	—	975		
"	12:27	"		309	—	-11	0	—	975		
"	12:48	"		310	—	-11	+1	—	975		
"	1:47	SOIL (on ridge (saker?))		311	—	-8	0	—	973		
"	2:03	"		312	—	-8	0	—	973		
"	2:23	"		313	—	-8	0	—	973		
"	2:46	"		314	—	-8	0	—	972		
"	3:07	"		315	—	-9	-1	—	973		
"	3:30	"		316	—	-9	-2	—	972		
"	4:00	"		317	—	-8	-1	—	972		
"	4:11	SOIL (river bank)		318	—	-8	0	—	971		
18/3/80	11:05	"		319	—	+1	+1	—	953		
"	11:22	"		320	—	0	0	—	953		
"	11:34	"		321	—	0	+1	—	953		
"	11:59	"		322	—	-1	0	—	953		
"	12:11	"		323	—	-1	0	—	953		
"	12:46	"		324	—	0	0	—	951		
"	12:56	"		325	—	+1	0	—	951		
"	1:05	"		326	—	0	0	—	952		
"	1:13	"		327	—	-2	0	—	952		
"	1:20	"		328	—	-3	0	—	954		
"	1:27	"		329	—	-4	0	—	954		
"	1:36	SOIL (river bank)		330	—	-5	0	—	954		
19/3/80	11:50	LAKE BOTTOM SEDIMENT		331	0.5	-13	+2	0	978		
"	12:00	"		332	0.5	-13	+2	0	978		
"	12:05	"		333	—	-13	+1	—	978		
"	12:45	STREAM SEDIMENT		334	0.2	-13	0	0	978		
"	12:30	"		335	0.3	-13	0	0	978		
"	12:49	"		336	0.2	-12	0	0	979		
"	1:05	"		337	0.4	-12	0	0	978		
"	1:21	"		338	0.5	-12	0	0	978		
"	2:10	SOIL (beside pond)		339	—	-11	0	—	979		
"	2:45	"		340	—	-11	0	—	979		

4.3 CHEMICAL ANALYSES SHEETS



Geochemical Lab Report

Extraction U-HNO₃
Method Fluorimetric
Fraction Used -80 mesh

Report No. 382-80
From Uranerz Exploration & Mining Limited
Project # 71-85
Date April 11, 19 80

SAMPLE NO.	U ppm	SAMPLE NO.	U ppm
02M-001	1.8	OZM-032	1.8
02	0.7	33	1.5
03	0.9	34	0.7
04	0.4	35	0.7
05	1.0	36	5.1
06	0.4	37	0.7
07	0.9	38	0.2
08	0.7	39	0.7
09	0.4	40	ND
10	0.2	41	1.1
11	0.7	42	0.2
12	0.9	43	0.2
13	0.9	44	0.9
14	1.5	45	0.2
15	0.7	46	0.2
16	0.9	47	0.2
17	0.9	48	0.8
18	0.8	49	0.7
19	0.9	50	1.1
20	1.1	51	0.7
21	0.7	52	0.2
22	0.2	53	0.2
23	0.2	54	0.2
24	0.7	55	0.7
25	0.4	56	0.2
26	0.4	57	0.4
27	0.2	58	4.9
28	0.4	59	0.2
29	0.2	60	0.2
30	0.7	61	0.3
31	0.9	62	ND

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 382-80

Page No. 2

SAMPLE NO.	U ppm	SAMPLE NO.	U ppm
OZM-063	0.4	OZM-099	3.4
64	0.2	100	ND
65	ND	01	0.2
66	0.2	02	0.2
67	0.2	03	0.2
68	0.7	04	ND
69	0.2	05	ND
70	0.2	06	ND
71	0.2	07	2.0
72	0.2	08	ND
73	0.8	09	ND
74	0.2	10	ND
75	0.4	11	0.4
76	ND	12	ND
77	0.2	13	ND
78	0.2	14	ND
79	0.5	15	ND
80	ND	16	ND
81	0.2	17	ND
82	0.1	18	0.2
83	0.4	19	ND
84	0.2	20	0.6
85	0.2	21	0.2
86	0.6	22	0.4
87	0.2	23	0.7
88	0.2	24	ND
89	0.4	25	0.7
90	0.2	26	0.2
91	ND	27	1.5
92	0.9	28	0.2
93	ND	29	0.4
94	0.8	30	1.1
95	0.6	31	0.7
96	0.5	32	0.7
97	ND	33	0.2
98	1.3	34	1.1

Geochemical Lab Report

Report No. 382-80

Page No. 3

SAMPLE NO.	U ppm	SAMPLE NO.	U ppm
OZM-135	0.7	OZM-171	0.8
36	0.7	72	4.5
37	0.5	73	0.8
38	0.6	74	0.2
39	0.9	75	1.4
40	0.7	76	1.8
41	0.2	77	0.4
42	0.8	78	0.4
43	0.6	79	2.6
44	0.9	80	0.4
45	1.5	81	1.0
46	0.4	82	0.4
47	0.7	83	1.3
48	0.2	84	1.5
49	0.4	85	0.9
50	0.6	86	0.9
51	0.1	87	1.3
52	0.7	88	0.1
53	1.3	89	1.1
54	0.6	90	0.9
55	1.2	91	0.8
56	2.0	92	0.4
57	4.1	93	0.4
58	4.0	94	0.3
59	0.6	95	0.6
60	1.5	96	0.9
61	1.8	97	0.6
62	1.5	98	0.5
63	0.4	99	0.7
64	0.9	200	0.9
65	1.3	01	ND
66	0.6	02	0.6
67	0.3	03	0.4
68	0.4	04	ND
69	1.1	05	0.3
70	0.4	06	0.4

Geochemical Lab Report

Report No. 382-80

Page No. 4

SAMPLE NO.	U ppm	SAMPLE NO.	U ppm
OZM-207	0.2	OZM-243	0.2
08	0.4	44	ND
09	0.3	45	ND
10	0.4	46	0.2
11	ND	47	0.2
12	0.2	48	0.4
13	0.2	49	1.1
14	0.2	50	0.1
15	0.2	51	5.3
16	0.7	52	4.7
17	0.3	53	7.1
18	0.3	54	6.0
19	0.2	55	6.7
20	0.9	56	15.3
21	0.7	57	12.7
22	0.4	58	4.0
23	0.2	59	1.1
24	0.7	60	3.6
25	0.3	61	1.2
26	0.3	62	0.4
27	0.1	63	0.7
28	ND	64	1.8
29	0.7	65	1.9
30	ND	66	0.7
31	0.2	67	1.4
32	0.4	68	8.5
33	0.9	69	0.6
34	0.1	70	0.7
35	0.2	71	0.7
36	0.3	72	1.1
37	0.2	73	0.7
38	0.1	74	0.7
39	0.9	75	2.5
40	1.1	76	1.9
41	0.7	77	1.5
42	ND	78	1.4

Geochemical Lab Report

Report No. 382-80

Page No. 5

SAMPLE NO.	U ppm	SAMPLE NO.	U ppm
OZM-279	1.3	OZM-315	ND
80	0.9	16	0.3
81	0.6	17	0.3
82	0.7	18	0.2
83	0.8	19	0.6
84	1.4	20	4.0
85	0.4	21	0.4
86	0.9	22	0.4
87	0.6	23	0.4
88	0.7	24	0.5
89	0.4	25	0.9
90	0.4	26	0.9
91	0.2	27	8.2
92	0.1	28	0.7
93	0.9	29	1.0
94	0.9	30	2.9
95	0.4	31	1.1
96A	0.2	32	1.0
96B	0.7	33	0.4
98	0.2	34	0.6
99	0.7	35	0.6
300	0.2	36	4.1
01	0.7	37	8.8
02	0.4	38	1.0
03	0.8	39	4.9
04	1.0	40	1.3
05	0.4	41	1.2
06	1.8	42	0.2
07	0.8	43	0.1
08	1.0	44	6.9
09	0.2	45	0.2
10	0.7	46	0.2
11	0.2	47	0.7
12	ND	48	0.2
13	0.1	49	1.1
14	0.2		ND Not detected

APPENDIX 5

SUMMER GEOCHEMICAL SURVEY: DATA SHEETS

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA- TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu →	PERMIT NO.	COMMENTS
DWH-183	Gordon Lake	66	15+00	half way down slope	spruce/moss	A	40	grey	sand	0.4	2	N/D	4		no B- cinders
-200	22 M 13		14+75	"	"	A	15	"	"	N/D					
-201			14+50	top of hill	"	A	20	"	"	0.4	2	N/D	2		
-202			14+25	half way down slope	"	A	20	dark brown	clay	3.5					
-203			14+00		+ swamp	A	80	"	"	4.5	7	3	36		
-204			13+75		+ moss	A	15	grey	sand	N/D					
-205			13+50		"	A	15	"	"	0.5	N/D	N/D	N/D		
-206			13+25		"	A	5	"	"	0.8					
-207			13+00		"	A	15	"	"	0.3	2	N/D	N/D		
-208			12+75		"	A	50	dark grey	<clay	0.3					
-209			12+50		swamp	A	80	dark brown	"	0.8	3	N/D	N/D		
-210			12+25		"	A	70	"	clay	0.5					
-211															Standard 200 pp-10
-212			12+00		"	A	70	"	"	0.5					
-213			11+75		spruce/moss	A	10	grey	sand	0.5	2	N/D	N/D		
-214			11+50		"	A	5	"	"	0.3					
-215			11+25		"	A	70	black	clay	2.3	5	N/D	10		
-216			11+00		"	A	5	grey	sand	0.3					
-217			10+75		"	A	5	"	"	0.1	2	N/D	N/D		
-218			10+50		"	A	70	black	clay	N/D					
-219			10+25		"	A	5	grey	sand	N/D	1	N/D	N/D		
-220			10+00		"	A	70	dark grey	sand + clay	N/D					
-221			9+75		"	A	5	grey	"	0.2	1	N/D	N/D		
-222			9+50		"	A	15	"	<clay	0.8					
-223			9+25		"	A	40	brown/gray	"	0.2	10	4	5		
-224			9+00		+ birch	A	30	"	"	0.1					
-225			8+75		+ moss	A	80	dark brown	"	1.0	7	N/D	10		
-226			8+50		"	A	80	"	"	1.3					
-227			8+25		"	A	80	"	sand + clay	0.6	6	N/D	3		
-228			8+00		"	A	10	clay/gray	"	0.1					
-229			7+75		"	A	80	dark brown	clay	0.6	6	2	19		
-230			7+50		"	A	20	brown/gray	sand + "	0.1					
-231		✓	7+25	✓	"	A	20	grey	"	0.5	5	N/D	1		✓

