31. STRATIGRAPHIC SUBDIVISION OF THE ROCHE POINT, HOYLE BAY AND BARROW FORMATIONS (SCHEI POINT GROUP), WESTERN SVERDRUP BASIN, ARCTIC ISLANDS

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Ashton F. Embry
Institute of Sedimentary and Petroleum Geology, Calgary

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Abstract

In the western Sverdrup Basin the Roche Point, Hoyle Bay and Barrow formations (Schei Point Group, Middle-Upper Triassic) have been subdivided into formal members on the basis of subsurface stratigraphic analysis. Four members are recognized in the Roche Point Formation, and in ascending order are named Eldridge Bay (sandstone), Cape Caledonia (shale-siltstone), Chads Point (sandstone) and Gore Point (limestone, sandstone). The source area for the clastics of the lower three members lay to the south whereas the source for the Gore Point was to the north. The Hoyle Bay Formation is divided into two members: Eden Bay (shale, siltstone, limestone) and Cape Richards (shale, siltstone). The source area for these units was to the north. One member, the Jenness (sandstone, siltstone and shale) is recognized within the Barrow Formation, and its source area lay to the northwest.

Résumé

Une analyse stratigraphique du sous-sol nous a permis de subdiviser, dans le bassin de Sverdrup occidental, les formations de Roche Point, Hoyle Bay and Barrow (groupe de Shei Point, Trias moyen et supérieur) en membres. On a subdivisé la formation de Roche Point en quatre membres qui sont dans un ordre ascendant: Eldridge Bay (grès), Cape Caledonia (schiste argileure-siltstone), Chads Point (grès) et Gore Point (calcaire, grès). La source des roches clastiques des trois membres inférieurs se trouve au sud, alors que celle de Gore Point se trouve au nord. On subdivise la formation de Hoyle Bay en deux membres: Eden Bay (schiste argileux, siltstone, calcaire) et Cape Richards (schiste argileux, siltstone). La source de ces unités se trouve au nord. La formation de Barrow contient le membre de Jenness (grès, siltstone et schiste argileux) dont la source se trouve au nord-ouest.

Introduction

The Schei Point Group comprises Middle to Upper Triassic strata on the flanks of the Sverdrup Basin, and it contains five formations: Murray Harbour, Roche Point, Hoyle Bay, Pat Bay and Barrow (Embry, 1984). These formations are widespread in the subsurface of the western Sverdrup Basin (Fig. 31.1) and have been penetrated by 42 wells. Three of the formations – Roche Point, Hoyle Bay and Barrow – have been subdivided into members over portions of the western Sverdrup Basin.

Four members have been recognized in the Roche Point Formation, a sandstone – dominant unit of Anisian to Carnian age. These members, in ascending order, are named Eldridge Bay, Cape Caledonia, Chads Point and Gore Point. The Hoyle Bay Formation consists mainly of shale and siltstone of Carnian age and is subdivided into two members: Eden Bay (lower) and Cape Richards. One formal member, the Jenness, is recognized in the Barrow Formation, a Norian shale-siltstone unit.

These seven new members are formally defined and described in this paper. Tops for the members in selected wells in the western Sverdrup (Fig. 31.1) are listed in the Appendix. Chip samples from the type sections of the units defined may be examined at the Institute of Sedimentary and Petroleum Geology, Calgary, Alberta.

Eldridge Bay Member, Roche Point Formation

Definition

The Eldridge Bay Member consists predominantly of very fine- to medium- grained sandstone with interbeds of siltstone and shale. The type section is in the Panarctic North Sabine H-49 well (N76°48'15", W108°45'11"; spud. May 2, 1974, abandoned July 8, 1974; T.D. 3787 m, K.B. 60 m) between 3628 m (11 901 ft) and 3798 m (12 458 ft), and is 170 m thick (Fig. 31.2). The name is taken from Eldridge Bay, which is on the west coast of Sabine Peninsula, Melville Island.

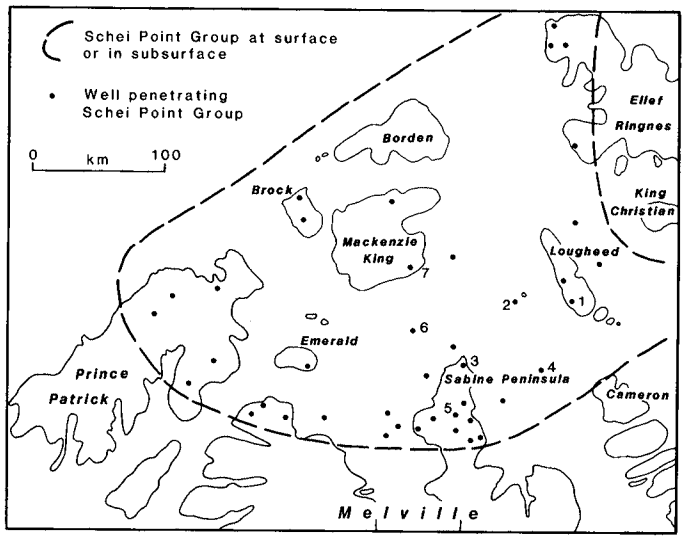

Figure 31.1. *Distribution of Schei Point Group in western Sverdrup Basin and available control points. Key to wells listed in Appendix: 1. Skybattle Bay C-15, 2. Whitefish 2H-63, 3. North Sabine H-49, 4. Desbarats B-73, 5. Drake Point D-68, 6. Hazen F-54, 7. Cape Norem A-80.*

Synonym

Bjorne Formation, Sabine Peninsula, Melville Island (Henao-Londono, 1977).

