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COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 1 of 6)

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COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 1 of 6)

A REPORT ON

Airborne Geophysics
Geochemistry
Geological Mapping
Diamond Drilling
Ground Geophysics

COBEQUID III

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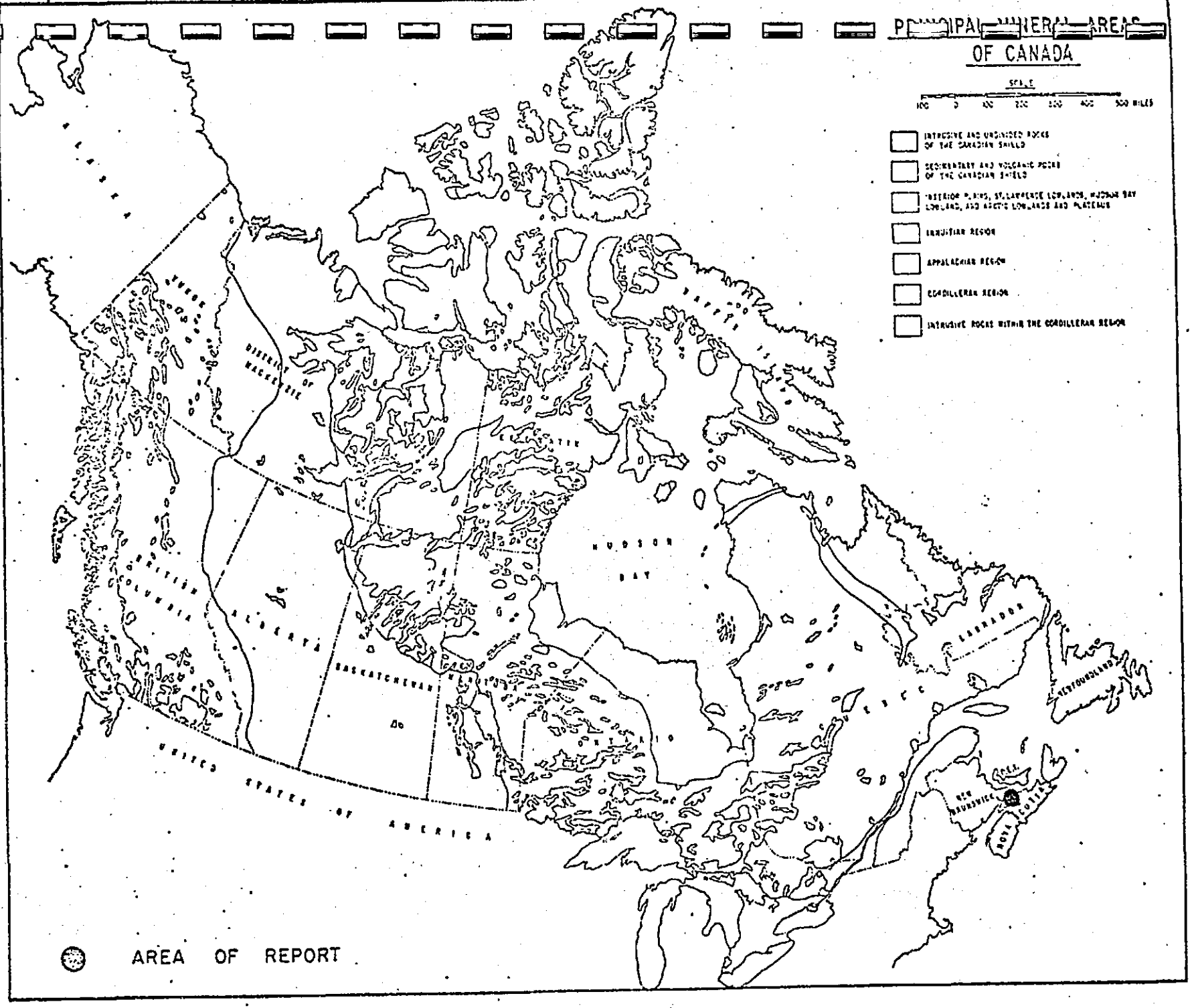
PRINCIPAL MINERAL AREAS
OF CANADA
SCALE
100 0 100 200 300 400 500 MILES
INTRUSIVE AND UNDIVIDED ROCKS OF THE CANADIAN SHIELD
SEDIMENTARY AND VOLCANIC ROCKS OF THE CANADIAN SHIELD
INTERIOR PLAINS, ST. LAWRENCE LOWLANDS, HUDSON BAY LOWLAND, AND ARCTIC LOWLANDS AND PLATEAUS
INNUITIAN REGION
APPALACHIAN REGION
CORDILLERAN REGION
INTRUSIVE ROCKS WITHIN THE CORDILLERAN REGION
YUKON
DISTRICT OF MACKENZIE
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
HUDSON BAY
LABRADOR
NEWFOUNDLAND
NEW BRUNSWICK
NOVA SCOTIA
UNITED STATES OF AMERICA
AREA OF REPORT

FIGURE : 1

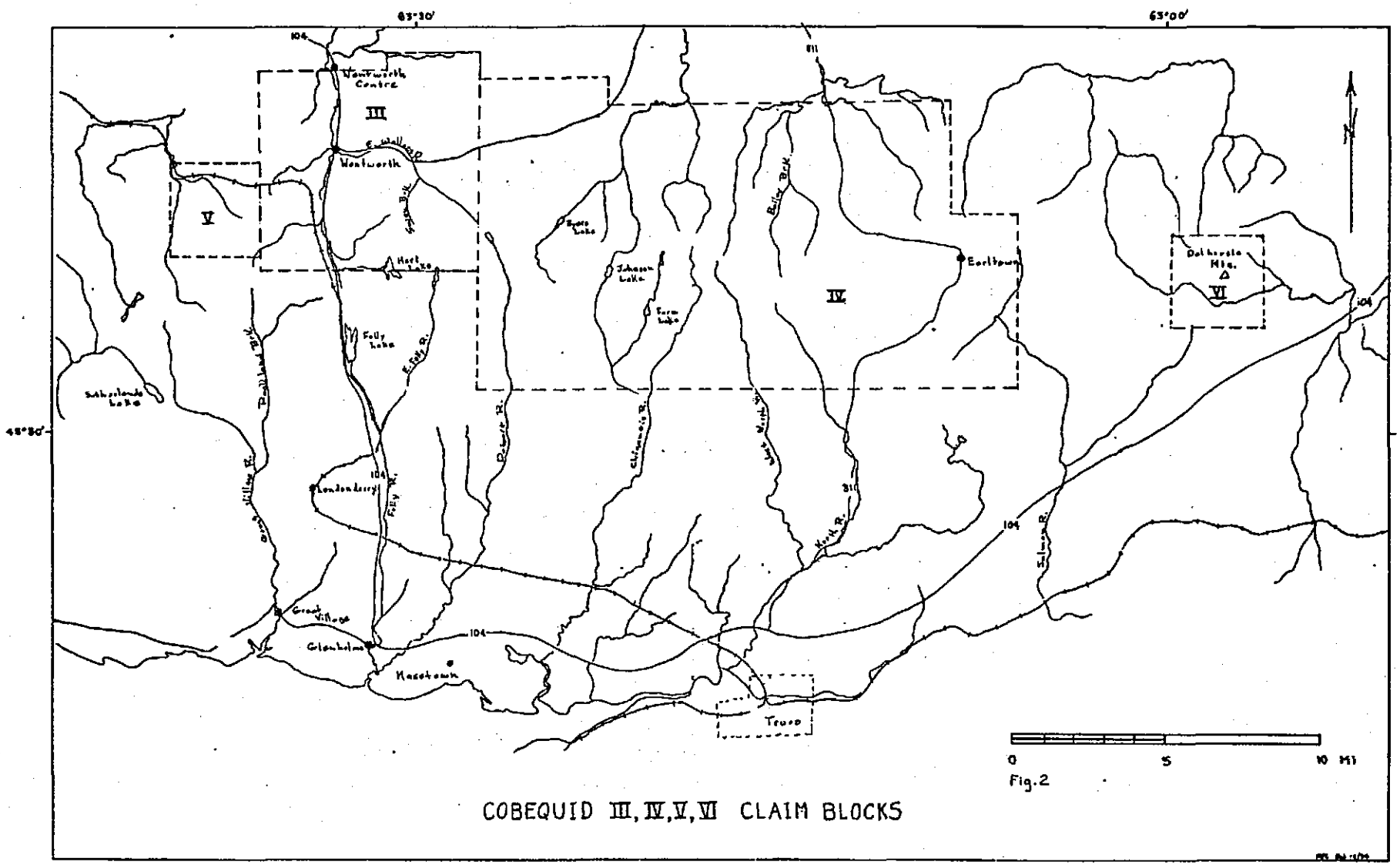

Fig.2

COBEQUID III, IV, V, VI CLAIM BLOCKS

COBEQUID III EXPLORATION PROGRAM
1976 - 1977.

I INTRODUCTION

a) Summary

On November 14, 1976, Gulf Minerals acquired a 752 claim block centred on the Wentworth Valley of Cumberland County in Nova Scotia. This block of land has been referred to as Cobequid III. Table I lists the claim blocks and exploration licenses held by Gulf.

The discovery of radioactive boulders in the area by prospectors in the fall of 1976 created a strong interest in the area. On the basis of these boulders, 47 square miles were staked. Late in November, 1976, St. Lambert Drilling completed two shallow holes on the property.

Early in May 1977, helicopter-borne radiometric, magnetic and electromagnetic surveys were conducted over the property. This was followed by prospecting, geological mapping, geochemistry and ground geophysics. A diamond drilling program was initiated in late August.

b) Personnel

For the 1976 Field season Gulf personnel employed on the property were:

N. Downey	Project geologist
J. Halonen	Prospector
D. Harper	Logging Technician
T. McDonald	Geologist
S. Thompson	Prospector

The 1977 field crew included:

K. Carruthers	Junior
M. Cullen	Geologist
M. DeBriske	Geophysicist
N. Downey	Project geologist
W. France	Geophysical operator
J. Halonen	Prospector
C. Hansuld	Junior
J. Harper	Geologist
M. Hollenan	Geologist
W. Lahti	Prospector
T. McDonald	Geologist
J. McNeil	Prospector
P. Nabigon	Prospector
J. Pozzobon	Junior
A. Seifried	Junior
M. Simpson	Geologist
R. Smith	Prospector
K. Tattrie	Geophysical Operator
P. Titley	Junior
M. Weber	Logging Technician
A. Workman	Geologist
S. Bagnell	Cook
L. Cameron	Cook

P. Cameron	Cook
R. Madore	Cook
E. MacPherson	Cook

Contractors employed on the property included:

St. Lambert Drilling - Valleyfield, P.Q.
Sanders Geophysics - Ottawa, Ontario
Scintrex Limited - Concord, Ontario
Longyear Diamond Drilling - North Bay, Ontario
M. Smith Linecutting - Bathurst, N. B.
R. B. Allen, Consulting Geologist - Toronto, Ontario
C. Weatherbee, backhoe operator - Wentworth, Nova Scotia.

Field Crews were under the supervision of Mr. C. R. Burkhart and Mr. G. Pearson of Gulf's Toronto Office.

c) Expenditures Cobequid III

1976	Well water sampling	2,767
	Diamond Drilling	12,093
1977	Planning and Evaluation	
	Linecutting	28,580
	Geological Mapping & Ground Geophysics	47,502
	Diamond Drilling	129,200
	Total	220,142

On November 14, 1976, Gulf Minerals acquired uranium exploration Licenses on 720 claims centred on Wentworth Valley. A total of $220,142. has been expended by Gulf on the property as of October 31, 1977. We claim $150,400 in assessment work to retain all 720 claims of Cobequid III.

OCTOBER 31, 1977

COBEQUID III EXPENDITURES

	1976	1977
Land & Lease Acquisition	1,568	1,568
Salaries	1,268	41,777
Travel	772	
Car Allowance	39	
Employee Benefits	153	3,469
Other Fuels & Power	196	
Other Materials & Equipment	42	
Drilling Supplies	25	
Camping Supplies	4	
Expendable Tools	1	
Other Consumable Supplies	413	164
Medical Fees	2	
Chemical Analysis Fees	83	11
Drilling Contracts	9,723	129,200 *
Postage & Postal Charges	1	
Other Hauling & Delivery Charges	6	71
Communications - Telephone	44	
Other Purchased Services	45	
Testing & Measuring Equipment Rentals	65	
Automotive Equipment Rentals	409	61
Other Purchased Services	1	
Operating Privileges		300
Damage to others Property		81
Line cutting		28,580
TOTALS	14,860	205,282

*Billing by Canadian Longyear was tentatively estimated at:

Footage Costs	81,200
Additional Labour	13,000
Diamonds	35,000
TOTAL	129,200

TABLE I

COBEQUID III

LAND RETAINED FOR 1978

Map	Licence No.	Tracts	Claims
11E11B	1231	61,62	J - Q
		83, 84	All
		85, 86	A - H
	1232	85, 86	J - Q
		107, 108,	All
11E11C	1232	11, 13	A - H
		12	All
	1233	11, 13	J - Q
		14, 35, 36	All
		37 - 38	A - H
11E12D	1234	3, 4, 5	J - Q
		20, 21	All
		22, 28, 29	A-H
	1235	4, 5	A - H
	1236	1, 2, 3	A - H
	1237	1, 2, 22	J - Q
		23, 24	All
		25, 26, 27	A - H
	1239	25, 26, 27, 28, 29	J - Q
		48	A - H
11E12A	1235	92, 93, 94	J - Q
		99	A - H
		100, 101	A - Q
	1236	95, 96, 99	J - Q
		97, 98	All
	1238	68, 69, 70	J - Q
		75, 92, 93	A - H
		76 - 77	A - Q
	1240	71, 72, 75	J - Q
		94, 95, 96	A - H
		73 - 74	A - Q

II GEOCHEMISTRY

a) Well waters

In early November 1976, 47 well water samples were collected on Cobequid III. The samples were acidified in the field by adding 0.5 ml of 15 molar nitric acid. The samples were shipped to X-Ray Assay Laboratories in Toronto where they were analysed for U_3O_8 by fluorimetry.

The values gave a noise level of 8.2 PPB U_3O_8 calculated as mean plus one standard deviation based on 32 samples greater than 0.5 PPB U_3O_8. Results indicated a small anomaly around Wentworth center.

b) Soils

Late in 1977 Gulf personnel carried out a limited soil sampling program over a portion of the Swan Brook grid to determine the effectiveness of geochemical methods in this area. Samples were collected at 100 foot intervals along lines 400 feet apart. At each location "A" and "C" zone samples were collected. Samples were placed in kraft paper bags and sent to Technical Services Laboratores in Toronto for analysis of the -80 mesh fraction for copper, lead, zinc, silver and uranium. A total of 1394 samples were collected. Table III gives a statistical breakdown of the results.

c) Rock geochemistry

During the summer of 1977 a limited whole rock sampling program was carried out over the property. Samples were collected from various rock types to determine their bulk composition and the variability of selected trace elements. A total of 21 samples were collected. Results are listed in Appendix I .

LEGEND - COBEQUID PROJECT

(after Wallace & Donohoe, 1977)

MESOZOIC	XVIII	Triassic	
PALAEOZOIC	XVII	Permian	
			Pennsylvanian
	XVI		Pictou Group
	XV		Cumberland Group
			Riversdale Group
	XIV		Boss Point Formation - alternating sequences of red to green sandstone, grey to red conglomerate, siltstone and mudstone, in part calcareous (undivided)
	XIII		Clairmont Formation
			Mississippian
	XII		Middleborough Formation
	XI		Windsor Group
	X		Nuttby Sequence - grey to red siltstone to argillite, reddish-grey lithic wackes and green conglomerates.
			Devonian
	IX		River John Group (Upper) - purple to red conglomerates.
	VIII		River John Group (Lower) - black to green basalt, grey, red, to black siltstones, argillites and mudstones; red, grey and green wackes and green conglomerates.
	VII		Non-foliated hornblende - granite
	VI		Foliated hornblende - granite
			Silurian to Devonian
	V		Portapique Parrsboro Succession
	IV		Earltown Sequence (a) dark grey to black siltstone to argillite (b) red, pink, green to grey rhyolite and rhyolite porphyry, agglomerate, rhyolite and dacite tuffs. (c) grey-green dacites, pink to grey rhyolites, green quartz wackes, shale and mudstone with interbedded dacitic to rhyolite tuffs and argillite.

PALAEOZOIC OR OLDER		Silurian or Older
	III	Gran. Gneiss - of Bass River Complex
	II	Bass River Complex - green metavolcanics, grey to white quartzite, dark green to black argillites, quartz-feldspar-biotite gneiss and pink granite.
	I	Mt. Thom Complex

COBEQUID PROJECT

Legend - Lithologic

11 Intrusives

(a) Granite
(b) Diorite, diabase
(c) Gabbro - ultramafic

10 Sediments

(a) argillite shale
(b) quartzite
(c) conglomerate
(d) sandstone
(e) siltstone
(f) mudstone
(g) limestone

9 Pyroclastics & Agglomerates

(Mx) mafic fragments in mafic matrix
(Fx) felsic " " felsic "
(M) mixed

8 Felsic Volcanics (dacites-rhyolites)

(P) pillowed
(T) tuffaceous
(B) brecciated
(PH) porphyritic
(S) sheared or deformed

7 Mafic Volcanics (basalts-andesites)

(P) pillowed
(T) tuffaceous
(B) brecciated
(PH) porphyritic
(S) sheared or deformed

III LINECUTTING

In July and August, Gulf Minerals contracted M. Smith of Bathurst, New Brunswick to cut a control grid within Cobequid III. One hundred and thirty, point six lines and 18.8 miles of base line were cut within the block. The grid extends from 1 mile east of the Wentworth Valley to the eastern border of the claim group. Base lines were cut east-west with north-south picket lines at 400 ft intervals. The grid is to be used to provide control for geochemical and geophysical surveys and for detailed geological mapping. Its location is shown on the geological compilation maps accompanying this report.

IV GEOLOGY

a) Introduction

Geological mapping was conducted by two-man crews consisting of a geologist and a junior assistant or a prospector. All personnel were equipped with a scintrex BGS- 1SL scintillometer for measuring radioactivity. Mapping was mainly confined to stream valleys, road cuts and the Swan Brook grid. Air photos at a scale of 4 inches to one mile and 6 inches to one mile were used for control. Results were plotted on 1/4 mile to the inch Dept. of Lands and Forests base maps.

All outcrops shown on the geological compilation maps were examined in the field by Gulf personnel. Geological survey of Canada maps by Fletcher and work by Wallace and Donohoe reported in Nova Scotia Department of Mines publication 77-1 were used as reference for field work and interpretation.

b) General geology

The Cobequid Highlands, comprising the major part of the area under investigation, are composed of meta-sedimentary and igneous rocks.

The oldest rock unit in the area, Map Unit II, is the Bass River complex, composed of highly deformed meta-sedimentary, granitic, and volcanic rocks.

Intrusive into the Bass River complex is foliated, late mid-Devonian hornblende granite (Unit VI).

The Silurian Earltown Sequence is composed of three distinct sub-units. Grey mudstones and siltstones (Unit IVa) underlie the main acidic volcanic sequence (Unit IVb). Further to the east, sedimentary (argillitic) and tuffaceous rocks predominate (Unit IVc). Post Lower Silurian deformation has tilted the volcanic pile to near vertical. Prominent folding is evident in the region of Bailey Brook, most noteably an easterly plunging synform.

Undeformed pink hornblende granite of late Mid-Devonian age (Unit VII) intrudes the Earltown Sequence.

The Devonian River John Group overlies unconformably the Earltown Sequence and is made up of a Lower (Unit VIII) and an Upper (Unit IX) unit. The lower unit consisting mainly of coarse conglomerates and the upper unit consisting of interbedded basalts and sediments appear to be younging to the north.

The southeasterly trending Balmoral Brook Fault displaces both the Silurian and Devonian Sequences.

The Nuttby Sequence (Unit X) of Early Mississippian to Late Devonian age, consists of mainly siltstone, wackes and conglomerates. An east-west trending synform plunging to the east is evident on the McCallum Settlement

Road, The contact with the Earltown is unresolved. Foliated granite intrudes the Nubby sequence in various locals. Two major north-south trending faults were inferred from geophysical data. One fault is located in the area of Debert Lake - Debert River and the East Wallace River and the other is located between the Chiganois River and the West North River.

The former has been tentatively termed the Debert Lake Fault and the latter the Chiganois Fault. Relative movement on the Debert Lake fault is uncertain; however, it appears that on the Chiganois Fault, the more easterly block has been shifted to the south with respect to the western one. Minor east-west faulting was also picked up in the Earltown volcanics from the VLF geophysical maps.

At least two sets of diabase dikes are present. These are possibly Triassic in age.

Lying directly to the north and unconformably overlying the Highlands are the Pennsylvanian Boss Point sediments with possibly minor Pictou (?) Group sediments further to the north. The Boss Point Formation has a shallow dip to the north and possibly represent basement highs or the southern limb of the Claremont syncline which generally plunges to the southwest.

c) Local geology

In the Cobequid Highlands proper, five major rock units were mapped ??? with two phases of granite (foliated and non-foliated). A brief description of the lithologies follow:

The oldest rock unit, map Unit II is the Bass River Complex, Silurian age and/or older. It is composed of dark green, very fine grained metavolcanics, dark grey to white, fine grained quartzite, dark green to

black, well foliated argillitic metasediment (phyllitic to schistose), well foliated quartz-feldspar-biotite gneiss and fine to coarse grained, pink deformed granite. Minor acidic volcanics are also present.

The Earltown Sequence, Units IV, of Silurian age is made up of three mappable sub-units, briefly described as follows:

a) Located near Wentworth Station is the oldest unit (Unit IVa) in this sequence dated at Middle to Upper Llandoverian age, (Wallace and Donohoe, 1977). This unit consists of dark grey to black, fine grained, well laminated, fossiliferous siltstone to argillite with minor amounts of green conglomerate and greywacke.

b) Overlying Unit IVa are mainly red, pink, green to grey, aphanitic rhyolite, rhyolite agglomerate (possibly denoting bases of flows) and rhyolite porphyry. Banding is evident in places with abundant hematite staining and epidote occurring along fracture surfaces. Minor amounts of rhyolite to dacite tuffs, spherulitic rhyolite, argillite and basalt are also present.

c) This unit is made up of grey-green dacites, pink to grey flow-banded rhyolites with minor concentrations of massive sulphides (pyrite, chalcopyrite), green quartz wacke and fine grained laminated shale and mudstone with interbedded dacitic to rhyolitic tuffs. Toward the northern section, well foliated argillitic metasediments (phyllite) predominate.

Map Unit VI is composed of fine to coarse grained white to pink foliated hornblende granite. Along Shatter Brook, quartz and orthoclase crystals are stretched and aligned along a strong foliation (Cataclasis?).

Map Unit VII consists of non-foliated hornblende granites of Lower Middle Devonian age (Donohoe and Wallace, 1977) which are, for the most part, fine to coarse grained and pink in colour. Numerous dark red aphanitic rhyolitic phases of the granite, are exhibited.

Numerous fine grained, black diabase dikes, some exhibiting good texture and glossy margins are present. More than one generation of diabase must be present as some are deformed while others are relatively fresh. The diabase has been tentatively dated in places as Triassic.

Map Unit VIII is the lower unit of the Devonian River John Group. It is made up mainly of fine grained to aphanitic, black to dark green vesicular to amygdaloidal basalt with calcite and zeolite infillings. Calcite, epidote stringers and traces of disseminated sulphides are evident. The rock is slightly magnetic. It appears to be younging north with individual flows distinguishable in some localities by the presence of red, brecciated (fragmental?) basalt occurring at the interface of two flows. (Diatremes caused by upward moving hydrothermal solutions ?). Interbedded with the basalts are dark grey, red to black, fine grained siltstones, argillites and Mudstones; red, green and grey wackes with abundant volcanic fragments and well bedded, grey conglomerates.

Map Unit IX is the Upper unit of the River John Group and consists of purple to red conglomerates made up of a sandy matrix with fragments of basic volcanics, grey quartzite and rhyolite. The fragments are 0.5 mm - 150 mm in size, poorly sorted and well bedded with numerous carbonate stringers.

The Nuttby Sequence, Map Unit X, of Late Devonian to Early Mississippian age is composed of grey to red, foliated siltstone to argillite; reddish grey, lithic wackes and green to red conglomerates. The conglomerates are made up of a fine to medium grained silty matrix with subrounded to subangular fragments of rhyolite, granite, phyllite and tuff.

Map Unit VIV which is the Pensylvanian Boss Point Formation, is made up of alternating sequences of red, white to green sandstones, grey to red conglomerate, red siltstone and red to grey mudstone, in part calcareous. The sandstones encountered varied from red, greenish-red to white, commonly feldspathic to arkosic with interbedded lenses of grey calcareous conglomerate. Numerous green reduction zones, variable organics, fine laminations and tough cross-bedding and limonitic-specks are also prevalent. Locally, organic trash and plant remains accumulate in the depressions in cross-beds, often with black carbonaceous material (coal). Minor copper (malachite) and radioactivity may also be present. Two distinctive types of conglomerate were encountered. One is gray, with a fine grained sandy calcareous matrix containing variable amounts of calcareous shale fragments. It weathers with a distinctive pitted appearance (clasts weather first). The other type is red in colour with a fine grained sandy matrix containing subrounded to subangular rhyolite, granite, quartzite and basalt fragments 2 mm - 100 mm. It is poorly sorted.

The siltstone and mudstone is red to grey, calcareous in places with numerous calcareous to hematitic concretions containing many local reduction zones.

d) General Structure - Cobequid III

The Cobequid III claim group straddles the contact between upper carboniferous sediments and the Cobequid Upland proper. The time span being dealt with can therefore be defined as lower Silurian to Upper Pennsylvanian.

Detailed structural study within the oldest Silurian Earltown Volcanic Sequence (as defined by Wallace & Donohoe, 1977) was limited as a result of poor bedrock exposure. Geologic mapping of the area on a scale of 1 inch to 1320 feet identified a regional, generally east-west strike with units dipping either vertically or at variable high angles to the north and/or south. More shallow southerly dips were recorded in the grey mudstones, tuffs and siltstones (Unit 2a) underlying the main volcanic sequence. A conformable relationship between these sediments and the volcanics is inferred.

Post Lower Silurian deformation tilted the volcanic pile to near vertical but ground work did not indicate a distinct local folding in the sequence other than primary fold structures in flow-banded rhyolite units. The low percentage of outcropping basement rocks may however, explain the apparent lack of secondary folding documentation.

Undeformed pink hornblende granite dominates the southern part of the property, being obviously intrusive to the volcanic pile as illustrated on the upper reaches of Swan Brook. Donohoe (1976) tentatively dated these plutonic rocks as late Mid-Devonian. To the southeast in the Wentworth Valley, this granite is found to carry hornblende diorite xenoliths derived from a large dioritic intrusion west of the property. The granite therefore postdates the emplacement of the diorite.

Later diabase dikes have intruded both the granite and the volcanic pile as well as the underlying grey silts and tuffs.

Two major faults transecting the Cobequids proper have been proposed, based upon an interpretation of airborne geophysical data. The most westerly of these two, trends southeasterly across the Upland, roughly paralleling the lineament formed by the Debert Lake - Debert River - East Wallace River topographic low. Offset of magnetic signatures is pronounced with relative movement of the Eastern block being to the north. Ground definition of this structure is not possible for the most part due to deep overburden but a highly sheared zone of Upper River John basic volcanics does coincide with the proposed fault trace as illustrated on the accompanying geological compilation map.

East-west faulting in the volcanic pile has been defined by airborne VLF EM as well as ground follow up. The sense or amount of movement has not been ascertained in any individual case. The structures (i.e. conductors) are not linearly extensive or continuous over great distances and could be minor relative to regional geology.

North-south faulting is also indicated by airborne mag expressions existing along the northern boundary of the Cobequids in this locale. Fault block structures have been inferred but ground confirmation of such movement is difficult. Similar geophysical signatures to the east have been confirmed as movement zones. Data to define sense etc. of movement is not available but relative down faulting of the north peripheral block is indicated on the lower reaches of Baily Brook below the rhyolite sequence.

The Pennsylvanian Riversdale Group (Boss Point Formation) lies unconformably upon the older Cobequid Upland with a basal conglomerate unit defining this contact being exposed near Westchester on Caldwell Brook.

Local structure is confined to gentle low angle warping in shallow northerly dipping units. Regionally the Boss Pt. sediments are on the

southern limb of the Claremont Syncline as mapped by Fletcher (1898). A general ENE trend is apparent with the structure plunging gently to the East.

Numerous VLF EM trends were identified in the sedimentary sequence but their relationship if any, to fault structures is unknown at this time.

The sediments are fluviatile in nature with abundant channelling and cross bedding. Sedimentological data available indicates sedimentation generally occurred from streams flowing north off the Pennsylvanian Cobequid Upland area.

T - 1137

LOGISTIC REPORT

AIRBORNE RADIOMETRIC SURVEY

COBEQUID MOUNTAINS

NOVA SCOTIA

ON BEHALF OF

GULF MINERALS CANADA LIMITED

July, 1977

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SUMMARY

A helicopter-borne radiometric survey was carried out over the Cobequid Mountains in Northern Nova Scotia. A total of 1,863 line miles were surveyed at a nominal altitude of 150 feet with a nominal interline spacing of 660 feet.

During the survey the following geophysical parameters were measured simultaneously: Uranium, Thorium, Potassium and Total gamma radiation. The data were continuously recorded on analogue charts and magnetic tapes.

A preliminary analysis of the geophysical data in the form of a "Red Ball Map" was presented in the field. The data were edited and corrected. The uranium (in ppm eU) channel and the U/K ratio are presented as computer plotted contour maps.

LOGISTIC REPORT ON AIRBORNE RADIOMETRIC SURVEY OF COBEQUID MOUNTAINS, NOVA SCOTIA ON BEHALF OF GULF MINERALS CANADA LIMITED

1. INTRODUCTION

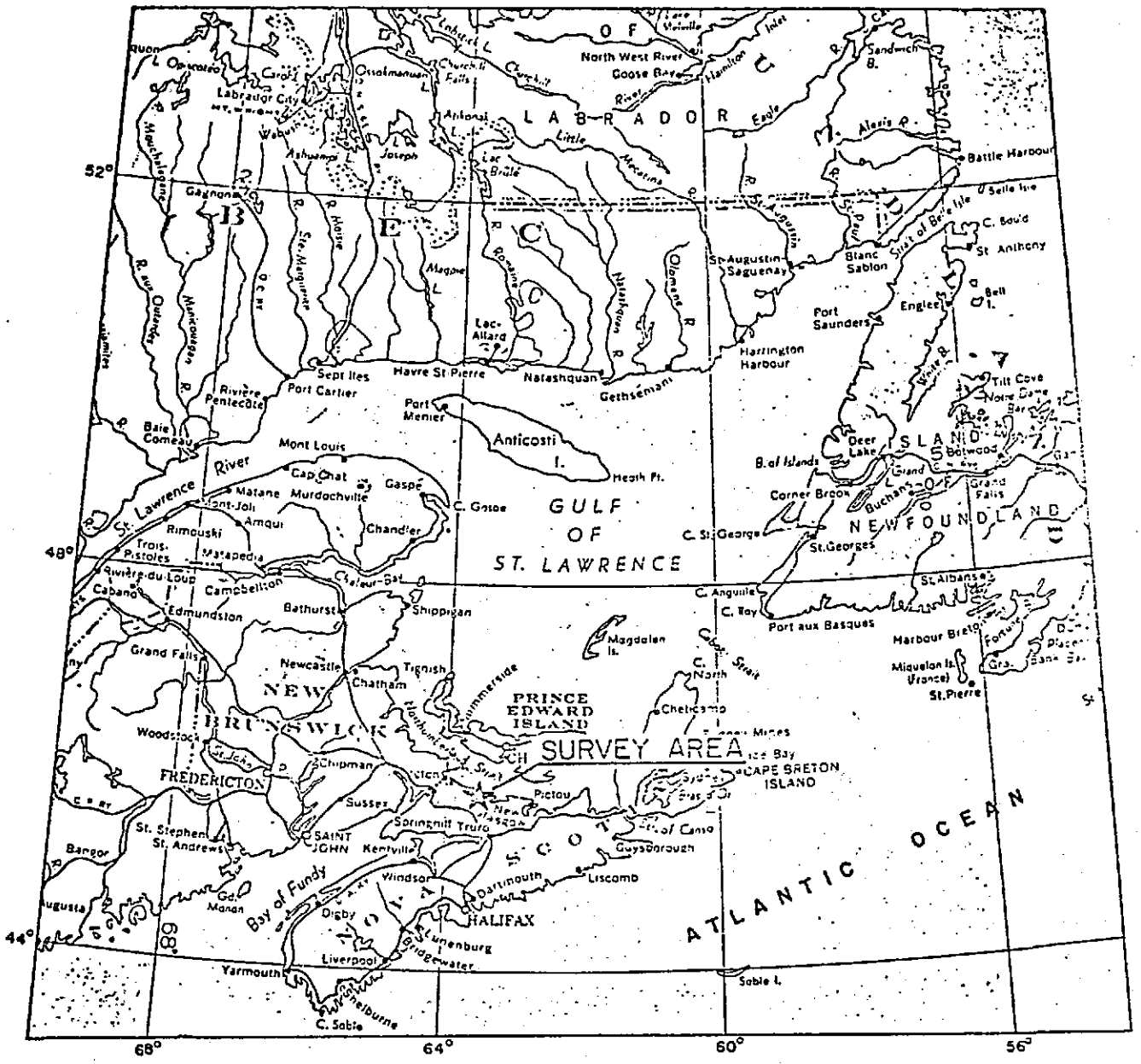
During the period May 11 - May 30, 1977, an airborne radiometric survey was carried out by Scintrex Surveys Limited on behalf of Gulf Minerals Canada Limited in the Cobequid Mountains near Tatamagouche, Nova Scotia. A total of 1,863 line miles were flown. The survey aircraft was an Alouette II helicopter.

Simultaneous measurements of Bismuth 214 (Uranium), Thallium 208 (Thorium), Potassium 40 (Potassium) and total gamma radiation count rates were made. The data were recorded in analogue and digital form. The geophysical instrumentation consisted of a four channel gamma ray spectrometer and gamma ray detector system. Ancillar equipment included an intervalometer, a flight path camera, a radar altimeter, a 7 track digital recording system and a six channel analogue recorder.

A "Red Ball Map" showing radiometric anomalies was compiled in the field. The processed digital data are presented as computer plotted contour maps of Uranium (ppm eU) and the U/K ratios.

2. SURVEY AREA

The survey area is located around longitude 63°25'W, latitude 45° 35'N. The area is situated south of Tatamagouche about 90 miles north of Halifax, Nova Scotia. The survey covered approximately 225 square miles over an area of rugged topography, especially toward the southern end. Figure 1, shows the location of the survey area.



LOCATION MAP

GULF MINERALS CANADA LTD.

COBEQUID MOUNTAINS, NOVA SCOTIA

AIRBORNE RADIOMETRIC SURVEY

SCALE : 1 inch = 120 miles

77 - T1137

FIGURE 1

3. FLYING SPECIFICATIONS

Table I below lists the flying specifications applicable to the present survey.

TABLE I

Terrain clearance	150 feet
Nominal line spacing	660 feet
Flight Direction	North-South
Aircraft ground speed	50 miles per hour.

4. SURVEY EQUIPMENT

A brief description of each instrument utilized on the present survey is given below:

4.1 Geophysical Equipment

4.1.1 Gamma Ray Spectrometer - Scintrex GAD-5

The GAD-5 is a four channel gamma spectrum analyzer providing both analogue and digital data outputs. Each channel can be operated in either differential or integral mode. Threshold energy levels and window widths are individually adjustable for each channel.
For the present survey, the GAD-5 unit was set up to provide three channels of differential mode output with energy windows centered on K^{40} - Potassium (1.461 MeV), Bi^{214} - Uranium (1.764 MeV) and Tl^{208} - Thorium (2.615 MeV) in addition to a broad band integral mode channel operating with a low threshold energy (.3 MeV).

The analogue data output may be corrected for spectral interference and Compton scattering by a stripping procedure. Briefly, a fraction of the thorium count rate is subtracted from the uranium count rate, and both thorium and uranium fractional contributions are subtracted from the potassium window count rate. The three differential channel analogue outputs therefore

represent count rates characteristic solely of gamma activity from, individually, thorium, uranium and potassium (in equilibrium with their daughter products).

The digital unstripped data output was recorded on magnetic tape (incredata) at 1/2 second intervals. Appendix A gives details of the calibration procedures, window settings and stripping ratio adjustments.

4.1.2 Gamma Ray Sensors

The gamma ray detector system consisted of two Scintrex GSA-64 crystal assemblages operating in tandem. Each GSA-64 contains four 6" x 4" crystals giving a volume of 452 cu. in. The total combined sensor volume was 904 cu. in.

The Scintrex GSA-64 sensors use thallium activated sodium iodide crystals coupled to photomultiplier tubes. The crystals are attached to thermally insulated, magetically shielded, shock mounted capsules, which are temperature controlled for spectrum stabilization and long term detector balance.

4.2 Ancillary Equipment

4.2.1 Camera

A Vinten Mark III - 16 mm scientific camera with a Century 5.7 mm wide angle lens was installed in a side rack. Each frame exposure corresponds to one fiducial interval (1 second).

4.2.2 Altimeter

A Bonzer Mark 10 radar altimeter system was employed. This is a direct reading instrument which measures the terrain clearance from 40 feet to 2,000 feet with an accuracy of ±5%.

4.2.3 Scintrex IITC-2 Intervalometer

A Scintrex IITC-2 Intervalometer was utilized. It generates synchronization signals operating the fiducial counters and camera. The unit also provides an on-board communications system for the flight crew.

4.2.4 Analogue Recorder

A six channel analogue recorder was employed. This is a direct writing recorder capable of simultaneously recording 6 channels. Rectilinear traces are achieved by a rugged direct heated stylus writing across a knife edge on heat sensitive paper.

4.2.5 Incre Data Mk II Digital Recording System

The Incre Data unit digitally records data gathered by the on-board survey equipment onto IBM compatible 7 track magnetic tape. The following data were recorded

Fiducial number
Time (Hours, Minutes, Seconds, Tenths of Seconds)
Radiometrics (Th, U, K, BB)
Altimeter

The unit contains a digital clock controlled by a 10 MHz crystal oscillator. This is used to sychronize data recording, fiducial intervals, camera exposures and radiometric counting periods.

The Incre Data unit accepts both analogue and digitally coded data, converting the analogue data (Altimeter) into digital form before recording.

5. SURVEY CREW

The following personnel were employed on the survey:

1. Geophysicist/Party leader - Srikant Kulkarni, M.Sc., responsible for overall supervision of the survey, client liaison, quality control of data, geophysical interpretation and the "Red Ball" map.

2. Operator - Kelly Maidens: operated and maintained the equipment.

3. Navigator - Brian Hind / Eric Sarson: responsible for directing the pilot during the survey along previously selected flight lines.

4. Dataman - Herb Burnett: Responsible for film processing and flight path recovery.

5. Pilot - Jim McLellan
6. Engineer - Frank Kearney

6. FIELD PROCEDURES

6.1 Gamma-ray Spectrometer Calibration at Ottawa

Gamma-ray spectrometer calibration was done at Uplands Airport, Ottawa. Five sources (constructed by the GSC in 1968) each in the form of a slab or pad 25 feet by 25 feet and 18 inches thick, with known composition, were used for calibration. The exact location of the slabs in relation to the airport terminal and concrete apron is shown schematically in Figure 1, Appendix B. These pads are positioned 50 feet apart so that each has a similar environment with respect to the concrete apron and surrounding soil. It is assumed that the influence of one source on another is negligi (Ref: "The calibration of gamma-ray spectrometers for ground and airborne use" - GSC paper 71-17 by Darnley & Grasty). Detailed calibration procedures are given in Appendix B. After obtaining data from these pads, a computer program was used at the GSC in Ottawa to obtain stripping factors: (α, β, γ) and the sensitivities of Uranium and Thorium (in ppm) and Potassium (as a percentage) on the ground.

6.2 Survey Flight and Ground Procedures

The main sequence of events occurring during each survey flight is listed below:

1. Switch-on for warm-up of spectrometer.
2. Calibrate spectrometer and altimeter.
3. Take-off.
4. Survey lines.
5. Land.
6. Calibrate spectrometer.

7. Check data quality.
8. Develop film.
9. Recover flight path.
10. Pick anomalies from the analogue charts.
11. Make a Red Ball Map.

6.3 A flight log was maintained by the operator during each survey flight. The fiducial numbers at the beginning and end of each line were recorded. A summary of flights giving flight numbers with corresponding magnetic tape numbers, dates and line numbers, is presented in Appendix C.

7. DATA RECORDING

7.1 Analogue Chart Record

Data were recorded in analogue form on heat sensitive chart paper. The complete system was time synchronized throughout by the intervalometer. Fiducial marks were recorded on the analogue chart, each mark corresponding to a 1 second interval. Each trace on the chart paper was identified by a label at the beginning of each flight line. Line numbers, flight numbers, tape numbers, dates, area and fiducial numbers are indicated on each trace.

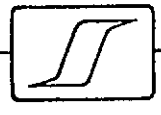
7.2 Magnetic Tape Record

The seven track magnetic tape is a 200 B.P.I., B.C.D. record. Tracks 1, 2, 3 and 4 record the numerical data, tracks 5 and 6 (flags A and B) express "end of line" and "abort line". Track 7 is used for parity check. A complete scan occurs every half second. The data is recorded in blocks of 20 scans (corresponding to 10 fiducials). A header is recorded at the start of each block giving the flight number, mode, line number and area code. Table II shows the various parameters and their appropriate characters in order for the first scan of a block.