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP#	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
DWH-237	Gordan Lake	66	7+00	half way down slope	spruce + moss	A	70	dark grey	sand + clay	1.0					no B - boulders
-233	22 M 13		6+75		" "	A	10	grey	" "	0.1	4	ND	ND		
-234			6+50		" "	A	10	" "	" "	0.2					
-235			6+25		" hazel	A	50	dark grey	clay	1.6	4	ND	6		
-236			6+00		" + moss	A	10	grey	sand	0.6					
-237			5+75		" "	A	15	" "	" + clay	0.1	1	ND	ND		
-238			5+50		" "	A	20	dark grey	" "	0.1					
-239			5+25		" "	A	15	grey	" "	0.4	1	ND	ND		
-240		✓	5+00		" "	A	50	" "	" "	0.4					
-241		64	5+00	half way down slope	" "	A	15	" "	" "	0.1	4	ND	ND		
-242			5+25		" "	B	10	grey/brown	" "	0.5					
-243			5+50		" "	A	40	dark grey	" "	0.6	19	ND	ND		
-244			5+75		" "	A	5	grey	" "	0.4					
-245			6+00		" "	B	15	brown	" "	0.4	16	ND	ND		
-246															Standard as seen
-247			6+25		" "	B	5	" "	" "	0.1					
-248			6+50		" "	A	70	dark brown	" "	0.2	5	ND	4		
-249			6+75		" "	A	65	" "	" "	0.5					
-250			7+00		" "	A	60	dark grey	" "	0.8	6	ND	ND		
-251			7+25		" "	B	40	grey/brown	" "	0.7					
-252			7+50		" "	A	25	brown	" "	0.9	6	ND	12		
-253			7+75		" "	A	10	grey	" "	0.6					
-254			8+00		" "	A	15	" "	" "	0.1	32	ND	1		
-255			8+25		" "	A	70	grey/brown	" "	0.1					
-256			8+50		" "	A	80	dark brown	" "	1.6	5	ND	15		
-257			8+75		" "	A	80	" "	" "	1.8					
-258			9+00		" "	A	90	" "	" "	1.1	15	2	20		
-259			9+25		" + moss	A	30	" "	" "	1.6					
-260			9+50	✓	" + moss	A	5	grey	" "	0.1	9	ND	ND		
-261			9+75	top of slope	" "	A	5	" "	" "	0.1					
-262			10+00	half way down slope	" "	B	5	brown	" "	ND	12	ND	ND		
-263			10+25		" "	A	15	grey	" "	0.1					
-264		✓	10+50	✓	" "	A	50	dark brown	" "	0.4	16	ND	ND		✓

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP #	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Nc	Co	Cu	PERMIT NO.	COMMENTS
OWH-265	Gordon Lake	64	10+75	half way down slope	spruce+moss	A	20	black	clay	0.6					no B - boulders
-266	22 M13		11+00		"	A	25	dark brown	sand + "	0.1	9	ND	ND		
-267			11+25		"	A	40	"	"	0.1					
-268			11+50		+swamp	A	20	"	"	ND	13	ND	6		
-269			11+75		"	A	65	"	"	0.1					
-270			12+00		+moss	B	10	brown	" "	0.1	18	ND	ND		
-271			12+25	top of hill	"	A	5	grey	"	0.4					
-272			12+50	half way down slope	"	A	5	"	"	0.1	47	ND	2		
-273			12+75		"	A	80	dark brown	"	1.5					
-274			13+00		"	A	10	grey	"	2.9	14	1	36		
-275			13+25		"	A	5	"	"	0.3					
-276			13+50		"	A	10	"	"	0.5	21	ND	ND		
-277			13+75		"	A	20	dark grey	"	0.3					
-278		62	14+00		"	A	20	dark brown	"	0.8	19	ND	2		
-279			14+00		"	A	15	grey	"	0.3					
-280			13+75	top of slope	"	A	25	"	"	0.2	6	ND	ND		
-281															Standard n-sample
-282			13+50	half way down slope	"	A	20	"	"	0.5					
-283			13+25		"	A	15	"	"	0.3	7	ND	ND		
-284			13+00		"	A	20	black	"	12.2					
-285			12+75		+swamp	A	80	dark brown	"	3.7	7	2	4		
-286			12+50		"	A	20	"	"	1.3					
-287			12+25		+moss	A	15	grey	"	0.3	25	ND	ND		
-288			12+00		"	A	10	"	"	0.3					
-289			11+75		"	A	20	dark brown	" "	2.3	11	ND	15		
-290			11+50		"	B	30	brown/grey	" "	0.8					
-291			11+25		"	A	60	dark brown	" "	0.8	7	ND	5		
-292			11+00		+swamp	A	20	"	"	1.2					
-293			10+75		"	A	20	"	"	1.3	12	ND	10		
-294			10+50		"	A	20	"	"	0.6					
-295			10+25		"	A	20	"	"	1.8	9	1	7		
-296			10+00		"	A	20	"	"	0.8					
-297			9+75		"	A	20	"	"	0.8	13	ND	7		

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP#	LINE	STATION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
OWH-288	Gordon Lake	62	9+50	half way down slope	Spruce + moss	A	5	grey	sand	0.3					no B - boulders
-289	22 M 13		9+25		" "	B	5	brown	" + clay	0.3	11	ND	1		
-300			9+00		" "	A	15	grey	" "	0.3					
-301			8+75		" "	A	80	dark brown	" "	2.3	7	1	16		
-302			8+50		" "	B	5	brown	" "	0.3					
-303			8+25		" "	A	90	"	" "	0.1	7	1	4		
-304			8+00		" "	A	50	dark grey	" "	0.2					
-305			7+75		" "	B	5	light brown	" "	0.8	3	ND	ND		
-306			7+50		" "	A	15	grey	" "	0.3					
-307			7+25		" "	A	80	dark brown	" "	0.3	14	ND	8		
-308			7+00		" "	A	10	grey	" "	1.3					
-309			6+75		" "	A	5	"	" "	0.6	5	ND	ND		
-310			6+50		" "	A	10	"	" "	0.6					
-311															standard no 30-1
-312			6+25		" "	A	15	"	" "	0.8	3	ND	ND		
-313			6+00		" "	A	75	black	" "	2.8					
-314			5+75		" "	A	80	"	" "	1.3	10	ND	9		
-315			5+50		" "	A	80	"	" "	0.8					
-316			5+25		" "	A	80	dark grey	" "	0.6	2	ND	1		
-317			5+00		" "	A	70	"	" "	0.8					
-318			4+75		" "	B	20	brown/grey	" "	0.3	3	ND	ND		
-319			4+50		" "	A	5	grey	" "	0.4					
-320			4+25		" "	A	15	dark grey	" "	0.3	4	ND	ND		
-321		✓	4+00		" "	A	10	grey	" "	ND					
-322		60	4+00		" "	B	10	brown	" "	0.3	8	ND	ND		
-323			4+25		" "	B	5	"	" "	ND					
-324			4+50		" "	B	10	"	" "	ND	29	ND	1		
-325			4+25		" "	A	10	grey	" "	0.8					
-326			5+00		" "	A	20	brown	" "	1.8	4	1	8		
-327			5+25		" "	A	60	dark brown	" "	0.5					
-328			5+50		" "	A	70	"	" "	0.3					
-329			5+75		" "	A	80	"	" "	0.1	8	ND	6		
-330		↓	6+00	↓	" "	A	80	"	" "	0.9					↓

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu →	PERMIT NO.	COMMENTS
OWH-331	Gordon Lake	60	6+25	half way down slope	spruce + moss	A	80	dark brown	clay	6.4	10	1	4		no B - boulders
-332	22 M 13		6+50		" "	A	10	grey	sand	0.1					
-333			6+75		" "	A	10	"	"	0.4	29	ND	2		
-334			7+00		" "	B	15	"	" "	0.4					
-335			7+25		" + larch	A	5	"	"	0.1	10	ND	ND		swamp
-336			7+50		" "	A	10	grey/brown	" gravel "	0.6					
-337			7+75		" "	A	20	brown	"	1.1	11	1	6		
-338			8+00		" "	B	5	"	"	1.0					
-339			8+25		" "	B	5	grey/brown	"	0.5	27	ND	1		
-340			8+50		" + moss	B	10	"	"	0.1					
-341			8+75		" "	A	70	dark brown	"	0.4	7	1	3		
-342			9+00		" + larch	B	5	light brown	" "	0.1					
-343			9+25		" "	B	10	grey/brown	" "	0.9	3	1	2		
-344			9+50		" + moss	A	60	brown	"	0.4					
-345			9+75		" "	A	50	grey	" gravel "	0.1	5	ND	2		
-346															Standard 480
-347			10+00		" + larch	A	80	dark brown	"	1.6	11	2	5		
-348			10+25		" "	A	80	"	"	0.6					
-349			10+50		" + moss	A	80	"	"	4.0	4	2	4		
-350			10+75		" "	A	80	"	"	1.1					
-351			11+00		" + larch	A	80	"	"	1.6	10	1	8		
-352			11+25		" "	A	80	"	"	0.4					
-353			11+50		" "	A	80	"	"	1.6	11	ND	2		
-354			11+75		" + moss	A	10	grey	sand	0.4					✓
-355			12+00		" "	A	10	"	"	ND	3	ND	ND		
-356			12+25		" "	A	10	"	"	ND					
-357			12+50	top of slope	" "	A	10	"	"	ND	2	ND	ND		
-358			12+75	"	" "	A	10	"	"	ND					
-359		✓	13+00	half way down slope	" "	A	20	"	"	0.1	5	ND	ND		
-360		58	13+25		" "	A	15	"	" "	0.1					
-361			12+75		" "	A	5	"	"	ND	4	ND	ND		
-362			12+50		" "	A	10	"	"	0.3					
-363		✓	12+25		" "	A	10	"	"	0.4	4	ND	ND		✓