Boundaries

The Eldridge Bay Member conformably overlies the Murray Harbour Formation (shale-siltstone), with the contact placed at the base of the first sandstone unit above which sandstone is predominant. The Eldridge Bay is conformably overlain by the Cape Caledonia Member of the Roche Point Formation. This contact is placed at the top of the highest sandstone unit above which shale and siltstone become predominant (Fig. 31.2).

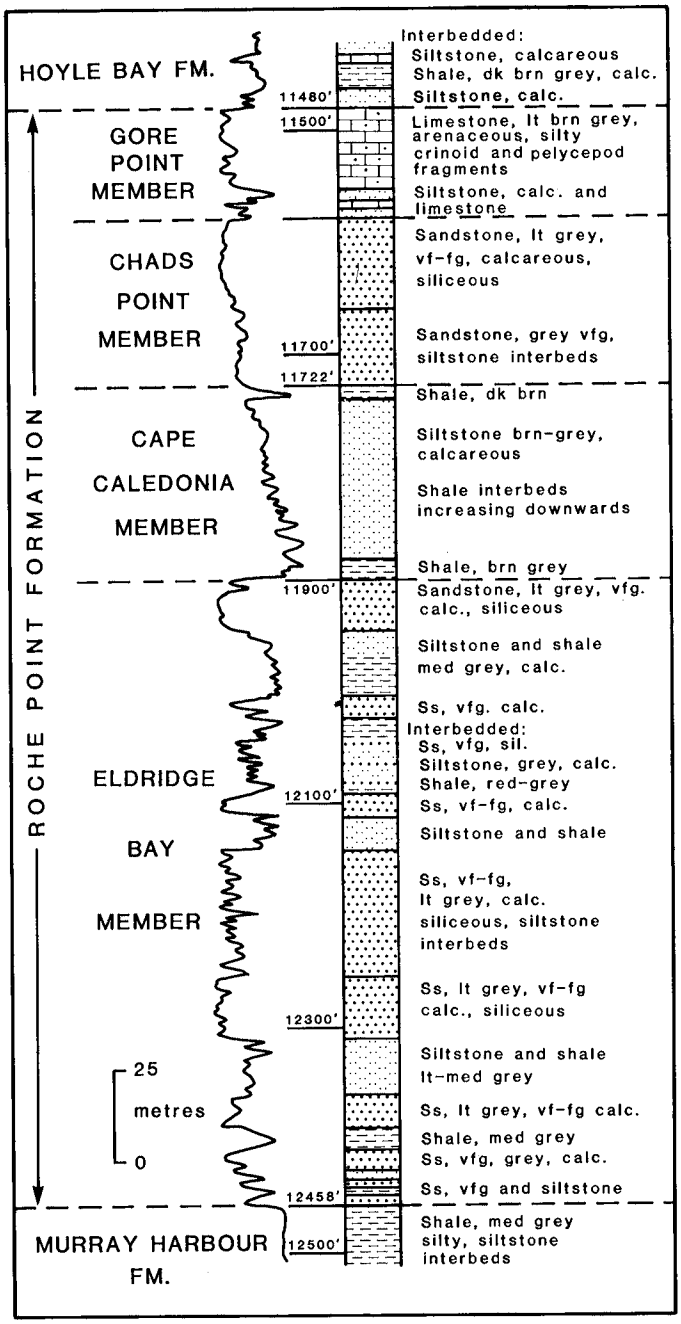

Figure 31.2. *Lithology (from samples) and gamma-ray curve for type sections of Eldridge Bay, Cape Caledonia, Chads Point and Gore Point members, Roche Point Formation; North Sabine H-49 well.*

Lithology

In the type section, the Eldridge Bay Member consists mainly of fine- to medium-grained, calcareous sandstone. Individual sandstone units may be up to 10 m thick but most of the units are 2-5 m thick. Thin units of shale and siltstone occur between the sandstones. The argillaceous lithologies are usually grey but red and green shale interbeds are present.

To the north and east of the type section shale and siltstone become more common in the Eldridge Bay, and distinct coarsening-upward cycles up to 40 m thick are present. On the southern basin margin red shale and siltstone are common in the Eldridge Bay and fining-upward cycles are indicated on gamma-ray logs.

Thickness and distribution

The Eldridge Bay Member is recognized on Sabine Peninsula, Melville Island and in the adjacent offshore areas. It disappears to the northeast due to a facies change to shale and siltstone, and is truncated by erosion (Jurassic) on the basin margin. To the west, in the Prince Patrick and Brock islands area, the Eldridge Bay is not recognized and equivalent strata are in undivided Roche Point Formation. The maximum recorded thickness of the Eldridge Bay is 170 m.

Age

The Eldridge Bay Member is interpreted to be Anisian (early Middle Triassic) in age on the basis of its correlation with the lower Murray Harbour Formation, which is well dated (Embry, 1984).