TABLE II

MAGNETIC TAPE FORMAT

Parameter		Character
Header:	Flight	1, 2, 3
	Mode 1 = survey flight line 2 = reflight survey line 3 = tie line 4 = reflight tie line 5 = ground test calibration 6 = airborne calibration	4
	Line	5, 6, 7
	Area	8
Data:	Fiducial	9, 10,11,12
	Time Hours	13, 14
	Min.	15, 16
	Sec. (every .3 and .8 sec.)	17, 18, 19
	Spare	20,21,22,23,24,25
	Range Factor for Channel 4 (0=x0.1, 1=x1, 2=x10)	26,27
	Overflow Channel 1	28
	Channel 1 - Thorium	29,30,31
	Overflow Channel 2	32
	Channel 2 - Uranium	33,34,35
	Overflow Channel 3	36
	Channel 3 - Potassium	37,38,39
	Overflow Channel 4	40
	Channel 4 - Broadband	41,42,43
	Spare	44,45,46,47,48,49 50,51
	Altimeter	52,53,54
	Spare	55 through 78 inclusive.



8. DATA PROCESSING

Processing of the data consisted of the following steps:

8.1 Recovered fiducial points on the flight lines were manually transferred from the 'recovery mosaics' to controlled base maps, supplied by Gulf Minerals.

8.2 The flight path was digitized from the base maps.

8.3 Computer processing of the digital radiometric data was carried out in the following order:

1. Subtraction of the background count rates obtained over lakes and during high altitude flying.
2. Correction for Compton Scattering was based on standard procedures and stripping factors. (α=0.5028, β=0.4327, γ=0.4925.) obtained from calibration at the GSC pads in Ottawa.
3. Normalization of the results to a constant altitude of 150 feet above ground surface.
4. Data shifting by -1.0 second for the instrumental offset.
5. Conversion of data from counts/second into parts per million (ppm) of equivalent Uranium by using sensitivities supplied by Geological Survey of Canada.

Detailed algorithms used for processing of radiometric data are given in Table III.

8.4 The corrected data were then plotted on a Gerber flatbed plotter by Dataplotting Services Ltd.

9. PRESENTATION OF DATA

The data collected during the survey are presented as follows:

9.1 Red Ball Map

Major radiometric anomalies and topographinc features are shown on the "Red Ball Map" which is an overlay to the photomosaic. The horizontal scale is 1" = 1,320 feet. Anomalies are classified into three categories:

Full diamond ◆ category 1 - Anomaly well defined, medium to high amplitude and good U/Th and U/K ratios.

TABLE III

DETAILED ALGORITHMS USED FOR DATA PROCESSING

1. All the numbers were read directly taking into account the overflow bit.
2. The constants given apply to 2 GSA-64's with a GAD-5 spectrometer.

A. DEFINITIONS:

AO = Averaging option 3 was used

Nxy = Count numbers per given sampling interval

- x = Processing step
  - 0 = Raw number
  - 1 = Working number
  - 2 = After background correction
  - 3 = After altitude correction
  - 4 = After stripping
  - 5 = Final value
- Y = Channels BB, Th, U, K.
  - BB = Broadband
  - Th = Thorium
  - U = Uranium
  - K = Potassium
- C = Standard distance above ground for normalization of data (150 feet).

B. HEIGHT ABOVE GROUND = h in ft.

$$h = \frac{ALT\ (X_i - 1) + ALT\ (X_i) + ALT\ (X_{i+1})}{AO = 3}$$

$$N_{1y} = \frac{N_{oy}\ (X_i - 1) + N_{oy}\ (X_i) + N_{oy}\ (X_i + 1)}{3}$$

Calculations of standard deviation

$$\sigma_{th} = \sqrt{\left(N_{1th} + BG_{th}\right) \times AO}$$

$$\sigma_u = \sqrt{\left(N_{1u} + BG_u\right) \times AO + 0.2528\ \sigma 2_{Th}}$$

$$\sigma_K = \sqrt{\left(N_{1K} + BG_K\right) \times AO + 0.1872\ \sigma 2_{Th} + 0.2425\ \sigma 2_U}$$

$(N_{i}\ Th) \times AO \geq 3 \times \sigma_{Th}$
$\times\ 3$

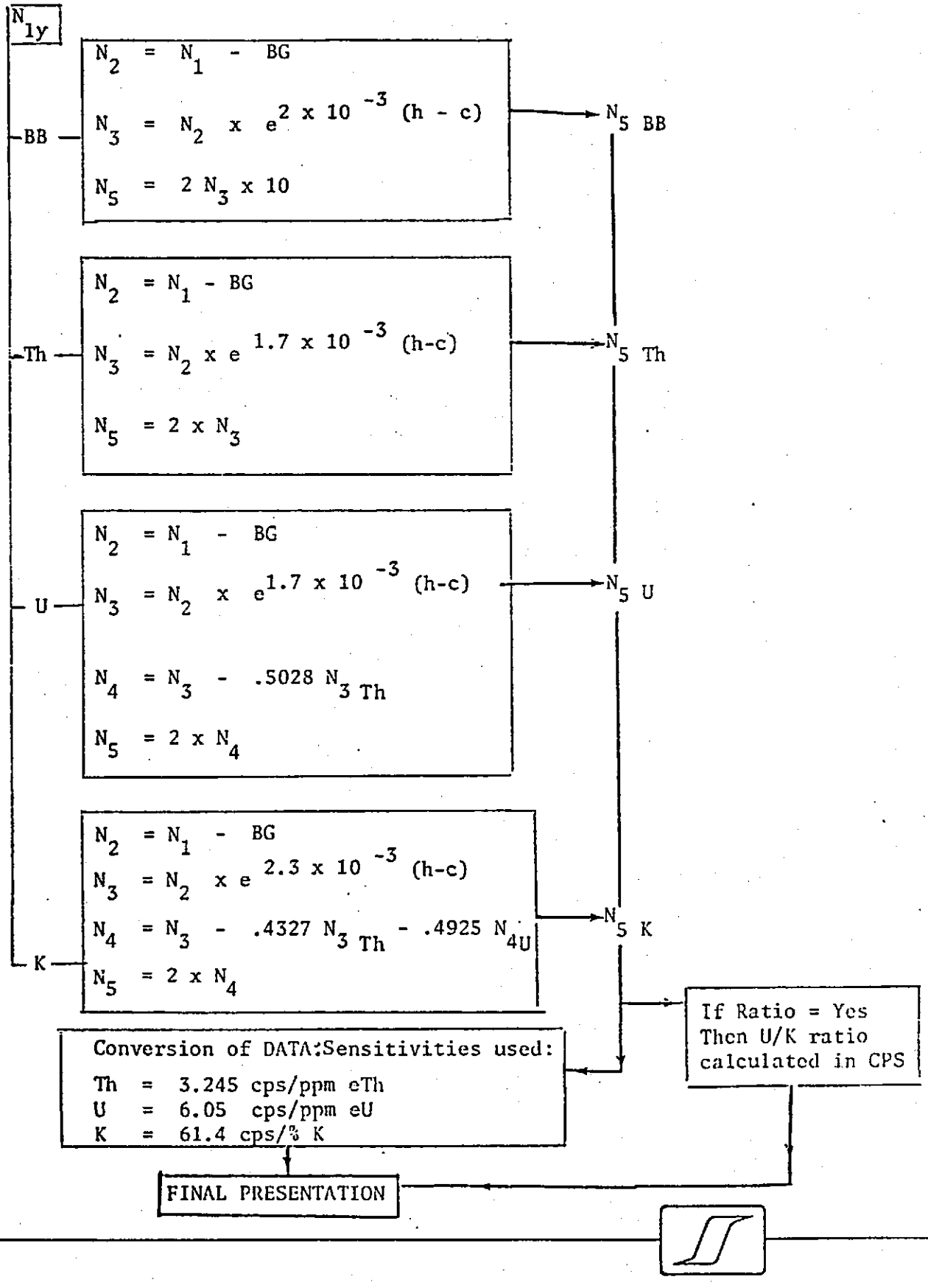
$N_{1u} \times AO \geq 3 \times \sigma_u$

$N_{iK} \times AO \geq 3 \times \sigma_K$

— Simultaneously — TRUE — RATIO = YES

— FALSE — RATIO = NO

C. ALTITUDE CORRECTION AND COMPTON SCATTERING



Half-full diamond ◆ category 2 - Anomaly well defined but medium to small amplitude and poor U/Th and U/K ratios.

Open diamond ◇ category 3 - Anomaly poorly defined.

At each anomaly, the altimeter and traces were studied for identification of spurious responses due to topographic, geologic and atmospheric noise.

9.2 Contour Plans

The Uranium and U/K ratios are presented in contour form. A cubic spline was fitted along each line of data. Linear interpolation was utilized to form a uniform grid with 8 grid cells per inch. By using these grid points contours were drawn on a mylar base by computer. Later they were 'sandwiched' with the flight line base maps and contact prints were made Cronoflex (stable base film).

The uranium count rate was converted into ppm (1 ppm = 6.05 cps). The uranium in ppm has a contour interval of 0.5 ppm. U/K ratios were accepted when the raw U, Th and K readings were statistically significant, they were calculated from processed U, K readings in cps and then contoured at an interval of 0.05.

9.3 Analogue Charts

Analogue charts, labelled and edited for each flight, as described in Section 7.1.

9.4 Magnetic Tapes

7 track 200 BPI magnetic tapes containing the raw data in digital form, as recorded during the survey. The tapes are coded as described in Section 7.2. There are 27 tapes. A listing of the flight number and corresponding tape number is given in Appendix C.

9.4.2 9 Track 800 BPI Magnetic Tapes containing unedited, edited, unprocessed and processed digital data were presented.

Logical Record length = 50 words (100 characters)
Blocksize = 2500 words (5000 characters)
= 50 logical records.

The following is a detailed description of each 9-track tape.

Tape	File	Data
SCIN 01	1	Sheet 13: flight lines
	2	Sheet 13: Unprocessed and processed spectrometer data
	3	Sheet 2-12: flight lines
	4	Sheet 2-12: Lines 2-100 Unprocessed and processed spectrometer data.
SCIN 02	1	Sheet 2-12: lines 101-222 Unprocessed and processed spectrometer data.
SCIN 03	1	Original, raw, unedited data.

The following formats were used for these tapes file:

Flight line	Header Record	word 1-5	Line number
		word 6-9	Flight number
		word 10-12	Number of fids on the line
		word 100	"1"
	Data Record	word 1-6	Fiducial
		word 7-13	X - coordinate (inches)
		word 14-20	Y - coordinate (inches)
		word 100	" " (Blank)

The character "9" in word 100 of a logical record indicates a dummy record (to be ignored).

Data File	Header Record	word 1-5	Line number
		word 6-9	Flight number
		word 100	"1"
	Data Record	word 1-7	Fiducial
		word 8-13	Th (three point average -counts per half sec.
		word 14-19	Ur (" " ")
		word 20-25	K " " "
		word 26-31	BB (" " " ÷ 10)
		word 32-37	Altimeter in feet
		word 38-45	Th - corrected in ppm
		word 46-51	UR - " " "
		word 52-57	K - " " "
		word 58-65	BB " " cps.
		word 66-72	UR/K ratio in cps.
		word 73-79	UR/Th ratio in cps.
		word 80-87	X-coordinate (inches)
		word 88-94	Y-coordinate (inches)
		word 100	" " (blank)

9.5 Film, recovery mosaic, flight mosaic, flight logs and all material utilized on the survey are being handed over to Gulf Minerals with this report. A detailed list of the above items is given in Table IV.

Any questions regarding the survey results should be addressed to Scintrex Limited, 222 Snidercroft Road, Concord, Ontario, Canada L4K 1B5.

Respectfully submitted,

SCINTREX SURVEYS LIMITED

Srikant Kulkarni, M.Sc.,
Geophysicist

REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

Michael Lewis, M.Sc., P.Eng.,
Manager, Geophysical Surveys Division

Table IV

Data Presentation

After completion of the survey and upon presentation of this report, the following materials were handed over to Gulf Minerals Canada Ltd.

1. Red Ball Map - at a scale of 1" = 1,320, (presented in the field.)
2. Analogue charts.
3. Film - 32 rolls.
4. Mosaics - two sets
5. Flight Logs - 37.
6. Anomaly listing.
7. 9 Track, 800 BPI Edited Magnetic Tape.
8. 7 Track, 200 BPI Raw Magnetic Tapes.
9. Contour plans of Uranium and U/K ratios.

APPENDIX A

The following calibration and operating procedures were employed on the present survey.

Radiometric System

1. The calibration of the gamma ray spectrometer and maintenance of constant temperature in the crystal assemblies are factors governing reliability of the data. To assure the proper performance of the system, the following procedure was followed:

1.1 Detector Balancing (at the beginning of the survey and as required during the duration of the survey).

1.1.1 Allow 3 to 5 hours for the detector temperature to stabilize at the chosen temperature.

1.1.2 Set the instrument up as follows:

Counting time	=	10 seconds
Time constant	=	2 seconds
Channel 1	=	2.21, ΔE = 0.3
Channel 2	=	2.25, ΔE = 0.3
Channel 3	=	2.29, ΔE = 0.3

Meter to Channel 2

Place Cs-137 source in standard position A.

1.1.3 Turn the system on and allow 15 minutes for warm-up.

1.1.4 With Crystal #1 only on, set Fine Gain to Put Cs-137 Peak in CH. 2 (i.e. max reading on meter, CH. 1 & CH. 3 equal & lower than CH. 2). Lock Fine Gain control. Switch on Crystal #2 only (#1 off) & adjust detector balance until Cs-137 Peak is in CH.2. Repeat for each crystal one at a time. Record the final set of readings for CH. 1, CH.2 & CH.3 after locking the balance Control of each crystal.

1.15 Switch all crystals on and set Fine Gain Control until Cs-137 Peak is in CH.2. (Fine Gain Setting will be slightly different than for individual crystals).

1.1.6 Carry out Energy Calibration procedure as outlined in section 1.3.

1.2 Stripping Set-up:

1.2.1 With all the detectors connected to the console, allow the system to warm-up for 15 minutes.

1.2.2 Observe the analogue traces on the recorder while placing TS1 sample near the detectors.

1.2.3 Adjust stripping pot, S_1 (Th/U) so that the sample has no effect on the uranium trace.

1.2.4 Adjust stripping pot, S_3 (Th/K) so that the sample has no effect on the potassium trace.

1.2.5 Place US1 sample near the detector and adjust stripping pot, S_2 (U/K) so that the sample has no effect on the potassium trace.

1.3 Daily checks (at the beginning and end of each flight day):

Place Thorium TS1 sample on ground under centre of one GSA-64.

1.3.1 Turn on the system and allow 15 minutes for warm-up.

1.3.2 Set the window widths (ΔE) of channels 1,2 and 3 at 1.0 and the threshold levels (E) of channel 1 at 8, 4 of channel 2 at 8.6, and of channel 3 at 8.8.

1.3.3 Adjust the Fine Gain control of the console (if necessary) so that the readings of channels 1 and 3 are equal and channel 2 is higher than the other two channels.

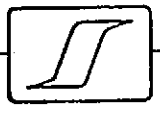
1.3.4 Record the digital readings of the three channels and compare them with the figures obtained during the last detector balancing. Move TSI to ground under centre of other GSA-64 and check that Peak is in CH.2.

1.3.5 If the channel 2 reading is more than 10% less than the detector balancing reading, the detectors should be rebalanced.

1.3.6 Place the Thorium and Uranium samples near the detector and adjust the stripping pots as necessary to eliminate any reaction in the Uranium and Potassium traces.

1.3.7 In between flights, check gain and make sure that the Thorium peak is in the proper position. If the peak has drifted, repeat the calibration procedure.

Should one of the crystals drift more than the others or appear to have poor resolution, action should be taken to rectify the problem through checking the temperature control system and detector balancing.



The following table shows the threshold level used for the measurment of the different channels.

Channel Number	Designation	Level and Width	Control Setting	Calibrated Gamma Energy	Comments
4	BB	E	1.00	0.300 MeV	Threshold Level
3	K	E	4.60	1.38 MeV	Threshold Level
		ΔE	3.00	0.180 MeV	Window Width
		E + ΔE	5.20	1.56 MeV	Upper Level
1	U	E	5.55	1.66 MeV	Threshold Level
		ΔE	4.00	0.240 MeV	Window Width
		E + ΔE	6.35	1.90 MeV	Upper Level
1	Th	E	8.25	2.48 MeV	Threshold Level
		ΔE	5.50	0.330 MeV	Window Level
		E + ΔE	9.35	2.81 MeV	Upper Level

2. Radar Altimeter Calibration

2.1 The radar altimeter output is recorded once every day while flying the aircraft over a body of water. The record is calibrated by reference to a barometric altimeter from 100 feet above water up to 400 feet above water.

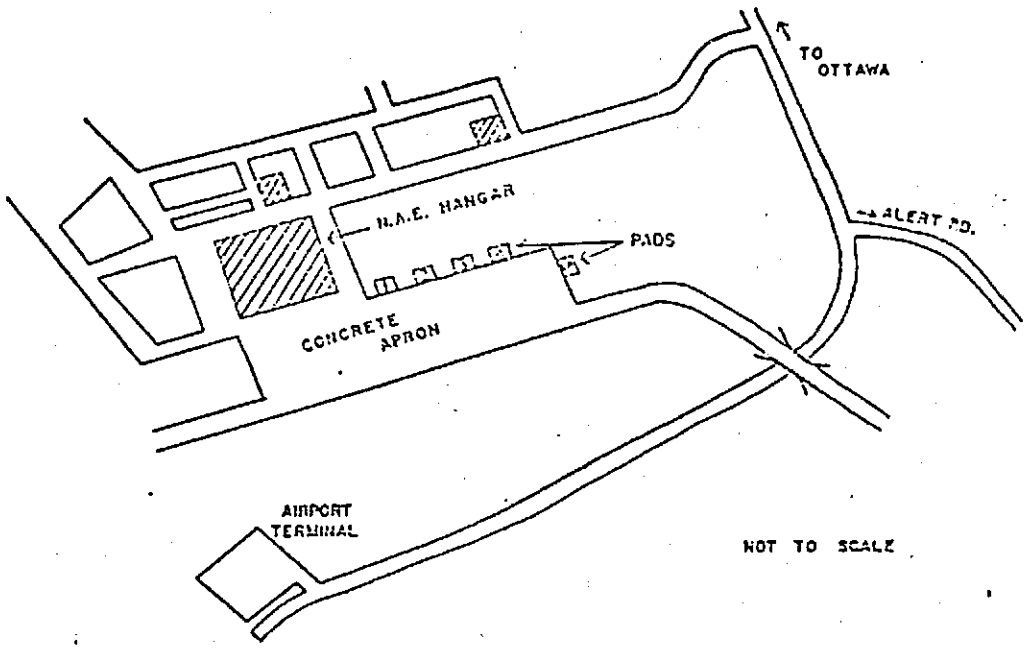
2.2 An electronic calibration of the altimeter is performed daily by activating the SELF TEST button to produce 100', 200', 300', 400' and 500' signals.

APPENDIX B

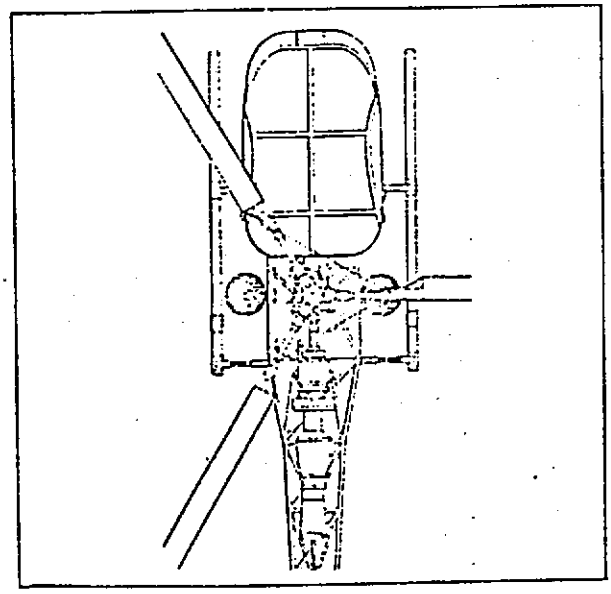
GAMMA-RAY SPECTROMETER CALIBRATION AT OTTAWA

Gamma-ray spectrometer calibration was done at Uplands Airport at Ottawa. Calibration procedure is given below.

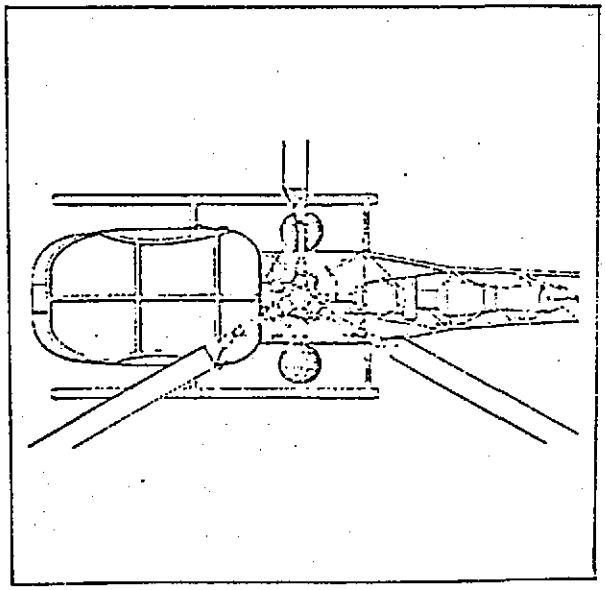
1. Followed the recommended detector balancing and energy calibration procedures as outlined in Appendix A away from the pads. After the calibration, set the windows to survey settings according to the GAD-5 manual.
2. Removed all the calibration samples away from the helicopter. Take the background readings in Thorium, Uranium, Potassium, and Total Count channels with appropriate counting intervals.
3. Land the helicopter on pad #1, such way that sensors were placed equidistant from the center of the pad as shown in position A - Figure 2.
4. Take the readings in Th, U, K, & TC channels with 1 second and 2 seconds counting interval, and note it down.
5. After selecting the appropriate counting time as 10 sec. measured the count rates in Th, U, K and TC channels and note it down.
6. Repeat the procedure and take readings for five times.
7. Change helicopter position to B type in Figure 2, i.e. turn the helicopter in 90°.
8. Repeat steps 4 to 6.
9. Move to pad #2, 3, 4 and follow the same procedure as pad #1.
10. Move to pad #5. Repeat the above procedure, and in case of multiple sensors (i.e. 2 GSA-64 or one GSA-64 and one GSA-77 etc.) disconnect the individual sensor packages at the signal mixer and take the readings as above for individual sensors one by one.
11. After obtaining data from all these pads, a computer program was used at Geological Survey of Canada to obtain stripping factors: α, β, γ and sensitivities of Uranium, Thorium in ppm and Potassium in percentage on the ground.



Map showing location of calibration pads, Uplands Airport, Ottawa.



Position A



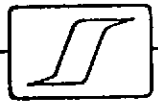
Position B

Figure 2: Positions of sensors at Pad

APPENDIX C

GULF RADIOMETRIC JOB #T 1137

Flight #	Tape #	Date	Remarks : Line #
1	219	May 11/77	Test at Ottawa
5	222	16/77	65 - 60
6	222	May 16/77	2 - 6
7	223	17/77	59 - 50
8	223	17/77	Aborted
9	224	18/77	49 - 39
10	225	18/77	38, 37
11	225	May 18/77	36 - 28
12	226	19/77	27 - 14
13	227	19/77	13 - 7, 80 - 84
14	228	19/77	256 - 242
15	229	19/77	241 - 230
16	230	May 20/77	73, 74
18	230	20/77	75 - 79, 89, 90
19	231	21/77	84 - 88, 91, 92
20	232	21/77	93 - 96
21	233	May 23/77	97 - 106
22	234	23/77	107 - 116
23	235	23/77	117 - 126
24	236	23/77	127 - 133
25	237	24/77	134 - 143
26	238	May 24/77	144 - 153
27	239	24/77	154 - 163
28	240	24/77	164 - 173
29	241	25/77	174 - 183
30	242	25/77	184 - 193
31	243	May 25/77	194 - 196
32	243	27/77	197 - 206
33	244	28/77	207 - 220
34	245	28/77	221, 222, 233 & reflights
35	246	28/77	70 - 66 & reflights
36	246	May 28/77	Altimeter calibration
37	247	29/77	73



APPENDIX D

Specification Sheets

i. Scintrex GAD-5
ii. Scintrex GSA Sensors
iii. Vinten 16 mm. Camera
iv. Bonzer - Mark 10 Altimeter
v. Scintrex IITC-2 Intervalometer
vi. Incredata - Digital Recording System

REPORT ON THE
HELICOPTER-BORNE GEOPHYSICAL SURVEY
ON BEHALF OF
GULF MINERALS CANADA LIMITED
IN THE
COBEQUID AREA, NOVA SCOTIA

by

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Summary

A combined magnetometer, electromagnetic and VLF survey was conducted over the Cobequid area of Nova Scotia. The area lies in the vicinity of Tatamagouche, N.S., to the north of Truro, N.S. The three surveys were flown simultaneously using a Bell 47G3B2 helicopter equipped with a Sander EM3-A, a Sander NPM-5 proton precession magnetometer and a Sander VLF instrument. Survey altitude for the EM and magnetometer was 135 feet and 200 feet for the VLF. Line spacing was 1/8 mile.

The results of the survey are shown in contoured form for the magnetometer data and as normalized profiles for the EM and VLF data. The magnetometer maps clearly outline the boundary of the Cobequid belt and reflect the geology of the region in considerable detail. Strong correlation was found to exist between features outlined by the magnetometer survey and VLF anomalies. In the magnetically quiet region to the north of the Cobequid belt, weak and rather broad anomalies were observed in both the EM and VLF data. These result very likely from graphite bearing beds in Carboniferous sediments. Most of the EM responses in the Cobequid are inductive and appear to result from high concentrations of magnetite. A few other anomalies, however, show a conductive response and should receive further attention.

I

Introduction

A combined helicopter-borne magnetometer, EM and VLF survey was conducted in the Cobequid area of Nova Scotia on behalf of Gulf Minerals Limited in April and May 1977.

Gulf Minerals Limited engaged in an uranium exploration program in this area. The current survey was a part of this program. It was the purpose of the magnetometer survey to delineate the magnetic anomalies and in this way, to gain information concerning the geology of the area. Both the VLF and EM surveys were undertaken in order to locate zones of electrical conductivity which might be of interest in respect to the uranium exploration program.

Access and Topography

The area lies to the north of the town of Truro, N.S., and the helicopter party operated from this town. Access by road is possible throughout. Most of the Cobequid Area consists of wooded hills which are moderately rugged while the area to the north of the Cobequid hills consist of flat lying farm land.

Geology

The geology of the Cobequid Area is not well described in the published literature. Recent work by provincial and federal government geologists better defined the geology of the area, however, we have, as yet, no access to the result of this work.

For this reason, we limit ourselves to a description of the Cobequid Area as an assembly of volcanic, intrusive and sedimentary rocks which have been part of the Appalachian orogenic belt. The east-west trending Cobequid belt extends into the survey area for a width of approximately 8 1/2 miles in the north-south direction. Both to the north and south are Paleozoic sediments of Carboniferous age.

It was considered likely that uranium deposits occur in association with carbonaceous material occurring in fault zones or strata, and for that reason the electrical surveys are expected to give information valuable in the location of possible uranium deposits. Considerable amounts of carbonaceous material occur in the Carboniferous of the area, and in fact some coal production existed to the south of the Cobequid mountains.

Zones of high electrical conductivity exist in the Cobequid and whether these are associated with graphite or with conductive shear zones remains to be determined.

Technical Data

The survey was conducted along lines 12° to the west of north and at a distance of 1/8 mile from each other. The aircraft flew at an elevation of 200 feet above the ground. This elevation was well maintained, however, in very rough parts of the terrain, some deviation from this distance was unavoidable. The electromagnetic bird and the magnetometer are both suspended 65 feet below the aircraft, while the VLF instrument was located outside of the aircraft but at the same level.

A mosaic, produced from National Air Photo Library aerial photographs, was used for navigation. Flight path recovery was facilitated by the use of 16mm photography.

Instrumentation

The instrumentation used in this survey is owned and operated by Sander Geophysics. The majority of the equipment is designed and manufactured by this Company.

The helicopter was equipped with a Sander EM3-A instrument, a Sander NPM-5 proton precession magnetometer, a Sander VLF instrument, a 16mm tracking camera and a Honeywell radar altimeter. Recordings were accomplished in analogue form on a Century 444 Recorder and in digital form on a Sander ADR II digital cassette recorder.

Electromagnetic System

The electromagnetic instrument used for the survey was a type Sander EM3-A. This system utilizes 2 co-axial coils separated by a distance of 23 feet, one of these coils being the transmitter, the other the receiver. The axis of the coil system was positioned in the direction of flight. The electromagnetic system was carried inside a boom suspended 65 feet below the aircraft. The same boom contained the electronic instruments for both the transmitter and the receiver. The system was operated on a frequency of 4 KHz. The built-in filter has a time constant of 1.4 seconds. The EM system contains provisions to test the response of the amplifiers

and of the total system and to calibrate the sensitivity of the instrument in flight.

A strain sensor was used to detect variations of the strain on the supporting structure of the electromagnetic system. These changes in strain are caused by varying flight conditions and result in small changes of the recorded in-phase signal. The information gained from the strain sensor is useful in recognizing the cause of such in-phase changes and enhances the sensitivity of the instrumentation.

Theory of Operation

The easiest way to understand the function of an EM instrument of the type used in this survey is to consider the EM instrument as a loosely coupled transformer; the primary being the transmitting coil and the secondary the receiving coil. The earth contributes a portion of the coupling medium between the two coils. The efficiency of coupling and hence the strength of the signal across the secondary coil depends on the electric and magnetic properties of the earth. If this system is operated at a height of 100 to 200 feet above the ground, the variation in signal strength due to variations in the properties of the earth, can be of the order of tens of parts per million of the total signal received. The phase of the signal also can vary to the extent that the strength of the signal received 90° out-of-phase with the transmitted strength. Hence the output from the system is presented as

two channels - IN-PHASE and (90°) OUT-OF-PHASE, and the unit of measurement is parts per million (ppm) of the primary field.

The signal which would be received if the system were suspended in free space (in practice the signal received when flying more than 500 feet above the ground) is compensated so that only variations from this level are measured. There are limits to the detectability of anomalies due to the ambient noise present when the instrument is flown in rough air. This noise is primarily due to mechanical changes in the towed structure, the bird, caused by the stresses due to air turbulence and change in acceleration.

Mechanical noise influences the in-phase portion of the instrumentation more than the out-of-phase portion. Noise conditions during the survey were such that an anomaly of two parts per million can be detected on the out-of-phase trace and an anomaly of four parts per million can be detected on the in-phase trace. In many cases the mechnical noise can be recognized by referring to the strain gauge information and, accordingly, will not be mistaken for a true signal.

Magnetometer

The magnetometer survey was conducted with a Sander NPM-5 proton precession magnetometer. This instrument records the total magnetic field to a resolution of 0.1 gamma, and an accuracy matching this resolution. Every measurement lasted 1 second and was recorded digitally at this interval.

The sensor and preamplifier of the magnetometer are built into the EM survey boom and the survey plane is the same as the one used for the EM survey.

Diurnal variations were recorded with a Sander NPM-6 ground station magnetometer consisting of a proton precession magnetometer and a digital cassette recorder. Magnetic measurements were taken every 15 seconds and the digital record of these ground station readings was used to correct the in-flight data. This procedure was made possible by the use of very accurate electronic clocks incorporated in the survey system and in the ground station. These clocks were checked and correlated at frequent intervals.

VLF Instrument

The VLF Instrument consisted of two small tuned coils, one with its axis in the direction of flight, which was also the direction of the main magnetic VLF vector, and one with its axis in the vertical direction. Signals from both coils were rectified. In the case of the vertical coil, the in-phase and out-of-phase components (with respect to the horizontal coil) were recorded.

In order to compensate the VLF information for movements of the aircraft, a vertically stable gyro was carried in the aircraft. Variations from the vertical direction, both in the direction of flight and at right angle to the direction of flight were recorded from this vertical gyro and this information was used to correct the variations in the VLF recording. In this way a stablized platform was simulated by the computer program.

Data Processing

The following section of this report concerns itself with data processing in general. Many of the steps carried out for data processing are identical in the production of the EM, VLF and the magnetometer maps.

All data processing was accomplished using two Texas Instrument 980A Computers and a Gerber Flat Bed Table driven by one of the computers. The following is a description of the digital and manual data processing employed.

Data were recorded in analogue and digital form. The analogue records represent the following traces:

VLF In-Phase
VLF Out-of-Phase
EM In-Phase
EM Out-of-Phase
Magnetometer a. 0 - 100 gammas
b. 100 - 1000 gammas
c. 1000 - 10000 gammas
Each in steps of 10 digital units.
Radar Altimeter
Strain Gauge
Camera Fiducials

Identical data were recorded on digital cassette with the following format and channel numbers:

00	Magnetometer 4BCD digits	07,24	EM Out-of-Phase
01	Camera	10,21	Strain Gauge
02	Time (seconds)	11	VLF Horizontal
03	Time (hours)	13	VLF In-Phase
04	Magnetometer	14	VLF Out-of-Phase
05,22	Altimeter	15	Gyro Pitch
06,23	EM In-Phase	16	Gyro Roll

The flight path was recorded with a 16mm camera. This camera is synchronized with the analogue and digital records by a fiducial code printed on the film and on both recording media.

All fiducial marks were transferred on stable base maps provided by Gulf Minerals. Digitizing was accomplished by the use of a digitizing machine with a resolution of .1 mm. In this way, the coordinates of fiducial marks with their respective numbers and the line numbers were entered into the computer system. A second data stream was created by converting the field recordings into IBM compatible tapes. By using an identical code for line numbers, it was then possible to correlate the geophysical data with the flight path. All maps were merged to one large master sheet covering the entire area, with the exception of a small separate area to the east.

Production of Magnetometer Maps

The magnetic maps were produced by using a cubic spline function to interpolate data between flight lines. This function was defined by utilizing the actual flight data and forming cubic splines across the lines. Data values were created for each intersection point of a square grid, with a spacing of .1 inch. These data were then contoured by computer to an interval of 10 gammas.

In carrying out corrections heavy reliance was placed on the quiet area in the north of the survey area. The production of the map was a rather difficult one because the dynamic range of the survey is so large, having very quiet areas in the north and extremely strong anomalies to the south.

VLF Survey

The VLF profile maps were produced by computer by determining a proper correction function relating the output of the vertical gyro and the vertical in-phase VLF data. This function was determined experimentally. Data were plotted along the flight lines by removing whatever DC bias might exist. This was done by determining a constant value to be removed from each line. VLF data were represented on two maps, one giving the vertical component in-phase and out-of-phase profiles, the second one giving the strength of the field. Proper corrections were applied to both functions to normalize the data for an average day and average flight conditions. The map giving the total field strength is a good indication of location and relative size of the anomalies. The noise level on this map is lower than on the vertical component map since the coil is in a maximum coupled position to the electromagnetic field. However, using only the total field map, it is not possible to obtain phase relationships. Therefore, the entire information concerning the anomalies should be obtained by comparing both the vertical component curves and the maximum coupled curves.

Electromagnetic Survey

The electromagnetic data were plotted as observed. No corrections for the distance from the detector to ground were applied since these corrections can introduce a disturbing element into the data, and since the EM anomalies are generally of a broad nature, variations with the height of the aircraft are quite

small. Since the electromagnetic instrument is subject to a certain amount of drift, a computer function was developed which eliminated this very low frequency drift. The correction is a first order curve obtained by least squares approximation from the data. One curve was obtained for each flight line.

Results

The results of the survey are shown on 11 maps for the three methods, one magnetometer map, one EM map, one VLF vertical component map, one VLF total VLF field map.

We will discuss the magnetic map first because this method relates most directly to the geology of the area and might very well be the most useful one of the three geophysical surveys for this project.

Very large variations are shown on the magnetometer maps. In general the area to the north of Cobequid formation is considerably quieter and the contact between the Cobequid and younger sediments is clearly outlined on the magnetometer map by the disappearance of strong magnetic anomalies. Some evidence exists that the Cobequid extends at moderate depth for some distance under the undeformed Paleozoic showing wider moderate anomalies which, however, are considerably stronger than the anomalies generally found in the area underlain by the undeformed Paleozoic rocks. These broader anomalies do not seem to show a general change in depth, but rather a sudden one, indicating block faulting at the contact between the Cobequid and younger sedimentary rock.

Faulting is also indicated by the shape of the contact, which seems to extend in steps to the north rather than occurring along a straight line.

Within the Cobequid certain divisions are noticeable. Some of these indicate clearly areas of less magnetic activity and are due to parts of this region which contain either sediments or volcanic rocks, in which magnetite is not an important constituent. The most striking example of this is apparent just north of the village of Nuttby. The strongest magnetic trends bear southeast in direction. Certain less continuous trends are subparallel to the flight line direction. These might result from intrusives or, in some cases, clearly delineate faults. We believe that a great deal of the interior structure of the Cobequid formation is expressed by the magnetic data. It is necessary to compare known results of geological mapping with the magnetometer data in order to classify individual units.

VLF

Two maps are submitted to indicate the VLF results. One of these describes the changes in magnitude of the total field, the other one shows the magnitude of the vertical component of the total field, both in-phase and out-of-phase. Most anomalies occur in the Cobequid formation and particularly in southern parts of the Cobequid formation. General correlation exists between the boundaries of zones of differing magnetic styles and VLF anomalies. These contacts might contain altered basic rocks, graphite or shear zones.

The correspondence between the magnetometer maps and the VLF anomalies are rather striking.

Directions indicated by the VLF trends are either east-west, north-east or north-west. The electromagnetic field from the transmitter lies in the direction of the flight lines. It would be difficult to observe anomalies parallel to the flight line.

Generally, it appears that VLF anomalies occur more frequently in the magnetically less active part of the area than in regions of strong magnetic anomalies.

VLF anomalies in the northern portion of the area are underlain by Carboniferous sediments and indicate fairly wide trends. This information is identical to the information given by the electromagnetic survey. Because of the width of these trends, anomalies are not clearly defined but are represented by elongate "crossovers" in the vertical components and broad, but rather weak peaks, in the total field.

VLF anomalies also are created by cultural installations, particularly power lines and railroads. An attempt was made to disregard these anomalies during interpretation, however where the cause of the anomaly is doubtful, the disturbance was shown as an anomaly. For this reason, some of these VLF anomalies as well as the electromagnetic anomalies might be reflected on the maps.

EM Anomalies

The majority of the EM anomalies occur in the Carboniferous rocks, indicating broad trends. These are very likely caused by beds containing carbonaceous material, either coal or graphite. These electrical trends might be useful in delineating the carbonaceous material in the Carboniferous formation, or outlining the contact. Very few anomalies occur in the Cobequid. Most of the electrical anomalies in the Cobequid occur in the vicinity of magnetic anomalies. It is recommended to investigate these anomalies in order to determine their cause.

Electromagnetic anomalies of positive sign, that is ones showing an increase in the field strength, can be created by magnetic material in the ground. Since these anomalies indicate the presence of magnetite, which is clearly shown on the magnetic maps and of no particular interest to exploration in this area, positive electromagnetic anomalies were not considered in the interpretation.

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VII GROUND MAGNETOMETER SURVEY

Late in 1977 Gulf personnel carried out a ground magnetometer survey over the Swan Brook grid in Cobequid III east of the Wentworth Valley. A McPhar GP 70 portable proton magnetometer and a geometrics G-826 base station recorder were used for the survey.

This survey was comprised of readings taken at one-hundred foot grid stations located on lines four-hundred feet apart. A base station was erected at a permanent site near grid zero, and a series of sub-base stations erected along tie-lines forming a gridded network where there was not more than four-thousand feet to traverse between sub-base stations. From this an accuracy in corrected gamma readout, via distributed error, was sufficient to make a meaningfull contour map of one-hundred gamma intervals.

The purpose of the survey was to locate areas of magnetic highs and lows, and note how they fit with various geological models to aid in the finding and tracing of host rocks favorable to having primary or enriched uranium ores. This survey also served to verify the accuracy of a much larger airborne survey flown by Sanders Geophysics in the spring of 1977.

Conclusions:

It appears that the granitic and rhyolitic rock types show a similar magnetic susceptibility which is lower in value than that for rock types of a diabasic texture. It is well to note that core drilling over a very small area near the center of the grid does not support this regional generalization of the grid proper and also magnetite was found in both the rhyolites and diabase.

To date, September 30, 1977, there has been fifty-one man days of Magnetometer ground survey completed.

Dates Worked: July 27 - 30
August 1-5, 7-12, 14-19, 21-26, 28-31.
September 15, 16, 18-23, 25-30 (6 days 18-23; 2 men)

Members of operating crew: C. Hansuld, M. DeBriske, K. Tatterie

VIII GROUND VLF SURVEY

During the 1977 field season Gulf personnel conducted a ground very low frequency electro magnetic survey over the Swan Brook grid in the Cobequid III block. A Ronka EM-16 was used for the survey. The survey used Cutler Main (NAA at 17800 hertz) as a transmitter station.

This survey was comprised of readings taken at one-hundred foot grid stations located on lines spaced four-hundred feet apart. The purpose of the survey was to locate conductive zones, be they; shears, or faults, and with or without graphite or other metalliferous sulphides. Great numbers of these conductive zones have been indicated by an airborne survey carried out by Sanders Geophysical in the spring of 1977. It is our intention to verify the sensitivity and accuracy of that survey within the area of our present search for subsequent core drilling programs.

The instrument readings have been plotted to form Right Hand Crossovers. This may be interpreted as follows: a conductor exists whenever the in-phase signal (solid marking) and of negative slope (Cartesian system) crosses the out-of-phase signal, (dashed line) - or even more accurately, the conductor exists at the point of greatest inflection of the in-phase signal (positive slope) immediately prior to that crossover.

Conclusions to date:

(i) the ground survey does verify certain of the airborne conductors, both as to intensity and position,
(ii) the nature of the conductors are unknown at present due to overburden masking, however, a drilling program is anticipated in the near future.

To date September 30, 1977 there has been 47 man days of EM-16 ground survey completed.