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu →	PERMIT NO.	COMMENTS
OWH-364	Gordon Lake	58	12+00	half way down slope	spruce + moss	A	10	grey	sand	0.6					no B - boulders.
-365	22M 13		11+75		" "	A	5	"	"	0.2	6	NID	NID		
-366			11+50		" "	A	5	"	"	0.4					
-367			11+25		" "	A	10	"	"	0.1	3	NID	NID		
-368			11+00		" "	A	10	"	"	0.7					
-369			10+75		" "	A	70	dark brown	clay	2.1	13	1	4		
-370			10+50		" "	A	70	dark grey	" "	0.4					
-371			10+25		" "	A	30	dark brown	" "	0.4	2	NID	NID		
-372			10+00		" "	A	10	grey	" "	0.2					
-373			9+75		" "	A	45	grey/brown	" "	NID	3	NID	1		
-374			9+50		" "	A	50	"	" "	NID					
-375			9+25		" "	A	10	grey	" "	0.4	7	1	1		
-376			9+00		" "	A	30	brown/grey	" "	1.1					
-377			8+75		" "	A	25	grey	" "	0.1	4	NID	1		
-378			8+50		" "	A	50	"	" "	0.5					
-379			8+25		" "	A	70	dark brown	" "	0.9	10	1	7		
-380			8+00		" "	B	20	brown	" "	0.5					
-381															standard piced
-382			7+75		" "	A	70	brown	" "	0.1	3	NID	1		
-383			7+50		" "	B	10	light-grey	" "	0.2					
-384			7+25		" "	B	5	brown	" "	0.9	2	NID	NID		
-385			7+00		" "	A	10	dark brown	" "	0.6					
-386			6+75		" "	A	20	dark grey	" "	0.6	3	NID	1		
-387			6+50		" "	A	5	"	" "	NID					
-388			6+25		" "	A	15	"	" "	NID	5	NID	NID		
-389			6+00		" "	A	80	dark brown	" "	0.6					piced
-390			5+75		" "	A	80	"	" "	0.3	12	NID	9		along river
-391			5+50		" "	A	5	grey	" "	0.4					
-392			5+25		" "	B	5	light brown	" "	0.4	7	NID	1		
-393			5+00		elder + grass	A	70	dark "	" "	57.0					
-394			4+75		spruce + moss	A	10	grey	" "	0.6	2	NID	NID		
-395			4+50		" "	A	70	dark brown	" "	3.5					
-396		✓	4+25	✓	" "	A	40	grey	" "	0.9	10	NID	2		✓



Geochemical Lab Report

Extraction Cu, Co, Ni-HNO₃-HCl, U-HNO₃

Report No. 1196-80

Method A.A. Fluorimetric

From Uranerz Exploration & Mining Limited
Project # 71-85

Fraction Used -80 mesh

Date July 23, 19 80

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH 001	14	1	4	3.5	OWH 032				1.1
02				0.7	33	ND	ND	22	0.7
03	23	1	295	1.2	34				0.6
04				0.1	35	9	6	114	1.1
05	1	ND	30	0.5	36	<i>STANDARD</i>			60.0
06				0.6	37	1	1	56	1.0
07	12	1	53	1.2	38				0.6
08				0.3	39	ND	ND	1	1.0
09	ND	ND	ND	0.2	40				0.1
10				2.2	41	2	ND	12	0.7
11	ND	ND	ND	0.1	42				0.1
12				0.2	43	ND	ND	12	0.9
13	ND	ND	28	0.1	44				0.4
14				0.1	45	1	ND	ND	0.3
15	2	ND	8	0.9	46				0.7
16				1.0	47	ND	ND	ND	0.4
17	ND	ND	20	0.6	48				0.5
18				1.0	49	1	ND	1	1.1
19	ND	ND	30	0.7	50				0.6
20				0.4	51	ND	ND	12	0.6
21	ND	ND	ND	0.9	52				0.1
22				0.7	53	ND	ND	1	0.3
23	ND	ND	ND	0.4	54				0.6
24				0.1	55	ND	ND	16	0.3
25	ND	ND	2	0.5	56				0.1
26				0.8	57	ND	ND	18	0.3
27	ND	ND	ND	0.8	58				0.2
28				0.7	59	ND	ND	22	0.2
29	ND	ND	ND	0.5	60				0.3
30				0.3	61	ND	ND	28	0.1
31	ND	ND	ND	1.1	62				2.0

Handwritten notes and signatures at the bottom of the page, including numbers like 16, 10, 31, 37, 51, 11, 17.

Geochemical Lab Report

Report No. 1196-80

Page No. 2

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH 063	ND	ND	20	ND	OWH 099	ND	ND	8	0.1
64				0.1	100				0.6
65	ND	ND	14	0.1	01	ND	ND	5	0.2
66				ND	02				1.0
67	ND	ND	ND	0.2	03	27	ND	10	2.5
68				0.6	04				0.9
69	ND	ND	20	0.3	05	ND	ND	8	1.6
70				0.2	06	STANDARD			66.0
71	21 STANDARD 20			73.0	07	ND	ND	12	1.1
72				0.7	08				0.8
73	ND	ND	19	0.4	09	ND	ND	10	1.2
74				0.2	10				1.3
75	ND	ND	ND	0.4	11	ND	ND	6	1.1
76				ND	12				0.8
77	ND	ND	16	0.2	13	ND	ND	5	0.8
78				ND	14				1.1
79	2	ND	23	2.2	15	ND	ND	6	0.3
80				0.2	16				0.9
81	5	4	7	0.1	17	ND	ND	10	ND
82				0.2	18				1.2
83	2	1	12	0.5	19	ND	ND	9	1.8
84				1.0	20				1.2
85	66	2	7	0.7	21	ND	ND	5	0.6
86				0.8	22				0.8
87	16	14	6	1.4	23	ND	ND	12	1.2
88				2.8	24				0.6
89	4	1	6	0.6	25	ND	ND	8	1.1
90				1.0	26				1.1
91	60	1	8	2.0	27	ND	ND	7	1.3
92				0.6	28				1.3
93	ND	ND	2	0.6	29	ND	ND	6	1.3
94				1.6	30				1.3
95	ND	ND	5	0.5	31	ND	ND	4	0.6
96				0.6	32				0.8
97	ND	ND	6	0.6	33	ND	ND	7	0.9
98				0.4	34				1.3

96 46 48 43 66 66 66 131 0.2

Geochemical Lab Report

Report No. 1196-80

Page No. 3

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH 135	ND	ND	2	1.1	OWH 171	ND	ND	1	0.5
36				0.8	72				0.3
37	6	3	8	0.9	73	ND	ND	1	0.3
38				0.1	74				ND
39	ND	ND	4	0.1	75	4	ND	8	0.3
40				ND	76	STANDARD			48.0
41	STANDARD			59.0	77	2	ND	2	0.8
42				0.1	78				1.1
43	ND	ND	ND	0.1	79	3	2	3	0.5
44				0.6	80				0.3
45	ND	ND	ND	0.6	81	2	1	4	0.5
46				ND	82				0.5
47	ND	ND	1	0.1	83	17	1	8	0.1
48				1.1	84				0.1
49	ND	ND	4	ND	85	ND	ND	3	0.2
50				ND	86				0.5
51	14	1	10	ND	87	ND	ND	3	1.6
52				0.1	88				0.1
53	ND	ND	ND	ND	89	8	ND	2	0.1
54				0.1	90				0.2
55	ND	ND	ND	ND	91	ND	ND	5	0.4
56				ND	92				0.1
57	ND	ND	6	0.5	93	6	ND	3	0.9
58				0.8	94				0.1
59	ND	ND	2	0.5	95	5	ND	4	0.6
60				0.1	96				0.5
61	1	ND	4	0.5	97	2	1	4	0.6
62				0.2	98				ND
63	ND	ND	1	ND	99	4	ND	2	0.4
64				0.4	200				ND
65	ND	ND	4	ND	01	2	ND	2	0.4
66				0.3	02				3.5
67	32	1	ND	2.1	03	36	3	7	4.5
68				0.1	04				ND
69	ND	ND	2	ND	05	ND	ND	ND	0.5
70				ND	06				0.8

Handwritten notes and corrections at the bottom of the page, including circled numbers (32, 36) and various scribbles.