Environment of deposition

Much of the Eldridge Bay was deposited on a shallow marine shelf as is evidenced by the lithologies, fauna, cyclicity and stratigraphic relationships (Embry, 1984). On the southern basin margin, fluvial-deltaic plain strata are common within the member (red shales, fining-upward cycles).

Cape Caledonia Member, Roche Point Formation

Definition

The Cape Caledonia Member consists of shale and siltstone with minor interbeds of very fine grained sandstone. The type section is in the Panarctic North Sabine H-49 well between 3573 m (11 722 ft) and 3628 m (11 901 ft), and is 55 m thick (Fig. 31.2). The name is taken from Cape Caledonia, which is on the eastern side of Sabine Peninsula, Melville Island.

Boundaries

The Cape Caledonia Member conformably overlies the Eldridge Bay Member as described previously. The member is conformably overlain by the Chads Point Member of the Roche Point Formation with the contact placed at the base of the first sandstone unit above which sandstone is predominant (Fig. 31.2). On the basin margins, the Cape Caledonia is unconformably overlain by the Gore Point Member of the Roche Point Formation.

Lithology

The Cape Caledonia Member consists predominantly of shale and siltstone. Shale units are usually medium to dark grey, but dark brown, bituminous shale is also common in the member. Siltstone units may be up to 3 m thick and become more frequent upward in the member. Thin, very fine grained sandstone units are sometimes present in the uppermost portion of the member.

Thickness and distribution

The Cape Caledonia Member is present in the Sabine Peninsula area and the adjacent offshore. To the north and east it becomes part of the undivided Murray Harbour Formation due to the shale-out of the underlying Eldridge Bay Member (Fig. 31.3). Westward in the Prince Patrick-Brock Island area equivalent strata are sandstones of the undivided Roche Point Formation.

The maximum recorded thickness of the Cape Caledonia Member is 54 m.

Age

The Cape Caledonia is interpreted to be Anisian-Ladinian (Middle Triassic) in age on the bases of correlation with dated surface sections (Embry, 1984).

Environment of deposition

The lithologies and stratigraphic relationships of the Cape Caledonia indicate an offshore shelf environment of deposition (Embry, 1984). The common occurrence of bituminous shale in the member suggests that bottom waters were poorly oxygenated over portions of the shelf.

Chads Point Member, Roche Point Formation

Definition

The Chads Point Member consists predominantly of very fine- to medium-grained sandstone with thin interbeds of siltstone. The type section is in the Panarctic North Sabine H-49 well between 3530 m (11 578 ft) and 3574 m (11 722 ft) and is 44 m thick (Fig. 31.2). The name is taken from Chads Point, which is on the west side of Sabine Peninsula, Melville Island.

Boundaries

At the type section, the Chads Point Member conformably overlies the Cape Caledonia Member, as discussed previously. Northeast of Sabine Peninsula, where the Cape Caledonia Member is not recognized, the Chads Point Member overlies the Murray Harbour Formation, with the contact placed at the base of the first sandstone above which sandstone is predominant. The Chads Point is overlain by the Gore Point Member of the Roche Point Formation, with the contact placed at the top of the highest sandstone unit above which limestone is the predominant lithology. This contact is usually conformable, but on southern Sabine Peninsula the contact is unconformable and the Roche Point Member overlaps the Chads Point.

Lithology

The Chads Point Member consists mainly of very fine- to medium-grained sandstone with thin siltstone interbeds in the lower portion. In general the lithologies coarsen upward and, combined with the shale and siltstone of the underlying Cape Caledonia Member, form a coarsening-upward, regressive succession. The sandstone is usually light grey and characteristically contains chert (white, grey and black) grains as well as quartz. Cements include quartz, chalcedony and calcite, and porosity in the sandstone varies from near zero to 10 per cent.

Thickness and distribution

The Chads Point Member occurs in the Sabine Peninsula-Lougheed Island area of the western Sverdrup Basin. Farther northeastward the sandstones shale-out and equivalent shale and siltstone are assigned to the Murray Harbour Formation (Embry, 1984). In the Prince Patrick-Brock islands area the member is not recognized and equivalent strata are in the undivided Roche Point Formation. On southern Sabine Peninsula the Chads Point Member is truncated and overstepped by the Gore Point Member. The maximum recorded thickness for the Chads Point Member is 44 m.

Age

The Chads Point Member is interpreted to be Ladinian in age on the basis of correlation with well dated surface sections (Embry, 1984).

Environment of deposition

The lithologies and stratigraphic relationships of the Chads Point Member suggest a shallow marine shelf depositional environment for the unit.

Gore Point Member, Roche Point Formation

Definition

The Gore Point Member consists predominantly of limestone with subordinate calcareous sandstone and siltstone. The type section is in the Panarctic North Sabine H-49 well between 3499 m (11 480 ft) and 3530 m (11 578 ft) and is 31 m thick (Fig. 31.2). The name is taken from Gore Point, which is on the east side of Sabine Peninsula, Melville Island.

Synonym

Second Limestone, Schei Point Formation, (informal oil industry term).

Boundaries

As described previously, the Gore Point Member overlies the Chads Point Member. On the southern margin of the basin the Gore Point overlaps the Chads Point Member and rests unconformably on either the Cape Caledonia or Eldridge Bay Member. The Gore Point Member is conformably overlain by the Hoyle Bay Formation, with the contact placed at the base of the lowest shale-siltstone unit above which shale and siltstone are predominant.