Dates worked: May 16, 18, 19, 20
June 24, 25, 27-30.
July 19-23, 25
August 7-12, 14-19, 21-26
Sept. 16, 18-23, 25-30

Members of operating crew: J. Halonen, M. DeBriske, P. Titley, W. France

IX Simultaneous Resistivity, Chargeability, Self Potential Survey

INSTRUMENTATION: Scintrex IPR-8 Receiver
Huntec Lopo MKIV Transmitter

This work was performed on the Cobequid III grid lying to the East of the Ski Hill at Wentworth and between Highway 246 and TransCanada 104 in the province of Nova Scotia.

The purpose of the survey follows:

Resistivity:- to note the difference in conductivity of the various rock types masked beneath overburden and overlying strata.

Chargeability:- to note mineralization, or small grain size of various rock types.

Self Potential:- to note the natural electric current in the ground, indicative of the oxidation of a metallic host.

The field procedure commonly employed the use of the Dipole-Dipole array and was followed by a very restricted use of the Wenner array. Both are quadripole lay-outs with the current electrodes not overlapping the receiving electrodes in the first case; and with the current electrodes lying outside of the receiving electrodes in the second case. The Dipole-Dipole array allows rapid transit of the survey area giving a depth penetration roughly equal to one-half the receiving electrode spacing. The Wenner array follow up was, due to its awkwardness in field use, restricted to three lines. Its advantage lies in its ability to give a true dip of structure and without the reflections, or ghost images produced by the Dipole-Dipole array.

Defining the electrode spacing as "a" and "n" the number of multiples of "a"; then in a homageneous earth we have: Apparent Resistivity = Geometrical Faxtor X Volts ÷ Amps

Dipole-Dipole: $\rho a = 2\pi a\, n\, (n+1)\, (n+2)\, V/I$

Wenner: $\rho a = 2\pi a\, n\, V/I$

In conclusion: the self potential survey did not show any significant oxidation reactions and the chargeability survey likewise did not indicate any sulphide bodies; however, the resistivity survey indicates an east-west strike with a steep dip to the south.

The total of 94 man days spent on this project are distributed as follows:

July 25-30
August 1-5, 28-31
September 1, 2, 4-8

The size of the operational crew varied between four and five men and comprised the following members: P. Titley, M. DeBriske, W. France, K. Tatterie, K. Carruthers, T. McDonald, M. Cullen.

COBEQUID PROJECT

J-Zone and DF Zone

Five holes have been completed on the J-Zone. They comprise a total of 2733' of diamond drilling which has been done on two section lines - 7 + 00W, and 12 + 00W. On the DF-Zone, 1395' of diamond drilling has been performed in three holes on the 52 + 00E section.* One additional hole, now underway, on the J-Zone on section 12W has a projected depth of 500' - 600'. A fourth hole on the DF-Zone has a projected depth of 450' - 500'. Upon completion of these holes the total footage drilled by Canadian Longyear Ltd., will amount to approximately 5150'.

A summary of all drill holes, completed and underway, as of the 30th day of October, 1977 is present in Table II.
The core is stored on the site near East Wallace River.
The geology of the rocks in the J and DF Zones is relatively simple, but, few projects can be made from hole to hole due to the uniform nature of the rocks and the complex internal mixing of zones within the rhyolite flows. Some intrusives can be traced on sections but the attitude of individual zones in the rhyolite is uncertain.
* (See location maps, Figs. 5 & 6)

J-Zone

JZ-1

This hole intersected a thick sequence of alternating pink, possibly trachytic rhyolite and aphanitic grey rhyolite. As rhyolite sub. units probably within the same flow, these sections are seldom greater than 20 feet in thickness. Pink zones are commonly porphrytic with 1-2 mm. feldspar phenocrysts and may be flow banded. Grey zones are typically massive but may be well flow banded. The banding generally consists of thin pink laminations against a grey background. Brecciation is common and tectonic in origin. Fragments, up to 2 cm in size, can often be refitted and the finer matrix to these fragments is commonly epidotized. Other alteration consists of silicification and hematization in the vicinity of diabase dykes. The intrusives are dark green, fine grained and usually moderately to strongly serpentinized. Some radioactivity has been noted in the more strongly hematized rhyolites which are brick red in colour.

JZ-2

The second diamond drill hole intersected brick red, aphanitic hematized rhyolite lying above a thick diabase dyke. Below the dyke is a narrow zone of pinkish-brown rhyolite. It is porphrytic and veriably brecciated. The basal 250' of the hole is diabase dyke. Within the upper brick red zone are several radioactive zones.

JZ-3

This drill hole intersected a sequence of pinkish-grey and reddish rhyolite. The greyer varieties are typically aphanitic flow banded and porphrytic locally. Red or reddish-pink rhyolite is commonly porphrytic but flow banding is not as well developed as in the grey member. Several brick red zones in the upper hole are radioactive. Alteration of the rhyolite is more strongly developed near diabase dykes and consists of epidotization of fracture. The lower 350 feet of the hole is diabase.

JZ-4

This hole intersected a narrow diabase dyke at surface and then a thick sequence of massive, often porphrytic, rhyolite and laminated rhyolite. Thickness of these units ranges from 10 to 70 feet. Pink or reddish-pink zones are probably trachytic and may be porphrytic locally. Laminated rhyolite is typically well flow banded and may contain 1 - 2 mm. feldspar phenocrysts. Tectonic brecciation is common and fragments up to 5 cm in size have been observed. The dip of the flow banding is extremely variable. Alteration consists of silicification of rhyolite adjacent to diabase dykes and epidotization of fractures. Numerous diabase intrusives occur throughout the hole. The base of the hole runs for 50 feet into diabase. No anomalous radioactivity was found in this hold although some copper mineralization is present as finely disseminated chalcopyrite in the flow banded rhyolite.

JZ-5

The fifth diamond drill hole intersected diabase on surface and then 220 feet of brick red to greyish-pink rhyolite. Several orange alteration zones occur irregularly throughout this zone. Flow banded and porphrytic zones are common and phenocrysts are often found within the laminations. Little alteration is present but, fractures are frequently epidotized. A 125 foot diabase dyke is found in the zone from 312' - 435' and rhyolite occupies the base of the hole. In this section it is orange-red, slightly porphrytic and non-laminated. Some weak flow banding may occur at the base of the hole. Some mafic-rich zones occur, possibly due to a diabase intrusive nearby. A hematized zone from 85 to 103 feet was radioactive.

JZ-6

The sixth hole intersected a sequence of pinkish-grey to greyish-pink rhyolite with minor orange and brick red zones variably aphanitic to porphyritic containing feldspar phenocrysts 1-2 mm in size and locally exhibiting irregular, flow banded laminations parallel to perpendicular to the core axis. Small intervals of flow and tectonic breccia are also exhibited. Epidotization is common along fractures with traces of pyrite also present. Numerous sections of diabase intersect the rhyolite with fine grained margins and increased alteration and epidotization commonly being present near the contact. Mainly dark green in colour and fine to medium grained, the diabase is weakly to moderately magnetic with moderate serpentinization and locally porphyritic. It also contains a small amount of rhyolite xenoliths in places. No anomalous radioactivity was detected in the hole.

DF-Zone

DF-1

An alternating sequence of pink and grey rhyolite was intersected in this hole. These zones are between 25 - 125 feet in thickness, are commonly porphrytic and may be weakly altered locally. Epidotization of fractures is common and some silicification in zones adjacent to diabase is noted. Minor intervals of flow breccia occur but they are of insufficient extent to indicate a flow contact. Numerous diabase dykes occur throughout the hole. No radioactivity above background was observed.

DF-2

This hole intersected brick red to orange or pink, aphanitic rhyolite. Porphrytic zones are common and occur regardless of flow colour. Feldspar phenocrysts 1 mm in size are common. No flow banding is observed. Alteration consists of widespread silicification and epidotization. Orange zones probably reflect some degree of kaolinization of feldspar. Brick red zones are variably hematized. Numerous diabase intrusives cut the rhyolite at all levels in the hole. No radiation above background was observed.

DF-3

A thick diabase dyke was intersected in surface on this hole. Beneath it lies a zone of brick red rhyolite with minor grey-red intervals. It is porphrytic locally with 1 - 2 mm feldspar phenocrysts but is otherwise evenly aphanitic. Some tectonic breccia occurs locally. Angular fragments up to 2 cm is size occur in 2 finer grained epidotized fragmental matrix. Brick red zones are commonly hematized. Silicification of the rhyolite is common where diabase dykes occur. Epidotization is mostly confined to fractures. The base of the hole consists of a porphrytic intrusive which carries fragments of rhyolite and diabase. It is mottled brick red and dark grey and may be a variety of feldspar porphyry. Abundant diabase dykes intrude the rock in this hole. No radiation above background was noted in this hole.

Table II

HOLE	SECTION	LOCATION	BEARING	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
JZ-1	700 W.	6+75W. 1+50S.	000° AZ	-50°	585'	September 2/77	September 13/77
JZ-2	700 W.	7+00W. 0+15S.	Vertical	-90°	430'	September 13/77	September 19/77
JZ-3	700 W.	6+75W. 1+75N.	180° AZ	-50°	560'	September 21/77	September 27/77
JZ-4	700 W.	7+00W. 6+00N.	180° AZ	-50°	654'	September 30/77	October 10/77
JZ-5	1200 W.	12+00W. 2+00N.	180° AZ	-45°	504'	October 12/77	October 21/77
JZ-6	1200 W.	12+00W. 5+00N	180° AZ	-45°	526'	October 23/77	October 30/77
DF-1	5200 E.	52+00E. 34+00S.	180° AZ	-50°	472'	October 1/77	October 9/77
DF-2	5200 E.	52+00E. 37+00S.	180° AZ	-45°	461'	October 11/77	October 17/77
DF-3	5200 E.	52+00E. 40+00S.	180° AZ	-45°	462'	October 20/77	October 25/77
DF-4	5200 E.	52+00E. 31+00S.	180° AZ	-45°	452'	October 22/77	November 6/77

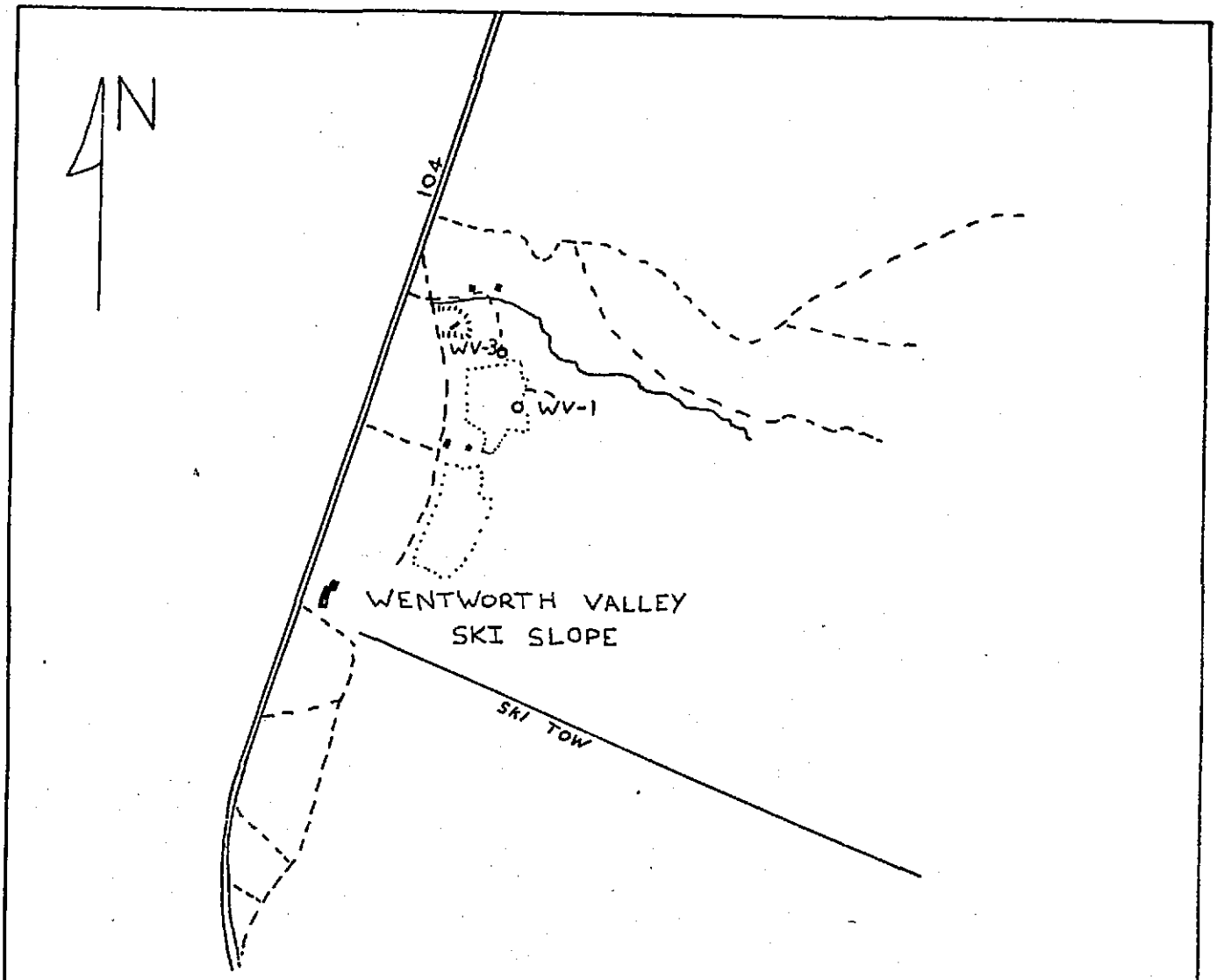
SUMMARY OF DDH - WV-1 and WV-3, Wentworth Valley

Two holes were drilled in the area of the Wentworth Valley Ski Slope (See location map, Fig. 4) in late 1976 by St. Lambert Drilling of Valleyfield, Quebec.

The first hole, WV-1, intersected as small section - (18.4') of massive, unfoliated, greenish-black basalt (diabase?) containing abundant calcite and epidote filled fractures near the surface. A pink, blockly, flow banded, fractured rhyolite was found underlying and in possible intrusive contact with the basalt. Numerous shear zones with small basic intrusions were common throughout the rhyolite. The hole was terminated in the dark basic rock at a final depth of 331'.

The second hole, WV-3, was drilled completely in pink, very fine-grained, flow banded rhyolite containing numerous epidote and calcite filled vugs. Local fracturing and small breccia zones were also common. Hole ended at 490'.

No anomalous radioactivity was detected in either hole and no core splitting was done.



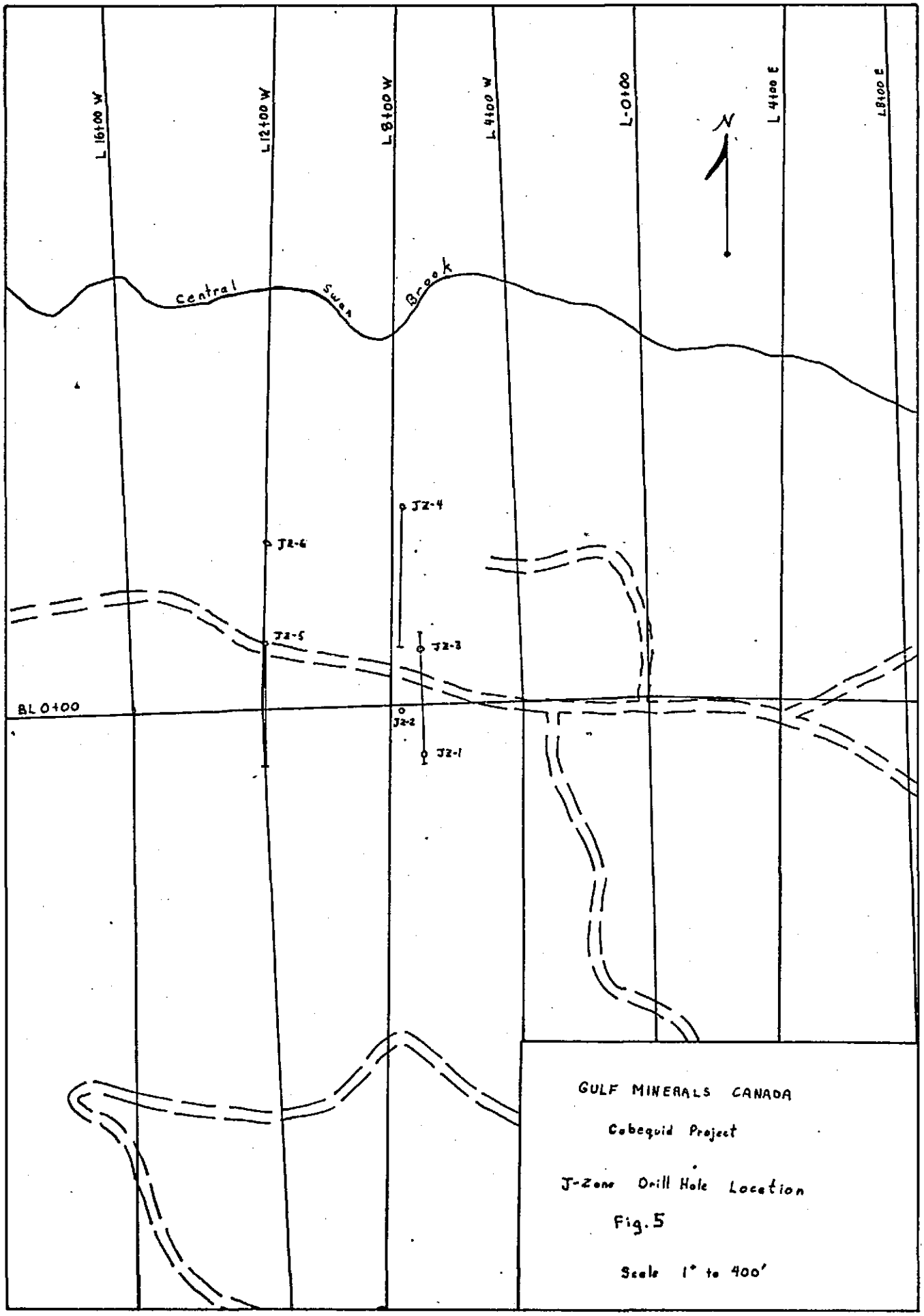
D.D.H. LOCATIONS WENTWORTH
Fig. 4

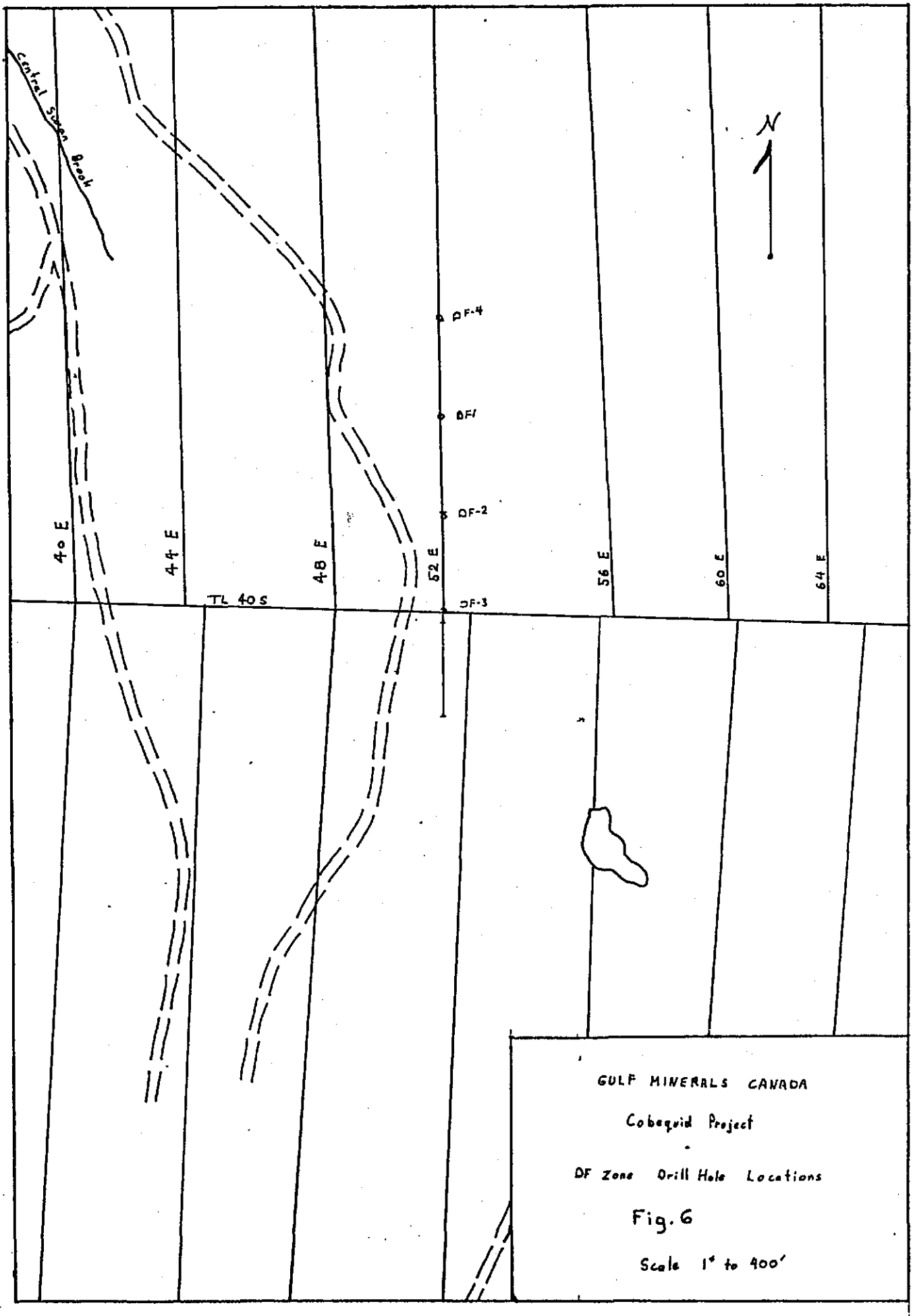
SCALE
1 : 10,000
1 in : 833 ft
NTS COORDINATES
11E 12A

o D.D.H. LOCATION

ACCESS TO D.D.H.

GRAVEL PIT


L 16+00 W
L 12+00 W
L 8+00 W
L 4+00 W
L 0+00
L 4+00 E
L 8+00 E
N
Central Swan Brook
JZ-4
JZ-6
JZ-5
JZ-3
BL 0+00
JZ-2
JZ-1
GULF MINERALS CANADA
Cobequid Project
J-Zone Drill Hole Location
Fig. 5
Scale 1" to 400'



GULF MINERALS CANADA

Cobequid Project

DF Zone Drill Hole Locations

Fig. 6

Scale 1" to 400'

XI SUMMARY AND CONCLUSIONS

Geological and geochemical work has revealed that the portion of the Cobequid Uplands held in Gulf's Cobequid III block has above normal concentrations of uranium. The present data shows that a concentrating process has taken place in some areas. At present the nature and controls governing concentrating processes is still unknown. Extensive work is required to outline areas where mineralization may occur. Once these areas are defined, diamond drilling will be required to determine the nature of any mineralization present.

XII References Cited

Donohoe, H.V. (1976) "The Cobequids Mountain Project" in Nova Scotia Dept. of Mines Report 76-2, pp. 113-124

Fletcher, H (1905) "Wentworth Sheet, W° 62; Cumberland and Colcheser Counties:" Geological Survey of Canada, Ottawa.

Wallace and Donohoe (1977) "76 Cobequid Highlands Survey" in Nova Scotia Dept. of Mines Report 77-1. Halifax, N.S. pp 167-180

2 of 6

433047

COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 2 of 6)

433047

Dep. for still

433047

COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 2 of 6)

ILLUSTRATIONS

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PART 2✓

Appendix I ✓ Assays

(a) Well Waters

(b) Whole Rock Samples

(c) Soil Samples

(d) Drill Core

Appendix II ✓ Diamond Drill Hole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

Appendix III ✓ Induced Polarization Pseudo-Sections

Line 0+00W to line 16+00W

Line 44+00E to line 60+00W

Appendix IV ✓ Downhole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

MAPS ENCLOSED IN POCKETS

PART 3	
Plates D 24, D 25 - g E 24, E 25 - g	Geological Compilation 1 in = 1/4 mile
	Geological Surveys
Plates D 24, D 25 - f E 24, E 25 - f	Well Water and Whole Rock 1 in = 1/4 mile
	Soils
IIf	- Sample locations & numbers 1 in = 400 feet
	- A Horizon
	- C Horizon
	Ground Geophysics
PART 4	
Plates IIa, IIIa	EM 16 1 in = 400 feet
IIm, IIIm	Proton Magnetometer 1 in = 400 feet
IIp	Self Potential 1 in = 400 feet
	Airborne Geophysics
PART 5	
Plates D 24, D 25 - ma E 24, E 25 - ma	Magnetics 1 in = 1/4 mile
Plates D 24, D 25 - mc E 24, E 25 - mc	VLF EM (vertical) 1 in = 1/4 mile
Plates D 24, D 25 - md E 24, E 25 - md	VLF EM (horizontal) 1 in = 1/4 mile
Plates D 24, D 25 - mo E 24, E 25 - mo	EM 1 in = 1/4 mile
	Radiometric
PART 6	
Plates D 24, D 25 - mq E 24, E 25 - mq	U Contours 1 in = 1/4 mile
Plates D 24, D 25 - mp E 24, E 25 - mp	U/K ratios 1 in = 1/4 mile
Plates Ids	Section 7+00 West
IIds	Section 12+00 West
IIIds	Section 52+00 East

APPENDIX I

Assays

(a) Well Waters

(b) Whole Rock Samples

(c) Soil Samples

(d) Drill Core

X-RAY ASSAY LABORATORIES

LIMITED

45 LESMILL ROAD DON MILLS ONTARIO M3B 2T8 445-5755

Certificate of Analysis

NO. 721 PAGE 1 of 1

TO. Gulf Minerals Canada Limited,
Suite 1400, 110 Yonge Street,
TORONTO, Ontario.
M5C 1T4
Attn: Gerry Pearson

P.O. # 7226

RECEIVED Nov. 5, 1976 INVOICE NO. 721

SAMPLE(S) OF 48 water SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Sample	U_3O_8 ppb	Sample	U_3O_8 ppb
ER 1	13	WV 029	X
WV 001	3.5	WV 030	X
WV 002	2.5	WV 031	X
WV 004	5.5	WV 032	X
WV 005	1.0	WV 033	X
WV 006	2.5	WV 034	X
WV 007	3.0	WV 035	1.0
WV 008	2.5	WV 036	X
WV 009	X	WV 037	X
WV 010	3.0	WV 038	X
WV 011	3.5	WV 039	X
WV 012	4.5	WV 040	X
WV 013	4.0	WV 041	X
WV 014	2.0	WV 042	X
WV 015	4.0	WV 043	4.0
WV 016	3.0	WV 044	0.5
WV 017	4.5	WV 045	8.0
WV 018	6.0	WV 046	24
WV 019	4.0	WV 047	3.5
WV 020	5.5	WV 048	X
WV 021	1.0		
WV 022	0.5		
WV 023	X		
WV 024	0.5		
WV 025	2.0		
WV 026	0.5		
WV 027	0.5		
WV 028	0.5		

Note: X -- less than 0.5 ppb

X-RAY ASSAY LABORATORIES LIMITED

CERTIFIED BY A. Neuman

DATE Nov. 10, 1976

PHOTOGRAPHERS

17-OCT-77 X-RAY ASSAY LABORATORIES

SAMPLE	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FEO	MNO	TIO2	P2O5	L.O.I.	SUM	FE/MG	K/(K+NA)
B B 3043 UT ALTERED	75.50	12.81	0.62	0.19	3.51	5.17	1.94	0.03	0.22	0.02	0.77	99.34	10.30	0.60
B B 3045 UT ALKALI BASALT, POTASSIC SERIES	46.92	16.19	5.25	6.19	3.16	2.40	14.05	0.11	2.37	0.37	1.61	98.64	2.27	0.43
B B 3046 UT THOLEIITIC BASALT	45.66	16.02	9.87	7.27	2.18	0.95	14.98	0.20	2.54	0.32	1.92	98.43	2.06	0.30
B B 3047 UT ALTERED	77.83	12.75	0.22	0.27	0.23	6.40	2.10	0.03	0.14	0.02	1.97	101.07	7.78	0.96
B B 3048 UT ALTERED	77.76	12.86	0.19	0.24	0.24	6.41	2.13	0.03	0.14	0.01	1.73	101.09	8.76	0.96
B B 3049 UT ALTERED	75.51	12.97	0.38	0.12	3.40	5.43	1.93	0.04	0.20	0.01	0.74	99.43	15.51	0.62
B B 3050 UT ALTERED	77.43	12.27	0.21	0.16	1.48	6.82	1.51	0.02	0.10	0.01	0.95	99.79	9.55	0.82
B B 3101 UT THOLEIITIC BASALT	50.08	14.32	10.52	6.57	3.15	1.01	11.89	0.22	2.01	0.23	1.31	97.80	1.81	0.24
B B 3102 UT ALTERED	79.34	12.03	0.17	0.25	0.42	5.64	2.00	0.02	0.12	0.01	1.26	99.95	8.06	0.93
B B 3103 UT THOLEIITIC BASALT	51.79	12.71	8.24	6.70	3.61	1.31	12.95	0.27	2.14	0.29	2.48	98.99	1.93	0.27
B B 3104 UT ALTERED	63.58	17.91	1.09	0.04	10.75	0.15	5.78	0.02	0.45	0.38	0.44	98.69	99.00	0.01
B B 3105 UT ALTERED	76.52	10.78	0.25	0.08	2.03	6.40	2.45	0.04	0.27	0.00	1.15	100.00	45.36	0.77

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)

P 2045 UT ALKALI BASALT, POTASSIC SERIES
0 0.00 OR 14.06 AB 19.99 AN 22.41 NE 3.47 DI 6.17 HE 6.73 FO 6.74 FA 9.29 MT 5.64 IL 4.44 AP 0.95

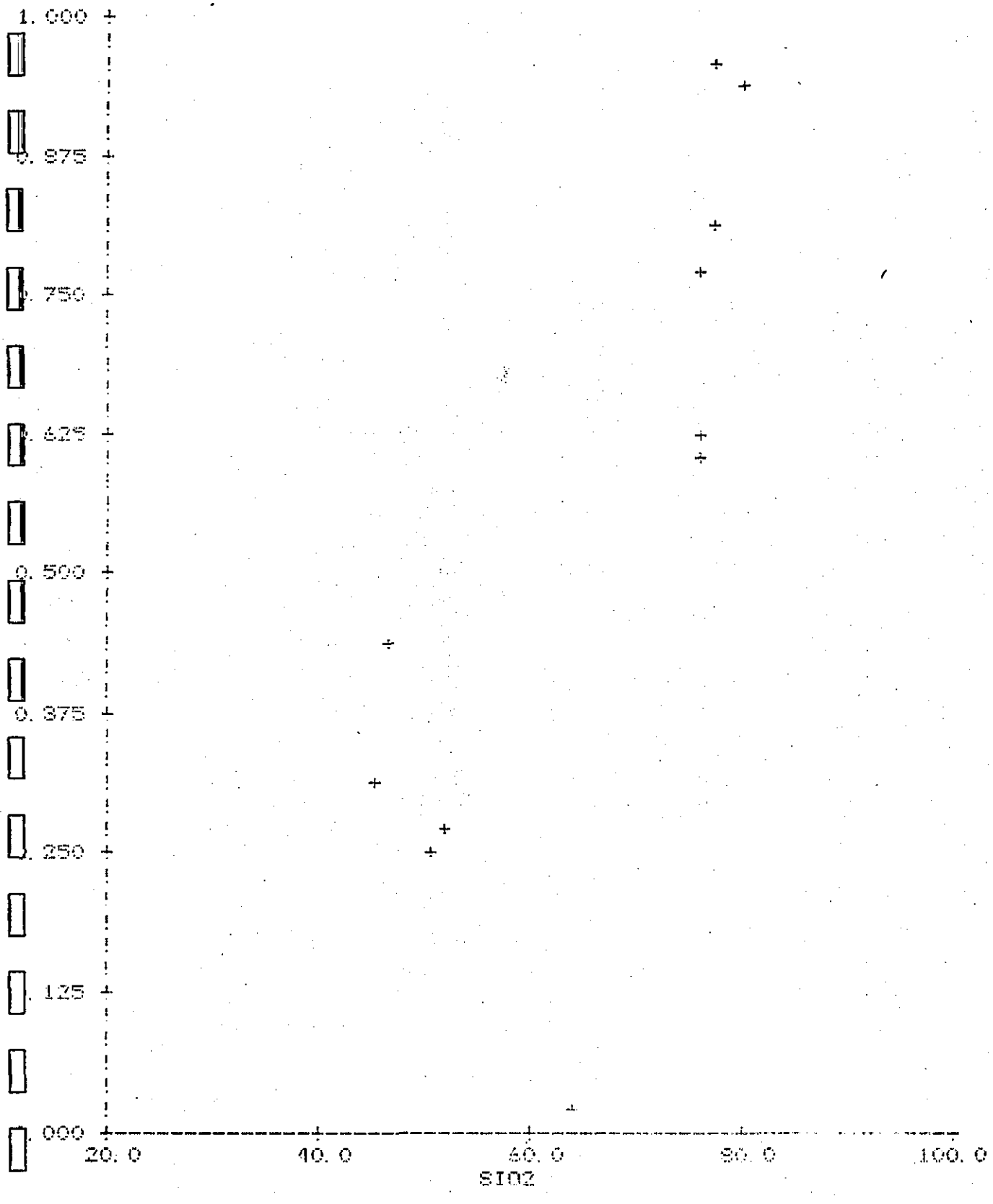
P 2014 UT THOLEIITIC BASALT
OR 5.53 AB 19.24 AN 30.73 DI 6.48 HE 6.50 EN 4.11 FS 4.72 FO 5.41 FA 6.96 MT 5.91 IL 4.77 AP 0.72

P 2101 UT THOLEIITIC BASALT
OR 5.99 AB 26.33 AN 21.73 DI 11.64 HE 10.86 EN 3.74 FS 3.63 FO 2.72 FA 2.96 MT 5.14 IL 3.79 AP 0.53

P 2102 UT THOLEIITIC BASALT
OR 7.64 AB 29.20 AN 14.45 DI 10.31 HE 9.69 EN 7.26 FS 7.91 FO 1.21 FA 1.43 MT 5.33 IL 4.02 AP 0.66

X-RAY ASSAY LABORATORIES

17-OCT-77 'XRPLOT' BUTGUL.



1-SEP-77 X-RAY ASSAY LABORATORIES

[illegible]E	SIO2	AL203	CAO	MGO	NA2O	K2O	FEO	MNO	TIO2	P2O5	L.O.I.	SUM	FE/MG	K/(K+NA)
[illegible]3001 UT	71.64	14.75	2.23	0.71	4.05	3.28	2.89	0.06	0.33	0.04	0.98	98.13	4.05	0.45
[illegible]-ALKALINE DACITE														
[illegible]3002 UT	71.47	14.42	2.47	0.93	3.96	2.69	3.43	0.08	0.58	0.07	1.04	98.86	3.69	0.40
[illegible]ITIC DACITE														
[illegible]3003 UT	74.96	13.26	1.18	0.40	4.13	4.43	1.25	0.03	0.34	0.03	0.61	98.97	3.14	0.52
[illegible]TERED														
[illegible]3004 UT	75.89	13.38	0.60	0.14	3.94	5.10	0.75	0.02	0.18	0.01	0.39	99.49	5.44	0.56
[illegible]TERED														
[illegible]3005 UT	75.90	13.24	0.33	0.43	4.28	3.74	1.74	0.03	0.27	0.03	0.62	97.69	4.02	0.47
[illegible]-ALKALINE RHYOLITE														
[illegible]006 UT	72.98	14.51	3.98	0.25	4.69	0.92	2.30	0.06	0.28	0.03	0.89	97.55	9.12	0.16
[illegible]TERED														
[illegible]007 UT	77.67	11.99	0.23	0.05	3.36	5.21	1.34	0.02	0.13	0.00	0.16	100.38	26.67	0.61
[illegible]TERED														
[illegible]008 UT	77.90	11.78	0.26	0.09	3.25	5.26	1.29	0.01	0.14	0.00	0.31	97.99	14.84	0.62
[illegible]TERED														
[illegible]009 UT	74.92	12.24	1.94	0.60	3.72	3.61	2.54	0.04	0.35	0.03	0.53	97.00	4.21	0.49
[illegible]-ALKALINE DACITE														
[illegible]010 UT	71.87	13.94	1.03	0.36	3.69	5.65	2.94	0.07	0.41	0.04	0.52	97.68	8.12	0.61
[illegible]TERED														
[illegible]011 UT	71.46	14.24	1.11	0.37	3.70	5.67	2.92	0.07	0.40	0.04	0.62	98.96	7.84	0.61
[illegible]TERED														
[illegible]012 UT	73.06	13.70	0.79	0.24	3.65	5.86	2.23	0.05	0.40	0.02	0.49	98.49	9.43	0.62
[illegible]TERED														
[illegible]3013 UT	77.63	12.09	0.27	0.01	3.64	5.12	1.10	0.02	0.13	0.00	0.18	97.70	99.00	0.59
[illegible]TERED														
[illegible]3014 UT	77.61	12.06	0.28	0.10	3.45	5.13	1.22	0.02	0.13	0.01	0.24	100.08	12.86	0.60
[illegible]TERED														
[illegible]3015 UT	77.71	11.93	0.31	0.04	3.55	5.13	1.19	0.02	0.13	0.00	0.19	99.67	30.87	0.59
[illegible]TERED														
[illegible]016 UT	77.68	11.94	0.30	0.07	3.46	5.10	1.29	0.03	0.13	0.00	0.28	98.26	18.31	0.60
[illegible]TERED														
[illegible]017 UT	74.60	13.22	0.74	0.11	4.01	5.16	1.89	0.03	0.24	0.01	0.27	100.19	17.32	0.56
[illegible]TERED														
[illegible]018 UT	74.51	13.09	0.54	0.13	3.57	5.78	2.14	0.05	0.26	0.01	0.34	97.18	16.11	0.62
[illegible]TERED														
[illegible]019 UT	75.64	12.50	0.51	0.08	3.75	5.51	1.78	0.04	0.19	0.01	0.33	97.31	22.69	0.60
[illegible]TERED														

MPLE	SIO2	AL203	CAO	MGO	NA20	K20	FEO	MNO	TIO2	P205	L.O.I.	SUM	FE/MG	K/(K+NA)
B 3020 UT LTERED	75.82	12.28	0.49	0.06	3.44	5.63	1.99	0.04	0.25	0.01	0.28	98.37	31.26	0.62
B 3021 UT OLEIITIC BASALT	46.87	13.39	9.37	4.77	3.48	1.00	15.69	0.27	4.37	0.81	3.80	97.60	3.29	0.22
B 3022 UT OLEIITIC BASALT	51.51	12.44	6.39	4.21	4.01	0.25	16.19	0.27	4.22	0.51	3.35	97.77	3.85	0.06
B 3023 UT SALI BASALT, SODIC SERIES	44.94	14.56	10.55	6.11	2.76	0.63	16.47	0.24	3.42	0.32	3.16	98.25	2.69	0.19
B 3024 UT OLEIITIC BASALT	49.31	15.62	9.79	5.98	2.62	0.41	12.82	0.27	2.98	0.20	3.02	96.56	2.14	0.14
B 3025 UT LTERED	74.72	13.22	0.67	0.17	1.49	7.01	2.39	0.02	0.31	0.01	1.65	100.23	14.24	0.82
B 3026 UT LTERED	76.90	12.66	0.36	0.19	2.01	5.51	2.03	0.01	0.31	0.02	1.55	99.60	10.55	0.73
B 3027 UT LTERED	78.87	10.55	0.18	0.25	0.62	6.44	2.80	0.05	0.23	0.00	1.22	100.19	11.26	0.91
B 3028 UT LTERED	81.12	10.25	0.20	0.08	0.42	4.81	2.79	0.06	0.27	0.00	1.21	98.77	36.18	0.92
B 3029 UT LTERED	76.45	12.53	0.59	0.10	3.23	5.47	1.39	0.03	0.20	0.01	0.53	99.96	13.50	0.63
B 3030 UT LTERED	78.54	11.99	0.57	0.14	3.24	4.17	1.15	0.05	0.14	0.01	0.93	98.65	8.29	0.56
B 3031 UT LTERED	74.18	13.62	1.77	0.36	3.30	4.34	2.09	0.05	0.28	0.03	0.99	99.09	5.83	0.57
B 3032 UT OLEIITIC DACITE	66.58	16.08	3.27	1.20	4.20	2.98	4.76	0.13	0.72	0.09	1.23	97.24	3.98	0.42
B 3033 UT LTERED	67.70	14.30	2.04	1.93	3.32	4.30	5.30	0.17	0.85	0.09	1.58	100.02	2.75	0.56
B 3034 UT LC-ALKALINE RHYOLITE	75.23	13.35	0.46	0.38	4.23	4.21	1.81	0.06	0.25	0.02	0.90	98.68	4.80	0.50
B 3035 UT LTERED	74.38	11.48	0.93	0.17	3.72	3.87	4.87	0.03	0.51	0.01	0.38	99.58	28.29	0.51
B 3036 UT LTERED	78.86	10.29	0.28	0.05	2.74	4.16	3.29	0.05	0.25	0.01	0.43	98.24	52.14	0.60
B 3037 UT. LTERED	77.32	12.67	0.95	0.22	4.27	3.28	1.17	0.02	0.09	0.01	0.39	97.55	5.30	0.43
B 3038 UT LTERED	77.28	13.00	0.60	0.12	4.59	3.14	1.14	0.03	0.10	0.01	0.53	99.72	9.70	0.41