Geochemical Lab Report

Report No. 1196-80

Page No. 4

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH-207	ND	ND	2	0.3	OWH-243	ND	ND	19	0.6
08				0.3	44				0.4
09	ND	ND	3	0.8	45	ND	ND	16	0.4
10				0.5	47				0.1
11	sample missing				48	4	ND	5	0.2
12				0.5	49				0.5
13	ND	ND	2	0.5	50	ND	ND	6	0.8
14				0.3	51				0.7
15	10	ND	5	2.3	52	12	ND	6	0.9
16				0.3	53				0.6
17	ND	ND	2	0.1	54	1	ND	32	0.1
18				ND	55				0.1
19	ND	ND	1	ND	56	15	ND	5	1.6
20				ND	57				1.8
21	ND	ND	1	0.2	58	20	2	15	1.1
22				0.8	59				1.6
23	5	4	10	0.2	60	ND	ND	9	0.1
24				0.1	61				0.1
25	10	ND	7	1.0	62	ND	ND	12	ND
26				1.3	63				0.1
27	3	ND	6	0.6	64	ND	ND	16	0.4
28				0.1	65				0.6
29	19	2	6	0.6	66	ND	ND	9	0.1
30				0.1	67				0.1
31	1	ND	5	0.5	68	6	ND	13	ND
32				1.0	69				0.1
33	ND	ND	4	0.1	70	ND	ND	18	0.1
34				0.2	71				0.4
35	6	ND	4	1.6	72	2	ND	47	0.1
36				0.6	73				1.5
37	ND	ND	1	0.1	74	36	1	14	2.9
38				0.1	75				0.3
39	ND	ND	1	0.4	76	ND	ND	21	0.5
40				0.4	77				0.3
41	ND	ND	4	0.1	78	2	ND	19	0.8
42				0.5	79				0.3

246/113 118/118 136/136 136/272 0.2 A)

Geochemical Lab Report

Report No. 1196-80

Page No. 5

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH-280	ND	ND	6	0.8	OWH-318	ND	ND	3	0.3
82				0.5	19				0.4
83	ND	ND	7	0.3	20	ND	ND	4	0.3
84				12.2	21				ND
85	4	2	7	3.7	22	ND	ND	8	0.3
86				1.3	23				ND
87	ND	ND	25	0.3	24	1	ND	29	ND
88				0.3	25				0.8
89	15	ND	11	2.3	26	8	1	4	1.8
90				0.8	27				0.5
91	5	ND	7	0.8	29	6	ND	8	0.1
92				1.2	30				0.9
93	10	ND	12	1.3	31	4	1	10	6.4
94				0.6	32				0.1
95	7	1	9	1.8	33	2	ND	29	0.4
96				0.8	34				0.4
97	7	ND	13	0.8	35	ND	ND	10	0.1
98				0.3	36				0.6
99	1	ND	11	0.3	37	6	1	11	1.1
300				0.3	38				1.0
01	16	1	7	2.3	39	1	ND	27	0.5
02				0.3	40				0.1
03	4	1	7	0.1	41	3	1	7	0.4
04				0.2	42				0.1
05	ND	ND	3	0.8	43	2	1	3	0.9
06				0.3	44				0.4
07	8	ND	14	0.3	45	2	ND	5	0.1
08				1.3	46	STANDARD			48-0
09	ND	ND	5	0.6	47	5	2	11	1.6
10				0.6	48				0.6
12	ND	ND	3	0.8	49	4	2	4	4.0
13				2.8	50				1.1
14	9	ND	10	1.3	51	8	1	10	1.6
15				0.8	52				0.4
16	1	ND	2	0.6	53	2	ND	11	1.6
17				0.8	54				0.4

308 (9) 151 151 151 112 142 112 112

Geochemical Lab Report

Report No. 1196-80

Page No. 6

SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm	SAMPLE NO.	Cu ppm	Co corr. ppm	Ni corr. ppm	U ppm
OWH-355	ND	ND	3	ND	OWH-392	1	ND	7	0.4
56				ND	93				57.0
57	ND	ND	2	ND	94	ND	ND	2	0.6
58				ND	95				3.5
59	ND	ND	5	0.1	96	2	ND	10	0.9
60				0.1	OWH-328				0.3
61	ND	ND	4	ND					
62				0.3					
63	ND	ND	4	0.4		ND Not detected			
64				0.6					
65	ND	ND	6	0.2					
66				0.4					
67	ND	ND	3	0.1					
68				0.7					
69	4	1	13	2.1					
70				0.4					
71	ND	ND	2	0.4					
72				0.2					
73	1	ND	3	ND					
74				ND					
75	1	1	7	0.4					
76				1.1					
77	1	ND	4	0.1					
78				0.5					
79	7	1	10	0.9					
80				0.5					
82	1	ND	3	0.1					
83				0.2					
84	ND	ND	2	0.9					
85				0.6					
86	1	ND	3	0.6					
87				ND					
88	ND	ND	5	ND					
89				0.6					
90	9	ND	12	0.3					
91				0.4					

319/12

190

190

190

193

193

385
193
397

0.2

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	N _c	C _o	C _u	PERMIT NO.	COMMENTS
OWH-001	Gordon Lake	76	14+00	half way down slope	birch + spruce	A	80	black	silt/clay	3.5	4	1	14		no B horizon boulders
-002	22 M 13	'	14+25			A	50	dark grey	sand	0.7					
-003		'	14+50			A	50	"	"	1.2	295	1	23		
-004		'	14+75			A	10	light grey	"	0.1					
-005		'	15+00			B	5	brown	sand/silt	0.5	30	N/D	1		
-006		'	15+25			A	5	light grey	sand	0.6					
-007		'	15+50			A	80	black	silt	1.2	53	1	12		
-008		'	15+75		↓	B	5	brown grey	sand	0.3					
-009		'	16+00		SPRICE + MOSS	A	10	grey	"	0.2	N/D	N/D	N/D		
-010		'	16+25			A	80	black	silt	2.2					
-011		'	16+50			A	5	grey	sand	0.1	N/D	N/D	N/D		
-012		'	16+75			A	10	"	sand/gravel	0.2					
-013		'	17+00			A	5	"	"	0.1	24	N/D	N/D		
-014		'	17+25			B	5	brown grey	sand	0.1					
-015		'	17+50			A	80	black	silt	0.9	8	N/D	2		
-016		'	17+75			A	80	"	"	1.0					
-017		'	18+00			B	10	brown grey	sand	0.6	20	N/D	N/D		
-018		'	18+25			A	5	grey	"	1.0					
-019		'	18+50			B	5	brown grey	sand/silt	0.7	30	N/D	N/D		
-020		'	18+75			A	5	light grey	sand	0.4					
-021		'	19+00			A	15	gray	sand/gravel	0.9	N/D	N/D	N/D		
-022		'	19+25			A	10	light gray	"	0.7					
-023		'	19+50			A	10	"	"	0.4	N/D	N/D	N/D		
-024		'	19+75			A	15	dark brown	sand/clay	0.1					
-025		'	20+00			B	5	brown grey	"	0.5	2	N/D	N/D		
-026		'	20+25			A	0	light grey	silt	0.5					
-027		'	20+50			A	10	"	"	0.8	N/D	N/D	N/D		
-028		'	20+75			A	5	grey	sand	0.7					
-029		'	21+00			A	10	"	sand/gravel	0.5	N/D	N/D	N/D		
-030		'	21+25			A	5	"	sand	0.3					
-031		'	21+50			A	20	"	"	1.1	N/D	N/D	N/D		
-032		'	21+75			A	15	"	"	1.1					
-033		'	22+00	↓	↓	B	5	brown grey	sand/clay	0.7	22	N/D	N/D		

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
DWH-034	Gordon Lake	74	22+00	half way down slope	spruce+mas	A	5	grey	sand	0.6					no B-Horizon, boulders
-035	22 M 13		21+75			A	40	dark grey	"	1.1	114	6	9		↓
-036			21+50			A									Standard Co.
-037			21+50			A	20	grey	sand	1.0	56	1	1		
-038			21+25		✓	A	10	"	"	0.6					Y
-039			20+00		birch+spruce	B	5	grey brown	"	1.0	1	N/D	N/D		
-040			20+75			A	5	grey	"	0.1					
-041			20+50				15	"	sand/clay	0.7	12	N/D	2		
-042			20+25				10	"	sand+gravel	0.1					
-043			20+00				20	"	sand	0.9	12	N/D	N/D		
-044			19+75				10	"	"	0.4					
-045			19+50				15	"	"	0.3	N/D	N/D	1		
-046			19+25		✓		5	"	"	0.7					
-047			19+00		spruce+mas		5	"	sand+gravel	0.4	N/D	N/D	N/D		
-048			18+75				10	"	"	0.5					
-049			18+50				10	"	silt/clay	1.1	1	N/D	1		
-050			18+25				10	"	sand+gravel	0.6					
-051			18+00				10	"	sand	0.6	12	N/D	N/D		
-052			17+75			↓	5	"	sand+gravel	0.1					↓
-053			17+50			B	5	brown	sand/clay	0.3	1	N/D	N/D		
-054			17+25			A	5	grey	sand	0.6					↓
-055			17+00			B	10	grey brown	sand/clay	0.3	16	N/D	N/D		↓
-056			16+75			A	15	grey	sand	0.1					↓
-057			16+50			B	10	grey brown	sand/clay	0.3	18	N/D	N/D		↓
-058			16+25			B	5	brown	"	0.2					↓
-059			15+00		✓	A	10	grey	"	0.2	22	N/D	N/D		↓
-060			15+75		swamp		10	dark grey	sand	0.3					
-061			15+50		birch+hazel		5	grey	sand	0.1	28	N/D	N/D		
-062			15+25		"		60	black	clay	2.0					
-063			15+00		birch+spruce		10	grey	sand	N/D	20	N/D	N/D		
-064			14+75				10	"	"	0.1					
-065			14+50				5	"	"	0.1	14	N/D	N/D		
-066		✓	14+25	↓	↓	↓	5	"	sand/gravel	N/D					↓

