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Preface

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ABSTRACT

This Open File presents lithologic and petrographic detail from conventional cores from wells located across the Scotian Basin; specifically, from the Abenaki subbasin: the Mic Mac D-89, Mic Mac J-77, Mic Mac H-86, North Banquereau I-13, and Wyandot E-53 wells; from the Sable subbasin: the Marmora P-35, Onondaga O-95, Sable Island C-67, South Desbarres O-76 and Wenonah J-75 wells; and from the edge of the Shelburne subbasin: the Mohican I-100 well. Core samples from the Mic Mac D-89, Wyandot E-53 and Mohican I-100 wells are from the Middle Jurassic Mohican Formation; the remaining wells sampled either the extreme top of the Late Jurassic Mic Mac Formation or the Early Cretaceous Missisauga and Logan Canyon formations

For all cores, except those in the Mohican Formation, detailed core logs are presented that use a lithofacies scheme previously applied to many other wells in the Scotian Basin. Diagenetic minerals have been studied in petrographic thin section, with selected minerals also studied by electron microprobe. Porosity and permeability data from core plug analysis have been compiled.

Middle Jurassic Mohican Formation terrigenous sediment facies differ from those of the Early Cretaceous, reflecting the more arid climate conditions at that time. Other than the presence of early diagenetic anhydrite in the Mohican I-100 well, diagenetic minerals in sandstones are similar to those found in Early Cretaceous sandstones.

A brief analysis of the differences in reservoir quality between the Sable and Abenaki subbasins shows that the Abenaki subbasin has proportionally better reservoir quality in the Cree Member, but proportionally poorer quality in the Middle Member of the Missisauga Formation and in the uppermost Jurassic Mic Mac Formation, compared to the Sable subbasin. In both subbasins, excellent reservoir quality is associated with chlorite rims on framework grains. Loss of reservoir quality is commonly related to carbonate cements, which are sparse to absent in the Cree Member and the Upper Member of the Missisauga Formation in the Abenaki subbasin. Lithofacies in the two subbasins are in part controlled by rates of subsidence and sediment supply, which were both greater in the Sable subbasin. River-mouth sandstones, which form the best quality reservoirs, are thicker in the Sable subbasin, where greater subsidence created greater accommodation. Widespread tidal-flat facies in the Abenaki subbasin host poorer quality reservoir sandstones.

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1. General setting and purpose

The opening of the North Atlantic Ocean basin and the associated sedimentation resulted in the development off southeastern Canada of a complex of interconnected Mesozoic-Cenozoic depocentres, which collectively make up the Scotian Basin. This basin was initiated as a northeast-trending series of grabens, which were filled with middle to late Triassic redbeds and, in places, also late Triassic to early Jurassic salt (McIver, 1972; Given, 1977; Wade and MacLean, 1990). These graben were the nucleus of a series of subbasins of the Scotian Basin, which from west to east are: Shelburne, Abenaki, Laurentian, and South Whale, with the Sable subbasin lying outboard of the Abenaki subbasin (Wade and McLean, 1990) (Fig. 1A). Tectonic reactivation of the hinterland in the latest Jurassic and Early Cretaceous led to progradation of thick deltaic sediments throughout this time. These deltas were fed by at least two major rivers, one supplying sediment to the Abenaki subbasin and the other to the Sable subbasin (Pe-Piper and Piper, 2011).

The studied wells are located across the Scotian Basin; specifically, from the Abenaki subbasin, the Mic Mac D-89, Mic Mac J-77, Mic Mac H-86, North Banquereau I-13, Wyandot E-53 wells; from the Sable subbasin, the Marmora P-35, Onondaga O-95, Sable Island C-67, South Desbarres O-76 and Wenonah J-75 wells; and from the edge of the Shelburne subbasin, the Mohican I-100 well (Fig. 1A). Core samples are from the Middle Jurassic Mohican Formation, the Late Jurassic Mic Mac Formation, and the Early Cretaceous Missisauga and Logan Canyon formations (Fig. 1B). Stratigraphic nomenclature follows Wade and MacLean (1990), so that the Lower Member of the Missisauga Formation in the Sable subbasin is correlative with the upper part of the Mic Mac Formation in the Abenaki subbasin.

The presence of diagenetic minerals is of decisive importance in determining the reservoir quality (Morad, 1998). Several studies of the diagenesis of the Early Cretaceous sandstones in the Scotian Basin have been published (e.g., Jansa and Noguera Urrea, 1990; Drummond 1992; Pe-Piper et al., 2006, 2010; Pe-Piper and Piper, 2009; Gould et al., 2010b; Karim et al., 2008; 2010a, b). The diagenetic cements in these wells consist principally of clay minerals, carbonate and quartz. A paragenetic sequence has been

determined for the Early Cretaceous of the Sable subbasin (Fig. 1C; Karim et al. 2010b), but its applicability to the Abenaki subbasin is uncertain.

The objectives of this work are: 1) to determine the depositional environment for sediments seen in conventional core; 2) to identify diagenetic cements present in sandstone samples, and 3) to compare lithofacies and diagenetic cements in the Middle Jurassic with those of the Late Jurassic and Early Cretaceous formations, and to compare the sandstones of the Abenaki and Sable subbasins.

2. Methods

Conventional core was described and sampled at the Canada-Nova Scotia Offshore Petroleum Board Geoscience Research Centre in Dartmouth, Nova Scotia. Using the classification scheme of Gould et al. (2010a), sedimentary lithofacies were assigned to core, using lithological, sedimentary and biogenic structures, in order to interpret the depositional environments (Table 1). This scheme is based on work by MacRae and Jauer (2001), Cummings (2004), Cummings and Arnott (2005), Cummings et al. (2006), Gould (2007), Karim et al. (2008), Karim et al. (2010a,b), and Gould et al. (2010b).

Representative sandstones from various lithofacies were sampled for petrographic, geochemical, and mineral analyses. Samples were vacuum-impregnated with blue epoxy and used to prepare polished thin sections. These were examined by petrographic microscope using transmitted and reflected light in order to determine the percentage of diagenetic minerals present and their paragenetic sequence.

Polished thin sections (hereafter referred to as thin sections) from selected wells (Mic Mac D-89, Mic Mac H-86, Mohican I-100, Onondaga O-95, Sable Island C-67, South Desbarres O-76, Wenonah J-75, and Wyandot E-58) were analyzed at the Regional Electron Microprobe Centre at Dalhousie University to determine the composition of diagenetic minerals. The microprobe is a JEOL-8200 electron microprobe with five wavelength spectrometers and a Noran 133 eV energy dispersive detector. The beam was operated at 15 kV and 20 nA, with an average beam diameter of 5 μm. The energy dispersive spectrometer (EDS) was used for quick identification of minerals. Elements

measured were Si, Al, Ti, Cr, Fe, Mn, Mg, Ca, Na, K, P, Zr and Ba. Representative analyses are shown in Appendix 1.

Back-scattered electron (BSE) images were very useful in investigating textural relationships between diagenetic phases (Appendix 2). For the calcite nomenclature, all analyses that have more than 1 molar % of $FeCO_3$ and more than 1 molar % of $MgCO_3$ are called ferroan calcite (Fe-calcite) and magnesian calcite (Mg-calcite) respectively.

Porosity and permeability measurements from small plugs samples were taken in conventional core by the well operator. This data was compiled from core analysis reports available at the Canada-Nova Scotia Offshore Petroleum Board and on the Geological Survey of Canada (Atlantic) online BASIN database (http://basin.gdr.nrcan.gc.ca/) (Appendix 3). Maximum horizontal permeability measurements (made parallel to the direction of principal fracture) were reported. Thin section samples are related the plug measurement from the same bed.

In this study, we use the terms Abenaki and Sable subbasins to refer to the parts of the basin respectively beneath Banquereau and Sable Island banks. The Abenaki structural sub-basin of Triassic age lies inboard from the Sable structural subbasin. More outboard wells beneath Banquereau, such as Louisbourg J-47 and Tantallon M-41, are located above the Sable structural sub-basin, but geographically and sedimentologically in the Early Cretaceous were more akin to the more inboard wells beneath Banquereau.

3. Results

3.1 Cores from the Late Jurassic to Early Cretaceous Mic Mac, Missisauga, and Logan Canyon formations

MARMORA P-35 WELL

Introduction

The Marmora P-35 well is located in the Sable subbasin, approximately 24 km southwest of Sable Island (Shell Canada Limited, 1973). The purpose of drilling this well was to test the reservoir potential of a rollover anticline structure. It was spudded on

March 6, 1973 by Shell Canada Limited and drilled to a total depth of 4092.9 m. It was abandoned on April 23, 1973.

Description of Lithofacies

Two continuous conventional cores were drilled near the top of the Upper Member of the Missisauga Formation (Figs. 2, 3, 4). At the base of the cored section, the rocks are bioturbated, shoreface mudstones (lithofacies 2b) with a few unbioturbated turbidite sandstone beds (lithofacies 9g). Upsection, the sandstone beds thicken and some are interpreted as tidally influenced fluvial lithofacies 4g. The core passes up into more featureless sandstones with a few bioturbated mudstone beds with *Rosselia* and *Planolites* trace fossils (Fig. 5A), interpreted as coming from a shoreface depositional environment (lithofacies 2o, 2b). Sandstone beds thicken upsection, with one coarse-grained bed in sharp contact with a fine-grained sandstone (Fig. 5B, thin section sample 3015.86 m), followed by a short section of interbedded sandstone and mudstones is interpreted as tidal-flat sediments (lithofacies 5m; Fig. 5C). Above this are additional thick river-mouth turbidite beds (lithofacies 9g; Fig. 5D), alternating with mud-draped sections, interpreted as a more fluvial depositional environment as the section shallows (lithofacies 4g). It is capped by a transgressive unit of bioturbated sandy mudstone (lithofacies 3x). Overlying this is a thick sandstone identified as a transitional unit between a tidal-influenced estuarine and upper shore face depositional environment, (lithofacies 4g/2o) also capped by a heavily ?goethite-stained trangressive unit of poorly-sorted sandstone and intraclasts (lithofacies 3y; Fig. 5E)

Diagenesis

Seven thin sections from Marmora P-35 were studied (Table 2, Fig. 3). At the base of the cored interval 3018.28 m (from a tidal estuarine environment) samples a bimodal, fine- and coarse-grained sandstone with 3 % chlorite+illite, trace siderite cement, with good porosity (15 %). Sample 3017.36 m, from shoreface lithofacies 2o, has 30 % pore-filling, carbonate cement of uncertain relative age, 3 % quartz overgrowths and minor chlorite+illite (1-2 %). Sample 3015.86 m, also from lithofacies 2o, was taken across a contact between a siderite-rich, very fine-grained sandstone and a bioclast-rich, medium-grained sandstone that also includes coated grains of iron-rich minerals (Fig.

5B). The two units show different abundances of diagenetic minerals. The fine-grained sandstone has 30 % euhedral siderite grains surrounding detrital framework grains and 5 % later carbonate. The medium-grained sandstone has less grain-rimming siderite (3 %), trace quartz overgrowths, and more patchy late carbonate (15 %) than the overlying fine sandstone. It also has chlorite rims on detrital grains and chlorite ooids that are absent from the fine-grained sandstone.

Upsection, two samples (3013.56 and 3008.64 m) are from fluvial to tidally-influenced estuarine sandstones (lithofacies 4g). They have similar diagenetic assemblages with early kaolinite (0.1 %) and later quartz overgrowths (1 %). Sample 3013.56 m had chlorite filling the pores (10 %), and is coarser-grained and interpreted as more proximal to the source. Sample 3008.64 m has less chlorite+illite (0.5 %) and is interpreted as a transitional unit between a tidally-influenced estuarine to a shoreface sandstone.

Sample 3012.19 m from a graded turbidite bed (Fig. 5D) has pervasive carbonate cement of uncertain relative age (30 %), 5 % grain-rimming euhedral siderite, and traces of chloritized micas and quartz overgrowths. At the top of the core, a sample from sandy transgressive unit (3007.67 m; Fig. 5E) has 30 % fine-grained siderite, 1 % chlorite+illite, and 20 % patchy carbonate (of uncertain relative age).

MIC MAC D-89 WELL

Introduction

The Shell-Petro-Canada Mic Mac D-89 well is located within the Abenaki subbasin, about 87 km northeast of Sable Island (Shell Canada Resources Limited, 1976). The well was used to investigate the Mic Mac graben structure, that was also tested in Mic Mac H-86 and Mic Mac J-77 wells, 3.9 and 5.2 km southwest, respectively (Fig. 1A). It was spudded on March 26, 1976, drilled to a total depth of 3261.4 m and abandoned on May 4, 1976.

Description of Lithofacies

Two cores were taken in the Middle Member of the Missisauga Formation from this well (Fig. 6). The cored interval is interpreted as having been deposited in a tidal

environment, close to the shoreline, with a few trangressive events representing a brief deepening of the section (Figs. 7, 8).

The base of core 2 samples a medium- to coarse-grained sandstone with well-developed cross-bedding and plant detritus concentrated in drapes (lithofacies 4g; Fig. 9A; thin section 2589.15 m). This is overlain with a sharp contact by bioturbated silty mudstone identified as tidal-flat deposits (lithofacies 6m). Above this, the section remains tidal but becomes sandier, and prominent vertical and horizontal burrowing is present (lithofacies 5b). This is abruptly overlain by a fine- to medium-grained sandstone with common shell fragments concentrated in layers and patchy ?goethite near the upper contact (2585 m in Fig. 8). It is not clear whether this unit represents a transgression, but is interpreted as lithofacies 3. The upper contact of this unit is sharp and burrowed and the section abruptly changes to a sandy mudstone with common bioturbation. It is not certain whether this is a distal shoreface (lithofacies 2) or a return to a muddy tidal-flat (lithofacies 6). A burrowed siderite or goethite-stained band defines the upper contact and represents a trangressive surface (lithofacies 3x). The uppermost unit in this core is a muddy sandstone with mud drapes, vertical burrows and some shell fragments (Fig. 9B), identified as sandy tidal-flat lithofacies 5m and 5s.

Cores 1 and 2 are separated by 78 m. The base of core 1 has muddy to sandy tidal-flat sediments similar to those seen in core 2, with current ripples cross-cut by prominent vertical burrowing (lithofacies 5m; Fig. 9C). This passes into an abundantly bioturbated sandstone with shell fragments and coal fragments (lithofacies 5b). Overlying this, a muddy unit with common shell fragments and patchy siderite is interpreted as lithofacies 3x (Fig. 9D). This unit alternates with distal mudstones (lithofacies 1), representing a transgression and deepening of the system. Above this, the core gets progressively sandier and sedimentary structures (mud drapes, disseminated coarse sand) and biogenic features (prominent vertical burrowing) indicate a return to a tidally influenced depositional environment (lithofacies 6 and 5).

Diagenesis

Two thin sections of sandstone samples were studied in detail (Table 3). Sample 2589.15 m, a medium-grained sandstone deposited in a fluvial environment (lithofacies 4g), has some quartz overgrowths (5 %) and 1 % chlorite+illite cement. Sample 2502.71

m, from a bioturbated sandy tidal-flat environment (lithofacies 5b), has minor (≤1 % each) kaolinite, quartz overgrowths, and chlorite +illite cements, as well as late pervasive Fe-calcite and Fe-Mg-calcite cements (as identified by electron microprobe, Appendix 1A).

MIC MAC J-77 WELL

Introduction

The Shell Mic Mac J-77 well is located in the Abenaki subbasin, 85 km northeast of Sable Island and 1.6 km northeast of the Mic Mac H-86 well (Shell Canada Limited, 1970a). It was drilled to test an uplifted and faulted anticlinal structure/central graben of a faulted salt pillow. It was spudded on March 25, 1970, drilled to a total depth of 3261.4 m and the rig was released on May 24, 1970 (Fig. 1A).

Description of Lithofacies

One core was taken in the Middle Member of the Missisauga Formation (Fig. 10). The coarse-grained and uncemented nature of the sandstone resulted in only half of the cored interval being recovered (Fig. 11, 12)

This relatively short core (4.5 m) samples a fine- to medium-grained sandstone at the base (Fig. 13A), and is overlain by an interbedded contact of very coarse-grained to granular sandstone and conglomerate (Fig. 13B, 13C). Based on the plant detritus, cross-bedding, mud drapes at the base, and rare bioturbation (a few *Ophiomorpha* burrows), this interval is interpreted as a tidal estuarine deposit (lithofacies 4o) overlain by fluvial sediments (lithofacies 4g).

Diagenesis

Three thin sections were examined from fluvial to tidally-influenced estuarine fine to very coarse sandstones (lithofacies 4g and 4o, Table 4). Sample 2815.97 m was made from loose sand at the bottom of the core box and therefore lacks in situ diagenetic cements. Sample 2817.30 m (lithofacies 4o) has minor quartz overgrowths and chlorite+illite (1 % each), and traces of kaolinite as cement. The coarse-grained fluvial sample (2815.22 m) has 3 % pyrite with no other diagenetic minerals present. Carbonate cement was absent in both samples.

NORTH BANQUEREAU I-13 WELL

Introduction

The North Banquereau I-13 well is located in the southern part of the Abenaki subbasin (Fig. 1A). It was drilled by Petro-Canada in order to investigate the reservoir potential of the Missisauga Formation and a rollover anticline structure (Petro-Canada Exploration Inc. et al., 1983a).

Description of Lithofacies

Two cores were taken: core 1 from the Naskapi Member of the Logan Canyon Formation and core 2 from the top of the Upper Member of the Missisauga Formation (Figs. 14, 15, 16).

Core 2 is a bioturbated sandy mudstone with thin sandstone beds (Fig. 15, 16). The mudstone has medium-grained sand disseminated throughout and infilling burrows that cross-cut bundles of laminated sand and mudstone that are interpreted as tidal in nature (Fig. 17A). This interval as a whole is interpreted as a muddy tidal flat with possible channel sandstone beds (lithofacies 6).

Core 1 was taken in an interval where the gamma-ray logs show a funnel-shaped section of upward decreasing values (Fig. 14), implying a coarsening-upward sequence. The base of the core penetrated a rubbly red-coloured mudstone interpreted as a distal prodelta lithofacies 1 (Fig. 17B). Above this, a section of interbedded sharp-based sandstone beds and laminated mudstones is interpreted as prodelta turbidites and mudstones (lithofacies 0b; Fig. 17C). Some of the sandstone beds have deformation structures, such as folding and shearing (Fig. 17D). The core passes up into short section of sandstone with tidal bundles, current ripples, and cm-scale cross-bedding (lithofacies 4 and 5; Fig. 17E, 17F), reflecting a shallowing of the depositional environment. Above this, the section deepens into thick river-mouth turbidites and bioturbated tidal estuarine sandstones (lithofacies 9 and 4; Fig. 17G).

Diagenesis

One sample was taken in the upper Missisauga Formation, and four in the Naskapi Member of the Logan Canyon Formation (Table 5). From the Upper Member of the Missisauga Formation, sample 3469.27 m was taken from a medium-grained sandstone bed. It has minor kaolinite (2 %), pyrite (0.1 %), and moderate quartz silica cement (10 %) filling large pores around detrital quartz grains. The remaining cement is composed of chlorite+illite (3 %) and late carbonates (2 %). The sample is interpreted as coming from a sand bed within a muddy tidal flat (lithofacies 6s).

In the Naskapi Member of the Logan Canyon Formation, quartz overgrowths are present (2 to 5 %) in all four thin sections; 0-3% kaolinite, and glauconite and pyrite are present in very small amounts (0.5 to 1 %). Carbonate cements are absent. These samples range from very-fine- to fine-grained sandstones and were deposited in delta-front turbidites (lithofacies 9s and 9g).

ONONDAGA O-95 WELL

Introduction

The Shell Canada Limited Onondaga O-95 well is located approximately 32 km southwest of Sable Island in the Sable subbasin (Fig. 1A). It is between the Thebaud field to the north and the Glenelg field to the south (Shell Canada Limited, 1970b). It was drilled to test the northern flank of a salt structure for hydrocarbon accumulations. The well was spudded July 8, 1970, drilled to a total depth of 3314.4 m and the rig was released on August 16, 1970.

Description of Lithofacies

There is one core in the Middle Member of the Missisauga Formation (Fig. 18, 19, 20). The lower part of core consists of a muddy shoreface sediments (lithofacies 2b) punctuated by thick and thin sandstone event beds (lithofacies 0 and 9; Fig. 20, 21A, 21B). Some beds are deformed (Fig. 21C). A thick (0.5 m) sandstone bed marks the contact between the lower unit and the upper unit (lithofacies 9g; Fig. 21D). The upper part of the core is made up of alternating sections of sandstone with mud drapes and a few mud-lined *Ophiomorpha* burrows, with massive sandstone beds (lithofacies 4o; Fig.

21E). This interval is interpreted as representing an overall shallowing of the section from shoreface, with occasional turbidites, to a tidal estuarine setting.

Diagenesis

Five thin sections were studied in this well (Table 6). Sample 3272.20 m, from shoreface lithofacies 2b, has minor kaolinite (3 %), well-developed quartz overgrowths (15 %) that infill pores, and 5 % late carbonate cement. Upsection, sample 3269.82 m from a fine-grained turbidite bed (lithofacies 9s), has 20 % early micrite cement and later sparry carbonate cement (5 %), pyrite (3%), with other diagenetic minerals absent. A late carbonate vein cross-cuts both detrital grains and earlier diagenetic cements. The remaining three samples are from very-fine- to fine-grained sandstones deposited in a tidal estuarine environment (lithofacies 4o). Samples 3268.73 and 3266.71 m have significant late carbonate cement (20 %) identified as Fe and Mg-calcite by electron microprobe (Appendix 1D, 2D). In hand sample, both sandstones have black patches (e.g., Fig. 21E), identified as pyrite in thin section (3 %). The samples have varying amounts of kaolinite (7 % in 3268.73 m and 0.1 % in 3266.71 m), and minor quartz overgrowths (2 % in 3268.73 m and 1 % in 3266.71 m). Sample 3268.67 m, has 7 % kaolinite, chlorite+illite cement (2 %), quartz overgrowths (4 %) and pyrite (3 %).

SABLE ISLAND C-67 WELL

Introduction

The Sable Island C-67 well was the first offshore well drilled on the Scotian Shelf, with the purpose of testing the flank of a deep-seated structure and in order to make a general investigation of the stratigraphy (Exxon Oil Canada Ltd, 1968). It is located in the Sable subbasin, and was drilled on the northern shore of Sable Island (Fig. 1A). It was spudded on June 7, 1967, drilled to a total depth of 4604.3 m, and was abandoned in January 1968.

Description of Lithofacies

This well has four cores spaced throughout the Logan Canyon and Missisauga formations: one core in the Lower Member, and one in the Middle Member of the Missisauga Formation; and one core each in the Naskapi and Cree members of the Logan

Canyon Formation (Fig. 22, 23). Due to the vintage of this well, the core is in poor condition with several rubbly and missing sections (Fig. 24). All depths used in this study are based on measuring from the top of the core down, and core loss is accumulated at the base of the core (e.g., Fig. 23).

Core 4 was taken in the Lower Member of the Missisauga Formation and samples a prograding sequence of shoreface mudstones (lithofacies 2b) passing up into tidal-flat sandstones and mudstones (lithofacies 4 and 5; Figs. 23, 24). The base of the core consists of commonly bioturbated sandy mudstone. Upsection, preserved thin sandstone beds punctuate the mudstones and are interpreted as thin turbidite beds (lithofacies 0) within the shoreface mudstones (lithofacies 2). Above this unit, a thick sandstone bed with parallel laminations (Fig. 25A) marks a change in the section to a more proximal tidally influenced depositional environment (lithofacies 4 and 5). The remainder of the core is interlaminated sand and mudstone showing tidal features: tidal bundles, cross-laminations, and ripple marks (Fig. 25B).

Core 3, from the Middle Member of the Missisauga Formation, has a thick sandstone unit at the base with low-angle cross bedding, interpreted as an upper-shoreface sandstone (lithofacies 2x). Upsection the beds thicken and generally have massive bases with parallel to cross-laminations near the top (lithofacies 9g). Above this, a completely bioturbated mudstone (Fig. 25C; lithofacies 3x) marks an abrupt change from the lower sandstone unit of river-mouth turbidites to the overlying prodelta to shoreface mudstones and sandstones A few sandier beds show liquefaction features (lithofacies 0, 10s; Fig. 25D)

Core 2 was taken from the Naskapi Member of the Logan Canyon Formation. The lower half samples a unit of thin prodelta turbidites (lithofacies 0; Fig. 25E) capped by a transgressive unit of intraclasts and shells (lithofacies 3i; Fig. 25F; sample 2832.11 m). The upper part of the core changes to rubbly maroon shales, representing a marine offshore depositional environment (lithofacies 1). The very top of the core samples another transgressive unit of shelly mudstone (lithofacies 3x).

Core 1 was taken in the Cree Member of the Logan Canyon Formation. The base samples a severely disturbed and rubbly fine-grained sandstone. The few preserved pieces of core lack diagnostic sedimentary or biogenic structures and therefore the

depositional environment was not determined. This rubbly interval passes up into a faintly cross-bedded sandstone with shell fragments along bedding, and is interpreted as deposited in an inner shoreface environment (lithofacies 2c, sample 2477.05 m), with a maroon-coloured transgressive shelly unit at the top (lithofacies 3x; Fig. 25G). It is overlain by more distal bioturbated shoreface sandstones (lithofacies 2o) and sandy turbidites (lithofacies 0m and 9s). The uppermost part of the core is a long section of carbonate-cemented, fine-grained sandstone, with generally massive beds and uncommon shell fragments; it is interpreted as representing in a shoreface environment (lithofacies 2o, samples 2473.28 and 2471.43 m).

Diagenesis

Nine probe thin sections were taken in core from this well. Sample 4085.83 m, from the Lower Member of the Missisauga Formation, was taken in a very fine-grained sandstone bed within tidal-flat lithofacies 4n and 5m. It has 3 % pyrite, minor kaolinite (2 %), chlorite+illite (0.5 %), 5 % quartz overgrowths, and 7 % late Fe-calcite (as identified in electron microprobe) cements. Several felsic volcanic clasts were seen in this sample.

Two samples were taken in the Middle Member of the Missisauga Formation. Sample 3378.00 m, from proximal shoreface sediments (lithofacies 2x) has 5 % kaolinite, 7 % quartz overgrowths, and 5 % patchy late carbonate cement, along with minor amounts of pyrite, chlorite+illite, and pyrite (0.5 % each). Upsection, sample 3376.48 m from a thick turbidite sandstone bed (lithofacies 9g) has 29 % pore-filling Fe-calcite, and 3 % pyrite, concentrated along laminations. Similar to the sample in the Lower Member, both thin sections in the Middle Member have felsic volcanic clasts.

In the Naskapi Member, sample 2834.91 m was taken in a very-fine-grained distal turbidite sandstone bed (lithofacies 0b) with rust-coloured vertical fractures, identified as siderite in thin section. The sample has minor amounts of quartz overgrowths and chlorite+illite (1 % each), and traces of kaolinite and late carbonate cements. Upsection, a sample 2832.11 m was taken in an intraclast and bioclast-rich conglomerate (lithofacies 3i, Fig. 25F). It has 20 % early micritic cement, 5 % siderite, and 0.5 % quartz overgrowths.

The Cree Member samples were taken in very-fine- to fine-grained sandstones that were deposited in a shoreface environment (lithofacies 2c and 2o). The diagenetic

minerals include: kaolinite (0.1-10 %), chlorite+illite (1-5%), and quartz (as overgrowths, 0.5-2 %). Siderite is present in samples 2473.28 and 2477.08 m as euhedral crystals that form rims around detrital grains (e.g., Fig. 9-10, Appendix 2E). These are very similar in habit to siderite B in Karim et al. (2011), and are also interpreted as a later carbonate cement (Fig. 1C). Two samples have pore-filling Fe-calcite carbonate cement (20-25 %) identified as the latest cement, engulfing earlier diagenetic minerals such as chlorite, kaolinite, and siderite.

SOUTH DESBARRES O-76 WELL

Introduction

The South Desbarres O-76 well is located approximately 18 km north of Sable Island in the Sable subbasin (Fig. 1A) (Shell Petrocan et al., 1984a). It was drilled by Shell Petro-Canada et al., in order to explore the hydrocarbon potential of a tilted fault block. It was spudded on June 7, 1977, and the rig was released on October 13, 1984, after drilling to a total depth of 6039 m.

Description of Lithofacies

Three cores were taken in South Desbarres O-67: core 3 near the base of the Mic Mac Formation, and cores 2 and 1 near the base of the Lower Member of the Missisauga Formation (Figs. 26, 27, 28).

The base of core 3 penetrates a rubbly mudstone with many high-angle fractured surfaces interpreted as a late fault zone (5954.25-5958.15 m, Fig. 28). The mudstone is generally massive and structureless in the preserved pieces, and lacks sedimentary or biogenic structures to indicate its original depositional environment. Upsection, the core is intact; however many beds show internal deformation, including liquefaction, folding, and tiny faults with millimetre displacement (Figs. 29A, 29C). Preserved structures in the sandstone beds include current ripples and lenticular beds (Fig. 29B). The upper part of the core is made up of alternating ‘pinstriped’ mudstone and sandstone, interpreted as representing a tidal-flat depositional environment (lithofacies 6s).

Cores 2 and 1 were taken at the base of the Lower Member of the Missisauga Formation (Figs. 27, 28). The bottom of the cored interval samples several alternations of

prodelta to river-mouth turbidite beds (lithofacies 0 and 9, Fig. 29E) with transgressive units of intraclast conglomerates (e.g., 3821.98-3824.77 m in Fig. 28; Fig. 29D, lithofacies 3i). This is overlain by a thick turbidite sequence (lithofacies 9g) with some bioturbation in the mudstone interbeds. Above this is a thick unit of cross-bedded sandstone with minor mud drapes (Fig. 29F, lithofacies 4g), followed by a fine-grained sandstone with moderate bioturbation (mostly *Ophiomorpha* burrows) and faint and low-angle cross-bedding (Fig. 29G, lithofacies 4o). This lithofacies change indicates a shallowing from more distal turbidites to a tidally influenced depositional environment.

Diagenesis

One sample was taken from the Mic Mac Formation, and ten samples from the Lower Member of the Missisauga Formation.

In the Mic Mac Formation, sample 5952.65 m was from the base of a graded fine sandstone bed within a deformed tidal unit. It has minor amounts of chlorite+illite and quartz overgrowths (2 % each) and 10 % ?late pore filling ankerite cements (Fig. 10, Appendix 2F).

In the Lower Member of the Missisauga Formation, samples 3824.98, 3821.72A and 3821.72B m were from poorly sorted conglomerates, with large bioclast fragments, interpreted as transgressive lithofacies 3i. They have pervasive pore-filling carbonate cement (20-25 %), identified as calcite, Fe-calcite and Mg-calcite in one sample by electron microprobe, and 1-3 % pyrite.

Upsection, five samples were taken from graded river-mouth turbidite beds of variable thicknesses (lithofacies 0 and 9). The finer-grained samples have 0.5-3 % quartz overgrowths, and 0.5-3 % pyrite. Samples 3807.15 and 3819.74 m, from the upper, laminated part of turbidite beds, have 0.5-1 % kaolinite, and 1-3 % late carbonate cement. Sample 3811.38 m, from the massive base of a thick turbidite bed has early calcite cement (3 %). Sample 3809.66 m, from a conglomerate at the base of a bed, also has early calcite cement (7 %) and pore-filling chlorite (3 %).

Near the top of the cored interval, samples 3804.82 and 3802.24 m were taken in cross-bedded fluvial sandstone (lithofacies 4g). They have a very similar diagenetic mineral assemblage, 5-7 % quartz overgrowths, 1-5 % kaolinite, and 0.5-2 % pyrite.

WENONAH J-75 WELL

Introduction

The Petro-Canada/Shell Wenonah J-75 well is located in the Sable subbasin, 58 km southwest of Sable Island, with the Alma Field to the west and the Glenelg Field to the east. The purpose of the well was to test the crest of a salt diapir for hydrocarbons (Petro-Canada Ltd and Shell Canada Ltd., 1977). It was spudded on September 26, 1976, and the rig was released on November 15, 1976 after drilling to a total depth of 3669.84 m.

Description of Lithofacies

The Wenonah J-75 well has one core from the top of the Missisauga Formation (Figs. 30, 31). It was taken in an interval where the gamma-ray logs show a funnel-shaped section of low values. The lower portion of the core is a thick, medium- to coarse-grained sandstone unit, with some coal fragments, and low-angle cross-bedding, interpreted as lithofacies 4x (fluvial depositional environment). It has patchy orange staining (Fig. 33A) and visible carbonate cement. This is overlain by bioturbated muddy sandstones with *Rosselia*, *Chondrites*, and possible *Schaubcylindrichnus* burrows (Fig. 33B, 33C, 33E), interbedded with discrete, sharp-based sandstone beds (Fig. 33D). The trace fossil assemblage suggests that this unit is shoreface deposit (lithofacies 2) punctuated by turbidite beds (lithofacies 0 and 9). The uppermost part core is a weakly bioturbated fine-grained sandstone with rare mud drapes and *Ophiomorpha* burrows. One bed shows a sub-vertical brittle shear (Fig. 33F, 33G). This unit shows signs of post-depositional deformation throughout, with several sets of subvertical barite-filled fractures (Fig. 33B, sample 3076.94 m) and a few brittle shear zones.

Diagenesis

At the base of the core, several samples were taken through a thick unit of graded medium- to very-coarse-grained fluvial sandstone (lithofacies 4x; Table 9). They have varying quantities of kaolinite (0.5-10 %) and quartz overgrowths (0.1-7 %). Several of the samples have late, pervasive pore-filling carbonate (up to 50 %) that have been identified as Fe-calcite in sample 3082.16 m and calcite+ankerite in sample 3079.14 m.

Upsection, four samples were taken in an interval of shoreface sandstone with turbidite event beds (lithofacies 2 and 9). Kaolinite, and chlorite+illite cements are present in all samples (0.1-3 % each). Samples 3074.16 and 3071.17 m have quartz overgrowths (3-5 %) and 5-7 % calcite, Fe-calcite, and ankerite. Sample 3076.94 m contains a late barite + calcite vein that vertically cross-cuts a bioturbated muddy sandstone (Fig. 33B).

3.2 Cores from the Middle Jurassic Mohican Formation

MIC MAC H-86 WELL

Introduction

The Mic Mac H-86 well is located 70 km northeast of Sable Island, in the Abenaki subbasin (Fig. 1A) (Shell Canada Ltd, 1971a). It was drilled to test a faulted anticlinal structure/up-side of a listric fault. The well was spudded on August 30, 1970, drilled to a total depth of 4785.4 m, and the rig was released on December 2, 1970.

Description of Lithofacies

One short core was taken within the Mohican Formation and had poor recovery with a loss of 3.66 m of the total 7.62 m of core (Figs. 34, 35). Much of the core is maroon to reddish in colour (Fig. 36). It samples repeating beds of graded very-coarse-grained sandstones, some with granule- to pebble-sized intraclasts at their base (Fig. 37A). The beds fine upward to silty mudstones. Some have a few vertical burrows cross-cutting parallel laminations (Fig. 37B), interpreted as possible escape traces due to the fast deposition of the event bed. Upsection, bioturbation becomes more common. The top of the section samples a red-coloured sandy mudstone with coarse sand and granules, and very low-angle parallel laminations.

The cored interval is classified as lithofacies 9 (river-mouth turbidites) with muddy shoreface deposits (lithofacies 2) near the top. The increase in mud and decrease in grain size may represent an overall deepening of the system from more proximal river-mouth turbidites, to distal turbidites and finally shoreface mudstones.

Diagenesis

Two thin section samples were taken from the thick unit of river-mouth turbidite sandstone beds (lithofacies 9; Table 10). In hand specimen, all samples are well-cemented and reddish in colour (Fig. 45A). In thin section, they have 5-7 % pore-filling chlorite+illite cement. Sample 4718.97 m contains minor kaolinite (1 %) and traces of quartz overgrowths.

MOHICAN I-100 WELL

Introduction

The Mohican I-100 well was drilled by Shell Canada Limited in order to test a deep-seated salt structure (Shell Canada Ltd, 1972). It is located approximately 232 km southwest of Sable Island, in the northern part of the Shelburne subbasin (Fig. 1A). The well was spudded on December 28, 1971 and reached a total depth of 4393.4 m. It was abandoned on March 10, 1972.

Description of Lithofacies

Nine conventional cores were taken through the Eurydice, Iroquois, Mohican, Abenaki, and Missisauga formations. This study focused on core 6, taken in the Mohican Formation (Fig. 38).

The lithofacies for this core are described according to their general depositional environment (Fig. 39), as they do not fit the lithofacies scheme described in Table 1 (Gould et al., 2010a) which was developed for the Early Cretaceous Missisauga and Logan Canyon formations.

The base of the core samples an abundantly bioturbated sandy mudstone with faint low angle cross-bedding. It is maroon-coloured with grey-green patches (e.g., 3698.05-3670.07 m in Fig. 40). Biostratigraphic work by Laborde et al. (1973) and Ascoli (1974) has shown it to be barren of microfossils and these authors interpreted this interval as being deposited in a littoral to very shallow inner sublittoral environment. It passes into a muddy sandstone that fines upward and has planar to wavy laminations (Fig. 41A). Upsection, mudstone and sandstone host abundant shells and white to pink coloured patches of anhydrite (Fig. 41B). The section passes into an interlaminated

mudstone and sandstone with parallel to wavy laminations (Fig. 41C) and some vertical burrowing; these strata are classified as tidal sediments. The top of the core is interpreted as a transgressive lithofacies, with carbonate intraclasts and large horizontal burrows in a completely bioturbated mudstone (Fig. 41D).

Diagenesis

Samples from the Mohican Formation core have diagenetic titania minerals (5 %) and chlorite+illite cements (5-7 %). Sample 3692.42 m has traces of quartz overgrowths, and well-developed patchy anhydrite cementation (10-15 %). In hand speciman the anhydrite forms large patches and it is interpreted as the latest diagenetic cement (Fig. 41B).

WYANDOT E-53 WELL

Introduction

The Wyandot E-53 well is located approximately 96 km northeast of Sable Island, in the Abenaki subbasin (Fig. 1A) (Shell Canada Limited, 1971b). It was drilled by Shell Canada limited to test an anticlinal structure for hydrocarbon accumulations. The well was spudded on November 7, 1970, drilled to a total depth of 3049.5 m and the rig was released on December 3, 1970.

Description of Lithofacies

The Wyandot E-53 well has two cores across the contact of the Mohican Formation and the Scatarie Member of the Abenaki Formation (Fig. 42). Core 2, taken in the top Mohican Formation and through the base of the Abenaki Formation, was logged for this study (Fig. 43, 44).

The base of core 2 consists of thick, parallel laminated beds, grading from coarse to fine sandstone. Bioturbation is sparse. The core has a distinctive green color in the matrix of the sandstone (Fig. 45A, sample 2879.98 m). These beds are interpreted as river-mouth turbidites (lithofacies 9g) thought to be very proximal to the source based on their lack of mudstone and the coarse nature of the base of the beds (Fig. 45B, sample 2878.66 m). Above this succession, mud lamination and plant fragments increase, and distinctive bedding structures (such as laminations) are less discernable. These upsection

strata are interpreted as representing a shallowing to a more tidally influenced estuarine depositional environment (lithofacies 4g). Overlying this is a thick section of cross-bedded, fine- to coarse-grained sandstone with mud drapes and a high percentage of phytodetritus; these strata are interpreted as fluvial sediments (lithofacies 4x). Internally, some beds have alternating fine- and coarse-grained lamination and cm-scale beds (Fig. 45C), and in places is very-coarse-grained to granular (Fig. 45D). A poorly sorted lag of coarse sand, granules, and pebbles, and a bioturbated sandy mudstone mark the upper contact of this unit, and are interpreted as a transgressive lithofacies 3c (Fig. 45E). The remainder of the core is abundantly bioturbated muddy sandstone with one thick preserved sandstone bed (lithofacies 9s, Fig. 45F), interpreted as a turbidite bed within a shoreface depositional environment (lithofacies 2b), signifying a deepening of the system.

Diagenesis

Five samples were taken for petrographic analyses. At the base of the core, two samples were taken within a tidally influenced fluvial sandstone (lithofacies 4g). Both have green matrix in hand specimen (e.g., Fig. 45A). In thin section, the samples have 7 % chlorite+illite cement, with 1 % pyrite in sample 2876.81 m. Other diagenetic cements were absent.

Upsection, samples 2878.66 and 2874.33 m, taken in cross-bedded fluvial sandstones (lithofacies 4x), are quite coarse and have very minor (0.1-0.5 %) kaolinite, and 3-5 % quartz overgrowths; sample 2874.33 has 1 % pyrite.

Sample 2873.10 m, from the top of a turbidite bed (lithofacies 9s), has 20 % pore-filling calcite, Fe calcite, and Fe-Mg calcite (of uncertain relative age) (Fig. 2, Appendix 2H).

4. Discussion

4.1 Sedimentary environments and lithofacies

The lithofacies classification in Table 1 was defined using cores from the Missisauga and Logan Canyon formations (Gould et al., 2010b). The application of this scheme to wells with core in the Mohican Formation (Mic Mac H-86, Mohican I-100,

and Wyandot E-53) proved much more difficult. These cores were strongly diagenetically altered in places (e.g., the red mudstone in Mohican I-100), obscuring diagnostic sedimentary and biogenic structures. The general features observed in these cores did not fit the classification scheme and therefore general depositional environments are used for some of these wells (e.g., "tidal", in Fig. 39). The presence of anhydrite points to a different climatic setting in the Middle Jurassic compared with the more humid Early Cretaceous.

4.2 Comparison of diagenetic minerals in the Abenaki and Sable subbasins

Samples from the wells used in this study were chosen to "fill in the blanks" through the Early Cretaceous stratigraphy within the Abenaki and Sable subbasins. Petrographic observations from these wells were combined with similar data from previously published wells (Karim et al., 2011; Pe-Piper et al., 2006, 2010, 2011; Pe-Piper and Piper, 2009). The resulting combined dataset allows diagenetic mineral assemblages to be compared at different stratigraphic levels between the Missisauga Formation and the Cree Member of the Logan Canyon Formation, and between the Abenaki and Sable subbasins (Table 13).

Many of the features of diagenesis recognised from previous work in the Sable subbasin were also present in the new samples from this subbasin. Transgressive units of lithofacies 3 commonly have abundant early calcite and Fe-calcite cement related to diagenesis by marine pore water (Okwese et al. 2012). Siderite is a common eogenetic mineral, occurring in several different forms (Karim et al. 2010a), in particular siderite B seen in a few Cree Member samples from the Sable Island C-67 well. Eogenetic kaolinite is widespread, and is particularly common in lithofacies 9 and 4 and in lowstand systems tracts (Karim et al. 2010a). It is associated with corrosion of early carbonates and probably resulted from flux of meteoric water. Quartz overgrowths are recognised in most sandstone samples and predate widespread mesogenetic Fe-calcite and lesser ankerite in many sandstones of the Sable subbasin (Karim et al. 2010a, b, 2011). Mesogenetic illite and chlorite, commonly fibrous and pore filling, are less common, present in only 45 % of samples studied, and commonly occur in sandstones with chlorite rims on detrital minerals (Gould et al. 2010b).

The new samples from the Abenaki subbasin are compared with the previous detailed work on diagenesis in the Peskowesk A-99 well (Pe-Piper et al. 2006; Okwese et al. 2012), and with sparser observations on diagenesis in Hesper I-52, Esperanto K-78, South Griffin J-13 (Pe-Piper et al. 2011), Dauntless D-35 (Pe-Piper and Piper 2009) and Louisbourg J-47 (Pe-Piper et al. 2010). In the Cree Member and the Upper Member of the Missisauga Formation, carbonate cements are rare to absent in the Abenaki subbasin, whereas eogenetic kaolinite and mesogenetic chlorite+illite are common in wells such as Peskowesk A-99 (Pe-Piper et al., 2006; Okwese et al. 2012) and North Banquereau I-13 (Table 13). Chlorite+illite are much less common in this stratigraphic interval in the Sable subbasin: in this study they were abundant only in samples from Marmora P-35, with a few occurrences in the Sable Island C-67 and Wenonah J-75 wells.

In the Middle Member of the Missisauga Formation, carbonate cements are present in samples from both the Abenaki and Sable subbasins (Table 13). This change in carbonate abundance compared with higher units in the Abenaki subbasin is well documented in Peskowesk A-99 (Okwese et al. 2012, their Fig. 8). Chlorite+illite are found in samples from the Abenaki subbasin, but they are rare in the samples from the Sable subbasin. Carbonate cements are also common in the Lower Member of the Missisauga Formation in the Sable subbasin and in the coeval clastic facies in the upper part of the Mic Mac Formation in the Abenaki subbasin, for example at Peskowesk A-99 and Louisbourg J-47.

4.3 Why is diagenesis different in the Abenaki and Sable subbasins?

All the significant hydrocarbon discoveries in latest Jurassic-Early Cretaceous sandstones of the Scotian Basin are in the Sable subbasin. To what extent is this an effect of reservoir quality and to what extent might it be related to other processes such as maturation and hydrocarbon charge? In this section, we first examine porosity and permeability data from the two subbasins and then consider the differences in the role of carbonate cements, depositional facies, early diagenetic processes, bulk composition and detrital supply, and burial history and mesogenetic fluid flow in the two subbasins (Table 14).

Porosity and permeability

Whether reservoir quality differs between the two subbasins can be evaluated from porosity and permeability measurements from core plugs in conventional core (Fig. 46). We assume that there is no sampling bias between the two subbasins, either with regard to where conventional core was cut (generally, the expected best reservoir intervals) or where plugs were taken (generally in sandstone units). In the Cree Member, samples from the Abenaki subbasin tend to have higher permeability at any particular value of porosity than those from the Sable subbasin, so that many plot on the upper left side of the cloud of data points in Figure 46. The opposite trend occurs in the Middle Member of the Missisauga Formation, where Abenaki subbasin samples tend to have lower permeability than Sable subbasin samples for any particular porosity value. No particular distinction between samples from the two subbasins is apparent in data from the Upper Member of the Missisauga Formation, which is thus perhaps transitional between Cree Member and Middle Member conditions. In the upper part of the Mic Mac Formation in the Abenaki subbasin, the number of high porosity and permeability sandstones is disproportionally fewer than in the coeval rocks of the Lower Member of the Missisauga Formation in the Sable subbasin.

The role of carbonate cement

The relatively lower permeability of samples from the Cree Member of the Sable subbasin appears to correlate with a greater abundance of carbonate cements compared to samples from the Abenaki subbasin, where carbonate cements are almost absent (Table 13). The increase in abundance of carbonate cements in the Abenaki subbasin in the Middle Missisauga Formation and deeper samples may have negatively affected the permeability there, but does not account for the higher permeability of the Sable subbasin samples for the same stratigraphic interval, which also have extensive carbonate cement. The lack of late carbonate cement in the Upper Member of the Missisauga Formation and the Cree Member in the Abenaki subbasin is probably related to its shallow depth of burial, with insufficient burial temperature being reached to allow widespread carbonate cementation.

Sediment lithofacies

Variations in reservoir quality may also relate to variations in the rock types deposited in the two subbasins. Although both subbasins have deltaic sediments, basin subsidence was greater in the Sable subbasin. As a result, accommodation was greater in "shelf-edge" deltas (Cummings and Arnott, 2005), such as those in the latest Jurassic of the Venture and Thebaud fields. Thickness of individual delta-front turbidites there (< 6 m) is much greater than anywhere sampled in the Abenaki subbasin (5-35 cm in Louisbourg J-47 well). Well sorted shoreface and river-mouth turbidite sandstones in the Cohasset A-52 and Lawrence D-14 wells (Gould et al. 2011) are thicker (13-22 m) than sandstones of equivalent age and lithofacies at Peskowesk A-99 and Dauntless D-35 (< 4 m). Many shoreface and river-mouth turbidite sandstones from the Abenaki subbasin show good to excellent values of porosity and permeability, but prodelta and tidal sandstones with interbedded mudstones, for example at Peskowesk A-99, have much poorer porosity and permeability. Similarly, the core in North Banquereau I-13 well that samples muddy tidal-flat lithofacies and lacks a thick sandy interval, has very poor permeability and porosity values. In the Sable subbasin, Cohasset A-52 has good porosity and permeability, except through the extensively carbonate-cemented intervals. Lawrence D-14 lacks plug analyses, but petrographic observations suggest that where extensive late carbonate is absent, porosity and permeability is excellent (Karim et al. 2011). It appears that the presence or absence of carbonate cement locally controls reservoir quality in similar lithofacies in both subbasins. Thick-bedded, well sorted ("clean") sandstones are more abundant in the Sable subbasin, because of the greater accommodation.

Bulk composition of sediment

The greatest differences in bulk composition of sediment are between carbonate and siliclastic rocks. Resedimented carbonate rocks seaward of the Jurassic Abenaki carbonate bank may have influenced mesogenetic formation waters, but no systematic difference is expected between the Sable and Abenaki subbasins as the mid-Jurassic carbonates extended all along the margin (Fig. 1A). We can speculate that the greater abundance of late diagenetic carbonate in the Middle Missisauga and Mic Mac formations at Peskowesk A-99 compared with the higher units might be related to the

greater abundance of carbonate rocks at or somewhat below those stratigraphic levels during mesogenetic fluid flow.

River supply of sediment to the Sable subbasin and Abenaki subbasin appears to have been different, at least throughout the Early Cretaceous. At many stratigraphic levels, the Abenaki subbasin received more K-feldspar and the Sable subbasin more plagioclase (Pe-Piper et al. 2008; 2009). Bulk-sediment geochemical analyses show that K is more abundant in the Abenaki subbasin and Ca in the Sable subbasin (Pe-Piper et al. 2008, their Figs. 6, 7, 12A). At burial depths of about 2 km, K-feldspar begins to break down to albite, a process that releases K^+. Resulting K^+ rich formation waters favour illite cementation and may be reflected in the greater abundance of mesogenetic illite (+chlorite) in the Abenaki subbasin. The effects of breakdown of plagioclase are unclear.

Early diagenetic processes

During diagenesis by marine porewater, Ca^{2+} may be supplied from seawater to form calcium carbonates. If Ca^{2+} concentration is low and Fe (hydr-)oxides abundant, siderite is the carbonate formed (Taylor and Curtis 1995). Such ferruginous diagenesis is more abundant in the Abenaki subbasin than in the Sable subbasin, perhaps because of lower subsidence rates (Okwese et al. 2012). The more normal early diagenesis, dominated by sulphate reduction, leads to greater precipitation of calcite, which may then contribute to mesogenetic carbonate cementation. Nevertheless, in the Abenaki subbasin, early calcite cement at Esperanto K-78, Louisbourg J-47, South Griffin J-13, and Peskowesk A-99 in the Middle Member of the Missisauga Formation and deeper (Table 13) seems to have played an important role in reducing porosity and permeability (Fig. 46).

