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COBEQUID III

EXPLORATION PROGRAM 1977-78
ON PARTS OF 11B 11 AND 11E 12

PART 1 OF 4

433054 54-E 52 02

Gulf

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COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

PART 1 OF 4

433054 54-E 52 02

A REPORT ON

GEOCHEMISTRY

GEOLOGICAL MAPPING

REVERSE CIRCULATION DRILLING

DIAMOND DRILLING

11E/11B
11E/11C
11E/12A
11E/12D

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COBEQUID III

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Gulf Minerals Canada Limited

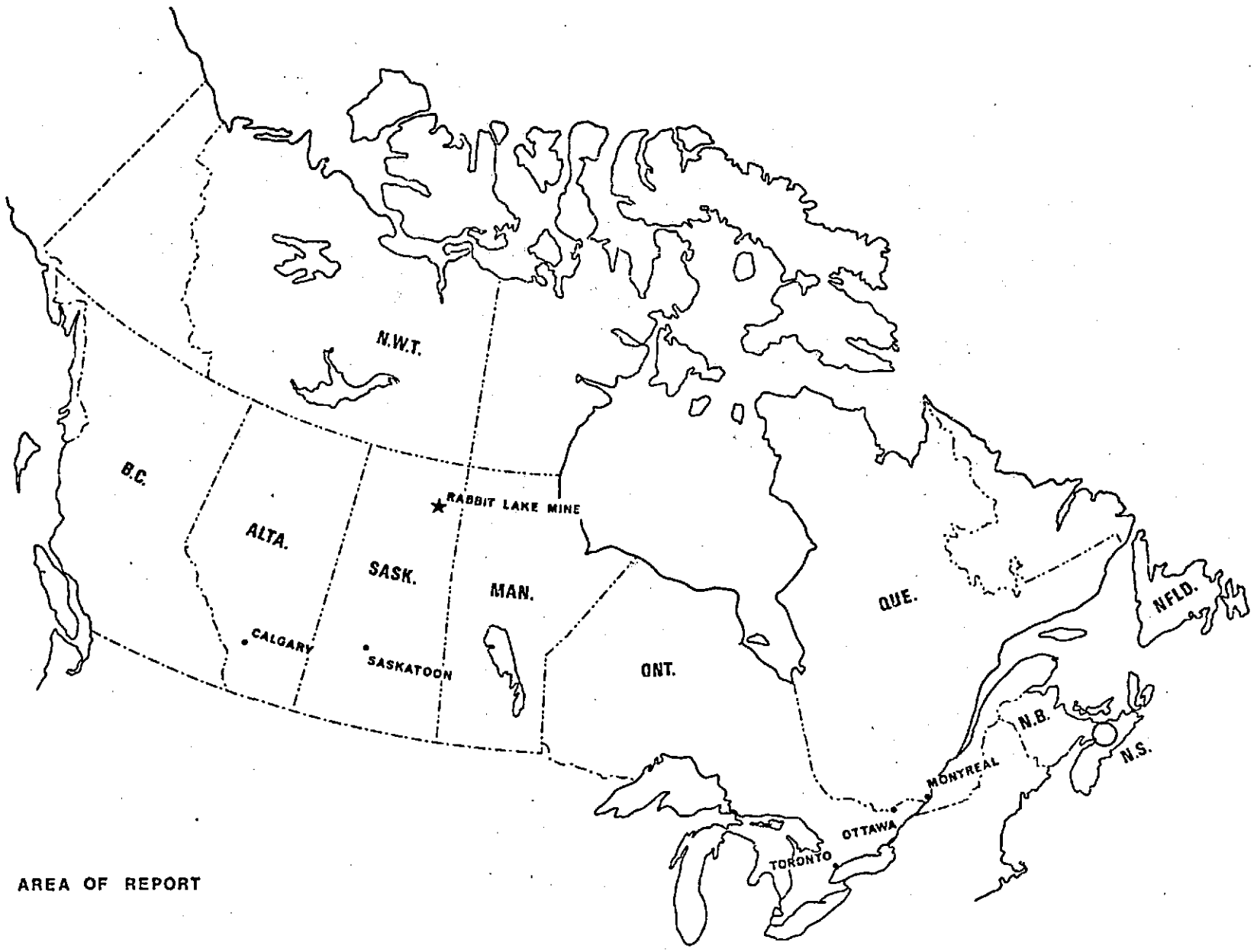
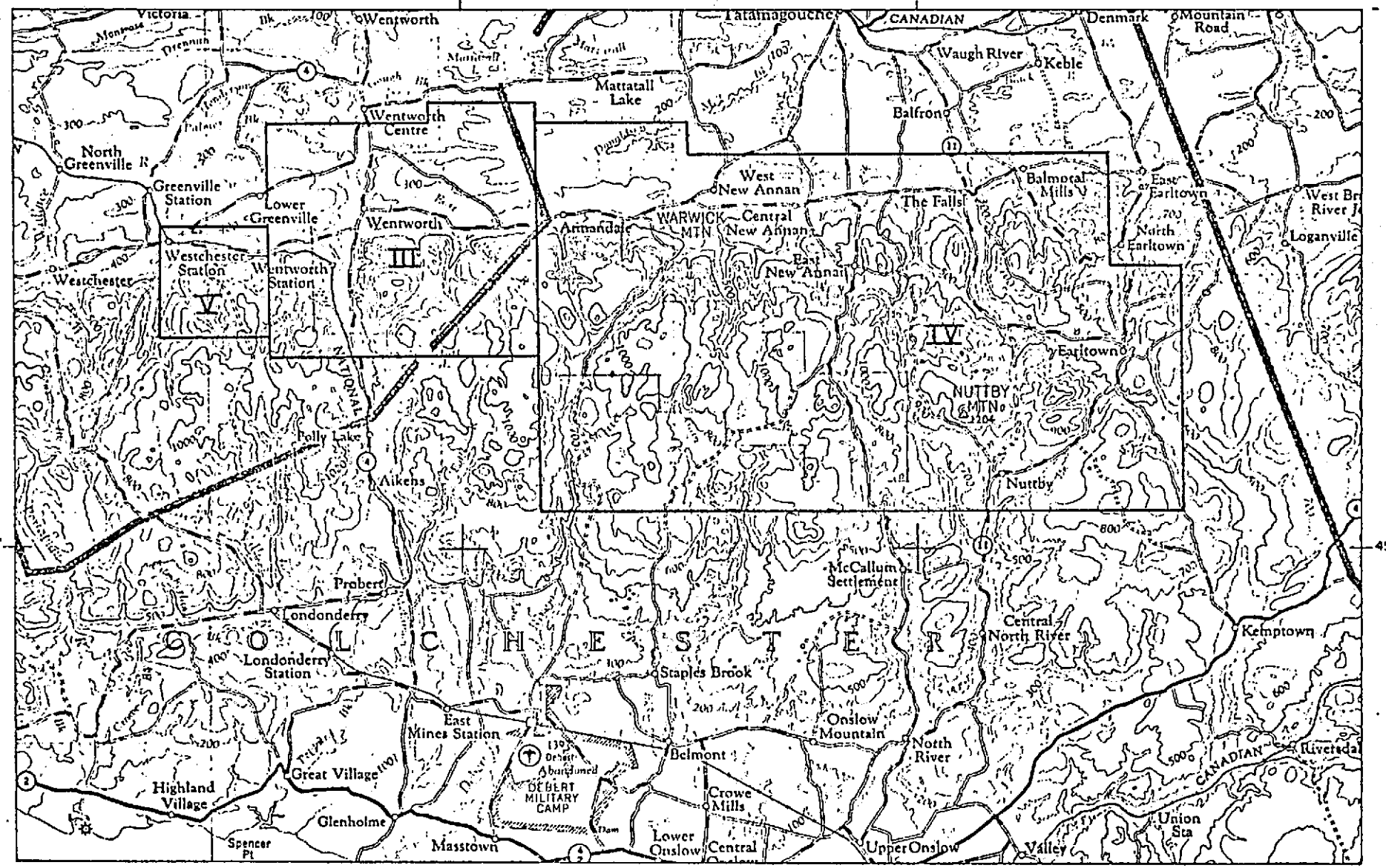


FIGURE 1



COBEQUID URANIUM CLAIM BLOCKS III, IV & V

0 5 10

Miles

Figure - 2

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. One hundred and thirty miles of grid were cut on the property in July and August. A diamond drilling program was initiated in late August and continued to late December.

Early in May, 1978, detailed geological mapping of the Swan Brook Grid was started. On the basis of 1977 results a soil geochemistry program was started on the grid late in May. Prospecting continued on the block throughout the field season. A diamond drill program was initiated late in July. During late October and November, an orientation reverse circulation deep overburden sampling program was undertaken. It must be noted that the present interpretation of data is highly limited by the lack of assay data.

COBEQUID III

LAND RETAINED FOR 1979

MAP	LICENCE NO.	TRACTS	CLAIMS
11E 11B	1231	61, 62	J-Q
11E 11B	1231	83, 84	A-Q
11E 11B	1231	85, 86	A-H
11E 11B	1232	107, 108	A-Q
11E 11B	1232	85, 86	J-Q
11E 11C	1232	12	A-Q
11E 11C	1232	11, 13	A-H
11E 11C	1233	14, 35, 36	A-Q
11E 11C	1233	11, 13	J-Q
11E 11C	1233	37, 38	A-H
11E 12D	1234	20, 21	A-Q
11E 12D	1234	3, 4, 5	J-Q
11E 12D	1234	22, 28, 29	A-H
11E 12D	1235	4, 5	A-H
11E 12A	1235	100, 101	A-Q
11E 12A	1235	99	A-H
11E 12A	1235	92, 93, 94	J-Q
11E 12A	1236	97, 98	A-Q
11E 12A	1236	95, 96, 99	J-Q
11E 12D	1236	1, 2, 3	A-H
11E 12D	1237	23, 24	A-Q
11E 12D	1237	1, 2, 22	J-Q
11E 12D	1237	25, 26, 27	A-H
11E 12A	1238	76, 77	A-Q
11E 12A	1238	68, 69, 70	J-Q
11E 12A	1238	75, 92, 93	A-H
11E 12D	1239	25, 26, 27, 28, 29	J-Q
11E 12D	1239	48	A-H
11E 12A	1240	73, 74	A-Q
11E 12A	1240	71, 72, 75	J-Q
11E 12A	1240	94, 95, 96	A-H

B) PERSONNEL

For the 1978 field season Gulf personnel employed on the property were:

M. Adshade	Bull Cook
S. Barnhill	Junior
S. Barron	Junior
V. Bergeron	Junior
J. Bigauskas	Junior
G. Black	Prospector
A. Brown	Prospector
L. Cameron	Cook
J. Chadillon	Cook
M. Chaisson	Junior
M. Cullen	Senior Geologist
R. Cote	Geologist
G. Davison	Junior
J. DeBriske	Prospector
M. DeBriske	Geophysist
N. Downey	Project Geologist
W. France	Prospector
M. Fraser	Junior
B. Geddes	Pliestocene Geologist
B. Germundson	Junior
P. Gertzbien	Junior
D. Gower	Junior
J. Halonen	Prospector
J. Harper	Senior Geologist
H. Kenty	Prospector
K. Horan	Logging Technician
J. Kunz	Junior
B. Kotila	Geologist
J. MacIntosh	Geologist
K. MacNeil	Geologist
J. McNeil	Prospector
N. Matheson	Junior

C. Ricks	Junior
R. Rintami	Prospector
R. Sanders	Geologist
A. Seifried	Junior
A. Seguin	Prospector
R. Smith	Prospector
J. Stirling	Mineralogist
M. Strazdins	Geologist
G. Tupper	Prospector
M. Weber	Logging Supervisor
A. Workman	Drill Geologist

Contractors employed on the property were:

Atlantic Groundwater and Geophysics Ltd., - Fredericton, N.B.
St. Lambert Drilling Co. Ltd., - Valleyfield, P.Q.
C. Weatherbee, backhoe operator - Wentworth, N.S.

All work was under the supervision of Mr. C. R. Burkhart and Mr. G. I. Pearson of Gulf's Toronto office.

II GEOCHEMISTRY

A) SOILS

From May 24 to the end of July, Gulf personnel carried out a soil sampling program over a portion of the Swan Brook grid as followup to the 1977 program. Samples were collected at 100 foot intervals along lines 400 feet apart. At each location "A" and "C" zone samples were collected.

All analytical services were performed by X-Ray Assay Laboratories, Don Mills, Ontario. The minus 80 mesh fraction was assayed for copper, lead, silver, zinc and uranium. Uranium was detected by delayed neutron activation with a minimum detection limit of 0.4 ppm. The base metals and silver were determined fluorimetrically at minimum detection limits of 5 ppm and 1 ppm respectively. Assay results are attached in Appendix I.

The mean uranium assay value for the area, taken from the C horizon values, is 4.1 ppm with a standard deviation of 1.96 ppm. The anomalous threshold determined from the formula mean + 1 standard deviation yields a value of 6.9 ppm. Values equal to or exceeding the threshold account for 8.6% of the survey results.

Base metal values show no apparent relationships either among themselves or with uranium. The suspected association between silver and uranium has proven to be negligible. Additional interpretation of the data is required before the 1979 field season.

The soil sampling program in the Cobequid III area has been successful in locating isolated uranium anomalies. The occurrence of uranium concentrations appears to be independent of other geochemical associations; i.e., the base metals and silver.

B) WHOLE ROCK GEOCHEMISTRY

An extensive and detailed program of whole rock geochemistry was started during the 1978 field season. A few samples were analyzed in 1977, and the results indicated that a more comprehensive program was justified. The purpose was to establish a data base, to study the original composition of the various rock units, to identify alteration patterns, to select samples for geochronology, to help match boulders with bedrock and to develop genetic models for the mineralization. Several hundred samples, which were collected from outcrop, boulders and core, have been analyzed for major oxides and trace elements (U, Th, Sn, F^-, W, Ca, Pb, Zn, Ag). The results are tabulated in Appendix I.

At the time of writing, not all of the results have been received from the lab. Therefore, these interpretations are initial ideas and should be treated as multiple working hypotheses. The available chemical data and initial petrography show that there has been an extensive alteration of some of the units. The alteration could be the result of hydrothermal activity and/or alkali exchange reactions.

The alteration patterns could be the result of the cooling of an ignimbrite sheet, the intrusion of the diabase, diorite and granite. The alteration patterns caused by the cooling of the ignimbrite sheet have not yet been defined in a systematic way.

The intrusion of the diabase in the + zone has resulted in the "rhyolite" becoming deficient in S_iO_2, K_2O and CaO and enriched in Na_2O. The rocks are near saturation too, under-saturated with respect to S_iO_2. In this case, a working model would be that the intrusion of the "diabase" created a large thermal gradient and probably some partial melting of the rhyolite. The thermal gradient would cause alkali exchange reaction to occur (Orville, 1963). This thermal gradient could also act as a heat pump and cause the circulation of

fluids; however, the low L.O.I. and the low abundance of hydrous minerals indicate that only a minor amount of H_2O was involved in the reactions.

Extensive hydrothermal activity appears to have occurred in the D.F. zone. This is evident by the presence of white micas, fluorite, granular garnet and metamorphic albite in the altered rhyolite (mineral identifications log, X-ray diffraction and microscopy). The anomalous concentration of Sn, Pg and W also indicates hydrothermal activity. Most of the mineralized boulders have compositions that are obviously the result of some sort of alteration.

The whole rock geochemistry has been useful in identifying chemical trends and alteration patterns. More interpretative work is being done as the results are received.

III 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-ISL scintillometer for measuring radioactivity. Mapping was mainly confined to stream valleys, road cuts and the Swan Brook grid. Air photos at a scale of four inches to one mile and six inches to one mile were used for control. Results were plotted on 1/4 mile to the inch Department of Lands and Forests base maps. Results from the Swan Brook grid were plotted to one inch to 400 foot base maps.

All outcrop 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 Mountains form a resistant upland ridge feature trending east-west across north central Nova Scotia for over 200 km. Gulf Minerals Canada Limited's Cobequid III property occupies the central region of this upland.

The mountains are formed by variably deformed volcanic and sedimentary sequences which have been affected by numerous stages of granitic and dioritic intrusion. The oldest intrusive body in the area is the Jeffers Brook Pluton near Parrsboro which has been dated as late Precambrian to early Cambrian in age (Wanless et al, 1972). The youngest intrusives are diabasic dykes probably associated with

youngest intrusives are diabasic dykes probably associated with basaltic volcanic activity in the Triassic.

At present, exploration efforts are being concentrated upon the Siluro-Devonian volcanic-sedimentary rocks of the Earltown Sequence.

Structural and lithologic discontinuities within the highland prevent widespread correlation of stratigraphic or lithologic units and locally result in complex and/or ambiguous relationships between sequences.

Interpretation of data presently available indicates that poly-deformed sedimentary and volcanic sequences such as the Bass River Complex may represent the basement material of the highland that predates the known late Precambrian near Parrsboro. Since all occurrences of this material are fault bounded, the true stratigraphic relationship of the Silurian and older rocks to it is unknown.

Multiple intrusions of granitic and dioritic bodies into the sedimentary and volcanic sequences probably coincided with the waning stages of the Late- and Mid-Devonian Acadian Orogeny and these now form a core system to the highland. A distinction among these intrusives is the presence or absence of a tectonic fabric which thusly defines relative age relationships. Recent age dating indicates that some degree of granitic intrusive activity continued into lower Mississippian times (see Wallace & Donohoe, 1977, pp. 174).

Late Devonian basaltic volcanics outcrop in the eastern highlands and are associated with conglomeratic terrestrial red beds. Subsequent sedimentation was confined generally to the basins skirting the upland on the north and south with the Cobequids supplying clastic material in response to continued erosion.

TABLE II

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, silstone and mudstone, in part calcareous (undivided)
	XIII	Clairmont Formation
		Mississippian
	XII	Middleborough Formation
	XI	Windsor Group
	X	Nuttby Sequences - 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 Plutonic Rock
		a) granite b) diorite
	VI	Foliated Plutonic Rock
		a) 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
		Cambrian or Older
		Jeffers Brook Pluton

TABLE II

COBEQUID PROJECT

Legend - Sept. 1978

			prismacolour no.
Extrusive Volcanics:			
7	Mafic Volcanics		909
	7a	- andesite	
	7b	- basalt	
8	Felsic Volcanics	- dacite, rhyolite	
	8a	- ignimbrite	913
	8b	- ash fall tuff, crystal tuff	946
	8c	- flow banded rhyolite	942
	8d	- massive or undetermined	
	8e	- breccia	931
9	Agglomerates		921
	9Mx	- mafix fragments in mafic matrix	
	9Fx	- felsic fragments in felsic matrix	
	9M	- mixed	
Sediments			936
10	(a) argillite (b) quartzite (c) conglomerate		
	(d) sandstone (e) siltstone (f) mudstone (g) phyllite		
	bedding or foliation: D - distinct		
		I - indistinct	
Intrusive Volcanics			
11	Granite		929
	11a	- pink leucocratic granite	
	11b	- pink mesocratic granite	
	11c	- white-grey granite-granodiorite	
12	Diorite		903
	12a	- unaltered diorite	
	12b	- altered/metamorphosed diorite	
13	Diabase		935
	13a	- unaltered diabase	
	13b	- "spotted" diabase	
	13c	- aphanitic altered diabase	
14	Gabbro, Pyroxenite-Peridotite		901
15	Felsic and Porphyritic Intrusives		924

TABLE II (cont'd)

red - r.
orange - o.
yellow - yl.
green - gn.
grey - gy.
brown - br.
black - bl.

chloritized - chl.
kaolinized - kao.
serpentinized - serp.
uralitized - ural.
sausauritized - saus.
epidotized - epi.
carbonated - carb.
sericitized - ser.
magnetic - mag.

fractured - fract.
sheared - s.
tectonic breccia - t. bx.
mylonite - myl.
amygdaloidal - amyg.
pyroclastic - pc.
porphyritic - ph.
spherulitic - sph.
xenoliths - xenos.
vessicular - vesc.
pyrite - Py.
chalcopyrite - Cpy.
pyrrhotite - Pyh.
sphalerite - Sph.
galena - Ga.
magnetite - Mag.
graphite - Gph.

C) BEDROCK MAPPING

The first few weeks of the field season were spent relogging the core and collecting core samples for petrography and chemical analyses. From the core, it was possible to determine the sequence of events and mappable units which resulted in a revised lithological legend for the detailed mapping (Table II).

The oldest rocks found in the grid are the volcanics which consist of agglomerates, minor sedimentary rocks, ash fall tuffs, ignimbrites, rhyolitic lavas and basic lavas. (It is not always possible to determine whether the basic rocks are lavas, diabases or fine-grained diorites.) The volcanics are intruded by aphanitic diabase dykes, diorite, granite and finally unaltered diabase dykes. There may be more ages of diabase dykes, since in other areas in the Cobequid Mountains at least four ages of diabase dykes have been recognized.

The northern part of the grid has the highest outcrop density; therefore, most of the interpretations were determined in this area. In general, the volcanic sequence has a regional strike 110° and a near vertical dip. The strike and dip measured from the fiammie in ignimbrite sheet is very consistent, whereas the attitude of the flow layering in the felsic lava is very inconsistent. As shown on the maps (Plates II, III), the volcanic stratigraphy from south to north is ignimbrite, lava, another ignimbrite sequence, several lava flows, ash falla tuffs and agglomerates and in the most northern part of the grid occur interbedded vesicular basalt flows and rhyolite lava flows and tuffs. No conclusive younging directions were found, and the few vague top determinations are inconsistent.

The obvious basic lavas occur only in the north part of the grid; some of the basic rocks in the central and southern parts may be lava flows, however exposure is too poor to be conclusive. By the convention established for this area they are called diabase. The northern are the only true basalts found to date.

Throughout, the volcanic sequence is intruded by diorite, small granitic bodies and diabase dykes.

The ignimbrite sheets are typified by welding, the presence of fiammie and lack of continuous flow layering. Nowhere is exposure continuous enough to map out the various zones in the ignimbrites, nor the number of flows and cooling units. Similarly, the top of an ignimbrite may be confused with an ash fall tuff and a rhenignimbrite with a lava flow. Outcrops of massive rhyolite could be a lava flow in the centre of an ignimbrite sheet. Columnar jointing was not recognized anywhere on the grid. The ignimbrites usually have phenocrysts of quartz and feldspar of varying size (0.5-3.0 mm) and concentration (to 25%). These variations can occur on the outcrop scale.

The rhyolite lava flows generally do not contain pyroclasts, have flow layering and breccia dykes. They are usually porphyritic like the ignimbrites and often contain spherulites and pods which have a coarser grain size that are caused by vapour phase recrystallization.

In places the spherulites are very large (to 2.0 cm) and can be as abundant as to approach close packing. The lava flows also have other spherical structures which are not spherulites, but are either vesicules filled with quartz and feldspar, spherical areas of vapour phase recrystallization or lithophysae.

The ash fall tuffs are massive to finely laminated and are not welded. They often contain minor calcite and generally are not as dense or as hard as the ignimbrites. The phenocrysts are often broken.

The term agglomerate has been defined (for the purpose of this mapping program) as a coarse pyroclastic rock which has been deposited by sedimentary methods. The pyroclasts are usually angular and are in a clastic matrix. They often show graded bedding and rarely have load structures and cross bedding. The fragments consist of rhyolite lava, ignimbrite and basic rocks.

The only sedimentary unit occurs in the northeast corner of Block III and is restricted to a fault slice; however, it appears to be conformable to the volcanics. The unit which is approximately 400 ft thick consists of an aphanitic, finely-laminated, blue-gray substance of a very low metamorphic grade, lower greenschist at the maximum. These outcrops were found at the end of the field season and will have to be examined in more detail for fossils, cleavage and younging directions.

D) STRUCTURE AND AIRPHOTO INTERPRETATIONS

The various units appear to be conformable, of uniform attitude and have no evidence for folding. No minor folds, fold closures or penetrative cleavage have been recognized. In thin section, only those rocks in shear zones show any evidence of strain. It is rare to have even strained quartz. There are, however, several fault systems and fault gauge has been observed in two outcrop locations (17+50W/10+00N, 32+00W/26+50N). Mylonite zones have been identified in the granites (example, 67+50E/74+00S); however, the granites were not mapped in as much detail as volcanics.

Three major fault systems occur in the area: north-south, east-west and northwest-southeast trending faults. The east-west faults have not been defined by geology because they are coincident with the strike. They have been interpreted from the EM16 results. The NW-SE faults have been defined by geophysics and geology. The N-S are the easiest to define by geology since they cut across the stratigraphy. They appear to be the youngest since they are seldom offset and they have offset some of the EM conductors. The apparent strike movement is left lateral; however, the topography also indicates a vertical movement and possibly a horst and graben type of structure.

In addition to the geophysical and geological considerations for locating the faults, many are also recognizable as lineaments on airphotos. The major lineaments have been shown on the geology maps (Plates 1 and 2). Many of the lineaments correspond very well to the location of the faults as interpreted from geology and geophysics. The other lineaments may also be faults; however, more mapping and geophysics will be necessary to better define them (the present EM16 survey will not detect N-S trending faults). The understanding of the relative age, location and the type and amount of movement of the faults is necessary in order to completely define the interval stratigraphy of the volcanic sequence.

E) GEOCHRONOLOGY

Wallace and Donohoe (1977) have assigned the volcanics to the Earltown Sequence which is Silurian in age. The correlation is based on lithological similarities. The granite which intrudes the volcanics has an Upper Devonian age. The basalts which are in the north part of the grid are lithologically similar to the River John basalts which have interbedded sediments that have been dated as Middle Devonian by palynology (Wallace and Donohoe, 1977). As a result, samples of the sediments in the volcanic pile were collected for paleontological studies. Radiometric dating may also be necessary. The correct age is needed to help to establish a genetic model for the mineralization.

IV) REVERSE CIRCULATION DRILLING PROGRAMME

This report primarily concerns the procedures and recommendations arising out of the reverse circulation drilling program within the Cobequid Mountains of Nova Scotia from October 28 to November 28, 1978.

1) OBJECTIVES

This reverse circulation program was designed to explain the sources of the radioactive boulder clusters in both the DF and J-Zone areas. The applicability of this method in these specific areas was also tested to see how a typical overburden anomaly can be related to bedrock geology or possibly mineralization further in the "up ice" direction. Sampling and analytical methods were examined to discover the best procedures for stratigraphic interpretations as well as mineralization detection.

2) PROCEDURES

The drilling in the DF area was completed first, due in part to the threat of weather combined with critical road conditions. A small grid consisting of three east-west lines 400 ft apart with drill sites every 200 feet provided the bulk of the DF coverage. An east-west road approximately 800 feet south of the grid was also used for drill locations. A series of seven holes were drilled on two north-south roads just to the west of the main DF area to investigate a soil geochemical anomaly previously obtained.

In the DF area 52 holes were drilled, numbered RD-01 to RD-31 and RD-31B to RD-51. A total of 1,023 feet were drilled with an average depth of 19.7 feet per hole. The average overburden depth was 13.2 feet. A total of 77 overburden and 65 bedrock samples were obtained from the RD drilling.

The reverse circulation drilling in the J-Zone area was restricted to existing roadways and previously cleared diamond drill sites. The restricted grid consisted of four approximately east-west lines with two north-south lines forming the boundaries to the east and west. Drill sites were approximately 200 feet apart with considerable variation due to topography and the non-rectangular nature of the grid. A series of holes spaced 100 feet apart were also located in the area of the mineralized trench at the centre of the J-Zone area.

On the J-Zone, 61 holes were drilled, numbered RJ-01 to RJ-61. A total of 1,557 feet were drilled with an average of 25.5 feet per hole. The average overburden depth of 17.7 feet reflects the few very deep holes drilled down in the creek valley.

Overburden samples were obtained at 5 foot intervals rather than the more normal 7-8 foot interval because of the shallow nature of the till. Only one 5 foot bedrock sample was obtained unless mineralization was encountered or if the lithologics changed in which case sampling was continued.

The overburden samples were split and sieved on the property before being sent off for U, Pb, Zn and Cu analysis (see Chart 1). It was not known which of these samples for analysis (-80, -10+80, heavy liquid separation) would best reflect the glacial dispersal of the uranium mineralization in this area. As of this time, the analytical results have not been received. Further discussions of the applicability of each of the sample types for mineralization detection will be included in a report at a later date.

Bedrock samples were also initially processed in Gulf Minerals' field lab (see Chart 2). The +10 sieve size fraction was handpicked with unweathered and relatively unaltered fragments being sent away for whole rock geochemistry as well as the standard U, Pb, Zn and Cu analysis.

Trace element analysis for Sn, W, F and Th were also included. The results for the bedrock samples are also not available at the present time.

3) RECOMMENDATIONS

The use of a reconverted diamond drill system rather than a more mobile Nodwell mounted unit drastically increased moving and set-up time, thus reducing the footage drilled per day. The lack of mobility also necessitated the building of drill roads which, because of the degree of maturity of the hardwood forest, was a costly and time consuming operation. Having a more mobile water supply system, as on the back of a Bombardier or a small Nodwell, would also have reduced set-up time and almost eliminated the problem of frozen water lines.

Except for the few deep overburden holes drilled in the creek valley in the north J-Zone area, the shallow nature of the overburden covering the majority of the DF and J-Zone areas indicated that the reverse circulation drilling system was not ideal for this area. A large mobile auger or backhoe trenching would probably generate comparable data at a fraction of the cost.

CHART 1

OVERBURDEN LAB PROCEDURE

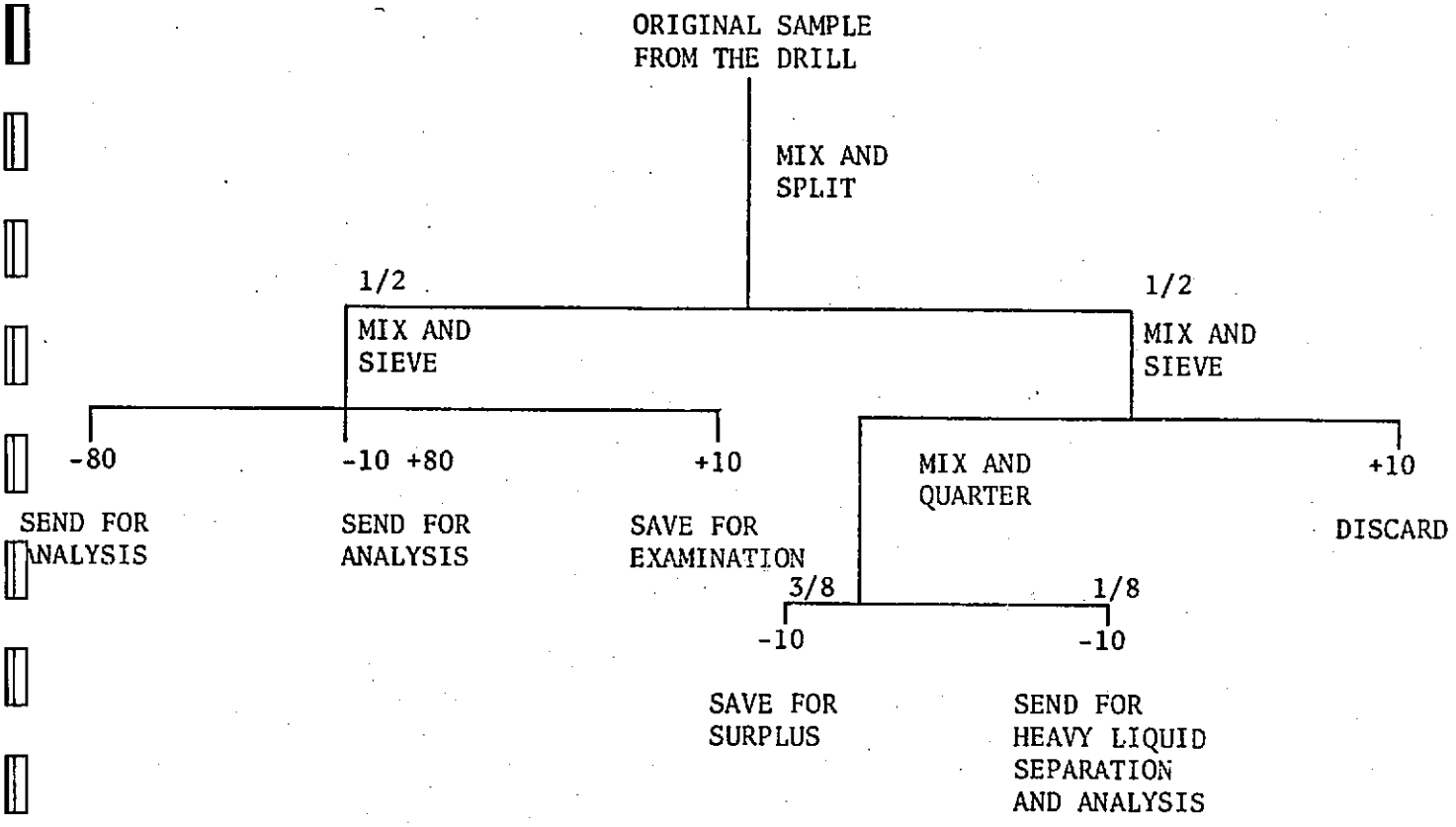
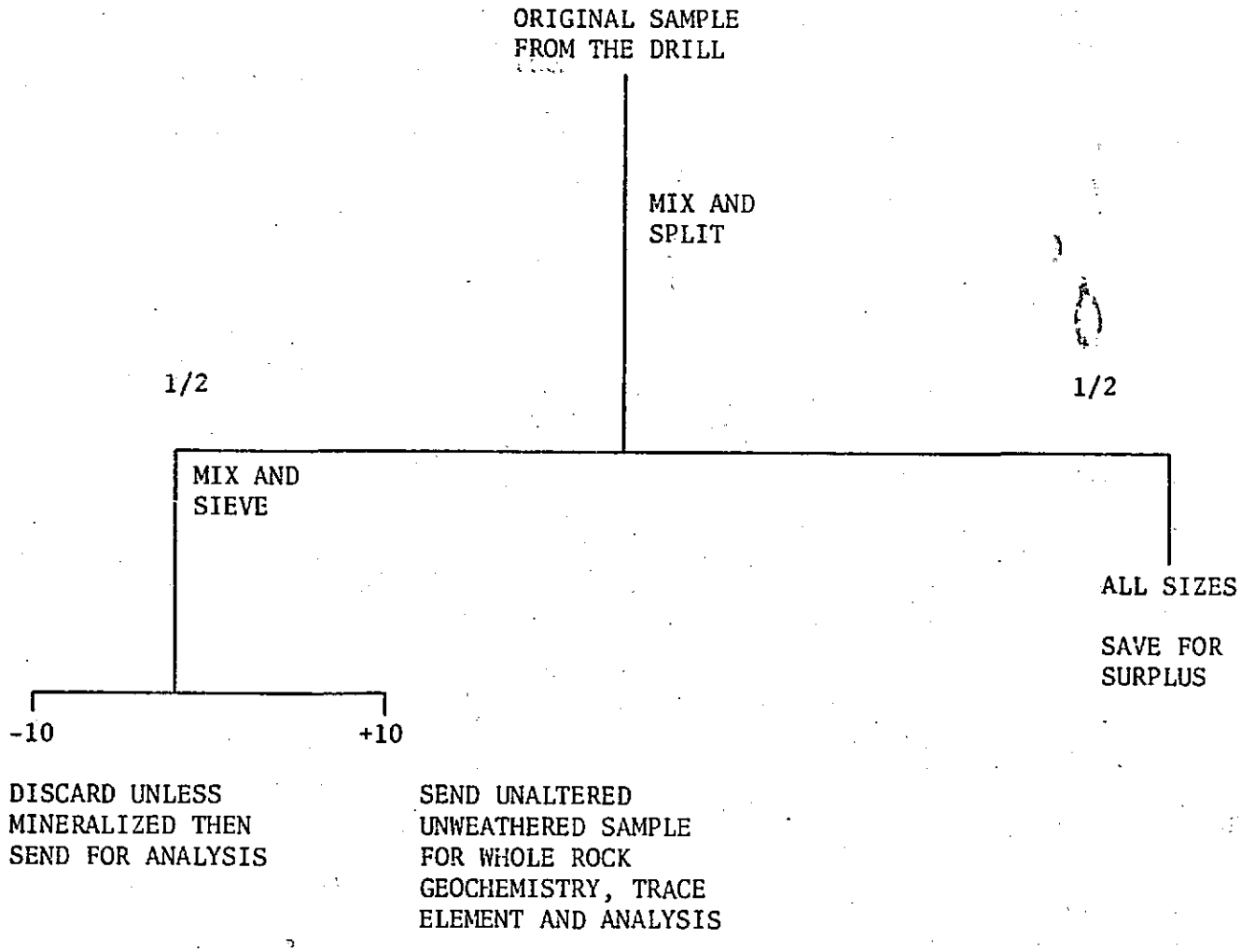


CHART 2

BEDROCK LAB PROCEDURE



APPENDIX I

SECTION A

WHOLE ROCK

SAMPLE #	C6349	C6350	C6351	C6352
SiO_2	59.7	64.4	78.0	61.5
Al_2O_3	20.3	17.9	10.8	17.9
CaO	2.79	1.15	0.28	3.19
MgO	1.26	0.23	0.19	0.18
Na_2O	2.34	10.5	2.81	10.8
K_2O	7.80	0.13	4.51	0.10
FeO	4.28	4.87	3.04	4.03
MnO	0.07	0.02	0.04	0.02
TiO_2	1.38	0.38	0.26	0.34
P_2O_5	0.11	0.47	0.01	1.96
LOI	2.48	0.55	0.38	0.44
TOTAL	98.1	97.9	100.8	98.3
U	490	460	23	270
Th	68	27	24	46
Cu	11	15	19	20
Zn	150	66	110	83
Ag	1	1	2	2
Pb	70	30	195	50
F-	1900	450	170	1200
Sn	15	3	3	3
W	20	40	20	20
Qtz	8.58	0.16	43.05	0.00
Cor	3.18	0.00	0.84	0.00
Or	45.79	0.78	26.61	0.57
Ab	19.64	88.30	23.75	84.01
An	13.04	1.60	1.31	0.16
Ne				3.83
Di		0.09		0.27
He		0.84		2.19
Wo				
En	1.79	0.32	0.20	
Fs	1.75	3.30	1.18	
Fo				0.09
Fa				0.98
Mt	1.41	2.79	2.54	2.71
Il	2.60	0.73	0.49	0.64
Hm	1.96			
Ap	0.25	1.08	0.03	4.55
Ru				

SAMPLE #	C6372	C6373	C6374	C6376	C6370	C6371
SiO_2	82.0	60.9	61.0	69.0	73.0	69.8
Al_2O_3	9.75	17.1	17.5	16.6	10.9	13.9
CaO	0.15	4.73	2.08	0.67	2.31	0.40
MgO	0.24	0.70	0.66	0.31	0.78	0.58
Na_2O	0.00	9.07	9.41	9.84	5.36	0.57
K_2O	3.83	0.21	0.16	0.14	0.17	6.81
FeO	3.71	5.47	7.54	2.92	5.27	7.35
MnO	0.04	0.09	0.08	0.03	0.09	0.10
TiO_2	0.26	0.38	0.37	0.37	1.08	0.36
P_2O_5	0.01	1.40	1.18	0.12	0.96	0.09
LOI	2.59	0.89	2.22	0.77	1.51	1.63
TOTAL	99.9	100.0	99.2	99.0	99.6	99.7
U	410	2000	2200	430	5200	2000
Th	38	23	65	25	10	35
Cu	15	12	1240	70	220	34
Zn	120	52	2650	130	180	130
Ag	1	41	80	21	24	1
Pb	100	205	760	250	970	200
F-	150	940	580	290	730	250
Sn	20	15	3	3	3	5
W	20	20	20	20	20	20
Qtz	65.62			10.09	36.89	35.11
Cor	5.33		0.87		0.55	5.11
Or	22.63	1.25	0.94	0.80	1.02	40.18
Ab	0.69	76.52	79.47	82.95	45.13	4.81
An		5.25	2.60	0.61	5.14	1.37
Ne						
Di		1.72		0.46		
He		6.03		1.17		
Wo						
En	0.36	0.43	1.19	0.05	0.99	1.19
Fs	2.26	1.71	7.80	0.14	2.77	8.59
Fo		0.07	0.11			
Fa		0.31	0.79			
Mt	2.62	2.75	2.80	7.75	3.77	2.75
Il	0.49	0.71	0.71	0.70	2.03	0.68
Hm						
Ap	0.02	3.25	2.72	0.29	2.21	0.22
Ru						

SAMPLE #	C6378	C6381	C6375
SiO_2	61.1	62.9	62.7
Al_2O_3	19.2	18.0	18.6
CaO	0.42	2.72	1.67
MgO	1.09	0.18	0.41
Na_2O	0.54	10.3	4.02
K_2O	12.0	0.15	9.19
FeO	5.24	3.71	2.51
MnO	0.08	0.05	0.04
TiO_2	0.37	0.30	0.23
P_2O_5	0.04	1.69	0.56
LOI	2.62	1.05	0.86
TOTAL	100.2	99.5	99.2
U	11.50	17.00	3.40
Th	20	40	43
Cu	14	120	46
Zn	140	120	200
Ag	2	X	1
Pb	160	465	120
F-	420	1200	600
Sn	3	3	8
W	X	X	20
Qtz	7.63	0.18	1.58
Cor	4.62	0.00	0.39
Or	70.59	0.87	54.14
Ab	4.56	87.08	33.87
An	1.81	2.41	4.60
Ne			
Di			
He			
Wo			
En	2.12	0.24	0.44
Fs	5.08	2.10	0.76
Fo			
Fa			
Mt	2.77	2.64	2.40
Il	0.71	0.56	0.44
Hm			0.10
Ap	0.10	3.91	1.29
Ru			

SAMPLE #	C6346	C6347	C6348	C6356
SiO_2	71.9	68.7	74.3	92.6
Al_2O_3	15.1	15.2	12.1	4.38
CaO	0.35	1.53	0.78	0.08
MgO	0.29	1.16	0.24	0.11
Na_2O	0.97	1.53	0.06	0.05
K_2O	10.1	8.80	8.64	1.10
FeO	1.11	2.86	3.43	1.49
MnO	0.03	0.11	0.04	0.01
TiO_2	0.14	0.15	0.28	0.16
P_2O_5	0.04	0.04	0.13	0.01
LOI	0.68	1.27	0.70	0.56
TOTAL	101.5	99.8	101.4	99.0
U	1500	3000	90	6
Th	24	19	28	24
Cu	40	88	39	7
Zn	100	140	65	32
Ag	4	8	1	1
Pb	160	200	70	5
F-	130	380	170	460
Sn	5	3	3	3
W	20	20	20	20
Qtz	26.41	20.63	38.43	87.65
Cor	2.03	0.44	1.50	2.98
Or	59.66	51.85	50.99	6.48
Ab	8.20	12.86	0.52	0.45
An	1.47	7.31	3.00	0.31
Ne				
Di				
He				
Wo				
En	0.67	2.15	0.33	0.27
Fs	0.05	1.97	1.85	0.01
Fo				
Fa				
Mt		2.42	2.56	
Il	0.06	0.29	0.52	0.01
Hm	1.23			1.65
Ap	0.09	0.09	0.30	0.02
Ru	0.11			0.15

SAMPLE #	C6721	C6722	C6723	C6724	C6725	C6726	C6727	C6728	C6729	C6730
SiO_2	77.1	75.5	57.1	78.5	59.1	70.3	81.6	77.3	77.7	
Al_2O_3	12.4	13.9	16.3	11.4	18.5	14.3	9.54	12.2	11.7	
CaO	0.20	0.34	6.20	0.44	4.52	0.98	0.52	0.24	0.11	
MgO	0.00	0.60	1.50	0.12	1.05	0.31	0.52	0.19	0.05	
Na_2O	0.46	0.22	7.72	0.32	3.72	2.66	1.94	0.31	0.29	
K_2O	9.00	7.91	0.74	7.65	6.80	7.17	3.68	8.36	8.99	
FeO	0.64	1.26	8.19	1.39	4.78	3.21	1.84	1.18	1.12	
MnO	0.04	0.04	0.12	0.03	0.08	0.06	0.06	0.02	0.01	
TiO_2	0.09	0.11	1.63	0.17	1.22	0.80	0.24	0.15	0.10	
P_2O_5	0.02	0.07	0.48	0.03	0.29	0.15	0.05	0.01	0.01	
LOI	0.68	1.25	0.52	0.65	1.32	0.88	0.59	0.92	0.76	
TOTAL	99.6	100.4	97.7	100.3	98.4	100.3	100.3	101.4	100.4	
U	5	5	6	5	2	5	2	5	4	
Th	23	30	8	23	8	19	13	26	23	
Cu	9	6	6	12	5	12	13	18	11	
Zn	23	50	28	40	64	58	73	31	15	
Ag	1	1	1	1	1	1	1	1	1	
Pb	15	10	5	25	5	5	10	10	10	
F-	270	430	1100	350	820	640	380	350	230	
Sn	3	3	3	3	3	3	3	3	3	
W	20	20	20	20	20	20	20	20	20	
Qtz	39.56	42.47	0.00	46.17	2.43	25.12	54.34	42.65	41.19	
Cor	1.61	4.52		1.80		0.71	1.52	2.26	1.27	
Or	53.20	46.71	4.36	45.18	39.95	42.28	21.73	49.36	53.11	
Ab	3.85	1.87	59.39	2.72	31.27	22.45	16.33	2.64	2.44	
An	0.89	1.21	7.51	2.01	13.49	3.90	2.27	1.12	0.50	
Ne			2.98							
Di			5.14		2.38					
He			11.83							
Wo			0.04		3.42					
En		1.44		0.26	0.05	0.24	0.95	0.44	0.11	
Fs		0.07		0.04	0.08	0.68	0.44	0.04	0.02	
Fo										
Fa										
Mt			4.59		3.99	1.47	0.34			
Il	0.09	0.08	3.07	0.06	2.30	1.52	0.46	0.04	0.03	
Hm	0.71	1.40		1.54	0.00	1.30	1.51	1.31	1.24	
Ap	0.04	0.16	1.10	0.07	0.67	0.34	0.11	0.02	0.02	
Ru	0.04	0.06		0.14				0.13	0.08	

SECTION B

DRILL CORE

SECTION C

SOILS

D.D.H. NO. DF-1

SAMPLE #	B3890	B3891	B3893	B3887
LOCATION	DF1-182'	DF1-237.5'	DF1-360'	DF1-42'
SiO_2	48.15	74.82	77.28	61.60
Al_2O_3	13.58	13.14	11.30	17.73
CaO	7.46	0.29	0.39	9.37
MgO	6.18	0.33	0.22	0.07
Na_2O	3.51	0.57	3.48	8.92
K_2O	1.17	9.23	4.13	0.10
FeO	9.66	0.84	0.71	1.0
Fe_2O_3	5.73	0.66	2.33	0.83
MnO	0.32	0.04	0.13	0.20
TiO_2	3.35	0.14	0.25	0.15
P_2O_5	0.53	0.01	0.01	0.13
LOI	3.35	1.56	0.52	1.99
TOTAL	99.90	99.97	99.54	98.66
U	2	7	8	23
Th	2	24	20	27
Ca	56	23	17	17
Zn	260	35	63	260
Ag	1	1	1	1
Pb	130	5	40	150
F	830	100	150	24000
Sn	3	3	8	8
W	20	20	20	20
Qtz		35.03	39.66	0.00
Cor		1.71	0.39	
Or	6.85	54.59	24.39	0.56
Ab	29.24	4.81	29.38	70.23
An	17.57	1.34	1.91	8.06
Ne				2.73
Di	5.89			0.08
He	7.06			0.32
Wo				15.46
En	5.17	0.76	0.22	
Fs	7.11	0.07	1.01	
Fo	2.62			
Fa	3.97			
Ru		0.09		
Mt	7.04		2.55	0.92
Hm		1.59		1.07
Il	6.27	0.08	0.47	0.28
Ap	1.20	0.03	0.01	0.30

D.D.H. NO. DF-2

SAMPLE #	B3894	B3895	B3897
LOCATION	DF2-46'	DF2-316.5'	DF2-396'
SiO_2	75.59	71.50	75.41
Al_2O_3	12.58	14.49	13.07
CaO	1.14	0.33	0.24
MgO	0.46	0.48	0.66
Na_2O	3.99	0.63	0.41
K_2O	4.04	10.59	7.67
FeO	1.16	1.13	1.06
Fe_2O_3	0.93	0.70	1.40
MnO	0.05	0.02	0.03
TiO_2	0.15	0.17	0.17
P_2O_5	0.01	0.02	0.02
LOI	0.96	0.62	1.20
TOTAL	99.04	98.02	99.61
U	10	9	14
Th	21	29	30
Cu	30	24	15
Zn	240	69	42
Ag	1	1	1
Pb	55	5	5
F	80	170	260
Sn	3	3	8
W	20	20	20
Qtz	33.98	25.85	42.02
Cor		1.43	3.67
Or	23.80	62.49	45.21
Ab	33.64	5.29	3.46
An	4.48	1.49	1.09
Ne			
Di	0.50		
He	0.37		
Wo			
En	0.46	0.92	0.95
Fs	0.39	0.36	0.89
Fo			
Fa			
Ru			
Mt	1.28	0.32	2.17
Hm	0.79	1.47	0.19
Il	0.28	0.32	0.32
Ap	0.03	0.05	0.04

D.D.H. NO. DF-4

SAMPLE #	B3159	B3160	B3161	B3162	B3164
LOCATION	DF4-152.5'	DF4-175'	DF4-270'	DF4-465'	DF4-403'
SiO_2	76.76	74.26	76.90	75.12	76.66
Al_2O_3	12.17	13.43	12.14	12.79	12.15
CaO	0.34	0.32	0.23	0.30	0.31
MgO	0.12	0.20	0.13	0.12	0.18
Na_2O	1.87	2.19	1.34	2.09	1.39
K_2O	7.29	8.01	7.78	7.93	7.70
FeO	0.68	0.81	0.48	0.58	0.64
Fe_2O_3	0.63	0.64	0.93	0.96	0.89
MnO	0.04	0.04	0.02	0.03	0.02
TiO_2	0.13	0.14	0.13	0.16	0.13
P_2O_5	0.03	0.01	0.02	0.01	0.02
LOI	0.75	1.32	1.67	0.58	0.77
TOTAL	99.51	99.38	99.73	99.49	99.70
U	4	9	8	7	4
Th	21	28	22	25	25
Cu	22	30	26	25	19
Zn	26	37	38	20	74
Ag	1	1	1	1	1
Pb	10	5	20	10	40
F	240	250	170	80	90
Sn	3	3	3	3	3
W	20	20	20	20	20
Qtz	37.05	29.79	38.58	31.71	38.11
Cor	0.65	0.58	1.11	0.23	0.99
Or	43.08	47.30	45.96	46.82	45.46
Ab	15.82	18.53	11.31	17.68	11.75
An	1.47	1.53	1.06	1.42	1.43
Ne					
Di					
He					
Wo					
En	0.24	0.45	0.28	0.26	0.42
Fs	0.06	0.06	0.04	0.04	0.04
Fo					
Fa					
Ru	0.08	0.10	0.10	0.14	0.11
Mt					
Hm	1.38	1.54	1.47	1.60	1.60
Il	0.09	0.08	0.05	0.05	0.04
Ap	0.07	0.03	0.04	0.03	0.04

D.D.H. # JZ-1

SAMPLE #	B3109	B3110	B3111	B3112	B3113	B3114
LOCATION	JZ1-17'	JZ1-37'	JZ1-61'	JZ1-74'	JZ1-75'	JZ1-80'
SiO_2	47.72	75.80	48.02	81.21	44.97	75.53
Al_2O_3	14.42	12.83	13.00	9.43	15.60	10.75
CaO	9.44	0.81	10.11	2.43	5.19	1.36
MgO	6.44	0.16	5.33	0.33	7.36	0.72
Na_2O	2.21	4.90	2.46	4.68	3.57	1.29
K_2O	2.12	3.81	1.29	0.22	1.03	7.06
FeO	9.79	0.23	8.50	0.32	12.00	1.43
Fe_2O_3	4.87	1.44	7.49	1.23	6.57	1.53
MnO	0.28	0.01	0.47	0.02	0.25	0.04
TiO_2	2.79	0.15	3.43	0.23	3.57	0.38
P_2O_5	0.39	0.01	0.63	0.02	0.51	0.05
LOI	2.23	0.61	1.11	1.44	4.51	0.40
TOTAL	97.20	98.02	97.18	98.85	98.48	100.31
Qtz.	--	31.17	1.62	49.11	--	37.78
Cor	--	--	--	--	0.41	--
Or	12.36	22.51	7.51	1.32	5.99	41.56
Ab	18.44	41.36	20.47	39.52	29.75	10.87
An	22.85	1.74	20.34	4.05	22.03	2.55
Ne	--	--	--	--	--	--
Di	8.52	0.81	8.96	1.74	--	1.55
He	8.86	0.06	12.03	0.06	--	1.58
Wo	--	0.46	--	2.31	--	--
En	4.54	--	5.52	--	2.98	0.22
Fs	5.42	--	8.50	--	4.00	0.26
Fo	2.86	--	--	--	7.90	--
Fa	3.76	--	--	--	11.67	--
Mt	6.29	--	7.17	--	7.42	2.57
Hm	--	1.69	--	1.59	--	0.11
Il	5.23	0.04	6.43	0.04	6.68	0.72
Ap	0.88	0.01	1.44	0.05	1.17	0.10
Ru	--	0.12	--	0.21	--	--

D.D.H. # JZ-1 (CONT'D)

SAMPLE #	B3115	B3116	B3117	B3118	B3119	B3120	B3121
LOCATION	JZ1-110'	JZ1-140'	JZ1-146'	JZ1-165'	JZ1-183'	JZ-190'	JZ-200'
SiO_2	49.24	76.92	50.36	77.83	65.75	78.62	46.41
Al_2O_3	14.46	10.79	13.23	11.74	19.11	11.01	16.56
CaO	8.56	3.31	8.78	0.42	1.74	1.05	8.73
MgO	6.33	0.21	5.30	0.11	0.26	0.29	6.58
Na_2O	3.10	3.43	3.03	3.28	11.00	4.24	3.59
K_2O	1.73	3.86	2.44	4.87	0.12	2.44	0.52
FeO	9.07	0.29	7.80	0.55	0.45	0.94	7.45
Fe_2O_3	4.57	1.19	6.78	1.10	1.33	1.20	7.66
MnO	0.28	0.02	0.24	0.03	0.03	0.03	0.25
TiO_2	2.76	0.17	2.36	0.15	0.33	0.25	2.63
P_2O_5	0.38	0.01	0.31	0.01	0.02	0.05	0.33
LOI	2.75	2.41	2.97	0.52	1.18	0.93	3.21
TOTAL	97.60	99.76	98.10	99.04	97.14	98.96	92.27
Qtz	--	37.82	--	38.99	--	42.13	--
Cor	--	--	--	0.32	--	--	--
Or	10.09	22.81	14.26	28.73	0.70	14.41	3.01
Ab	25.82	29.01	25.40	27.72	89.78	35.80	29.22
An	20.17	2.60	15.11	2.03	2.40	3.78	27.18
Ne	--	--	--	--	1.70	--	0.43
Di	8.17	0.57	9.57	--	1.30	0.53	5.47
He	7.81	0.06	12.19	--	0.10	0.52	5.73
Wo	--	5.40	--	--	1.80	--	--
En	4.76	--	2.43	0.20	--	0.14	--
Fs	5.22	--	3.55	0.09	--	0.16	--
Fo	2.57	--	2.55	--	--	--	7.40
Fa	3.11	--	4.11	--	--	--	9.80
Mt	6.24	--	5.68	--	--	0.71	6.08
Hm	--	1.52	--	1.68	1.83	1.29	--
Il	5.17	0.04	4.43	0.14	0.06	0.48	4.93
Ap	0.87	0.02	0.72	0.02	0.04	0.06	0.76
Ru	--	0.14	--	0.08	0.29	--	--

SAMPLE #	B3122	B3123	B3124	B3125	B3126	B3127
LOCATION	JZ1-313.4'	JZ1-318'	JZ1-330'	JZ1-342'	JZ1-375'	JZ1-408'
SiO_2	62.50	49.62	64.73	49.69		64.56
Al_2O_3	15.18	12.20	13.95	12.19		17.14
CaO	9.78	7.32	3.16	7.19		5.08
MgO	0.76	3.47	0.84	3.53		0.39
Na_2O	3.02	2.80	4.70	2.83		8.12
K_2O	1.38	2.62	4.18	2.49		0.14
FeO	0.78	0.62	3.08	9.52		0.45
Fe_2O_3	4.86	8.04	4.26	8.13		3.60
MnO	0.11	0.39	0.15	0.36		0.07
TiO_2	1.84	3.13	1.04	3.23		0.42
P_2O_5	0.26	1.54	0.31	1.61		0.38
LOI	1.45	2.20	0.71	1.94		0.92
TOTAL	98.36	98.30	98.12	97.95		97.84
Qtz	23.12	2.96	13.97	3.68		8.53
Cor	--	--	--	--		--
Or	8.11	15.35	24.61	14.55		0.85
Ab	25.37	23.46	39.59	23.70		68.48
An	23.64	12.84	4.59	13.05		9.87
Ne	--	--	--	--		--
Di	1.53	3.30	1.68	3.03		1.09
He	2.87	7.90	6.07	7.04		3.58
Wo	7.36	--	--	--		3.09
En	--	4.80	0.59	4.39		--
Fs	--	13.17	2.45	13.28		--
Fo	--	--	--	--		--
Fa	--	--	--	--		--
Mt	1.79	6.78	3.75	6.92		2.85
Hm	2.14	--	--	--		--
Il	3.47	5.89	1.98	6.07		0.79
Ap	0.61	3.55	0.73	3.71		0.87

* Total Fe as FeO

D.D.H. # JZ-1 (CONT'D)

SAMPLE #	B3128	B3129	B3130	B3131	B3132	B3133	B3134
LOCATION	JZ1-415'	JZ1-421'	JZ1-432'	JZ1-437'	JZ1-448'	JZ1-569'	JZ1-550'
SiO_2	80.40	77.73	74.61	63.18	79.23	73.16	48.08
Al_2O_3	9.27	10.87	11.75	17.37	10.29	13.15	12.76
CaO	1.29	0.50	0.37	1.52	0.28	0.98	8.84
MgO	0.22	0.41	0.28	0.39	0.02	0.15	5.40
Na_2O	5.01	6.00	6.87	10.17	4.49	7.35	3.01
K_2O	0.12	0.09	0.07	0.09	2.03	0.13	2.30
FeO	1.00	3.89*	5.56*	6.16*	3.34*	4.31*	15.20*
Fe_2O_3	2.55						
MnO	0.06	0.07	0.08	0.15	0.06	0.05	0.36
TiO_2	0.30	0.39	0.36	0.59	0.24	0.60	3.43
P_2O_5	0.02	0.04	0.04	0.42	0.01	0.12	0.62
LOI	0.83	0.33	0.15	0.64	1.18	0.92	1.67
TOTAL	99.65	100.49	99.11	97.18	99.29	97.89	97.36
Qtz	47.93	39.92	31.04	--	44.00	27.44	--
Cor	--	0.08	--	--	0.22	--	--
Or	0.74	0.55	0.43	0.51	11.97	0.80	13.39
Ab	42.29	50.63	58.05	85.49	37.97	62.00	25.13
An	2.43	2.21	0.98	1.67	1.29	2.51	14.28
Ne	--	--	--	--	--	--	--
Di	0.54	--	0.05	0.34	--	0.12	9.08
He	2.77	--	0.45	2.39	--	1.23	11.82
Wo	--	--	--	--	--	--	--
En	0.01	0.61	0.49	0.33	0.03	0.11	1.45
Fs	0.06	2.42	5.00	2.69	1.48	1.28	2.17
Fo	--	--	--	0.14	--	--	2.90
Fa	--	--	--	1.24	--	--	4.76
Mt	2.63	2.74	2.73	3.11	2.56	3.11	7.18
Hm	--	--	--	--	--	--	--
Il	0.56	0.74	0.69	1.11	0.45	1.13	6.42
Ap	0.05	0.10	0.10	0.97	0.03	0.28	1.42

