36.

THE SCHEI POINT AND BLAA MOUNTAIN GROUPS (MIDDLE-UPPER TRIASSIC), SVERDRUP BASIN, CANADIAN ARCTIC ARCHIPELAGO

Project 750083

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Abstract

The Schei Point Formation, a Middle-Upper Triassic clastic unit in the Sverdrup Basin of Arctic Canada, is herein raised to group status, and five new formations are recognized within the group. These new formations are formally defined herein and, in ascending order, are: Murray Harbour, Roche Point, Hoyle Bay, Pat Bay and Barrow. The Roche Point and Pat Bay formations consist mainly of nearshore marine sandstones and are present only on the basin margins. The Murray Harbour, Hoyle Bay and Barrow formations consist of shale and siltstone of offshore shelf to slope origin, and these formations extend across the basin. Within the basin the Murray Harbour, Hoyle Bay and Barrow comprise strata formerly assigned to the Blaa Mountain Formation. Consequently the Blaa Mountain is also given group status.

Résumé

Dans la présente étude, on élève au rang du groupe la formation de Schei Point, unité clastique du Trias moyen et supérieur du bassin de Sverdrup de l'Arctique canadien. On subdivise ce groupe en cinq nouvelles formations qu'on définit ici dans un ordre ascendant: Murray Harbour, Roche Point, Hoyle Bay, Pat Bay et Barrow. Les formations de Roche Point et de Pat Bay sont surtout constituées de grès marins littoraux; on ne les trouve que sur les bordures du bassin. Les formations de Murray Harbour, de Hoyle Bay et de Barrow sont constituées de schiste argileux et de siltstone de faciès plateaux à talus continentaux; elles occupent l'étendue du bassin. A l'intérieur du bassin les formations de Murray Harbour, de Hoyle Bay et de Barrow contiennent des couches qui appartenaient antérieurement à la formation de Blaa Mountain; nous élevons aussi au rang de groupe cette dernière formation.

Introduction

Regional stratigraphic studies combining both surface and subsurface information on the Mesozoic succession of the Sverdrup Basin have led to the recognition of numerous new stratigraphic units (Embry, 1983a, b). Five new formations have been delineated in strata formerly assigned to either the Schei Point Formation or the Blaa Mountain Formation (Middle-Upper Triassic). Accordingly, both the Schei Point and Blaa Mountain are now given group status, and the five newly recognized formations are described herein.

The Schei Point and Blaa Mountain groups comprise Middle to Upper Triassic (Anisian-Norian) strata in the Sverdrup Basin. The Schei Point encompasses strata deposited on the basin margins, and comprises sandstone and bioclastic limestone along with shale and siltstone. The Blaa Mountain is composed of equivalent strata deposited in the basin and characterized by shale and siltstone with few coarse grained interbeds.

The strata are present at the surface and in the subsurface over much of the basin (Fig. 36.1). Outcrops are plentiful in the eastern Sverdrup, occurring both on the margins and well within the basin. In the western Sverdrup, scattered, poorly exposed outcrops occur on the southern and northern basin margins. However, subsurface control is relatively plentiful for the western Sverdrup as opposed to the eastern Sverdrup, where only a few wells penetrate the strata (Fig. 36.1).

Previous work

The Schei Point Formation was defined by Tozer (1963a) as a result of work completed on Operation Franklin in 1955. He established a type section on Bjorne Peninsula, southwestern Ellesmere Island, where the formation is 600 m thick. At this locality, the Schei Point consists of interbedded calcareous sandstone, siltstone and shale, and lies between two major sandstone units, the Bjorne Formation below, and the Heiberg Formation above. Subsequent fieldwork by Tozer in the late fifties and early sixties led to the recognition of the Schei Point along the eastern and southern margins of the Sverdrup Basin (Tozer, 1961, 1963b; Tozer and Thorsteinsson, 1964). Tozer and Thorsteinsson (1964) also mapped the Schei Point on the northwestern margin of the basin on Borden Island.

In sections of the Schei Point on Ellesmere Island, Tozer (1961, 1963b) recognized four distinct units: a lower shale, a lower sandstone, an upper shale-siltstone and an upper sandstone ("Gryphea bed"). He also noted (Tozer, 1963b, p. 9) that a covered interval occurs between the upper sandstone and the Heiberg Formation. This interval may represent a thin shale unit at the top of the Schei Point.

Subsurface occurrences of the Schei Point were first described by Henao-Londono (1977), who briefly described the formation in the Sabine Peninsula area of Melville Island. Balkwill et al. (1982) described the Schei Point encountered in the Sun Skybattle C-15 well on southern Lougheed Island. In both these areas the Schei Point consists of interbedded calcareous sandstone, siltstone, shale and limestone. Both Henao-Londono (1977) and Balkwill et al. (1982) recognized a distinctive shale unit between the uppermost sandstone unit of the Schei Point and strata of the Heiberg Group. They assigned this shale unit to the Blaa Mountain Formation rather than the Schei Point Formation.