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
0WH-067	Gordon Lake	74	14+00	half way down slope	spruce+moor	A	5	grey	sand/gravel	0.2	N/D	N/D	N/D		no B - boulders
0WH-068	27 M 13	72	11+50			B	5	brown/grey	sand/clay	0.6					
-069			11+25			A	10	grey	" "	0.3	20	N/D	N/D		
-070			11+00				10	brown/grey	" "	0.2					
-071										(73.0)	(2.0)	(4)	(2.0)		Standard 73.0
-072			10+75			B	15	" "	sand/gravel	0.7					
-073			10+50			B	5	" "	" /clay	0.4	19	N/D	N/D		
-074			10+25			A	10	dark grey	" "	0.2					
-075			10+00			A	5	grey	" "	0.4	N/D	N/D	N/D		
-076			11+75	top of hill		B	5	brown/grey	" "	N/D					
-077			12+00	" "		B	5	" "	" "	0.2	16	N/D	N/D		
-078			12+25	half way down slope		A	60	black	" "	N/D					
-079			12+50		spruce+herzel	A	15	gray	sand/gravel	2.2	23	N/D	2		
-080			12+75		spruce+birch	A	80	dark/brown	clay	0.2					
-081			13+00		spruce+moor	B	5	brown	sand/silt/clay	0.1	7	4	5		
-082			13+25		" "	B	5	brown/grey	sand/clay	0.2					
-083			13+50		" -herzel	A	25	gray	" "	0.5	12	1	2		
-084			13+75		" -birch	A	65	dark/brown	" "	1.0					
-085			14+00		" "	A	65	" "	" "	0.7	7	2	66		
-086			14+25		" "	A	40	grey	" "	0.8					
-087			14+50		Swamp	A	70	black	mud	1.4	6	14	16		
-88			14+75		spruce+birch	A	50	dark/grey	clay	2.9					
-89			15+00		" -moor	A	15	grey	sand "	0.6	6	1	4		
-90			15+25			A	35	dark/grey	" "	1.0					
-91			15+50			A	70	" "	clay	2.0	8	1	60		
-92			15+75			A	15	grey	sand	0.6					
-93			16+00		spruce+birch	A	20	grey	gravel+clay	0.6	2	N/D	N/D		
-94			16+25		" -moor	A	70	black	clay	1.6					
-95			16+50		" -birch	B	10	brown/grey	sand/ "	0.5	5	N/D	N/D		
-96			16+75		" -moor	B	10	" "	" "	0.6					
-97			17+00			B	10	" "	" clay	0.6	6	N/D	N/D		
-98			17+25			B	10	" "	" "	0.4					
-99			17+50			A	5	grey	" "	0.1	8	N/D	N/D		

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT %	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
OWH-100	Gordon Lake	72	17+75	half way down slope	spruce + moss	B	5	brown/grey	sand + clay	0.6					web - boulders
-101	22 H 13		18+00		"	A	10	"	"	0.2	5	N.D.	N.D.		
-102			18+25		"	B	5	brown "	" + clay	1.0					
-103			18+50		"	A	60	black	"	2.5	10	N.D.	27		
-104			18+75		"	B	5	gray/grey	sand + "	0.9					
-105			19+00	↓	"	A	5	"	"	1.6	8	N.D.	N.D.		
-106															standard 66.0
-107			19+25		"	B	0	light brown	sand + clay	1.1	12	N.D.	N.D.		
-108			19+50		"	B	0	brown	"	0.8					
-109			19+75		"	B	0	"	"	1.2	10	N.D.	N.D.		
-110			20+00		"	A	0	light brown	"	1.3					
-111			20+25		"	B	0	"	"	1.1	6	N.D.	N.D.		
-112			20+50		"	B	0	"	"	0.8					
-113			20+75		"	B	0	"	"	0.8	5	N.D.	N.D.		
-114		✓	21+00		"	A	0	grey	"	1.1					
-115		70	20+00		" + birch	A	10	"	"	0.3	6	N.D.	N.D.		
-116			19+75		" moss	B	5	brown/grey	" + clay	0.9					
-117			19+50		"	A	5	grey	"	N.D.	10	N.D.	N.D.		
-118			19+25		"	B	5	light brown	" + clay	1.2					
-119			19+00		"	B	5	"	"	1.8	9	N.D.	N.D.		
-120			18+75		"	B	5	light grey	"	1.2					
-121			18+50		"	A	5	grey	"	0.6	5	N.D.	N.D.		
-122			18+25		" + birch	A	25	dark grey	"	0.8					
-123			18+00		" + moss	A	5	grey	"	1.2	12	N.D.	N.D.		
-124			17+75		"	B	5	light brown	" + clay	0.6					
-125			17+50		"	B	0	"	"	1.1	8	N.D.	N.D.		
-126			17+25		"	B	0	brown	"	1.1					
-127			17+00		"	B	0	"	"	1.3	7	N.D.	N.D.		
-128			16+75		"	A	70	black	"	1.3					
-129			16+50		"	A	5	grey	sand + "	1.3	6	N.D.	N.D.		
-130			16+25		"	A	10	"	"	1.3					
-131			16+00		"	A	5	"	"	0.6	4	N.D.	N.D.		
-132		✓	15+75	↓	"	A	5	dark grey	" + clay	0.8					

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT

71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
OWH-133	Gordon Lake	70	15+50	half way down slope	spruce + moss	A	5	grey	sand	0.9	7	N/D	N/D		no B - boulders
-134	22 H 13		15+25		" "	A	5	"	"	1.3					
-135			15+00		" "	A	40	dark grey	"	1.1	2	N/D	N/D		
-136			14+75		" "	A	10	gray	sand + gravel	0.8					
-137			14+50		" birch	B	5	brown/grey	" + clay	0.9	8	3	6		
-138			14+25		" "	B	5	light brown	" "	0.1					
-139			14+00		" "	A	5	grey	" "	0.1	4	N/D	N/D		
-140			13+75		" "	B	5	grey/brown	" + clay	N/D					
-141			13+50							(39.0)	(20)	(5)	(22)		standard 59.0
-142			13+25		" "	A	5	grey	" "	0.1					
-143			13+00		" + moss	A	15	"	"	0.1	N/D	N/D	N/D		
-144			13+00	top of slope	" "	B	5	grey/brown	" "	0.6					
-145			12+50	top of hill	" "	A	5	grey	" + gravel	0.6	N/D	N/D	N/D		
-146			12+25	top of slope	" "	A	5	"	" "	N/D					
-147			12+00	half way down slope	" "	A	5	"	" "	0.1	1	N/D	N/D		
-148			11+00		" "	A	70	dark brown	clay	1.1					
-149			11+50		" "	A	5	grey	sand	N/D	4	N/D	N/D		
-150			11+25		" "	A	5	"	" + clay	N/D					
-151			11+00		" "	B	5	brown	" + clay	N/D	10	1	14		
-152			10+00		" "	A	5	grey	" + clay	0.1					
-153			10+50	top of hill	" "	B	5	" brown	" + gravel clay	N/D	N/D	N/D	N/D		
-154			10+25		" "	A	10	grey	" gravel	0.1					
-155			10+00	half way down slope	" "	A	5	"	" "	N/D	N/D	N/D	N/D		
-156		68	10+00		" "	B	5	brown	" + clay	N/D					
-157			9+00		" "	A	5	grey	sand	0.5	6	N/D	N/D		
-158			9+25		swamp	A	80	dark brown	mud	0.5					
-159			9+50		" "	A	80	"	"	0.5	2	N/D	N/D		
-160			9+75		spruce + hazel	B	15	grey	sand	0.1					
-161			10+00		" "	A	15	"	"	0.5	4	N/D	1		
-162			10+25		" + moss	A	15	"	"	0.2					
-163			10+50		" "	A	15	"	"	N/D	1	N/D	N/D		
-164			10+75		" "	B	5	brown	sand + clay	0.1					
-165			11+00		" "	A	5	" / grey	" "	N/D	4	N/D	N/D		

GEOCHEMICAL SAMPLE DATA SHEET

- SOILS -

PROJECT 71-85

SAMPLE #	AREA NTS MAP#	LINE	STA-TION	TOPOGRAPHIC POSITION	VEG.	HORIZON	ORGANIC CONTENT	COLOUR	GRAIN SIZE	U ppm	Ni	Co	Cu	PERMIT NO.	COMMENTS
OWH-166	Gordon Lake	68	11+25	half way down slope	spruce + moss	A	10	grey	sand	0.3					no B - boulders
-167	22 M 13		11+50		" birch	B	5	light brown	clay	2.1	ND	1	32		
-168			11+75		" moss	A	70	dark brown	sand	0.1					
-169			12+00		" "	A	5	grey	"	ND	2	ND	ND		
-170			12+25		" "	A	5	"	"	ND					
-171			12+50		" "	A	5	"	"	0.5	1	ND	ND		
-172			12+75		" "	A	5	"	"	0.3					
-173			13+00		" "	A	5	"	"	0.3	1	ND	ND		
-174			13+25		" "	A	15	"	"	ND					
-175			13+50		" "	B	5	brown	" + clay	0.3	8	ND	4		
-176															Standard 48.0
-177			13+75		" birch	A	25	dark brown	sand	0.8	2	ND	2		
-178			14+00		" "	A	25	"	"	1.1					
-179			14+25		" "	A	60	"	"	0.5	3	2	3		
-180			14+50		" "	A	30	brn/grey	"	0.3					
-181			14+75		" "	A	45	dark grey	"	0.5	4	1	2		
-182			15+00		" moss	A	15	grey	"	0.5					
-183			15+25		" "	A	80	black	clay	0.1	8	1	17		
-184			15+50		" "	A	25	grey	sand	0.1					
-185			15+75		" "	A	15	"	" + clay	0.2	3	ND	ND		
-186			16+00		" "	A	40	dark grey	" "	0.5					
-187			16+25		" "	A	80	black	"	1.6	3	ND	ND		
-188			16+50		" "	A	10	grey	sand	0.1					
-189			16+75		" "	A	25	"	"	0.1	2	ND	8		
-190			17+00		" "	B	5	light brown	" + clay	0.2					
-191			17+25	top of slope	" "	A	5	grey	"	0.4	5	ND	ND		
-192			17+50	half way down slope	" "	A	5	"	"	0.1					
-193			17+75		" "	A	70	dark brown	clay	0.9	3	ND	6		
-194			18+00		" "	A	20	dark grey	sand	0.1					
-195		66	16+00		" birch	A	80	dark brown	clay	0.6	4	ND	5		
-196			15+75		" "	A	80	"	sand	0.5					
-197			15+50		" "	A	80	"	clay	0.6	4	1	2		
-198			15+25		" moss	A	40	grey	sand	ND					

APPENDIX 6

**Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique**

DATE: 24 NOV. 1981

No. G.M.: 37604

The Monday Uraniferous Erratic Train

Gordons Lake Area, Otish Mountains

Project 71-85

J. Murphy
August 18, 1980

Summary

The Monday Boulder Train occurs within washed ablation till along the eastern flank of a drumlinoid feature. This train contains over 200 uraniferous erratics and is up to 50 meters wide. The size, roundness, lithology, radioactivity, distribution and concentration of the erratics was examined.