Abundant eogenetic kaolinite cement in the Scotian Basin appears related to marine lowstands (Karim et al. 2010; Okwese et al. 2012) and significantly reduces porosity in some sandstones. For example, it is the principal cement in river-mouth turbidite sandstones near the top of the Mic Mac Formation in Louisbourg J-47 (Pe-Piper et al. 2010). On the other hand, there is no strong evidence that kaolinite is more abundant generally in the Abenaki subbasin than in the Sable subbasin. Kaolinite cement in the western Sable subbasin (Karim et al. 2010) appears to be of similar or greater

abundance to that at Peskowesk A-99 (Okwese et al. 2012), whereas kaolinite is more rare in the Venture field (Gould et al. 2010; Karim et al. 2010b).

Many of the highest permeability measurements from core plugs in the Abenaki subbasin are from sandstones with chlorite rims on framework grains (e.g. Upper Missisauga Formation at Dauntless D-35; Pe-Piper and Piper, 2009). Chlorite rims are also a critical factor in preserving permeability in sandstones in the Sable subbasin (Gould et al. 2010b). While chlorite rims result from ferruginous sea-floor diagenesis, their growth is also favoured by high permeability in the host sandstone during later diagenesis, during precipitation of fibrous chlorite+illite (Gould et al. 2010b). It is possible that early diagenesis by oxidising meteoric water can destroy the precursor minerals of chlorite rims, a process that would be more likely in the more slowly subsiding Abenaki subbasin (Okwese et al. 2012). Late chlorite (together with illite) is more abundant in the Abenaki subbasin throughout the Early Cretaceous (Table 13); this may be related to availability of Fe^{2+} from the mesogenetic dissolution of early siderite.

Burial history

At present, there are insufficient data to assess the effect of differences in maturation history, mesogenetic fluid flow and hydrocarbon charge in the two subbasins. Seaward of the Abenaki subbasin, the pre-Cretaceous sediment thickness is greater and much of the salt movement occurred in the Jurassic (Ings and Shimeld, 2006). In contrast, seaward of the Sable subbasin, Cretaceous sediment thickness is greater and much of the salt movement took place in the early Cretaceous (Deptuck, 2011). A strong early Cretaceous thermal event in the western Sable subbasin might have led to more rapid silica and carbonate cementation, because of higher temperature, than at Venture (Karim et al. 2010b), but a direct diagenetic signature of this thermal event is difficult to recognise.

Major silica cementation at the Venture field, notably in Venture B-13, occurs a few tens of metres above the top of overpressure (Karim et al. 2010b). It appears related to fracturing, dissolution and reprecipitation of silica that is likely related to overpressure processes. However, in South Griffin J-13, major silica cementation was found in conventional core 900 m above the top of overpressure (Pe-Piper et al. 2011). In Louisbourg J-47, neither sandstones a few tens of metres above the top of overpressure in

cores 2 and 3, nor those 300 m above in core 1, have an unusual amount of silica cementation. Thus no simple spatial relationship of abundant silica cement to the top of overpressure has been recognised.

5. Conclusions

The lithologic and petrographic details from the studied wells do not change the established generalities of the sedimentology, detrital petrology and diagenesis of the uppermost Jurassic and Early Cretaceous rocks of the Scotian Basin.

Middle Jurassic Mohican Formation terrigenous sediment facies are rather different from those of the Early Cretaceous, reflecting the more arid climatic conditions in the mid Jurassic. Other than the presence of diagenetic anhydrite in the Mohican I-100 well, diagenetic minerals in sandstones are similar to those found in Early Cretaceous rocks.

The Abenaki subbasin has proportionally better reservoir quality in the Cree Member, but proportionally poorer quality in the Middle Member of the Missisauga Formation and in the uppermost Jurassic Mic Mac Formation, compared to the coeval rocks of the Sable subbasin. In both subbasins, excellent reservoir quality is associated with chlorite rims on framework grains. Loss of reservoir quality is commonly related to carbonate cements, which are sparse to absent in the Cree Member and the Upper Member of the Missisauga Formation in the Abenaki subbasin. Lithofacies in the two subbasins are in part controlled by rates of subsidence and sediment supply, which were both greater in the Sable subbasin. River-mouth sandstones in beds lacking interbedded mudstones were thicker in the Sable subbasin, where greater subsidence created greater accommodation, and form the best quality reservoir rocks. Widespread tidal-flat facies in the Abenaki subbasin host poorer quality reservoir sandstones.

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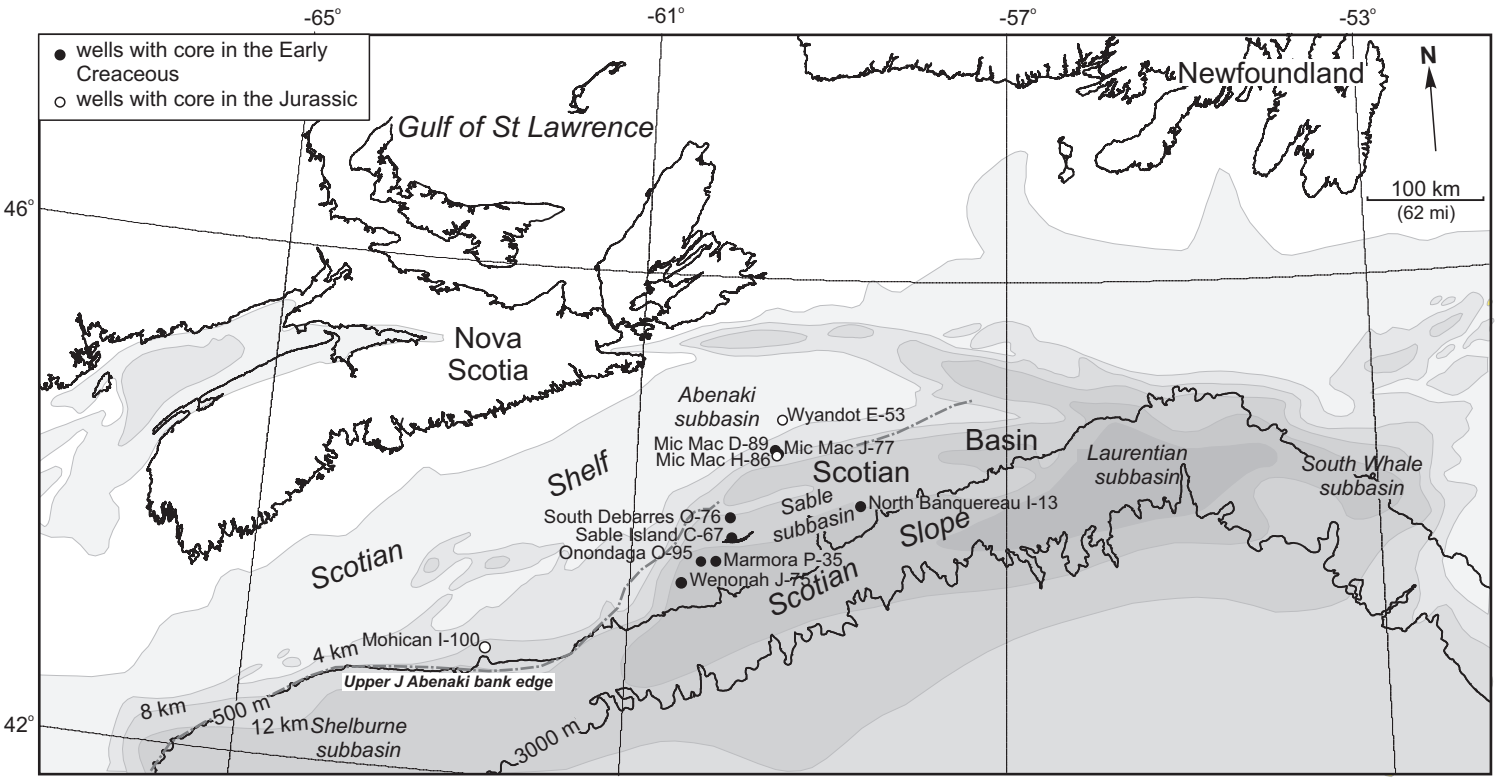


Figure 1A: Map of the central Scotian Basin, showing the location of wells used in this study. Isopachs of Mesozoic to Cenozoic sediments in kilometres from MacLean & Wade (1992).

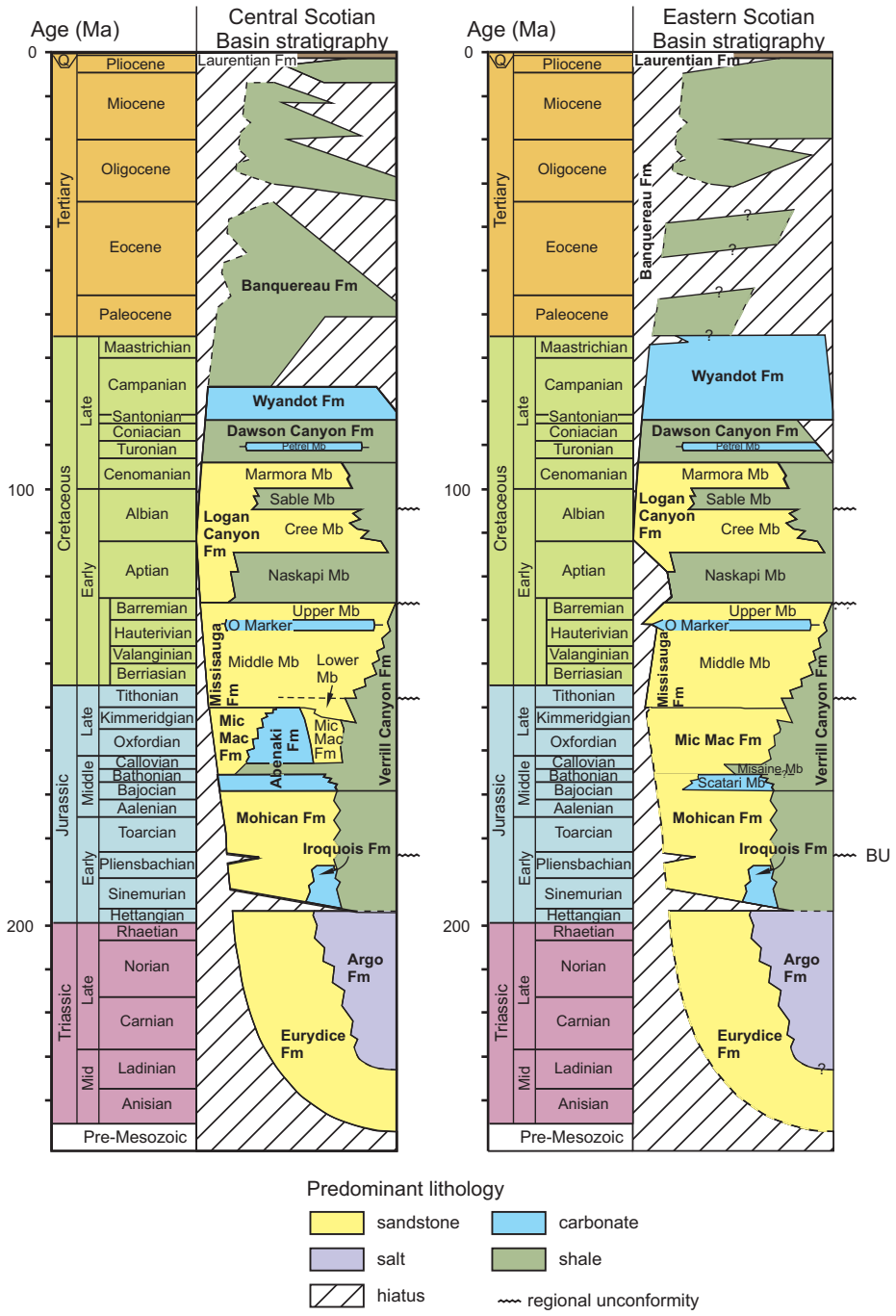


Figure 1B: Stratigraphic column of the central and eastern Scotian Shelf, modified from Wade and MacLean (1990) and Cummings and Arnott (2005), using timescale of Gradstein et al. (2004).

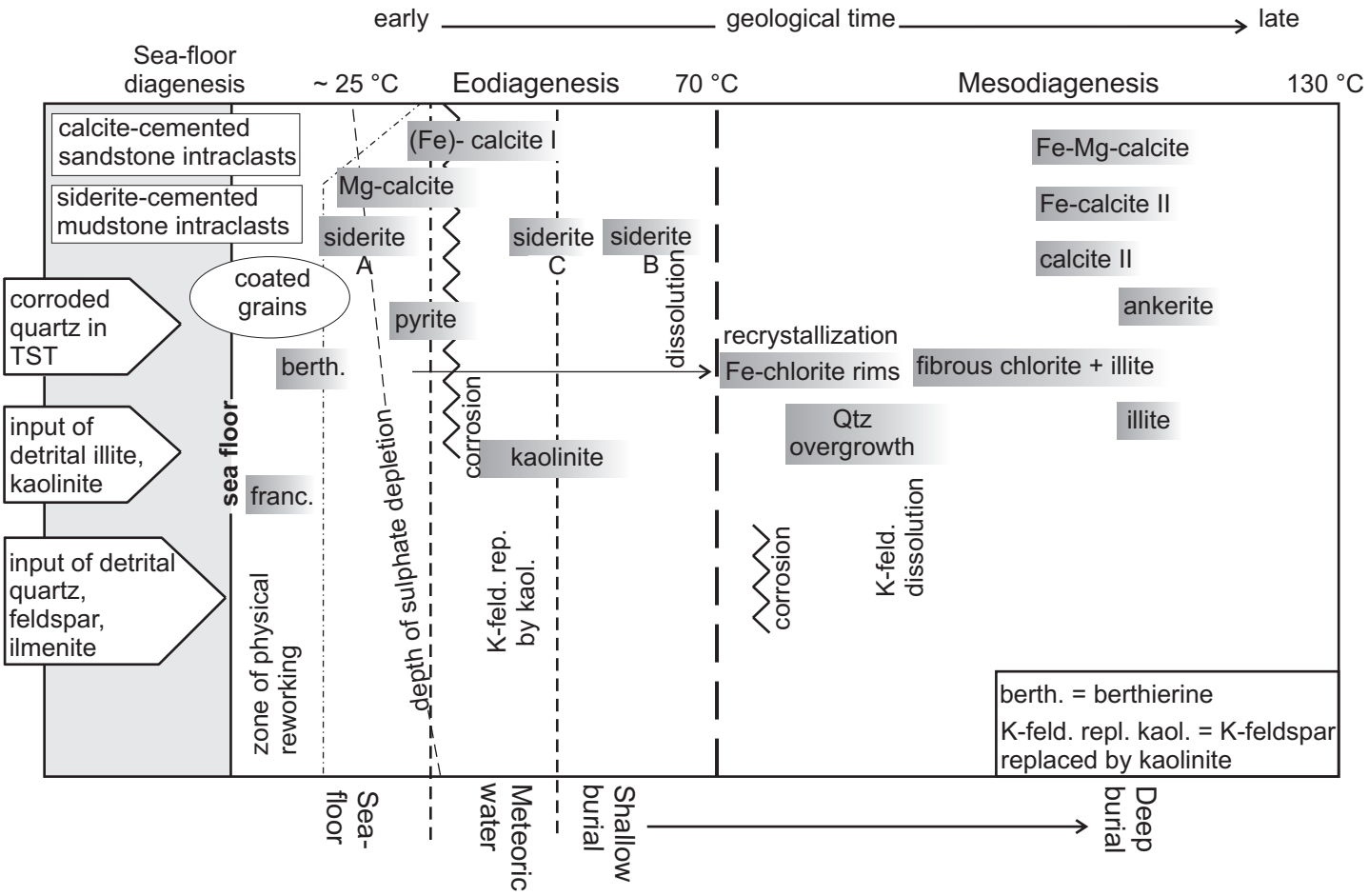


Figure 1C: Paragenetic sequence deduced from mutual textural relationship in sandstones from the Sable subbasin (modified from Karim et al., 2010b and Karim et al., 2011).

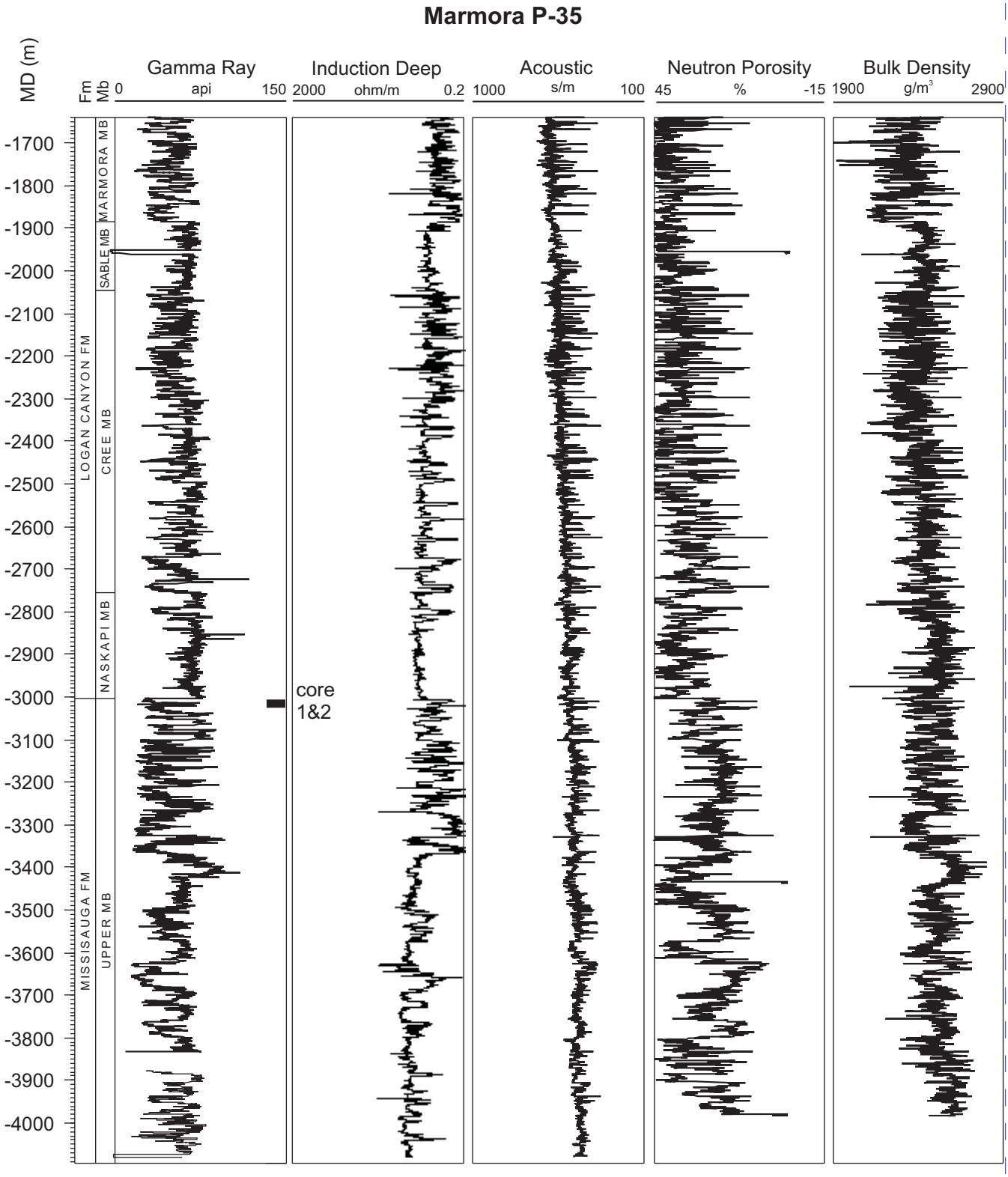


Figure 2: Summary well log of Marmora P-35 well (MD = measured depth, deviation survey is not available). Formation and member picks from MacLean and Wade (1993).

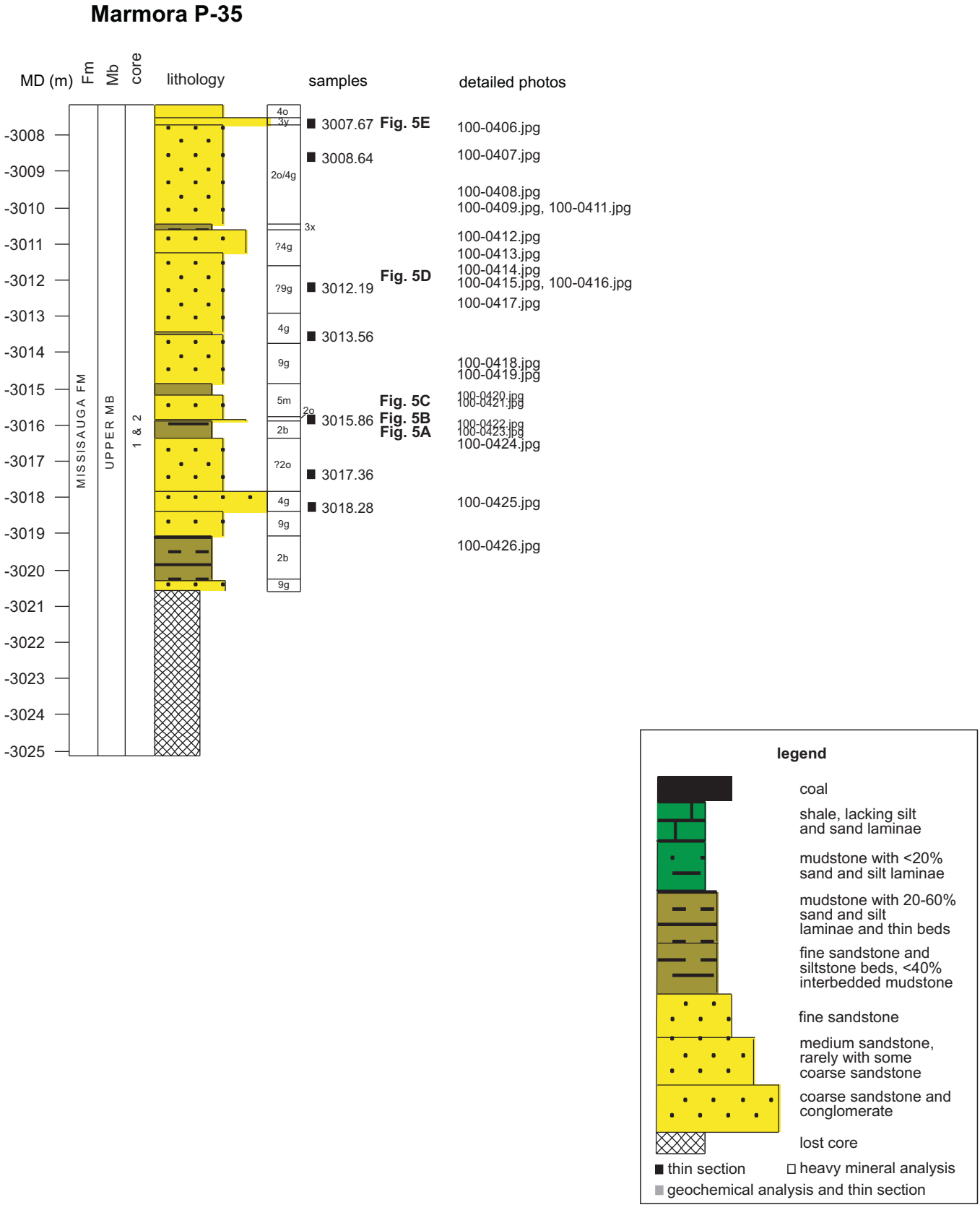
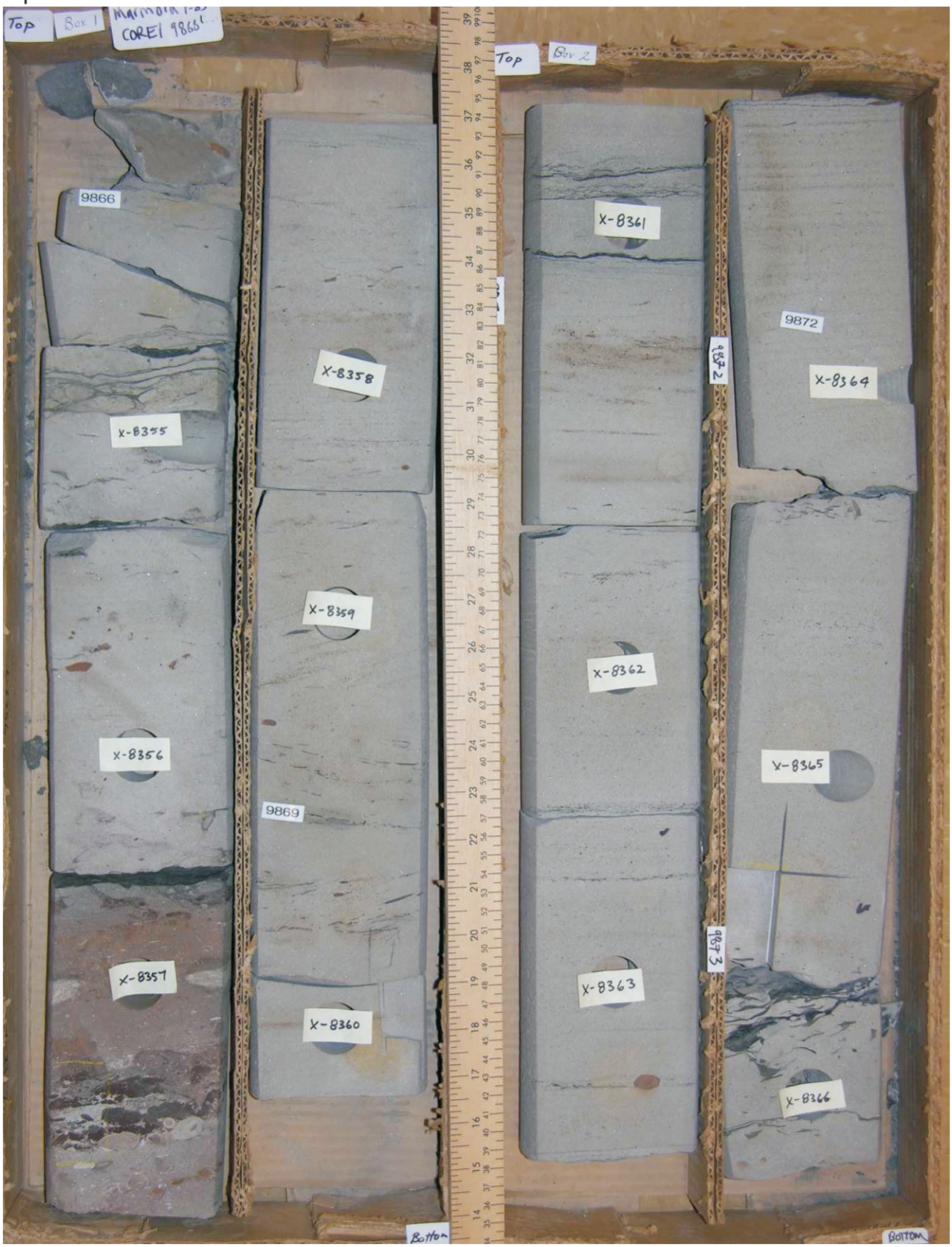


Figure 3: Summary log of conventional cores 1-2 from the Marmora P-35 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

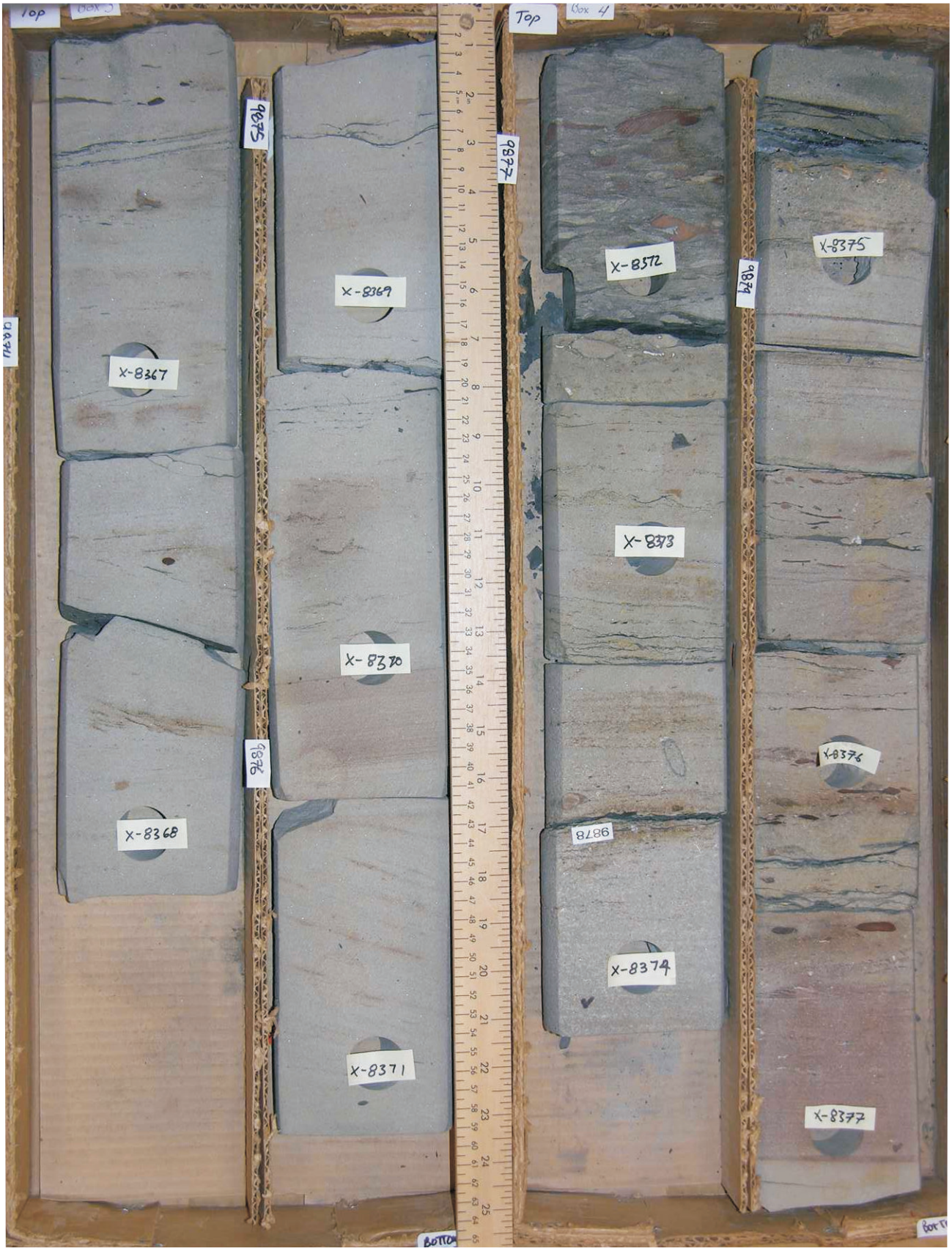
top



base

Figure 4: Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3007.15 - 3009.45 m.

top



base

Figure 4 (con't): Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3009.45 - 3011.60 m.

top

base

Figure 4 (con't): Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3011.60 - 3013.75 m.

top

base

Figure 4 (con't): Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3013.75 - 3015.90 m.

top

base

Figure 4 (con't): Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3015.90 - 3018.15 m.

top

base

Figure 4 (con't): Core photographs of core 1, Marmora P-35, Upper Member, Missisauga Formation, 3018.15 - 3020.55 m.

Figure 5: Representative core photos from the Marmora P-35 well. Locations in Fig. 3. (A) *Rosselia* burrow 'rs' in fine-grained sandstone. (B) Mud-lined *Ophiomorpha* 'om' burrow at the contact between carbonate-cemented 'cc' medium to coarse-grained sandstone and siderite-stained fine-grained sandstone (sample 3015.86 m). Burrow is infilled with coarse sand. (C) Current ripples 'cr' and *Planolites* 'pl' burrows in lenticularly-bedded, very fine-grained sandstone. (D) Possible turbidite bed, siderite stained with a massive base, parallel-laminations 'pλ', and cross-laminations 'xλ' and shell fragments 'sf' near the top of the bed. (E) Heavily siderite-stained 'sd', fine-graned sandstone. Completely bioturbated with shell fragments disseminated throughout.

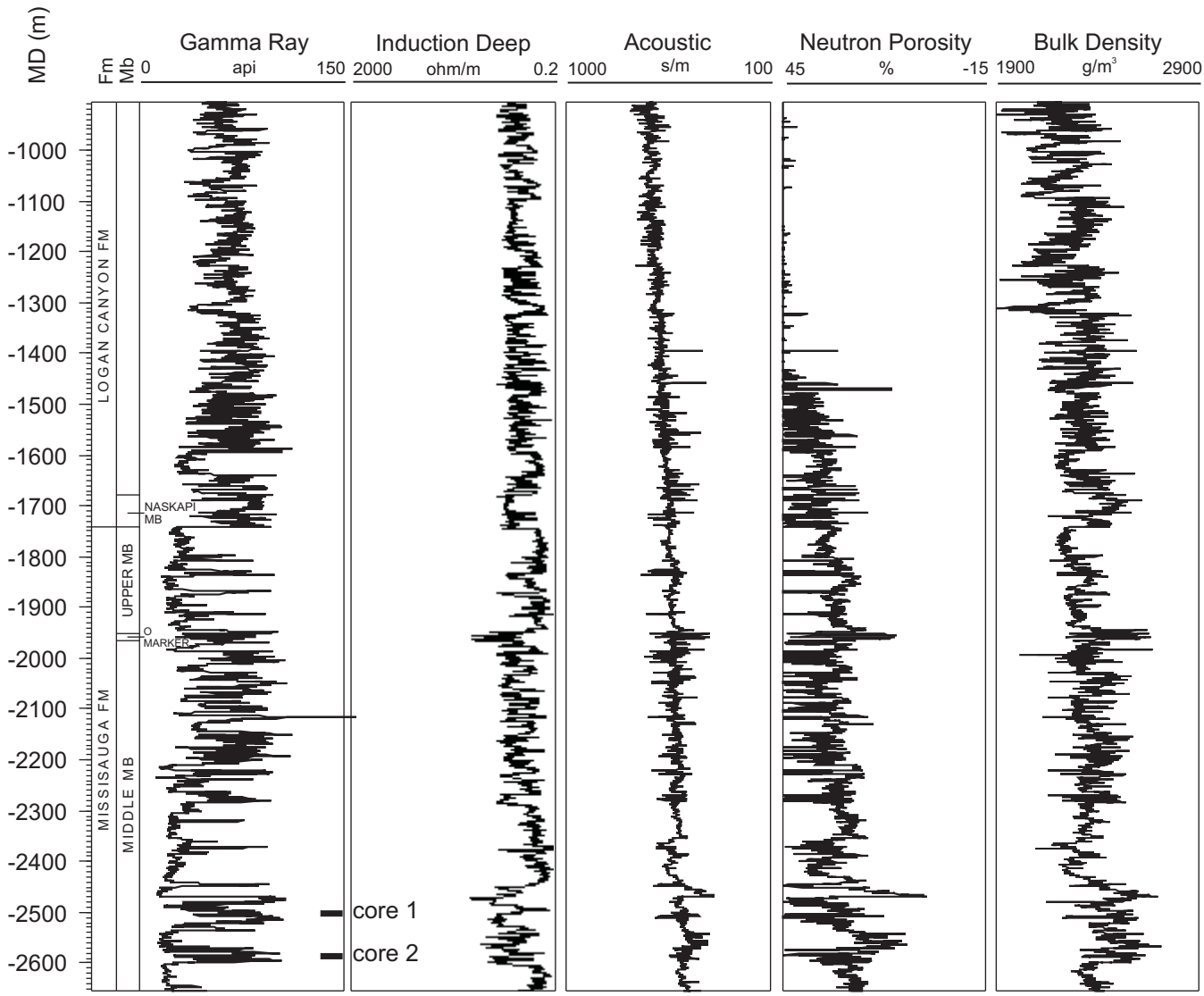


Figure 6: Summary well log of Mic Mac D-89 well (MD = measured depth, deviation survey is not available). Formation and member picks from MacLean and Wade (1993).

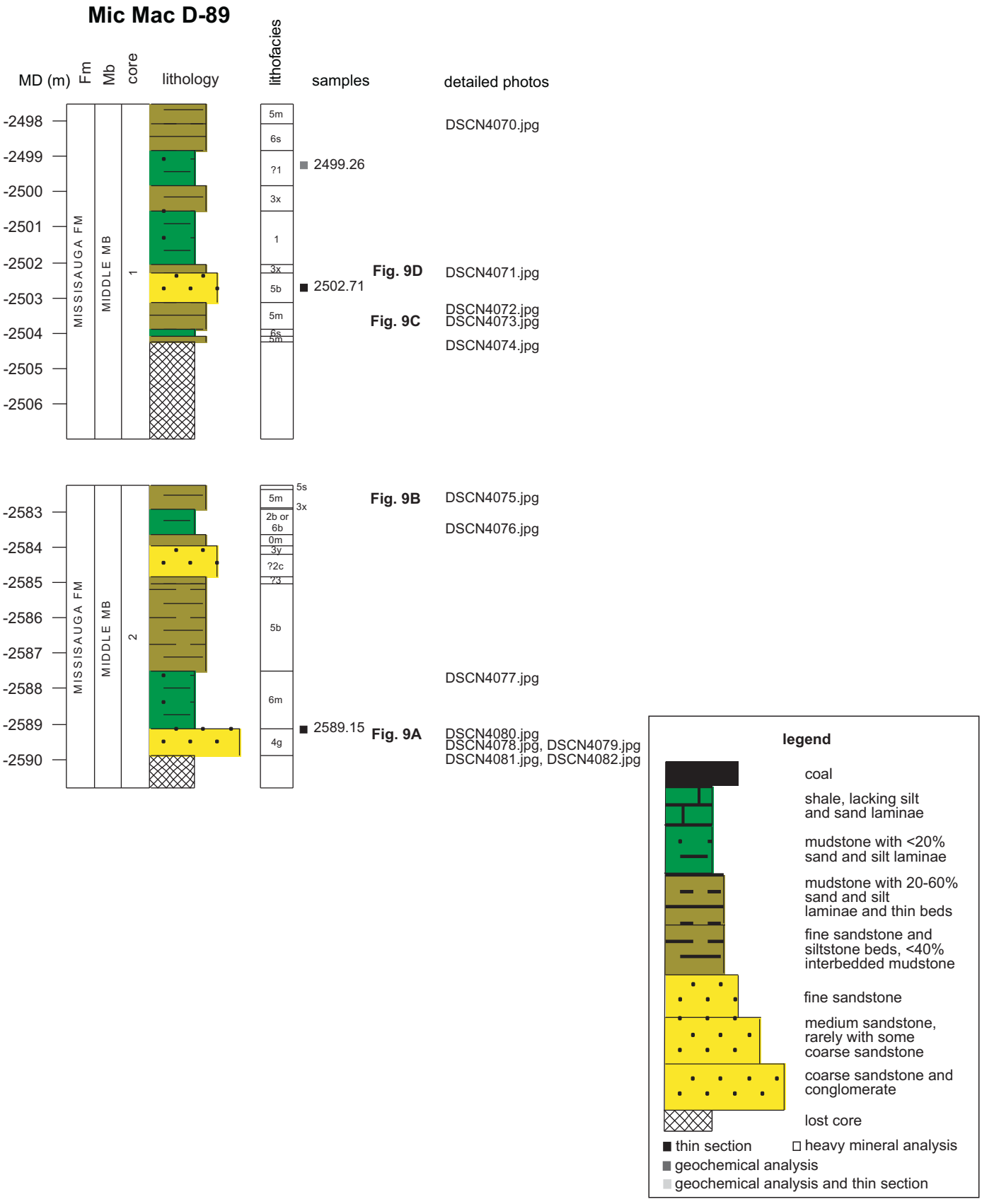


Figure 7: Summary log of conventional cores 1-2 from the Mic Mac D-89 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

Figure 8: Core photographs of core 1, Mic Mac D-89, Middle Member, Missisauga Formation, 2497.53-2500.43 m.

top

Figure 8 (con't): Core photographs of core 1, Mic Mac D-89, Middle Member, Missisauga Formation, 2500.43-2504.24 m.

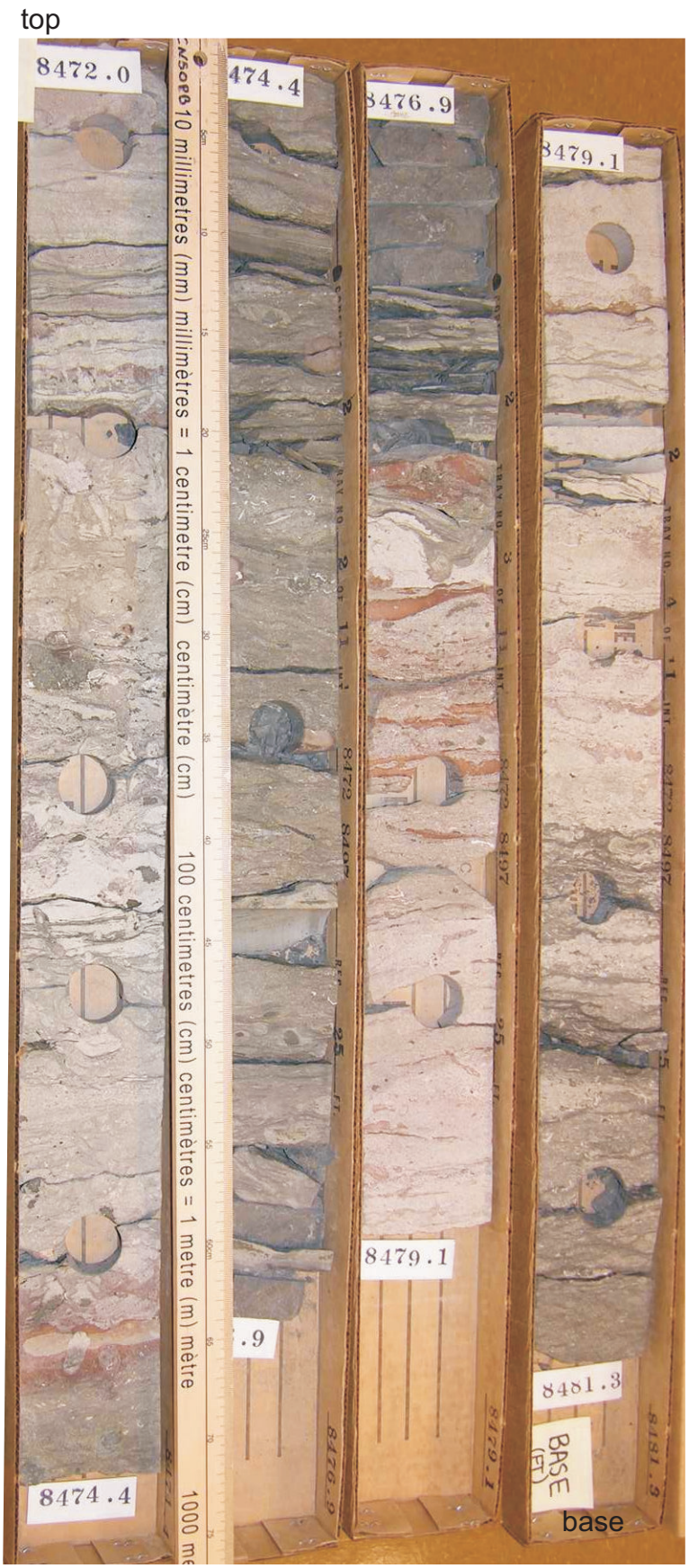


Figure 8 (con't): Core photographs of core 2, Mic Mac D-89, Middle Member, Missisauga Formation, 2582.27-2585.10 m.

top

Figure 8 (con't): Core photographs of core 2, Mic Mac D-89, Middle Member, Missisauga Formation, 2585.10-2589.46 m.

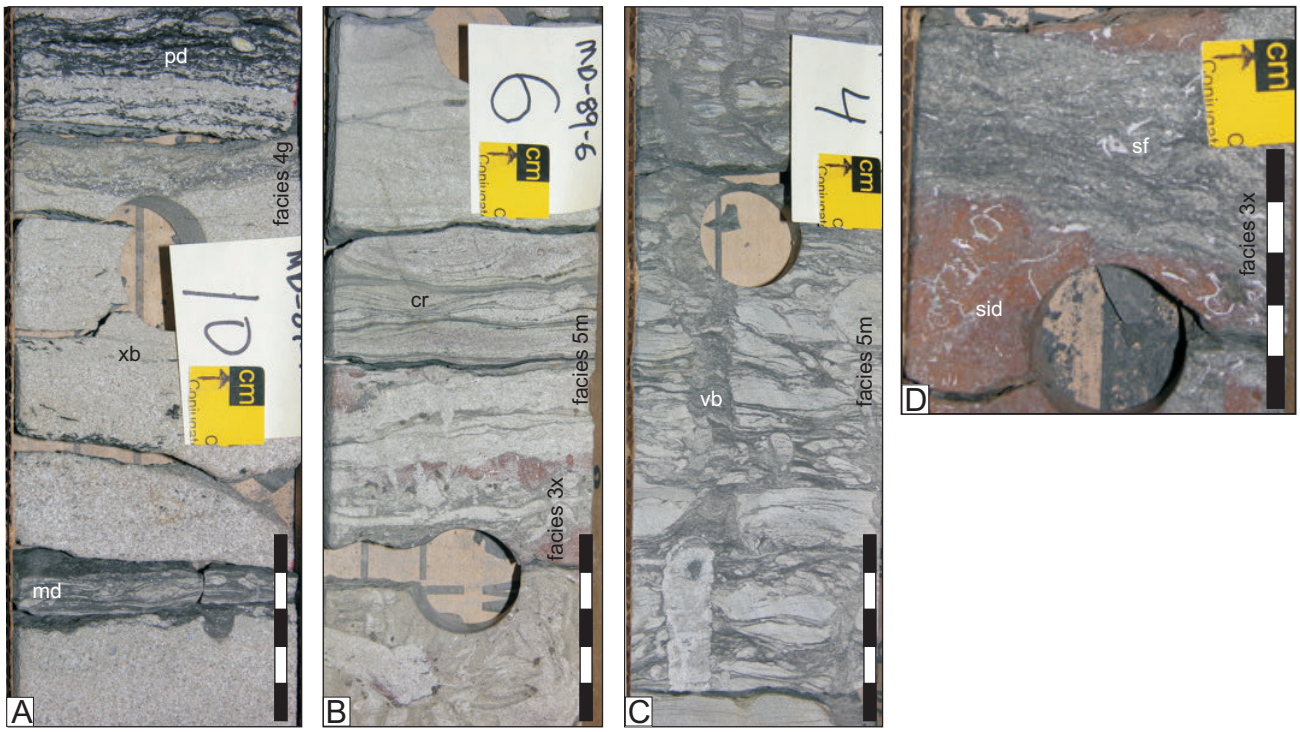


Figure 9: Representative core photos from the Mic Mac D-89 well. Locations in Fig. 7. (A) Cross-bedded 'xb' medium to coarse-grained sandstone with cm-thick mud drapes 'md', and concentration of coaly plant fragments 'pd'. (B) Current ripples 'cr' in fine-grained sandstone above burrowed bed. (C) Several vertical burrows 'vb' cross-cutting muddy sandstone. (D) Large siderite patches 'sid' in a completely bioturbated mudstone with disseminated shell fragments 'sf'.