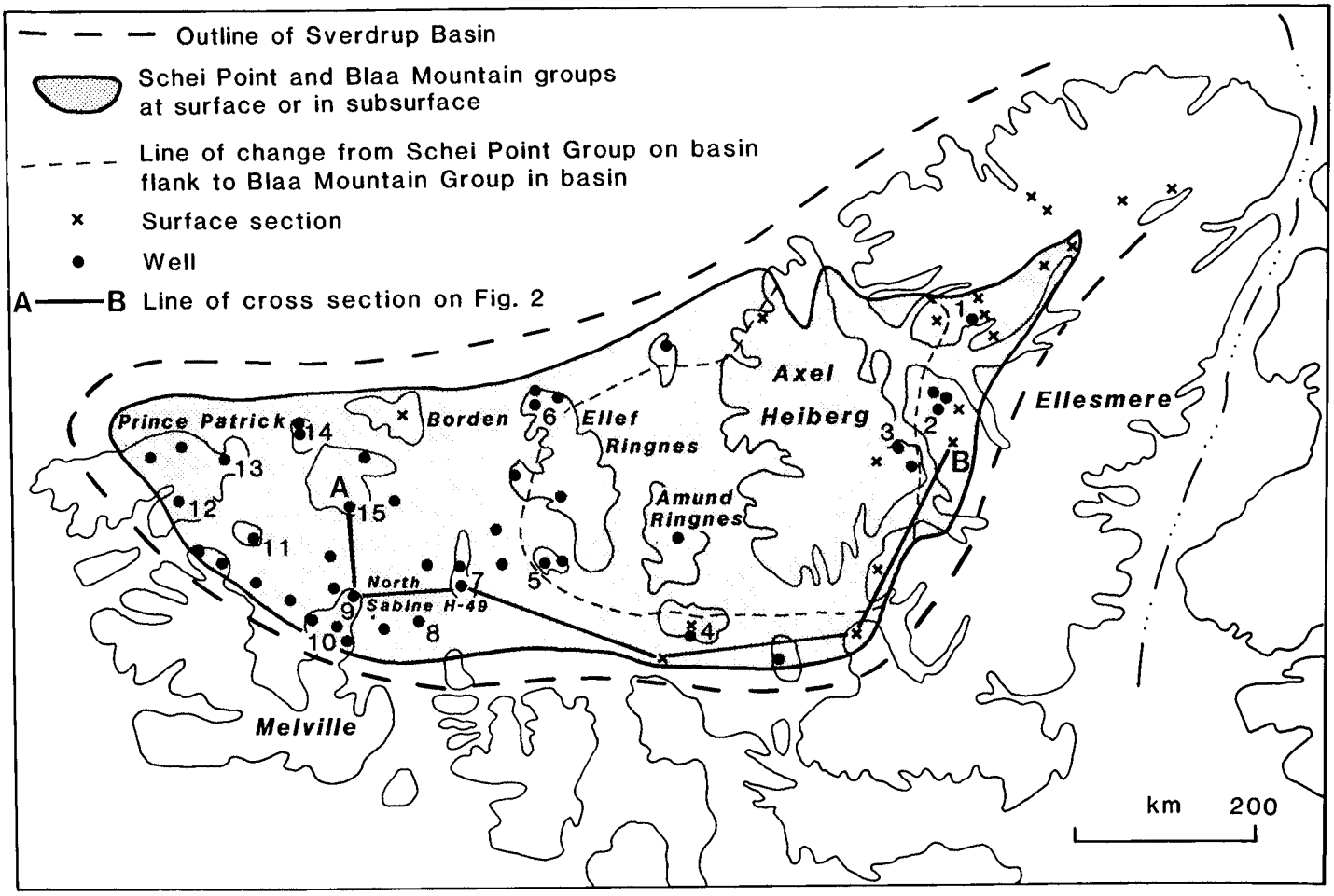

Figure 36.1. *Distribution of Schei Point and Blaa Mountain groups in Sverdrup Basin, and available control points. Key to wells listed in Appendix: 1. Neil O-15, 2. Romulus C-42, 3. Mokka A-02, 4. Cornwall O-30, 5. Sutherland O-23, 6. Pollux G-60, 7. Skybattle C-15, 8. Desbarats B-73, 9. North Sabine H-49, 10. Drake Point D-68, 11. Emerald K-33, 12. Jameson Bay C-31, 13. Satellite F-68, 14. Brock C-50, 15. Cape Norem A-80.*

The Blaa Mountain Formation was defined by Troelsen (1950) after reconnaissance work on Ellesmere Island. He established a type section on northern Ellesmere, but he did not define the boundaries of the formation. Subsequent stratigraphic work by Tozer (1961, 1963b, c) and Souther (1963) refined the definition of the formation and established it as a widespread unit of interbedded dark grey to black shale, calcareous siltstone and silty limestone, which lies between the Blind Fiord Formation and the Heiberg Formation. The Blaa Mountain is up to 2500 m thick, and in most sections Tozer (1961, 1963b) recognized a five-fold division: a lower shale, a lower calcareous siltstone, a middle shale, an upper calcareous siltstone and an upper shale.

Tozer's surface investigations on Ellesmere and Axel Heiberg islands demonstrated that the Blaa Mountain Formation is stratigraphically equivalent to the Schei Point Formation. He showed that the two sandstone units recognized in the Schei Point change facies basinward into the calcareous siltstone units of the Blaa Mountain, and that the three shale units of the Blaa Mountain extend into the Schei Point. Tozer (1970), in a review of the Mesozoic stratigraphy of the Arctic Islands, provided an excellent summary of the lithologies and stratigraphic relationships of the Middle and Upper Triassic strata in the Sverdrup Basin.

Present work

Since the pioneering stratigraphic studies of Tozer, over one hundred wells have penetrated Mesozoic strata in the Sverdrup Basin, and many of the wells encountered Middle-Upper Triassic strata (Fig. 36.1). In subsurface sections of the Schei Point the same five-fold lithological subdivision recognized by Tozer in outcrop – lower shale, lower sandstone, middle shale, upper sandstone and upper shale – is apparent (Fig. 36.2). Because these distinct lithological units are so widespread, and because each has economic importance as a potential hydrocarbon reservoir, source, or seal, they are given formation status. They have been named, in ascending order: Murray Harbour, Roche Point, Hoyle Bay, Pat Bay and Barrow formations. The relationships of these units with previously designated units are shown in Figure 36.3.