SAMPLE #	B3135	B3136	B3137	B3138	B3139	B3140
LOCATION	JZ1-457'	JZ1-462'	JZ1-476'	JZ1-496'	JZ1-516'	JZ1-528'
SiO_2	72.08	80.27		50.84	62.15	46.67
Al_2O_3	13.27	9.85		15.08	17.63	12.88
CaO	0.91	0.36		9.13	2.91	8.39
MgO	0.11	0.04		5.39	0.32	5.91
Na_2O	7.35	5.50		3.32	10.28	2.85
K_2O	0.11	0.09		2.14	0.14	2.09
FeO	5.46	3.57*		11.54*	4.69*	16.65*
Fe_2O_3						
MnO	0.08	0.05		0.24	0.09	0.31
TiO_2	0.31	0.25		2.10	0.50	3.61
P_2O_5	0.33	0.03		0.31	1.29	0.65
LOI	0.23	1.05		1.60	0.87	2.60
TOTAL	97.94	98.67		97.56	97.89	98.33
U	51	440	140	29	49	1100
Th	25	23	22	17	20	75
Cu	20	23	31	28	51	29
Zn	49	600	43	150	130	1800
Ag	1	1	1	1	1	10
Pb	50	175	25	90	35	2600
F	100	500	130	60	80	530
Sn	25	80	35	5	5	40
W	20	20	20	20	20	20
Qtz	25.40	46.31		--	--	--
Cor	0.18	0.12		--	--	--
Or	0.67	0.50		12.51	0.80	12.16
Ab	62.06	46.48		27.00	84.25	23.79
An	2.38	1.61		20.13	1.57	15.92
Ne	--	--		--	1.35	--
Di	--	--		9.43	0.56	7.54
He	--	--		9.43	3.27	9.97
Wo	--	--		--	--	--
En	0.21	0.05		2.86	--	1.64
Fs	5.09	1.81		3.28	--	2.51
Fo	--	--		2.40	0.16	4.04
Fa	--	--		3.03	1.15	6.76
Mt	2.68	2.59		5.28	2.97	7.43
Hm	--	--		--	--	--
Il	0.58	0.47		3.95	0.94	6.75
Ap	0.75	0.06		0.71	2.98	1.49

SAMPLE #	B3141	B3165	B3166	B3167	B3168	B0120	B0121
LOCATION	JZ1-538'	JZ1-361'	JZ1-378.5'	JZ1-386.5'	JZ1-479'	JZ1-350'	JZ1-379'
SiO_2	76.87	64.13	63.15	66.28	80.00	63.98	64.36
Al_2O_3	9.83	18.43	17.87	17.54	10.34	18.24	18.12
Cao	4.14	0.78	2.52	0.90	0.38	0.85	2.05
MgO	0.40	0.19	0.10	0.19	0.19	0.08	0.11
Na_2O	3.22	10.93	10.48	10.37	5.83	10.79	10.54
K_2O	1.03	0.10	0.10	0.09	0.05	0.16	0.15
FeO	4.12*	3.82	2.67	3.42	1.93	4.21	2.51
Fe_2O_3		1.42	0.77	0.84	1.10	1.48	1.13
MnO	0.12	0.03	0.02	0.04	0.07	0.03	0.02
TiO_2	0.25	0.40	0.36	0.42	0.24	0.47	0.33
P_2O_5	0.02	0.14	1.21	0.22	0.05	0.12	0.93
LOI	1.14	0.46	0.66	0.72	0.48	1.62	0.92
TOTAL	99.13	97.55	97.22	97.15	97.87	97.63	97.04
Qtz	45.78		1.12	3.67	44.62	0.00	0.64
Cor	--				0.13		
Or	6.10	0.56	0.58	0.53	0.29	0.92	0.86
Ab	27.14	88.42	88.46	87.56	49.18	87.82	88.95
An	9.32	0.96	1.43	1.02	1.54	0.89	1.73
Ne	--	2.09				1.78	
Di	1.45	0.15	0.16	0.21		0.07	0.19
He	6.13	1.56	1.44	1.55		2.16	1.86
Wo	0.95		0.57				
En	--			0.14	0.18		0.22
Fs	--			1.16	0.91		0.23
Fo	--	0.16				0.06	
Fa	--	2.19				2.15	
Mt	2.59	2.82	2.77	2.87	2.58	2.86	2.74
Hm	--						
Il	0.48	0.75	0.58	0.80	0.45	0.90	0.62
Ap	0.06	0.33	2.79	0.50	0.13	0.23	2.15

D.D.H. NO. JZ-2

SAMPLE #	B3169	B3170
LOCATION	JZ-2-31	JZ-2-35.5
SiO_2	69.33	78.53
Al_2O_3	14.01	9.67
CaO	0.67	0.32
MgO	0.07	0.22
Na_2O	2.52	0.03
K_2O	8.32	8.04
FeO	1.25	1.32
Fe_2O_3	3.67	1.72
MnO	0.01	0.02
TiO_2	0.33	0.22
P_2O_5	0.17	0.05
LOI	0.27	0.53
TOTAL	98.64	99.49
U	66	25
Th	26	20
Cu	34	100
Zn	36	160
Ag	1	1
Pb	20	175
F-	90	60
Sn	3	3
W	20	20
Qtz	20.27	46.26
Cor	0103	0.45
Or	49.10	47.43
Ab	21.26	0.28
An	2.23	1.24
Ne		
Di		
He		
Wo		
En	0.11	0.24
Fs	3.27	1.04
Fo		
Fa		
Ru		
Mt	2.70	2.52
Hm		
Il	0.63	0.42
Ap	0.39	0.12

D.D.H. # JZ-5

SAMPLE #	B3287	B3289	B3290	B3291	B3292	B3293
LOCATION	JZ-5-64	JZ-5-166	JZ-5-181	JZ-5-240	JZ-5-372	JZ-5-475
SiO_2	47.29	58.70	49.63	75.83	45.91	75.29
Al_2O_3	15.11	16.74	12.01	10.74	17.23	12.50
CaO	9.41	4.27	7.66	0.33	5.75	0.31
MgO	6.70	1.06	3.79	0.19	7.57	0.10
Na_2O	2.20	4.24	2.55	0.65	1.54	0.34
K_2O	1.90	5.43	3.04	8.84	3.77	10.28
FeO	9.15	3.74	10.2	1.19	9.60	0.29
Fe_2O_3	6.13	4.52	6.04	2.02	6.03	0.80
MnO	0.39	0.21	0.38	0.06	0.28	0.02
TiO_2	2.74	1.17	3.50	0.29	2.51	0.13
P_2O_5	0.38	0.35	1.78	0.03	0.38	0.02
LOI	1.45	1.95	1.75	0.54	3.25	0.27
TOTAL	97.98	97.80	97.91	99.97	97.92	100.29
Qtz		2.62	4.13	37.16		33.13
Cor					1.07	0.29
Or	6.39	31.97	17.73	52.15	22.04	60.74
Ab	18.46	35.66	21.34	5.45	12.84	2.91
An	27.86	10.57	12.17	0.29	25.69	1.37
Ne						
Di	17.42	1.64	4.02	0.17		
He	17.90	5.47	7.73	0.82		
En	7.44	1.05	4.67	0.11	4.54	0.21
Fs	9.09	4.02	10.30	0.62	5.09	0.03
Fo	1.76				7.71	
Fa	2.37				9.52	
Mt	6.18	3.97	7.28	2.60	5.90	
Il	5.13	2.22	6.56	0.54	4.71	0.04
Ap	0.88	0.81	4.08	0.08	0.88	

D.D.H. # JZ-5 (CONT'D)

SAMPLE #	B3179	B3180	B3181	B3182	B3857	B3858	B3864
LOCATION	JZ-5-92	JZ-5-99.5	JZ-5-105.5	JZ-5-269	JZ-5-286.5	JZ-5-209	JZ-5-394
SiO_2	77.81	78.38	74.51	76.92	46.00	51.43	46.92
Al_2O_3	10.37	10.39	13.41	11.15	15.18	21.06	16.87
CaO	0.32	0.38	0.46	0.33	8.00	7.66	4.76
MgO	0.14	0.10	0.08	0.11	6.50	3.19	7.15
Na_2O	0.85	1.79	7.09	2.81	2.05	4.41	2.55
K_2O	7.34	5.62	0.90	4.70	1.80	2.60	4.47
FeO	0.71	0.68	0.74	1.58	10.4	4.8	9.69
Fe_2O_3	2.41	2.58	2.74	2.25	6.83	3.57	4.38
MnO	0.05	0.02	0.02	0.09	0.47	0.28	0.49
TiO_2	0.21	0.25	0.25	0.26	3.07	1.24	2.77
P_2O_5	0.03	0.05	0.06	0.02	0.35	0.10	0.38
LOI	0.68	0.63	0.35	0.75	2.28	3.84	2.69
TOTAL	98.88	98.74	97.79	98.12	99.10	98.64	99.72
U	46	60	210	12	3	2	2
Th	19	20	20	15	1	2	3
Cu	80	43	34	29	12	11	17
Zn	230	280	170	220	96	190	240
Ag	1	2	1	1	1	1	1
Pb	120	230	160	30	10	30	10
F	70	340	170	100	670	310	1500
Sn	3	3	3	3	3	3	3
W	20	20	20	20	20	20	20
Qtz	43.48	45.17	28.34	41.82			0.00
Cor	0.49	0.78	0.08	0.88			0.08
Or	43.32	33.19	5.32	27.76	10.51	15.29	26.06
Ab	7.21	15.11	59.88	23.71	17.14	29.87	17.23
An	1.40	1.56	1.89	1.52	26.53	29.74	20.85
Ne						3.89	2.19
Di					3.83	2.86	9.91
He					4.82	3.29	11.43
En	0.14	0.09	0.08	0.14	6.31		
Fs	0.97	0.94	1.21	2.04	9.11		
Fo					3.30	3.43	
Fa					5.25	4.99	
Mt	2.52	2.58	2.60	2.61	6.64	4.08	6.20
Il	0.40	0.48	0.47	0.49	5.74	2.34	5.18
Ap	0.06	0.11	0.14	0.04	0.81	0.22	0.86

D.D.H. NO. JZ-6

SAMPLE #	B3294	B3295	B3296	B3297	B3298	B3299	B3300
LOCATION	JZ-6-20	JZ-6-60	JZ-6-130	JZ-6-209	JZ-6-230	JZ-6-280	JZ-6-328
SiO_2	80.76	77.29	48.23	75.11	60.23	74.89	51.08
Al_2O_3	9.24	11.85	13.90	11.79	14.61	10.98	12.77
CaO	0.25	0.31	8.10	0.47	3.63	0.57	10.70
MgO	0.15	0.07	6.80	0.10	1.36	0.43	5.42
Na_2O	2.07	3.29	2.57	4.78	4.02	1.37	3.17
K_2O	4.53	4.97	1.93	2.97	4.85	7.23	0.85
FeO	0.55	1.10	8.89	1.29	4.45	1.71	7.60
Fe_2O_3	2.36	1.04	6.87	3.16	5.22	2.46	5.88
MnO	0.06	0.04	0.37	0.07	0.21	0.10	0.34
TiO_2	0.22	0.13	2.63	0.49	1.41	0.43	2.43
P_2O_5	0.02	0.00	0.36	0.06	0.51	0.07	0.33
LOI	0.45	0.38	2.08	0.32	0.82	0.58	2.16
TOTAL	100.08	99.13	97.52	99.57	97.60	99.53	97.68
Qtz	50.35	38.28		33.99	8.05	36.61	1.30
Cor	0.51	0.49				0.03	
Or	26.75	29.33	11.30	17.55	28.55	42.65	4.98
Ab	17.47	27.77	21.55	40.35	33.80	11.53	26.56
An	1.12	1.52	20.51	1.94	7.46	2.37	17.98
Ne							
Di			7.70	0.00	1.49		13.57
He			8.42	0.00	4.67		15.36
En	0.12	0.03	4.27	0.12	1.71	0.62	4.31
Fs	0.70	0.19	5.36	2.06	6.15	2.42	5.60
Fo			4.14				
Fa			5.72				
Mt	2.50	1.49	6.07	2.91	4.29	2.82	5.78
Il	0.42	0.25	4.94	0.93	2.66	0.80	4.57
Ap	0.05	0.01	0.83	0.15	1.18	0.16	0.75
Hm		0.63					

D.D.H. NO. JZ-6 (CONT'D)

UNIT						
SAMPLE #	B3301	B3302	B3303	B3304	B3183	B3184
LOCATION	JZ-6-328	JZ-6-376	JZ-6-460	JZ-6-523	JZ-6-458	JZ-6-490.5
SiO_2	78.01	78.01	76.42	49.02	76.70	78.06
Al_2O_3	10.50	10.74	10.52	11.78	10.92	10.44
CaO	1.35	0.51	0.57	8.03	0.24	0.37
MgO	0.28	0.04	0.16	4.14	0.07	0.08
Na_2O	1.83	2.75	0.92	2.52	1.24	2.57
K_2O	5.09	4.81	7.84	2.42	7.26	4.56
FeO	0.84	0.71	0.87	10.00	1.35	1.42
Fe_2O_3	1.95	2.37	2.63	6.81	2.07	2.40
MnO	0.06	0.04	0.06	0.42	0.09	0.07
TiO_2	0.25	0.24	0.24	3.59	0.24	0.24
P_2O_5	0.01	0.01	0.01	1.91	0.01	0.02
LOI	0.42	0.26	0.62	2.29	0.95	0.45
TOTAL	99.62	99.98	100.61	98.24	98.95	98.82
U	5	7				
Th	22	14				
Ca	50	31				
Zn	420	200				
Ag	1	1				
Pb	350	35				
F	80	80				
Sn	3	5				
W	20	20				
Qtz	44.66	42.14	39.22	2.15	40.39	43.81
Cor		0.12			0.58	0.64
Or	30.00	28.37	46.27	14.37	42.87	26.95
Ab	15.47	23.22	7.76	21.48	10.50	21.70
An	5.36	2.44	1.40	13.74	1.15	1.71
Ne						
Di	0.30		0.15	7.89		
He	0.73		1.06	14.46		
En	0.11	0.03	0.13	3.70	0.08	0.11
Fs	0.30	0.69	1.00	7.78	1.39	2.03
Fo						
Fa						
Mt	2.56	2.52	2.53	7.56	2.57	2.56
Il	0.48	0.45	0.46	6.86	0.45	0.45
Ap	0.03	0.02	0.02	4.38	0.02	0.04
Hm						

D.D.H. # JZ-7

SAMPLE #	B3305	B3306	B3307	B3308	B3309	B3310	B3311
LOCATION	JZ-7-24'	JZ-7-37'	JZ-7-49'	JZ-7-53'	JZ-7-75'	JZ-7-113'	JZ-7-170'
SiO_2	48.48	77.57	49.99	75.46	48.44	77.46	48.63
Al_2O_3	13.75	10.02	13.81	11.55	13.13	11.55	15.93
CaO	10.17	0.37	10.15	1.30	9.08	0.71	10.20
MgO	7.09	0.18	5.12	0.34	5.43	0.06	5.00
Na_2O	2.68	0.09	3.10	1.48	3.89	3.48	3.15
K_2O	1.19	8.63	2.45	7.32	0.63	4.86	0.99
FeO	7.57	0.71	7.92	1.03	8.18	0.23	5.35
Fe_2O_3	6.69	2.36	4.82	1.34	8.03	1.54	8.84
MnO	0.31	0.03	0.18	0.03	0.27	0.02	0.19
TiO_2	2.35	0.24	2.56	0.26	3.03	0.15	2.22
P_2O_5	0.34	0.02	0.38	0.02	0.65	0.00	0.34
LOI	1.96	0.92	3.58	1.12	2.72	0.64	2.13
TOTAL	97.61	101.26	98.05	99.97	98.24	98.44	97.63
Qtz	--	42.68	--	36.11	--	37.33	--
Cor	--	--	--	--	--		--
Or	6.96	50.95	14.32	43.19	3.67	28.71	5.79
Ab	22.40	0.73	25.02	12.52	32.51	29.40	26.35
An	21.71	1.42	16.34	3.18	16.28	1.51	26.15
Ne	--	--	0.46	--	--	--	--
Di	11.13	0.05	12.39	0.86	8.56	0.10	7.96
He	10.39	0.23	13.42	1.08	11.59	0.23	10.24
Wo	--	--	--	0.31	--	0.67	--
En	4.31	0.15	--	--	2.38		2.59
Fs	4.61	0.80	--	--	3.70		3.82
Fo	3.51	--	2.71	--	2.77		2.55
Fa	4.14	--	3.72	--	4.74		4.14
Hm	--	--	--	0.84	--	1.51	
Mt	5.65	2.51	5.97	1.36	6.62	0.25	5.47
Il	4.41	0.45	4.80	0.49	5.68	0.28	4.17
Ap	0.77	0.04	0.86	0.06	1.49	0.00	0.79

D.D.H. # JZ-8

SAMPLE #	B3312	B3313	B3314	B3315	B3316
LOCATION	JZ-8-27	JZ-8-34	JZ-8-43	JZ-8-85	JZ-8-128
SiO_2	65.33	58.00	70.59	48.64	77.85
Al_2O_3	18.42	16.50	13.29	12.77	11.65
CaO	0.53	7.26	0.55	8.47	0.40
MgO	0.10	1.47	0.13	4.70	0.15
Na_2O	11.35	3.13	0.24	4.25	3.43
K_2O	0.15	6.03	11.25	0.21	4.47
FeO	0.26	1.90	0.32	8.12	0.48
Fe_2O_3	3.82	5.67	3.55	9.07	1.54
MnO	0.02	0.15	0.02	0.30	0.04
TiO_2	0.30	0.28	0.28	3.70	0.15
P_2O_5	0.09	0.15	0.12	0.63	0.00
LOI	0.34	1.25	0.85	1.45	0.36
TOTAL	97.77	97.06	100.15	98.54	99.19
U	57	76	16	7	
Th	28	28	21	20	
Cu	17	21	96	15	
Zn	34	58	170	56	
Ag	1	1	1	1	
Pb	5	10	80	40	
F	150	160	40	60	
Sn	3	40	8	3	
W	60	20	20	20	
Qtz	--	0.43	24.32	--	39.64
Cor	--	--	0.01	--	0.45
Or	0.87	35.59	66.38	1.22	26.39
Ab	89.37	26.44	2.06	35.47	28.91
An	--	13.08	1.90	14.92	1.94
Ne	2.37	--	--	--	--
Ac	1.82	--	--	--	--
Di	0.13	5.51	--	7.26	--
He	1.68	13.61	--	11.68	--
Wo	--		--	--	--
En	--	0.59	0.16	4.34	0.15
Fs	--	1.62	1.75	8.00	0.29
Fo	0.07	--	---	0.39	--
Fa	1.16	--	--	0.80	--
Mt	1.76	2.69	2.61	7.54	0.82
Hm	--	--	--	--	1.11
Il	0.20	0.35	0.29	1.45	0.01

D.D.H. JZ-8 (CONT'D)

SAMPLE #	B3317	B3318	B3185	B3186	B3187	B3188
LOCATION	JZ-8-193	JZ-8-250	JZ-8-28	JZ-8-40	JZ-8-47	JZ-8-129
SiO_2	50.73	71.96	65.52	64.73	78.80	77.53
Al_2O_3	12.14	12.32	17.83	18.62	10.16	12.05
Cao	6.77	6.24	0.70	0.80	0.38	0.37
MgO	3.46	0.48	0.06	0.01	0.12	0.09
Na_2O	2.53	3.89	10.76	11.03	2.01	3.70
K_2O	3.50	0.10	0.09	0.10	5.18	4.15
FeO	7.34	0.19	1.0	1.03	1.16	1.19
Fe_2O_3	9.59	4.95	3.84	3.41	2.14	0.82
MnO	0.23	0.06	0.01	0.02	0.01	0.03
TiO_2	3.10	0.25	0.34	0.38	0.24	0.14
P_2O_5	1.52	0.03	0.19	0.18	0.01	0.00
LOI	1.61	1.22	0.31	0.39	0.55	0.50
TOTAL	98.29	99.51	97.12	97.30	98.88	98.90
Qtz.	3.97	36.36	0.58		45.18	39.11
Cor	--	--			0.58	0.80
Or	20.49	0.56	0.53	0.58	30.58	24.51
Ab	21.15	32.81	91.03	90.31	17.00	31.20
An	11.32	15.85	0.02	1.02	1.77	1.83
Ne	--	--		1.55		
Ac	--	--				
Di	3.22	1.92	0.06	0.01		
He	7.11	7.92	1.90	1.57		
Wo	--	1.46				
En	4.73	--	0.06		0.12	0.06
Fs	12.01	--	2.00		1.13	0.22
Fo	--	--		0.01		
Fa	--	--		1.00		
Mt	6.71	2.58	2.74	2.81	2.56	1.10
Hm	--	--				0.90
Il	3.48	0.06	0.44	0.42	0.03	0.01

D.D.H. # JZ-11

SAMPLE #	B3189	B3190	B3191	B3192	B3193	B3194
LOCATION	JZ11-155	JZ11-174.5	JZ11-209.5	JZ11-232	JZ11-273	JZ11-291
SiO_2	65.55	76.76	78.31	77.18	64.63	64.53
Al_2O_3	18.73	11.31	11.56	11.67	18.40	18.95
CaO	0.72	0.29	0.34	0.25	2.00	1.25
MgO	0.15	0.14	0.11	0.12	0.05	0.11
Na_2O	10.51	3.14	2.45	1.88	10.79	11.06
K_2O	0.71	4.36	5.49	6.83	0.08	0.09
FeO	1.13	2.13	1.0	1.25	0.68	0.77
Fe_2O_3	2.2	1.67	0.65	0.70	2.39	2.98
MnO	0.12	0.08	0.02	0.03	0.01	0.02
TiO_2	0.35	0.26	0.13	0.14	0.39	0.47
P_2O_5	0.05	0.03	0.01	0.00	0.80	0.05
LOI	0.58	0.64	0.59	0.58	0.47	0.27
TOTAL	97.52	99.17	98.63	98.55	97.20	97.73
U	30	4	6	8	65	9
Th	21	21	21	23	33	25
Cu	22	34	26	14	19	12
Zn	58	180	62	90	31	21
Ag	1	1	1	1	1	1
Pb	10	190	55	15	5	5
F	90	40	50	40	470	170
Sn	3	5	3	3	20	40
W	20	20	20	20	20	20
Qtz	0.10	40.10	42.07	39.26	0.14	
Cor		0.97	0.98	0.71		
Or	4.17	25.76	32.41	40.31	0.50	0.52
Ab	88.70	26.48	20.67	15.88	91.07	88.44
An	1.85	1.24	1.65	1.26	1.54	1.78
Ne						2.67
Di	0.61				0.02	0.17
He	1.03				0.30	1.67
Wo					1.15	0.83
En	0.06	0.20	0.17	0.11		
Fs	0.42	2.11	0.13	0.26		
Fo						
Fa						
Ru			0.01			
Mt	2.74	2.59		0.94	2.38	2.91
Hm			1.66	1.02	0.30	
Il	0.64	0.50	0.23	0.26	0.74	0.88
Ap	0.12	0.06	0.01		1.84	0.12

D.D.H. # JZ-11 (CONT'D)

SAMPLE #	B3195	B3196	B3197	B3198	B3199	E0101
LOCATION	JZ11-303.5	JZ11-317	JZ11-375	JZ11-495	JZ11-414	JZ11-138
SiO_2	64.38	64.91	62.55	77.22	78.70	77.90
Al_2O_3	18.67	18.73	18.03	11.09	11.09	10.82
Cao	1.01	0.79	1.18	0.31	0.20	0.37
MgO	0.05	0.07	0.56	0.15	0.29	0.05
Na_2O	10.94	11.25	10.15	3.77	0.02	3.07
K_2O	0.09	0.08	0.10	3.76	6.39	4.25
FeO	1.03	0.81	2.13	0.93	0.35	0.90
Fe_2O_3	3.60	3.09	4.87	2.70	2.99	2.60
MnO	0.01	0.02	0.07	0.07	0.01	0.03
TiO_2	0.48	0.47	0.74	0.26	0.24	0.25
P_2O_5	0.08	0.08	0.07	0.01	0.01	0.02
LOI	0.32	0.42	0.52	0.65	2.35	0.80
TOTAL	97.53	97.97	97.58	99.17	99.20	98.63
U	39	59	13	7	6	11
Th	29	30	26	19	19	14
Cu	14	15	15	16	180	54
Zn	27	23	76	130	3100	220
Ag	1	1	1	1	1	1
Pb	10	5	5	30	700	120
F	90	120	150	60	130	70
Sn	80	100	5	3	5	3
W	20	20	20	20	20	20
Qtz			0.00	39.32	52.80	42.36
Cor				0.29	3.79	0.54
Or	0.52	0.47	0.60	22.17	37.68	25.08
Ab	88.64	90.31	84.36	31.83	0.13	25.94
An	1.57	0.39	3.32	1.43	0.93	1.70
Ne	2.04	2.56	0.69			
Di	0.07	0.12	0.29			
He	2.52	1.94	1.50			
Wo		0.28				
En				0.18	0.35	0.05
Fs				1.67	1.26	1.22
Fo	0.01		0.57			
Fa	0.59		3.78			
Ru						
Mt	2.94	2.91	3.32	2.58	2.59	2.59
Hm						
Il	0.91	0.88	1.40	0.49	0.45	0.47
Ap	0.18	0.18	0.16	0.03	0.03	0.05

D.D.H. #JZ-12

SAMPLE #	B3200	E0102	E0102	E0104	E0108
LOCATION	JZ12-110	JZ12-289	JZ12-225	JZ12-220	JZ12-30
SiO_2	80.23	79.91	83.96	85.43	72.74
Al_2O_3	10.27	10.82	8.75	7.63	10.95
CaO	0.25	0.22	0.20	0.24	1.41
MgO	0.09	0.12	0.11	0.06	1.31
Na_2O	5.71	6.33	0.74	0.43	0.92
K_2O	0.05	0.09	5.39	5.53	7.26
FeO	1.03	0.84	0.35	0.13	2.51
Fe_2O_3	1.32	1.50	0.28	0.33	2.31
MnO	0.02	0.03	0.01	0.01	0.08
TiO_2	0.23	0.26	0.21	0.23	0.66
P_2O_5	0.02	0.02	0.01	0.01	0.07
LOI	0.36	0.42	0.58	0.55	0.92
TOTAL	98.27	98.75	100.14	97.33	99.15
U	10	3	4	3	15
Th	18	13	15	13	13
Cu	24	35	18	18	35
Zn	200	30	110	13	190
Ag	1	1	1	1	1
Pb	530	5	70	5	70
F	50	50	70	170	240
Sn	20	3	3	3	3
W	20	20	20	20	20
Qtz	45.68	42.08	58.39	61.15	34.21
Cor	0.42		1.36	0.54	
Or	0.28	0.52	31.86	32.71	42.71
Ab	48.24	53.43	6.29	3.61	7.70
An	1.10	0.86	0.92	1.11	4.30
Di		0.01			0.80
He		0.05			1.05
Wo					
En	0.09	0.07	0.26	0.14	1.86
Fs	1.15	0.27	0.02	0.01	2.80
Fo					
Fa					
Ru			0.20	0.22	
Mt	2.56	1.23			3.16
Hm	0.44	0.49	0.02	0.01	1.24
Ap	0.05	0.05	0.03	0.03	0.16

D.D.H. NO. JZ-15

SAMPLE #	B3115	B3156	E0105	E0106	E0107
LOCATION	JZ15-44	JZ15-44.5	JZ15-43	JZ15-260	JZ15-250
SiO_2	65.43	82.75	64.82	66.58	62.81
Al_2O_3	18.83	7.68	18.41	19.04	17.73
CaO	1.12	0.33	1.48	1.23	1.86
MgO	0.06	0.09	0.11	0.04	0.30
Na_2O	11.27	1.16	10.99	11.45	10.30
K_2O	0.11	4.55	0.15	0.10	0.12
FeO	0.64	1.35	0.77	0.10	1.55
Fe_2O_3	2.37	1.97	2.98	0.81	4.73
MnO	0.02	0.01	0.03	0.01	0.05
TiO_2	0.29	0.25	0.03	0.38	0.39
P_2O_5	0.09	0.03	0.24	0.33	0.59
LOI	0.76	0.63	0.49	0.43	0.58
TOTAL	97.39	98.93	97.53	97.99	97.64
U	75	20	150	200	80
Th	16	17	19	19	23
Cu	37	49	35	16	14
Zn	23	55	26	47	70
Ag	1	1	1	1	1
Pb	20	50	45	75	80
F	230	130	270	210	340
Sn	8	8	8	15	10
W	20	20	20	20	20
Qtz		57.24	0.00		0.00
Cor		0.31			
Or	0.66	26.85	0.86	0.56	0.74
Ab	91.06	9.83	88.97	93.82	84.92
An	0.49	1.43	0.48	0.28	1.77
Ne	2.14		2.06	1.61	1.13
Di	0.03		0.26	0.21	0.32
He	0.44		2.82	0.03	2.83
Wo	1.63		0.74	1.39	
En		0.09			
Fs		1.12			
Fo					0.28
Fa					3.09
Ru				0.37	
Mt	2.67	2.57	2.68		2.81
Hm				0.93	
Il	0.55	0.47	0.57	0.02	0.74
Ap	0.21	0.08	0.56	0.77	1.37

D.D.H. NO. JZ-16

SAMPLE # / LOCATION	JZ16-34	JZ16-61	JZ16-110	JZ16-117	JZ16-253
SiO_2	76.96	64.17	64.22	64.57	64.85
Al_2O_3	10.58	17.79	18.18	18.23	18.53
CaO	0.30	0.99	1.23	1.19	1.31
MgO	0.12	0.14	0.32	0.18	0.11
Na_2O	0.00	0.24	10.87	10.75	10.92
K_2O	8.90	13.46	0.18	0.14	0.14
FeO	0.81	0.64	1.48	1.03	0.77
Fe_2O_3	2.25	2.07	3.21	3.63	2.94
MnO	0.02	0.02	0.05	0.03	0.04
TiO_2	0.23	0.38	0.49	0.41	0.49
P_2O_5	0.04	0.29	0.08	0.17	0.18
LOI	0.95	1.48	1.21	2.97	2.88
TOTAL	99.76	97.94	97.00	97.44	98.14
U	22	430	60	45	65
Th	15	30	23	19	18
Cu	62	76	30	31	20
Zn	220	22	28	19	68
Ag	1	1	1	1	1
Pb	65	10	5	5	35
F	70	150	130	130	130
Sn	3	3	5	8	8
W	20	20	20	20	20
Qtz	41.86	9.68			0.00
Cor	0.51	1.71			
Or	52.51	79.38	1.09	0.83	0.85
Ab		2.05	86.73	88.99	90.07
An	1.19	2.97	0.26	1.06	1.12
Ne			2.71	0.96	1.12
Di			0.75	0.32	0.14
He			3.87	2.91	1.27
No					1.09
En	0.10	0.09			
Fs	0.77	0.35			
Fo			0.07	0.07	
Fa			0.44	0.77	
Ru					
Mt	2.54	1.40	2.98	2.90	3.00
Hm		0.97			
Il	0.44	0.72	0.92	0.78	0.93
Ap	0.10	0.68	0.18	0.40	0.41

D.D.H. NO. JZ-17

SAMPLE #	E0114
LOCATION	JZ17-342
SiO_2	83.83
Al_2O_3	9.40
CaO	0.66
MgO	0.08
Na_2O	5.34
K_2O	0.10
FeO	0.10
Fe_2O_3	0.48
MnO	0.01
TiO_2	0.05
P_2O_5	0.01
LOI	1.05
TOTAL	98.63
U	17
Th	17
Cu	9
Zn	19
Ag	1
Pb	10
F	80
Sn	20
W	20
Qtz	51.27
Cor	
Or	0.58
Ab	45.12
An	1.42
Ne	
Di	0.41
He	0.03
Wo	0.50
En	
Fs	
Fo	
Fa	
Ru	0.04
Mt	
Hm	0.58
Il	0.02
Ap	0.03

D.D.H. NO. JZ-18

SAMPLE #	E0115	E0116	E0117	E0118	E0119
LOCATION	JZ18-24	JZ18-311	JZ18-328.5	JZ18-444	JZ18-445.5
SiO_2	69.48	77.68	80.11	78.36	79.51
Al_2O_3	14.61	10.44	10.11	10.82	10.44
CaO	0.67	0.50	0.27	0.36	0.37
MgO	0.07	0.12	0.03	0.09	0.10
Na_2O	8.78	5.98	5.67	6.21	5.88
K_2O	0.09	0.09	0.10	0.09	0.10
FeO	1.58	1.42	0.35	1.10	1.0
Fe_2O_3	4.58	3.73	3.41	2.87	2.45
MnO	0.01	0.02	0.01	0.02	0.02
TiO_2	0.42	0.34	0.24	0.30	0.29
P_2O_5	0.15	0.03	0.02	0.05	0.07
LOI	0.26	5.98	1.25	0.97	1.32
TOTAL	98.09	99.22	98.64	98.82	98.59
U	67	12	13	170	13
Th	16	12	13	10	10
Cu	43	60	24	30	29
Zn	100	130	280	140	180
Ag	1	1	1	1	1
Pb	100	330	350	35	50
F	100	50	100	40	80
Sn	3	80	5	3	3
W	20	20	20	20	20
Qtz	15.17	39.96	45.47	40.27	43.66
Cor			0.24		0.16
Or	0.55	0.51	0.58	0.52	0.60
Ab	74.14	50.52	47.87	52.47	49.67
An	0.18	1.39	1.20	1.36	1.36
Ne					
Di	0.05	0.04		0.01	
He	1.83	0.72		0.10	
Wo					
En	0.09	0.17	0.04	0.10	0.09
Fs	4.01	3.14	1.51	1.81	1.10
Fo					
Fa					
Ru					
Mt	2.84	2.83	2.59	2.67	2.65
Hm					
Il	0.79	0.64	0.46	0.57	0.54
Ap	0.36	0.07	0.05	0.11	0.17

APPENDIX I

SECTION B

GEOCHEMISTRY

SOILS

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1018A	5	37	45	0	2.8
K1018C	10	60	96	0	2.4
K1019A	30	160	85	0	1.8
K1019C	7	47	60	0	2.0
K1020A	5	23	80	0	3.1
K1020C	14	39	40	0	2.4
K1021A	2	12	15	0	2.9
K1021C	15	100	140	0	3.1
K1022A	5	27	45	0	2.9
K1022C	15	110	60	0	2.6
K1023A	6	42	50	0	3.1
K1023C	9	110	60	0	2.6
K1024A	9	98	100	0	3.0
K1024C	15	100	115	0	2.7
K1025A	22	100	95	0	6.8
K1025C	21	160	60	0	11.1
K1026A	28	120	90	0	8.4
K1026C	40	330	115	0	17.8
K1027A	22	93	80	0	5.5
K1027C	27	270	110	0	13.5
K1029A	9	28	50	0	2.2
K1029C	14	78	50	0	2.4
K1030A	16	53	50	0	2.7
K1030C	17	110	50	0	2.6
K1031A	14	90	50	0	3.6
K1031C	12	58	45	0	3.2
K1032A	13	71	45	0	3.0
K1032C	13	85	45	0	2.9
K1033A	12	45	50	0	3.2

13-DEC-78

X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1033C	13	63	40	0	4.6
K1034A	16	87	50	0	4.2
K1034C	16	100	50	0	4.1
K1035A	10	45	45	0	2.6
K1035C	15	110	45	0	2.9
K1036A	18	63	120	0	13.9
K1036C	75	130	150	0	42.9
K1037A	15	55	50	0	3.1
K1038A	9	28	50	0	2.9
K1038C	13	32	35	0	4.9
K1039A	5	0	5	0	7.4
K1039C	20	92	35	0	3.2
K1040A	18	52	85	0	4.4
K1040C	20	70	70	0	4.9
K1041A	14	55	60	0	3.5
K1041C	12	35	60	0	5.0
K1042A	9	36	90	0	2.7
K1042C	16	110	130	0	2.2
K1043A	24	160	130	0	1.9
K1043C	21	63	140	0	3.4
K1045A	14	48	65	0	1.6
K1045C	28	340	190	0	4.5
K1046A	19	190	65	0	2.9
K1046C	20	230	110	0	2.7
K1047A	9	23	55	0	2.8
K1047C	15	120	85	0	2.4
K1048A	12	20	40	0	3.5
K1048C	8	43	55	0	2.7
K1049A	5	0	10	0	3.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1049C	7	32	50	0	2.1
K1050A	9	20	65	0	3.0
K1050C	18	86	80	0	2.1
K1051A	13	13	50	0	4.9
K1051C	18	84	90	0	3.7
K1052A	13	20	75	0	3.6
K1052C	14	75	60	0	2.6
K1053A	14	64	90	0	2.6
K1055A	14	48	70	0	2.4
K1055C	21	66	125	0	3.2
K1056A	11	55	70	0	2.7
K1056C	12	63	75	0	3.5
K1057A	11	59	85	0	1.9
K1057C	16	90	100	0	2.4
K1058A	14	62	80	0	2.3
K1058C	13	100	70	0	3.0
K1059A	12	60	55	0	2.5
K1059C	20	110	90	0	3.2
K1060A	10	37	55	0	2.2
K1060C	15	80	70	0	2.6
K1061A	16	120	80	0	2.8
K1061C	18	140	110	0	2.6
K1062A	11	60	75	0	2.7
K1062C	13	83	70	0	2.6
K1063C	15	130	65	0	2.7
K1064A	18	140	95	0	9.7
K1064C	16	130	70	0	6.4
K1065A	10	57	40	0	2.0
K1065C	13	120	55	0	3.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1066A	14	98	65	0	2.9
K1066C	20	150	70	0	3.3
K1067A	19	70	70	0	3.0
K1067C	16	100	70	0	2.2
K1068A	8	29	50	0	4.3
K1068C	16	90	60	0	3.1
K1069A	6	30	30	0	2.9
K1069C	15	100	55	0	2.5
K1070A	11	36	40	0	2.8
K1070C	9	59	40	0	3.5
K1071A	5	13	20	0	3.1
K1071C	11	100	45	0	3.3
K1072A	6	19	35	0	3.5
K1072C	11	90	50	0	2.5
K1073A	17	38	40	0	1.7
K1073C	21	150	65	0	3.0
K1074A	6	19	25	0	3.2
K1074C	8	56	40	0	3.2
K1075A	10	34	40	0	3.2
K1075C	12	68	55	0	2.9
K1076A	10	63	100	0	2.6
K1076C	14	79	85	0	3.3
K1077A	12	39	40	0	3.0
K1077C	40	20	115	0	46.4
K1078A	17	62	75	0	4.9
K1078C	47	50	120	0	43.5
K1080A	16	85	110	0	10.8
K1080C	14	95	100	0	12.6
K1081A	12	32	50	0	2.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1091C	18	110	170	0	6.4
K1092A	23	100	125	0	7.2
K1092C	13	130	160	0	5.6
K1097A	9	15	30	0	8.4
K1097C	20	35	130	0	11.1
K1098A	9	34	45	0	3.0
K1098C	18	60	50	0	3.3
K1099A	16	55	60	0	3.6
K1099C	18	64	50	0	3.7
K1100A	12	42	50	0	2.5
K1100C	21	86	65	0	3.3
K1101A	12	35	40	0	3.0
K1101C	17	66	50	0	3.1
K1102A	15	86	55	0	3.0
K1102C	15	82	60	0	2.8
K1103A	15	33	50	0	3.0
K1103C	26	140	70	0	4.2
K1104A	9	12	20	0	5.6
K1104C	22	100	45	0	2.3
K1105A	19	41	55	0	5.7
K1105C	19	97	50	0	3.3
K1106A	12	36	40	0	3.0
K1106C	24	95	60	0	3.9
K1107A	9	12	30	0	3.4
K1107C	21	91	50	0	3.1
K1108A	15	55	40	0	2.9
K1108C	16	64	50	0	2.6
K1109A	16	55	60	0	3.2
K1109C	20	75	50	0	3.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1110A	12	25	40	0	2.9
K1110C	16	27	60	0	2.9
K1111A	5	2	10	0	3.7
K1111C	23	89	60	0	3.1
K1112A	14	40	50	0	2.5
K1112C	13	63	40	0	3.4
K1113A	8	13	20	0	2.7
K1113C	20	66	55	0	2.6
K1114A	22	88	55	0	2.5
K1114C	16	63	50	0	3.1
K1115A	15	25	60	0	3.5
K1115C	29	96	85	0	4.4
K1116A	16	50	60	0	2.6
K1116C	22	70	65	0	2.7
K1117A	14	32	40	0	3.8
K1117C	27	90	75	0	3.2
K1118A	16	40	40	0	2.5
K1118C	17	69	45	0	2.8
K1119A	12	43	55	0	3.4
K1119C	24	120	70	0	2.9
K1120A	12	58	40	0	3.1
K1120C	15	48	50	0	2.4
K1121A	12	35	55	0	2.7
K1121C	13	34	45	0	3.5
K1122A	9	39	20	0	0.0
K1122C	14	46	60	0	4.2
K1123A	19	110	110	0	6.2
K1123C	43	310	160	0	17.3
K1124A	24	170	110	0	8.5

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1124C	58	220	120	0	16.9
K1125A	23	120	80	0	3.7
K1125C	18	62	60	0	3.0
K1126A	16	90	65	0	3.8
K1126C	26	90	100	0	2.4
K1127A	18	92	90	0	2.0
K1127C	26	170	80	0	2.2
K1128A	17	120	40	0	2.0
K1128C	33	220	90	0	2.3
K1129A	11	57	70	0	2.8
K1129C	23	160	60	0	4.7
K1130A	12	62	60	0	1.9
K1130C	13	120	60	0	2.7
K1131A	26	170	60	0	2.1
K1131C	26	170	65	0	2.3
K1132A	18	60	60	0	2.0
K1132C	13	72	70	0	2.5
K1133A	15	71	50	0	1.6
K1133C	16	95	60	0	2.0
K1134A	13	46	50	0	3.4
K1134C	26	170	80	0	2.3
K1135A	12	90	50	0	1.7
K1136A	23	120	60	0	2.0
K1136C	20	130	60	0	2.0
K1137A	9	45	35	0	2.2
K1137C	30	130	65	0	2.5
K1138A	12	62	65	0	3.3
K1138C	10	53	50	0	2.8
K1139A	13	40	70	0	3.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1139C	25	120	95	0	2.8
K1140A	17	76	80	0	2.4
K1140C	14	70	60	0	2.1
K1141A	20	95	80	0	2.1
K1141C	16	59	70	0	2.7
K1142A	16	40	85	0	2.6
K1142C	16	47	60	0	3.3
K1143A	14	50	60	0	3.3
K1192A	13	59	95	0	3.4
K1192C	6	30	50	0	2.9
K1193A	7	32	60	0	3.0
K1193C	14	65	70	0	3.3
K1194A	5	32	20	0	3.1
K1194C	12	60	70	0	3.7
K1195A	6	26	40	0	4.3
K1195C	12	38	45	0	2.8
K1196A	6	24	40	0	4.4
K1196C	8	55	70	0	4.1
K1197A	5	27	40	0	3.5
K1197C	10	38	40	0	4.5
K1198A	7	55	30	0	3.0
K1198C	8	68	45	0	4.6
K1199A	15	95	170	0	2.9
K1199C	48	140	140	0	1.9
K1200A	5	32	45	0	3.5
K1200C	12	100	45	0	2.8
K1201A	10	61	50	0	6.1
K1201C	9	87	50	0	5.6
K1202A	12	35	60	0	4.0

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1202C	8	76	50	0	4.8
K1203A	9	100	45	0	4.5
K1203C	16	130	95	0	3.8
K1204A	12	66	65	0	5.3
K1204C	18	110	85	0	4.7
K1205A	6	18	40	0	3.9
K1205C	14	72	65	0	3.0
K1206A	14	56	60	0	3.5
K1206C	8	30	50	0	4.6
K1207A	13	75	70	0	4.1
K1207C	18	85	70	0	4.9
K1208A	6	22	50	0	4.6
K1208C	19	80	80	0	3.8
K1209A	8	22	40	0	6.0
K1209C	16	92	60	0	4.0
K1210A	9	61	55	0	2.9
K1210C	6	40	40	0	3.7
K1211A	13	60	70	0	4.1
K1211C	11	55	60	0	3.5
K1212A	12	47	80	0	3.5
K1212C	7	30	50	0	5.5
K1213A	14	36	60	0	4.3
K1213C	17	91	80	0	3.5
K1214A	11	76	65	0	2.2
K1214C	12	60	70	0	3.7
K1215A	20	55	100	0	3.3
K1215C	14	44	70	0	3.5
K1216A	11	20	20	0	3.0
K1216C	15	58	50	0	4.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1217A	14	41	50	0	3.2
K1217C	16	47	60	0	2.8
K1218A	16	25	30	0	4.4
K1218C	14	48	50	0	4.4
K1219A	12	26	40	0	3.9
K1219C	18	44	65	0	3.6
K1220A	8	14	40	0	4.0
K1220C	16	60	75	0	3.2
K1221A	16	59	60	0	2.6
K1221C	10	43	50	0	3.2
K1222A	15	55	50	0	2.9
K1222C	14	33	50	0	2.3
K1223A	10	20	20	0	3.4
K1223C	19	75	60	0	2.6
K1224A	13	36	40	0	2.1
K1224C	16	67	50	0	3.2
K1225A	11	22	40	0	4.5
K1225C	14	52	65	0	3.3
K1226A	10	25	30	0	5.5
K1226C	14	41	50	0	4.1
K1227A	7	12	10	0	4.9
K1227C	13	52	70	0	3.9
K1228A	12	54	25	0	0.0
K1228C	14	33	40	0	3.3
K1143C	15	59	50	0	4.0
K1144A	12	34	45	0	2.9
K1144C	13	48	35	0	2.6
K1145A	12	25	40	0	3.6
K1145C	19	86	50	0	2.7

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1146A	17	66	50	0	2.0
K1146C	22	82	50	0	2.9
K1147A	14	40	60	0	2.9
K1147C	17	95	50	0	3.1
K1148A	12	39	50	0	2.9
K1148C	16	59	40	0	3.3
K1149A	12	44	40	0	3.7
K1149C	19	80	50	0	3.5
K1150A	12	26	40	0	3.7
K1150C	18	85	45	0	3.2
K1151A	15	53	40	0	3.2
K1151C	12	55	40	0	3.9
K1152A	15	33	40	0	3.5
K1152C	14	67	45	0	3.3
K1153A	13	26	40	0	3.1
K1153C	21	87	60	0	2.8
K1154A	18	37	50	0	3.0
K1154C	25	80	60	0	3.8
K1155A	20	20	45	0	3.2
K1155C	19	61	50	0	3.5
K1156A	16	14	40	0	5.9
K1156C	20	52	60	0	4.7
K1157A	16	18	25	0	4.9
K1157C	18	61	50	0	3.2
K1158A	17	34	45	0	2.9
K1158C	20	65	50	0	3.1
K1159A	17	38	45	0	4.3
K1159C	23	89	50	0	2.8
K1160A	13	22	20	0	3.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1160C	16	70	50	0	2.9
K1161A	16	23	50	0	1.8
K1161C	12	20	40	0	3.4
K1162A	20	31	40	0	2.3
K1162C	22	110	50	0	2.6
K1163A	23	76	60	0	3.1
K1163C	17	90	50	0	2.7
K1164A	16	52	60	0	4.2
K1164C	22	96	55	0	2.8
K1165A	34	53	35	0	1.6
K1165C	20	60	45	0	2.1
K1166A	20	72	50	0	2.0
K1166C	27	110	45	0	2.1
K1167A	14	30	40	0	3.0
K1167C	22	68	50	0	2.6
K1168A	16	34	35	0	3.6
K1168C	22	90	50	0	2.9
K1169A	17	41	40	0	3.6
K1169C	12	58	30	0	2.3
K1170A	16	15	20	0	4.1
K1170C	14	22	30	0	4.5
K1171A	17	16	25	0	4.5
K1171C	16	54	30	0	3.1
K1172A	14	20	25	0	4.2
K1172C	16	43	45	0	3.8
K1173A	15	22	20	0	6.1
K1173C	21	94	50	0	3.0
K1174A	15	34	50	0	3.3
K1174C	19	56	55	0	3.9

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1175A	19	30	40	0	2.8
K1175C	19	71	50	0	3.9
K1176A	15	39	50	0	2.5
K1176C	18	81	55	0	2.4
K1177A	16	59	65	0	3.4
K1177C	25	84	60	0	3.6
K1178A	17	72	40	0	2.2
K1178C	12	61	30	0	3.9
K1179A	9	31	20	0	3.1
K1179C	13	66	40	0	2.5
K1180A	16	48	70	0	2.8
K1180C	25	97	60	0	3.1
K1181A	13	26	15	0	4.8
K1181C	14	56	45	0	3.3
K1182A	7	18	20	0	3.3
K1182C	89	35	35	0	3.4
K1183A	18	128	80	0	0.4
K1183C	22	50	50	0	2.5
K1184A	115	95	90	0	3.2
K1185A	23	84	110	0	0.4
K1185C	8	15	10	0	7.4
K1186A	7	15	15	0	4.2
K1186C	12	47	55	0	4.2
K1187A	8	26	30	0	3.3
K1187C	11	80	55	0	3.5
K1188A	11	34	65	0	3.3
K1188C	11	25	50	0	4.2
K1189A	9	16	40	0	3.9
K1189C	9	39	45	0	3.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1232C	29	110	50	---	17.2
K1233A	9	52	10	---	0.0
K1233C	13	80	50	---	6.6
K1234A	8	63	40	---	1.9
K1234C	20	140	100	---	4.0
K1235A	14	60	30	---	0.0
K1235C	22	160	80	---	3.5
K1236A	11	65	60	---	0.6
K1236C	13	92	70	---	3.5
K1237A	15	50	90	---	0.8
K1237C	9	43	55	---	2.4
K1238A	13	25	70	---	1.7
K1238C	10	39	60	---	3.3
K1239C	11	38	60	---	4.8
K1240A	10	29	50	---	1.3
K1240C	13	73	50	---	2.3
K1241A	8	32	45	---	0.9
K1241C	4	15	20	---	3.7
K1242A	10	29	40	---	1.6
K1242C	8	24	50	---	2.6
K1243A	12	29	20	---	5.7
K1243C	8	76	45	---	3.1
K1244A	12	82	110	---	1.9
K1245A	9	130	60	---	0.9
K1245C	9	35	60	---	4.8
K1246A	9	33	55	---	2.7
K1246C	8	21	20	---	7.8
K1247A	10	52	35	---	3.3
K1247C	7	20	20	---	5.8

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1248A	10	67	60	---	1.5
K1248C	7	30	35	---	4.9
K1249A	10	60	70	---	0.5
K1249C	8	31	20	---	5.0
K1250A	12	47	50	---	2.9
K1250C	10	72	60	---	4.1
K1251A	10	41	50	---	0.9
K1251C	12	110	70	---	3.5
K1252A	9	33	60	---	0.0
K1252C	9	30	45	---	4.4
K1253A	10	29	60	---	1.1
K1253C	14	84	60	---	3.2
K1254A	22	34	40	---	1.3
K1254C	11	49	50	---	3.4
K1255A	6	26	30	---	4.6
K1255C	7	39	30	---	4.0
K1256A	10	80	110	---	0.4
K1256C	14	87	60	---	3.5
K1257A	12	35	60	---	1.1
K1257C	9	49	40	---	3.0
K1258A	6	24	30	---	3.7
K1258C	5	35	20	---	3.7
K1259A	17	25	30	---	1.1
K1259C	12	75	50	---	3.0
K1260A	11	52	40	---	7.1
K1260C	16	160	50	---	15.7
K1261A	7	62	5	---	1.5
K1261C	9	30	30	---	3.7
K1262A	8	52	40	---	2.8

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X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1262C	12	52	40	---	3.9
K1263A	8	42	50	---	0.5
K1264C	12	59	40	---	4.4
K1265A	11	140	95	---	0.4
K1265C	7	33	20	---	4.8
K1266A	17	20	40	---	5.4
K1266C	12	40	40	---	4.2
K1267A	12	37	35	---	0.6
K1267C	9	31	25	---	4.1
K1268A	11	69	50	---	1.1
K1268C	12	57	40	---	4.6
K1269A	11	150	40	---	0.0
K1269C	13	71	35	---	5.3
K1270A	19	41	90	---	4.7
K1270C	19	52	140	---	5.7
K1271A	9	47	60	---	2.8
K1271C	17	47	55	---	2.2
K1272A	14	98	60	---	0.0
K1272C	11	53	30	---	4.7
K1273A	10	59	20	---	0.8
K1273C	12	47	40	---	2.5
K1274A	11	55	70	---	0.5
K1274C	8	16	20	---	6.3
K1275A	9	48	90	---	1.1
K1275C	10	69	25	---	3.7
K1276A	14	90	140	---	0.4
K1276C	10	26	15	---	10.4
K1277A	13	38	40	---	0.4
K1277C	13	63	110	---	6.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1278A	7	26	25	---	3.8
K1278C	8	30	35	---	3.8
K1279A	15	110	120	---	0.0
K1279C	13	66	40	---	3.6
K1280A	8	32	25	---	5.6
K1280C	8	35	40	---	1.9
K1281A	23	120	15	---	0.0
K1281C	9	27	20	---	5.8
K1282A	24	23	40	---	4.5
K1282C	10	28	30	---	1.6
K1283A	12	49	80	---	0.9
K1283C	7	23	45	---	5.3
K1284A	20	140	70	---	0.5
K1284C	15	83	35	---	3.3
K1285A	11	27	40	---	0.9
K1285C	10	20	30	---	3.8
K1286A	10	51	65	---	0.0
K1286C	10	39	25	---	5.2
K1287A	11	37	40	---	0.6
K1287C	14	59	50	---	3.3
K1288A	13	41	60	---	1.7
K1288C	11	65	40	---	3.5
K1289A	30	130	50	---	0.7
K1289C	12	86	40	---	3.1
K1290A	15	53	120	---	1.5
K1290C	18	160	55	---	3.3
K1291A	11	39	55	---	1.5
K1291C	14	63	50	---	2.9
K1292A	9	25	45	---	1.7

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X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1292C	29	170	170	---	4.6
K1293A	11	93	60	---	1.0
K1293C	13	80	50	---	4.1
K1294A	16	92	75	---	0.4
K1294C	15	81	65	---	3.1
K1295A	14	67	10	---	0.0
K1295C	13	82	60	---	3.5
K1296A	11	51	50	---	1.7
K1296C	13	61	40	---	3.7
K1297A	11	52	30	---	0.0
K1297C	9	34	70	---	3.7
K1298A	6	76	20	---	0.0
K1298C	16	52	60	---	2.6
K1299A	9	61	30	---	0.0
K1299C	11	44	45	---	3.6
K1300A	6	52	10	---	0.0
K1300C	5	14	10	---	7.6
K1301A	15	110	40	---	0.0
K1301C	11	50	50	---	3.5
K1302A	12	56	40	---	0.0
K1302C	11	47	40	---	3.3
K1303A	8	15	40	---	1.1
K1303C	12	67	60	---	3.1
K1304A	7	31	30	---	1.4
K1304C	17	100	65	---	4.1
K1305A	7	46	50	---	4.2
K1305C	10	39	40	---	4.1
K1306A	12	130	80	---	0.0
K1306C	11	57	50	---	3.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1307A	12	82	55	---	0.0
K1307C	9	49	40	---	3.1
K1308A	7	44	25	---	0.0
K1308C	9	24	35	---	5.2
K1309A	8	33	55	---	1.9
K1309C	9	59	70	---	3.6
K1310A	12	80	55	---	0.7
K1310C	12	42	30	---	6.3
K1311A	15	97	70	---	0.0
K1311C	13	100	60	---	4.3
K1312A	12	37	40	---	3.9
K1312C	12	61	40	---	3.3
K1313A	12	41	45	---	2.1
K1313C	14	75	60	---	3.5
K1314A	16	47	55	---	2.4
K1314C	17	93	80	---	3.5
K1315A	10	54	60	---	3.1
K1315C	10	44	40	---	2.6
K1316A	12	68	50	---	1.6
K1316C	8	28	30	---	5.7
K1317A	18	86	70	---	1.2
K1317C	13	46	55	---	3.8
K1318A	13	45	60	---	2.6
K1318C	12	66	55	---	2.5
K1319A	18	120	55	---	1.5
K1319C	16	79	50	---	2.0
K1320A	16	120	45	---	1.4
K1320C	13	36	60	---	2.1
K1321A	10	61	40	---	3.1

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X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1321C	8	23	40	---	2.8
K1322A	10	35	35	---	2.9
K1322C	12	91	40	---	2.7
K1323A	13	45	50	---	3.0
K1323C	16	110	55	---	3.2
K1324A	10	66	50	---	2.6
K1324C	11	42	50	---	3.2
K1325A	19	56	110	---	1.3
K1325C	23	150	110	---	3.5
K1326A	11	36	65	---	1.8
K1326C	19	140	60	---	2.6
K1327A	13	55	60	---	3.1
K1327C	12	61	60	---	2.9
K1328A	14	37	60	---	1.2
K1328C	20	56	65	---	3.9
K1329A	15	41	95	---	2.3
K1329C	11	18	25	---	9.4
K1330A	10	50	70	---	2.4
K1330C	15	67	75	---	2.8
K1331A	15	52	55	---	0.7
K1331C	19	120	70	---	3.1
K1332A	8	26	60	---	1.5
K1332C	13	94	50	---	2.3
K1333A	10	54	70	---	2.2
K1333C	12	65	35	---	3.3
K1334A	9	38	40	---	1.8
K1334C	12	36	60	---	5.1
K1335A	10	39	60	---	2.1
K1335C	12	62	35	---	3.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1336A	12	58	70	---	1.3
K1336C	13	69	60	---	2.5
K1337A	12	46	50	---	0.4
K1337C	10	42	20	---	2.9
K1338A	8	55	30	---	3.5
K1338C	14	35	30	---	6.4
K1339A	12	65	60	---	0.6
K1339C	12	53	50	---	2.9
K1340A	12	54	45	---	0.8
K1340C	12	44	40	---	3.3
K1341A	10	32	50	---	0.6
K1341C	15	90	60	---	2.3
K1342A	13	25	30	---	0.8
K1342C	12	46	50	---	2.8
K1343A	12	38	70	---	2.7
K1343C	10	43	40	---	3.1
K1344A	13	36	45	---	3.1
K1344C	12	68	50	---	2.9
K1345A	11	52	55	---	2.1
K1345C	10	57	35	---	2.5
K1346A	12	42	60	---	1.7
K1346C	9	38	50	---	2.5
K1347A	9	38	50	---	1.0
K1347C	23	99	40	---	2.3
K1348A	14	32	30	---	0.0
K1348C	14	91	55	---	3.0
K1349A	14	34	35	---	1.6
K1349C	13	150	45	---	3.6
K1350A	12	75	55	---	0.4

