AR 81-028

COBEQUID PROJECT

URANIUM ASSESSMENT REPORT

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

COBEQUID IV

NOVA SCOTIA

434268

DECEMBER, 1981

Gulf

Gulf Minerals Canada Limited

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A REPORT ON

GEOLOGICAL MAPPING
PROSPECTING
GEOPHYSICS

Neil Gurney
David Gower

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x Never submitted

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PART I

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NBL

ENCLOSED IN POCKETS

NBL

✗ Never Submitted

Gulf

1.0 INTRODUCTION

1.1 Summary

The discovery of radioactive rhyolitic boulders in the fall of 1976 initiated the present interest in the volcanic assemblages forming the core of the Cobequid Mountains. Consequently, a 752 claim block centered about the Wentworth Valley in Nova Scotia (Cobequid IV, see Figures 1 and 2), was acquired in November of 1976. A limited prospecting and diamond drilling program was carried out before the end of that year.

The 1977 exploration program consisted of helicopter-borne radiometric, magnetic and electromagnetic surveys, prospecting, bedrock mapping, geochemical sampling, ground geophysical surveys (magnetic, electromagnetic and induced polarization surveys), and diamond drilling. One hundred and thirty line miles of grid were cut on the property in July and August. The field work lasted from early May through to December.

The 1978 exploration program consisted of bedrock mapping, prospecting, soil geochemical sampling (as a follow-up to the previous year's finds), diamond drilling, and reverse circulation deep overburden sampling. The field work lasted from early May through to November.

The 1979 exploration program included the on-going bedrock mapping, prospecting, soil geochemical sampling and reverse circulation drilling programs. In addition, ground geophysical surveys (EM-16 and magnetic surveys), and a combined detailed mapping and whole rock geochemical analysis program (to fine alteration patterns) were initiated. The field work lasted from early May through to December.

Finally, the 1980 exploration program consisted of the continuation of the bedrock mapping, prospecting, whole rock geochemical sampling, and reverse circulation drilling. A Pleistocene geology program, to characterize ice movements and locate source areas for boulders, was initiated, and diamond drilling was renewed. The field work extended from early May through to December.

Exploration efforts in Cobequid Block IV for 1981 were confined to the Byers Brook Formation (previously Earltown Sequence) of the Fountain Lake Group. Donahoe and Wallace, 1979; (see Figure 3).

The field work, as follow-up to earlier prospecting, consisted of detailed stratigraphic mapping of three north-south ridges, referred to as West North River ridge, Whippey Lake ridge, and Byers Lake ridge.

Prospecting was done in Block IV by a two-man crew. Prospectors were equipped with BGS-1SL scintillometers and an EDA GRS-500 discriminating scintillometer, to measure radioactivity.

A geophysical program, consisting of am EM-16 survey was done to test conductors in the Byers Lake area. The field season extended from early May to early October.

TABLE I

COBEQUID IV

Land Retained For 1982

MAP	LICENCE NO.	TRACTS	CLAIMS
11E-11-B	1350	46	N-Q
		47, 48	J-Q
11E-11-B	1351	49, 50, 51	A-Q
		52	G,H,J,K,N,O,P,Q
		53	N-Q
11E-11-B	1352	68, 69, 70	A-Q
		71	A,B,C,D,E,F,G,H,K,L,M
		72	A-F
11E-11-B	1353	75	B, C, D
		76	A,B,C,D,E,F,G,H,L,M
		77	A-P
11E-11-B	1357	54	N-Q
		58	F,G,H,J,K,L,O,P,Q
11E-11-B	1358	63, 67	A-Q
		64	N-Q
		65	J,K,L,N,O,P,Q
		66	A,B,C,E,F,G,H,J,L,M,N,O,P,Q
11E-11-B	1359	78,79,80,81,82	A-Q
11E-11-B	1360	87,88,89,90,91	A-Q
11E-11-B	1361	102	B, C, D
		103, 104	A-M
		105, 106	A-Q

1.2 Personnel

For the 1981 field season, Gulf personnel employed on the Cobequid Property were:

R. Beyers	Logger	P
G. Davison	Geologist	T
N. Downey	Project Geologist	P
W. France	Prospector	T
P. Gertzbein	Geologist	T
C. Gower	Field Hand	T
D. Gower	Geologist	T
D. Harper	Logger	P
K. Horan	Logger	P
Y. Martineau	Geologist	T
A. Seguin	Prospector	T
S. Seguin	Cook	T
M. Smith	Geologist	T
L. Strom	Clerk	T

Contractors employed on the property were:

C. Weatherbee - Backhoe Operator
Wentworth, Nova Scotia

St. Lambert Drilling Co. Ltd.
- Diamond Drillers,
Valleyfield, Quebec

H. C. Teng - Geological Consultant
Antigonish, Nova Scotia

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

2.0 GEOLOGY

2.1 Regional Geology

The Cobequid Mountains form an east-west trending 200 km long upland across north-central Nova Scotia. The mountains consist of variably deformed Precambrian crystalline metamorphic rocks (south) and Silurian to Lower Carboniferous volcanic and related sedimentary sequences (north), intruded by numerous phases of granite and diorite (central). These rocks are juxtaposed with Pennsylvanian and Triassic graben filling red beds to the south, and unconformably onlapping open-folded Pennsylvanian red beds to the north.

Figure 3 shows the geology of the Cobequid Mountains according to Donahoe and Wallace (1980). The reader is referred to their work (Donahoe and Wallace, 1980, 1979, 1978, 1977, and 1976), for additional information on the geology of the Cobequid Mountains.

2.2 Detailed Surficial Geology

2.2.1 Introduction

Exploration efforts in Cobequid Block IV for 1981 were confined to the Byers Brook Formation (previously Earltown Sequence) of the Fountain Lake Group. (Donahoe and Wallace, 1979, 1980; see Figure 3). The Byers Brook Formation is composed dominantly of rhyolitic ignimbrites and ash fall tuffs, with local basalt and rhyolite flows, mud flows, and volcanogenic sediments.

The field work entailed detailed stratigraphic mapping of three north-south ridges, referred to as West North River ridge, Whippey Lake ridge, and Byers Brook ridge. Bedrock mapping was done in response to anomalous radioactivity discovered by earlier prospecting. All personnel were equipped with BGS-1SL scintillometers for measuring radioactivity.

In addition to detailed mapping, a comprehensive reinterpretation of previous mapping was attempted in order to produce a crude stratigraphy for the felsic volcanic pile. (See Plate E26, 1 inch = 1/4 mile).

2.2.2 General Geology

2.2.2.1 Geological Setting

The Byers Brook Formation is composed of east-west to northwest-southeast (120°) trending, steeply dipping, ash flow tuffs (ignimbrite), subaerial and waterlain ash fall tuffs, basalt flows, volcanogenic sediments, rhyolite flows and mud flows. No laterally extensive stratigraphy is observed within the formation, but a crude stratigraphy has been pieced together (Figure 2), by interpolating between areas of sufficient exposure to define a local stratigraphy. Top indicators within the volcanic pile indicate that it youngs north-northeast.

Basalt flows within the Byers Brook Formation increase in frequency to the northeast, and the formation lies in gradational contact with the overlying (younger) Diamond Brook Formation, which consists mainly of basalt flows. The Diamond Brook Formation has been dated as Mid Devonian using spores (H. V. Donahoe), implying a Devonian or older age for the underlying Byers Brook Formation.

The Byers Brook Formation is intruded by diorite and granite. The diorite occurs throughout the formation as small sills and dykes, and locally forms the dominant lithology. It contains 46 to 54% SiO_2, and generally consists of aphanitic fine grained euhedral plagioclase surrounded by anhedral ferromagnesian and oxide (mainly magnetite) mineral aggregates (ophitic texture). Locally, the diorite contains a thin green sericite and chlorite weathering rind. Cross-cutting mafic dykes indicate more than one intrusive pulse.

The granite (Byers Lake Granite; Donahoe and Wallace, 1980), unlike the diorite, is restricted to the southern margin of the Byers Brook Formation, where it forms one large pluton. It contains 70 to 75% SiO_2, and varies from a very fine grained micrographic texture containing miarolitic cavities near the contact with the Byers Brook Formation, to a medium grained hypidiomorphic texture farther south. The very fine grained micrographic texture consists of eutectic crystallization of quartz and potassium feldspar, and together with the miarolitic cavities, implies rapid near surface cooling. The medium grained hypidiomorphic texture to the south consists of 5 to 15% euhedral plagioclase (albite-oligoclase) crystals surrounded by 35 to 55% euhedral potassium feldspar and 25 to 30% anhedral quartz and minor hornblende filling the interstities. This texture suggests slower deeper level crystallization and taken in conjunction with the shallow level texture to the north (near the Byers Brook Formation) indicates the granite has been rotated on its side, possibly as one competent block along with the Byers Brook Formation.

The granite has been dated using the Rb/Sr method at 331 $\pm$ 27 m.y. (Cormier, 1979). Field relationships suggest the diorite dykes can be both older and younger than the granite, indicating at least two discrete periods of mafic intrusion, or that the diorite and granite are roughly coeval, with local remobilization of these while still in a plastic state.

Geochemical studies of these rocks (Teng, 1980), indicate the felsic volcanics of the Byers Brook Formation and the Byers Lake Granite are co-sanguineous, and together with the mafic rocks, form an anorogenic bimodal suite consisting of K-rich tholeiites and K-rich rhyolites. The age discrepancy between the Byers Brook Formation and Byers Lake Grahite may be due partly to error in dating techniques (in both spores and radiometric data), and partly to the difference in cooling rate between the volcanics and the granite.

2.2.2.2 Stratigraphy

The stratigraphy of the Byers Brook Formation is largely unknown at the present time. The presence of diorite intrusions, plus the fact that the strain in such brittle rocks has been taken up by faulting, complicate the already difficult task of mapping volcanic rocks.

The oldest rocks within the formation probably lie to the southwest, since bedding tops point north-northeast. No stratigraphic basal contact has been found, it is everywhere intrusive with Byers Lake Granite. The southwesternmost rocks consist of a thick succession of undivided ash fall and ash flow tuffs with minor sandstone interbeds. They are located on the west side of the Wentworth Valley near the ski slope. This succession is juxtaposed to the west (by a north-south fault along the Wentworth Valley) against sediments containing Silurian brachiopods. The Silurian sediments (Wilson Brook Formation; Donahoe and Wallace, 1980), may represent the original host to the Byers Lake Granite and related Byers Brook Formation, and their presence is consistant with the suggested southwestward base for the Byers Brook Formation.

Stratigraphically above the "basal" undivided succession of ash flow and fall tuffs with minor sandstone interbeds, is a thick (about 130 metres) conglomeratic unit containing mostly felsic volcanic pebble to cobble sized clasts and minor sandstone interbeds. Large boulders of very similar conglomerate occur up to three kilometres to the east, and the unit may form a major marker horizon with the pile.