The sandstone-dominant Roche Point and Pat Bay formations are recognizable only on the basin margins, due to basinward facies change to siltstone and shale (Fig. 36.1). However, the shale-siltstone units – Murray Harbour, Hoyle Bay and Barrow – can be extended across the basin, and comprise the Blaa Mountain Group within the basin centre. Figure 36.4 is a schematic stratigraphic cross-section that

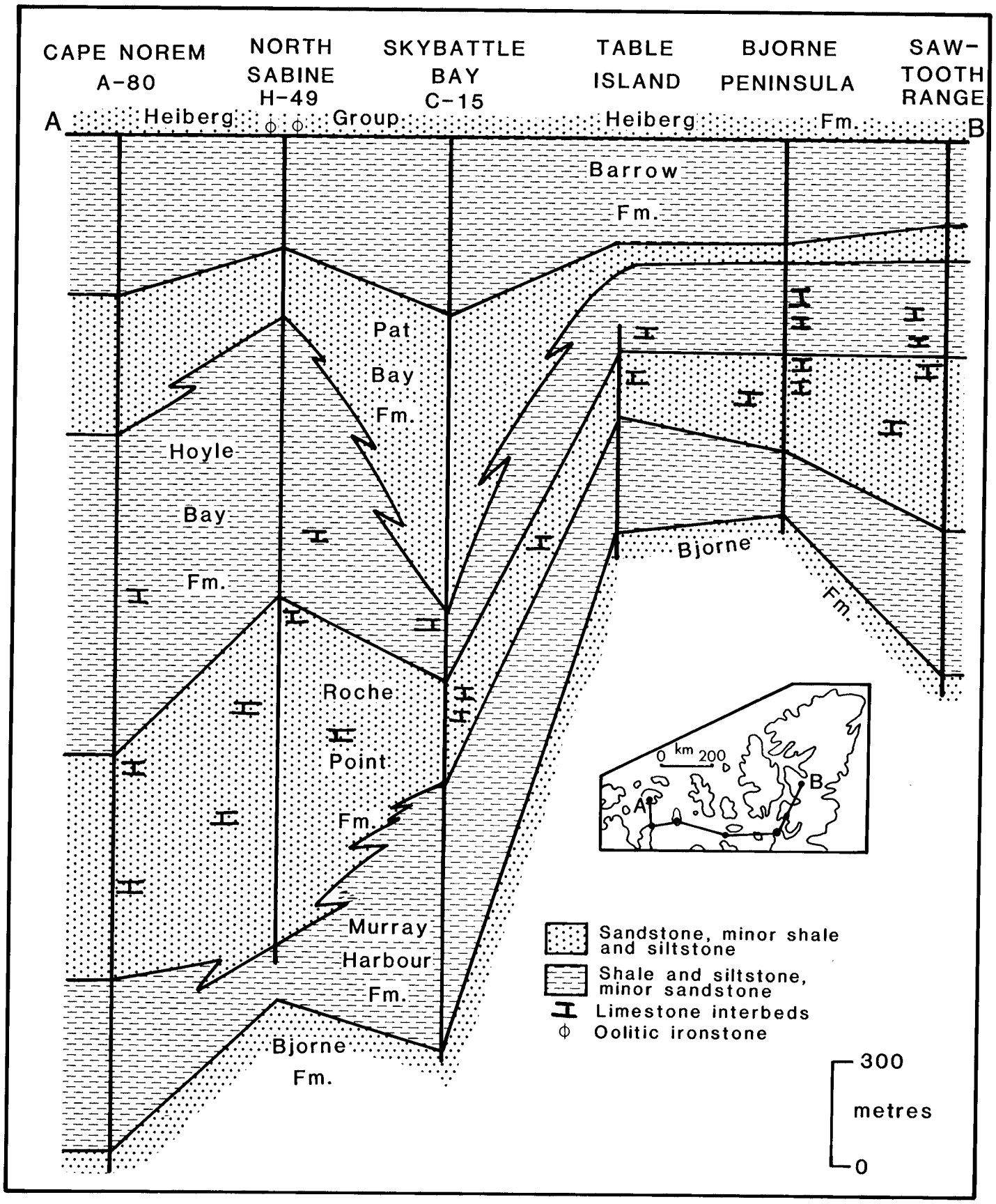

Figure 36.2. *Stratigraphic cross-section, Schei Point Group.*

		BASINAL AREA Tozer 1961, 1963a		BASINAL AREA This paper		BASIN FLANKS Tozer 1961, 1963a		BASIN FLANKS This paper	
		Heiberg Fm.		Heiberg Fm.		Heiberg Fm.		Heiberg Fm.	
Late Triassic	Norian	Blaa Mountain Formation	Upper Shale	Barrow Fm.	Blaa Mountain Group	Schei Point Formation	Covered Interval	Barrow Fm.	Schei Point Group
	Carnian		Upper Calcareous	Hoyle Bay Fm.			Gryphea Bed	Pat Bay Fm.	
			Middle Shale				Undivided	Hoyle Bay Fm.	
Middle Triassic	Ladinian		Lower Calcareous	Murray Harbour Fm.				Roche Point Fm.	
	Anisian		Lower Shale					Murray Harbour Fm.	
Early Triassic	Spathian	Blind Fiord Fm.		Blind Fiord Fm.		Bjorne Fm.		Bjorne Fm.	

Figure 36.3. *Past and present nomenclature, Middle-Upper Triassic strata, Sverdrup Basin.*

illustrates the main lithological subdivisions and facies changes for the Middle-Upper Triassic strata of the Sverdrup Basin and the new stratigraphic nomenclature proposed in this paper. The tops, for units within the Schei Point and Blaa Mountain groups in fifteen selected wells (Fig. 36.1) in the Sverdrup Basin, are listed in the Appendix.

