OZALID·BANDA
HUGHES·OWENS
DRAWING No.
DETAILS
HUGHES·OWENS
313 1102

LEGEND

CARBONIFEROUS

PENNSYLVANIAN

BARACHOIS GROUP

8	Green and grey sandy conglomerates; grey and buff conglomeratic, arkosic sandstones; grey micaceous sandstone; red, green and grey siltstone; coal seams 8a - greyish purple, pebbly arkose (Brow Pond Lentil).

MISSISSIPPIAN

CODROY GROUP

7	Highlands Formation: Red, calcareous arkosic sandstones and siltstones with caliche and green reduction spots common (7a); red conglomerates, sandstones and siltstones (7b).
6	Woodville Formation: Bedded evaporites; red, green, purple and yellow shales bearing halite pseudomorphs; yellow, red and grey siltstones; black fossiliferous and algal limestones (Cormorant limestone); grey algal and fossiliferous limestones in upper part.
5	Ship Cove Formation: Laminated and massive bedded grey limestone containing pellets, ooliths, and oncolites; argillaceous limestone with crystal molds; stromatolites.

Disconformity

ANGUILLE GROUP

4	Spout Falls Formation: Green-grey and red, arkosic and micaceous, friable sandstones and siltstones; some grey mudstones with thin siltstones.
3	Friars Cove Formation: Grey sandstones and conglomerates; thin bedded sandstones; grey to black mudstones; thin dolomite limestones.
2	Mary Anns Cove Formation: Black slates; thin sandstones and siltstones; dolomitic limestones and mudstones; some deformed units.
1	Kennel's Brook Formation: Green and red indurated sandstones and cleaved siltstones.

SYMBOLS

Geological boundaries; defined, approximate, assumed
Bedding, tops known (inclined)
Fault (defined, approximate, assumed)
Fault (arrows indicate relative movement)
Fault (inclined, solid circle indicates downthrow side)
Syncline (defined, approximate)
Anticline (defined, approximate)
Mineral Occurrence .... Zn×
Diamond Drill Hole .... DDH●
Trace of coal seam
Gypsum or sinkhole
Fossil locality
Salt spring .... ss

Abbreviations

Barium	Ba
Copper	Cu
Fluorite	Fl
Lead	Pb
Zinc	Zn
Halite	na

Geology by I. Knight (1975, Anguille Mountains, Bald Mountains) and C.C.K. Fong (1973, 1974, 1975; rest of area).

This map is available as Open File release 773.