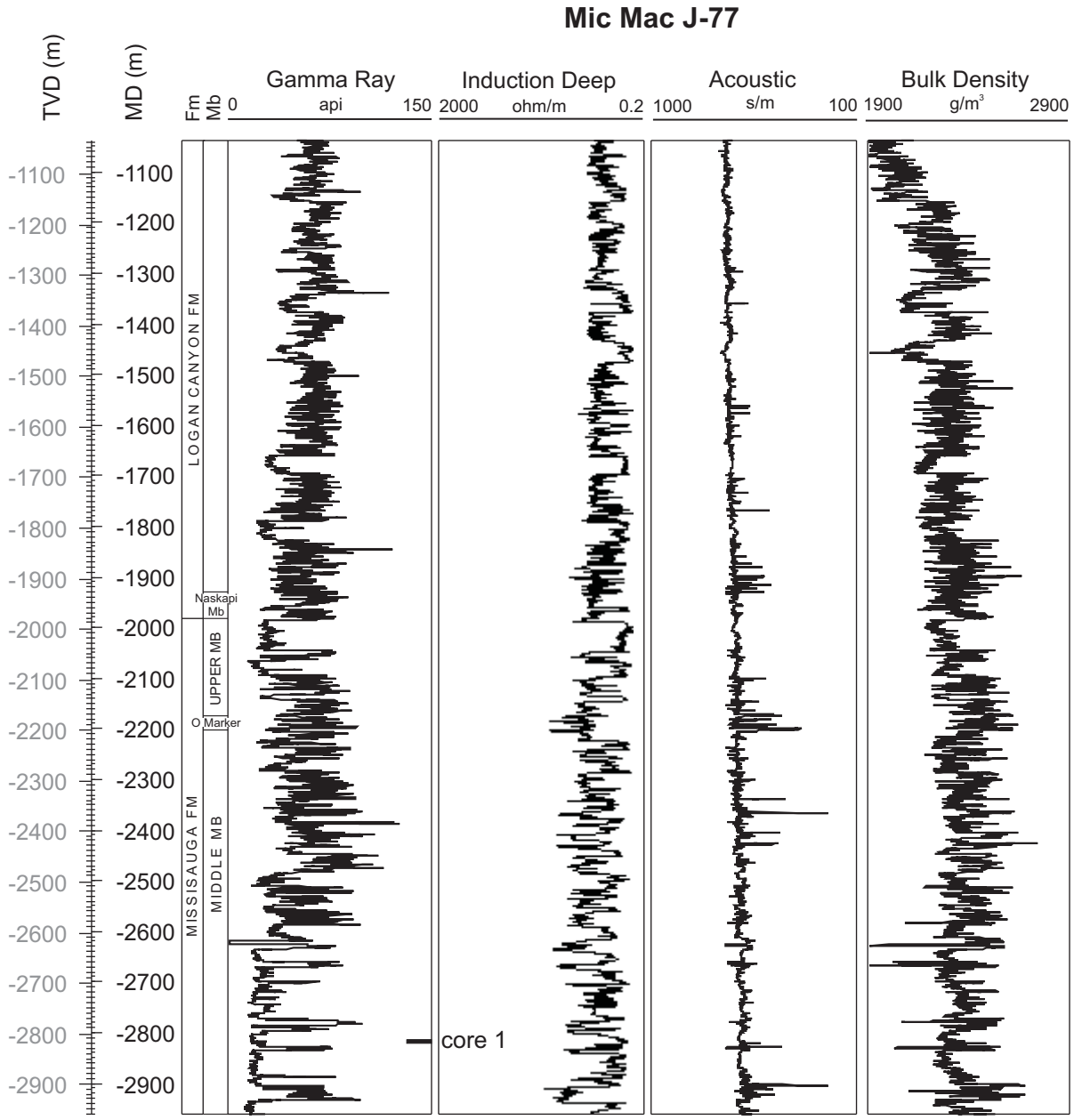
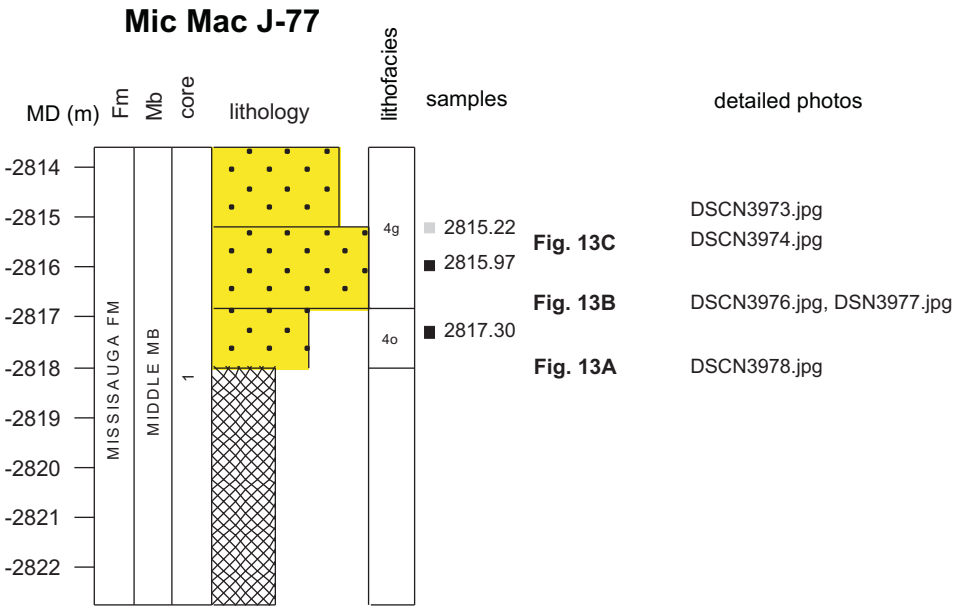


Figure 10: Summary logs of the Mic Mac J-77 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).



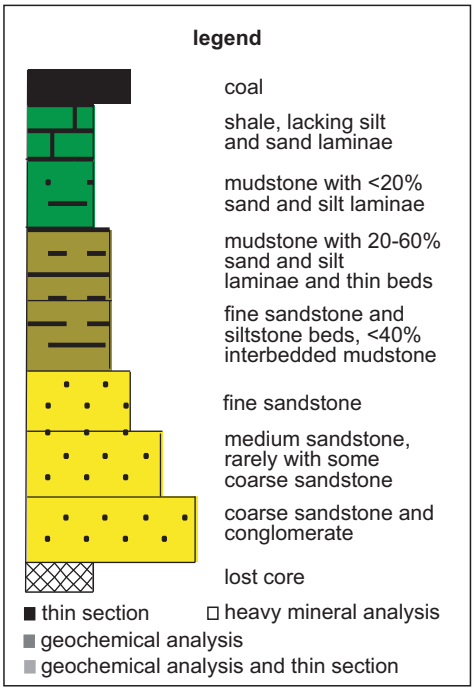


Figure 11: Summary log of conventional core 1 from the Mic Mac J-77 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top

base

Figure 12: Core photographs of core 1, Mic Mac J-77, Middle Member, Missisauga Formation, 2813.61-2815.96 m.

top

base

Figure 12 (con't): Core photographs of core 1, Mic Mac J-77, Middle Member, Missisauga Formation, 2813.96-2818.02m.

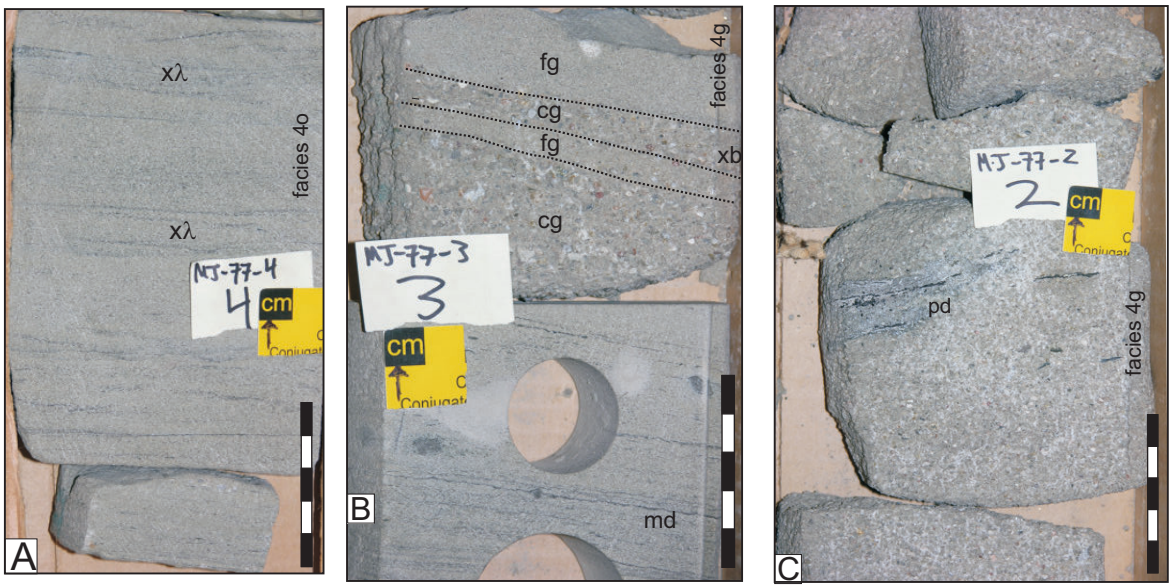


Figure 13: Representative core photos from the Mic Mac J-77 well. Locations in Fig. 11. (A) Fine to medium-grained sandstone with discontinuous drapes of mud and plant detritus possible trough-cross laminations ‘xλ’. (B) Interbedded contact between very coarse-grained to granular sandstone ‘cg’ and underlying mud-draped ‘md’ fine-grained sandstone ‘fg’. (C) Low-angle coaly laminations ‘pd’ in very coarse-grained sandstone.

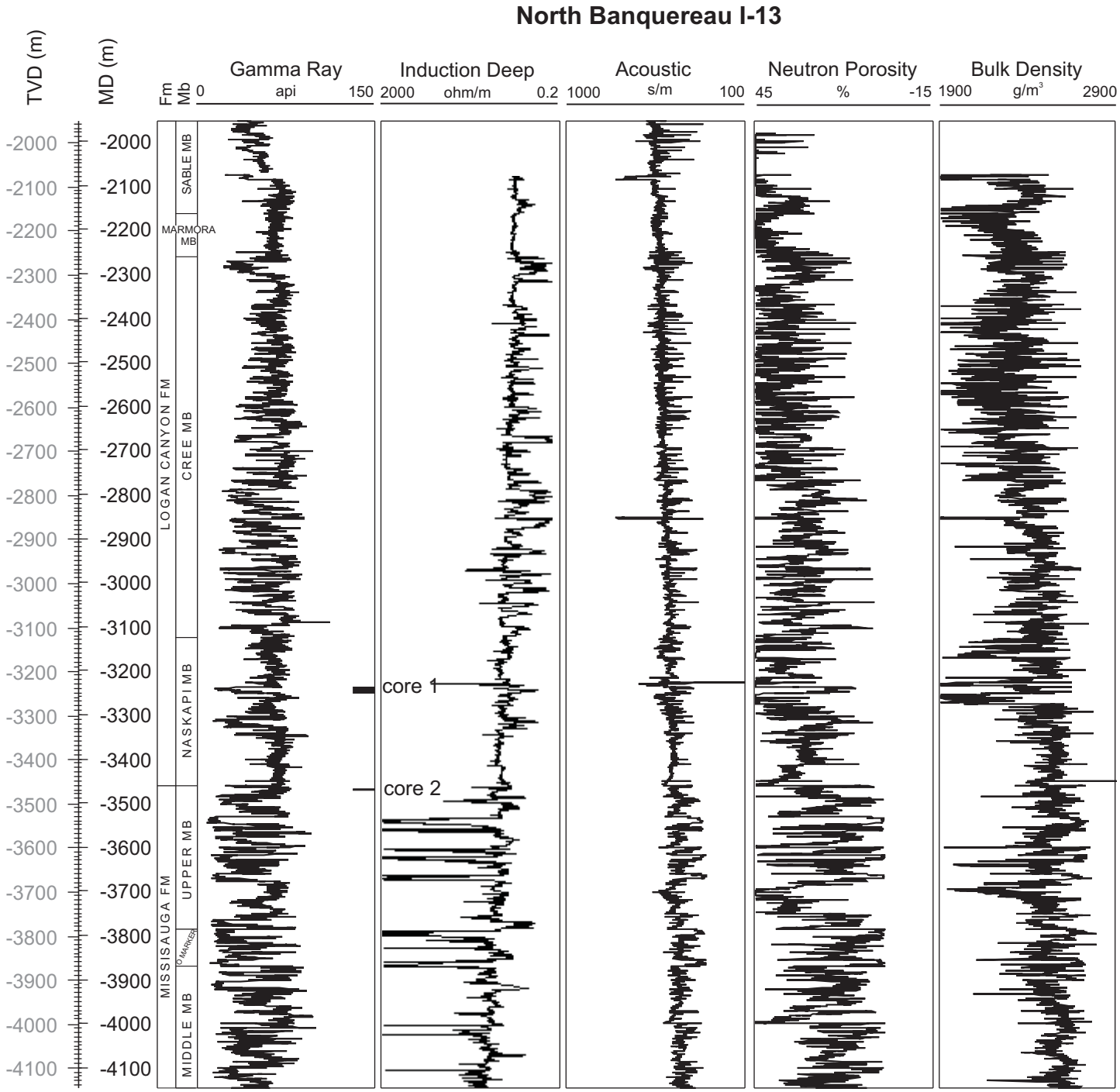


Figure 14: Summary logs of the North Banquereau I-13 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).

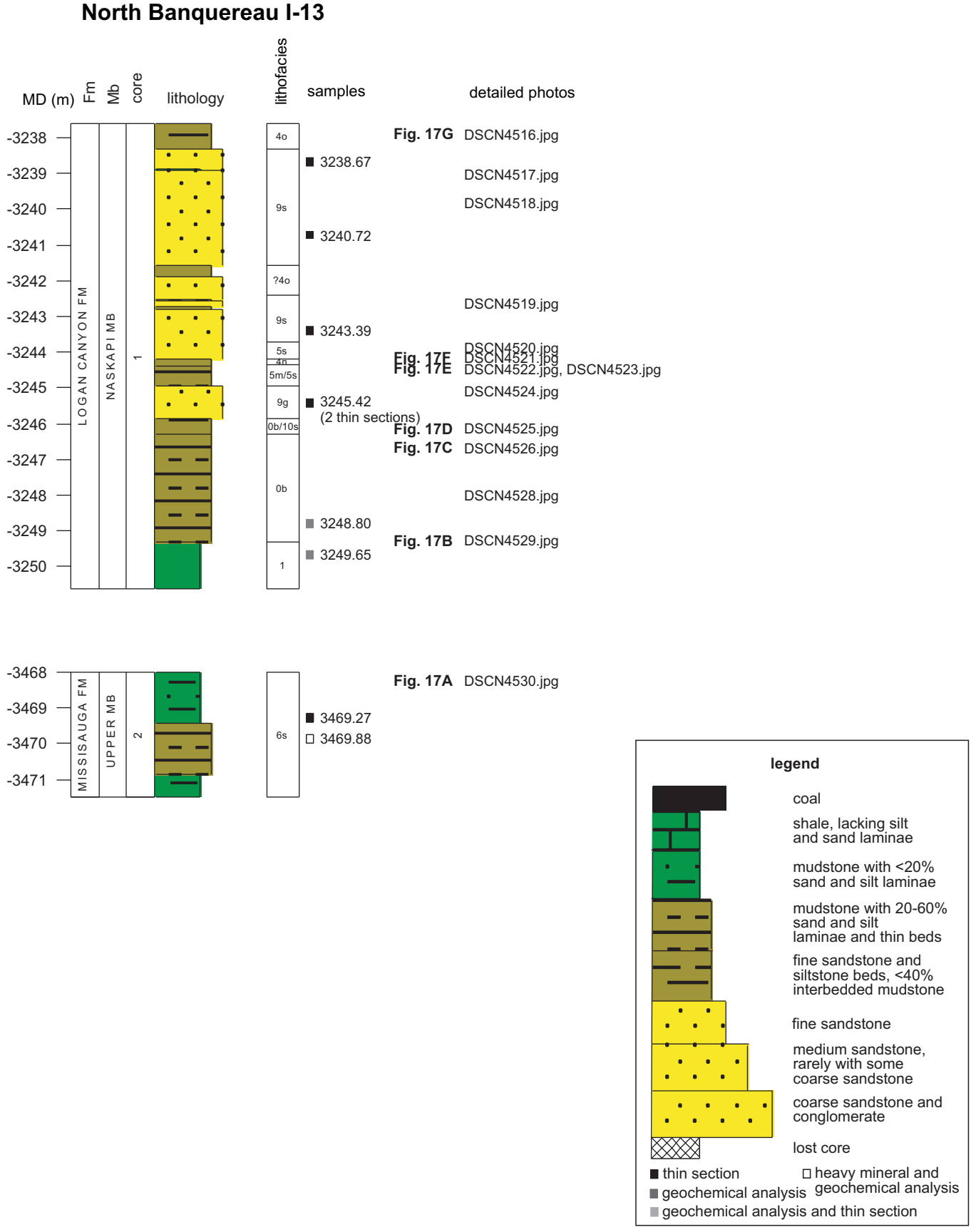


Figure 15: Summary log of conventional cores 1-2 from the North Banquereau I-13 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top

base

Figure 16: Photographs of core 1 from the North Banquereau I-13 well, in the Naskapi Member of the Logan Canyon Formation, 3241.60-3241.65 m (modified from Petro-Canada Exploration et al., 1983b).

top

base

Figure 16 (con't): Photographs of core 1 from the North Banquereau I-13 well, in the Naskapi Member of the Logan Canyon Formation, 3241.65-3245.80 m (modified from Petro-Canada Exploration et al., 1983b).

top

base

Figure 16 (con't): Photographs of core 1 from the North Banquereau I-13 well, in the Naskapi Member of the Logan Canyon Formation, 3245.80-3250.00 m (modified from Petro-Canada Exploration et al., 1983b).

top

base

Figure 16 (con't): Photographs of core 1 from the North Banquereau I-13 well, in the Naskapi Member of the Logan Canyon Formation, 3250.00-3250.60 m (modified from Petro-Canada Exploration et al., 1983b).

top

base

Figure 16 (con't): Photographs of core 2 from the North Banquereau I-13 well, in the Upper Member of the Missisauga Formation, 3468.00-3471.50 m (modified from Petro-Canada Exploration et al., 1983b).

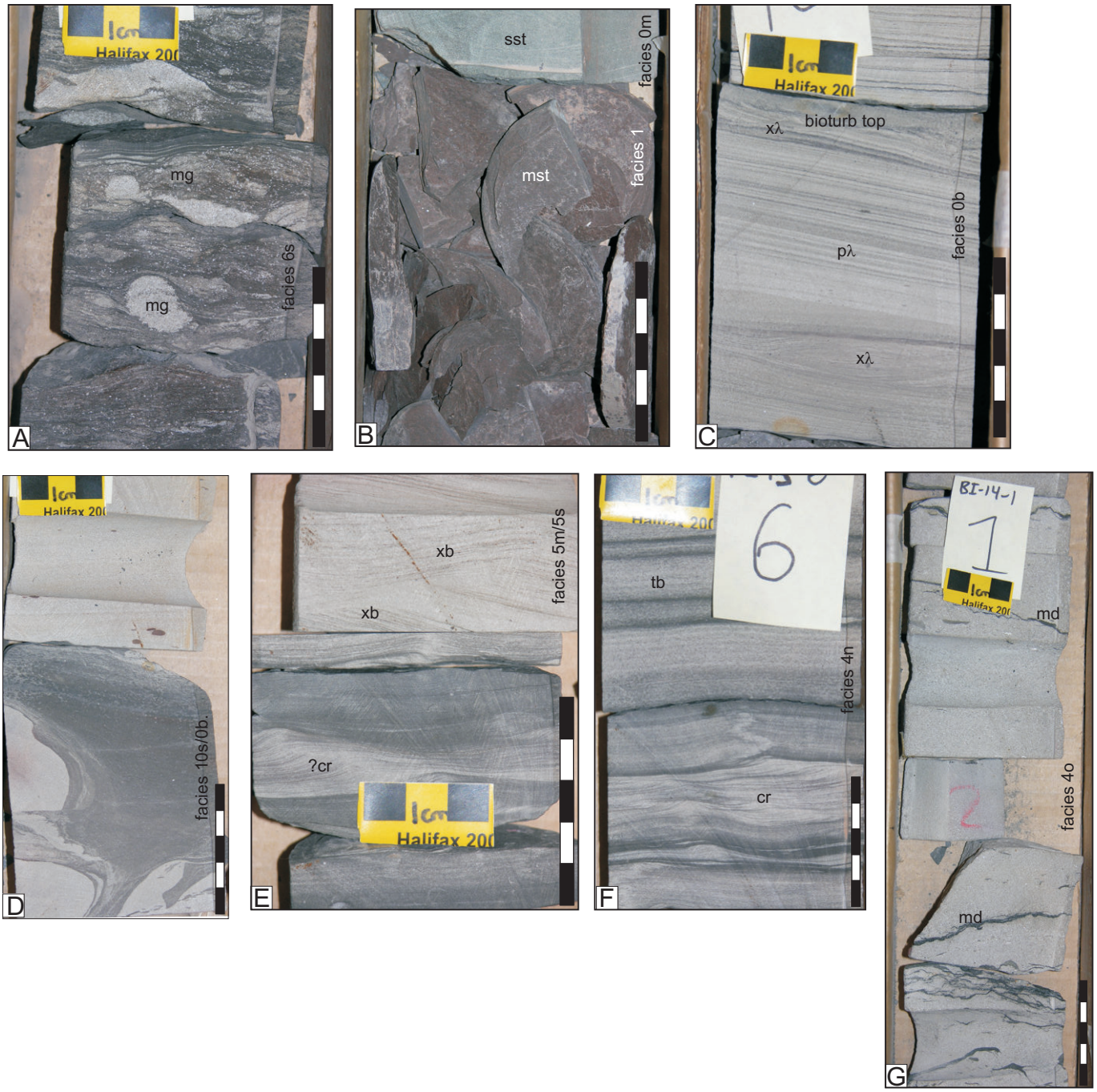


Figure 17: Representative core photos from the North Banquereau I-13 well. Locations in Fig. 15. (A) Laminated mudstone with medium-grained 'mg' sand infilling burrows and disseminated throughout. (B) Sharp contact between red-coloured, broken mudstone and grey-green, silty-shale. (C) Low-angle cross-bedding (?hummocky cross-stratification) in fine-grained sandstone, with parallel laminations 'pλ' in the lower part of the bed, and cross-laminations 'xλ' at the top of the bed. (D) Deformed very fine-grained sandstone and mudstone beds. (E) Centimetre-scale cross-bedding 'xb' over possible climbing ripples 'cr'. (F) Climbing ripples 'cr' and tidal bundles 'tb'. (G) Drapes of mud and plant fragments 'md' in a fine-grained sandstone.

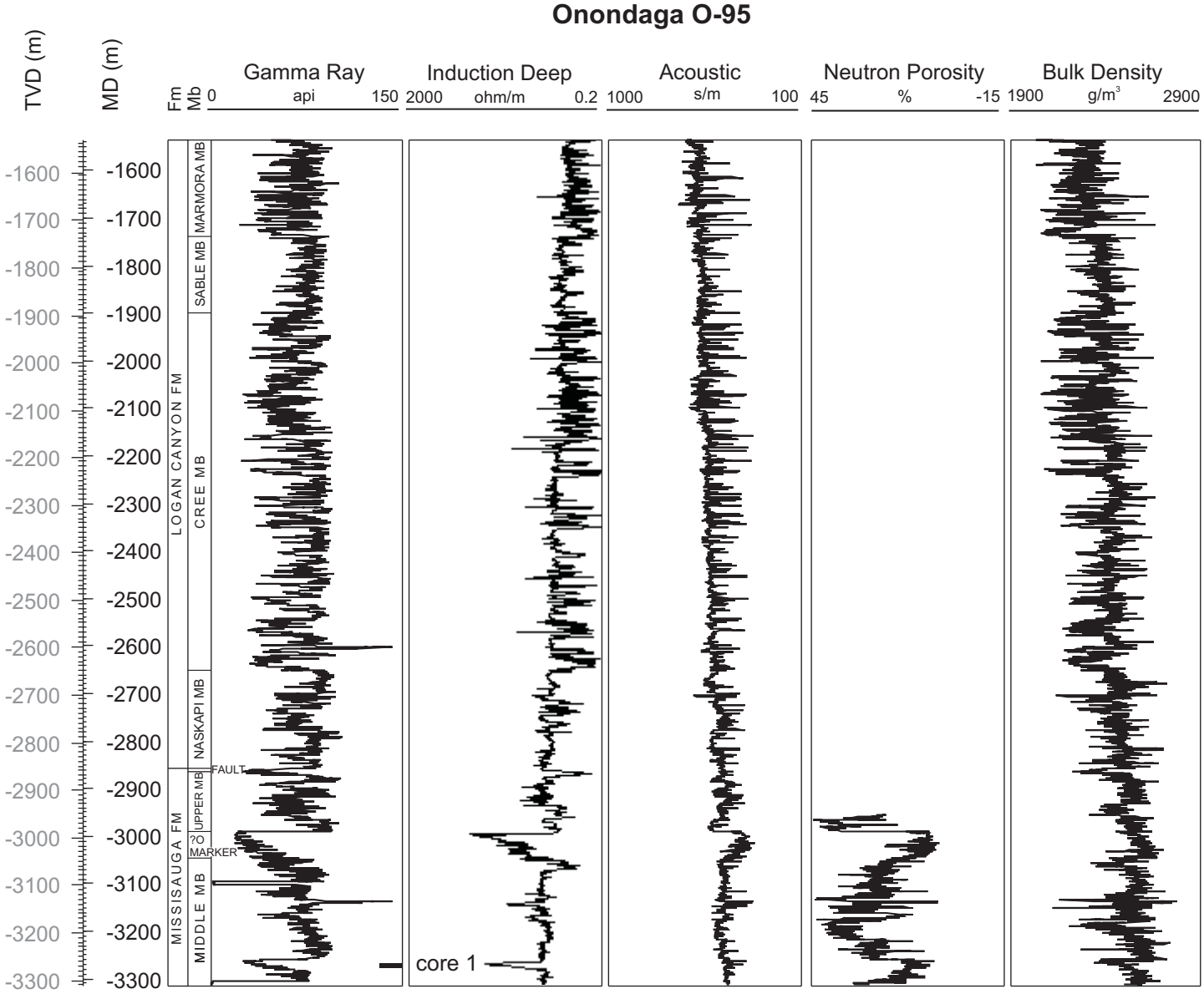
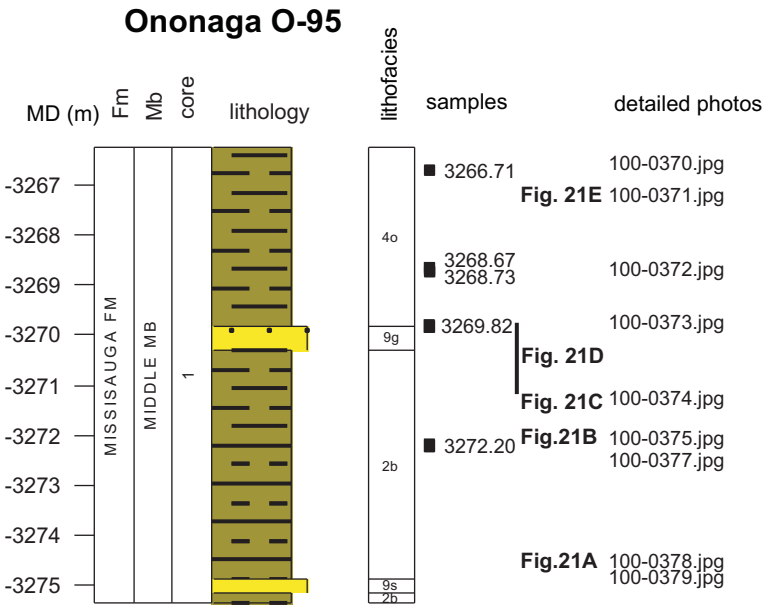


Figure 18: Summary logs of the Onondaga O-95 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).



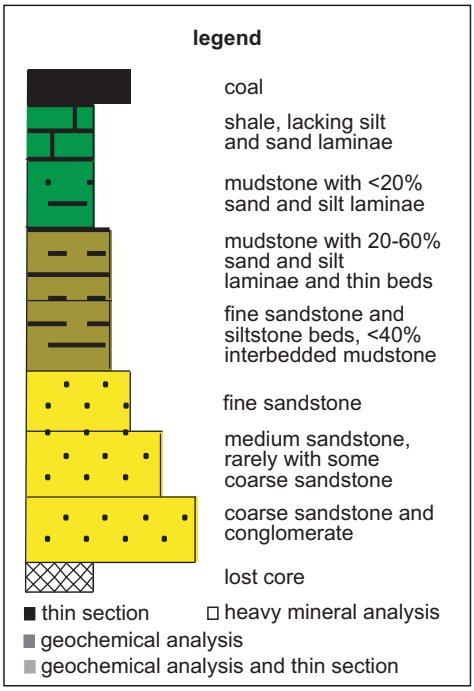
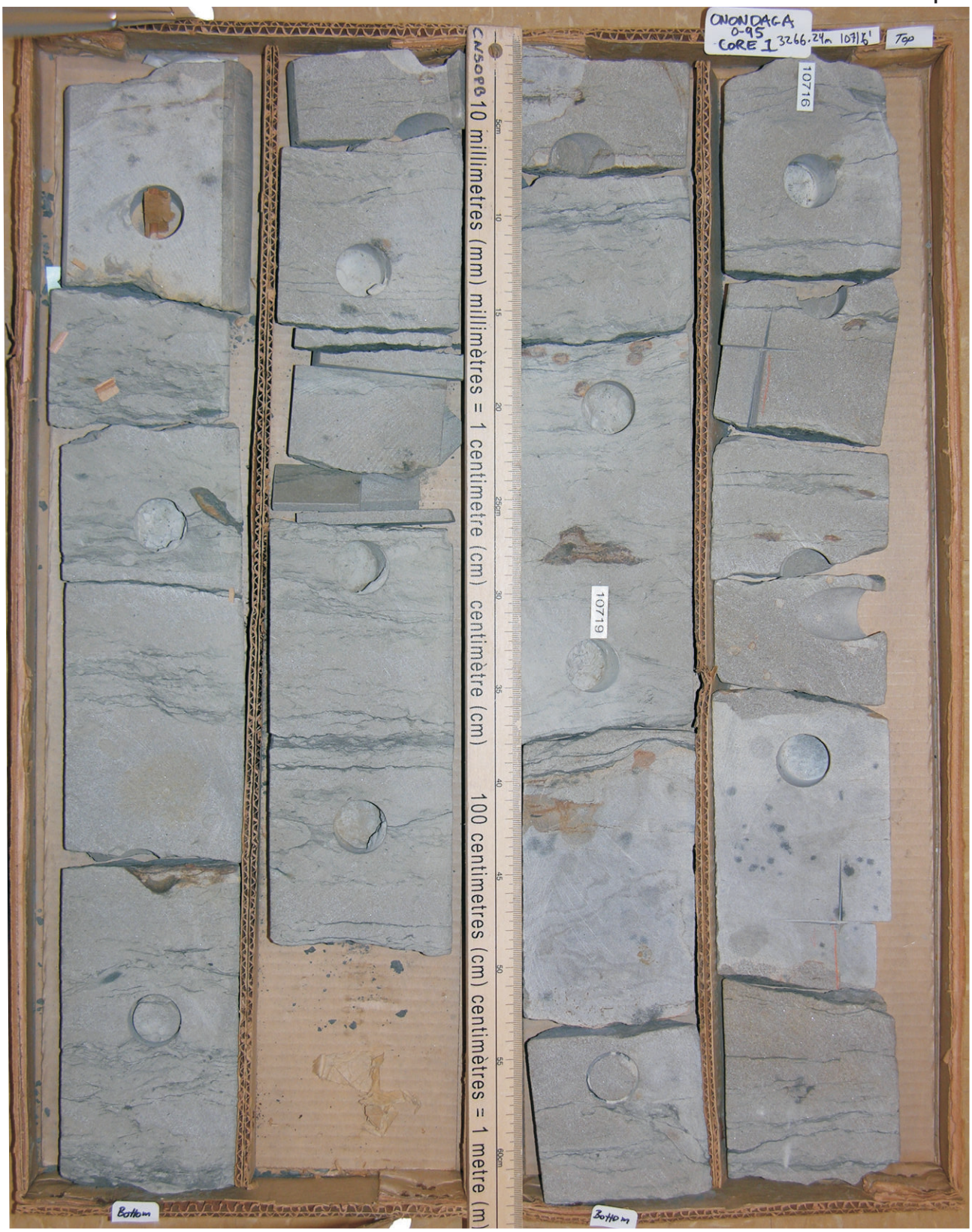


Figure 19: Summary log of conventional core 1 from the Onondaga O-95 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top



base

Figure 20: Photographs of core 1 from the Onondaga O-95 well, in the Middle Member of the Missisauga Formation, 3266.25-3268.55 m.

top

base

Figure 20 (con't): Photographs of core 1 from the Onondaga O-95 well, in the Middle Member of the Missisauga Formation, 3268.55-3270.12 m.

top

base

Figure 20 (con't): Photographs of core 1 from the Onondaga O-95 well, in the Middle Member of the Missisauga Formation, 3270.12-3073.41 m.

top

base

Figure 20 (con't): Photographs of core 1 from the Onondaga O-95 well, in the Middle Member of the Missisauga Formation, 3073.41-3075.32 m.

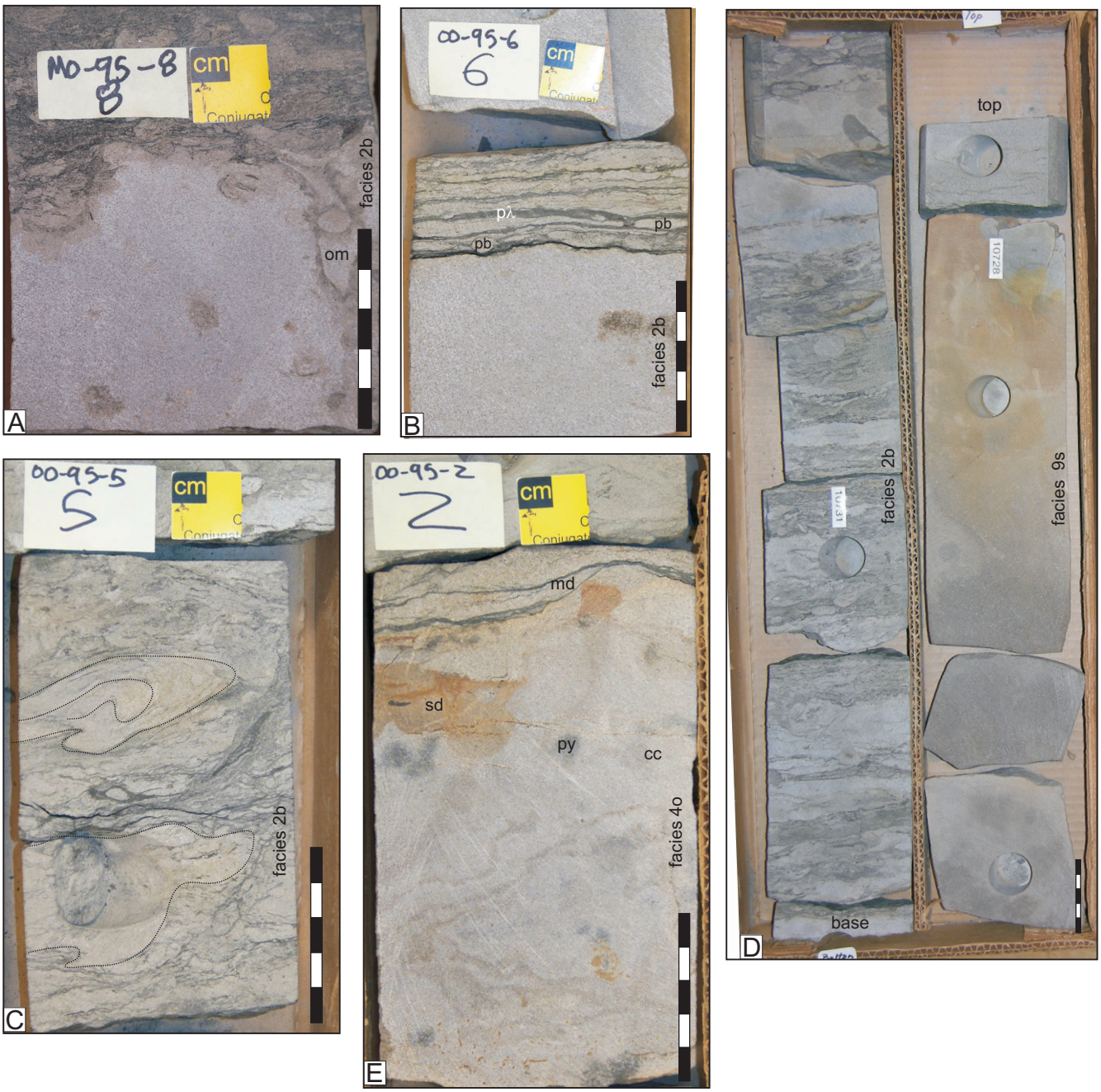


Figure 21: Representative core photos from the Onondaga well. Locations in Fig. 19. (A) Carbonate-cemented, massive sandstone bed. Mud-lined *Ophiomorpha* burrow 'om' at upper contact. Overlain by bioturbated muddy sandstone. (B) Massive carbonate-cemented fine-grained sandstone bed with parallel laminations 'pλ' disturbed by *Planolities* burrows 'pb'. (C) Possible slump structure muddy sandstone. (D) Thick fine-grained sandstone bed (facies 9) with rusty staining, over bioturbated muddy sandstone. (E) Carbonate-cemented 'cc' very fine to fine-grained sandstone bed, with mud-drapes 'md' at upper contact. Rusty-coloured siderite 'sd' and black pyrite 'py' patches in sandstone.

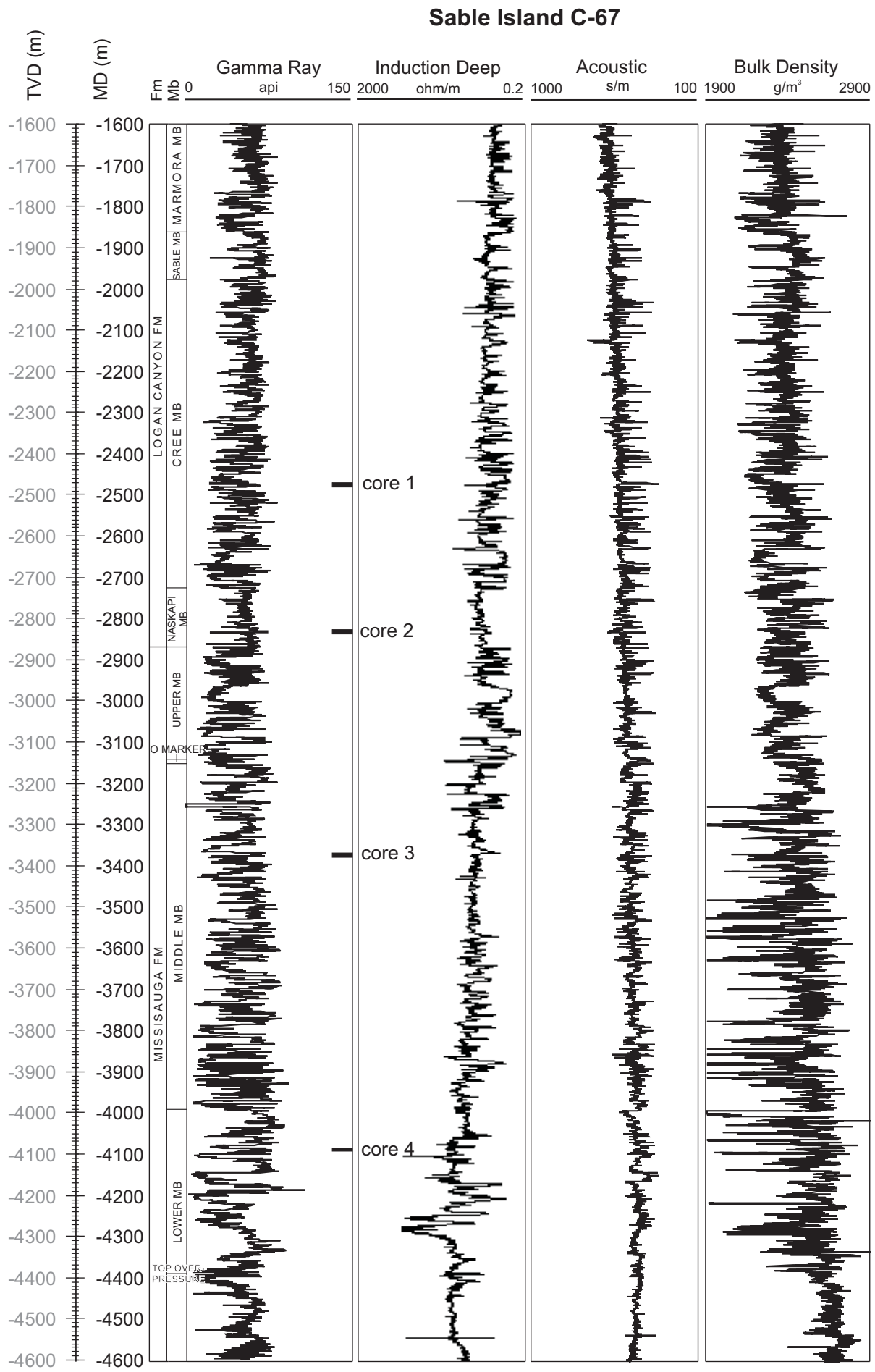


Figure 22: Summary logs of the Sable Island C-67 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).

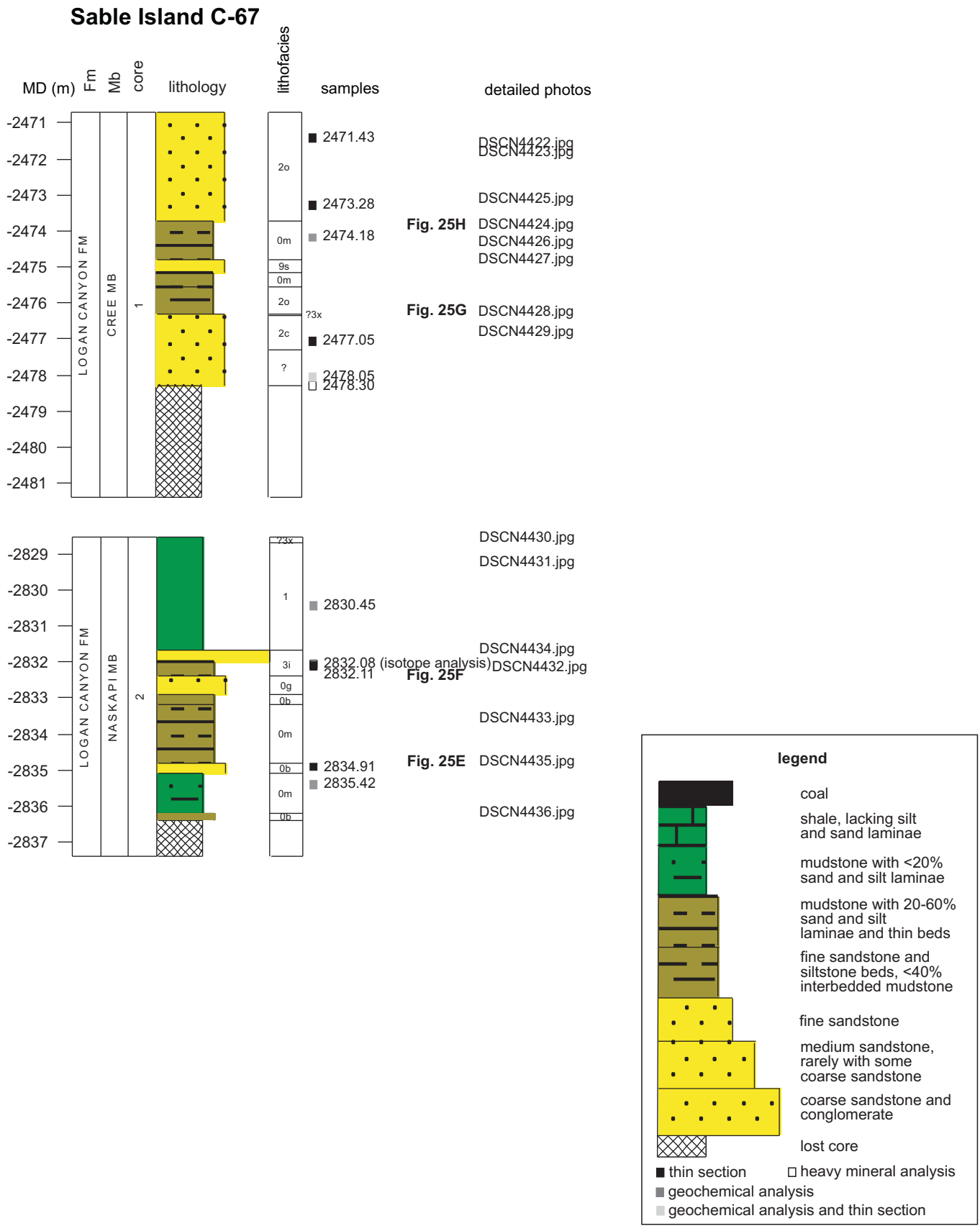


Figure 23: Summary log of conventional core 1-2 from the Sable Island C-67 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

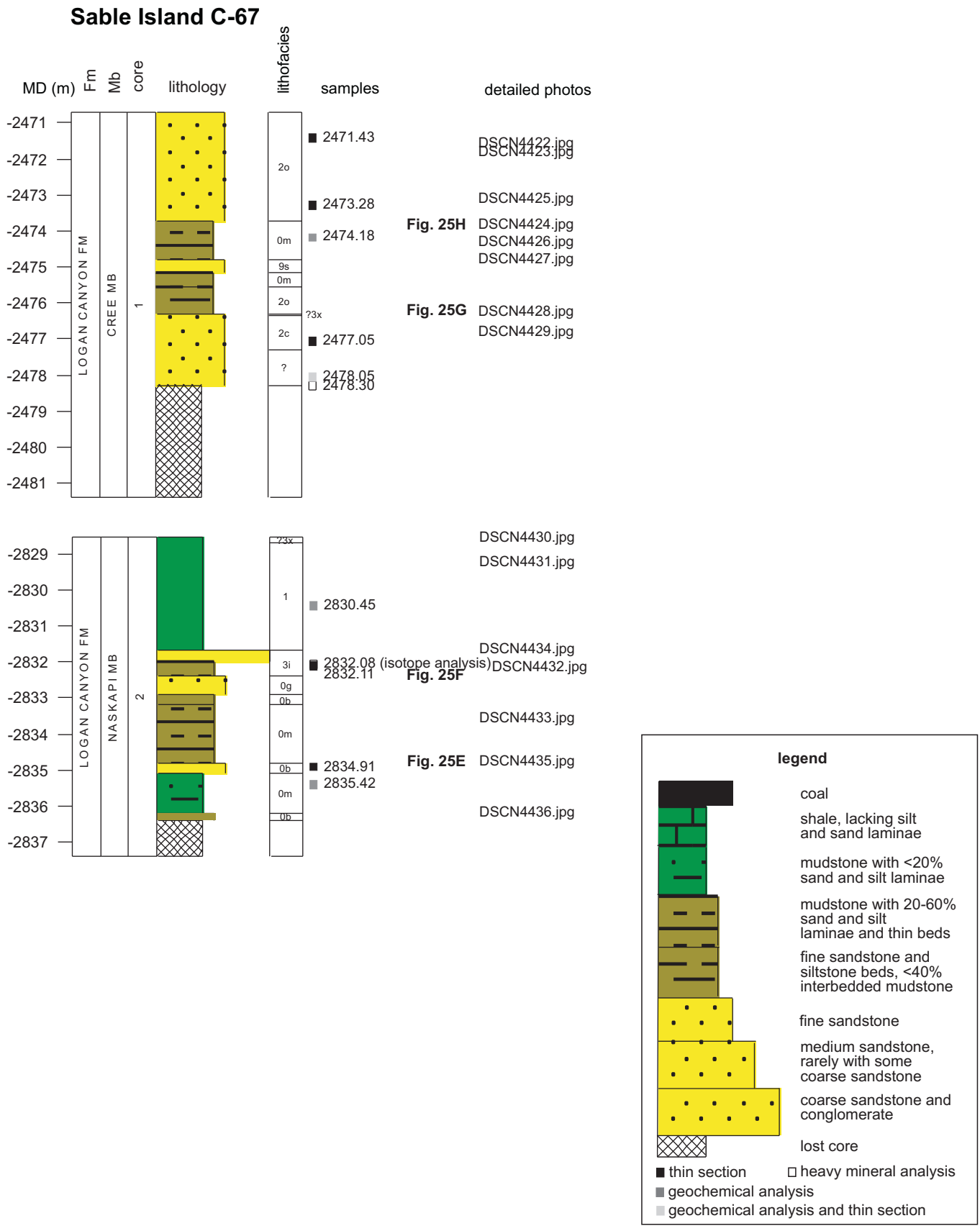


Figure 23: Summary log of conventional core 1-2 from the Sable Island C-67 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top

base

Figure 24: Photographs of core 1 from the Sable Island C-67 well, in the Cree Member of the Logan Canyon Formation, 2470.71-2473.13 m.

top

base

Figure 24 (con't): Photographs of core 1 from the Sable Island C-67 well, in the Cree Member of the Logan Canyon Formation, 2473.13-2475.30 m.

top

base

Figure 24 (con't): Photographs of core 1 from the Sable Island C-67 well, in the Cree Member of the Logan Canyon Formation, 2475.30-2477.30 m.

top

base

Figure 24 (con't): Photographs of core 1 from the Sable Island C-67 well, in the Cree Member of the Logan Canyon Formation, 2477.30-2478.30 m.

top

base

Figure 24 (con't): Photographs of core 2 from the Sable Island C-67 well, in the Naskapi Member of the Logan Canyon Formation, 2828.55-2831.32 m.

top

base

Figure 24 (con't): Photographs of core 2 from the Sable Island C-67 well, in the Naskapi Member of the Logan Canyon Formation, 2831.32-2833.75 m.

top

base

Figure 24 (con't): Photographs of core 2 from the Sable Island C-67 well, in the Naskapi Member of the Logan Canyon Formation, 2833.75-2836.40 m.

top

base

Figure 24 (con't): Photographs of core 3 from the Sable Island C-67 well, in the Middle Member of the Missisauga Formation, 3368.95-3371.65 m.

top

base

Figure 24 (con't): Photographs of core 3 from the Sable Island C-67 well, in the Middle Member of the Missisauga Formation, 3371.65-3374.30 m.

top

base

Figure 24 (con't): Photographs of core 3 from the Sable Island C-67 well, in the Middle Member of the Missisauga Formation, 3374.30-3376.87 m.

top

base

Figure 24 (con't): Photographs of core 3 from the Sable Island C-67 well, in the Middle Member of the Missisauga Formation, 3376.87-3378.10 m.

top

base

Figure 24 (con't): Photographs of core 4 from the Sable Island C-67 well, in the Lower Member of the Missisauga Formation, 4084.63-4087.88 m.

top

base

Figure 24 (con't): Photographs of core 4 from the Sable Island C-67 well, in the Lower Member of the Missisauga Formation, 4087.88-4090.35 m.

top

base

Figure 24 (con't): Photographs of core 4 from the Sable Island C-67 well, in the Lower Member of the Missisauga Formation, 4090.35-4092.92 m.

Figure 25: Representative core photos from the Sable Island C-67 well. Locations in Fig. 23. (A) Carbonate-cemented very fine-grained sandstone bed, massive at the base, parallel laminated 'pλ' in the middle to top. Bed is cross-cut at the top by another bed. (B) Current ripples 'cr' within a tidal rhythmite sequence. (C) Trangressive unit of bioturbated mudstone with greenish burrows sharply contacting an underlying fine-grained sandstone. (D) Slumped or liquified sandstone bed in mudstone. (E) Rust-coloured vertical fractures 'vf' cross-cutting a parallel-laminated 'pλ' sandstone bed (sample 2834.91 m). (F) Shelly bed with abundant carbonate and siderite intraclasts 'ic'. (G) Siderite-cemented, shelly bed, sharply contacting the overlying massive fine-grained sandstone. (H) Section of repeating thin sandstone beds, interbedded with mudstone, interpreted as prodelta turbidites.