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X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1350C	8	57	40	---	3.2
K1351A	10	53	10	---	0.0
K1351C	10	63	70	---	3.6
K1352A	8	66	25	---	0.0
K1352C	12	72	70	---	3.2
K1353A	19	82	65	---	2.6
K1353C	9	110	30	---	3.5
K1354A	13	67	110	---	0.6
K1354C	12	99	70	---	3.0
K1355A	12	47	120	---	1.9
K1355C	8	63	60	---	5.1
K1523A	15	55	40	---	2.8
K1523C	15	91	75	---	3.5
K1524A	17	120	60	---	1.3
K1524C	21	230	110	---	4.0
K1525A	24	44	110	---	6.2
K1525C	31	140	150	---	9.9
K1526A	28	50	70	---	7.9
K1526C	28	100	85	---	9.6
K1527A	15	66	70	---	2.0
K1527C	24	190	150	---	6.7
K1528A	16	69	40	---	0.0
K1528C	29	250	140	---	6.0
K1529A	18	59	60	---	3.8
K1529C	24	90	75	---	7.2
K1530A	17	62	70	---	3.0
K1530C	24	200	110	---	5.4
K1531A	22	150	100	---	3.8
K1531C	20	280	90	---	6.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1532A	47	210	95	---	16.6
K1532C	29	200	90	---	12.4
K1533A	50	130	60	---	20.2
K1533C	31	330	100	---	11.8
K1534A	11	120	10	---	0.0
K1534C	17	150	80	---	5.1
K1535A	21	84	40	---	0.5
K1535C	12	65	65	---	3.2
K1536A	16	170	35	---	0.6
K1536C	17	84	60	---	3.8
K1537A	17	76	40	---	0.0
K1537C	17	79	60	---	2.3
K1538A	14	59	35	---	0.0
K1538C	14	46	50	---	2.9
K1539A	17	57	55	---	2.5
K1539C	19	120	60	---	8.7
K1540A	14	66	50	---	1.5
K1540C	27	220	95	---	13.6
K1541A	16	67	70	---	5.3
K1541C	15	160	80	---	10.3
K1542A	12	63	35	---	0.4
K1542C	20	230	90	---	8.7
K1543A	35	97	45	---	1.4
K1543C	19	180	70	---	7.7
K1544A	14	59	70	---	5.7
K1544C	23	110	90	---	16.7
K1545A	17	59	40	---	2.4
K1545C	31	210	70	---	14.5
K1546A	11	65	40	---	0.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1546C	33	160	80	---	22.5
K1547A	14	77	40	---	0.4
K1547C	39	160	80	---	23.8
K1548A	17	60	45	---	7.7
K1548C	20	56	35	---	17.3
K1549A	17	95	65	---	6.4
K1549C	22	220	75	---	21.7
K1550A	15	50	20	---	2.7
K1550C	15	120	100	---	4.6
K1551A	21	67	65	---	12.4
K1551C	19	390	95	---	9.9
K1552A	14	89	40	---	0.4
K1552C	10	140	80	---	5.1
K1553A	15	75	60	---	0.0
K1553C	14	78	55	---	3.7
K1554A	18	85	70	---	4.6
K1554C	30	220	115	---	7.6
K1555A	24	100	70	---	12.4
K1555C	27	210	100	---	11.5
K1556A	17	56	55	---	8.6
K1556C	14	83	50	---	0.4
K1557A	19	67	70	---	6.1
K1557C	19	160	85	---	5.7
K1558A	13	40	20	---	1.9
K1558C	17	120	80	---	3.8
K1559A	12	72	65	---	0.9
K1559C	19	160	100	---	3.5
K1560A	22	80	60	---	10.1
K1560C	30	110	60	---	14.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1561A	22	130	65	---	6.7
K1561C	18	99	70	---	4.6
K1562A	12	42	50	---	0.0
K1562C	15	53	50	---	4.4
K1563A	10	16	35	---	1.4
K1563C	19	170	95	---	3.3
K1564A	12	65	55	---	0.0
K1564C	13	140	80	---	3.3
K1565A	12	94	65	---	1.9
K1565C	16	82	50	---	3.1
K1566A	15	50	40	---	0.5
K1566C	30	130	110	---	14.0
K1567A	21	92	60	---	3.9
K1567C	21	100	70	---	6.3
K1568A	24	47	70	---	8.7
K1568C	20	78	70	---	8.5
K1569A	12	35	60	---	2.1
K1569C	24	130	90	---	8.9
K1356A	14	31	70	---	1.6
K1356C	21	120	70	---	2.8
K1357A	25	64	90	---	0.4
K1357C	16	89	50	---	2.8
K1358A	16	44	110	---	1.6
K1358C	16	74	65	---	2.7
K1359A	14	40	60	---	0.8
K1359C	14	63	50	---	2.5
K1360A	12	17	20	---	2.1
K1360C	14	80	35	---	2.1
K1361A	14	39	70	---	1.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1361C	17	95	50	---	2.6
K1362C	17	120	55	---	2.3
K1363A	14	37	50	---	2.1
K1363C	19	120	50	---	2.2
K1364A	24	50	90	---	2.2
K1364C	21	110	60	---	2.7
K1365A	16	46	120	---	1.5
K1365C	21	100	60	---	2.3
K1366A	23	59	110	---	1.3
K1366C	17	120	40	---	2.4
K1367A	24	54	65	---	0.9
K1367C	19	82	55	---	2.1
K1368A	15	45	110	---	1.7
K1368C	19	80	40	---	2.4
K1369A	14	36	100	---	0.9
K1369C	20	94	45	---	2.0
K1370A	17	35	40	---	2.0
K1370C	17	80	50	---	2.3
K1371A	19	59	95	---	1.1
K1371C	8	25	35	---	3.3
K1372A	10	37	60	---	1.2
K1372C	12	70	50	---	2.1
K1373A	10	34	60	---	1.0
K1373C	12	91	50	---	2.4
K1374A	7	30	55	---	2.0
K1374C	18	120	70	---	2.7
K1375A	11	73	85	---	1.1
K1375C	15	100	40	---	2.4
K1376A	9	36	55	---	1.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1376C	12	70	50	---	2.4
K1377A	13	43	60	---	1.6
K1377C	29	120	70	---	2.9
K1378A	10	46	60	---	2.3
K1378C	13	66	50	---	1.8
K1379A	8	47	70	---	1.5
K1379C	16	120	75	---	3.4
K1380A	10	82	90	---	1.3
K1380C	18	78	55	---	2.8
K1381A	14	38	115	---	0.8
K1381C	21	130	75	---	3.9
K1382A	12	83	100	---	1.2
K1382C	15	80	50	---	2.1
K1383A	11	62	60	---	1.1
K1383C	15	94	60	---	2.5
K1384A	6	24	35	---	1.6
K1384C	13	68	55	---	1.5
K1385A	22	24	110	---	1.5
K1385C	11	56	45	---	1.9
K1386A	10	50	100	---	1.7
K1386C	10	56	40	---	3.3
K1387A	11	31	60	---	1.8
K1387C	12	73	60	---	2.9
K1388A	8	29	70	---	1.1
K1388C	14	90	60	---	2.7
K1389A	10	53	30	---	0.5
K1389C	25	110	60	---	2.6
K1390A	15	66	80	---	0.0
K1390C	18	100	55	---	2.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1391A	12	45	80	---	0.6
K1391C	10	55	40	---	3.2
K1392A	10	56	70	---	0.6
K1392C	17	110	55	---	2.8
K1393A	8	66	95	---	1.2
K1393C	24	180	65	---	2.7
K1394A	10	53	50	---	1.5
K1394C	15	120	55	---	6.7
K1395A	10	72	65	---	0.6
K1395C	15	140	50	---	3.2
K1396A	10	64	90	---	1.0
K1396C	12	75	50	---	2.5
K1397A	10	45	80	---	0.9
K1397C	12	70	50	---	2.2
K1398A	10	58	60	---	0.0
K1398C	14	96	45	---	2.7
K1399A	8	46	45	---	0.0
K1399C	13	110	50	---	2.9
K1400A	12	70	65	---	2.4
K1400C	15	110	45	---	2.9
K1401A	12	44	130	---	1.6
K1401C	12	84	60	---	3.2
K1402A	14	50	100	---	0.8
K1402C	12	100	60	---	2.7
K1403A	12	48	120	---	1.1
K1403C	14	130	60	---	3.5
K1404A	16	83	215	---	0.9
K1404C	13	94	50	---	3.0
K1405A	14	44	90	---	1.8

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1405C	14	95	70	---	3.4
K1406A	14	68	220	---	1.4
K1406C	22	87	70	---	3.4
K1407A	10	48	90	---	1.8
K1407C	16	97	90	---	4.2
K1408A	11	36	110	---	2.2
K1408C	11	80	75	---	3.7
K1409A	17	67	170	---	1.7
K1409C	15	86	60	---	3.1
K1410A	7	17	30	---	1.4
K1410C	5	24	10	---	4.2
K1411A	8	36	70	---	0.7
K1411C	17	100	80	---	4.0
K1412A	16	69	100	---	0.7
K1412C	10	94	60	---	2.7
K1413A	8	45	80	---	0.7
K1413C	12	130	50	---	2.8
K1414A	14	62	120	---	0.9
K1414C	11	110	50	---	2.5
K1415A	13	87	140	---	0.5
K1415C	22	160	90	---	3.5
K1416A	24	30	100	---	1.2
K1416C	24	140	80	---	3.3
K1417A	10	37	30	---	0.4
K1417C	13	80	50	---	2.5
K1418A	8	25	60	---	3.3
K1418C	12	68	80	---	3.9
K1419A	53	60	50	---	0.5
K1419C	17	95	80	---	3.1

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X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1420A	11	43	70	---	0.0
K1420C	19	130	95	---	2.8
K1421A	10	61	90	---	1.0
K1421C	20	150	80	---	2.9
K1422A	11	57	115	---	1.3
K1422C	18	140	100	---	2.6
K1423A	19	69	80	---	0.0
K1423C	32	86	60	---	3.0
K1424A	12	48	150	---	1.5
K1424C	14	87	45	---	2.5
K1425A	9	44	100	---	1.6
K1425C	12	96	50	---	2.0
K1426C	14	130	60	---	2.8
K1427A	9	80	50	---	0.0
K1427C	10	100	65	---	2.0
K1428A	12	61	60	---	0.5
K1428C	7	58	50	---	3.6
K1429A	10	77	80	---	0.6
K1429C	17	150	60	---	4.1
K1430A	12	120	80	---	1.0
K1430C	14	160	70	---	2.0
K1431A	14	140	120	---	0.0
K1431C	14	220	50	---	3.5
K1432A	12	140	110	---	0.0
K1432C	18	250	70	---	3.6
K1433A	12	180	80	---	1.6
K1433C	12	220	50	---	5.0
K1434A	20	140	120	---	8.1
K1434C	17	490	65	---	6.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1435A	14	70	120	---	2.2
K1435C	14	140	50	---	4.8
K1436A	10	46	120	---	0.9
K1436C	10	94	50	---	3.3
K1437A	11	80	110	---	1.5
K1437C	6	47	45	---	4.0
K1438A	10	52	105	---	2.3
K1438C	11	42	40	---	8.1
K1439A	11	58	65	---	2.6
K1439C	23	91	30	---	4.0
K1440A	16	91	70	---	7.5
K1440C	12	130	40	---	4.2
K1441A	17	46	95	---	1.1
K1441C	18	110	60	---	2.3
K1442A	11	34	80	---	1.7
K1442C	16	63	50	---	2.2
K1443A	13	57	120	---	2.5
K1443C	15	84	50	---	2.0
K1444A	24	72	215	---	0.4
K1444C	16	120	65	---	2.7
K1445A	13	32	70	---	1.5
K1445C	20	120	70	---	2.5
K1446A	19	61	110	---	1.4
K1446C	20	99	65	---	2.9
K1447A	17	44	90	---	1.5
K1447C	24	72	80	---	2.3
K1448A	20	29	80	---	1.0
K1448C	15	63	65	---	2.4
K1449A	12	52	100	---	1.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1463A	10	37	70	---	1.9
K1463C	11	66	40	---	2.3
K1464A	11	44	80	---	1.4
K1464C	10	43	40	---	2.8
K1465A	12	42	90	---	1.4
K1465C	16	68	50	---	2.9
K1466A	14	46	100	---	1.6
K1466C	16	92	50	---	3.1
K1467A	7	35	40	---	2.7
K1467C	15	94	60	---	2.8
K1468A	14	46	135	---	2.8
K1468C	12	100	60	---	3.9
K1469A	11	32	40	---	3.7
K1469C	12	88	35	---	3.1
K1470A	10	35	30	---	1.5
K1470C	6	32	20	---	2.9
K1471A	9	57	70	---	1.9
K1471C	12	120	45	---	2.6
K1472A	11	96	35	---	0.5
K1472C	20	110	60	---	3.8
K1473A	8	100	30	---	0.0
K1473C	15	85	40	---	3.6
K1474A	8	66	50	---	1.4
K1474C	11	92	40	---	2.7
K1475A	16	240	55	---	0.0
K1475C	8	150	40	---	3.8
K1476C	14	470	60	---	6.7
K1477A	19	96	60	---	0.0
K1477C	10	110	50	---	4.6

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1478A	11	66	110	---	0.9
K1478C	27	270	110	---	10.7
K1479A	18	53	50	---	1.7
K1479C	12	140	60	---	10.1
K1480A	12	60	65	---	0.0
K1480C	19	140	60	---	5.4
K1481A	9	55	50	---	4.4
K1481C	11	76	45	---	3.8
K1482A	7	22	40	---	2.6
K1482C	10	99	40	---	2.8
K1483A	10	36	50	---	2.2
K1483C	10	63	45	---	2.6
K1484A	10	34	30	---	1.0
K1484C	10	49	40	---	3.9
K1485A	11	40	40	---	2.9
K1486A	13	110	20	---	0.0
K1486C	16	150	60	---	3.1
K1487A	7	41	40	---	2.2
K1487C	7	63	30	---	2.9
K1488A	7	50	55	---	0.7
K1488C	11	65	45	---	3.1
K1489A	9	30	40	---	0.6
K1489C	12	110	45	---	3.1
K1490C	10	78	40	---	2.8
K1491A	5	27	45	---	2.0
K1491C	9	70	35	---	2.8
K1492A	8	52	55	---	1.5
K1492C	10	96	40	---	2.9
K1493A	7	46	60	---	1.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1493C	10	91	35	---	2.2
K1494A	10	83	50	---	0.5
K1494C	11	140	45	---	2.0
K1495A	8	70	40	---	0.6
K1495C	11	92	35	---	2.8
K1496A	10	73	40	---	0.4
K1496C	12	130	40	---	2.6
K1497A	12	50	60	---	0.7
K1497C	10	110	35	---	2.3
K1498A	12	46	50	---	1.0
K1498C	8	84	30	---	2.0
K1499A	16	50	70	---	0.5
K1499C	9	59	35	---	2.3
K1500A	20	82	40	---	22.0
K1500C	10	58	45	---	7.6
K1501A	29	47	210	---	2.9
K1501C	31	68	70	---	4.2
K1502A	16	110	115	---	0.7
K1502C	11	75	50	---	2.9
K1503A	12	61	40	---	0.5
K1503C	14	92	65	---	3.7
K1504A	21	50	50	---	2.4
K1504C	15	87	70	---	4.8
K1505A	10	38	40	---	1.9
K1505C	12	90	50	---	2.8
K1506A	16	72	105	---	1.1
K1506C	9	53	45	---	4.3
K1507A	20	75	110	---	2.2
K1507C	14	92	60	---	3.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1584A	16	37	40	---	1.3
K1584C	17	83	80	---	2.9
K1585A	9	54	65	---	1.1
K1585C	10	55	50	---	2.8
K1586A	11	50	45	---	1.3
K1586C	16	120	120	---	2.9
K1587A	18	130	90	---	0.0
K1587C	16	120	75	---	2.7
K1588A	14	64	65	---	1.7
K1588C	14	110	65	---	5.1
K1589A	13	100	50	---	1.3
K1589C	14	38	25	---	4.1
K1590A	26	80	60	---	0.7
K1590C	21	90	60	---	4.4
K1591A	18	53	120	---	1.7
K1591C	18	75	50	---	4.5
K1592A	17	82	40	---	0.0
K1592C	12	55	80	---	3.3
K1593A	18	52	90	---	0.9
K1593C	15	95	85	---	2.4
K1594A	13	62	100	---	0.0
K1594C	11	47	70	---	2.5
K1595A	14	56	70	---	0.7
K1595C	16	60	65	---	2.8
K1596A	17	75	50	---	0.5
K1596C	16	84	80	---	3.0
K1597A	13	47	70	---	1.1
K1597C	14	44	35	---	3.6
K1598A	18	120	60	---	0.0

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1598C	15	58	65	---	2.4
K1599A	15	46	65	---	0.0
K1599C	18	94	60	---	3.3
K1600A	16	41	60	---	1.6
K1600C	21	170	100	---	2.6
K1601A	19	55	40	---	0.9
K1601C	26	190	110	---	2.5
K1602A	21	60	140	---	1.4
K1602C	24	140	70	---	2.6
K1603A	20	86	150	---	1.4
K1603C	18	110	60	---	3.4
K1604A	21	60	220	---	1.1
K1604C	11	36	65	---	2.5
K1605A	18	66	110	---	0.4
K1605C	20	120	110	---	2.3
K1606A	13	37	130	---	1.1
K1606C	16	95	65	---	3.8
K1607A	21	53	90	---	0.6
K1607C	15	87	60	---	9.3
K1608A	20	100	170	---	2.8
K1608C	27	190	120	---	6.6
K1609A	16	58	90	---	2.2
K1609C	15	97	85	---	5.3
K1610A	15	60	75	---	4.0
K1610C	15	71	70	---	9.1
K1612A	26	110	150	---	0.6
K1612C	16	98	50	---	2.2
K1613A	21	46	120	---	0.5
K1613C	16	160	60	---	2.5

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1617A	13	73	140	1.1
K1617C	18	100	100	2.2
K1618A	20	64	110	0.9
K1618C	12	66	50	2.9
K1619A	17	41	55	1.5
K1619C	11	58	60	3.0
K1620A	15	47	75	0.7
K1620C	11	65	50	3.3
K1621A	17	50	60	0.0
K1621C	11	37	45	3.2
K1622A	15	47	100	0.7
K1622C	19	110	95	2.3
K1623A	14	37	90	0.7
K1623C	15	75	65	2.6
K1624A	11	29	80	0.8
K1624C	14	68	55	2.8
K1625A	15	41	35	1.4
K1625C	15	69	90	2.9
K1626A	8	38	35	0.6
K1626C	18	87	90	2.7
K1627A	11	51	75	0.4
K1627C	11	96	90	2.7
K1628A	17	52	130	1.2
K1628C	11	98	180	4.2
K1629A	18	42	100	0.9
K1629C	12	100	120	3.0
K1630A	18	44	170	1.3
K1630C	15	180	85	3.3
K1631A	15	41	90	1.1

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1631C	22	240	120	2.5
K1632A	11	59	160	1.2
K1632C	8	91	110	2.5
K1633A	11	42	90	2.9
K1633C	12	130	130	2.9
K1634A	17	39	80	2.0
K1634C	21	200	140	2.6
K1635A	12	42	90	2.3
K1635C	16	190	90	3.2
K1636A	15	120	45	0.8
K1636C	24	250	240	6.3
K1637A	8	60	60	1.2
K1637C	8	75	70	3.1
K1638A	21	250	160	0.8
K1638C	17	200	100	3.3
K1639A	19	91	130	0.6
K1639C	15	120	85	2.3
K1640A	11	79	100	1.5
K1640C	17	56	300	4.2
K1641A	12	54	130	1.3
K1641C	11	89	110	3.5
K1642A	11	44	100	2.1
K1642C	9	50	60	3.2
K1643A	33	220	500	3.5
K1643C	47	300	500	7.4
K1644A	11	63	100	1.4
K1644C	10	120	60	2.3
K1645A	10	100	35	0.4
K1645C	21	170	170	4.3

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1646A	9	150	50	1.4
K1646C	16	140	180	3.0
K1647A	15	67	110	0.0
K1647C	9	68	40	3.0
K1648A	6	38	85	1.6
K1648C	13	110	90	2.7
K1649A	9	30	70	1.9
K1649C	12	140	85	3.1
K1650A	9	130	70	1.7
K1650C	57	390	620	5.8
K1651A	22	200	120	0.4
K1651C	17	190	120	3.2
K1652A	13	99	30	0.0
K1652C	16	100	75	4.6
K1653A	8	42	60	1.0
K1653C	15	100	100	2.9
K1654A	10	38	50	0.0
K1654C	12	55	65	3.7
K1655A	12	60	90	0.0
K1655C	12	75	75	3.0
K1656A	20	66	65	0.4
K1656C	14	42	70	2.7
K1657A	20	72	40	0.9
K1657C	21	120	120	2.8
K1658A	12	82	70	1.1
K1658C	22	130	100	2.7
K1659A	11	47	60	2.3
K1659C	15	89	110	0.5
K1660A	8	55	85	0.4

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1660C	11	74	65	2.3
K1661A	12	62	80	0.9
K1661C	12	98	85	2.7
K1662A	15	49	80	0.9
K1662C	12	75	70	2.5
K1663A	17	52	120	1.0
K1663C	11	58	110	3.2
K1664A	12	75	110	1.0
K1664C	11	120	75	2.2
K1665A	15	84	150	0.6
K1665C	9	98	75	2.6
K1666A	13	34	85	0.9
K1666C	13	54	80	2.0
K1667A	20	60	120	0.0
K1667C	10	90	75	2.9
K1668A	15	57	130	2.1
K1668C	12	110	90	2.8
K1669A	16	70	130	0.5
K1669C	17	150	110	2.6
K1670A	12	120	140	1.7
K1670C	12	180	180	2.8
K1671A	23	60	75	0.0
K1671C	16	180	140	3.2
K1672A	24	52	85	0.8
K1672C	21	130	75	2.5
K1673A	14	41	120	2.1
K1673C	15	170	100	3.9
K1674A	12	55	140	0.9
K1674C	13	360	420	3.0

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1675A	13	43	130	1.8
K1675C	16	130	150	2.3
K1676A	14	42	80	1.7
K1676C	13	140	100	3.0
K1677A	15	57	110	1.1
K1677C	11	140	100	3.5
K1678A	18	52	130	1.8
K1678C	17	250	220	3.0
K1679A	12	43	90	1.9
K1679C	16	89	100	2.7
K1680A	15	64	120	0.8
K1680C	14	130	130	2.5
K1681A	30	450	250	1.9
K1681C	20	480	160	3.9
K1682A	18	87	180	1.0
K1682C	15	120	110	2.8
K1683A	12	50	100	2.5
K1683C	15	130	100	2.8
K1684A	14	68	85	2.4
K1684C	13	140	100	2.7
K1685A	12	87	80	1.7
K1685C	16	160	120	1.9
K1686A	74	130	750	12.1
K1636C	96	540	730	11.0
K1687A	20	140	110	0.4
K1687C	15	150	200	4.1
K1688A	54	440	400	3.9
K1689C	31	250	340	6.1
K1690A	29	120	70	0.0

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1691A	11	160	50	0.7
K1691C	9	160	95	3.7
K1692A	9	64	30	0.0
K1692C	11	85	90	5.7
K1693A	16	140	75	1.9
K1693C	16	420	310	5.8
K1694A	11	60	50	0.0
K1694C	8	120	110	3.9
K1695A	22	170	150	1.5
K1695C	52	760	310	11.1
K1696A	51	410	220	5.9
K1696C	22	220	85	2.7
K1697A	130	1100	750	14.1
K1697C	55	680	280	3.2
K1698A	19	83	100	0.8
K1698C	20	130	120	3.5
K1699A	20	110	85	1.4
K1699C	23	150	130	2.4
K1700A	17	57	65	1.8
K1700C	17	250	100	3.7
K1701A	15	76	110	2.0
K1701C	11	80	110	3.2
K1702A	14	70	75	0.7
K1702C	19	150	130	2.8
K1703A	10	42	95	2.3
K1703C	12	68	120	2.4
K1704A	12	72	95	0.4
K1704C	28	140	120	2.5
K1705A	17	80	90	1.4

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1705C	11	35	50	4.2
K1706A	19	46	160	1.2
K1706C	15	98	110	3.2
K1707A	24	95	100	0.4
K1707C	17	100	110	3.5
K1708A	18	55	120	2.4
K1708C	13	130	150	4.6
K1709A	23	98	95	1.3
K1709C	12	120	110	3.8
K1710A	24	48	95	0.9
K1710C	18	190	130	2.4
K1711A	34	60	130	0.8
K1711C	19	200	220	1.9
K1712A	24	50	110	0.4
K1712C	11	95	75	2.7
K1713A	11	53	100	0.8
K1713C	14	150	80	3.5
K1714A	20	29	120	1.3
K1714C	28	220	130	4.2
K1715A	12	49	70	0.4
K1715C	19	82	130	4.5
K1716A	19	50	110	0.8
K1716C	10	79	85	3.3
K1717A	32	90	100	1.5
K1717C	16	100	85	3.5
K1718A	19	35	90	1.5
K1718C	11	78	80	2.9
K1719A	18	49	170	1.5
K1719C	13	120	80	2.8

14-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	U
K1720A	19	44	150	0.7
K1720C	12	87	70	3.1
K1721A	8	27	50	1.7
K1721C	19	82	60	3.8
K1722A	19	45	100	1.3
K1722C	10	51	40	2.8
K1723A	35	67	50	0.8
K1723C	12	48	60	4.2
K1724A	11	43	55	1.8
K1724C	11	44	45	4.0
K1725A	13	47	100	0.0
K1725C	12	51	50	3.3
K1726A	17	67	75	0.7
K1726C	21	100	80	2.9
K1727A	18	50	55	1.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1738A	19	240	220	---	2.6
K1738C	17	410	150	---	2.5
K1739A	15	70	40	---	0.0
K1739C	18	170	100	---	3.4
K1740A	22	120	60	---	0.5
K1740C	31	370	160	---	4.4
K1741A	16	98	130	---	3.1
K1741C	38	440	190	---	5.1
K1742A	17	90	45	---	0.0
K1742C	20	120	120	---	3.4
K1743A	16	40	60	---	0.0
K1743C	26	150	170	---	2.8
K1744A	12	110	70	---	1.1
K1744C	15	73	95	---	3.0
K1745A	15	50	90	---	2.1
K1745C	16	120	100	---	2.7
K1746A	22	74	100	---	0.8
K1746C	17	120	85	---	3.0
K1747A	20	110	180	---	1.5
K1747C	14	93	130	---	3.5
K1748A	16	200	95	---	0.8
K1748C	23	200	90	---	3.0
K1749A	20	200	90	---	1.7
K1749C	23	370	130	---	3.1
K1750A	20	85	100	---	1.9
K1750C	16	160	110	---	3.0
K1751A	17	44	100	---	1.0
K1751C	15	190	95	---	3.3
K1752A	46	92	180	---	0.9

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1752C	20	160	95	---	3.0
K1753A	16	110	65	---	3.1
K1753C	17	42	60	---	1.7
K1754A	18	51	65	---	0.4
K1754C	14	90	45	---	3.1
K1755A	15	39	140	---	0.8
K1755C	20	54	170	---	5.5
K1756A	18	78	150	---	1.3
K1756C	18	140	270	---	1.3
K1757A	23	43	60	---	2.4
K1757C	20	68	50	---	4.4
K1758A	18	100	130	---	1.3
K1758C	22	100	65	---	2.9
K1759A	20	47	100	---	1.3
K1759C	17	52	85	---	3.0
K1760A	20	43	100	---	1.1
K1760C	15	61	60	---	3.3
K1761A	17	98	90	---	0.4
K1761C	12	51	45	---	2.7
K1762A	12	24	45	---	1.6
K1762C	16	67	50	---	3.1
K1763A	21	50	140	---	2.1
K1763C	14	58	60	---	3.5
K1764A	31	48	90	---	2.2
K1764C	18	60	45	---	2.4
K1765A	19	35	90	---	1.3
K1765C	18	93	65	---	2.7
K1766A	14	35	55	---	1.8
K1766C	15	66	60	---	2.7

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1784C	17	150	70	---	2.1
K1785A	14	56	90	---	0.6
K1785C	13	74	80	---	2.7
K1786A	22	110	190	---	0.5
K1786C	23	190	95	---	3.1
K1787A	17	86	70	---	1.2
K1787C	15	94	85	---	3.2
K1788A	17	110	55	---	1.1
K1788C	17	110	70	---	3.1
K1789A	25	60	120	---	10.6
K1789C	15	79	85	---	2.3
K1790A	14	54	90	---	1.2
K1790C	15	110	100	---	2.4
K1791A	23	120	130	---	0.7
K1791C	26	200	120	---	2.6
K1792A	20	58	120	---	0.9
K1792C	30	150	125	---	3.9
K1793A	65	250	190	---	7.2
K1793C	56	500	155	---	6.1
K1794A	21	81	110	---	0.4
K1794C	20	120	70	---	3.4
K1795A	20	62	175	---	0.5
K1795C	15	95	75	---	2.9
K1796A	22	61	85	---	1.0
K1796C	45	55	55	---	3.5
K1797A	17	51	60	---	0.0
K1797C	16	96	65	---	3.4
K1798A	21	45	130	---	0.0
K1798C	23	80	80	---	3.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1799A	17	62	105	---	1.2
K1799C	15	79	85	---	3.7
K1800A	18	55	75	---	2.4
K1800C	11	43	70	---	4.2
K1801A	15	61	100	---	0.9
K1801C	19	83	95	---	3.0
K1802A	10	46	65	---	1.5
K1802C	14	120	65	---	2.6
K1803A	18	46	100	---	1.6
K1803C	27	160	120	---	3.5
K1804A	12	55	95	---	1.5
K1804C	17	110	70	---	2.6
K1805A	17	88	95	---	1.2
K1805C	16	66	50	---	2.7
K1806A	12	51	80	---	1.3
K1806C	18	120	55	---	2.7
K1807A	13	36	75	---	1.7
K1807C	14	52	65	---	2.7
K1808A	12	29	50	---	0.8
K1808C	15	54	50	---	3.1
K1809A	9	46	80	---	0.6
K1809C	18	76	65	---	1.5
K1810A	91	140	100	---	0.6
K1810C	9	63	20	---	2.9
K1811A	9	24	30	---	3.1
K1811C	10	29	30	---	3.3
K1812A	6	39	35	---	2.7
K1812C	8	60	40	---	3.4
K1813A	6	37	60	---	1.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1813C	13	49	25	---	5.1
K1814A	11	65	65	---	0.0
K1814C	9	22	20	---	5.1
K1815A	13	80	45	---	0.0
K1815C	11	40	25	---	5.5
K1816A	27	29	70	---	0.9
K1816C	10	54	25	---	4.1
K1817A	12	63	60	---	0.0
K1817C	13	75	30	---	3.6
K1818A	11	35	55	---	2.9
K1818C	11	33	35	---	4.2
K1819A	15	49	65	---	0.5
K1819C	9	70	30	---	4.4
K1820A	8	40	80	---	0.5
K1820C	7	41	20	---	5.7
K1821A	11	48	60	---	1.5
K1821C	7	31	15	---	8.7
K1822A	12	42	35	---	3.0
K1822C	7	40	25	---	7.6
K1823A	12	110	80	---	1.2
K1823C	10	88	35	---	4.1
K1824A	11	65	35	---	0.7
K1824C	7	29	20	---	7.2
K1825A	17	110	110	---	0.5
K1825C	11	110	70	---	4.1
K1826A	9	58	60	---	1.5
K1826C	14	64	60	---	4.2
K1827A	11	63	70	---	1.7
K1827C	12	66	65	---	5.0

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1828A	11	71	45	---	0.0
K1828C	17	130	65	---	4.8
K1829A	8	70	60	---	3.1
K1829C	9	80	75	---	0.7
K1830A	12	36	50	---	1.7
K1830C	13	110	70	---	3.8
K1831A	12	47	90	---	1.6
K1831C	11	72	55	---	3.7
K1832A	12	58	100	---	2.8
K1832C	8	55	60	---	4.1
K1833A	15	60	130	---	1.5
K1833C	14	100	90	---	2.5
K1834A	24	56	120	---	1.8
K1834C	13	56	80	---	3.0
K1835A	14	38	90	---	1.2
K1835C	18	95	120	---	1.9
K1836A	17	51	260	---	5.5
K1836C	14	64	90	---	2.5
K1837A	22	44	100	---	1.4
K1837C	12	51	85	---	4.3
K1838A	17	49	160	---	0.5
K1838C	7	24	30	---	2.5
K1839A	8	26	60	---	1.4
K1839C	12	79	100	---	2.9
K1840A	7	46	110	---	3.7
K1840C	15	87	100	---	3.1
K1841A	13	59	90	---	3.1
K1841C	15	100	100	---	3.4
K1842A	14	72	50	---	1.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1842C	16	120	60	---	3.5
K1843A	13	64	70	---	3.3
K1843C	16	150	70	---	3.3
K1844A	15	60	40	---	0.0
K1844C	20	150	60	---	3.0
K1845A	26	67	75	---	1.0
K1845C	43	150	90	---	4.1
K1846A	37	37	90	---	1.1
K1846C	22	110	50	---	3.8
K1847A	30	140	50	---	1.3
K1847C	62	290	160	---	7.6
K1848A	16	62	35	---	0.5
K1848C	12	62	100	---	2.7
K1849A	8	75	30	---	0.8
K1849C	13	92	80	---	3.6
K1850A	13	78	100	---	2.0
K1850C	11	95	50	---	3.6
K1851A	17	47	180	---	7.5
K1851C	14	94	70	---	2.7
K1852A	19	34	200	---	2.4
K1852C	15	92	90	---	3.1
K1853A	15	100	50	---	0.0
K1853C	23	140	130	---	1.9
K1854A	13	41	90	---	0.7
K1854C	15	89	60	---	2.6
K1855A	19	39	200	---	2.3
K1855C	14	84	80	---	3.0
K1856A	10	79	70	---	0.0
K1856C	14	120	80	---	2.7

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1857A	16	60	50	---	0.4
K1857C	22	160	120	---	4.1
K1860A	16	35	90	---	0.6
K1860C	14	110	65	---	2.4
K1861A	12	110	90	---	0.4
K1861C	12	45	60	---	3.3
K1862A	16	64	85	---	0.5
K1862C	12	51	55	---	4.6
K1863A	11	42	110	---	1.1
K1863C	22	300	170	---	3.1
K1864A	17	63	170	---	0.7
K1864C	17	150	60	---	2.7
K1865A	8	110	75	---	0.0
K1865C	12	89	80	---	2.8
K1866A	18	70	200	---	4.4
K1866C	14	95	60	---	2.8
K1867A	16	79	40	---	0.5
K1867C	14	120	70	---	3.3
K1868A	14	55	70	---	1.7
K1868C	13	150	45	---	4.0
K1869A	17	44	100	---	4.3
K1869C	12	55	40	---	2.7
K1870A	22	53	170	---	3.5
K1870C	15	120	40	---	2.5
K1871A	15	51	130	---	1.8
K1871C	12	64	50	---	3.3
K1872A	18	77	230	---	1.7
K1872C	15	83	50	---	2.1
K1873A	9	75	55	---	0.7

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1873C	17	130	70	---	2.5
K1874A	14	43	70	---	0.4
K1874C	14	71	40	---	3.9
K1875A	15	36	100	---	0.7
K1875C	14	95	60	---	3.2
K1876A	24	87	170	---	1.6
K1876C	15	100	60	---	2.5
K1877A	18	55	80	---	0.6
K1877C	14	100	40	---	2.4
K1878A	13	57	55	---	0.9
K1878C	15	160	60	---	3.2
K1879A	15	70	120	---	2.0
K1879C	11	67	40	---	2.5
K1880A	19	96	110	---	2.3
K1880C	25	120	100	---	2.0
K1881A	12	160	110	---	0.0
K1881C	22	83	70	---	2.2
K1882A	9	110	75	---	0.7
K1882C	19	130	60	---	1.9
K1883A	12	71	70	---	0.4
K1883C	8	75	70	---	3.2
K1884A	14	62	70	---	0.0
K1884C	13	53	65	---	2.2
K1885A	12	62	30	---	0.5
K1885C	7	37	80	---	3.3
K1886A	9	160	30	---	0.0
K1886C	18	120	110	---	1.9
K1887A	12	41	150	---	0.0
K1887C	9	35	30	---	3.6

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1888A	13	100	120	---	0.4
K1888C	26	210	130	---	3.7
K1889A	25	120	200	---	0.0
K1889C	17	100	80	---	2.9
K1890A	11	100	60	---	0.7
K1890C	13	92	110	---	2.9
K1891A	13	87	70	---	3.3
K1891C	12	77	65	---	3.1
K1892A	15	110	170	---	1.3
K1892C	21	190	80	---	3.0
K1893A	23	68	260	---	1.7
K1893C	17	180	100	---	3.0
K1894A	22	110	300	---	1.7
K1894C	32	420	150	---	1.9
K1895A	14	98	90	---	1.3
K1895C	13	130	110	---	4.7
K1896A	17	66	85	---	2.8
K1896C	14	190	70	---	3.3
K1897A	13	140	100	---	0.5
K1897C	13	120	80	---	3.9
K1898A	13	45	120	---	0.7
K1898C	10	48	45	---	3.9
K1899A	15	55	110	---	1.9
K1899C	14	110	55	---	2.0
K1900A	17	84	100	---	1.1
K1900C	17	150	110	---	2.6
K1901A	16	72	30	---	0.7
K1901C	12	65	55	---	4.1
K1902A	12	120	110	---	0.0

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1902C	66	93	160	---	2.3
K1903A	14	75	100	---	0.9
K1903C	18	220	100	---	3.0
K1904A	12	60	130	---	2.5
K1904C	15	150	95	---	2.7
K1905A	11	35	60	---	3.3
K1905C	9	89	60	---	2.8
K1906A	10	50	95	---	3.8
K1906C	15	110	75	---	3.3
K1907A	17	43	240	---	2.3
K1907C	12	75	60	---	2.6
K1908A	16	92	160	---	2.3
K1908C	14	100	80	---	2.5
K1909A	14	66	120	---	1.8
K1909C	22	190	100	---	4.2
K1910A	18	97	120	---	1.7
K1910C	13	110	70	---	3.5
K1911A	17	62	120	---	2.9
K1911C	12	67	45	---	2.5
K1912A	16	72	120	---	3.5
K1912C	15	44	60	---	4.5
K1913A	16	55	140	---	1.5
K1913C	18	150	80	---	3.7
K1914A	17	74	120	---	1.9
K1914C	14	91	75	---	2.7
K1915A	13	50	130	---	1.3
K1915C	13	120	45	---	3.9
K1916A	12	79	55	---	0.5
K1916C	14	67	60	---	4.3

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K1917A	12	55	100	—	2.3
K1917C	15	150	60	—	2.9
K1918A	21	120	210	—	1.0
K1918C	20	140	90	—	4.4
K1919A	12	95	75	—	0.0
K1919C	20	200	85	—	2.3
K1920A	22	31	60	—	1.3
K1920C	10	94	60	—	3.4
K1921A	11	57	85	—	1.3
K1921C	16	130	80	—	3.2
K1922A	14	100	120	—	1.3
K1922C	15	130	90	—	2.7
K1923A	17	110	95	—	1.9
K1923C	13	120	85	—	3.5
K1924A	14	93	40	—	3.4
K1924C	14	150	90	—	2.6
K1925A	21	170	150	—	1.8
K1925C	10	100	55	—	2.9
K1926A	15	80	100	—	0.5
K1926C	16	140	100	—	2.6
K1927A	12	61	90	—	2.4
K1927C	17	160	80	—	2.5

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2564A	14	85	70	—	0.0
K2564C	12	66	70	—	2.7
K2565A	17	49	40	—	0.6
K2565C	16	54	50	—	2.8
K2566A	25	41	50	—	0.0
K2566C	19	69	60	—	2.7

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2567A	17	40	70	---	1.6
K2567C	20	49	70	---	4.0
K2568A	18	72	60	---	4.0
K2568C	19	90	65	---	3.7
K2569A	16	57	75	---	2.1
K2569C	17	82	75	---	3.9
K2570A	19	70	150	---	1.4
K2570C	24	140	70	---	3.5
K2571A	19	61	90	---	1.4
K2571C	17	75	40	---	2.9
K2572A	23	60	95	---	0.4
K2572C	15	82	60	---	4.0
K2573A	17	42	25	---	1.3
K2573C	17	70	40	---	2.9
K2574A	15	66	75	---	0.0
K2574C	15	67	60	---	3.3
K2575A	14	100	85	---	0.0
K2575C	13	70	65	---	2.7
K2576A	14	28	70	---	0.7
K2576C	16	130	55	---	2.9
K2577A	11	42	20	---	2.3
K2577C	14	53	50	---	4.6
K2578A	13	51	55	---	0.4
K2578C	13	71	35	---	3.5
K2579A	13	120	65	---	1.2
K2579C	19	150	95	---	4.6
K2580A	12	60	40	---	0.0
K2580C	12	87	60	---	4.4
K2581A	19	100	110	---	2.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2581C	12	69	70	---	3.5
K2582A	18	220	65	---	0.4
K2582C	14	150	60	---	3.9
K2584A	13	69	120	---	1.5
K2584C	19	150	95	---	3.0
K2585A	11	31	70	---	2.5
K2585C	18	90	50	---	1.7
K2586A	20	36	90	---	2.0
K2586C	20	110	65	---	2.0
K2587A	19	50	65	---	0.0
K2587C	26	140	75	---	3.2
K2588A	21	51	50	---	1.7
K2588C	22	120	75	---	2.7
K2589A	12	36	65	---	1.7
K2589C	21	100	45	---	1.8
K2590A	15	47	70	---	1.0
K2590C	15	75	50	---	3.0
K2591A	14	42	65	---	3.0
K2591C	23	90	50	---	2.5
K2592A	18	50	80	---	0.0
K2592C	32	120	80	---	2.6
K2593A	15	48	50	---	2.1
K2593C	24	90	55	---	2.4
K2594A	26	130	110	---	1.8
K2594C	34	140	60	---	2.8
K2595A	28	80	100	---	3.2
K2595C	20	100	60	---	3.1
K2596A	28	55	90	---	1.0
K2596C	36	150	95	---	5.2

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2597A	26	77	80	---	1.6
K2597C	26	110	60	---	3.0
K2598A	31	160	140	---	2.0
K2598C	22	100	65	---	2.9
K2599A	29	57	90	---	0.4
K2599C	16	46	40	---	3.9
K2600A	22	48	120	---	0.4
K2600C	22	81	55	---	5.1
K2601A	32	51	240	---	1.1
K2601C	32	140	90	---	3.5
K2602A	21	41	65	---	4.1
K2602C	25	120	80	---	4.2
K2603A	24	41	110	---	1.7
K2603C	34	150	95	---	3.2
K2604A	24	52	55	---	0.6
K2604C	18	61	70	---	2.3
K2605A	21	47	60	---	2.2
K2605C	20	41	55	---	4.1
K2606A	17	84	55	---	0.0
K2606C	22	62	60	---	2.6
K2607A	22	60	55	---	0.0
K2607C	18	29	50	---	5.2
K2608A	20	54	70	---	0.0
K2608C	22	53	65	---	3.0
K2609A	16	27	60	---	1.5
K2609C	23	82	70	---	2.3
K2610A	17	51	60	---	1.3
K2610C	19	30	40	---	3.3
K2611A	15	48	60	---	2.4

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2611C	25	100	70	---	2.4
K2612A	17	84	50	---	0.4
K2612C	23	100	70	---	2.5
K2613A	18	30	60	---	0.0
K2613C	33	140	80	---	3.7
K2614A	17	88	30	---	0.4
K2614C	14	58	60	---	3.1
K2615A	14	46	35	---	0.0
K2615C	16	54	65	---	2.7
K2616A	9	36	60	---	0.0
K2616C	19	89	80	---	2.2
K2617A	11	28	80	---	1.5
K2617C	22	130	65	---	8.1
K2618A	17	51	95	---	2.2
K2618C	21	90	85	---	3.1
K2619A	8	39	60	---	2.2
K2619C	14	67	55	---	3.8
K2620A	12	56	75	---	0.7
K2620C	26	120	75	---	2.5
K2621A	18	69	65	---	2.1
K2621C	19	47	55	---	2.3
K2622A	14	77	55	---	1.7
K2622C	31	140	60	---	3.2
K2623A	18	82	95	---	0.4
K2623C	19	58	50	---	3.4
K2624A	18	46	80	---	1.8
K2624C	22	94	70	---	3.2
K2625A	13	32	40	---	1.7
K2625C	19	46	35	---	3.1

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2626A	15	65	60	—	0.5
K2626C	16	47	55	—	4.8
K2627A	20	29	40	—	11.3
K2627C	11	30	30	—	5.5
K2628A	18	36	80	—	4.5
K2628C	17	61	35	—	4.6
K2629A	18	46	110	—	1.2
K2629C	20	68	45	—	3.7
K2630A	16	51	50	—	0.0
K2630C	15	36	30	—	4.4
K2631A	15	39	35	—	1.3
K2631C	16	55	30	—	3.3
K2632A	17	48	90	—	0.4
K2632C	16	51	25	—	2.6
K2633A	21	50	60	—	2.4
K2633C	12	34	30	—	3.4
K2634A	15	38	55	—	3.4
K2634C	17	39	50	—	3.4
K2635C	22	56	15	—	1.8
K2636A	13	37	70	—	0.8
K2636C	16	55	25	—	3.9
K2637A	17	27	35	—	1.3
K2637C	15	37	20	—	3.4
K2638A	17	55	65	—	0.0
K2638C	11	27	15	—	4.3
K2639A	18	56	85	—	0.0
K2639C	13	35	25	—	3.4
K2640A	14	55	65	—	0.0
K2640C	15	38	25	—	3.9

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2641A	23	70	75	---	0.0
K2641C	11	30	15	---	3.9
K2642A	16	65	80	---	0.0
K2642C	11	40	20	---	3.0
K2643C	10	19	5	---	9.2
K2644A	20	60	85	---	0.0
K2644C	10	18	15	---	4.8
K2645A	17	31	65	---	0.0
K2645C	10	22	5	---	6.3
K2646A	16	58	75	---	0.4
K2646C	10	20	5	---	5.0
K2647A	20	77	90	---	0.0
K2647C	17	70	55	---	2.2
K2648A	16	40	60	---	1.8
K2648C	17	41	50	---	2.2
K2649A	14	58	45	---	1.8
K2649C	15	60	50	---	2.5
K2650A	19	34	85	---	1.9
K2650C	13	26	40	---	3.7
K2651A	21	52	65	---	1.9
K2651C	23	69	70	---	2.8
K2652A	14	42	55	---	0.0
K2652C	26	110	80	---	3.3
K2653A	16	33	30	---	0.7
K2653C	22	62	65	---	2.7
K2654A	16	37	50	---	0.0
K2654C	18	56	55	---	2.8
K2655A	16	54	20	---	0.0
K2655C	17	36	40	---	4.8

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2656A	14	42	30	---	2.0
K2656C	17	27	30	---	4.9
K2657A	16	120	50	---	0.0
K2657C	16	63	45	---	2.3
K2658A	15	43	70	---	0.9
K2658C	21	120	75	---	3.5
K2659A	15	42	45	---	1.0
K2659C	20	95	65	---	3.2
K2660A	16	40	65	---	0.9
K2660C	16	43	55	---	3.3
K2661A	15	54	40	---	0.7
K2661C	20	84	70	---	3.7
K2662A	18	100	60	---	0.0
K2662C	26	140	75	---	4.1
K2663A	17	24	55	---	3.6
K2663C	20	61	45	---	4.4
K2664A	17	49	45	---	0.0
K2664C	14	21	25	---	3.5
K2665A	12	49	45	---	0.0
K2665C	16	26	25	---	5.4
K2666A	15	56	70	---	0.7
K2666C	19	56	35	---	3.7
K2667A	14	53	20	---	0.0
K2667C	12	6	20	---	4.1
K2668A	22	46	60	---	0.0
K2668C	13	29	25	---	3.3
K2669A	16	36	25	---	1.3
K2669C	13	27	25	---	2.9
K2670A	14	24	30	---	0.0

13-DEC-78 X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2670C	10	14	15	---	5.3
K2671A	16	36	65	---	0.5
K2671C	17	35	30	---	4.0
K2672A	14	29	60	---	1.0
K2672C	12	46	20	---	3.4
K2673A	18	56	110	---	1.0
K2673C	13	27	25	---	5.1
K2674A	12	46	60	---	1.1
K2674C	12	21	20	---	3.7
K2675A	12	41	40	---	0.0
K2675C	12	15	20	---	5.6
K2676A	20	48	60	---	1.0
K2676C	11	7	25	---	6.6
K2677A	17	58	90	---	0.5
K2677C	19	62	30	---	5.2
K2678A	13	44	60	---	0.0
K2678C	12	40	35	---	6.3
K2679A	29	60	125	---	0.0
K2679C	10	4	5	---	6.0
K2680A	22	46	75	---	0.0
K2680C	8	2	5	---	7.4
K2681A	17	55	100	---	0.0
K2681C	12	7	20	---	5.8
K2684A	11	34	60	---	1.7
K2684C	8	3	10	---	5.2
K2685A	11	49	40	---	0.0
K2685C	13	41	35	---	2.0
K2686A	16	44	85	---	0.0
K2686C	8	3	5	---	8.6

13-DEC-78

X-RAY ASSAY LABORATORIES

SAMPLE	CU	ZN	PB	AG	U
K2687A	10	47	30	---	0.0
K2687C	11	46	70	---	2.9
K2688A	10	36	20	---	0.0
K2688C	13	47	40	---	2.8
K2689A	14	43	40	---	0.0
K2689C	10	40	40	---	1.7
K2690A	10	55	45	---	0.0
K2690C	8	29	20	---	3.1
K2691A	10	70	50	---	0.0
K2691C	15	100	80	---	3.0
K2693A	13	83	50	---	0.0
K2693C	15	94	55	---	2.3
K2694A	10	53	30	---	0.0
K2694C	13	60	30	---	2.5
K2695A	9	60	60	---	0.0
K2695C	10	40	40	---	2.8
K2696A	12	55	60	---	0.5
K2696C	15	32	30	---	2.7
K2697A	14	73	80	---	0.0
K2697C	17	80	50	---	2.7
K2698A	17	34	45	---	0.0
K2698C	11	73	40	---	2.1
K2699A	13	78	65	---	0.5
K2699C	12	53	40	---	3.3
K2700A	10	84	75	---	0.7
K2700C	12	79	60	---	3.3
K2701A	11	41	85	---	1.6
K2701C	13	100	65	---	2.4
K2702A	9	70	60	---	0.0

433054

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

PART 2 OF 4

433054 54-E 52 02

Gulf

Gulf Minerals Canada Limit

433054 Dup In Well

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

PART 2 OF 4

433054 54-E 52 02

A REPORT ON

GEOCHEMISTRY

GEOLOGICAL MAPPING

REVERSE CIRCULATION DRILLING

DIAMOND DRILLING

433054 54-E 52 02

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Gulf Minerals Canada Limited

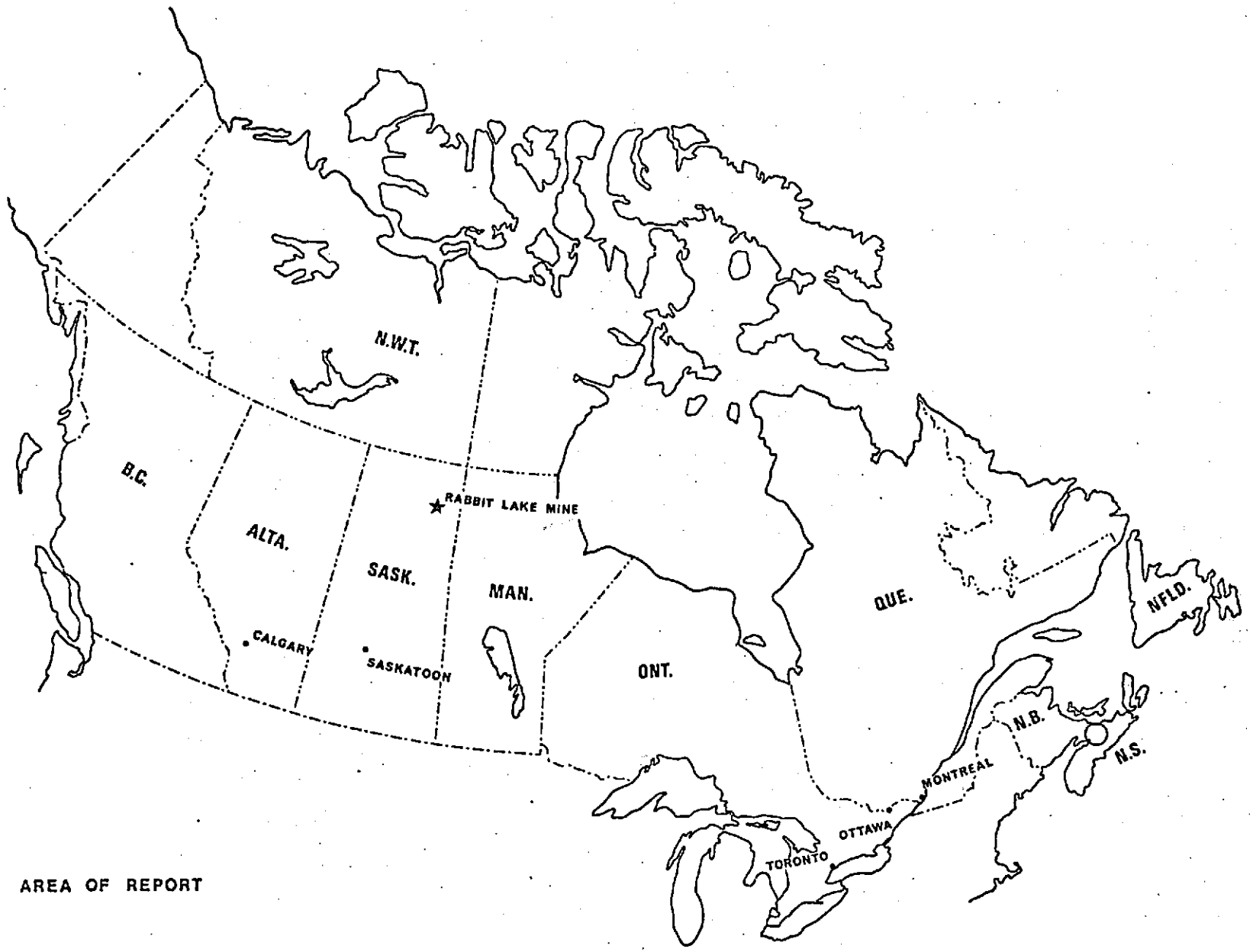
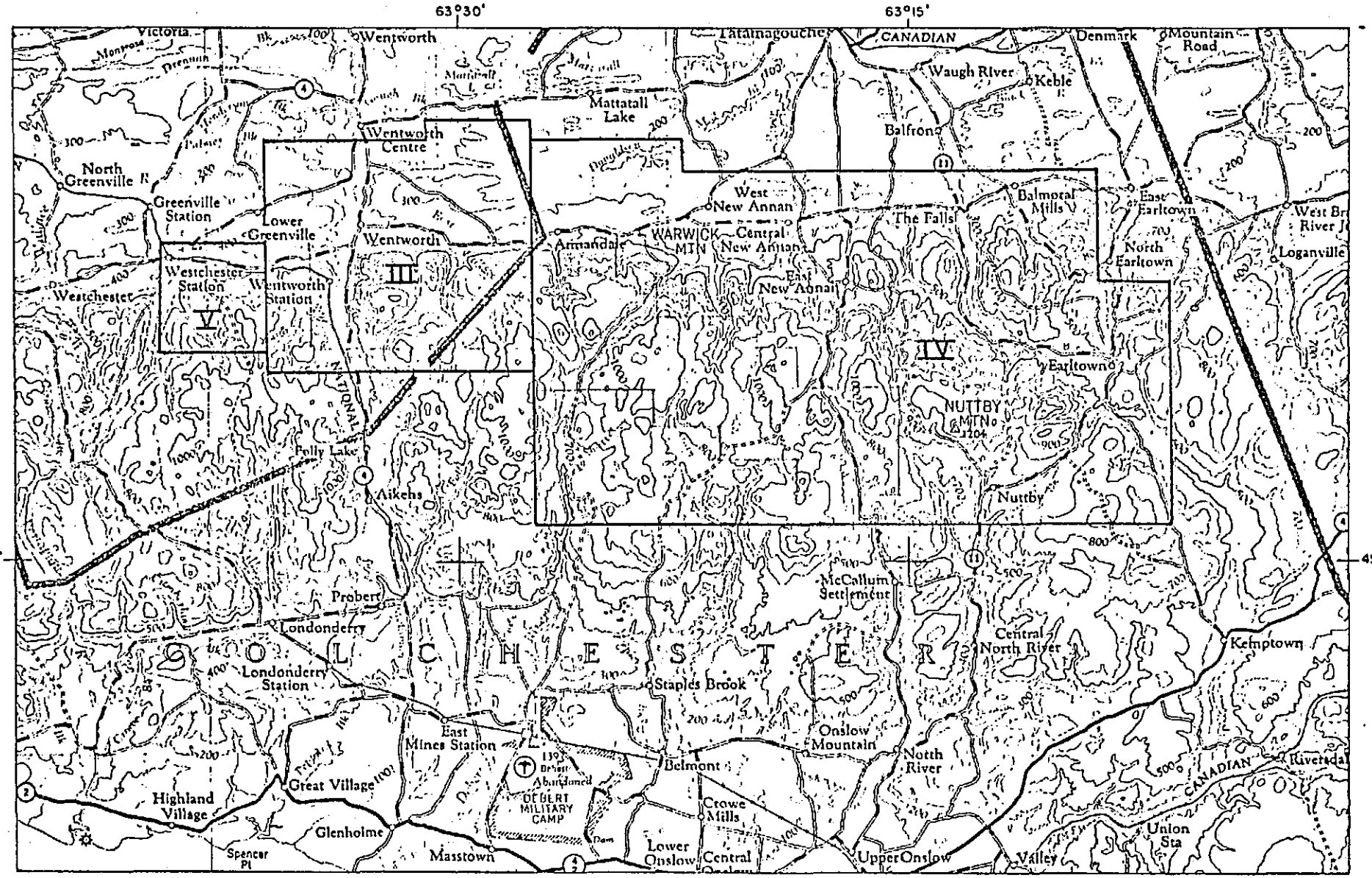


FIGURE 1



COBEQUID URANIUM CLAIM BLOCKS III, IV & V

Figure - 2

DIAMOND DRILLING PROGRAMME 1978

I INTRODUCTION

A) SUMMARY

On the basis of renewed prospecting discoveries of radioactive boulders containing abundant uranium, a diamond drilling programme was planned for the J-Zone and DF-Zone. The purpose of this drilling was to fully evaluate geochem. anomalies, boulder finds and geophysical anomalies within area III of the Cobequid property.

Sixteen holes totalling 5,468.1', have been completed in the J-Zone and sixteen holes totalling 5,794.4', have been completed in the DF-Zone. Total footage drilled in area III during the 1978 drilling programme is 13,019.9'.

The holes drilled in the J-Zone were located on line 12+00W. and east of line 8+00W. on the 675W section. Figure 3 shows the locations of all holes. Data concerning the drilling of these holes is given in table I.

All holes drilled in the DF-Zone were located on lines 48+00E. and 52+00E. All holes were drilled towards the south except DF-13, 15, 17 and 18 which were drilled westerly. Figure 4 shows the locations of these holes. Technical data on each hole is given in Table II.

B) PERSONNEL

For the 1978 diamond drilling programme, Gulf personnel employed on the property were:

N. Downey	Project Geologist
K. Horan	Downhole Logging Technician
A. Seifried	Downhole Logging Technician
A. Workman	Drill Geologist

Additional Gulf personnel included:

S. Barron	Geologist
J. Stirling	Geologist
M. Strazdins	Geologist
M. Weber	Downhole Logging Supervisor

Contractors employed on the property were:

Atlantic Groundwater and Geophysics Ltd. - Fredericton, N.B.
St. Lambert Drilling Co. Ltd. - Valleyfield, P.Q.

Diamond drilling was under the supervision of Mr. C. R. Burkhart and Mr. G. I. Pearson of Gulf's Toronto office.