Lithology

At the type section the Gore Point consists mainly of silty, bioclastic limestone (wackestone-packstone). Pelecypod, crinoid and possibly bryozoan fragments occur in a matrix of lime mud and quartz silt and clay. Thin, calcareous, quartz siltstone units are present and are most common in the lower portion of the member. Southward on Sabine Peninsula siltstone becomes less common and skeletal fragments are more abundant in the limestone. Northeastwards, in the Lougheed Island area, siltstone content increases and very fine grained, calcareous sandstone units up to 3 m thick occur interbedded with the limestone. In the Prince Patrick-Brock Island area the Gore Point is much like that at the type section.

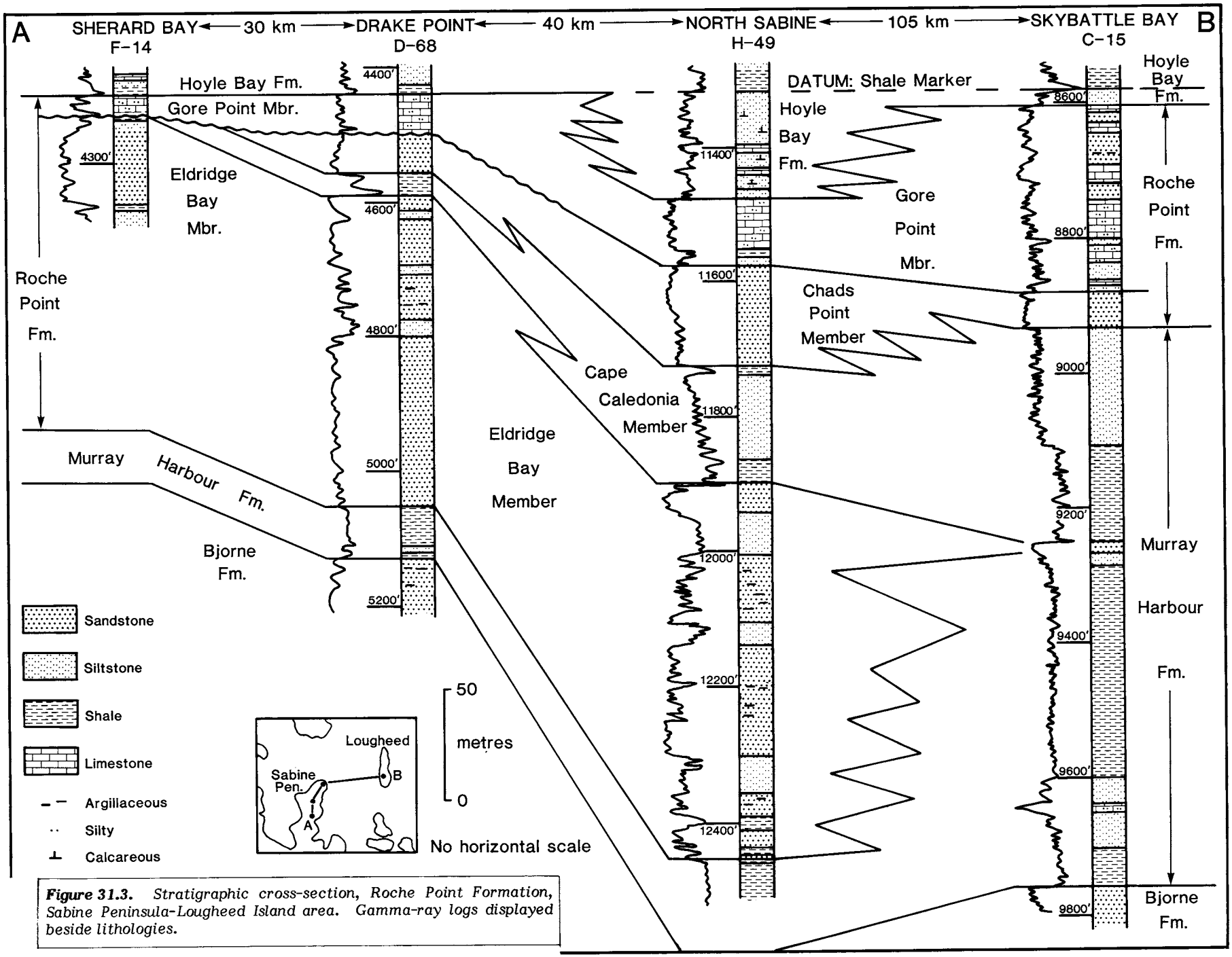

Figure 31.3. *Stratigraphic cross-section, Roche Point Formation, Sabine Peninsula-Lougheed Island area. Gamma-ray logs displayed beside lithologies.*

Thickness and distribution

The Gore Point Member is recognized over the western Sverdrup Basin (Lougheed Island and west). It disappears eastward due to a facies change to siltstone and shale of the lower Hoyle Bay Formation. The maximum thickness of the Gore Point Member is 76 m.

Age

The Gore Point is interpreted to be mainly Carnian (early Late Triassic) in age but may be as old as late Ladinian (Embry, 1984).