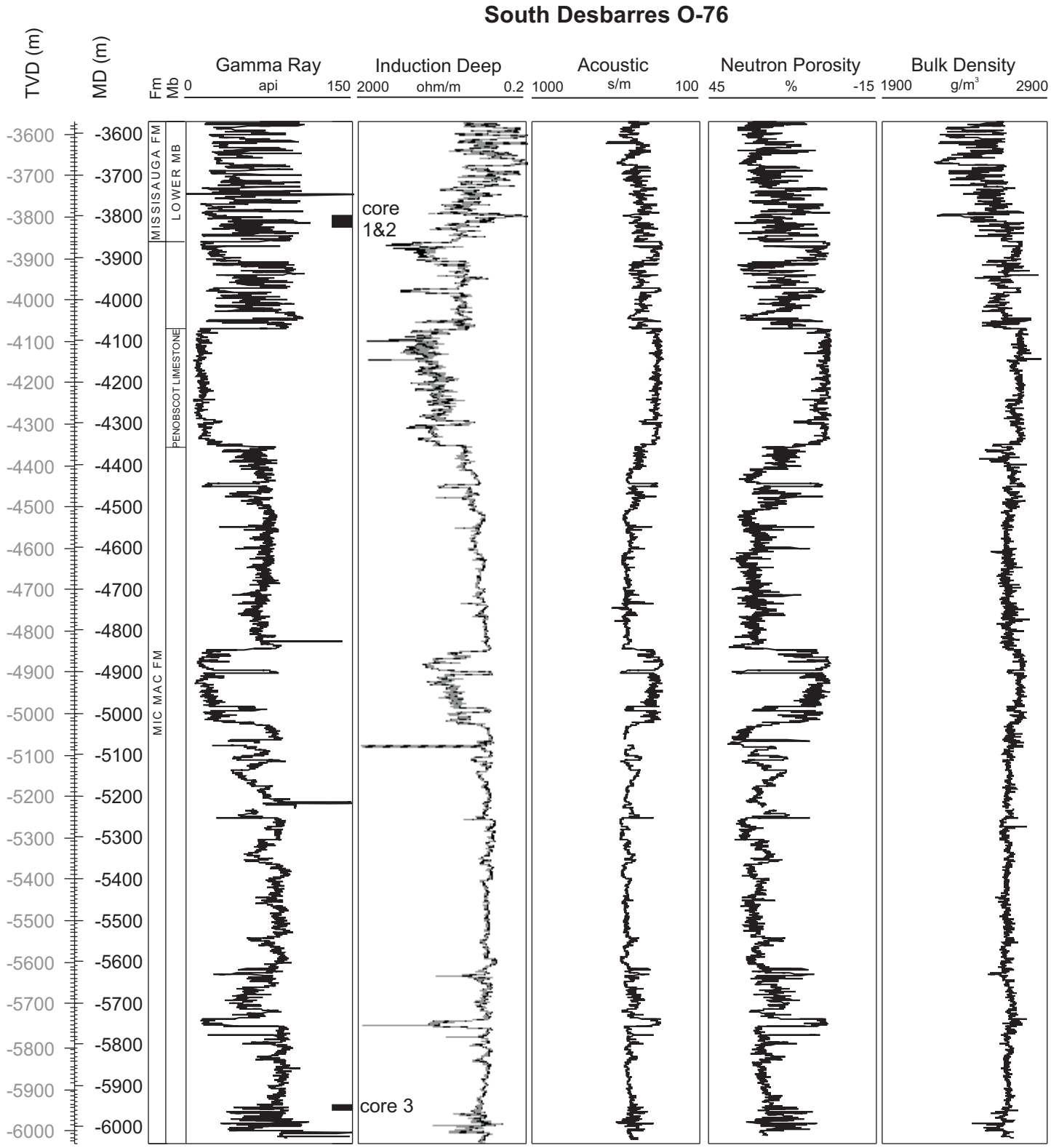


Figure 26: Summary logs of the South Desbarres O-76 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).

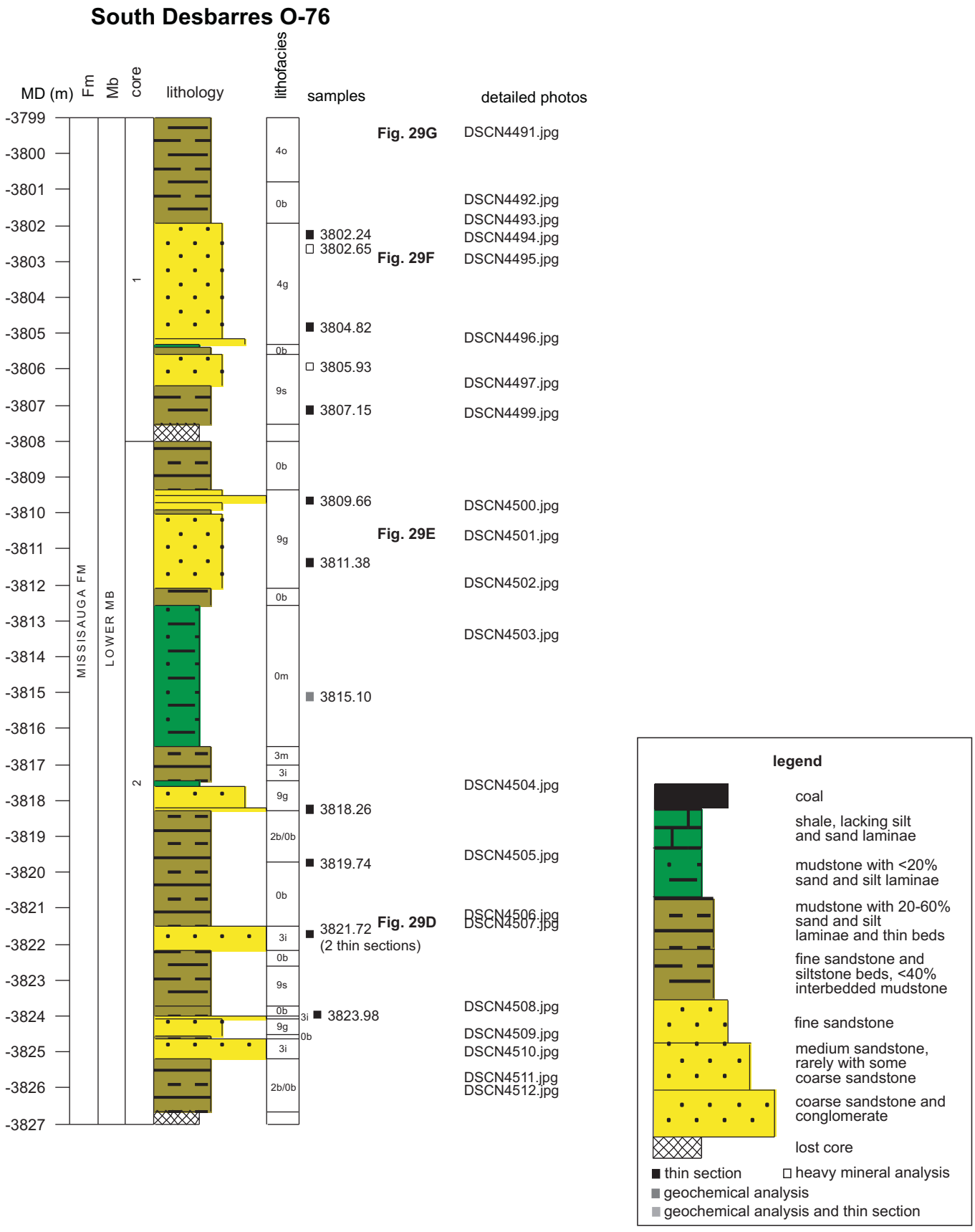


Figure 27: Summary log of conventional cores 1-2 from the South Desbarres O-76 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

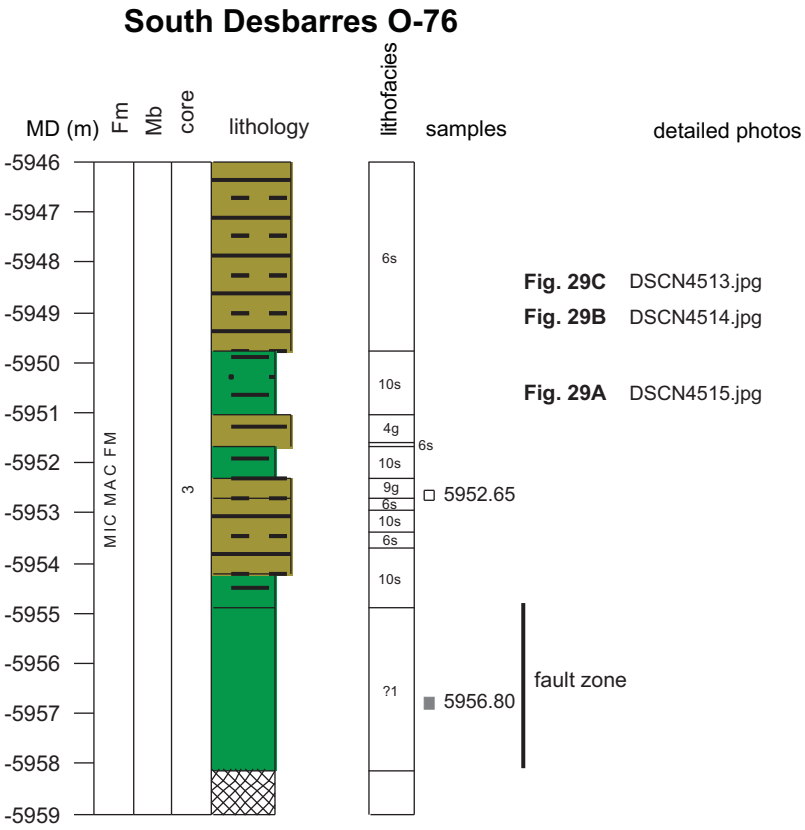


Figure 27 (con't): Summary log of conventional core 3 from the South Desbarres O-75 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

Figure 28: Photographs of core 1 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3799.00-3801.92 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 1 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3801.92-3804.90 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 1 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3804.90-3807.55 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3808.00-3810.91 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3810.91-3813.75 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3813.75-3816.50 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3816.50-3819.26 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3819.26-3821.98 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3821.98-3824.77 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 2 from the South Desbarres O-76 well, in the Lower Member of the Missisauga Formation, 3824.77-3826.65 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 3 from the South Desbarres O-76 well, in the Mic Mac Formation, 5946.00-5949.80 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 3 from the South Desbarres O-76 well, in the Mic Mac Formation, 5949.80-5953.58 m (modified from Shell Petrocan et al., 1984b).

Figure 28 (con't): Photographs of core 3 from the South Desbarres O-76 well, in the Mic Mac Formation, 5953.58-5957.57 m (modified from Shell Petrocan et al., 1984b).

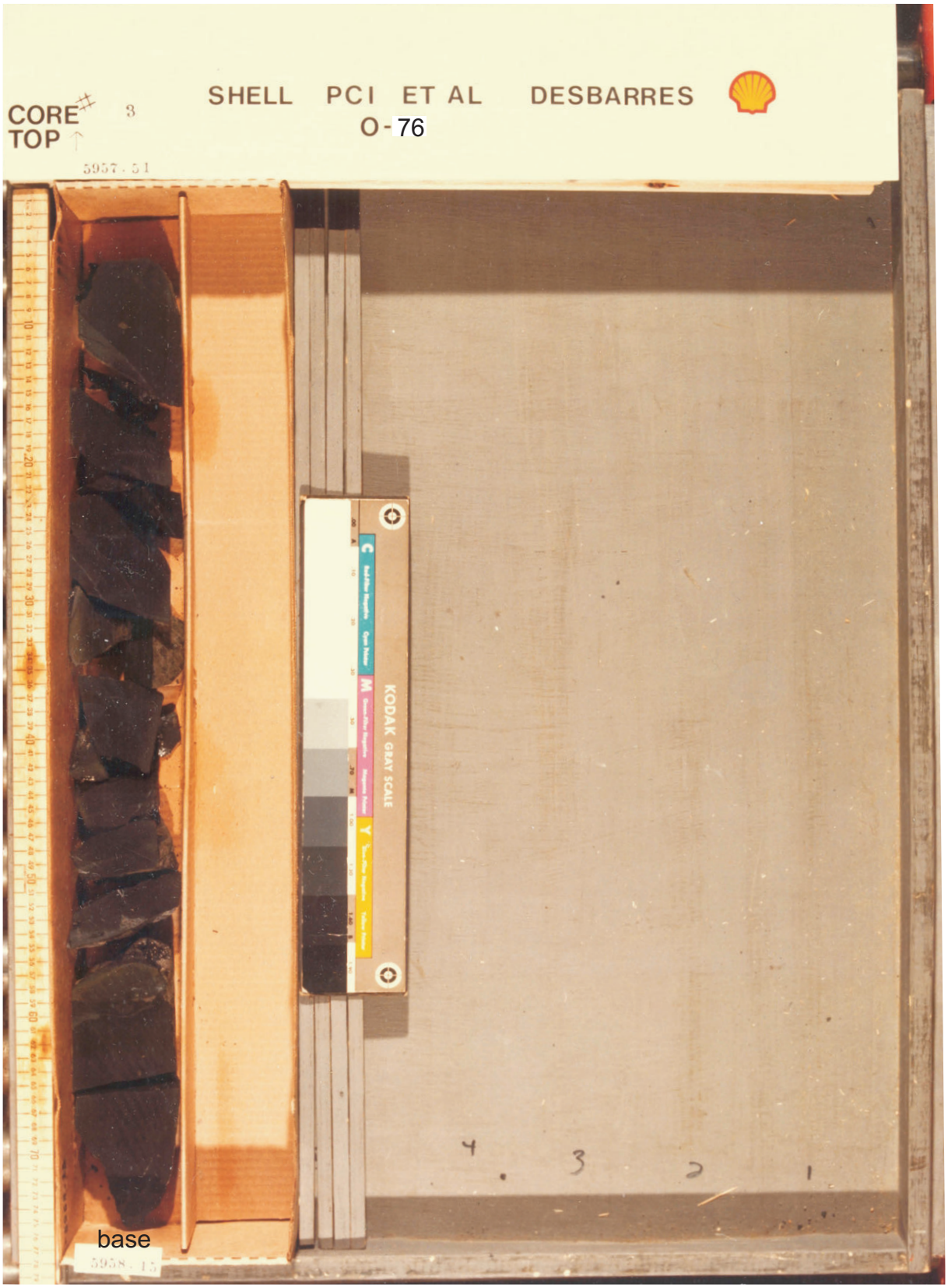


Figure 28 (con't): Photographs of core 3 from the South Desbarres O-76 well, in the Mic Mac Formation, 5957.57-5958.15 m (modified from modified from Shell Petrocan et al., 1984b).

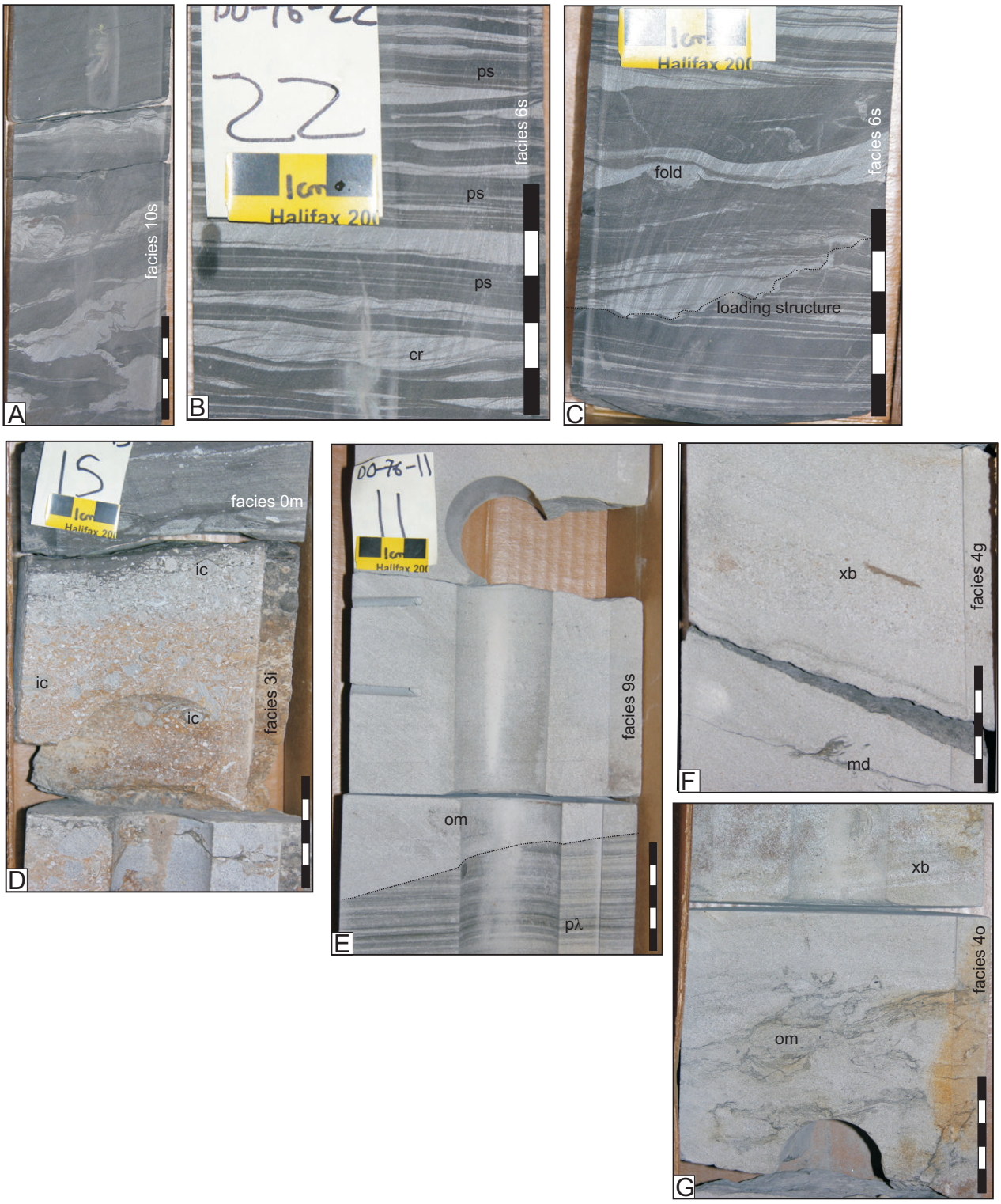


Figure 29: Representative core photos from the South Desbarres O-76 well. Locations in Fig. 27. (A) Folded sandstone bed in deformed mudstone. (B) Pinstriped alternations of sandstone and mudstone. 'ps'. Thicker sandstone beds show current ripples 'cr'. (C) Lenticular very fine-grained sandstone bed in mudstone with loading structure at the base of bed. (D) Poorly-sorted intraclast conglomerate 'ic' sharply overlain by a mudstone. (E) Sandstone bed erosively contacting underlying parallel-laminated 'pλ' fine-grained sandstone. (F) Fine-grained sandstone with high-angle cross-bedding 'xb' and mud drapes 'md'. A few siderite nodules along laminations. (G) Bioturbated fine-grained sandstone, few *Ophiomorpha* burrows 'om' and low-angle cross-bedding 'xb'.

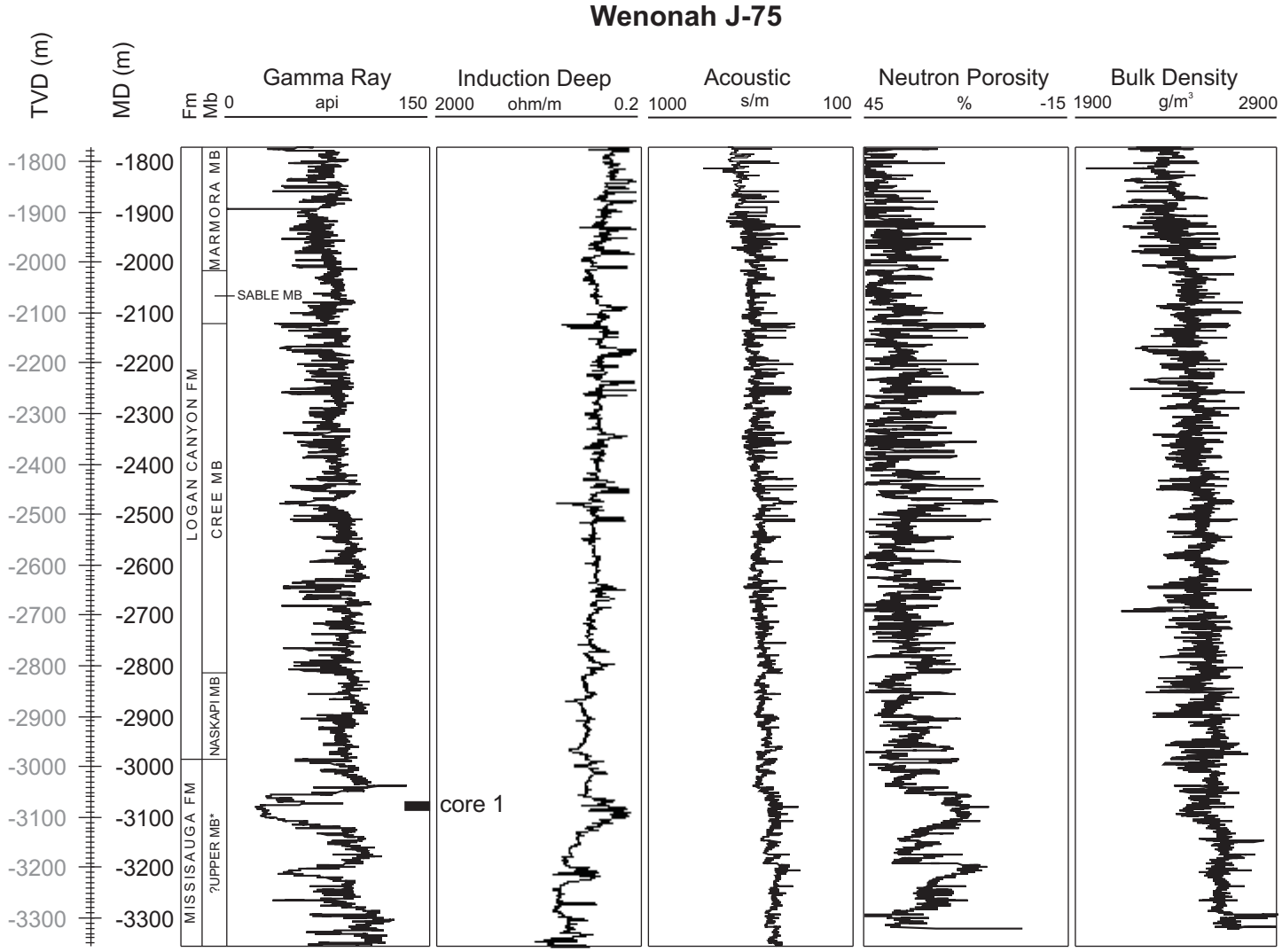


Figure 30: Summary logs of the Wenonah J-75 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993). * = source from BASIN Database (http://basin.gdr.nrcan.gc.ca/), where no reference is given.

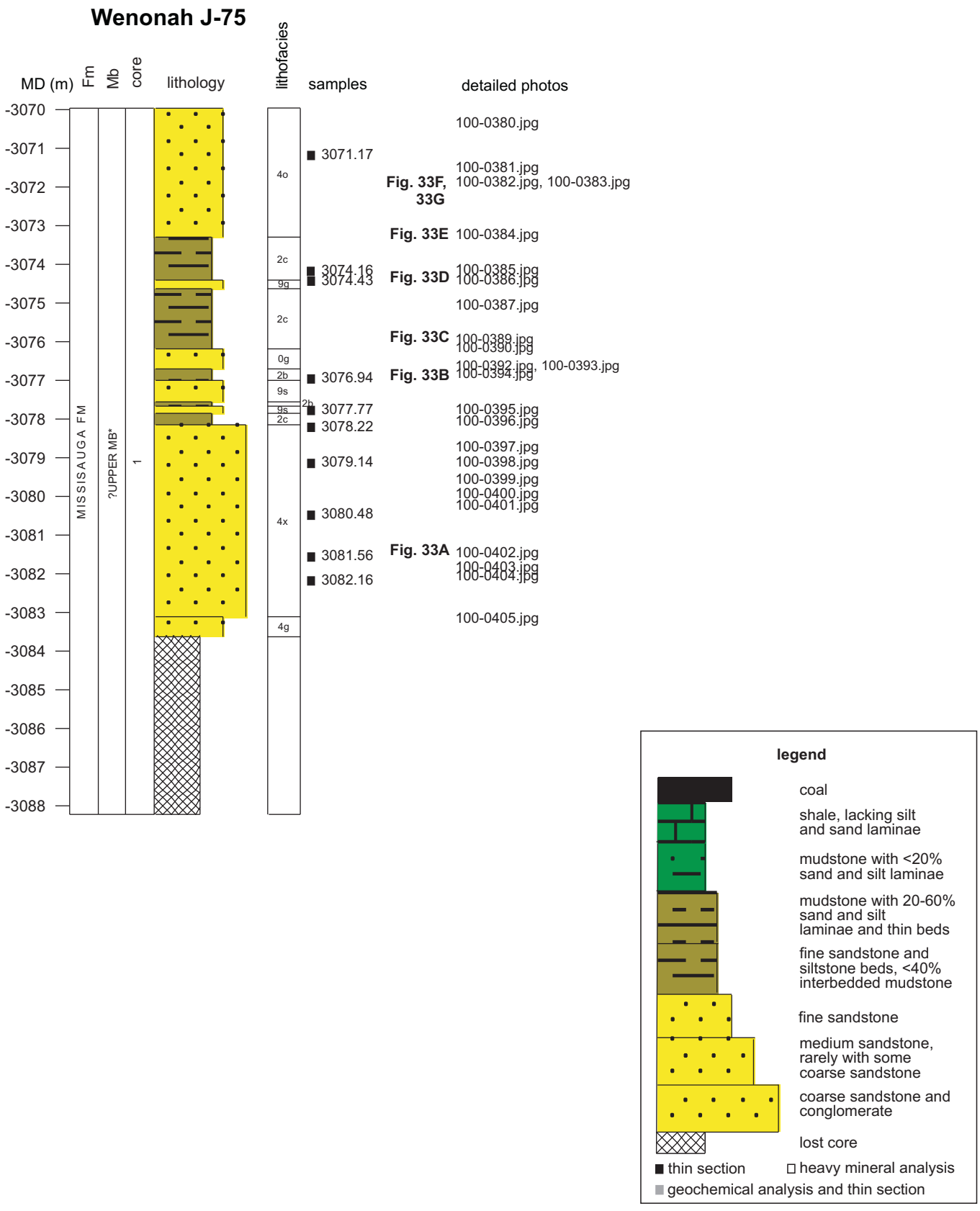


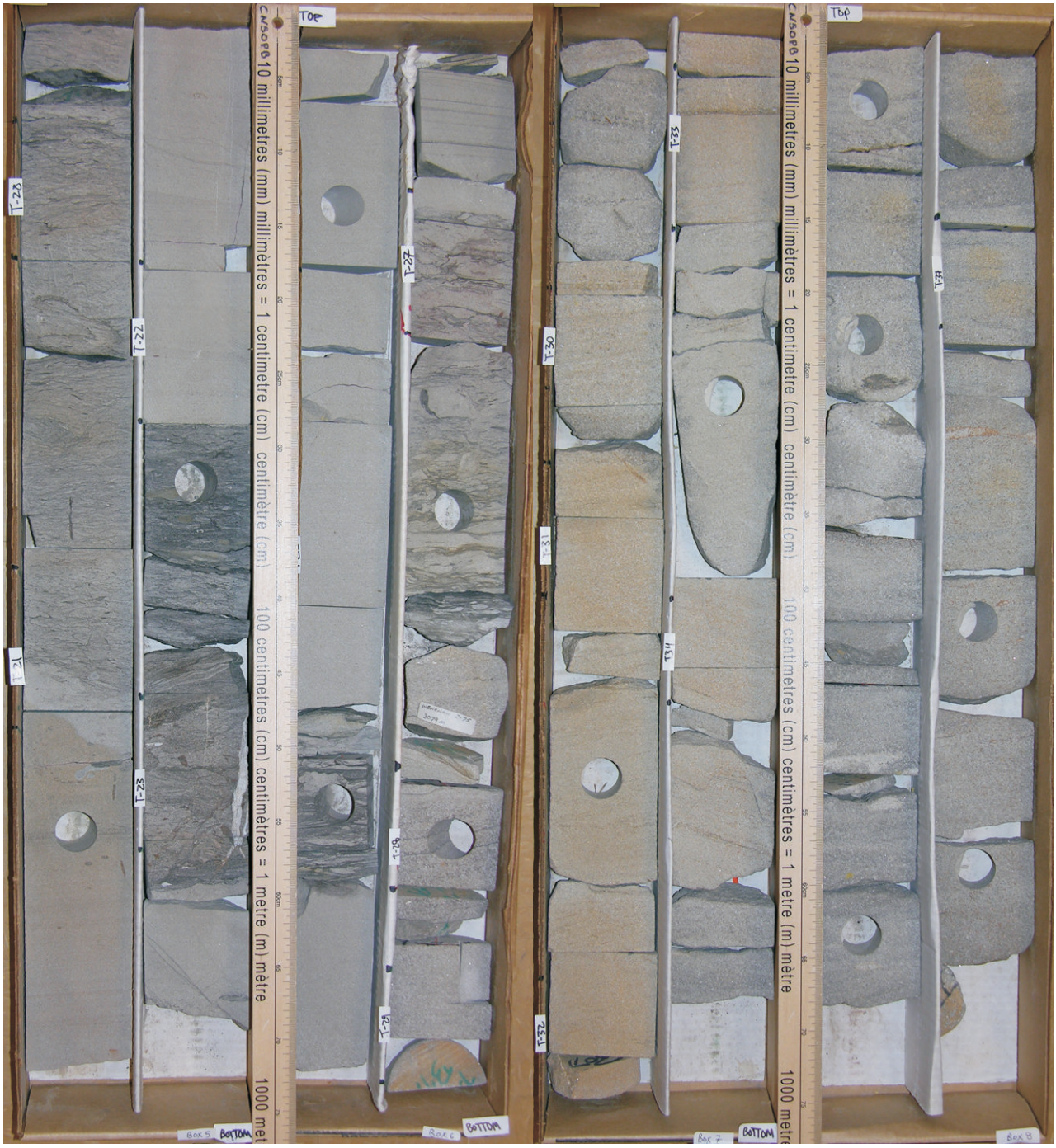
Figure 31: Summary log of conventional core 1 from the Wenonah J-75 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993). * = source from BASIN Database (http://basin.gdr.nrcan.gc.ca/), where no reference is given.

top

base

Figure 32: Core photographs of core 1 from the Wenonah J-75 well, in the Upper Member of the Missisauga Formation, 3070.00-3075.70 m.

top



base

Figure 32 (con't) : Core photographs of core 1 from the Wenonah J-75 well, in the Upper Member of the Missisauga Formation, 3075.70-3081.05 m.

top

base

Figure 32 (con't) : Core photographs of core 1 from the Wenonah J-75 well, in the Upper Member of the Missisauga Formation, 3081.05-3085 m.

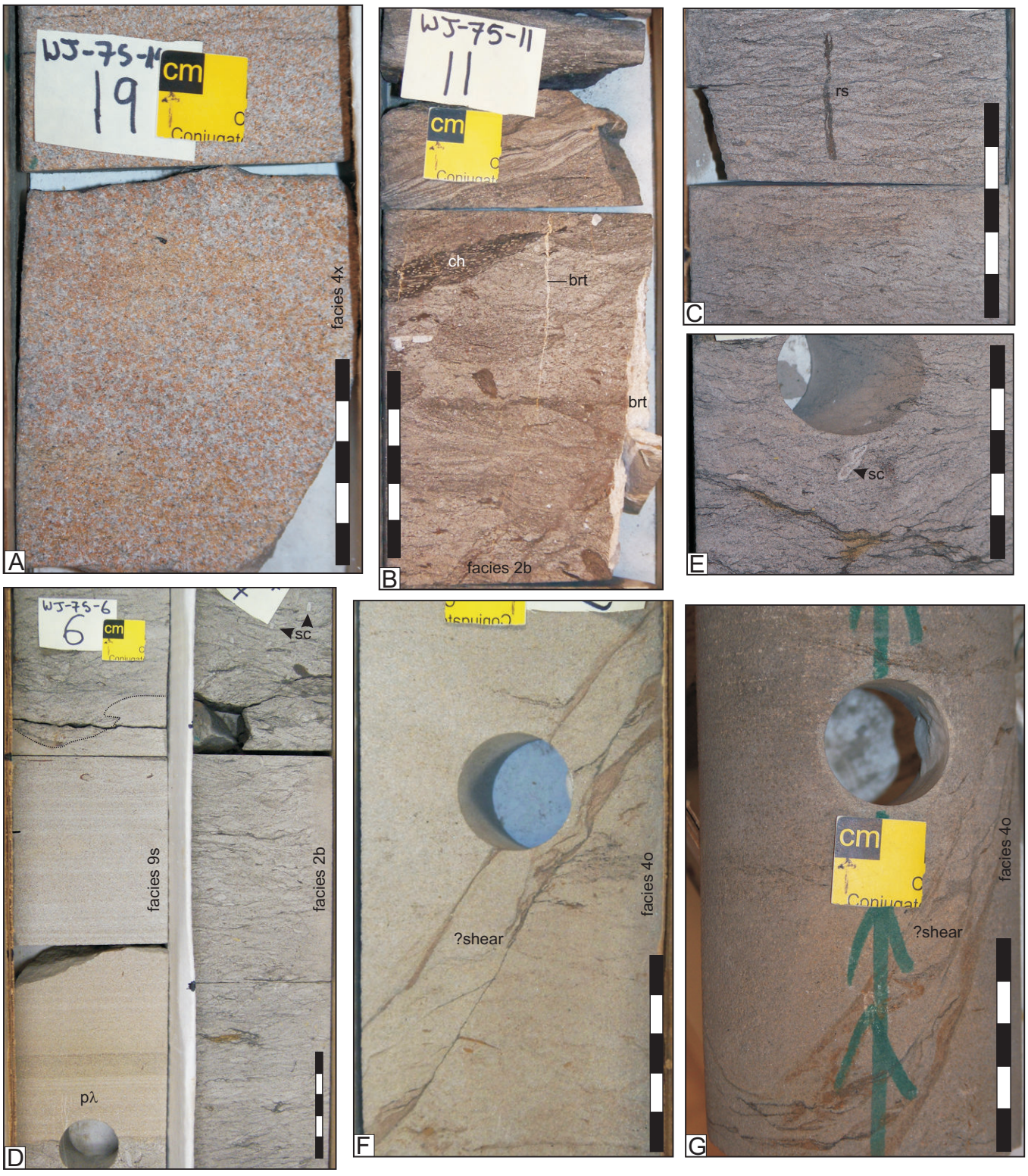


Figure 33: Representative core photos from the Wenonah J-75 well. Locations in Fig. 31. (A) Orange-stained, medium-grained sandstone (near sample 3081.56 m). (B) Mud lens with *Chondrites* 'ch' burrows in bioturbated fine-grained sandstone. Vertical fractures infilled with barite 'brt' (sample 3076.94 m). (C) Possible *Rosselia* burrow 'rs' in completely bioturbated sandstone. (D) Thick, undisturbed fine-grained sandstone bed with parallel laminations 'pλ' (facies 9s) within bioturbated shoreface sandstone (facies 2b). Possible *Schaubcylindichnus* burrows 'sc'. (E) Possible *Schaubcylindichnus* burrows 'sc' in fine-grained sandstone. (F) High-angle fracture or shear through core. (G) Back of core, as in (F).

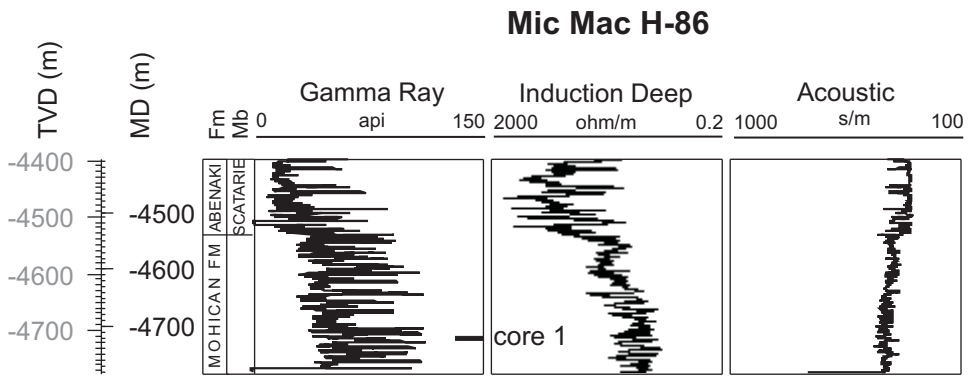
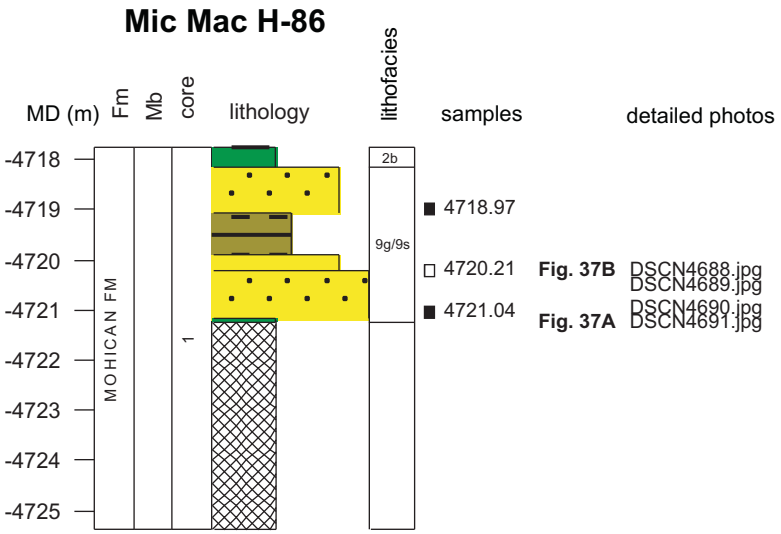


Figure 34: Summary logs of the Mic Mac H-86 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).



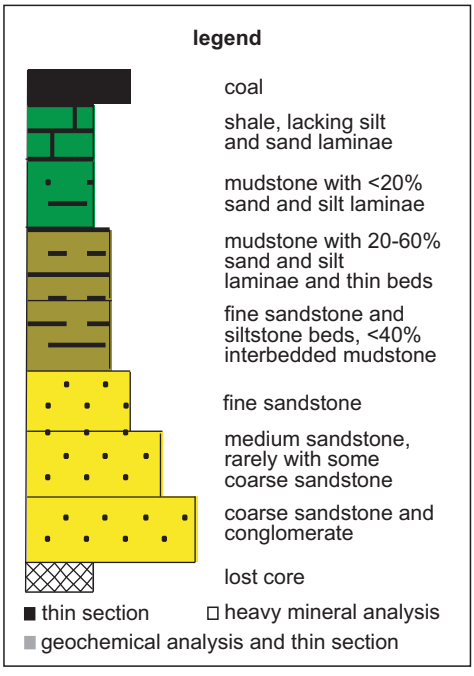


Figure 35: Summary log of conventional core 1 from the Mic Mac H-86 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top

base

Figure 36: Core photographs of core 1, Mic Mac H-86, Mohican Formation, 4717.70 - 4719.43 m.

top

base

Figure 36 (con't): Core photographs of core 1, Mic Mac H-86, Mohican Formation, 4719.43 - 4721.22 m.

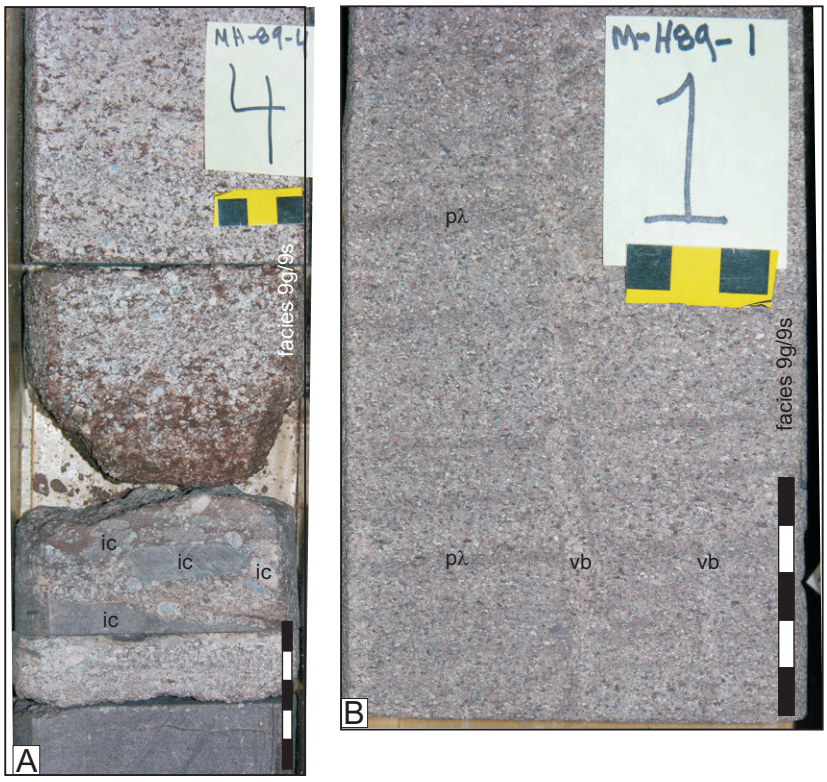


Figure 37: Representative core photos from the Mic Mac H-86 well. Locations in Fig. 35. (A) Rusty-stained coarse to very coarse-grained sandstone with intraclasts ‘ic’ at the base of the bed. Rusty staining at base of sandstone bed. (B) Pinkish-coloured medium to coarse-grained sandstone. Long vertical burrow ‘vb’ cross-cutting parallel-laminated ‘pλ’ medium to coarse sandstone.

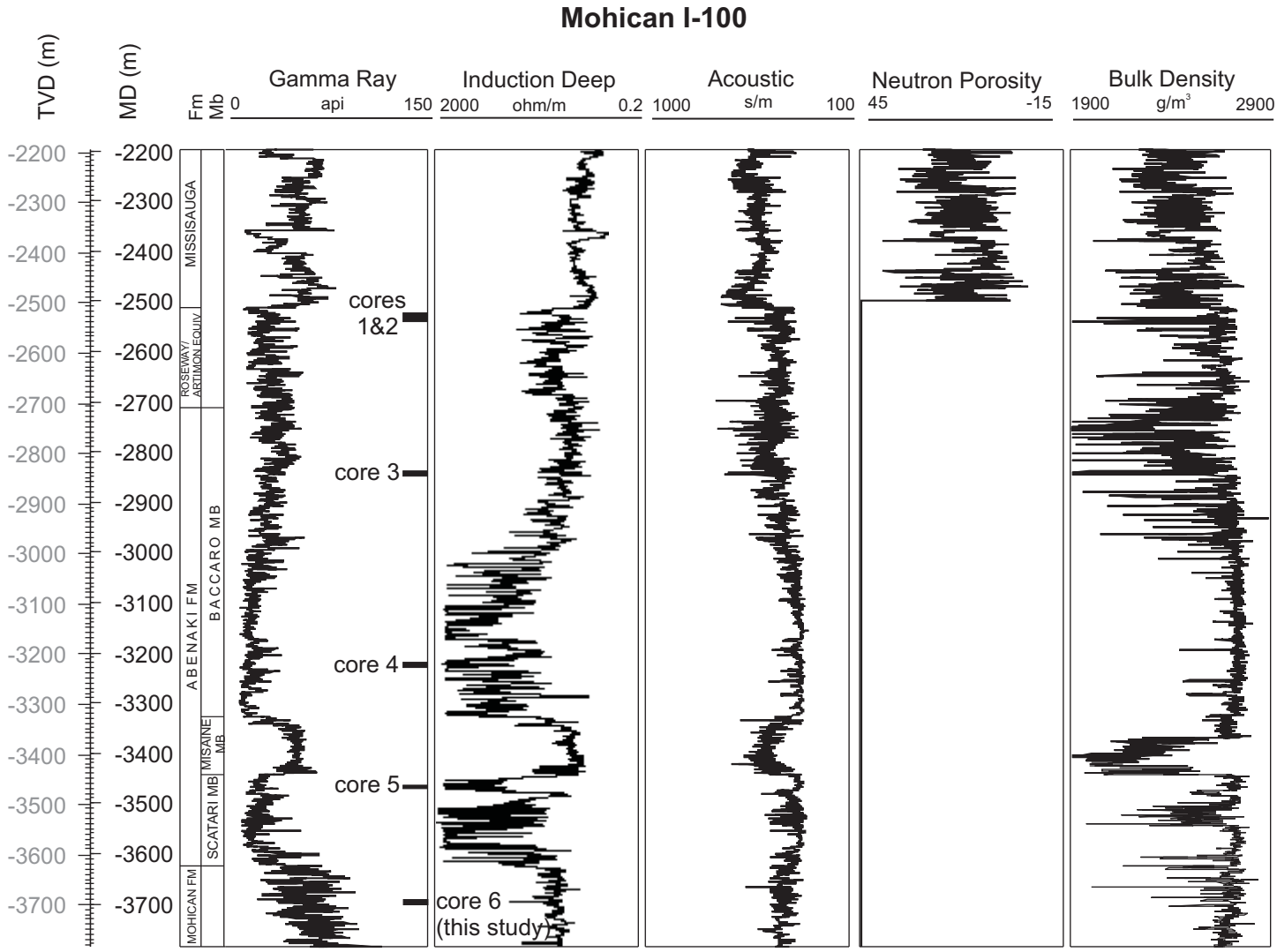
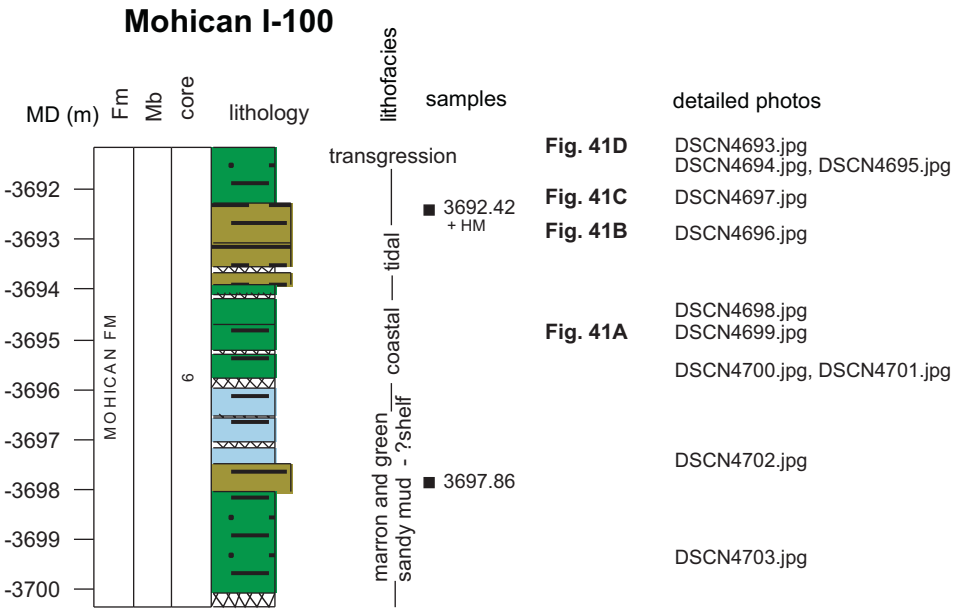


Figure 38: Summary logs of the Mohican I-100 well (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993).