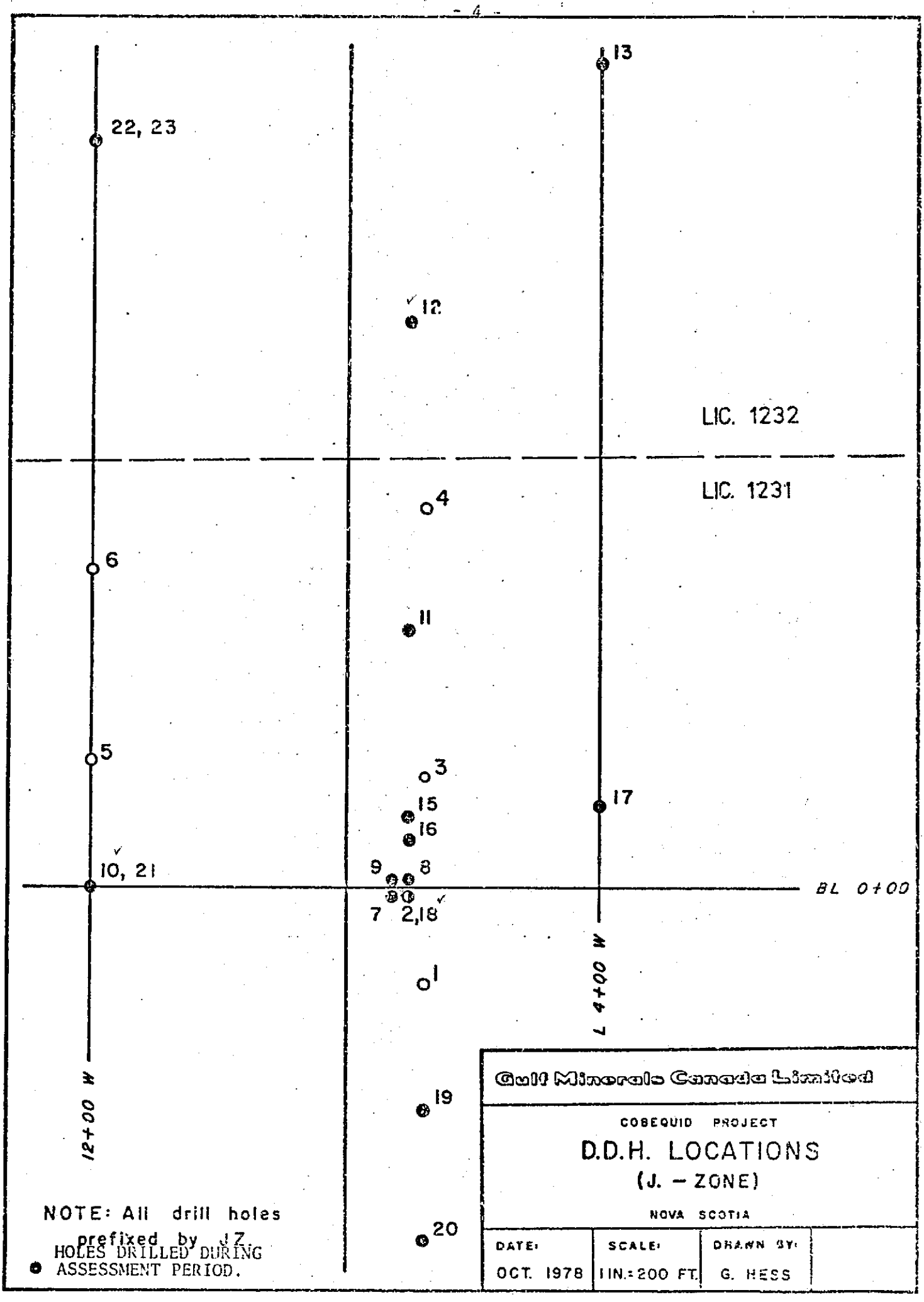

22, 23
13
12
LIC. 1232
LIC. 1231
4
6
11
5
3
15
16
17
10, 21
9
8
BL 0+00
7
2,18
1
12+00 W
L 4+00 W
19
20
NOTE: All drill holes prefixed by JZ
HOLES DRILLED DURING ASSESSMENT PERIOD.
Gulf Minerals Canada Limited
COBEQUID PROJECT
D.D.H. LOCATIONS
(J. – ZONE)
NOVA SCOTIA
DATE: OCT. 1978
SCALE: 1 IN.= 200 FT.
DRAWN BY: G. HESS

Figure 3

JUNIPER (J-ZONE) DIAMOND DRILLING PROGRAMME 1977

HOLE	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
JZ-7	0+15S 7+25W	vertical	-90°	230'	22 Nov. '77	25 Nov. '77
JZ-8	0+10N 7+00W	vertical	-90°	251'	26 Nov. '77	27 Nov. '77
JZ-9	0+10N 7+25W	vertical	-90°	250'	27 Nov. '77	29 Nov. '77
JZ-10	0+00 12+00W (Base Line)	180°	-45°	570'	29 Nov. '77	5 Dec. '77
JZ-11	4+00N 7+00W	180°	-45°	471'	1 Dec. '77	8 Dec. '77
JZ-12	8+80N 7+00W	180°	-45°	348'	8 Dec. '77	13 Dec. '77
JZ-13	12+80N 4+00W	000°	-45°	136' (Casing)	13 Dec. '77	17 Dec. '77 (Uncompleted)
JZ-15	1+10N 7+00W	vertical	-90°	333'	5 Dec. '77	9 Dec. '77
JZ-16	0+75N 7+00W	vertical	-90°	311'	9 Dec. '77	11 Dec. '77
JZ-17	1+25N 4+00W	180°	-45°	358'	11 Dec. '77	13 Dec. '77
JZ-18	0+15S 7+00W	000°	-77°	453'	13 Dec. '77	16 Dec. '77

TABLE IA

JUNIPER (J-ZONE) DIAMOND DRILLING PROGRAMME 1978

HOLE	SECTION	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
JZ-19	675W	3+50S 6+75W	180°	-45°	223.1'	22 Aug., 1978	24 Aug., 1978
JZ-20	675W	5+55S 6+75W	180°	-45°	231.5'	24 Aug., 1978	28 Aug., 1978
JZ-21	000	00Base Line12+00W	090°	-45°	439.6'	28 Aug., 1978	1 Sept., 1978
JZ-22	1200W	11+75N 12+00W	180°	-60°	438'	2 Sept., 1978	8 Sept., 1978
JZ-23	125° Az	11+75N 12+00W	125°	-60°	424.9'	9 Sept., 1978	15 Sept., 1978
					1,757.1' (TOTAL)		

TABLE IB

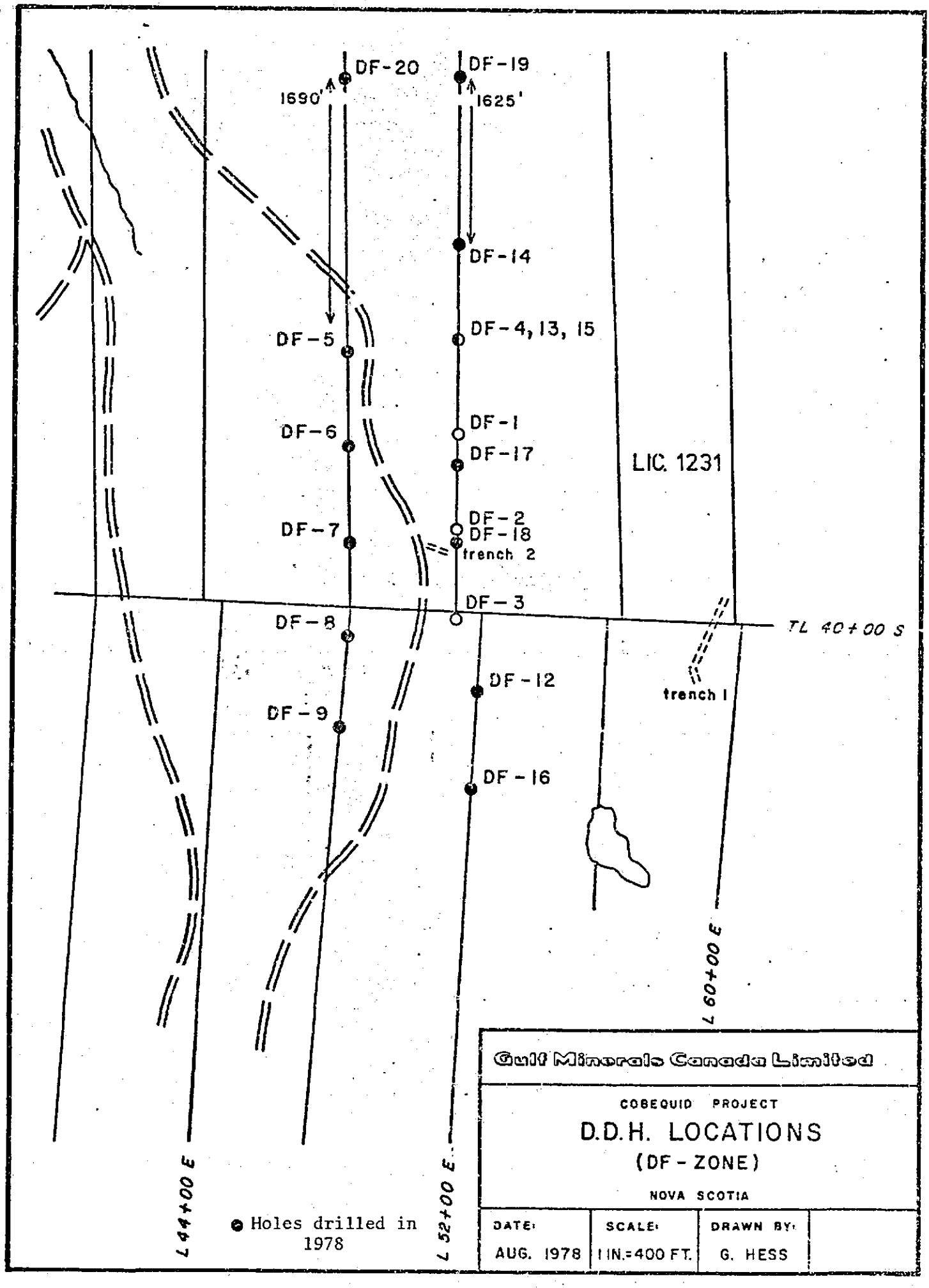

DF-20
DF-19
1690'
1625'
DF-14
DF-5
DF-4, 13, 15
DF-6
DF-1
DF-17
LIC. 1231
DF-7
DF-2
DF-18
trench 2
DF-3
DF-8
TL 40+00 S
DF-12
trench 1
DF-9
DF-16
L 60+00 E
L 44+00 E
L 52+00 E
● Holes drilled in 1978
Gulf Minerals Canada Limited
COBEQUID PROJECT
D.D.H. LOCATIONS
(DF - ZONE)
NOVA SCOTIA
DATE: AUG. 1978
SCALE: 1 IN.=400 FT.
DRAWN BY: G. HESS

Figure 4

DEBERT FOLLY (DF-ZONE) DIAMOND DRILLING PROGRAMME 1978

HOLE	SECTION	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
DF-5	4800E	32+15S 48+00E	180°	-45°	493'	18 July, 1978	25 July, 1978
DF-6	4800E	35+10S 48+00E	180°	-45°	424.2'	25 July, 1978	29 July, 1978
DF-7	4800E	38+15S 48+00E	180°	-45°	315.6'	31 July, 1978	7 Aug., 1978
DF-8	4800E	41+15S 48+00E	180°	-45°	387.2'	30 July, 1978	3 Aug., 1978
DF-9	4800E	44+15S 48+00E	180°	-45°	424'	3 Aug., 1978	7 Aug., 1978
DF-12	5200E	42+38S 52+00E	180°	-45°	463.6'	6 Aug., 1978	10 Aug., 1978
DF-13	3100S	31+00S 52+00E	270°	-45°	345'	8 Aug., 1978	14 Aug., 1978
DF-14	5200E	28+00S 52+00E	180°	-45°	533'	10 Aug., 1978	17 Aug., 1978
DF-15	3100S	31+00S 52+00E	270°	-70°	349.5'	14 Aug., 1978	19 Aug., 1978
DF-16	5200E	45+50S 52+00E	180°	-45°	375'	18 Sept., 1978	19 Sept., 1978
DF-17	3500S	35+00S 52+00E	270°	-45°	414.4'	19 Aug., 1978	24 Aug., 1978
DF-18	3750S	37+50S 52+00E	270°	-45°	292'	24 Aug., 1978	29 Aug., 1978
DF-19	5200E	11+75S 52+00E	180°	-45°	303.8'	1 Sept., 1978	4 Sept., 1978
DF-20	4800E	15+25S 48+00E	180°	-45°	228.2'	4 Sept., 1978	6 Sept., 1978
SL-1	8000E	43+85S 80+00E	180°	-45°	446.2'	18 Sept., 1978	21 Sept., 1978
					5,794.4' (TOTAL)		

TABLE II

B) J-ZONE DIAMOND DRILLING

The J-Zone, or Juniper Zone, is located in the vicinity of several conductive zones and magnetic anomalies. Offset of the conductors along apparent north-south faults provoked interest. In addition, some local offset of magnetic contours is vaguely descernible.

A diamond drilling programme was planned to: (1) to explore the potential for mineralization along these conductors; and, (2) provide geological information on the volcanics of the Cobequid Highlands.

The drilling has probed a zone of rhyolite flows, ignimbrite sheets, tuffs and agglomerates, and minor volcanic-related sediments. Rhyolite flow rocks may be massive or flow banded. The individual flow laminations are generally pink, set in a grey matrix, and are continuous and regular. Ignimbrites may also be flow banded, but in this case the bands are rippled, lensitic and discontinuous. They may contain various types of lithic fragments. Fiammi, or flattened pumice fragments, may be observed locally. Both rhyolite flows and ignimbrite rocks may be porphyritic with euhedral feldspar phenocrysts and round quartz phenocrysts up to 5 mm. in size. Tuffs are fine to medium grained and may contain individual feldspar grains. Agglomerates are variable in colour from green to pink. Fragments up to 5 cm. in size may be found locally. They are usually sub-round to sub-angular and may represent a wide range in felsic volcanic rocks as well as including some mafic rocks. The groundmass to fragments is usually aphanitic and siliceous. Rocks described as sediment may in fact be agglomerate horizons. In this case, however, pebbles are rounded and may be set in a sandy matrix. It is believed, but not conclusively proven, that the volcanics dip steeply north. The volcanic rocks are intruded and deformed by diorite stockworks. Locally, the rhyolites and ignimbrites may be recumbantly folded by the intrusives. Some overturning of units is apparent locally. Both volcanic and dioritic rocks have been intruded by a network of diabase dykes. Because of cross-cutting relationships, at least two phases of diabase intrusion are perceived.

Alteration within the volcanics consists of soda-metasomatism near the margins of mafic intrusives with some accompanying hematization. Localized kaolinization of feldspar may be moderate, particularly where the rock is strongly brecciated. The mafic intrusives are variably chloritized, particularly near contacts with country-rock, and weakly uralitized. When porphyritic, feldspar phenocrysts are usually sausauritized

The following section gives a summary of each diamond drill hole cored in the J-Zone during the assessment period:

JZ-7

This drill hole intersected pinkish-grey rhyolite and ignimbrite. These rocks are generally porphyritic with 1-2 mm. quartz phenocrysts and a few feldspar phenocrysts. The rhyolite is finely fractured throughout and moderately silicified. The rock is intruded by several diabase dykes in the upper hole and the interval from 120.5' to the base of the hole at 230' is diorite.
No uranium mineralization was found in this hole.

JZ-8

The eighth hole located twenty-five feet from JZ-7, is virtually the same geologically. Pinkish-grey, occasionally brick red rhyolite is aphanitic, finely fractured and moderately silicified. Some ignimbrite sheets are also present. Hematization is variable but strongest in brick red zones. The rock is generally non-porphyritic but round 1-2 mm. quartz phenocrysts may be found locally. The base of the hole from 135'-247' is diorite followed by a five foot thick section of dark pink rhyolite.
The section 39.5' to 43.5' averages .035% U_3O_8.

JZ-9

This hole was collared in diorite and remained within the dyke to the base of the hole. The dyke is dark green, fine to medium grained and weakly to moderately chloritized. Some degree of uralitization, usually weak, may be observed locally. The diorite is porphyritic over short sections and euhedral feldspar phenocrysts up to 5 mm. are common. Smaller quartz phenocrysts are typically round. No mineralization was found in this hole.
No uranium mineralization was found in this hole.

JZ-10

The upper section of the tenth hole is diorite to a depth of 82 feet. It is dark green, fine to medium grained and locally porphyritic. Below the intrusive is 157 feet of dark pinkish-grey, weakly flow laminated rhyolite. Numerous conglomerate zenoliths are found in the rhyolite. The interval 240'-271' is dark green, fine grained rhyolite. The section from 271'-433' is conglomerate. Light and dark grey pebbles up to 5 cm. in size are found in a dary grey, sandy matrix. Minor coarse grained sandstone is found locally. Pyrite and chalcopyrite blebs are found in the matrix. Underlying the conglomerate is a rhyolite section which extends to the base of the hole at 570 feet. The rhyolite is grey but becomes pinker with depth. It is porphyritic, finely fractured and locally flow brecciated. The volcanic flow is intruded occasionally by diabase. Several samples of sulphide rich sediment were assayed and found to contain no precious metals or base metals.
No uranium mineralization was found in this hole.

JZ-11

This hole remains within the rhyolite and ignimbrite flows. The rock is pinkish-grey, aphanitic and has a well developed flow lamination at 40° to the core axis. Ignimbrite units have a more irregular discontinuous banding than the rhyolite flows. Where intruded by diabase or diorite, the rhyolite may be finely fractured and more reddish in colour due to silicification and hematization. Finely disseminated pyrite is common in the rhyolite. Numerous dark green, fine grained, ophitic textured diorites and diabases intrude the rhyolite. The largest of these, a diorite, was intersected from 83.5'-111' but more typically they are ten to fifteen feet in thickness.
The section from 301' to 317' averages 0.015% U_3O_8.

JZ-12

This diamond drill hole was collared in rhyolite. The rock is grey but becomes pinkish-grey locally where intruded by diabase or diorite. It is non-porphyritic and may be flow brecciated locally. Numerous small diabase dykes cut the uppermost rhyolite. At 135.5' a large diorite dyke was intersected which is present to 214.5'. It is dark green, fine grained and moderately chloritized locally. The zone 188-196.5' is strongly porphyritic and moderately sausauritized. The rhyolite below this diabase is pinker than the upper variety. An abundance of diabase dykes averaging three to five feet in thickness cut the rhyolite often producing a brick red colour in the lava. Alteration, consisting of silicification and hematization is stronger in the lower section of this hole.
No uranium mineralization was detected in this hole.

JZ-13

This hole was shut down prior to intersection of bedrock at 141'. Future deepening of this hole may be accomplished utilizing a larger more powerful drill than was available at the time.
No uranium mineralization was detected in this hole.

JZ-14

Although spotted, this hole was not drilled due to lack of time at year's end.

JZ-15

This hole intersected a predominately grey to pinkish-grey rhyolite unit at surface. It is locally porphyritic with euhedral, pink feldspar phenocrysts up to 2 mm. in size. Where swarms of narrow diabase dykes are found, the rhyolite is silicified and moderately hematized. The rock in these zones may be finely fractured. With depth, the rock becomes more pink in colour with minor red and brick red zones. These deeper zones are generally more highly hematized and silicified. Some limited kaolinization may be present in the rhyolite at 151' where a diorite dyke intrudes the volcanics. The diorite is intersected through to 193'. It is dark green, medium grained and porphyritic. The rhyolite from 193'-274' is dark pink to red, moderately fractured and non-porphyritic. It becomes mylonitic locally and is strongly silicified and hematized. A diabase dyke is located at 274'-285.5'. From the base of the diabase to the end of the hole at 333', the rhyolite becomes less pink and less altered.

Several sporadic uranium valves up to 0.021% U_3O_8 at 42' to 44' were detected in this hole. The section from 247' to 249' averages 0.018% and the interval from 267' to 271' averages 0.012% U_3O_8.

JZ-16

This drill hole is very similar to JZ-15. Rhyolite intersected in the top of the hole, is generally grey but numerous red to brick red zones may be present locally. These zones are strongly silicified and hematized and may be moderately fractured. Numerous diabase dykes up to ten feet in thickness are intersected in the upper hole. At 136'-246.5', a diorite dyke is found. It is porphyritic locally and weakly to moderately uralitized and chloritized. Feldspar phenocrysts are variably sausauritized. The rhyolite below the diorite is red to dark pink reflecting a higher degree of hematization and silicification than the upper rhyolite. It is intruded at 276'-298' by diorite.
The interval form 21'-22.2' averages 0.195% U_3O_8 and 61' to 63' grades 0.019% U_3O_8. From 106' to 108' contains 0.018% and the section 250'-252' averages 0.016% U_3O_8.

JZ-17

This hole was collared in diorite and continued to intersect the intrusive to a depth of 303'. The rock is dark green, medium grained and strongly chloritized near surface. It exhibits good ophitic texture. Spotty epidotization is common and may reflect late state feldspar alteration or sausauritization. Some porphyry is present locally with generally euhedral feldspar phenocrysts up to 1 cm. in size. Below the diorite, 55' of rhyolite was intersected. The volcanic rock is dark pink and locally porphyritic with indistinct 1 mm. round quartz phenocrysts. It is moderately fractured and locally may be flow brecciated.

No uranium mineralization was detected in this hole.

JZ-18

This diamond drill hole intersected rhyolite at surface. This unit is brick red to pinkish red, intensely silicified and strongly hematized. It is intruded at 45'-125' by a dark green, fine grained diorite dyke. Below the dyke is 21.5' of reddish-pink. porphyritic rhyolite. Euhedral feldspar phenocrysts up to 4 mm. in size and quartz phenocrysts up to 3 mm. in size are common. Fracturing is widespread in the rhyolite, often with accompanying epidotization and weak kaolinization. From the base of this rhyolite at 146.5', and extending for 127.5' to a depth of 274', a second diorite body was intersected. It is dark green with light green spotty epidotization. The rock is weakly fractured and moderately chloritized near the contacts. Some porphyry is present within the diabase from 224.5'-228'. The hole intersected rhyolite from 274'-387.5' and from 428.5'-453'. It is reddish-pink to greyish-pink with minor brick red zones. Flow banding has developed locally at an angle of 45° to the core axis. Silicification and hematization are variable in degree of alteration. The volcanic is intruded by diabase at 387.5'-428.5'.

The section from 22'-26' grades 0.016% U_3O_8.

JZ-19

The nineteenth drill hole was collared in diorite and continued within the intrusive body to a depth of 161'. The rock is dark green, fine to medium grained and weakly chloritized. At 161', a sediment unit was intersected. The rock is dark grey to black and mainly composed of sandy conglomerate with minor sandstone. Pebbles are of granitic and rhyolitic origin. At 189' a diorite dyke was intersected which continued to the base of the hole at 223'.

No uranium mineralization was found in this hole.

JZ-20

This diamond drill hole intersected pink, porphyritic rhyolite to a depth of 33'. From 33'-113' is diorite intrusive. The rock is dark green, fine to medium grained and porphyritic. A greyish-brown to dark grey crystal tuff unit is located at 113'-170.6'. Rock shards up to 3 mm. are set in a fine grained to aphanitic matrix. From 170.6'-173.1' is a highly broken zone along the edge of a dioritic intrusive which was intersected from 173.1'-231.5'. The diorite is weakly porphyritic with sausauritized feldspar phenocrysts.

No uranium mineralization was detected in this hole.

JZ-21

From surface to 39.4', the twenty-first hole intersected a dark green porphyritic diorite dyke. Below this, to a depth of 73' is pinkish-grey aphanitic and weakly porphyritic rhyolite. The volcanic rock is flow banded locally at 25°-30° to the core axis. It is intruded at 73'-91.7' and again at 110.1'-125.2' by mafic intrusives. The upper variety is dioritic whereas the lower dyke is probably diabase. Reddish-pink to red porphyritic rholite is located at 125.2'-139.4'. A diorite dyke was intersected at 139.4'-149.7' and is followed by rhyolite flow and minor ignimbrite to a depth of 225.8'. Diorite is located below the volcanics to 259.2' and is found again at 325.3'-428.2'. From 259.2'-325.3' is greyish-pink, flow laminated ignimbrite and below the diorite from 428.2'-439.7' is pinkish-red, non-porphyritic rhyolite.

No uranium mineralization was intersected in this hole.

JZ-22

The twenty-second diamond drill hole was cased through overburden to a depth of 146' and then intersected a dark to medium grey, fine grained to aphanitic rhyolite unit to a depth of 280'. The rock has light grey bands well developed locally at 40°-45° to the core axis. The bands are probably tuff horizons. Several dark green diorite dykes were intersected at 198'-207.3', 234.6'-241.9', and 280'-329.9'. From 329.9'-332.5' is light grey, to pinkish-grey aphanitic rhyolite. Diorite is found at 332.5'-337.4'. A gradational contact is found at 337.4' where the rock changes to a rhyolitic type of unit. Below 388' the rock has abundant light green flecks - possibly an alteration product of volcanic glass shards. Minor chalcopyrite and pyrite was found disseminated throughout the zone, particularly below 388' where combined sulphide content may reach 5% locally. Abundant graphitic was found on fractures.

No uranium mineralization was found in this hole.

JZ-23

This hole intersected 131.2' of overburden and then 108.7' of rhyolite. The volcanic is light grey, and very fine grained to aphanitic. Several narrow mafic intrusives were intersected at 133.9'-136' (Diorite), 184.1'-185.4' (Diabase), 204'-207.7' (Diorite), and 232.4'-239.9' (Diorite). A pink to reddish pink felsic intrusive is located at 239.9'-284.9'. The rock is strongly porphyritic with quartz and feldspar phenocrysts. From 284.9'-345.9' the rock is rhyolitic, light grey and fine grained to aphanitic. It is well flow banded at 30°-50° to the core axis. A diorite dyke is located at 345.9'-372.4' followed by 22.7' of felsic intrusive similar to the upper zone at 239.9'-284.9'. From 395.1'-415.8' is rhyolite followed by diorite to a depth of 424.9'. Abundant pyrite and minor chalcopyrite were found finely disseminated throughout the hole to a depth of 184.5'. Up to 10% sulphide with abundant graphite is found locally.

No uranium mineralization was detected in this hole.

C) DF-ZONE DIAMOND DRILLING (including SL-1)

The DF-Zone, or Debert-Folly Zone, is located approximately one mile west of Debert Lake in Colchester County. It is an area of several intersecting conductive (V.L.F. defined) zones and steep magnetic contours. Within this area were found malachite stained boulders containing up to 5.38 oz/ton silver and up to 0.08% lead. A soil copper geochem. anomaly is found within the C-horizon in the DF-Zone.

A diamond drilling programme was formulated to: (i) explore the potential for mineralization related to the conductors and magnetic anomalies, (ii) attempt to find the source of the soil geochem. anomaly in bedrock, and; (iii) provide geological information on the rhyolite volcanics and the granite contact in the Cobequid Highlands.

The drilling probed the granite along a section roughly 200' inside and parallel to the contact. The granite contact cuts across this section at three points. In addition, the volcanics along the contact were intersected. The felsic extrusives included rhyolite flows, ignimbrite sheets and minor pyroclastics (tuffs and agglomerates). The flows are of massive and banded varieties. Banding consists of 1-2 mm. parallel laminations, usually including grey rhyolite with pink or cream rhyolite. Laminations are continuous and regularly spaced. Ignimbrites on the other hand, are irregularly banded. Lensitic, rippled and discontinuous laminations are coarse, and often include fragments of rhyolite as well as some other non-indigenous rocks such as mafic volcanics. Both rhyolite flow and ignimbrite are often porphyritic with 1-3 mm. euhedral feldspar phenocrysts and 1-2 mm. round quartz phenocrysts. It is possible that the DF-Zone is cut by a north-south striking strongly porphyritic intrusive. The groundmass is red to burgundy in colour, aphanitic fresh, siliceous and contains average sized quartz and pink to orange feldspar phenocrysts. The rock carries occasional mafic fragments locally. These fragments are quite hard and may be andesite. The volcanics are cut by diorite stockworks.

These bodies are dark green, fine to medium grained and weakly chloritized. The rock is weakly to moderately fractured. These rocks are in turn intruded by granite. The granite is pink to pinkish-red, medium grained and contains up to 40% quartz locally but very little mafic minerals. The granite is variably fractured. All the aforementioned rocks are intruded by a complex swarm of diabase dykes. These dykes are dark green, fine grained, chloritized and weakly fractured.

Alteration consists of soda-metasomatism of acid volcanics with minor accompanying hematization near mafic intrusives, local kaolinization of feldspar in rhyolite and granite especially in intensely fractured or mylonitic zones, and, epidotization of fractures. Feldspar phenocrysts within diorite are typically sausauritized. Mafic minerals may be weakly uralitized and chloritized.

No uranium mineralization was found in this drill hole.

The following is a summary of each hole drilled during the 1978 drilling programme:

DF-5

The first hole in 1978 intersected granite to a depth of 493'. The rock is pinkish-red, medium grained and contains 10-20% quartz. A zone of diorite, possibly a xenolith, is located at 200.7'-213.5'. A similar zone is found at 368.5'-380.5'. Abundant diabase dykes up to 5' in thickness are found locally.

No uranium mineralization was found in this drill hole.

DF-6

This hole collared in pinkish-grey rhyolite. The flow is flow brecciated to a depth of 134.9'. The rocks are weakly flow banded and carry red rhyolite fragments up to 3 cm. in size. The zone is strongly fractured and tectonically brecciated. Below this zone to a depth of 173.3' is a massive, non-brecciated porphyritic rhyolite. From 173.3'-206.7' is found a centrally - porphyritic diorite intrusive. A two feet thick strongly fractured rhyolite horizon is located at 206.7'-208.7' below which is a 41' thick diorite intrusive resembling the upper zone. From 294.7'-276.1' is a porphyritic mottled rhyolite which is stoped by granite locally. Below 276.1' to the base of the hole at 424.2' is dark pinkish-red to pink, fine to medium grained granite. Locally, the granite is strongly fractured to mylonitic.

No uranium mineralization was found in this drill hole.

DF-7

This hole was collared in diorite. The mafic rock was encountered to a depth of 45.7'. It is followed by granite which has been intruded by diabase at 59.5'-81.7' and at 134'-141.5'. The diabasic rocks are dark green and carry abundant re-crystallized granite fragments. The granite body, itself, is reddish-pink, fine to medium grained and locally contains up to 40% quartz but only traces of mafic minerals. Feldspar content varies from 60-80%.

No uranium mineralization was found in this drill hole.

DF-8

This diamond drill hole intersected pinkish-red, granite to a depth of 387.2' at which point the hole was terminated. The granite is medium grained and is mylonitic locally. Strongly broken zones often contain kaolinized feldspar grains. A fault zone is located at 321.8'-325.8'.

No uranium mineralization was found in this drill hole.

DF-9

The fifth hole drilled during the 1978 season collared in granite and continued within this rock unit to the base of the hole at 424'. It is reddish-pink and medium grained with up to 25% quartz. It is intruded locally by diabase at 135.9'-138.3', 155.6'-162.5' and 396.6'-402.2'. Several narrow aplite dykes are found locally, (e.g. 153.6'-154.6').

No uranium mineralization was found in this drill hole.

DF-10 and DF-11

Although spotted, these holes were not drilled.

DF-12

This hole intersected rhyolite to a depth of 53.6'. The volcanic is dark grey with red and pink mottling and is very fine grained to aphanitic. Quartz and feldspar phenocrysts up to 2 mm. are weakly developed. It is cut at 53.6' by a dioritic intrusive which continues to the base of the hole at 463.6'. Locally, the rock resembles basalt, but these zones may in fact be diabase dykes.

No uranium mineralization was found in this drill hole.

DF-13

To a depth of 44.3', this hole intersected a dioritic intrusive. Below this, from 44.3'-116.6' is a reddish-pink porphyritic rhyolite. The volcanic rock is weakly flow banded, locally becoming well banded, but irregular. Small mafic intrusives cut this zone at 48.6'-56.8', 82.7'-95.8', and 99.1'-108.6'. A diorite dyke is located at 116.6'-149.4' and a second is found at 167.7'-188.7'. Between them is a reddish-pink altered and chloritized rhyolite. The zone from 188.7'-206' is grey to pinkish-grey porphyritic rhyolite. It is underlain by 7.3' of diorite intrusive. From 213.3'-240.8' is pinkish-red, aphanitic and possibly silicified rhyolite. A diabase dyke containing abundant fragments of rhyolite and granite is found at 240.8'-259.5' and the zone from 259.5' to the base of the hole at 345' is granite.

The interval from 192' to 199' averages 0.079% U_3O_8 or 1.58 lb./ton U_3O_8. A peak of 2.68 lb./ton was found at 197'-198'.

DF-14

The fourteenth hole intersected red to pinkish-red, medium grained granite to a depth of 178.5'. Below this, from 178.5'-533' is pinkish-grey rhyolite, which becomes pinker with depth. The rock is porphyritic with quartz and feldspar phenocrysts up to 3 mm. set in an aphanitic groundmass. The rock is irregularly and weakly flow banded locally. Over two sections, (302.2'-317.9' and 433'-444.6') the rock is well banded at 30°-40°, and 5°-40°, respectively, to the core axis. Locally the zone is strongly broken. A noteworthy lack of mafic intrusives is observed. The only occurrence at 223.6'-225.6' is probably diabasic.

No uranium mineralization was found in this drill hole.

DF-15

The fifteenth diamond drill hole intersected rhyolite at 26'-32.8'. The rock is reddish-pink aphanitic and porphyritic, and, is cut at 32.8'-49.9' by a diorite dyke. From 49.9'-128.2' is a reddish-pink, porphyritic rhyolite unit which is locally flow banded. It is intruded at 66.9'-67.6' and 113.9'-124.3' by diabase and at 88.4'-102.2' by diorite. The diorite is dark green, fine to medium grained, and weakly chloritized locally. Diorite dykes are found at 128.2'-131.2', 145.2'-157.5', 160.4-168.3', and 195.3'-206.7'. The rhyolite between these intrusives is pinkish-red, aphanitic and porphyritic. The zone from 168.3'-195.3' is weakly flow banded. From 206.7'-286.3', the rhyolite is spherulitic locally (e.g. 212') and weakly porphyritic. The rock is more strongly broken with depth. A diabase dyke has been intruded at 286.3'-302.3'. It contains abundant rhyolite and granite xenoliths. From 302.3' to the base of the hole at 349.5' is red to grey-red granite.

No uranium mineralization was found in this drill hole.

DF-16

This drill hole intersected a grey, aphanitic altered rhyolite unit which continued to a depth of 94.5'. At this point, a dioritic dyke is intruded. The lower contact is at 196'. The diorite itself is cut by a complex swarm of diabasic intrusives. At 196'-271.5' is a grey aphanitic rhyolite unit. The lowermost 30' are redder in colour. A diorite dyke is located at 214.8'-222.9' and a diabase dyke is found at 237.2'-243.9'. The rhyolite is cut off at 271.5'- 295.3' by a diabase dyke which contains 50% of its rock volume composed of rhyolite and minor quartz fragments. The zone below 295.3' to the base of the hole at 375' is granite.

No uranium mineralization was found in this drill hole.

DF-17

The seventeenth hole, after casing through 34.5' of overburden, intersected 3.9' of medium grained diabase dyke. The zone from 38.4'-57.7' is grey, aphanitic, locally porphyritic tectonically brecciated rhyolite. A 3.7 ft. thick diabase dyke is intruded at 57.7'. From 61.4'-133.9' is cream to pinkish-grey coloured, aphanitic and porphyritic rhyolite. This zone is frequently mylonitic. Strongly broken zones are highly epidotized. Some fluorite is also present in fractures. At 133.9' a unit is intersected which is red in colour and possibly ignimbritic, although a well developed flow banding is lacking. The zone is porphyritic with both quartz and feldspar phenocrysts. This zone continues to a depth of 231.3'. A diorite dyke is intersected at 231.3'-243.8'. From the lower contact of the intrusive to 304.1' is a strongly porphyritic burgundy coloured rhyolite unit. Feldspar phenocrysts are 1-5 mm. in size and orange in colour. Quartz phenocrysts are smaller. The matrix is aphanitic. A diorite dyke is located at 304.1'-320.1'. Beneath this is 25.4' of flow banded rhyolite, followed by diorite from 345.5'-383.1'. The zone at 383.1'-403.9' is pinkish-red to red porphyritic rhyolite. A narrow diorite dyke is located at 403.9'-406'. At 406' a unit is intersected which is the same texturally and similar in colour to the porphyritic zone at 243.8'-304.1'. It extends to a depth of 431.1' where a 6" diabase dyke is encountered. Below the diabase to the base of the hole at 462.2 is granite.

The interval from 201' to 205.8' averages 0.041% U_3O_8 or 0.82 lb./ton U_3O_8. A peak of 1.36 lb./ton was intersected at 202.9'-204.5'.

DF-18

This hole intersected pink to red, aphanitic and porphyritic rhyolite to a depth of 219.8'. The rock is strongly fractured, frequently becoming mylonitic. These intensely broken zones are strongly chloritized. The rhyolite is intruded by a large number of mafic dykes which are diabasic to dioritic in composition.

The larger varieties were intersected at 40.7'-42.5', 93.7'-101.8', 142.9'-153.1', 176.4'-177.5', 180.4'-185.4', and 210.4'-219.8'. The zone from 219.8'-236.6' is reddish-pink porphyritic rhyolite which may be ignimbritic above 234.6'. Beneath the rhyolite is 0.8' of diorite followed by brownish-pink, strongly porphyritic rhyolite to the base of the holes at 292'. This zone is the same texturally as the unit at 243.8'-304.1' in DF-17. It contains abundant angular felsic (rhyolite) fragments below 285'.

No uranium mineralization was found in this drill hole.

DF-19

This diamond drill hole intersected ignimbrite to a depth of 77.1'. The rock is aphanitic and strongly porphyritic. Flow banding is well developed. At 77.1'-139.8', a reddish-brown to burgundy coloured rhyolitic unit was intersected. The rock is very strongly porphyritic with quartz and orange feldspar phenocrysts. Similar units were found in DF-17 and DF-18. A diabase dyke is located at 139.8'-142.5'. From 142.5'-176-2' is a pale green, porphyritic, locally flow banded rhyolite. The flow banded zone from 150'-172' may be ignimbritic. Diorite is found at 176.2'-197.6'. It is fine to medium grained, dark green and porphyritic locally. Below the diorite at 197.6'-223.8' is a felsic intrusive. This zone is reddish-pink, strongly porphyritic and has 1-2 mm. spherulites nucleated on phenocrysts. It carries abundant mafic (dioritic) fragments. A diorite dyke is located at 223.8'-297.7'. From the base of the diorite to the end of the hole at 303.8' is reddish-pink, strongly porphyritic ignimbrite. It is well flow banded at 30°-35° to the core axis.

No uranium mineralization was found in this drill hole.

DF-20

This hole intersected a siliceous sediment unit, possibly tuffaceous, to a depth of 81.4'. The rock is light green, fine grained to aphanitic, and is well bedded locally. Some vague grading of particle size within beds may be present. Some pink rhyolite fragments have settled within individual beds. The unit is intruded by diorite at 52.3'-58.1'. A diorite dyke is located at 81.4'-105.5'. Below this intrusive is more sediment similar to the upper unit. Load casting indicates that the succession is overturned. Another diorite dyke has been intruded at 138.8', which extends to the base of the hole at 228.2'.

No uranium mineralization was found in this drill hole.

Minor finely disseminated chalcopyrite is found in the upper sediment zone, particularly in strongly fractured rock. Content is less than 1%. Graphite is also common on fractures locally.

SL-1

This diamond drill hole intersected diorite to a depth of 59.1'. Below this, to a depth of 125.3', is pink to reddish-pink porphyritic rhyolite. A diabase dyke is located at 72.7'-79.3' and another is found at 125.3'-130.1'. Beneath this, to a depth of 152.6', is an ignimbrite unit. Flow laminations are very irregular in dip. From 152.6'-164.7' is a diabase dyke and below this is a rhyolite unit which is ignimbritic below 212.4'. The base of this unit is at 218.2'. From this point to a depth of 232.2' is a spherulitic rhyolite unit. Spherulites are up to 3 mm. in diameter and are concentrated in bands. From 232.2'-382.5' is diorite. Beneath this, to the base of the hole at 446.2' is red to pinkish-red strongly porphyritic rhyolite.

No uranium mineralization was found in this drill hole.

D) Down-Hole Logging

From July 1 to August 15, Atlantic Groundwater Geophysics Ltd. of Fredericton, N.B., conducted down-hole spectral logs using a McPhar Spectra 44. The probe of 1 1/4 inch diameter used a 3/4 by 3 inch crystal and a single-channel analog recorder. Curves run were: Total Count, Potassium, Uranium and Thorium.

From August 15 to November 1 the logging was done by Gulf personnel. The McPhar Spectra 44 was used as a manual system until September 15. At that time it was replaced with a Spectra 44D Digital Acquisition system with motorized winch. Data was collected on a cassette tape as well as a single-channel analog strip. The probe size was 1 1/4 inches and a 1 1/2 inch probe was made available; the crystal sizes were 3/4 by 3 and 1 by 3 inches respectively. Curves recorded on cassette were: Total Count, Potassium, Uranium and Thorium.

Electric Logs were run with Gearhart-Owen equipment. The logs gave self-potential, 16 and 32 inch apparent resistivity analog recordings.

The spectral logs were run at five to seven feet per minute inside drill rods, the Electric Log being run in open hole at 20 to 25 feet per minute.

E) CONCLUSIONS

Diamond drilling has indicated the presence of ore grade uranium mineralization. As yet, mineralization in sufficient quantity to be economic has not been intersected. Further diamond drilling is needed to fully evaluate all possible modes of mineralization.

APPENDIX I

DIAMOND DRILL HOLE

LITHOLOGY LOGS

SECTION A: J-ZONE

SECTION B: DF-ZONE

SECTION A FOLLOWS.....

SECTION B

DF-ZONE LOGS

APPENDIX II

DOWN THE HOLE LOGGING

SECTION A: J-ZONE

SECTION B: DF-ZONE

SECTION A FOLLOWS.....

SECTION B

DF-ZONE

COBEQUID III
EXPLORATION PROGRAMME 1978

ON PARTS OF 11E 11B, C
AND 11E 12A, D

A REPORT ON
DIAMOND DRILLING

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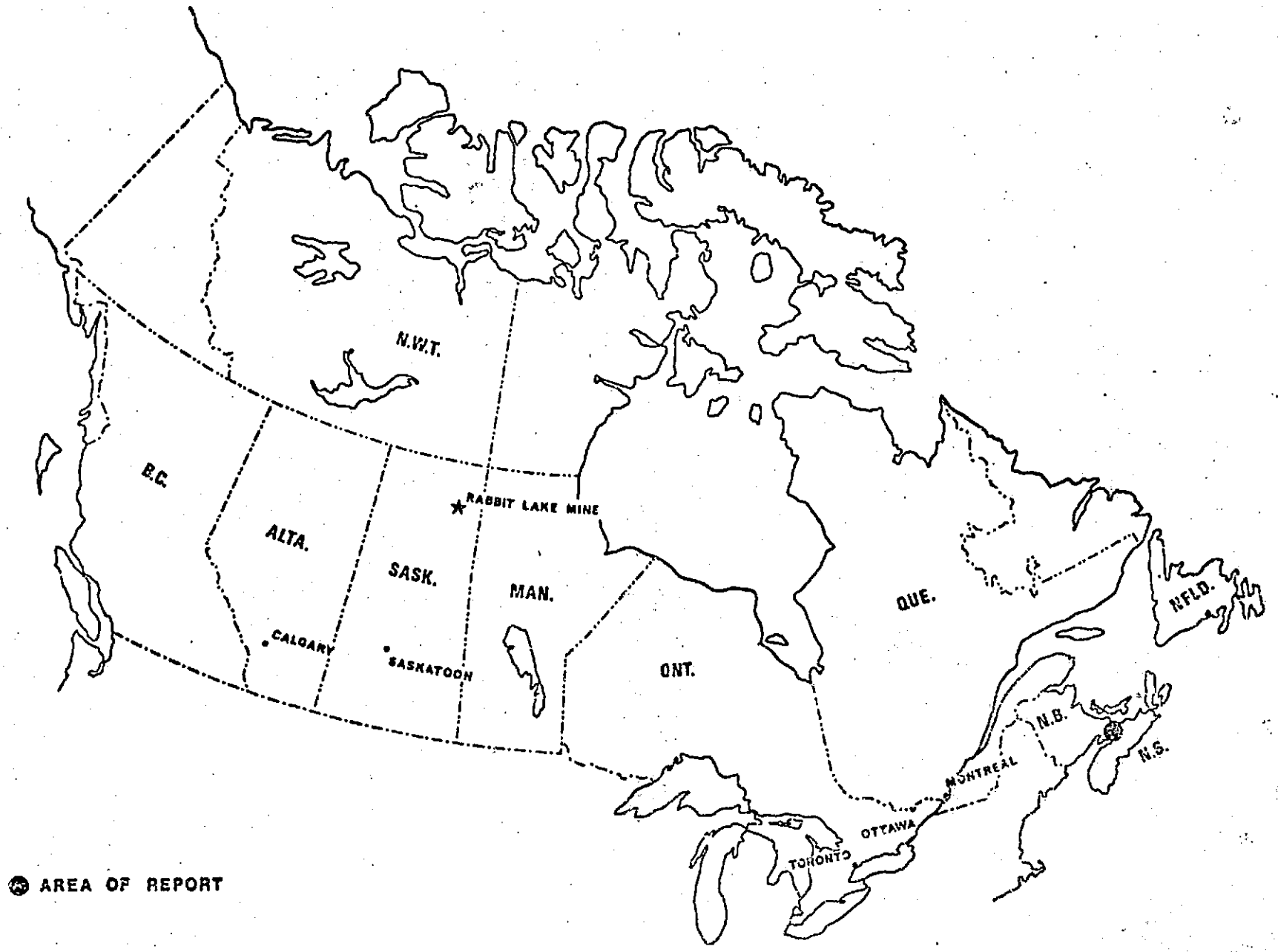
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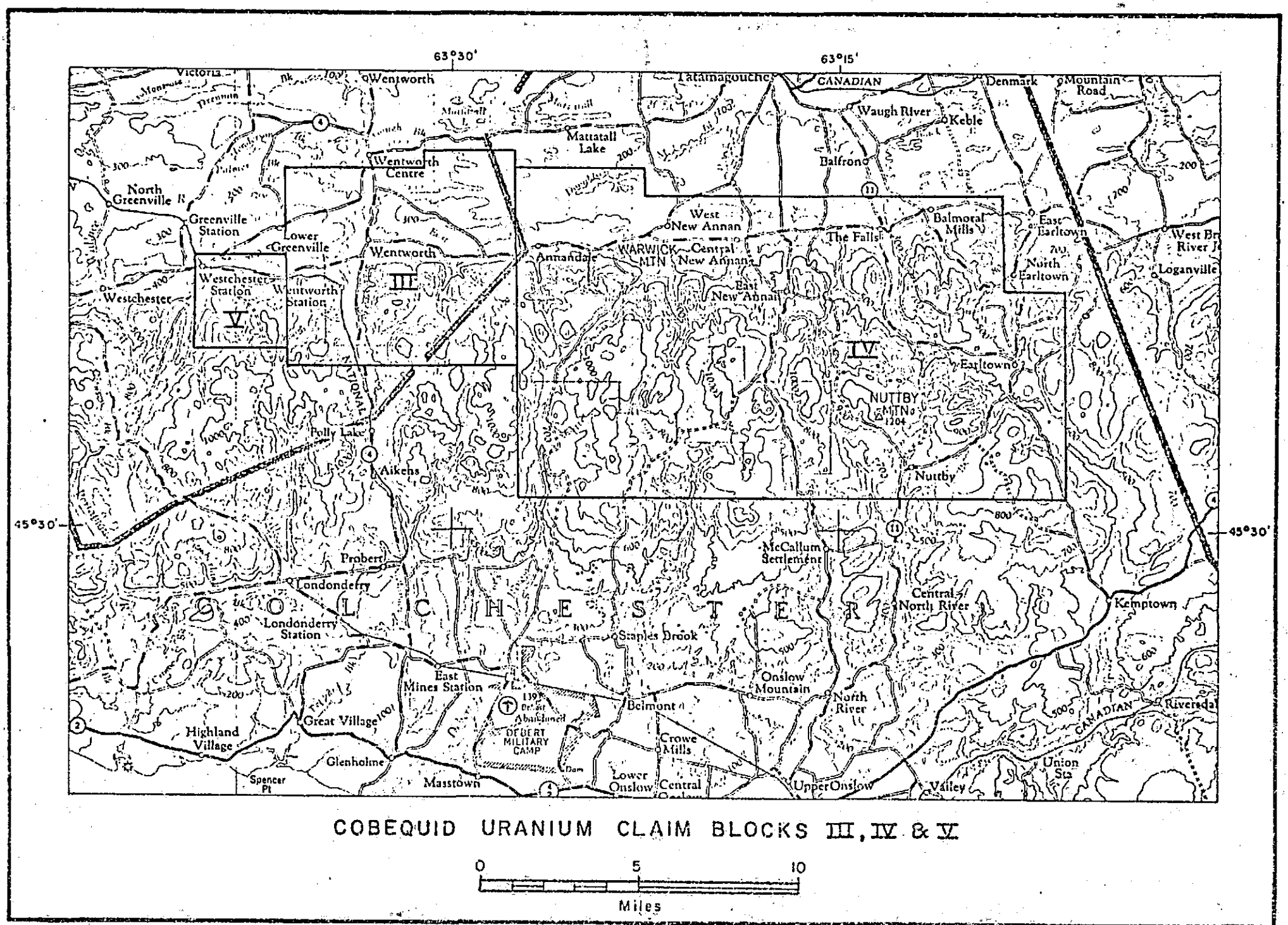
AREA OF REPORT

FIGURE 1



COBEQUID URANIUM CLAIM BLOCKS III, IV & V

Figure - 2

DIAMOND DRILLING PROGRAMME 1978

I INTRODUCTION

A) SUMMARY

On the basis of renewed prospecting discoveries of radioactive boulders containing abundant uranium, a diamond drilling programme was planned for the J-Zone and DF-Zone. The purpose of this drilling was to fully evaluate geochem. anomalies, boulder finds and geophysical anomalies within area III of the Cobequid property.

Five holes totalling 1,757.1', have been completed in the J-Zone and fourteen holes totalling 5,794.4', have been completed in the DF-Zone. Total footage drilled in area III during the 1978 drilling programme is 7,551.8'.

The holes drilled in the J-Zone were located on line 12+00W. and east of line 8+00W. on the 675W section. Figure 3 shows the locations of all holes. Data concerning the drilling of these holes is given in table I.

All holes drilled in the DF-Zone were located on lines 48+00E. and 52+00E. All holes were drilled towards the south except DF-13, 15, 17 and 18 which were drilled westerly. Figure 4 shows the locations of these holes. Technical data on each hole is given in Table II.

B) PERSONNEL

For the 1978 diamond drilling programme, Gulf personnel employed on the property were:

N. Downey	Project Geologist
K. Horan	Downhole Logging Technician
A. Seifried	Downhole Logging Technician
A. Workman	Drill Geologist

Additional Gulf personnel included:

S. Barron	Geologist
J. Stirling	Geologist
M. Strazdins	Geologist
M. Weber	Downhole Logging Supervisor

Contractors employed on the property were:

Atlantic Groundwater and Geophysics Ltd. - Fredericton, N.B.
St. Lambert Drilling Co. Ltd. - Valleyfield, P.Q.

Diamond drilling was under the supervision of Mr. C. R. Burkhart and Mr. G. I. Pearson of Gulf's Toronto office.

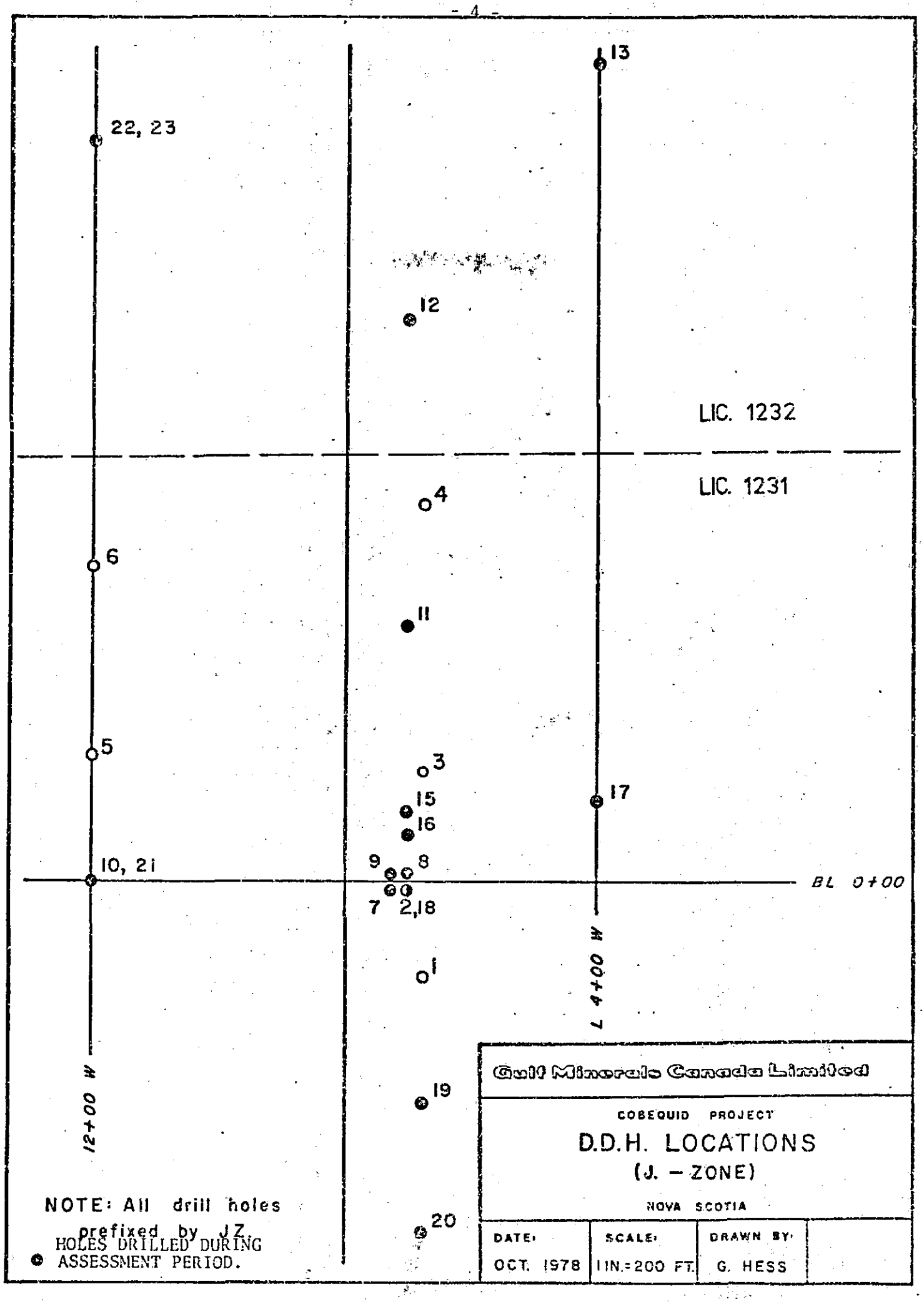
REPORT ON DIAMOND DRILLING

A) SUMMARY

Sixteen diamond drill holes have been completed on the J-Zone, fourteen holes have been drilled in the DF-Zone, and eighteen holes have been cored in the DL-Zone. Diamond drilling has totalled 5,468.1', 5794.7' and 7940.4', respectively, on each zone. Total footage drilled on the base metal permits during the 1977-78 period is 19,203.2'.

The holes drilled in the J-Zone were located on lines 12+00W and 4+00W. Half of the holes were located between lines 4W and 8W, on the 675W, 700W and 725W sections. With the exception of JZ-21 and JZ-23, which were drilled easterly, all holes were drilled along north-south sections. Figure 3 shows the locations of all holes. Data concerning the drilling of these holes is given in Table I .

All holes drilled in the DF-Zone were located on lines 48+00E and 52+00E. SL-1 was drilled on line 80+00E. All holes were drilled towards the south except the holes DF-13, 15, 17 and 18, which were drilled towards the west. Locations for these holes are shown in Figure 4. Technical data about each hole is given in Table II .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LIC. 1232
LIC. 1231
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19
20
NOTE: All drill holes prefixed by JZ
HOLES DRILLED DURING ASSESSMENT PERIOD.
Gulf Minerals Canada Limited
COBEQUID PROJECT
D.D.H. LOCATIONS
(J. – ZONE)
NOVA SCOTIA
DATE: OCT. 1978
SCALE: 1IN.=200 FT.
DRAWN BY: G. HESS

Figure 3

JUNIPER (J-ZONE) DIAMOND DRILLING PROGRAMME 1977

HOLE	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
JZ-7	0+15S 7+25W	vertical	-90°	230'	22 Nov. '77	25 Nov. '77
JZ-8	0+10N 7+00W	vertical	-90°	251'	26 Nov. '77	27 Nov. '77
JZ-9	0+10N 7+25W	vertical	-90°	250'	27 Nov. '77	29 Nov. '77
JZ-10	0+00 12+00W (Base Line)	180°	-45°	570'	29 Nov. '77	5 Dec. '77
JZ-11	4+00N 7+00W	180°	-45°	471'	1 Dec. '77	8 Dec. '77
JZ-12	8+80N 7+00W	180°	-45°	348'	8 Dec. '77	13 Dec. '77
JZ-13	12+80N 4+00W	000°	-45°	136' (Casing)	13 Dec. '77	17 Dec. '77 (Uncompleted)
JZ-15	1+10N 7+00W	vertical	-90°	333'	5 Dec. '77	9 Dec. '77
JZ-16	0+75N 7+00W	vertical	-90°	311'	9 Dec. '77	11 Dec. '77
JZ-17	1+25N 4+00W	180°	-45°	358'	11 Dec. '77	13 Dec. '77
JZ-18	0+15S 7+00W	000°	-77°	453'	13 Dec. '77	16 Dec. '77

TABLE 1A

JUNIPER (J-ZONE) DIAMOND DRILLING PROGRAMME 1978

HOLE	SECTION	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
JZ-19	675W	3+50S 6+75W	180°	-45°	223.1'	22 Aug., 1978	24 Aug., 1978
JZ-20	675W	5+55S 6+75W	180°	-45°	231.5'	24 Aug., 1978	28 Aug., 1978
JZ-21	000	00Base Line12+00W	090°	-45°	439.6'	28 Aug., 1978	1 Sept., 1978
JZ-22	1200W	11+75N 12+00W	180°	-60°	438'	2 Sept., 1978	8 Sept., 1978
JZ-23	125° Az	11+75N 12+00W	125°	-60°	424.9'	9 Sept., 1978	15 Sept., 1978
					1,757.1' (TOTAL)		

TABLE IB

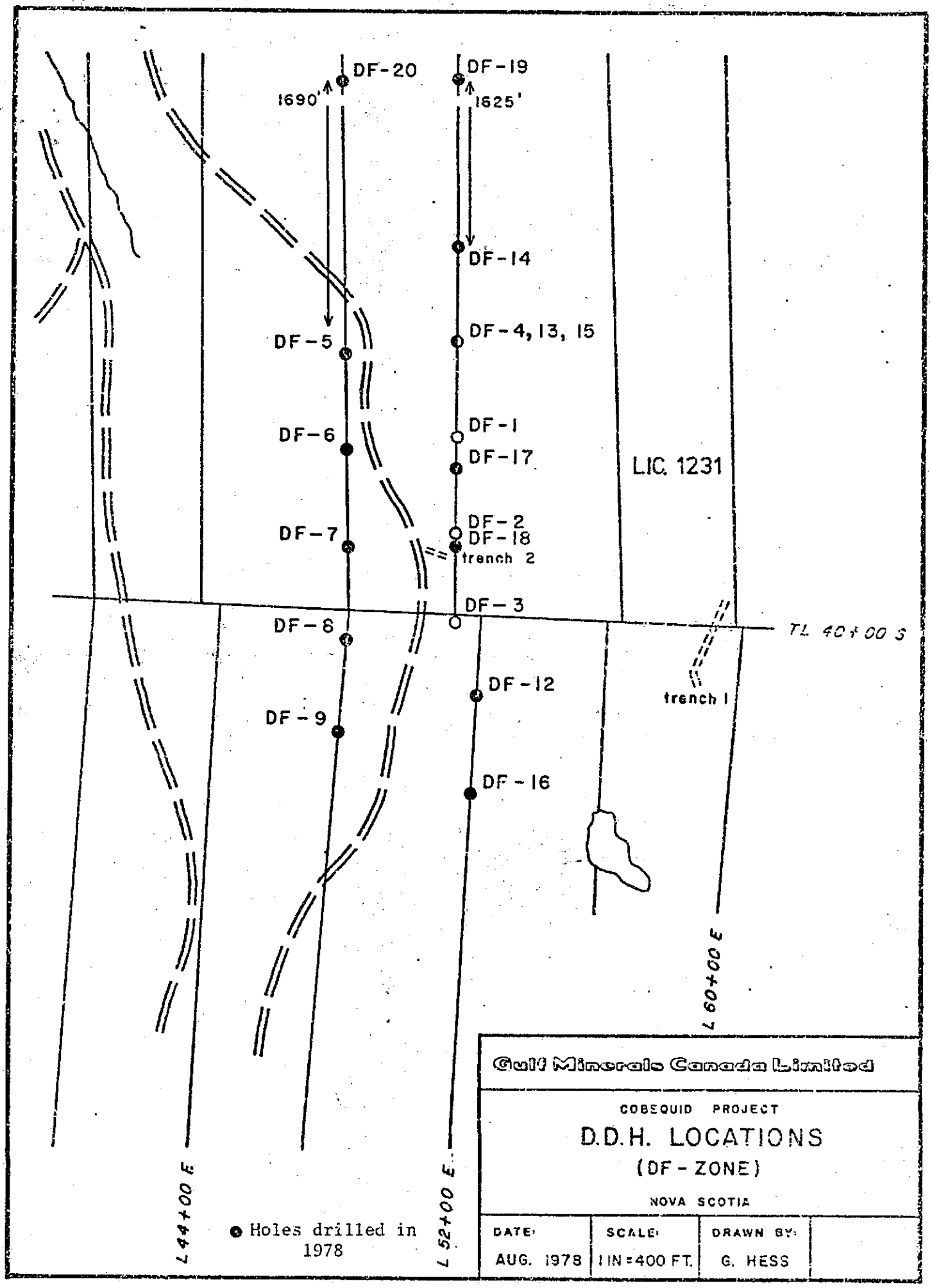

DF-20
1690'
DF-19
1625'
DF-14
DF-4, 13, 15
DF-5
DF-1
DF-6
DF-17
LIC. 1231
DF-2
DF-7
DF-18
trench 2
DF-3
DF-8
TL 40+00 S
DF-12
trench 1
DF-9
DF-16
L 60+00 E
L 44+00 E
L 52+00 E
● Holes drilled in 1978
Gulf Minerals Canada Limited
COBEQUID PROJECT
D.D.H. LOCATIONS
(DF-ZONE)
NOVA SCOTIA
DATE: AUG. 1978
SCALE: 1 IN = 400 FT.
DRAWN BY: G. HESS

Figure 4

DEBERT FOLLY (DF-ZONE) DIAMOND DRILLING PROGRAMME 1978

HOLE	SECTION	LOCATION	BEARING (TRUE)	DIP	FOOTAGE	DATE STARTED	DATE COMPLETED
DF-5	4800E	32+15S 48+00E	180°	-45°	493'	18 July, 1978	25 July, 1978
DF-6	4800E	35+10S 48+00E	180°	-45°	424.2'	25 July, 1978	29 July, 1978
DF-7	4800E	38+15S 48+00E	180°	-45°	315.6'	31 July, 1978	7 Aug., 1978
DF-8	4800E	41+15S 48+00E	180°	-45°	387.2'	30 July, 1978	3 Aug., 1978
DF-9	4800E	44+15S 48+00E	180°	-45°	424'	3 Aug., 1978	7 Aug., 1978
DF-12	5200E	42+38S 52+00E	180°	-45°	463.6'	6 Aug., 1978	10 Aug., 1978
DF-13	3100S	31+00S 52+00E	270°	-45°	345'	8 Aug., 1978	14 Aug., 1978
DF-14	5200E	28+00S 52+00E	180°	-45°	533'	10 Aug., 1978	17 Aug., 1978
DF-15	3100S	31+00S 52+00E	270°	-70°	349.5'	14 Aug., 1978	19 Aug., 1978
DF-16	5200E	45+50S 52+00E	180°	-45°	375'	18 Sept., 1978	19 Sept., 1978
DF-17	3500S	35+00S 52+00E	270°	-45°	414.4'	19 Aug., 1978	24 Aug., 1978
DF-18	3750S	37+50S 52+00E	270°	-45°	292'	24 Aug., 1978	29 Aug., 1978
DF-19	5200E	11+75S 52+00E	180°	-45°	303.8'	1 Sept., 1978	4 Sept., 1978
DF-20	4800E	15+25S 48+00E	180°	-45°	228.2'	4 Sept., 1978	6 Sept., 1978
SL-1	8000E	43+85S 80+00E	180°	-45°	446.2'	18 Sept., 1978	21 Sept., 1978
					5,794.4' (TOTAL)		

TABLE II

B) J-ZONE DIAMOND DRILLING

The J-Zone, or Juniper Zone, is located in the vicinity of several conductive zones and magnetic anomalies. Offset of the conductors along apparent north-south faults provoked interest. In addition, some local offset of magnetic contours is vaguely descernible.