The O Zone (see 1980 Cobequid III Assessment Report), lies roughly eastward along strike of this unit. This zone has poor exposure, but detailed boulder studies suggest the bedrock consists of thick conglomeratic sediments and ash fall tuffs, possibly correlative with the conglomerate unit to the west. Beneath the O Zone, conglomerate horizons lies interbedded with ash fall tuffs, conglomerates, and sandstones. These may be laterally equivalent to the undivided "basal" succession to the west.

Yet farther east from the O Zone, lies the J Zone (see Figure 2). Large boulders of conglomerate similar to those found at the O Zone and to the conglomerate unit mapped to the west (near the ski slope) occur just north of the J Zone. This would seem to indicate that the J Zone stratigraphy is laterally equivalent to the interbedded ash fall tuffs and sandstones at the base of the O Zone and to the "basal" succession farther west near the ski slope.

The oldest unit of the J Zone consists of a basalt flow unit (~75 metres) intruded in the south by diorite containing ash fall tuff blocks. The basalt is locally vesicular near the top. Above this lies a 100 metre thick unit of grey waterlain ash fall tuffs. Individual beds in this unit vary from 30 centimetres to 2 metres in thickness. This ash fall tuff unit is overlain by a thick (~300 metre) composite ash flow tuff unit, locally erosional into the underlying ash fall tuff. The ash flow tuff is in turn overlain by waterlain green to black ash fall tuffs. Finally, this entire assemblage appears to lie stratigraphically below the conglomerate "marker" horizon.

Farther east of the J Zone, the conglomerate "marker" horizon is lost in a major northwest-southeast trending lineament extending from the Fast Wallace River valley through to Debert Lake to the southeast. Detailed work near and along this feature indicate a prominent embayment exists in the Byers Lake Granite, containing texturally and structurally anomalous felsic volcanics.

The DF Zone (see Figure 2), lies south of this major lineament and to the southeast of the J Zone along the east-side-down offset in the granite-volcanic contact. Drilling indicates extensive fracturing along this offset and it probably represents a fault (G. Davidson, 1981). Stratigraphy in the DF Zone consists of a basalt flow overlain by a black, very fine grained, laminated, volcanogenic sedimentary unit. This waterlain unit appears to be overlain by an anomalously striking (north-south) composite ash flow sheet. This sheet roughly consists of alternating layers of highly developed eutaxitic texture, with massive potassium feldspar rich, or lithophysae rich layers.

The anomalous strike of the DF composite ash flow sheet appears to return to normal (090° to 120°) eastward in the SL Zone (see Cobequid III 1980 Assessment Report), but returns to north-south trends near Debert and Big Snare Lakes (along the lineament). The rocks near Debert Lake and Big Snare Lake consist of ash flow tuffs, lithic ash fall tuffs, minor basalts, and sediments, centered about a possible flow banded rhyolite dome. Some mappable units here become totally fragmented along strike (B. E. Jones, pers. comm.). One unit near Big Snare Lake consists of 90%, 1 to 5 millimetre quartz spheres in a highly silicious matrix. The unit is best described as a "froth". Abundant pyrite and high silica and fluorine also characterize this anomalous area.

The anomalous geology occurring within the embayment in the Byers Lake Granite (along the Fast Wallace-Debert Lake lineament), as found in the DF Zone and eastward to Debert Lake, may be laterally equivalent to the stratigraphy described to the west (below the conglomerate "marker"), but certainly is not lithologically correlative. Different volcanic processes may have been involved in the formation of each.

Stratigraphically above the conglomerate "marker" horizon, lies a thick ash fall tuff unit. In the west, near the ski slope, this unit consists of about 200 metres of grey to green, waterlain, ash to lapilli sized tuff. Little information exists at present on the eastward extent of this unit.

Above the thick ash fall unit in the west lies a 500 metre thick composite ash flow tuff unit containing minor ash fall tuff horizons. This unit may be traced roughly 2 kilometres eastward to a diorite plug, but reconnaissance mapping on the grid indicates it may extend to the east along strike.

Lying above this thick, composite ash flow tuff unit lies a succession of thinner (~75 metres) alternating ash fall and ash flow units. These become interlayered with basalt flows to the east-northeast, higher up the sequence, and are unconformably overlain to the north (near the northern boundary of Cobequid III) by shallowly dipping onlapping Carboniferous sediments. This contact forms the prominent scarp to the south along Highway 248 between Wentworth and Annandale.

Reconnaissance mapping near Byers Brook and along strike of the ash flow and fall tuff succession described above, has revealed a similar stratigraphy consisting of lithic ash fall tuff, basalt and ash flow tuff units. The lithic ash fall tuff forms a thick ($>$ 80 metre) basal unit containing 0.1 to 2.0 centimetres angular volcanogenic lithic clasts occurring in 0.5 to 5 metre thick beds alternating with 10 cm thick fine ash beds. The unit may have been reworked to some extent. Above this lies a 20-30 metre thick basalt flow unit with a vesicular top, overlain by an ash flow tuff unit of unknown thickness. The ash flow tuff unit contains local fluorite filled vugs, complete silicification of some flows, and a layer composed of 70 to 90%, 2 to 10 millimetre quartz "spheres". The locally high silica and fluorite content of some flows, and the presenct of "frothy" flows are both reminiscent of the flows to the south near Debert and Big Snare Lakes, indicating the possibility that the anomalous situation to the south (within the granite embayment) propagated up the volcanic pile.

Little detailed work has been done on the eastern portion of the Byers Brook Formation (roughly east of Byers Lake) previous to 1981. No marker units are known, which could be used for crude correlations. A thick ($\sim$1 kilometre) pile of basalt flows centered about Whirleywaugh Lake has been interpreted by Donahoe and Wallace (1980), largely from magnetite survey results. East of the basalt pile, along the old Truro road, is a thick ($\sim$3 kilometre) succession of potassium feldspar and quartz crystal rich ash flow and ash fall tuffs, fine ashy sediments to coarse conglomeratic sediments, and minor basalt flows near the top. Diorite sills and dykes form up to 50% of the bedrock in the southern (lower) part. The stratigraphy trends predominantly northwest-southeast (120°), but has as yet not been extended to the east or west.

2.2.3 Geology of West North River Ridge

2.2.3.1 Introduction

The West North River ridge is a north-south trending ridge located just west of the old Truro-Tatamagouche road, in the eastern part of Cobequid Block IV. Mapping was controlled by a flagged, 1050 metre grid with a chained north-south base line and cross lines at 50 metre intervals, extending 200 metres each side of the base line.

Detailed mapping was done to define the stratigraphy in areas with anomalous radioactivity.

The geology along the West North River ridge consists of a series of east to southeast trending ignimbrites, ash fall tuffs, and several volcanogenic sedimentary horizons. Dioritic sills and plugs have intruded all units in the sequence.

The stratigraphy is systematically described in order of occurrence from south to north, in the next section. Units are numbered to coincide with Plate 2-1.

2.2.3.2 Description of Units (Refer to Plate 2-1)

Unit # I: Unit # I is the southernmost unit in the stratigraphic sequence, and thus the oldest unit included in this traverse. It is a crystal rich ignimbrite, composed of approximately 80%, 1.0 mm euhedral K-feldspar and quartz crystals in a grey glass groundmass. It has well developed 2-15 mm fiammi which are also strongly porphyritic. The rock contains minor quantities of 1.0 cm subangular lithic fragments. Small magnetite veinlets cut the rock at random orientations.

Foliation (from fiammi) is consistant between 120° and 130°. Contacts were not exposed and the thickness of the unit is unknown.

Unit # II: North of Unit # I is a crystal rich ash fall tuff. It is similar to Unit # I, being composed of approximately 80% euhedral to subhedral K-feldspar and quartz crystals in a grey glass groundmass. It is very similar in appearance to the underlying ignimbrite except it has no fiamme, thus its designation as ash fall. It may be laterally equivalent to ignimbrite to the east. It is on strike with the eastern ignimbrite which has a strongly developed easternly striking fabric (120°) derived from flattened pumice. Diorite has intruded along the contacts and the true thickness of the unit is unknown.

Unit # III: North or overlying the ash fall tuff is another unit of crystal rich ignimbrite. It is composed approximately of 60-80% quartz and K-feldspar crystals in a pink to greenish-grey glassy matrix. This ignimbrite contains 1-15 cm fiammi, which are crystal rich like their host. Fiamme are diagnostic of ignimbrites. The thickness of this unit is unknown.

Unit # IV: The underlying ignimbrite grades upward, over 1.5 metres, into a 1 metre thick ash fall tuff. The tuff unit is pitted, green-grey in colour, and of similar composition to the underlying ignimbrite. Unit # IV is the ashy top of the ignimbrite. The upper contact is not exposed.

Unit # V: Next in the sequence is a unit of waterlain, crystal rich ash fall tuff, composed of approximately 90%, 0.5 mm to 1 mm subhedral feldspar and quartz crystals. The ash was deposited in regular 1mm to 10 cm thick layers with little compositional difference, (evidence of waterlain deposition). The unit has a sharp erosional upper contact, indicating a period of non-deposition. It is 5-10 metres thick.

Unit # VI: Following this period of non-deposition a waterlain ashy sedimentary unit was deposited. This unit is a very fine grained and finely laminated (laminations approximately 1.5 mm thick). The laminations are convolute, the cause of which is suggested to be slumping or fluidization during dewatering. The rock is black in colour. It is locally silicified and takes on an appearance similar to flow banded rhyolite. The unit is 1 to 3 metres thick.

Unit # VII: This unit is a devitrified ignimbrite of rhyolitic composition. It is grey in colour and contains less than 1% disseminated sulfides. The ignimbrite is locally up to 90% devitrified. Devitrification occurs in the form of 1 mm spherulites. Where devitrification is further advanced the rock is less resistant to weathering than in the more glassy portions. The ignimbrite is erosional into the laminated sediment underlying it, and has incorporated fragments of the reworked ash into its base. Secondary flow layering has developed as 3 to 10 mm laminations. The orientations of the flow layers are highly irregular suggesting a high degree of flow folding. Anomalous radioactivity occurs in this unit near a discordant, 1 metre thick layer, trending 060°. The fabric in this discordant unit could be the result of strain and it is possibly mylonite. The host rock at the showing is red to pink (hematite alteration), and contains 5 to 25% euhedral white feldspar crystals with only minor quartz. The unit is locally lithic fragment rich, suggesting several ignimbrite flow bases and consequently a composite ignimbrite cooling unit. The unit is faulted near its upper contact. Diorite has intruded along the upper contact and the true thickness is not known.

Unit VIII: There is a composite unit of crystal rich ignimbrite, north of the devitrified ignimbrite. The rock contains 70 to 90%, 0.5 mm to 1.0 mm subhedral to euhedral feldspar and quartz crystals in a glass groundmass. A strong fabric is developed, which always strikes between 110° and 130°. The fabric can only be described as cryptic lines, which have so far defied definite identification. They may be either highly flattened or wispy fiammi or collapsed gas tubes. The lower contact, trending at 090°, is discordant with the consistent 120° strike of the fiammi. There is most likely a fault contact between this unit and the underlying devitrified ignimbrite. A less likely alternative for the orientation of the contact is irregular paleotopography.