Murray Harbour Formation

Definition

The Murray Harbour Formation consists of shale and calcareous siltstone with thin interbeds of very fine grained, calcareous sandstone in the upper portion. The type section is in the Desbarats B-73 well (N 76°42'13", W 105°57'07"; spud. February 18, 1979, abandoned March 27, 1979; T.D. 1085 m; K.B. 4.9 m) between 939 m and 977 m, and is 38 m thick (Fig. 36.5). Chip samples taken at three-metre intervals from these strata, and from the type sections of the other formations defined in this paper, can be examined at the Institute of Sedimentary and Petroleum Geology, in Calgary, Alberta. The formation name is taken from Murray Harbour, an inlet on the northern end of Sabine Peninsula, Melville Island.

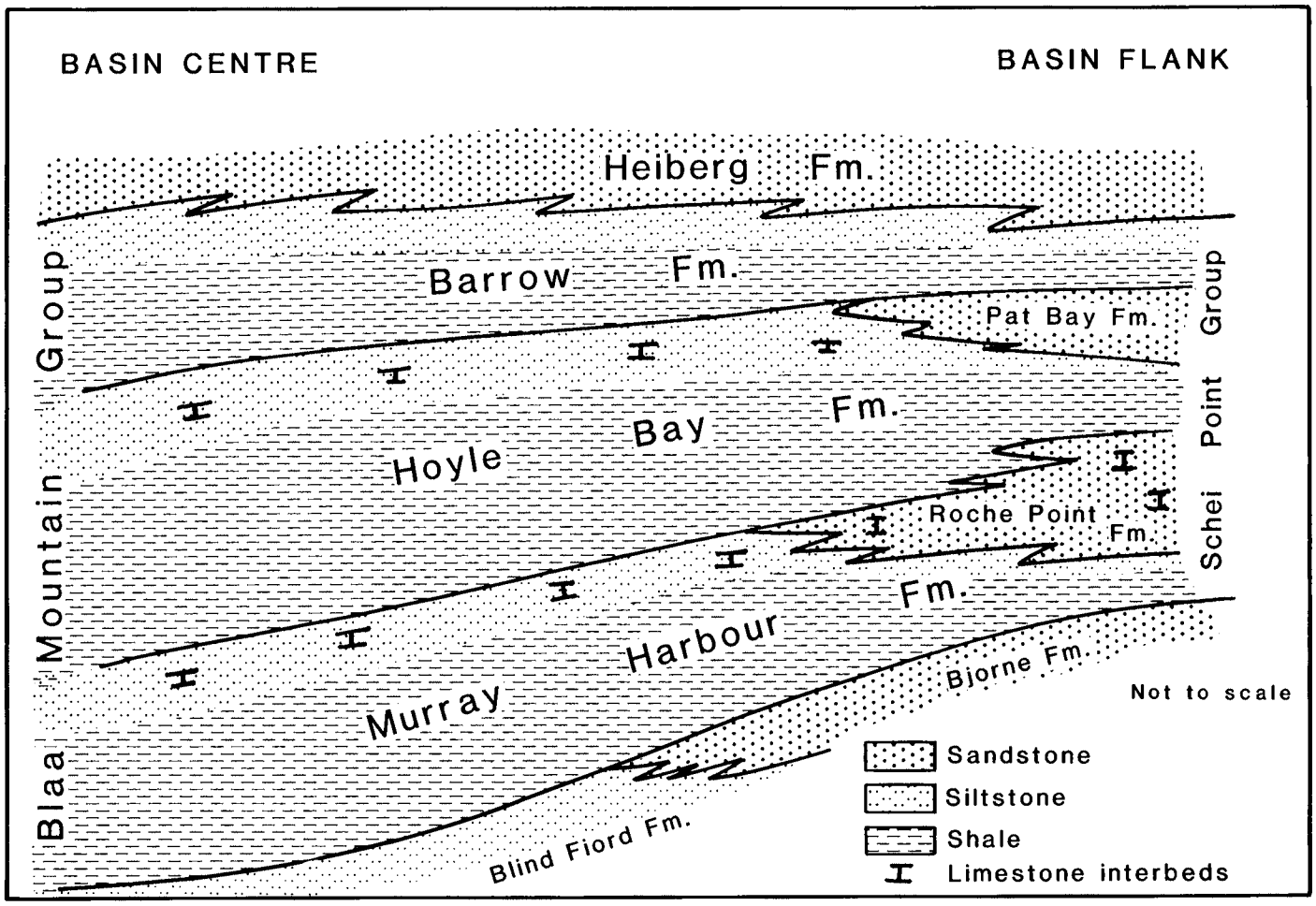

Figure 36.4. *Schematic stratigraphic cross-section, Middle-Upper Triassic strata, Sverdrup Basin.*

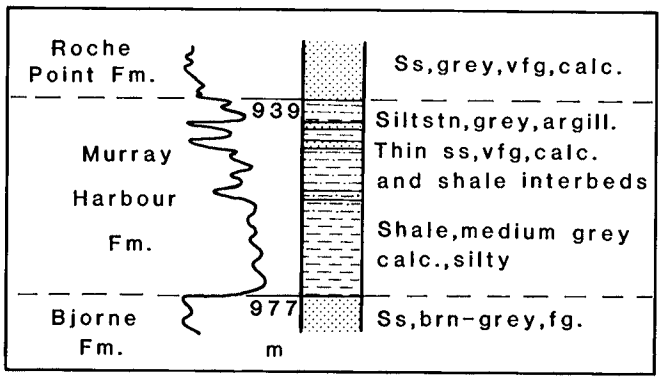

Figure 36.5. *Lithology (from samples) and gamma ray curve for type section of Murray Harbour Formation; Desbarats B-73 well.*