A diamond drilling programme was planned to: (1) to explore the potential for mineralization along these conductors; and, (2) provide geological information on the volcanics of the Cobequid Highlands.

The drilling has probed a zone of rhyolite flows, ignimbrite sheets, tuffs and agglomerates, and minor volcanic-related sediments. Rhyolite flow rocks may be massive or flow banded. The individual flow laminations are generally pink, set in a grey matrix, and are continuous and regular. Ignimbrites may also be flow banded, but in this case the bands are rippled, lensitic and discontinuous. They may contain various types of lithic fragments. Fiammi, or flattened pumice fragments, may be observed locally. Both rhyolite flows and ignimbrite rocks may be porphyritic with euhedral feldspar phenocrysts and round quartz phenocrysts up to 5 mm. in size. Tuffs are fine to medium grained and may contain individual feldspar grains. Agglomerates are variable in colour from green to pink. Fragments up to 5 cm. in size may be found locally. They are usually sub-round to sub-angular and may represent a wide range in felsic volcanic rocks as well as including some mafic rocks. The groundmass to fragments is usually aphanitic and siliceous. Rocks described as sediment may in fact be agglomerate horizons. In this case, however, pebbles are rounded and may be set in a sandy matrix. It is believed, but not conclusively proven, that the volcanics dip steeply north. The volcanic rocks are intruded and deformed by diorite stockworks. Locally, the rhyolites and ignimbrites may be recumbantly folded by the intrusives. Some overturning of units is apparent locally. Both volcanic and dioritic rocks have been intruded by a network of diabase dykes. Because of cross-cutting relationships, at least two phases of diabase intrusion are perceived.

Alteration within the volcanics consists of soda-metasomatism near the margins of mafic intrusives with some accompanying hematization. Localized kaolinization of feldspar may be moderate, particularly where the rock is strongly brecciated. The mafic intrusives are variably chloritized, particularly near contacts with country-rock, and weakly uralitized. When porphyritic, feldspar phenocrysts are usually sausauritized

The following section gives a summary of each diamond drill hole cored in the J-Zone during the assessment period:

JZ-7

This drill hole intersected pinkish-grey rhyolite and ignimbrite. These rocks are generally porphyritic with 1-2 mm. quartz phenocrysts and a few feldspar phenocrysts. The rhyolite is finely fractured throughout and moderately silicified. The rock is intruded by several diabase dykes in the upper hole and the interval from 120.5' to the base of the hole at 230' is diorite.
No uranium mineralization was found in this hole.

JZ-8

The eighth hole located twenty-five feet from JZ-7, is virtually the same geologically. Pinkish-grey, occasionally brick red rhyolite is aphanitic, finely fractured and moderately silicified. Some ignimbrite sheets are also present. Hematization is variable but strongest in brick red zones. The rock is generally non-porphyritic but round 1-2 mm. quartz phenocrysts may be found locally. The base of the hole from 135'-247' is diorite followed by a five foot thick section of dark pink rhyolite.
The section 39.5' to 43.5' averages .035% U_3O_8.

JZ-9

This hole was collared in diorite and remained within the dyke to the base of the hole. The dyke is dark green, fine to medium grained and weakly to moderately chloritized. Some degree of uralitization, usually weak, may be observed locally. The diorite is porphyritic over short sections and euhedral feldspar phenocrysts up to 5 mm. are common. Smaller quartz phenocrysts are typically round. No mineralization was found in this hole.
No uranium mineralization was found in this hole.

JZ-10

The upper section of the tenth hole is diorite to a depth of 82 feet. It is dark green, fine to medium grained and locally porphyritic. Below the intrusive is 157 feet of dark pinkish-grey, weakly flow laminated rhyolite. Numerous conglomerate zenoliths are found in the rhyolite. The interval 240'-271' is dark green, fine grained rhyolite. The section from 271'-433' is conglomerate. Light and dark grey pebbles up to 5 cm. in size are found in a dary grey, sandy matrix. Minor coarse grained sandstone is found locally. Pyrite and chalcopyrite blebs are found in the matrix. Underlying the conglomerate is a rhyolite section which extends to the base of the hole at 570 feet. The rhyolite is grey but becomes pinker with depth. It is porphyritic, finely fractured and locally flow brecciated. The volcanic flow is intruded occasionally by diabase. Several samples of sulphide rich sediment were assayed and found to contain no precious metals or base metals.
No uranium mineralization was found in this hole.

JZ-11

This hole remains within the rhyolite and ignimbrite flows. The rock is pinkish-grey, aphanitic and has a well developed flow lamination at 40° to the core axis. Ignimbrite units have a more irregular discontinuous banding than the rhyolite flows. Where intruded by diabase or diorite, the rhyolite may be finely fractured and more reddish in colour due to silicification and hematization. Finely disseminated pyrite is common in the rhyolite. Numerous dark green, fine grained, ophitic textured dicrites and diabases intrude the rhyolite. The largest of these, a diorite, was intersected from 83.5'-111' but more typically they are ten to fifteen feet in thickness.
The section from 301' to 317' averages 0.015% U_3O_8.

JZ-12

This diamond drill hole was collared in rhyolite. The rock is grey but becomes pinkish-grey locally where intruded by diabase or diorite. It is non-porphyritic and may be flow brecciated locally. Numerous small diabase dykes cut the uppermost rhyolite. At 135.5' a large diorite dyke was intersected which is present to 214.5'. It is dark green, fine grained and moderately chloritized locally. The zone 188-196.5' is strongly porphyritic and moderately sausauritized. The rhyolite below this diabase is pinker than the upper variety. An abundance of diabase dykes averaging three to five feet in thickness cut the rhyolite often producing a brick red colour in the lava. Alteration, consisting of silicification and hematization is stronger in the lower section of this hole.
No uranium mineralization was detected in this hole.

JZ-13

This hole was shut down prior to intersection of bedrock at 141'. Future deepening of this hole may be accomplished utilizing a larger more powerful drill than was available at the time.
No uranium mineralization was detected in this hole.

JZ-14

Although spotted, this hole was not drilled due to lack of time at year's end.

JZ-15

This hole intersected a predominately grey to pinkish-grey rhyolite unit at surface. It is locally porphyritic with euhedral, pink feldspar phenocrysts up to 2 mm. in size. Where swarms of narrow diabase dykes are found, the rhyolite is silicified and moderately hematized. The rock in these zones may be finely fractured. With depth, the rock becomes more pink in colour with minor red and brick red zones. These deeper zones are generally more highly hematized and silicified. Some limited kaolinization may be present in the rhyolite at 151' where a diorite dyke intrudes the volcanics. The diorite is intersected through to 193'. It is dark green, medium grained and porphyritic. The rhyolite from 193'-274' is dark pink to red, moderately fractured and non-porphyritic. It becomes mylonitic locally and is strongly silicified and hematized. A diabase dyke is located at 274'-285.5'. From the base of the diabase to the end of the hole at 333', the rhyolite becomes less pink and less altered.

Several sporadic uranium valves up to 0.021% U_3O_8 at 42' to 44' were detected in this hole. The section from 247' to 249' averages 0.018% and the interval from 267' to 271' averages 0.012% U_3O_8.

JZ-16

This drill hole is very similar to JZ-15. Rhyolite intersected in the top of the hole, is generally grey but numerous red to brick red zones may be present locally. These zones are strongly silicified and hematized and may be moderately fractured. Numerous diabase dykes up to ten feet in thickness are intersected in the upper hole. At 136'-246.5', a diorite dyke is found. It is porphyritic locally and weakly to moderately uralitized and chloritized. Feldspar phenocrysts are variably sausauritized. The rhyolite below the diorite is red to dark pink reflecting a higher degree of hematization and silicification than the upper rhyolite. It is intruded at 276'-298' by diorite.
The interval form 21'-22.2' averages 0.195% U_3O_8 and 61' to 63' grades 0.019% U_3O_8. From 106' to 108' contains 0.018% and the section 250'-252' averages 0.016% U_3O_8.

JZ-17

This hole was collared in diorite and continued to intersect the intrusive to a depth of 303'. The rock is dark green, medium grained and strongly chloritized near surface. It exhibits good ophitic texture. Spotty epidotization is common and may reflect late state feldspar alteration or sausauritization. Some porphyry is present locally with generally euhedral feldspar phenocrysts up to 1 cm. in size. Below the diorite, 55' of rhyolite was intersected. The volcanic rock is dark pink and locally porphyritic with indistinct 1 mm. round quartz phenocrysts. It is moderately fractured and locally may be flow brecciated.

No uranium mineralization was detected in this hole.

JZ-18

This diamond drill hole intersected rhyolite at surface. This unit is brick red to pinkish red, intensely silicified and strongly hematized. It is intruded at 45'-125' by a dark green, fine grained diorite dyke. Below the dyke is 21.5' of reddish-pink. porphyritic rhyolite. Euhedral feldspar phenocrysts up to 4 mm. in size and quartz phenocrysts up to 3 mm. in size are common. Fracturing is widespread in the rhyolite, often with accompanying epidotization and weak kaolinization. From the base of this rhyolite at 146.5', and extending for 127.5' to a depth of 274', a second diorite body was intersected. It is dark green with light green spotty epidotization. The rock is weakly fractured and moderately chloritized near the contacts. Some porphyry is present within the diabase from 224.5'-228'. The hole intersected rhyolite from 274'-387.5' and from 428.5'-453'. It is reddish-pink to greyish-pink with minor brick red zones. Flow banding has developed locally at an angle of 45° to the core axis. Silicification and hematization are variable in degree of alteration. The volcanic is intruded by diabase at 387.5'-428.5'.

The section from 22'-26' grades 0.016% U_3O_8.

JZ-19

The nineteenth drill hole was collared in diorite and continued within the intrusive body to a depth of 161'. The rock is dark green, fine to medium grained and weakly chloritized. At 161', a sediment unit was intersected. The rock is dark grey to black and mainly composed of sandy conglomerate with minor sandstone. Pebbles are of granitic and rhyolitic origin. At 189' a diorite dyke was intersected which continued to the base of the hole at 223'.

No uranium mineralization was found in this hole.

JZ-20

This diamond drill hole intersected pink, porphyritic rhyolite to a depth of 33'. From 33'-113' is diorite intrusive. The rock is dark green, fine to medium grained and porphyritic. A greyish-brown to dark grey crystal tuff unit is located at 113'-170.6'. Rock shards up to 3 mm. are set in a fine grained to aphanitic matrix. From 170.6'-173.1' is a highly broken zone along the edge of a dioritic intrusive which was intersected from 173.1'-231.5'. The diorite is weakly porphyritic with sausauritized feldspar phenocrysts.

No uranium mineralization was detected in this hole.

JZ-21

From surface to 39.4', the twenty-first hole intersected a dark green porphyritic diorite dyke. Below this, to a depth of 73' is pinkish-grey aphanitic and weakly porphyritic rhyolite. The volcanic rock is flow banded locally at 25°-30° to the core axis. It is intruded at 73'-91.7' and again at 110.1'-125.2' by mafic intrusives. The upper variety is dioritic whereas the lower dyke is probably diabase. Reddish-pink to red porphyritic rholite is located at 125.2'-139.4'. A diorite dyke was intersected at 139.4'-149.7' and is followed by rhyolite flow and minor ignimbrite to a depth of 225.8'. Diorite is located below the volcanics to 259.2' and is found again at 325.3'-428.2'. From 259.2'-325.3' is greyish-pink, flow laminated ignimbrite and below the diorite from 428.2'-439.7' is pinkish-red, non-porphyritic rhyolite.

No uranium mineralization was intersected in this hole.

JZ-22

The twenty-second diamond drill hole was cased through overburden to a depth of 146' and then intersected a dark to medium grey, fine grained to aphanitic rhyolite unit to a depth of 280'. The rock has light grey bands well developed locally at 40°-45° to the core axis. The bands are probably tuff horizons. Several dark green diorite dykes were intersected at 198'-207.3', 234.6'-241.9', and 280'-329.9'. From 329.9'-332.5' is light grey, to pinkish-grey aphanitic rhyolite. Diorite is found at 332.5'-337.4'. A gradational contact is found at 337.4' where the rock changes to a rhyolitic type of unit. Below 388' the rock has abundant light green flecks - possibly an alteration product of volcanic glass shards. Minor chalcopyrite and pyrite was found disseminated throughout the zone, particularly below 388' where combined sulphide content may reach 5% locally. Abundant graphitic was found on fractures.

No uranium mineralization was found in this hole.

JZ-23

This hole intersected 131.2' of overburden and then 108.7' of rhyolite. The volcanic is light grey, and very fine grained to aphanitic. Several narrow mafic intrusives were intersected at 133.9'-136' (Diorite), 184.1'-185.4' (Diabase), 204'-207.7' (Diorite), and 232.4'-239.9' (Diorite). A pink to reddish pink felsic intrusive is located at 239.9'-284.9'. The rock is strongly porphyritic with quartz and feldspar phenocrysts. From 284.9'-345.9' the rock is rhyolitic, light grey and fine grained to aphanitic. It is well flow banded at 30°-50° to the core axis. A diorite dyke is located at 345.9'-372.4' followed by 22.7' of felsic intrusive similar to the upper zone at 239.9'-284.9'. From 395.1'-415.8' is rhyolite followed by diorite to a depth of 424.9'. Abundant pyrite and minor chalcopyrite were found finely disseminated throughout the hole to a depth of 184.5'. Up to 10% sulphide with abundant graphite is found locally.

No uranium mineralization was detected in this hole.

C) DF-ZONE DIAMOND DRILLING (including SL-1)

The DF-Zone, or Debert-Folly Zone, is located approximately one mile west of Debert Lake in Colchester County. It is an area of several intersecting conductive (V.L.F. defined) zones and steep magnetic contours. Within this area were found malachite stained boulders containing up to 5.38 oz/ton silver and up to 0.08% lead. A soil copper geochem. anomaly is found within the C-horizon in the DF-Zone.

A diamond drilling programme was formulated to: (i) explore the potential for mineralization related to the conductors and magnetic anomalies, (ii) attempt to find the source of the soil geochem. anomaly in bedrock, and; (iii) provide geological information on the rhyolite volcanics and the granite contact in the Cobequid Highlands.

The drilling probed the granite along a section roughly 200' inside and parallel to the contact. The granite contact cuts across this section at three points. In addition, the volcanics along the contact were intersected. The felsic extrusives included rhyolite flows, ignimbrite sheets and minor pyroclastics (tuffs and agglomerates). The flows are of massive and banded varieties. Banding consists of 1-2 mm. parallel laminations, usually including grey rhyolite with pink or cream rhyolite. Laminations are continuous and regularly spaced. Ignimbrites on the other hand, are irregularly banded. Lensitic, rippled and discontinuous laminations are coarse, and often include fragments of rhyolite as well as some other non-indigenous rocks such as mafic volcanics. Both rhyolite flow and ignimbrite are often porphyritic with 1-3 mm. euhedral feldspar phenocrysts and 1-2 mm. round quartz phenocrysts. It is possible that the DF-Zone is cut by a north-south striking strongly porphyritic intrusive. The groundmass is red to burgundy in colour, aphanitic fresh, siliceous and contains average sized quartz and pink to orange feldspar phenocrysts. The rock carries occasional mafic fragments locally. These fragments are quite hard and may be andesite. The volcanics are cut by diorite stockworks.

These bodies are dark green, fine to medium grained and weakly chloritized. The rock is weakly to moderately fractured. These rocks are in turn intruded by granite. The granite is pink to pinkish-red, medium grained and contains up to 40% quartz locally but very little mafic minerals. The granite is variably fractured. All the aforementioned rocks are intruded by a complex swarm of diabase dykes. These dykes are dark green, fine grained, chloritized and weakly fractured.

Alteration consists of soda-metasomatism of acid volcanics with minor accompanying hematization near mafic intrusives, local kaolinization of feldspar in rhyolite and granite especially in intensely fractured or mylonitic zones, and, epidotization of fractures. Feldspar phenocrysts within diorite are typically sausauritized. Mafic minerals may be weakly uralitized and chloritized.

No uranium mineralization was found in this drill hole.

The following is a summary of each hole drilled during the 1978 drilling programme:

DF-5

The first hole in 1978 intersected granite to a depth of 493'. The rock is pinkish-red, medium grained and contains 10-20% quartz. A zone of diorite, possibly a xenolith, is located at 200.7'-213.5'. A similar zone is found at 368.5'-380.5'. Abundant diabase dykes up to 5' in thickness are found locally.

No uranium mineralization was found in this drill hole.

DF-6

This hole collared in pinkish-grey rhyolite. The flow is flow brecciated to a depth of 134.9'. The rocks are weakly flow banded and carry red rhyolite fragments up to 3 cm. in size. The zone is strongly fractured and tectonically brecciated. Below this zone to a depth of 173.3' is a massive, non-brecciated porphyritic rhyolite. From 173.3'-206.7' is found a centrally - porphyritic diorite intrusive. A two feet thick strongly fractured rhyolite horizon is located at 206.7'-208.7' below which is a 41' thick diorite intrusive resembling the upper zone. From 294.7'-276.1' is a porphyritic mottled rhyolite which is stoped by granite locally. Below 276.1' to the base of the hole at 424.2' is dark pinkish-red to pink, fine to medium grained granite. Locally, the granite is strongly fractured to mylonitic.

No uranium mineralization was found in this drill hole.

DF-7

This hole was collared in diorite. The mafic rock was encountered to a depth of 45.7'. It is followed by granite which has been intruded by diabase at 59.5'-81.7' and at 134'-141.5'. The diabasic rocks are dark green and carry abundant re-crystallized granite fragments. The granite body, itself, is reddish-pink, fine to medium grained and locally contains up to 40% quartz but only traces of mafic minerals. Feldspar content varies from 60-80%.

No uranium mineralization was found in this drill hole.

DF-8

This diamond drill hole intersected pinkish-red, granite to a depth of 387.2' at which point the hole was terminated. The granite is medium grained and is mylonitic locally. Strongly broken zones often contain kaolinized feldspar grains. A fault zone is located at 321.8'-325.8'.

No uranium mineralization was found in this drill hole.

DF-9

The fifth hole drilled during the 1978 season collared in granite and continued within this rock unit to the base of the hole at 424'. It is reddish-pink and medium grained with up to 25% quartz. It is intruded locally by diabase at 135.9'-138.3', 155.6'-162.5' and 396.6'-402.2'. Several narrow aplite dykes are found locally, (e.g. 153.6'-154.6').

No uranium mineralization was found in this drill hole.

DF-10 and DF-11

Although spotted, these holes were not drilled.

DF-12

This hole intersected rhyolite to a depth of 53.6'. The volcanic is dark grey with red and pink mottling and is very fine grained to aphanitic. Quartz and feldspar phenocrysts up to 2 mm. are weakly developed. It is cut at 53.6' by a dioritic intrusive which continues to the base of the hole at 463.6'. Locally, the rock resembles basalt, but these zones may in fact be diabase dykes.

No uranium mineralization was found in this drill hole.

DF-13

To a depth of 44.3', this hole intersected a dioritic intrusive. Below this, from 44.3'-116.6' is a reddish-pink porphyritic rhyolite. The volcanic rock is weakly flow banded, locally becoming well banded, but irregular. Small mafic intrusives cut this zone at 48.6'-56.8', 82.7'-95.8', and 99.1'-108.6'. A diorite dyke is located at 116.6'-149.4' and a second is found at 167.7'-188.7'. Between them is a reddish-pink altered and chloritized rhyolite. The zone from 188.7'-206' is grey to pinkish-grey porphyritic rhyolite. It is underlain by 7.3' of diorite intrusive. From 213.3'-240.8' is pinkish-red, aphanitic and possibly silicified rhyolite. A diabase dyke containing abundant fragments of rhyolite and granite is found at 240.8'-259.5' and the zone from 259.5' to the base of the hole at 345' is granite.

The interval from 192' to 199' averages 0.079% U_3O_8 or 1.58 lb./ton U_3O_8. A peak of 2.68 lb./ton was found at 197'-198'.

DF-14

The fourteenth hole intersected red to pinkish-red, medium grained granite to a depth of 178.5'. Below this, from 178.5'-533' is pinkish-grey rhyolite, which becomes pinker with depth. The rock is porphyritic with quartz and feldspar phenocrysts up to 3 mm. set in an aphanitic groundmass. The rock is irregularly and weakly flow banded locally. Over two sections, (302.2'-317.9' and 433'-444.6') the rock is well banded at 30°-40°, and 5°-40°, respectively, to the core axis. Locally the zone is strongly broken. A noteworthy lack of mafic intrusives is observed. The only occurrence at 223.6'-225.6' is probably diabasic.

No uranium mineralization was found in this drill hole.

DF-15

The fifteenth diamond drill hole intersected rhyolite at 26'-32.8'. The rock is reddish-pink aphanitic and porphyritic, and, is cut at 32.8'-49.9' by a diorite dyke. From 49.9'-128.2' is a reddish-pink, porphyritic rhyolite unit which is locally flow banded. It is intruded at 66.9'-67.6' and 113.9'-124.3' by diabase and at 88.4'-102.2' by diorite. The diorite is dark green, fine to medium grained, and weakly chloritized locally. Dicrite dykes are found at 128.2'-131.2', 145.2'-157.5', 160.4-168.3', and 195.3'-206.7'. The rhyolite between these intrusives is pinkish-red, aphanitic and porphyritic. The zone from 168.3'-195.3' is weakly flow banded. From 206.7'-286.3', the rhyolite is spherulitic locally (e.g. 212') and weakly porphyritic. The rock is more strongly broken with depth. A diabase dyke has been intruded at 286.3'-302.3'. It contains abundant rhyolite and granite xenoliths. From 302.3' to the base of the hole at 349.5' is red to grey-red granite.

No uranium mineralization was found in this drill hole.

DF-16

This drill hole intersected a grey, aphanitic altered rhyolite unit which continued to a depth of 94.5'. At this point, a dioritic dyke is intruded. The lower contact is at 196'. The diorite itself is cut by a complex swarm of diabasic intrusives. At 196'-271.5' is a grey aphanitic rhyolite unit. The lowermost 30" are redder in colour. A diorite dyke is located at 214.8'-222.9' and a diabase dyke is found at 237.2'-243.9'. The rhyolite is cut off at 271.5'- 295.3' by a diabase dyke which contains 50% of its rock volume composed of rhyolite and minor quartz fragments. The zone below 295.3' to the base of the hole at 375' is granite.

No uranium mineralization was found in this drill hole.

DF-17

The seventeenth hole, after casing through 34.5' of overburden, intersected 3.9' of medium grained diabase dyke. The zone from 38.4'-57.7' is grey, aphanitic, locally porphyritic tectonically brecciated rhyolite. A 3.7 ft. thick diabase dyke is intruded at 57.7'. From 61.4'-133.9' is cream to pinkish-grey coloured, aphanitic and porphyritic rhyolite. This zone is frequently mylonitic. Strongly broken zones are highly epidotized. Some fluorite is also present in fractures. At 133.9' a unit is intersected which is red in colour and possibly ignimbritic, although a well developed flow banding is lacking. The zone is porphyritic with both quartz and feldspar phenocrysts. This zone continues to a depth of 231.3'. A diorite dyke is intersected at 231.3'-243.8'. From the lower contact of the intrusive to 304.1' is a strongly porphyritic burgundy coloured rhyolite unit. Feldspar phenocrysts are 1-5 mm. in size and orange in colour. Quartz phenocrysts are smaller. The matrix is aphanitic. A diorite dyke is located at 304.1'-320.1'. Beneath this is 25.4' of flow banded rhyolite, followed by diorite from 345.5'-383.1'. The zone at 383.1'-403.9' is pinkish-red to red porphyritic rhyolite. A narrow diorite dyke is located at 403.9'-406'. At 406' a unit is intersected which is the same texturally and similar in colour to the porphyritic zone at 243.8'-304.1'. It extends to a depth of 431.1' where a 6" diabase dyke is encountered. Below the diabase to the base of the hole at 462.2 is granite.

The interval from 201' to 205.8' averages 0.041% U_3O_8 or 0.82 lb./ton U_3O_8. A peak of 1.36 lb./ton was intersected at 202.9'-204.5'.

DF-18

This hole intersected pink to red, aphanitic and porphyritic rhyolite to a depth of 219.8'. The rock is strongly fractured, frequently becoming mylonitic. These intensely broken zones are strongly chloritized. The rhyolite is intruded by a large number of mafic dykes which are diabasic to dioritic in composition.

The larger varieties were intersected at 40.7'-42.5', 93.7'-101.8', 142.9'-153.1', 176.4'-177.5', 180.4'-185.4', and 210.4'-219.8'. The zone from 219.8'-236.6' is reddish-pink porphyritic rhyolite which may be ignimbritic above 234.6'. Beneath the rhyolite is 0.8' of diorite followed by brownish-pink, strongly porphyritic rhyolite to the base of the holes at 292'. This zone is the same texturally as the unit at 243.8'-304.1' in DF-17. It contains abundant angular felsic (rhyolite) fragments below 285'.

No uranium mineralization was found in this drill hole.

DF-19

This diamond drill hole intersected ignimbrite to a depth of 77.1'. The rock is aphanitic and strongly porphyritic. Flow banding is well developed. At 77.1'-139.8', a reddish-brown to burgundy coloured rhyolitic unit was intersected. The rock is very strongly porphyritic with quartz and orange feldspar phenocrysts. Similar units were found in DF-17 and DF-18. A diabase dyke is located at 139.8'-142.5'. From 142.5'-176-2' is a pale green, porphyritic, locally flow banded rhyolite. The flow banded zone from 150'-172' may be ignimbritic. Diorite is found at 176.2'-197.6'. It is fine to medium grained, dark green and porphyritic locally. Below the diorite at 197.6'-223.8' is a felsic intrusive. This zone is reddish-pink, strongly porphyritic and has 1-2 mm. spherulites nucleated on phenocrysts. It carries abundant mafic (dioritic) fragments. A diorite dyke is located at 223.8'-297.7'. From the base of the diorite to the end of the hole at 303.8' is reddish-pink, strongly porphyritic ignimbrite. It is well flow banded at 30°-35° to the core axis.

No uranium mineralization was found in this drill hole.

DF-20

This hole intersected a siliceous sediment unit, possibly tuffaceous, to a depth of 81.4'. The rock is light green, fine grained to aphanitic, and is well bedded locally. Some vague grading of particle size within beds may be present. Some pink rhyolite fragments have settled within individual beds. The unit is intruded by diorite at 52.3'-58.1'. A diorite dyke is located at 81.4'-105.5'. Below this intrusive is more sediment similar to the upper unit. Load casting indicates that the succession is overturned. Another diorite dyke has been intruded at 138.8', which extends to the base of the hole at 228.2'.

No uranium mineralization was found in this drill hole.

Minor finely disseminated chalcopyrite is found in the upper sediment zone, particularly in strongly fractured rock. Content is less than 1%. Graphite is also common on fractures locally.

SL-1

This diamond drill hole intersected diorite to a depth of 59.1'. Below this, to a depth of 125.3', is pink to reddish-pink porphyritic rhyolite. A diabase dyke is located at 72.7'-79.3' and another is found at 125.3'-130.1'. Beneath this, to a depth of 152.6', is an ignimbrite unit. Flow laminations are very irregular in dip. From 152.6'-164.7' is a diabase dyke and below this is a rhyolite unit which is ignimbritic below 212.4'. The base of this unit is at 218.2'. From this point to a depth of 232.2' is a spherulitic rhyolite unit. Spherulites are up to 3 mm. in diameter and are concentrated in bands. From 232.2'-382.5' is diorite. Beneath this, to the base of the hole at 446.2' is red to pinkish-red strongly porphyritic rhyolite.

No uranium mineralization was found in this drill hole.

D) Down-Hole Logging

From July 1 to August 15, Atlantic Groundwater Geophysics Ltd. of Fredericton, N.B., conducted down-hole spectral logs using a McPhar Spectra 44. The probe of 1 1/4 inch diameter used a 3/4 by 3 inch crystal and a single-channel analog recorder. Curves run were: Total Count, Potassium, Uranium and Thorium.

From August 15 to November 1 the logging was done by Gulf personnel. The McPhar Spectra 44 was used as a manual system until September 15. At that time it was replaced with a Spectra 44D Digital Acquisition system with motorized winch. Data was collected on a cassette tape as well as a single-channel analog strip. The probe size was 1 1/4 inches and a 1 1/2 inch probe was made available; the crystal sizes were 3/4 by 3 and 1 by 3 inches respectively. Curves recorded on cassette were: Total Count, Potassium, Uranium and Thorium.

Electric Logs were run with Gearhart-Owen equipment. The logs gave self-potential, 16 and 32 inch apparent resistivity analog recordings.

The spectral logs were run at five to seven feet per minute inside drill rods, the Electric Log being run in open hole at 20 to 25 feet per minute.

E) CONCLUSIONS

Diamond drilling has indicated the presence of ore grade uranium mineralization. As yet, mineralization in sufficient quantity to be economic has not been intersected. Further diamond drilling is needed to fully evaluate all possible modes of mineralization.

APPENDIX I

DIAMOND DRILL HOLE

LITHOLOGY LOGS

SECTION A: J-ZONE

SECTION B: DF-ZONE

SECTION A FOLLOWS.....

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-7
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 0+15S.
LONGITUDE 7+25W.
ELEVATION

BEARING—TRUE Vertical
DIP Collar: -90°
FINAL DEPTH 230'
CORE SIZE BQ

DATE STARTED November 22, 1977
DATE COMPLETED November 25, 1977
DRILLED BY St. Lambert Diamond Drilling
LOGGED BY A. Workman

DATE: November 30, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0	- 22 (0)		Overburden	Very blocky - casing reamed to 22'			ACID DIP TESTS -230': 89°
22	- 27 (5)		Diabase	Dark green, fine to medium grained. The rock is weakly to moderately magnetic and weakly chloritized. Limited uralitization of pyroxene is present. Fine fractures are epidotized.			zone 22'-24' is badly ground - some rhyolite boulders.
27	- 48 (21)		Rhyolite	Grey to pinkish-grey with reddish-pink bands and minor brick red zones, aphanitic and non-porphyritic. Darker red bands are found as narrow zones paralleling and adjacent to fractures. The rock is strongly silicified locally and moderately hematized. 42-46.5' - reddish-pink, fine black specks dot the rock - possibly disseminated magnetite - finely fractured and gaps are magnetite filled - rock is moderately hematized and silicified. 46.5-48' - greyish-pink; intensely fractured, moderately epidotized hematized and silicified.			
48	- 51.5 (3.5)		Diabase	Dark green, fine grained, moderately chloritized with epidotized fractures.			
51.5	- 56.5 (5)		Rhyolite	Pink to greyish pink, aphanitic and porphyritic with 1-2 mm. quartz phenocrysts. The rock is finely fractured throughout and fracturing becomes intense at 55.5-56.5'. Breaks are epidotized and larger fractures are surrounded by pink alteration halos. Some magnetite occurs locally.			
56.6	- 107.5 (51)		Diabase	Dark green, fine to medium grained and weakly to moderately (at contacts) chloritized. Some uralitization of pyroxene occurs locally. Hazy rhyolite xenoliths are found locally. Partial absorption by the diabase makes them vague in outline. The zones 85-86' and 91.5-92.5 are highly fractured and strongly epidotized.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-7

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
107.5	- 120.5		Rhyolite	Greyish-pink with minor grey bands becoming pink to reddish-pink with			
	(13)			depth. The rock is aphanitic and porphyritic with 1-2 mm. round quartz			
				phenocrysts and minor 1-2 mm. pink feldspar phenocrysts. Quartz pheno-			
				crysts are surrounded by narrow pinkish red reaction rims. The zone			
				is finely fractured and epidotized. The rock is moderately silicified			
				and possibly weakly hematized.			
120.5	- 230		Diabase	Dark green, fine to medium grained, weakly chloritized. The rock is			
	(109.5)			highly fractured and moderately to strongly epidotized locally. It is			
				weakly to moderately magnetic.			
				125-127' - fractured - chloritized and epidotized			
				131-137' - as above			
				140.5-142' - as above			
				145-147' - as above			
				147-159.5 - possibly a quartz-feldspar porphyry - the rock is dark			
				pinkish-red and aphanitic. Feldspar phenocrysts are			
				euhedral, unaltered and 1-4 mm. in size. Quartz pheno-			
				crysts are 1-2 mm. in size and somewhat rounded. Numerous			
				mafic (diabase) fragments are located throughout the zone.			
				They are rounded and up to 5 cm. in size. The zone is			
				graditional into diabase at the upper and lower "contacts".			
				159.5-230' - Diabase as before in zone 120.5-147'			
				- fracturing locally throughout the rock at 164-165',			
				168-170.5, 178-180.5 and 218-229'.			
				230' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-8
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 0+10N.
LONGITUDE 7+00W.
ELEVATION

BEARING—TRUE Vertical
DIP Collar: - 90°
FINAL DEPTH 251
CORE SIZE BQ

DATE STARTED November 20, 1977
DATE COMPLETED November 27, 1977
DRILLED BY St. Lambert Diamond Drilling
LOGGED BY A. Workman

DATE: November 30, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0	- 23 (0)		Overburden	Very blocky, bouldery sand.			ACID DIP TESTS 100': -89° 251': -89°
23	- 32 (9)		Rhyolite	Brick red, aphanitic, massive but very finely fractured. The breaks are commonly filled with magnetite. The rock is highly silicified and hematized. The zone is non-porphyritic.			
32	- 36.5 (4.5)		Diabase	Dark green, fine to medium grained, chloritized. Contains an epidotized rhyolite xenolith at 32-33'. NOTE: This intrusive corresponds to unit 48'-51.5' in hole JZ-7.			
36.5	- 50 (13.5)		Rhyolite	Alternating brick red and grey becoming pinkish grey with depth. The rock is aphanitic and non-porphyritic. It is finely fractured and the breaks are epidotized with brick-red alteration halos. The darker red zones are generally more highly fractured. Some breccia is located locally along a diabase seam at 39'-39.3'. Some irregular flow lamination occurs locally (eg. 42-50'). It is found usually in a grey coloured rock and averages a dip of 30-35° to the core axis.	44'	flow laminat-ion	30° to the core axis
50	- 122 (72)		Diabase	Dark green, fine to medium grained and weakly to moderately chloritized, especially near contacts. Some uralitization of pyroxene is common. A few rhyolite xenoliths may be observed locally. Some fine black mottling is found locally. The zone 62.5-64.5' is strongly brecciated and chloritized. Banding at 82'-83' dips 40° on the core axis. 101-103' - porphyritic zone - light green euhedral sausauritized feldspar phenocrysts up to 1 cm. in size. 107-108' - breccia zone - strongly epidotized 115-119' - prophyritic - as zone 101-103' NOTE: This zone corresponds to 56.5' - 107.5' in hole JZ-7.	82.5'	intrus-ive ban-ding	40° to the core axis

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-8

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
122	- 135 (13)		Rhyolite	Dark pink with minor greyish pink, pink and grey bands. The rock is aphanitic and porphyritic. Feldspar phenocrysts are pink and up to 2 mm. in size. They are not as common or well illustrated as the 1-2 mm round quartz phenocrysts. The quartz crystals are surrounded by narrow pinkish-red reaction zones. The rock is finely fractured and the breaks are epidotized. The unit is moderately to strongly silicified and possibly weakly hematized.			
135	- 247 (112)		Diabase	Dark green, fine to medium grained, weakly chloritized. The rock is finely fractured and moderately to strongly epidotized locally. It is weakly to moderately magnetic. Fracturing occurs most noticeably at 135.5-137', 142.5-144.5' and at 148-162'. Some light green mottling is located in the zone from 143-147' and from 165-175'. Irregularly distributed 1 cm amygdules are found at 158-166'. The rock is intensely fractured and epidotized at 165-167'. 182.5-193' - possibly a quartz-feldspar porphyry - the rock is dark pinkish-red and aphanitic. Feldspar phenocrysts are pink, euhedral, unaltered and 1-4 mm in size. Quartz phenocrysts are rounded and up to 2 mm. in size. Abundant diabase fragments are located throughout this zone. They are rounded and up to 5 cm. in size. The rock is extremely hard and grades into standard looking diabase at the upper and lower "contacts". 193'-247' - Diabase - dark green, fine to medium grained. Weakly fractured at 203'-204' and from 213-247'. NOTE: This zone corresponds to zone 120.5-230' in JZ-7.			
247	- 252 (5)		Rhyolite	Dark pink to reddish pink, aphanitic and weakly porphyritic with 1 mm. round quartz phenocrysts. The rock is very finely fractured. The breaks are epidotized. The unit is silicified moderately and possibly very weakly hematized locally. 252' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-9
SHEET 1 OF 2

PROPERTY Cobequid III
LATITUDE 0+10N
LONGITUDE 7+25W
ELEVATION

BEARING—TRUE Vertical
DIP -90°
FINAL DEPTH 250'
CORE SIZE BQ

DATE STARTED 27 November, 1977
DATE COMPLETED 29 November, 1977
DRILLED BY St. Lambert
LOGGED BY A. Workman

DATE: 4 December, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	17		Overburden	Very blocky, bouldery, sand.			ACID DIP TESTS
							100' - 89°
17 -	122.5		Diabase	Dark green to dark greyish-green, fine to medium grained. Occasional			
	(105.5)			1-2 cm., light green, saussauritized, euhedral feldspar phenocrysts,			
				in the upper 50' becoming massive and equigranular in the zone 50'-			
				97.5'. The zone 97.5' - 120.5' is highly porphyritic with abundant			
				euhedral, weakly altered phenocrysts up to 1 cm. in size. They are			
				typically fractured or unevenly broken. Occasional rhyolite xenoliths			
				are located throughout the zone. The diabase is weakly to moderately			
				chloritized locally and very weakly uralitized locally.			
				40 - 42.5': rhyolite - brick red, aphanitic, weakly magnetic,			
				highly fractured, strongly silicified and hematized.			
				54.5 - 55.5': rhyolite xenolith - as above			
				57 - 58': rhyolite xenolith			
				73': abundant pyrite cubes - up to 3 mm.			
				88 - 97': altered zone in diabase - strongly chloritized and			
				epidotized, weakly uralitized.			
				95.5 - 96.5': absorbed rhyolite fragment			
				97.5 - 120.5: porphyritic diabase - light green and occasional light			
				pink, feldspar phenocrysts			
				120.5 - 122.5': becoming highly chloritized at contact			
122.5 -	132.5		Rhyolite	Dark pink to reddish pink, aphanitic, and porphyritic with numerous			
	(10)		Intrusive (?)	1-5 mm, euhedral feldspar phenocrysts and less common 1-2 mm. round			
				quartz phenocrysts. The quartz phenocrysts are surrounded by thin			
				reddish alteration halos. Some flow banding occurs locally at 45°	130.5	flow banding	45° to the C/A
				to the core axis. A 2-3 cm. rounded diabase fragment is located			
				near the lower contact.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-9

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
132.5	- 250 (117.5)		Diabase	Dark green to dark grey-green, fine to medium grained, weakly chloritized in fracture zones. Feldspar crystals present may be weakly saussauritized. The rock is weakly magnetic. The zone 148' - 182' is highly fractured. The breaks are strongly epidotized with some epidote mottling in the rock adjacent to the fracture zone.			
				185.5' - 192': possibly a quartz-feldspar porphyry - the rock is dark pinkish-red and aphanitic. Feldspar phenocrysts are pink, euhedral, unaltered and up to 1 cm. in size. Quartz phenocrysts are 1-2 mm. in size and rounded Abundant diabase fragments up to 1.5 cm. in size are found in the zone. The rock is very hard and grades into diabase at the upper and lower "contacts" through greenish-pink porphyritic diabase over 6-12 inches.			
				192' - 250': Diabase - dark green, fine to medium grained. The rock is moderately fractured. Epidotization and chloritization of fractures is common.			
				END OF HOLE: 250'			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-10
SHEET 1 OF 3

PROPERTY Cobequid III
LATITUDE 0+00 Base Line
LONGITUDE L.12+00W
ELEVATION

BEARING—TRUE 180° Az
DIP -45°
FINAL DEPTH 570'
CORE SIZE BQ

DATE STARTED 29 November, 1977
DATE COMPLETED 5 December 1977
DRILLED BY St. Lambert Drilling
LOGGED BY A. Workman

DATE: 9 December 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	26	casing	Overburden				ACID DIP TESTS
							0 - 45°
26 -	29.5						100' - 43°
	(3.5)		Rhyolite	Pink aphanitic rubble - possibly ground boulder			300' - 41.5°
							500' - 41.0°
29.5 -	83		Diabase	Dark green, fine to medium grained and locally porphyritic where			570' - 40.5°
	(53.5)			1-2 mm., pink feldspar phenocrysts are found. Chloritized amygdules			
				up to 3 mm. in size also dot the core. The rock is weakly chloritized.			
				Chloritization is stronger in magnetic zones near diabase contacts.			
				29.5 - 48' - typically textured, porphyritic diabase.			
				48 - 53.5' - pinkish porphyritic zone resembling quartz-feldspar			
				porphyry. Light pink to reddish pink, euhedral feldspar			
				phenocrysts up to 1.5 cm are common.			
				Numerous rounded diabase fragments up to 3 cm. in size			
				are scattered throughout this zone.			
				The rock is unaltered and very hard.			
				53.5 - 83' - typical porphyritic diabase.			
83 -	239.7		Rhyolite	Dark pinkish-grey with numerous pink to red zones. The rock is			
	(156.7)			aphanitic but becomes porphyritic locally with 1-3 mm., light pink			
				to cream coloured feldspar phenocrysts. A vague, contorted flow	139'	flow	45° to the core axis
				lamination is often indicated, and a dip of 45° relative to the		laminations	
				core axis can be abundant xenoliths of conglomerate. They were likely			
				ripped up from the basement sediments. The fragments are up to 2'			
				in size and consist of 3-4 cm. pebbles in a sandy matrix. Several			
				diabase dykes cut this unit. They are similar to other occurrences:			
				dark green, fine to medium grained and non porphyritic.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-10

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
83 -	239.7		Rhyolite	continued..			
	(156.7)			118 - 119.5': brick red rhyolite			
				119.5 - 122': quartz-pebble conglomerate			
				122 - 123': rhyolite			
				123 - 124': conglomerate			
				124 - 125.5: tectonically brecciated rhyolite			
				125.5 - 126: conglomerate			
				126 - 130.5': tectonically brecciated rhyolite			
				130.5 - 132': conglomerate			
				132 - 134.5': rhyolite			
				134.5 - 136.5': diabase			
				136.5 - 146.5': grey rhyolite			
				146.5 - 148': grey flow brecciated rhyolite - round 1-2 cm. fragments in a laminated matrix			
				148 - 181': greyish-pink and pink, locally porphyritic and vaguely laminated rhyolite			
				181 - 184.5': diabase			
				184.5 - 224': grey rhyolite with minor pink sections (202'-207', 218'-219') non-porphyritic and finely fractured			
				224'-224.5': diabase			
				224.5 - 225': pink rhyolite			
				225' - 226': diabase			
				226' - 239.7': rhyolite becoming pinker coloured			
239.7 - 271			Diabase	Dark green, fine grained and locally porphyritic with 1-5 mm. euhedral,			
	(31.3')			light green phenocrysts. The rock is moderately chloritized. Minor			
				finely disseminated pyrite is found locally.			
271 - 433			Conglomerate	Dark grey sandy matrix with light and dark grey pebbles up to 5 cm. in			
	(162')			size. Minor coarse grained sandstone sections are found locally within			
				the conglomerate. Pebbles in the upper part of this unit are quartz but			- samples -
				towards the base, pebbles are rhyolitic and pink. Pyrite and minor			
				chalcopyrite is found in the matrix as disseminated blebs up to 1 mm. in		#3392	290.5'-292.5'
				size and in amounts approaching 2-3% locally. The unit becomes very mafic,			
				cherty and vaguely foliated in the basal 20'. The basal contact cuts the		#3391	304'-306'
				core axis at 30°.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-10

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				The basal contact cuts the core axis at 30°. Some diabase has been intruded into this unit at numerous locations. The diabase is dark green and fine to medium grained. The dykes are located at:	433'	Contact	30° to C/A
				279'-290.5': includes conglomerate zenolith at 282'-283'			
				292'-293.5'			
				300.5'-302'			
				312'-314.5'; 361.5'-362'; 364'-365' and 369'-372'			
	433' - 507.5' (74.5')		Rhyolite	Medium grey becoming pink locally near diabase, aphanitic and porphyritic. Pink, euhedral, 1-2 mm. feldspar phenocrysts are common. The rock is chloritized, fractured and silicified. Some flow breccia is found over short intervals (eg. 476'-477'). Abundant fine to very finely disseminated chalcopyrite and pyrite is found in this unit. Diabase frequently cuts this zone. It is dark green, fine to medium grained and often porphyritic.			
				441.5'-445.5': diabase			
				466'-475': porphyritic diabase, 1-5 mm., light green, euhedral feldspar phenocrysts - probably weakly sausauritized			
				494.5'-496': porphyritic diabase as above			
	507.5' - 545' (37.5')		Diabase	Dark green to grey-green, medium grained with abundant finely disseminated pyrite. The rock is un-altered but fractures are strongly chloritized.			
	545' - 570' (25')		Rhyolite	Pink to greyish-pink, aphanitic and porphyritic. Euhedral 1-3 mm. fractured feldspar phenocrysts are common. The rock is weakly chloritized and moderately to highly fractured. Near diabase, the rock is moderately silicified and pinker coloured. The rhyolite becomes weakly sericitized in the zone 563'-570'. Diabase is found at 555'-556.5'.			
				570': End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-11
SHEET 1 OF 5

PROPERTY Cobequid III
LATITUDE 4 + 00 N.
LONGITUDE 7 + 00 W.
ELEVATION

BEARING—TRUE 180° Az
DIP -45°
FINAL DEPTH 471'
CORE SIZE BQ

DATE STARTED 1 December 1977
DATE COMPLETED 8 December, 1977
DRILLED BY St. Lambert Diamond Drilling Co
LOGGED BY A. Workman

DATE: 11 December 1977 SIGNED A. Wabman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	0' - 20'		Overburden	~~Very bouldery sand - core recovery may not start until 22'~~			~~Acid Dip Test~~ ~~0' - 45°~~
	20' - 83.5' (63.5')	61.5'	Rhyolite	Pinkish-grey with dark pink mottling becoming greyish-pink with depth. The rock becomes dark reddish-pink within 20' of diabase dyke, (eg.67'-83.5'). The rock is uniformly aphanitic and weakly to moderately well flow laminated. The bands consist of narrow 1-2 mm. reddish-pink stripes on a dark grey background. They cut the core axis at an average of 45°. Finely disseminated pyrite is found throughout the zone. The rock is finely fractured and silicified, and the reddish zone are weakly hematized. The unit is frequently cut by diabase dykes. They are dark green, fine to medium grained and weakly to moderately magnetic. The diabase is chloritized at contacts and fractures are epidotized. Less altered rock displays good ophitic texture. 20'-45': grey, laminated rhyolite 45'-64.5': greyish-pink to pink with minor orange altered zones. (eg. 57-58') 64.5'-67': Diabase - moderately chloritized 67'-83.5': greyish pink to reddish pink rhyolite with minor brick red zones; strongly epidotized locally.	30' 56' 71'	flow lamination flow flow lamination	100' - 41° 300' - 42° 450' - 40.5° 45° to C/A 40° to C/A 45° to the C/A
	83.5' - 111' (27.5')		Diabase	Dark green, fine to medium grained, moderately magnetic numerous fine epidotized fractures. An orange, epidotized rhyolite zenolith is located at 110-110.5'.			
	111' - 195' (84.5')	5'	Rhyolite	Dark burgundy-red with minor orange altered zones and red seams. The rock is aphanitic. The unit is finely fractured and fractures near diabase dykes are moderately epidotized. Numerous diabase dykes cut the unit. They are typically dark green and fine to medium grained. Chlorite alteration is strongest along contacts.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-11

SHEET 2 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
111'	111' - 195' (84.5')	5'	Rhyolite	continued..... 111'-119.5': Minor brick red mottling in rhyolite, flow laminated locally at 10°-15° to the core axis. 119.5'-123.5': Diabase 123.5'-126.5': Moderately fractured and epidotized rhyolite 126.5'-129': Diabase 129'-131.5': Burgundy rhyolite - some orange altered zones highly fractured and epidotized. 131.5'-134': Diabase 134'-193.5': Well laminated at 40° to the core axis with abundant finely disseminated pyrite along the flow bands. The rock is generally dark grey with numerous reddish-pink hematized and silicified zones. Some flow breccia is found locally - (eg. 140' and 183'-193.5'). The zone 152.5'-153' is strongly epidotized and weakly kaolinized. 193.5'-194.5': Diabase 194.5'-195.5': Greyish-pink rhyolite.			
	195.5' - 236' (40.5')		Rhyolite	Pink to dark pink, aphanitic and porphyritic. Euhedral, light pink, 1-4 mm. feldspar phenocrysts and rounded 1-2 mm. quartz phenocrysts are common. Quartz phenocrysts are surrounded by thin reddish-pink reaction halos. The unit is weakly fractured. Fractures are frequently epidotized. Minor tectonic breccia occurs locally, usually near diabase occurences. These dykes are similar in texture, colour and grain size to those in the upper hole. 195.5'-196.5': Dark pink, porphyritic, rhyolite 196.5'-197.5': Diabase 197.5'-221': Dark pink, porphyritic, becoming very dark pink from 219' to 221'. Diabase is found at 215.5'-216' and a 1" seam at 217'. 221'-229.5': Diabase - abundant 1-2 mm. chloritized amygdules. the intrusive contact cuts the core axis at 45°. 229.5'-236': Dark pink, porphyritic rhyolite.	221'	Contact	45° to C/A

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-11

SHEET 3 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	236'-244' (8')		Diabase	Dark green, fine grained, non-amygdaloidal, moderately to strongly chloritized.			
	244' - 329.5' (85.5')		Rhyolite	Alternating zones of dark pink to brick red, and pinkish-grey uniformly aphanitic rock. Reddish zones are highly fractured and grey zones may be less fractured. The grey zones have irregular, hazy, light pink bands locally. The rock may become porphyritic locally. Feldspar and quartz phenocrysts up to 2 mm. in size are found in the zone 283.5'-301'. The rock is silicified to a varying degree.			
				244'-253': Red to dark pink rhyolite with minor grey mottling.			
				253'-269': Grey rhyolite with minor dark pink			
				269'-283.5': Red to rinkish red; becoming vaguely flow laminated at 270' cutting the core axis at 35°.	270'	flow lamination	35° to the core axis
				283.5'-285.5': Grey, porphyritic rhyolite			
				285.5'-291': Red to pinkish-red, porphyritic rhyolite - thin red reation halos surround quartz phenocrysts.			
				291'-301': Pinkish grey to grey with minor 1" red halos around fractures. The rock is laminated locally at 40° to the core axis. The zone is weakly porphyritic.			
				301'-322': Red to pinkish-red rhyolite with some grey zones. The interval, 318'-319' is intensely fractured.			
				322'-329.5': Grey to pink with irregular convolute red bands. Fractures are epidotized and are typically surrounded by red "reaction" halos. The grey zones are well laminated at 30° to the core axis. Laminations are cut off at 328' by a fault cutting the core axis at 40°. The rock from 328'-329.5' is intensely tectonically brecciated.	327'	flow laminations	30° to the C/A

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-11

SHEET 4 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	329.5' - (12.5')	342'	Diabase	Dark green, fine to medium grained and porphyritic. Abundant light green, sausauritized feldspar phenocrysts up to 5 mm. in size speckle the rock. The diabase is weakly magnetic. 329.5'-332.5': porphyritic diabase 332.5'-339.5': possible quartz-feldspar porphyry. Light pink, zoned feldspar phenocrysts up to 1.5 cm. in size are set in a fine grained to aphanitic, reddish-pink matrix. Diabase fragments are common. They are typically round, dark green and vary in size up to 4 cm. 339.5'-342': Porphyritic diabase			
	342'-394' (52.5')	5'	Rhyolite	Dark grey to dark pinkish-grey, aphanitic and vaguely flow laminated locally, (eg. 385') at 30°35° to the core axis. The rock is epidotized along fractures. Numerous zones of tectonic breccia are located throughout the unit, (eg. 357'). Minor red to pinkish red zones occur over short intervals (eg. 354'-356' and 361'-363'). The unit becomes reddish in a 4' zone bordering the diabase at 394.5. The rock in this zone is strongly brecciated and epidotized.	385'	flow lamination	30° to the C/A
	394.5'-409' (14.5')		Diabase	Dark green, fine to medium grained, moderately chloritized. Minor finely disseminated chalcopyrite and graphite are found throughout the zone.			
	409'-420' (11')		Rhyolite	Dark pink to reddish pink, aphanitic and possibly porphyritic locally. Some chloritized amygdules, up to 2 mm. in size dot the unit locally. The rock is highly fractured and tectonically brecciated over short intervals, (417'-420') Fractures are epidotized and some localized kaolinization may be present.			
	420'-445' (25')		Rhyolite	Dark grey, aphanitic and strongly tectonically brecciated. Numerous red fracture zones are caused by red halos surrounding individual fractures. The matrix to the angular fragments is mylonitic locally and kaolinized. Towards the base of the unit the rock is less brecciated.			Zone 440'-450' has 10-15% core loss

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-11

SHEET 5 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	445'-471' (26')		Rhyolite	Grey to pinkish-grey, aphanitic and porphyritic locally. Feldspar phenocrysts, up to 1 cm. in size are fractured weakly kaolinized and set in a laminated matrix. The flow lamination is locally developed (448') and dips 40°-45° to the core axis. Numerous red to pinkish-red zones occur along the flow laminations. Some vague light pink mottling is found locally (452'). It may reflect partially absorbed flow breccia fragments. The unit becomes more fractured towards the base of the hole. At 467' the rock becomes pink to reddish-pink aphanitic and non-porphyritic.	448'	flow lamination	40° to the C/A
				471' End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-12
SHEET 1 OF 2

PROPERTY Cobequid III
LATITUDE 8 + 80 N
LONGITUDE 7 + 00 W
ELEVATION

BEARING—TRUE 180° AZ
DIP -45°
FINAL DEPTH 348'
CORE SIZE BQ

DATE STARTED 8 December, 1977
DATE COMPLETED 13 December, 1977
DRILLED BY St.Lambert Diamond Drilling
LOGGED BY A. Workman

DATE: 19 December, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 18	0	Casing	Overburden				Acid Dip Tests
							0' - 45°
18 -	36.5' (18.5')		Broken Bedrock	Zone includes several boulders (?) and two small sections of sand			100' - 42°
							300' - 40.5°
36.5 - 135.5	(99')		Rhyolite	Light greenish grey becoming medium grey with depth. The rhyolite is rusty pink coloured in the presence of diabase. The rock is aphanitic and weakly foliated locally. The foliation resembles flow banding.	39'	foliation	40° to the core axis
				Small elongated chloritized amygdules we found along the laminations. The rock is strongly fractured locally (40'-46'). The rhyolite is pink coloured where strongly fractured. Diabase is found locally. It is commonly dark, green, fine to medium grained and chloritized.			
				50'-70': flow breccia - fragments of varying composition up to 1 cm. and matrix is foliated and very siliceous. Breccia becomes tectonic locally. Breccia fragments become indistinct in the lower part of this zone.			
				55'-56': Diabase Carries small rhyolite fragments			
				81'-86': Diabase - very dark green to black, strongly chloritized.			
				86'-90': pinkish grey, brecciated rhyolite			
				90'-93': Diabase			
				93'-114': Light grey, (rusty pink near diabase) rhyolite, aphanitic with some flow breccia locally - round, vague, siliceous fragments. Flow laminated locally. Abundant finely disseminated pyrite and minor chalcopyrite locally. Fractures near diabase are rusty.	102.5	flow lamination	45° to the core axis
				114'-135.5': Alternating light grey, non-fractured rhyolite with rusty yellow and pink fractured rhyolite well laminated locally: Narrow chloritized seams carry up to 50% pyrite.	119.5	flow lamination	30° to the C/A

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-12

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
135.5'	- 214.5' (79')		Diabase	Dark green to blackish-green, fine grained. The zone 188.5' - 194.5' is strongly porphyritic. Light green, moderately sausauritized, euhedral Feldspar phenocrysts up to 1 cm. in size occupy 50-75% of the rock. The rock is moderately to strongly (locally) magnetic. The contact margins are moderately chloritized. Overall alteration is weak. Weak uralitization of pyroxene is common.			
214.5'	- 348' (133.5')		Rhyolite	Reddish pink to brick red with minor grey zones. The rock is aphanitic and non-porphyritic. Some flow breccia is present locally. Fracturing is moderately developed near diabase and breaks near the intrusives are epidotized and occasionally chlor-tized.			
				214.5'-233': Grey rhyolite with abundant pink zones and minor flow breccia Diabase at 226'-227'			
				233'-246': Reddish-pink rhyol-te			
				246'-254.5': Diabase			
				254.5'-259': Red rhyolite becoming brick red at contacts highly silicified, weakly hematized.			
				259'-262.5': Diabase - rhyolite zenoliths at lower contact			
				262.5'-271': Dark grey rhyolite			
				271'-274': Cream to brick red, intensely fractured rhyolite.			
				274'-275.5': Diabase			
				275.5'-277': Brick-red rhyolite.			
				277'-278': Diabase			
				278'-325': Brick red rhyolite with minor reddish-pink zones, aphanitic, highly silicified, weakly hematized: abundant strongly chloritized seams.			
				325'-332': Brick red becoming pinkish-red, tectonically brecciated and strongly epidotized, intensely fractured - highly silicified.			
				232'-238': Diabase - rhyolite zenolith at 334'-335'			
				338'-348': Reddish-pink, highly fractured, strongly silicified rhyolite, some epidotized fractures and chloritized seams.			
				348': End of hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-13
SHEET 1 OF 1