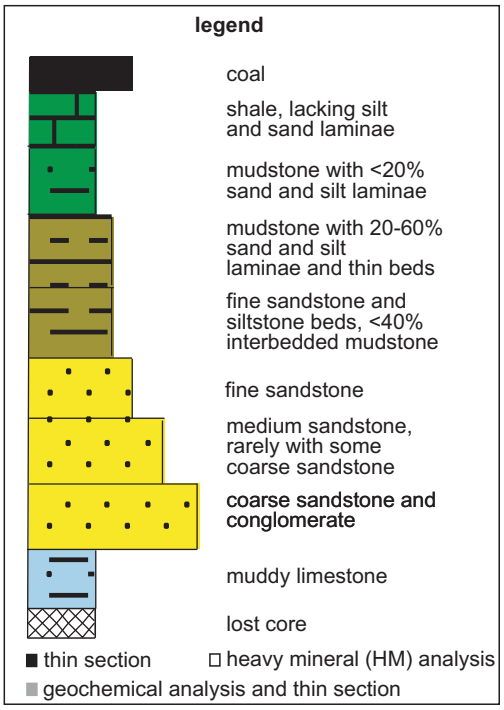


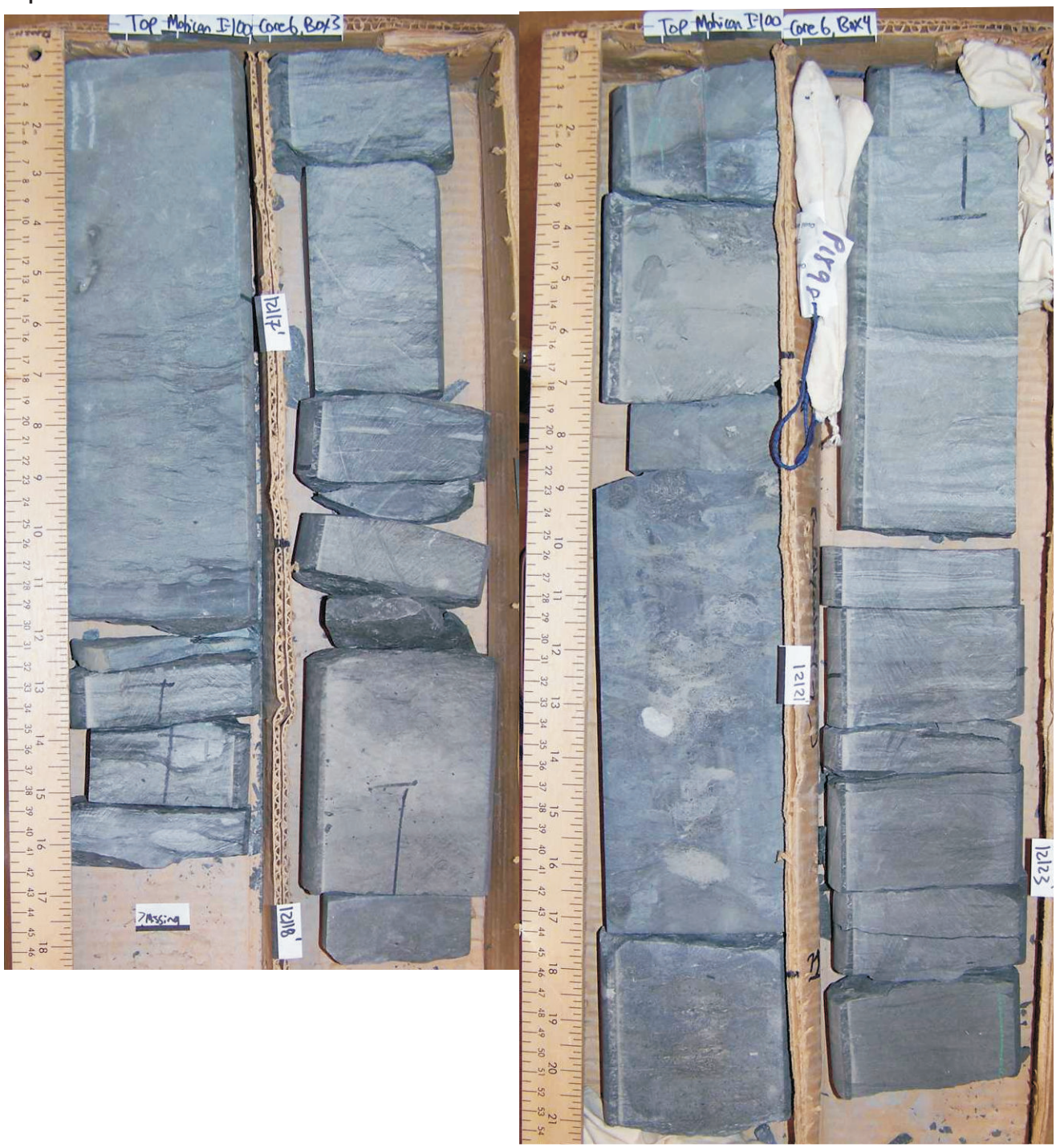
Figure 39: Summary log of conventional core 6 from the Mohican I-100 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top

base

Figure 40: Photographs of core 6 in the Mohican I-100 well, from the Mohican Formation, 3691.13-3693.16 m.

top



base

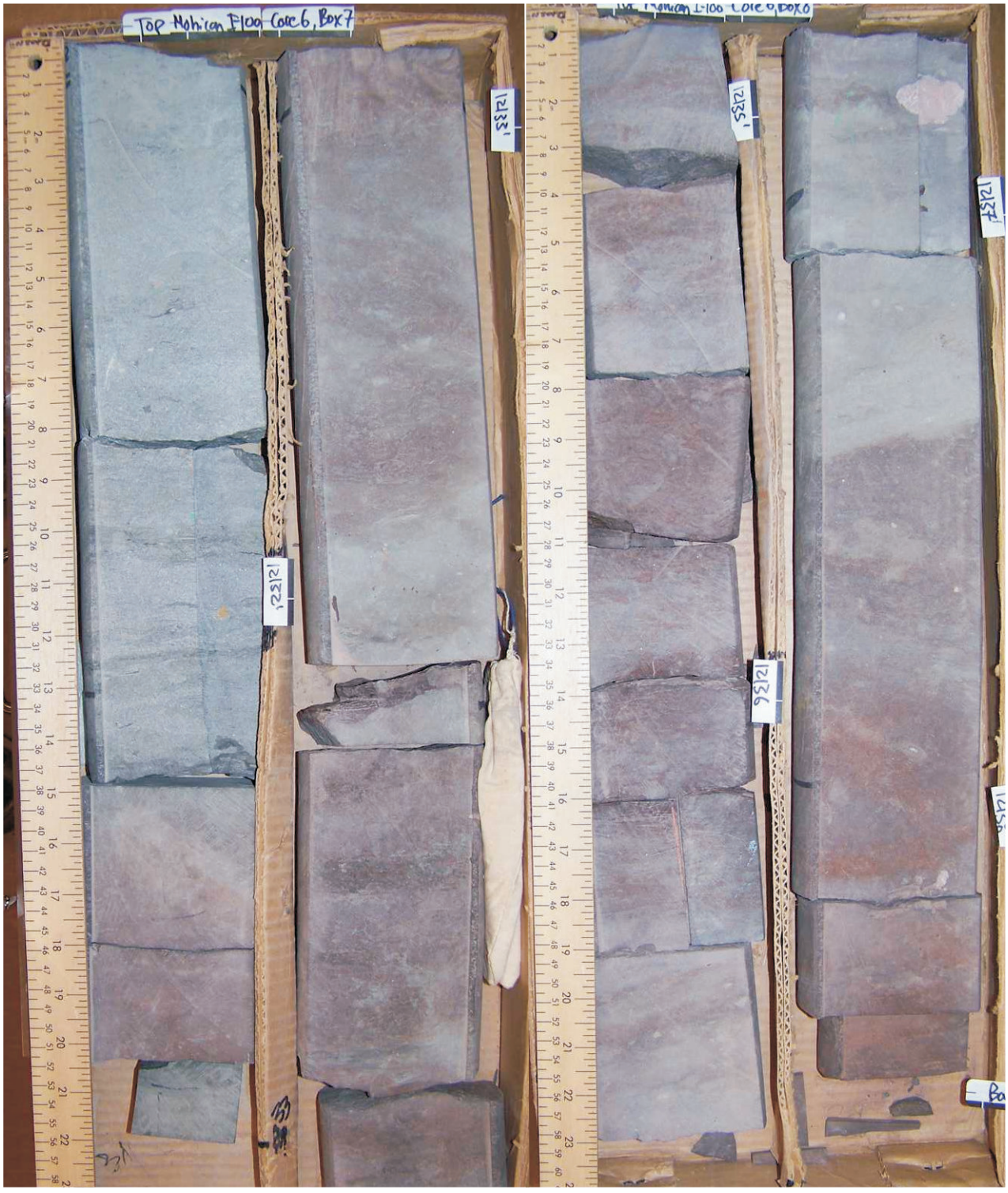
Figure 40 (con't): Photographs of core 6 in the Mohican I-100 well, from the Mohican Formation, 3693.16-3695.20 m.

top

base

Figure 40 (con't): Photographs of core 6 in the Mohican I-100 well, from the Mohican Formation,3695.20-3697.68 m.

top



base

Figure 40 (con't): Photographs of core 6 in the Mohican I-100 well, from the Mohican Formation, 3697.68-3699.80 m.

top

base

Figure 40 (con't): Photographs of core 6 in the Mohican I-100 well, from the Mohican Formation, 3699.80-3700.27 m.

Figure 41: Representative core photos from the Mohican I-100 well. Locations in Fig. 39. (A) Wavy very fine-grained sandstone laminations ('pλ', 'xλ') in mudstone, partially disturbed by bioturbation. (B) Pink anhydrite patches 'anh' in completely bioturbated muddy sandstone. (C) Parallel to slightly wavy laminated 'pλ' very fine-grained sandstone and mudstone. (D) Large horizontal burrows 'hb' in completely bioturbated maroon and grey-green mudstone (wet core).

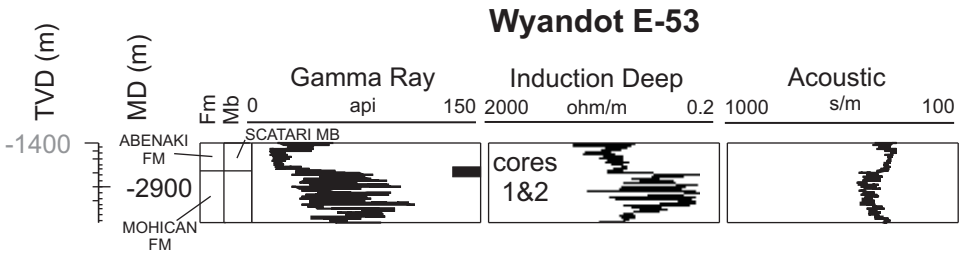
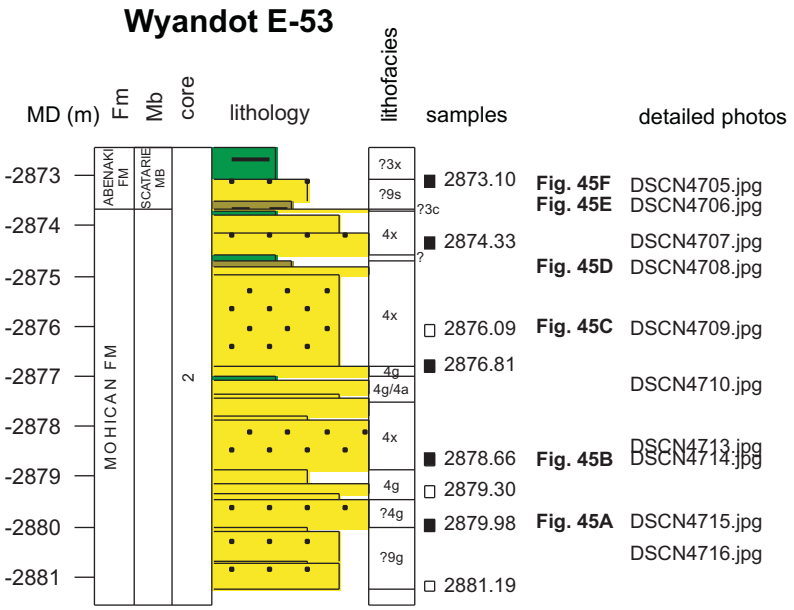


Figure 42: Summary logs of the Wyandot E-53 wells (MD = measured depth, TVD = true vertical depth). Formation and member picks from MacLean and Wade (1993). Core 2 was used in this study.



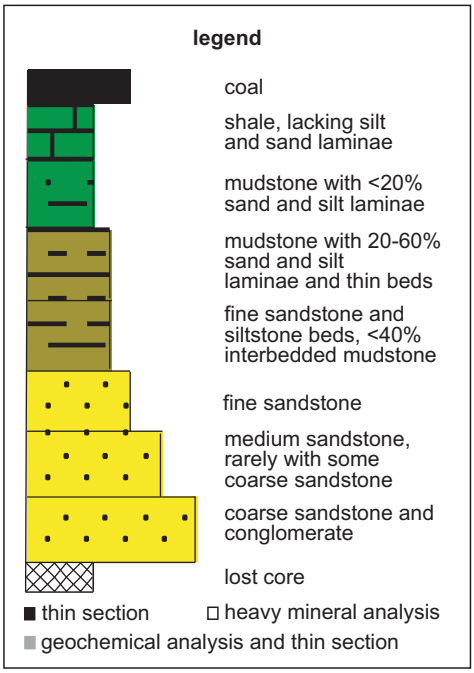
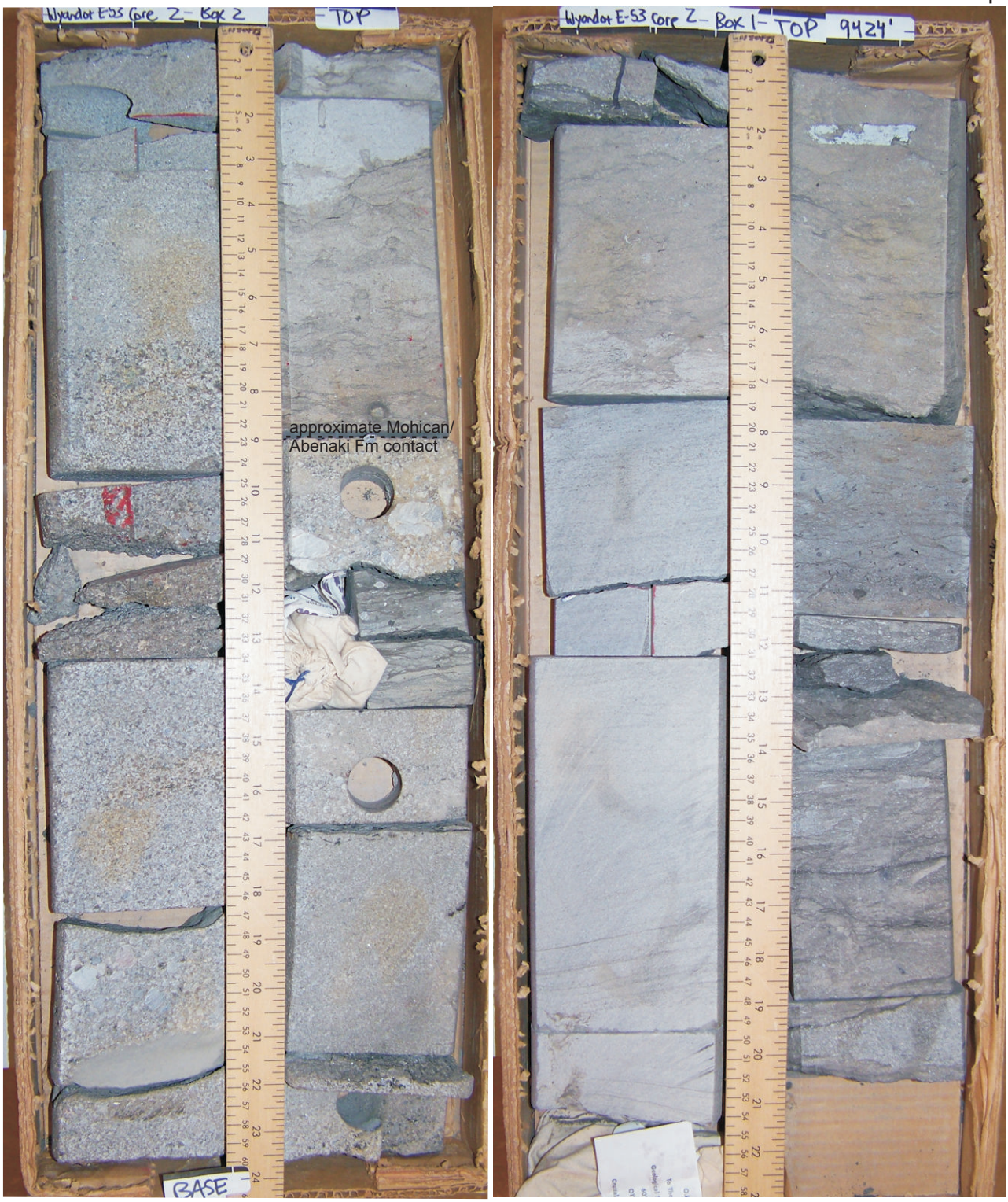


Figure 43: Summary log of conventional core 2 from the Wyandot E-53 well (MD = measured depth). Lithofacies are defined in Table 1. Formation and member picks from MacLean and Wade (1993).

top



base

Figure 44: Photographs of core 2 from the Wyandot E-53 well, across the contact between the Mohican Formation and Scatarie Member of the Abenaki Formation 2872.45-2874.57 m.

top

base

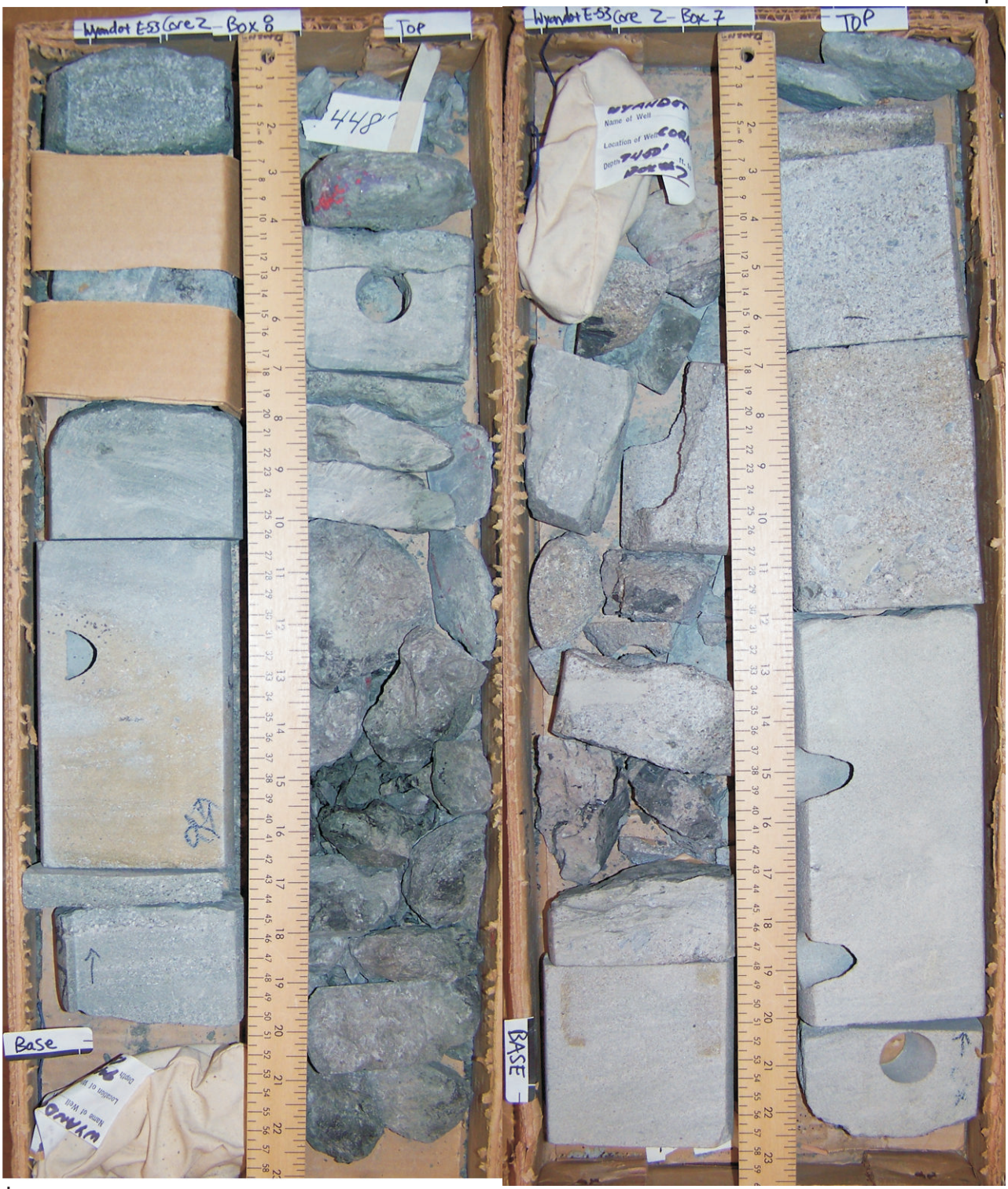
Figure 44 (con't): Photographs of core 2 from the Wyandot E-53 well, in the Mohican Formation, 2874.57-2876.52 m.

top

base

Figure 44 (con't): Photographs of core 2 from the Wyandot E-53 well, in the Mohican Formation, 2876.52-2878.58 m.

top



base

Figure 44 (con't): Photographs of core 2 from the Wyandot E-53 well, in the Mohican Formation, 2878.58-2880.32 m.

top

base

Figure 44 (con't): Photographs of core 2 from the Wyandot E-53 well, in the Mohican Formation, 2880.32-2881.25 m.

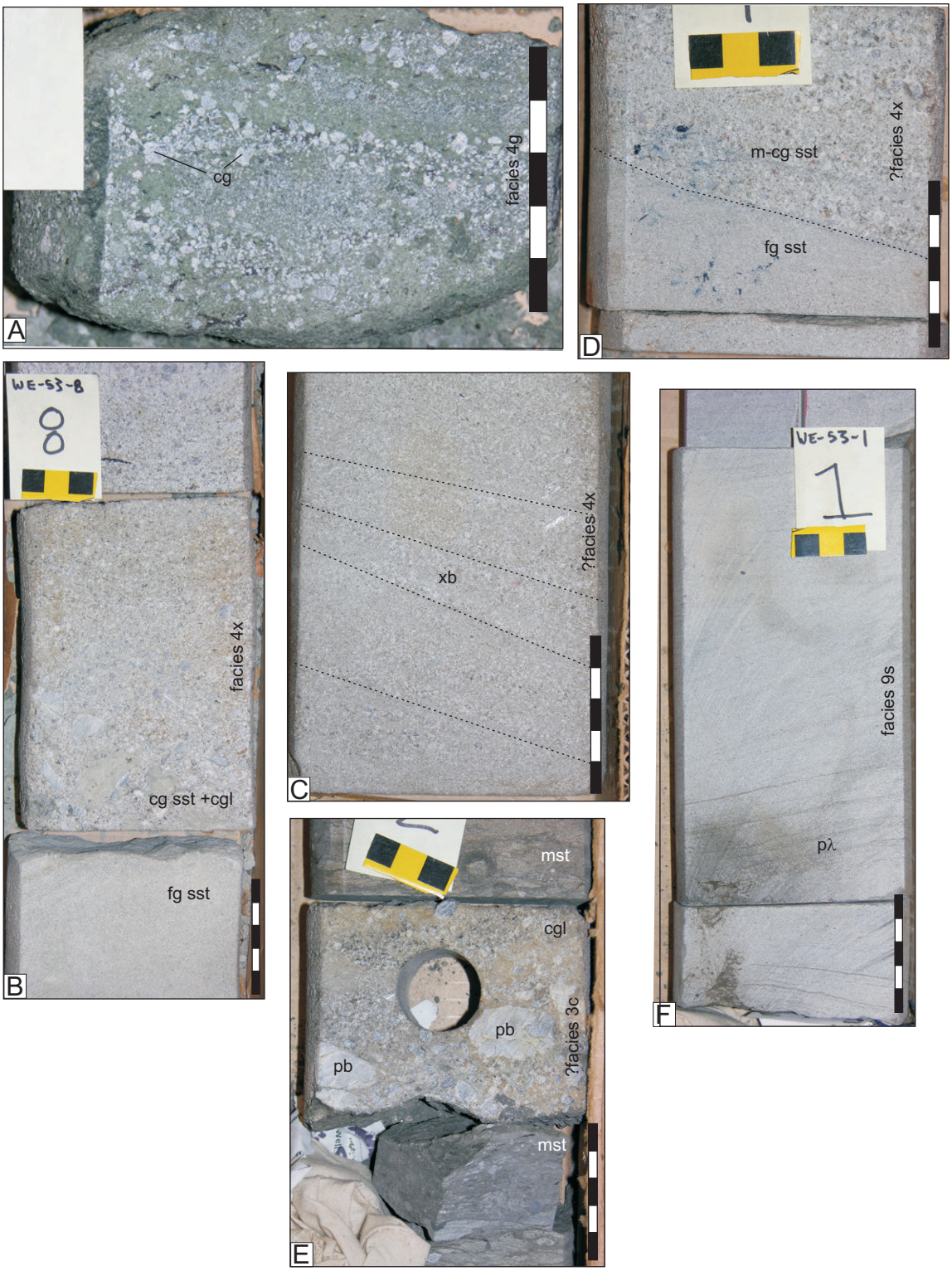


Figure 45: Representative core photos from the Wyandot E-53 well. Locations in Fig. 43. (A) Coarse-grained sand grains ‘cg’ in a green-colored mud matrix (sample 2879.98 m). (B) Sharp-based medium to coarse-grained sandstone bed ‘m-cg sst’, sharply contacting underlying fine to medium-grained sandstone ‘f-mg sst’. (C) Cross-bedded sandstone ‘cb’ with alternating laminations of medium-coarse and fine-grained sandstone. (D) Base of coarse-grained sandstone bed, sharply contacting underlying fine-grained sandstone. (E) Bed of poorly-sorted medium to very coarse -grained sandstone, granules, and pebbles ‘pb’, sharply contacting underlying bioturbated mudstone. (F) Thick possible turbidite bed of fine-grained sandstone with parallel laminations ‘pλ’.

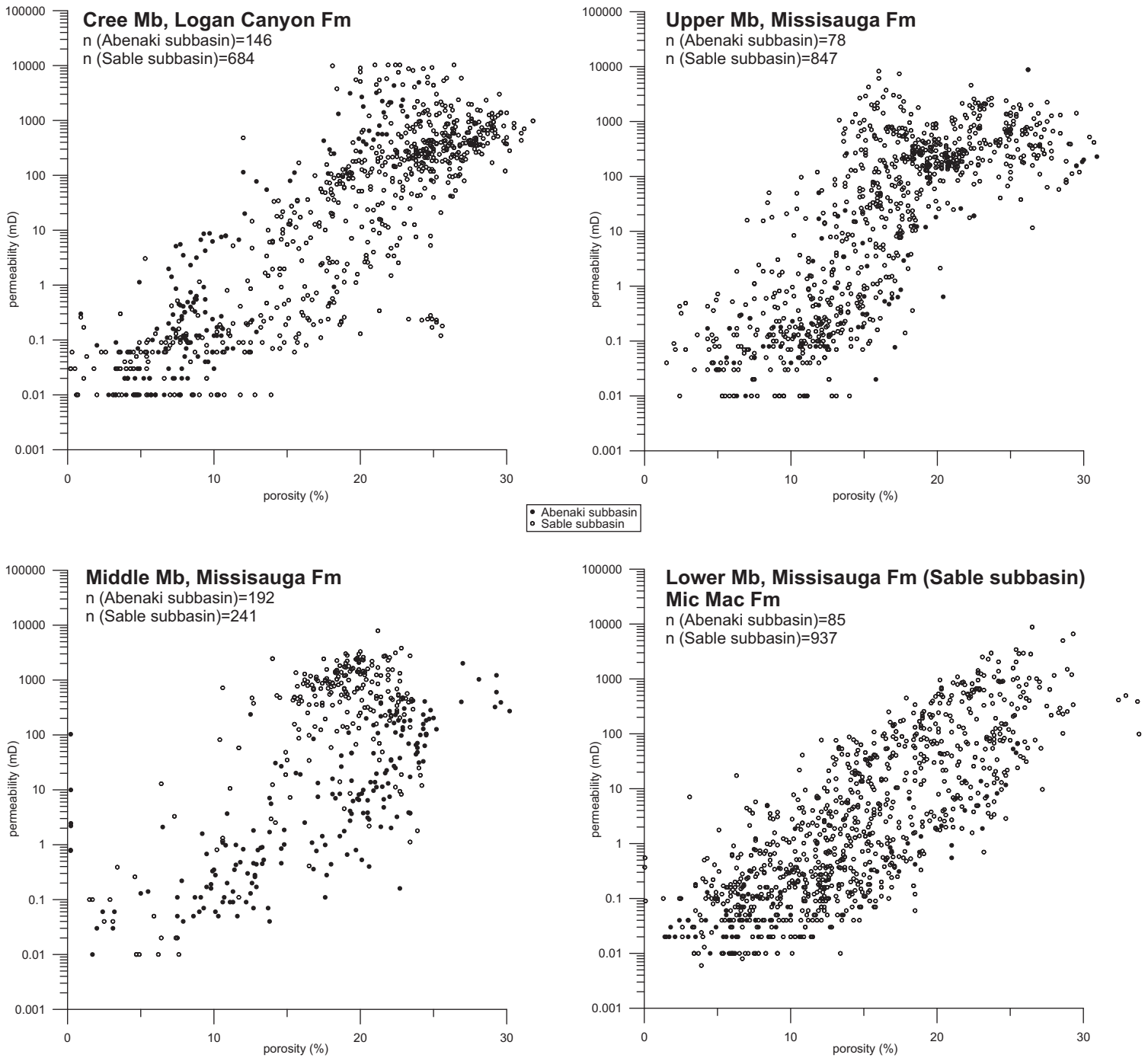


Figure 46: Compiled porosity and permeability measurements by subbasin and stratigraphic unit. Values were taken from small plugs samples in conventional core, made by the operating company.

Table 1:Summary of sediment facies description and interpretation (from Gould et al., 2010b).

Facies	Subfacies	Lithology and texture	Primary sedimentary structures	Biogenic structures	General interpretation	Related facies	Notes on diagnostic criteria	Type example	Comparison with others
0	0g	sandstone, generally fine, rarely reach coarse	medium bedded; laminated or cross laminated, common erosional base; possible wave and current ripples	absent to sparse biot	River mouth to shoreface; prodeltaic turbidites	commonly overlies 1 and 2; may interbed with 9	lacks interbedded mudstone	2395	Gould (S4); Cummings and Arnott (6)
	0b	fine sandstone, siltstone, mudstone (sandstone > mudstone)	sharp, erosive based beds (<25 cm thick) with sltst laminae, interbedded with mst with sltst laminae; some lenticular bedding; parallel and cross laminae; variable sed structures as in Lamb et al, 2008; possible wave and current ripples	sparse to uncommon biot			sandstone:mudstone ratio	1150	Gould (S2b); Cummings and Arnott (3) and (5); Karim, 2008 (0t), (0s) and (0l)
	0m	mudstone, siltstone, very fine sandstone (mudstone >> sandstone)	some sltst or very fine sst laminae; parallel lam, x-lam, lenticular bedding; possible wave and current ripples	uncommon biot			sandstone:mudstone ratio; from 1 by sst; from 1 and 2b by lack of biot	2616	Gould (M1); Cummings et al. (4); Cummings and Arnott (4)
	0a	fine and coarse sandstone, mudstone (sandstone ><mudstone)	alternation of coarse and fine sst beds with interbedded mst; parallel lam, x-lam, lenticular bedding; possible wave and current ripples	absent to sparse biot			mudstone with coarse and fine grained sst	1146	
1		mudstone, <5% fine sandstone or siltstone	thin beds and laminae of parallel fine sst or sltst laminae	abundant to complete biot (*Chondrites* ichnofacies); uncommon thin shelled fossils - echinoderms, ammonites	Shelf	commonly overlies 3 and underlies 2 or 0	from 0 by biot; from 2b by sst; presence of marine shells	4246	
2	2b	mudstone, fine sandstone (10-60%)	destroyed by biot, possible remnants of storm beds with parallel lamination, wave ripples and wave dominated structures	generally moderate to common biot; possible shells, *Cruziana* ichnofacies; may have reworked shell frags at base of preserved beds	Shoreface	interbeds with 0; possibly grades into 3	from 0 by biot; from 1 by higher % of sand; less sst than 2c; diverse trace fossil assemblage; sst beds with possible shell hash at base, interbedded with biot sandy mst	1576	Gould (S4)
	2c	fine sandstone (60-95%), mudstone	destroyed by biot, possible remnants of storm beds with parallel lamination, wave ripples and wave dominated structures	common to complete biot, multiple species; possible shells; *Cruziana* ichnofacies; may have reworked shell frags at base of preserved beds			from 0s by biot; from 2b by sst; diverse trace fossil assemblage; primary structures rarely preserved; reworked shells, preserved structures are wave not current dominated	1383	Cummings and Arnott (14)
	2o	fine sandstone	generally thin to thick massive beds	sparse to moderate biot, horizontal *Ophiomorpha* burrows			like 4o but mud drapes absent	4338	
	2x	fine-rare medium sandstone	cross-bedding (mostly low angle), thin bed sets; rare mud drapes	sparse biot			from 4x because of biot, no mud drapes absent. Coal absent. Biot not *Skolithos* ichnofacies	4130	

Table 1:Summary of sediment facies description and interpretation (from Gould et al., 2010b).

Facies	Subfacies	Lithology and texture	Primary sedimentary structures	Biogenic structures	General interpretation	Related facies	Notes on diagnostic criteria	Type example	Comparison with others
3	3x	sandy mudstone (10-50% sand); granules; poorly sorted; common brown staining due to early siderite	may have intraclasts	moderate to complete biot; thick shells	Condensed unit on shelf, commonly transgressive	commonly overlies 3y	mudstone	4262	Gould (C1)
	3y	muddy sandstone (50-90% sand), granules; poorly sorted; common brown staining due to early siderite	may have intraclasts	moderate to complete biot; thick shells		commonly overlies 3l or an erosion surface	sandstone	4356	Gould (M2); Cummings and Arnott (13)
	3i	intraclast conglomerate; common brown staining due to early siderite	may have intraclasts	may include shells			intraclast cgl	1547	
	3c	lithic conglomerate; common brown staining due to early siderite	may have intraclasts	may include shells			lithic cgl; generally rare	4326	
	3f	firm ground	evidence of induration.; commonly associated intraclasts; erosion or incision of underlying sediment	some burrow penetrating firm ground, *Glossifungites*			evidence of firm ground; generally rare	1716	
	3l	bioclastic limestone	parallel lam	abundant shell fragments, possibly in place			bioclastic limestone	3956	Gould (L1); Cummings et al. (7)
	3o	oolitic limestone and sandstone	parallel lam	possible biot			oolitic limestone and sandstone	2572	
4	4o	principally fine sandstone	thin to medium bedded, may be cross-bedded; thin mud drapes	sparse to common biot, *Ophiomorpha* , *Skolithos* ichnofacies	Tidal estuary to fluvial	passes up into 5 or 2	from 5-4 by *Ophiomorpha* burrows; common mud drapes;	4297	Karim, 2008 (4o); Karim, 2008 (4u)
	4a	medium to coarse sandstone (>50%); mudstone	thin sharp-based sst beds (can be >30 cm thick, ave 5-10 cm), interbedded with thin to thick mst drapes. Mst drapes have m-cg lam (simular to 6) may have current ripples	biot absent; coal lam, intraclasts		may be interbedded with 4, 5, 6	from 4g by thick mud drapes with facies 6 characture; from 6 by alternating cg sst beds and thick mst drapes	4913	
	4g	medium to coarse sandstone; may have coarse grained lag at base of unit; <5% mst	typically thin-bedded, parallel to low angle; mud drapes	absent to sparse biot			from 4x by presence of mud drapes and possible sparse biot	1098	Gould (S1); Cummings et al. (2); Cummings and Arnott (10, 12)
	4x	medium to coarse sandstone; mudstone intraclasts; may have coarse grained lag at base of unit	thin to thick cross-beds, med to high angle	biot absent; coal intraclasts			from 4g by coarser grainsize, high-angle cross-bedding, lack of mud drapes	2297	Cummings et al. (1)
	4n	mudstone, siltstone, very fine sandstone (sandstone>mudstone)	"tidal bundles" of poorly sorted sand and silt; or well-sorted fine sand, rarely with ripples; mud partings 1-2 mm	biot absent or sparse			more silt and sand than 0m; differs from 0a in lack of coarse sst beds	2622	Cumings and Arnott (2); Karim, 2008 (0n)
5	5m	>75% sandstone, predominantly fine may have medium or coarse grained beds, mudstone	thin bedded; variable mud drapes; mud, slt, and vf sst parallel & x-lam; mud on ripples	variable biot - sparse to moderate, or common to abundant, *Skolithos* ichnofacies; ?plant frags	Mixed flat - intertidal		from 6s by sandstone dominance; from 2 by less biot and dominant subvertical burrows, preservation of primary structures diagnostic of tidal environ.	Panuke B-90 core 8, box 24	Gould (S3); Cummings et al. (5); Cummings and Arnott (7)
	5s	>95% sandstone, generally fine may be medium or coarse grained, minor mudstone	possible thin to med bedded; some x-bedding	sparse to mod biot; shells	Sand flat - intertidal to subtidal	may pass up into 4o	mud drapes and *Ophiomorpha* rare compared to 4o; cross- bedding diagnostic; from 2 by less biot, subvertical burrows dominant, preservation of primary structures diagnostic of tidal environ.	4323	Karim, 2008 (4s)

Table 1:Summary of sediment facies description and interpretation (from Gould et al., 2010b).

Facies	Subfacies	Lithology and texture	Primary sedimentary structures	Biogenic structures	General interpretation	Related facies	Notes on diagnostic criteria	Type example	Comparison with others
5	5b	20-75% sandstone, predominantly fine may have medium or coarse grained beds	destroyed	abundant to complete biot - common large and long subvertical burrows; may have shells	Mixed flat - intertidal	transitional to 2	large subvertical burrows; from 2 by less biot, subvertical burrows dominant, preservation of primary structures some diagenetic of tidal environ.	4334	
	5c	medium sandstone	sharp based, thin beds	absent	Tidal channel - subtidal	within 5/6	thin beds within 5/6	4185	
6	6s	subequal fine sandstone,mudstone; or 60-75% mudstone, fine sandstone; may have minor medium-coarse sandstone, e.g. in burrows	mud dominant sections with wavy or current ripples and mud on ripple lam, interbedded with prominant parallel lam sst and mst (pinstripe-shaped)	small *Skolithos* ichnofacies burrows absent to common; possible plant frags	Mixed flat-intertidal	commonly interbedded with 4, 5, 7, 8	like 0 but with *Skolithos* burrows, current ripples	4299	Cummings et al. (3); Cummings and Arnott (11); Cummings (P4)
	6b	>80% mudstone, minor very fine to fine sandstonemay have minor medium-coarse sandstone, e.g. in burrows	destroyed; rare preserved parallel lam, current ripples	common to complete biot; may have whole or fragments of oyster shells	Mudflat- intertidal		from 5b by mud dominance; oyster shells	4169	
	6m	>95% mudstone, may have minor medium-coarse sandstone	rare discontinuous lam, broken by subvertical to vertical burrowing	biot absent to common, may have burrows (horizontal and subvertical) filled with m-c sst; ?oyster shells	Mudflat- intertidal		from other 5/6 by mudstone dominance	Panuke B-90 core 8 box 28	Cummings (P4)
7		lignite or carbon-rich mud		rootlets beneath	Tidal marsh	may overlie 6	lignite or carbon-rich mud	4188	
8		mudstone, rare siltstone	planar parallel to low angle cross siltstone lam	biot generally absent to sparse, with locally intense biot	Lagoon	interbeds with 5 & 6	1 has fossils and overlies 3, is more biot; 8 interbeds with 5 and 6	4053	Cummings (P3)
9	9g	very coarse to fine sandstone, some graded beds	sharp-based beds, some with erosive structures (sole marks); predominantly massive beds, generally >25cm thick, with minor parallel or cross laminae at top of some beds; possible mud intraclasts	absent to moderate biot at top of beds; plant detritus; possible reworked coastal deposits (shells, sid nodules)	River mouth to prodelta turbidite	commonly interbedded with 0, overlain by 4o	from facies 0 by bed thickness; from 9s by lack of interbedded mudstone	1688	Gould (S2c); Cummings and Arnott (8); Karim, 2008 (4b)
	9s	fine sandstone, minor mudstone, minor interbedded facies 0	sharp-based beds, some with erosive structures (sole marks); generally >25 thick, parallel lamination at base and cross lamination at top; some beds have mud intraclasts near base	moderate biot at top of beds; plant detritus; possible reworked coastal deposits (shells, sid nodules)			from facies 0 by bed thickness	4535	Gould (S2a), Karim 2008 (9m)
10	10f	mudstone to muddy sandstone	destroyed by deformation; secondary structures - massive texture, horizontal foliation	-	Deformed facies	commonly interbedded with 0		Alma K-85 core 3	
	10g	sandstone	destroyed by deformation; secondary structures - liquified beds	-				Alma K-85	
	10s	sandstone, siltstone, mudstone,	mostly destroyed by deformation; secondary structures - sheared and folded beds	variable biot				1466	

Table 2: Petrography of sandstones from the Marmora P-35 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe An**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3007.67	3y	fn sst	150			(20)	30			1	(20)	~30% of slide is one patch of sid cement; chl ooids, rims
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3008.64	2o/4g	vfn sst	120		0.01			0.1	1	0.5		1-3% porosity, ?diagenetic rutile, trace py,
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3012.19	?9g	fn sst	250			(30)	5		0.1	0.1	(30)	chl ooids, and chloritized micas; euhedral sid
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3013.56	4g	interlam vf and crs sst	100/500		0.5			0.1	1	10		chl+il infilling pores, 0.5% titania, trace py
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3015.86	2o	vfn sst/med sst	65/260		0/0.1	(5)/(15)	30/3			0/3	(5)/(15)	contact b/w sid-rich vfn sst and bioclast-rich med sst; chl ooids
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3017.36	?2o	fn sst	125		2	(30)			3	1	(30)	1% porosity, contact b/w cc and non-cc sst, trace pseudorutile, trace py; chl rims
Marmora P-35	Upper Mb, Missisauga Fm	1&2	3018.28	4g	bimodal - fn and crs sst	150/800		0.1		0.1			3		15% porosity; chl rims

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
( ) indicates carbonate minerals not distinguished - no probe analysis available

Table 3: Petrography of sandstones from the Mic Mac D-89 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Lithofacies**	**Rock name**	**mean GZ**	**Probe An.**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diagenetic notes**
Mic Mac D-89	Middle Mb, Missisauga Fm	1	2502.71	5b	fn sand	180	yes				0.5	1	0.5	30*	
Mic Mac D-89	Middle Mb, Missisauga Fm	2	2589.15	4g	med sand	400						5	1		5% porosity

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
* : Fe-calcite + Fe-Mg-calcite

Table 4:Petrography of sandstones from the Mic Mac J-77 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Lithofacies**	**Rock name**	**mean GZ**	**Probe An.**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg**	**chlorite + illite**	**Ank + Fe-cal**	**Other diagenetic notes**
Mic Mac J-77	Middle Mb, Missisauga Fm	1	2815.22	4g	crs sand	580		5							10% porosity, 3% pyrite
Mic Mac J-77	Middle Mb, Missisauga Fm	1	2815.97	4g	vcrs sand to granules	1400-3000						0.1	0.1		thin section made from rubbled sand, 2% pyrite
Mic Mac J-77	Middle Mb, Missisauga Fm	1	2817.30	4o	fnsand	140		3			0.1	1	1		3% porosity

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths

Table 5: Petrography of sandstones from the North Banquereau I-13 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Lithofacies**	**Rock name**	**mean GZ**	**Probe An.**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg**	**chlorite + illite**	**Ank + Fe-cal**	**Other diagenetic notes**
North Banquereau I-13	Naskapi Mb, Logan Canyon Fm	1	3238.67	9s	fn sand	180					3	2			0.5% glauconite, 0.5% pyrite, 7% porosity
North Banquereau I-13	Naskapi Mb, Logan Canyon Fm	1	3240.72	9s	vfn sand	120		3			3	5			0.5% glauconite, 1% pyrite, 4% porosity
North Banquereau I-13	Naskapi Mb, Logan Canyon Fm	1	3243.39	9s	vfn sand	100						4			0.5% glauconite, 0.5% pyrite, 3% porosity
North Banquereau I-13	Naskapi Mb, Logan Canyon Fm	1	3245.42	9g	vfn sand	80					1	3			0.5% glauconite, 0.5% pyrite, 3% porosity
North Banquereau I-13	Upper Mb, Missisauga Fm	2	3469.27	6s	med sand	460		5			2	10	3	2	10% silica, 0.1% pyrite, 0.5% porosity, cc cement replacing Kfs

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz oveg = quartz overgrowths

Table 6: Petrography of sandstones from the Onondaga O-95 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Onondaga O-95	Middle Mb, Missisauga Fm	1	3266.71	4o	fn sand	140	yes		0.1		0.1	1		20^{+}	3% py, bioclasts
Onondaga O-95	Middle Mb, Missisauga Fm	1	3268.67	4o	vfn sand	120		7			2	4	3		1% porosity, 3% py
Onondaga O-95	Middle Mb, Missisauga Fm	1	3268.73	4o	fn sand	180	yes		0.1/0		0/7	0/2		20*/0	3% porosity, 3% py, slide through contact between carbonate cemented sst/uncemented sst.
Onondaga O-95	Middle Mb, Missisauga Fm	1	3269.82	9g	fn sand	180		20 (micrite)						5	3% py, late calcite veins
Onondaga O-95	Middle Mb, Missisauga Fm	1	3272.20	2b	fn sand	140					3	15		5	3% porosity, 2% py

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths

$^{+}$: Fe-calcite + Mg-calcite + ankerite

* : Fe-calcite + Mg-calcite

Table 7: Petrography of sandstones from the Sable Island C-67 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matr**	**early cal**	**siderite**	**kaolinite**	**Qtz overg**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Sable Island C-67	Cree Mb, Logan Canyon Fm	1	2471.43	2o	fn sand	200	yes	0.1			0.1	1		25*	1% py, bioclasts
Sable Island C-67	Cree Mb, Logan Canyon Fm	1	2473.28	2o	vfn sand	100	yes	3		5 (hemi)	0.1	1	5		bioclasts; chl rims, chl+ill infilling pores; euhedral sid
Sable Island C-67	Cree Mb, Logan Canyon Fm	1	2477.05	2c	fn sand	160	yes		0.1	5	1	2	1	20+	2% porosity, bioclasts, chl ooids, micas, rims; euhedral sid
Sable Island C-67	Cree Mb, Logan Canyon Fm	1	2478.05	?	fn sand	160				7	10	0.5			3% porosity
Sable Island C-67	Naskapi Mb, Logan Canyon Fm	2	2832.11	3i	cgl	>2 mm		micrite (20)		5		0.5		(20)	5% py, large bioclasts, poorly sorted with fine sand
Sable Island C-67	Naskapi Mb, Logan Canyon Fm	2	2834.91	0b	vfn sand	80		7		7	0.1	1	1	0.1	0.5% py, siderite cement concentrated along fracture
Sable Island C-67	Middle Mb, Missisauga Fm	3	3376.48	9g	fn sand	200	yes	3	1					29+	0.5% porosity, 3% py; felsic volcanic clasts
Sable Island C-67	Middle Mb, Missisauga Fm	3	3378.01	?2x	fn sand	200					5	7	0.5	5	5% porosity, 0.5% py; felsic volcanic clasts
Sable Island C-67	Lower Mb, Missisauga Fm	4	4085.83	4n/5m	vfn sand	120	yes	2	1		2	5	0.5	6+	3% py; felsic volcanic clasts

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
* : Fe-calcite + Fe-Mg-calcite
+:Fe-calcite
( ) indicates carbonate minerals not distinguished - no probe analysis available

Table 8. Petrography of sandstones from the South Desbarres O-76 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matri**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
South Desbarres O-76	Lower Mb, Missisauga Fm	1	3802.24	4g	fn sand	140					5	7		2	3% porosity, 1% py
South Desbarres O-76	Lower Mb, Missisauga Fm	1	3804.82	4g	fn sand	220					1	5		0.5	3% porosity, 2% py
South Desbarres O-76	Lower Mb, Missisauga Fm	1	3807.15	9s	vfn sand	100		5			0.5	1		1	1% porosity, 3% py
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3809.66	9g	fn-med sand	320	yes	7	7				3	3*	1% py, siderite intraclats, mud intraclasts, large qtz grains; poorly sorted
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3811.38	9g	vfn sand	80		5	3			0.5			2% porosity, 0.5% py, cc replacing feldspar
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3818.26	9g	cgl	>2 mm	yes							20^{+}	3% py, bioclasts
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3819.74	0b	vfn sand	80		7			1	3		3	2% py
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3821.72A	3i	fn sand	140	yes		10					15*	3% py, no compaction
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3821.72B	3i	cgl	>2 mm		7	(25)					(25)	3% py, large bioclasts, siderite intraclasts
South Desbarres O-76	Lower Mb, Missisauga Fm	2	3823.98	3i	cgl	>2 mm		20 (micrite)						5	1% py, large bioclasts
South Desbarres O-76	Mic Mac Fm	3	5952.65	9g	fn sand	140	yes	3				2	2	10^{++}	

Notes:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
*: Fe-calcite + Mg calcite
$^{+}$: ankerite
$^{++}$: ankerite + Fe-calcite
( ) indicates carbonate minerals not distinguished - no probe analysis available

Table 9: Petrography of sandstones from Wenonah J-75

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matri**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Wenonah J-75	Upper Mb, Missisauga Fm	1	3071.17	4o	vfn sand	100	yes	3			3	5	0.5	7+	3% porosity, 1% silica cement?
Wenonah J-75	Upper Mb, Missisauga Fm	1	3074.16	2c	vfn sand	80		1	(5)		1	3	3	(5)	2% porosity, 3% pyrite
Wenonah J-75	Upper Mb, Missisauga Fm	1	3074.43	9g	vfn sand	80	yes	3			1		2	10	2% porosity
Wenonah J-75	Upper Mb, Missisauga Fm	1	3076.94	2b	vfn sand	100	yes	5	0.1		0.1			20	large barite and calcite vein
Wenonah J-75	Upper Mb, Missisauga Fm	1	3077.77	9s	vfn to crs sand	100-600			0.1		5	5	0.1		5% porosity, poorly sorted
Wenonah J-75	Upper Mb, Missisauga Fm	1	3078.22	4x	fn sand	200		0.1			10	7			7% porosity
Wenonah J-75	Upper Mb, Missisauga Fm	1	3079.14	4x	fn sand	140	yes				7	3		10+	7% porosity
Wenonah J-75	Upper Mb, Missisauga Fm	1	3080.48	4x	med sand	250		1			2	5		1	10% porosity, 1% pyrite
Wenonah J-75	Upper Mb, Missisauga Fm	1	3081.56	4x	fn to med sand	250-500		0.1			5	5		15	3% porosity, 2% pyrite, poorly sorted
Wenonah J-75	Upper Mb, Missisauga Fm	1	3082.16	4x	vfn sand	120	yes				0.5	0.1		50*	2% pyrite

Notes:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
*: Fe-calcite
+: ankerite
( ) indicates carbonate minerals not distinguished - no probe analysis available

Table 10. Petrography of sandstones from the Mic Mac H-86 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe An.**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diagenetic notes**
Mic Mac H-86	Mohican Fm	1	4718.97	9g/9s	fn sand, red color	200		3			1	0.1	7		3% porosity
Mic Mac H-86	Mohican Fm	1	4721.04	9g/9s	med to crs sand, red color	500	yes	5 (red color)					5		

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths

Table 11. Petrography of sandstones from the Mohican I-100 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matri**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Mohican I-100	Mohican Fm	6	3692.42	tidal	fn sand	140	yes					0.1	5		5% rutile, 15% anhydrite
Mohican I-100	Mohican Fm	6	3697.86	?shelf	fn sand	160		3					7		5% rutile, 10% anhydrite

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths; 3l* = argillaceous limestone

Table 12: Petrography of sandstones from the Wyandot E-53 well.