Unit # IX: This aphanitic ash fall tuff unit may be a layer incorporated into the Unit VIII ignimbrite cooling unit. The rock is grey to pink in colour and is very siliceous. The rock is nondescript in hand specimen but in thin section there is an aphanitic groundmass with rare bipyramidal quartz phenocrysts. It contains 3-5% irregular chlorite and saussurite clots which are often associated with hematite. Spherulites are rare and are microscopic.

Unit # X: Grey to black fine grained volcanogenic sediments locally overlie the ignimbrite, ash fall tuff sequence. The sediments are bedded and contain crystal and lithic fragments. Exposure is not good but there is a high concentration of basaltic boulders in this zone and it is suspected that the sediments are intercalated with basalt flows. There are only several of these sedimentary outcrops so the nature and extent of this unit is unknown.

Unit # XI: The northernmost unit in this sequence is an ashy sedimentary unit. The outcrops are highly sheared. There are rare 5 cm. thick beds of coarse ash size material interbedded with black, very fine ashy sediments. The coarser beds have wavey, diffuse contacts, due probably to fluidization during dewatering.

Unit # XI: All units in the sequence have been intruded by fine ophitic diorite to aphanitic black to greenish black diabase. The greenish black colour is due to chloritic alteration. The intrusives contain abundant magnetite. They form sills in the northern part of the area and a plug containing xenoliths of the host rocks occurs in the south.

2.2.3.3 Comments

The northern part of the area is enriched with sulphides, mostly pyrite. The sulphide enrichment grades southerly into a zone of magnetite enrichment. Magnetite sometimes forms pseudomorphs of pyrite. This change from iron sulphides to magnetite correlates agreeably with the increased presence of diorite in the southern part of the area. Anomalous radioactivity has been discovered in the southernmost part of the area, (Unit # I). Total counts are over 1000 cps and uranium/thorium ratios are high. The uranium/thorium ratios which is 1.7 in the northern part of this anomalous zone shows a stready increase to 6.0 in the southern part.

The sequence is composed dominantly of ignimbrites, indicating that there were several periods of explosive volcanism separated by periods of relative quiescence. The periods of quiescence were long enough to allow the accumulation of significant thickness of ash fall tuffs and minor reworked sedimentary horizons. A period of non-deposition occurred after the accumulation of ash which formed Unit # V. There must have been some form of subsidence in the area to allow the formation of the water filled basin in which Unit # VI was deposited.

The area is moderately faulted with two major fault sets, one set trending east-west and the other set trending northeast. The amount and direction of the offset along faults is not known, however, there is a fault contact between the devitrifed ignimbrite (Unit # VII), and the crystal rich ignimbrite, (Unit # VIII), so movement along some faults may be substantial.

Diorites and diabases show cross-cutting relationships so there was more than one intrusive pulse. The diorite predates the faulting.

2.2.4 Geology of the Whippey Lake Ridge (Refer to Plate 2-2)

2.2.4.1 Introduction

The Whippey Lake ridge consists of a north-south trending gentle ridge immediately west of the old Truro road. The backbone of the ridge contains relatively good bedrock exposure (15 to 25%) and as such forms the ideal terrain for working out a local stratigraphic section through the Byers Brook Formation.

The mapping was done along a 2 km chained compass line, from the Scott Paper logging road at the northern end of the West North River ridge in the south, to the Whippey Lake road in the north (see Plate E26). The line was chosen to roughly coincide with known showings in the area.

The section roughly consists of a northwest-southeast (~ 120°) striking succession of ash flow tuff and/or flow banded rhyolite with minor ash fall tuffs, basalt flows and conglomeratic to fine grained volcanogenic sediments. The units are described systematically, from south to north, in the next section.

2.2.4.2 Description of Units

Unit 1: The southernmost unit of the ridge consists of crystal rich ignimbrite containing up to 50% 1.0 mm euhedral to subhedral potassium feldspar and quartz crystals. The thickness of this unit and the nature of its contacts are unknown. The unit occurs only as sub-outcrop.

Unit 2: A sedimentary unit grading northward from a pebble and cobble ortho-conglomerate to a sandstone, lies north of the crystal rich ash flow tuff. The clasts (~ 75%), consist of rounded equant to oblate fragments of ignimbrite (some crystal rich) and ash fall tuff, rhyolites, and minor fine grained ashy sediment. The matrix (~25%) consists of a greenish-grey, fine to medium grained ash fall material, which locally forms thin (~40 cm) ash fall tuff beds within the conglomerate. Further north, the conglomerate grades into a laminated (~5 mm), fine grained, purple ashy sediment with minor layers (~4 cm), containing coarser ash fall material. Dewatering features occur locally in the fine sediment.

Laminations, ash beds and oblate orientations all indicate a northwest-southeast strike for the unit. Grading within individual layers all indicate tops are to the north. The lateral extent and thickness of the units are unknown, but indications are that the unit extends at least 250 metres to the northwest where frost-heaved boulders of similar rock occur, containing anomalous radioactivity (Bus line showing).

Unit 3: North of the sedimentary unit lies a basalt flow (or shallow level sill) unit. It consists of aphanitic, black to greenish-black (due to chloritic alteration), massive, locally vesicular rock. The vesicles are 1 to 10 mm large, commonly flattened, and rimmed, to filled (amygdules) with light green epidote. The vesicles are locally concentrated in layers (up to 50%), which may represent flow tops. These layers and the long axis of flattened vesicles have a roughly northwest-southeast strike.

The unit can be traced for 200 metres along strike and is less than 100 metres thick. The nature of the contacts is unknown.

Unit 4: A purple, glassy (to microcrystalline) potassium feldspar rich ash flow tuff unit lies to the north of the basalt. The unit contains 15 to 30%, 1 to 3 mm, euhedral potassium feldspar crystals, and has a local 1 to 10 mm thick northwest-southeast trending secondary flow fabric.

Layers or concordant patches of grey aphanitic welded ash occur locally, indicating it is a composite unit. The grey ash layers contain minor (~ 1%) fine disseminated sulphides. The unit varies in thickness from 150 to 200 metres. Its contacts are not exposed.

Unit 5: North of the potassium feldspar rich unit, is a unit with a commonly developed flow fabric and containing ferromagnesian mineral alteration products. The unit could be a highly welded ignimbrite with secondary flowage, or a massive to flow banded rhyolite flow. It contains 10 to 30%, 1 mm, euhedral potassium feldspar and quartz crystals, and 5%, 1 mm ovoid oxide and chlorite mineral aggregates (altered ferromagnesian mineral). A flow fabric (secondary if its ash flow) consisting of thin ($<$1 millimetre) continuous laminations, locally forming convolute folds, is commonly developed. Locally the rock consists of 90% very fine (0.5 mm) spherulites occurring in rows mimicking the original fabric. Minor disseminated very fine sulphides occur locally.

The unit is roughly 300 metres thick, and most likely represents a group of similar flows. The flow fabric gives inconsistent orientations and is commonly convolutely folded. The contact with the overlying unit is sharp.

Unit 6: A crystal rich ignimbrite lies north of the flow folded unit. It contains 35 to 40%, 1 mm, euhedral potassium feldspar and quartz crystals in grey glass matrix. The unit contains a local 1.0 mm thick secondary flow fabric near the base. Locally isoclinal folds occur with axial planes parallel to the fabric indicating a transposed fabric (high strain). The fabric is constantly northwest-southeast and implies local rheomorphic (secondary) flow along the base of the unit.

The unit is about 75 metres thick and can be traced laterally for 200 metres. It has a sharp basal contact and gradational top (into an ash fall tuff).

Unit 7: The crystal rich ignimbrite is gradationally overlain by a greenish-grey ash fall tuff with a rubbly to pitted texture. The ash fall tuff contains up to 40% euhedral, 1 mm potassium feldspar crystals. A weak eutaxitic texture is developed locally.

The unit is roughly 5 metres thick and can be traced laterally for 150 metres. The base is everywhere gradational, and the top is sharp but irregular.

Unit 8: North of the ash fall tuff is a "basalt" flow or shallow sill. The unit consists of massive greenish-black rock, locally containing up to 20% vesicles. The vesicles are locally rimmed with light green epidite.

The unit is roughly 10 metres thick and traceable laterally for 100 metres. The base is sharp but irregular (0.5 metre "topography") and contains up to 40% epidote veinlets. The top is unexposed.

Unit 9: North of the "basalt" lies a grey glassy highly welded ash flow tuff or rhyolite unit which is similar to unit 5 to the south. The unit generally contains a strong 1 mm thick continuous, locally convolutely folded, flow fabric. Locally, the rock consists of 90% very fine (0.5 mm) spherulites occurring in rows mimicking the original fabric. Minor disseminated very fine sulphides and 0.5 mm ovoid oxide and chlorite mineral aggregates strengthen the comparison with unit 5. Few feldspar crystals occur here compared to unit 5 however.

The unit varies in thickness from 5 to 10 metres. The flow fabric gives inconsistant orientations, and is commonly convolutely folded. The upper contact (080°) is sharp and does not follow the regional trend, but does not appear faulted.

The ash flow is roughly 50 metres thick and can be traced laterally for 150 metres. The fabric has a consistant northwest-southeast (110 to 125°) strike.

Unit 14: Above unit 13 lies a purple glassy, highly welded ash flow or rhyolite unit generally containing continuous thin (1 to 2 mm) folded flow layers. The unit is locally massive, and contains minor ovoid oxide and chlorite mineral aggregates. Locally, the unit consists of 95% fine (0.5 mm) spherulites forming along rows mimicking the original flow laminations. No crystals were seen.

The unit varies from 75 to 200 metres in thickness. The fabric has inconsistant orientations and the upper contact (090°) does not appear to follow the regional trend (120°).

Unit 15: A purple crystal rich glassy ignimbrite lies north of unit 14. It consists of 15 to 60%,.1 mm, euhedral, white feldspar and minor quartz crystals in a purple glass matrix. Local angular lithic fragments and a poor secondary flow fabric consistant with the regional trend, indicate it is probably ignimbrite and not rhyolite flow. Boulders containing well developed, 1 cm, spherulites occur within the unit.

The unit is roughly 150 metres thick. The nature of its upper and lower contact is unknown.

Unit 16: Above unit 15 lies a purple glassy ash flow tuff with a well developed eutaxitic texture. The rock contains roughly 25%, 1 mm, euhedral feldspar. The texture varies from elongated grey and pink blotches to alternating grey and pink streaks. Minor small (1 x 15 mm) fiamme occur in areas where the fabric is strongest. Local patches contain up to 70%, 1 mm feldspar and quartz crystals.

The unit is roughly 200 metres thick. The fabric consistantly strikes northwest-southeast (120°). The nature of its contacts are unknown.

Unit 17: The northernmost unit of the traverse consists of purple glassy ignimbrite or rhyolite flow. The rock contains 20 to 30% euhedral 0.5 to 1 mm feldspar crystals in purple glassy matrix. Minor 0.5 mm subhedral quartz occurs locally.