PROPERTY Cobequid III
LATITUDE 12 + 80 N.
LONGITUDE L.4 + 00 W.
ELEVATION

BEARING—TRUE 000° AZ
DIP - 45°
FINAL DEPTH 141' - in overburden
CORE SIZE BQ

DATE STARTED 13 December, 1977
DATE COMPLETED 17 December, 1977
DRILLED BY St. Lambert Drilling Co Ltd.
LOGGED BY A. Workman

DATE: 19 December, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
				Hole was cased to 136'			
				Drill rods were run ahead to 141' and no bedrock in hole to that depth.			
				Drill was unable to turn casing at this depth due to lack of power.			
				Hole terminated.			
				Casing left in ground.			
				A. Workman			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-15
SHEET 1 OF 3

PROPERTY Cobequid III
LATITUDE 1 + 10 N
LONGITUDE 7 + 00 W
ELEVATION

BEARING—TRUE Vertical
DIP - 90°
FINAL DEPTH 333'
CORE SIZE BQ

DATE STARTED 5 December, 1977
DATE COMPLETED 9 December, 1977
DRILLED BY St. Lambert Diamond Drilling
LOGGED BY A. Workman

DATE: 12 December, 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				Acid Dip Tests 0' - 90° 100' - 90° 260' - 89°
15' - 79' (64')			Rhyolite	Grey to pinkish-grey with numerous pink intervals, aphanitic and porphyritic locally. Feldspar phenocrysts are usually pink, and up to 2 mm. in size. Quartz phenocrysts are vaguely defined and are not common. Pink zones are more highly fractured and the core is commonly ground. Some uranium stain is present on fractures from 20'-27'. The rock is moderately fractured overall and variably silicified. Numerous diabase dykes cut this unit. They are typically dark green, fine to medium grained and weakly to moderately chloritized.			the zone 15-20' is badly ground and recovery is poor 25'-30': averages 300 cps
				15'-18': core badly ground			
				18'-20': grey, porphyritic rhyolite			
				20'-27': pink and grey, hematized, silicified rhyolite. Core badly ground.			
				27'-30': grey rhyolite			
				30'-34': alternating medium grey and pink rhyolite			
				34'-41': diabase			
				41'-46': grey and pink becoming brick red at 41' (intrusive contact)			
				46'-50': diabase			
				50'-52.5': pinkish-grey porphyritic rhyolite - possible zenolith			
				52.5'-68': diabase			
				68'-70': pinkish grey rhyolite			
				70'-72': diabase			
				72'-77': pink to greyish pink rhyolite, porphyritic - 1-2 mm. qtz. phenocrysts			
				77'-79': diabase			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-15

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	79' - 112' (33')		Rhyolite	Pink to red with minor greyish-red and brick red zones. Very dark red zone are located adjacent to diabase. The rock is aphanitic and non-porphyritic. The rhyolite is highly fractured locally. Fractures are strongly epidotized and may be breccia-filled. Some indistinct flow lamination is found locally)eg.108') at 30°-40° to the core axis. Minor disseminated pyrite and chalcopyrite is found locally	108'	flow lamination	35° to the core axis
	112' - 123' (11')		Diabase	Dark green, fine to medium grained, weakly chloritized and uralitized. Abundant pyrite cubes up to 2 mm.			
	123' - 151.5' (28.5')		Rhyolite	Pink to red, to pinkish-grey, aphanitic and porphyritic. Quartz phenocrysts up to 2 mm. in size are round and surrounded by thin pinkish-red reaction halos. Some vague feldspar phenocrysts may be found locally. Within strongly porphyritic zones, the rock often appears spherulitic. The rock is moderately fractured. Locally the degree of fracturing may be quite high. The fractures are frequently surrounded by pink altered halos. The rock is strongly silicified and weakly hematized. Minor disseminated pyrite and magnetite is found near the lower contact with diabase. The lower contact is strongly bleached and kaolinized.			
	151.5' - 193' (41.5')		Diabase	Dark green, medium grained and porphyritic. Pink to light green 1-5 mm. feldspar phenocrysts are common. The feldspar crystals are weakly to moderately sausauritized. Pyroxene crystals are moderately uralitized. The upper contact is very fine grained and strongly chloritized. The lower contact is medium grained and flooded with feldspar from the rhyolite.			
	193' - 274' (81')		Rhyolite	Brick red to reddish pink with minor pinkish-grey sections becoming lighter coloured with depth zones near diabase contacts are generally darker coloured. The rock is aphanitic and non-porphyritic. Minor 1-3 mm. chloritized amygdules dot the core but become smaller in lower zones. The rock is moderately fractured and becomes strongly fractured to mylonitic locally. The rock is strongly silicified and weakly to moderately hematized.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-15

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	193' - 274' (81')		Rhyolite	193'-221': brick red to reddish-pink, strongly fractured in zones 211'-214' and 219'-221'. Contains a strongly chloritized diabase (?) seam at 193.5'-194'			
				221'-225': Diabase - dark green, fine to medium grained porphyritic - 1 cm. euhedral pink feldspar phenocrysts at 223'-224'			
				225'-229': brick red rhyolite - highly fractured, strongly silicified and hematized			
				229'-235': Diabase - medium to dark green, porphyritic feldspars are strongly sausauritized and of unknown size. Pyroxenes are strongly uralitized.			
				235'-274': Brick red to pink with minor grey seams. Some vague flow lamination may be present locally. Moderately to strongly fracted and strongly silicified. Numerous strongly chloritized seams are located at 258'-259', 261'-262' and 269'-270'. Some uranium stain may be present locally on fractures.			the zone 250'-270' averages 300 cps. peak of 470 cps. at 270'
	274' - 285.5' (11.5')		Diabase	Dark green, fine to medium grained, weakly chloritized. Abundant chloritized 1 mm. amygdules.			
	285.5' - 333' (47.5')		Rhyolite	Reddish-pink becoming pinkish-grey to grey at the base of the hole. The rock is aphanitic and porphyritic with 1-2 mm. round quartz, and euhedral feldspar phenocrysts. The unit is indistinctly flow lamination near the top and becomes well laminated at the base. Abundant finely disseminated pyrite is found along the laminations. The rock is strongly fractured locally. Fractures are surrounded by thin cream coloured reaction halos.	333'	flow lamination	45° to the C/A
				333' End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-16
SHEET 1 OF 3

PROPERTY Cobequid III
LATITUDE 0 + 75 N.
LONGITUDE 7 + 00 W
ELEVATION

BEARING—TRUE Vertical
DIP - 90°
FINAL DEPTH 311'
CORE SIZE BQ

DATE STARTED 9 December, 1977
DATE COMPLETED 11 December, 1977
DRILLED BY St. Lambert Drilling Co.Ltd.
LOGGED BY A. Workman

DATE: 14 December, 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				Acid Dip Tests
							0' - 90°
20'	- 136'		Rhyolite	Grey with pink mottling with numerous orange and brick red altered zones.			100' - 89°
	(116)			The rock becomes brick red in zones adjacent to some diabase contacts,			310' - 89°
				(eg.21.5'-22.5'). The unit is aphanitic becoming locally porphyritic.			
				Feldspar phenocrysts are light green and up to 3 mm. in size. The rock			
				is vaguely laminated locally but may be well laminated over very short			
				intervals, (109.5'). The rock is moderately fractured. Breaks are			
				frequently surrounded by orange alteration halos. This is most noticeable			
				in zones of grey rhyolite (30'-35'). Some zones near diabase dykes			
				are intensely fractured and strongly epidotized. The rock is highly			
				silicified and hematized to a varying degree - highest in brick red zones.			
				Diabase frequently intrudes the rhyolite. It is typically dark green,			
				fine to medium grained, weakly magnetic, weakly chloritized and, in			
				some cases, uralitized and sausauritized.			
				20'-25': Diabase			
				25'-39': Grey rhyolite: core badly ground			
				39'-49.7': Diabase: intensely fractured at 41'-42'			
				49.7'-54': Orange to brick red rhyolite - intensely fractured and strongly epidotized.			
				54'-57.5': Diabase			
				57.5'-73.5': Grey rhyolite with abundant orange altered zones - possibly some flow breccia.			
				73.5'-82.5': Diabase - porphyritic; carries rhyolite and mafic, fragments up to 1 cm. in small zone (79'-82.5') at base			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-16

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
20	- 136' (116)		Rhyolite	continued;			
				82.5'-94.5': Greyish pink to pink rhyolite with minor red zones, aphanitic. The zone is flecked with abundant 1-2 mm, chloritized amygdules. The rock is moderately fractured and weakly epidotized on fracture surfaces, and is strongly silicified and weakly hematized.			
				94.5'-98': Diabase and rhyolite mixture - strongly chloritized.			
				98'-106.5': Pink to pinkish red, strongly fractured rhyolite. Fracture surfaces are epidotized and the rock becomes strongly tectonically brecciated at 106'.			
				106.5'-110.5': Brick-red rhyolite, well laminated locally, massive, few fractures very strongly silicified and moderately to stronly hematized.	109.5	flow lamination	- 10° to the core axis
				110.5'-113.5': Diabase			
				113.5'-117.5': Brick-red rhyolite near diabase, flow laminated locally. strongly silicified and hematized.			
				117.5'-134.5': Pink rhyolite becoming greyer with depth; porphyritic with 1-2 mm., round quartz phenocrysts and 2-3 mm, euhedral, pink feldspar phenocrysts. Pink reaction halos and found around phenocrysts in the centre section of the zone but the greyer rock lacks the halos.			
				134.5'-136': Remelted rhyolite and diabase mixture			
136'	- 246.5' (110.5')		Diabase	Dark green, fine to medium-grained, moderately chloritized along contacts and variably uralitized throughout. Fracturing is weak becoming strong locally (205'-206') and breaks are strongly epidotized. The unit is frequently porphyritic. Feldspar phenocrysts up to 1 cm in size are euhedral, light green and weakly sausauritized.			
				207'-232': Porphyritic zone - 1 cm feldspar phenocrysts			
				232'-233.5': Porphyritic zone above cut off by later intrusive surge - strongly chloritized.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-16

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	136' - 246.5' (110.5')		Diabase	continued: 233.5'-236.5': Feldspar porphyry zone: dark pinkish red, with pink feldspar phenocrysts up to 6 mm. in size in an aphanitic, very siliceous matrix. Diabasic fragments up to 5 cm. are scattered throughout the zone. 236.5'-246.5': Weakly porphyritic diabase			
246.5'	- 276' (29.5')		Rhyolite	Dark pink to brick red rhyolite with dark grey mottling in narrow seams. Rock may originally have been grey. Some small 1-2 mm. amygdules are located irregularly throughout the unit and are strongly chloritized. The unit is aphanitic. The rhyolite is very strongly silicified and moderately to strongly hematized. Fracturing is moderate locally.			
276'	- 298' (22')		Diabase	Dark green, fine to medium grained. The rock is weakly to moderately (at contacts) chloritized. Amygdules up to 2 mm. in this unit are strongly chloritized. Fractures are strongly epidotized. Numerous 1-4 mm. blebs of pyrite are scattered throughout the diabase.			
298'	- 311' (13')		Rhyolite	Pinkish grey to brick-red locally, (308.5'-309.5') aphanitic, and flow laminated locally (300') at 45° to the core axis. The rhyolite is moderately fractured, some zones are intensely tectonically brecciated (303'-306'). The rock is strongly silicified.	300'	flow laminated	45° to the c/a
				311': End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-17
SHEET 1 OF 2

PROPERTY Cobequid III
LATITUDE 1 + 25 N.
LONGITUDE 4 + 00 W.
ELEVATION

BEARING—TRUE 180° AZ
DIP - 45°
FINAL DEPTH 358
CORE SIZE BQ

DATE STARTED 11 December, 1977
DATE COMPLETED 13 December, 1977
DRILLED BY St. Lambert Drilling Co.Ltd.
LOGGED BY A. Workman

DATE: 16 December, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
							Acid Dip Tests
	0' - 16'		Overburden				0' - 45°
							100' - 41°
	16' - 303' (287')		Diabase	Dark green to very dark green, medium grained, orhitic textured, weakly to locally moderately magnetic, and strongly chloritized at surface becoming very weakly chloritized lower. Fractures are clustered with zones of non-fractured rock between moderately fractured intervals. Breaks are strongly epidotized and carbonated. Weak uralitization of pyroxene is widespread. Light green mottling is caused by spotty epidotization. The rock is locally porphyritic (eg. 122'-130') and euhedral, light green, occasionally shattered feldspar phenocrysts are weakly sausauritized. The diabase includes a dark pink, porphyritic rhyolite zenolith at 116'-120.5'.			358' - 40.5°
				277.5'-286.5': Feldspar porphyry - pinkish red, aphanitic and porphyritic with 1 cm., pink unaltered feldspar phenocrysts. Diabase fragments are common in this zone. They are well rounded and up to 3 cm. in size.			
				286.5'-303': porphyritic diabase carries several rhyolite zenoliths in the zones 289'-292.5' and 294.5' - 296.5'. The diabase is very weakly porphyritic.			
	303' - 358' (55')		Rhyolite	Dark pink, aphanitic, locally porphyritic with indistinct 1 mm. round, quartz phenocrysts. The rock may be weakly hematized. Moderate fracturing becomes very strong locally. Fractures are strongly epidotized and epidotized blebs up to 2 cm. are found locally. An intensely fractured and moderately kaolinized zone is located at 303'-310'.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-17

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	303' - 358' (55')			continued..... 323'-325': Diabase - strongly chloritized 355'-358': Flow brecciated rhyolite -- rounded light pink fragments up to 1 cm. in a foliated siliceous aphanitic matrix. 358': End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-18
SHEET 1 OF 3

PROPERTY Cohequid III
LATITUDE 0 + 15 S.
LONGITUDE 7 + 00 W.
ELEVATION

BEARING—TRUE 000° AZ
DIP - 77°
FINAL DEPTH 453'
CORE SIZE BQ

DATE STARTED 13 December, 1977
DATE COMPLETED 16 December, 1977
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. Workman

DATE: 18 December, 1977 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	0' - 21'		Overburden				Acid Dip Tests 0' - 77° 100' - 76° 300' - 75.5° 450' - 76°
	21' - 45' (24')		Rhyolite	Brick-red to pinkish red, aphanitic, with fine 1 mm. chloritized blebs and some strongly chloritized seams throughout the unit. The rock is intensely silicified and strongly hematized.			
	45' - 125' (80')		Diabase	Dark green, fine to medium grained, strongly chloritized at contacts, interior of intrusive is weakly altered. The rock is weakly magnetic and weakly uralitized. Fractures are epidotized and wider breaks up to 1 cm. are filled with quartz and epidote. Small intervals may be strongly fractured (112'-114'). The diabase dyke carries brick red rhyolite zenoliths at 48'-49' and 50'-51'			
	125' - 146.5' (21.5')		Rhyolite	Reddish-pink, aphanitic and porphyritic with euhedral, pink feldspar phenocrysts up to 4 mm. and round quartz phenocrysts up to 3 mm. in size. The quartz phenocrysts are commonly surrounded by thin pink reaction halos. The rock is moderately silicified and weakly hematized. The rhyolite is strongly fractured locally. Fractures are epidotized and some intensely broken zones (135-136') are orange coloured with green fractures. The unit includes a zone at 125'-128' where the rhyolite has been re-melted by the diabase, and a colour gradation from diabase to rhyolite is located here.			
	146.5' - 274' (127.5')		Diabase	Dark to very dark green, with light green mottling produced by spotty epidotization. Epidote also is found in zones on and paralleling fractures. The rock is weakly fractured and moderately chloritized near the contacts. Weak uralitization of pyroxene is widespread.			

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-18

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	146.5' - (127.5')	274'	Diabase	continued..... 146.5'-224.5': Diabase as above. 224.5'-228': Feldspar porphyry - reddish pink, aphanitic matrix with pink, euhedral, feldspar phenocrysts up to 5 mm. in size. The rock is unaltered and very hard. It contains abundant round diabase fragments up to 3 cm. 228' - 274': Diabase - typically coloured, textured and altered, (as above)			
	274' - 387.5' (113.5')		Rhyolite	Reddish-pink to greyish pink, minor brick red locally, and numerous orange altered zones and narrow seams. The rhyolite aphanitic with some flow lamination locally. The flow banding varies from highly contorted to regularly dipping at 45° to the core axis. The rock is strongly fractured. The break are epidotized and surrounded by orange altered halos. More strongly fractured rock is reddish-orange in colour. The rock is moderately silicified and weakly hematized. In the zone 289'-300', epidotization along seams may reflect the attitude of the flow lamination at 45° to the core axis. Abundant disseminated pyrite is found locally (eg. 300')	285'	flow lamination	45° to the C/A
				~~345': flow banding consists of 1 cm. layers of thinly laminated rhyolite alternating with flow brecciated rhyolite - dip at 50° to the core axis.~~	~~345'~~	~~banding~~	~~45° to the C/A~~
				349'-355': light cream to pink altered zone, micro-faulted and flow laminated.	353'	flow lamination	50° to the C/A
				365'-370': flow breccia - 1-2 mm. elongated fragments in a laminated, siliceous matrix			
				368'-387.5': brick red, aphanitic, strongly silicified and moderately hematized rhyolite is invaded by numerous chloritized diabase seams. The rock is flow laminated locally at 35° to the core axis (385'-386')	385.5'	flow lamination	35° to the C/A

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-18

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
	387.5' - (41')	428.5'	Diabase	Dark to very dark green, fine to medium grained and porphyritic. Light green, euhedral feldspar phenocrysts up to 1 cm. in size are weakly sausauritized. The rock is weakly fractured, chloritized and epidotized. Pyroxenes are weakly uralitized locally.			
	428.5' - (24.5')	453'	Rhyolite	Brick red and reddish-grey with some brick red seams in grey zones. The rock is aphanitic and porphyritic. Euhedral, dark pink feldspar phenocrysts up to 3 mm. are common, particularly in the centre section of this unit. The rock is vaguely flow laminately locally. The flow banding at 446'-448' is highly contorted. Some flow breccia is present in this banding. It consists of 1.5 cm. rounded, elongated fragments in a foliated matrix. Fragments and matrix are very close in rhyolitic composition.			
				453' End of Hole			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-19
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 3 + 50S
LONGITUDE 6 + 75W
ELEVATION

BEARING—TRUE 180° Az
DIP -45°
FINAL DEPTH 223.1'
CORE SIZE BQ

DATE STARTED 22 August, 1978
DATE COMPLETED 24 August, 1978
DRILLED BY St. Lambert Drilling Co. Ltd
LOGGED BY A. W. Workman

DATE: 26 August, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	24.6		Overburden				ACID DIP TESTS
24.6 -	161.3		Diorite	The rock is dark green, fine to medium grained and porphyritic locally.			-98': -45°
	(136.7)			Feldspar phenocrysts up to 10 mm. are light green as a result of			-223': -42.5°
				sausauritization and are usually euhedral. The intrusive is weakly			
				to moderately fractured. At 55.3' the core is ground but it is			
				believed that the diorite grades into a porphyritic zone which is light			
				reddish-pink to pinkish-red. An aphanitic siliceous matrix surrounds			
				1-4 mm. red euhedral feldspar phenocrysts and 1-3 mm. white, round			
				quartz phenocrysts. Epidotized fractures are moderately developed.			
				Locally, chloritized clots dot the core. At 66.4' the rock is			
				gradational back into a dark green, fine to medium grained, non-			
				porphyritic diorite. With depth the diorite becomes porphyritic.			
				Towards the base of this unit, pink felsic zones are found - possibly			
				reflecting absorbed rhyolite xenoliths.			
				24.6' - 53.3': diorite - porphyritic locally			
				55.3' - 66.4': porphyry - pinkish red, siliceous			
				66.4' - 67.3': gradational zone - porphyry to diorite			
				67.3' - 85.5': non-porphyritic diorite			
				85.5' - 88.6': porphyritic diorite - light green, 1-10 mm. feldspar phenocrysts			
				88.6' - 161.3': diorite - fine to medium grained, locally porphyritic with numerous felsic zones (eg. 118.7'-119.4'). The felsic patches are pinkish-red and strongly fractured.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 19

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
24.6'	- 161.3'		Diorite	continued			
				135.1' - 141.7': Porphyritic zone - pink feldspar phenocrysts up to 1.5 cm. are found in the centre of the unit. Rim alteration of feldspar is common. Outside the centre section, the phenocrysts are light green and smaller.			
				158.5' - 161.3': The rock contains numerous light pink, rounded felsic fragments.			
161.3'	- 189' (27.7')		Sediment	The rock is dark grey to black, dominately sandy conglomerate with minor sandstone. The unit is strongly silicified. Pebbles are rounded to angular and include granitic and rhyolitic varieties. The rock is moderately chloritized as a result of numerous diabase dykes cutting the zone. The unit may incorporate a small amount of felsic volcanic flow (e.g. 183.9'- 189').			
189'	- 223.1' (34.1')		Diorite	The rock is dark green, medium grained and weakly chloritized. Feldspars are light green and weakly sausauritized.			
				219.5' - 1" quartz vein.			
				223.1' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ - 20
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 5 + 55 S.
LONGITUDE 6 + 75 W.
ELEVATION

BEARING—TRUE 180° Az
DIP -45°
FINAL DEPTH 231.5'
CORE SIZE BQ

DATE STARTED August 24, 1978
DATE COMPLETED August 28, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 29, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-23.6	Ø		Overburden				ACID DIP TESTS
23.6	- 9.2'		Rhyolite	The rock is pink to greyish - pink, fine grained and porphyritic with 1-3 mm. pink to cream feldspar phenocrysts and 1-2 mm. white quartz phenocrysts. The rock is weakly to moderately fractured, and fractures are strongly epidotized and chloritized.			-98' : - 45.5° 230' : - 41°
32.8'	- 113' (80.2')		Diorite	The intrusive is dark green, fine to medium grained and mainly porphyritic . Euhedral, white to light green and occasionally pink feldspar phenocrysts up to 1.5 cm. in size are common. The degree of fracturing is variable from weak to moderate. Fractures are strongly epidotized wider breaks may contain white carbonate locally. A central zone from 61' - 72.2' is very porphyritic and siliceous. It is light pinkish-red in colour and contains dioritic fragments. It's contacts are gradational into porphyritic diorite. The entire unit is weakly magnetic. 49.2' : a felsic zone - 6" thick - possibly terminates at an intrusive contact at 49.1' 58.3' : scattered mafic amygdules up to 1 cm. 58.3'-61.0': medium grained, porphyritic with pink and light green feldspar phenocrysts up to 1 cm. 61.0'-72.2': pink, aphanitic to fine grained, porphyritic with pink, euhedral feldspar crystals up to 1 cm. and aggregates of crystals up to 2 cm. Porphyritic diorite fragments are common. They are dark green, rounded and up to 3 cm. in size They closely resemble rock in the zones (58.3'-61') and 72.2' - 75.5'.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-20

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
32.8'	- 113			72.2' - 75.5' : green diorite, fine to medium grained, porphyritic with pink feldspar phenocrysts up to 1 cm. The zone is strongly fractured.			
				75.5' - 87.6' : porphyritic diorite - feldspar phenocrysts are light green.			
				85.3' : rock becomes medium grained			
				91.9' - 92.4' : DIABASE - The intrusive is dark green, fine grained and strongly chloritized.			
				106' : the diorite trends towards a fine grained variety.			
113'	- 170.6' (57.6')		CRYSTAL TUFF	The rock is greyish - brown to dark grey, and appears to be very siliceous and hard. A fine grained to aphanitic matrix surrounds angular, 1-3mm. white light green and rusty - red shards and fragments. Non-white varieties show variable rounding. Occasionally fragments are up to 1 cm. in size. Locally some foliation to the fragments may be observed The rock is weakly to moderately fractured. Fractures are strongly epidotized.			
				113.5' : fragments are pinkish in a narrow zone near the upper intrusive.			
				118.3' - 119.8' : DIABASE - dark green, fine grained strongly chloritized - also 120.2'.			
				120.7' - 122.2' : pink, strongly epidotized.			
				169.5' : the rock becomes strongly broken; fractures are very crisp and angular - epidotized.			
170.6'	- 173.1' (2.5')		Contact Zone	The rock is strongly broken, chloritized and epidotized. It may be part of the underlying mafic intrusive.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ - 20

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
173.1'	- 231.5' (58.4')		Diorite	The rock is dark to medium green, fine to medium grained and weakly to moderately fractured. Fractures are strongly epidotized and occasionally chloritized. Voids are filled with white carbonate. The rock is weakly porphyritic locally with 1-3 mm. light green sausauritized feldspar phenocrysts. The rock is weakly magnetic.			
				173.1' - 198.5': dominantly fine grained.			
				198.5' : rock becomes medium grained and lighter coloured - feldspar content is probably higher.			
				206.7' : 10" strongly brecciated and epidotized zone.			
				217.2' : very weakly fractured to the base of the hole.			
				END OF HOLE: 231.5'			

GMC 1051 (09/78)

Gulf

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-21
SHEET 1 OF 4

PROPERTY Cobequid III
LATITUDE BL 0+00
LONGITUDE 12+00W
ELEVATION

BEARING—TRUE 90° Az
DIP -45°
FINAL DEPTH 439.6'
CORE SIZE BQ

DATE STARTED 28 August, 1978
DATE COMPLETED 1 September, 1978
DRILLED BY St. Lambert Drilling Co
LOGGED BY A. W. Workman

DATE: 2 September, '78 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	31.2'		Overburden				ACID DIP TESTS
31.2' -	39.4'						100': - 44°
	(8.2')		Diorite	The intrusive rock is dark green, fine to medium grained and porphyritic.			299': - 41.5°
				Feldspar phenocrysts are pink with thick light green alteration rims,			439': - 41.5°
				and are up to 1 cm. in size. Smaller crystals are completely green			
				as a result of sausauritization. The rock is weakly chloritized			
				and weakly fractured. Fractures are epidotized with white carbonate			
				filling more open voids.			
39.4' -	73'		Rhyolite	The rock is pinkish-grey, aphanitic and weakly porphyritic with			
	(33.6')			1-2 mm. red to orange feldspar phenocrysts. The rock is pink to			
				reddish-pink locally reflecting spotty alteration zones (eg. 41'- 42'			
				and 49.2'- 57.7'). The rhyolite is flow laminated over short	44.3'	flow	30° to the C/A.
				intervals at 25°-30° to the core axis, (eg. 40.8' and 44.3' - 48.2')	47.6'	banding	25° to the C/A.
				Fracturing is weak to moderate. Fractures are commonly surrounded			
				by red reaction halos.			
				39.4' - 49.2': pinkish-grey, porphyritic rhyolite			
				49.2' - 57.7': reddish-pink, weakly hematized rhyolite			
				57.7' - 64.1': Diabase - dark green, fine grained, moderately			
				chloritized and weakly fractured.			
				64.1' - 73': pinkish-red rhyolite - moderately fractured with red			
				halos around breaks. Fractures are epidotized and			
				chloritized.			
73' -	91.7'		Diorite	The rock is dark green, fine to medium grained and weakly porphyritic			
	(18.7')			with 1-5 mm. pink feldspar phenocrysts. The rock is moderately			
				chloritized and uralitized. It grades sharply into a pink, very			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-21

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
73' -	91.7'		diorite	continued.....			
				porphyritic, fragmental zone at 80.4'. The matrix is aphanitic and weakly chloritized, and surrounds light pink feldspar phenocrysts up to 2 cm in size. Dark green, round, dioritic fragments up to 3 cm. in size are common. The porphyritic section becomes brecciated and very strongly chloritized at 89.4'.			
				73' - 80.4': dark green, porphyritic diorite			
				80.4' - 89.4': pink, very strongly porphyritic fragmental			
				89.4' - 91.7': very strongly chloritized, porphyritic fragmental.			
91.7' -	110.1'		Rhyolite	The rock is greyish-pink, aphanitic and porphyritic with 1-3 mm. white			
	(18.4')			penetrated quartz phenocrysts and light pink, euhedral feldspar			
				phenocrysts of similar size. Epidotized fractures are moderately			
				developed. Wider more open fractures are carbonated and epidotized			
				and are surrounded by broad, red reaction halos.			
				91.7' - 93': Strongly broken and epidotized.			
110.1'-	125.2'		Diabase	The intrusive is dark green, fine grained, non-porphyritic and strongly			
	(15.1')			chloritized. It is weakly to moderately fractured. Fractures are			
				epidotized and chloritized with minor white carbonate. A rhyolite			
				xenolith is located at 119.8' - 121.2'.			
125.2'-	139.4'		Rhyolite	Reddish-pink to red, becoming grey locally, these rocks are aphanitic			
	(14.2')			and porphyritic. Quartz phenocrysts are up to 2 mm. in size. Cream			
				coloured, euhedral feldspar crystals are up to 3 mm. in size. Locally	126.8'	flow banding	15° to the C/A.
				the rock is weakly flow laminated at 15° - 20° to the core axis. At			
				some points the flow banding is sub-parallel to the core axis.			
139.4'-	149.7'		Diorite	The intrusive zone is dark green, fine to medium grained and porphyritic.			
	(10.3')			Pink fledspar phenocrysts are up to 8mm in size. Epidotized (with minor			
				white carbonate) fractures are weakly developed. The zone is			
				moderately chloritized and uralitized.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-21

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
149.7'-	225.8' (76.1')		Rhyolite	These rocks are grey becoming red and orange at 155.8' and then becoming grey below 163.2'. The rock is aphanitic and porphyritic. Pink and red feldspar phenocrysts are up to 3 mm. in size while white quartz phenocrysts are up to 1 mm. Locally, the rock is flow laminated at 10°-20° to the core axis. Phenocrysts are commonly found settled in the laminations producing load casts. Some flow breccia (?) may be found locally. Minor rounded red zones are found in otherwise grey rhyolite. However, these may reflect spotty alteration rather than fragments. The rhyolite is strongly fractured with quartz filling fractures locally. Light coloured reaction halos surround most fractures.			
				165': narrow, techonically brecciated zone with white carbonate			
				163.2'-176.8': grey zone, weakly flow laminated locally. Bands are discontinuous with some lensitic features (eg 170'). The zone carries some rhyolitic fragments up to 5 mm. in size - ignimbrite?			
				176.8'-179.5': cream to orange with minor red rhyolite; contains several well laminated zones, strongly fractured and epidotized.	179.1'	flow banding	30° to the C/A.
				179.5'-225.8': grey rhyolite with minor red seams and light green patches. These colour variations reflect spotty alteration. Flow banding is evident throughout the zone. Some laminations are discontinuous. This unit may contain minor flow breccia. Abundant kaolinized mylonitic seams are located at 186', and 187.9' - 188.7'.	209'	flow banding	30° to the C/A.
225.8'-	259.2' (33.4')		Diorite	The rock is dark green, fine grained, non-porphyritic and moderately chloritized. It is weakly fractured. Breaks are epidotized and coated with chlorite.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-21

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
259.2'-	325.3'		Rhyolite	The rock is greyish-pink, aphanitic and porphyritic with 1 mm. quartz			
	(66.1')			phenocrysts and 1-2 mm. red euhedral feldspar phenocrysts. The	264.9'	flow	20° to the C/A.
				feldspar crystals are centrally altered (to silica?) The zone	292'		20° to the C/A.
				is flow laminated. Individual band are discontinuous with some	306.8'	banding	parallel to the C/A.
				lensitic features (ignimbrites ?). Occasional fragments of	324.5'		0-5° to the C/A.
				"foreign" rock are found locally (eg 306.6'). The rock is strongly			
				fractured. Fractures are epidotized and silicified.			
325.3'-	428.2'		Diorite	The intrusive is dark green, medium grained becoming fine locally			
	(102.9')			(368.1'), weakly to moderately chloritized and weakly fractured.			
				It is porphyritic in a centrally felsic zone. Euhedral, generally			
				light green, feldspar phenocrysts are up to 8 mm. in size. Several			
				zones of pink feldspar seem to be related to intensely epidotized			
				fracture zones, (eg. 384') Rhyolite xenoliths are located at 331.7'-			
				335', 420' - 421', and 422.3' - 422.8'.			
				372.1 - 418.8': porphyritic, felsic diorite			
428.2'-	439.7'		Rhyolite	The rock is red to pinkish-red, aphanitic, non-porphyritic and may be			
	(11.5')			flow laminated locally. It is moderately fractured. Fractures are			
				strongly epidotized with minor chloritization and hematization. Overall,			
				the rock is probably strongly silicified.			
				439.7': END OF HOLE.			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-22
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 11 + 75 N.
LONGITUDE L 12 + 00 W.
ELEVATION

BEARING—TRUE 180° Az.
DIP -60°
FINAL DEPTH 438'
CORE SIZE BQ

DATE STARTED September 2, 1978
DATE COMPLETED September 8, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: September 10, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 146		Ø	Overburden				ACID DIP TESTS:
146 - 280 (134)			Rhyolite ?	The rock is dark to medium grey with light grey bands becoming pink locally, particularly near mafic intrusives. It is very fine grained to aphanitic. The bands represent bedding (?) which locally may be lensitic and discontinuous (e.g. 147'). The rock is variably fractured and may be brecciated locally (e.g. 168.6'). Frequently, the bands are broken with non-laminated material forming a matrix to large banded fragments up to 4 cm. in size, (e.g. 214.9'-234.6'). The rock is weakly magnetic. Some dark coloured bands are moderately to strongly magnetic. The zone is moderately fractured although it is strongly fractured near mafic intrusives. Locally, the rock may be mylonitic. Fractures near intrusives are hematized and chloritized. Some voids are white carbonate filled. Very finely disseminated pyrite is found along some bands, often in the more highly magnetic occurrences. Minor chalcopyrite is found to accompany pyrite. Graphite is common as 1-2 mm. flakes on some fracture surfaces. Total sulphide and graphite content may be up to 2% locally.			98': -59° 384': -60°
					147'	Bands	40° to the core axis
					157.2'	"	40° to the core axis
					209.5'	"	45° to the core axis
				198' - 207.3': Diorite - the rock is dark green, fine to medium grained with a few epidotized euhedral feldspar phenocrysts. It is dotted with abundant 1-2 mm. black chloritized blebs. It is weakly fractured becoming moderately fractured locally. Fractures are epidotized and voids may be filled by white carbonate.			
				214.9' - 234.6': the bedding is brecciated with angular banded fragments surrounded by a non-laminated, locally granular matrix. Some pink zones are strongly fractured and epidotized. Minor graphite is found locally on fractures.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-22

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
146 - 280			Rhyolite	234.6'-241.9': Diorite - as before - abundant finely disseminated			
(134)			(cont'd)	pyrite and minor chalcopyrite - abundant graphite on			
				fractures as disseminated blebs and plates up to 3 mm.			
				241.9'-248.7': same as the zone 214.9'-234.6'			
				248.7'-251': pinkish-grey to pink locally, strongly fractured, brecc-	251.3'	bands	40° to the core axis
				iated. Fractures are epdotized and carbonate fills the			
				open voids.	254.9'	"	45° to the core axis
				251'-258.2': medium grey, well banded becoming broken at 255.1'.			
				258.2'-280': dark grey, massive and non-bedded with numerous greyish-			
				pink vaguely outlined patches. The rock is speckled			
				with fine epidote blebs - probably as an alteration.			
				The rock is weakly to moderately fractured. Breaks are			
				epidotized and chloritized with minor white carbonate.	273'	fol.	45° to the core axis
				The zone is weakly magnetic. Minor finely disseminated			
				pyrite is found throughout the unit.			
280 - 329.9			Diorite	The rock is dark green, medium grained and weakly chloritized with			
(49.9)				strongly chloritized contacts and fractures. It carries minor clots			
				and blebs of pyrite up to 2 mm. in size. It is weakly fractured and			
				weakly magnetic. Some strongly epidotized zones are moderately to			
				strongly magnetic. Some sharp changes in grain size (e.g. 301.8') from			
				fine to medium may reflect different intrusive pulses.			
329.9 - 438			Rhyolite and	The rock is light grey to pinkish-grey, fine grained and moderately			
(108.1)			Diorite	fractured. Changes in rock locally appear to be gradational (eg 337.4')			
				but may be the result of melting along on intrusive contact.			
				329.9'-332.5': light grey, moderately developed fractures are epidot-			
				ized with white carbonate in voids			
				332.5'-337.4': Diorite - light to medium grey-green medium grained and			
				moderately to strongly chloritized near contact. It is			
				weakly porphyritic with 1-5 mm. euhedral epidotized			
				feldspar phenocrysts. Abundant chloritized black specks			
				dot the core-devitrified glass.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-22

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
329.9 - 438 (108.1)			Rhyolite and Diorite (cont'd)	337.4'-388': at this point the diorite grades to a light grey, fine grained rock which becomes medium grained in the interval 353'-357.5' and strongly resembles the zone at 329.9'-332.5'. Graphite is found locally on fractures. The rock becomes strongly broken, and brecciated with a fine epidotized matrix in the zone 347.8'-348.8'. Abundant finely disseminated pyrite is found locally although small anounts are common. Locally, fractures may be strongly hematized. The rock becomes fragmental locally (e.g. 384.4' and 387.8') possibly as a result of flowage.	384.8'	laminations 35° to the c/a or foliation (?)	
				388'-438': the zone has abundant fine elongated, light green flecks probably as an alteration product. The rocks contains up to 5% sulphide locally - mainly pyrite with minor chalcopyrite. The sulphide occurs mainly as a fine dissemination but also as clots filling vugs. Graphite is common on fracture surfaces. Blue chlorite coats some fractures below 428'. Light green altered and weakly brecciated zones are located at 427.7' and from 430.4'-431.9'. Below 433.1' the rock is medium grained and strongly chloritized.			
				438': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. JZ-23
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 11 + 75 N.
LONGITUDE 12 + 00 W.
ELEVATION

BEARING—TRUE 125° Az.
DIP -60°
FINAL DEPTH 424.9'
CORE SIZE BQ

DATE STARTED September 9, 1978
DATE COMPLETED September 15, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: September 15, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-131.2		Ø	Overburden				ACID DIP TESTS:
131.2 - (108.7)	239.9		Rhyolite	The rock is light to medium grey, and pink for a short interval near surface. It is aphanitic to very fine grained. Fractures are weakly developed and coated with epidote and purple hematite. Fracturing becomes stronger below 164'. Abundant, very finely disseminated pyrite and occasional chalcopyrite are found throughout the zone to a depth of 184.5', below which the sulphide content decreases. Locally the sulphide may be as high as 10% where fractures have been filled, but 5% sulphide is common.			98': -57.5° 295': -58.5° 425': -58°
				131.2'-133.9': pink zone - possibly related to diorite contact aurole			
				133.9'-136': Diorite - dark green, medium grained, weakly chloritized			
				136'-164': rock is weakly fractured rhyolite, abundant disseminated pyrite			
				164'-184.1': moderately to strongly fractured - sulphide content in fractures increases			
				184.1'-185.4': Diabase - very dark green, fine grained, strongly chloritized			
				185.4'-204': same as zone 164'-184.1' - minor finely disseminated pyrite - carries angular laminated 2 cm. fragments of same composition as matrix - agglomerate bands parallel to core axis			
				204'-207.7': Diorite - moderately fractured, moderately to strongly chloritized and epidotized			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-23

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
131.2 - 239.9			Rhyolite	207.7'-213.9': strongly broken rhyolite - chloritized and epidotized with minor carbonate filling openings			
(108.7)							
				213.9'-218.3': rock is spherulitic locally and carries few flow banded fragments (e.g. 216.4')			
				217.2'-218.3': strongly epidotized, pink altered zone			
				218.3'-218.7': chloritized mafic seam			
				218.7'-232.4': minor flow laminations at 50° to the core axis - faulted at 231.3'			
				232.4'-239.9': Diorite - carries an epidotized, strongly fractured rhyolite xenolith at 238.1'-239'			
239.9 - 284.9			Felsic Intrusive (Rhyolite?)	Pink to reddish pink, porphyritic rock with pink anhedral feldspar phenocrysts up to 5 mm. and round quartz phenocrysts up to 3 mm. Several zones of phenocrysts set in a strongly chloritized black matrix are located at 239.9'-244.8', 252.3'-253.8' and 256.6'-263.8'. Locally the texture is pseudo-granite except that grain boundaries are not sharp. The rock carries minor finely disseminated pyrite but may have up to 10% pyrite on some fractures - mainly 1-2 mm. pyrite cubes located in black chloritized zones. The pink rock is strongly epidotized locally.			
(45)							
				270.2'-273.3': Diorite - strongly chloritized, weakly to moderately fractured			
284.9-345.9			Rhyolite	The rock is light grey becoming almost white locally. It is aphanitic to fine grained. The rock is laminated locally becoming well laminated at 302.2'. Bands are irregular and convolute locally. The laminations are sharply cut off at 315' - probably by a fault.	292'	Flow	35° to the c/a
(61)					302.5'	Laminations	34°-40° to the c/a
					308.1'	"	40°-50° to the c/a
				315'-323.3': a 1' strongly epidotized breccia zone followed by a light green strongly epidotized rhyolite	313.3'	"	40° to the c/a
					329.7'	"	30°-35° to the c/a
				323.3'-326.3': chloritized zone - diabase (?)			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. JZ-23

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
284.9 - 345.9			Rhyolite	326.3'-330.5': laminated rhyolite similar to the zone from 302'-315'			
(61)							
				330.5'-333.8': grey, strongly fractured and epidotized			
				333.8'-342.4': Diorite - dark green, fine to medium grained. The contacts are fine and strongly chloritized with minor pyrite, graphite and chalcopyrite. The rock becomes medium grained with pink feldspars but remains strongly chloritized.			
				342.4'-345.9': greenish-pink, strongly chloritized and epidotized rhyolite with some convolute banding locally.			
345.9 - 372.4			Diorite	The rock is dark green, fine grained at the contacts becoming medium			
(26.5)				grained towards the centre of the intrusive. The entire dyke is mod-			
				erately to strongly chloritized. Feldspars in the coarser grained			
				sections are pink.			
372.4 - 395.1			Felsic	This zone is identical to the zone at 239.9'-284.9'. The rock is			
(22.7)			Intrusive	reddish-pink with quartz and feldspar phenocrysts. Locally the pheno-			
			(Rhyolite)	crysts are set in a black, strongly chloritized matrix - (e.g. at			
				379.1'-381.9', 390.4'-391.4' and 392.6'-394.9'). A mafic, fine			
				grained, strongly chloritized intrusive is located at 383.8'-387.8'.	393.7'	Fol.	50° to the c/a
				The mafic intrusive is strongly foliated at 50° to the core axis. The			
				rock bordering the intrusive is strongly fractured and pinkish-red. A			
				dark foliated porphyritic zone is sharply cut off at 395.1' at 45° to	395.1'	Contact	45° to the c/a
				the core axis			
395.1 - 415.8			Rhyolite	The rock is grey, aphanitic with abundant fine white flecks. It is	401.9'	Flow	40° to the c/a
(20.7)				weakly fractured becoming more strongly fractured at 400.4'. Fractures		Laminations	
				are strongly epidotized. The rock is strongly flow laminated at 400.5'-	405.7'		35°-40° to the c.a
				409.1'. Below the banded zone is grey non-laminated fractured rhyolite.	409.1'		45° to the c/a
415.8 - 424.9			Diorite	The rock is dark green, fine to medium grained, and strongly chloritized			
(9.1)				throughout. Moderately developed fractures are strongly epidotized.			
				Feldspar grains are pink.			
				424.9': END OF HOLE			

SECTION B

DF-ZONE LOGS

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

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

PROPERTY COBEQUID III
LATITUDE 32 + 15 S.
LONGITUDE 48 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 493'
CORE SIZE BQ

DATE STARTED 18 July 1978
DATE COMPLETED 25 July 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. Workman

DATE: 26 July, '78 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 27.2	Ø		Overburden				Acid Dip Tests:
27.2 - 200.7	173.5		Granite	Medium to dark pinkish-red with light grey mottling, fine to medium grained rock. Mottling reflects 1-2 mm. grey quartz grains which comprise 10-20% of the rock volume. Feldspars are of similar size and are usually pink in colour although some are greenish locally. The rock is variably fractured. Larger fractures may be epidote filled while smaller fractures are discontinuous and silicified. A dark blue mineral is present locally on fracture surfaces. Alteration consists of weak silification locally and perhaps some weak hematization around mafic intrusives. Feldspar grains may be weakly epidotized or sausauritized locally. Several zones of angular brecciation with fragments set in an epidotized siliceous matrix may reflect movement of late stage fluids.			98': - 41.5° 328': - 40.5° 493': - 41.5°
				66.5'-72.5': breccia zone - angular fragments in a moderately epidotized siliceous matrix - up to 1% finely disseminated pyrite locally.			
				72.5'-78.1': a less red coloured, possibly weakly kaolinized zone of microfaulting.			
				78.1'-81.5': fragmental zone similar to 66.5'-72.5'.			
				81.5'-83': fault zone - the rock is strongly fractured and larger breakages are epidotized and silicified - abundant finely disseminated pyrite in finer fractures.			
				101.5'-107.3': and 109' thin tabular breccia zones dip 40° to the core axis - epidotized, silicified. Some 1-3 mm. magnetite cubes are found locally.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DE-5

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
27.2 -	173.5		Granite	109.5'-114': zone of brecciation - rock is strongly shattered. Epidote			
200.7			(continued)	stringers and fracture fillings are abundant and some strongly chloritized amygdules are locally found, often associated with minor pyrite.			
				114'-117.5': Diabase-Diorite dyke: The rock is dark green, fine grained and strongly chloritized. Very minor stoping and alteration of the granite has occurred.			
				117.5'-128': the granite is fractured and possibly weakly kaolinized.			
				130.3'-131': chloritized seam - possibly narrow mafic dyke.			
				131'-131.5': chloritized granite.			
				131.5'-132': chloritized seam			
				139' : carbonate filled fault plane - slickensides cut the core axis at 70°.			
				153.5' : zone of parallel fractures at 40°-45° to the core axis.	153.5	fractures	40-45° to the core axis
				156'-158': fragmental zone - same as 66.5'-72.5'.			
				162.5'-167': fragmental zone - same as above.			
				175.5'-176': several 2" strongly chloritized seams in a fractured and chloritized granite zone			
				177.5' : strongly chloritized fractures in granite cut the core axis at 50°.			
				169.3'-189': pinkish-red granite - quartz grains are intergrown with dark red feldspar grains. This zone is characterized by a deeper red colour and slightly coarser texture from the previous zones. Towards the base of this section the rock becomes a more typical granular texture.			
200.7	-	12.8	Diorite	The rock is dark green, fine grained and weakly chloritized. It is mod-			
213.5				erately fractured. Breakages are quartz-epidote filled. NOTE: This intrusive corresponds to the VLF. (EM-16) conductor outlined by ground geophysics survey.			
213.5	-		Granite	Pinkish-red, fine to medium grained with 1-2 mm. quartz grains typically			
368.5				surrounded by red glassy feldspar intergrowths. Quartz grains make up about 30% of the total rock volume. Small clots of chlorite and epidote may dot the core and small amounts of pyrite may be locally associated with the mafic centres.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO DE-5

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
213.5	-		Granite	213.5'-225.5': altered chloritized zone adjacent to diorite.			
368.5			(continued)	223' : banding at 30° to the core axis.	233'	banding	30° to the core axis
				235.5': zone of intergrown quartz and feldspar begins and extends to about 250'.			
				300.5': granite becomes finer grained, and the rock is more equigranular. A band of unknown origin has a vague dip of 45° with respect to the core axis.	300'	banding	45° to the core axis
				364':-365': dark green strongly chloritized Diabase seam.			
				365'-368.5': pinkish-red, fine to medium grained granite - lower 6" is strongly chloritized.			
368.5	-	12'	Diorite	Dark green, fine grained and strongly chloritized rock with numerous white quartz stringers probably following fracture systems. Pyroxeme crystals are weakly to moderately uralitized.			
380.5							
380.5	-	112.5	Granite	The upper 2" is dark greenish red due to proximity to the mafic intrusive. The rock in general is dark pinkish-red with light grey mottling reflecting 1-2 mm. quartz grains. The rock is moderately fractured becoming strongly broken locally.			
493							
				398'-399': banding - a 1" dark greyish pink zone cuts the core axis at 40°.	398.5	banding	40° to the core axis
				451.8'-460': the rock is vuggy and fractured - surfaces are coated with fine quartz crystals.			
				475'-480': Diorite-Diabase dyke. The rock is fine grained and strongly chloritized. The upper contact cuts the core axis at 35°. The lower contact is partly ground but may dip at 70°.			
				480'-493': light greyish-pink, quartz-feldspar intergrown grains up to 2 mm. Some feldspar grains are up to 8 mm. in size and are euhedral to anhedral in shape. The interval is vuggy and fractured similar to 451.8'-460'.			
				END OF HOLE: 493'			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

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

PROPERTY COBEQUID III
LATITUDE 35 + 10 S.
LONGITUDE 48 + 00 E.
ELEVATION

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

DATE STARTED 25 July, 1978
DATE COMPLETED 29 July, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: 30-31 July, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	ø		Overburden				Acid Dip Tests
28.9							-100': -41°
							-295': -39°
28.9 -	106		Rhyolite	Dark pinkish-grey with minor dark grey becoming red locally. Aphanitic			-424': -38°
134.9				with some hazy, feldspar phenocrysts up to 2 mm. and minor quartz pheno-			
				crysts of similar size. Some vague flow lamination may be present			
				locally but generally the unit is massive and non-laminated. Flow			
				breccia is common. Well rounded and minor angular red fragments are			
				surrounded by a dark grey matrix. Fragments up to 3 cm. are common with			
				occasional larger blocks. Some microfaulting is present locally and over-			
				all, the rock is weakly to moderately fractured. Narrow breaks are			
				epidotized. Some wider openings are mylonite filled. Alteration is			
				patchy and consists of red reaction halos around some fractures, spotty			
				epidotization in zones of proximity to mafic intrusives and weak chlori-			
				tization of some amygdules. Some intensely broken zones are cream			
				coloured perhaps reflecting some degree of kaolinization.			
				31.9'-42.9': dark green diorite (?) or diabase dyke. It is strongly			
				chloritized and epidotized and carries some rhyolite frag-			
				ments.			
				43.9'-51.7': flow breccia: hazy red fragments up to 3 cm. in an aphani-			
				tic greyish-red matrix. Breccia fragments may be flow			
				laminated. The zone is irregular and includes minor inter-			
				vals of non-brecciated material. It contains several 1"			
				bands of porphyritic dark grey rhyolite.			
				45.7' : a 10 cm. mylonitic zone where the rock is intensely broken,			
				fragmental, and moderately kaolinized - Fault zone?			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-6

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
28.9 - 134.9	106		Rhyolite (continued)	53.7'-60.5': Diabase - Diorite dyke - dark green, fine grained, generally fresh with strongly chloritized contact zones. At 55.5' a strongly fractured rhyolite xenolith is found.			
				60.5' : the rhyolite becomes more strongly porphyritic, phenocrysts mainly consisting of feldspar with minor quartz up to 2 mm. Some phenocrysts are surrounded by red reaction halos.			
				68.6' : flow laminations at 60° to the core axis - may be a flow contact.	68.6	flow lamination	60° to the core axis
				66.9'-95.1': flow breccia - rounded, dark red, occasionally porphyritic or flow laminated breccia fragments up to 10 cm. set in a reddish-grey aphanitic matrix. The lower 1.5' is strongly fractured and epidotized.			
				95.1'-100.6': Diabase-Dioritic dyke - The rock is dark green, fine grained and strongly chloritized. Fractures are strongly epidotized and partly carbonate filled. A 6" rhyolite xenolith is located at 96.1'.			
				100.6'-104.8': flow breccia - same as 66.9'-95.1'.			
				104.8'-109.8': Diorite dyke: Dark green, fine to locally medium grained and strongly chloritized at the contacts. The centre zone is feldspathic and porphyritic.			
				: porphyritic with 1-3 mm. euhedral pink feldspar phenocrysts.			
				109.8'-111.8': the rhyolite is tectonically brecciated and was probably flow breccia. The rock presently consists of angular fragments up to 1 cm. in size. It is dark red coloured with minor cream coloured, possibly kaolinized material.			
				111.8'-134.9': flow breccia - red fragments up to 2 cm. 116.8'-120.3' - minor massive flow (eg. 117.8'-119.3').			
134.9' 173.3'	- 38.4		Rhyolite	Massive, non-brecciated flow that is reddish-grey in colour and gradually becomes redder and more strongly porphyritic towards 158.5' whereupon the trend reverses back to the original colour and texture at 173.3'. Quartz phenocrysts up to 4 mm. are rounded while feldspar phenocrysts up to 5 mm. are red and euhedral. Feldspars may be clumped together or individually spaced. Fractures are filled by white carbonate			
				135.9': 1 cm. mylonite seam at 80° to the core axis.			
				142.8': 2 cm. mylonite seam at 33° to the core axis. Below this the rock is broken with fractures silicified and epidotized.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DE-6

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
173.3 - 206.7	33.4		Diorite	Dark green near the contacts and fine grained becoming light pinkish green and porphyritic in the central zone. Pink feldspar phenocrysts are up to 3 mm. in size.			
				173.3'-177.7': fine grained - upper contact dips at 35° to the core axis.	173.3	contact	35° to the core axis
				177.7'-196.8': porphyritic zone - more strongly fractured than outer zones - carbonate filled.			
				196.8'-206.7': fine grained - lower contact dips at 30° to the core axis.	206.7	contact	30° to the core axis
206.7 - 208.7	2		Rhyolite	Grey to pinkish grey becoming pink near mafix intrusives, aphanitic and porphyritic with 1 mm. quartz and feldspar phenocrysts. The zone is strongly fractured.			
208.7 - 249.7	41		Diorite	Contact zones are dark green and the intrusive becomes lighter green to light pinkish green in the central core zone. Contacts are fine grained and strongly chloritized. The central zone is medium grained and porphyritic with pink feldspar phenocrysts up to 3 mm.			
				208.7'-224.8': fine grained diorite - upper contact at 45°.	207.8	contact	45° to the core axis
				224.8'-242.2': porphyritic zone - contains 1-10 mm. rounded chloritized fragments of diorite. The central zone is more highly fractured than boundary zones. Fractures are white carbonate filled.			
				242.2'-249.6': fine grained diorite - lower contact at 40°	249.6	contact	45° to the core axis
249.7 - 276.1	26.4		Rhyolite	The rock is mottled light grey and red becoming red near mafic intrusives, aphanitic and porphyritic with 1-2 mm. quartz phenocrysts and indistinct feldspar phenocrysts of similar size. Abundant flow breccia is present with rounded fragments up to 3 cm. that are both red and grey in colour and are set in both grey and red matrices. The zone is partly red non-brecciated massive flow. The unit is strongly fractured and surfaces of breakage are usually epidotized. The unit is stoped towards the base by granite stringers and narrow dykes. Near these, the rhyolite is strongly silicified and some mafic minerals dot the light greyish-green and red core. The rhyolite is extremely glassy in these zones. Some magnetite flooding of the rhyolite has occurred especially in the lower 3' section.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DE-6

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
249.7	26.4		Rhyolite	249.7'-250.7': granite dyke - pink, fine to medium grained.			
276.1			(continued)	262.2' : 6" granite dyke.			
				268.2'-269.2': granite dyke.			
276.1	148.1		Granite	Dark pinkish-red to pink, fine to medium grained rock. The composition			
424.2				averages 30% quartz and 68% feldspar with the balance being hornblende,			
				biotite and minor magnetite. Lighter coloured zones may locally contain			
				50% quartz. Grains up to 4 mm. are found locally often with quartz-			
				feldspar intergrowths. Graphic intergrowths are common in most feldspar			
				crystals. The rock is vuggy near the upper contact. Fracturing is well			
				developed. Breaks are carbonated and epidotized. The rock is weakly			
				magnetic, especially around altered mafic minerals.			
				320.8' : mylonite zone - angular granite fragments in a silicified,			
				epidotized matrix - some weak feldspar kaolinization.			
				similar zones at 331.6'-333.6' and 335.6'-336.6'.			
				353.8' : fault plane cuts the core axis at 20° and slickensides			
				pitch 45° across the plane. The surrounding rock is			
				strongly fractured, microfaulted and silicified.			
				368.2'-368.3': mylonitic fractured zone.			
				399.5'-424.2': the granite contains minor rounded patches of light grey			
				granite - up to 5 cm. in size - reflect, varying quartz			
				content and resulting textural changes.			
				END OF HOLE: 424.2'			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-7
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 38 + 15 S.
LONGITUDE 48 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 315.6
CORE SIZE BQ

DATE STARTED July 31, 1978
DATE COMPLETED August 7, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 11, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 24	6 Ø		Overburden				Acid Dip Tests
24.6 - (21.1)	45.7		Diorite	The rock is dark green, fine to medium grained, weakly magnetic and weakly fractured. Fractures are strongly epidotized. Weak uralitization and epidotization are widespread.			-100' : -42° -315' : -42°
45.7 - (13.8)	59.5		Granite	Reddish-pink, medium to coarse grained. Feldspar grains and aggregates of feldspar crystals are up to 1.5 cm. in size. The rock is very fresh and hard.			
59.5 - (22.2)	81.7		Diabase	Dark green and fine to medium grained with a central porphyritic zone containing feldspar phenocrysts up to 3 mm. in size. This zone also contains numerous recrystallized granitic fragments, and diabasic fragments up to 1.5 cm. The intrusive is moderately fractured and epidotized overall. 63.7'-78.7': fragmental porphyritic zone			
81.7 - (52.3)	134		Granite	Reddish-pink, medium to coarse grained. Numerous bands cut the core axis at 40°. Chloritized seams and strong chloritization are present at the contact (81.7') and in the surrounding zone (81.7'-86').			
134-141.5 (7.5)			Diabase	Dark green, fine grained and weakly magnetic. The intrusive carries numerous granite xenoliths up to 4" in size. Feldspar has commonly flooded from the xenoliths into the surrounding rock. Epidote stringers originate in the diabase and cut into fragments			

GMC 1016

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-7

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
141 (174.1)	S - 315.6		Granite	Reddish-pink, fine to medium grained. Composition averages 30-40% quartz and 60-70% feldspar with up to 2% combined hornblende, mica and magnetite. The coarsest feldspar grains are up to 8 mm. in size. Quartz and feldspar are typically graphically intergrown. The rock is generally very fresh. Some strongly broken zones may be weakly kaolined and strongly epidotized, especially near mafix intrusives. The zone from 147.5'-167.5' is vuggy. Openings are filled with quartz crystals.			
				147.5'-151.5': chloritized diabase-diorite			
				153': strongly broken, weakly chloritized granite			
				237': 6" chloritized seam			
				315.6' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-8
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 41 + 00 S.
LONGITUDE 48 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 387.2'
CORE SIZE BQ

DATE STARTED July 30, 1978
DATE COMPLETED August 3, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

* NOTE: Line 48E intersects 40S. Tie line at 40 + 15 S.; - DF-8 is 100'S of tie line.