Environment of deposition

The lithologies, fauna and stratigraphic relationships suggest a shallow marine shelf environment of deposition for the Gore Point. The abundance of limestone in the member suggests that clastic supply to the shelf was low.

Stratigraphic relationships, Roche Point Formation

Figure 31.3 is a stratigraphic cross-section of the Roche Point Formation in the Sabine Peninsula-Lougheed Island area. The cross-section illustrates a number of important stratigraphic relationships for the Roche Point Formation and its members. These include:

1. The Eldridge Bay sandstones shale-out between Sabine Peninsula and Lougheed Island and equivalent strata form part of the Murray Harbour Formation. This relationship suggests that the source of the clastics of the Eldridge Bay Member was to the south of the Sverdrup Basin.
2. Where the Eldridge Bay Member has disappeared due to facies change to shale and siltstone, the overlying Cape Caledonia Member is no longer recognized and equivalent strata are placed in the Murray Harbour Formation.
3. The Chads Point Member is truncated by erosion on the southern margin. The shale-out edge of this unit is not shown on this cross-section but occurs to the northeast of Lougheed Island (Embry, 1984). These relationships indicate that the Chads Point and underlying Cape Caledonia Member represent a northward prograding succession derived from the south.
4. The Gore Point Member is thickest and contains considerable clastic sediment in the Lougheed Island area. The upper portion of the member changes facies to the shale and siltstone of the lower Hoyle Bay Formation towards the southwest (Sabine Peninsula). The lower portion becomes more calcareous in that direction. On Sabine Peninsula the Gore Point is almost entirely limestone and on the southern basin margin it onlaps an unconformity surface and progressively oversteps older units. These relationships indicate that the clastics of the Gore Point Member were derived mainly from the north-northeast. Little clastic input occurred along the southwestern basin margin, allowing the development of shallow water carbonates in that area.

Eden Bay Member, Hoyle Bay Formation

Definition

The Eden Bay Member consists of interbedded calcareous shale, siltstone and limestone. The type section is in the Panarctic North Sabine well between 3356 m (11 008 ft) and 3499 m (11 480 ft) and is 143 m thick (Fig. 31.4). The name is taken from Eden Bay, on the east side of Sabine Peninsula, Melville Island.

Synonym

First limestone, Schei Point Formation, (informal oil industry term).

Boundaries

The Eden Bay Member conformably overlies the Gore Point Member of the Roche Point Formation, as has been described in an earlier section. Over most of its extent the Eden Bay is conformably overlain by the Cape Richards Member of the Hoyle Bay Formation. The contact is placed at the base of a clay-rich shale unit which overlies calcareous siltstone or silty limestone of the uppermost Eden Bay. In the Lougheed Island area the Eden Bay Member is conformably overlain by the Pat Bay Formation, with the contact placed at the base of the first sandstone unit above which sandstone is predominant.

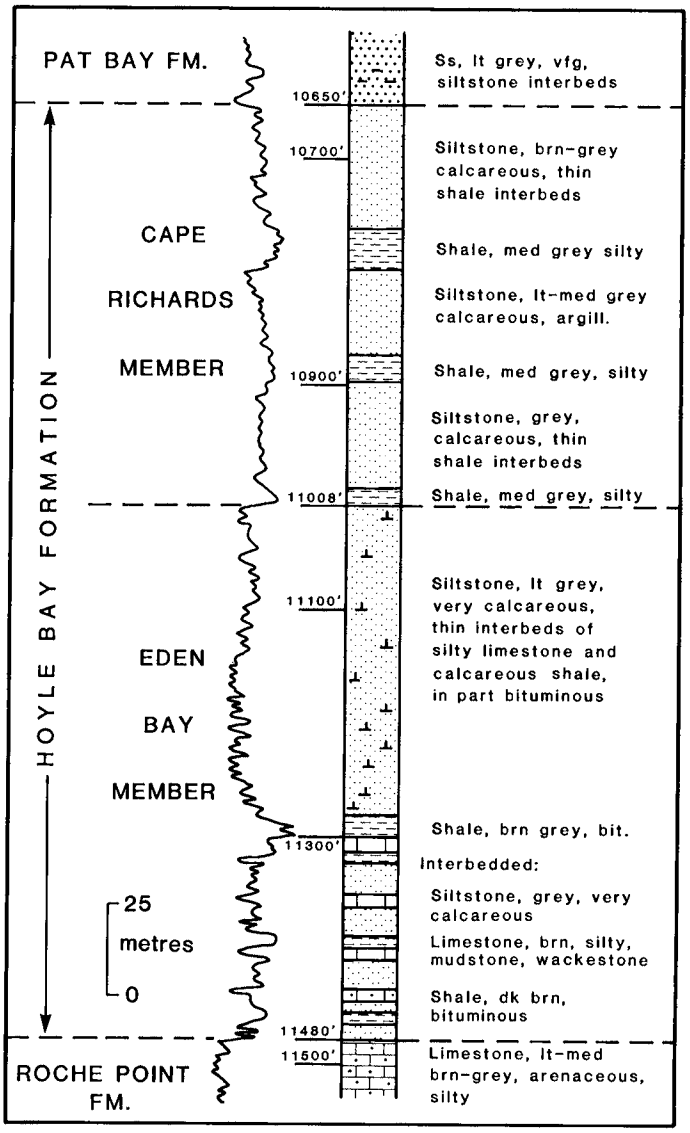

Figure 31.4. *Lithology (from samples) and gamma-ray curve for type sections of Eden Bay and Cape Richards members, Hoyle Bay Formation; North Sabine H-49 well.*