SAMPLE	SIO2	AL203	CAO	MGO	NA20	K20	FEO	MNO	TIO2	P205	L.O.I.	SUM	FE/MG	K/(K+NA)
B 3039 UT ALTERED	75.40	12.42	0.95	0.29	4.79	3.01	1.84	0.07	0.21	0.02	0.65	96.70	6.28	0.39
B 3040 UT ALTERED	76.87	13.10	0.44	0.10	4.27	3.92	1.17	0.04	0.08	0.01	0.39	97.88	11.67	0.48
B 3041 UT ALTERED	78.76	11.91	0.94	0.54	4.41	1.70	1.47	0.05	0.21	0.02	0.68	99.71	2.75	0.28
B 3042 UT ALTERED	78.44	11.86	0.69	0.48	3.54	2.85	1.84	0.06	0.22	0.02	0.78	97.97	3.82	0.45
B 3051 UT ALTERED	66.65	14.70	1.95	0.91	4.99	5.44	4.41	0.09	0.78	0.09	0.72	94.79	4.85	0.52
B 3052 UT ALTERED	67.86	15.62	0.90	0.23	4.85	6.58	3.41	0.05	0.47	0.02	0.61	99.25	14.90	0.58
B 3053 UT ALTERED	76.89	11.28	0.49	0.05	3.70	4.65	2.72	0.03	0.19	0.00	0.28	99.38	51.16	0.56
B 3054 UT ALTERED	78.33	10.91	0.56	0.30	2.41	5.59	1.68	0.03	0.19	0.00	0.72	98.32	5.61	0.70
B 3055 UT ALTERED	74.90	12.92	0.60	0.19	3.89	5.30	1.92	0.02	0.25	0.01	0.69	100.68	10.23	0.58
B 3056 UT ALTERED	74.81	12.98	0.44	0.15	4.05	5.31	1.97	0.01	0.27	0.01	0.41	97.91	13.20	0.57
B 3057 UT ALTERED	75.20	12.89	0.42	0.11	3.89	5.57	1.69	0.02	0.21	0.01	0.59	96.60	15.63	0.59
B 3058 UT ALTERED	74.87	13.17	0.50	0.15	3.98	5.34	1.82	0.04	0.22	0.01	0.63	100.57	12.24	0.58
B 3059 UT ALTERED	74.37	13.47	0.50	0.17	4.09	5.29	1.81	0.03	0.24	0.02	0.63	99.86	10.65	0.56
B 3060 UT ALTERED	78.71	10.65	0.37	0.53	2.62	4.66	2.15	0.06	0.24	0.01	1.02	98.63	4.07	0.64
B 3061 UT ALTERED	79.98	10.75	0.56	0.06	1.37	5.61	1.48	0.02	0.17	0.01	1.42	100.62	25.46	0.80
B 3062 UT THOLEIITIC ANDESITE	68.70	12.45	3.31	2.03	3.91	2.15	6.09	0.11	1.15	0.11	3.32	98.70	3.00	0.35
B 3063 UT ALTERED	78.92	11.20	0.54	0.14	2.76	4.93	1.41	0.03	0.07	0.00	0.69	99.98	9.79	0.64
B 3064 UT THOLEIITIC ANDESITE	57.55	13.54	6.31	4.18	3.46	2.70	10.02	0.20	1.92	0.11	1.65	97.31	2.40	0.44
B 3065 UT ALTERED	77.76	12.16	0.63	0.14	3.08	4.76	1.34	0.02	0.10	0.01	0.27	99.09	9.61	0.61

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)

B B 3001 UT CALC-ALKALINE DACITE
Q 29.57 C 0.58 OR 19.34 AB 34.15 AN 10.72 EN 0.96 FS 1.23 MT 2.72 IL 0.63 AP 0.10

B B 3002 UT THOLEIITIC DACITE
Q 31.75 C 0.78 OR 15.31 AB 33.30 AN 11.70 EN 1.26 FS 1.59 MT 3.05 IL 1.09 AP 0.17

B B 3005 UT CALC-ALKALINE RHYOLITE
Q 35.33 C 1.62 OR 22.05 AB 36.15 AN 1.43 EN 0.91 FS 0.21 IL 0.29 HM 1.82 AP 0.07 RU 0.12

B B 3009 UT CALC-ALKALINE DACITE
Q 35.06 OR 21.27 AB 31.38 AN 5.98 DI 1.50 HE 1.35 EN 0.14 FS 0.15 MT 1.71 IL 0.67 HM 0.73 AP 0.07

B B 3021 UT THOLEIITIC BASALT
OR 5.83 AB 28.90 AN 17.64 DI 7.96 HE 11.22 EN 3.49 FS 5.64 FO 0.29 FA 0.51 MT 8.54 IL 8.15 AP 1.85

B B 3022 UT THOLEIITIC BASALT
Q 7.53 OR 1.46 AB 33.39 AN 14.98 DI 4.08 HE 6.90 EN 4.86 FS 9.43 MT 8.33 IL 7.89 AP 1.16

B B 3023 UT ALKALI BASALT, SODIC SERIES
OR 3.66 AB 22.98 AN 25.13 DI 9.00 HE 11.41 EN 0.17 FS 0.25 FO 5.02 FA 8.05 MT 7.18 IL 6.10 AP 0.74

B B 3024 UT THOLEIITIC BASALT
Q 3.46 OR 2.41 AB 21.97 AN 29.18 DI 7.38 HE 7.02 EN 7.69 FS 8.39 MT 6.57 IL 5.57 AP 0.46

B B 3032 UT THOLEIITIC DACITE
Q 21.16 C 0.21 OR 17.54 AB 35.34 AN 15.56 EN 1.95 FS 3.37 MT 3.30 IL 1.36 AP 0.21

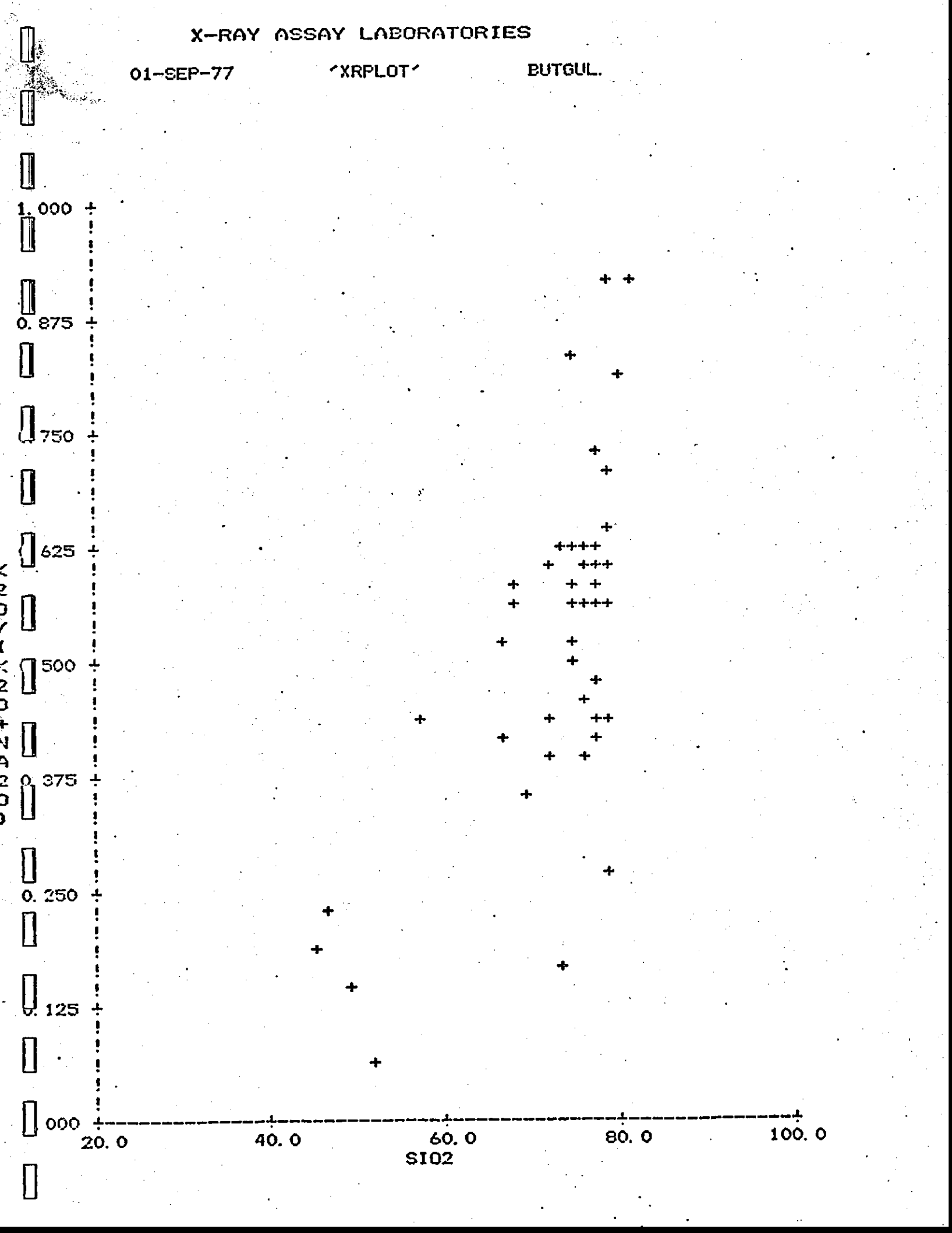
B B 3034 UT CALC-ALKALINE RHYOLITE
Q 32.95 C 1.05 OR 24.82 AB 35.66 AN 2.15 EN 0.68 FS 0.34 MT 0.09 IL 0.48 HM 1.73 AP 0.05

B B 3062 UT THOLEIITIC ANDESITE
Q 27.74 OR 12.62 AB 32.82 AN 10.01 DI 2.14 HE 2.52 EN 2.47 FS 3.33 MT 3.93 IL 2.16 AP 0.25

B B 3064 UT THOLEIITIC ANDESITE
Q 8.18 OR 15.78 AB 29.00 AN 13.30 DI 6.81 HE 7.33 EN 4.79 FS 5.92 MT 5.03 IL 3.61 AP 0.26

X-RAY ASSAY LABORATORIES

01-SEP-77 'XRPLOT' BUTGUL.



1-OCT-77

X-RAY ASSAY LABORATORIES

SAMPLE	ZR	U	TH	PB	ZN	CU
B B 3043 UT	250	0	10	0	50	30
B B 3045 UT	240	0	0	0	70	30
B B 3046 UT	190	0	0	10	80	0
B B 3047 UT	390	0	10	20	50	0
B B 3048 UT	390	0	30	70	50	0
B B 3049 UT	210	0	10	0	30	30
B B 3050 UT	200	0	10	40	50	10
B B 3101 UT	190	0	10	30	120	80
B B 3102 UT	340	0	10	30	30	20
B B 3103 UT	180	0	0	20	170	0
B B 3104 UT	1040	180	10	40	50	10
B B 3105 UT	1170	0	70	80	50	0

APPENDIX II

Diamond Drill Hole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. WV-1
SHEET 1 OF 2

PROPERTY Cobequid III
LATITUDE
LONGITUDE
ELEVATION 300 A.S.L.

BEARING—TRUE 060°
DIP -60°
FINAL DEPTH 331'
CORE SIZE BQ

DATE STARTED Nov. 26/76
DATE COMPLETED Dec. 2/76
DRILLED BY St. Lambert
LOGGED BY Neil Downey

DATE: Dec. 5/76 SIGNED

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	40		Overburden				
40 -	58.4		Basalt	Massive unfoliated green-black rock containing 60% feldspar - as laths up to 2 mm.			
				40% mafics			
				0-1% quartz	584'	75°	Basalt-Rhyolite contact
				good diabasic texture			
				numerous fractures filled with calcite, abundant epidote,			
				minor pyrite, has chilled base contact with addition of silica from			
				rhyolite.			
				52.4 to 53.3 rhyolite very fine grained, epidote around contacts			
58.4 -	329.7		Rhyolite	Pink, chunky, in part, has well developed flow banding, abundant quartz			
				eyes throughout numerous vugs and fractures filled with epidote.	100'	55°	Flow banding
				88 ft - shear			
				147.5 - 148 silicified breccia zone	157'	30°	"
				157 - shear graphitic			
				215 - shear graphitic			
				245.4 to 246.1 basic rock has intruded rhyolite, minor pyrite	197'	65°	"
				shearing at contacts			
				248.7 - shear	280'	45°	"
				298' - shear			
				311 - 312 - shear graphitic			
				315 - shear			
				317 - shear			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. WV-1

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
329.7	331		Basalt	Black, fine grained intrusive rock highly sheared throughout, intrusive contact contains minor pyrite and small inclusions of rhyolite.			
331				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. WV-3
SHEET 1 OF 1

PROPERTY Cobequid III
LATITUDE
LONGITUDE
ELEVATION 240 A.S.L.

BEARING—TRUE 060°
DIP -60°
FINAL DEPTH 490'
CORE SIZE BQ

DATE STARTED Nov. 17/76
DATE COMPLETED Nov. 25/76
DRILLED BY St. Lambert
LOGGED BY N. Downey

DATE: Dec. 1/76 SIGNED

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 80			Overburden				
80 - 490			Rhyolite	Pink, very fine grained with quartz eyes (.5mm) well developed flow banding. Contains numerous vugs with epidote. No spherulites were observed.	88'	15°	Flow banding
					142'	05°	" "
				99.5 - 100 fracture with epidote and pyrite	197'	40°	" "
					258'	45°	" "
				149 - 149.4 fracture filled with calcite	298'	35°	" "
				150.2 - 2 in. fracture filled with calcite	329'	25°	" "
				204 - 1 in. vug with epidote and pyrite	363'	30°	" "
				283 - fracture with epidote	416.5	15°	" "
				286 - fracture	452'	10°	" "
				325 - 332 numerous siliceous stringers suggesting a silicified breccia zone	467	20°	" "
					490	10°	" "
				338.3 - fracture with epidote and pyrite			
				350.5 - graphitic shear 90° to C.A.			
				432 - 3 in. silicified breccia zone			
				438 - shear with slickensides			
				439.4 - shear with slickensides			
				469.5 - chloritic shear			
				487.5 - graphitic fracture			
490'				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-1
SHEET 1 OF 9

PROPERTY Cobequid
LATITUDE 1+50S
LONGITUDE 6+75W
ELEVATION

BEARING — TRUE 0°
DIP -50°
FINAL DEPTH 585'
CORE SIZE BQ

DATE STARTED September 2, 1977
DATE COMPLETED September 13, 1977
DRILLED BY Canadian Longyear
LOGGED BY M. P. Cullen

DATE: Sept. 17, 1977 SIGNED

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 13				Overburden: highly fractured and ground fragments of green diabasic rocks.			ACID DIP TESTS 268' 47° 583' 49°
13 - 23.5	5.5'			Rhyolite: light pink slightly porphyritic rhyolite which is fragmented and ground. qtz. phenocrysts approximately 5 - 10% mafic minerals 10% or less ground mass is dominated by light pink aphanitic "K" spar and grey quartz. Minor epidote is present in fractures; contact nature with above rock type is not known because of poor recovery.			
23.5 - 72.5				Diabase: medium grained grey-green diabasic rock with variably disseminated pyrrhotite			
				4" - 6" highly sheared zone with clorite " " " " " " "	64.5-65 69		
72.5 - 74.5				Rhyolite: highly siliceous, aphanitic, grey-pink rhyolite with blotchy, obscure texture; obvious chill zone in dike rock above; sheared chloritic zone in dike rock is immediately adjacent to contact zone.	73		contact parallels core
74.5 - 75.5				Diabase: Rhyolite is fractured and veined by epidote immediately adjacent to chill zone in diabase rocks.	74.5		" 35° to core
					75.5		" approximately parallel to core

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 2 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
75.5 -	83.5			Rhyolite: Pinkish beige rhyolite with blotchy texture- numerous areas of hazy feldspar phenocrysts with some "rimmed?" quartz phenocrysts: texture may be very slightly tuffaceous at 76-77.5	76-77.5		
				light coloured feldspar crystals are floating in a finer grained ground mass: remainder of section is nearly aphanitic with occasional fine wispy bands of qtz approx. 4mm.			
				brecciated and epidotized rhyolite	82.5-83.5		
				Diabase:			
83.5 -	138			dark grey to green dike rock: some textural changes within intersection but none are extreme: localized shear zones are highly chloritic			
				epidote and carbonate veining is common but not extensive			
				brecciated zone: dark angular fragments of above rocks in green epidote ground mass.	112-113		
138 -	139.5			Contact zone: apparent "contamination" zone of dike rock with felsic fragments and finer material being assimilated: neither true diabase nor rhyolite			
139.5 -	141			Rhyolite: highly brecciated and ground zone of dark pink porphyritic rhyolite: quartz phenocrysts are abundant in fragments			
				breccia "streams" approx 0-5° to core			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 3 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
141 -	143			Contact zone: veined contamination zones similar to 138 to 139.5 with a high epidote content. Amount of rhyolitic fragments is much lower than first zone.			
143 -	143.5			Brecciateion zone?: short intersection of fragmental rock; zone is bordered by green to grey, very fine grained dike rocks. The whole section is veined by epidote.			
143.5 -	148			Diabase: Grey-green, medium grained dike rock: evenly textured with some epidote veining.			
148 -	154.5	1'		Rhyolite: Very poor core recovery: medium grained, pink porphyritic rhyolite. qtz. phenocrysts: approx. 10% grades transitionally into following unit.			
154.5 -	179			Rhyolite: light pinkish-beige, porphyritic rhyolite. qtz. pheno. approx. 10% feldspar approx. 15% ground mass is dominantly beige with aphanitic texture. some color banding (slight) parallels core: recovery is poor plus fragmented.			
179 -	187.5			Rhyolite: light orange porphyritic rhyolite with a ground mass of hazy intergrown "micro" spherulites (≤2mm); banding is parallel to core: rock is non-magnetic and broken	183		
				short dike rock intersection	183-184.5		
				" " " "	185-186		

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 4 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
187.5	- 192			Rhyolite: light beige slightly porphyritic rhyolite with scattered siliceous wispy banding in the ground mass: Feldspars?? and lighter angular feldspar phenocrysts less than 10%: quartz phenocrysts also less than 10%; core at contact to above unit is ground making contact nature unknown.			
192.5				Contact: Contact with dark black fine grained dike rock; contact is not well illustrated in available core; attitude is approximate; brecciation of rhyolite adjacent to the contact is evident, with a highly chloritic sheared zone immediately adjacent to same in the dike rock			
192.5	- 313			Dike Rock: wide zone of variably textured intermediate to basic dike rock; textural changes within this section indicate multiple injections of this material into the "dike" proper with resultant chilling relationships; epidote is prevalent throughout as are minor brecciation zones and chloritic shear zones. notably: 262' zones of 275' blotchy epidote 300' patches resembling filled vesicles (amydules)			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 5 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
313 -	313.8			Rhyolite?: epidotized felsic rock in darker dike rocks. xenolith??			
313.8 -	321			Diabase: dark grey to black medium-grained rock with numerous minor chloritic shear zones.			
321 -	322.5			Contact zone: fragmented zone (of core) grading from above dike rocks to a brownish pink very characteristic porphyritic felsic unit.			
322.5 -	337.5			Rhyolite: brownish pink medium to fine grained porphyritic felsic volcanic: abundant large well formed feld. phenocrysts with zonal features: occasional small zones resembling dike rock in composition, are present but minor. no obvious chilling relationships exist. Feldspar phenocrysts - 20 - 25% rock is magnetic			
337 -	338			Contact: contact zone of dark grey, intermediate to basic dike rock to above volcanic contact is traced by very slight ~1.5 mm siliceous line in core. Grain size does not vary.			
338 -	345			Diabase;			
345 -	346.5			Contact: Contact zone with underlying dark, brick red rhyolite, zone appears to be feldspathized and epidotized and has abundant chlorite in localized occurrences. Difficult to discern relationship, both rocks are magnetic, contact zone is not.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 6 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
346.5	- 403			Rhyolite: dark brick red aphanitic rhyolite similar to that in "J" zone trench #1. Rhyolite is magnetic with some wispy banding of quartz.			
				Core is highly fractured in general and cut by epidote. Color varies over the section with various zones being more grey to green in colour. Magnetite traces the wispy banding in some cases and is found in fractures.			
				dike rocks - diabasic intrusive	398-400.5	65°	to core
403	- 414.5			Rhyolite Breccia: Siliceous rhyolite breccia zone, fragmented, pinkish-grey, aphanitic rhyolite in siliceous grey matrix.			
414.5	- 417.5			Rhyolite: Dark grey, creamy, variably flow banded, aphanitic rhyolite			
417.5	- 427			Rhyolite Breccia - Brecciated (or agglomeratic??) rhyolite: dark grey ground mass with dark greyish red fragments.			
427	- 436			Rhyolite: highly fragmented and broken core of dark red and grey rhyolite - aphanitic and magnetic.			
436	- 439.5			Rhyolite: light orange, aphanitic, highly fragmented and ground rhyolite.		47°	contact to core
439.5	- 455			Rhyolite: Grey, generally creamy, fine grained to aphanitic rhyolite with flow banding: higher "K" spar content in some zones gives pinker colour.			
				more porphyritic zone of above rock type	454-455		

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 7 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
455 -	455.5			Contact: ground and fractured contact between blotchy grey to brown rhyolite and orange to red aphanitic rhyolite.			
455.5 -	458			Rhyolite: Unit changes colour downward becoming increasingly brick red.			
				rock type resembles brick red ore of trench JZ#1	257'		
				unit is magnetic.			
458 -	458.5			Contact: Contact between above unit and an aphanitic reddish-grey unit.			
458.5 -	465.5			Rhyolite: Above greyish red to beige rhyolite unit, very fine grained to aphanitic texture with a high percentage of finely disseminated pyrite. Unit is very slightly magnetic in places but is non-magnetic where lower contact: colour changes slightly over the intersection to a completely greyish beige at 469'.			
465 -	468.5			Rhyolite: Orange, slightly porphyritic rhyolite with variable light orange to reddish orange blotchy texture. "K" spar pheno. <10% abundant dark sooty mineral with bluish tinges Cu-Oxides??			
468.5 -	484-5			Rhyolite: Section of predominantly aphanitic purplish red to grey slightly magnetic rhyolite locally pyritic. fragmented and broken core	468-476		
				brecciated rhyolite in a light matrix	476-478		

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 8 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				core is more reddish grey	478-482		
				resembles "ore" of JZ trench #1	482-484.5		
484.5 -	508.5			Dike rock: Porphyritic greyish (andesitic??) unit with feld. pheno. % variable over section ≤5% to 15%			
508.5 -	523			Rhyolite: dark reddish, slightly porphyritic and variably flow banded rhyolite.			
				strongly magnetic			
				Magnetite is along wispy flow bands and in some cases rims crystals and phenocrysts.			
				wispy siliceous banding and dark elongated K spar zones	516		260° to core
				numerous epidote filled fractures			
523 -	534.5			Diabase: Numerous shear zones (chloritic) rock is magnetic with occasional carbonate veins.			
				brecciated zone	523-525		
534.5 -	542			Rhyolite: Siliceous greyish-beige, fine grained, pyritic rhyolite: some slight flow banding and porphyritic zones are localized in section.			
542 -	559			Diabase: Dark greyish-green			
				small zone of light orangish	453.5-454		
				flow banded rhyolite - xenolith??			
				diabase is chilled to contact			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-1

SHEET 9 OF 9

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				section is generally broken with abundant shearing (chloritic) disseminated pyrite is common in the whole section.			
559	583			Rhyolite breccia: (agglomerate) grey to reddish,			
				highly siliceous rhyolite unit. magnetite is visible in fractures and surrounding fragments in the agglomerate (?)			
				fragments are slightly rounded and range from greyish siliceous rhyolite to a darker red rhyolite			
				finer dark orange zone	578		
583	585			Rhyolite: light orange to red rhyolite. core is ground and fragmented. rock is magnetic and epidote veined.			
585				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ - 2
SHEET 1 OF 3

PROPERTY Cobequid
LATITUDE 0+15S
LONGITUDE 7+00W
ELEVATION

BEARING—TRUE 360°
DIP -90°
FINAL DEPTH 430'
CORE SIZE BQ

DATE STARTED Sept. 13/77
DATE COMPLETED Sept. 19/77
DRILLED BY Canadian Longyear
LOGGED BY M. P. Cullen

DATE: SIGNED

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	17			Casing			ACID DIP TESTS
0 -	26	6"		Rhyolite: approximately 6" of dark brick red rhyolite was core; depth of intersection is unknown.			100' -90 239' -90°
26 -	39.5			Rhyolite: dark brick red highly siliceous "ore" rhyolite similar to JZ-trench#1. Core is fractured and veined by epidote stringers.			
39.5 -	51.5			Rhyolite: dark reddish beige extensively fractured aphanitic rhyolite Some chloritic (??) material in fractures: hematized red alteration zones border the fractures. Very highly fractured zone over 6" width.45--45.5 extensive epidote veining; zone is lighter pink than the rest of this section.			
51.5 -	53			Contact zone: between rhyolite and grey green dike rock; contact is obviously intrusive with dike rock intruding rhyolite, shearing and chloritization is abundant adjacent to contact. Epidote veining is common with minor carbonate stringers.			
53 -	116.5			Diabasic dike rock: epidote and carbonate veining is present; numerous sheared zones			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-2

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
116.5 -	131			Rhyolite: pinkish brown porphyritic and variably brecciated rhyolite Contact appears to be intrusive but is unclear. Immediately adjacent to contact in rhyolite is 2.5" breccia zone.			
116.5 -	131			Intersection is generally constant compositionally and colour (light pink to white) but localized textural changes are present.			
				Brecciated zone with epidote	117-118.5		
				Feldspars are becoming more hazy and may be spherulitic to microspherulitic.	126-129		
				Core is non magnetic. Generally 15-10% qtz phenocrysts.			
				Lower contact 131' is ambiguous			
131 -	162			Diabasic dike rock: has variable carbonate and epidote veining and chloritic shear zones.			
				breccia zone with epidote ground mass	159.5-160		
				highly broken core	160-162		
162 -	163.5			Contact zone: barely perceptible transitional change from greyish green dike rock to a brownish fine grained volcanic with scattered pink K spar phenocrysts.			
163.5 -	174			Rhyolite: characteristic dull pinkish brown volcanic porphyry. Feldspar phenocrysts are rimmed.			
				Lower contact is transitional in nature, similar to above			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-2

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				This same rock type is seen in DDH JZ-1.			
174 -	430			Diabase dike rock - variably textured.			
430				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ - 3
SHEET 1 OF 6

PROPERTY Cobequid
LATITUDE 1+75N
LONGITUDE 6+75W
ELEVATION

BEARING—TRUE 180°
DIP -50°
FINAL DEPTH 560'
CORE SIZE BQ

DATE STARTED Sept. 21/77
DATE COMPLETED Sept. 27/77
DRILLED BY Canadian Longyear
LOGGED BY M. P. Cullen

DATE: SIGNED

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	20			Casing			ACID DIP TESTS
20 -	25			Rhyolite: Dull, pinkish grey, generally aphanitic, to slightly porphyritic rhyolite. The core is broken and ground with very poor recovery			100' -40° 419' -38°
25.5 -	28.5			Rhyolite: Dark orange to reddish flow banded rhyolite, approximately 5% disseminated dark minerals (probably magnetite) along flow bands in some areas. Contact to above rhyolite appears to be conformable, not intrusive. Rhyolite carries occasional large fragments or blebs of a darker red rhyolite as xenoliths.			
28.5 -	30			Rhyolite: Color change appears similar to rocks of transition zone of upper contact. Flow banding in this zone parallels core axis.			
30 -	36			Rhyolite: Dark orange to red aphanitic slightly banded rhyolite. Rock is not as "brick red' as JZ Trench #1.	34.5	50°	contact between darker red rhyolite and orange rhyolite, fragment??
36 -	39			Rhyolite: Dull, greyish red rhyolite with a stringer or band of above material paralleling core axis.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 3

SHEET 2 OF 6

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
39 -	45.5			Diabase: Dark greenish-grey to black dike rock with < 5% pyrite. Rock is probably intrusive to rhyolite but this is not clear from contact. (some core is ground)			
45.5 -	63			Rhyolite: Grey aphanitic rhyolite with fine, dark reddish pink, wispy, flow banding throughout. Core is generally pyritic with occasional feldspar phenocrysts. Banding is variably 0° - 10° to core.			
63 -	66			Rhyolite: Dark brick red "one" rhyolite. Characteristic dark red aphanitic rhyolite. 500 cps maximum.			
66 -	71.5			Diabase: Dark, fine grained dike rock obviously intrusive to above rhyolite (brecciates and intrudes rhyolite).			
71.5 -	80			Rhyolite: Grey, siliceous rhyolite with persistent intersections of dark reddish material. Overall texture is blotchy, red to greyish green color in some cases. 78'-80') Greyish green rhyolite is obviously carrying xenoliths of the darker red rock. Red rhyolite is generally flow banded and slightly porphyritic.			
80 -	82.5			Rhyolite: Above unit becomes darker red with widespread fracturing. It resembles the brick red "ore" rock.			
82.5 -	101			Diabasic: dyke rock: grey green generally fine grained dike rock.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 3

SHEET 3 OF 6

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
101 -	103			Rhyolite: Dull, dirty, greyish red, aphanitic rhyolite with variably contorted flowbands. Fragments of a dark greyish "rhyolite" occur as xenoliths.			
103 -	105.5			Diabase: Grey green dike rock intruding rhyolite with numerous highly chloritic zones from 104' to 105'.			
105.5 -	107.5			Rhyolite: Dull pinkish purple aphanitic rhyolite with epidote veining.			
107.5 -	123			Diabase: Diabasic textured grey green dyke rock with epidote and carbonate veining.			
123 -	154			Rhyolite: Dull, purplish red, aphanitic, variably banded rhyolite with epidote stringers associated with fractures and shears.			
				140.5 to 147 - Brecciation zone fragments are in epidote rich matrix. Dyke rock is chilled to rhyolite in this zone.			
154 -	155			Contact: Contact zone from above rhyolite to darker red aphanitic rhyolite with magnetite.			
155 -	167			Rhyolite: Dull dark brick red rhyolite similar to JZ 1 trench but darker in colour. Rock is generally fractured with some magnetite?? in fractures. Slightly porphyritic - qtz ≈ 5 - < 5%			
				Some wispy siliceous bands are present. Minor occurrences of carbonate stringers.			
				158 - 159 Highly fractured zone.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 3

SHEET 4 OF 6

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
167	- 169.5			Rhyolite: Rock is becoming darker through higher % of dark fine grained material contaminating it through fractures, etc.			
				169.5 Intrusive diabase contact			
169.5	- 182			Diabase Intrusive			
				176 chloritic shear zone			
				181 " " "			
182	- 196			Rhyolite: Dull brownish orange unit of variably porphyritic to spherulitic rhyolite			
				182 - 187.5 Zone of hazy micro spherulites (?) with slight brecciation and epidote veining.			
				182.5 - 183.5 Highly porphyritic zone qtz pheno. ≈25%			
				183.5 - 192 Abundant micro spherulites with retention of slightly porphyritic texture (quartz)			
				192 - 196 Highly brecciated and fractured zone with epidote matrix			
196	- 258			Diabase: Grey, green, to black, variably textured dike rock; Section is generally fine grained with occasional short spots of slight diabasic texture. Epidote veining is widespread.			
				201 - 203.5 Highly pyritic zone ≈ 20% FeS_2			
				205 - 212 High epidote % in blotchy vesicles ??			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 3

SHEET 5 OF 6

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
258	267			Rhyolite: Characteristic zone of rimmed feldspar porphyry seen in DDH JZ #1.			
				Rock is generally brownish in colour with upper and lower transitional contacts into dike rock. Phenocryst = 25% but ≷10% in transitional zones. Only slight epidote veining occurs.			
267	560			Diabase: Variably textured dull grey-green to blackish intersection of dike ?? rock.			
				307 - 309.5 Greenish breccia zone in epidote matrix.			
				317 - 319 Contaminated zone ?? Over a 2' intersection the rock grades from a dark greenish black breccia to a light greenish yellow with numerous green glassy ?? blebs. Reddish rhyolitic rock material is present in this zone.			
				Lower contact (immediately adjacent to the zone of green glossy blebs) is sharp and chilled to fine grained dike rock.			
				329.5 - 330.5 Small zone similar to above in texture and composition.			
				333 - 334 Peculiar zone of silica (glass) filled vesicles (amygdules) approximately 40%. Unit is transitional into 3" zone of light greenish colour similar to above two.			
				335 - 335.5 Quartz "phenocrysts" spherulite structures equal approximately ≂ 35 - 40% of rock.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 3

SHEET 6 OF 6

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				336 - 337.5 Zone of quartz spherulites, approx. 20%			
				349.5 - 350 Felsic xenolith??			
560'				END OF HOLE			

Gulf

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ - 4
SHEET 1 OF 5

PROPERTY Cobequid
LATITUDE 6+00N
LONGITUDE 6+75W
ELEVATION

BEARING—TRUE 180° Az
DIP -50°
FINAL DEPTH 654'
CORE SIZE BQ

DATE STARTED 30 Sept. 1977
DATE COMPLETED 10 October, 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: 11 October, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	15 Casing		Overburden	boulder stewn sand			ACID DIP TEST
							100' -49°
15 -	40.5		Diabase	Dark green, fine grained, generally fresh-alteration consisting of			300' -48°
	(25.5)			moderate serpentinization confined to fractures. Epidote-white			500' -48°
				carbonate veining occurs as fracture filling. Moderately magnetic			654' -43°
				throughout. Tectonic brecciation has occurred locally- epidote and			
				silica have re-cemented the 1 cm. fragments.			
40.5 -	654		Rhyolite and	A sequence of massive rhyolite, often porphrytic, and laminated rhyolite			
	(613.5)		trachyte	is found to recur in variable thickness and variable composition.			
				Thickness of these units ranges from 10' - 70' and composition, usually			
				extremely acid, is often more trachytic in nature. Colour ranges from			
				dark reddish-pink (felsic variety), to grey and pink laminations, to			
				grey. Some cream coloured intervals also occur. Although aphanitic,			
				some porphrytic zones contain phenocrysts up to 5 mm. Tectonic			
				brecciation is common and fragments possibly as large as 5 cm. may occur			
				locally. Some flow-breccia locally occurs with rounded 1-2 cm. fragments.			
				Alteration may occur over short intervals, generally in zones bordering			
				diabase dykes. It consists for the main part of epidotization of			
				fractures and silicification of the contact rhyolite. The dykes, from			
				2' to over 50' in width, are commonly epidotized and serpentinized.			
				Magnetite, causing, weak to moderate magnetism in these dykes, is often			
				found disseminated in the rhyolites near the dykes. Thin seams of			
				magnetite are also found in fractures in the rhyolite near diabase			
				intrusives.			
				Dip of the flow laminated rocks is extremely variable. Angles varying			
				from 45° to parallel with respect to the core axis have been measured.			
				These represent true dips in the range of 45° to vertically standing.			
				The steeper dips are most common. Variability reflects the degree of			
				internal turn-over in the lavas, a result of their viscosity.			
				Breakdown of these rhyolites into sub-units follows:			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-4

SHEET 2 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				40.5'-72': trachytic- dk. reddish-pink, minor laminations moderately developed 2 mm. reddish bands and light to med. grey bands - traces of very finely disseminated Cpy. and Py. along laminations. Magnetite occurs as 2 mm. crystals. and 1 mm seams; e.g. (54.5') Some flow breccia occurs locally throughout zone.	54'	Flow lamination	45° to C/A
				57.5' - 66' Diabase			
				72' - 114' thinly laminated, med. to dk. grey with dk. pink laminated fragments, at times resembling phenocrysts, occur frequently within laminations. Bands are disrupted into load casts but frequently wrap around particules. Cpy. and Py. occur along laminations. Some magetite locally.			
				78' - 81': Diabase			
				100' - 108.5': Diabase			
				114' - 131': trachytic- med. pink, non-laminated, porphrytic: 1-3 mm phenocrysts.			
				114-'123': tectonic breccia, fragments angular to sub-angular up to 1 cm., epidotized matrix to fragments			
				123' - 131': porphrytic zone - cream coloured locally some 1-2 mm. qtz. eyes.			
				131' - 3" mafic intrusive			
				131' - 161.5': laminated - greyish with minor pink bands becoming thicker 160-161.5. Numerous fracture zones which are epidotized and sericitized - e.g. 147-148.5'	134'	Flow laminations	60° to C/A
				151.5' - 152', 153' - 155.8'			
				135.8' - 144' - Diabase	150'	Flow laminations	0° (parallel) to C/A
				158.5 - 160' - Diabase			
				161.5' - 173.5': Diabase			
				173.5' - 213: trachytic - med. pink with minor med. to light grey, non-laminated, porphrytic - 1-2 mm. euhedral, feldspar phenocrysts - 1 mm spherulites and qtz. eyes.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-4

SHEET 3 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
40.5 -	654'	cont'd	Rhyolite	173.5' - 213' light grey, kaolinized zones at 205'-206' and 208' - 209' unit becoming greyer and more even grained at base	207'	Flow lamination	45° to C/A
				213' - 219.5': laminated, pink and grey			
				219.5' - 221.2': Diabase'			
				221.2' - 223': trachytic- weak flow lamination locally (222') - abundant finely disseminated Py. locally (223')			
				223' - 237': Diabase -some rounded mafic growths -			
				237' - 264.5': laminated, pink and grey - some disseminated cpy. and Py. throughout zone - also plates of Cpy. on some fractures (e.g. 253')			
				248 - 251.5: Diabase - intensely epidotized lower contact.			
				264.5' - 276.8': massive, possibly trachytic, becoming weakly banded with depth: 271-276.8 - pink, flow laminated traces of finely disseminated Py. and Cpy.	272'	Flow laminated	50° - 55° to C/A
				276.8' - 300': laminated, med. to dark grey, - pink, euhedral, occasionally zones 1-3 mm. feldspar crystals occur in the thin bands - some load casts - abundant finely disseminated Cpy. and Py. along laminations. Some 3-5 cm fragments at 281.5-285			
				295' - 296.5': highly altered- epidotized, serpentinized			
				298.5'-300': laminated - light to med. grey with increasing pink content.			
				288.5' - 289.5': Diabase			
				295' - 296.5': Diabase			
				300' - 344.5': generally massive - pink becoming greyer towards centre of unit - laminated irregularly in flow breccia zone - 301 - 302' - pink to cream fragments up to 5 cm - some massive magnetite locally in fractures with traces of Cpy. - 301' - 302'.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-4

SHEET 4 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
40.5	654'		Rhyolite	344.5' - 358': Diabase- a few 1 cm. xenoliths of volcanic present at contacts - limited feldspar flooding of dyke in 5 cm outer zone - "core" zone, 348.5' - 357', is porphrytic euhedral, 5-10 mm., slightly saussuritized feldspar phenocrysts - matrix is dark green, mafic rich, weakly epidotized and serpentinized, and, contains 1.0 - 1.5 cm blebs of magnetite.			
				358' - 386' non-laminated, very dark rusty red and green becoming dark pink at 361.5'. Strongly tectonically brecciated becoming totally brecciated at 362'. Finely fractured with epidote filling at upper contact with intrusive. Some wider fractures contain a fine tectonic breccia. Magnetite in fractures from 363' - 371'.			
				364' - 371': becoming darker and greener			
				371' - 373.5': Diabase			
				373.5 - 386: becoming poorly laminated with minor flow breccia (381' - 383') rounded fragments up to 2 cm. with rare larger fragments. Vuggy at 383-384 and becoming red.			
				386' - 451': medium grey, containing 10% 1-5 mm. dark red tectonic breccia fragments in numerous zones of 1' - 2' width.			
				Becoming crudely laminated below 394'	394'	Flow laminated	70° to C/A
				Fine to very finely disseminated Py. and Cpy. is common in trace amounts throughout the zone. Some magnetite occurs as a dissemination or fracture filling near the diabase.			
				389-390: Diabase			
				403.5 - 405: flow breccia - fragments up to 3 cm of varying composition - possible flow contact.			
				- zone may be locally porphrytic- same hazy, indistinct pink phenocrysts.			
				At 405 some laminated rock alternates with tectonic breccia over short intervals	449'	Flow laminat	highly irregular dips on in basal 3'
				438.5' - 447': Diabase			
				438' - zone becomes more massive, although fractured and may contain a coarse (3-4' cm bands) lamination			-30°-70° to C/A

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-4

SHEET 5 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
40.5	- 654'		Rhyolite	451' - 546.5': reddish pink to cream-pink, well laminated becoming less laminated and more tectonically and flow brecciated with depth. Flow breccia contains round to angular fragments up to several cm. Zone contains abundant magnetite - disseminated and in fractures. Epidotization is strong to intense locally e.g. (495' - 495.5', 504' - 510', 520' - 522') but is limited to fracture zones and breccia matrix. Some magnetite is present at 520' - 521' in altered zone. Pink zones are strongly brecciated e.g. (494' - 500') and at 498' the rock resembles a mylonite.			
				523.5' - 538': cream to reddish, round to angular flow breccia fragments in a dark grey matrix. Rock becomes more strongly magnetic towards dyke.			
				540' - 545.5: Diabase			
				546.5' - 582': Dark reddish grey-crudely laminated - fractured throughout with some fine breccia along fractures.			
				548.5' - 552': breccia- reddish fragments in a dark magnetic matrix (similar to 523.5 - 538)			
				582' - 609': light to med. grey, non-laminated with abundant (30%) zones of reddish pink brecciated rock frequently approaching mylonite - fragments appear to be of various composition - fractures are epidote filled.			
				609 - 654': Diabase - contains xenoliths of epidotized rhyolite breccia - 619' - 621.5', 636' - 637.5' which are variably banded locally		intrusive	
				612'- 619' - abundant qtz - carbonate veining with minor amphibole	652'	lamination	50°-55° to C/A.
654'				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-5
SHEET 1 OF 3