DATE: August 3, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-21	Ø		Overburden				ACID DIP TESTS:
21-325.8 (304.8)			Granite	Pink to pinkish red, medium grained becoming fine grained locally. Composition is 20-25% quartz, 75-80% feldspar and 2-5% mafix minerals - chiefly hornblende and biotite. The rock is weakly magnetic locally - especially near chloritized seams. Vugs are common and usually filled with small quartz crystals. The rock is strongly to moderately fractured throughout the zone, with numerous intensely fractured and mylonitic zones. Fractures are epidotized and frequently coated with an orange to yellow iron oxide. Some fractures are coated with drusy quartz crystals. A blue to purple crystalline mineral is found in some vugs and as coatings on some fractures, (e.g. 180.5'). Minor amounts of 1-2 mm. pyrite blebs and 1 mm. crystals are common in the granite.			-98.4': -43° -285': -43°
				126.9'-128.4': mafic zone - 5-10% hornblende, biotite and some magnetite			
				180.5': vugs and some fractures coated with purple crystalline mineral - terminated prisms			
				215.5': dark green intensely chloritized seam - possibly and altered diabase dyke - 6" thick			
				230': the granite becomes strongly fractured with some weak kaolinization of feldspar likely. The rock becomes mylonitic locally.			
				254.9': a 10" chloritized seam } possible altered 258.3': a 4" chloritized seam } diabase intrusives			
				285.4'-292.4': a zone of intense brecciation around a 12" strongly chloritized diabase dyke located at 287.9'-289.4'. The granite host is strongly chloritized along fractures and seams emanating from the diabase.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-8

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
21 - 325.8 (304.8)			Granite (cont'd)	285.4': the rock is mylonitic and intensely fractured below this depth			
				321.8': zone of mylonite - fragments up to 1 cm. of varying lithologies - some rhyolite. Fragments are angular to sub-round, and frequently are rimmed by alteration. Matrix to the fragments is strongly epidotized and chloritized probably by fluids originating in the intrusive below.	321.8'-325.8'		: fault zone
325.8-387.2			Diabase	The rock is dark green, fine grained and very strongly chloritized. It is strongly magnetic locally. Abundant lithic fragments are incorporated into the dyke - up to 2 cm. in size. Some variation in rock type of these fragments is apparent but alteration masks the original rock type.			
				346.5': minor galena and chalcopyrite with pyrite in a narrow carbonate zone - the core here is strongly ground			
				345.5'-370.7': this zone appears to be largely without wall rock xenoliths and is probably the core of the intrusive			
				387.2': END OF HOLE			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-9

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
19.7-424			Granite	138.3'-139.3': strongly chloritized fracture network in granite			
(404.3)			(cont'd)	153.6'-154.6': Aplite dyke			
				155.6'-162.5': Diorite - dark green, fine grained, strongly chloritized weakly magnetic and moderately uralitized			
				203.8'-213.5': vuggy zone in granite - strongly fractured			
				210.7': 6" mylonitic zone - kaolinized			
				226.4': 1/2" strongly hematized mylonitic fault zone - weakly epidotized	226.4'	fault plane at 15° to the core axis	
				263.4': red mylonitic zone			
				264.9': epidotized mylonitic zone			
				304.6'-337.6': granite becomes increasingly vuggy and fractured - weakly kaolinized zones are more common and lighter coloured			
				347'-382.6': as above			
				396.6'-402.2': Diorite - dark green, fine to medium grained - numerous epidotized shear planes at varying angles. The rock is generally strongly chloritized and weakly uralitized			
				404.5'-405.5': strongly chloritized, dark green intrusive			
				407.2'-407.8': strongly chloritized seam			
				402.2'-409.5': granite is flooded with mafix minerals which have been chloritized			
				424': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-9
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 44 + 00 S.
LONGITUDE 48 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 424'
CORE SIZE BQ

DATE STARTED August 3, 1978
DATE COMPLETED August 7, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 11, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-19.7	Ø		Overburden				ACID DIP TESTS:
19.7-424 (404.3)			Granite	The rock is reddish-pink becoming pink locally and medium granied with minor fine grained zones. Quartz grains are up to 2 mm. in size; reddish feldspars are of similar size. Quartz and feldspar are intergrown and form 98-100% of the rock volume. Generally the quartz-feldspar ratio is 1:3. Minor amounts of hornblende, mica and magnetite are also present. The granite is weakly fractured becoming moderately fractured locally. Major fractures are epidotized and occasionally white carbonate filled, minor fractures are discontinuous and appear to be silicified. The rock is weakly to very weakly magnetic. Alteration consists of chloritization of amygdules which may have been hornblende clusters, and, epidotization and chloritization of fractures. Vugs may be carbonated locally. Some strongly fractured and mylonitic zones may be weakly kaolinized, (e.g. 83.2' and 210.7')			-90': -42.5° -295': -41° -420': -41°
				33.5'-36': Aplite dyke - fine to medium grained, pink 61.2'-74.2': Aphanitic siliceous zone - pink to grey, laminated locally and intensely fractured - some strongly chloritized fractures are shear planes - possible rhyolite xenolith - might be spherulitic - contains abundant Cpy. and 1-2 mm. pyrite cubes 74.2'-84.6': granite is abnormally fractured and mylonitic locally (e.g. 83.2') 103.4'-105.4': 3"-4" aplite dyke 109.5': possible 12" strongly fracturdd rhyolite xenolith - carbonated fractures. 135.9'-138.3': Diabase - dark green, fine grained, weakly to moderately magnetic, strongly chloritized. The intrusive carries 103 mm. epidotized fragments and pink granite xenoliths up to 3 cm.			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-12
SHEET 1 OF 3

PROPERTY COREQUID III
LATITUDE 42 + 38 S
LONGITUDE 52 + 00 E
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 463.6'
CORE SIZE BQ

DATE STARTED August 6, 1978
DATE COMPLETED August 10, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

NOTE: Latitude measured 250' south of 40 S. tie line.

DATE: August 15, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-22	Ø		Overburden				ACID DIP TESTS:
22-53.6 (31.6)			Rhyolite	The rock is dark grey with red and pink mottling, very fine grained to aphanitic and porphyritic with minor 1-2mm. quartz and feldspar phenocrysts. The zone is intensely broken and fractured with widespread tectonic breccia. Fractures and gouge between breccia fragments are strongly epidotized and variably hematized. Numerous zones of mylonitic rock are present and are weakly kaolinized. Some fractures are surrounded by red reaction halos.			98': - 45° 290': - 45° 442': - 45°
53.6-463.6 (410)			Diorite	Dark green, fine to medium grained rock. The unit is cut by dark green, very fine grained, strongly chloritized diabase dykes. This unit in part may include several sections of andesite-basalt. Due to alteration, distinction between diabase and mafic flow is difficult. All rocks are fractured, at times becoming mylonitic over short sections. Fracture surfaces are chloritized. Gaps along fractures are white carbonate or epidote filled. Mylonitic zones are strongly epidotized. All rocks are weakly magnetic.			
				76.2' : brecciated, epidotized shear zone cutting the core axis at 10-20°	76.2	shear	15° to the core axis
				80.7'-82.7': mylonite zone - silicified and epidotized, intensely fractured - angular breccia fragments up to 3 cm. in size			
				85.6'-92.6': porphyritic diorite - occasional pink feldspar phenocrysts and aggregated phenocrysts up to 1 cm. Large phenocrysts are rim altered. Smaller crystals are completely sausauritized			
				92.6': epidotized fault plane cuts the core axis at 30°	92.6	fault	30° to the core axis
				97.9': fault plane in epidotized zone cuts the core axis at 60°	97.9	fault	60° to the core axis

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-12

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
53.6-463.6			Diorite	143.3': pink feldspathic material is found filling voids in a			
(410)			(cont'd)	fracture system with epidote. Fractures are angular and rock has a general shattered appearance which decreases in intensity towards 150'			
				154.6': epidotized mylonite zone			
				152.6'-163.3': rock is strongly fractured and highly epidotized			
				163.3'-167.8': diorite - medium grained, good dioritic texture. Pyroxene crystals are weakly uralitized and weak overall epidotization is the rule despite the rock being fresher than surrounding zones. The rock is weakly to moderately magnetic. Minor finely disseminated pyrite is found in the zone.			
				172.3': spotty feldspathic zones and blebs - epidotized			
				173.8'-174.8': laminated zone - possibly a diabase dyke - chloritized and strongly epidotized	174'	laminations	30-35° to the c/a
				235.7': discontinuous bands dip 10° across the core axis			
				231.6'-232.6': strongly broken and epidotized			
				252.9'-256.9': diorite - medium grained, weakly chloritized, minor finely disseminated Pyrite.			
				264.7'-272.7': epidotized fractured zone			
				272.7'-280.5': RHYOLITE - The rock is dark pink, and spherulitic (1-2 mm. diameter). Spherulites are located along flow laminations at 40° to the core axis. Mafic amygdules are strongly chloritized. Minor 1-2 cm. mottled pink and grey rhyolite fragments are incorporated in the laminations. The lower 1' of the zone is strongly deformed.			NOTE: 272.7'-280.5' represents rhyolite xenolity
				280.5'-281.5': feldspar flooded diorite			
				281.5'-303.8': weakly to moderately fractured, locally mylonitic diorite			
				303.8'-307.6': pinkish feldspathic diorite			
				307.6'-308.1': zone of parallel shears - chloritized	308'	shear	60° to the core axis
				320.8'-328.8': medium grained zone - minor finely disseminated pyrite			
				333.6': 1" fine to aphanitic mafic stringer (diabase) cuts the core axis at 45°			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-12

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
53.6-463.6			Diorite	344.5'-361.2': diorite - medium grained, light to medium grey colour;			
(410)			(cont'd)	weakly fractured, minor disseminated pyrite - the base of the zone is strongly epidotized			
				361.2'-380.9': basalt (?) - upper contact is a 6" highly fractured and strongly epidotized zone. The unit as a whole is fine grained and more highly fractured than the overlying diorite			
				380.9'-388.9': diorite - medium grained, epidotized and contains up to 2% disseminated pyrite and minor chalcopyrite. The rock is weakly fractured 385.8'-386.8': strongly fractured silicified epidotized mafic xenolith			
				388.9'-414.4': diabase - chloritized			
				414.4'-427.8': feldspathic zone - pink feldspar clots up to 2 cm. 426.2'-426.9': fractured rhyolite xenolith			
				427.8'-442.6': rock is medium grained with numerous white carbonate filled fractures			
				442.6': diabase (basalt?) fine grained, dark green, chloritized - seems to grade into diorite			
				460.7'-463.6': basalt - dark green, fine to aphanitic, strongly chloritized			
				463.6' END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-13
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 31 + 00 S.
LONGITUDE 52 + 00 E.
ELEVATION

BEARING—TRUE 270° Az.
DIP -45°
FINAL DEPTH 345'
CORE SIZE BQ

DATE STARTED August 8, 1978
DATE COMPLETED August 14, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 16, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-29.5	Ø		Overburden	Rhyolite boulders lying on bedrock surface			ACID DIP TESTS
29.5-44 (14.8)	3		Diorite	The rock is dark greyish-green, fine grained and porphyritic. Light green, euhedral, 1-5 mm. feldspar phenocrysts are sausauritized. The groundmass is generally fresh. Contact zones are moderately to strongly chloritized.			98': -42°
				31.5'-42': porphyritic zone			285': -40.5°
44.3-116.6 (72.3)			Rhyolite	The rock is reddish pink, aphanitic and porphyritic with 1-2 mm. cream coloured, euhedral feldspar phenocrysts. It is weakly flow laminated above 48.6' and well laminated locally below 56.8'. Dips of 40° but as high as 60-70° are recorded. White mottling representing pseudo-phenocrysts of quartz are found throughout the zone.			
				44.3'-48.6': flow laminated rhyolite - irregular dips			
				48.6'-56.8': Diorite - scattered 1-5 mm. feldspar phenocrysts			
				56.8'-82.7': irregularly flow laminated rhyolite	64.7	flow	65° to the c/a
				82.7'-95.8': Diabase - dark green, fine grained, moderately to strongly chloritized		lamination	
				95.8'-99.1': reddish-pink, porphyritic rhyolite			
				99.1'-108.6': Diabase - lower contact dips 15°-20° to the core axis - 102.4'-106' rhyolite xenolith			
				108.6'-116.6': Rhyolite - upper part is weakly flow laminated at 40°-45° to the core axis. The lower half is more strongly broken, becoming mylonitic locally and light pink locally - possibly weakly kaolinized	110	flow lamination	45° to the c/a

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-13

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
116.6-149.4 (32.8)			Diorite	Dark green, fine to medium grained and porphyritic with light green sausauritized feldspar phenocrysts up to 5 mm. in size. Some phenocrysts are penetrated by the groundmass. The rock is weakly chloritized and epidotized.			
				134.2'-145.3': medium to coarse grained felsic zone with 20-35% pink feldspar grains up to 3 mm. in size.			
				145.3'-149.4': fine to medium grained, porphyritic. A 6" rhyolite xenolith sits 3" above the lower contact.			
149.4-167.7 (18.3)			Rhyolite	Reddish-pink becoming cream coloured locally in zones where core is highly broken or mylonitic (163.4'-164.7'). Fractures are epidotized throughout the zone. Cream coloured rock may be weakly kaolinized. The zone has numerous mafic clots and stringers especially near mafic intrusives.			
				157'-157.5': chloritized seam			
167.7'-188.7' (21)			Diorite	Dark green, fine to medium grained, non-porphyritic.			
				172.6'-177.8': felsic zone - 10-20% pink feldspar grains up to 3 mm. in size			
				179.8'-182.1': rhyolite xenolith - reddish-pink aphanitic, flow laminated with 1-2 mm. spherulites			
188.7'-206' 17.3)			Rhyolite	Light grey to pinkish-grey becoming pinkish-red below 191.3'. The rock is aphanitic and porphyritic with 1-3 mm. round quartz phenocrysts often clumped together and penetrated by the matrix. Below 192.3' the rock becomes mottled red and white, reflecting quartz-rich zones. The unit may be partly flow breccia. Vague rounded fragments up to 1 cm. in size are found locally. Mafic minerals in the rock are moderately chloritized, the groundmass is largely unaltered. Fractures are surrounded by red reaction halos. Some fine cream coloured speckling may indicate spotty kaolinization of feldspar.			
				193.3'-193.9': some secondary uranium stain on fractures - rock is dark red, aphanitic and not mottled - possibly silicified			
				194.6'-198.5': mottled red and white rhyolite			
				198.5'-206': rock becomes less red coloured and returns to a cream-grey rhyolite with minor red zones - may be weakly and irregularly flow banded			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DE-13

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
206-213.3 (7.3)			Diorite	Dark green, fine to medium grained. The contact zones are strongly chloritized but the felsic central zone is weakly altered. The rock is weakly to moderately fractured. Fractures are strongly epidotized and locally carbonated.			
				206.7'-210': felsic zone - medium grained - 40% feldspar			
213.3-240.8 (27.5)			Rhyolite	Pinkish-red becoming cream to pink locally, the rock is aphanitic, strongly fractured and tectonically brecciated. Matrix to breccia fragments is epidotized. Fractures are epidotized and carbonate coated.			
				231.6'-233.7': Diorite - weakly to moderately chloritized 5-15% pink feldspar.			
240.8-259.5 (18.7)			Diabase	Dark green, fine grained. Carries 10-20% of rock volume composed of rhyolite xenoliths up to 3 cm. and minor granite fragments. The dyke is strongly chloritized. Fragments are epidotized and fractures are strongly carbonated. Some non-magnetic metallic grey mineral is found locally along fractures (e.g. 254.1'). Large xenoliths are found at 247.9'-249.5', 250.7'-251' and 253.6'-254.3.			
259.5-345 (85.5)			Granite	The rock is reddish-pink, medium to coarse grained. Composition is 30% quartz, 70% feldspar with minor amounts of hornblende, chlorite and magnetite. The contact zone from 259.5'-264' is fine grained. Fracturing is variable in strength. Some more intensely broken zones may be weakly kaolinized. Near the mafic intrusive (240.8'-259.5') some flooding of mafic minerals has occurred. These minerals are now strongly chloritized.			
				282.5'-283.6': strongly chloritized diabase			
				345': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-14
SHEET 1 OF 4

PROPERTY COBEQUID III
LATITUDE 28 + 00 S.
LONGITUDE 52 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 533'
CORE SIZE BQ

DATE STARTED August 10, 1978
DATE COMPLETED August 17, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 18, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-53.2	Ø		Overburden				ACID DIP TESTS
53.2-178.5 (125.3)			Granite	Pinkish-red to red, medium grained rock with quartz grains up to 4 mm. in size - commonly graphically intergrown with feldspar. The granite is strongly fractured and broken near surface.			98' - 41.5° 295' - 39° 534' - 33.5°
				53.2'-86': strongly broken, fractures are weakly epidotized			
				129.2'-134.5': strongly broken, moderately to strongly chloritized fracture and broken near surface			
				136'-161.1': tectonic breccia - sub-round to sub-angular fragments up to 1 cm. are set in a strongly epidotized matrix. The rock becomes mylonitic at 146.3' and the zone 146.3'-148.3' is strongly chloritized. The interval 149'-154.2' is light pink and kaolinized, and extending to 159' the rock is coarser textured red and kaolinized. The zone 159'-161.1' is chloritized.			
				161.1'-161.9': angular breccia - probably tectonic in origin - fragments up to 1.5 cm. with white carbonate in matrix and openings			
				163.1'-168.6': tectonically brecciated, epidotized and carbonated			
				161.9'-163.1': diabase - strongly chloritized			
				168.6'-172.1': diabase - contains abundant xenoliths and micro-xenoliths of wall rock - ground mass is strongly chloritized			
				172.1'-173.9': strongly fractured - angular fragments are set in a white carbonate matrix fine fractures are epidotized			
				173.9'-174.9': diabase - abundant xenoliths as in unit 168.6'-172.1' above			
				174.9'-178.2': intensely broken and chloritized granite may include some rhyolite			
				178.2': 3" strongly chloritized diabase seam with abundant xenoliths of wall rock			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-14

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
178.5-533 (354.5)			Rhyolite	The zone initially is dark pinkish-grey, aphanitic, perhaps weakly porphyritic (possible hazy phenocrysts) and tectonically brecciated. The degree of brecciation locally becomes mylonitic. Fractures and finely broken mylonite are strongly epidotized. Wider fractures are white carbonate filled. Below 216.5', the rock is pink to reddish-pink and occasionally greyish-pink. Phenocrysts of quarts up to 2 mm. are usually round while euhedral pink feldspar phenocrysts may be up to 3 mm. in size The rhyolite is well laminated locally as a result of flowage. Alteration consists of epidotization and local chloritization of fractures and weak kaolinization of mylonitic zones.			
				178.5'-218.8': grey and pinkish grey rhyolite, strongly brecciated, strongly silicified - 1-3 mm. feldspar phenocrysts; abundant finely disseminated pyrite			
				218.8'-223.6': the rock becomes pinker and more strongly fractured and brecciated - some kaolinized mylonitic zones locally. This zone is less strongly porphyritic than the above zone			
				223.6'-225.6': dark green chloritized diabase dips along core axis			
				229.5'-233.6': dark pinkish-grey, porphyritic rhyolite			
				233.6'-243.8': strongly porphyritic rhyolite - minor flow banding			NOTE: Zone 243.8'-264.6' bears a striking resemblance to 400'-415' in DF-4
				243.8'-264.6': red, aphanitic and porphyritic rhyolite, with quartz and feldspar phenocrysts, irregularly flow laminated, frequently mylonitic and strongly epidotized. Some mafic clots are strongly chloritized.	258.5 264.1	flow lamination - 25° to the c/a flow lamination - 20° to the c/a	
				264.6'-274.8': very strongly porphyritic, fractured and epidotized mylonitic and intensely broken zones are weakly kaolinized			
				274.8'-279.5': orange-red tectonically brecciated weakly flow laminated rhyolite. May include minor flow breccia. Some kaolinized mylonite at 280.5'			
				279.5'-292.8': dark red becoming greyish red strongly porphyritic weakly to moderately fractured minor flow breccia - a flow contact cuts the core axis at 60°. Flow laminations at 40°-60° are very irregular between 290.4' and 292.8'.			
				292.8'-302.2': same as 274.8'-279.5' - unit is strongly broken and kaolinized 300.7'-301.7'.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-14

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
178.5-533			Rhyolite	302.2'-317.9': well developed flow laminations, porphyritic and flow	302.5		45° to the c/a
(354.5)			(cont'd)	breccia locally - The zone 309.1'-311.7' is not laminated	307.4	Flow	40° to the c/a
					312.7	Laminations	40° to the c/a
				316.6'-317.4': intensely chloritized diabase	314.6		30° to the c/a
					316		40° to the c/a
				317.9'-383.2': non-laminated, strongly porphyritic rhyolite. The rock is weakly fractured but below 329' it is more strongly broken. Quartz phenocryst aggregates up to 1 cm. dot the zone.			
				100.9'-101.1': strongly chloritized			
				336.3'-: intensely broken and mylonitic - the rock is cream coloured reflecting weak kaolinization. The interval contains epidotized tectonic breccia and some other fragmental - possibly flow breccia - wide fractures are white carbonate filled.			
				383.2'-386.2': minor flow breccia with tectonic breccia - weakly fractured.			
				386.2'-387.7': dark grey siliceous feldspar porphyry with numerous rhyolite xenoliths near contacts - contacts are very angular, blocky irregular, and unaltered - low temperature intrusive			
				387.7'-401.9': similar to zone at 317.9'-383.2' - irregularly flow laminated at 60° to the core axis but laminations are disrupted by indistinct fragments and quartz clots up to 2 cm. in size. The vague fragments may be related to flow breccia.			
				401.9'-433.4': below a sharp contact at 401.9', the rock becomes strongly fractured, mylonitic and weakly kaolinized. The degree of tectonic brecciation increases with depth to 414.4' and then increases again towards 419.3'.			
				411.1'-411.8': strongly, chloritized diabase	436.7		5-10° to the c/a
					440.6	Flow	40° to the c/a
				433.4'-444.6': flow laminated zone - laminations are irregular in dip and some breccia is found in the interval 443.6'-438.7'.	441.6	Laminations	convolute
					442.1		30° to the c/a
					443.9		35° to the c/a

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-14

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
178.5-533 (354.5)			Rhyolite (cont'd)	444.6'-480': similar to zone 387.7'-401.9'. Brecciation is strongest in the zone below 460.8'. Some flow laminated rock is mixed with flow breccia (e.g. 463.4'-463.9', 467.5'-469.5 and 474.1'-475.1)	478.4	Flow Lamination	45° to the c/a
				480'-487.2': finely laminated locally, weakly porphyritic and may include some intervolcanic sediment.			
				487.2'-488.2': strongly chloritized spherulitic locally and intensely brecciated.			
				488.2'-488.5': dark red rhyolite - flow brecciated and spherulitic			
				488.5'-492.2': dark red, porphyritic and weakly fractured			
				492.2'-509.5': dark red, moderately to strongly fractured			
				509.5'-518.4': weakly fractured and epidotized. The rock is speckled with quartz and feldspar phenocrysts up to 2 mm. in size.			
				518.4'-525': strongly speckled dark red and black - strongly porphyritic and silicified rhyolite.			
				525'-533': tectonically brecciated, silicified and epidotized - angular fragments up to 1 cm.			
				533': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-15
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 31 + 00 S.
LONGITUDE 52 + 00 E.
ELEVATION

BEARING—TRUE 270° Az.
DIP -70°
FINAL DEPTH 349.5'
CORE SIZE BQ

DATE STARTED August 14, 1978
DATE COMPLETED August 19, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: August 19, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-26	Ø		Overburden				ACID DIP TESTS:
26-32.8 (6.8)			Rhyolite	The rock is reddish-pink, aphanitic and porphyritic with 1 mm. pink and cream coloured, euhedral feldspar phenocrysts.			102': -68.5° 272': -66.5° 349': -68.5°
32.8-49.9 (17.1)			Diorite	The rock is dark greyish-green, fine grained and porphyritic with light green, euhedral 1-5 mm. altered feldspar phenocrysts. Alteration consists of sausauritization of feldspar and chloritization of mafic minerals.			
49.9-128.2 (78.3)			Rhyolite and Diorite	The rock is reddish-pink becoming dark red locally (e.g. 65') aphanitic and porphyritic with 1-2 mm. cream coloured and pink feldspar phenocrysts. The rock is flow laminated locally. Dips of 30°-45° are recorded. White mottling reflecting quartz-rich zones - pseudophenocrysts speckle the zone. The rock is weakly to moderately fractured becoming intensely shattered locally (64.8'-65.3') and (80.2'-81.86')	65'	Flow Lamination	45° to the c/a
					81.5'	Flow Lamination	30° to the c/a
				66.9'-67.6': diabase - strongly chloritized 88.4'-102.2': Diorite - dark green, fine to medium grained, porphyritic with light green sausauritized feldspar phenocrysts up to 7 mm. 80.1'-99.7': porphyritic zone 102.2'-113.9': rhyolite - moderately to strongly fractured; wide breaks are filled with white carbonates - narrow fractures are epidotized 113.9'-124.3': Diabase - strongly chloritized, fractured 124.3'-128.2': rhyolite - red, aphanitic, porphyritic locally strongly kaolinized upper contact, weakly flow banded			
128.2-131.2 (3.0)			Diorite	Dark green, fine grained with hazy light green sausauritized feldspar phenocrysts up to 3 mm. in size. The rock is moderately well fractured and chloritized.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-15

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
131.2-145.2			Rhyolite	Reddish-pink, aphanitic with euhedral pink feldspar phenocrysts up to			NOTE: Zone 131.2' -
(14)				3 mm. and round quartz phenocrysts up to 2 mm. Numerous strongly			145.2' may be a
				chloritized blebs and seams cut the core. A 3" porphyritic mafic			xenolith or stoped
				intrusive is located at 133'.			rhyolite block.
145.2-157.5			Diorite	Dark green, fine to medium grained with minor hazy fractured pink feld-			
(12.3)				spar phenocrysts - weakly to moderately chloritized.			
157.5-160.4			Rhyolite	Red, aphanitic, weakly porphyritic with 1 mm. round quartz phenocrysts.			NOTE: Zone 157.5' -
(2.9)				The rock is strongly fractured and surfaces of breakage are epidotized.			160.4' is probably
				Numerous chloritized seams cut the zone.			a xenolith.
160.4-168.3			Diorite	Dark green, fine to medium grained, weakly chloritized.			
(7.9)							
168.3-195.3			Rhyolite	Pinkish-red, aphanitic and porphyritic with 1 mm. round quartz pheno-			
(27)				crysts. The rock is weakly flow laminated. Locally the flow banding is	174.9	Flow	parallel to c/a
				irregular and convolute. The development of laminations is good below		Banding	
				174' where the rock is also brecciated. Rounded fragments disrupt the	177.2	"	25° to the c/a
				bands locally.	180.1'-180.9'	"	40" to the c/a
				55.15': tectonic breccia, mylonitic locally, epidotized and weakly kaolinized - fractures are yellow coloured			
				below 59.2': possible flow breccia - indistinct fragments in a dark red matrix			
195.3-206.7			Diorite	Fine to medium grained, dark green, moderately chloritized. Fractured			
(11.4)				moderately with epidote filling voids.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-15

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
206.7-286.3 (79.6)			Rhyolite	Pinkish-red, aphanitic, spherulitic locally (212') and weakly porphyritic with minor 1 mm. hazy feldspar phenocrysts. The rock mylonitic locally (e.g. 65'-66.3', 70.3'-70.6', and 71.7'-72.1'). These zones are strongly epidotized and weakly kaolinized. Below 236' the rock is intensely broken. Fractures are strongly epidotized and weakly chloritized. Core recovery is about 75%. Tectonic breccintion is widespread. Breccia is silicified and epidotized. The rock is weakly fractured for only short intervals (258.5'-259.5').			
					285.5	Foliation 55° to the c/a	
				284.5'-286.3': a sharp fault contact cuts the core at 284.5'. Below this is about 2' of mylonite with a foliation dipping 55°. The rock is epidotized, chloritized and probably kaolinized.			
286.3-302.3 (16)			Diabase	Dark green, fine grained, intensely chloritized and moderately epidotized The lower part of the intrusive is very dirty with abundant rhyolite and granite fragments up to 4 cm. Fragments are strongly fractured. Fractures are white carbonate and epidote filled.			
302.3-349.5 (47.2)			Granite	Red to grey-red, medium to coarse grained rock with feldspar crystals up to 3 mm. Composition remains constant at about 30% quartz and 70% feldspar with minor hornblende. The rock is weakly fractured. Epidote is commonly found on fractures. The rock is weakly magnetic locally.			
				349.5': END OF HOLE.			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-16
SHEET 1 OF 3

PROPERTY COBEQUID III
LATITUDE 45 + 38 S.
LONGITUDE 52 + 00 E.
ELEVATION

BEARING—TRUE 180°
DIP -45°
FINAL DEPTH 375'
CORE SIZE BQ

DATE STARTED August 18, 1978
DATE COMPLETED August 19, 1978
DRILLED BY St.Lambert Drilling Co. Ltd.
LOGGED BY A.W. Workman
M. Strazdins

Note: Latitude measured 550' south of 40 S. tie line.

DATE: August 25, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-23.3'	Ø		Overturned				ACID DIP TESTS:
23.3'	- 94.5'		Felsic Zone	The rock is medium grey, aphanitic with pink felsic zones and bands.			98' : - 38.5°
	(71.2')		Rhyolite?	Chlorite and epidote alteration is patchy with many unaltered zones.			295' : - 37°
				Some flow banding may be observed locally. Some altered zones also			374' : - 37°
				appear to be banded. A flow contact (?) is located at 52.5'.			
				A pink, highly brecciated zone is located at 90.4'.	flow	banding	(?) 55° to the core axis.
94.5'	-196'		Diorite	Dark green, fine grained, weakly chloritized and weakly porphyritic			
	(101.5')		with Diabase	locally with pink feldspar phenocrysts up to 2 mm. in size. The rock			
				is generally strongly fractured. Fractures are epidotized and white			
				carbonate is found filling wider cavities. The presence of chill			
				margins within this mass indicates the presence of many intrusives			
				cross-cutting through this body - possibly a multiple intrusive origin.			
				96.5' - 98.1' : rhyolite xenolith - pinkish grey, aphanitic and porphyritic with white quartz and pink feldspar phenocrysts up to 2 mm. in size. The rock is highly fractured.			
				98.1' -104.9' : weakly fractured diabase with up to 5% pyrite locally			
				104.9' -119.1' : chill margin located at 104.9' - diabase is similar to above varieties, but is moderately fractured.			
				119.1' -119.8' : rhyolite xenolith - reddish brown, strongly fractured, epidotized.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-16

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
94.5'	- 196'		diabase	continued ----			
				119.8' - 129.9': diabase - dark green, very fine, grained, chloritized, strongly fractured.			
				129.9' - 144' : diabase - chill zone located at 129.9' - the rock is chloritized and pyroxines are uralitized. Up to 5% pyrite locally.			
				144' - 165' : diabase - another intrusive phase - strongly fractured- 2-5% pyrite.			
				165' - 196' : possibly diorite - moderately chloritized, strongly fractured with epidotization of fractures. Numerous black alteration patches up to 3 mm. in size dot the zone - chloritized amygdules (?)			
196'	- 271.5' (75.5)		Rhyolite	The rock is grey at the contact with red halos around fractures becoming brick red to grey-red. It is aphanitic and porphyritic locally with well defined 1-3mm. euhedral red feldspar phenocrysts and indistinct quartz phenocrysts. The rock may be spherulitic locally. The zone is highly silicified and strongly chloritized locally. Fractures are epidotized.			
				214.8' - 222.9' : Diorite - dark green to black, weakly feldspathic (?) The upper contact is fresh to weakly chloritized. Chlorite alteration is stronger with dept.			
				229.9' - 237.2' : Rhyolite - dark grey with pinkish - red mottling and bands. Locally, fractures are strongly developed and surrounded by red reaction halos. They are chloritized and epidotized. Several 1"-3" granite stringers and reinlets are located at 229.7'.			
				237.2' - 243.9' : Diabase - very dirty with abundant xenoliths of rhyolite and granite up to 3 cm. - dyke is strongly chloritized.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-16

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
196	- 271.5		rhyolite	continued ---			
				243.9' - 271.5' : rhyolite - pinkish-red, aphanitic and porphyritic, intensely fractured becoming moderately fractured with depth. Frequently the rock is mylonitic in the upper zone and may be kaolinized. Numerous epidotized fractures and chloritized seams cut this zone.			
271.5'	- 295.3' (23.8')		DIABASE	The rock is dark green, fine grained and strongly chloritized. It contains up to 50% of its volume composed of sub-angular rhyolite fragments and minor granite fragments.			
295.3'	- 375' (79.7')			Pinkish - red, fine grained at the contact becoming medium grained with depth. The rock is weakly fractured becoming moderately broken locally. Composition is 25-40% quartz and 60-75% feldspar. Minor amounts of hornblende are also present locally.			
				309.7' - 314' : diabase - fine grained, strongly chloritized and moderately fractured.			
				329.1' - 347.8' : diorite - pink feldspar grains - moderately chloritized locally.			
				367.3' - 368.1' : diabase - strongly chloritized.			
				375': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-17
SHEET 1 OF 5

PROPERTY COBEQUID III
LATITUDE 35 + 00S.
LONGITUDE 52 + 00E.
ELEVATION

BEARING—TRUE 270° Az.
DIP -45°
FINAL DEPTH 414.4'
CORE SIZE BQ

DATE STARTED August 19, 1978
DATE COMPLETED August 24, 1978
DRILLED BY St. Lambert Drilling Co. Ltd
LOGGED BY A. Workman

DATE: August 24, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -34.5'	Ø		Overburden				Acid Dip Tests
34.5'	- 38.4		Diabase	Dark green, fine to medium grained and strongly chloritized. The rock			
	(3.9')			is moderately fractured and epidote is found filling voids.			98' :- 40.5°
							295' : 39°
38.4'	- 57.7'		Rhyolite	The rock is dark grey to reddish - grey, aphanitic and strongly			414' : 38°
	(19.3')			brecciated. The breccia is of tectonic origin and is strongly slicified.			
				The zones frequently are mylonitic . The rock moderately to strongly			
				fractured with epidote on fracture surfaces. Locally, the rhyolite is			
				porphyritic and possibly spherulitic.			
57.7'	-61.4'		Diabase	The intrusive is dark green, fine grained and strongly chloritized.			
	(3.7')						
61.4'	-133.9'		Rhyolite	Cream and orange to pinkish-grey, aphanitic and porphyritic. Round			
	(72.5')			quartz and euhedral feldspar phenocrysts up to 2 mm are common in the			
				zone. The rhyolite is intensely fractured and strongly brecciated.			
				Breccia is frequently mylonitic and has broken easily during coring.			
				Unaltered grey and red rhyolite fragments are angular and average			
				1 cm. in size, but may be up to 4 cm. locally. They are set in a			
				mylonitic matrix which is weakly kaolinized, epidotized and weakly			
				to moderately hematized. Locally the fragments may have a weak foliation			
				Wider fractures are filled with white carbonate and/or epidote. Blue			
				fluorite is found in slicified fractures and in the matrix to tectonic			
				breccia fragments at 88.6' and 125'.			

GMC 1016

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-17

SHEET 2 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
64.1'	- 133.9'		rhyolite	continued ...			
				61.4'- 103.7' : Strongly brecciated			
				103.7'- 107.8' : Rock is less brecciated but remains strongly fractured-red with 1-2 mm. quartz and feldspar phenocrysts.			
				107.8'- 110.4' : Strongly chloritized seam - diabase (?).			
				110.4'- 116.8' : Rhyolite - pink to reddish - pink and intensely fractured.			
				116.8'- 120.6' : Diorite - dark green, moderately chloritized.			
				120.6'- 128.8' : Rhyolite - intensely fractured, strongly brecciated becoming mylonitic at 122'. Fluorite is found in the matrix to epidotized rhyolite fragments at 125'.			
				128.8'- 133.9' : Diabase - dark green, intensely chloritized. Below 130.3 the intrusive is very dirty with epidotized rhyolite fragments (25-50%) of rock volume).	131.6' 132.7'	-folia-tion	fragments in dyke at 60° to the core axis.
133.9'	- 231.3' (97.4')		Rhyolite Ignimbrite	The rock is red (grey patches surrounded by wispy red filaments), aphanitic and porphyritic. Round quartz phenocrysts and red to cream coloured, euhedral feldspar phenocrysts are 1-2 mm. in size. Feldspar crystals frequently have reaction rims. The rock is weakly to moderately fractured becoming intensely broken, locally. Brecciation is weak to moderate. Locally, the rock is flow banded.			
				143.7': Numerous chloritized clots surrounded by red reaction halos - possibly near small mafic intrusive.			
				156.8'- 158.1' Chloritized diabase.			
				161.9': Weakly flow laminated zone - 6" wide.	161.9'	flow	laminations at 45° to the core axis.
				163.4': Narrow epidotized mylonite zone.			
				171.1': Weakly flow laminated zone - 6-8" wide.	171.1'	flow	laminations -40° to the core axis.
				175.4'- 191.9' Strongly fractured zone - brecciated with minor kaolinized mylonite.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-17

SHEET 3 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
133.9'	- 231.3'		Rhyolite	continued			
				191.9'- 196.4' : Diabase - dark green, fine grained, strongly chloritized.			
				196.4'- 231.3' : Rhyolite - red to pinkish - red, aphanitic, strongly fractured. Fractures are epidotized and weakly hematized. Chlorite is found in fractures locally, especially in very red zones.			
231.3'	- 243.8' (12.5')		Diorite	The rock is dark green, fine to medium grained, with scattered 1-5 mm, reddish- pink, euhedral feldspar phenocrysts. The matrix to the large feldspar crystals contains 1-2 mm. feldspar grains. A rhyolite xenolith is located at 242.5'-243'.			
243.8'	- 304.1' (60.3')		Rhyolite Intrusive?	The rock is dark burgundy red, aphanitic with 1-5 mm. orange, euhedral feldspar phenocrysts and 1-3 mm. white, round quartz phenocrysts. The rock is very strongly porphyritic. The ground mass is very hard. Locally, feldspar crystals may be clumped together. The porphyry is weakly fractured becoming moderately fractured locally. The rock is vuggy over short sections (e.g. 263' - 266').			
304.1'	- 320.1' (16')		Diorite	This zone is dark green, fine to medium grained and porphyritic locally similar to the diorite at 2313-243.8'. A rhyolite xenolith is located at 299.6'.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-17

SHEET 4 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
320.1'	- 345.5' (25.4')		Rhyolite	The rock is pink to pinkish-red, aphanitic and porphyritic with 1-3 mm. feldspar phenocrysts. Flow laminations are well developed locally but usually are indistinct and irregular. The rock is weakly to moderately fractured. Cracks are epidotized and some are chloritized. Some chloritized patches are surrounded by red reaction halos.	322.2' 326.8' 333'	flow banding " "	40° to the core axis.
345.5'	- 383.1' (37.6')		Diorite	The rock is dark green, fine to medium grained with a concentration of feldspar grains in the centre of the dyke. The zone is non-porphyritic. Some feldspars are pink particularly in the central part. Feldspar grains in the outer margins of the dyke are light green and weakly sausauritized. The intrusive is weakly fractured. Fractures are epidote filled - wider breaks may be filled locally with white carbonate.			
383.1'	- 403.9 (20.8')		Rhyolite	The zone is pinkish-red to red, aphanitic and porphyritic. Red feldspar phenocrysts, 1-3 mm. in size are euhedral and fresh. The rock is weakly fractured. The zone is locally similar to 133.9' - 231.3'.			
403.9'	- 406' (2.1')		Diorite	Dark green, fine grained, non-porphyritic and strongly chloritized.			
406'	- 430.6' (24.6')		Rhyolite Intrusive?	The rock is very strongly porphyritic similar to the zone at 243.8' - 304.1'. The matrix is reddish brown to burgundy becoming pinkish red locally and aphanitic. The feldspar phenocrysts are 1-5 mm. in size, pink to red, and euhedral. Quartz phenocrysts are white, round and up to 3mm.in diameter. Fractures are well developed and epidotized. Below 415', the rock becomes strongly fractured and broken, with abundant white carbonate and epidote stringers. The lowermost 3' are equigranular and weakly porphyritic.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-17

SHEET 5 OF 5

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
430-6	- 431.1'		Diabase	The rock is dark green, fine and very strongly chloritized. It contains abundant rhyolite and granite xenoliths.			
	(0.5')						
431.1'	- 469.2'		Granite	The zone is reddish - pink, medium grained with up to 30% quartz and 70% feldspar and minor hornblende. Quartz and feldspar are commonly intergrown.			
				469.2' - END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-18
SHEET 1 OF 4

PROPERTY COBEQUID III
LATITUDE 37 + 50 S.
LONGITUDE 52 + 00 E.
ELEVATION

BEARING—TRUE 270° Az.
DIP -45°
FINAL DEPTH 292'
CORE SIZE BQ

DATE STARTED August 24, 1978
DATE COMPLETED August 29, 1978
DRILLED BY St.Lambert Drilling Co. Ltd.
LOGGED BY A.W. WORKMAN

DATE: August 31, 1978 SIGNED A.W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0-29.5'	Ø		Overburden				Acid Dip Tests:
29.5'	- 219.8'						
	(190.3')		Rhyolite	The rock is pink to pinkish-red becoming grey locally and trending to greyer varieties below 160.5'. The flow is aphanitic and porphyritic with 1-2 mm. white quartz phenocrysts and 1-3 mm. cream coloured euhedral feldspar phenocrysts. The rock is strongly fractured and tectonically brecciated. Fractures are epidotized. Near diabase or diorite dykes they are chloritized and frequently carbonated. Breccia fragments are angular and set in an epidotized, frequently mylonitic matrix. The matrix is kaolinized weakly in some locations. Several mylonitic zones are also located along flat planes - probably due to localized faulting, (e.g. 49.3' - 49.5'). In strongly broken zones, the core is vuggy as a result of alteration to softer minerals and loose core washing away.			98' : 41° 285' : 41°
				29.5' - 39.9' : Intensely broken rhyolite, mylonitic and strongly brecciated.			
				39.9' - 40.3' : Diabase - intensely chloritized.			
				40.7' - 42.5': Diabase - intensely chloritized, includes rhyolite xenolith at 40.8'.			
				49.9' - 74.4': Strongly fractured and intensely brecciated rhyolite - numerous mylonite zones (e.g. 52.8' - 54').			
				54' and 59.6': Chloritized seams - diabase?			
				Mylonite zones are located at 65.8' - 66.3', 66.8' - 67.2', 68.5' - 68.9' 69.7' - 69.9' and 70.4' - 71.8'. They are strongly chloritized and may be related to mafic intrusives that were not intersected, but are close to the hole.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-18

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
29.5'	- 219.8'		Rhyolite	continued ...			
				74.4': The degree of brecciation and fracturing and the mylonite content decrease, but still remain strong.			
				93.7'- 101.8': Diorite - dark green, fine grained, and strongly chloritized.			
				104.7': 3" chloritized seam.			
				105': The rhyolite is less brecciated, weakly to moderately fractured, strongly porphyritic and becomes greyer in colour from the upper pink varieties. It contains minor red fragments (flow breccia?) which are rhyolitic, rounded and up to 8 mm. in size.			
				135.7'-136.2': Mylonitic zone.			
				138': 3" chloritized seam.			
				142.9'-153.1': Diorite - dark green, fine to medium grained, weakly chloritized and weakly magnetic. The zone from 145.7' to 150.6' is porphyritic with pink, euhedral feldspar phenocrysts up to 1.5 cm. Feldspar grains are light green in the edges of the porphyritic zone.			
				153.1': At this point the rhyolite trends towards a more strongly fractured pinker variety which becomes red locally. Numerous mylonitic and intensely brecciated zones are spatially related to thin mafic intrusives (e.g. 169'-170.6', 171.8' - 172.4', 173.1' - 174.2').			
				174.2'-176.4': Strongly chloritized rhyolite - some crude foliation locally - flow breccia?			
				176.4'-177.5': Diabase - very dirty with angular rhyolite fragments.			
				177.5'-180.4': Intensely broken and fractured rhyolite - tectonically brecciated - becomes very red at the contact at 180.4'.			
				180.4'-185.4': Diabase(?) dark green, fine grained. The intrusive carries abundant pink rhyolite xenoliths throughout. The centre is brecciated and foliated at 45° to the core axis.	183'	foliation	45° to the core axis.

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-18

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
29.5'	- 219.8'		Rhyolite	continued ...			
				185.4' - 210.4': Rhyolite - pink to reddish - pink and vaguely flow banded, locally at 30° to the core axis (e.g.198.5' - 199.3').	199'	flow banding	30° to the core axis.
				196.7' - 197' : Chloritized seam - diabase			
				199.3' - 200' : Chloritized seam - diabase			
				210.4' - 219.8': Diorite - medium to dark green, fine to medium grained and porphyritic. Feldspar content is up to 40% locally. The lower contact is strongly fragmental.			
219.8'	- 236.6' (16.8')		Rhyolite Ignimbrite?	The rock is reddish - pink, aphanitic and porphyritic with 1-3 mm.round quartz phenocrysts and 1-2 mm. cream - coloured, euhedral feldspar phenocrysts. The large quartz grains are frequently penetrated by the matrix. Abundant chloritized seams and clots are found throughout the zone. The rock is vaguely mottled locally - red sinues surround reddish - pink blebs and pseudo - fragments up to 3 mm. in size (e.g. 231.8'). The zone below 234.6' appears to be porphyritic flow breccia similar in texture to the rock at 231.8'. Fragments (?) are up to 5 mm. in size.			
236.6'	- 237.4' (0.8')		Diorite (diabase?)	Dark green, fine grained, weakly fractured, and strongly chloritized.			
237.4'	- 292' (54.6')		Rhyolite Intrusive?	Dark reddish - pink and brownish - pink to light pink, aphanitic and very strongly porphyritic. Quartz phenocrysts are white and rounded, and feldspar phenocrysts are pink, occasionally greenish - pink and euhedral. Both are up to 5 mm. in size. Quartz and feldspar phenocrysts are occasionally penetrated by the matrix. Feldspar phenocrysts are fractured and frequently the centres are replaced by pyrite. The rock is weakly fractured. Fractures are weakly epidotized and voids are filled with white carbonate locally.			NOTE: This unit is the equivalent of 243.8' - 304.1' and 406'-430.6' in DF - 17.
				247.2' 263.6': Diorite - dark green, fine to medium grained porphyritic with small pink feldspar grains occupying 40% of the rock locally.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-18

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
237.4'	- 292'		Rhyolite	continued ...			
				285' - 292' : Minor 1-2 mm. pink feldspar pnenocrysts. The zone 291.4'-292' is fragmental - the rock contains (50% of volume) angular, felsic fragments, possibly rhyolite, in an epidotized matrix.			
				292' - END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-19
SHEET 1 OF 4

PROPERTY COBEQUID III
LATITUDE 11 + 75S
LONGITUDE 52 + 00E
ELEVATION

BEARING—TRUE 180 Az.
DIP -45°
FINAL DEPTH 303.8'
CORE SIZE BQ

DATE STARTED 1 September, 1978
DATE COMPLETED 4 September, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: 5 September 1978 SIGNED J. Dolan

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 -	19.7		Overburden				ACID DIP TESTS 98': -42° 295': -38°
19.7 -	77.1		Rhyolite	The rock is light pinkish-green becoming red below 64.5' as the diabase	20.7		30° to the core axis
	(57.4)		Ignimbrite	is approached. The rock is aphanitic and very strongly porphyritic.			
				Pink to cream coloured, euhedral feldspar phenocrysts up to 5 mm., and	34.5	"flow"	30° to the core axis
				minor round quartz phenocrysts up to 2 mm. in size are found throughout			
				the zone. The rock is strongly "flow" laminated with bands often less	51.8	lamellae	35° to the core axis
				than 1 mm. thick and rippled with lensitic features (and is			
				probably ignimbrite. Laminations become coarser with depth especially	66.1		33° to the core axis
				below 28'. Rhyolite fragments up to 3 cm. are found locally. The zone			
				is weakly fractured. Fractures are epidotized with minor spotty			
				chlorite locally - devitrified glass. Locally, fractures are hematized.			
				71' - 74.6': Diabase - dark green, fine grained, weakly chloritized -			
				contacts are strongly chlorite altered. The			
				rock is weakly to moderately fractured. A			
				rhyolite xenolith is located at the lower contact.			
				74.6' - 76.6': Rhyolite - greenish grey becoming green and red with			
				depth and thinly laminated similar to the	75.5'	"flow"	40° to the core axis
				upper section of the hole.		laminations	
				76.6' - 77.1': intensely chloritized, "diabase" seam			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-19

SHEET 2 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
73.8	- 139.8		Rhyolite	The rock is reddish-brown to burgundy in the aphanitic matrix and is			
	(66)		intrusive(?)	very strongly porphyritic with 1-3 mm. round quartz phenocrysts and			Note: This unit is
				euhedral, red to orange feldspar phenocrysts up to 5 mm. in size.			identical to the
				Aggregates of feldspar crystals are up to 1 cm. in size locally. The			formation in DF-17
				rock is non-laminated and massive. It is weakly fractured becoming			from 243.8' - 304.1'
				moderately broken locally. These zones are pinkish-red in colour and			and 406' - 430.6';
				are strongly epidotized, (eg. 82.3' - 82.7', 87.3' - 88.1' and 134.5' -			and in DF-18 from 237'-
				134.8'). The upper contact zone from 73.8' - 75.1' is dark green, with			292'
				light green mottling as a result of strongly epidotized feldspar			(intrusive swarm?)
				phenocrysts, and very hard. Diabase fragments up to 3 cm. in size are			
				located at 74.4'.			
				107.4' - 112.1': feldspar phenocrysts are cream coloured and the			
				matrix is a more sandy brown colour.			
				139.8': in the zone just above the lower contact, feldspar phenocrysts			
				are less abundant.			
139.8	- 142.5		Diabase	The rock is dark green, fine grained and strongly chloritized.			
	(2.7)			Epidotized and chloritized fractures are weakly developed. Abundant			
				1 mm. black, chloritized amygdules (glass) dot the zone.			
142.5	- 176.2		Rhyolite	The "flow" is pale greenish-cream in colour becoming greyish-pink and	150.2		(fiammi?) 30° to the C/A
	(33.7)			pink with depth. The rock is moderately to strongly porphyritic with	161.3	"flow"	45° - 55° to the C/A
				abundant cream coloured, euhedral feldspar phenocrysts up to 5 mm. in	164.4		35°-40° " "
				size and somewhat fewer 1-3 mm. round quartz phenocrysts. The rock	171.3	laminations	40° " "
				alternates between weakly flow laminated and massive varieties -	172.5		25° " "
				probably ignimbritic in origin. Below 163.6' the rock is strongly			
				laminated. Bands are very thin, frequently rippled or convolute.			
				Abundant silicified and chloritized seams cut the core below 164.1'.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-19

SHEET 3 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
176.2	- 197.6 (21.4)		Diorite	The intrusive is dark green, medium grained and porphyritic. Light green euhedral feldspar phenocrysts are up to 2 cm. in size. The rock is weakly chloritized and weakly magnetic.			
				176.2 - 179.1': fine to medium grained diorite with abundant 1-2 mm. black specks - devitrified glass			
				179.1 - 190': porphyritic diorite - contains rounded dioritic fragments up to 3 cm. in size. The porphyritic zone ends sharply at a quartz-carbonate seam at 190'.			
				190 - 197.6': dark green, non-porphyritic diorite			
197.6	- 223.8 (26.2)		Felsic intrusive	The rock is reddish-pink, strongly porphyritic with 1-3 mm. cream-pink euhedral feldspar phenocrysts and 1-2 mm. round quartz phenocrysts. Up to 50% of the rock volume is composed of 1-2 mm. spherulites which have nucleated on quartz and feldspar phenocrysts. Numerous round dark green 1-5 cm. diorite fragments, occasionally porphyritic, are found throughout the zone. They are usually moderately to strongly chloritized. They are feldspar-flooded and surrounded by thin red reaction rims.			
				204.7 - 214.4': zone is very strongly spherulitic			
				217.8 - 220.6': DIABASE - dark green, fine to medium grained, non-porphyritic, massive to weakly fractured	220.6'	Contact	45° to the C/A.
223.8	- 297.7 (73.9)		Diorite	The rock is dark green, medium grained and porphyritic in the upper part. A narrow zone at the upper contact is flooded with feldspar from the felsic intrusive at 197.6 - 223.8'.			
				223.8 - 229.8': porphyritic zone carrying chloritized dioritic fragments.			
				229.8 - 239.8': diorite - medium grained, weakly to moderately fractured.			
				239.8 - 242.7': DIABASE - fine grained, chloritized			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DF-19

SHEET 4 OF 4

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
223.8	- 297.7		diorite	continued.....			
				242.7 - 249.5': medium grained diorite			
				249.5 - 251.2': DIABASE - fine grained - chloritized			
				251.2 - 262.4': medium grained diorite - 3" chloritized seam at 254.2'			
				262.4 - 271.8': felsic diorite - 40% pink feldspar			
				268' - 268.7': chloritized diabase dyke			
				271.8': a sharp change to a fine grained, chloritized diorite			
				which becomes medium grained with depth - feldspars			
				are light green in colour.			
297.7	- 303.8		RHYOLITE	The rock is reddish-pink and very strongly porphyritic. Cream coloured,			
	(6.1)		Ignimbrite	euhedral, 1-3 mm. feldspar phenocrysts and 1-2 mm. round quartz			
				phenocrysts are common in the zone. The rock is well laminated and	299.3		30° to the core axis
				probably ignimbritic in origin. "Flow" bands are lensitic, often		laminations	
				discontinuous and rippled. The zone is weakly to moderately fractured.	301.2		35° to the core axis
				Breaks are strongly epidotized.			
				303.8': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

D.D.H. NO. DF-20
SHEET 1 OF 2

PROPERTY COBEQUID III
LATITUDE 15 + 25 S.
LONGITUDE L 48 + 00 E.
ELEVATION

BEARING—TRUE 180° Az.
DIP -45°
FINAL DEPTH 228.2'
CORE SIZE BQ

DATE STARTED September 4, 1978
DATE COMPLETED September 6, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

DATE: September 7, 1978 SIGNED A. W. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 31.2		Ø	Overburden	Rhyolite boulders in overburden - pink, porphyritic			ACID DIP TESTS
31.2 - 81.4 (50.2)			Tuff?	The rock is light green, fine grained to aphanitic and very siliceous. It is thinly bedded. Alternating light and dark green with occasional pink beds are up to 5 mm. in thickness. Some vague grading of the beds might be present locally, and if so indicates that the beds are overturned. Lithic fragments, found locally, have settled within some beds, also indicating overturning. These fragments are rounded and probably a variety of pink rhyolite. Abundant pale green "flecks" of unknown mineral dot the rock - possibly as a product of alteration. The rock is strongly broken and vuggy near surface. Fractures are heavily carbonated especially near mafic intrusives. Many fractures are weakly chloritized and epidotized. Some fractured zones carry blebs of chalcopyrite and graphite on fracture surfaces, (e.g. 75.5'-77.9')			100': -40° 228': -37°
					49.9'	Bedding	48° to the core axis
					59.9'	"	75° to the core axis
					65'	"	45° to the core axis
					74.5'	"	45° to the core axis
				52.3'-58.1': Diorite - the rock is dark green, fine to medium grained and strongly chloritized near the contacts. It is non-porphyritic. Feldspars are light green in colour. Some black chloritized amygdules are found locally.	80.4'	"	30° to the core axis
				58.1'-65': the beds are vuggy and brecciated			
				65': the rock is less fractured and becomes dark green and less distinctly bedded locally			
				69.7': a 3 cm. quartz stringer carries blebs of chalcopyrite and graphite up to 1 cm. in size. Graphite is also found on some fracture surfaces			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. DE-20

SHEET 2 OF 2

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
81.4 - 105.5			Diorite	The intrusive rock is dark green, fine to medium grained and becomes			
(24.1)				weakly porphyritic locally (e.g. 87.6') with 1-5 mm. euhedral, light			
				green feldspar phenocrysts. The rock is strongly chloritized at the			
				contact becoming less so in the central part. It is generally unfrac-			
				tured but minor fractures do occur locally - usually strongly chloriti-			
				zed and carbonated. The rock is weakly magnetic.			
105.5 - 138.8			Tuff	The rock is light to medium green and fine grained similar to the upper-			
(33.3)				most zone. Bedding is pinker locally. The sediments at the contact	115.5'	Bedding	33° to the core axis
				are strongly fractured and breaks are carbonated strongly.			
				114.8': some rounded, pink rhyolite fragments up to 3 mm. in	127'	"	35° to the core asix
				size are found from here to the base of this unit.			
				They typically show load casing within beds as a result	133.5'	"	30° to the core axis
				of settling. Bedding is overturned.			
138.8 - 228.2			Diorite	The upper 8" are a light green, strongly chloritized and fine grained			
(89.4)				rock which grades sharply to a pink to greenish-pink, strongly por-			
				phyritic zone. At [illegible] the rock sharply grades back to a dark green,			
				non-porphyritic diorite.			
				138.8'-139.4': light green, strongly chloritized diorite			
				139.4'-156.5': pink porphyritic zone - orange 104 mm. euhedral feldspar			
				phenocrysts and 1-2 mm. round quartz phenocrysts			
				156.5'-228.2': dark green, medium grained diorite. Feldspar grains			
				are light green becoming pink locally. The rock is			
				weakly fractured. Breaks are epidotized and chloritized			
				Vugs and voids are strongly carbonated. Some fractures			
				belonging to a late stage set, are highly carbonated.			
				A few feldspar phenocrysts up to 1 cm. are found at			
				221.2'.			
				228.2': END OF HOLE			

Gulf Minerals Canada Limited
DIAMOND DRILL RECORD

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

PROPERTY COBEQUID IV
LATITUDE 43 + 85 S. *
LONGITUDE L 80 + 00 E.
ELEVATION

BEARING—TRUE 180°
DIP -45°
FINAL DEPTH 446.2'
CORE SIZE BQ

DATE STARTED September 18, 1978
DATE COMPLETED September 21, 1978
DRILLED BY St. Lambert Drilling Co. Ltd.
LOGGED BY A. W. Workman

* L. 80 E. - Intersects the 40 S. Tie Line at 38 + 35 S.

DATE: September 24, 1978 SIGNED A. Workman

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
0 - 9.8		Ø	Overburden				ACID DIP TESTS:
9.8-59.1 (49.3)			Diorite	The rock is dark green, medium grained becoming fine grained locally. It is weakly porphyritic locally, with 1-3 mm. light green, euhedral feldspar phenocrysts. Some 1-2 mm. black blebs representing devitrified volcanic glass are found locally. The rock is moderately fractured. Fracturing is epidotized and voids are white carbonate filled. Some localized shears are chloritized.			98': -44.5° 446': -46°
59.1-125.3 (66.2)			Rhyolite	The rock is pink to reddish-pink, aphanitic and porphyritic. Round, 1-2 mm. quartz phenocrysts and orange-pink, euhedral, 1-4 mm. feldspar phenocrysts are common. Feldspar crystals are epidotized locally. The rhyolite becomes more strongly porphyritic below the diabase at 75'. In this zone, the rock is 30-40% phenocrysts by volume, and these crystals are commonly penetrated by the matrix. Weakly to moderately developed fracture systems are epidotized. The cavities located along some fractures are epidotized and white carbonate filled. A few chloritized mafic stringers and clots (e.g. 98.3') are found locally. Some darkening of the rhyolite to grey-pink or brownish-pink near mafic intrusives is observed. 72.7'-79.3': Diabase - dark green, fine grained, weakly to moderately chloritized, moderately fractured with epidote-carbonate filling - abundant rhyolite xenoliths.			
125.3-130.1 (4.8)			Diabase	This intrusive is dark green, fine grained and weakly to moderately fractured. Fractures are chloritized and epidotized. This unit straddles the contact between upper and lower rhyolite units.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. SL-1

SHEET 2 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
130.1-152.6	(22.5)		Rhyolite Ignimbrite	The rock is pink, aphanitic and porphyritic with 1-2 mm. round quartz phenocrysts. It is well flow banded locally. Thin laminations are rippled, lensitic and irregular in dip. The rock is moderately fractured becoming strongly fractured and tectonically brecciated locally (e.g. - 139.6'). Angular to sub-angular fragments up to 3 cm. are set in a strongly epidotized groundmass. The matrix contains abundant 1-2 mm. fragments of rhyolite and quartz phenocrysts of the same size.			
152.6-164.7	(12.1)		Diabase	The intrusive is dark green, fine grained and strongly fractured. Fractures are epidotized and filled with white carbonate. Some shear planes are strongly chloritized. The zone from 152.6-156.8 contains abundant rhyolite, xenoliths. These fragments are strongly fractured and epidotized and represent flow banded and porphyritic rhyolite			
164.7-218.2	(53.5)		Rhyolite Minor Ignimbrite	The rock is pink, aphanitic and porphyritic. Quartz phenocrysts are 1-2 mm. in size and the rounded white feldspar crystals are 1-4 mm. in size. Zones of tectonic brecciation are located at 166', 169.6', 178.1', and 204-206.1. The matrix to angular fragments up to 4 cm. is moderately epidotized. Minor chloritization and epidote veinlets are found locally. At 191.4', the rhyolite becomes brownish-red and is cut by several narrow diabase stringers. Below 212.4', the rock is well flow banded. The laminations consist of rippled, lensitic bands. This lower section is probably ignimbrite.			
				193.8'-199.6': Diabase - dark green, fine grained and chloritized.			
				206.1'-207.1': Chloritized diabase seam.			
218.2-232.2	(14)		Rhyolite (Spherulitic)	The rock is grey with pink bands becoming redder and more strongly fractured with depth. Some cloudy pink to green zones mottle the core. The rock is aphanitic with 1-3 mm. white kaolinized spherulites. The spherulites are found in bands averaging 0.5' wide but may be up to 1' thick locally, (e.g. 227.2'). The rock is porphyritic with 1-2 mm. quartz and feldspar phenocrysts. Quartz phenocrysts have acted as nuclei for feldspar growth.			