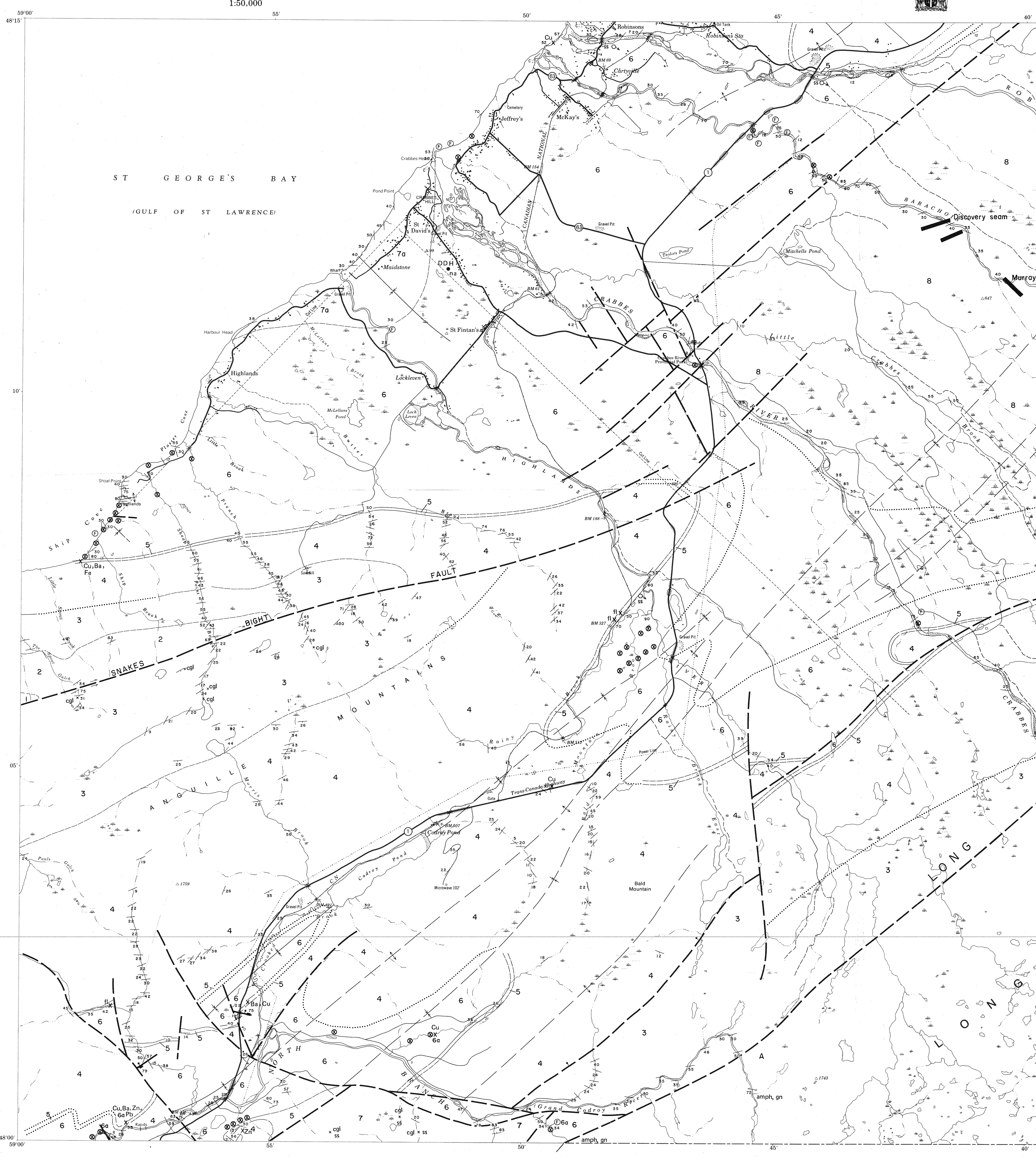
Geological cartography by Mineral Development Division, Department of Mines and Energy, Government of Newfoundland.

Copies of this map may be obtained from the Mineral Development Division, Department of Mines and Energy, St. John's, Newfoundland.

Base map at same scale published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, 1973.

Approximate magnetic declination, 1969, 27° 32′ west, decreasing 2.6′ annually.

INDEX MAP



Roads: / Routes:
hard surface, all weather .... pavée, toute saison .... dual highway / 2 chaussées séparées; more than 2 lanes / plus de 2 voies
hard surface, all weather .... pavée, toute saison .... 2 lanes / 2 voies; less than 2 lanes / moins de 2 voies
loose or stabilized surface, all weather .... gravier aggloméré, toute saison .... 2 lanes or more / 2 voies ou plus; less than 2 lanes / moins de 2 voies
loose surface, dry weather and unclassified streets .... de gravier, temps sec et rues hors classe
cart track .... de terre
trail or portage .... sentier ou portage

ST FINTAN'S — DASHWOODS POND

ST. GEORGE'S DISTRICT

Scale 1:50,000 Échelle

Kilometres 1 0 1 2 3 4 Kilomètres

Miles 1 0 1 2 Milles

ST. FINTAN'S - DASHWOODS POND

In the map area, Carboniferous rocks underlie two distinct topographic areas related to the type of rocks that underlie the areas. In the south, the Anguille Group, which consists of a thick sequence of massive sedimentary rocks, forms the Anguille Mountains and Bald Mountain; in the north, softer fine grained sediments of the Codroy Group form an extensive lowland. The Anguille and Bald Mountains are dissected plateaus of 450 to 525 m in elevation separated by the valley of Codroy Pond. Youthful streams which are incised up to 210 meters into the mountains radiate from the plateaus. The plateaus are covered by extensive marshes and very thick, stunted spruce shrubbery; the valleys and mountain slopes are wooded by mature spruce and birch forests. The northern coastal lowlands are 10 km wide and rise from low cliffs around St. George's Bay to about 210 m in height inland. The lowland passes southeastwards of a line from Crabbes River Provincial Park to Mitchell's Pond into an area with a strong, southeast-northwest topographic grain of ridges and valleys. Elevation in this area varies from 120 m to 270 m at the Long Range Fault. This topographic style was fashioned during the Wisconsin glacial retreat (Vanderveer, 1975). The Long Range Fault is expressed as an escarpment with rugged, glaciated mountains rising to 495 m. The lowlands are heavily wooded and have numerous marshes.