As a result of this field work, the source of the uraniferous erratics is estimated to be 500 to 1000 meters up glacial ice direction (024°) from the first occurrence of anomalous erratics. The subcropping mineralization occurs in narrow fractures exposed only 20 to 30 meters perpendicular to ice direction and which most probably strikes northeasterly.

LIST OF FIGURES

- Figure 1: The Genetic Classification of Tills
- Figure 2: Volume versus Distance
- Figure 3: Roundness versus Distance
- Figure 4: The Suovaara Boulder Train
- Figure 5: Distribution of Uraniferous Erratics
- Figure 6: Head of Dispersion Fan
- Figure 7: Concentration of Uraniferous Erratics

SURFICIAL GEOLOGY

The glacial ice advance direction, as measured from drumlinoid features on airphotos, is approximately 024° in the Monday Boulder Train area.

The Monday Boulder Train is located along the eastern flank of a drumlinoid feature. The surficial material in this area is characterized by a heterogenous mixture of extremely coarse material ranging up to tent-size boulders. No clay, silt or sand and minor pebble and cobble sized material were observed. No evidence of raised beaches was seen in the Monday Boulder Train area.

RESULTS

Indicator tracing originated in Finland in the 1700's and has developed from a qualitative approach into a more refined quantitative approach (Appendix 1 outlines the historical development of these). As a result of this work in Europe and later in North America many independent glacial geology techniques are available which attempt to estimate the source of glacial erratics.

In this report the type and depth of the surficial material in the Monday Boulder Train area is discussed along with the size, roundness, lithology, radioactivity, distribution and concentration of the uraniferous erratics.

Surficial Material Classification

Classification of the surficial material in an area is the single most important criteria in locating the source of glacial erratics because this dictates the mode in which the erratics were transported dictates the appropriate analytical techniques.

For the purpose of this report the surficial material in the Monday Boulder Train area is classified as washed ablation till. Even though all the fines are absent in the area, and therefore the material is not a classical till (Figure 1), the well defined direction of the erratic train (024°) parallel to glacial direction, its location along the side of a drumlin and the heterogeneous mixture of boulders indicate that it is a till.

In many cases, large uraniferous boulders are located on top of glacially rounded boulders. This is a positive proof that the uraniferous boulders are glacially transported and are definitely not felsenmere.

Depth of Till

Generally the thicker the till the further an erratic will be transported from its subcrop source before it is exposed on surface. The displacement factor may vary from 20 times till thickness (Halonen, 1967) to at least 150 times till thickness (unpublished reports) depending upon topography, character of glacial transport, post-glacial erosion etc. Experience from

GENETIC CLASSIFICATION OF TILLS

BY THEIR POSITION AND PROCESS OF DEPOSITION

AND THE RELATION OF TILLS TO GLACIAL DEBRIS IN TRANSPORT AND THE SUBSTRATUM

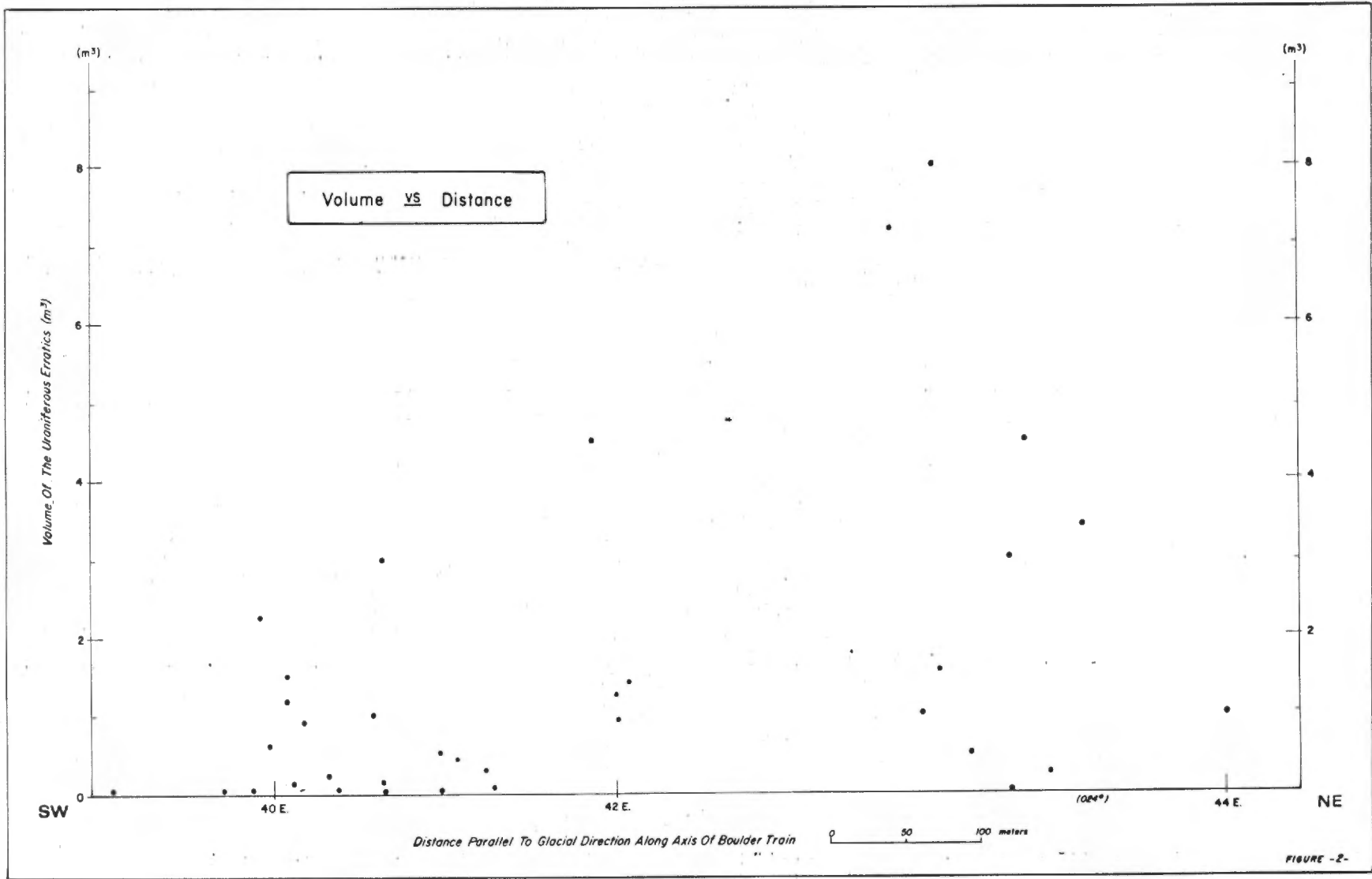
GLACIAL DEBRIS IN TRANSPORT		T I L L S		
		FACIES OF TILLS BY POSITION OF DEPOSITION	FACIES OF TILLS RELATED TO PROCESS OF DEPOSITION	
GLACIAL ICE	SUPRAGLACIAL DEBRIS	PROGLACIAL TILL	TERRESTRIAL TILLS	WATERLAIN TILLS
	ENGLACIAL DEBRIS	SUPRAGLACIAL TILL	ABLATION TILL	FLOW TILL
	BASAL DEBRIS	SUBGLACIAL (OR BASAL) TILL	MELT-OUT TILL LODGE MENT TILL DEFORMATION TILL FLOW TILL	WTLN FLOW TILL WTLN MELT-OUT TILL ICEBERG TILL
<i>DEFORMED BEDROCK OR DEFORMED SEDIMENTS</i>				
<i>AND / OR</i>				
<i>GLACIALLY ERODED SURFACE OF ROCKS OR SEDIMENTS</i>				

field work across Canada indicates that a factor of 80 is a good approximation in areas of thick till.

A drill hole in the Monday Boulder Train area encountered approximately ten meters of overburden (pers. comm., Z. Madon). Using a factor of 80 times till depth, this would imply distance in the order of 800 meters from the first occurrence of the uraniferous erratics on surface to their source.

Size

As a qualitative approach, the size of a glacial erratic should vary inversely with the distance of transport. The size of the uraniferous erratics were measured in the field and are listed in Appendix 2. A plot of the size versus distance of transport (Figure 2) does show a slight increase in boulder size to the northeast. However, as is the usual case, other factors such as fracture and joint characteristics of the rock overshadow the glacial transport influence on size.



Roundness

Comminution within basal glacial transport rounds erratics with distance of transport. Once material reaches the englacial position in the glacier it can be transported great distances without further rounding. Field work across Canada indicates that a roundness of zero centimeters corresponds to a transport distance of less than 100 meters, one centimeter to a transport distance of 200 to 300 meters, a roundness of five centimeters to two to three kilometers and a roundness of ten centimeters or more to extremely long distances of travel. A formula of distance equals one thousand times the roundness (cm) squared per centimeter is used for roundnesses of less than five centimeters.

The roundnesses vary from 1.1 cm up to 5.2 cm and average 3.11 cm. Using the formula $D=KR^2$ the average roundness indicates a distance of transport of 1 kilometer from the main concentration of uraniferous erratics.

A plot of roundness versus distance of transport (Figure 3) shows the wide scattering of roundnesses.