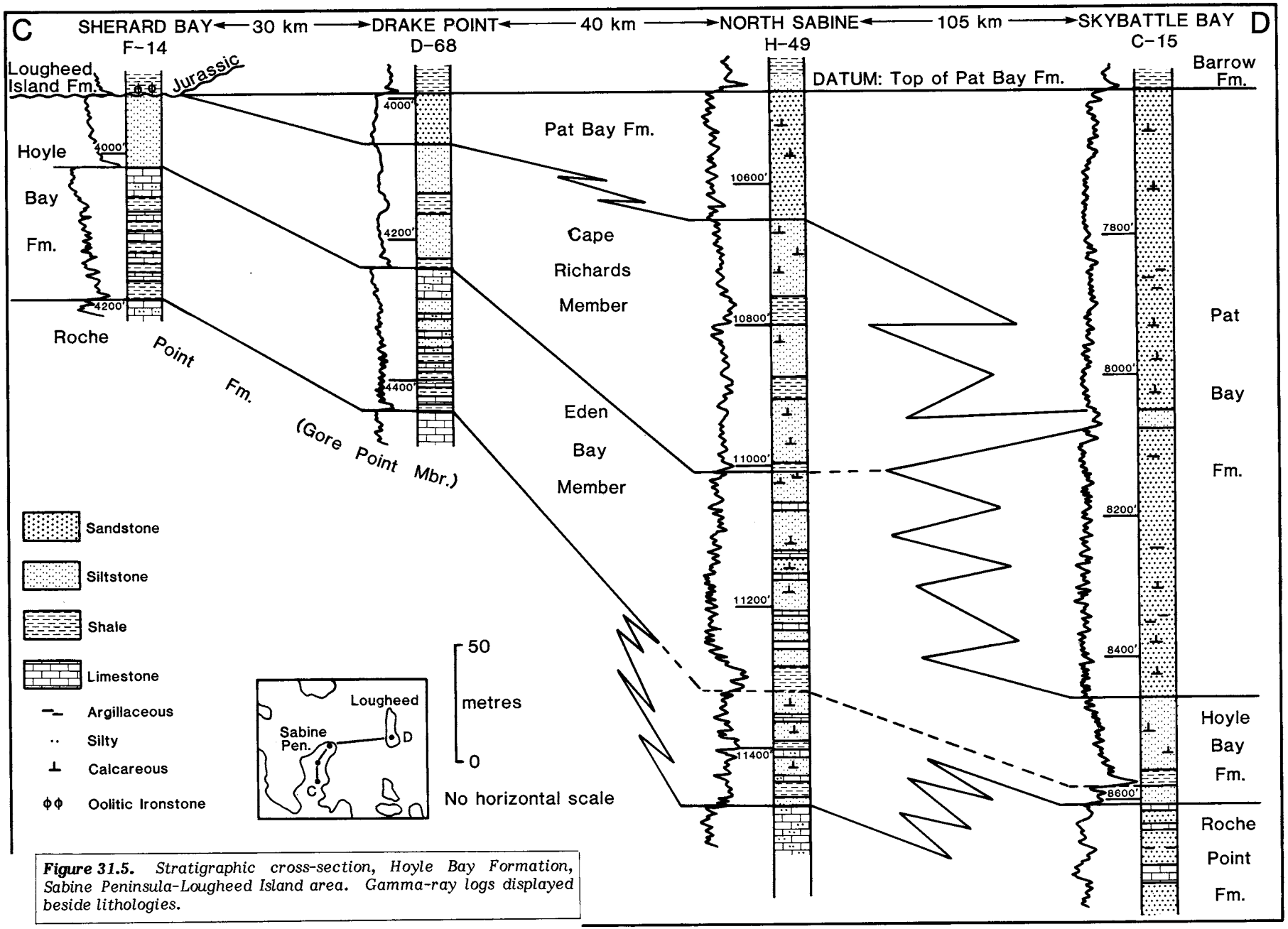

Figure 31.5. *Stratigraphic cross-section, Hoyle Bay Formation, Sabine Peninsula-Lougheed Island area. Gamma-ray logs displayed beside lithologies.*

Lithology

At the type section, the lower portion of the Eden Bay Member consists of dark grey, in part bituminous shale with thin interbeds of silty limestone (mudstone-wackestone) and calcareous siltstone. The upper portion of the member consists of calcareous siltstone with silty limestone interbeds. Southward, shale and limestone become more common in the Eden Bay at the expense of siltstone. To the northeast in the Lougheed Island area siltstone is the predominant lithology and thin interbeds of very fine grained calcareous sandstone occur in the upper portion. In the Prince Patrick Island area bituminous shale and limestone are the predominant lithologies of the Eden Bay.

Thickness and distribution

The Eden Bay Member is recognized over the western Sverdrup Basin and may be up to 175 m thick.

Age

The Eden Bay Member is Carnian in age, based on correlation with well dated surface sections (Embry, 1984).

Environment of deposition

On the basis of lithologies, fauna and stratigraphic relationships, the Eden Bay is interpreted to have been deposited in an offshore shelf environment below wave base. The common occurrence of bituminous shale within the member indicates that bottom waters on the shelf were oxygen deficient in some areas.