								% of total rock							
Well	**Stratigraphy**	**Core**	**Depth (m)**	**Facies**	**Rock name**	**mean GZ**	**Probe TS**	**mud matrix**	**early cal**	**siderite**	**kaolinite**	**Qtz overg.**	**chlorite + illite**	**Ank + Fe-cal**	**Other diag notes**
Wyandot E-53	Mohican Fm	2	2873.10	9s	fn sand	160	yes	3	?					20*	1% porosity, 0.5% py, coated grains, bioclasts, no compaction
Wyandot E-53	Mohican Fm	2	2874.33	4x	crs sand	800		0.5			0.5	5			5% porosity, 1% py
Wyandot E-53	Mohican Fm	2	2876.81	4g	med sand	400		5					7		1% py, very fractured
Wyandot E-53	Mohican Fm	2	2878.66	4x	crs sand	1000		0.1			0.1	3			5% porosity
Wyandot E-53	Mohican Fm	2	2879.98	?4g	med to crs sand	400		7 (green color)					7		

NOTES:
ank = ankerite; cal = calcite; Fe-cal = Fe-calcite; GZ = grain size (μm); Kfs = K-feldspar; py = pyrite; Mb = Member; Fm = Formation; vfn = very fine; fn = fine; med = medium; crs = coarse; sand = sandstone; cgl = conglomerate; Probe An = probe analyses; Qtz overg = quartz overgrowths
* : Fe-calcite + Fe-Mg-calcite
( ) indicates carbonate minerals not distinguished - no probe analysis available

Table 13. Summary of diagenetic minerals present in wells from the Abenaki and Sable Subbasins.

Well		Diagenetic cements				
		Cree Mb, Logan Canyon Fm	Upper Mb, Missisauga Fm	Middle Mb, Missisauga Fm	Mic Mac Fm	
Dauntless D-35 (Pe-Piper and Piper, 2009)	*facies 3*					Abenaki sub-basin
	m-cg sst		py, chl, silica, kln (4)			
	vf-fg sst					
Hesper I-52 (Pe-Piper et al., 2011)	*facies 3*					
	m-cg sst		early cal, kln, qz (2)			
	vf-fg sst		kln, qz (2)			
Esperanto K-78 (Pe-Piper et al., 2011)	*facies 3*					
	m-cg sst			early cal, sd, kln, ilt+chl, qz (4)		
	vf-fg sst					
Louisbourg J-47 (Pe-Piper et al., 2010)	*facies 3*			early cal, sd, kln, qz, py (8)		
	m-cg sst			early cal, sd, kln, qz, py, late carb (3)	kln, qz, sd, late carb, py (7)	
	vf-fg sst			early cal, kln, qz, late carb (2)	kln, qz, late cal, py (8)	
South Griffin J-13 (Pe-Piper et al., 2011)	*facies 3*					
	m-cg sst			(early cal), kln, ilt+chl, qz, silica (4)		
	vf-fg sst			ilt+chl, qz, silica, py (1)		
Peskowesk A-99 (Pe-Piper et al., 2006)	*facies 3*	sd (1)				
	m-cg sst	kln, chl, ilt, silica, py (15)		early cal, sd, kln, chl, qz, glc, (py) (2)	early cal, kln, chl, qz, ilt (1)	
	vf-fg sst	(early cal), sd, kln, chl, ilt, silica, py (8)	kln, chl, ilt, silica (3)	early cal, kln, chl, silica, py, late carb (2)	early carb, kln, chl, ilt, qz (2)	
North Banquereau I-13 (this study)	*facies 3*					
	m-cg sst		kln, qz, chl+ilt, late carb, (py) (1)			
	vf-fg sst					
Mic Mac J-77 (this study)	*facies 3*					
	m-cg sst			(qz), (chl+ilt) (2)		
	vf-fg sst			(kln), qz, chl+ilt (1)		
Mic Mac D-89 (this study)	*facies 3*					
	m-cg sst			qz, chl+ilt (1)		
	vf-fg sst			kln, qz, chl+ilt, late carb (1)		
Kegeshook G-67 (Foley 2008)	*facies 3*					Sable sub-basin
	m-cg sst	kln, qz, (cal*) (4)	qz (2)	qz, late carb, py, (kln) (8)		
	vf-fg sst	sd, qz (2)	kln, qz (2)	kln, sd, qz, late carb (3)		
Como P-21 (Karim et al., 2011)	*facies 3*		sd, qz, (late cal) (1)			
	m-cg sst			early cal, kln, qz, late carb (4)		
	vf-fg sst		kln, sd, qz (2)	early cal, qz, late carb (4)		
Panuke B-90 (Karim et al., 2011)	*facies 3*	glt (2)	early cal, sd, qz, late carb (chl+ilt) (7)			
	m-cg sst	kln, qz, late carb (1)	early cal, qz, (chl+ilt), late carb (11)			
	vf-fg sst	kln, sd, qz, chl, late carb (10)	(early cal), (sd), qz, late carb (17)			
Cohasset A-52 (Karim et al., 2011)	*facies 3*	sd, (qz), late carb (4)				
	m-cg sst	(kln), qz, (late carb), (py) (6)				
	vf-fg sst	(early cal), sd, kln, qz, (chl+ilt) late carb (36)	sd, (kln), qz, (chl+ilt), late carb, py (6)			
Sable Island C-67 (this study)	*facies 3*					
	m-cg sst					
	vf-fg sst	(early cal), sd, kln, qz, chl+ilt, late carb (4)		early cal, kln, qz, late carb (2)	early cal, kln, qz, chl+ilt, py, late carb (1)	
South Debarres O-76 (this study)	*facies 3*				micrite, early cal, late carb, py (3)	
	m-cg sst				early cal, chl, late carb, py (2)	
	vf-fg sst				(early cal), kln, qz, late carb (5)	
Venture Field (B-13, B-52, H-22) (Karim, 2010)	*facies 3*				early cal, sd, qz, late carb (17)	
	m-cg sst				(early cal), qtz, chl, late carb (14)	
	vf-fg sst				early cal, qtz, chl, late carb (81)	
Thebaud Field (3, 5, C-74, I-93) (Karim, 2008)	*facies 3*			qz, late carb (1)	early cal, (sd), chl, qz, late carb (3)	
	m-cg sst			kln, qz, chl (3)	early cal, sd, kln, qz, chl, late carb (15)	
	vf-fg sst			kln, qz, late carb (2)	early cal, kln, sd, chl, qz, late carb, (68)	
Glenelg Field (E-58, E-58A, N-49) (Karim, 2008)	*facies 3*	clay, qz, late carb (1)	sd, kln, qz, late carb			
	m-cg sst	sd, kln, qz, late carb (2)	kln, sd, qz, chl+ilt, late carb (29)			
	vf-fg sst	clay, kln, qz, late carb (5)	early cal, sd, kln, qz, chl, (ilt), late carb (68)			
Marmora P-35 (this study)	*facies 3*		carb*, sd, (chl) (1)			
	m-cg sst		carb*, qz, chl+ilt (2)			
	vf-fg sst		(sd), (kln), qz, chl+ilt (4)			
Onondaga O-95 (this study)	*facies 3*					
	m-cg sst					
	vf-fg sst			(early cal), kln, qz, chl+ilt, late carb (5)		
Wenonah J-75 (this study)	*facies 3*					
	m-cg sst		(early cal), kln, qz, (chl+ilt), late carb (3)			
	vf-fg sst		(early cal), carb*, kln, qz, chl+ilt, late carb,			

Note: ( ) indicates minor amount or present in only one sample; (1) = number of samples; * = carbonate cement of undetermined relative age; facies 3 = transgressive unit, vf = very fine-grained, fg = fine-grained; m = medium-grained, cg = coarse-grained; mineral abbriviations after Whitney and Evans, 2010.

Table 14. Comparison of the geological history of the Abenaki and Sable subbasins

Factor	Abenaki	Sable
Jurassic sedimentation	greater clastic supply in east, widespread mid-Jurassic carbonates on shelf, thicker deep water succession.	widespread mid-Jurassic carbonates on shelf, probably resedimented into deep water succession.
Basinal salt tectonics	most active in Jurassic	most active in Early Cretaceous
Early Cretaceous thermal event	not recognised	present in west
Early Cretaceous subsidence on shelf	less subsidence	more subsidence
Depth of burial of Early Cretaceous rocks	similar in the two sub-basins, depends on whether inboard or outboard	
Predominant lithofacies in Early Cretaceous	common tidal flat facies	common river mouth and prodeltaic turbidites
Predominant lithofacies in Tithonian	limestones with some deltaic intervals	thick deltaic deposits
River supply	predominant source from SW Newfoundland, more volcanic detritus	predominant source from erosion of Carboniferous rocks
Sea-floor diagenesis	predominantly ferruginous	ferruginous less abundant
Other eodiagenesis	lowstand effects of meteoric water more pervasive	abundant kaolinite at prominent lowstands
Mesodiagenesis	chlorite+illite more abundant	carbonate, including ankerite, more abundant

Appendix 1A: Electron microprobe analyses of diagenetic minerals from representative samples from Mic Mac D-89 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Mic-Mac D-89	2502.71	9	Fe-calcite	0.00	0.00	0.01	0.00	1.27	0.51	0.35	57.31	0.01	0.02	0.04	0.00	0.09	0.00	59.61
Mic-Mac D-89	2502.71	10	Fe-calcite	0.00	0.00	0.00	0.01	1.78	0.52	0.36	56.74	0.02	0.02	0.05	0.01	0.03	0.00	59.54
Mic-Mac D-89	2502.71	11	Fe-calcite	0.00	0.00	0.04	0.02	1.99	0.46	0.84	55.48	0.03	0.02	0.04	0.00	0.17	0.00	59.10
Mic-Mac D-89	2502.71	12	Fe-calcite	0.00	0.00	0.00	0.00	1.38	1.18	0.38	57.01	0.01	0.01	0.06	0.00	0.00	0.00	60.03
Mic-Mac D-89	2502.71	13	Fe-calcite	0.00	0.00	0.01	0.00	2.04	0.46	0.90	56.53	0.02	0.02	0.03	0.01	0.19	0.00	60.22
Mic-Mac D-89	2502.71	14	Fe-calcite	0.85	0.00	0.55	0.00	2.17	0.51	0.87	53.11	0.01	0.07	0.07	0.00	0.04	0.00	58.25
Mic-Mac D-89	2502.71	15	Fe-calcite	0.09	0.00	0.12	0.00	1.70	0.52	0.65	55.64	0.02	0.03	0.06	0.00	0.07	0.00	58.89
Mic-Mac D-89	2502.71	16	Fe-calcite	0.00	0.00	0.00	0.02	1.54	1.58	0.50	56.61	0.00	0.02	0.04	0.00	0.00	0.00	60.31
Mic-Mac D-89	2502.71	17	Fe-calcite	0.00	0.00	0.01	0.00	1.64	0.55	0.56	55.28	0.02	0.04	0.03	0.00	0.02	0.00	58.16
Mic-Mac D-89	2502.71	18	Fe-calcite	0.00	0.01	0.01	0.00	1.32	1.59	0.45	56.66	0.02	0.04	0.06	0.02	0.02	0.00	60.20
Mic-Mac D-89	2502.71	19	Fe-calcite	0.00	0.00	0.01	0.01	1.69	0.47	0.42	50.95	0.01	0.02	0.03	0.00	0.09	0.00	53.71
Mic-Mac D-89	2502.71	20	Fe-calcite	0.00	0.01	0.00	0.00	1.71	0.47	0.39	51.60	0.02	0.02	0.03	0.00	0.03	0.00	54.27
Mic-Mac D-89	2502.71	21	Fe-calcite	0.00	0.00	0.00	0.00	2.22	0.53	1.01	54.71	0.01	0.00	0.03	0.00	0.11	0.00	58.63
Mic-Mac D-89	2502.71	22	Fe-calcite	0.00	0.00	0.01	0.00	2.35	0.50	1.14	52.75	0.02	0.01	0.05	0.02	0.19	0.00	57.07
Mic-Mac D-89	2502.71	23	Fe-calcite	0.00	0.00	0.00	0.00	1.42	0.58	0.38	51.18	0.02	0.01	0.06	0.00	0.04	0.00	53.70
Mic-Mac D-89	2502.71	24	Fe-calcite	0.07	0.40	0.04	0.00	1.26	0.66	0.40	53.68	0.03	0.08	0.08	0.00	0.00	0.00	56.69
Mic-Mac D-89	2502.71	25	Fe-Mg-calcite	0.00	0.00	0.02	0.00	2.15	0.47	1.11	51.69	0.02	0.02	0.05	0.00	0.19	0.00	55.72
Mic-Mac D-89	2502.71	26	Fe-calcite	0.00	0.00	0.02	0.01	1.61	0.40	0.35	50.20	0.01	0.01	0.05	0.00	0.06	0.00	52.71
Mic-Mac D-89	2502.71	27	Fe-calcite	0.00	0.00	0.01	0.01	1.76	0.39	0.77	55.82	0.03	0.04	0.05	0.00	0.24	0.02	59.13
Mic-Mac D-89	2502.71	28	Fe-Mg-calcite	0.00	0.00	0.01	0.01	2.46	0.53	1.11	55.78	0.01	0.02	0.09	0.01	0.17	0.00	60.20
Mic-Mac D-89	2502.71	29	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.25	0.55	1.11	52.65	0.00	0.04	0.05	0.02	0.07	0.00	56.73
Mic-Mac D-89	2502.71	30	Fe-calcite	0.00	0.00	0.00	0.00	1.33	0.38	0.74	48.29	0.02	0.02	0.06	0.00	0.15	0.00	50.98
Mic-Mac D-89	2502.71	31	Fe-calcite	0.00	0.00	0.00	0.00	1.10	0.63	0.35	49.54	0.00	0.02	0.06	0.01	0.04	0.00	51.75
Mic-Mac D-89	2502.71	32	Fe-calcite	0.00	0.00	0.00	0.00	2.08	0.48	0.97	55.40	0.00	0.02	0.05	0.04	0.12	0.00	59.15
Mic-Mac D-89	2502.71	33	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.19	0.46	1.02	53.34	0.00	0.02	0.02	0.04	0.19	0.00	57.28
Mic-Mac D-89	2502.71	34	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.15	0.51	1.08	55.59	0.01	0.03	0.07	0.04	0.17	0.00	59.65
Mic-Mac D-89	2502.71	35	Fe-calcite	0.00	0.00	0.00	0.00	1.89	0.39	0.84	54.48	0.00	0.03	0.04	0.03	0.19	0.03	57.91
Mic-Mac D-89	2502.71	36	Fe-calcite	0.00	0.01	0.00	0.00	1.70	0.47	0.43	55.21	0.00	0.03	0.04	0.06	0.06	0.00	58.02
Mic-Mac D-89	2502.71	37	Fe-calcite	0.00	0.00	0.00	0.00	1.70	0.45	0.75	52.32	0.01	0.04	0.02	0.04	0.16	0.00	55.48
Mic-Mac D-89	2502.71	38	Fe-calcite	0.00	0.00	0.00	0.00	1.82	0.46	0.86	51.22	0.00	0.03	0.04	0.01	0.14	0.00	54.59
Mic-Mac D-89	2502.71	39	Fe-calcite	0.00	0.02	0.00	0.00	1.92	0.49	0.97	53.55	0.00	0.03	0.05	0.01	0.10	0.00	57.15
Mic-Mac D-89	2502.71	40	Fe-calcite	0.00	0.00	0.00	0.00	1.67	0.58	0.31	53.37	0.00	0.02	0.02	0.03	0.02	0.00	56.02
Mic-Mac D-89	2502.71	41	Fe-calcite	0.00	0.00	0.00	0.00	1.55	0.52	0.48	49.97	0.00	0.03	0.02	0.02	0.00	0.00	52.60
Mic-Mac D-89	2502.71	42	Fe-calcite	0.00	0.00	0.00	0.00	2.16	0.57	0.92	55.17	0.00	0.03	0.05	0.03	0.01	0.00	58.94
Mic-Mac D-89	2502.71	43	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.35	0.50	1.15	55.07	0.00	0.02	0.05	0.03	0.17	0.00	59.35
Mic-Mac D-89	2502.71	44	Fe-calcite	0.00	0.00	0.00	0.00	1.56	0.55	0.41	54.85	0.01	0.02	0.03	0.03	0.01	0.00	57.47
Mic-Mac D-89	2502.71	45	Fe-calcite	0.54	0.02	0.47	0.00	1.45	0.52	0.34	52.52	0.01	0.06	0.03	0.02	0.00	0.00	55.98
Mic-Mac D-89	2502.71	46	Fe-calcite	0.00	0.00	0.00	0.00	1.94	0.53	0.87	54.71	0.00	0.02	0.03	0.04	0.10	0.00	58.24
Mic-Mac D-89	2502.71	47	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.28	0.57	1.12	54.30	0.01	0.03	0.05	0.01	0.11	0.00	58.49
Mic-Mac D-89	2502.71	48	Fe-calcite	0.00	0.00	0.00	0.00	2.12	0.44	0.99	55.34	0.01	0.10	0.05	0.04	0.20	0.00	59.30
Mic-Mac D-89	2502.71	49	Fe-calcite	1.15	0.01	0.82	0.00	1.67	0.48	0.41	51.83	0.00	0.08	0.05	0.00	0.00	0.01	56.52
Mic-Mac D-89	2502.71	50	Fe-calcite	0.00	0.00	0.02	0.00	2.15	0.45	1.00	54.64	0.00	0.03	0.05	0.00	0.17	0.00	58.51
Mic-Mac D-89	2502.71	51	Fe-calcite	0.00	0.01	0.01	0.00	1.67	0.51	0.33	53.01	0.00	0.02	0.05	0.00	0.02	0.00	55.61
Mic-Mac D-89	2502.71	52	Fe-calcite	0.00	0.00	0.01	0.00	1.67	0.65	0.35	55.11	0.00	0.02	0.02	0.00	0.02	0.00	57.86
Mic-Mac D-89	2502.71	53	titania (TiO_2)	4.76	67.24	2.85	0.13	18.94	0.16	0.31	0.19	0.13	0.80	0.02	0.10	0.02	0.85	96.50
Mic-Mac D-89	2502.71	54	Fe-calcite	0.00	0.01	0.01	0.00	2.11	0.62	0.95	52.37	0.00	0.02	0.07	0.00	0.07	0.00	56.23
Mic-Mac D-89	2502.71	55	Fe-calcite	0.00	0.00	0.01	0.00	1.44	0.59	0.31	51.21	0.00	0.02	0.02	0.00	0.00	0.00	53.61
Mic-Mac D-89	2502.71	56	Fe-calcite	0.00	0.02	0.02	0.03	1.78	0.64	0.38	54.72	0.00	0.03	0.03	0.00	0.07	0.00	57.73
Mic-Mac D-89	2502.71	57	Fe-calcite	0.00	0.00	0.02	0.02	1.67	0.53	0.41	53.71	0.00	0.04	0.02	0.00	0.02	0.00	56.45
Mic-Mac D-89	2502.71	58	Fe-Mg-calcite	0.00	0.03	0.01	0.00	2.18	0.60	1.02	52.58	0.01	0.02	0.05	0.00	0.08	0.00	56.58
Mic-Mac D-89	2502.71	59	Fe-calcite	0.00	0.00	0.00	0.00	1.81	0.58	0.60	51.03	0.00	0.02	0.04	0.00	0.11	0.00	54.20
Mic-Mac D-89	2502.71	60	Fe-Mg-calcite	0.00	0.03	0.02	0.00	2.25	0.51	1.07	51.35	0.00	0.16	0.02	0.00	0.23	0.00	55.63

Appendix 1A: Electron microprobe analyses of diagenetic minerals from representative samples from Mic Mac D-89 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Mic-Mac D-89	2502.71	61	Fe-Mg-calcite	0.00	0.00	0.01	0.00	2.41	0.47	1.07	51.53	0.00	0.02	0.06	0.00	0.21	0.00	55.79
Mic-Mac D-89	2502.71	62	Fe-calcite	0.00	0.00	0.01	0.00	1.72	0.41	0.36	50.49	0.00	0.03	0.04	0.00	0.12	0.00	53.18
Mic-Mac D-89	2502.71	63	Fe-calcite	0.00	0.00	0.01	0.01	1.84	0.48	0.86	49.62	0.00	0.02	0.05	0.00	0.22	0.00	53.12
Mic-Mac D-89	2502.71	64	Fe-Mg-calcite	0.00	0.02	0.02	0.00	2.14	0.52	1.05	52.48	0.00	0.02	0.03	0.00	0.08	0.00	56.37
Mic-Mac D-89	2502.71	65	Fe-calcite	0.00	0.02	0.01	0.00	1.40	0.53	0.62	51.22	0.00	0.02	0.04	0.00	0.00	0.00	53.86
Mic-Mac D-89	2502.71	66	Fe-calcite	0.00	0.02	0.01	0.00	1.24	0.36	0.30	49.77	0.00	0.02	0.05	0.00	0.05	0.00	51.82
Mic-Mac D-89	2502.71	67	Fe-calcite	0.00	0.02	0.03	0.00	1.16	2.10	0.46	54.22	0.00	0.03	0.05	0.00	0.03	0.00	58.11
Mic-Mac D-89	2502.71	68	Fe-calcite	0.00	0.00	0.02	0.00	1.92	0.54	0.29	51.69	0.00	0.03	0.05	0.00	0.02	0.00	54.56
Mic-Mac D-89	2502.71	69	Fe-Mg-calcite	0.00	0.04	0.02	0.00	2.57	0.50	1.23	51.84	0.00	0.02	0.05	0.00	0.21	0.00	56.47
Mic-Mac D-89	2502.71	70	titania (TiO_2)	0.67	96.17	1.19	0.99	1.16	0.05	0.03	0.33	0.08	0.02	0.09	0.08	0.05	1.19	102.11
Mic-Mac D-89	2502.71	71	Fe-calcite	0.00	0.07	0.01	0.00	1.48	0.41	0.75	48.03	0.00	0.01	0.04	0.00	0.18	0.00	50.98
Mic-Mac D-89	2502.71	72	Fe-calcite	0.00	0.03	0.00	0.00	1.39	0.52	0.39	49.30	0.00	0.02	0.03	0.00	0.03	0.00	51.72
Mic-Mac D-89	2502.71	73	Fe-calcite	0.00	0.03	0.01	0.00	1.83	0.40	0.86	50.39	0.00	0.01	0.04	0.01	0.22	0.00	53.79
Mic-Mac D-89	2502.71	74	Fe-calcite	0.00	0.02	0.00	0.00	1.61	0.43	0.51	49.89	0.00	0.01	0.05	0.00	0.11	0.00	52.62
Mic-Mac D-89	2502.71	75	Fe-calcite	0.00	0.03	0.01	0.00	2.12	0.50	0.99	52.09	0.00	0.02	0.05	0.00	0.18	0.00	55.98
Mic-Mac D-89	2502.71	76	Fe-Mg-calcite	0.00	0.04	0.00	0.00	2.42	0.46	1.12	53.05	0.00	0.02	0.03	0.01	0.21	0.00	57.36
Mic Mac D-89	2502.71	90	Fe-Mg-calcite	0.00	0.00	0.00	0.00	2.12	0.49	1.03	58.51	0.01	0.02	0.00	0.00	0.08	0.02	62.29
Mic Mac D-89	2502.71	91	Fe-Mg-calcite	0.00	0.00	0.01	0.00	2.19	0.45	1.08	56.11	0.00	0.00	0.01	0.00	0.17	0.00	60.02
Mic Mac D-89	2502.71	92	Fe-calcite	0.00	0.01	0.01	0.00	1.91	0.62	0.62	55.87	0.00	0.01	0.00	0.00	0.06	0.00	59.10
Mic Mac D-89	2502.71	93	Fe-calcite	0.00	0.00	0.01	0.00	1.59	0.75	0.44	57.25	0.00	0.01	0.02	0.02	0.01	0.00	60.11
Mic Mac D-89	2502.71	94	Fe-calcite	0.00	0.02	0.02	0.00	1.54	0.53	0.32	56.86	0.01	0.01	0.00	0.00	0.03	0.00	59.33
Mic Mac D-89	2502.71	95	Fe-calcite	0.00	0.00	0.00	0.00	1.55	0.57	0.34	53.90	0.01	0.01	0.00	0.00	0.02	0.00	56.41
Mic Mac D-89	2502.71	96	Fe-calcite	0.00	0.00	0.01	0.00	2.02	0.41	0.93	56.30	0.00	0.01	0.01	0.00	0.13	0.00	59.82
Mic Mac D-89	2502.71	97	Fe-calcite	0.00	0.02	0.00	0.00	1.44	0.62	0.31	56.76	0.01	0.00	0.03	0.00	0.02	0.03	59.25
Mic Mac D-89	2502.71	98	Fe-calcite	0.00	0.00	0.01	0.00	1.36	0.48	0.27	55.00	0.00	0.00	0.00	0.00	0.07	0.00	57.20
Mic Mac D-89	2502.71	99	Fe-Mg-calcite	0.00	0.00	0.01	0.00	2.35	0.46	1.09	55.76	0.00	0.02	0.02	0.00	0.17	0.00	59.87
Mic Mac D-89	2502.71	100	Fe-Mg-calcite	0.00	0.00	0.01	0.00	2.50	0.51	1.10	56.04	0.00	0.01	0.06	0.00	0.16	0.02	60.39
Mic Mac D-89	2502.71	101	chlorite	34.14	0.03	27.29	0.00	15.93	0.00	4.17	1.00	0.13	0.10	0.00	0.00	0.08	0.00	82.87
Mic Mac D-89	2502.71	102	chlorite	28.94	0.39	22.55	0.00	20.93	0.03	5.69	0.63	0.21	0.38	0.00	0.00	0.05	0.03	79.84

Appendix 1B: Electron microprobe analyses of diagenetic minerals from representative samples from Mic Mac H-86 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MnO	MgO	$FeO_{(total)}$	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Mic Mac H-86	4721.04	117	muscovite	47.85	0.22	30.12	0.00	0.02	1.51	3.27	0.14	0.48	8.46	0.00	0.00	0.00	0.00	92.07
Mic Mac H-86	4721.04	118	muscovite	48.54	0.17	29.09	0.00	0.01	1.58	4.48	0.02	0.32	9.63	0.00	0.00	0.00	0.18	94.02
Mic Mac H-86	4721.04	119	muscovite	46.89	0.16	29.09	0.00	0.04	1.86	5.23	0.24	0.13	8.30	0.00	0.00	0.00	0.00	91.96

Appendix 1C: Electron microprobe analyses of diagenetic minerals from representative samples from Mohican I-100 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Mohican I-100	3692.42	66	anhydrite*	0.00	0.00	0.01	0.00	0.01	0.00	0.00	33.58	0.03	0.01	0.04	0.00	0.56	0.00	34.23
Mohican I-100	3692.42	67	anhydrite*	0.00	0.00	0.01	0.00	0.00	0.02	0.00	33.28	0.02	0.02	0.04	0.00	0.50	0.00	33.91
Mohican I-100	3692.42	68	anhydrite*	0.00	0.04	0.01	0.06	0.05	0.04	0.00	34.32	0.03	0.02	0.05	0.12	0.24	0.02	35.02
Mohican I-100	3692.42	69	anhydrite*	0.00	0.07	0.02	0.09	0.08	0.03	0.00	33.03	0.03	0.02	0.03	0.12	0.74	0.11	34.38
Mohican I-100	3692.42	70	anhydrite*	0.00	0.03	0.01	0.09	0.07	0.03	0.00	33.02	0.03	0.02	0.04	0.10	0.71	0.06	34.20
Mohican I-100	3692.42	71	anhydrite*	0.00	0.05	0.01	0.10	0.06	0.04	0.00	33.23	0.04	0.03	0.03	0.12	0.44	0.06	34.21
Mohican I-100	3692.42	72	anhydrite*	0.00	0.04	0.01	0.12	0.05	0.03	0.00	33.28	0.03	0.02	0.04	0.11	0.80	0.04	34.58
Mohican I-100	3692.42	73	anhydrite*	0.00	0.06	0.01	0.09	0.07	0.05	0.00	34.13	0.02	0.02	0.06	0.12	0.64	0.00	35.28
Mohican I-100	3692.42	111	anhydrite*	0.00	0.01	0.03	0.02	0.02	0.02	0.03	33.27	0.06	0.01	0.02	0.01	0.65	0.00	34.15
Mohican I-100	3692.42	112	anhydrite*	0.00	0.03	0.02	0.02	0.02	0.01	0.01	32.81	0.06	0.04	0.01	0.01	0.86	0.02	33.92
Mohican I-100	3692.42	113	anhydrite*	1.13	0.01	0.44	0.00	0.05	0.01	0.03	32.74	0.19	0.05	0.03	0.00	0.55	0.00	35.22
Mohican I-100	3692.42	114	anhydrite*	0.00	0.04	0.00	0.00	0.00	0.02	0.01	32.80	0.06	0.01	0.00	0.02	0.57	0.00	33.55
Mohican I-100	3692.42	115	titania (TiO_2)	0.28	91.72	0.15	0.06	0.13	0.05	0.03	0.12	0.06	0.07	0.00	0.06	0.06	1.12	93.91
Mohican I-100	3692.42	116	anhydrite*	0.00	0.07	0.01	0.00	0.05	0.01	0.01	33.05	0.05	0.02	0.03	0.02	0.57	0.00	33.90
*The low totals of anhydrite anlayses are due to missing determination of sulphur.																		

Appendix 1D: Electron microprobe analyses of diagenetic minerals from representative samples from Onondaga O-95 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Onondaga O-95	3266.71	28	Fe-calcite	0.00	0.00	0.03	0.00	1.09	0.05	0.87	54.84	0.01	0.02	0.11	0.00	0.33	0.00	57.37
Onondaga O-95	3266.71	29	Mg-calcite	0.00	0.00	0.00	0.00	0.16	0.00	13.45	41.22	0.02	0.00	0.09	0.00	0.14	0.00	55.10
Onondaga O-95	3266.71	30	Fe-calcite	0.00	0.01	0.02	0.00	1.17	0.08	0.95	55.37	0.00	0.01	0.11	0.00	0.34	0.00	58.06
Onondaga O-95	3266.71	31	Mg-calcite	0.00	0.00	0.01	0.00	0.38	0.05	1.05	54.05	0.00	0.02	0.10	0.00	0.37	0.00	56.02
Onondaga O-95	3266.71	32	Mg-calcite	0.00	0.00	0.01	0.00	0.99	0.11	1.01	54.41	0.01	0.02	0.08	0.00	0.35	0.00	57.00
Onondaga O-95	3266.71	33	Fe-calcite	0.00	0.01	0.00	0.00	1.19	0.05	0.87	53.95	0.00	0.02	0.13	0.00	0.46	0.02	56.69
Onondaga O-95	3266.71	34	ankerite	0.00	0.00	0.02	0.00	13.56	0.68	9.68	30.59	0.00	0.03	0.06	0.00	0.00	0.00	54.62
Onondaga O-95	3266.71	35	Mg-calcite	0.00	0.01	0.01	0.00	0.35	0.01	1.29	54.45	0.01	0.02	0.12	0.00	0.38	0.00	56.64
Onondaga O-95	3266.71	36	Mg-calcite	0.00	0.02	0.01	0.00	0.11	0.00	2.19	54.50	0.01	0.02	0.13	0.00	0.25	0.00	57.24
Onondaga O-95	3266.71	37	Mg-calcite	0.00	0.00	0.01	0.00	0.39	0.02	1.56	54.42	0.02	0.02	0.09	0.00	0.19	0.00	56.73
Onondaga O-95	3266.71	38	Mg-calcite	0.00	0.00	0.01	0.00	0.35	0.05	1.17	54.45	0.01	0.01	0.10	0.00	0.32	0.00	56.47
Onondaga O-95	3266.71	39	calcite	0.00	0.00	0.02	0.00	0.65	0.06	0.99	54.49	0.02	0.02	0.12	0.00	0.28	0.00	56.63
Onondaga O-95	3266.71	40	Mg-calcite	0.00	0.00	0.07	0.00	0.01	0.00	3.63	52.87	0.05	0.03	0.33	0.00	0.06	0.00	57.04
Onondaga O-95	3266.71	41	Fe-calcite	0.00	0.00	0.01	0.00	1.68	0.26	0.59	54.08	0.00	0.02	0.07	0.00	0.42	0.00	57.13
Onondaga O-95	3266.71	42	Fe-calcite	0.00	0.03	0.03	0.00	1.53	0.29	0.43	55.28	0.00	0.05	0.04	0.00	0.18	0.00	57.87
Onondaga O-95	3266.71	43	Fe-calcite	0.00	0.03	0.01	0.00	1.70	0.18	0.70	55.32	0.01	0.02	0.06	0.00	0.43	0.01	58.46
Onondaga O-95	3266.71	44	Mg-calcite	0.00	0.01	0.02	0.00	0.00	0.00	4.22	52.20	0.08	0.01	0.18	0.00	0.09	0.00	56.83
Onondaga O-95	3266.71	45	Fe-calcite	0.00	0.00	0.02	0.00	1.24	0.15	0.49	53.62	0.01	0.01	0.08	0.00	0.35	0.03	56.00
Onondaga O-95	3266.71	46	Mg-calcite	0.00	0.00	0.00	0.00	0.81	0.07	1.07	54.57	0.01	0.03	0.07	0.00	0.24	0.00	56.88
Onondaga O-95	3266.71	47	Mg-calcite	0.00	0.03	0.01	0.00	0.00	0.00	5.12	51.11	0.04	0.01	0.13	0.00	0.10	0.00	56.56
Onondaga O-95	3266.71	48	Mg-calcite	0.00	0.00	0.00	0.00	0.01	0.00	4.91	50.97	0.04	0.01	0.15	0.00	0.10	0.00	56.20
Onondaga O-95	3266.71	49	calcite	0.00	0.00	0.00	0.02	0.45	0.04	0.93	55.06	0.01	0.02	0.10	0.04	0.31	0.00	56.98
Onondaga O-95	3266.71	50	Mg-calcite	0.05	0.04	0.02	0.03	0.52	0.04	1.45	54.24	0.01	0.02	0.12	0.03	0.29	0.00	56.87
Onondaga O-95	3268.73	7	Mg-calcite	0.00	0.00	0.00	0.00	0.02	0.00	4.50	51.58	0.10	0.02	0.24	0.00	0.12	0.00	56.59
Onondaga O-95	3268.73	8	Fe-calcite	0.02	0.00	0.01	0.00	1.33	0.16	0.68	55.50	0.01	0.02	0.06	0.00	0.31	0.00	58.10
Onondaga O-95	3268.73	9	Mg-calcite	0.00	0.03	0.01	0.00	0.02	0.00	4.83	50.81	0.04	0.02	0.16	0.00	0.13	0.00	56.05
Onondaga O-95	3268.73	10	Mg-calcite	0.00	0.02	0.00	0.00	0.01	0.00	4.66	51.40	0.08	0.02	0.21	0.00	0.12	0.00	56.51
Onondaga O-95	3268.73	11	Mg-calcite	0.00	0.02	0.00	0.00	0.29	0.00	1.26	53.81	0.01	0.03	0.07	0.00	0.41	0.05	55.95
Onondaga O-95	3268.73	12	Mg-calcite	0.00	0.00	0.00	0.00	0.01	0.00	4.92	51.66	0.10	0.03	0.21	0.00	0.12	0.00	57.05
Onondaga O-95	3268.73	13	Mg-calcite	0.00	0.00	0.00	0.00	0.03	0.00	4.59	51.71	0.06	0.03	0.34	0.00	0.11	0.00	56.89
Onondaga O-95	3268.73	14	Mg-calcite	0.00	0.02	0.01	0.00	0.00	0.00	4.57	51.30	0.16	0.02	0.24	0.00	0.13	0.00	56.45
Onondaga O-95	3268.73	15	Mg-calcite	0.01	0.01	0.03	0.00	0.12	0.00	1.54	54.69	0.03	0.03	0.14	0.00	0.42	0.03	57.04
Onondaga O-95	3268.73	16	Mg-calcite	0.00	0.01	0.00	0.00	0.03	0.00	4.27	52.58	0.12	0.03	0.19	0.00	0.13	0.00	57.37
Onondaga O-95	3268.73	17	Mg-calcite	0.00	0.02	0.02	0.00	0.30	0.00	1.12	55.41	0.02	0.03	0.17	0.00	0.44	0.00	57.53
Onondaga O-95	3268.73	18	calcite	0.00	0.00	0.00	0.02	0.34	0.00	0.59	55.69	0.01	0.03	0.20	0.00	0.63	0.00	57.52
Onondaga O-95	3268.73	19	Mg-calcite	0.00	0.00	0.00	0.00	0.00	0.00	4.53	51.27	0.13	0.03	0.22	0.00	0.11	0.00	56.30
Onondaga O-95	3268.73	20	Mg-calcite	0.00	0.02	0.00	0.00	0.00	0.00	4.70	50.60	0.10	0.02	0.21	0.00	0.12	0.00	55.77
Onondaga O-95	3268.73	21	Fe-calcite	0.00	0.04	0.03	0.00	2.25	0.15	0.71	54.64	0.02	0.03	0.09	0.00	0.52	0.00	58.48
Onondaga O-95	3268.73	22	calcite	0.00	0.02	0.01	0.00	0.91	0.00	0.64	56.19	0.02	0.04	0.20	0.00	0.52	0.00	58.55
Onondaga O-95	3268.73	23	Mg-calcite	0.00	0.02	0.00	0.00	0.02	0.00	4.27	51.69	0.17	0.02	0.18	0.00	0.14	0.00	56.53
Onondaga O-95	3268.73	24	Mg-calcite	0.00	0.02	0.01	0.00	0.06	0.00	4.29	51.85	0.08	0.02	0.20	0.00	0.13	0.03	56.68
Onondaga O-95	3268.73	25	calcite	0.09	0.02	0.02	0.00	0.30	0.00	0.51	53.78	0.01	0.03	0.04	0.00	0.69	0.00	55.48
Onondaga O-95	3268.73	45	Mg-calcite	0.00	0.00	0.02	0.04	0.00	0.00	5.05	51.39	0.09	0.02	0.27	0.01	0.18	0.00	57.08
Onondaga O-95	3268.73	46	calcite	0.03	0.00	0.03	0.00	0.99	0.19	0.93	54.35	0.02	0.02	0.10	0.01	0.48	0.02	57.15
Onondaga O-95	3268.73	47	Fe-calcite	0.00	0.02	0.03	0.01	1.25	0.20	0.77	55.99	0.02	0.03	0.06	0.04	0.40	0.00	58.82
Onondaga O-95	3268.73	48	calcite	0.00	0.01	0.00	0.00	0.98	0.15	0.62	56.41	0.00	0.02	0.08	0.00	0.57	0.00	58.83
Onondaga O-95	3268.73	49	Mg-calcite	0.00	0.00	0.00	0.00	0.00	0.00	4.33	51.89	0.08	0.02	0.38	0.02	0.11	0.00	56.83
Onondaga O-95	3268.73	50	Mg-calcite	0.00	0.03	0.01	0.00	0.00	0.00	4.08	52.85	0.05	0.01	0.26	0.01	0.12	0.00	57.42

Appendix 1E: Electron microprobe analyses of diagenetic minerals from representative samples from Sable Island C-67 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Sable Island C-67	2471.43	12	Fe-Mg-calcite	0.00	0.00	0.03	0.00	3.70	0.24	1.01	54.52	0.01	0.02	0.06	0.00	0.36	0.00	59.95
Sable Island C-67	2471.43	13	Fe-calcite	0.02	0.00	0.06	0.00	3.66	0.30	0.92	53.55	0.02	0.02	0.08	0.00	0.18	0.00	58.80
Sable Island C-67	2471.43	14	Fe-calcite	0.00	0.01	0.05	0.00	3.55	0.29	0.97	53.55	0.03	0.01	0.05	0.00	0.12	0.00	58.61
Sable Island C-67	2471.43	15	Fe-calcite	0.00	0.00	0.04	0.00	3.43	0.29	0.92	53.77	0.01	0.03	0.08	0.00	0.17	0.00	58.75
Sable Island C-67	2471.43	16	Fe-calcite	0.02	0.00	0.08	0.00	3.32	0.27	0.86	53.91	0.02	0.02	0.06	0.00	0.12	0.00	58.67
Sable Island C-67	2471.43	17	Fe-calcite	0.00	0.00	0.05	0.00	3.29	0.31	0.85	53.62	0.01	0.01	0.07	0.00	0.15	0.00	58.36
Sable Island C-67	2471.43	18	Fe-calcite	0.01	0.00	0.06	0.00	3.54	0.27	0.99	53.25	0.01	0.02	0.06	0.00	0.37	0.00	58.58
Sable Island C-67	2471.43	19	Fe-calcite	0.00	0.00	0.04	0.00	2.88	0.23	0.83	54.37	0.01	0.02	0.04	0.00	0.30	0.00	58.72
Sable Island C-67	2471.43	20	Fe-calcite	0.00	0.00	0.04	0.00	2.83	0.24	0.80	54.46	0.02	0.01	0.05	0.00	0.28	0.00	58.72
Sable Island C-67	2471.43	21	Fe-Mg-calcite	0.16	0.00	0.07	0.00	3.33	0.23	1.04	53.38	0.01	0.00	0.05	0.00	0.34	0.00	58.61
Sable Island C-67	2471.43	22	Fe-calcite	0.00	0.00	0.05	0.00	3.08	0.21	0.81	53.98	0.02	0.01	0.05	0.00	0.31	0.00	58.53
Sable Island C-67	2471.43	23	illite	40.69	0.32	18.19	0.04	8.21	0.07	9.34	0.75	0.19	3.04	0.01	0.00	0.08	0.00	80.92
Sable Island C-67	2471.43	24	kaolinite	42.36	0.01	32.24	0.00	0.37	0.01	0.12	0.20	0.10	0.19	0.02	0.01	0.25	0.00	75.88
Sable Island C-67	2471.43	25	Fe-calcite	0.75	0.05	0.41	0.07	2.13	0.24	0.55	51.32	0.03	0.07	0.08	0.11	0.38	0.07	56.24
Sable Island C-67	2471.43	26	Fe-calcite	0.43	0.08	0.20	0.08	2.93	0.28	0.84	51.67	0.02	0.06	0.05	0.07	0.38	0.05	57.14
Sable Island C-67	2471.43	27	Fe-calcite	0.19	0.05	0.00	0.07	3.24	0.31	0.82	51.62	0.03	0.05	0.10	0.12	0.25	0.10	56.96
Sable Island C-67	2471.43	28	Fe-calcite	0.12	0.07	0.00	0.09	3.39	0.26	0.99	52.23	0.03	0.03	0.07	0.14	0.49	0.03	57.93
Sable Island C-67	2471.43	29	Fe-calcite	0.16	0.07	0.00	0.07	2.77	0.27	0.81	52.60	0.01	0.05	0.05	0.10	0.41	0.08	57.46
Sable Island C-67	2471.43	30	kaolinite	43.47	0.06	33.01	0.04	1.71	0.03	0.60	0.56	0.16	0.11	0.06	0.03	0.26	0.03	80.11
Sable Island C-67	2471.43	31	Fe-calcite	0.23	0.06	0.01	0.07	3.13	0.32	0.92	52.54	0.06	0.05	0.10	0.11	0.33	0.04	57.96
Sable Island C-67	2471.43	32	Fe-calcite	0.11	0.07	0.00	0.07	3.35	0.33	0.91	52.84	0.05	0.03	0.07	0.10	0.25	0.06	58.24
Sable Island C-67	2471.43	33	Fe-calcite	0.16	0.06	0.00	0.08	3.14	0.30	0.90	53.15	0.04	0.04	0.09	0.09	0.28	0.05	58.37
Sable Island C-67	2471.43	34	chlorite	34.57	0.15	16.20	0.13	21.04	0.04	3.29	1.06	0.99	0.52	0.04	0.10	0.23	0.07	78.43
Sable Island C-67	2471.43	35	Fe-calcite	0.11	0.06	0.00	0.08	3.27	0.33	0.90	52.48	0.03	0.04	0.08	0.12	0.26	0.10	57.87
Sable Island C-67	2471.43	36	Fe-calcite	0.19	0.06	0.00	0.09	3.31	0.27	1.00	52.18	0.03	0.03	0.09	0.10	0.41	0.09	57.86
Sable Island C-67	2471.43	37	Fe-calcite	0.14	0.07	0.00	0.10	3.10	0.31	0.86	52.67	0.06	0.04	0.07	0.11	0.21	0.04	57.79
Sable Island C-67	2471.43	38	Fe-calcite	0.16	0.06	0.00	0.09	3.08	0.31	0.85	52.51	0.05	0.04	0.11	0.10	0.24	0.06	57.65
Sable Island C-67	2471.43	39	kaolinite	45.57	0.28	36.20	0.00	0.33	0.01	0.11	1.03	0.11	0.05	0.02	0.01	0.32	0.00	84.03
Sable Island C-67	2471.43	40	Fe-calcite	0.12	0.06	0.00	0.09	3.08	0.30	0.81	53.16	0.05	0.05	0.07	0.10	0.33	0.07	58.29
Sable Island C-67	2471.43	41	Fe-calcite	0.10	0.08	0.00	0.09	3.06	0.25	0.96	52.03	0.04	0.03	0.06	0.10	0.41	0.05	57.24
Sable Island C-67	2471.43	42	Fe-calcite	0.09	0.05	0.00	0.07	3.23	0.26	1.00	51.31	0.04	0.03	0.07	0.09	0.45	0.08	56.77
Sable Island C-67	2471.43	43	Fe-calcite	0.09	0.08	0.00	0.08	3.08	0.27	0.89	52.50	0.04	0.05	0.07	0.10	0.31	0.04	57.60
Sable Island C-67	2471.43	44	Fe-calcite	0.00	0.00	0.01	0.00	2.86	0.23	0.90	49.45	0.06	0.03	0.02	0.01	0.37	0.00	53.94
Sable Island C-67	2471.43	45	chlorite	24.46	0.07	21.11	0.05	34.79	0.52	7.06	0.19	0.05	0.06	0.00	0.06	0.10	0.00	88.52
Sable Island C-67	2473.28	48	siderite	0.18	0.03	0.05	0.01	41.31	0.89	4.22	7.63	0.19	0.04	0.13	0.00	0.03	0.00	54.72
Sable Island C-67	2473.28	49	siderite	1.37	0.01	0.25	0.00	43.37	0.53	3.69	5.85	0.55	0.04	0.25	0.02	0.00	0.01	55.94
Sable Island C-67	2473.28	50	siderite	4.75	0.01	0.09	0.00	39.26	0.82	4.97	5.64	0.39	0.05	0.38	0.00	0.00	0.00	56.35
Sable Island C-67	2473.28	51	siderite	4.77	0.04	2.67	0.00	39.83	0.96	6.61	4.65	0.60	0.04	0.24	0.00	0.04	0.00	60.43
Sable Island C-67	2473.28	52	siderite	2.14	0.00	0.50	0.00	34.41	0.41	3.26	4.38	1.19	0.05	0.18	0.00	0.00	0.00	46.51
Sable Island C-67	2473.28	53	siderite	1.31	0.00	0.28	0.00	43.44	0.71	3.32	6.54	0.68	0.04	0.13	0.00	0.00	0.00	56.45
Sable Island C-67	2473.28	54	siderite	0.22	0.01	0.05	0.00	41.85	1.18	4.15	7.58	0.18	0.04	0.14	0.00	0.00	0.00	55.41
Sable Island C-67	2473.28	55	siderite	1.30	0.03	0.30	0.00	44.59	0.48	4.72	5.96	0.30	0.06	0.25	0.01	0.05	0.00	58.06
Sable Island C-67	2473.28	56	siderite	1.13	0.01	0.42	0.00	42.01	0.68	6.37	5.56	0.43	0.05	0.29	0.00	0.03	0.00	56.98
Sable Island C-67	2473.28	57	siderite	1.94	0.35	1.42	0.00	40.24	0.62	6.42	5.60	0.26	0.08	0.30	0.00	0.00	0.00	57.23
Sable Island C-67	2473.28	58	siderite	3.74	0.06	0.93	0.00	43.30	0.53	3.75	5.55	0.61	0.09	0.25	0.01	0.06	0.00	58.87
Sable Island C-67	2473.28	59	siderite	3.22	0.03	0.75	0.01	42.68	0.63	3.15	6.14	0.41	0.09	0.17	0.01	0.00	0.00	57.29
Sable Island C-67	2473.28	60	siderite	2.08	0.05	0.52	0.00	41.26	0.77	3.57	6.78	0.55	0.07	0.19	0.01	0.04	0.00	55.89
Sable Island C-67	2473.28	61	siderite	2.96	0.03	0.65	0.00	44.14	0.54	3.50	5.54	0.88	0.07	0.26	0.02	0.11	0.00	58.68
Sable Island C-67	2473.28	62	siderite	3.10	0.03	0.80	0.00	41.00	0.70	5.42	5.14	0.89	0.08	0.27	0.00	0.10	0.00	57.53
Sable Island C-67	2473.28	63	siderite	0.09	0.00	0.03	0.00	40.93	0.67	4.17	8.18	0.11	0.02	0.19	0.00	0.03	0.00	54.43
Sable Island C-67	2473.28	64	siderite	1.05	0.00	0.62	0.00	38.54	0.68	5.74	5.49	0.49	0.03	0.33	0.01	0.05	0.00	53.03
Sable Island C-67	2473.28	65	siderite	2.26	0.02	0.53	0.00	40.99	0.40	3.08	5.18	0.47	0.03	0.25	0.00	0.02	0.00	53.23
Sable Island C-67	2473.28	66	siderite	3.00	0.10	0.66	0.00	44.67	0.64	2.77	6.35	0.41	0.04	0.17	0.03	0.11	0.02	58.99
Sable Island C-67	2473.28	67	siderite	4.93	0.45	1.24	0.00	45.89	0.58	2.50	4.82	0.44	0.07	0.16	0.03	0.08	0.00	61.19