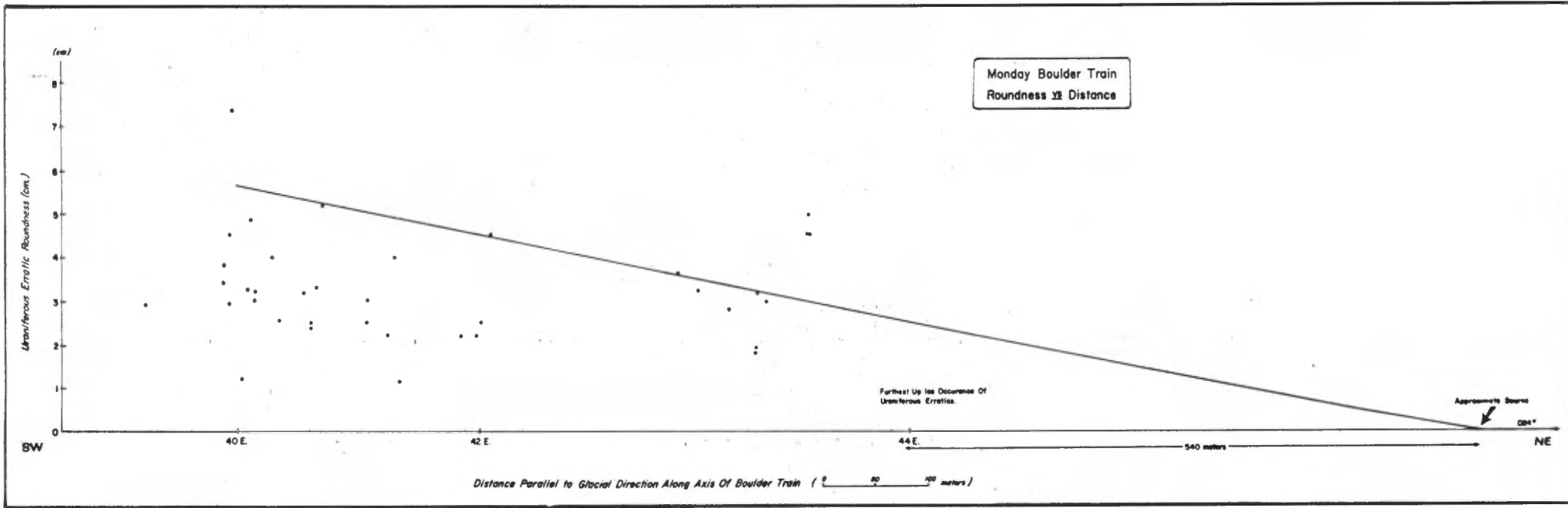


Fig. 3.

A best fit line through the points of highest roundness indicates a source located 540 meters up ice from the first occurrence of uraniferous erratics. This location corresponds almost exactly with the 1 kilometer distance from the main concentration of erratics.

Lithology and Radioactivity

From the field observations, the uranium occurs in limonitized fractures and disseminations within Indicator Formation conglomeratic arkose. The radioactivity ranges up to +15,000 cps but is usually limited to a relatively small portion of the erratic.

Distribution

The shape of indicator trains may vary from fan shapes (Hyvarinen et al, 1973) to long narrow trains like Midwest Lake (unpublished reports): If the erratics are distributed in a fan, their source can be estimated by drawing the lateral boundaries and projecting them up ice (Figure 4). However, if the erratics are distributed in a train, as is the case in the Monday Boulder Train (Figure 5) this technique cannot be used.

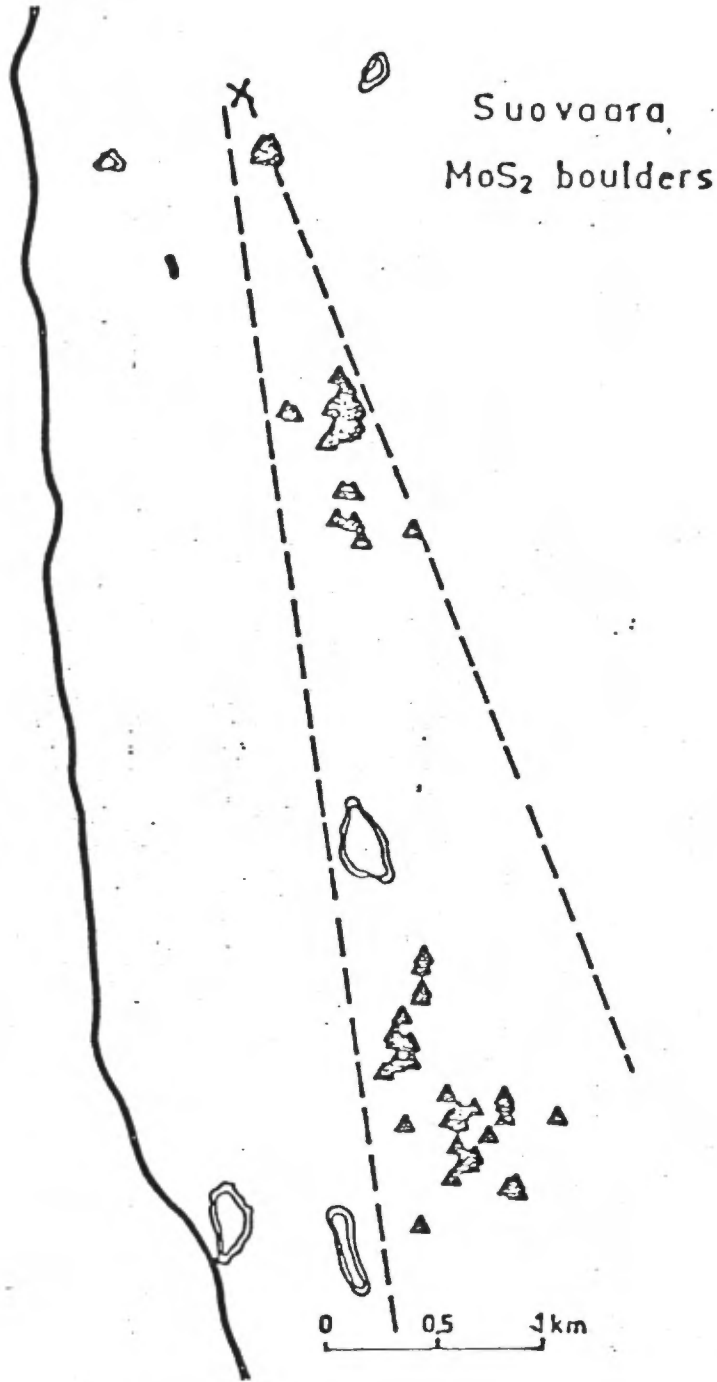
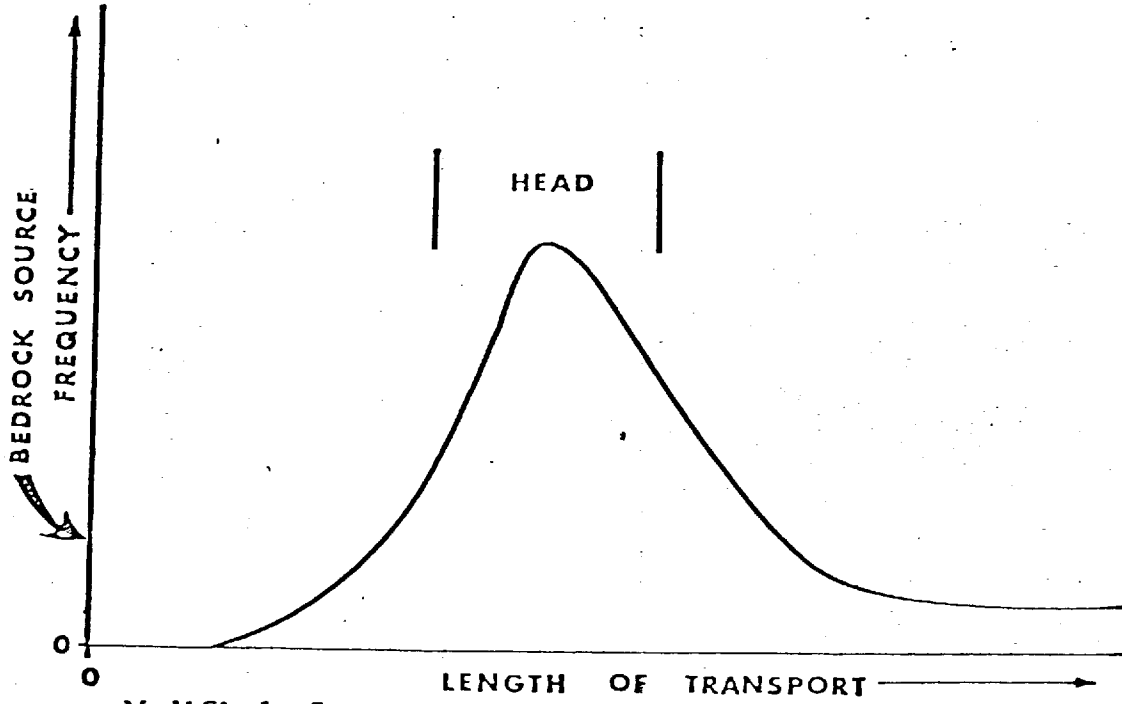


Figure 4 Glacial erratics derived from a small source area (Hyvarinen et al 1973).