GMC 1018

DIAMOND DRILL RECORD—CONTINUATION SHEET

D.D.H. NO. SL-1

SHEET 3 OF 3

DEPTH FEET	F'TAGE CORED	F'TAGE REC'D	FORMATION	DESCRIPTION	DEPTH	BED'G & FOLIA	REMARKS SAMPLES ETC.
232.2-382.5	(150.3)		Diorite	Dark grey-green, fine to medium grained with pink feldspar grains. The rock is weakly to moderately fractured. Fractures are strongly epidotized and some epidote veinlets up to 5 mm. thick are found locally. Minor pyrite and chalcopyrite is found disseminated on fractures in blebs up to 3 mm. in size. The rock is weakly to locally moderately chloritized. Several sections are porphyritic locally with 1-4 mm. feldspar phenocrysts.			
				232.9'-233.9': Red rhyolite xenolith - strongly fractured.			
				239.7': Red rhyolite xenolith.			
				316.6'-343.7': The diorite becomes strongly felsic and medium to coarse grained. Feldspar is up to 50% of the rock volume as 1-3 mm. grains.			
				375.7'-382.5': Rock is fine grained, more fractured and moderately to strongly chloritized.			
382.5-446.2	(53.7')		Rhyolite	The rock is pinkish-red to red becoming a darker brownish-red at 394'. It is aphanitic and strongly porphyritic with 1-2 mm. round quartz phenocrysts and 1-4 mm. pink euhedral feldspar phenocrysts. The rock is weakly to moderately fractured becoming strongly broken to mylonitic (e.g. 399.9') locally. Abundant green chloritized glass shards are found throughout the zone. At 431.4', the rock becomes vuggy with white carbonate filling the open fractures and cavities.			
				446.2': END OF HOLE.			

APPENDIX II

DOWN THE HOLE LOGGING

SECTION A: J-ZONE

SECTION B: DF-ZONE

SECTION A FOLLOWS.....

HOLE NO.	JZ-7
PROJECT	Cobequid
PROVINCE	Nova Scotia
Bearing	N 8 °
Dip	90 °
Casing depth	22 ft.
Total depth	230 ft.
Surface elev.	ft.
Coordinates	0 1 5 S / 7 2 5 W

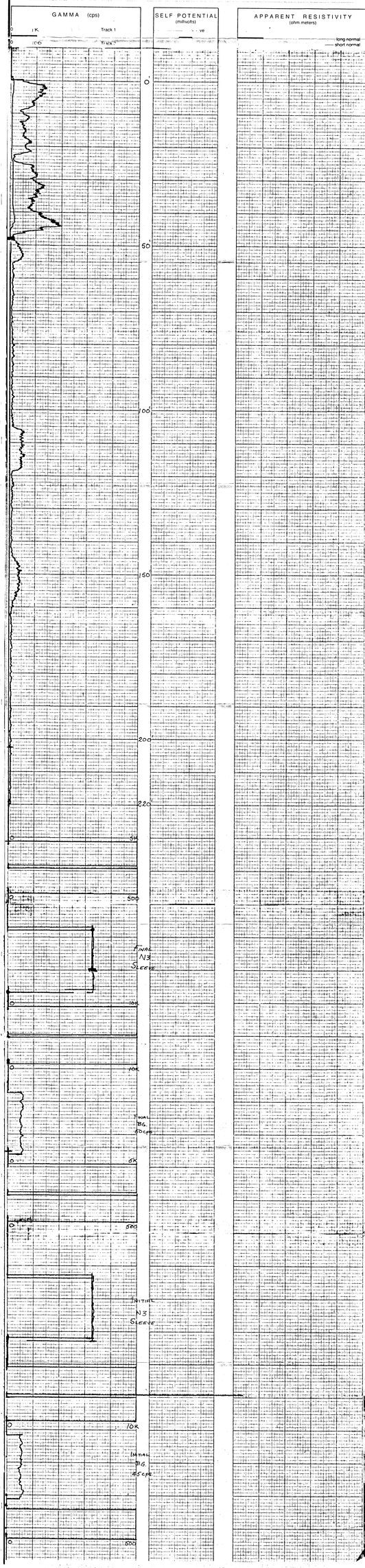
GAMMA LOG (Total Count)	
Date	Dy 25 Mo No yr 77
Logged depth	220 ft.
Logging speed	10 ft/min.
Crystal size	3/4 in x 1 in.
Time constant	1 sec.
Probe No.	547
Detector No.	12-8-232
Track 1 RMM	207 #125
Track 2 RMM	207 131

ELECTRIC LOG	
Date	Dy Mo yr
Logged depth	ft.
Logging speed	ft/min.
Probe size (dia)	in.
Borehole medium	
Res. between gnds	A
Normal spacings	

GAMMA FACTORS	Track 1	Track 2
Detector K factor	0000 150	0000 152
Instrument dead time	16.1 μ sec.	16 μ sec.
Calibration standard (cps)	6.6 K	6.5 K
Fluid factor		1 030
Casing factor		1 360

Truck No. Eastern Projects
Logged By G. Forget
Logger's Comments
E-log not working - Normal Current Crops out!

REMARKS correlated by



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HOLE NO.	32-8
PROJECT	Cobequid
PROVINCE	Nova Scotia
Bearing	N / B / °
Dip	90 / °
Casing depth	17 / ft
Total depth	251 / ft
Surface elev.	/ ft
Coordinates	0 / 10 / N; 7 / 00 / W

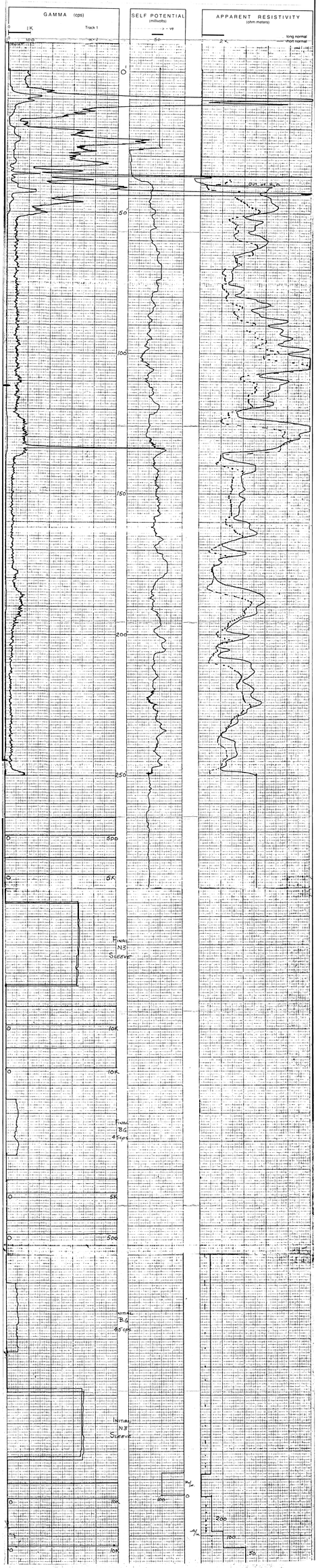
GAMMA FACTORS	Track 1	Track 2
Detector K factor	0000 / 150 μ sec	0000 / 152 μ sec
Instrument dead time		
Calibration standard (cps)	6.5K	6.6K
Fluid factor		1 / 030
Casing factor		1 / 360

GAMMA LOG (Total Count)	
Date	Dy 27 Mo 10 yr 77
Logged depth	250 ft
Logging speed	10 ft/min
Crystal size	3/4 in x 1 in
Time constant	1 sec
Probe No.	547
Detector No.	12-8-232
Track 1 RMM	207 # 125
Track 2 RMM	207 # 131

ELECTRIC LOG	
Date	Dy 04 Mo 10 yr 77
Logged depth	250 ft
Logging speed	30 ft/min
Probe size (dia)	1 1/4 in
Borehole medium	Mud & water
Res. between grids	2 K
Normal spacings	16" & 32"

Truck No. Eastern Projects
Logged By Mark F. Weber
Logger's Comments
No E-log as equipment not required

REMARKS correlated by



HOLE NO.	JZ-9
PROJECT	COBEQUID III
PROVINCE	NOVA SCOTIA
Bearing	N/A °
Dip	90 °
Casing depth	ft
Total depth	ft
Surface elev.	ft
Coordinates	0+10N 7+25W

GAMMA LOG (Total Count)

Date	Dy 04 Mo DE yr 77
Logged depth	15 ft.
Logging speed	10 ft/min.
Crystal size	3/4 in x 1 in.
Time constant	1 sec.
Probe No.	
Detector No.	
Track 1 RMM	207 * 125
Track 2 RMM	207 131

ELECTRIC LOG

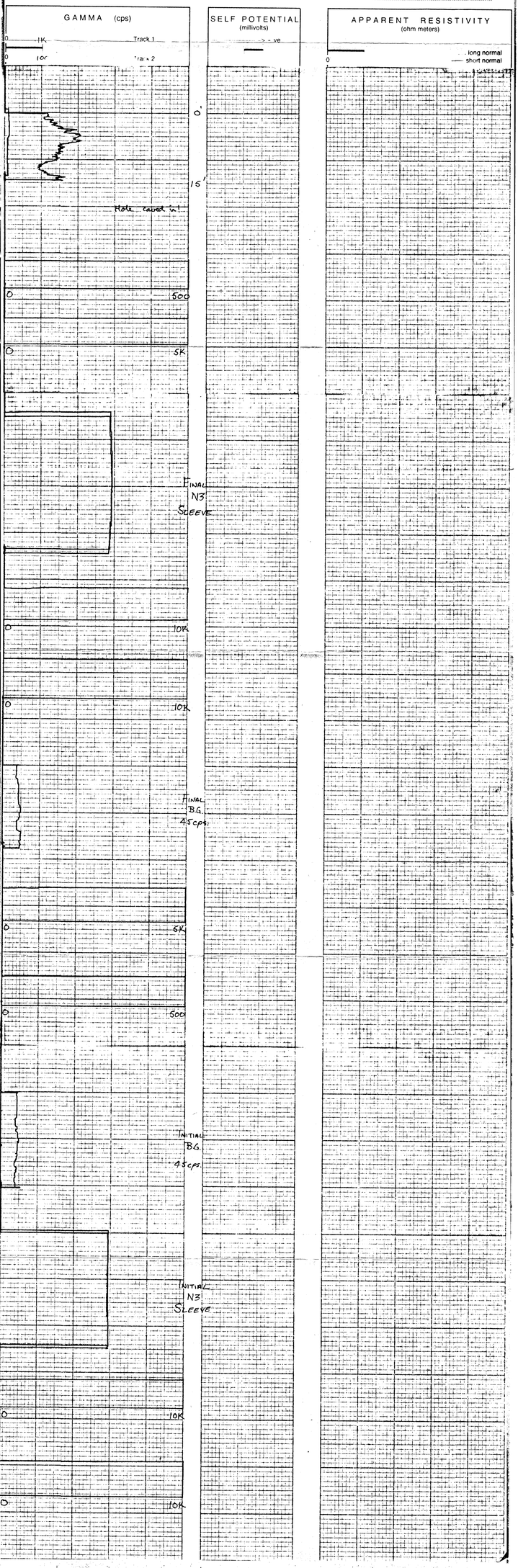
Date	Dy Mo yr
Logged depth	ft
Logging speed	ft/min
Probe size (dia)	in
Borehole medium	
Res. between gnds	Δ
Normal spacings	

GAMMA FACTORS

	Track 1	Track 2
Detector K factor	0000	0000
Instrument dead time	μ sec.	μ sec.
Calibration standard (cps)	5.8K	5.9K
Fluid factor		1.030
Casing factor		1

Truck No. EASTERN PROJECTS
Logged By M. F. WEBER
Logger's Comments
Hole filled with sludge - Not able to log outside of casing.
No E-log attempted

REMARKS correlated by

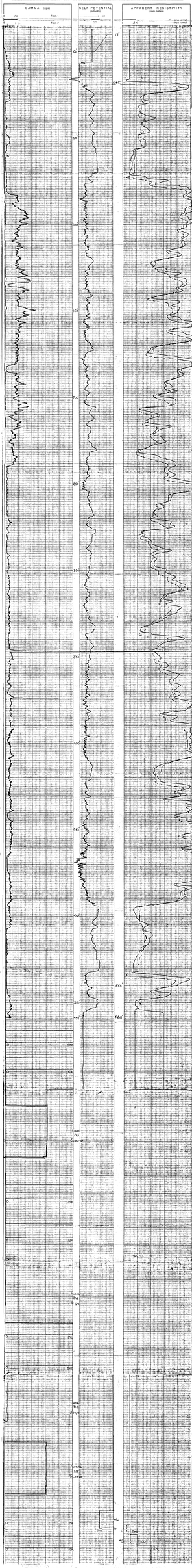


Geomatrix Canada Limited

HOLE NO. 32-10		**GAMMA LOG** (Total Count)	**ELECTRIC LOG**
PROJECT Cobrador III		Date: Dy 20 Mo 3 Yr 1	Date: Dy 20 Mo 3 Yr 1
PROVINCE Nova Scotia		Logged depth: 0	Logged depth: 0
Bearing: 1.8		Logging speed: 20	Logging speed: 20
Dip: 0		Crystal size: 3	Probe size (dia): 1
Casing depth: 0		Total Counts: 1	Bed thickness: 1
Total depth: 5.7		Probe No.: 56	Bed Resistivity: 1
Surface elev.: 0		Detector No.: 1	Normal spacings: 1.5
Coordinates: 1.8		Track 1 Mode: 2	Track No.: 2
		Track 2 Mode: 2	Track No.: 2

GAMMA FACTORS	Track 1	Track 2
Detector K factor	0.0	0.0
Calibration dead time	20.5 μ sec	μ sec
Calibration standard (cps)	0.2 K	0.1 K
Fixed factor		1.0
Casing factor		1.0

REMARKS correlated by



HOLE NO.	32-11
PROJECT	Corridor 31
PROVINCE	New Scotia
Bearing	1 8 0
Dip	2 0
Casing depth	2 0
Total depth	4 7
Surface elev.	4 0
Coordinates	7 0 0

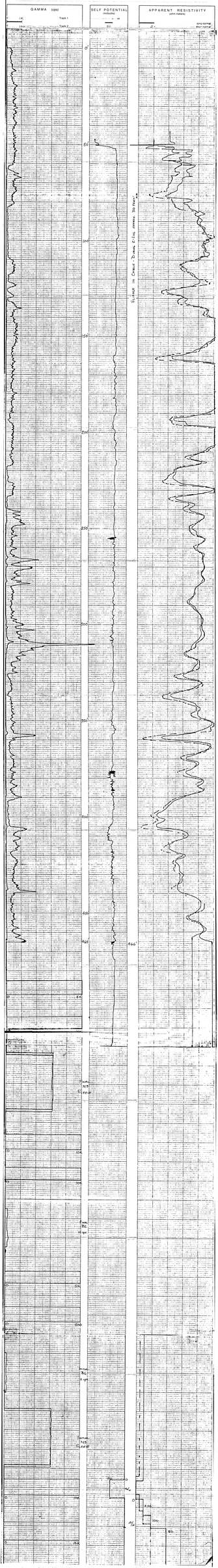
GAMMA FACTORS	Track 1	Track 2
Detector & factor	0000 1 7 5	0000
Instrument dead time	20 μ sec	20 μ sec
Calibration standard (cps)	0 Rms	6100
Fluid factor		1 0 3 0
Casing factor		1 3 6 0

GAMMA LOG (Total Count)	
Date	Dy 0 3 Mo 3 Jul 7 7
Logged depth	4 6 5 ft
Logging speed	10 ft/min
Crystal size	1 1/4 x 1 in
Time constant	1 sec
Probe No.	556
Detector No.	13-8-531
Track 1 RMM	207 # 125
Track 2 RMM	207 # 131

ELECTRIC LOG	
Date	Dy 0 3 Mo 3 Jul 7 7
Logged depth	4 6 6 ft
Logging speed	30 ft/min
Probe size (dia)	1 1/4 in
Borehole medium	mud/water
Rim between grids	3 ft
Normal spacings	16" & 32"

Truck No.	Eastern Projects
Logged by	Max T. Weber
Logger's Comments	
Pickles with spike feet in ground	

REMARKS correlated by



HOLE NO. 32-12

PROJECT Cobequid III

PROVINCE Nova Scotia

Bearing	180°
Dip	45°
Casing depth	18 ft
Total depth	346 ft
Surface elev.	ft
Coordinates	8 800 N 1 900 W

GAMMA FACTORS

	Track 1	Track 2
Detector K factor	0000 | 715	0000
Instrument dead time	202 µ sec	µ sec
Calibration standard (cps)	6.6K	6.5K
Fixed factor		1.030
Casing factor		3.60

REMARKS correlated by

GAMMA LOG (Total Count)

Date	Dy 1 3 Mo 3 6 Yr 7 7
Logged depth	346'
Logging speed	40 ft/min
Crystal size	3/4 in x 1 in
Time constant	1 sec
Probe No.	556
Detector No.	13-B-231
Track 1 RMM	207 #125
Track 2 RMM	207 #131

ELECTRIC LOG

Date	Dy 1 3 Mo 3 6 Yr 7 7
Logged depth	346'
Logging speed	35 ft/min
Probe size (dia)	1 3/4 in
Borehole medium	MUD / WATER
Res. between grds	16' 4"
Normal spacings	16' & 82'

Truck No. Eastern Physics

Logged By Mark E. Webber

Logger's Comments

GAMMA (cps)

Track 1

Track 2

SELF POTENTIAL (millivolts)

APPARENT RESISTIVITY (ohm-meters)

long normal

short normal

0

50

100

150

200

250

300

346

400

500

5K

FINAL NS SLEARE

10K

FINAL RE. up

15K

INITIAL RE. up

INITIAL NS SLEARE

20K

25K

30K

35K

40K

45K

50K

55K

60K

65K

70K

75K

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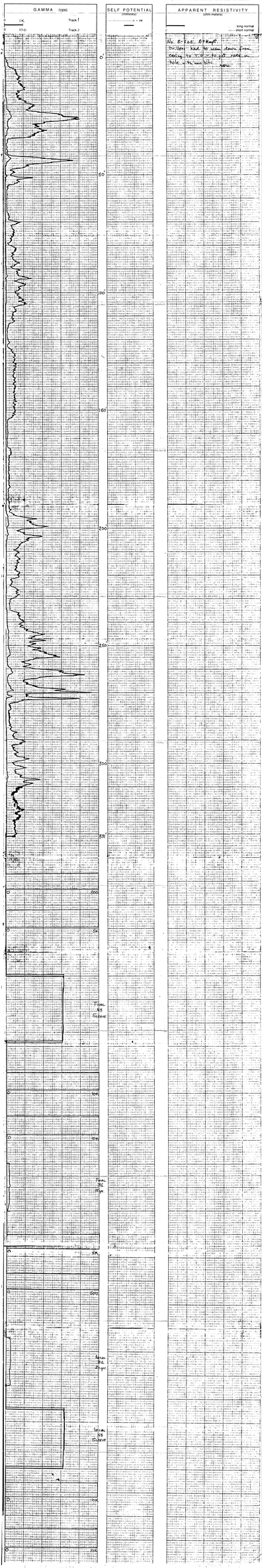
HOLE NO. 32-15	**GAMMA LOG** (Total Count)		**ELECTRIC LOG**
PROJECT Coreland III	Date Dy 10 9 Mo 3 Yr 7 7		Date Dy Mo Yr
PROVINCE Nova Scotia	Logged depth 3 3 1 ft		Logged depth ft
Bearing N/S	Logging speed 10 ft/min		Logging speed ft/min
Dip ° °	Crystal size 3/4 in x 1 in		Probe size (dia) in
Casing depth 1 8 ft	Time constant 1 sec		Sensitivity medium
Total depth 3 3 3 ft	Probe No. 556		Res. between grids A
Surface elev. ft	Detector No. 12-8-231		Normal spacings
Coordinates	Track 1 RMM 207 #125		
	Track 2 RMM 207 #131		Truck No. Fraser Products
			Logged By Mark T. Weber
			Logger's Comments

GAMMA FACTORS	Track 1	Track 2
Detector K factor	0000 1 7 5	0000 1 7 5
Instrument dead time	20 μ sec	20.3 μ sec
Calibration standard (cps)	6300	6200
Fluid factor		1 0 3 0
Casing factor		1 3 6 0

REMARKS correlated by



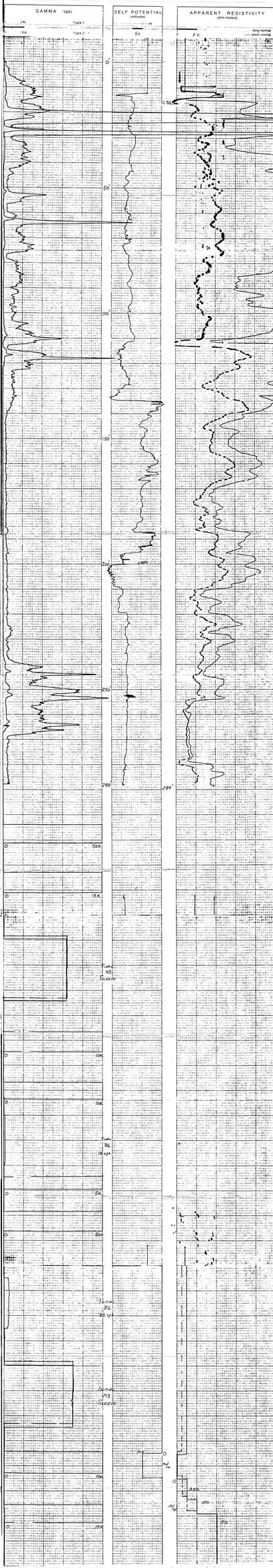
HOLE NO.	JZ-16
PROJECT	Cobequid III
PROVINCE	Nova Scotia
Bearing	N/A
Dip	90°
Casing depth	20 ft
Total depth	311 ft
Surface elev.	ft
Coordinates	0 - 75 N 7 - 00 W

GAMMA FACTORS	Track 1	Track 2
Detector K factor	0000 / 75	0000
Instrument dead time	20.3 μ sec	μ sec
Calibration standard (cps)	6.6 K	6.8 K
Fluid factor		1 0 3 0
Casing factor		1 3 6 0

GAMMA LOG (Total Count)	
Date	Dy 1 1 Mo D E Yr 7 7
Logged depth	288 ft
Logging speed	10 ft/min
Crystal size	5/4 in x 1 in
Time constant	1 sec
Probe No.	556
Detector No.	12-8-231
Track 1 RMM	207 #125
Track 2 RMM	207 #131

ELECTRIC LOG	
Date	Dy 1 7 Mo D E Yr 7 7
Logged depth	288 ft
Logging speed	35 ft/min
Probe size (dia)	1 1/4 in
Borehole medium	WATER
Res. between gnds	25 KA
Normal spacings	16" & 32"
Truck No.	Eastern Projects
Logged By	Mark T. Weber
Logger's Comments	

REMARKS correlated by



HOLE NO. JZ-17
PROJECT Cobequid III
PROVINCE Nova Scotia

Bearing	1 8 0
Dip	4 5
Casing depth	1 6 ft
Total depth	3 5 8 ft
Surface elev.	ft
Coordinates	1 2 5 N 4 0 0 W

GAMMA FACTORS

	Track 1	Track 2
Detector K factor	0000 1 7 5	0000
Instrument dead time	20.3 μsec	μsec
Calibration standard (cps)	6.6 K	6.5 K
Fluid factor		1 0 3 0
Casing factor		1 3 6 0

GAMMA LOG (Total Count)

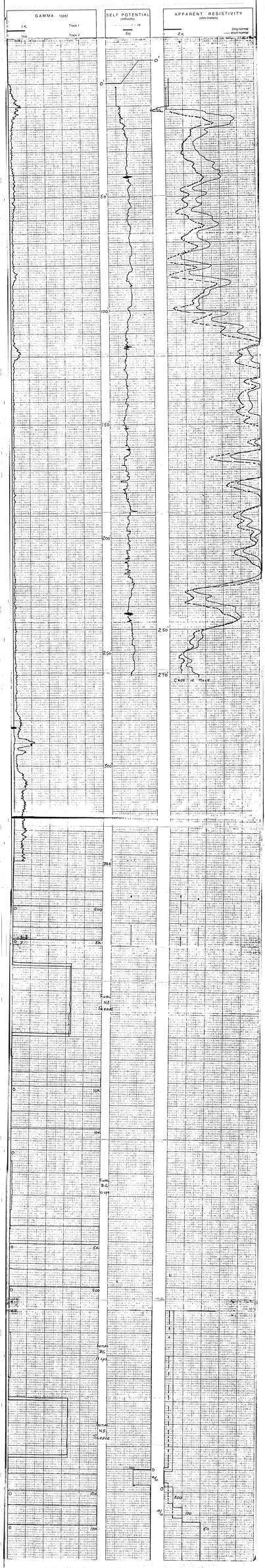
Date	Dy 1 5 Mo 3 E 1 7 7
Logged depth	3 4 4 ft
Logging speed	10 ft/min
Crystal size	3/4 in x 1 in
Time constant	1 sec
Probe No.	556
Detector No.	12-B-321
Track 1 RMM	207 # 125
Track 2 RMM	207 # 131

ELECTRIC LOG

Date	Dy 1 5 Mo 3 E 1 7 7
Logged depth	2 7 0 ft
Logging speed	35 ft/min
Probe size (dia)	1 3/4 in
Borehole medium	Mud/water
Res. between grids	4 K
Normal spacings	16" & 32"

Truck No. Eastern Projects
Logged By Mark T. Weber
Logger's Comments

REMARKS correlated by



HOLE NO. 32-18
PROJECT Cabeaudie 3D
PROVINCE Nova Scotia

Bearing	
Dip	
Casing depth	ft
Total depth	ft
Surface elev.	ft
Coordinates	

GAMMA FACTORS

	Track 1	Track 2
Detector M factor	2000 / 175	2000
Instrument dead time	20.8 μsec	μsec
Calibration standard (cps)	6.7K	6.5K
Pivot factor		1.0 / 2.0
Casing factor		1.8 / 6.0

REMARKS corrected by

GAMMA LOG (Total Count)

Date	Dy 17 Mo 3 Yr 77
Logged depth	ft
Logging speed	30 ft/min
Crystal size	3"dia x 3" in.
Time constant	1 sec.
Probe No.	556
Detector No.	17-B-181
Track 1 PMM	2.07 / 155
Track 2 PMM	2.07 / 131

ELECTRIC LOG

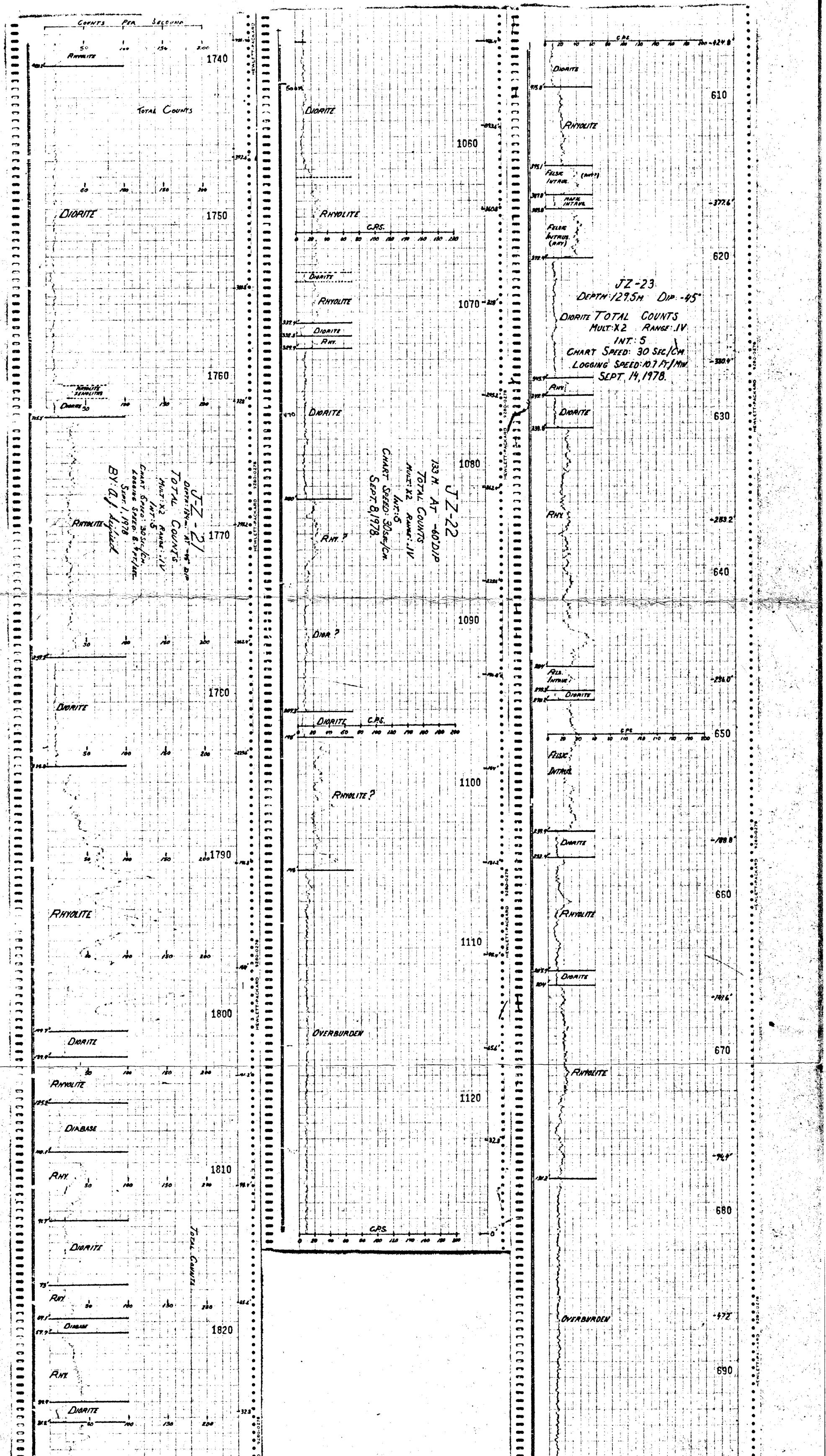
Date	Dy 17 Mo 3 Yr 77
Logged depth	ft
Logging speed	30 ft/min
Probe size (dia)	1 7/8 in.
Borehole medium	Mud / water
Res. between grids	2 ft.
Nominal spacings	16" / 64"
Truck No.	Eastern Products
Logged By	Hank Wagner
Logger's Comments	356 m Cent in hole

GAMMA (cps)
1K
Track 1
100
Track 2

SELF POTENTIAL (millivolts)
+ 40
0
- 40

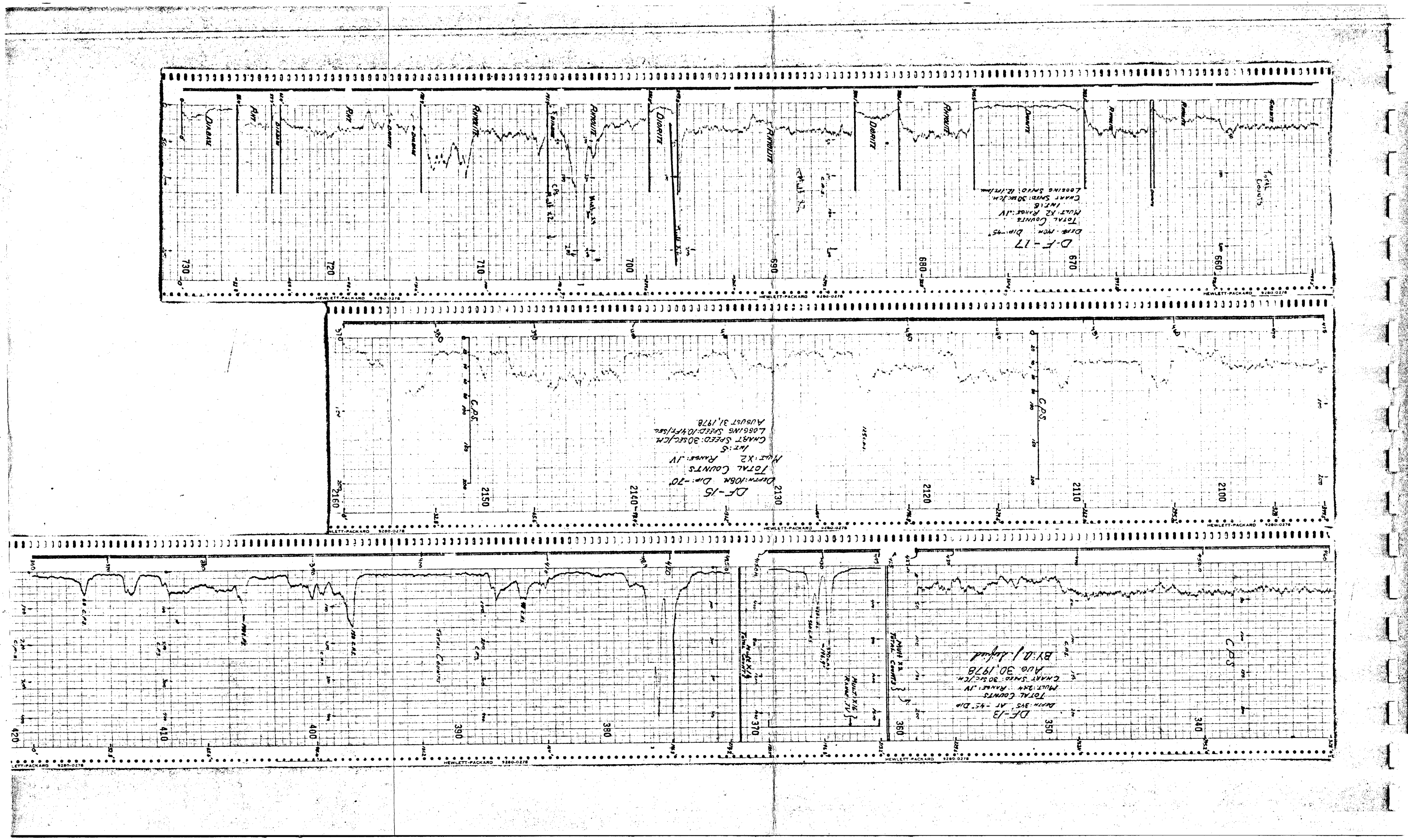
APPARENT RESISTIVITY (ohm-meters)
2
2K
long normal
short normal

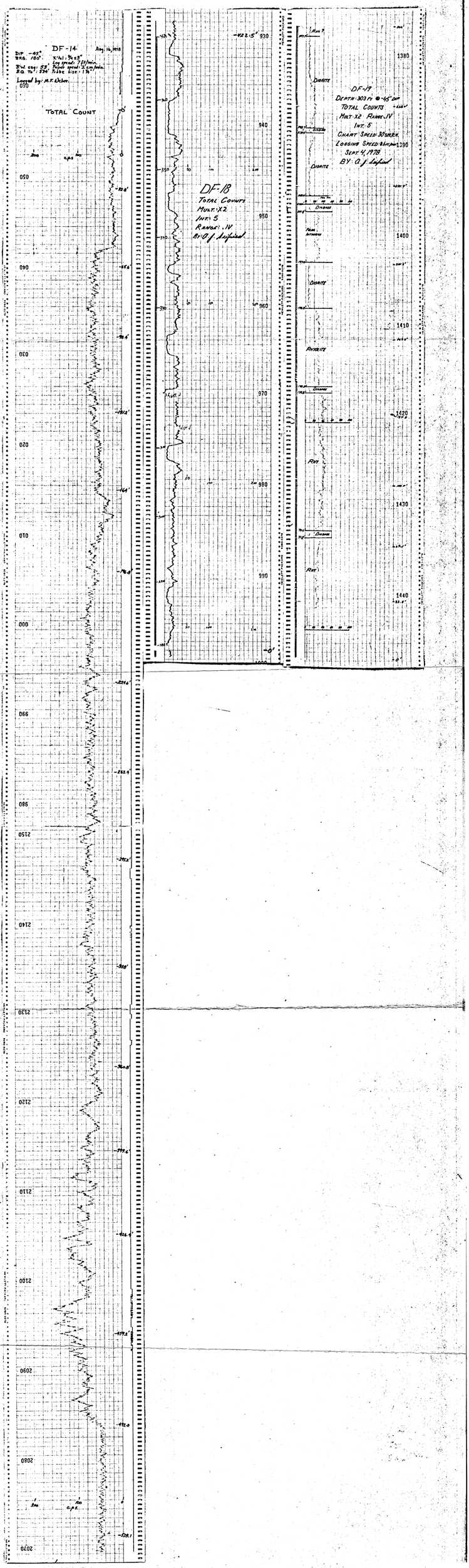
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950


COUNTS PER SECOND
TOTAL COUNTS
C.P.S.
RHYOLITE
DIORITE
DIABASE
OVERBURDEN
FELSIC INTRUS.
MAFIC INTRUS.
1740
1750
1760
1770
1780
1790
1800
1810
1820
1830
1060
1070
1080
1090
1100
1110
1120
610
620
630
640
650
660
670
680
690
-377.6
-330.4
-283.2
-236.0
-188.8
-141.6
-94.4
-47.2
JZ-23
DEPTH: 129.5M DIP: -45°
DIORITE TOTAL COUNTS
MULT: X2 RANGE: IV
INT: 5
CHART SPEED: 30 SEC/CM
LOGGING SPEED: 10.7 FT/MIN
SEPT. 14, 1978.
JZ-22
133 M AT -60° DIP
TOTAL COUNTS
MULT: X2 RANGE: IV
INT: 5
CHART SPEED: 30 SEC/CM.
SEPT. 8, 1978.
JZ-21
DEPTH: 134M AT -45° DIP
TOTAL COUNTS
MULT: X2 RANGE: IV
INT: 5
CHART SPEED: 30 SEC/CM.
LOGGING SPEED: 8.4 FT/SEC.
SEPT. 1, 1978
BY: A.J. Lipinski
HEWLETT-PACKARD 9280-0278

SECTION B

DF-ZONE


D-F-17
DEPTH-MOM DIP:-45°
TOTAL COUNTS
MULT: X2 RANGE: .1V
INT: 6
CHART SPEED: 30 SEC/CM.
LOGGING SPEED: 12.1 FT/MIN
DIABASE
RHYOLITE
DIORITE
GRANITE
TOTAL COUNTS
730
720
710
700
690
680
670
660
HEWLETT-PACKARD 9280-0278
DF-15
DEPTH: 106M DIP: -70°
TOTAL COUNTS
MULT: X2 RANGE: .1V
INT: 5
CHART SPEED: 30 SEC/CM.
LOGGING SPEED: 10.4 FT/SEC.
AUGUST 31, 1978.
C.P.S.
2160
2150
2140
2130
2120
2110
2100
DF-13
DEPTH: 345' AT -45° DIP
TOTAL COUNTS
MULT: 2X4 RANGE: .1V
CHART SPEED: 30 SEC/CM.
AUG. 30, 1978
BY: D. J. Lofield
MULT X2
TOTAL COUNTS
MULT: X16
RANGE: .1V
C.P.S.
420
410
400
390
380
370
360
350
340


DF-14
Aug. 16, 1978
DIP -45°
BRG. 180°
X'tal: 3/4 x 3"
Log speed: 7 ft/min.
Pulse speed: 2 cm/min.
Pulse size: 1 3/4"
Logged by: M.F. Weber.
TOTAL COUNT
DF-18
TOTAL COUNTS
MULT: X2
INT: 5
RANGE: .IV
BY: A.J. Seifried
DF-19
DEPTH: 303 FT @ -45° DIP
TOTAL COUNTS
MULT: X2 RANGE: .IV
INT: 5
CHART SPEED: 30 SEC/CM.
LOGGING SPEED: 8 FT/MIN.
SEPT. 4, 1978
BY: A.J. Seifried
DIORITE
RHYOLITE
RHY.
DIABASE
C.P.S.

433054

11E/12D

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

PART 3 OF 4

433054 54-E 52 02

Gulf

Gulf Minerals Canada Limited

483054

11E/12D

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

PART 3 OF 4

483054 54-E 52 02

A REPORT ON

GEOCHEMISTRY

GEOLOGICAL MAPPING

REVERSE CIRCULATION DRILLING

DIAMOND DRILLING

MAPS ENCLOSED IN POCKETS

PART 3 ✓

Plate 24 E g ✓	Geological Compilation	1 in. = 1/4 mile
25 E g ✓	Geological Compilation	1 in. = 1/4 mile
Plate 1 g ✓	Geological Compilation	1 in. = 400 feet
11 g ✓	Geological Compilation	1 in. = 400 feet
111 g ✓	Geological Compilation	1 in. = 400 feet
Plate 1 gb ✓	Prospecting	1 in. = 400 feet
11 gb ✓	Prospecting	1 in. = 400 feet
111 gb ✓	Prospecting	1 in. = 400 feet

PART 4

Plate 11 ka	Deep Overburden Hole Locations	1 in. = 400 feet
111 ka	Deep Overburden Hole Locations	1 in. = 400 feet

Geochemical Survey

Plate 11 f	Sample Location	1 in. = 400 feet
111 f	Sample Location	1 in. = 400 feet
11 fb	Values Uranium A & C	1 in. = 400 feet
111 fb	Values Uranium A & C	1 in. = 400 feet

11/E-12EAST

63°37'30" E 1,225,000 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 45°30'00"

XIV IVa IVb VII

WENTWORTH STATION

Caldwell Brook · Whetstone Brook · Ecum Brook · Dill Brook · Smith Brook · Brook · Higgins Brook · Wallace River · Swans Brook · Little Long Lake · Lake Hart · Hart Brook · Hart Lake · Barber Lake · Rockland Village Brook · Folly Lake · Folly Lake · Carter Lake · Folly River · Slack Lake · McElmon Brook · East Folly River

SKI SLOPE

COUNTY
CUMBERLAND
COLCHESTER
COUNTY

104

No Outcrop

LEGEND

MESOZOIC	XVIII	TRIASSIC	
PALAEOZOIC	XVII	PERMIAN	
		PENNSYLVANIAN	
	XVI	Pictou Group	
	XV	Cumberland Group	
		Riversdale Group	
	XIV	Boss Point Formation	
	XIII	Clairmont Formation	
		MISSISSIPPIAN	
	XII	Middleborough Formation	
	XI	Windsor Group	
	X	Nuttby Sequence	
		DEVONIAN	
	IX	River John Group (Upper)	
	VIII	River John Group (Lower)	

PALAEOZOIC OR OLDER	VII	Non-foliated Granite
	VI	Foliated Granite
		SILURIAN to DEVONIAN
	V	Portapique Parrsboro Succession
	IV	Earlton Sequence (a,b,c)
		SILURIAN or OLDER
	III	Granite Gneiss - Bass River Complex
	II	Bass River Complex
	I	Mt. Thom Complex

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

483054 54-E 52 02

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" Dec. 1978

11/E – 11WEST

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

E 1,265,000 — E 1,280,000 — E 1,285,000

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

24' — 23' — 37' — 36' — 35' — 34' — 33' — 32' — 31' — 29' — 28' — 27' — 26' — 25'

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

COUNTY — CUMBERLAND — COLCHESTER

12a — 11a — 11c

Fash — Wallace River — No Outcrop

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 — Trout Lake — Little Snare Lake — Rory Pond — Moose Lake — Cook Lake — Clark Lake — Chain Lakes — Frog Lake — East Folly River — Totten Lake — Pine Brook — Little Totten Lake — Totten Brook

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-26g

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

KEY

433054 54-E 52 02

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 & IV Report" Dec. 1978

63°34 — 33' — 32' — 63°31'
45°37'30"

37'

36'

35'

45°34'

63°34' — 33' — 32' — 63°31

L - 152 + 00 W
L - 140 + 00 W
L - 120 + 00 W
L - 100 + 00 W
L - 80 + 00 W
L - 60 + 00 W

TL - 72 + 00 N

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

SKI SLOPE

C-832
C-825
C-824
C-826
C-831
C-830
C-827
C-829
C-828
C-878
C-886
C-888

848
849
850
847
851
846
852
853
854
855

292

104

Wallace

Lake

Hart Brook

Hart Lake

NOTE : For legend see sheet 2

KEY

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

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: Ig
DECEMBER 1978	1 INCH = 400 FEET	D. A. G	N.T.S. 11E/12 PT.

To accompany "Cobequid III Report" Dec. 1978

63°31' 30' 29' 63°28'
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 TL-30+00 N TL-40+00 S TL-80+00 S BL-0+00

37' 36' 35' 45°34'

Brook East

Wallace River

Swan Brook

Juniper Lake

Indian Lake

Trout Lake

CUMBERLAND COUNTY
COLCHESTER COUNTY

290 291 289 288

LEGEND

EXTRUSIVE VOLCANICS

7 Mafic : (a) andesite (b) basalt.

8 Felsic : dacite, rhyolite (a) ignimbrite (b) ash fall tuff, crystal tuff (c) flow banded rhyolite (d) massive or undetermined (e) breccia.

9 Agglomerates : (Mx) mafic fragments in mafic matrix (Fx) felsic fragments in felsic matrix (M) mixed

10 SEDIMENTS : (a) argillite (b) quartzite (c) conglomerate (d) sandstone (e) siltstone (f) mudstone (g) phyllite
bedding or foliation : D- distinct, I- indistinct

INTRUSIVE VOLCANICS

11 Granite : (a) pink leucocratic granite (b) pink mesocratic granite (c) white-grey granite-granodiorite

12 Diorite : (a) unaltered diorite (b) altered/metamorphosed diorite

13 Diabase : (a) unaltered diabase (b) spotted diabase (c) aphanitic altered diabase

14 Gabbro, pyroxenite - peridotite

15 Felsic and porphyritic intrusives

SYMBOLS

- Outcrop, area of outcrop
- Boulder, area of boulders
- Bedding, tops known (vertical, inclined)
- Bedding, tops unknown (" , ")
- Schistosity, gneissosity, foliation (vertical, inclined)
- Flow layering (vertical, inclined)
- Jointing (" , ")
- Glacial strae
- Drag fold (with plunge)
- Fault (definite, indefinite)
- Airphoto lineament
- Geological contact (definite, indefinite)
- Geophysical interpretation
- Diamond drill hole (vertical, inclined)
- Radioactivity (ra) in counts per second - high/background
- Sample location and number (C, EO, K)
- Dike

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

1 2 3 4

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: IIg
DECEMBER 1978	1 INCH=400 FEET	D.A.G	N.T.S. 11E/11, 12 PT.

To accompany "Cobequid III Report" Dec. 1978

63°28' 27' 26' 63°25'
45°37'30"

L - 80 + 00 E
TL - 72 + 00 N
L - 100 + 00 E
L - 120 + 00 E
L - 140 + 00 E
L - 160 + 00 E
L - 180 + 00 E
TL - 30 + 00 N
BL - 0 + 00
TL - 40 + 00 S
TL - 80 + 00 S
TL - 120 + 00 S
L - 80 + 00 E
L - 100 + 00 E
L - 120 + 00 E
L - 140 + 00 E
L - 160 + 00 E
L - 180 + 00 E

37' 36' 35'

Ridge
esker
esker ?
crevasse ?
TRAIL

Debert Lake
Big Snare Lake
Little Snare Lake

DL-1 DL-2 DL-3 DL-4 DL-5 DL-6 DL-7 DL-8 DL-9 DL-10 DL-11 DL-12 DL-13 DL-14 DL-15 DL-16 DL-17 DL-18 DL-19 DL-20 DL-21 DL-22

45°34'
63°28' 27' 26' 63°25'

NOTE : For legend see sheet 2

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

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOLOGICAL COMPILATION

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: III g
DECEMBER 1978	1 INCH = 400 FEET	D. A. G	N.T.S. 11E/11 PT.

To accompany "Cobequid III & IV Report" Dec. 1978

63°34 — 33' — 32' — 63°31'

45°37'30"

37'

36'

35'

45°34'

TL - 72 + 00 N

TL - 30 + 00 N

TL - 40 + 00 S

BL - 0 + 00

L - 132 + 00 W

L - 140 + 00 W

L - 120 + 00 W

L - 100 + 00 W

L - 80 + 00 W

L - 60 + 00 W

WV-3

WV-1

B 3410+20

B 3415

B 3413

B 3412

B 3411

SKI SLOPE

C-832

C-825

C-826

C-824

C-831

C-830

C-827

C-829

C-828

849

848

850

847

851

846

852

853

854

855

C-878

C-886

C-888

292

Wallace

Lake

Hart Brook

Hart Lake

104

NOTE : For legend see sheet 2

63°34'00" — 63°22'00"

45°37'30" — 45°34'00"

1 | 2 | 3 | 4

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

PROSPECTING

NOVA SCOTIA

DATE	SCALE	DRAWN BY	PLATE: Igb
DECEMBER 1978	1 INCH = 400 FEET	D A G	N.T.S. 11E/12 PT.

To accompany "Cobequid III Report" Dec 1978

63°31' 30' 29' 63°28'

45°37'30"

37'

36'

35'

45°34'

TL - 72 + 00 N

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

TL - 80 + 00 S

L - 40 + 00 W

L - 20 + 00 W

L - 0 + 00

L - 20 + 00 E

L - 40 + 00 E

L - 60 + 00 E

Brook

East

Wallace

River

Swan

Swan Brook

Juniper Lake

Indian Lake

Trout Lake

COUNTY

COUNTY

CUMBERLAND

COLCHESTER

290

291

288

289

LEGEND

Outcrop, area of outcrop

Boulder, area of boulders

re 3000 Radioactivity (ra) in counts per second

78014 Sample location and number (B,C,EO,PL,M,S,WV)

63°34'00" 63°22'00"

45°37'30"

45°34'00"

1 2 3 4

KEY

483054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

PROSPECTING

NOVA SCOTIA

DATE	SCALE	DRAWN BY	PLATE
DECEMBER 1978	1 INCH=400 FEET	D A G	II gb
			N.T.S. 11E/11,12 P.T.

To accompany "Cobequid III Report" Dec. 1978

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
TL - 72 + 00 N
L - 100 + 00 E
L - 120 + 00 E
L - 140 + 00 E
L - 160 + 00 E
L - 180 + 00 E
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

re 400
C 6368
re 250
re 300
re 3000
C 6365
C 6353
C 6360
re 2000
C 6382
SL 76
re 9000
C 6354
re 1000
C 6384
re 2500
SL 78
SL 82
C 6330
SL 81
re 400
re 2500

NOTE : For legend see sheet 2

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

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

PROSPECTING

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE III gb
DECEMBER 1978	1 INCH = 400 FEET	D.A.G	N.T.S. 11E/11 P.T.

To accompany "Cobequid III & IV Report" Dec 1978

433054 Dup In Stell

11E/12D

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

433054 PART 4 OF 4

54-E 52 02

Gulf

Gulf Minerals Canada Limit

433054 Dup In Stell

11E/12D

COBEQUID III

EXPLORATION PROGRAM 1977-78

ON PARTS OF 11B 11 AND 11E 12

433054 54-E 52 02

PART 4 OF 4

A REPORT ON

GEOCHEMISTRY

GEOLOGICAL MAPPING

REVERSE CIRCULATION DRILLING

DIAMOND DRILLING

433054 54-E 52 02

MAPS ENCLOSED IN POCKETS

PART 3

Plate 24 E g	Geological Compilation	1 in. = 1/4 mile
25 E g	Geological Compilation	1 in. = 1/4 mile
Plate 1 g	Geological Compilation	1 in. = 400 feet
11 g	Geological Compilation	1 in. = 400 feet
111 g	Geological Compilation	1 in. = 400 feet
Plate 1 gb	Prospecting	1 in. = 400 feet
11 gb	Prospecting	1 in. = 400 feet
111 gb	Prospecting	1 in. = 400 feet

PART 4 ✓

Plate 11 ka ✓	Deep Overburden Hole Locations	1 in. = 400 feet
111 ka ✓	Deep Overburden Hole Locations	1 in. = 400 feet

Geochemical Survey

Plate 11 f ✓	Sample Location	1 in. = 400 feet
111 f ✓	Sample Location	1 in. = 400 feet
11 fb ✓	Values Uranium A & C	1 in. = 400 feet
111 fb ✓	Values Uranium A & C	1 in. = 400 feet

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

CUMBERLAND
COLCHESTER

TL-30+00 N

Swan

BL-0+00

36' 36'

RJ-54 RJ-56 RJ-55 RJ-53 RJ-52 RJ-57 RJ-59 RJ-58 RJ-60 RJ-36 RJ-61 RJ-51 RJ-26 RJ-27 RJ-34 RJ-25 RJ-33 RJ-35 RJ-38 RJ-49 RJ-50 RJ-32 RJ-39 RJ-24 RJ-28 RJ-40 RJ-1 RJ-37 RJ-41 RJ-48 RJ-47 RJ-23 RJ-29 RJ-42 RJ-46 RJ-2 RJ-22 RJ-30 RJ-43 RJ-3 RJ-44 RJ-21 RJ-31 RJ-45 RJ-4 RJ-20 RJ-5 RJ-19 RJ-6 RJ-18 RJ-11 RJ-17 RJ-7 RJ-16 RJ-14 RJ-10 RJ-12 RJ-8 PJ-15 RJ-13 RJ-9

Swan Brook

Juniper Lake

TL-40+00 S

RD-49 RD-45 RD-50 RD-46 RD-36 RD-34 RD-37 RD-40 RD-42 RD-33 RD-35 RD-38 RD-39 RD-41 RD-43 RD-51 RD-47 RD-32 RD-31(A,B) RD-21 RD-20 RD-18 RD-22 RD-23 RD-19 RD-17 RD-24 RD-48 RD-30 RD-29 RD-28 RD-26 RD-10 RD-11 RD-13 RD-25 RD-27 RD-9 RD-12

RD-8 RD-7 RD-6 RD-5

35' 35'

290

Indian Lake

TL-80+00 S

291 288

289

Trout Lake

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

45°34' 45°34'
63°31' 30' 29' 63°28'

LEGEND

RD-1 Reverse drill hole location - project - number

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

1	2	3	4

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

DEEP OVERBURDEN HOLE LOCATIONS

(REVERSE CIRCULATION DRILLING)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: II ka
DECEMBER 1978	1 INCH = 400 FEET	D.A.G	N.T.S. 11E/11,12 PT.

To accompany "Cobequid III Report" Dec. 1978

63°28' 27' 26' 63°25'

45°37'30"

37'

36'

35'

45°34'

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

TL-72+00 N
TL-30+00 N
BL-0+00
TL-40+00 S
TL-80+00 S
TL-120+00 S

RD-15
RD-14
RD-16
RD-4
RD-3
RD-1,2

Debert Lake
Big Snare Lake
Little Snare Lake

LEGEND

⊙ RD-1 Reverse drill hole location - project - number

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

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

DEEP OVERBURDEN HOLE LOCATIONS

(REVERSE CIRCULATION DRILLING)

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: III ka
DECEMBER 1978	1 INCH = 400 FEET	D.A.G	N.T.S. 11E/11 PT.

To accompany "Cobequid III & IV Report" Dec. 1978

63°31' 30' 29' 63°28'

45°37'30"

37'

36'

35'

45°34'

290 289 288 291

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

COUNTY
CUMBERLAND
COLCHESTER

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

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY
(SAMPLE LOCATION AND NUMBER)

CLAIM BLOCK III.

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: II f
OCTOBER 1978	1 INCH=400 FEET		N.T.S. 11E/11,12 PT.

TO ACCOMPANY "COBEQUID III REPORT," DEC. '78.

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

TL - 40 + 00 S

TL - 80 + 00 S

TL - 120 + 00 S

BL - 0 + 00

Debert Lake

Big Snare Lake

Little Snare Lake

K1692 K1732 K1771 K1868 K1869 K1928 K1967 K2962 K3031 K3001 K3095 K3134 K3173 K3212

K1700 K1740 K1779 K1860 K1781 K1857 K1880 K1940 K1980 K3082 K3120 K3160 K3200 K3210 K3170 K3130 K3090 K2970 K3040 K3010

K1710 K1750 K1790 K1850 K1927 K1890 K1950 K1990 K1991 K1993 K1994 K2988 K3056 K3030 K1997 K2000 K2995 K3060 K3057 K3096 K3135 K3174 K3078 K3050 K3020 K2980 K3070 K3110 K3150 K3190 K3140 K3180 K3100

K1720 K1760 K1800 K1900 K1960 K1910 K1908 K1907 K1966 K2005 K3000 K2463 K2462 K2423 K2420 K2810 K2842 K2882 K2922 K2850 K2890 K2930

K1730 K1731 K1770 K1809 K2687 K2648 K2608 K2584 K2582 K2542 K2502 K2690 K2650 K2610 K2590 K2580 K2550 K2510 K2470 K2460 K2450 K2410 K2820 K2860 K2900 K2940 K2943 K2946

K2660 K2620 K2700 K2704 K2600 K2564 K2560 K2563 K2570 K2520 K2480 K2440 K2400 K2490 K2530 K2830 K2870 K2910 K2950

K2670 K2630 K2607 K2680 K2681 K2640 K2720 K2684 K2686 K2725 K2647 K2496 K2498 K2430 K2428 K2390 K2578 K2500 K2501 K2425 K2424 K2387 K2840 K2841 K2880 K2881 K2920 K2921 K2258 K2360 K2361 K2301 K2344 K2006 K2048 K2090 K2132 K2174 K2216 K2260 K2008 K2050 K2011 K2220 K2180 K2140 K2100 K2060 K2020 K2190 K2150 K2110 K2070 K2030 K2240 K2200 K2160 K2120 K2080 K2040 K2047 K2089 K2123 K2125 K2130 K2131 K2173 K2215 K2205 K2203 K2250 K2251 K2254 K2210 K2170 K2300 K2343 K2340 K2330 K2290 K2370 K2380 K2386 K2350 K2310 K2353 K2270 K2358 K2360 K2320 K2280

LEGEND

∘ Soil Sample Location

∘ K2070 "K" Series, 1978 Samples

Sample numbers are consecutive unless otherwise noted.

63°34'00" 63°22'00"

45°37'30" — 1 2 3 4 — 45°34'00"

KEY

483054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND NUMBER)

CLAIM BLOCK III, IV

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: III f
OCTOBER 1978	1 INCH = 400 FEET		N.T.S. 11E/11 PT.

TO ACCOMPANY "COBEQUID III REPORT," DEC. '78.

63°31' 30' 29' 63°28'

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

TL - 30 + 00 N

BL - 0 + 00

TL - 40 + 00 S

37' 36' 35'

Brook

East

Wallace River

Swan

Swan Brook

Juniper Lake

Indian Lake

Trout Lake

COUNTY
COUNTY

CUMBERLAND
COLCHESTER

290 291 289 288

45°34'

63°31' 30' 29' 63°28'

LEGEND

° Soil sample location.

6/4 "A" Horizon value in p.p.m. / "C" Horizon value in p.p.m.

– Assay value < 0.1 p.p.m.

NOTE: Sample values are X 10

ie: 1.8 = 18

63°34'00" 63°22'00"

45°37'30" 45°34'00"

1 2 3 4

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND VALUE)

URANIUM

CLAIM BLOCK III

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: II fb
OCTOBER 1978	1 INCH = 400 FEET		N.T.S. 11E/11, 12 PT.

To accompany "Cobequid III Report" Dec. 1978.

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

L - 200 + 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

° Soil sample location

6/4 "A" Horizon value in p.p.m. / "C" Horizon value in p.p.m.

– Assay value < 0.1 p.p.m.

NOTE: Sample values are X 10

ie: 1.8 = 18

63°34'00" 63°22'00"

45°37'30" 45°34'00"

1	2	3	4

KEY

433054 54-E 52 02

Gulf Minerals Canada Limited

COBEQUID PROJECT

GEOCHEMICAL SURVEY

(SAMPLE LOCATION AND VALUE)

URANIUM

CLAIM BLOCK III, IV

NOVA SCOTIA

DATE:	SCALE:	DRAWN BY:	PLATE: III fb
OCTOBER 1978	1 INCH = 400 FEET		N.T.S. 11E/11 PT.

To accompany "Cobequid III & IV Report" Dec. 1978