Synonyms

1. Units 2 and 3, Schei Point Formation, Table and Exmouth islands composite section (Tozer, 1961)
2. Units 2 and 3, Schei Point Formation, Bay Fiord - Vesle Fiord composite section (Tozer, 1961)
3. Units 1 and 2, Blaa Mountain Formation, Nansen Sound section (Tozer, 1961)
4. Units 1-4, Schei Point Formation, Bjorne Peninsula (Tozer, 1963b)
5. Unit 1, Blaa Mountain Formation, Oobloyah Bay section (Tozer, 1963b)
6. Units 1 and 2, Blaa Mountain Formation, Hare Fiord section (Tozer, 1963b)
7. Lower shale and lower calcareous members, Blaa Mountain Formation, Ellesmere Island (Tozer, 1963b)

Boundaries

On the basin margins, the Murray Harbour Formation overlies sandstone of the Bjorne Formation. The contact is placed at the base of the lowest shale-siltstone unit, above which shale and siltstone are predominant, and varies from conformable to unconformable. Within the basin the contact is placed at the base of a dark grey to black, calcareous shale unit, which rests conformably on grey-green siltstone of the Blind Fiord Formation.

The Murray Harbour Formation is conformably overlain by the Roche Point Formation. The contact is placed at the base of the first sandstone or bioclastic limestone (packstone-grainstone) above which sandstone and limestone are the predominant lithologies. In basinal areas, where the Roche Point Formation is no longer present, the Murray Harbour Formation is conformably overlain by the Hoyle Bay Formation. This contact is placed at the base of a clay-rich shale unit, which overlies calcareous siltstone of the uppermost Murray Harbour.

Lithology

At the type section, the Murray Harbour consists of medium to dark-grey shale, which coarsens upward to grey, calcareous siltstone with thin interbeds of very fine grained, calcareous siltstone (Fig. 36.5). This general description is applicable to the formation over most of its area of occurrence. In some sections, silty limestone (mudstone-wackestone) is common in the upper part of the formation. Shale colour varies from dark grey to black in the basin, to medium grey and green, and even red, on the basin margins. Siltstone and limestone units are usually highly burrowed. Pelecypods and rare ammonites are the main fossil fauna of the Murray Harbour.

Thickness and distribution

The formation is present throughout the area of distribution of the Schei Point and Blaa Mountain groups, except on the extreme margins of the basin where it is overstepped by younger units of the Schei Point Group. The maximum recorded thickness is 670 m on Axel Heiberg Island near the basin centre.

Age

Ammonite and pelecypod fossils from the Murray Harbour Formation on Ellesmere, Axel Heiberg and Table islands indicate an Anisian to Ladinian age (Middle Triassic) for the unit (Tozer, 1961, 1963b).

Environment of deposition

The argillaceous nature of the formation, the occurrence of marine fossils and the stratigraphic relationships of the formation suggest an outer shelf to slope environment of deposition for the Murray Harbour.

Roche Point Formation

Definition

The Roche Point Formation consists of interbedded calcareous sandstone and arenaceous, bioclastic limestone (packestone-grainstone) with subsidiary interbeds of shale and siltstone. The type section is in the Panarctic North Sabine H-49 well (N 76°48'15", W 108°45'11"; spud. May 2, 1974, abandoned July 8, 1974; T.D. 3810 m, K.B. 60 m) between 3499 m (11 480 ft) and 3797 m (12 458 ft), and is 298 m thick (Fig. 36.6). The name is taken from Roche Point, on the northwestern side of Sabine Peninsula, Melville Island.

Synonyms

1. Unit 4, Schei Point Formation, Table and Exmouth islands composite section (Tozer, 1961)
2. Unit 4, Schei Point Formation, Bay Fiord-Vesle Fiord composite section (Tozer, 1961)
3. Unit 5, Schei Point Formation, Bjorne Peninsula section (Tozer, 1963b)
4. Unit 2, Blaa Mountain Formation, Oobloyah Bay section (Tozer, 1963b)

Boundaries

The Roche Point Formation conformably overlies the Murray Harbour Formation as described above. The Roche Point Formation is conformably overlain by the Hoyle Bay Formation. The upper contact is placed at the top of the highest sandstone or limestone unit, above which shale and siltstone are predominant.

Lithology

In the type section (Fig. 36.6), the Roche Point Formation consists mainly of very fine- to medium-grained, calcareous sandstone and bioclastic limestone (packestone) with lesser amounts of calcareous siltstone and shale. Over much of the western Sverdrup Basin the Roche Point is divided into four formal members which, in ascending order, are: Eldridge Bay (sandstone), Cape Caledonia (shale-siltstone), Chads Point (sandstone), and Gore Point (limestone). The members were defined and described by Embry (1984).