PROPERTY COBEQUID
LATITUDE 2+00N
LONGITUDE L.12W.
ELEVATION

BEARING—TRUE 180° AZIMUTH
DIP 45°
FINAL DEPTH 504'
CORE SIZE BQ

DATE STARTED October 12, 1977
DATE COMPLETED October 21, 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: October 25, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0	- 38		Overburden	Upper zone of bedrock probably rhyolite - intensely weathered as caving			ACID DIP TESTS
	Casing		Highly Fract-	experienced extensively.			100' -39.5
			ured Bedrock				311' -37°
							504' -39°
38	- 91.5		Diabase	Dark greyish-green, fine to medium grained but porphyritic from 65-77'			
	(38.5)			with euhedral, feldspar phenocrysts up to 1.5 cm. Weak to moderate			
				magnetism in unaltered zones. Alteration consists of weak serpent-			
				inization locally becoming moderate on fractures, and epidotization			
				of fractures. Pale green feldspar phenocrysts may indicate weak			
				saussauritization. Numerous xenoliths of country rock occur - rhyolitic			
				in composition - noted at 60.5'-64', 69'-70', 87'-88'.			
91.5	- 312		Rhyolite	Brick red to greyish-pink with some orange or orangish-red zones over			
	(220.5)			short intervals (eg. 235-237), aphanitic becoming porphrytic locally			
				(160.5-171) with 1-5 mm. phenocrysts of feldspar. Flow banding through-			
				out the zone consists of thin reddish, ribbon-like streaks between			
				2-4 mm. medium grey bands, (eg. 131'). Phenocrysts and/or fragments are	93'	flow	30° to c/a
				commonly found within these bands and the individual bands may wrap		banding	
				around these coarse "grains". Some zones are spherulitic and round,			
				often hollow spherulites up to 5 mm. are common. The rock is generally			
				fresh but fractures are nearly always epidotized. Where fracturing			
				is more intense, the rock may be greenish in colour from the epidote			
				(eg. 162-170.5). Hematite may be, in part, responsible for the			
				brick-red colouration of some zones, (eg. 91.5-157).	135'	flow	15° to c/a
				This zone is frequently intruded by diabase dykes varying in thickness		banding	
				from several feet to over 100'. Most are dark green and fine to very			
				fine grained although some thicker dykes are porphrytic. Alteration is			
				very slight in the larger intrusives but may be quite strong in the			
				more narrow varieties. It consists of serpentinization and variable			
				epidotization of fractures. Rhyolite surrounding the more intensely			
				altered diabase dykes is commonly magnetic due to magnetite seams and			
				finely disseminated magnetite. The dykes are weakly to moderately			
				magnetic but strongly serpentinized zones may not be magnetic.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-5

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				91.5-157 - brick red and medium grey banding becoming lighter red and grey, frequently very glassy over short intervals (eg. at 127.5', 136') with shards and seams elongated along the flow banding - glass is altered to chlorite and epidote. Banding may be convolute locally but is otherwise regular. Fragments or phenocrysts, 2-4 mm. in size have thin mafic bands in them - possibly zonation. Diabase occurs frequently: 102.5'-103.5' 112' -115' 121' -127' 157' -160.3'			
				160.3-172 - porphrytic zone - possibly intrusive - phenocrysts of feldspar up to 1 cm. - fragments, possibly diabasic and moderately magnetic are common up to 5 cm. Zone grades into diabase at upper and lower contacts.			
				172-190 - Diabase - fragments up to 1' in size of orange moderately altered rhyolite (175.5'-176.5'). Strongly to intensely serpentinized.			
				190-312 - pinkish grey becoming greyish towards 280' and then pinker 280-312, aphanitic, flow banded rhyolite. Some pink feldspathic clots occur locally over short intervals (190'-109.5'). Phenocrysts, 1-2 mm. in size are dispersed irregularly throughout the zone. Fractures, sharply cutting the flow banding, are frequently surrounded by brick-red to reddish-orange halos. They persist up to 1.5 cm. either side of the fracture and are bordered by a 1-3 mm. pale grey, intensely silicified zone, eg. at 208', 209', 209.5. Flow banding is also cut at 202-202.5 by a shallowly cutting orange alteration zone - possibly fracture related.	192	flow banding	sub-parallel to c/a ± 5°
				Orange alteration zones (212-213) are frequently weakly to moderately magnetic.			
				126-129.3 - Diabase - strongly epidotized rhyolite contacts 6" orange alteration zone at lower contact.	221	flow banding	45° to c/a
				234.5'-237- brick red and orange alteration zone consisting of alternating bands discordant to flow banding.			
				240', 241.5, 246 - orange alteration zones			
				285-290 - diabase			
				290-299 - brick red rhyolite - silicified and epidotized (along fractures); and probably weakly kaolinized			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-5

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				307-312 - intensely fractured rhyolite, medium pink to cream coloured, epidotized and kaolinized.			
				310-311 - amythest in fractures.			
312	- 435		Diabase	Dark green, fine to medium grained, weakly to moderately magnetic,			
	(123)			numerous amygdaloidal zones - (eg. 366-374, 394-402). Amygdules are			
				altered to epidote and chlorite. Blotchy epidotization occurs in zones			
				such as 379.5-380. The remains of what may have been a rhyolite zeno-			
				lith may be found at 419-419.5' - it carries a minor amount of amythest.			
435	- 504		Rhyolite	Orange-red, aphanitic, slightly porphrytic, non-laminated. Irregular,			
	(69)			mafic zones occur at 439-440', 441.5-446.5' and 448-450 which may be			
				flow breccia. Round fragments, up to 2 cm. in size, of varying			
				composition are common. These zones have a high mafic mineral content			
				and are porphrytic locally.			
				450-504 - mafic content falls off to nil or trace amounts and colour			
				changes to medium or light pink with minor cream coloured			
				zones. The zone becomes weakly flow laminated at the base			
				of the hole. Some 1-2 mm. feldspar phenocrysts are found			
				locally. The rock shows little alteration except in the			
				mafic rich zone, 439-450', where some degree of serpentinization			
				occurs. Epidote occurs in fractures. A few 1-5 mm. wide	497	flow	50-60° to c/a
				quartz stringers are found irregularly throughout the zone		banding	
				with no apparent alteration of the rhyolite.			
				504' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-6
SHEET 1 OF 4

PROPERTY Cobequid
LATITUDE 5+00N
LONGITUDE L 12 W
ELEVATION

BEARING—TRUE 180° Az
DIP -45°
FINAL DEPTH 526'
CORE SIZE BQ

DATE STARTED 23 October 1977
DATE COMPLETED 30 October 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: 1 November, '77 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	10'		Overburden				ACID DIP TESTS
	casing rammed						
	to 20'						100' -45.5°
							300' -44°
10 -	204.5		Rhyolite	Pinkish-grey to greyish-pink, with minor orange and brick-red zones,			500' -44.5°
	(194.5)		trachytic?	aphanitic and porphyritic with 1-2 mm. euhedral feldspar phenocrysts.			
				Extremely irregularly flow banded - laminations parallel to perpendicular			
				to core axis. Some flow breccia (?) locally - (eg. 28-29'). Unit			
				becomes less laminated at about 30'. Some bands are chloritic -			
				possibly as an alteration of inter-lamination glass shards. Some			
				traces of pyrite locally along the flow bands. The zone is intruded			
				by diabase locally- dark green, fine to medium grained, often weakly			
				to moderately magnetic, moderately serpentinized.			
				10' - 37.5': rhyolite - as above			
				37' - 44': Diabase quartz			
				44- - 77': possible quartz-feldspar porphyry : gradational into			
				diabase at upper and lower contacts - Fine to medium			
				grained, porphyritic - 1-4 mm feldspar phenocrysts and 1-2 mm			
				quartz phenocrysts - contains several percent mafic mineral			
				which is variably chloritized.			
				77' - 87': Diabase - gradational into upper unit.			
				87' - 92': Rhyolite - very irregularly laminated as unit 10' - 37.5'			
				92' - 93': Diabase			
				93' - 105.5: same as 10' - 37.5' also 106.5 - 108'			
				105.5' - 106.5': Diabase			
				108' - 109': Diabase			
				111.5' - 112': 4 cm "fragment" of Diabase (?) in rhyolite (??)			
				105.5' - 115': rhyolite is irregularly flow laminated some flow breccia			
				locally.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-6

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
10 -	204.5'		Rhyolite	continued....			
	(194.5)						
				128': unit becomes less porphyritic			
				128' - 141': Diabase			
				141' - 204.5': rhyolite - porphyritic locally, laminations well developed; up to 1% very finely disseminated. Pyrite locally - minor alteration in pinker zones - epidotization and stronger alteration in mafic rich zones near diabase-serpentinization and chloritization of mafics - epidote along fractures. Mafic rich zones weakly magnetic.			
204.5 -	216'		Diabase	Diabase is porphyritic and locally (205.5' - 206') may be glomero-			
	(11.5')		and feldspar porphyry	porphyritic where agglomerations of phenocrysts occur. Feldspar phenocrysts up to 1.5 cm in size are typically euhedral and weakly saussuritized.			
				207.5' - 213': - diabase becomes gradational into and out of a feldspar porphyry. Pink, euhedral feldspar phenocrysts up to 1 cm in size are typical and are found in a fine grained greyish-pink matrix. Minor epidotization of fractures has occurred. Contains fragments of diabase up to 3 cm in size.			
				213' - 216': Diabase - slightly porphyritic			
216' -	257'		Rhyolite	Similar to upper rhyolite zone - laminations well developed by very irregularly dipping - abundant disseminated pyrite throughout this zone.			
	(41')			Numerous pink, felsic clots appear within the laminations, often cutting them off.			
				234': highly fractured - possible fault zone			
				241' - 242': Diabase			
				249': becoming more highly fractured with more uniform epidotization of fractures.			
				252' - 253.5': Diabase			
				253.5' - 257': rhyolite - same as before			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-6

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
257 -	308'		Diabase	dark green fine to medium grained, moderately to strongly serpentinized;			
	(51')			contains numerous rhyolite xenoliths some of which are partly absorbed -			
				xenoliths at 260' - 261' and 267' - 268. Porphyry, resembling the zone			
				207.5' to 213', occurs at 274.5' - 275.5'. A felsic zone is located at			
				283' - 283.5'.			
308' -	344'		Rhyolite	Mottled and banded, reddish-pink to pink and medium grey, highly			
	(36')			irregularly banded with some feldspar phenocrysts locally. From 308'			
				to 318' rock is extremely fractured.			
				311'- 313': zone of vertical faulting along ore axis, 1" displacement			
				of epidotized flow fractured zones and red hematized zones	318	flow	80° - 85° to C/A
				fractures and fault traces are strongly epidotized.		banding	
				330' - 338.5': Diabase			
				338.5' - 344': rhyolite - some vesicular zones - 341' - 342'			
				glass is altered to chlorite			
				344' - 356': Diabase - contains abundant rhyolite fragments at			
				352.5' - 353.2', 353.9' - 354', 354.5' - 354.8',			
				355' - 355.5'.			
356 -	393		Rhyolite	Non-porphyritic, deep reddish-grey, to reddish-pink, aphanitic zone 356'			
	(37)			to 358.5 is intensely tectonically brecciated - angular flow banded			
				fragments set in a reddish-pink and grey epidotized matrix.			
				358.5' - 367.5': brecciation limited to irregular narrow zones			
				361' - 363.5': Diabase			
				367.5' - 376': abundant epidotized fractures but little tectonic breccia			
				is present.			
				376' - 384.5': tectonic breccia zone - strongly epidotized			
				384.5' - 388': reddish grey, fractured.			
				388' - 393': moderate amounts of tectonic breccia in irregular zones			
393' -	526		Rhyolite	Pinkish-grey to greyish-pink, becoming weakly porphyritic and less	403-412	flow	parellel to C/A
	(133)			brecciated - irregularly flow banded and at		banding	

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-6

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				420' becomes pinker and more coarsely laminated			
				416' - 418.5': pink felsic, porphyritic dyke with sharp contacts and chloritized amygdules cuts the core axis at 10°			
				428' - 431.5': Diabase - porphyritic - minor 1 cm euhedral, saussuritized feldspar phenocrysts.			
				431.5' - rhyolite is light pinkish grey and well to very well laminated	433'	flow banding	parallel to C/A
				440.2' - 440.5': intensely serpentinized zone - Diabase			
				443' - 450': Diabase			
				460' - 465': flow banding and fractures are faulted	458'	flow banding	5° to C/A.
				482': becoming reddish pink to orange with well developed light grey laminations - regular dips			
				491' - 492': 498.5' - 500.5': - orange alteration zones - possibly kaolinized - silicified and epidotized	470	flow banding	40° to C/A.
				500.5': zone becoming greyer but remains well laminated			
				520' - 525': Diabase	481'	"	40° to C/A
				525' - 526': rhyolite is dark greyish-pink, weakly porphyritic with 1 mm feldspar phenocrysts and well laminated.	519'	"	40° to C/A
526				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DR 1
SHEET 1 OF 3

PROPERTY Cobequid
LATITUDE 34+00S
LONGITUDE 52+00E
ELEVATION

BEARING—TRUE 180° AZ
DIP - 50°
FINAL DEPTH 472'
CORE SIZE BQ

DATE STARTED 1 October 1977
DATE COMPLETED 9 October 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: October 9, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	26		Overburden				ACID DIP TESTS
	Casing						100' 46°
							300' 47°
26 -	169.5		Rhyolite	medium to dark pink, aphanitic with some porphrytic zones as defined			472' 48°
	(143.5)		trachytic?	by 1-3 mm. altered feldspar phenocrysts. Flow is massive with only			
				vague local banding (e.g. 98.5' - 106'). Spherulites occur locally			
				as singular blebs or as agglomerated growths up to 1.5 cm.			
				Brecciation occurs locally with fragments up to 1 cm. and is tectonic in	98.5-106	flow	50° to C/A
				origin. Angular fragments often occur in a moderately to strongly		banding	
				epidotized matrix. Mafic intrusives, probably diabasic in composition		in	
				are abundant - typically moderately serpentinized and weakly		breccia	
				epidotized except for strong alteration on fractures. Rhyolite is			
				slightly glassy due to weak silicification at contact with diabase often			
				is flooded with feldspar within 1'-2' of the volcanic contact.			
				Intrusives are non-magnetic at contact becoming moderately magnetic			Diabase Dykes show low
				in the core zone and frequently contain rhyolite xenoliths.			resistivity compared
							to rhyolite in E. log
				20' - 30' : chalky white bleached (kaolinitic) zone containing			Gamma log indicates
				10 - 80% dark blue mineral (hardness 5) - possibly			small increase in radio
				sodalite - blebs of mineral occur in volcanic in top			activity within
				of hole - mineral similarly occurs up to 15% from			rhyolite near diabase
				39.5 to 40.5'.			
				46' - 52.5 : diabase - dk green, fine to medium gr., fractured			
				irregularly, moderately magnetic, altered.			
				56' - 98.5': diabase - minor 5 cm volcanic xenolith containing			
				blue mineral at 59.5'			
				106' - 119.5': diabase - contains abundant xenoliths at 106.5 - 107'	106	Contact	60° to C/A.
				108', 109', 109.8' - 110.5', 114 - 114.8'			
				irregular carbonate stringers common.	119.5	Contact	10° - 15° to C/A
				119.5 - 126: Rhyolite mixture of massive flow with epidotized			
				tectonic breccia - some mafic stringers from overlying			
				dike			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF - 1

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				126 - 135: Diabase - more strongly magnetic			
26 -	169.5 (143.5)		Rhyolite	135 - 139: Rhylite: dark pink to yellowish pink, fractured, epidotized possibly spherulitic.			
				139 - 155: Diabase - magnetic throughout			
				155 - 162.5: Rhyolite - tectonically brecciated, epidotized			
				162.5-165.5: Diabase - feldspar flooded, highly altered, fractured.			
				165.5- 169.5: Rhyolite - highly altered - epidotized - some mafics - mineralization from dyke.			
169.5 -	215.5 (46')		Mafic Intrusive Diabase	Dark green, fine grained, moderately serpentinized and locally strongly epidotized, magnetic throughout but more highly magnetic in core. Some rhyolite fragments up to 1 cm in size near contact zones.			
215.5 -	271 (55.5)		Rhyolite trachytic?	Generally the same as upper unit - pink with minor greyish pink zones containing irregular zones of tectonically brecciated rock where angular fragments up to 5 mm. occur in a generally epidotized matrix. Flow breccia occurs over a 6" interval at 249' with rounded 1-2 cm. fragments: Spherulitic and porphyrtic flow occurs at 235 - 236'. Epidote - carbonate stringers are common.			
271 -	345 (74)		Rhyolite	Medium grey with some pink patches up to several inches, aphanitic, porphyrytic - 1 - 2 mm. pink phenocrysts. Some free quartz and white carbonate amygdules are found throughout zone. The rock is generally massive with little alteration mostly confined to epidotized fractures.			
345 -	369.5 (24.5)		Rhyolite trachytic?	pink with minor greyish pink zones, aphanitic but commonly porphyritic - upper part of zone 346 - 351 is strongly brecciated tectonically and epidotized in the matrix to the fragments.			
369.5 -	438 (68.5)		Rhyolite	light to med. grey, with minor pink zones, commonly porphyritic with 1-5 mm. phenocrysts. Epidotization is strong in fractures and moderate to weak in breccia zones.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-1

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
369.5 -	438		Rhyolite	minor pink zones which are generally brecciated occur at			
	(68.5)			387.5 - 390, 399 - 400, 408 - 410', 419 - 422'.	387	stringers	epidote-carbonate in fractures @ 60° to C/A.
				423 - 438: rock becomes lighter hued to pinkish grey and remains porphyritic - numerous white carbonate stringers, 2-10 mm in width carry blue mineral similar to upper zone in hole, breccia fragments up to 1 cm are angular phenocrysts occur: 1 - 3 mm.			
438 -	452						
	(14)		Mafic Intrusive Diabase	similar to intrusives in upper hole: fine grained, dark green moderately serpentinized, weakly epidotized, moderately magnetic, lower contact is sharp	452	contact	dip = 40° to C/A.
452 -	472		Rhyolite	light to medium pink becoming greyish pink towards base of hole (471-472), aphanitic, porphyritic (1-2 mm, white to pink phenocrysts) contains minor breccia zones similar to previous occurrences with little greyish rock - possible contact occurs at 471' with lower zone which is porphyritic and contains amygdules of qtz. - carbonate - epidote. Numerous epidote and carbonate stringers cut the core axis at 50-60°.	471	contact	dip: 60° to C/A
				463.5 - 471: Mafic Intrusive - Diabase - includes greyish-pink fragments of rhyolite at 469 - 470' which is silicified dyke is fine gr. magnetic, serpentinized.			
472'				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-2
SHEET 1 OF 3

PROPERTY COBEQUID
LATITUDE 37+00S
LONGITUDE 52+00E
ELEVATION

BEARING—TRUE 180° AZ
DIP 45°
FINAL DEPTH 461'
CORE SIZE BQ

DATE STARTED October 11, 1977
DATE COMPLETED October 17, 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: October 19, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0	- 14		Overburden	Bouldery sand			ACID DIP TESTS
	Casing						100' -44°
							300' -44°
14	- 461		Rhyolite	(Casing reamed to 26' - upper 12' highly broken, weathered rhyolite).			461' -44°
	(447)		trachytic?	Brick red to orange, at times pinkish over short intervals, aphanitic			
				with minor quartz eyes up to 5 mm. and becoming porphrytic in zone 371			
				to base of hole. Phenocrysts up to 2 mm. occur and are probably			
				feldspar. The rock is typically highly fractured and locally may			
				approach a mylonite (eg. in zone 137-142). Alteration consists of			
				widespread silicification and local epidotization on fractures and	54-76		epidotized and altered
				in zones near diabase intrusives. Epidote also occurs in areas of strong			zone similar to 427'
				brecciation as a matrix to the fragments. No flow banding is apparent			-434'in DF-1
				in the rhyolite. The rock is intruded by many diabase dykes ranging	92-131		orange altered zone
				in size from 6" to 30'. They are typically dark to very dark green,			similar to 452-464'
				fine grained and strongly altered - principally consisting of ser-			in DF-1 however base
				pentine. Numerous quartz-carbonate veinlets are common in several of			of zone in DF=1 at 464
				these dykes. Epidote may be present in some fractures and the diabase			is cut by diabase and
				is weakly to moderately magnetic. No magnetite emanations appear to			units total thickness
				have mineralized the rhyolite.			unknown
				14' - 44.5': Diabase- possibly equivalent of lower diabase in DF-1	(463.5-471)		
				69.5' - 71': Diabase			
				116 - 127.5: Orange altered zone-possibly kaolinized, contains up to 1% sodalite as 1-2 mm blebs and as longer fillings along fractures.			
				121'-123': 1-2" intrusive running sub-parallel to core axis -possibly diabasic.			
				137- 142': abundant faulting and fracturing - strong epidotization in matrix to fine fragments - mylonitic			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-2

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
14	- 461		Rhyolite	continued..			
	(447)						
				143' - 145': Diabase			
				146.5': 1" diabase - serpentine seam			
				147.5'-148: diabase - strongly serpentinized			
				149.5'-172': Diabase - fractured -silicified, serpentinized and epidotized along fractures.			
				155-155.5: rhyolite xenolith			
				190.5- 191: Diabase			
				194-195': Diabase			
				195'-204': highly fractured and epidotized rhyolite			
				226'-231': Very fractured and ground core - 20% recovery -probably rhyolite			
				236'-240': ground core: 35% recovery - rhyolite			
				240'-245': ground core: probably Diabase - 40% recovery			
				247'-250': Diabase- includes 248'-249' rhyolite xenolith -silicified, highly fractured			
				262'-270': Diabase - contains numerous rhyolite xenoliths -zone is possibly a swarm of many smaller dykes rhyolite occurs 263'-264.5' 267'-268' 268.5-269'			
				271'-272': several 1" diabase seams occur at 30° to the core axis			
				273.5'-278.5': Diabase			
				289'-290': Diabase			
				294'-296': Diabase			
				320'-322': orange altered zone: epidotized, possibly kaolinized.	353'	contact	diabase 20° to C/A
				337.3'-353': Diabase- abundant xenoliths up to 1' of rhyolite			
				367'-368': narrow serpentinized seam			
				371'-415.5': speckled light grey and pink, porphyritic rhyolite contains rhyolitic fragments locally.			
				400-408: mafic zone with numerous rhyolite fragments - strongly serpentinized.			
				415-421.5': non-porphyritic rhyolite.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-2

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
14	- 461		Rhyolite	continued...			
	(447)						
				427-445.5'- Diabase			
				445.5-456 porphyritic rhyolite grading into massive rhyolite			
				456-461: Diabase			
461				END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-3
SHEET 1 OF 3

PROPERTY COBEQUID
LATITUDE 40+00S - tie line
LONGITUDE 52+00E
ELEVATION

BEARING—TRUE 180° Az.
DIP 45°
FINAL DEPTH 462'
CORE SIZE BQ

DATE STARTED October 20, 1977
DATE COMPLETED October 25, 1977
DRILLED BY Longyear
LOGGED BY A. Workman

DATE: October 27, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0	- 20		Overburden	Pink rhyolite boulders abundant in sand.			ACID DIP TESTS
							100' -46°
20	- 157.5		Diabase	Dark green, fine to medium grained, highly fractured and altered. Alter-			300' -44°
	(137.5)			ation consists of moderate to strong serpentinization of the rock and			462' -45°
				strong epidote development along fractures (eg. 36-42, 47-50, 91-93,			
				128-129, 141-144). Numerous rhyolite xenoliths occur. They are			
				generally silicified and weakly hematized and, may often be intensely			
				fractured. At times they are partially absorbed through remelting.			
				They occur at:			
				58-62' - dark brick red, silicified, vesicular and spherulitic - glass			
				altered to chlorite and epidote.			
				66-67.5 - partly absorbed by diabase.			
				147-152 - highly fractured, epidotized, hematized.			
				155-156.5 - brick red, fractured, epidotized, hematized			
				157-157.3 - as above.			
				The diabase is weakly to moderately magnetic becoming strong locally.			
157.5'	- 345.5		Rhyolite	Brick red with minor grey red intervals, aphanitic becoming porphrytic			
	(188)			locally with 1-2 mm. quartz and feldspar phenocrysts, tectonically			
				brecciated locally with fragments up to 2 cm. in an aphanitic, epidotized			
				matrix. The breccia is silicified as are most highly fractured zones.			
				The fractures are moderately to strongly epidotized. Locally fracturing			
				may become mylonitic (eg. 171-173). Brick red zones are commonly			
				hematized but degree is difficult to establish - probably weak to			
				moderate. The rhyolite is frequently intruded by diabase, commonly dark			
				green, fine to medium grained, serpentinized and epidotized similar			
				to the diabase in the upper hole (20-157.5). Diabase occurs at 159-160,			
				161.6-162, 168-168.5, 173-179.			
				179-226 - rhyolite is extremely fractured and intruded by many thin			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-3

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				diabasic seams - rock is dark greenish-red and is a mixture diabase and silicified, possibly re-melted rhyolite. The zone is frequently weakly magnetic and borders a diabase dyke on the upper and lower contacts. The diabase is found at 199.5-207.			
				199.5-207 - diabase			
				226-244 - brick red, highly fractured, almost mylonitic locally, moderately epidotized matrix between fragments. Fractures are hematized.			
				244-255.5 - diabase - rhyolite xenolith - (bleached and fractured) from 244.5-245.5.			
				255.5-264 - rhyolite-brick red but very little epidotization, numerous mafic stringers along fractures weakly magnetic - some kaolinization of rhyolite at contacts.			
				264-269.5 - diabase - remobilized in part as indicated by tectonic breccia in zones dipping at 30° to the core axis - eg. 288'.	269.5	contact	30° to c/a
				269.5-276 - brick red rhyolite			
				276-277 - diabase			
				281 - becoming porphrytic - 1-2 mm. quartz and feldspar phenocrysts - zone is brick red, brecciated, hematized and becomes orange-pink 300'-303' - possibly weakly kaolinized.			
				319' - pink colour diminishes and rock becomes greyer but remains porphrytic - 1 mm. phenocrysts (eg. 321-324)			
				322-333.5' - numerous diabasic intrusives - rhyolite as a result is dark greenish and silicified.			
				333.5-341 - brick red, aphanitic, highly fractured, epidotized, weakly porphrytic.			
				341-345.5 - diabase - intensely fractured and brecciated epidotized and serpentinized.			
345.5	- 462 (116.5)		Intrusive Porphyry	Brick red and dark grey mottled, aphanitic to fine grained highly fractured, silicified and epidotized. Porphrytic with 1-2 mm. pink feldspar phenocrysts. Possibly quartz phenocrysts present. May be locally kaolinized. Contains numerous diabasic fragments as well as some rhyolite fragments. Fragments are up to 2 cm. in size and are generally hazy but become more sharply defined from 383 to the base of the hole. From 445.5' to the base, the rock becomes greyer and less mottled.			
				The zone is intruded by numerous diabase dykes similar to those in the upper hole. They occur at:			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-3

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				377.5-383.5 - diabase - medium gr., good diabasic texture.			
				367-368 - diabase			
				419-430 - diabase	436.5'	contact	45° to c/a
				436.5-445.5 - diabase			
				462' END OF HOLE			

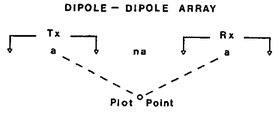
APPENDIX III

Induced Polarization Pseudo-Sections

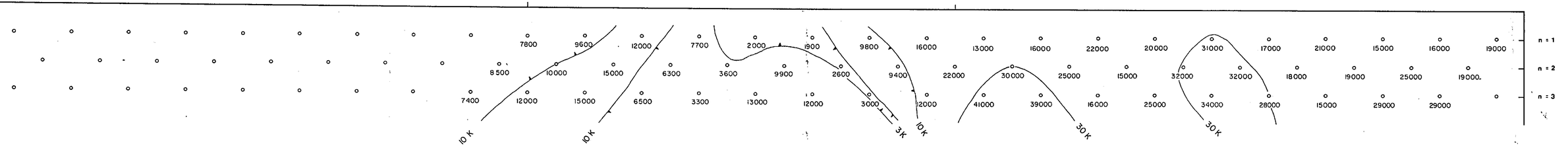
Line 0+00W to line 16+00W

Line 44+00E to line 60+00W

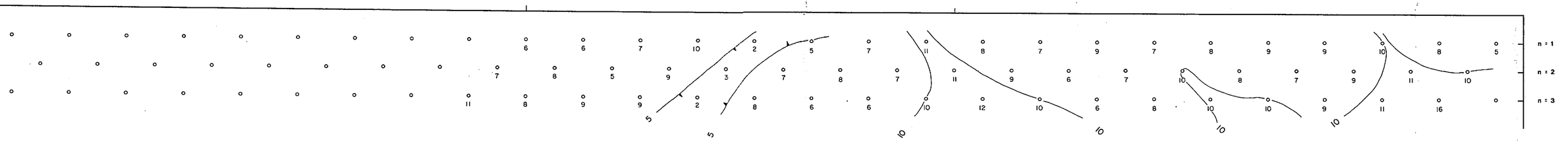
DIPOLE – DIPOLE ARRAY



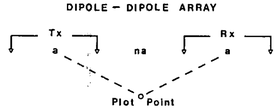
PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

PROJ.: COBEQUID III.

DATE : AUGUST 1977

LINE : 0 + 00W

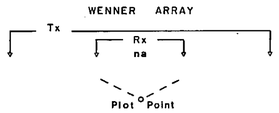
"a" : 121.92 m
400'

30+00 N

BL 0+00

40+00 S

WENNER ARRAY



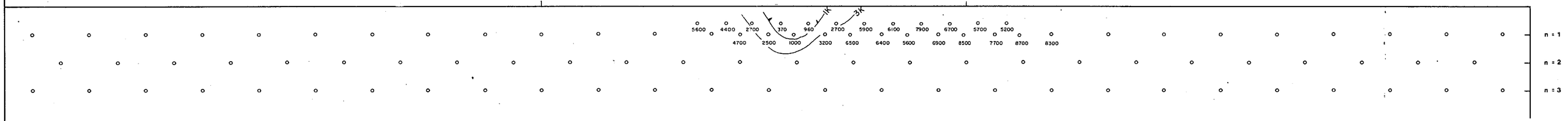
PROJ.: COBEQUID III.

DATE : AUGUST 1977

LINE : 0+00

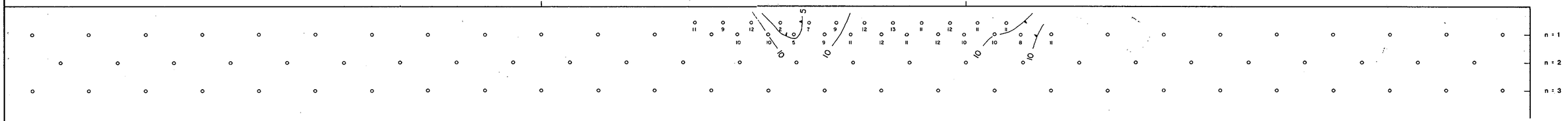
"a" : 61.0 m
121.92 m
200'/400'

PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



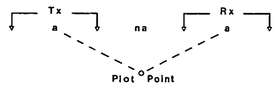
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

30+00 N

BL 0+00

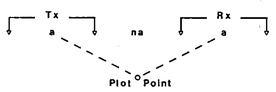
40+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

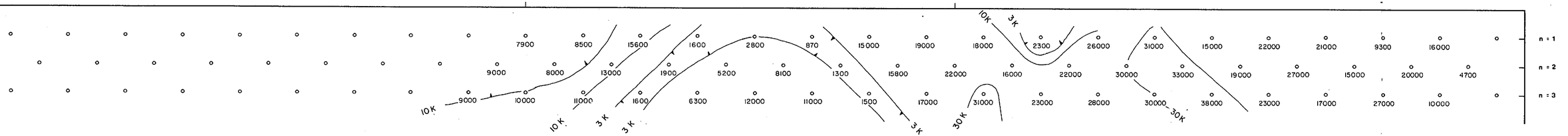
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

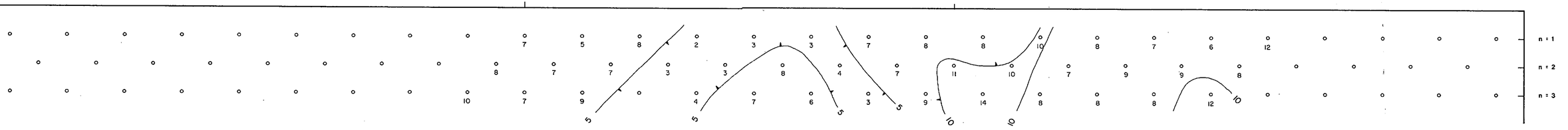
PROJ.: COBEQUID III.
DATE : AUGUST 1977

LINE : 4+00 W
"a" : 121.92 m
400'



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

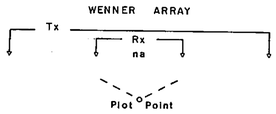


30+00 N

BL 0+00

40+00 S

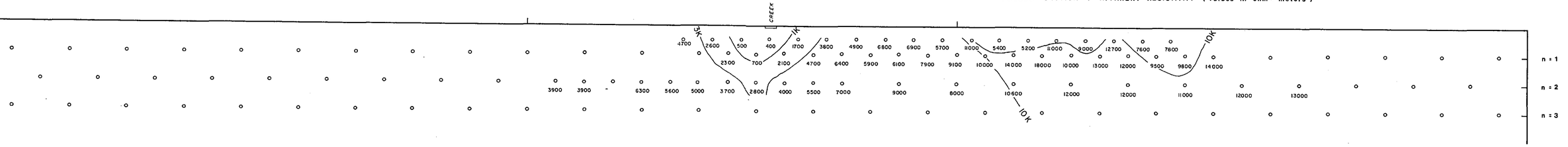
WENNER ARRAY



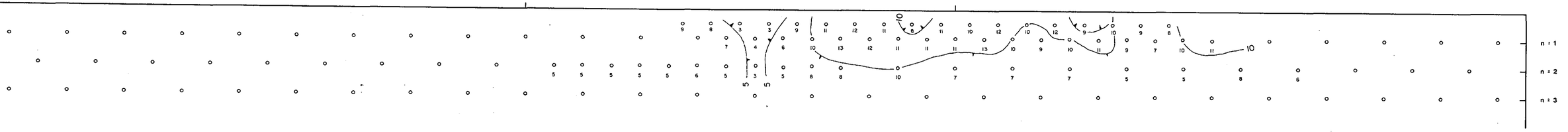
PROJ.: COBEQUID III.
DATE : AUGUST 1977

LINE : 4+00 W
"a" : 61.0 m
121.92 m
200'/400'

PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

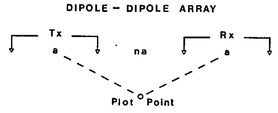


30+00 N

BL 0+00

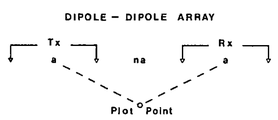
40+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

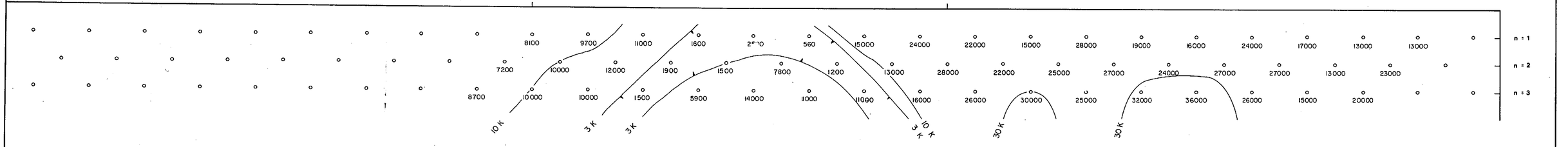
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

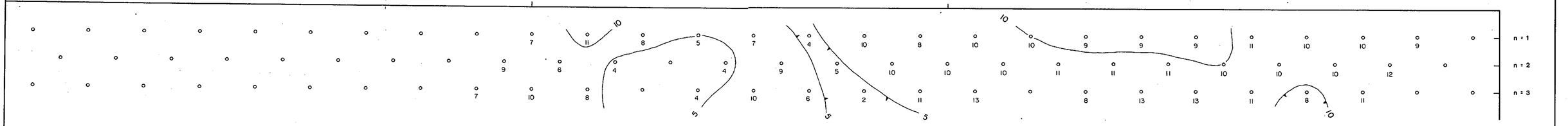
PROJ.: COBEQUID III.
DATE : AUGUST 1977

LINE : 8+00 W
"a" : 121.92 m
400'



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

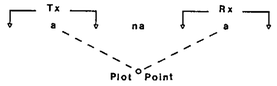


30+00 N

BL 0+00

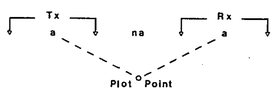
40+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

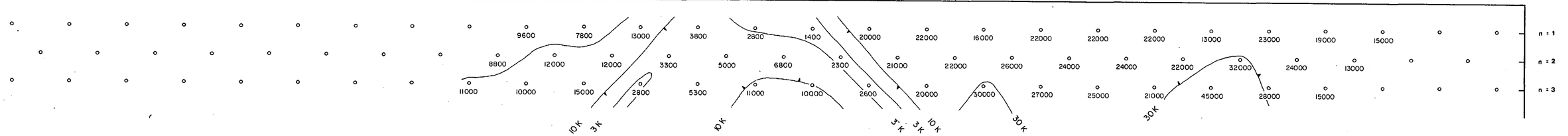
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

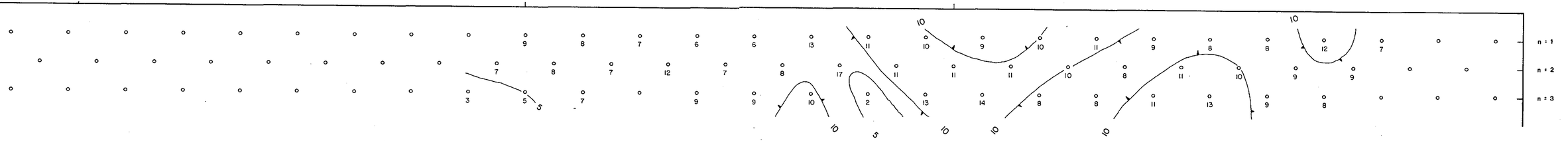
PROJ.: COBEQUID III.
DATE : AUGUST 1977

LINE : 12+00 W
"a" : 121.92m
400'



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

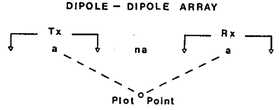


30+00 N

BL 0+00

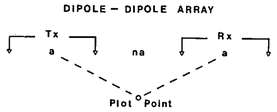
40+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

DIPOLE – DIPOLE ARRAY



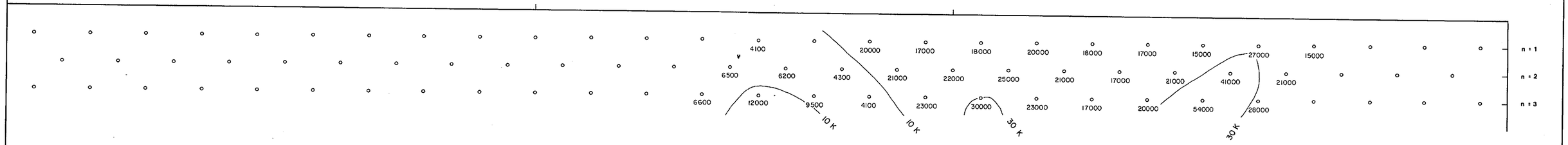
PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PROJ.: COBEQUID III.