Appendix 1E: Electron microprobe analyses of diagenetic minerals from representative samples from Sable Island C-67 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Sable Island C-67	2473.28	68	siderite	5.82	0.69	4.43	0.00	36.32	0.49	3.95	3.19	0.39	0.06	0.17	0.00	0.07	0.00	55.58
Sable Island C-67	2473.28	69	siderite	1.63	0.05	0.46	0.00	40.77	0.69	3.13	4.94	0.56	0.04	0.19	0.00	0.10	0.00	52.54
Sable Island C-67	2473.28	70	siderite	0.71	0.04	0.26	0.00	40.06	0.40	3.84	5.35	0.24	0.05	0.30	0.02	0.00	0.00	51.26
Sable Island C-67	2477.05	71	siderite	0.05	0.00	0.04	0.02	42.33	0.66	5.42	7.51	0.15	0.02	0.01	0.04	0.05	0.00	56.30
Sable Island C-67	2477.05	72	siderite	0.02	0.00	0.03	0.02	45.44	0.50	5.33	4.54	0.16	0.01	0.47	0.00	0.06	0.00	56.58
Sable Island C-67	2477.05	73	siderite	0.00	0.00	0.04	0.00	37.31	0.31	11.62	6.79	0.14	0.01	0.15	0.00	0.02	0.00	56.39
Sable Island C-67	2477.05	74	Fe-calcite	0.00	0.00	0.03	0.00	1.39	0.62	0.33	46.87	0.04	0.00	0.00	0.00	0.26	0.00	49.53
Sable Island C-67	2477.05	75	siderite	0.01	0.00	0.03	0.00	41.42	0.28	8.91	5.17	0.19	0.02	0.34	0.00	0.01	0.00	56.38
Sable Island C-67	2477.05	76	Fe-calcite	0.01	0.00	0.02	0.00	1.93	0.90	0.45	47.99	0.05	0.01	0.04	0.00	0.16	0.00	51.56
Sable Island C-67	2477.05	77	siderite	0.01	0.00	0.06	0.00	37.13	0.34	11.34	7.00	0.17	0.04	0.06	0.00	0.00	0.00	56.15
Sable Island C-67	2477.05	78	siderite	0.01	0.00	0.01	0.01	42.93	0.53	4.39	7.96	0.12	0.02	0.06	0.03	0.07	0.00	56.14
Sable Island C-67	2477.05	79	siderite	0.04	0.00	0.05	0.01	42.75	0.42	4.98	7.66	0.14	0.02	0.08	0.02	0.04	0.00	56.21
Sable Island C-67	2477.05	80	Fe-calcite	0.00	0.00	0.00	0.00	2.02	0.75	0.40	48.97	0.02	0.01	0.02	0.00	0.20	0.00	52.39
Sable Island C-67	2477.05	81	siderite	0.00	0.03	0.00	0.08	37.60	0.47	11.00	6.65	0.08	0.05	0.05	0.04	0.00	0.05	56.10
Sable Island C-67	2477.05	82	siderite	0.00	0.02	0.00	0.07	42.72	0.66	5.14	7.10	0.05	0.06	0.04	0.07	0.00	0.06	55.99
Sable Island C-67	2477.05	83	Fe-calcite	0.00	0.00	0.00	0.00	2.36	1.05	0.42	48.91	0.00	0.03	0.03	0.02	0.11	0.00	52.93
Sable Island C-67	2477.05	84	Fe-calcite	0.00	0.00	0.00	0.00	1.92	0.75	0.38	47.71	0.05	0.03	0.00	0.01	0.20	0.00	51.06
Sable Island C-67	2477.05	85	Fe-calcite	0.00	0.00	0.01	0.02	1.79	0.74	0.34	47.68	0.01	0.02	0.03	0.03	0.15	0.00	50.84
Sable Island C-67	2477.05	86	Fe-calcite	0.00	0.00	0.00	0.00	1.89	0.96	0.42	47.07	0.04	0.01	0.05	0.02	0.05	0.00	50.49
Sable Island C-67	2477.05	87	siderite	0.00	0.04	0.00	0.08	40.51	0.25	9.43	5.55	0.15	0.03	0.25	0.06	0.00	0.06	56.40
Sable Island C-67	2477.05	88	Fe-calcite	0.00	0.00	0.01	0.02	2.24	0.97	0.47	48.71	0.05	0.02	0.00	0.03	0.06	0.00	52.59
Sable Island C-67	2477.05	89	siderite	0.00	0.01	0.00	0.07	36.86	0.36	11.67	7.18	0.24	0.03	0.06	0.05	0.00	0.07	56.61
Sable Island C-67	2477.05	90	Fe-calcite	0.00	0.00	0.02	0.00	1.71	0.78	0.36	46.72	0.01	0.02	0.00	0.00	0.22	0.00	49.84
Sable Island C-67	2477.05	91	calcite	0.00	0.00	0.00	0.01	0.77	0.38	0.22	40.12	0.07	0.01	0.02	0.00	0.22	0.00	41.83
Sable Island C-67	2477.05	92	Fe-calcite	0.00	0.00	0.00	0.00	1.95	0.95	0.44	47.49	0.00	0.02	0.02	0.00	0.10	0.00	50.98
Sable Island C-67	2477.05	93	Fe-calcite	0.00	0.00	0.00	0.02	1.89	0.73	0.34	50.12	0.01	0.01	0.05	0.03	0.25	0.01	53.48
Sable Island C-67	2477.05	94	siderite	0.00	0.05	0.00	0.06	44.13	0.38	7.29	3.76	0.12	0.03	0.49	0.09	0.00	0.09	56.48
Sable Island C-67	2477.05	95	Fe-calcite	0.00	0.00	0.00	0.00	1.71	0.72	0.35	46.81	0.02	0.02	0.02	0.01	0.19	0.00	49.85
Sable Island C-67	2477.05	96	siderite	0.00	0.00	0.00	0.08	37.53	0.40	11.23	7.03	0.05	0.02	0.05	0.04	0.00	0.02	56.45
Sable Island C-67	2477.05	97	siderite	0.00	0.03	0.00	0.07	43.90	0.43	6.71	4.85	0.09	0.03	0.39	0.08	0.00	0.07	56.64
Sable Island C-67	2477.05	98	Fe-calcite	0.00	0.00	0.01	0.00	1.30	0.56	0.25	46.24	0.07	0.01	0.01	0.01	0.21	0.00	48.66
Sable Island C-67	2477.05	99	calcite	0.00	0.00	0.00	0.00	0.87	0.46	0.25	41.50	0.01	0.02	0.02	0.00	0.21	0.00	43.35
Sable Island C-67	2477.05	100	chlorite	22.66	0.03	17.35	0.05	32.82	0.05	2.70	2.11	0.65	0.35	0.59	0.02	0.09	0.00	79.47
Sable Island C-67	2477.05	101	mixture	8.80	0.00	7.54	0.00	13.80	0.26	2.02	24.83	0.61	0.04	0.03	0.00	0.11	0.00	58.04
Sable Island C-67	2477.05	102	Fe-calcite	0.00	0.00	0.00	0.00	1.58	0.69	0.33	47.12	0.03	0.02	0.03	0.00	0.26	0.00	50.07
Sable Island C-67	2477.05	103	siderite	0.03	0.01	0.00	0.04	42.13	0.44	5.31	7.32	0.07	0.02	0.08	0.02	0.00	0.00	55.46
Sable Island C-67	2477.05	104	siderite	0.02	0.03	0.00	0.04	39.86	0.28	9.41	6.15	0.12	0.02	0.21	0.00	0.00	0.00	56.15
Sable Island C-67	2477.05	105	Fe-calcite	0.00	0.00	0.00	0.00	1.31	0.65	0.30	44.29	0.04	0.02	0.02	0.00	0.19	0.00	46.83
Sable Island C-67	2477.05	106	siderite	0.03	0.00	0.00	0.02	40.90	0.26	9.33	5.32	0.12	0.03	0.32	0.00	0.00	0.00	56.31
Sable Island C-67	2477.05	107	siderite	0.01	0.04	0.00	0.02	38.47	0.33	10.71	6.07	0.11	0.04	0.17	0.01	0.00	0.00	55.97
Sable Island C-67	2477.05	108	siderite	0.03	0.00	0.01	0.01	41.87	0.57	7.17	6.51	0.14	0.02	0.05	0.01	0.00	0.00	56.40
Sable Island C-67	2477.05	109	siderite	0.07	0.02	0.00	0.02	43.00	0.76	5.12	6.76	0.06	0.03	0.06	0.00	0.00	0.01	55.91
Sable Island C-67	2477.05	110	Fe-calcite	0.02	0.00	0.00	0.00	1.75	0.88	0.43	46.20	0.03	0.02	0.07	0.00	0.10	0.00	49.49
Sable Island C-67	2477.05	111	siderite	0.04	0.02	0.00	0.01	40.44	0.39	9.02	5.27	0.14	0.03	0.31	0.00	0.00	0.00	55.68
Sable Island C-67	2477.05	112	Fe-calcite	0.02	0.00	0.00	0.00	1.77	0.74	0.40	47.83	0.02	0.02	0.03	0.00	0.22	0.00	51.05
Sable Island C-67	2477.05	113	Fe-calcite	0.01	0.00	0.00	0.00	1.19	0.64	0.32	44.82	0.03	0.00	0.02	0.00	0.17	0.00	47.21
Sable Island C-67	2477.05	114	siderite	0.02	0.02	0.00	0.00	46.18	0.48	5.53	3.73	0.15	0.04	0.59	0.02	0.00	0.00	56.77
Sable Island C-67	2477.05	115	siderite	0.02	0.01	0.00	0.01	43.43	0.53	6.20	5.55	0.08	0.07	0.30	0.00	0.00	0.04	56.24
Sable Island C-67	2477.05	116	Fe-calcite	0.09	0.00	0.00	0.00	1.28	0.56	0.28	47.83	0.06	0.01	0.03	0.00	0.28	0.00	50.44
Sable Island C-67	2477.05	117	siderite	0.05	0.03	0.00	0.03	44.44	0.61	5.71	5.11	0.10	0.02	0.46	0.01	0.00	0.00	56.56
Sable Island C-67	2477.05	118	Fe-calcite	0.00	0.00	0.00	0.00	1.57	0.72	0.33	45.52	0.02	0.00	0.04	0.00	0.28	0.00	48.48
Sable Island C-67	2477.05	119	siderite	0.04	0.03	0.00	0.04	41.96	0.33	8.47	4.87	0.16	0.03	0.40	0.02	0.00	0.00	56.35
Sable Island C-67	2477.05	120	Fe-calcite	0.00	0.00	0.00	0.00	1.71	0.85	0.38	47.82	0.02	0.05	0.02	0.00	0.09	0.00	50.95
Sable Island C-67	2477.05	121	siderite	0.00	0.06	0.00	0.05	38.32	0.29	10.72	6.16	0.09	0.03	0.12	0.03	0.00	0.08	55.97

Appendix 1E: Electron microprobe analyses of diagenetic minerals from representative samples from Sable Island C-67 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Sable Island C-67	2477.05	122	Fe-calcite	0.00	0.00	0.00	0.00	1.50	0.68	0.34	44.25	0.03	0.00	0.01	0.00	0.17	0.00	46.98
Sable Island C-67	3376.48	9	Fe-calcite	0.00	0.00	0.03	0.00	1.22	0.60	0.34	53.16	0.01	0.01	0.04	0.00	0.49	0.00	55.90
Sable Island C-67	3376.48	10	Fe-calcite	0.00	0.00	0.01	0.00	1.24	0.61	0.33	53.35	0.02	0.00	0.01	0.00	0.53	0.00	56.10
Sable Island C-67	3376.48	11	Fe-calcite	0.00	0.01	0.02	0.00	1.60	0.73	0.46	54.13	0.04	0.01	0.03	0.00	0.56	0.00	57.58
Sable Island C-67	3376.48	12	Fe-calcite	0.00	0.00	0.02	0.00	1.25	0.59	0.31	53.01	0.01	0.02	0.06	0.00	0.60	0.00	55.87
Sable Island C-67	3376.48	13	Fe-calcite	0.00	0.00	0.02	0.00	1.02	0.57	0.25	53.05	0.03	0.01	0.04	0.00	0.55	0.00	55.54
Sable Island C-67	3376.48	14	Fe-calcite	0.00	0.04	0.00	0.00	1.81	0.75	0.45	53.75	0.02	0.01	0.02	0.00	0.61	0.00	57.46
Sable Island C-67	3376.48	15	illite	42.30	0.36	22.91	0.00	5.77	0.00	2.58	0.51	0.52	5.58	0.00	0.00	0.02	0.00	80.56
Sable Island C-67	3376.48	16	chlorite	21.69	0.01	16.48	0.00	17.64	0.00	2.79	0.74	0.34	0.87	0.05	0.00	0.00	0.00	60.60
Sable Island C-67	3376.48	17	chlorite	24.74	0.06	19.08	0.00	16.10	0.00	2.74	0.33	0.23	0.84	0.00	0.00	0.04	0.00	64.16
Sable Island C-67	3376.48	18	calcite	0.00	0.00	0.01	0.00	0.52	0.35	0.14	39.47	0.02	0.02	0.05	0.01	0.76	0.01	41.36
Sable Island C-67	3376.48	19	Fe-calcite	0.00	0.00	0.01	0.01	1.61	0.74	0.40	53.17	0.00	0.02	0.02	0.06	0.48	0.00	56.54
Sable Island C-67	3376.48	20	Fe-calcite	0.00	0.00	0.02	0.03	1.99	0.86	0.52	52.30	0.02	0.02	0.03	0.09	0.46	0.00	56.33
Sable Island C-67	3376.48	21	Fe-calcite	0.00	0.00	0.01	0.01	2.01	0.86	0.48	52.59	0.00	0.03	0.05	0.08	0.51	0.02	56.65
Sable Island C-67	3376.48	22	Fe-calcite	0.00	0.00	0.00	0.03	1.45	0.67	0.32	53.30	0.01	0.03	0.00	0.07	0.13	0.00	56.01
Sable Island C-67	3376.48	23	mixture	16.85	0.05	13.84	0.00	16.12	0.17	2.75	13.16	0.55	0.59	0.05	0.05	0.05	0.00	64.23
Sable Island C-67	3376.48	24	Fe-calcite	0.00	0.00	0.00	0.00	1.26	0.57	0.31	50.20	0.03	0.02	0.04	0.00	0.58	0.00	53.02
Sable Island C-67	3376.48	25	Fe-calcite	0.00	0.01	0.02	0.00	2.33	1.00	0.66	52.69	0.06	0.02	0.03	0.01	0.25	0.00	57.08
Sable Island C-67	3376.48	26	kaolinite	44.00	0.00	38.00	0.00	0.00	0.00	0.05	1.33	0.19	0.06	0.00	0.00	0.18	0.00	83.81
Sable Island C-67	3376.48	27	Fe-calcite	0.00	0.00	0.00	0.00	1.99	0.99	0.63	51.54	0.03	0.01	0.06	0.00	0.21	0.00	55.46
Sable Island C-67	3376.48	28	Fe-calcite	0.00	0.00	0.01	0.00	1.56	0.75	0.44	47.86	0.02	0.01	0.03	0.00	0.56	0.00	51.23
Sable Island C-67	3376.48	29	Fe-calcite	0.00	0.00	0.00	0.00	1.96	0.95	0.59	51.92	0.03	0.02	0.07	0.02	0.34	0.00	55.88
Sable Island C-67	3376.48	30	Fe-calcite	0.00	0.00	0.01	0.00	1.82	0.93	0.53	51.69	0.03	0.02	0.04	0.00	0.34	0.02	55.42
Sable Island C-67	3376.48	31	Fe-calcite	0.00	0.00	0.01	0.00	2.01	0.96	0.63	51.55	0.03	0.02	0.06	0.00	0.24	0.00	55.51
Sable Island C-67	3376.48	32	Fe-calcite	0.00	0.00	0.00	0.00	2.04	1.03	0.61	51.58	0.03	0.02	0.07	0.00	0.28	0.00	55.66
Sable Island C-67	3376.48	33	Fe-calcite	0.00	0.00	0.03	0.00	1.21	0.62	0.34	52.49	0.01	0.02	0.02	0.00	0.53	0.00	55.28
Sable Island C-67	3376.48	34	calcite	0.00	0.00	0.00	0.00	0.67	0.47	0.19	44.25	0.01	0.01	0.05	0.00	0.62	0.00	46.28
Sable Island C-67	3376.48	35	Fe-calcite	0.00	0.00	0.02	0.00	1.46	0.68	0.37	51.60	0.01	0.03	0.05	0.00	0.58	0.01	54.80
Sable Island C-67	3376.48	36	Fe-calcite	0.00	0.00	0.01	0.00	1.22	0.45	0.22	52.51	0.04	0.01	0.02	0.00	0.07	0.00	54.54
Sable Island C-67	3376.48	37	Fe-calcite	0.00	0.00	0.00	0.00	1.41	0.56	0.31	52.78	0.04	0.03	0.05	0.00	0.01	0.00	55.17
Sable Island C-67	3376.48	38	Fe-calcite	0.00	0.00	0.01	0.00	2.03	0.84	0.52	51.18	0.02	0.02	0.04	0.00	0.55	0.05	55.26
Sable Island C-67	3376.48	39	Fe-calcite	0.00	0.00	0.01	0.00	1.83	0.83	0.55	51.07	0.03	0.02	0.02	0.00	0.45	0.00	54.82
Sable Island C-67	3376.48	40	Fe-calcite	0.00	0.00	0.01	0.00	1.89	0.87	0.55	50.76	0.04	0.02	0.04	0.00	0.36	0.00	54.54
Sable Island C-67	4085.83	8	Fe-calcite	0.00	0.00	0.00	0.01	1.56	0.53	0.32	54.72	0.00	0.01	0.04	0.00	0.20	0.01	57.39
Sable Island C-67	4085.83	9	Fe-calcite	0.04	0.00	0.02	0.00	1.50	0.61	0.29	54.00	0.01	0.02	0.03	0.00	0.11	0.00	56.62
Sable Island C-67	4085.83	10	Fe-calcite	0.00	0.00	0.01	0.00	1.55	0.57	0.31	54.84	0.01	0.02	0.02	0.00	0.20	0.00	57.52
Sable Island C-67	4085.83	11	Fe-calcite	0.40	0.00	0.09	0.00	1.81	0.85	0.35	53.48	0.02	0.03	0.00	0.00	0.07	0.00	57.10
Sable Island C-67	4085.83	12	Fe-calcite	0.03	0.02	0.02	0.00	1.48	0.56	0.30	54.54	0.02	0.02	0.04	0.00	0.16	0.00	57.20
Sable Island C-67	4085.83	13	calcite	0.08	0.00	0.02	0.00	0.82	0.39	0.13	54.75	0.01	0.01	0.02	0.00	0.04	0.00	56.29
Sable Island C-67	4085.83	14	Fe-calcite	0.00	0.00	0.00	0.01	1.55	0.50	0.29	54.82	0.02	0.02	0.05	0.00	0.13	0.00	57.38
Sable Island C-67	4085.83	15	Fe-calcite	0.24	0.00	0.13	0.00	1.30	0.53	0.25	54.74	0.01	0.02	0.05	0.00	0.12	0.01	57.39
Sable Island C-67	4085.83	16	Fe-calcite	0.01	0.00	0.01	0.01	1.45	0.70	0.29	55.87	0.02	0.02	0.05	0.00	0.12	0.00	58.55
Sable Island C-67	4085.83	17	Fe-calcite	0.05	0.00	0.01	0.00	1.82	0.66	0.38	55.68	0.01	0.02	0.04	0.01	0.16	0.00	58.83
Sable Island C-67	4085.83	18	Fe-calcite	0.00	0.00	0.01	0.00	1.87	0.52	0.40	55.49	0.00	0.06	0.05	0.00	0.36	0.00	58.77
Sable Island C-67	4085.83	19	Fe-calcite	0.08	0.00	0.02	0.00	1.80	0.51	0.39	55.01	0.01	0.04	0.04	0.00	0.38	0.00	58.27
Sable Island C-67	4085.83	20	calcite	0.00	0.00	0.01	0.00	0.65	0.31	0.11	56.28	0.03	0.02	0.06	0.00	0.16	0.00	57.62
Sable Island C-67	4085.83	21	Fe-calcite	0.00	0.02	0.02	0.00	1.74	0.46	0.35	56.06	0.00	0.03	0.04	0.00	0.42	0.00	59.13
Sable Island C-67	4085.83	22	Fe-calcite	0.00	0.03	0.01	0.01	1.80	0.50	0.34	53.91	0.01	0.02	0.03	0.00	0.22	0.00	56.89
Sable Island C-67	4085.83	23	Fe-calcite	0.00	0.00	0.02	0.00	1.06	0.52	0.23	55.72	0.01	0.02	0.01	0.00	0.22	0.00	57.83
Sable Island C-67	4085.83	24	Fe-calcite	0.00	0.01	0.01	0.01	1.05	0.43	0.20	55.89	0.01	0.02	0.06	0.00	0.23	0.00	57.92
Sable Island C-67	4085.83	25	Fe-calcite	0.00	0.05	0.00	0.01	1.65	0.44	0.35	53.95	0.00	0.01	0.03	0.00	0.40	0.01	56.89
Sable Island C-67	4085.83	26	calcite	0.00	0.00	0.00	0.00	0.98	0.38	0.16	55.60	0.01	0.00	0.04	0.00	0.18	0.00	57.36
Sable Island C-67	4085.83	27	Fe-calcite	0.00	0.00	0.00	0.01	1.55	0.45	0.30	53.74	0.01	0.01	0.03	0.00	0.29	0.00	56.39
Sable Island C-67	4085.83	46	calcite	5.60	0.00	1.18	0.05	0.82	0.28	0.13	42.53	0.03	1.05	0.05	0.00	0.05	0.04	51.79

Appendix 1E: Electron microprobe analyses of diagenetic minerals from representative samples from Sable Island C-67 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Sable Island C-67	4085.83	47	calcite	4.36	0.00	2.02	0.00	0.67	0.38	0.08	49.26	0.09	0.94	0.05	0.01	0.03	0.00	57.89
Sable Island C-67	4085.83	48	calcite	0.00	0.00	0.01	0.00	0.69	0.30	0.22	38.28	0.04	0.01	0.02	0.00	0.22	0.00	39.79
Sable Island C-67	4085.83	49	calcite	0.00	0.00	0.01	0.00	0.81	0.27	0.23	39.54	0.04	0.01	0.05	0.00	0.43	0.00	41.39
Sable Island C-67	4085.83	50	Fe-calcite	0.00	0.00	0.00	0.01	1.15	0.32	0.31	40.11	0.03	0.01	0.05	0.00	0.54	0.00	42.51
Sable Island C-67	4085.83	51	calcite	0.00	0.03	0.00	0.02	0.89	0.39	0.24	37.93	0.03	0.01	0.02	0.00	0.27	0.00	39.83
Sable Island C-67	4085.83	52	calcite	0.00	0.09	0.00	0.02	0.90	0.38	0.25	42.71	0.04	0.01	0.03	0.03	0.30	0.00	44.76
Sable Island C-67	4085.83	53	calcite	0.00	0.00	0.00	0.01	0.53	0.28	0.12	39.67	0.08	0.02	0.08	0.02	0.20	0.00	41.01
Sable Island C-67	4085.83	54	Fe-calcite	0.00	0.00	0.01	0.02	1.06	0.47	0.22	42.32	0.00	0.01	0.04	0.02	0.10	0.00	44.26
Sable Island C-67	4085.83	55	Fe-calcite	0.00	0.00	0.00	0.00	1.09	0.46	0.21	42.33	0.00	0.03	0.04	0.06	0.08	0.00	44.29
Sable Island C-67	4085.83	56	Fe-calcite	0.14	0.02	0.00	0.03	1.29	0.53	0.22	48.25	0.00	0.03	0.03	0.07	0.07	0.00	50.68
Sable Island C-67	4085.83	57	Fe-calcite	0.00	0.02	0.00	0.00	1.06	0.46	0.21	41.18	0.00	0.01	0.03	0.03	0.09	0.00	43.09
Sable Island C-67	4085.83	58	Fe-calcite	0.00	0.00	0.01	0.00	1.06	0.43	0.22	41.26	0.02	0.01	0.03	0.00	0.07	0.00	43.12
Sable Island C-67	4085.83	59	calcite	0.00	0.01	0.00	0.00	0.74	0.41	0.25	38.89	0.01	0.01	0.04	0.03	0.17	0.00	40.55
Sable Island C-67	4085.83	60	calcite	0.00	0.01	0.02	0.02	0.64	0.38	0.08	50.10	0.00	0.01	0.02	0.08	0.01	0.00	51.37
Sable Island C-67	4085.83	61	Fe-calcite	0.00	0.01	0.00	0.02	1.28	0.47	0.27	43.35	0.00	0.02	0.03	0.05	0.17	0.00	45.67
Sable Island C-67	4085.83	62	Fe-calcite	0.00	0.00	0.00	0.01	1.30	0.52	0.26	44.11	0.01	0.01	0.00	0.03	0.15	0.00	46.40
Sable Island C-67	4085.83	63	Fe-calcite	0.00	0.00	0.00	0.03	1.45	0.54	0.25	46.94	0.00	0.03	0.01	0.04	0.19	0.00	49.48
Sable Island C-67	4085.83	64	Fe-calcite	0.00	0.04	0.00	0.03	1.90	0.80	0.31	47.51	0.00	0.02	0.05	0.08	0.08	0.05	50.86

Appendix 1F: Electron microprobe analyses of diagenetic minerals from representative samples from South Desbarres O-76 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
South Desbarres O-76	3809.66	74	Mg-calcite	0.00	0.01	0.01	0.00	0.12	0.01	2.37	52.71	0.20	0.04	0.02	0.00	0.18	0.00	55.67
South Desbarres O-76	3809.66	75	Fe-calcite	0.00	0.00	0.02	0.00	1.49	0.56	0.27	52.79	0.02	0.03	0.02	0.00	0.18	0.03	55.40
South Desbarres O-76	3809.66	76	Mg-calcite	0.00	0.02	0.02	0.00	0.06	0.00	2.76	50.83	0.15	0.04	0.02	0.00	0.14	0.00	54.05
South Desbarres O-76	3809.66	77	Mg-calcite	0.00	0.00	0.03	0.00	0.35	0.09	2.21	50.30	0.13	0.03	0.01	0.00	0.23	0.05	53.43
South Desbarres O-76	3809.66	78	Fe-calcite	0.00	0.00	0.01	0.00	1.31	0.85	0.24	52.91	0.01	0.02	0.03	0.00	0.13	0.00	55.51
South Desbarres O-76	3809.66	79	Fe-calcite	0.00	0.00	0.04	0.00	1.22	0.60	0.26	50.95	0.04	0.02	0.03	0.00	0.12	0.00	53.28
South Desbarres O-76	3809.66	80	Mg-calcite	0.00	0.01	0.02	0.00	0.03	0.00	2.63	51.26	0.20	0.04	0.02	0.00	0.23	0.00	54.43
South Desbarres O-76	3809.66	81	Fe-calcite	0.00	0.01	0.03	0.00	1.53	0.64	0.29	50.55	0.05	0.02	0.04	0.00	0.22	0.01	53.41
South Desbarres O-76	3809.66	82	Mg-calcite	0.00	0.00	0.01	0.00	0.59	0.24	1.07	52.14	0.09	0.03	0.04	0.00	0.19	0.00	54.40
South Desbarres O-76	3809.66	83	Fe-calcite	0.00	0.00	0.00	0.00	1.19	0.36	0.19	54.57	0.03	0.03	0.00	0.01	0.05	0.03	56.46
South Desbarres O-76	3809.66	84	Fe-calcite	0.00	0.01	0.00	0.00	1.15	0.35	0.18	51.20	0.01	0.02	0.04	0.00	0.04	0.00	52.98
South Desbarres O-76	3809.66	85	Fe-calcite	0.00	0.00	0.00	0.00	1.21	0.37	0.17	52.83	0.02	0.01	0.02	0.01	0.03	0.00	54.67
South Desbarres O-76	3809.66	86	Fe-calcite	0.00	0.00	0.01	0.00	1.22	0.45	0.18	53.41	0.01	0.04	0.02	0.00	0.05	0.01	55.40
South Desbarres O-76	3809.66	87	Fe-calcite	0.00	0.00	0.04	0.00	1.34	0.92	0.25	51.21	0.02	0.05	0.03	0.00	0.15	0.02	54.03
South Desbarres O-76	3809.66	88	Fe-calcite	0.00	0.01	0.01	0.01	1.02	0.71	0.17	53.30	0.03	0.02	0.03	0.00	0.06	0.00	55.38
South Desbarres O-76	3809.66	89	Fe-calcite	0.00	0.01	0.02	0.00	1.21	0.55	0.23	53.39	0.00	0.03	0.04	0.00	0.04	0.01	55.52
South Desbarres O-76	3809.66	90	Fe-calcite	0.00	0.00	0.04	0.00	1.53	0.35	0.23	53.67	0.04	0.03	0.00	0.00	0.09	0.03	56.00
South Desbarres O-76	3809.66	91	Fe-calcite	0.00	0.00	0.02	0.00	1.28	0.42	0.19	51.34	0.01	0.02	0.04	0.01	0.05	0.00	53.38
South Desbarres O-76	3809.66	92	calcite	0.00	0.00	0.02	0.00	0.87	0.32	0.10	53.86	0.00	0.03	0.02	0.00	0.05	0.00	55.28
South Desbarres O-76	3809.66	93	Fe-calcite	7.21	0.01	0.04	0.00	1.13	0.38	0.20	48.03	0.01	0.02	0.01	0.00	0.11	0.04	57.20
South Desbarres O-76	3818.26	94	ankerite	0.00	0.01	0.02	0.00	11.20	1.16	8.49	28.18	0.00	0.03	0.01	0.00	0.06	0.00	49.17
South Desbarres O-76	3818.26	95	ankerite	0.00	0.00	0.01	0.00	11.87	1.30	8.97	27.26	0.05	0.02	0.00	0.00	0.07	0.03	49.57
South Desbarres O-76	3818.26	96	ankerite	0.00	0.00	0.01	0.00	11.15	2.38	8.75	28.90	0.01	0.01	0.03	0.00	0.08	0.00	51.32
South Desbarres O-76	3818.26	97	ankerite	0.00	0.00	0.07	0.00	11.50	1.20	8.89	29.78	0.01	0.01	0.03	0.00	0.11	0.00	51.61
South Desbarres O-76	3818.26	98	ankerite	0.00	0.00	0.03	0.00	11.10	1.34	8.72	27.86	0.02	0.01	0.02	0.00	0.10	0.00	49.20
South Desbarres O-76	3818.26	99	ankerite	0.00	0.00	0.04	0.00	11.26	1.32	8.70	28.37	0.03	0.02	0.05	0.00	0.12	0.00	49.92
South Desbarres O-76	3818.26	100	ankerite	0.00	0.00	0.04	0.00	10.82	1.44	8.64	28.83	0.04	0.02	0.07	0.00	0.12	0.00	50.01
South Desbarres O-76	3818.26	101	ankerite	0.00	0.00	0.02	0.00	11.48	1.68	8.18	29.03	0.03	0.02	0.02	0.00	0.13	0.00	50.59
South Desbarres O-76	3818.26	102	ankerite	0.00	0.00	0.04	0.01	11.07	2.34	8.69	29.02	0.02	0.01	0.03	0.00	0.10	0.00	51.32
South Desbarres O-76	3818.26	103	ankerite	0.00	0.00	0.03	0.03	10.44	2.26	8.01	30.70	0.02	0.01	0.04	0.00	0.11	0.00	51.65
South Desbarres O-76	3818.26	104	ankerite	0.00	0.00	0.02	0.00	10.87	2.24	8.45	29.92	0.01	0.00	0.02	0.00	0.10	0.00	51.63
South Desbarres O-76	3818.26	105	ankerite	0.00	0.00	0.03	0.03	11.50	2.32	8.67	28.87	0.00	0.01	0.00	0.00	0.13	0.01	51.57
South Desbarres O-76	3818.26	106	ankerite	0.00	0.00	0.03	0.03	10.10	1.91	7.46	31.95	0.01	0.01	0.02	0.01	0.18	0.00	51.70
South Desbarres O-76	3818.26	107	ankerite	0.00	0.00	0.04	0.00	1.21	0.44	0.29	53.09	0.01	0.01	0.02	0.00	0.16	0.00	55.28
South Desbarres O-76	3818.26	108	ankerite	0.00	0.00	0.03	0.00	11.04	2.33	8.52	29.16	0.02	0.01	0.03	0.00	0.11	0.00	51.24
South Desbarres O-76	3818.26	109	ankerite	0.00	0.00	0.03	0.00	10.94	2.28	8.55	29.44	0.01	0.00	0.02	0.00	0.11	0.00	51.39
South Desbarres O-76	3818.26	110	ankerite	0.00	0.00	0.03	0.02	11.67	2.52	8.92	30.11	0.01	0.01	0.01	0.00	0.13	0.00	53.44
South Desbarres O-76	3818.26	111	ankerite	0.00	0.00	0.02	0.01	10.70	2.34	8.45	30.00	0.00	0.02	0.00	0.01	0.11	0.01	51.67
South Desbarres O-76	3818.26	112	ankerite	0.00	0.00	0.02	0.00	11.41	2.10	8.63	29.03	0.03	0.02	0.02	0.00	0.08	0.00	51.35
South Desbarres O-76	3821.72	9	Mg-calcite	0.00	0.00	0.05	0.00	0.02	0.09	4.49	50.44	0.05	0.01	0.38	0.00	0.16	0.00	55.70
South Desbarres O-76	3821.72	10	Fe-calcite	0.00	0.00	0.02	0.00	2.19	0.65	0.67	52.05	0.01	0.01	0.03	0.00	0.20	0.13	55.97
South Desbarres O-76	3821.72	11	Mg-calcite	0.00	0.00	0.01	0.00	0.02	0.07	3.35	50.62	0.06	0.01	0.26	0.00	0.16	0.03	54.58
South Desbarres O-76	3821.72	12	Fe-calcite	0.00	0.01	0.01	0.01	2.20	0.45	0.58	47.54	0.00	0.01	0.05	0.00	0.27	0.02	51.14
South Desbarres O-76	3821.72	13	Fe-calcite	0.00	0.00	0.01	0.00	1.61	0.41	0.42	52.70	0.00	0.01	0.03	0.00	0.29	0.04	55.52
South Desbarres O-76	3821.72	14	Fe-calcite	0.00	0.00	0.01	0.00	2.21	0.64	0.62	52.38	0.00	0.02	0.01	0.00	0.21	0.00	56.11
South Desbarres O-76	3821.72	15	Mg-calcite	0.00	0.00	0.04	0.00	0.12	0.06	4.67	49.70	0.05	0.01	0.37	0.00	0.15	0.00	55.18
South Desbarres O-76	3821.72	16	Fe-calcite	0.00	0.00	0.02	0.01	1.45	0.40	0.36	51.84	0.00	0.02	0.02	0.00	0.35	0.01	54.48
South Desbarres O-76	3821.72	17	Fe-calcite	0.00	0.00	0.01	0.01	2.28	0.59	0.70	53.04	0.00	0.02	0.05	0.00	0.23	0.00	56.92
South Desbarres O-76	3821.72	18	Fe-calcite	0.00	0.00	0.02	0.00	2.18	0.57	0.67	53.03	0.01	0.01	0.03	0.00	0.26	0.00	56.78
South Desbarres O-76	3821.72	19	Fe-calcite	0.00	0.00	0.00	0.00	2.38	0.59	0.79	53.15	0.00	0.01	0.04	0.00	0.26	0.00	57.21
South Desbarres O-76	3821.72	20	Mg-calcite	0.00	0.00	0.03	0.00	0.04	0.09	2.94	49.69	0.04	0.01	0.29	0.00	0.11	0.03	53.28
South Desbarres O-76	3821.72	21	Mg-calcite	0.00	0.00	0.04	0.00	0.02	0.08	4.51	50.39	0.04	0.01	0.37	0.00	0.13	0.00	55.59
South Desbarres O-76	3821.72	22	Fe-calcite	0.00	0.00	0.01	0.00	2.09	0.54	0.60	50.34	0.00	0.01	0.06	0.00	0.25	0.01	53.92
South Desbarres O-76	3821.72	23	Fe-calcite	0.00	0.00	0.02	0.00	1.93	0.52	0.51	51.30	0.00	0.01	0.02	0.00	0.26	0.02	54.58
South Desbarres O-76	3821.72	24	Mg-calcite	0.00	0.00	0.05	0.00	0.03	0.09	3.96	49.88	0.05	0.01	0.36	0.00	0.10	0.00	54.53
South Desbarres O-76	3821.72	25	Fe-calcite	0.00	0.00	0.01	0.00	2.09	0.50	0.61	50.48	0.00	0.02	0.04	0.00	0.25	0.01	54.00

Appendix 1F: Electron microprobe analyses of diagenetic minerals from representative samples from South Desbarres O-76 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
South Desbarres O-76	3821.72	26	Fe-calcite	0.00	0.00	0.01	0.00	2.38	0.55	0.67	51.13	0.00	0.00	0.05	0.00	0.26	0.00	55.06
South Desbarres O-76	3821.72	27	Fe-calcite	0.00	0.00	0.02	0.00	1.36	0.36	0.38	50.53	0.00	0.00	0.04	0.00	0.35	0.00	53.04
South Desbarres O-76	3821.72	28	Fe-calcite	0.00	0.01	0.00	0.00	1.60	0.48	0.45	51.88	0.00	0.01	0.04	0.01	0.20	0.03	54.69
South Desbarres O-76	3821.72	29	Mg-calcite	0.00	0.00	0.04	0.00	0.01	0.08	4.72	50.07	0.09	0.01	0.36	0.01	0.16	0.00	55.56
South Desbarres O-76	3821.72	30	Fe-calcite	0.00	0.00	0.01	0.01	2.00	0.44	0.57	50.81	0.01	0.01	0.04	0.02	0.25	0.00	54.17
South Desbarres O-76	3821.72	31	Mg-calcite	0.00	0.01	0.04	0.00	0.05	0.07	4.28	48.85	0.08	0.01	0.38	0.00	0.16	0.00	53.94
South Desbarres O-76	3821.72	32	Fe-calcite	0.00	0.00	0.01	0.00	2.16	0.64	0.73	51.64	0.03	0.02	0.06	0.02	0.09	0.00	55.40
South Desbarres O-76	3821.72	33	Mg-calcite	0.00	0.01	0.01	0.04	0.03	0.02	3.52	51.00	0.06	0.01	0.31	0.00	0.16	0.00	55.17
South Desbarres O-76	3821.72	34	Fe-calcite	0.00	0.00	0.02	0.02	2.17	0.52	0.63	51.90	0.03	0.01	0.04	0.01	0.23	0.00	55.58
South Desbarres O-76	3821.72	35	Mg-calcite	0.00	0.00	0.05	0.00	0.01	0.07	4.41	49.36	0.07	0.00	0.35	0.00	0.14	0.00	54.45
South Desbarres O-76	3821.72	36	calcite	0.00	0.02	0.02	0.00	0.99	0.22	0.25	52.21	0.02	0.02	0.04	0.01	0.32	0.00	54.12
South Desbarres O-76	3821.72	37	Mg-calcite	0.00	0.01	0.05	0.00	0.05	0.06	4.23	49.72	0.10	0.02	0.35	0.00	0.12	0.01	54.72
South Desbarres O-76	3821.72	38	Fe-calcite	0.00	0.02	0.01	0.05	2.03	0.49	0.61	51.47	0.02	0.01	0.04	0.00	0.25	0.00	55.00
South Desbarres O-76	3821.72	39	Mg-calcite	0.00	0.04	0.05	0.02	0.03	0.08	3.27	50.50	0.06	0.02	0.37	0.00	0.13	0.00	54.58
South Desbarres O-76	3821.72	40	Fe-calcite	0.00	0.02	0.01	0.01	1.26	0.31	0.38	52.26	0.03	0.01	0.03	0.00	0.36	0.03	54.71
South Desbarres O-76	5952.65	45	Fe-calcite	0.00	0.00	0.01	0.00	2.11	0.58	0.28	52.74	0.02	0.04	0.05	0.01	0.10	0.00	55.93
South Desbarres O-76	5952.65	46	Fe-calcite	0.00	0.00	0.00	0.00	3.17	0.84	0.58	51.65	0.00	0.02	0.04	0.00	0.13	0.00	56.44
South Desbarres O-76	5952.65	47	Fe-calcite	0.00	0.00	0.01	0.00	1.70	0.60	0.25	52.04	0.00	0.03	0.03	0.01	0.30	0.00	54.98
South Desbarres O-76	5952.65	48	Fe-calcite	0.00	0.00	0.01	0.00	1.94	0.47	0.30	51.23	0.00	0.02	0.01	0.00	0.02	0.00	54.00
South Desbarres O-76	5952.65	49	Fe-calcite	1.23	0.00	1.12	0.00	2.36	0.59	0.45	48.48	0.00	0.03	0.07	0.00	0.19	0.00	54.50
South Desbarres O-76	5952.65	50	chlorite	22.99	0.06	23.71	0.06	33.33	0.07	4.73	0.09	0.10	0.06	0.02	0.07	0.06	0.03	85.37
South Desbarres O-76	5952.65	51	ankerite	0.00	0.00	0.09	0.00	16.43	1.15	7.99	25.30	0.00	0.01	0.00	0.00	0.00	0.03	51.00
South Desbarres O-76	5952.65	52	ankerite	0.00	0.00	0.00	0.00	14.11	0.80	8.39	27.49	0.00	0.01	0.02	0.00	0.00	0.00	50.83
South Desbarres O-76	5952.65	53	ankerite	0.00	0.00	0.00	0.00	14.62	0.90	7.97	27.59	0.00	0.01	0.00	0.01	0.00	0.00	51.11
South Desbarres O-76	5952.65	54	ankerite	0.00	0.00	0.12	0.00	14.18	0.85	8.02	27.66	0.00	0.02	0.00	0.00	0.00	0.00	50.85
South Desbarres O-76	5952.65	55	ankerite	0.07	0.00	0.28	0.00	17.32	0.85	7.85	24.89	0.00	0.02	0.01	0.00	0.00	0.00	51.28
South Desbarres O-76	5952.65	56	ankerite	0.00	0.00	0.13	0.00	15.19	0.81	9.27	25.52	0.00	0.04	0.03	0.00	0.00	0.00	50.99
South Desbarres O-76	5952.65	57	ankerite	0.00	0.00	0.02	0.00	14.19	0.80	8.35	27.25	0.00	0.02	0.00	0.00	0.00	0.00	50.64
South Desbarres O-76	5952.65	58	ankerite	0.00	0.00	0.08	0.00	13.88	0.85	8.18	27.67	0.00	0.02	0.01	0.00	0.00	0.01	50.69
South Desbarres O-76	5952.65	59	ankerite	0.00	0.00	0.00	0.00	13.79	0.87	8.18	27.13	0.00	0.01	0.01	0.00	0.00	0.00	50.00
South Desbarres O-76	5952.65	60	ankerite	0.00	0.00	0.01	0.00	14.34	0.83	8.41	26.50	0.00	0.02	0.01	0.00	0.00	0.00	50.11
South Desbarres O-76	5952.65	61	ankerite	0.00	0.00	0.02	0.00	14.42	0.83	8.49	26.28	0.00	0.02	0.03	0.00	0.00	0.00	50.09
South Desbarres O-76	5952.65	62	ankerite	0.00	0.02	0.00	0.00	14.41	0.88	8.01	27.82	0.00	0.01	0.00	0.00	0.00	0.00	51.17
South Desbarres O-76	5952.65	63	ankerite	0.00	0.00	0.02	0.00	14.31	0.87	8.31	27.41	0.00	0.02	0.00	0.00	0.00	0.00	50.94
South Desbarres O-76	5952.65	64	ankerite	0.00	0.00	0.00	0.00	14.28	0.90	8.15	27.34	0.00	0.02	0.01	0.01	0.00	0.00	50.72
South Desbarres O-76	5952.65	65	ankerite	0.00	0.00	0.01	0.00	16.79	1.06	8.36	24.35	0.00	0.01	0.02	0.00	0.00	0.00	50.59
South Desbarres O-76	5952.65	66	ankerite	0.56	0.00	0.65	0.00	15.21	0.81	8.44	26.07	0.04	0.03	0.03	0.00	0.00	0.00	51.83
South Desbarres O-76	5952.65	67	ankerite	0.00	0.00	0.01	0.00	14.50	0.82	8.55	26.42	0.00	0.02	0.01	0.00	0.00	0.00	50.35
South Desbarres O-76	5952.65	68	ankerite	1.10	0.11	0.76	0.00	15.37	0.77	8.95	25.01	0.04	0.05	0.01	0.00	0.00	0.00	52.16
South Desbarres O-76	5952.65	69	ankerite	0.04	0.01	0.04	0.00	16.31	1.13	8.60	24.47	0.02	0.04	0.02	0.00	0.00	0.00	50.67
South Desbarres O-76	5952.65	70	ankerite	0.00	0.14	0.04	0.00	13.94	0.88	8.19	26.68	0.01	0.02	0.06	0.01	0.00	0.00	49.96

Appendix 1G: Electron microprobe analyses of diagenetic minerals from representative samples from Wenonah J-75 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Wenonah J-75	3071.17	16	ankerite	0.03	0.00	0.00	0.00	12.92	0.28	10.05	30.32	0.02	0.00	0.00	0.00	0.00	0.02	53.66
Wenonah J-75	3071.17	17	ankerite	0.01	0.00	0.00	0.00	12.93	0.28	10.59	30.37	0.02	0.00	0.00	0.00	0.00	0.00	54.21
Wenonah J-75	3071.17	18	ankerite	0.09	0.00	0.01	0.00	12.97	0.30	9.97	29.97	0.01	0.00	0.00	0.00	0.00	0.00	53.31
Wenonah J-75	3071.17	19	ankerite	0.01	0.00	0.01	0.00	12.46	0.25	10.90	30.08	0.00	0.00	0.00	0.00	0.00	0.00	53.71
Wenonah J-75	3071.17	20	calcite	0.04	0.00	0.04	0.00	0.00	0.00	0.40	56.54	0.19	0.00	0.00	0.00	0.04	0.00	57.26
Wenonah J-75	3071.17	21	ankerite	0.03	0.00	0.00	0.00	14.46	0.21	7.79	31.51	0.02	0.00	0.00	0.00	0.06	0.03	54.12
Wenonah J-75	3071.17	22	ankerite	0.02	0.00	0.00	0.00	13.46	0.18	9.65	31.00	0.02	0.00	0.00	0.00	0.02	0.00	54.35
Wenonah J-75	3071.17	23	ankerite	0.02	0.00	0.00	0.00	13.08	0.21	9.48	31.46	0.02	0.01	0.00	0.00	0.00	0.00	54.27
Wenonah J-75	3071.17	24	ankerite	0.03	0.00	0.01	0.00	13.98	0.25	8.83	31.19	0.02	0.00	0.00	0.00	0.01	0.01	54.34
Wenonah J-75	3071.17	25	ankerite	0.88	0.00	0.68	0.00	12.53	0.28	9.06	30.86	0.00	0.07	0.00	0.00	0.00	0.01	54.38
Wenonah J-75	3071.17	26	ankerite	0.06	0.00	0.01	0.00	13.32	0.18	9.65	30.67	0.01	0.00	0.00	0.00	0.01	0.00	53.90
Wenonah J-75	3071.17	27	ankerite	0.05	0.00	0.02	0.00	13.13	0.23	9.53	30.92	0.01	0.00	0.00	0.00	0.00	0.02	53.92
Wenonah J-75	3071.17	28	ankerite	0.00	0.00	0.03	0.01	13.06	0.28	10.26	30.53	0.02	0.01	0.00	0.02	0.05	0.00	54.27
Wenonah J-75	3071.17	29	ankerite	0.00	0.00	0.03	0.02	12.42	0.26	10.34	31.32	0.01	0.03	0.01	0.00	0.06	0.00	54.50
Wenonah J-75	3071.17	30	K-feldspar	63.03	0.02	18.25	0.01	0.06	0.00	0.02	0.03	0.31	15.83	0.00	0.00	0.00	0.65	98.21
Wenonah J-75	3071.17	31	ankerite	0.00	0.00	0.03	0.02	12.37	0.29	10.50	30.70	0.03	0.02	0.01	0.00	0.03	0.00	53.99
Wenonah J-75	3071.17	32	ankerite	0.00	0.00	0.03	0.05	13.34	0.31	9.97	30.97	0.03	0.03	0.02	0.00	0.03	0.00	54.77
Wenonah J-75	3071.17	33	ankerite	0.00	0.00	0.03	0.01	12.75	0.27	10.31	31.00	0.02	0.04	0.02	0.02	0.06	0.00	54.52
Wenonah J-75	3071.17	34	ankerite	0.00	0.00	0.03	0.01	12.11	0.27	10.34	30.52	0.01	0.02	0.00	0.00	0.03	0.02	53.36
Wenonah J-75	3071.17	35	chlorite + illite	32.11	0.12	19.62	0.24	20.44	0.13	11.14	0.49	0.27	0.91	0.02	0.10	0.19	0.07	85.85
Wenonah J-75	3071.17	36	ankerite	0.00	0.00	0.03	0.01	13.38	0.31	10.13	30.19	0.01	0.02	0.01	0.00	0.03	0.00	54.12
Wenonah J-75	3071.17	37	ankerite	0.00	0.00	0.02	0.03	12.60	0.22	9.54	30.82	0.01	0.02	0.02	0.00	0.08	0.00	53.35
Wenonah J-75	3071.17	38	ankerite	0.04	0.00	0.08	0.01	13.65	0.19	9.08	30.72	0.04	0.01	0.00	0.01	0.10	0.00	53.94
Wenonah J-75	3071.17	39	ankerite	0.00	0.02	0.05	0.02	13.25	0.26	9.69	30.37	0.04	0.07	0.01	0.00	0.09	0.00	53.87
Wenonah J-75	3071.17	40	ankerite	0.23	0.00	0.12	0.01	12.68	0.22	10.49	29.90	0.01	0.07	0.01	0.00	0.03	0.00	53.77
Wenonah J-75	3071.17	41	ankerite	0.00	0.00	0.05	0.02	13.05	0.29	10.10	30.37	0.02	0.07	0.02	0.00	0.00	0.00	53.98
Wenonah J-75	3071.17	42	ankerite	0.00	0.00	0.04	0.01	12.33	0.24	10.17	31.18	0.03	0.02	0.03	0.01	0.03	0.00	54.09
Wenonah J-75	3071.17	43	ankerite	2.70	0.00	0.92	0.01	13.11	0.30	10.24	28.25	0.57	0.03	0.00	0.01	0.06	0.00	56.20
Wenonah J-75	3071.17	44	ankerite	0.00	0.00	0.04	0.01	12.77	0.28	10.25	30.03	0.01	0.03	0.02	0.00	0.03	0.00	53.46
Wenonah J-75	3074.43	26	Fe-calcite	0.00	0.00	0.03	0.00	1.06	0.09	0.23	55.40	0.00	0.05	0.03	0.01	0.00	0.05	56.95
Wenonah J-75	3074.43	27	Fe-calcite	0.00	0.00	0.02	0.00	1.03	0.09	0.23	54.12	0.00	0.03	0.03	0.00	0.07	0.07	55.70
Wenonah J-75	3074.43	28	Fe-calcite	0.00	0.00	0.01	0.00	1.11	0.07	0.25	53.64	0.00	0.06	0.02	0.00	0.06	0.03	55.26
Wenonah J-75	3074.43	29	calcite	0.03	0.00	0.02	0.00	0.66	0.04	0.13	53.11	0.00	0.04	0.01	0.00	0.03	0.04	54.11
Wenonah J-75	3074.43	30	Fe-calcite	0.00	0.00	0.02	0.00	1.06	0.08	0.24	53.95	0.00	0.07	0.02	0.00	0.05	0.00	55.48
Wenonah J-75	3074.43	31	ankerite	0.00	0.00	0.00	0.00	13.78	0.17	8.99	30.14	0.00	0.02	0.05	0.00	0.02	0.06	53.22
Wenonah J-75	3074.43	32	calcite	0.00	0.01	0.01	0.00	0.12	0.00	0.33	53.62	0.20	0.03	0.05	0.01	0.06	0.05	54.48
Wenonah J-75	3074.43	33	ankerite	0.22	0.01	0.10	0.00	12.51	0.26	10.54	28.61	0.00	0.07	0.03	0.00	0.00	0.01	52.35
Wenonah J-75	3074.43	34	ankerite	0.00	0.00	0.00	0.00	12.46	0.21	9.76	29.73	0.00	0.02	0.02	0.00	0.00	0.00	52.20
Wenonah J-75	3074.43	35	ankerite	0.00	0.00	0.02	0.00	13.45	0.30	10.41	28.82	0.00	0.05	0.02	0.00	0.00	0.03	53.10
Wenonah J-75	3074.43	36	ankerite	0.00	0.00	0.02	0.00	12.60	0.25	10.49	29.40	0.00	0.03	0.03	0.00	0.00	0.06	52.88
Wenonah J-75	3074.43	37	ankerite	0.00	0.00	0.03	0.00	13.13	0.24	10.58	27.94	0.00	0.02	0.00	0.00	0.00	0.01	51.95
Wenonah J-75	3074.43	38	calcite	0.00	0.00	0.02	0.00	0.79	0.06	0.17	53.79	0.00	0.02	0.06	0.00	0.08	0.04	55.03
Wenonah J-75	3074.43	39	calcite	0.00	0.00	0.01	0.00	0.55	0.05	0.11	53.08	0.00	0.01	0.01	0.01	0.01	0.01	53.85
Wenonah J-75	3074.43	40	calcite	0.03	0.00	0.03	0.00	0.94	0.06	0.22	53.23	0.00	0.03	0.01	0.00	0.11	0.02	54.67
Wenonah J-75	3074.43	41	calcite	0.00	0.00	0.01	0.00	0.74	0.04	0.51	51.99	0.07	0.02	0.05	0.00	0.06	0.02	53.51
Wenonah J-75	3074.43	42	calcite	0.00	0.00	0.01	0.00	0.76	0.05	0.16	53.13	0.00	0.05	0.04	0.00	0.06	0.05	54.30
Wenonah J-75	3074.43	43	calcite	0.00	0.00	0.01	0.00	0.72	0.04	0.12	52.71	0.00	0.03	0.03	0.02	0.05	0.02	53.74
Wenonah J-75	3074.43	44	calcite	0.06	0.00	0.02	0.00	0.85	0.07	0.19	53.70	0.00	0.02	0.03	0.00	0.06	0.05	55.04
Wenonah J-75	3074.43	45	calcite	0.00	0.00	0.00	0.00	0.95	0.05	0.23	51.51	0.00	0.03	0.01	0.00	0.04	0.02	52.86
Wenonah J-75	3074.43	46	calcite	0.00	0.00	0.00	0.00	0.98	0.09	0.22	52.24	0.00	0.03	0.04	0.00	0.08	0.00	53.69

*The low totals of barite anlayses are due to missing determination of sulphur.