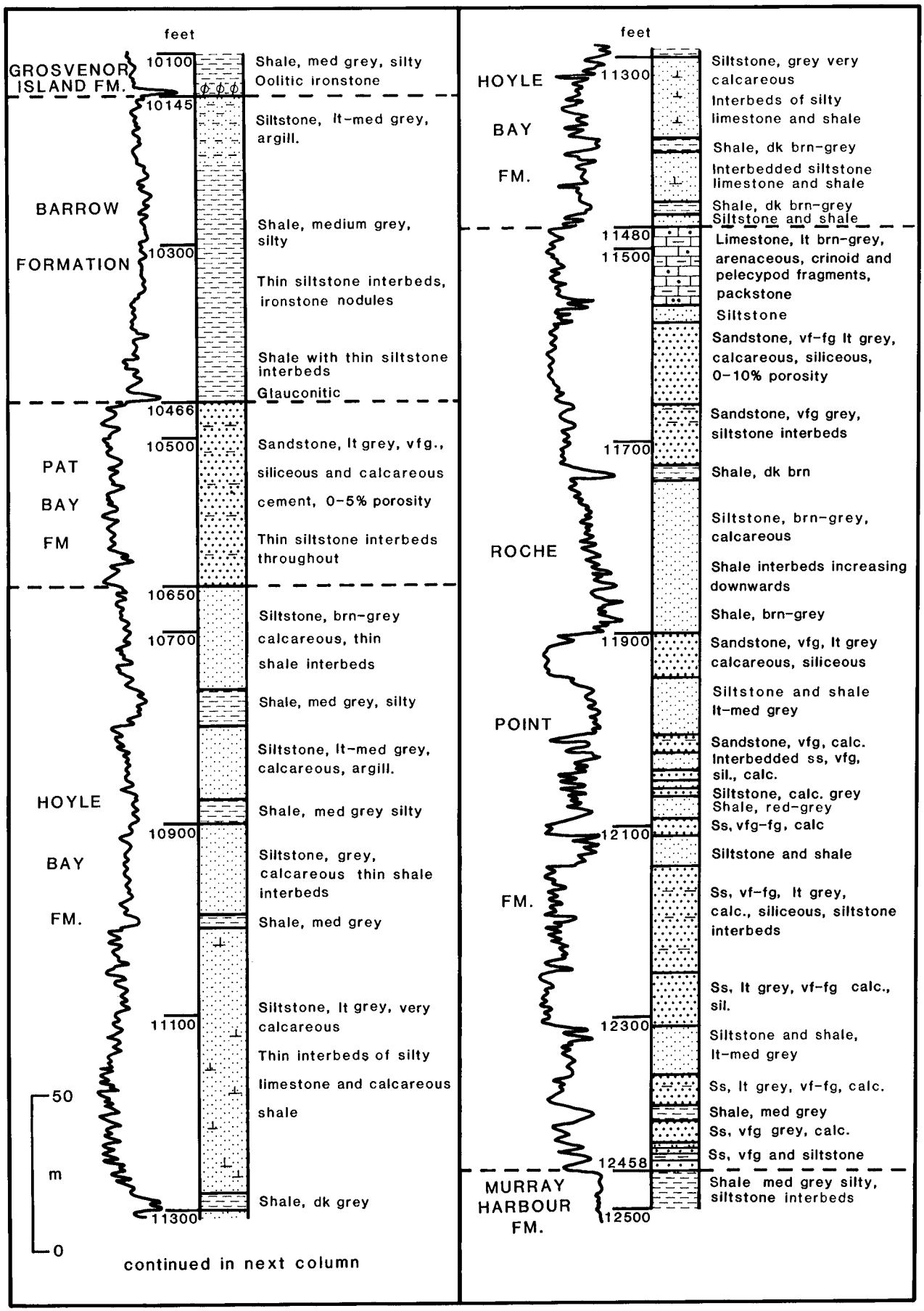

Figure 36.6. *Lithology (from samples) and gamma ray curve for type sections of Roche Point, Hoyle Bay, Pat Bay and Barrow formations; North Sabine H-49 well.*

In the eastern Sverdrup, the Roche Point has not been formally subdivided, and consists mainly of interbedded very fine- to coarse-grained, calcareous sandstone and arenaceous, bioclastic limestone. Both lithologies commonly contain abundant pelecypod shells and are extensively burrowed.

Shales and siltstones within the Roche Point are usually medium- to dark-grey and are calcareous. Red and green shale and siltstone are present in the Eldridge Bay Member along the southwestern margin of the basin.

Thickness and distribution

The Roche Point Formation occurs over much of the western Sverdrup Basin and along the southern and eastern margins of the basin (Fig. 36.1). The formation may be up to 250 m thick. It thins toward the basin centre and eventually disappears due to facies change to the shale and siltstone of the Murray Harbour Formation.

Age

Ammonite and pelecypod fossils collected from the Roche Point Formation on Ellesmere and Table islands range in age from Ladinian to Karnian (Tozer, 1961, 1963b). Along the basin margin the lower part of the formation is probably as old as Anisian, a conclusion reached on the basis of its intertonguing relationship with the Murray Harbour Formation, which contains Anisian ammonites.

Environment of deposition

The lithologies, sedimentary structures, and fauna of the Roche Point indicate a shallow marine shelf environment for the formation, below normal wave-base.

Hoyle Bay Formation

Definition

The Hoyle Bay Formation consists primarily of interbedded medium- to dark-grey shale, calcareous siltstone and silty limestone. The type section is in the Panarctic North Sabine well between 3246 m (10 650 ft) and 3499 m (11 480 ft), and is 253 m thick (Fig. 36.6). The name is taken from Hoyle Bay, which is on the western side of Sabine Peninsula, Melville Island.

Synonyms

1. Unit 5, Schei Point Formation, Table and Exmouth islands composite section (Tozer, 1961)
2. Unit 5, Schei Point Formation, Bay Fiord and Vesle Fiord, composite section (Tozer, 1961)
3. Units 3, 4, Blaa Mountain Formation, Nansen Sound section (Tozer, 1961)
4. Units 6-11, Schei Point Formation, Bjorne Peninsula section (Tozer, 1963b)
5. Units 3-9, Blaa Mountain Formation, Oobloyah Bay section (Tozer, 1963b)
6. Middle shale and upper calcareous members, Blaa Mountain Formation, Ellesmere Island (Tozer, 1963b)

Boundaries

The Hoyle Bay overlies either the Roche Point or Murray Harbour Formation, as has been described above. Along the basin margins the Hoyle Bay is conformably overlain by the Pat Bay Formation. The contact is placed at the base of the first sandstone unit, above which sandstone is predominant. Basinward, the Hoyle Bay Formation is conformably overlain by the Barrow Formation. This contact is placed at the base of a clay-rich shale unit that rests on calcareous siltstone of the uppermost Hoyle Bay.

Lithology

At the type section, the Hoyle Bay Formation consists of interbedded shale, siltstone and silty limestone (Fig. 36.6). The highly serrated nature of the gamma ray curve (Fig. 36.6) suggests that individual lithological units are usually less than 2 m thick. Overall, calcareous siltstone is the predominant lithology.