The contacts and thickness of this unit are unknown due to poor exposure.

2.2.4.3 Interpretation

The Whippey Lake ridge stratigraphy lies to the northwest, along strike with the top of the West North River ridge succession. The basal crystal rich ignimbrite unit (unit 1), probably represents a late pulse of ash, related to the crystal rich ignimbrites occurring near the top of the West North River ridge stratigraphy, (see Section 2.2.3). This crystal rich ash flow unit appears to lie within a succession of volcanogenic sediments. These sediments, to the south, consist of black, fine grained, ashy material containing local 5 cm thick beds (the northermost unit of the West North River ridge). Conglomeratic to fine laminated ashy sediments (unit 2), occur to the north. The thickness of this sedimentary succession is unknown, but its occurrence appears to mark a turning point in the development of the volcanic pile (from crystal rich [~80 to 85%] ignimbrites intruded by dioritic dykes and sills in the south, to purple, glassy, welded ash or rhyolite flows interlayered with basalts in the north). The sediments themselves seem to represent a period of relative quiescence with the development of a basin receiving fine ash, possibly from distal volcanic centres. The coarse conglomerate bed contains only volcanic rocks and volcanogenic sediments (no basement clasts occur), and probably reflects cannibalization of the volcanic pile in response to local readjustments after a period of volcanic eruption (collapse).

The basaltic flows or shallow sills (units 3 and 8), lying within the Whippey Lake stratigraphy above the sedimentary rocks (unit 2), may prove to be markers, due to the dearth of mafic rocks in this part of the stratigraphy. The association of basalt overlying purple sediments here (Whippey Lake ridge), is reminiscent of a basalt flow overlying a lahar or muddy ash flow unit along strike to the east of West Branch North River (Davidson, 1980).

The sedimentary unit in the Whippey Lake ridge section is overlain by a succession of welded ash and/or rhoylite flows. The definite welded ignimbrite units (units 1, 6, 10, 13, and 16), generally form sheets of relatively consistant thickness which follow the regional northwest-southeast (120°) trend. The fabric developed in these is localized, and is also consistant with the regional trend. In one case (unit 6), a crystal rich ignimbrite grades upward (north) into an ash fall (unit 7), of similar composition.

The more contentious units (units 4, 5, 9, 11, 12, 14, 15, and 17), generally form thick layers with more irregular contacts. These units generally consist of flow folded massive to crystal rich purple glass, locally devitrified to very fine spherulites which preserve the original laminations. The units may represent thick rhyolite flows (or domes) or thick composite ash flow sheets with pervasive welding and secondary (rheomorphic) flow.

Thick flow banded rhyolites have been reported to the east, above the basalt and muddy ash flow (mentioned earlier), further supporting the tentative correlation of these with the Whippey Lake ridge section.

2.2.5 Geology of Byers Brook Ridge (Refer to Plate E25)

2.2.5.1 Introduction

The Byers Brook ridge is located north of Byers Brook in the western part of Cobequid Block IV. It lies adjacent to the northeast corner of the Swan Brook grid. A total of 10,300 metres of flagged lines with 60 metre separation were laid out on a magnetic north-south grid. See Plate 4gb. The mapping program was carried out to provide stratigraphic control for prospecting work carried out in the area.

A thick ignimbrite unit overlies a sequence of interbedded basalts and volcanogenic sediments. The ignimbrite unit is of interest because of its anomalously high volatile content.

2.2.5.2 Stratigraphy

The lowermost unit mapped in the Byers Brook area is the top of a basalt flow. The unit trends 120° and dips steeply to the northeast. The unit is dark green and vesicular near the top. The lower part of the unit has not been mapped.

The basalt is overlain by a 135 metre section of interbedded sediments and ash fall tuffs. The clastic units range from sandstone to conglomerate. Clasts are subangular to well rounded volcanic material. The matrix is ash material. Ash fall beds are 5 to 20 cm thick with internal laminations 1 to 5 mm thick. The unit is grey-green in colour with local hematized areas. This unit represents a very rapid dumping of debris off the volcanic pile.

Overlying the sediments is a 40 metre thick basalt flow. The basalt is green to red in colour. It is porphyritic, with 5 to 10 mm feldspar phenocrysts, which comprise 40 to 80% of the rock. The top of the unit is very well exposed on line 4+00 west and 4+00 north.

An overlying 7 metre thick conglomeratic unit is erosional into the basalt. This unit is composed of volcanic clasts in an ash matrix. It represents a continuation of the sedimentation that was interrupted by the emplacement of the basalt.

A 150 metre thick ignimbrite (a composite cooling unit) overlies the sediment. The number of flow units present is unknown. The unit has a dark red, glassy base with well developed flow laminations and flow folds. The base grades up into a massive green rock. Locally, it has well developed parting planes separated by 40 to 50 mm. This parting imparts a bedded appearance. Large elongate vugs up to 60 mm by 20 mm have developed along the partings. They are filled with euhedral quartz, fluorite and calcite, with associated anomalous radioactivity. The central part of the unit grades up into a lithophysae rich zone. This zone reaches as much as 100 metres in thickness. Locally, the rock is composed entirely of lithophysae 3 to 7 mm in diameter. They are often open with euhedral quartz and fluorite fillings.

A white weathering, massive rhyolite overlies the ignimbrite. This unit has the appearance of a quartzite. It is the uppermost unit mapped. Its thickness and extent are unknown.

3.0 PROSPECTING

Block IV was prospected extensively by prospectors. They carried either a BGS-1SL scintillometer by Scintrex or a EDA GRS-500 discriminating scintillometer, for detecting radioactivity. Detailed prospecting was done in the areas of West North River ridge, Whippey Lake ridge and Byers Lake ridge, where anomalous radioactivity was discovered.

Prospectors extensively sampled outcrops in the Byers Lake ridge area for geochemical analysis. Only some of the analytical results have returned from the lab and these have not received interpretive treatment at this time. The results are compiled in Appendix B. Sample locations are compiled in Appendix A.

Thorium occurrences were examined with a discriminating scintillometer, in the West North River area, to outline any uranium concentrations. Thorium values up to 6,000 ppm were obtained. Uranium values were generally in the 20 to 200 ppm range.

4.0 GEOPHYSICS

An EM-16 survey was carried out on parts of the Byers Lake grid to test for conductors. The transmitting station used in the survey was NAA in Maryland. The operator faced north while taking readings on the magnetic north-south grid lines. The results are plotted on Plate 4-1.

Two conductive zones trending approximately 120° are evident in the data. The southernmost zone produces a weak conductive response as might be produced at a stratigraphic contact or by a fault. The northermost conductive zone, occurring at the northern margin of the survey, is more strongly conductive. Data is limited on this zone, but a sulphide-graphite conductive zone is indicated.

APPENDIX A

GEOCHEMISTRY SAMPLE LOCATIONS

BYER'S LAKE GRID

Sample Number	Location	Sample Number	Location	Sample Number	Location
R 1101	2+00 W 0+70N	R1136	8+00 W 11+00N	R 1171	4+10E 1+00 N
R 1102	4+20 W 7+80S	R 1137	8+50W 6+00N	R 1172	4+60 E 1+20N
R 1103	4+00 W 12+00 N	R 1138	7+20 W 7+00N	R 1173	1+60 E 6+00S
R 1104	2+00W 0+80N	R 1139	8+00 W 8+00N	R 1174	2+15 E 6+00S
R 1105	4+00W 11+00 N	R 1140	8+00W 12+00N TL	R 1175	2+00 E 0+80S
R 1106	4+70W 8+50N	R 1141	10+00 W 2+00N	R 1176	2+00 E 4+20S
R 1107	4+80W 7+00N	R 1142	10+00W 3+60N	R 1177	2+00E 1+00S
R 1108	3+30 W 3+50N	R 1143	10+00 W 6+00N	R 1178	2+00E 2+70 N
R 1109	3+40 W 4+00 N	R 1144	10+00W 9+50N	R 1179	2+15 E 3+10 N
R 1110	4+00 W 3+50N	R 1145	10+00W 10+00N	R 1180	2+00E 2+00S
R 1111	3+30 W 4+50N	R 1146	9+50W 5+50N	R 1181	1+80E 9+50N
R 1112	4+20 W 2+00N	R 1147	8+20 E 7+00S	R 1182	2+20E 5+20N
R 1113	3+70 W 3+50 S	R 1148	8+00E 8+50S	R 1183	2+00E 1+00N
R 1114	3+00W 3+00S	R 1149	6+00 E 4+50S	R 1184	2+00E 2+60N
R 1115	3+80 W 10+00S	R 1150	6+00 E 0+80S	R 1185	2+35E 6+00N
R 1116	3+70 W 4+00S	R 1151	0+00 BL 6+00E	R 1186	0+15 W 12+00N
R 1117	5+00 W 8+00N	R 1152	6+00E 1+00S	R 1187	0+20E 4+70N
R 1118	5+80W 6+70N	R 1153	5+60 E 3+00S	R 1188	0+50 W 2+40S
R 1119	6+00W 9+00S	R 1154	6+08E 7+00N	R 1189	0+50W 0+00BL
R 1120	6+00W 5+00N	R 1155	6+00E 0+50S	R 1190	0+20W 0+50S
R 1121	6+00 W 7+00N	R 1156	6+00E 7+00N	R 1191	0+00 1+50S
R 1122	5+75W 6+80N	R 1157	6+00E 6+00S	R 1192	1+00W 5+00S
R 1123	6+40 W 2+00N	R 1158	6+40E 6+50N	R 1193	7+85W 2+20N
R 1124	6+00W 6+00N	R 1159	6+00E 4+00N	R 1194	8+30 W 3+40N
R 1125	6+30W 10+00N	R 1160	6+00E 6+90N	R 1195	5+00 W 0+00BL
R 1126	6+50W 7+50N	R 1161	6+00E 1+00 N	R 1196	5+90 W 1+00N
R 1127	6+00W 4+50N	R 1162	6+00E 4+00S	R 1197	5+00W 3+25N
R 1128	6+00 W 5+20N	R 1163	6+00E 3+00N		
R 1129	6+25 W 6+00N	R 1164	3+90E 3+50S		
R 1130	6+50W 2+40N	R 1165	4+10E 1+00S		
R 1131	6+00W 4+00 N	R 1166	4+00E 0+00 BL		
R 1132	8+00W 2+00N	R 1167	4+00E 12+50 N		
R 1133	8+00W 2+00 N	R 1168	3+80E 9+20N		
R 1134	8+25 W 4+50 N	R 1169	3+50E 0+20 S		
R 1135	7+60W 8+00N	R 1170	3+40E 11+50N		

APPENDIX B

WHOLE ROCK AND TRACE ELEMENT GEOCHEMISTRY

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET, DON MILLS, ONTARIO M3B 3J4

PHONE 416-445-5755 TELEX 06-986947

CERTIFICATE OF ANALYSIS

TO: GULF MINERALS CANADA LIMITED
ATTN: G.I. PEARSON
SUITE 1400, 110 YONGE ST.,
TORONTO, ONTARIO
M5C 1T4

CUSTOMER NO. 284

DATE SUBMITTED
25-AUG-81

REPORT 12794

REF. FILE 8445-V3

41 ROCKS P.O.#12447 PROJECT: COBEQUID AFE1537 FAC08200

WERE ANALYSED AS FOLLOWS:

	UNITS	METHOD	DETECTION LIMIT
F	PPM	WET	100.000
WRMAJ	%	XRF	0.010
MO	PPM	DCP	0.500
CU	PPM	DCP	0.500
ZN	PPM	DCP	0.500
WRMIN	PPM	XRF	10.000
AG	PPM	DCP	0.500
SN	PPM	EMS	3.000
W	PPM	NA	1.000
PB	PPM	DCP	2.000
U	PPM	DNC	0.100
TH	PPM	NA	1.000

DATE 30-SEP-81

X-RAY ASSAY LABORATORIES LIMITED

CERTIFIED BY ....