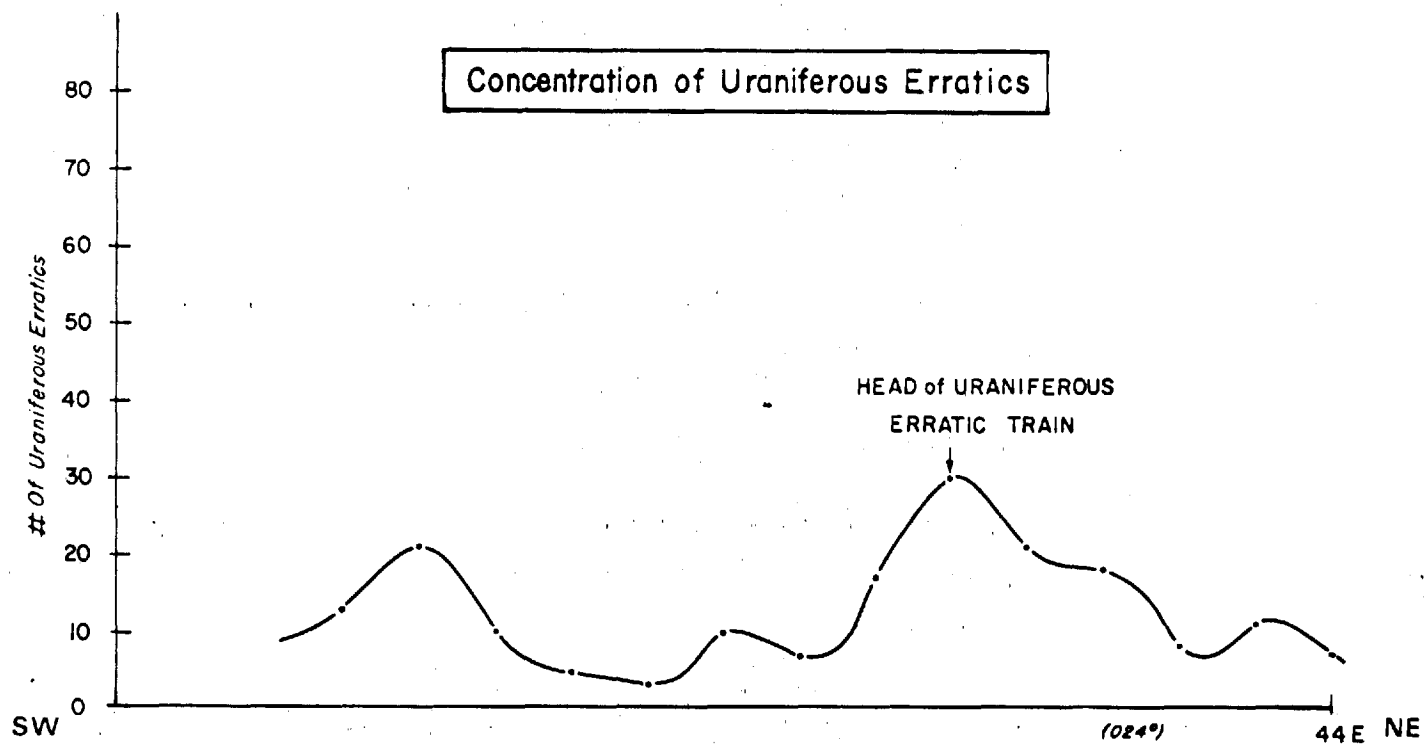
The distribution also indicates the width of the mineralization zone as exposed to the glacier. Since the Monday Boulder Train is so narrow, the mineralized fractures which are the source of the erratics are only exposed a maximum of 20 to 30 meters perpendicular to glacial direction. However, it is apparent that the mineralized structure strikes northeast because the volume of erratics in the Monday Boulder Train necessitates a northeast striking mineralized exposure. In addition the subcrop of the mineralization must have a small cliff on its SW side to have allowed glacial plucking enabling the large uraniferous erratics to form.

Concentration

In a typical dispersion fan the head of the fan (Figure 6) is displaced down ice direction from the source. The Monday Boulder Train has a well-defined head (Figure 7) which lies down-ice from the first occurrence of erratics. The head of a glacial distribution indicates relatively close proximity to its source, the distance to which varies with the glacial characteristics and depth of till in the area.



Modified after Lee, 1965



Distance Parallel To Glacial Direction Along Axis Of Boulder Train.

0 100 200 meters

FIGURE-7-

CONCLUSIONS

As a result of field work in the Monday Boulder Train area the following conclusions are drawn:

- 1) The uraniferous erratics are located within washed ablation till and are definitely not felsenmere.
- 2) The roundness of the radioactive erratics and the depth of till indicate that the source of the erratics subcrops 500 to 1000 meters up glacial ice direction (024°) from the first occurrence of anomalous erratics.
- 3) The lithology and radioactivity indicate that the mineralization occurs in conglomeratic arkose of the Indicator Formation associated with relatively narrow limonitized fractures.
- 4) The distribution, concentration and size of the uraniferous erratics indicate that the mineralization occurs within northeasterly striking fractures which are exposed 20 to 30 meters perpendicular to ice direction and that the mineralized subcrop has a small cliff on its southwest side.

RECOMMENDATIONS

Because the subcropping mineralization is so small, it would be very difficult (and expensive) to locate. If, however, this is required a sequential program as outlined below is suggested.

- 1) Detailed prospecting to outline any uraniferous erratics in the up ice direction.
- 2) Detailed surficial geological mapping to determine the glacial history of the area.
- 3) Test the depth and composition of the till by trenching with a tractor.
- 4) Surficial drilling of the up ice projection of the boulder train.

Summary of Uraniferous Erratics

SAMPLE NUMBER	LITHOLOGY	SIZE (m ³)	ROUNDNESS (cm)	RADIOACTIVITY
21	cong.S.S.	0.04	3.0	1,000
23	cong.S.S.		4.5	2,800
26	cong.S.S.	2.25	7.4	7,500
27	cong.S.S.	0.06	3.4, 3.8	4,500
28	cong.S.S.	0.64	2.9	7,500
30	cong.S.S.	1.50	1.2	4,500
31	cong.S.S.	1.20	4.8	5,000
32	cong.S.S.		3.2	8,000
33	cong.S.S.	0.13	3.2	1,500
34	cong.S.S.	0.90	3.0	6,000
39	cong.S.S.	0.20	2.5	600
41	cong.S.S.	0.01	2.4	5,000
45	cong.S.S.	3.00	2.5, 2.4	2,000
46	cong.S.S.	0.10	5.2	1,500
48	cong.S.S.	1.00	3.2	12,500
53	cong.S.S.	0.18	3.3	2,000
54	cong.S.S.	1.00		4,500
60	cong.S.S.	3.38	5.0	1,000
61	cong.S.S.	0.24		1,400
66	cong.S.S.	0.06	3.2	3,500
67	cong.S.S.	4.50	3.0	3,000
68	cong.S.S.	3.00	1.8, 1.9	+15,000
69	cong.S.S.	0.48	2.8	2,000
70	cong.S.S.	8.00	3.2	1,500
72	cong.S.S.	1.60		3,000
73	cong.S.S.	18.00		2,000
74	cong.S.S.	7.20	3.6	1,600
75	cong.S.S.	1.00		2,500
95	cong.S.S.	1.44	4.5	3,500
96	cong.S.S.	0.90	2.5	2,000
98	cong.S.S.	1.20	2.2	1,500
103	cong.S.S.	4.50	2.2	10,000
115	cong.S.S.	0.10	4.0	3,500

SAMPLE NUMBER	LITHOLOGY	SIZE (m ³)	ROUNDNESS (cm)	RADIOACTIVITY
116	cong.S.S.	0.50	1.1	13,000
117	cong.S.S.	0.30	2.2	1,000
120	cong.S.S.	0.40	2.9	15,000
126	cong.S.S.	0.03	3.0, 2.5	6,000
127	cong.S.S.	0.50	1.6	5,500
171	cong.S.S.	0.05		3,000
172	cong.S.S.		2.9	1,500
183	cong.S.S.	0.90		2,800
AVERAGE			3.11	

APPENDIX 7

Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Documentation Technique

DATE: 24 NOV. 1981

No. C.M. 37604

GEOCHEMICAL SAMPLE DATA SHEET

- ROCKS -

PROJECT: 71-85

SAMPLE #	UEB SAMPLE #	AREA	ROCK TYPE	SCINT cps	U ppm ⁰ ₈	Th ₂	Pb	Co,Ni	Ag, As	AA*	COMMENTS
OZM-439	L 72E 14+ 25N (15m W) (OFI-3)	Coon Showing	Andesitic tuff (?) melanocratic fracture material	10,000 c/s (1000) small piece	3693	340	640			SQ U, Mn Zn,Nb,Pb Th	dark black possible 1 ^o U min; some light yellow small pieces, Ca along fractures
OZM-441	L 68E 12+ 00N (40m E)	Gordon's Lk. East Grid	Cherty I.F. boulder	3,500 (150) - fracture on one	157	.002%, 27	Cu,Zn 12,68	3,15	0.2,408	Rb, Au, ppb. 9 15	GSc drill core (boulder)
OZM-442	L 72E 11+ 75N (50m W)	"	Massive sulfide, associated with cherty I.F.			12	Cu,Zn 52,44	43,77	ND, 19	Rb, Au, ppb 6 25	--- " ---
OZM-443	L 70E 14+ 00N	"	Andesitic tuff with U min. asso. with fractures	1,000 (700)	231	17,500 (16,300)	- re- assay				-Boulder Mn, Sr,Ba,Ce
OZM-444	L 68E 14+ 15N (20m W)	"	Andesitic tuff - " -	125 400	242	332					-Boulder
OZM-445	L 72E 14+ 25N (15m W)	"	- " -	10,000 (300)	1,320	220					-G.S.C. drill core outcrop
OZM-446	L 74E 16+ 00N	"	Subarkose brick, red color, m.g. massive	500 100	7.2	394					-Boulder
OZM-447	L 56E 9+ 50N	West of Camie R.	Qtz. Pebble Cong: ark.matrix-m to f.g.	550 (120)	19.8	391					-Boulder

- * SCINT : SRAT SPP-2 Scintillometer (highest reading)
- * U : Fluorimetric B (= URANERZ lab. in Bonn- See also mineralogical report)
O (= Bondar & Clegg in Ottawa)
- * AA : Additional Analysis, SQ : 32 element semi-quantative analysis.

GEOCHEMICAL SAMPLE DATA SHEET

- ROCKS -

PROJECT: 71-85

SAMPLE #	UEB SAMPLE #	AREA	ROCK TYPE	SCINT cps	U ₃ O ₈ ppm	Cu, Zn	ThO ₂			AA*	COMMENTS
OZM-448	L 56E 9 + 55N (10m W)	G.L. grid (west of Camp R.)	Qtz. Pebble Cong: Rusty, lt. green arkosic matrix	560 (150)	21.3		839				- boulder

- * SCINT : SRAT SPP-2 Scintillometer (highest reading)
- * U : Fluorimetric B (= URANERZ lab. in Bonn- See also mineralogical report)
O (= Bondar & Clegg in Ottawa)
- * AA : Additional Analysis, SQ : 32 element semi-quantative analysis.