Over much of the western Sverdrup Basin the Hoyle Bay Formation has been divided into two formal members, the Eden Bay and the Cape Richards (Embry, 1984). The lower of the two, the Eden Bay Member, is distinguished by the presence of numerous limestone units with bituminous shale interbeds. Embry (1984) described the two members as they occur in the western Sverdrup.

In the eastern Sverdrup, the Hoyle Bay Formation is not formally subdivided. In this area the formation also consists mainly of shale and calcareous siltstone, and along the basin margin is characterized by units of arenaceous, bioclastic limestone and calcareous sandstone that may be up to 8 m thick. Basinward, these coarser grained units change facies and the Hoyle Bay consists entirely of shale and siltstone.

Thickness and distribution

The Hoyle Bay is present over the extent of the Schei Point and Blaa Mountain groups. The formation thickens toward the basin centre, with the maximum recorded thickness being 1300 m at Buchanan Lake on eastern Axel Heiberg Island.

Age

Ammonite and pelecypod fossils from the Hoyle Bay on Ellesmere, Axel Heiberg and Table islands are indicative of a Carnian age (Tozer, 1961, 1963b).

Environment of deposition

The lithologies and fauna of the Hoyle Bay suggest an outer shelf to slope environment of deposition for the formation.

Pat Bay Formation

Definition

The Pat Bay Formation consists of very fine- to fine-grained, calcareous sandstone with subordinate siltstone and shale. The type section is in the Panarctic North Sabine H-49 well between 3190 m (10 466 ft) and 3246 m (10 650 ft), and is 56 m thick (Fig. 36.6). The name is taken from Pat Bay, on the western side of Lougheed Island.

Synonyms

1. Unit 6, Schei Point Formation, Bay Fiord - Vesle Fiord composite section (Tozer, 1961)
2. Units 10-16, Blaa Mountain Formation, Oobloyah Bay section (Tozer, 1963b)
3. Unit 3, Blaa Mountain Formation, Hare Fiord section (Tozer, 1963b)
4. "**Gryphea** bed", Ellesmere Island (Tozer, 1963b)
5. Schei Point Formation, Borden Island (Tozer and Thorsteinsson, 1964)
6. Pollux sand, western Sverdrup Basin (Henao-Londono, 1977)

Boundaries

The Pat Bay Formation conformably overlies the Hoyle Bay Formation as described previously. The Pat Bay is conformably overlain by the Barrow Formation. The upper contact is placed at the top of the highest sandstone unit, above which shale and siltstone are predominant.

Lithology

At the type section, the Pat Bay Formation consists of very fine- to fine-grained, calcareous sandstone with thin interbeds of siltstone. This description applies to the formation over much of its extent. In outcrop, sandstone units are commonly massive to highly burrowed, and contain pelecypod shells. There is usually a coarsening-upward trend in the formation, with the thickest and coarsest grained units in its upper portion.

Thickness and distribution

The Pat Bay Formation occurs over much of the western Sverdrup and along the basin margins in the eastern Sverdrup (Fig. 36.1). In the western Sverdrup, the Pat Bay thins from north to south due to facies change to the siltstone and shale of the Hoyle Bay Formation. The maximum recorded thickness in this area is 262 m. In the east, the Pat Bay forms a narrow band of sandstone along the basin margins, with a thickness of about 20 m.

Age

On the basis of pelecypod fossils collected on Ellesmere and Border islands (Tozer, 1961, 1963b), and its intertonguing relationship with the well-dated Hoyle Bay Formation, the Pat Bay Formation is considered to be Carnian in age.

Environment of deposition

The lithologies, sedimentary structures and fauna in the Pat Bay Formation suggest a nearshore marine shelf environment of deposition.

Barrow Formation

Definition

The Barrow Formation consists of shale and siltstone with minor interbeds of very fine grained sandstone. The type section is in the North Sabine H-49 well between 3092 m (10 145 ft) and 3190 m (10 466 ft), and is 98 m thick (Fig. 36.6). The formation is named after Barrow Harbour, an inlet on the northern end of Sabine Peninsula, Melville Island.

Synonyms

1. Unit 5, Blaa Mountain Formation, Nansen Sound area, Ellesmere Island (Tozer, 1961)
2. Units 17, 18, Blaa Mountain Formation, Oobloyah Bay section (Tozer, 1963b)
3. Unit 4, Blaa Mountain Formation, Hare Fiord section (Tozer, 1963b)
4. Upper shale member, Blaa Mountain Formation, Ellesmere and Axel Heiberg islands (Tozer, 1961, 1963b)
5. Upper Blaa Mountain, western Sverdrup Basin (Henao-Londono, 1977)
6. Blaa Mountain Formation, Lougheed Island (Balkwill et al., 1982)
7. Blaa Mountain Formation, Cornwall Island (Balkwill, 1983)

Boundaries

Over much of its extent, the Barrow Formation conformably overlies either the Pat Bay or Hoyle Bay Formation, as described previously. On northeastern Ellesmere Island the Barrow Formation oversteps the Pat Bay Formation and rests on various formations, ranging in age from Devonian to Triassic.

In the western Sverdrup, the Barrow Formation is overlain by either the Skybattle Formation (contact placed at base of lowest sandstone unit) or the Grosvenor Island Formation (contact placed at the base of a widespread oolitic ironstone unit; Embry, 1983a). This contact is conformable, except on the basin margin where the Grosvenor Island unconformably overlies the Barrow. In the eastern Sverdrup the Barrow is conformably overlain by the Heiberg Formation. The contact is placed at the base of the first sandstone unit >4 m thick and above which sandstone is relatively common (Embry, 1983b).