Access to the mountainous areas is poor, with only a few hunting trails and logging roads. The lowlands, on the other hand, have many logging roads particularly southeast of the Trans-Canada Highway.

Rock outcrop in the map area is confined mostly to shorelines, streams and rivers.

The area was previously mapped by Riley (1962) and Verrall (1954).

Rocks of the Kennel's Brook Formation (Unit 1) are inferred from information on the adjoining Little Friars Cove map sheet (Knight, 1976). The Mary Ann's Cove Formation (Unit 2) is poorly exposed but appears to be mostly black shales and mudstones with thin dolomitic laminations and slump units. It is overlain conformably by the Friars Cove Formation (Unit 3). North of the Snakes Bight Fault, the Friars Cove Formation consists of a thin basal conglomerate which is overlain by thick sedimentary cycles of grey sandstone and mudstone. South of the fault, thick, grey conglomerates and sandstones of the formation underlie an extensive area, particularly on the top of the mountain adjacent to the fault. The conglomerates are composed of angular to rounded pebbles and cobbles of vein quartz, sedimentary quartzite, granite, gneiss, and acidic volcanic lithologies, set in a poorly sorted, sandy matrix. Massive bedding, cross-bedding and lamination occur in these conglomerates. Overlying these conglomerates, the formation consists of sedimentary cycles of thick grey, massive bedded, cross-bedded and channelled, calcareous arkoses, passing upwards into thin bedded, rippled sandstones capped by laminated and massive grey shales and mudstones containing lenses of sandstone. The formation is much thicker southeast of the Snakes Bight Fault. Deposition occurred in fluvial-marine and tidal flat environments.

The Spout Falls Formation (Unit 4) varies considerably in lithology. In the Anguille Mountains, it consists of fining upwards fluvial cycles which coarsen northeastwards into red conglomerates and sandstones near the Long Range Fault between Crabbes River and Robinsons River. Thin horizons of grey conglomerate occur in the top of the formation near Highlands Brook and probably are distal equivalents of the Fischells Conglomerate member (4a). The member consists of interbedded grey conglomerates and red sandstones along Robinsons River. These sediments represent meander and braided river and alluvial fan deposits. Marine siltstone and sandstones form a unit below the Ship Cove Formation (Unit 5) and in many places, particularly along the north side of the Anguille Mountains, the red fluviatile sandstones are reworked to a pale grey to buff, massive bedded, well sorted sandstone for up to 2 m in thickness.

Rocks of the Ship Cove Formation (Unit 5) disconformably overlie rocks of the Anguille Group. They consist of a sequence of well laminated, oolitic, pisolitic and oncolitic algal limestone beds south of Robinsons River and an alternation of laminated, oolitic, pisolitic and oncolitic algal limestone and argillaceous, load-casted sandstone beds north of Robinsons River. Exposures of the Ship Cove Formation are mostly limited to outcrops in various streams in the map area. The Ship Cove Formation is conformably overlain by the Woodville Formation.

Woodville Formation (Unit 6) rocks are well exposed along the shore of St. George's Bay. The basal unit of the formation is a 45 m thick, red and grey gypsiferous shale. A grey marine mudstone, 10 m thick and containing sparse fossils, follows the basal shale unit. A dark grey but black weathering, fossiliferous reef limestone, named the Cormorant Limestone by Bell (1948), overlies the grey marine mudstone. This fossiliferous reef limestone grades upwards into a thick gypsum deposit; a transitional zone of alternating laminations of white gypsum and black reef carbonates separates the two units. This gypsum horizon, the lowest of the three gypsum levels in the formation is repeatedly exposed along the coast between Ship Cove and Highlands through folding and faulting. The gypsum deposit is overlain by a thick sequence of red and green, well bedded, rippled, cross-bedded and mudcracked siltstone. Numerous well formed pseudomorphs of halite occur throughout the siltstone. A thick deposit of halite encountered in subsurface drilling (Fleming, 1974) is believed to be the stratigraphic equivalent of the siltstone sequence.