DATE : AUGUST 1977

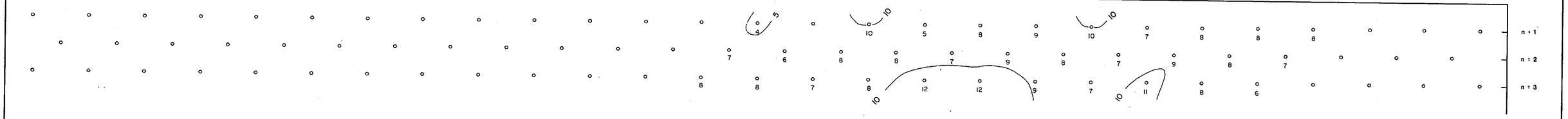
LINE : 16+00 W

"a" : 121.92m
400'



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

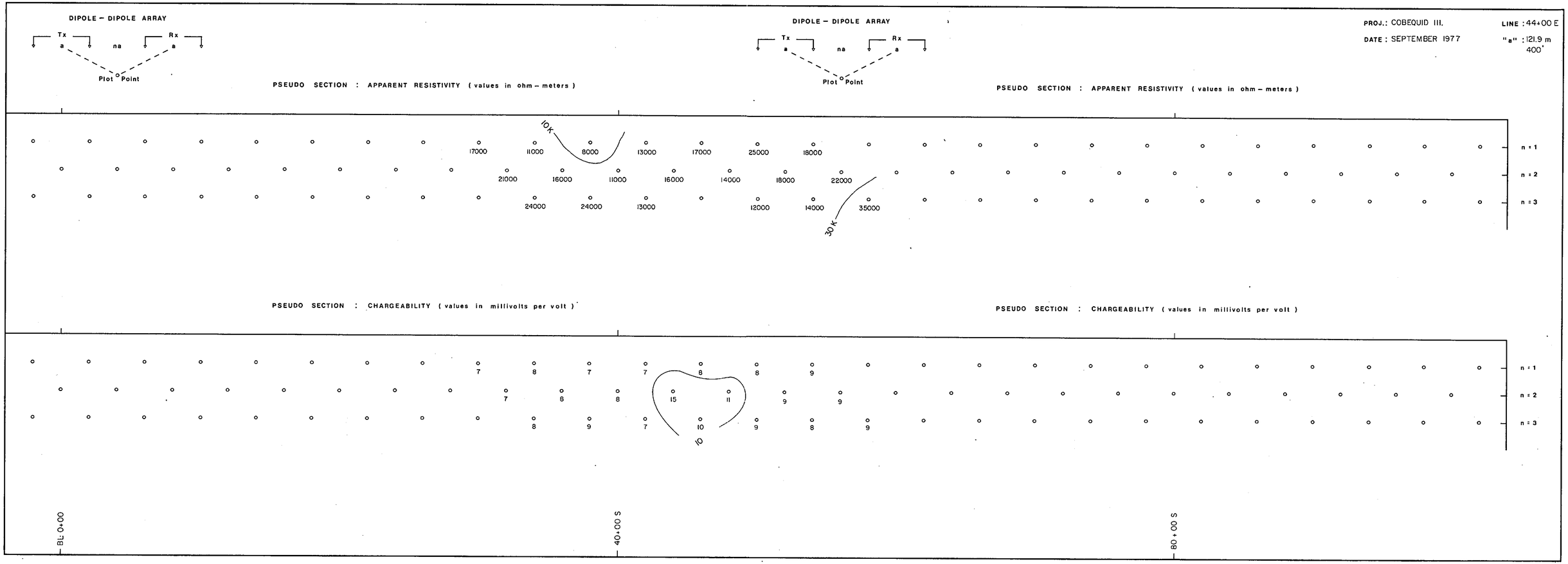
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



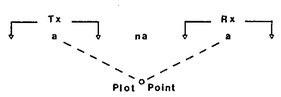
30+00 N

BL 0+00

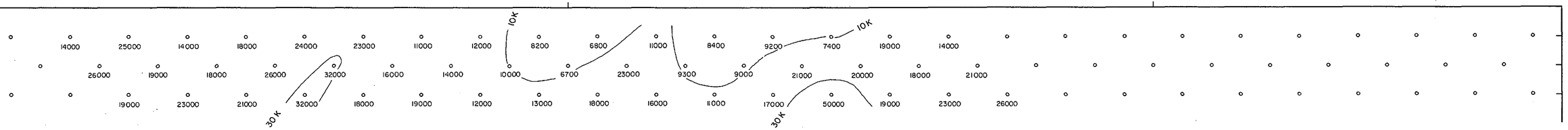
40+00 S


DIPOLE – DIPOLE ARRAY
Tx
a
na
Rx
a
Plot Point
PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)
DIPOLE – DIPOLE ARRAY
Tx
a
na
Rx
a
Plot Point
PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)
PROJ.: COBEQUID III.
DATE : SEPTEMBER 1977
LINE : 44+00 E
"a" : 121.9 m
400'
10K
17000
11000
8000
13000
17000
25000
18000
21000
16000
11000
16000
14000
18000
22000
24000
24000
13000
12000
14000
35000
30K
n = 1
n = 2
n = 3
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)
7
8
7
7
8
8
9
7
8
8
15
11
9
9
8
9
7
10
9
8
9
10
n = 1
n = 2
n = 3
BL: 0+00
40+00 S
80+00 S

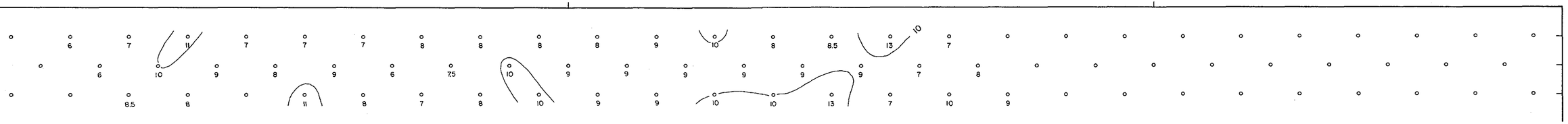
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



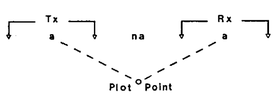
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



40+00 S

80+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

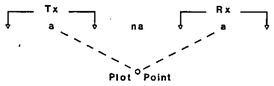
PROJ.: COBEQUID III.

DATE : AUGUST 1977

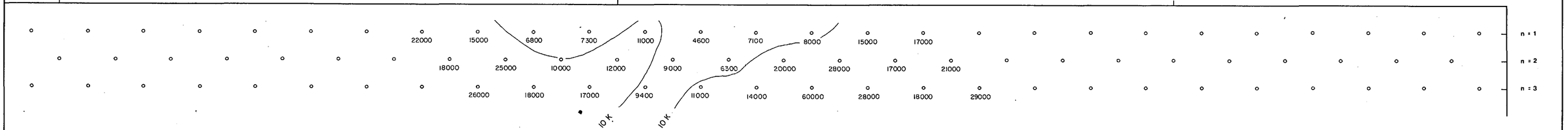
LINE : 48+00 E

"a" : 121.92 m
400'

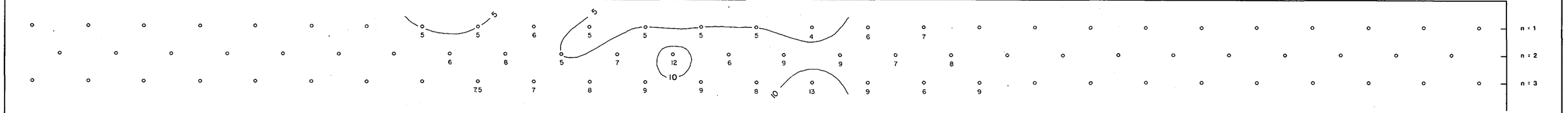
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

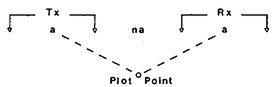


B.L. 0+00

40+00 S

80+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

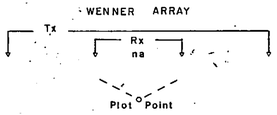
PROJ.: COBEQUID III.

DATE : SEPTEMBER 1977

LINE : 52+00E

"a" : 121.9 m
400'

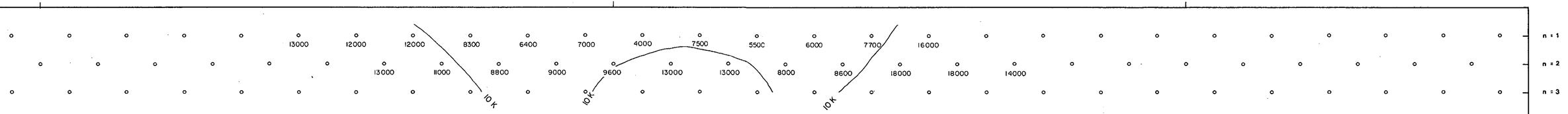
WENNER ARRAY



PROJ.: COBEQUID III.
DATE : SEPTEMBER 1977

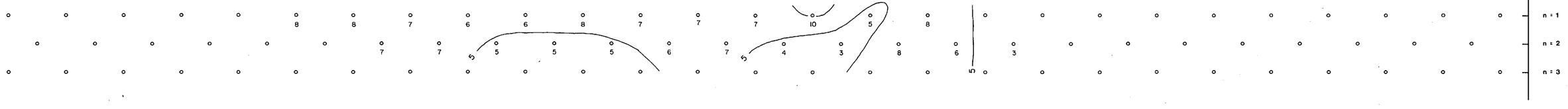
LINE : 52+00 E
"a" : 121.92 m
400'

PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



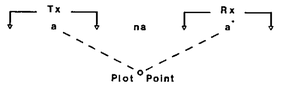
PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

BL 0+00

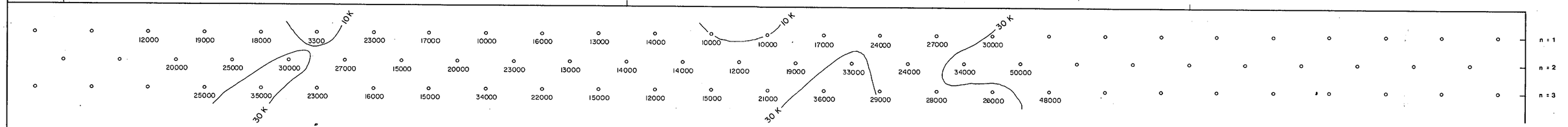
40+00 S

80+00 S

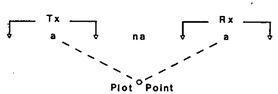
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

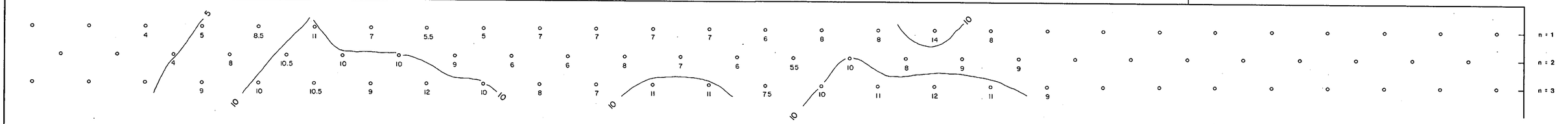


DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

BL 0+00

40+00 S

80+00 S

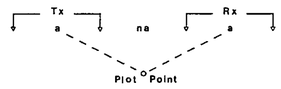
PROJ.: COBEQUID III.

DATE : AUGUST 1977

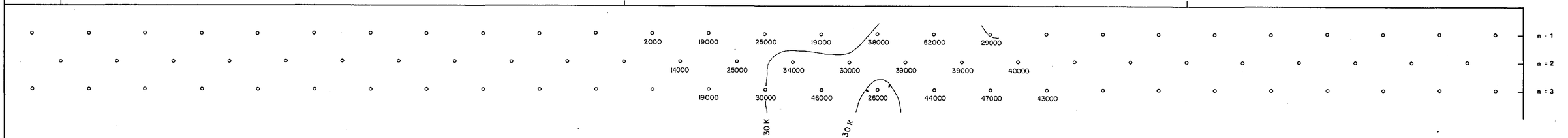
LINE : 56+00 E

"a" : 121.92 m
400'

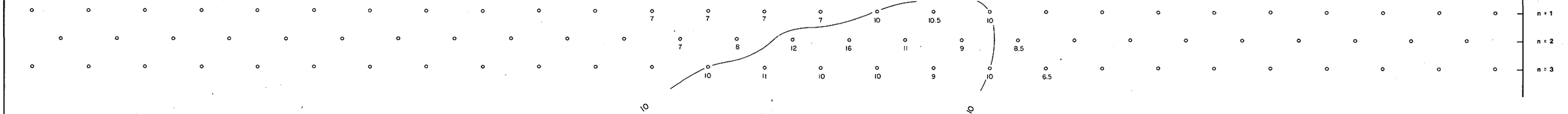
DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)



PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

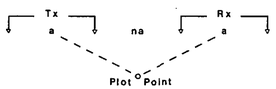


BL 0+00

40+00 S

80+00 S

DIPOLE – DIPOLE ARRAY



PSEUDO SECTION : APPARENT RESISTIVITY (values in ohm – meters)

PSEUDO SECTION : CHARGEABILITY (values in millivolts per volt)

PROJ.: COBEQUID III.

DATE : AUGUST 1977

LINE : 60+00 E

"a" : 121.9 m
400'

APPENDIX IV

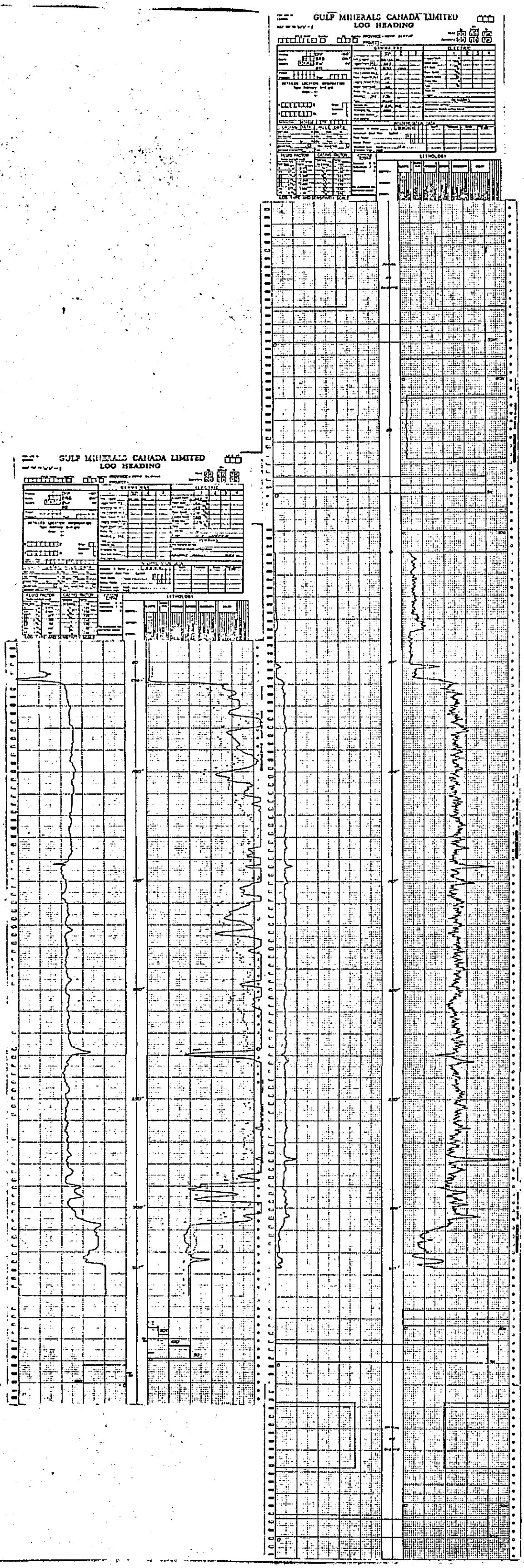
Downhole Logs

(a) WV 1, 3

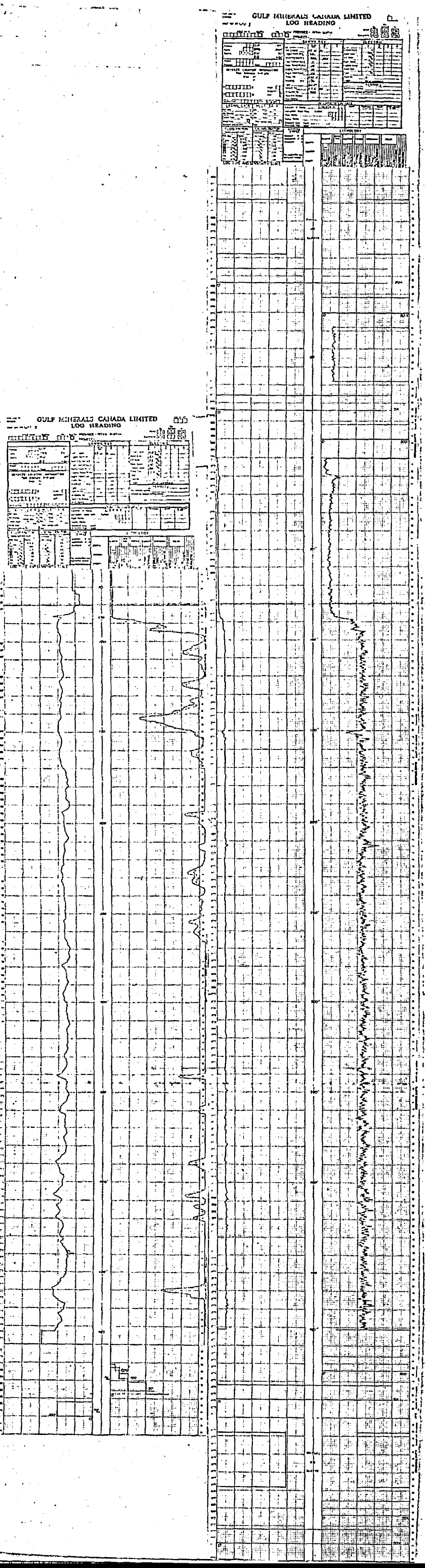
(b) JZ 1 - 6

(c) DF 1 - 3

GULF MINERALS CANADA LIMITED
LOG HEADING



GULF MINERALS CANADA LIMITED
LOG HEADING



GULF MINERALS CANADA LIMITED
LOG HEADING

HOLE NO.	JZ-1
PROJECT	Cabequid
PROVINCE	Nova Scotia
Bearing	35.0
Dip	5.0
Casing depth	5.0
Total depth	1.0
Surface elev.	1.0
Coordinates	1.0

GAMMA FACTORS

Detector & factor	0.0
Instrument dead time	0.0
Calibration standard (cps)	0.0
Pulse factor	0.0
Casing factor	0.0

REMARKS correlated by

GAMMA LOG (Total Count)

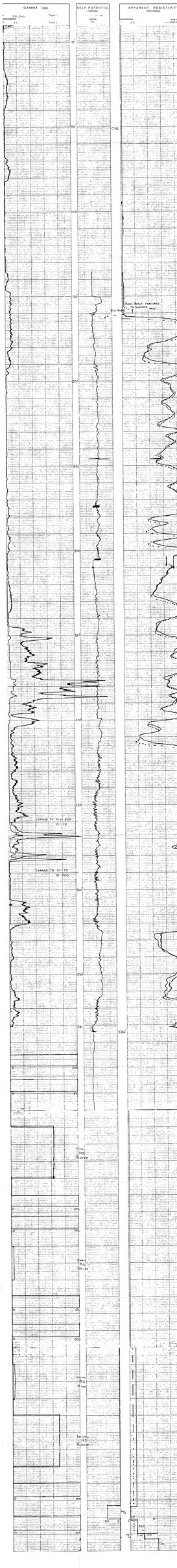
Date	01	12	85	Mo	12	01	12
Logged depth						0	0
Logging speed						10	0
Gamma sum						30	0
Time constant						1	0
Probe No.	547						
Detector No.	1-0-4-2-2						
Track 1 RANGE	40						
Track 2 RANGE	40						

Track 1			Track 2		
0.0	0	0	0.0	0	0
10	1	0	10	1	0
20	1	0	20	1	0
30	1	0	30	1	0
40	1	0	40	1	0

ELECTRIC LOG

Date	01	12	85	Mo	12	01	12	01	12
Logged depth						0	0	0	0
Logging speed						0	0	0	0
Probe size (dia)						1	0		
Borehole medium						0	0		
Pole between pairs						1	0		
Normal spacings						16	0	64	

Truck No. 2 WATER TRUCKS
Logged By Mark T. Wilson
Logger's Comments



HOLE NO. JZ-2	
PROJECT Cobequid	
PROVINCE Nova Scotia	
Bearing	N/A
Dip	90
Casing depth	1 7 m
Total depth	4 50 m
Surface elev	0 55
Coordinates	7 0.0 m

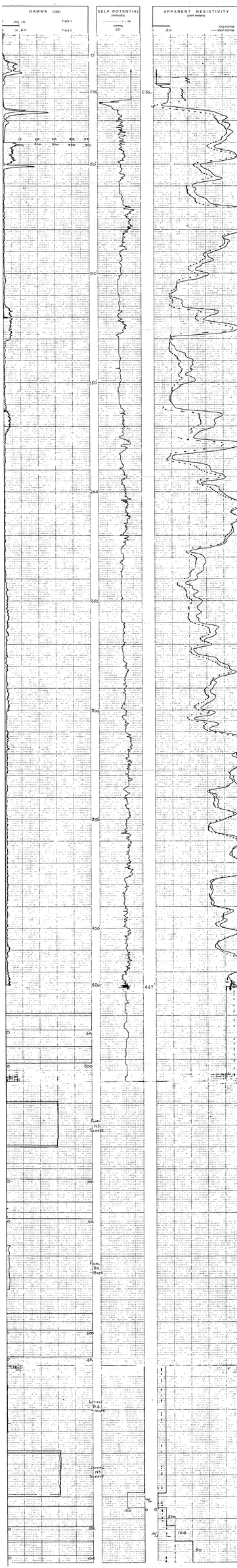
GAMMA FACTORS	Track 1	Track 2
Detector K factor	0000 / 150	0000 / 152
Instrument lead time	16 μ sec	16 μ sec
Calibration standard (cps)	6200	6300
Fluid factor		1 050
Casing factor		1 480

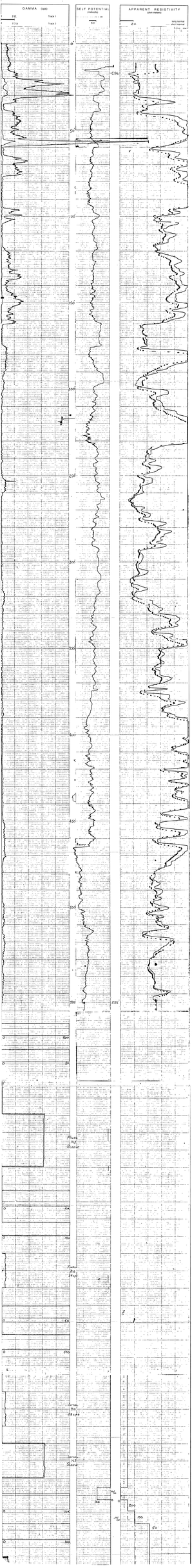
GAMMA LOG (Total Count)	
Date	Dy 19 Mo 5 Ye 17
Logged depth	4 2 m
Logging speed	10 m/min
Crystal size	3/4 x 2 in
Time constant	1 sec
Probe No.	547
Detector No.	12-B-232
Track 1 RMM	207 * 125
Track 2 RMM	207 * 131

ELECTRIC LOG	
Date	Dy 20 Mo 5 Ye 17
Logged depth	4 27 m
Logging speed	25 m/min
Probe size (dia)	1 1/4 in
Borehole medium	Mud & Water
Res. between grids	900 ±
Normal spacings	16" / 32"

Truck No	Eastern Projects
Logged By	Mark T. Weber
Logger's Comments	
	Used CuSO4 pots for grid
	note: S.P. seems to be reversed
	why?

REMARKS correlated by




PROJECT Contract T2-3
PROVINCE Nova Scotia
GAMMA FACTORS
REMARKS
GAMMA 0280
SELF POTENTIAL
APPARENT RESISTIVITY
Track 1
Track 2
Flood Clay
Sand & Gravel
Stone
Sand
Clay
Sand & Gravel
Stone
Sand
Clay
Sand & Gravel
Stone
Sand

HOLE NO. 27-4
PROJECT Caernarvon
PROVINCE Nova Scotia
Bearing
Dip
Casing depth N/A ft. Bot. 75 ft.
Hole depth 1000 ft.
Surface elev. ft.
Coordinates

GAMMA FACTORS
Instrument
Instrument Sensitivity
Calibration standard (cps)
Pond factor
Checked by

GAMMA LOG (Total Count)
Date 75 12 11 Mn 1800 hr.
Logged depth 1000 ft.
Logging speed 20 ft/min
Time constant 1.0 sec.
Time checked min
Probe No. 257
Track 1 Base 0 cps Full 2000 cps
Track 2 Base 0 cps Full 4000 cps

Track 1 Track 2
Sensitivity
Calibrator
Check

ELECTRIC LOG
Date 75 12 11 Mn 1800 hr.
Logged depth 1000 ft.
Logging speed 30 ft/min
Time constant 1.0 sec.
Borehole medium Mud & water
Rec. between grids 4 ft.
Normal spacing 16 & 64 ft.

Truck No. Division Property
Logged by R. Evans T. Wilson
Logger's Comments

REMARKS corrected by

GAMMA (cps)
Track 1 Track 2

SELF POTENTIAL (millivolts) +80 -120

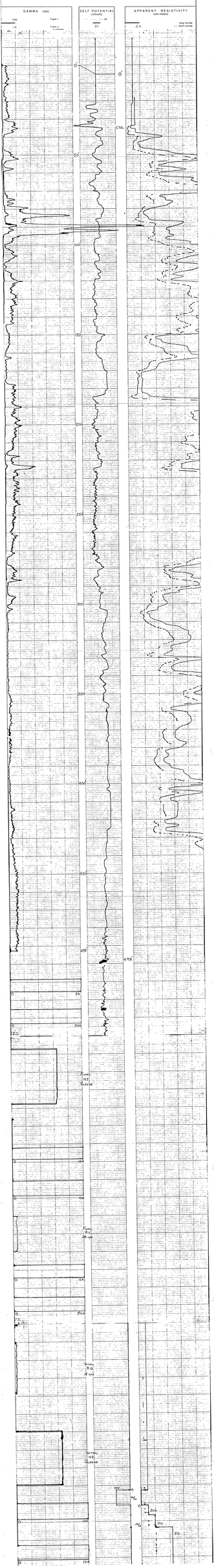
APPARENT RESISTIVITY (ohm-meters)
2 ft. 0 ohm-meters
long normal
short normal

0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000

Pb
Pb
Pb

HOLE NO. JZ-5	**GAMMA LOG** (Total Count)		**ELECTRIC LOG**
PROJECT Cobequid II	Date: 04 21 Mo 06 Yr 1979		Date: 04 21 Mo 06 Yr 1979
PROVINCE Nova Scotia	Logged depth: 0 to 1		Logged depth: 0 to 1
Bearing:	Logging speed: 10 m/min		Logging speed: 30 m/min
Dip:	Crystal size: 3/4 in x 1 in		Probe size (dia): 1 3/4 in
Casing depth:	Time constant: 1 sec		Electrode medium: Mud & water
Total depth:	Probe No: 547		Res. between grids: 1 ft.
Surface elev:	Depth to Bdr: 11.8-13.3		Normal spacings: 16" & 32"
Coordinates:	Track 1 Mdl: 20.7 × 1.6		
	Track 2 Mdl: 20.7 × 1.31		Truck No: Eastern Products
GAMMA FACTORS	Track 1	Track 2	Logged By: Mark Y. Wilmer
Detector & factor:	0000 / 50	0000 / 50	Logger's Comments:
Instrument dead time:	16 μ sec	16 μ sec	
Calibration standard (cps):	6800	6500	
Fluid factor:		1.0 & 0	
Casing factor:		4.8 ft.	

REMARKS correlated by



HOLE NO. 92-6
PROJECT Cascade
PROVINCE Nova Scotia
Bearing
Dip
Casing depth 5 1/2"@ 1.80 m
Total depth 1.80 m
Surface elev.
Coordinates

GAMMA FACTORS
Detector K factor
Instrument dead time
Cal/radium standard (cps)
Fluid factor
Casing factor

REMARKS correlated by

GAMMA LOG (Total Count)
Date Oct 31 | 90 | 20 C | 21
Logged depth 1.80 m
Logging speed 10 m/min
Crystal size 2 1/4 in x 1 in
Time constant sec
Probe No. 041
Track 1 RNG 0-32
Track 1 RNG 0-5
Track 2 RNG 0-1

Track 1 | Track 2
0 1 2 3 4 5 | 0 1 2 3 4 5
Instrument No. 1 | Probe No. 041
Calibrator No. 1 | Probe No. 041
0.550 | 0.800
1 0.0 0
1 0.0 0

ELECTRIC LOG
Date Oct 31 | 90 | 20 C | 21
Logged depth 1.80 m
Logging speed 2.5 m/min
Probe size (dia) 76 mm
Borehole medium Mud water
Res. between grids 100 Ω
Normal spacings for 1.83 m

Truck No. Eastern Geophysics
Logged By Shaun D'Sousa
Logger's Comments

GAMMA (cps)
Track 1
Track 2
0
50
100
150
200
250
300
350
400
450
500
522
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500

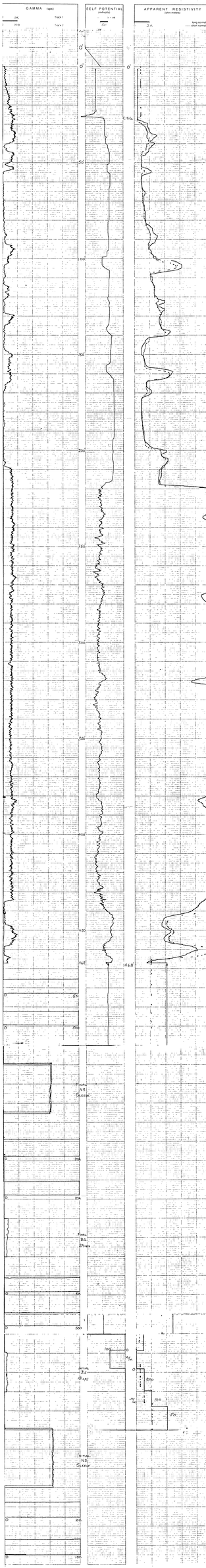
Gulf Minerals Canada Limited

HOLE NO. DF-1	**GAMMA LOG** (Total Count)	**ELECTRIC LOG**	
PROJECT Cobequim	Date: Dy 0.9 Mo 0.6 Yr 7.7	Date: Dy 0.9 Mo 0.6 Yr 7.7	
PROVINCE Nova Scotia	Logged depth: 4.67 m	Logged depth: 4.67 m	
Bearing: 180°	Logging speed: 10 m/min	Logging speed: 30 m/min	
Dip: 50°	Crystal size: 3/4 in. x 1 in.	Probe size (dia): 1 in.	
Casing depth: 2.6 m	Time constant: 1 sec	Borehole medium: Mud & water	
Total depth: 4.72 m	Probe No.: 547	Res. between pads: 200	
Surface elev.: 1 m	Detector No.: 11-8-332	Normal spacings: 16' & 32'	
Coordinates: 24 00.5	Track 1 PAM: 20.7 #/sec		
52 00.5	Track 2 PAM: 20.7 #/sec		

GAMMA FACTORS	Track 1	Track 2
Detector K factor	0.0 0.0 / 1.0 0	0.0 0.0 / 1.0 2
Instrument dead time	16.1 μsec	16.1 μsec
Calibration standard (cps)	6450	6380
Fluid factor		1.0 0
Casing factor		1.0 0

Truck No.: Cochran Trucking
Logged By: Mark E. Webber
Logger's Comments: Cr log Surface correlate with Gulf Mining - off by 10'

REMARKS correlated by



Gulf Minerals Canada Limited

HOLE NO. DF-2
PROJECT Caberoua
PROVINCE Nova Scotia
Bearing 180
Dip -90
Casing depth N.W. 31'
Collar elev. 61'
Surface elev.
Coordinates 37 000 N
22 000 E

GAMMA FACTORS
Detector K factor
Instrument dead time
Calibration standard (cps)
Fluid factor
Casing factor

GAMMA LOG (Total Count)
Date Oct 13 1976
Logged depth 1000' 305m
Logging speed 30' 9.1m
Crystal size 3/4" x 1 3/4" long
Time constant 1
Probe No. 647
Track 1 R/MM 207 0-235
Track 2 R/MM 207 0-135

Track 1 Track 2
0-1 0-2
0-10 0-20
0-250 0-400
1.050
1.300

ELECTRIC LOG
Date Oct 13 1976
Logged depth 1000' 305m
Logging speed 30' 9.1m
Probe size (dia) 1 7/8"
Borehole medium Water & Mud
Res. between grids 30'
Normal spacings 16" & 64"

Truck No. Enviro Probes
Logged By Mark T. Wynn
Logger's Comments
Eng. and Data Tech.

REMARKS correlated by

GAMMA (cps)
1K
2K
Track 1
Track 2

SELF POTENTIAL
(millivolts)
-ve
0.0

APPARENT RESISTIVITY
(ohm-metres)
2K
long normal
short normal

0
50
100
150
200
250
300
350
400
450
500
5K
0
10K
0
15K
0
20K
0
25K
0
30K
0
35K
0
40K
0
45K
0
50K
0
55K
0
60K
0
65K
0
70K
0
75K
0
80K
0
85K
0
90K
0
95K
0
100K
0

Gulf Minerals Canada Limited

HOLE NO. DF-3
PROJECT Cabeouch III
PROVINCE Nova Scotia
Bearing
Dip
Casing depth NW 40'
Total depth
Surface elev.
Coordinates

GAMMA FACTORS
Detector #
Instrument dead time
Calibration standard (cps)
Fluid factor
Casing factor

REMARKS correlated by

GAMMA LOG (Total Count)
Date 9/24/80
Logged depth 458'
Driller's depth 10 Rods
Counter speed 4 1/4 in./min.
Time constant sec.
Probe No 647
Detector No 15-8-231
Track 1 RMM 20? #125
Track 2 RMM 20? 18?

Track 1 0 0 0 0 / 50 per sec
Track 2 0 0 0 0 / 5.2 per sec
Ratio 6400 / 1 / 1280

ELECTRIC LOG
Date 9/24/80
Logged depth 458'
Logging speed 30 ft/min
Mud resistivity
Borehole medium Mud & water
Res. between grids 20cm
Normal spacings 16 & 32'

Truck No Calgary Property
Logged By MARK T. LUBEK
Logger's Comments
Flag 5?' tree, 3/4in. counter set closer

GAMMA (cps)
1K
Track 1
Track 2

SELF POTENTIAL (millivolts)
20

APPARENT RESISTIVITY (ohm meters)
long normal
short normal
2K
0

0
50
100
150
200
250
300
350
400
450
458'
Casing
Sand
Sand
Sand

346

COBEQUID III

433047

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 3 of 6)

433047 Dup for Stall

COBEQUID III

433047

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 3 of 6)

ILLUSTRATIONS

		Page No.
Fig. 1	Principal Minerals Areas Map	1
Fig. 2	Location Map	2
Fig. 3	Stratigraphic Units	10
Fig. 4	D.D.H. Locations - WV 1, 3	76
Fig. 5	" " - JZ 1 - 6	77
Fig. 6	" " - DF 1 - 4	78
Table I	Land Status	7
Table II	Summary of drilling	74

PART 2

Appendix I Assays

(a) Well Waters

(b) Whole Rock Samples

(c) Soil Samples

(d) Drill Core

Appendix II Diamond Drill Hole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

Appendix III Induced Polarization Pseudo-Sections

Line 0+00W to line 16+00W

Line 44+00E to line 60+00W

Appendix IV Downhole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

MAPS ENCLOSED IN POCKETS

PART 3	
Plates D 24, D 25 - g E 24, E 25 - g	Geological Compilation 1 in = 1/4 mile
	Geological Surveys
Plates D 24, D 25 - f E 24, E 25 - f	Well Water and Whole Rock 1 in = 1/4 mile
	Soils
IIf	- Sample locations & numbers 1 in = 400 feet - A Horizon - C Horizon
	Ground Geophysics
PART 4	
Plates IIa, IIIa	EM 16 1 in = 400 feet
IIm, IIIm	Proton Magnetometer 1 in = 400 feet
IIp	Self Potential 1 in = 400 feet
	Airborne Geophysics
PART 5	
Plates D 24, D 25 - ma E 24, E 25 - ma	Magnetics 1 in = 1/4 mile
Plates D 24, D 25 - mc E 24, E 25 - mc	VLF EM (vertical) 1 in = 1/4 mile
Plates D 24, D 25 - md E 24, E 25 - md	VLF EM (horizontal) 1 in = 1/4 mile
Plates D 24, D 25 - mo E 24, E 25 - mo	EM 1 in = 1/4 mile
	Radiometric
PART 6	
Plates D 24, D 25 - mq E 24, E 25 - mq	U Contours 1 in = 1/4 mile
Plates D 24, D 25 - mp E 24, E 25 - mp	U/K ratios 1 in = 1/4 mile
Plates Ids	Section 7+00 West
IIds	Section 12+00 West
IIIds	Section 52+00 East

11/E - 12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1,230,000 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00"

N 16,625,000

44'

N 16,620,000

N 16,615,000 43'

N 16,615,000

42'

N 16,605,000

41'

N 16,600,000

40

N 16,595,000

39'

N 16,590,000

N 16,585,000

38'

45° 37' 30"

63° 37' 30" 37' 36' 35' 34' 33' 32' 31' 63° 30' 00"

Grant Brook

Wigmore Brook

Montrose Brook

Drennan Brook

Henderson Brook

Palmer West Brook

Ralston Brook

Swail Brook

Wallace River

Bigney Brook

Dewar Lake

Still Brook

Chisholm Brook

Flemming Brook

Gough Brook

Teed Brook

Douglas Meadow Brook

Black River

Black Brook

Giles Brook

East Brook

LOWER WENTWORTH

HENDERSON SETTLEMENT

WENTWORTH CENTRE

LOWER GREENVILLE

WENTWORTH

XIV

IVb

104

368

No Outcrop

Note : For legend and symbols see plates : E-24g, E-25g.

21 22 23 24 25 26 27 28 29

C D E F

45° 30'

64° 00' 63° 00'

KEY

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D-24g
NOV. 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT.

To accompany "Cobequid III Report" Nov. 1977

11/E-11WEST

63°30'00" 29' E 1,260,000 28' E 1,265,000 27' E 1,270,000 26' E 1,275,000 25' E 1,280,000 24' E 1,285,000 23' 63°22'30"

45°45'00" N 16,625,000 44' N 16,620,000 43' N 16,615,000 42' N 16,610,000 41' N 16,605,000 40' N 16,600,000 N 16,595,000 39' N 16,590,000 N 16,585,000 38' 45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

XIV

IVb

IVc

VIII

Dewar River

Dobson Creek

Gouzhore Brook

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall Brook

Lake Mattatall

Long Lake

Donaldson Mill Brook

McLeod Brook

Black Brook

Smith Brook

COUNTY / COUNTY

CUMBERLAND / COLCHESTER

6

246

No Outcrop

301 199 300 302 303 305 304 193 192 191 190 189 308 309 311 312 315 314 313 329 328 331 330 326 325 323 324 321 322 320 266 264 268 267 265 269 270 271 272 273 274 276 277 278 332 275 279 337 333 334 336 335 C-1072 C-1069 C-1071 C-1070 C1088 C1089 C1087 C1090 C1086 C1091

10° 16° 20° 26° 30° 40° 10 5° 8° 15° 35° 10d 10d,c 10f 10c 10a 10b 7Ph 7S

21 22 23 24 25 26 27 28 29

C D E F

64°00' 63°00' 45°30'

KEY

Note : For legend and symbols see plates : E-24g, E-25g

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D-25g
NOV. 1977	1 IN. = 1/4 MI.		NTS. 11E/11 PT.

To accompany "Cobequid III Report" Nov. 1977

63°37'30" E 1,225,000 37' E 1,230,000 36' 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63°30'00"

45°37'30" N 16,580,000 37 36 35 N 16,565,000 34 N 16,560,000 33 N 16,555,000 32 N 16,550,000 31 N 16,545,000 N 16,540,000 45°30'00"

XIV IVa IVb VII

WENTWORTH STATION

Caldwell Brook · Whetstone Brook · Swan Brook · Smith Brook · Brook · Higgins Brook · Wallace River · Little Long Lake · Lake Hart · Hart Lake · Barber Lake · FOLLY LAKE · Folly Lake · Carter Lake · Slack Lake · McElmon Brook · Rockland Brook · Village Brook · East Folly River · Folly River

SKI SLOPE

104

COUNTY / COUNTY

CUMBERLAND / COLCHESTER

Gravel Pit

LEGEND

MESOZOIC	XVIII	TRIASSIC	VII	Non-foliated Granite
PALAEOZOIC	XVII	PERMIAN	VI	Foliated Granite
		PENNSYLVANIAN		SILURIAN to DEVONIAN
	XVI	Pictou Group	V	Portapique Parrsboro Succession
	XV	Cumberland Group	IV	Earlton Sequence (a,b,c)
		Riversdale Group	PALAEOZOIC OR OLDER	SILURIAN or OLDER
	XIV	Boss Point Formation	III	Granite Gneiss - Bass River Complex
	XIII	Clairmont Formation	II	Bass River Complex
		MISSISSIPPIAN	I	Mt. Thom Complex
	XII	Middleborough Formation		
	XI	Windsor Group		
	X	Nuttby Sequence		
		DEVONIAN		
	IX	River John Group (Upper)		
	VIII	River John Group (Lower)		

LEGEND - LITHOLOGIC

11 Intrusives : (a) granite (b) diorite, diabase (c) gabbro, ultramafic

10 Sediments : (a) argillite, shale (b) quartzite (c) conglomerate (d) sandstone (e) siltstone (f) mudstone (g) limestone

9 Pyroclastics - Aglomerates (Mx) mafic fragments in mafic matrix (Fx) felsic fragments in felsic matrix (M) mixed

8 Felsic Volcanics : dacites - rhyolites

7 Mafic Volcanics : basalts - andesites (P) pillowed (T) tuffaceous (B) brecciated (Ph) porphyritic (S) sheared - deformed

Note : For symbols see plate : E-25g

21 22 23 24 25 26 27 28 29

C D E F

45°30' 64°00' 63°00'

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E-24g
NOV. 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT.

To accompany "Cobequid III Report" Nov. 1977.

II/E - IIWEST

63°30'00" — 45°37'30" — E 1,265,000 — E 1,280,000 — 24' — E 1,285,000 — 23' — 63°22'30"

N 16,580,000 — N 16,575,000 — N 16,570,000 — N 16,565,000 — N 16,560,000 — N 16,555,000 — N 16,550,000 — N 16,545,000 — N 16,540,000

37' — 36' — 35' — 34' — 33' — 32' — 31' — 45°30'00"

29' — 28' — 27' — 26' — 25' — 24' — 23'

XIV — IVb — IVc — VIII — VII — VI — II

CUMBERLAND COUNTY
COLCHESTER COUNTY

Swan Brook — Juniper Lake — Indian Lake — Big Snare Lake — Debert Lake — Byers Lake — Whirleywaugh Lake — Round Lake — Long Lake — Shatter Lake — Irvine Lake — Rocky Lake — Johnston Lake — Musquash Lake — Guyon Lake — Moose Lake — Cook Lake — Clark Lake — Chain Lakes — Frog Lake — Trout Lake — Little Snare Lake — Rory Pond — Totten Lake — Little Totten Lake — Pine Brook — Totten Brook — East Folly River — Wallace River — Folly Brook — Debert River — Shatter Brook — Cook Brook

No Outcrop

SYMBOLS

- Geological contact (definite, indefinite)
- Bedding (horizontal, vertical, inclined, overturned)
- Schistosity, Gneissosity, Foliation (vertical, inclined, dip unknown)
- Fault (definite, indefinite)
- Anticline, Syncline (with plunge)
- Outcrop, area of outcrop
- Diamond drill hole
- Lineation (trend and plunge)

Note: For legend see plate: E-24g

21 22 23 24 25 26 27 28 29

C
D
E
F

45°30'

64°00' — 63°00'

KEY

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E-25g
NOV. 1977	1 IN. = 1/4 MI.		N.T.S. 11E/11 PT.