Lithology

The Barrow Formation at its type section, and over its entire extent, consists of medium grey, silty shale and siltstone with minor interbeds of very fine grained sandstone. The lithologies commonly display parallel lamination, although burrows and ripple crosslamination are almost as common. Sandstone units usually occur near the top of the formation, heralding the presence of the overlying Heiberg or Skybattle formations. An exception to this is the occurrence of very fine grained, glauconitic sandstone units in the lower part of the formation on Mackenzie King Island. These sandstones form the Jenness Member of the Barrow Formation (Embry, 1984).

Thickness and distribution

The Barrow Formation is present over the extent of the Schei Point and Blaa Mountain groups. In the western Sverdrup, and along the basin margins, it is usually less than a few hundred metres thick. It thickens rapidly toward the basin centre where it may be up to 1000 m thick.

Age

The Barrow is dated as Norian (Late Triassic) on the basis of pelecypod fossils collected from Cornwall and Brock islands (Tozer, 1973; Balkwill, 1983) and palynomorphs (Balkwill et al., 1982).

Environment of deposition

The Barrow Formation is of prodelta and offshore marine shelf origin (Embry, 1982).

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Appendix

Selected well tops, Schei Point and Blaa Mountain groups, Sverdrup Basin. Location of wells shown on Figure 36.1.

Gulf Neil 0-15

Barrow Formation	609 m (1997 ft)
Pat Bay Formation	747 m (2450 ft)
Hoyle Bay Formation	759 m (2490 ft)
Roche Point Formation	1018 m (3339 ft)
Murray Harbour Formation	1029 m (3375 ft)
Bjorne Formation	1098 m (3602 ft)

Panarctic Romulus C-42

Barrow Formation	2400 m (7870 ft)
Hoyle Bay Formation	2510 m (8234 ft)
Roche Point Formation	2740 m (8990 ft)
Murray Harbour Formation	2843 m (9328 ft)
Bjorne Formation	2922 m (9585 ft)

Imperial Mokka A-02

Barrow Formation	330 m (1084 ft)
Hoyle Bay Formation	842 m (2762 ft)
Murray Harbour Formation	2507 m (8226 ft)

Mobil Cornwall 0-30

Barrow Formation	spud
Hoyle Bay Formation	151 m (495 ft)
Roche Point Formation	446 m (1463 ft)
Murray Harbour Formation	487 m (1598 ft)
Bjorne Formation	797 m (2615 ft)

Dome Sutherland 0-23

Barrow Formation	804 m (2637 ft)
Hoyle Bay Formation	1200 m (3938 ft)
Murray Harbour Formation	1707 m (5600 ft)
Blind Fiord Formation	1981 m (6498 ft)

Panarctic Pollux G-60

Barrow Formation	501 m (1645 ft)
Pat Bay Formation	860 m (2820 ft)
Hoyle Bay Formation	997 m (3272 ft)
Roche Point Formation	1039 m (3410 ft)
Murray Harbour Formation	1089 m (3572 ft)
Blind Fiord Formation	1420 m (4658 ft)

Sun Skybattle C-15

Barrow Formation	2159 m (7082 ft)
Pat Bay Formation	2314 m (7592 ft)
Hoyle Bay Formation	2576 m (8452 ft)
Roche Point Formation	2630 m (8630 ft)
Murray Harbour Formation	2723 m (8934 ft)
Bjorne Formation	2974 m (9758 ft)

Panarctic Desbarats B-73

Barrow Formation	567 m (1860 ft)
Hoyle Bay Formation	600 m (1969 ft)
Roche Point Formation	765 m (2510 ft)
Murray Harbour Formation	939 m (3081 ft)
Bjorne Formation	977 m (3205 ft)

Panarctic North Sabine H-49

Barrow Formation	3092 m (10 145 ft)
Pat Bay Formation	3190 m (10 466 ft)
Hoyle Bay Formation	3246 m (10 650 ft)
Roche Point Formation	3499 m (11 480 ft)
Murray Harbour Formation	3797 m (12 458 ft)

Panarctic Drake Point D-68

Barrow Formation	1166 m (3827 ft)
Pat Bay Formation	1218 m (3995 ft)
Hoyle Bay Formation	1241 m (4070 ft)
Roche Point Formation	1353 m (4440 ft)
Murray Harbour Formation	1540 m (5054 ft)
Bjorne Formation	1563 m (5128 ft)

BP Emerald K-33

Barrow Formation	1461 m (4793 ft)
Hoyle Bay Formation	1521 m (4990 ft)
Roche Point Formation	1600 m (5250 ft)
Murray Harbour Formation	1747 m (5739 ft)
Bjorne Formation	1762 m (5780 ft)

Elf Jameson Bay C-31

Barrow Formation	992 m (3255 ft)
Hoyle Bay Formation	1032 m (3386 ft)
Roche Point Formation	1140 m (3740 ft)
Murray Harbour Formation	1258 m (4126 ft)
Bjorne Formation	1271 m (4171 ft)

BP Satellite F-68

Barrow Formation	588 m (1930 ft)
Hoyle Bay Formation	688 m (2258 ft)
Roche Point Formation	892 m (2928 ft)
Murray Harbour Formation	1125 m (3691 ft)
Bjorne Formation	1170 m (3840 ft)

Panarctic Brock C-50

Hoyle Bay Formation	spud
Roche Point Formation	168 m (550 ft)
Murray Harbour Formation	431 m (1414 ft)
Bjorne Formation	446 m (1462 ft)

Elf Cape Norem A-80

Barrow Formation	1599 m (5246 ft)
Pat Bay Formation	1743 m (5719 ft)
Hoyle Bay Formation	1868 m (6130 ft)
Roche Point Formation	2156 m (7075 ft)
Murray Harbour Formation	2402 m (7880 ft)
Bjorne Formation	2499 m (8200 ft)