The top of the Woodville Formation in the area consists of a sequence of marine limestone beds intercalated with beds of red, calcareous sandstone and siltstone. A thin bed of gypsum, the highest in the sequence, occurs immediately below the limestone beds. A chain of sink holes and a number of outcrops define its presence. Limestone beds in the sequence vary in number in the stratigraphic section. They also exhibit a gradational change from fossiliferous at the bottom of the sequence to algal limestones towards the top. In Highlands River, approximately 2 km above its mouth, a well developed algal bed comprising two layers of closely packed digital algal structures is exposed in the stream bed. The red, calcareous sandstone and siltstone beds are considered to be part of the basal unit of the overlying Highlands Formation.

The Highlands Formation (Unit 7) comprises two distinct lithofacies; namely, a sequence of red, calcareous clastic rocks exposed in a synclinal structure at St. David's (7a) and a thick sequence of red, calcareous, polymictic conglomerate exposed in the upper reaches of Crabbes River (7b). The sequence at St. David's comprises cross-bedded, convoluted beds of red, calcareous sandstone and siltstone. Quartz pebbles and green reduction spots occur commonly in these beds. Kunkur beds and mud partings also are present sporadically. The conglomerate sequence is also red, and consists of clasts derived from quartzite, gneiss, schist, granite, diabase, rhyolite, chert and Ordovician carbonates. The lateral relationship between the two facies is not clear but the facies are tentatively interpreted to be stratigraphic equivalents.

Rocks of the Barachois Group (Unit 8) occupy a northeasterly trending synclinal structure that extends along the northeast corner of the map area and is called the St. George's Coalfield (Hayes and Johnson, 1938). Depositional contact relationships between the older Highlands Formation and the Barachois Group are not known since the western margin is faulted. The main lithologies in the Barachois Group consist of sedimentary cycles of thick, coarse grained, micaceous sandstone, quartz-pebble conglomerate and silty sandstone, overlain by finer grained clastic rocks with common occurrences of caliche and calcareous concretions. Coal seams, coalized plant fossils and petrified wood are common throughout the group. A sequence of coarse grained, poorly sorted, massively bedded, pebbly, arkosic sandstones (8a) forms a deposit of possibly upper Barachois age. The deposit occurs adjacent to the Long Range Fault and is believed to be fault bounded. The deposit, which is probably a fanglomerate, has been called the Brow Pond Lentil (Fong, 1976).

The rocks of the area are deformed into folds and faults parallel to subparallel to the northeast trending Long Range Fault. The rocks in the Anguille Mountains are deformed into a northeast plunging asymmetrical anticline, the axis of which is faulted to form the Snakes Bight fault. A major syncline, which may also be partly faulted, occurs along the valley of Codroy Pond and a series of northeast trending open folds deform the Anguille Group in Bald Mountain. In the coastal lowlands of St. George's Bay, the structures are more open and are dominated by an asymmetrical faulted synclinorium. This synclinorium contains the St. George's Coalfield, which is faulted on its western and southern sides. An important southwest plunging anticline with a core of Anguille conglomerate lies within and to the west of the synclinorium; its axis dies out southwestward against a northwest trending and plunging syncline which folds the Highlands Formation at St. David's.

Major reverse and normal faults trend northeastwards but minor faults trending to the northwest and north also occur. The fine grained sediments of the Woodville Formation are usually complexly faulted, particularly adjacent to the northern limb of the Anguille Anticline.

Base metal mineralization is scattered throughout the limestones of the area. Vein mineralization of chalcopyrite, galena and sphalerite with associated barite, fluorite and calcite cuts the limestones of the Ship Cove Formation and disseminated chalcopyrite and pyrite occurs in the limestones of the Woodville Formation, particularly the limestones lithologically and stratigraphically equivalent to the Cormorant Limestone. The higher limestones of the formation appear to be barren. A varied suite of evaporites occurs in the area with the extensive gypsum deposits in the lower and middle part of the Woodville Formation and subsurface salt deposits near St. David's. The coal deposits of the St. George's Coalfield are now poorly exposed. The seams are generally thin and folded and faulted (Hayes and Johnson, 1938).

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MAP 773

12-B-(24)
Map 773
12B(209)
HUGHES·OWENS
313 1102
F. or DRAWING No. 773
DETAILS ST. FINTANS & Dashwoods Pd.
OZALID·BANDA
HUGHES·OWENS
12B/1 #2