To accompany "Cobequid III Report" Nov. 1977

11/E – 12EAST

63° 37' 30" E 225 000 37' 36' E 230,000 35' E 235 000 34' E 240 000 33 E 245 000 32 E 250 000 31 E 255 000 63° 30 00"

45° 45' 00"

N 16 625 000

44'

N 16 620,000

43'

N 16 615,000

42'

N 16 615 ,000

N 16 605 000

41'

N 16,600,000

40'

N 16 595 ,000

39'

N 16 590 000

N 16 585 ,000

38'

45° 37' 30"

63° 37' 30" 37' 36' 35' 34' 32' 31' 63° 30 00"

Grant Brook
Wigmore Brook
Montrose Brook
Brenner Brook
Henderson Brook
Palmer West Brook
Ralston Brook
Wallace Brook
Bigney Brook
Swail Brook
Giles Brook
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Gough Brook
Teed Brook
Douglas Meadow Brook
Black River
East Wallace
River

LOWER WENTWORTH
HENDERSON SETTLEMENT
LOWER GREENVILLE
WENTWORTH CENTRE
WENTWORTH

104 368 246

LEGEND

□ Well Water Location – Sample No., Value Shown – U ppb x 10 < 5 not posted

○ Whole Rock Location – Sample No., Value Shown – Zr, U, Th, Pb, Zn, Cu in ppm

KEY

21 22 23 24 25 26 27 28 29
C D E F
45° 30'
64° 00' 63° 00'

A 433047

Gulf Minerals Canada Limited

COBEQUID PROJECT
A 433047

GEOCHEMICAL SURVEY
(SAMPLE LOCATION AND VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 24-f
NOV 1977	1IN = 1/4 MI		NTS. 11E/12PT

To accompany "Cobequid III Report" Nov 1977

11/E-11WEST

63°30'00" 29 28' E1 265 000 27 E1 270 000 26 E 2 5 000 25 E1 280 000 24 E1 285 000 23 63°22 30

45°45'00" 45°45 00

N 16 625 000

44' 44

N 16 620,000

43' 43

N 16,615 000

N 16,610,000

42' 42'

N 16,605 000

41' 41'

N 16,600,000

40' 40'

N16,595,000

39' 39'

N 16 590,000

N 16,585,000 38' 38

45°37'30" 45°37'30"

63°30'00" 29 28' 25' 24' 23 63°22'30"

River

Dewar

WALLACE GRANT

Dobson Creek

BAYHEAD

COUNTY COUNTY

Brook

Gouzhore

Brook

Flemming

WALLACE HIGHLANDS

CUMBERLAND COLCHESTER

Millard Creek

Blockhouse Brook

WEST TATAMAGOUCHE

Mattatall

Brook

Mattatall

Lake

MATTATALL LAKE

Long Lake

Donaldson

Mill

Brook

Black Brook

Smith Brook

ANNANDALE

McLeod Brook

246

WV 31

WV 30

301 199 300 302 303 305 304

193 192 191 190 189

C-1088 C-1089 C-1087 C-1082 C-1083 C-1084 C-1081 C-1090 C-1086 C-1091

C-1069 C-1072 C-1071 C-1070

276 277 278 332 275 279 337 333 336 334 335

308 309

311 312 315 314 313 329 328 331 330 326 325 324 323 322 321 320 274 273 272 271 266 264 267 268 270 269

21 22 23 24 25 26 27 28 29

C D E F

45°30'

64°00' 63°00'

KEY

LEGEND

□ Well Water Location - Sample No., Value Shown - U ppb x 10 < 5 not posted

o Whole Rock Location - Sample No., Value Shown - Zr, U, Th, Pb, Zn, Cu in ppm

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 25-f
NOV 1977	1IN. = 1/4 MI.		NTS. 11E/11 PT.

To accompany "Cobequid III Report" Nov. 1977

11/E-12EAST

63°37'30" E1,225,000 37' E1,230,000 36' 35' E1,235,000 34' E1,240,000 33' E1,245,000 32' E1,250,000 31' E1,255,000 63°30'00"

45°37'30" N16,580,000 37' N16,575,000 36' N16,570,000 35' N16,565,000 34' N16,560,000 33' N16,555,000 32' N16,550,000 31' N16,545,000 45°30'00"

WV.20,55
WV.19,40
673
671
902
903
887
881
884
882
883
WENTWORTH STATION
Caldwell Brook
Whelstone Brook
River
SKI SLOPE
C-832
C-825
C-824
C-826
C-831
C-830
C-827
C-829
C-828
B.3105,1170,0,70,80,50,0
Swan Brook
849
848
850
847
851
846
852
853
854
855
Little Long Lake
290
291
289
C-879
C-880
B.3051,610,0,40,150,90,0
B.3052,730,0,40,60,70,0
Brook
B.3053,680,0,40,20,50,10
B.3054,700,0,30,40,60,0
C-878
B.3055,320,0,30,70,30,10
C-877
B.3056,320,0,20,20,30,0
B.3057,270,0,20,0,40,20
B.3058,260,0,40,0,30,30
Higgins Brook
B.3059,240,0,40,30,20,0
Smith Brook
Wallace
104
Lake
Hart Brook
Hart Lake
C-886
C-888
292
293
283
C-885
294
C-889
284
C-892
C-893
C-890
C-891
C-901
C-894
C-896
C-897
Barber Lake
C-900
C-895
C-898
C-899
Gravel Pit
271
272
270
FOLLY LAKE
274
273
276
275
277
268
269
266
267
Folly Lake
Gravel Pit
Rockland Brook
Village
COUNTY
COUNTY
CUMBERLAND
COLCHESTER
281
280
Carter Lake
282
279
C-319
C-332
C-331
C-320
Folly River
River
McElmon Brook
Slack Lake
Gravel Pit
East Folly River

LEGEND

□ Well Water Location - Sample No., Value Shown - U ppb x 10 < 5 not posted

o Whole Rock Location - Sample No., Value Shown - Zr, U, Th, Pb, Zn, Cu in ppb

21 22 23 24 25 26 27 28 29
C
D
E
F
45°30'
64°00'
63°00'
KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 24-f
NOV 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT.

To accompany "Cobequid III Report" Nov. 1977

63°30'00" E 1,265,000 E 1,280,000 E 1,285,000 63°22'30"
45°37'30" 45°37'30"
N 16,580,000 37' 37'
N 16,575,000 36' 36'
N 16,570,000 35' 35'
N 16,565,000 34' 34'
N 16,560,000 33' 33'
N 16,555,000 32' 32'
N 16,550,000 31' 31'
N 16,545,000
N 16,540,000
45°30'00" 45°30'00"
63°30'00" 29' 28' 27' 26' 25' 24' 23' 63°22'30"

COUNTY
COUNTY
CUMBERLAND
COLCHESTER

East Wallace River
Swan Brook
Juniper Lake
Indian Lake
Trout Lake
Little Snare Lake
Big Snare Lake
Debert Lake
Rory Pond
Totten Lake
East Folly River
Folly River
Totten Brook
Pine Brook
Little Totten Lake
Byers Brook
Byers Lake
Whirleywaugh Lake
Round Lake
Long Lake
Shatter Lake
Irvine Lake
Rocky Lake
Johnston Lake
Musquash Lake
Guyon Lake
Cook Lake
Clark Lake
Moose Lake
Chain Lakes
Frog Lake
Debert River
Shatter Brook

B.3050,200,0,10,40,50,10
B.3104,1060,180,10,40,50,10
B.3101,190,0,10,30,120,80
B.3103,180,0,0,20,170,0
B.3047,390,0,10,20,50,0
B.3102,340,0,10,30,30,20
B.3046,190,0,0,0,80,0
B.3045,240,0,0,0,70,30
B.3043,250,0,10,0,50,30
B.3048,390,0,30,70,50,0
B.3049,210,0,10,0,30,30
288
285
286
287
B.3060,220,0,10,80,240,0
B.3061,280,0,20,370,130,0
B.3062,410,0,20,40,160,0
B.3063,220,0,50,110,190,0
B.3064,320,0
B.3073,400,0,10,0,50,20
B.3074,280,0,30,100,90,0
B.3075,310,0,40,50,80,0
B.3076,270,0,60,90,70,0
B.3065,210,0,20,60,40,0
B.3066,390,10,30,20,160,0
B.3067,370,0,20,30,20,30
B.3068,600,0,20,50,70,10
B.3069,870,0,0,450,190,0
B.3070,110,0,0,20,20,0
B.3071,180,0,30,30,60,0
B.3072,260,0,20,0,70,0
B.3077,310,0,10,10,50,10
B.3011,370,0,0,10,60,20
B.3010,360,10,50,60,90,0
B.3009,260,0,40,50,50,10
B.3008,150,0,10,130,20,0
B.3007,170,0,40,130,30,0
B.3006,170,0,30,70,30,0
B.3005,150,0,10,50,40,0
B.3004,120,0,20,60,30,0
B.3003,240,0,0,20,20,0
B.3002,330,0,0,20,120,10
B.3001,160,0,0,40,40,40

LEGEND

□ Well Water Location – Sample No., Value Shown – U ppb x 10 < 5 not posted

o Whole Rock Location – Sample No., Value Shown – Zr, U, Th, Pb, Zn, Cu in ppm

KEY

21 22 23 24 25 26 27 28 29
C
D
E
F
45° 30'
64° 00' 63° 00'

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 25-f
NOV 1977	1 IN. = 1/4 MI.		N.T.S. 11E/11 PT.

To accompany "Cobequid III Report" Nov. 1977

63°31' 30' 29' 63°28'

45°37'30"

37'

36'

35'

45°34'

290 291 288 289

L - 40 + 00 W

L - 20 + 00 W

L - 0 + 00

L - 20 + 00 E

L - 40 + 00 E

L - 60 + 00 E

TL - 72 + 00 N

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

TL - 80 + 00 S

Brook

East Wallace River

Swan Brook

Juniper Lake

Indian Lake

Trout Lake

COUNTY

CUMBERLAND COUNTY

COLCHESTER

834-9,10 948-7,8 829-7,8 829-9,10 830-1,2
834-1,2 948-1,2 828-9,10
833-9,10 947-9,10 830-9,10
828-1,2 831-1,2
827-9,10
833-1,2 831-9,10
832-9,10 827-1,2 832-1,2
832-5,6 947-1,2 826-9,10 832-3,4
820-9,10 946-9,10 899-7,8
820-1,2 826-1,2 899-1,2
819-9,10 946-1,2 825-9,10 898-9,10
945-9,10
819-1,2 825-1,2 898-1,2
818-9,10 945-1,2 824-9,10 897-9,10
944-9,10
818-1,2 824-1,2 897-1,2
817-9,10 944-1,2 823-9,10 896-9,10
943-9,10
817-1,2 823-1,2 896-1,2
816-9,10 943-1,2 822-9,10 895-9,10
942-9,10
816-1,2 822-1,2 895-1,2
815-9,10 942-1,2 821-9,10 894-9,10
941-9,10
815-1,2 941-1,2 821-1,2 894-1,2
814-9,10 940-9,10 913-9,10 893-9,10
814-1,2 940-1,2 913-1,2 893-1,2
813-9,10 939-9,10 912-9,10 892-9,10
813-1,2 939-1,2 912-1,2 892-1,2
812-9,10 938-9,10 911-9,10 891-9,10
812-1,2 938-1,2 911-1,2 891-1,2
811-9,10 937-9,10 910-9,10 890-9,10
811-1,2 937-1,2 910-1,2 890-1,2
810-9,10 936-9,10 909-9,10 889-9,10
889-8,7
810-1,2 936-1,2 909-1,2 889-1,2
809-9,10 935-9,10 908-9,10 842-9,10
809-1,2 935-1,2 908-1,2 842-1,2
808-9,10 850-9,10 907-9,10 841-9,10
907-1,2 841-1,2
808-1,2 850-1,2 906-9,10
807-9,10 849-9,10 841-1,2
840-9,10
807-1,2 849-1,2 906-1,2
806-9,10 848-9,10 905-9,10 840-1,2
839-9,10
806-1,2 848-1,2 905-1,2
805-9,10 847-9,10 904-9,10 839-1,2
838-9,10
805-1,2 847-1,2 904-1,2
804-9,10 846-9,10 903-9,10 838-1,2
837-9,10
804-1,2 846-1,2 902-9,10 903-1,2
803-9,10 845-9,10 837-1,2
836-9,10
803-1,2 845-1,2 902-1,2 901-9,10 836-1,2
802-9,10 844-9,10
835-9,10
802-1,2 844-1,2 901-1,2 835-5,6
801-9,10 843-9,10 900-9,10
801-1,2 843-1,2 900-1,2 835-3,4
835-1,2

877-1,2 861-1,2
876-9,10
877-9,10 876-1,2 861-9,10
878-1,2 875-9,10 862-1,2
918-9,10
878-9,10 875-1,2 862-9,10
918-1,2 879-1,2 874-9,10 863-1,2
917-9,10
879-9,10 874-1,2 863-9,10
917-1,2 870-1,2 873-9,10 864-1,2
916-9,10
870-9,10 873-1,2 864-9,10
916-1,2 927-1,2 872-9,10 865-1,2
915-9,10
927-9,10 872-1,2 865-9,10
915-1,2 928-1,2 871-9,10 866-1,2
914-9,10
928-9,10 871-1,2 866-9,10
914-1,2 929-1,2 860-9,10 867-1,2
888-9,10
929-9,10 860-1,2 867-9,10
888-1,2 930-1,2 859-9,10 868-1,2
887-9,10
930-9,10 859-1,2 868-9,10
887-1,2 931-1,2 858-9,10 869-1,2
886-9,10
931-9,10 858-1,2 896-9,10
886-1,2 932-1,2 857-9,10 880-1,2
885-9,10
932-9,10 857-1,2 880-9,10
885-1,2 933-1,2 856-9,10 881-1,2
884-9,10
933-9,10 856-1,2 881-9,10
884-1,2 934-1,2 855-9,10 882-1,2
883-9,10
934-9,10 855-1,2 882-9,10
883-1,2 854-9,10
854-1,2
853-9,10
853-1,2
852-9,10
852-1,2
851-9,10
851-1,2

LEGEND

o Soil Sample Location

o 801-1,2 "A" Sample Number, "C" Sample Number

Sample numbers are consecutive unless otherwise noted.

63°34'00" 63°22'00"

45°37'30"

45°34'00"

1 2 3 4

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND NUMBER)

433047

CLAIM BLOCK III.

NOVA SCOTIA

DATE	SCALE	DRAWN BY	PLATE II fa
OCTOBER 1977	1 INCH=400 FEET		N.T.S. 11E/11,12 P.T.

To accompany "Cobequid III Report" Nov. 1977

433047

4 of 6

COBEQUID III

433047

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 4 of 6)

433047

Dup for Still

COBEQUID III

433047

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 4 of 6)

ILLUSTRATIONS

		Page No.
Fig. 1	Principal Minerals Areas Map	1
Fig. 2	Location Map	2
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Fig. 5	" " - JZ 1 - 6	77
Fig. 6	" " - DF 1 - 4	78
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PART 2

Appendix I Assays

(a) Well Waters

(b) Whole Rock Samples

(c) Soil Samples

(d) Drill Core

Appendix II Diamond Drill Hole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

Appendix III Induced Polarization Pseudo-Sections

Line 0+00W to line 16+00W

Line 44+00E to line 60+00W

Appendix IV Downhole Logs

(a) WV 1, 3

(b) JZ 1 - 6

(c) DF 1 - 3

MAPS ENCLOSED IN POCKETS

PART 3	
Plates D 24, D 25 - g E 24, E 25 - g	Geological Compilation 1 in = 1/4 mile
	Geological Surveys
Plates D 24, D 25 - f E 24, E 25 - f	Well Water and Whole Rock 1 in = 1/4 mile
	Soils
IIf	- Sample locations & numbers 1 in = 400 feet
	- A Horizon
	- C Horizon
PART 4	Ground Geophysics
Plates IIa, IIIa	EM 16 1 in = 400 feet
IIm, IIIm	Proton Magnetometer 1 in = 400 feet
IIp	Self Potential 1 in = 400 feet
	Airborne Geophysics
PART 5	
Plates D 24, D 25 - ma E 24, E 25 - ma	Magnetics 1 in = 1/4 mile
Plates D 24, D 25 - mc E 24, E 25 - mc	VLF EM (vertical) 1 in = 1/4 mile
Plates D 24, D 25 - md E 24, E 25 - md	VLF EM (horizontal) 1 in = 1/4 mile
Plates D 24, D 25 - mo E 24, E 25 - mo	EM 1 in = 1/4 mile
	Radiometric
PART 6	
Plates D 24, D 25 - mq E 24, E 25 - mq	U Contours 1 in = 1/4 mile
Plates D 24, D 25 - mp E 24, E 25 - mp	U/K ratios 1 in = 1/4 mile
Plates Ids	Section 7+00 West
IIds	Section 12+00 West
IIIds	Section 52+00 East

63°31' 30' 29' 63°28'
45°37'30" 45°37'30"

L-40+00 W L-20+00 W L-0+00 L-20+00 E L-40+00 E L-60+00 E

TL-72+00 N

37' 37'

Brook East

Wallace River

COUNTY
COUNTY

TL-30+00 N

Swan

CUMBERLAND
COLCHESTER

BL-0+00

36' 36'

Swan Brook

Juniper Lake

TL-40+00 S

L-40+00 W L-20+00 W

290

35' 35'

Indian Lake

TL-80+00 S

288

291

289

L-0+00 L-20+00 E L-40+00 E L-60+00 E

Trout Lake

45°34' 63°31' 30' 29' 63°28' 45°34'

LEGEND

Instrument: Ronka EM-16

Station: NAA Cutler Maine

Operators: Various

In - Phase: x——x

Out - of - Phase: •——•

EM Conductor: --- ---

Profile Scale
1 Inch = 40%

Right Wave Crossover

+20%
0
-20%

63°34'00" 63°22'00"
45°37'30"
45°34'00"

1	2	3	4

KEY

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

ELECTROMAGNETIC SURVEY

NOVA SCOTIA

DATE	SCALE:	DRAWN BY:	PLATE: II a
OCTOBER 1977	1 INCH=400 FEET		N.T.S. 11E/11, 12 P.T.

To accompany "Cobequid III Report" Nov. 1977

63°28'
45°37'30"
27'
26'
63°25'
45°37'30"
37'
36'
35'
45°34'
63°28'
27'
26'
63°25'
45°34'

L - 80 + 00 E
L - 100 + 00 E
L - 120 + 00 E
L - 140 + 00 E
L - 160 + 00 E
L - 180 + 00 E

TL - 72 + 00 N
TL - 30 + 00 N
BL - 10 + 00
TL - 40 + 00 S
TL - 80 + 00 S
TL - 120 + 00 S

Debert Lake
Big Snare Lake
Little Snare Lake

LEGEND

Instrument: Ronka EM-16
Station: NAA Cutler Maine
Operators: Various
In-Phase x——x
Out-of-Phase +——+
EM Conductor --- ---

Profile Scale Right Wave
1 Inch = 40% Crossover

-20%
0
+20%

63°34'00"
63°22'00"
45°37'30"
45°34'00"
1 2 3 4

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

ELECTROMAGNETIC SURVEY

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY	PLATE III 0(½)
OCTOBER 1977	1 INCH = 400 FEET		N.T.S. 11E/11 PT.

To accompany "Cobequid III Report" Nov 1977

63°28' 27' 26' 63°25'

45°37'30"

37'

36'

35'

45°34'

L - 80 + 00 E

L - 100 + 00 E

L - 120 + 00 E

L - 140 + 00 E

L - 160 + 00 E

L - 180 + 00 E

TL - 72 + 00 N

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

TL - 80 + 00 S

TL - 120 + 00 S

Debert Lake

Big Snare Lake

Little Snare Lake

LEGEND

Instrument: Ronka EM-16

Station: NAA Cutler Maine

Operators: Various

In-Phase x——x

Out-of-Phase • — — •

EM Conductor --- ---

Profile Scale 1 Inch = 40%

Right Wave Crossover

-20%

0

+20%

63°34'00" 63°22'00"

45°37'30"

45°34'00"

1 2 3 4

KEY

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

ELECTROMAGNETIC SURVEY

NOVA SCOTIA

DATE:	SCALE	DRAWN BY:	PLATE III Q(b)
OCTOBER 1977	1 INCH = 400 FEET		N.T.S. 11E/11 PT.

To accompany "Cobequid III & IV Report" Dec. 1977

63°31'
30'
29'
63°28'
45°37'30"
37'
36'
35'
45°34'

L - 40 + 00 W
L - 20 + 00 W
L - 0 + 00
L - 20 + 00 E
L - 40 + 00 E
L - 60 + 00 E

TL - 72 + 00 N
TL - 30 + 00 N
TL - 40 + 00 S
TL - 80 + 00 S
BL - 0 + 00
BL - 02 + 00

Brook
East
Wallace River
Swan Brook
Juniper Lake
Indian Lake
Trout Lake

CUMBERLAND
COLCHESTER
COUNTY
COUNTY

290
291
289
288

LEGEND

Instruments: McPhar GP-70; Geometrics G-826

Operators: Various

Stations: Values in Gammas (Total Field)

63°34'00" — 63°22'00"
45°37'30" — 45°34'00"

1	2	3	4

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

MAGNETIC SURVEY

(VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: II m
OCTOBER 1977	1 INCH = 400 FEET		N.T.S. 11E/11, 12 P.T.

To accompany "Cobequid III Report" Nov 1977

63°28' 27' 26' 63°25'

45°37'30"

37'

36'

35'

45°34'

L - 80 + 00 E

L - 100 + 00 E

L - 120 + 00 E

L - 140 + 00 E

L - 160 + 00 E

L - 180 + 00 E

TL - 72 + 00 N

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

TL - 80 + 00 S

TL - 120 + 00 S

Debert Lake

Big Snare Lake

Little Snare Lake

63°28' 27' 26' 63°25'

45°34'

LEGEND

Instruments: McPhar GP-70; Geometrics G-826

Operators: Various

Stations: Values in Gammas (Total Field)

63°34'00" 63°22'00"

45°37'30"

45°34'00"

1	2	3	4

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

MAGNETIC SURVEY

(VALUES)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: III m
OCTOBER 1977	1 INCH = 400 FEET		N.T.S. 11E/11 PT.

To accompany "Cobequid III Report" Nov. 1977

63°31'
45°37'30"
30'
29'
63°28'
45°37'30"
37'
36'
35'
45°34'
63°31'
30'
29'
63°28'
45°34'

L - 40 + 00 W
L - 20 + 00 W
L - 0 + 00
L - 20 + 00 E
L - 40 + 00 E
L - 60 + 00 E
L - 80 + 00 E
TL - 72 + 00 N
TL - 30 + 00 N
BL - 0 + 00
TL - 40 + 00 S
TL - 80 + 00 S

Swan Brook
East Wallace River
Swan Brook
Juniper Lake
Indian Lake
Trout Lake

COUNTY
COUNTY
CUMBERLAND
COLCHESTER

290
291
289
288

LEGEND

Instruments: Scintrex IPR-8 Receiver

Operators: Various

Stations: Values in Millivolts

KEY

63°34'00"			63°22'00"
45°37'30"			
1	2	3	4
45°34'00"			

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

SELF POTENTIAL SURVEY

NOVA SCOTIA

DATE:	SCALE	DRAWN BY	PLATE II p
OCTOBER 1977	1 INCH=400 FEET		N.T.S. 11E/11,12 PT.

To accompany "Cobequid III Report" Nov 1977.

5046

433047

COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 5 of 6)

433047 Dup for Stell

433047 COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12

(Part 5 of 6)

ILLUSTRATIONS

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PART 2

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- (a) Well Waters
- (b) Whole Rock Samples
- (c) Soil Samples
- (d) Drill Core

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- (a) WV 1, 3
- (b) JZ 1 - 6
- (c) DF 1 - 3

Appendix III — Induced Polarization Pseudo-Sections
- Line 0+00W to line 16+00W
- Line 44+00E to line 60+00W

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- (a) WV 1, 3
- (b) JZ 1 - 6
- (c) DF 1 - 3

MAPS ENCLOSED IN POCKETS

PART 3

Plates D 24, D 25 - g E 24, E 25 - g	Geological Compilation 1 in = 1/4 mile
	Geological Surveys
Plates D 24, D 25 - f E 24, E 25 - f	Well Water and Whole Rock 1 in = 1/4 mile
	Soils
IIf	- Sample locations & numbers 1 in = 400 feet
	- A Horizon
	- C Horizon
	Ground Geophysics

PART 4

Plates IIa, IIIa	EM 16 1 in = 400 feet
IIm, IIIm	Proton Magnetometer 1 in = 400 feet
IIp	Self Potential 1 in = 400 feet
	Airborne Geophysics

PART 5

Plates D 24, D 25 - ma E 24, E 25 - ma	Magnetics 1 in = 1/4 mile
Plates D 24, D 25 - mc E 24, E 25 - mc	VLF EM (vertical) 1 in = 1/4 mile
Plates D 24, D 25 - md E 24, E 25 - md	VLF EM (horizontal) 1 in = 1/4 mile
Plates D 24, D 25 - mo E 24, E 25 - mo	EM 1 in = 1/4 mile
	Radiometric

PART 6

Plates D 24, D 25 - mq E 24, E 25 - mq	U Contours 1 in = 1/4 mile
Plates D 24, D 25 - mp E 24, E 25 - mp	U/K ratios 1 in = 1/4 mile
Plates Ids	Section 7+00 West
IIds	Section 12+00 West
IIIds	Section 52+00 East

11/E – 12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1,230,000 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00" N 16,625,000 44' N 16,620,000 N 16,615,000 43' N 16,615,000 42' N 16,605,000 41' N 16,600,000 40' N 16,595,000 39' N 16,590,000 N 16,585,000 38' 45° 37' 30"

Grant Brook
Wigmore Brook
Montrose Brook
Brennan Brook
Palmer West Brook
Ralston Brook
Henderson Brook
Wallace River
Wallace Brook
Bigney Brook
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Gough Brook
Teed Brook
Douglas Meadow Brook
Black Brook
Wallace River
LOWER WENTWORTH
HENDERSON SETTLEMENT
WENTWORTH CENTRE
LOWER GREENVILLE
WENTWORTH
104
368

AUTOMATED MAGNETOMETER MAP

- 250 GAMMAS
- 50 GAMMAS
- 10 GAMMAS
- H MAGNETIC HIGH
- L MAGNETIC LOW
- FLIGHT LINES

KEY

45° 30'
64° 00'
63° 00'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE MAGNETOMETER SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE D24-ma
MAY 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT

To accompany "Cobequid III Report" Nov 1977

11/E-11WEST

63°30'00" 29' E 1,260,000 28' E 1,265,000 27' E 1,270,000 26' E 1,275,000 25' E 1,280,000 24' E 1,285,000 23' 63°22'30"

45°45'00"

N 16,625,000

44'

N 16,620,000

43'

N 16,615,000

42'

N 16,610,000

41'

N 16,605,000

40'

N 16,600,000

39'

N 16,595,000

38'

N 16,590,000

N 16,585,000

45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

Dewar River

Dobson Creek

Gouzhore Brook

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall Brook

Mattatall Lake

Long Lake

Donalds Mill Brook

Black Brook

Smith Brook

COUNTY / COUNTY

CUMBERLAND / COLCHESTER

6

AUTOMATED MAGNETOMETER MAP

250 GAMMAS
50 GAMMAS
10 GAMMAS
H MAGNETIC HIGH
L MAGNETIC LOW
FLIGHT LINES

KEY

64°00' 63°00' 45°30'

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE MAGNETOMETER SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 25-ma
MAY 1977	1 IN. = 1/4 MI		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

11/E-12EAST

63°37'30" E 1,225,000 E 1,230,000 E 1,235,000 E 1,240,000 E 1,245,000 E 1,250,000 E 1,255,000 63°30'00"

45°37'30" N 16,580,000 N 16,575,000 N 16,570,000 N 16,565,000 N 16,560,000 N 16,555,000 N 16,550,000 N 16,545,000 N 16 540,000 45°30'00"

WEST WORKS STAT

Brook

Barber Lake

Long Lake

FOLLY LAKE

Folly Lake

Carter Lake

Gravel Pit

Rockland Village

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

Brook

McElmon Brook

Stack Lake

Folly River

East Folly River

104

C-319 C-320 C-331 C-332 C-333 C-885 C-889 C-890 C-891 C-892 C-893 C-894 C-895 C-896 C-897 C-898 C-899 C-900 C-901

63°37'30" 37' 36' 35' 33' 32' 63°30'00"

433047

AUTOMATED MAGNETOMETER MAP

- 250 GAMMAS
- 50 GAMMAS
- 10 GAMMAS
- H MAGNETIC HIGH
- L MAGNETIC LOW
- FLIGHT LINES

KEY

64°00' 63°00' 45°30'

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE MAGNETOMETER SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

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To accompany "Cobequid III Report" Nov 1977

11/E - 11WEST

63° 30' 00" — 45° 37' 30" — E 1,265,000 — E 1,285,000 — 63°22'30" — 45° 37' 30"

N 16,580,000 — N 16,575,000 — N 16,570,000 — N 16,565,000 — N 16,560,000 — N 16,555,000 — N 16,550,000 — N 16,545,000 — N 16,540,000

45°30'00" — 63°30'00" — 29' — 28' — 27' — 26' — 25' — 24' — 23' — 63°22'30" — 45° 30 00'

Trout Lake
Rory Pond
East Folly River
Totten Lake
Pine Brook
Little Totten Lake
Totten Brook
Winkleyvaughan Lake
Round Lake
Rowland Lake
Trout Lake
Irmble Lake
Rocky Lake
Hodgson Lake
Cook Lake
Clark Lake
Lake

AUTOMATED MAGNETOMETER MAP

- 250 GAMMAS
- 50 GAMMAS
- 10 GAMMAS
- H MAGNETIC HIGH
- L MAGNETIC LOW
- FLIGHT LINES

KEY — 45°30' — 64°00' — 63°00'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE MAGNETOMETER SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E25-ma
MAY 1977	1IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov 1977

11/E - 12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1,230,000 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00"

N 16,625,000

44'

N 16,620,000

N 16,615,000 43'

42'

N 16,615,000

N 16,605,000

41'

N 16,600,000

40'

N 16,595,000

39'

N 16,590,000

N 16,585,000 38'

45° 37' 30"

63° 37' 30" 37' 36' 35' 34' 33' 32' 31' 63° 30' 00"

Grant Brook
Wigmore Brook
Montrose Brook
Brennan Brook
Henderson Brook
Palmer Brook
West Ralston Brook
Wallace River
Wallace Brook
Bigney Brook
Swail River
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Gough Brook
Teed Brook
Douglas Meadow Brook
Black River
Wallace East

LOWER WENTWORTH
HENDERSON SETTLEMENT
WENTWORTH CENTRE
LOWER GREENVILLE
WENTWORTH

104
368

VLF VERTICAL COMPONENT

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

50
25
0
PERCENTAGE OF MEAN TOTAL FIELD

KEY

64° 00' 63° 00' 45° 30'

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D24-mc
MAY 1977	1 IN. = 1/4 MI.		NTS. 11 E/12 PT

To accompany "Cobequid III Report" Nov. 1977

11/E-11WEST

63°30'00" 29' E 1,260,000 28' E 1,265,000 27' E 1,270,000 26' E 1,275,000 25' E 1,280,000 24' E 1,285,000 23' 63°22'30"

45°45'00"

N 16,625,000

44'

N 16,620,000

43'

N 16,615,000

42'

N 16,610,000

41'

N 16,605,000

40'

N 16,600,000

39'

N 16,595,000

38'

N 16,590,000

T-4

N 16,585,000

45°37'30"

63°30'00" 70 29' 80 28' 85 27' 26 95 100 25' 105 24' 110 23' 115 63°22'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

COUNTY

COUNTY

CUMBERLAND

COLCHESTER

Dewar River

Dobson Creek

Brook

Gouzhore Brook

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall Brook

Mattatall Lake

Long Lake

Donaldson Mill Brook

Black Brook

Smith Brook

Meahead Brook

C 1088 C 1089 C 1087 C 1090 C 1086 C 1091 C-1072 C-1073

1433047

VLF VERTICAL COMPONENT

IN PHASE

OUT OF PHASE

FLIGHT LINE

ANOMALY

50

25 PERCENTAGE OF MEAN TOTAL FIELD

0

45°30'

64°00' 63°00'

KEY

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 25-mc
MAY 1977	1 IN = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov 1977

11/E-12EAST

63°37'30" E 1,225,000 E 1,230,000 E 1,235,000 E 1,240,000 E 1,245,000 E 1,250,000 E 1,255,000 63°30'00"

45°37'30" N 16,580,000 N 16,575,000 N 16,570,000 N 16,565,000 N 16,560,000 N 16,555,000 N 16,550,000 N 16,545,000 N 16,540,000 45°30'00"

WENTWORTH STATION

FOLLY LAKE

Gaddwell Brook
Wigstone River
Wallace Brook
Smith Brook
Higgins Brook
Hart Lake Brook
Little Long Lake
Hart Lake
Barber Lake
Folly Lake
Folly River
Carter Lake
Stack Lake
McElmon Brook
East River
Rockland Village Brook
Gravel Pit
SKI SLOPE
104

CUMBERLAND COUNTY
COLCHESTER COUNTY

63°37'30" 37' 36' 35' 33' 32' 63°30'00"

1433047

VLF VERTICAL COMPONENT

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

50
25
0
PERCENTAGE OF MEAN TOTAL FIELD

KEY

64°00' 63°00' 45°30'

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

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To accompany "Cobequid III Report" Nov. 1977

11/E - 11WEST

63° 30' 00"
45° 37' 30"
E 1,265,000
E 1,285,000
63° 22' 30"
45° 30' 00"
N 16,580,000
N 16,575,000
N 16,570,000
N 16,565,000
N 16,560,000
N 16,555,000
N 16,550,000
N 16,545,000
N 16,540,000

Fast Wallace River
COLCHESTER COUNTY
CUMBERLAND COUNTY
Swan Brook
Juniper Lake
Indian Lake
Trout Lake
Little Snare Lake
Rory Pond
Depot Lake
Bye Lake
Whirleywaugh Lake
Round Lake
Long Lake
Shattenkirk Lake
Irvine Lake
Rocky Lake
Wasquash Lake
Johnston Lake
Guyon Lake
Moose Lake
Cook Lake
Clark Lake
Chain Lakes
Frog Lake
East Folly River
Totten Lake
Totten Brook
Pine Brook
Little Totten Lake

VLF VERTICAL COMPONENT

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

50
25
0
PERCENTAGE OF MEAN TOTAL FIELD

64° 00'
63° 00'
45° 30'
KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 25-mc
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To accompany "Cobequid III Report" Nov. 1977

11/E-12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1,230,000 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00"

N 16,625,000

44'

N 16,620,000

N 16,615,000 43'

N 16,615,000

42'

N 16,605,000

41'

N 16,600,000

N 16,595,000

40'

N 16,590,000

39'

N 16,585,000

38'

45° 37' 30"

63° 37' 30" 37' 30 36' 35 E 1,235,000 40 34' 45 33' 50 55 32' 60 31 65 63° 30' 00"

Grant Brook
Wigmore Brook
Montrose Brook
Brennan Brook
Palmer West Brook
Ralston Brook
Henderson Brook
Wallace River
Wallace Brook
Bigney Brook
Swail Brook
Wallace East Brook
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Gough Brook
Teed Brook
Douglas Meadow Brook
Black River
Black Brook
LOWER WENTWORTH
WENTWORTH
WENTWORTH CENTRE
HENDERSON SETTLEMENT
LOWER GREENVILLE
104
368
T-4

VLF HORIZONTAL COMPONENT

TOTAL FIELD

FLIGHT LINE

100
50 PERCENTAGE OF MEAN TOTAL FIELD
0

KEY

64° 00' 63° 00' 45° 30'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 24-md
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To accompany "Cobequid III Report" Nov. 1977

11/E-11WEST

63°30'00" 29' E 1,260 000 28' E1,265,000 27' E1,270,000 26' E1,275 000 25' E 1,280,000 24' E 1,285,000 23' 63°22'30"

45°45'00"

N 16,625,000

N 16,620,000

N 16,615,000

N 16,610,000

N 16,605,000

N 16,600,000

N 16,595,000

N 16,590,000

N 16,585,000

45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

Dewar River

Dobson Creek

Brook

Gouzhore Brook

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall Brook

Mattatall Lake

Long Lake

Donaldson Mill Brook

McLeod Brook

Smith Brook

Black Brook

COUNTY COLCHESTER CUMBERLAND

44' 43' 42' 41' 40' 39' 38'

6 T-4

301 199 300 302 303 305 304 193 192 191 190 189 C 1088 C 1089 C 1087 C 1090 C 1086 C 1091 C-1072 C-1070 276 277 278 332 275 279 337 333 334 335 312 315 314 313 328 331 330 274 273 325 324 323 322 320 266 268 271 270 269 264 341 337 317 324 328

80 85 95 100 105 110 115 120

63°30'00" 70 29' 80 28' 85 27' 26' 95 100 25' 105 24' 110 23' 115 63°22'30"

433047

VLF HORIZONTAL COMPONENT

TOTAL FIELD

FLIGHT LINE

100
50 PERCENTAGE OF MEAN TOTAL FIELD
0

64°00' 63°00' 45°30'

KEY

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

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11/E-12EAST

63°37'30" E 1,225,000 37' 26 27 E 1,230,000 36' 30 35 35' E 1,235,000 40 34' 45 E 1,240,000 33' 50 E 1,245,000 55 32' 60 E 1,250,000 31' 65 E 1,255,000 63°30'00"

45°37'30" N 16,580,000 37' 20 N 16,575,000 36' N 16,570,000 35' N 16,565,000 34' N 16,560,000 33' N 16,555,000 32' N 16,550,000 31' N 16,545,000 N 16,540,000 45°30'00"

WENTWORTH STATION

Brook Wallace Brook Whitstone Brook Chidwell Brook Smith Brook Higgins Brook Wallace Brook Hart Brook Brook Brook Village Brook Brook Brook

11/E - 11WEST

63° 30' 00" — 45° 37' 30" — E 1,265,000 — E 1,280,000 — E 1,285,000 — 63° 22' 30"

N 16,580,000 — N 16,575,000 — N 16,570,000 — N 16,565,000 — N 16,560,000 — N 16,555,000 — N 16,550,000 — N 16,545,000 — N 16,540,000

45° 37' — 45° 30' — 45° 30' 00"

63° 30' 00" — 29' — 28' — 27' — 26' — 25' — 24' — 23' — 63° 22' 30"

Fas — Wallace — River

CUMBERLAND COLCHESTER COUNTY

Swan Brook — Juniper Lake — Indian Lake — Trout Lake — Little Snare Lake — Rory Pond — Debert River — Snare Lake — Shattery Lake — Irvine Lake — Rocky Lake — Haysquash Lake — Byers Lake — Byers — Whirleywaught Lake — Round Lake — Long Lake — Johnston Lake — Guyon Lake — Moose Lake — Cook Lake — Clark Lake — Chain Lakes — Frog Lake — East Folly River — Totten Lake — Totten Brook — Pine Brook — Little Totten Lake — Totten

VLF HORIZONTAL COMPONENT

TOTAL FIELD

FLIGHT LINE

100 / 50 / 0 — PERCENTAGE OF MEAN TOTAL FIELD

KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE VLF SURVEY

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45° 45' 00"

N 16,625,000

44'

N 16,620,000

43'

N 16,615,000

42'

N 16,615,000

41'

N 16,605,000

40'

N 16,600,000

39'

N 16,595,000

38'

N 16,590,000

45° 37' 30"

Grant Brook
Wigmore Brook
Montrose Brook
Brennan Brook
Henderson Brook
Palmer West Brook
Ralston Brook
Wallace River
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Bigney Brook
Gough Brook
Teed Brook
Douglas Meadow Brook
Swail Brook
Black River
Black Brook
LOWER WENTWORTH
HENDERSON SETTLEMENT
WENTWORTH CENTRE
LOWER GREENVILLE
WENTWORTH
104
368

EM PROFILE MAP

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

400 ppm
200 ppm
0 ppm

45°30'
64°00'
63°00'
KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE EM SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 24-mo
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11/E-11WEST

63°30'00" 29' E 1,260,000 28' E1,265,000 27' E1,270,000 26' E1,275,000 25' E 1,280,000 24' E1,285,000 23' 63°22'30"

45°45'00"

N 16,625,000

44'

N 16,620,000

43'

N 16,615,000

N 16,610,000

42'

N 16,605,000

41'

N 16,600,000

40'

N 16,595,000

39'

N 16,590,000

T-4

N 16,585,000 38'

45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

River
Dewar
Dobson
Creek
Brook
Gouzhore
Flemming
Millard
Blockhouse
Mattatall
Lake
Long
Lake
Donaldson
Mill
Black
Smith
McLeod

6

80 85 95 100 105 110 115

70 120

EM PROFILE MAP

IN PHASE

OUT OF PHASE

FLIGHT LINE

ANOMALY

400 ppm
200 ppm
0 ppm

64°00' 63°00' 45°30'

KEY

1433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE EM SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D 25-mo
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To accompany "Cobequid III Report" Nov 1977

11/E-12EAST

63°37'30" E 1,225,000 37' 25 26 27 E 1,230,000 36' 30 35 E 1,235,000 35' 40 34' 45 E 1,240,000 33' 50 E 1,245,000 55 32' 60 E 1,250,000 31' 65 E 1,255,000 63°30'00"

45°37'30" N 16,580,000 37' 20 N 16,575,000 36' 35' N 16,565,000 34' N 16,560,000 33' N 16,555,000 32' N 16,550,000 31' N 16,545,000 N 16,540,000 45°30'00"

WENTWORTH STATION

Caldwell Brook
Windstone Brook
Smith Brook
Brook
Wallace River
Little Long Lake
Long
Hart Brook
Hart Lake
Storm Brook
Riggins Brook
Brook
Barber Lake
Gravel Pit
FOLLY LAKE
Rockland Village
COUNTY
COUNTY
CUMBERLAND
COLCHESTER
Folly Lake
Carter Lake
Brook
Folly River
Folly
Stack Lake
McElmon Brook
River
East

104

EM PROFILE MAP

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

400 ppm
200ppm
0 ppm

KEY

64°00' 63°00' 45°30'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE EM SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 24-mo
MAY 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT

To accompany "Cobequid III Report" Nov. 1977

11/E – 11WEST

63°30'00" 45°37'30" E 1,265,000 E 1,285,000 63°22'30" 45°30'00"