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X     X     RRRRR         A
XX   XX     RR  RR       AAA
 XX XX      RR   RR     AA AA
  XXX       RR  RR     AA   AA
  XXX       RRRRR      AAAAAAA
 XX XX      RR  RR     AA   AA
XX   XX     RR   RR    AA   AA
X     X     RR    R    AA   AA
```

X-RAY ASSAY LABORATORIES LIMITED
1885 LESLIE STREET
DON MILLS, ONTARIO
M3B 3J4

GULF MINERALS: COBEQUID PROJECT

TOTAL IRON REPORTED AS FEO
THE CONTRIBUTION OF TOTAL IRON TO THE SUM
IS CALCULATED AS FE2O3

REPORT NO. 30-SEP-81

SAMPLES RECEIVED FROM REF FILE #8445-V3

SAMPLE	R1076	R1077	R1078	R1079	R1101	R1102	R1103	R1104	R1105	R1106
SIO2	76.3	76.6	74.5	80.3	79.2	74.2	79.0	76.6	79.1	78.4
AL2O3	10.4	10.2	10.0	8.35	8.83	13.3	10.3	9.39	10.3	10.5
CAO	0.09	0.10	0.07	0.02	0.02	0.10	0.01	0.03	0.00	0.03
MGO	0.13	0.09	0.10	0.00	0.00	0.00	0.01	0.03	0.00	0.00
NA2O	0.91	1.58	0.42	0.46	0.64	3.48	0.36	0.46	0.34	0.32
K2O	6.59	5.70	7.19	6.48	6.51	4.59	6.77	7.20	7.15	7.38
FEO	2.00	2.07	3.35	1.97	2.13	1.75	1.04	2.84	0.75	0.86
MNO	0.02	0.02	0.02	0.01	0.01	0.04	0.01	0.01	0.01	0.01
TIO2	0.35	0.44	0.32	0.19	0.20	0.14	0.12	0.75	0.11	0.14
P2O5	0.04	0.05	0.04	0.02	0.02	0.01	0.00	0.03	0.00	0.01
L.O.I.	2.47	2.08	3.00	1.23	1.47	1.39	1.54	1.93	1.31	1.31
SUM	99.5	99.1	99.4	99.3	99.3	99.2	99.3	99.1	99.2	99.1
FEO/MGO	15.19	22.41	32.02	—	—	—	—	106.79	—	—
K2O/K2O+NA2O	0.88	0.78	0.95	0.93	0.91	0.57	0.95	0.94	0.96	0.96

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)
[IRVINE & BARAGAR, CAN. JOUR. EARTHSCI. 8,523(1971)]

	R1076	R1077	R1078	R1079	R1101	R1102	R1103	R1104	R1105	R1106
Q	46.9	46.7	45.5	53.9	51.8	37.0	52.2	47.5	50.8	49.4
C	1.8	1.4	1.6	0.6	0.8	2.5	2.4	0.9	2.1	2.0
OR	40.1	34.8	44.2	39.1	39.4	27.7	41.0	43.9	43.2	44.7
AB	7.9	13.8	3.7	4.0	5.5	30.1	3.1	4.0	2.9	2.7
AN	0.2	0.2	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.1
LC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EN	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FS	0.3	0.2	1.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0
FO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT	0.2	0.0	2.7	0.9	1.4	0.6	0.0	2.6	0.0	0.0
IL	0.7	0.8	0.6	0.4	0.4	0.3	0.0	0.5	0.0	0.0
CR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HM	1.8	2.0	0.0	1.1	0.7	1.3	1.2	0.0	0.8	1.0
AP	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
PY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
CC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECAST TO 100%										
AB	16	28	8	9	12	52	7	8	6	6
OR	83	71	92	91	88	48	93	92	94	94
AN	0	0	0	0	0	1	0	0	0	0
RECAST TO 100%										
Q	49	49	49	56	54	39	54	50	52	51
OR	42	36	47	40	41	29	43	46	45	46
AN+AB	9	15	4	4	6	32	3	4	3	3

SAMPLE	1076	R1077	R1078	R1079	R1101	R1102	R1103	R1104	R1105	R1106
MO	18.0	13.0	33.0	22.0	24.0	9.5	6.0	35.0	5.5	14.0
F	260.0	240.0	250.0	180.0	180.0	210.0	210.0	190.0	220.0	170.0
TH	23.0	20.0	24.0	21.0	20.0	30.0	22.0	20.0	28.0	25.0
W	5.0	10.0	-1.0	-1.0	-1.0	5.0	-1.0	5.0	-1.0	-1.0
PB	47.0	88.0	81.0	150.0	85.0	36.0	42.0	170.0	91.0	34.0
ZN	25.0	63.0	28.0	51.0	120.0	58.0	26.0	210.0	20.0	17.0
CU	18.0	27.0	21.0	41.0	63.0	9.5	14.0	75.0	9.5	10.0
BA	160	200	180	70	90	100	20	100	10	10
U	80.0	120.0	62.0	57.0	150.0	7.5	5.3	260.0	4.3	6.5
CR2O3	400	330	300	370	430	260	290	360	280	300
SN	3.0	7.0	5.0	3.0	5.0	15.0	5.0	5.0	3.0	5.0
ZR	190	180	200	140	140	380	380	160	370	490
SR	30	30	20	30	30	20	20	30	10	10
RB	380	320	430	380	380	250	380	420	410	310
AG	1.0	1.0	1.5	1.0	1.0	-0.5	-0.5	2.0	-0.5	-0.5

SAMPLE	R1107	R1108	R1109	R1110	R1111	R1112	R1113	R1114	R1115	R1116