Cape Richards Member, Hoyle Bay Formation

Definition

The Cape Richards Member consists of interbedded calcareous siltstone and shale with minor very fine grained sandstone. The type section is in the Panarctic North Sabine H-49 well between 3246 m (10 650 ft) and 3356 m (11 008 ft) and is 110 m thick (Fig. 31.4). The name is taken from Cape George Richards on the north end of Sabine Peninsula, Melville Island.

Boundaries

As described in a previous section, the Cape Richards Member conformably overlies the Eden Bay Member. The Cape Richards Member is conformably overlain by the Pat Bay Formation, with the contact placed at the base of the first sandstone above which sandstone is predominant.

Lithology

The Cape Richards Member consists of interbedded grey, silty shale and grey, calcareous siltstone. Thin, very fine grained sandstone units commonly occur in the uppermost portion of the member. Coarsening-upward cycles (shale-coarse siltstone) are commonly present in the member and are between 20 and 40 m thick. In the Prince Patrick area, shale (in part bituminous) is the dominant lithology, with siltstone being rare. Pelecypod shell fragments are common within siltstone beds.

Thickness and distribution

The Cape Richards Member occurs over the western Sverdrup Basin except in the Lougheed Island area where equivalent strata form the middle portion of the Pat Bay Formation (Fig. 31.5). The maximum thickness of the member is 110 m.

Age

On the basis of correlation with well dated surface sections (Embry, 1984), the Cape Richards Member is Carnian in age.

Environment of deposition

The lithologies, fauna and stratigraphic relationships indicate an offshore shelf depositional environment for the Cape Richards.

Stratigraphic relationships, Hoyle Bay Formation

Figure 31.5 is a stratigraphic cross-section for the Hoyle Bay Formation and its members in the Lougheed Island-Sabine Peninsula area. Important stratigraphic relationships which are portrayed on this cross-section are:

1. The lower portion of the Eden Bay Member in the vicinity of the North Sabine H-49 well is stratigraphically equivalent to the Gore Point Member of the Roche Point Formation to both the north and the south.
2. Most of the Eden Bay Member represents the distal portion of a southwestward prograding clastic succession. Limestone and bituminous shale dominate the member along the southwestern basin margin, which was distal to the clastic source.
3. The Cape Richards Member represents the distal portion of another southwestward prograding clastic succession. Limestones did not develop along the southern basin margin at this time, suggesting that clastic influx was higher than during the deposition of the underlying Eden Bay succession in which limestones are common.
4. The Pat Bay Formation (Embry, 1984) represents the coarser, more proximal clastics of the two prograding successions and the stratigraphic relationships indicate a northerly source for the clastics during the Carnian.

Jenness Member, Barrow Formation

Definition

The Jenness Member consists of interbedded very fine- to fine-grained sandstone, siltstone and shale. The type section is in the Elf Cape Norem A-80 well (N77°29'13", W110°27'05"; spud. April 19, 1970, abandoned August 27, 1970; T.D. 2953 m, K.B. 14 m) between 1668 m (5470 ft) and 1743 m (5719 ft), and is 75 m thick (Fig. 31.6). The name is taken from Jenness Island, which lies north of Mackenzie King Island, 120 km from the Cape Norem well.

Synonym

Heiberg Formation, Brock Island (Tozer and Thorsteinsson, 1964).

Boundaries

The Jenness Member conformably overlies the Pat Bay Formation (sandstone). The contact is placed at the base of a shale unit above which shale and siltstone with interbeds of very fine- to fine-grained sandstone are the dominant lithologies (Fig. 31.6). The Jenness is conformably overlain by shale of the upper portion of the Barrow Formation. The contact is placed at the base of a clay-rich shale that rests on a calcareous siltstone unit of the uppermost Jenness.

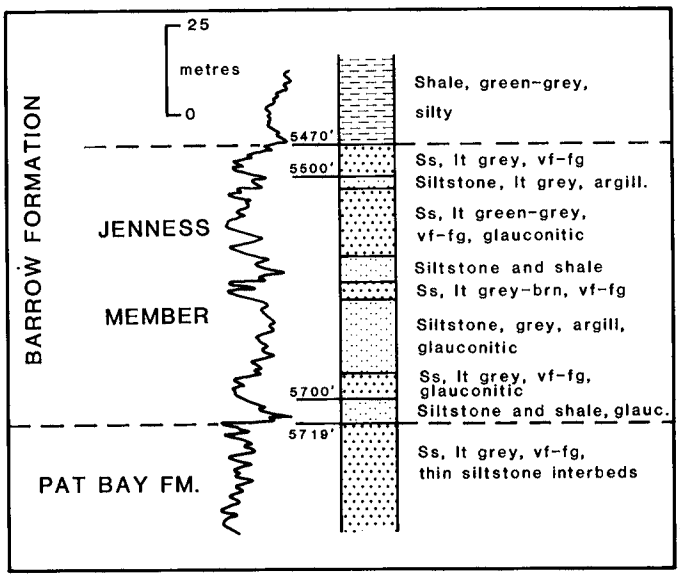

Figure 31.6. *Lithology (from samples and core) and gamma-ray curve for type section of Jenness Member, Barrow Formation; Cape Norem A-80 well.*

Lithology

The Jenness Member consists of interbedded shale, siltstone and sandstone. Individual lithological units are usually less than 2 m thick. The shale is medium grey and is commonly very silty. The siltstone varies from light grey to brown-grey and contains glauconite. The sandstone is grey to green-grey and is very fine- to fine-grained. Glauconite is common in the sandstone units. A 10 m core is available from the type section, and in the core both the sandstone and siltstone units are extensively burrowed. Pelecypods fragments and molds occur in the sandstone units.