N 16,580,000 N 16,575,000 N 16,570,000 N 16,565,000 N 16,560,000 N 16,555,000 N 16,550,000 N 16,545,000 N 16,540,000

COUNTY
COUNTY
CUMBERLAND
COLCHESTER

East Wallace River

Swan Brook
Juniper Lake
Indian Lake
Trout Lake
Little Snare Lake
Big Snare Lake
Depot Lake
Fiery Pond
East Folly River
Totten Lake
Pine Brook
Little Totten Lake
Totten Brook

Eyer Lake
Whinleywaugh Lake
Round Lake
Long Lake
Shatteen Lake
Irving Lake
Rocky Lake
Johnston Lake
Musquash Lake
Guyon Lake
Moose Lake
Cook Lake
Clark Lake
Chain Lakes
Fly Lake

1433047

EM PROFILE MAP

IN PHASE
OUT OF PHASE
FLIGHT LINE
ANOMALY

400 ppm
200ppm
0 ppm

64°00' 63°01 45°30'

KEY

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE EM SURVEY

FLOWN AND COMPILED BY SANDER GEOPHYSICS LTD.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 25-mo
MAY 1977	1 IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

6 of 6

433047

433047 COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 6 of 6)

1433047

Dup for Steel

433047 COBEQUID III

EXPLORATION PROGRAM 1976, 1977

ON PARTS OF 11 E 11 and 11 E 12
(Part 6 of 6)

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MAPS ENCLOSED IN POCKETS

PART 3	
Plates D 24, D 25 - g E 24, E 25 - g	Geological Compilation 1 in = 1/4 mile
	Geological Surveys
Plates D 24, D 25 - f E 24, E 25 - f	Well Water and Whole Rock 1 in = 1/4 mile
	Soils
IIf	- Sample locations & numbers 1 in = 400 feet
	- A Horizon
	- C Horizon
	Ground Geophysics
PART 4	
Plates IIa, IIIa	EM 16 1 in = 400 feet
IIm, IIIm	Proton Magnetometer 1 in = 400 feet
IIp	Self Potential 1 in = 400 feet
	Airborne Geophysics
PART 5	
Plates D 24, D 25 - ma E 24, E 25 - ma	Magnetics 1 in = 1/4 mile
Plates D 24, D 25 - mc E 24, E 25 - mc	VLF EM (vertical) 1 in = 1/4 mile
Plates D 24, D 25 - md E 24, E 25 - md	VLF EM (horizontal) 1 in = 1/4 mile
Plates D 24, D 25 - mo E 24, E 25 - mo	EM 1 in = 1/4 mile
	Radiometric
PART 6 ✓	
Plates D 24, D 25 - mq E 24, E 25 - mq	U Contours 1 in = 1/4 mile
Plates D 24, D 25 - mp E 24, E 25 - mp	U/K ratios 1 in = 1/4 mile
Plates Ids ✓	Section 7+00 West
IIds ✓	Section 12+00 West
IIIds ✓	Section 52+00 East

11/E – 12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1,230,000 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00"

N 16,625,000

44'

N 16,620,000

43'

N 16,615,000

42'

N 16,615,000

N 16,605,000

41'

N 16,600,000

40'

N 16,595,000

39'

N 16,590,000

38'

N 16,585,000

45° 37' 30"

Still Brook

Dewar Lake

Grant Brook

River

Wigmore Brook

Wallace

Chisholm Brook

Montrose Brook

Flemming Brook

LOWER WENTWORTH

Bigney Brook

Brennan Brook

HENDERSON SETTLEMENT

Gough Brook

Henderson Brook

WENTWORTH CENTRE

Douglas Meadow Brook

Palmer West Brook

Swail Brook

Ralston Brook

LOWER GREENVILLE

WENTWORTH

Giles Brook

Wallace East Brook

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——→ 20
CONTROL POINT * 2498
UNCONTROLLED POINT x 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 2·00, 4·00 p.p.m. eU
0·50, 1·00, 1·50 p.p.m. eU
URANIUM WINDOW 1·66 – 1·90 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

45° 30'
64° 00'
63° 00'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
URANIUM CONTOURS

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D-24-mg
MAY – 1977	1 IN = 1/4 MI.		NTS. 11E/12 PT

To accompany "Cobequid III Report" Nov 1977

11/E-11WEST

63°30'00" 29' E1,260 000 28' E1,265,000 27' E1,270,000 26' E1,275 000 25' E1,280,000 24' E1,285,000 23' 63°22'30"

45°45'00" N16,625 000 44' N16,620,000 43' N16,615,000 N16,610,000 42' N16,605,000 N16,600,000 41' N16,595,000 N16,590,000 N16,585,000 38' 45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

ANNANDALE

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

Dewar River

Dobson Creek

Brook

Gouzhore Brook

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall

Mattatall Brook

Lake

Long Lake

Donaldson Brook

Black Brook

Swallow Brook

Cleadon Brook

6

301 199 300 302 303 305 304 193 192 191 190 189

C 1088 C 1089 C 1087 C 1086 C 1090 C 1091 C 1092 C 1093 C 1094 C 1095 C 1096 C 1097 C 1098 C 1099 C 1100 C 1101 C 1102 C 1103 C 1104 C 1105 C 1106 C 1107 C 1108 C 1109 C 1110 C 1111 C 1112 C 1113 C 1114 C 1115 C 1116 C 1117 C 1118 C 1119 C 1120 C 1121 C 1122 C 1123 C 1124 C 1125 C 1126 C 1127 C 1128 C 1129 C 1130 C 1131 C 1132 C 1133 C 1134 C 1135 C 1136 C 1137 C 1138 C 1139 C 1140 C 1141 C 1142 C 1143 C 1144 C 1145 C 1146 C 1147 C 1148 C 1149 C 1150 C 1151 C 1152 C 1153 C 1154 C 1155 C 1156 C 1157 C 1158 C 1159 C 1160 C 1161 C 1162 C 1163 C 1164 C 1165 C 1166 C 1167 C 1168 C 1169 C 1170 C 1171 C 1172 C 1173 C 1174 C 1175 C 1176 C 1177 C 1178 C 1179 C 1180 C 1181 C 1182 C 1183 C 1184 C 1185 C 1186 C 1187 C 1188 C 1189 C 1190 C 1191 C 1192 C 1193 C 1194 C 1195 C 1196 C 1197 C 1198 C 1199 C 1200 C 1201 C 1202 C 1203 C 1204 C 1205 C 1206 C 1207 C 1208 C 1209 C 1210 C 1211 C 1212 C 1213 C 1214 C 1215 C 1216 C 1217 C 1218 C 1219 C 1220 C 1221 C 1222 C 1223 C 1224 C 1225 C 1226 C 1227 C 1228 C 1229 C 1230 C 1231 C 1232 C 1233 C 1234 C 1235 C 1236 C 1237 C 1238 C 1239 C 1240 C 1241 C 1242 C 1243 C 1244 C 1245 C 1246 C 1247 C 1248 C 1249 C 1250 C 1251 C 1252 C 1253 C 1254 C 1255 C 1256 C 1257 C 1258 C 1259 C 1260 C 1261 C 1262 C 1263 C 1264 C 1265 C 1266 C 1267 C 1268 C 1269 C 1270 C 1271 C 1272 C 1273 C 1274 C 1275 C 1276 C 1277 C 1278 C 1279 C 1280 C 1281 C 1282 C 1283 C 1284 C 1285 C 1286 C 1287 C 1288 C 1289 C 1290 C 1291 C 1292 C 1293 C 1294 C 1295 C 1296 C 1297 C 1298 C 1299 C 1300 C 1301 C 1302 C 1303 C 1304 C 1305 C 1306 C 1307 C 1308 C 1309 C 1310 C 1311 C 1312 C 1313 C 1314 C 1315 C 1316 C 1317 C 1318 C 1319 C 1320 C 1321 C 1322 C 1323 C 1324 C 1325 C 1326 C 1327 C 1328 C 1329 C 1330 C 1331 C 1332 C 1333 C 1334 C 1335 C 1336 C 1337 C 1338 C 1339 C 1340 C 1341 C 1342 C 1343 C 1344 C 1345 C 1346 C 1347 C 1348 C 1349 C 1350 C 1351 C 1352 C 1353 C 1354 C 1355 C 1356 C 1357 C 1358 C 1359 C 1360 C 1361 C 1362 C 1363 C 1364 C 1365 C 1366 C 1367 C 1368 C 1369 C 1370 C 1371 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C 1944 C 1945 C 1946 C 1947 C 1948 C 1949 C 1950 C 1951 C 1952 C 1953 C 1954 C 1955 C 1956 C 1957 C 1958 C 1959 C 1960 C 1961 C 1962 C 1963 C 1964 C 1965 C 1966 C 1967 C 1968 C 1969 C 1970 C 1971 C 1972 C 1973 C 1974 C 1975 C 1976 C 1977 C 1978 C 1979 C 1980 C 1981 C 1982 C 1983 C 1984 C 1985 C 1986 C 1987 C 1988 C 1989 C 1990 C 1991 C 1992 C 1993 C 1994 C 1995 C 1996 C 1997 C 1998 C 1999 C 2000 C 2001 C 2002 C 2003 C 2004 C 2005 C 2006 C 2007 C 2008 C 2009 C 2010 C 2011 C 2012 C 2013 C 2014 C 2015 C 2016 C 2017 C 2018 C 2019 C 2020 C 2021 C 2022 C 2023 C 2024 C 2025 C 2026 C 2027 C 2028 C 2029 C 2030 C 2031 C 2032 C 2033 C 2034 C 2035 C 2036 C 2037 C 2038 C 2039 C 2040 C 2041 C 2042 C 2043 C 2044 C 2045 C 2046 C 2047 C 2048 C 2049 C 2050 C 2051 C 2052 C 2053 C 2054 C 2055 C 2056 C 2057 C 2058 C 2059 C 2060 C 2061 C 2062 C 2063 C 2064 C 2065 C 2066 C 2067 C 2068 C 2069 C 2070 C 2071 C 2072 C 2073 C 2074 C 2075 C 2076 C 2077 C 2078 C 2079 C 2080 C 2081 C 2082 C 2083 C 2084 C 2085 C 2086 C 2087 C 2088 C 2089 C 2090 C 2091 C 2092 C 2093 C 2094 C 2095 C 2096 C 2097 C 2098 C 2099 C 2100 C 2101 C 2102 C 2103 C 2104 C 2105 C 2106 C 2107 C 2108 C 2109 C 2110 C 2111 C 2112 C 2113 C 2114 C 2115 C 2116 C 2117 C 2118 C 2119 C 2120 C 2121 C 2122 C 2123 C 2124 C 2125 C 2126 C 2127 C 2128 C 2129 C 2130 C 2131 C 2132 C 2133 C 2134 C 2135 C 2136 C 2137 C 2138 C 2139 C 2140 C 2141 C 2142 C 2143 C 2144 C 2145 C 2146 C 2147 C 2148 C 2149 C 2150 C 2151 C 2152 C 2153 C 2154 C 2155 C 2156 C 2157 C 2158 C 2159 C 2160 C 2161 C 2162 C 2163 C 2164 C 2165 C 2166 C 2167 C 2168 C 2169 C 2170 C 2171 C 2172 C 2173 C 2174 C 2175 C 2176 C 2177 C 2178 C 2179 C 2180 C 2181 C 2182 C 2183 C 2184 C 2185 C 2186 C 2187 C 2188 C 2189 C 2190 C 2191 C 2192 C 2193 C 2194 C 2195 C 2196 C 2197 C 2198 C 2199 C 2200 C 2201 C 2202 C 2203 C 2204 C 2205 C 2206 C 2207 C 2208 C 2209 C 2210 C 2211 C 2212 C 2213 C 2214 C 2215 C 2216 C 2217 C 2218 C 2219 C 2220 C 2221 C 2222 C 2223 C 2224 C 2225 C 2226 C 2227 C 2228 C 2229 C 2230 C 2231 C 2232 C 2233 C 2234 C 2235 C 2236 C 2237 C 2238 C 2239 C 2240 C 2241 C 2242 C 2243 C 2244 C 2245 C 2246 C 2247 C 2248 C 2249 C 2250 C 2251 C 2252 C 2253 C 2254 C 2255 C 2256 C 2257 C 2258 C 2259 C 2260 C 2261 C 2262 C 2263 C 2264 C 2265 C 2266 C 2267 C 2268 C 2269 C 2270 C 2271 C 2272 C 2273 C 2274 C 2275 C 2276 C 2277 C 2278 C 2279 C 2280 C 2281 C 2282 C 2283 C 2284 C 2285 C 2286 C 2287 C 2288 C 2289 C 2290 C 2291 C 2292 C 2293 C 2294 C 2295 C 2296 C 2297 C 2298 C 2299 C 2300 C 2301 C 2302 C 2303 C 2304 C 2305 C 2306 C 2307 C 2308 C 2309 C 2310 C 2311 C 2312 C 2313 C 2314 C 2315 C 2316 C 2317 C 2318 C 2319 C 2320 C 2321 C 2322 C 2323 C 2324 C 2325 C 2326 C 2327 C 2328 C 2329 C 2330 C 2331 C 2332 C 2333 C 2334 C 2335 C 2336 C 2337 C 2338 C 2339 C 2340 C 2341 C 2342 C 2343 C 2344 C 2345 C 2346 C 2347 C 2348 C 2349 C 2350 C 2351 C 2352 C 2353 C 2354 C 2355 C 2356 C 2357 C 2358 C 2359 C 2360 C 2361 C 2362 C 2363 C 2364 C 2365 C 2366 C 2367 C 2368 C 2369 C 2370 C 2371 C 2372 C 2373 C 2374 C 2375 C 2376 C 2377 C 2378 C 2379 C 2380 C 2381 C 2382 C 2383 C 2384 C 2385 C 2386 C 2387 C 2388 C 2389 C 2390 C 2391 C 2392 C 2393 C 2394 C 2395 C 2396 C 2397 C 2398 C 2399 C 2400 C 2401 C 2402 C 2403 C 2404 C 2405 C 2406 C 2407 C 2408 C 2409 C 2410 C 2411 C 2412 C 2413 C 2414 C 2415 C 2416 C 2417 C 2418 C 2419 C 2420 C 2421 C 2422 C 2423 C 2424 C 2425 C 2426 C 2427 C 2428 C 2429 C 2430 C 2431 C 2432 C 2433 C 2434 C 2435 C 2436 C 2437 C 2438 C 2439 C 2440 C 2441 C 2442 C 2443 C 2444 C 2445 C 2446 C 2447 C 2448 C 2449 C 2450 C 2451 C 2452 C 2453 C 2454 C 2455 C 2456 C 2457 C 2458 C 2459 C 2460 C 2461 C 2462 C 2463 C 2464 C 2465 C 2466 C 2467 C 2468 C 2469 C 2470 C 2471 C 2472 C 2473 C 2474 C 2475 C 2476 C 2477 C 2478 C 2479 C 2480 C 2481 C 2482 C 2483 C 2484 C 2485 C 2486 C 2487 C 2488 C 2489 C 2490 C 2491 C 2492 C 2493 C 2494 C 2495 C 2496 C 2497 C 2498 C 2499 C 2500 C 2501 C 2502 C 2503 C 2504 C 2505 C 2506 C 2507 C 2508 C 2509 C 2510 C 2511 C 2512 C 2513 C 2514 C 2515 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C 2659 C 2660 C 2661 C 2662 C 2663 C 2664 C 2665 C 2666 C 2667 C 2668 C 2669 C 2670 C 2671 C 2672 C 2673 C 2674 C 2675 C 2676 C 2677 C 2678 C 2679 C 2680 C 2681 C 2682 C 2683 C 2684 C 2685 C 2686 C 2687 C 2688 C 2689 C 2690 C 2691 C 2692 C 2693 C 2694 C 2695 C 2696 C 2697 C 2698 C 2699 C 2700 C 2701 C 2702 C 2703 C 2704 C 2705 C 2706 C 2707 C 2708 C 2709 C 2710 C 2711 C 2712 C 2713 C 2714 C 2715 C 2716 C 2717 C 2718 C 2719 C 2720 C 2721 C 2722 C 2723 C 2724 C 2725 C 2726 C 2727 C 2728 C 2729 C 2730 C 2731 C 2732 C 2733 C 2734 C 2735 C 2736 C 2737 C 2738 C 2739 C 2740 C 2741 C 2742 C 2743 C 2744 C 2745 C 2746 C 2747 C 2748 C 2749 C 2750 C 2751 C 2752 C 2753 C 2754 C 2755 C 2756 C 2757 C 2758 C 2759 C 2760 C 2761 C 2762 C 2763 C 2764 C 2765 C 2766 C 2767 C 2768 C 2769 C 2770 C 2771 C 2772 C 2773 C 2774 C 2775 C 2776 C 2777 C 2778 C 2779 C 2780 C 2781 C 2782 C 2783 C 2784 C 2785 C 2786 C 2787 C 2788 C 2789 C 2790 C 2791 C 2792 C 2793 C 2794 C 2795 C 2796 C 2797 C 2798 C 2799 C 2800 C 2801 C 2802 C 2803 C 2804 C 2805 C 2806 C 2807 C 2808 C 2809 C 2810 C 2811 C 2812 C 2813 C 2814 C 2815 C 2816 C 2817 C 2818 C 2819 C 2820 C 2821 C 2822 C 2823 C 2824 C 2825 C 2826 C 2827 C 2828 C 2829 C 2830 C 2831 C 2832 C 2833 C 2834 C 2835 C 2836 C 2837 C 2838 C 2839 C 2840 C 2841 C 2842 C 2843 C 2844 C 2845 C 2846 C 2847 C 2848 C 2849 C 2850 C 2851 C 2852 C 2853 C 2854 C 2855 C 2856 C 2857 C 2858 C 2859 C 2860 C 2861 C 2862 C 2863 C 2864 C 2865 C 2866 C 2867 C 2868 C 2869 C 2870 C 2871 C 2872 C 2873 C 2874 C 2875 C 2876 C 2877 C 2878 C 2879 C 2880 C 2881 C 2882 C 2883 C 2884 C 2885 C 2886 C 2887 C 2888 C 2889 C 2890 C 2891 C 2892 C 2893 C 2894 C 2895 C 2896 C 2897 C 2898 C 2899 C 2900 C 2901 C 2902 C 2903 C 2904 C 2905 C 2906 C 2907 C 2908 C 2909 C 2910 C 2911 C 2912 C 2913 C 2914 C 2915 C 2916 C 2917 C 2918 C 2919 C 2920 C 2921 C 2922 C 2923 C 2924 C 2925 C 2926 C 2927 C 2928 C 2929 C 2930 C 2931 C 2932 C 2933 C 2934 C 2935 C 2936 C 2937 C 2938 C 2939 C 2940 C 2941 C 2942 C 2943 C 2944 C 2945 C 2946 C 2947 C 2948 C 2949 C 2950 C 2951 C 2952 C 2953 C 2954 C 2955 C 2956 C 2957 C 2958 C 2959 C 2960 C 2961 C 2962 C 2963 C 2964 C 2965 C 2966 C 2967 C 2968 C 2969 C 2970 C 2971 C 2972 C 2973 C 2974 C 2975 C 2976 C 2977 C 2978 C 2979 C 2980 C 2981 C 2982 C 2983 C 2984 C 2985 C 2986 C 2987 C 2988 C 2989 C 2990 C 2991 C 2992 C 2993 C 2994 C 2995 C 2996 C 2997 C 2998 C 2999 C 3000 C 3001 C 3002 C 3003 C 3004 C 3005 C 3006 C 3007 C 3008 C 3009 C 3010 C 3011 C 3012 C 3013 C 3014 C 3015 C 3016 C 3017 C 3018 C 3019 C 3020 C 3021 C 3022 C 3023 C 3024 C 3025 C 3026 C 3027 C 3028 C 3029 C 3030 C 3031 C 3032 C 3033 C 3034 C 3035 C 3036 C 3037 C 3038 C 3039 C 3040 C 3041 C 3042 C 3043 C 3044 C 3045 C 3046 C 3047 C 3048 C 3049 C 3050 C 3051 C 3052 C 3053 C 3054 C 3055 C 3056 C 3057 C 3058 C 3059 C 3060 C 3061 C 3062 C 3063 C 3064 C 3065 C 3066 C 3067 C 3068 C 3069 C 3070 C 3071 C 3072 C 3073 C 3074 C 3075 C 3076 C 3077 C 3078 C 3079 C 3080 C 3081 C 3082 C 3083 C 3084 C 3085 C 3086 C 3087 C 3088 C 3089 C 3090 C 3091 C 3092 C 3093 C 3094 C 3095 C 3096 C 3097 C 3098 C 3099 C 3100 C 3101 C 3102 C 3103 C 3104 C 3105 C 3106 C 3107 C 3108 C 3109 C 3110 C 3111 C 3112 C 3113 C 3114 C 3115 C 3116 C 3117 C 3118 C 3119 C 3120 C 3121 C 3122 C 3123 C 3124 C 3125 C 3126 C 3127 C 3128 C 3129 C 3130 C 3131 C 3132 C 3133 C 3134 C 3135 C 3136 C 3137 C 3138 C 3139 C 3140 C 3141 C 3142 C 3143 C 3144 C 3145 C 3146 C 3147 C 3148 C 3149 C 3150 C 3151 C 3152 C 3153 C 3154 C 3155 C 3156 C 3157 C 3158 C 3159 C 3160 C 3161 C 3162 C 3163 C 3164 C 3165 C 3166 C 3167 C 3168 C 3169 C 3170 C 3171 C 3172 C 3173 C 3174 C 3175 C 3176 C 3177 C 3178 C 3179 C 3180 C 3181 C 3182 C 3183 C 3184 C 3185 C 3186 C 3187 C 3188 C 3189 C 3190 C 3191 C 3192 C 3193 C 3194 C 3195 C 3196 C 3197 C 3198 C 3199 C 3200 C 3201 C 3202 C 3203 C 3204 C 3205 C 3206 C 3207 C 3208 C 3209 C 3210 C 3211 C 3212 C 3213 C 3214 C 3215 C 3216 C 3217 C 3218 C 3219 C 3220 C 3221 C 3222 C 3223 C 3224 C 3225 C 3226 C 3227 C 3228 C 3229 C 3230 C 3231 C 3232 C 3233 C 3234 C 3235 C 3236 C 3237 C 3238 C 3239 C 3240 C 3241 C 3242 C 3243 C 3244 C 3245 C 3246 C 3247 C 3248 C 3249 C 3250 C 3251 C 3252 C 3253 C 3254 C 3255 C 3256 C 3257 C 3258 C 3259 C 3260 C 3261 C 3262 C 3263 C 3264 C 3265 C 3266 C 3267 C 3268 C 3269 C 3270 C 3271 C 3272 C 3273 C 3274 C 3275 C 3276 C 3277 C 3278 C 3279 C 3280 C 3281 C 3282 C 3283 C 3284 C 3285 C 3286 C 3287 C 3288 C 3289 C 3290 C 3291 C 3292 C 3293 C 3294 C 3295 C 3296 C 3297 C 3298 C 3299 C 3300 C 3301 C 3302 C 3303 C 3304 C 3305 C 3306 C 3307 C 3308 C 3309 C 3310 C 3311 C 3312 C 3313 C 3314 C 3315 C 3316 C 3317 C 3318 C 3319 C 3320 C 3321 C 3322 C 3323 C 3324 C 3325 C 3326 C 3327 C 3328 C 3329 C 3330 C 3331 C 3332 C 3333 C 3334 C 3335 C 3336 C 3337 C 3338 C 3339 C 3340 C 3341 C 3342 C 3343 C 3344 C 3345 C 3346 C 3347 C 3348 C 3349 C 3350 C 3351 C 3352 C 3353 C 3354 C 3355 C 3356 C 3357 C 3358 C 3359 C 3360 C 3361 C 3362 C 3363 C 3364 C 3365 C 3366 C 3367 C 3368 C 3369 C 3370 C 3371 C 3372 C 3373 C 3374 C 3375 C 3376 C 3377 C 3378 C 3379 C 3380 C 3381 C 3382 C 3383 C 3384 C 3385 C 3386 C 3387 C 3388 C 3389 C 3390 C 3391 C 3392 C 3393 C 3394 C 3395 C 3396 C 3397 C 3398 C 3399 C 3400 C 3401 C 3402 C 3403 C 3404 C 3405 C 3406 C 3407 C 3408 C 3409 C 3410 C 3411 C 3412 C 3413 C 3414 C 3415 C 3416 C 3417 C 3418 C 3419 C 3420 C 3421 C 3422 C 3423 C 3424 C 3425 C 3426 C 3427 C 3428 C 3429 C 3430 C 3431 C 3432 C 3433 C 3434 C 3435 C 3436 C 3437 C 3438 C 3439 C 3440 C 3441 C 3442 C 3443 C 3444 C 3445 C 3446 C 3447 C 3448 C 3449 C 3450 C 3451 C 3452 C 3453 C 3454 C 3455 C 3456 C 3457 C 3458 C 3459 C 3460 C 3461 C 3462 C 3463 C 3464 C 3465 C 3466 C 3467 C 3468 C 3469 C 3470 C 3471 C 3472 C 3473 C 3474 C 3475 C 3476 C 3477 C 3478 C 3479 C 3480 C 3481 C 3482 C 3483 C 3484 C 3485 C 3486 C 3487 C 3488 C 3489 C 3490 C 3491 C 3492 C 3493 C 3494 C 3495 C 3496 C 3497 C 3498 C 3499 C 3500 C 3501 C 3502 C 3503 C 3504 C 3505 C 3506 C 3507 C 3508 C 3509 C 3510 C 3511 C 3512 C 3513 C 3514 C 3515 C 3516 C 3517 C 3518 C 3519 C 3520 C 3521 C 3522 C 3523 C 3524 C 3525 C 3526 C 3527 C 3528 C 3529 C 3530 C 3531 C 3532 C 3533 C 3534 C 3535 C 3536 C 3537 C 3538 C 3539 C 3540 C 3541 C 3542 C 3543 C 3544 C 3545 C 3546 C 3547 C 3548 C 3549 C 3550 C 3551 C 3552 C 3553 C 3554 C 3555 C 3556 C 3557 C 3558 C 3559 C 3560 C 3561 C 3562 C 3563 C 3564 C 3565 C 3566 C 3567 C 3568 C 3569 C 3570 C 3571 C 3572 C 3573 C 3574 C 3575 C 3576 C 3577 C 3578 C 3579 C 3580 C 3581 C 3582 C 3583 C 3584 C 3585 C 3586 C 3587 C 3588 C 3589 C 3590 C 3591 C 3592 C 3593 C 3594 C 3595 C 3596 C 3597 C 3598 C 3599 C 3600 C 3601 C 3602 C 3603 C 3604 C 3605 C 3606 C 3607 C 3608 C 3609 C 3610 C 3611 C 3612 C 3613 C 3614 C 3615 C 3616 C 3617 C 3618 C 3619 C 3620 C 3621 C 3622 C 3623 C 3624 C 3625 C 3626 C 3627 C 3628 C 3629 C 3630 C 3631 C 3632 C 3633 C 3634 C 3635 C 3636 C 3637 C 3638 C 3639 C 3640 C 3641 C 3642 C 3643 C 3644 C 3645 C 3646 C 3647 C 3648 C 3649 C 3650 C 3651 C 3652 C 3653 C 3654 C 3655 C 3656 C 3657 C 3658 C 3659 C 3660 C 3661 C 3662 C 3663 C 3664 C 3665 C 3666 C 3667 C 3668 C 3669 C 3670 C 3671 C 3672 C 3673 C 3674 C 3675 C 3676 C 3677 C 3678 C 3679 C 3680

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

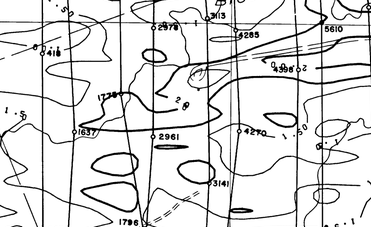
LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——>20
CONTROL POINT • 2498
UNCONTROLLED POINT x 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 2·00, 4·00 p.p.m. eU ~~~
0·50, 1·00, 1·50 p.p.m. eU ~~~
URANIUM WINDOW 1·66 – 1·90 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137



KEY

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
URANIUM CONTOURS

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE D25-mq
MAY – 1977	1 IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

11/E-12EAST

63°37'30" E 1,230 000 37 36 35 E 1,235 000 34 E 1,240,000 33 E 1,245,000 32 E 1,250,000 31 E 1,255 000 63°30'00"

45°37'30" N 16,580,000 37' N 16,575,000 36' N 16,570,000 35' N 16,565,000 34' N 16,560,000 33' N 16,555,000 32' N 16,550,000 31' N 16,545,000 N 16,540,000 45°30'00"

WENTWORTH STATION

Caldwell Brook

Davis Brook

Rocky Brook

Stanley Brook

Higgins Brook

Hart Brook

Little Long Lake

Barber Lake

Folly Lake

Carter Lake

Slack Lake

Rockland Village

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

Brook

Folly River

McElmon Brook

East River

SKI SLOPE

Gravel Pit

104

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——————> 20
CONTROL POINT ° 2498
UNCONTROLLED POINT x 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 2·00, 4·00 p.p.m. eU
0·50, 1·00, 1·50 p.p.m. eU
URANIUM WINDOW 1·66 - 1·90 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

64°00' 63°00' 45°30'

'433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
URANIUM CONTOURS

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E-24-mq
MAY - 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT

To accompany "Cobequid III Report" Nov. 1977

11/E - 11WEST

E 1,265,000 E 1,280,000 E 1,285,000 63°22'30"

45°37'30"

N 16,580,000 N 16,575,000 N 16,570,000 N 16,565,000 N 16,560,000 N 16,555,000 N 16,550,000 N 16,545,000 N 16,540,000

37' 36' 35' 34' 33' 32' 31'

63°30'00" 29' 28' 27' 26' 25' 24' 23'

45°30'00"

Wallace

NORTHUMBERLAND COUNTY

COLCHESTER COUNTY

Swan Brook

Juniper Lake

Indian Lake

Little Snare Lake

Rory Pond

East Folly River

Totten Lake

Totten Brook

Pine Brook

Little Totten Lake

Big Snare Lake

Debert River

Big Island Lake

Whirleywough Lake

Round Lake

Long Lake

Shater Lake

Irwine Lake

Rocky Lake

Musquash Lake

Jonathon Lake

Moose Lake

Cook Lake

Clark Lake

Chain Lakes

Fraser Lake

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——→ 20
CONTROL POINT ° 2498
UNCONTROLLED POINT × 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 2·00, 4·00 p.p.m. eU
0·50, 1·00, 1·50 p.p.m. eU
URANIUM WINDOW 1·66 - 1·90 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

45°30'
64°00' 63°00'

'433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
URANIUM CONTOURS

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 25-mq
MAY - 1977	1 IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

11/E – 12 EAST

63° 37' 30" E 1,225,000 37' 36' E 1 230,000 35' E 1 2..5,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63° 30' 00"

45° 45' 00"

N 16,625,000

44'

N 16,620,000

N 16,615,000 43'

42'

N 16,615,000

N 16,605,000

41'

N 16,600,000

40'

N 16,595,000

39'

N 16,590,000

38'

N 16,585,000

45° 37' 30"

63° 37' 30" 37' 36' 35' 34' 33' 32' 31' 63° 30' 00"

Grant Brook
Wigmore Brook
Montrose Brook
Brennan Brook
Bigney Brook
Dewar Lake
Still Brook
Chisholm Brook
Flemming Brook
Wallace River
Wallace Brook
Henderson Brook
Palmer West Brook
Ralston Brook
Gough Brook
Tead Brook
Pleasant Brook
Black Brook
Wallace River

LOWER WENTWORTH
WENTWORTH CENTRE
HENDERSON SETTLEMENT
LOWER GREENVILLE
WENTWORTH

368
104

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——→ 20
CONTROL POINT ° 2498
UNCONTROLLED POINT × 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 0·25, 0·50 URANIUM/POTASSIUM (c.p.s.) RATIO
0·05, 0·10, 0·15, 0·20 URANIUM/POTASSIUM (c.p.s.) RATIO
URANIUM WINDOW 1·66 – 1·90 MeV
POTASSIUM WINDOW 1·38 – 1·56 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

64° 00' 45° 30' 63° 00'

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY

U/K RATIO

(CONTOURS)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE D 24-mp
MAY – 1977	1 IN. = 1/4 MI.		N T S 11E/12 PT

To accompany "Cobequid III Report" Nov. 1977

1433047

11/E-11WEST

63°30'00" 29' E 1,260 000 28' E1,265 000 27' E1,270 000 26' E1,275 000 25' E 1,280,000 24' E 1,285,000 23' 63°22'30"

45°45'00"

N 16,625 000

44'

N 16,620,000

43'

N 16,615 ,000

N 16,610 ,000

42'

N 16,605,000

41'

N 16,600,000

40'

N 16,595,000

39'

N 16,590,000

38'

N 16,585,000

45°37'30"

WALLACE GRANT

WALLACE HIGHLANDS

BAYHEAD

WEST TATAMAGOUCHE

MATTATALL LAKE

COUNTY / COUNTY

CUMBERLAND / COLCHESTER

Dewar River

Dobson Creek

Brook

Gouzhore

Flemming Brook

Millard Creek

Blockhouse Brook

Mattatall

Lake

Long Lake

Brook

Black Brook

Stimson Brook

McLeod Brook

Mill Brook

Mattatall Brook

6

301 199 300 302 303 305 304 193 192 191 190 189

C 1088 C 1089 C 1087 C 1086 C 1091 C 1090

276

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION	20
CONTROL POINT	* 2498
UNCONTROLLED POINT	x 2723
MEAN FLIGHT LINE SPACING	660 FEET
MEAN TERRAIN CLEARANCE	150 FEET
0, 0·25, 0·50 URANIUM/POTASSIUM (c.p.s.) RATIO	~
0·05, 0·10, 0·15, 0·20 URANIUM/POTASSIUM (c.p.s.) RATIO	~
URANIUM WINDOW	1·66 – 1·90 MeV
POTASSIUM WINDOW	1·38 – 1·56 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

64°00' 63°00' 45°30'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY

U/K RATIO

(CONTOURS)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: D25-mp
MAY - 1977	1 IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

11/E-12EAST

63°37'30" E 1,225,000 37 E 1,230,000 36 35' E 1,235,000 34' E 1,240,000 33' E 1,245,000 32' E 1,250,000 31' E 1,255,000 63°30'00"

45°37'30" N16,580,000 37' N16,575,000 36' N16,570,000 35' N16,565,000 34' N16,560,000 33' N16,555,000 32' N16,550,000 31' N16,545,000 45°30'00"

WENTWORTH STATION

SKI SLOPE

Whetstone Brook

Black Brook

Swan Brook

Little Long Lake

Long Lake

Hart Lake

Brook

Brook

Village

Rockland

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

FOLLY LAKE

Folly Lake

Carter Lake

Barber Lake

Slock Lake

McElmon Brook

Folly River

East Folly River

River

Gravel Pit

104

C-880 C-877 C-878 C-879 C-888 C-885 C-889 C-892 C-893 C-890 C-891 C-894 C-895 C-896 C-897 C-898 C-899 C-900 C-901 C-333 C-332 C-331 C-320 C-319

63°37'30" 37' 36' 35' 33' 32' 45°30'00"

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ——————> 20
CONTROL POINT ° 2498
UNCONTROLLED POINT x 2723
MEAN FLIGHT LINE SPACING 660 FEET
MEAN TERRAIN CLEARANCE 150 FEET
0, 0·25, 0·50 URANIUM/POTASSIUM (c.p.s.) RATIO ~~~~
0·05, 0·10, 0·15, 0·20 URANIUM/POTASSIUM (c.p.s.) RATIO ~~~~
URANIUM WINDOW 1·66 – 1·90 MeV
POTASSIUM WINDOW 1·38 – 1·56 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

64°00' 45°30' 63°00'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
U/K RATIO
(CONTOURS)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E-24-mp
MAY – 1977	1 IN. = 1/4 MI.		NTS. 11E/12 PT

To accompany "Cobequid III Report" Nov 1977

11/E - 11WEST

E 1,265,000 E 1,280,000 E 1,285,000 63°22'30"

45°37'30"

N 16,580,000 N 16,575,000 N 16,570,000 N 16,565,000 N 16,560,000 N 16,555,000 N 16,550,000 N 16,545,000 N 16,540,000

37' 36' 35' 34' 33' 32' 31'

45°30'00"

63°30'00" 29' 28' 27' 26' 25' 24' 23' 63°22'30"

Wallace River

Cumberland - Colchester County Line

Swan Brook

Juniper Lake

Indian Lake

Trout Lake

Little Shore Lake

Rory Pond

East Folly River

Totten Lake

Pine Brook

Little Totten Lake

Totten Brook

Whitelyn Lake

Rourke Lake

Long Lake

Shatter Lake

Irvine Lake

Johnston Lake

Musquash Lake

Glydon Lake

Lakes

Scotch Lake

Boom Lake

SCINTREX: GAD-5 SPECTROMETER WITH TWO GSA-64 SENSORS (904 in³)

LEGEND

FLIGHT LINE, NUMBER AND DIRECTION ----------> 20
CONTROL POINT ---------- ° 2498
UNCONTROLLED POINT ---------- ˣ 2723
MEAN FLIGHT LINE SPACING ---------- 660 FEET
MEAN TERRAIN CLEARANCE ---------- 150 FEET
0, 0·25, 0·50 URANIUM/POTASSIUM (c.p.s.) RATIO ----------
0·05, 0·10, 0·15, 0·20 URANIUM/POTASSIUM (c.p.s.) RATIO ----------
URANIUM WINDOW ---------- 1·66 - 1·90 MeV
POTASSIUM WINDOW ---------- 1·38 - 1·56 MeV

DATA CORRECTED FOR COMPTON SCATTERING, SIGNAL VARIATION DUE TO ALTITUDE, AND BACKGROUND.

Flown and Computer Compiled by
SCINTREX LIMITED
1977

77-T1137

KEY

64°00' 63°00' 45°30'

433047

Gulf Minerals Canada Limited

COBEQUID PROJECT

AIRBORNE SPECTROMETER SURVEY
U/K RATIO
(CONTOURS)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: E 25-mp
MAY - 1977	1 IN. = 1/4 MI.		NTS. 11E/11W

To accompany "Cobequid III Report" Nov. 1977

S

N

JZ-1

50' east of section

JZ-2

JZ-3

25' east of section

4" casing

JZ-4

EOH.

EOH.

EOH.

EOH.

1433047

PLATE: I ds

GULF MINERALS CANADA LTD.
COBEQUID PROJECT

area: III | zone: J

DDH. No. JZ-1 to JZ-4

Section: 700 W.

60 40 20 0 50 100
SCALE: 1 inch = 40 ft.

Date: 30 Oct. 1977 Drawn By: A. WORKMAN (logged by: M. Cullen, A. Workman)

To accompany "Cobequid III Report" Nov. 1977

S

N

JZ-5

JZ-6

100'
200'
300'
400'
500'
52° 60N
Sp-Sy/1cm
Sp-Sy
Sp-Sy/1cm
Sp-Sy/1cm
Sp-Sy/1cm

S

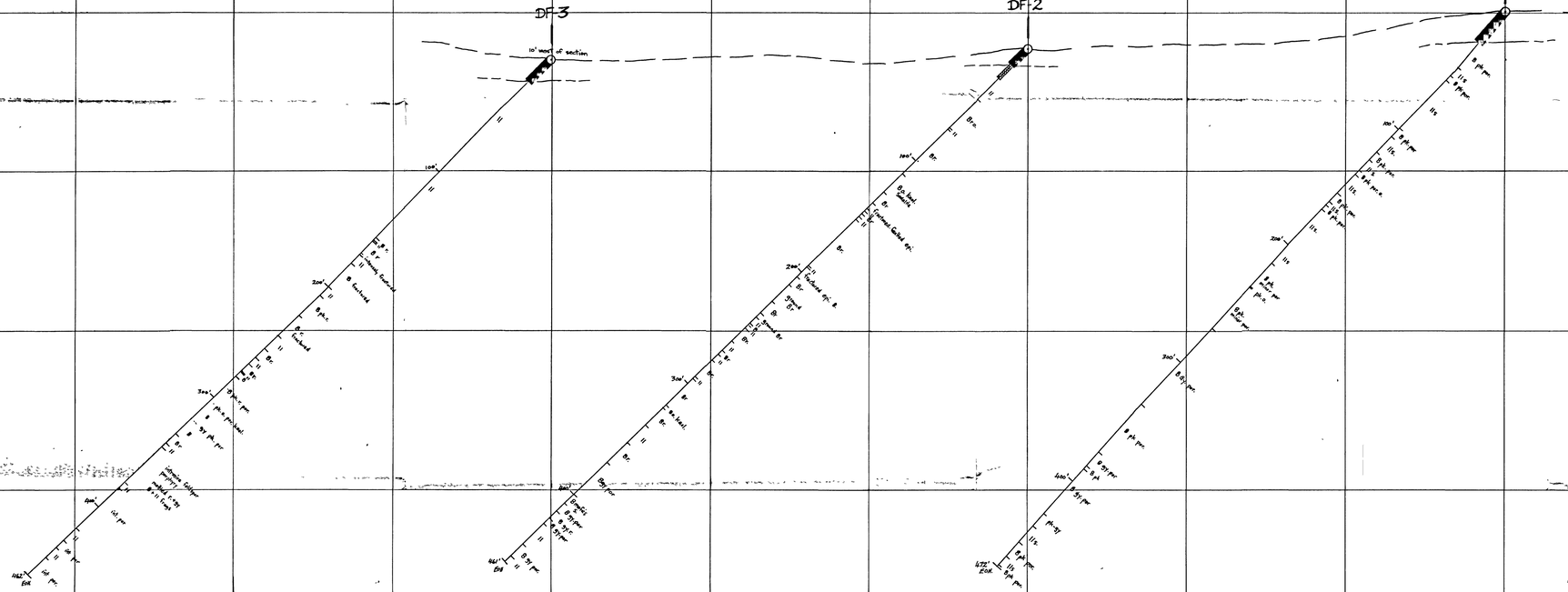
N

DF-3

DF-2

DF-1

DF-4


10' west of section
Gabbro
Diabase
Diabase
Gabbro
Diabase
Diabase
Diabase