SIO2	79.1	72.3	74.0	75.2	72.3	75.2	75.7	81.1	77.7	76.2
AL2O3	9.80	13.5	13.2	10.5	14.3	11.5	10.4	8.70	11.7	10.2
CAO	0.04	0.46	0.06	0.03	0.08	0.04	0.03	0.02	0.07	0.03
MGO	0.04	0.13	0.09	0.74	0.02	0.68	0.96	0.00	0.03	0.70
NA2O	1.35	3.69	1.84	0.54	4.08	1.14	0.54	2.10	2.35	0.59
K2O	4.25	4.79	5.55	5.70	3.94	3.82	5.49	4.56	4.46	5.21
FEO	1.64	2.29	2.01	2.59	2.19	2.74	2.78	1.30	1.22	2.74
MNO	0.02	0.06	0.03	0.03	0.03	0.04	0.04	0.01	0.02	0.03
TIO2	0.43	0.18	0.18	0.39	0.19	0.37	0.40	0.10	0.12	0.52
P2O5	0.04	0.01	0.01	0.04	0.01	0.03	0.04	0.00	0.01	0.06
L.O.I.	2.31	1.39	2.16	2.77	1.93	3.47	2.47	1.08	1.47	2.85
SUM	99.2	99.1	99.4	98.9	99.3	99.4	99.2	99.2	99.3	99.5
FEO/MGO	39.89	17.48	22.20	3.50	89.98	4.02	2.90	---	46.26	3.93
K2O/K2O+NA2O	0.76	0.56	0.75	0.91	0.49	0.77	0.91	0.68	0.66	0.90

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)
[IRVINE & BARAGAR, CAN. JOUR. EARTHSCI. 8,523(1971)]

	R1107	R1108	R1109	R1110	R1111	R1112	R1113	R1114	R1115	R1116
Q	56.7	32.1	43.0	51.0	34.2	55.1	51.7	52.4	47.8	53.5
C	3.1	1.5	4.2	3.6	3.3	5.7	3.7	0.3	3.0	3.7
OR	25.9	29.0	33.8	35.0	24.0	23.5	33.5	27.5	27.0	31.9
AB	11.8	32.0	16.0	4.8	35.4	10.1	4.7	18.1	20.3	5.2
AN	0.0	2.3	0.3	0.0	0.4	0.0	0.0	0.1	0.3	0.0
LC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EN	0.1	0.1	0.1	1.1	0.0	0.9	1.5	0.0	0.0	1.0
FS	0.0	0.3	0.2	1.0	0.1	1.1	1.3	0.0	0.0	1.0
FO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT	0.0	2.2	1.2	1.9	1.7	2.5	2.5	0.0	0.0	1.6
IL	0.0	0.3	0.4	0.8	0.4	0.7	0.8	0.0	0.1	1.0
CR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HM	1.9	0.2	0.9	0.7	0.6	0.2	0.3	1.5	1.4	1.0
AP	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1
PY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
CC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECAST TO 100%										
AB	31	51	32	12	59	30	12	40	43	14
OR	69	46	67	88	40	70	88	60	57	86
AN	0	4	1	0	1	0	0	0	1	0
RECAST TO 100%										
Q	60	34	46	56	36	62	58	53	50	59
OR	27	30	36	39	25	27	37	28	28	35
AN+AB	13	36	17	5	38	11	5	19	22	6

SAMPLE	1107	R1108	R1109	R1110	R1111	R1112	R1113	R1114	R1115	R1116
MO	9.0	5.0	3.5	13.0	6.0	1.0	26.0	7.5	16.0	29.0
F	200.0	1600.0	320.0	300.0	190.0	470.0	320.0	170.0	230.0	330.0
TH	21.0	34.0	34.0	23.0	35.0	28.0	20.0	26.0	30.0	18.0
W	-1.0	5.0	5.0	5.0	-1.0	5.0	5.0	-1.0	-1.0	5.0
PB	31.0	35.0	16.0	89.0	23.0	27.0	59.0	48.0	68.0	63.0
ZN	13.0	78.0	39.0	62.0	47.0	64.0	76.0	35.0	30.0	48.0
CU	9.5	11.0	8.0	12.0	6.0	9.5	27.0	11.0	10.0	16.0
BA	160	130	90	190	50	170	180	40	110	170
U	5.0	6.0	6.4	150.0	6.1	8.3	160.0	7.4	8.6	130.0
CR2O3	420	300	280	320	200	230	330	390	300	380
SN	5.0	5.0	5.0	10.0	5.0	15.0	5.0	7.0	10.0	10.0
ZR	180	470	460	410	500	500	380	500	300	380
SR	40	70	20	40	40	40	50	0	10	30
RB	190	210	280	380	190	310	350	280	300	360
AG	-0.5	0.5	-0.5	0.5	-0.5	-0.5	1.0	-0.5	-0.5	1.0

SAMPLE	R1117	R1118	R1119	R1121	R1122	R1123	R1124	R1125	R1126	R1127
SIO2	79.7	71.2	72.3	76.9	68.5	73.9	72.3	74.9	77.9	73.7
AL2O3	10.5	13.2	13.4	11.5	14.0	13.6	13.4	13.2	10.7	13.8
CAO	0.03	0.11	0.32	0.05	0.24	0.04	0.06	0.03	0.06	0.30
MGO	0.00	0.33	0.13	0.00	0.35	0.07	0.15	0.06	0.23	0.17
NA2O	0.27	3.44	3.47	1.25	3.56	1.33	2.05	1.07	1.96	2.18
K2O	5.33	4.19	4.60	5.26	4.38	5.08	5.57	5.80	3.73	4.92
FEO	0.73	3.54	2.28	1.88	3.86	2.27	2.78	1.66	1.90	1.77
MNO	0.02	0.06	0.06	0.03	0.05	0.02	0.05	0.02	0.02	0.03
TIO2	0.14	0.72	0.21	0.16	0.75	0.19	0.28	0.13	0.25	0.18
P2O5	0.00	0.09	0.01	0.01	0.09	0.01	0.03	0.01	0.02	0.01
L.O.I.	1.62	2.23	1.47	1.93	3.08	2.39	2.00	2.31	2.08	1.85
SUM	98.5	99.5	98.5	99.2	99.3	99.3	99.0	99.4	99.1	99.2
FEO/MGO	—	10.70	17.89	—	11.04	33.88	18.46	28.46	8.13	10.20