Thickness and distribution

The Jenness Member is recognized in the Mackenzie King-Brock Island area. It is limited in extent by erosion to the northwest and by facies change to shale and siltstone of the lower Barrow Formation to the south and east. These relationships indicate that the sandstone was derived from the northwest. The maximum recorded thickness is 75 m.

Age

Pelecypod fossils recovered from core (Mackenzie King Island) and outcrop (Brock Island) date the Jenness as Norian (Tozer and Thorsteinsson, 1964; Tozer, 1973).

Environment of deposition

The lithologies, fauna and stratigraphic relationships suggest a marine shelf (below wave base) environment of deposition for the Jenness.

References

Embry, A.F.
1984: The Schei Point and Blaa Mountain Groups (Middle-Upper Triassic) Sverdrup Basin, Canadian Arctic Archipelago; in Current Research; Part B, Geological Survey of Canada, Paper 84-1B, report 31.

Henao-Londono, D.
1977: Correlation of producing formations in the Sverdrup Basin; Bulletin of Canadian Petroleum Geology, v. 25, p. 969-980.

Tozer, E.T.
1973: Triassic assemblages (macrofossils); in B.S. Norford et al., Biostratigraphic determinations of fossils from the subsurface of the Yukon Territory and the District of Franklin, Keewatin and Mackenzie; Geological Survey of Canada, Paper 72-38, p. 18-19.

Tozer, E.T. and Thorsteinsson, R.
1964: Western Queen Elizabeth Islands, Arctic Archipelago; Geological Survey of Canada, Memoir 332.

Appendix

Selected well tops for the Eldridge Bay, Cape Caledonia, Chads Point and Gore Point members of the Roche Point Formation; Eden Bay and Cape Richards members of the Hoyle Bay Formation; and Jenness Member of the Barrow Formation. Location of wells shown on Figure 31.1.

Sun Skybattle Bay C-15	
Hoyle Bay Formation	
Eden Bay Member	2576 m (8452 ft)
Roche Point Formation	
Gore Point Member	2631 m (8630 ft)
Chads Point Member	2707 m (8880 ft)
Murray Harbour Formation	2723 m (8934 ft)

Panaractic Whitefish 2H-63	
Hoyle Bay Formation	
Eden Bay Member	2512 m (7657 ft)
Roche Point Formation	
Gore Point Member	2600 m (7925 ft)
Chads Point Member	2663 m (8117 ft)
Murray Harbour Formation	2693 m (8208 ft)

Panarctic North Sabine H-49	
Hoyle Bay Formation	
Cape Richards Member	3246 m (10 650 ft)
Eden Bay Member	3356 m (11 008 ft)
Roche Point Formation	
Gore Point Member	3499 m (11 480 ft)
Chads Point Member	3530 m (11 578 ft)
Cape Caledonia Member	3573 m (11 722 ft)
Eldridge Bay Member	3628 m (11 901 ft)
Murray Harbour Formation	3798 m (12 458 ft)

Panarctic Desbarats B-73	
Hoyle Bay Formation	
Cape Richards Member	600 m (183 ft)
Eden Bay Member	685 m (209 ft)
Roche Point Formation	
Gore Point Member	765 m (233 ft)
Cape Caledonia Member	802 m (244 ft)
Eldridge Bay Member	838 m (255 ft)
Murray Harbour Formation	939 m (286 ft)

Panarctic Drake Point D-68	
Hoyle Bay Formation	
Cape Richards Member	1241 m (4070 ft)
Eden Bay Member	1293 m (4240 ft)
Roche Point Formation	
Gore Point Member	1353 m (4440 ft)
Chads Point Member	1372 m (4500 ft)
Cape Caledonia Member	1390 m (4560 ft)
Eldridge Bay Member	1399 m (4590 ft)
Murray Harbour Formation	1540 m (5054 ft)

Phillips Hazen F-54	
Hoyle Bay Formation	
Cape Richards Member	1502 m (4578 ft)
Eden Bay Member	1586 m (4834 ft)
Roche Point Formation	
Gore Point Member	1638 m (4993 ft)
Chads Point Member	1650 m (5029 ft)
Cape Caledonia Member	1656 m (5048 ft)
Eldridge Bay Member	1712 m (5218 ft)
Murray Harbour Formation	1748 m (5328 ft)

Elf Cape Norem A-80	
Barrow Formation	
Jenness Member	1668 m (5470 ft)
Pat Bay Formation	1733 m (5719 ft)
Hoyle Bay Formation	
Cape Richards Member	1868 m (6130 ft)
Eden Bay Member	1980 m (6495 ft)
Roche Point Formation	
Gore Point Member	2159 m (7080 ft)
Roche Point sandstone undivided	2216 m (7270 ft)