K2O/K2O+NA2O	0.95	0.55	0.57	0.81	0.55	0.79	0.73	0.84	0.66	0.69

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)
[IRVINE & BARAGAR, CAN. JOUR. EARTHSCI. 8, 523(1971)]

	R1117	R1118	R1119	R1121	R1122	R1123	R1124	R1125	R1126	R1127
Q	59.5	35.6	34.7	50.8	31.3	48.1	39.9	47.7	53.4	42.5
C	4.4	3.1	2.3	3.8	3.4	6.1	4.0	5.3	3.4	4.5
OR	32.5	25.5	28.0	32.0	26.9	31.0	34.0	35.3	22.7	29.9
AB	2.4	30.0	30.2	10.9	31.3	11.6	17.9	9.3	17.1	18.9
AN	0.1	0.0	1.6	0.2	0.6	0.1	0.1	0.1	0.2	1.5
LC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EN	0.0	0.2	0.1	0.0	0.3	0.0	0.1	0.0	0.3	0.2
FS	0.0	0.8	0.3	0.0	1.2	0.2	0.7	0.1	0.4	0.3
FO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT	0.0	3.1	2.0	0.9	3.4	2.0	2.7	0.3	0.4	0.4
IL	0.0	1.4	0.4	0.3	1.5	0.4	0.6	0.2	0.5	0.4
CR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HM	0.8	0.1	0.4	1.1	0.0	0.4	0.0	1.4	1.5	1.5
AP	0.0	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0
PY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECAST TO 100%										
AB	7	54	50	25	53	27	34	21	43	38
OR	93	46	47	74	46	72	65	79	57	59
AN	0	0	3	0	1	0	0	0	0	3
RECAST TO 100%										
Q	63	39	37	54	35	53	43	52	57	46
OR	34	28	30	34	30	34	37	38	24	32
AN+AB	3	33	34	12	35	13	20	10	18	22

SAMPLE	1117	R1118	R1119	R1121	R1122	R1123	R1124	R1125	R1126	R1127
MO	5.5	6.0	6.5	8.5	3.5	1.5	3.0	5.0	4.0	5.0
F	170.0	230.0	230.0	200.0	390.0	280.0	250.0	320.0	290.0	1700.0
TH	35.0	27.0	31.0	29.0	28.0	33.0	31.0	25.0	26.0	34.0
W	-1.0	5.0	-1.0	-1.0	5.0	5.0	-1.0	-1.0	-1.0	-1.0
PB	32.0	33.0	20.0	14.0	72.0	14.0	11.0	20.0	11.0	110.0
ZN	13.0	72.0	76.0	33.0	53.0	34.0	46.0	43.0	53.0	84.0
CU	11.0	14.0	7.0	9.0	15.0	13.0	9.5	12.0	9.5	19.0
BA	40	140	130	60	150	90	100	50	80	130
U	4.5	14.0	6.5	5.0	9.1	5.2	5.6	6.5	6.2	110.0
CR2O3	330	260	270	340	210	230	230	330	350	240
SN	10.0	7.0	10.0	12.0	7.0	10.0	7.0	10.0	7.0	5.0
ZR	450	240	520	400	260	480	480	270	210	490
SR	0	50	40	10	50	10	20	0	40	40
RB	480	210	240	250	220	270	300	290	180	240
AG	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5

SAMPLE	R1128	R1133	R1135	R1136	R1137	R1139	R1140	R1143	R1144	R1145
SIO2	72.2	75.8	68.8	73.0	75.8	74.5	76.3	73.3	75.5	72.5
AL2O3	14.4	12.3	14.0	13.3	11.1	11.3	11.7	12.0	12.0	14.2
CAO	0.03	0.04	0.17	0.04	0.06	0.10	0.07	0.99	0.05	0.05
MGO	0.05	0.02	1.18	0.00	0.58	0.32	0.00	0.79	0.00	0.00
NA2O	1.72	1.30	2.39	3.26	1.80	1.98	2.71	2.54	2.56	2.81
K2O	5.70	4.85	3.88	5.87	3.60	4.27	4.86	3.15	5.07	5.74
FEO	2.39	2.73	4.59	1.72	2.78	3.34	1.33	2.82	1.83	1.65
MNO	0.02	0.03	0.08	0.04	0.04	0.08	0.05	0.09	0.04	0.03
TIO2	0.20	0.17	0.73	0.18	0.42	0.61	0.14	0.38	0.16	0.18
P2O5	0.01	0.01	0.11	0.01	0.05	0.07	0.01	0.05	0.01	0.01
L.O.I.	2.62	2.31	3.08	1.54	2.54	2.16	1.47	2.85	1.62	1.70
SUM	99.5	99.3	99.5	99.2	99.1	99.1	98.7	99.3	99.0	99.0
FEO/MGO	44.70	109.80	3.88	--	4.82	10.39	--	3.55	--	--
K2O/K2O+NA2O	0.77	0.79	0.62	0.64	0.67	0.68	0.64	0.55	0.66	0.67

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)
[IRVINE & BARAGAR, CAN. JOUR. EARTHSCI. 8,523(1971)]

	R1128	R1133	R1135	R1136	R1137	R1139	R1140	R1143	R1144	R1145
Q	41.5	51.1	38.8	32.3	52.5	47.5	42.9	44.8	42.2	35.0
C	5.5	5.0	6.0	1.6	4.3	3.5	1.9	2.8	2.3	3.4
OR	34.8	29.6	23.8	35.6	22.0	26.1	29.6	19.3	30.8	34.9
AB	15.0	11.3	21.0	28.2	15.7	17.3	23.6	22.3	22.3	24.5
AN	0.1	0.1	0.2	0.1	0.0	0.0	0.3	4.8	0.2	0.2
LC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EN	0.0	0.0	2.0	0.0	0.7	0.2	0.0	1.1	0.0	0.0
FS	0.2	0.1	3.3	0.0	1.0	0.8	0.0	1.3	0.0	0.0
FO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT	2.3	2.0	3.3	0.3	2.3	3.2	0.0	2.8	0.7	0.0
IL	0.4	0.3	1.4	0.3	0.8	1.2	0.1	0.7	0.3	0.3
CR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HM	0.2	0.3	0.0	1.5	0.4	0.0	1.5	0.0	1.2	1.7
AP	0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.1	0.0	0.0
PY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
CC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECAST TO 100%										
AB	30	28	47	44	42	40	44	48	42	41
OR	70	72	53	56	58	60	55	42	58	59
AN	0	0	0	0	0	0	1	10	0	0
RECAST TO 100%										
Q	45	55	46	34	58	52	45	49	44	37
OR	38	32	28	37	24	29	31	21	32	37
AN+AB	17	12	25	29	17	19	25	30	24	26

SAMPLE	1128	R1133	R1135	R1136	R1137	R1139	R1140	R1143	R1144	R1145
MO	6.0	4.5	1.5	5.5	1.5	1.5	3.5	4.0	3.5	3.0
F	300.0	250.0	490.0	160.0	400.0	320.0	140.0	460.0	120.0	170.0
TH	37.0	30.0	30.0	32.0	22.0	23.0	22.0	28.0	29.0	31.0
W	-1.0	10.0	10.0	5.0	-1.0	10.0	5.0	-1.0	10.0	-1.0
PB	34.0	49.0	37.0	14.0	36.0	11.0	10.0	32.0	8.0	4.0
ZN	50.0	42.0	210.0	54.0	85.0	60.0	88.0	160.0	69.0	26.0
CU	9.0	9.5	18.0	7.0	8.0	11.0	8.5	13.0	9.0	9.5
BA	70	50	170	70	230	120	70	190	110	70
U	5.0	4.8	8.8	4.9	6.6	6.4	6.4	6.9	6.8	5.5
CR2O3	210	240	260	210	240	240	330	240	300	220
SN	5.0	5.0	12.0	5.0	12.0	7.0	5.0	15.0	5.0	-3.0
ZR	550	450	610	480	450	220	250	500	430	490
SR	20	0	30	30	10	20	80	40	70	10
RB	290	290	320	230	250	290	220	250	190	330
AG	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5

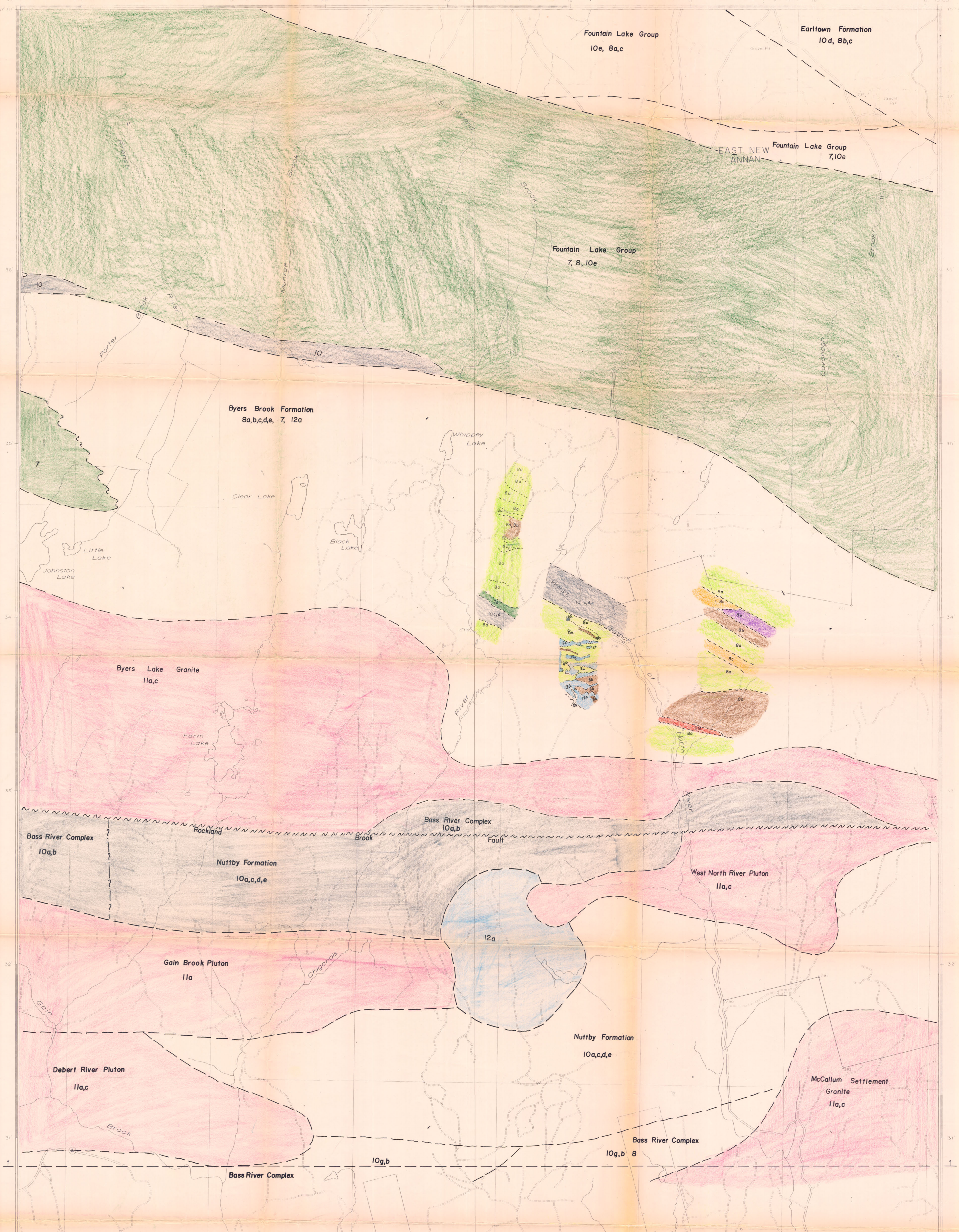
SAMPLE	R1146
SIO2	75.0
AL2O3	11.8
CAO	0.61
MGO	0.66
NA2O	2.88
K2O	2.79
FEO	2.60
MNO	0.06
TIO2	0.28
P2O5	0.04
L.O.I.	2.16
SUM	99.2
FEO/MGO	3.91
K2O/K2O+NA2O	0.49

NORMATIVE MINERAL COMPOSITION (WEIGHT PERCENT)
[IRVINE & BARAGAR, CAN. JOUR. EARTHSCI. 8,523(1971)]

Q	46.7
C	3.1
OR	17.0
AB	25.1
AN	2.8
LC	0.0
NE	0.0
KP	0.0
AC	0.0
DI	0.0
HE	0.0
EN	0.9
FS	1.0
FO	0.0
FA	0.0
WO	0.0
LA	0.0
MT	2.6
IL	0.6
CR	0.0
HM	0.0
AP	0.1
PY	0.0
NS	0.0
KS	0.0
RU	0.0
CC	0.0
RECAST TO 100%	
AB	56
OR	38
AN	6
RECAST TO 100%	
Q	51
OR	19
AN+AB	30

SAMPLE	1146
MO	4.5
F	820.0
TH	27.0
W	-1.0
PB	25.0
ZN	200.0
CU	13.0
BA	80
U	6.4
CR2O3	270
SN	15.0
ZR	510
SR	50
RB	280
AG	-0.5

11/E-11 WEST



21 22 23 24 25 26 27 28 29
C
D
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64°00'
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Gulf Minerals Canada Limited

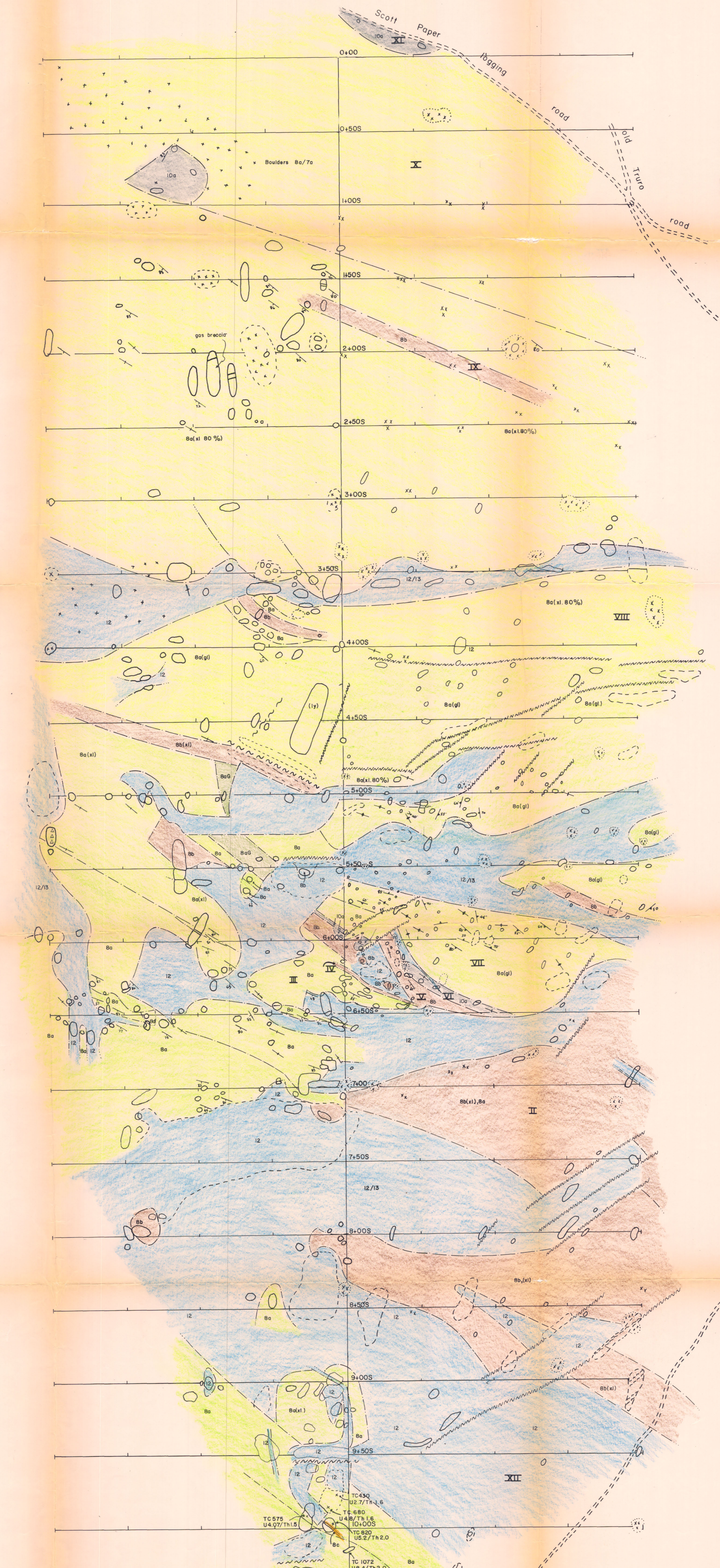
COBEQUID PROJECT

Geological Compilation

434268

NOVA SCOTIA

DATE:	SCALE	DRAWN BY:	PLATE E 26
Dec. 1981	1 IN. = 1/4 MI.	DG.	NTS. 11E/11 PT.



Gulf Minerals Canada Limited

GEOLOGY MAP

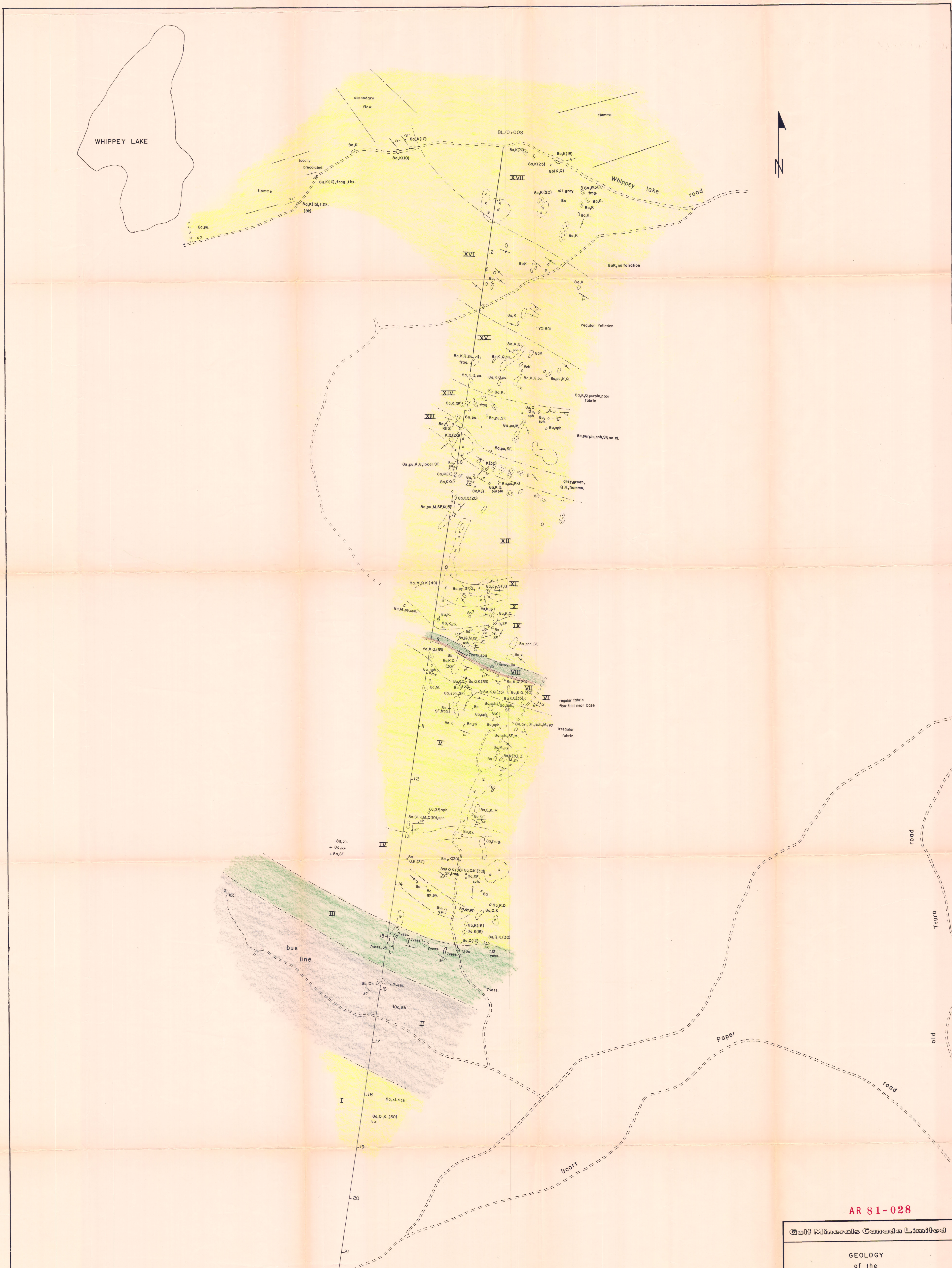
AR 81-028

WEST BRANCH NORTH RIVER

(SOUTH RIDGE)

434268

DATE:	SCALE:	DRAWN BY:	PLATE:
	1:1250	Y.A.M.	2-1



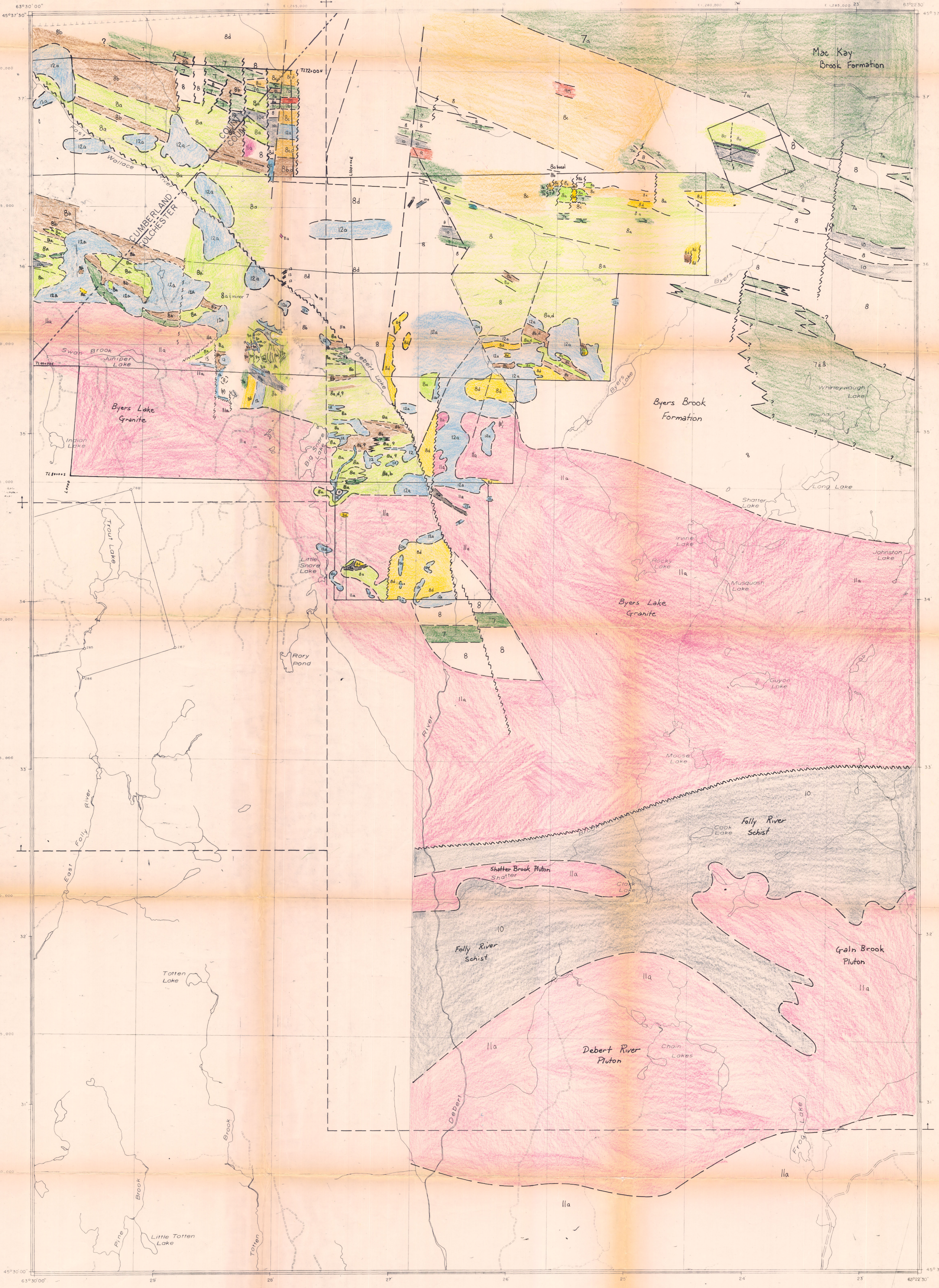
AR 81-028

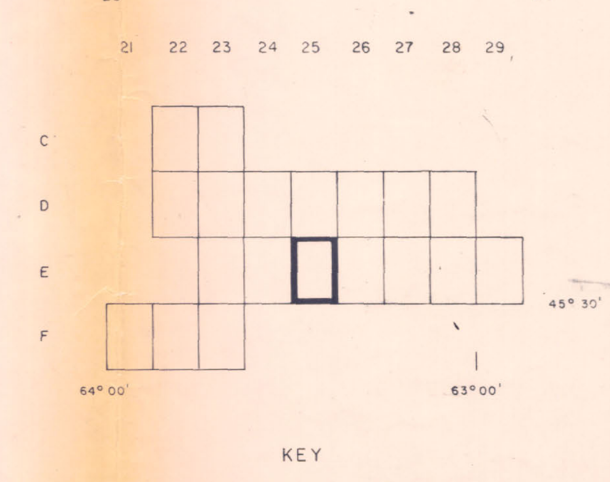
Gulf Minerals Canada Limited

GEOLOGY
of the
WHIPPEY LAKE
area

434268

DATE:	SCALE:	DRAWN BY:	PLATE:
September 81	1: 2,500	Y.A.M.	2-2





AR 81-028

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COBEQUID PROJECT

Geological Compilation

434268

NOVA SCOTIA

DATE:	SCALE: 1 IN. = 1/4 MI.	DRAWN BY:	PLATE: 3gb? NTS. 11E/11 PT.

NOTE: For legend see sheet 3

11E/12D	11E/11C
1 2	3 4
11E/12A	11E/11B

KEY

AR 81-028

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COBEQUID PROJECT

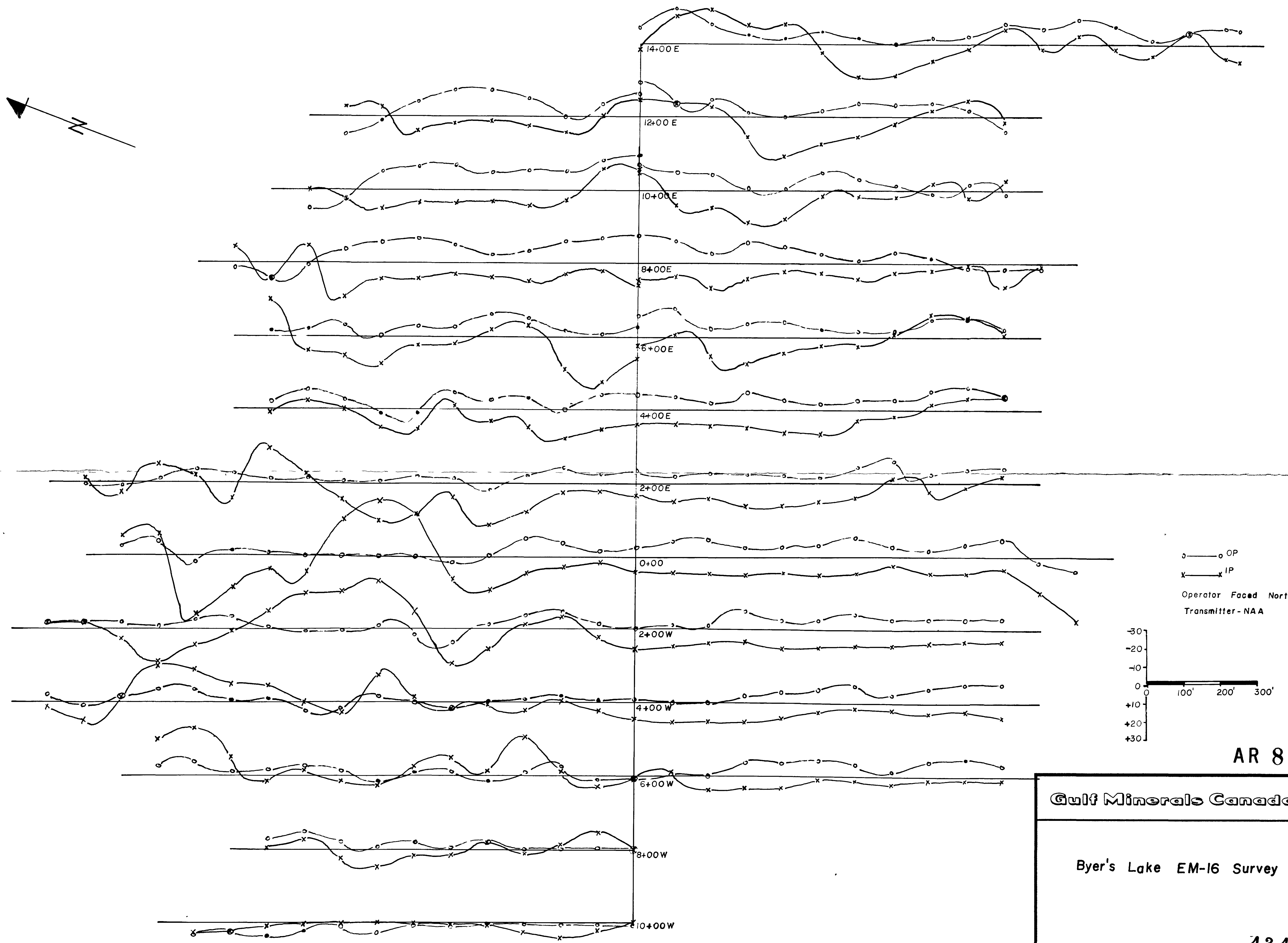
GEOLOGICAL COMPILATION

434268

NOVA SCOTIA

DATE	SCALE	DRAWN BY	PLATE 4sb?
NOVEMBER 80	1 INCH=400 FEET	P.J.C.	N.T.S. 11E/11 PT.

To accompany "Cobequid IV Report" Dec. 80.



AR 81-028

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Byer's Lake EM-16 Survey

434268

DATE:	SCALE:	DRAWN BY:	PLATE:
Dec./1981	1" = 200'	D.G.	4-1