Appendix 1G: Electron microprobe analyses of diagenetic minerals from representative samples from Wenonah J-75 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Wenonah J-75	3074.43	47	calcite	0.00	0.00	0.01	0.00	0.93	0.08	0.20	52.88	0.00	0.02	0.05	0.04	0.08	0.00	54.29
Wenonah J-75	3074.43	48	calcite	0.00	0.00	0.00	0.00	0.67	0.06	0.13	53.94	0.00	0.03	0.04	0.01	0.06	0.00	54.94
Wenonah J-75	3074.43	49	Fe-calcite	0.00	0.00	0.00	0.01	1.08	0.08	0.32	52.88	0.01	0.02	0.05	0.00	0.18	0.00	54.62
Wenonah J-75	3074.43	50	ankerite	0.00	0.00	0.00	0.00	13.87	0.21	9.03	29.05	0.00	0.02	0.04	0.00	0.05	0.00	52.26
Wenonah J-75	3074.43	51	Fe-calcite	0.00	0.00	0.00	0.00	1.10	0.12	0.21	53.10	0.00	0.01	0.03	0.03	0.04	0.00	54.65
Wenonah J-75	3074.43	52	calcite	0.00	0.00	0.00	0.00	0.60	0.07	0.13	52.58	0.00	0.02	0.05	0.01	0.06	0.00	53.51
Wenonah J-75	3074.43	53	illite	47.14	0.00	30.40	0.00	1.49	0.00	1.14	0.31	0.22	7.47	0.01	0.00	0.00	0.00	88.17
Wenonah J-75	3076.94	60	ankerite	0.00	0.00	0.03	0.00	10.82	0.21	11.08	31.55	0.05	0.02	0.01	0.00	0.29	0.00	54.07
Wenonah J-75	3076.94	61	calcite	0.04	0.00	0.03	0.00	0.13	0.00	0.65	56.92	0.27	0.04	0.03	0.01	0.21	0.00	58.34
Wenonah J-75	3076.94	62	Fe-calcite	0.63	0.02	0.27	0.00	1.85	0.14	0.58	53.85	0.04	0.04	0.05	0.01	0.70	0.00	58.18
Wenonah J-75	3076.94	63	Fe-calcite	0.20	0.02	0.06	0.00	1.78	0.17	0.63	53.44	0.04	0.07	0.03	0.01	0.68	0.00	57.12
Wenonah J-75	3076.94	64	Fe-calcite	0.06	0.02	0.03	0.00	1.80	0.15	0.61	55.14	0.03	0.05	0.03	0.01	0.72	0.00	58.67
Wenonah J-75	3076.94	65	Fe-calcite	0.25	0.00	0.16	0.00	1.64	0.11	0.55	53.51	0.02	0.07	0.04	0.01	0.75	0.00	57.12
Wenonah J-75	3076.94	66	ankerite	0.01	0.00	0.05	0.00	13.62	0.39	9.14	30.74	0.02	0.02	0.03	0.00	0.11	0.00	54.14
Wenonah J-75	3076.94	67	Fe-calcite	0.07	0.00	0.04	0.00	2.05	0.15	0.67	54.13	0.01	0.08	0.01	0.02	0.76	0.02	58.02
Wenonah J-75	3076.94	68	Fe-calcite	0.00	0.00	0.01	0.02	2.03	0.14	0.67	55.67	0.00	0.03	0.03	0.00	0.68	0.02	59.30
Wenonah J-75	3076.94	69	ankerite	0.25	0.00	0.26	0.00	10.17	0.27	10.74	31.85	0.00	0.09	0.00	0.00	0.17	0.00	53.80
Wenonah J-75	3076.94	70	calcite	0.00	0.00	0.01	0.00	0.45	0.08	0.05	55.72	0.00	0.03	0.04	0.00	0.02	0.00	56.39
Wenonah J-75	3076.94	71	calcite	1.47	0.01	1.41	0.00	0.79	0.10	0.16	53.19	0.21	0.11	0.04	0.00	0.00	0.01	57.51
Wenonah J-75	3076.94	72	Fe-calcite	0.76	0.01	0.40	0.00	1.79	0.14	0.69	53.45	0.01	0.12	0.03	0.00	0.48	0.00	57.88
Wenonah J-75	3076.94	73	Fe-calcite	0.00	0.00	0.03	0.02	1.66	0.12	0.57	55.82	0.00	0.04	0.02	0.00	0.61	0.00	58.88
Wenonah J-75	3076.94	74	Fe-calcite	0.00	0.00	0.02	0.02	2.01	0.14	0.65	54.11	0.00	0.04	0.05	0.00	0.78	0.00	57.84
Wenonah J-75	3076.94	75	Fe-calcite	0.08	0.00	0.01	0.00	1.88	0.14	0.64	54.62	0.00	0.06	0.04	0.00	0.75	0.00	58.22
Wenonah J-75	3076.94	76	tourmaline	36.64	1.04	33.05	0.02	6.98	0.01	6.26	0.44	1.76	0.01	0.00	0.00	0.15	0.00	86.35
Wenonah J-75	3076.94	77	Fe-calcite	0.00	0.00	0.00	0.00	1.41	0.10	0.50	55.54	0.01	0.02	0.04	0.00	0.13	0.00	57.76
Wenonah J-75	3076.94	78	Fe-calcite+clay	2.13	0.08	1.22	0.00	1.61	0.13	0.65	47.14	0.03	0.22	0.04	0.00	0.48	0.00	53.72
Wenonah J-75	3076.94	79	Fe-calcite	0.67	0.04	0.40	0.00	1.74	0.14	0.63	54.08	0.00	0.09	0.01	0.00	0.61	0.04	58.45
Wenonah J-75	3076.94	80	Fe-calcite	0.00	0.00	0.00	0.02	1.94	0.12	0.67	55.57	0.01	0.02	0.03	0.00	0.66	0.00	59.05
Wenonah J-75	3076.94	81	ankerite	0.00	0.00	0.02	0.00	10.45	0.23	11.15	31.77	0.00	0.03	0.05	0.00	0.23	0.00	53.93
Wenonah J-75	3076.94	82	ankerite	0.00	0.00	0.00	0.00	12.33	0.21	10.16	30.36	0.00	0.01	0.02	0.00	0.00	0.00	53.09
Wenonah J-75	3076.94	83	Fe-calcite	0.46	0.00	0.29	0.01	1.88	0.15	0.81	53.98	0.00	0.02	0.05	0.00	0.61	0.00	58.25
Wenonah J-75	3076.94	84	calcite	0.03	0.00	0.00	0.00	0.05	0.00	0.63	55.04	0.28	0.03	0.02	0.00	0.09	0.00	56.19
Wenonah J-75	3076.94	85	Fe-calcite	0.22	0.00	0.16	0.00	1.13	0.07	0.37	54.42	0.00	0.05	0.03	0.00	0.79	0.00	57.24
Wenonah J-75	3076.94	86	Fe-calcite	0.03	0.00	0.05	0.00	1.75	0.13	0.61	54.54	0.00	0.03	0.04	0.00	0.68	0.00	57.87
Wenonah J-75	3076.94	87	Fe-calcite	0.02	0.00	0.10	0.01	1.65	0.13	0.52	53.98	0.00	0.03	0.02	0.00	0.63	0.00	57.11
Wenonah J-75	3076.94	88	Fe-calcite	0.79	0.00	0.45	0.00	1.98	0.13	0.72	53.76	0.01	0.09	0.05	0.00	0.64	0.04	58.67
Wenonah J-75	3076.94	89	Fe-calcite	1.12	0.00	0.57	0.00	1.70	0.13	0.61	53.42	0.03	0.12	0.06	0.00	0.60	0.01	58.36
Wenonah J-75	3076.94	90	Fe-calcite	0.35	0.00	0.24	0.00	1.67	0.12	0.62	53.95	0.02	0.07	0.05	0.01	0.60	0.00	57.71
Wenonah J-75	3076.94	91	calcite	0.02	0.00	0.01	0.00	0.42	0.05	0.06	55.98	0.01	0.03	0.02	0.00	0.00	0.00	56.60
Wenonah J-75	3076.94	92	Fe-calcite	1.21	0.00	0.89	0.00	2.03	0.13	0.67	51.56	0.02	0.10	0.04	0.00	0.57	0.00	57.23
Wenonah J-75	3076.94	93	barite vein*	0.03	4.68	0.19	0.49	0.23	0.23	0.08	0.12	0.37	0.09	0.12	0.40	0.55	59.74	67.32
Wenonah J-75	3076.94	94	barite vein*	0.00	4.88	0.19	0.55	0.25	0.18	0.09	0.10	0.41	0.09	0.09	0.41	0.51	59.88	67.63
Wenonah J-75	3076.94	95	barite vein*	0.03	4.94	0.19	0.52	0.25	0.21	0.09	0.08	0.41	0.09	0.07	0.40	0.58	59.67	67.52
Wenonah J-75	3076.94	96	barite vein*	0.00	4.94	0.19	0.57	0.25	0.20	0.10	0.11	0.42	0.11	0.13	0.42	0.56	59.73	67.73
Wenonah J-75	3076.94	97	barite vein*	0.01	4.83	0.18	0.56	0.25	0.18	0.11	0.08	0.39	0.10	0.11	0.40	0.58	59.96	67.73
Wenonah J-75	3076.94	98	barite vein*	0.00	5.00	0.21	0.55	0.26	0.21	0.12	0.10	0.38	0.10	0.07	0.41	0.50	59.60	67.51
Wenonah J-75	3076.94	99	barite vein*	0.00	4.76	0.18	0.55	0.25	0.20	0.10	0.10	0.40	0.10	0.11	0.41	0.46	60.00	67.63
Wenonah J-75	3076.94	100	barite vein*	0.00	4.90	0.18	0.56	0.26	0.17	0.09	0.09	0.38	0.11	0.07	0.42	0.47	60.58	68.29
Wenonah J-75	3076.94	101	barite vein*	0.07	4.97	0.24	0.56	0.34	0.19	0.11	0.10	0.41	0.11	0.13	0.42	0.52	60.54	68.71
Wenonah J-75	3076.94	102	barite vein*	0.00	4.86	0.18	0.53	0.24	0.19	0.10	0.11	0.39	0.09	0.12	0.38	0.52	59.85	67.57

*The low totals of barite anlayses are due to missing determination of sulphur.

Appendix 1G: Electron microprobe analyses of diagenetic minerals from representative samples from Wenonah J-75 well.

Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Wenonah J-75	3076.94	103	barite vein*	0.00	4.95	0.19	0.55	0.25	0.21	0.10	0.09	0.43	0.10	0.10	0.38	0.51	60.62	68.47
Wenonah J-75	3076.94	104	barite vein*	0.01	4.95	0.21	0.52	0.26	0.20	0.12	0.09	0.39	0.10	0.11	0.44	0.49	61.24	69.14
Wenonah J-75	3079.14	109	ankerite	0.03	0.01	0.05	0.01	13.44	0.41	9.32	30.52	0.00	0.03	0.04	0.06	0.16	0.02	54.12
Wenonah J-75	3079.14	110	ankerite	0.00	0.05	0.03	0.04	12.17	0.28	11.03	31.09	0.00	0.02	0.09	0.03	0.08	0.03	54.93
Wenonah J-75	3079.14	111	ankerite	0.00	0.02	0.06	0.06	12.89	0.29	10.87	30.22	0.00	0.02	0.07	0.04	0.07	0.05	54.64
Wenonah J-75	3079.14	112	ankerite	0.05	0.03	0.05	0.02	12.47	0.28	11.03	30.05	0.02	0.02	0.36	0.04	0.07	0.05	54.54
Wenonah J-75	3079.14	113	ankerite	0.00	0.04	0.04	0.04	12.04	0.30	10.53	30.85	0.01	0.02	0.05	0.01	0.07	0.05	54.06
Wenonah J-75	3079.14	6	ankerite	0.00	0.00	0.01	0.02	12.10	0.24	11.25	30.78	0.00	0.02	0.00	0.00	0.03	0.00	54.44
Wenonah J-75	3079.14	7	ankerite	0.00	0.00	0.01	0.01	13.10	0.21	10.20	30.57	0.00	0.02	0.00	0.00	0.06	0.00	54.18
Wenonah J-75	3079.14	8	ankerite	0.00	0.00	0.02	0.02	12.94	0.27	9.69	30.91	0.00	0.01	0.00	0.00	0.10	0.00	53.96
Wenonah J-75	3079.14	9	ankerite	0.00	0.00	0.01	0.01	12.83	0.26	10.78	30.67	0.00	0.01	0.00	0.00	0.01	0.00	54.59
Wenonah J-75	3079.14	10	ankerite	0.00	0.00	0.02	0.02	12.69	0.30	10.52	30.30	0.00	0.02	0.02	0.00	0.00	0.00	53.89
Wenonah J-75	3079.14	11	ankerite	0.00	0.00	0.01	0.04	12.83	0.31	10.58	30.89	0.00	0.02	0.01	0.00	0.01	0.00	54.71
Wenonah J-75	3079.14	12	ankerite	0.00	0.00	0.02	0.01	11.84	0.24	11.06	30.82	0.00	0.01	0.00	0.00	0.04	0.00	54.05
Wenonah J-75	3079.14	13	ankerite	0.02	0.00	0.04	0.02	12.39	0.28	10.98	30.68	0.00	0.05	0.00	0.00	0.00	0.00	54.46
Wenonah J-75	3079.14	14	ankerite	0.00	0.00	0.01	0.05	11.78	0.25	11.05	31.01	0.00	0.02	0.01	0.00	0.05	0.00	54.22
Wenonah J-75	3079.14	15	ankerite	0.00	0.00	0.00	0.03	13.47	0.65	9.10	30.65	0.00	0.01	0.01	0.00	0.09	0.00	54.01
Wenonah J-75	3079.14	16	ankerite	0.00	0.00	0.01	0.01	11.88	0.29	10.93	30.97	0.00	0.02	0.02	0.02	0.01	0.00	54.16
Wenonah J-75	3079.14	17	ankerite	0.00	0.00	0.02	0.03	11.70	0.25	10.77	30.78	0.00	0.01	0.04	0.00	0.02	0.00	53.63
Wenonah J-75	3079.14	18	ankerite	0.00	0.00	0.00	0.02	13.06	0.24	9.78	30.36	0.00	0.01	0.01	0.00	0.06	0.00	53.54
Wenonah J-75	3079.14	19	ankerite	0.00	0.00	0.03	0.03	13.19	0.23	9.53	30.73	0.00	0.02	0.01	0.01	0.08	0.00	53.85
Wenonah J-75	3079.14	20	ankerite	0.00	0.00	0.02	0.03	12.54	0.27	10.97	30.49	0.00	0.01	0.01	0.00	0.05	0.00	54.40
Wenonah J-75	3079.14	21	ankerite	0.00	0.00	0.01	0.03	13.14	0.31	11.29	32.63	0.00	0.02	0.02	0.00	0.02	0.00	57.46
Wenonah J-75	3079.14	22	ankerite	0.00	0.00	0.02	0.00	11.83	0.26	11.04	30.50	0.00	0.01	0.01	0.00	0.03	0.00	53.69
Wenonah J-75	3079.14	23	ankerite	0.00	0.00	0.02	0.03	12.25	0.32	10.68	30.42	0.00	0.01	0.00	0.01	0.01	0.00	53.75
Wenonah J-75	3079.14	24	ankerite	0.00	0.00	0.00	0.03	12.82	0.24	10.40	31.03	0.00	0.01	0.03	0.00	0.03	0.00	54.60
Wenonah J-75	3079.14	25	ankerite	0.00	0.00	0.02	0.02	12.80	0.25	10.09	30.69	0.01	0.02	0.01	0.00	0.03	0.00	53.94
Wenonah J-75	3079.14	26	ankerite	0.00	0.00	0.01	0.02	13.84	0.31	9.96	30.64	0.01	0.00	0.03	0.03	0.01	0.00	54.87
Wenonah J-75	3079.14	27	ankerite	0.00	0.00	0.00	0.00	11.54	0.26	10.81	31.03	0.02	0.01	0.02	0.00	0.02	0.00	53.70
Wenonah J-75	3079.14	28	ankerite	0.00	0.00	0.03	0.02	12.88	0.25	9.91	30.92	0.00	0.01	0.01	0.00	0.06	0.00	54.10
Wenonah J-75	3079.14	29	ankerite	0.00	0.00	0.02	0.00	13.08	0.26	9.74	30.80	0.01	0.01	0.04	0.00	0.06	0.00	54.02
Wenonah J-75	3079.14	30	ankerite	0.00	0.01	0.00	0.00	12.29	0.26	10.35	30.80	0.00	0.02	0.02	0.01	0.01	0.00	53.78
Wenonah J-75	3079.14	31	ankerite	0.00	0.00	0.01	0.00	9.96	0.23	11.10	32.17	0.03	0.01	0.01	0.03	0.25	0.00	53.81
Wenonah J-75	3079.14	32	ankerite	0.32	0.00	0.28	0.00	10.60	0.69	10.58	31.16	0.03	0.05	0.03	0.01	0.14	0.00	53.89
Wenonah J-75	3079.14	33	ankerite	0.00	0.00	0.02	0.01	13.42	0.22	9.75	30.52	0.01	0.01	0.01	0.00	0.08	0.00	54.05
Wenonah J-75	3079.14	34	ankerite	0.00	0.00	0.01	0.01	12.91	0.22	9.91	30.75	0.00	0.02	0.04	0.02	0.06	0.00	53.94
Wenonah J-75	3079.14	35	K-feldspar	64.10	0.07	18.80	0.00	0.06	0.00	0.00	0.01	1.03	14.92	0.00	0.02	0.06	1.21	100.29
Wenonah J-75	3079.14	36	ankerite	0.00	0.00	0.00	0.00	12.70	0.25	10.34	30.52	0.01	0.00	0.00	0.01	0.03	0.00	53.87
Wenonah J-75	3082.16	41	Fe-calcite	0.00	0.00	0.01	0.00	1.65	0.20	0.54	54.35	0.03	0.03	0.04	0.02	0.40	0.00	57.27
Wenonah J-75	3082.16	42	Fe-calcite	0.00	0.00	0.01	0.00	1.46	0.24	0.52	54.76	0.03	0.03	0.05	0.01	0.27	0.00	57.39
Wenonah J-75	3082.16	43	Fe-calcite	0.00	0.00	0.00	0.00	1.52	0.27	0.50	55.42	0.01	0.02	0.08	0.00	0.23	0.00	58.06
Wenonah J-75	3082.16	44	Fe-calcite	0.00	0.00	0.02	0.00	1.55	0.23	0.57	54.33	0.02	0.03	0.05	0.01	0.27	0.00	57.07
Wenonah J-75	3082.16	45	Fe-calcite	0.00	0.00	0.01	0.00	1.52	0.24	0.52	54.39	0.01	0.04	0.04	0.02	0.53	0.00	57.33
Wenonah J-75	3082.16	46	Fe-calcite	0.00	0.00	0.01	0.00	1.41	0.25	0.52	55.06	0.04	0.03	0.01	0.02	0.16	0.00	57.51
Wenonah J-75	3082.16	47	Fe-calcite	0.00	0.00	0.00	0.00	1.37	0.20	0.46	54.10	0.02	0.04	0.04	0.01	0.31	0.00	56.56
Wenonah J-75	3082.16	48	Fe-calcite	0.00	0.00	0.00	0.00	1.36	0.23	0.50	54.55	0.02	0.02	0.05	0.01	0.18	0.00	56.92
Wenonah J-75	3082.16	49	Fe-calcite	0.00	0.00	0.00	0.00	1.43	0.21	0.53	54.25	0.02	0.02	0.05	0.00	0.28	0.00	56.79
Wenonah J-75	3082.16	50	Fe-calcite	0.00	0.00	0.00	0.00	1.58	0.21	0.58	53.84	0.02	0.03	0.04	0.01	0.24	0.00	56.55
Wenonah J-75	3082.16	51	Fe-calcite	0.00	0.00	0.01	0.00	1.43	0.26	0.55	52.63	0.03	0.03	0.05	0.00	0.37	0.00	55.36
Wenonah J-75	3082.16	52	Fe-calcite	0.06	0.00	0.03	0.00	1.39	0.23	0.56	55.06	0.03	0.03	0.07	0.01	0.16	0.02	57.63

*The low totals of barite anlayses are due to missing determination of sulphur.

Appendix 1G: Electron microprobe analyses of diagenetic minerals from representative samples from Wenonah J-75 well.

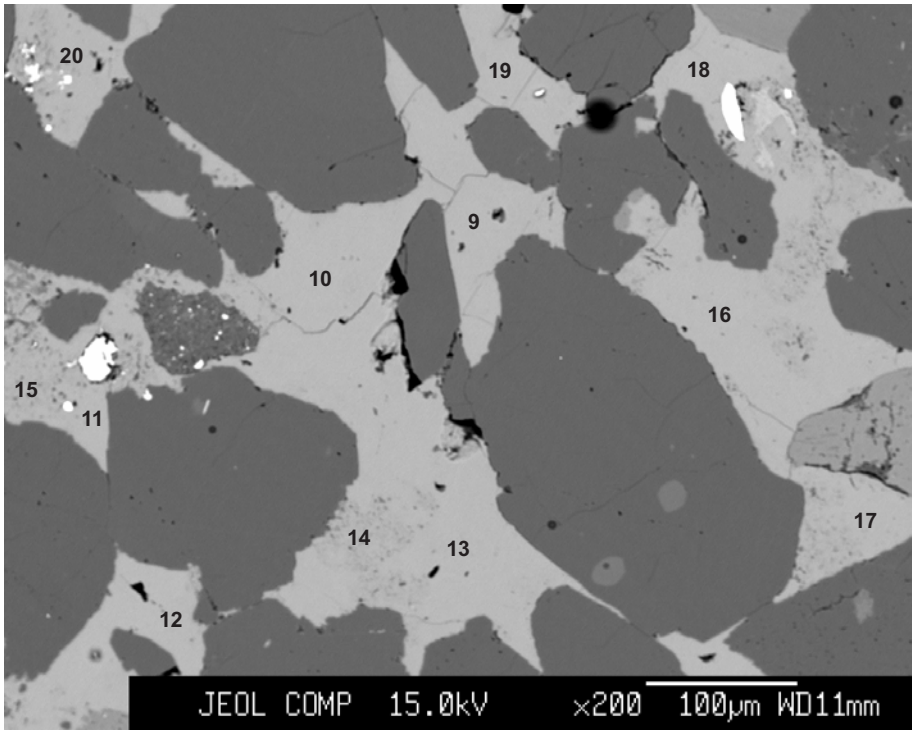
Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Wenonah J-75	3082.16	53	Fe-calcite	0.00	0.00	0.00	0.00	1.61	0.27	0.54	56.48	0.04	0.02	0.02	0.01	0.22	0.00	59.22
Wenonah J-75	3082.16	54	Fe-calcite	0.00	0.00	0.01	0.00	1.64	0.24	0.55	54.33	0.02	0.02	0.04	0.03	0.45	0.00	57.35
Wenonah J-75	3082.16	55	Fe-calcite	0.00	0.00	0.00	0.00	1.72	0.23	0.57	55.43	0.02	0.02	0.05	0.01	0.52	0.00	58.57
Wenonah J-75	3082.16	56	Fe-calcite	0.00	0.00	0.01	0.00	1.61	0.24	0.53	54.47	0.03	0.03	0.03	0.00	0.29	0.00	57.25
Wenonah J-75	3082.16	57	Fe-calcite	0.00	0.00	0.00	0.00	1.77	0.26	0.57	54.78	0.02	0.02	0.05	0.00	0.33	0.00	57.82
Wenonah J-75	3082.16	58	Fe-calcite	0.00	0.00	0.00	0.00	1.50	0.24	0.48	54.99	0.04	0.04	0.05	0.02	0.36	0.00	57.71
Wenonah J-75	3082.16	59	Fe-calcite	0.00	0.00	0.00	0.00	1.33	0.25	0.44	54.92	0.03	0.03	0.06	0.01	0.23	0.00	57.29
Wenonah J-75	3082.16	60	Fe-calcite	0.00	0.00	0.01	0.01	1.63	0.26	0.57	56.02	0.03	0.03	0.08	0.00	0.27	0.00	58.89
Wenonah J-75	3082.16	61	Fe-calcite	0.00	0.00	0.00	0.00	1.74	0.26	0.54	54.06	0.02	0.04	0.03	0.00	0.62	0.00	57.30
Wenonah J-75	3082.16	62	Fe-calcite	0.00	0.00	0.00	0.00	1.56	0.26	0.53	54.63	0.03	0.02	0.04	0.00	0.37	0.00	57.44
Wenonah J-75	3082.16	63	Fe-calcite	0.00	0.00	0.00	0.01	1.22	0.13	0.42	54.65	0.02	0.03	0.03	0.00	0.69	0.00	57.19
Wenonah J-75	3082.16	64	Fe-calcite	0.00	0.00	0.00	0.00	1.46	0.18	0.54	54.57	0.03	0.03	0.05	0.00	0.33	0.00	57.18
Wenonah J-75	3082.16	65	Fe-calcite	0.00	0.02	0.00	0.00	1.06	0.16	0.44	53.14	0.04	0.02	0.01	0.00	0.29	0.00	55.18
Wenonah J-75	3082.16	66	Fe-calcite	0.00	0.00	0.00	0.00	1.28	0.20	0.53	53.06	0.03	0.03	0.05	0.00	0.18	0.00	55.37
Wenonah J-75	3082.16	67	Fe-calcite	0.00	0.00	0.00	0.00	1.30	0.18	0.54	55.14	0.01	0.02	0.03	0.01	0.13	0.00	57.36
Wenonah J-75	3082.16	68	Fe-calcite	0.00	0.01	0.00	0.00	1.37	0.15	0.57	56.06	0.01	0.02	0.05	0.00	0.19	0.00	58.44
Wenonah J-75	3082.16	69	Fe-calcite	0.00	0.00	0.01	0.00	1.33	0.14	0.51	56.04	0.02	0.03	0.04	0.01	0.15	0.00	58.26
Wenonah J-75	3082.16	70	Fe-calcite	0.00	0.01	0.00	0.00	1.27	0.17	0.54	56.20	0.04	0.03	0.07	0.00	0.19	0.00	58.51
Wenonah J-75	3082.16	71	Fe-calcite	0.00	0.03	0.00	0.00	1.50	0.15	0.56	55.74	0.03	0.03	0.05	0.01	0.46	0.00	58.56
Wenonah J-75	3082.16	72	Fe-calcite	0.00	0.03	0.00	0.00	1.26	0.17	0.53	53.02	0.03	0.02	0.06	0.00	0.25	0.00	55.37
Wenonah J-75	3082.16	73	Fe-calcite	0.00	0.00	0.00	0.00	1.48	0.14	0.56	55.22	0.00	0.03	0.05	0.01	0.44	0.00	57.94
Wenonah J-75	3082.16	74	Fe-calcite	0.00	0.01	0.00	0.00	1.45	0.17	0.62	54.73	0.02	0.02	0.04	0.00	0.48	0.00	57.54
Wenonah J-75	3082.16	75	Fe-calcite	0.00	0.00	0.00	0.00	1.65	0.16	0.64	55.52	0.04	0.03	0.04	0.00	0.52	0.00	58.59

*The low totals of barite anlayses are due to missing determination of sulphur.

Appendix 1H: Electron microprobe analyses of diagenetic minerals from representative samples from Wyandot E-53 well.

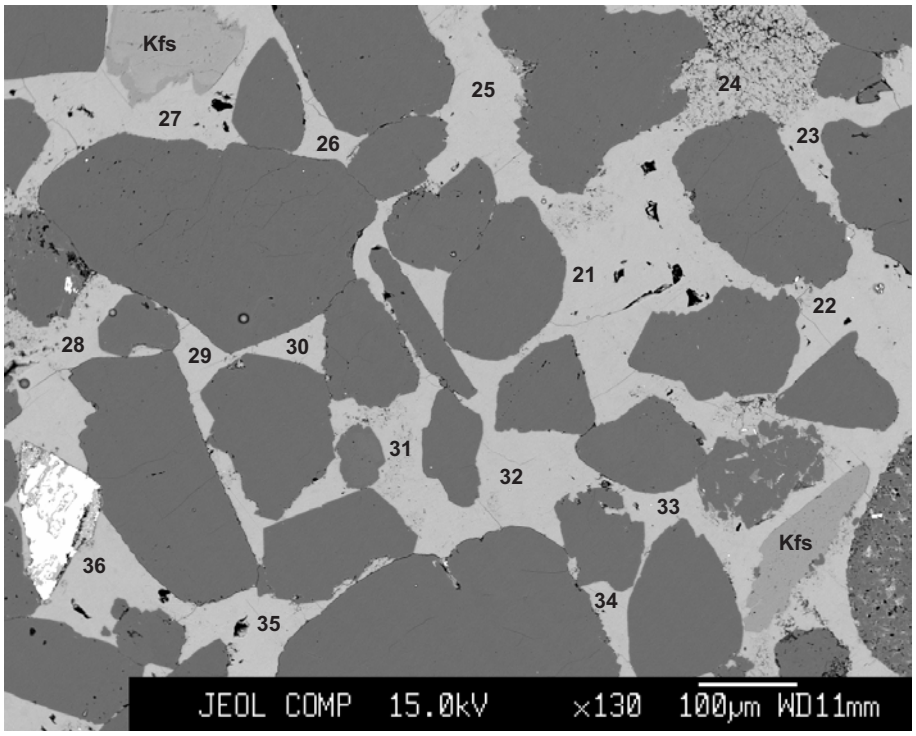
Well	Depth (m)	No.	Mineral	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	$FeO_{(total)}$	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	NiO	SrO	BaO	Total
Wyandot E-53	2873.10	71	calcite	0.00	0.00	0.02	0.00	0.94	0.78	0.72	54.04	0.07	0.02	0.03	0.02	0.03	0.00	56.67
Wyandot E-53	2873.10	72	Fe-calcite	0.00	0.00	0.02	0.00	1.07	0.82	0.88	53.74	0.03	0.02	0.07	0.03	0.06	0.00	56.73
Wyandot E-53	2873.10	73	Fe-Mg-calcite	0.00	0.00	0.00	0.00	1.07	0.73	1.06	49.01	0.03	0.03	0.04	0.00	0.03	0.00	52.01
Wyandot E-53	2873.10	74	calcite	0.00	0.00	0.02	0.00	0.99	0.81	0.92	50.63	0.03	0.01	0.03	0.02	0.05	0.00	53.51
Wyandot E-53	2873.10	75	calcite	0.00	0.00	0.03	0.00	1.00	0.75	0.81	52.48	0.04	0.02	0.02	0.03	0.09	0.00	55.29
Wyandot E-53	2873.10	76	Fe-calcite	0.00	0.00	0.03	0.00	1.06	0.93	0.93	51.43	0.02	0.03	0.03	0.05	0.04	0.00	54.56
Wyandot E-53	2873.10	77	calcite	0.00	0.00	0.04	0.00	0.89	0.75	0.76	52.08	0.04	0.04	0.07	0.03	0.05	0.00	54.75
Wyandot E-53	2873.10	78	Fe-calcite	0.00	0.00	0.02	0.00	1.16	0.76	0.73	52.50	0.04	0.03	0.06	0.02	0.09	0.00	55.40
Wyandot E-53	2873.10	79	Fe-Mg-calcite	0.00	0.00	0.01	0.00	1.27	0.88	1.06	52.93	0.04	0.04	0.02	0.03	0.06	0.00	56.33
Wyandot E-53	2873.10	80	Fe-calcite	0.00	0.00	0.04	0.00	1.08	0.72	0.83	53.96	0.05	0.02	0.03	0.04	0.06	0.00	56.82
Wyandot E-53	2873.10	81	calcite	0.00	0.00	0.02	0.00	0.68	0.53	0.30	52.68	0.03	0.02	0.04	0.02	0.08	0.00	54.39
Wyandot E-53	2873.10	82	calcite	0.00	0.00	0.04	0.00	0.35	0.31	0.26	53.87	0.02	0.02	0.04	0.02	0.17	0.00	55.11
Wyandot E-53	2873.10	83	Fe-Mg-calcite	0.00	0.00	0.03	0.00	1.06	0.83	1.04	52.37	0.05	0.03	0.05	0.03	0.03	0.00	55.52
Wyandot E-53	2873.10	84	calcite	0.00	0.00	0.01	0.00	0.36	0.26	0.19	51.66	0.02	0.02	0.02	0.03	0.17	0.00	52.75
Wyandot E-53	2873.10	85	calcite	0.00	0.00	0.03	0.00	0.97	0.80	0.54	52.29	0.05	0.03	0.03	0.03	0.05	0.00	54.81
Wyandot E-53	2873.10	86	Fe-calcite	0.00	0.00	0.00	0.00	1.12	0.84	0.96	53.79	0.02	0.01	0.06	0.00	0.00	0.00	56.80
Wyandot E-53	2873.10	87	Fe-Mg-calcite	0.00	0.00	0.00	0.00	1.32	0.90	1.18	52.47	0.02	0.02	0.02	0.00	0.00	0.00	55.94
Wyandot E-53	2873.10	88	Fe-calcite	0.00	0.01	0.00	0.00	1.10	0.87	0.93	52.85	0.01	0.03	0.04	0.00	0.00	0.00	55.82
Wyandot E-53	2873.10	89	Fe-Mg-calcite	0.00	0.00	0.00	0.00	1.18	0.83	1.12	53.30	0.02	0.03	0.02	0.00	0.01	0.00	56.51
Wyandot E-53	2873.10	90	Fe-calcite	0.00	0.00	0.00	0.00	1.09	0.81	1.00	52.37	0.02	0.02	0.03	0.00	0.00	0.00	55.35
Wyandot E-53	2873.10	91	Fe-calcite	0.00	0.00	0.00	0.00	1.06	0.81	1.00	52.77	0.02	0.01	0.05	0.01	0.00	0.00	55.73
Wyandot E-53	2873.10	92	calcite	0.00	0.00	0.00	0.00	0.96	0.83	0.76	52.92	0.01	0.03	0.03	0.00	0.00	0.00	55.53
Wyandot E-53	2873.10	93	Fe-calcite	0.07	0.00	0.05	0.00	1.04	0.88	0.96	52.43	0.01	0.03	0.03	0.00	0.03	0.00	55.55
Wyandot E-53	2873.10	94	calcite	0.00	0.00	0.00	0.00	0.14	0.12	0.05	53.13	0.00	0.01	0.00	0.00	0.13	0.00	53.57
Wyandot E-53	2873.10	95	calcite	0.00	0.00	0.00	0.00	0.75	0.62	0.65	54.50	0.03	0.03	0.05	0.00	0.00	0.00	56.62
Wyandot E-53	2873.10	96	calcite	0.00	0.00	0.00	0.00	0.98	0.80	0.82	51.16	0.01	0.03	0.02	0.00	0.01	0.00	53.84
Wyandot E-53	2873.10	97	Fe-calcite	0.00	0.02	0.00	0.00	1.47	0.28	0.45	52.39	0.03	0.01	0.05	0.00	0.00	0.00	54.71
Wyandot E-53	2873.10	98	Fe-calcite	0.00	0.00	0.00	0.00	1.17	0.90	0.93	52.45	0.00	0.04	0.04	0.00	0.00	0.00	55.54
Wyandot E-53	2873.10	99	calcite	0.00	0.00	0.00	0.00	0.93	0.86	0.79	50.85	0.02	0.03	0.08	0.00	0.02	0.00	53.57
Wyandot E-53	2873.10	100	Fe-calcite	0.00	0.00	0.00	0.00	1.03	0.83	0.83	52.69	0.00	0.02	0.04	0.00	0.00	0.00	55.45
Wyandot E-53	2873.10	101	calcite	0.00	0.00	0.00	0.00	0.57	0.51	0.44	53.73	0.02	0.02	0.04	0.00	0.08	0.00	55.41
Wyandot E-53	2873.10	102	ankerite	0.00	0.00	0.00	0.00	5.45	0.81	14.66	34.18	0.02	0.01	0.02	0.00	0.00	0.00	55.15
Wyandot E-53	2873.10	103	ankerite	0.00	0.00	0.00	0.00	5.89	0.67	15.17	32.27	0.01	0.02	0.02	0.00	0.00	0.00	54.05
Wyandot E-53	2873.10	104	Fe-Mg-calcite	0.00	0.01	0.00	0.00	1.27	0.92	1.01	52.03	0.01	0.02	0.03	0.00	0.00	0.00	55.30
Wyandot E-53	2873.10	105	calcite	0.00	0.00	0.00	0.00	0.97	0.74	0.75	52.80	0.01	0.02	0.02	0.00	0.01	0.00	55.33
Wyandot E-53	2873.10	106	Fe-calcite	0.00	0.00	0.00	0.00	1.10	0.81	0.87	51.67	0.02	0.02	0.01	0.00	0.02	0.00	54.53

Appendix 2A: Back-scattered electron images for the Mic Mac D-89 well



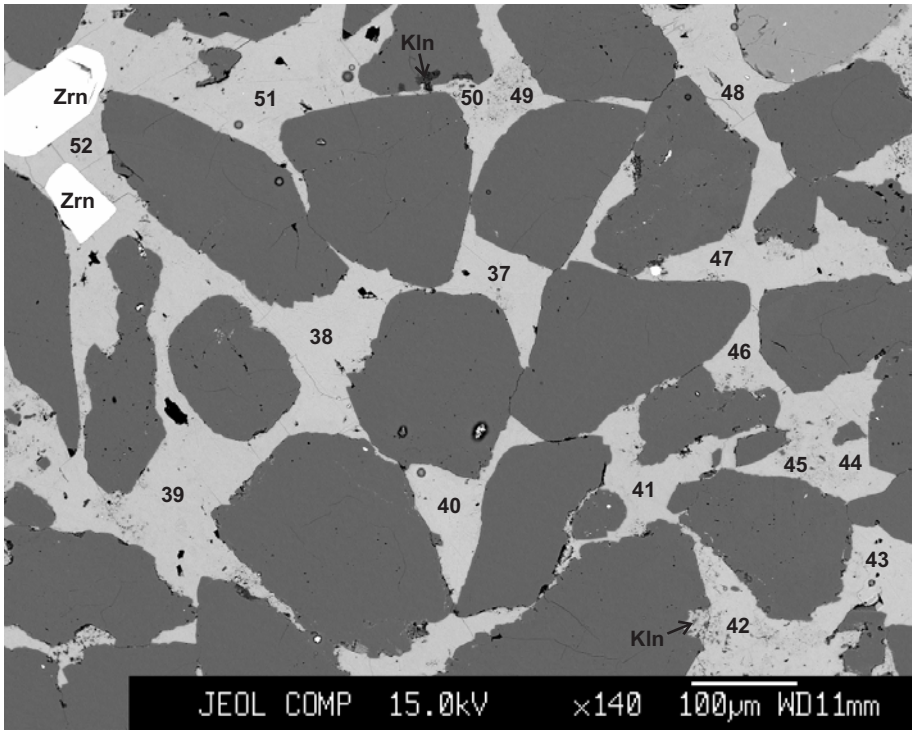
9: Fe-calcite
10: Fe-calcite
11: Fe-calcite
12: Fe-calcite
13: Fe-calcite
14: Fe-calcite
15: Fe-calcite
16: Fe-calcite
17: Fe-calcite
18: Fe-calcite
19: Fe-calcite
20: Fe-calcite

Figure 1: Mic Mac D-89-2502.71



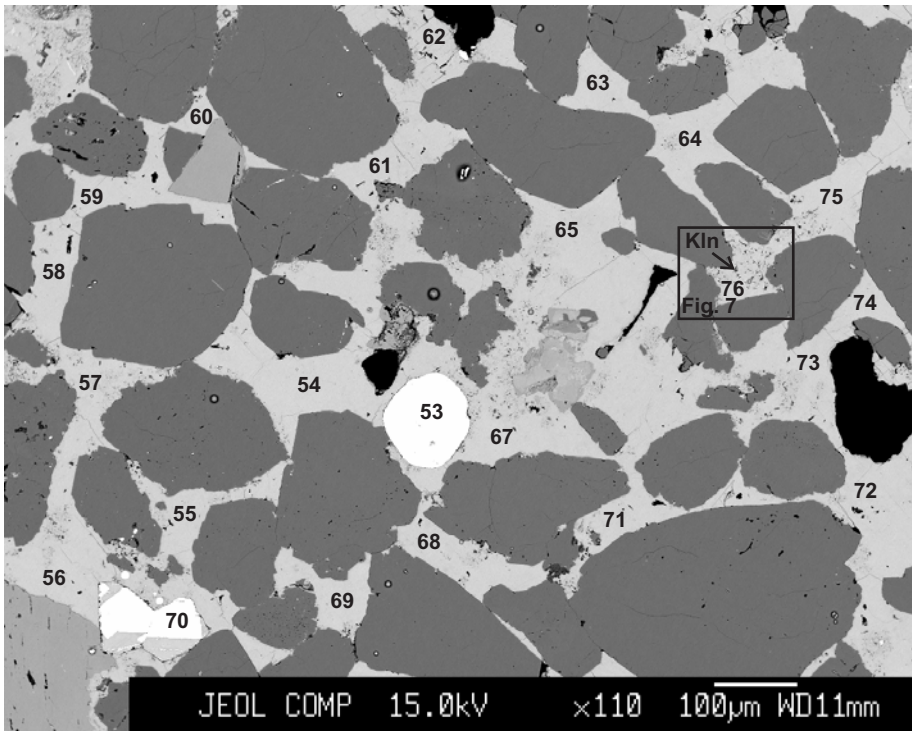
21: Fe-calcite
22: Fe-calcite
23: Fe-calcite
24: Fe-calcite
25: Fe-Mg-calcite
26: Fe-calcite
27: Fe-calcite
28: Fe-Mg-calcite
29: Fe-Mg-calcite
30: Fe-calcite
31: Fe-calcite
32: Fe-calcite
33: Fe-Mg-calcite
34: Fe-Mg-calcite
35: Fe-calcite
36: Fe-calcite

Figure 2: Mic Mac D-89-2502.71



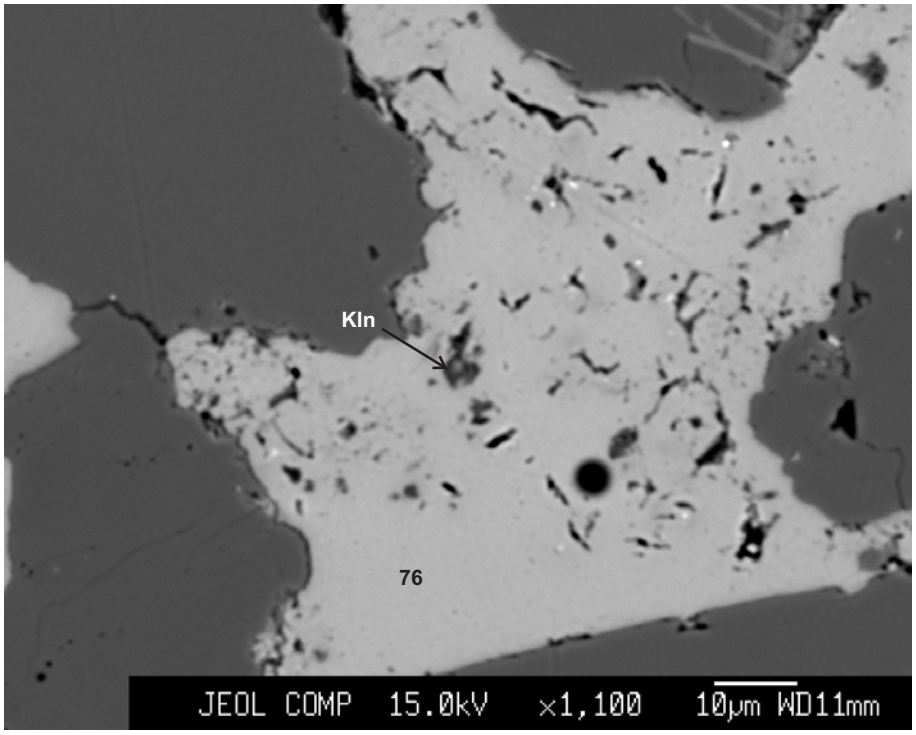
37: Fe-calcite
38: Fe-calcite
39: Fe-calcite
40: Fe-calcite
41: Fe-calcite
42: Fe-calcite
43: Fe-Mg-calcite
44: Fe-calcite
45: Fe-calcite
46: Fe-calcite
47: Fe-Mg-calcite
48: Fe-calcite
49: Fe-calcite
50: Fe-calcite
51: Fe-calcite
52: Fe-calcite

Figure 3: Mic Mac D-89-2502.71



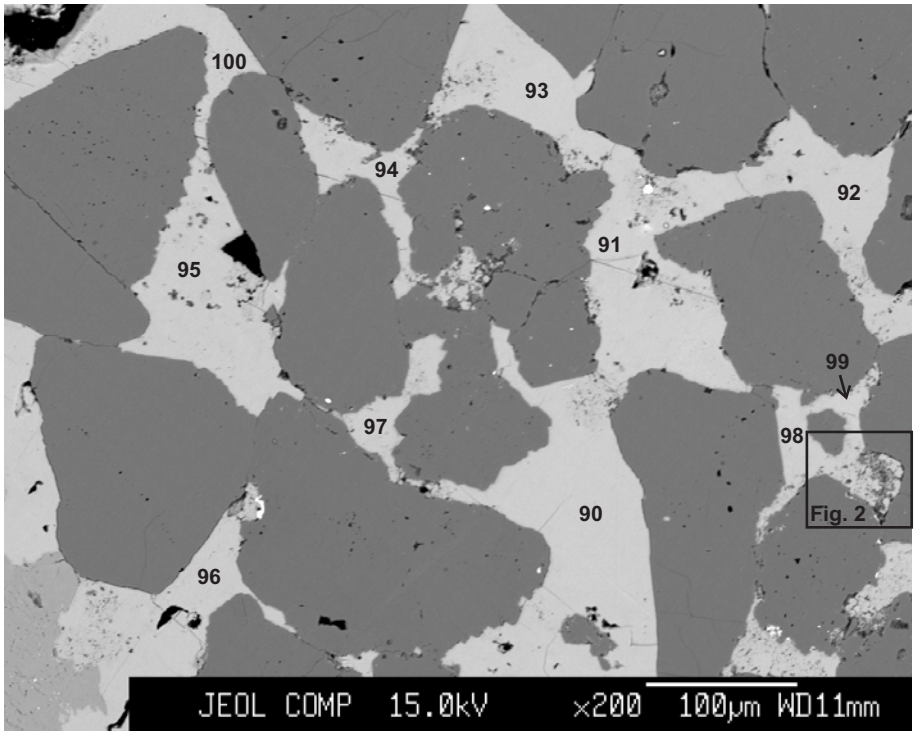
53: titania (TiO_2)
54: Fe-calcite
55: Fe-calcite
56: Fe-calcite
57: Fe-calcite
58: Fe-Mg-calcite
59: Fe-calcite
60: Fe-Mg-calcite
61: Fe-Mg-calcite
62: Fe-calcite
63: Fe-calcite
64: Fe-Mg-calcite
65: Fe-calcite
66: Fe-calcite
67: Fe-calcite
68: Fe-calcite
69: Fe-Mg-calcite
70: titania (TiO_2)
71: Fe-calcite
72: Fe-calcite
73: Fe-calcite
74: Fe-calcite
75: Fe-calcite
76: Fe-Mg-calcite

Figure 4: Mic Mac D-89-2502.71



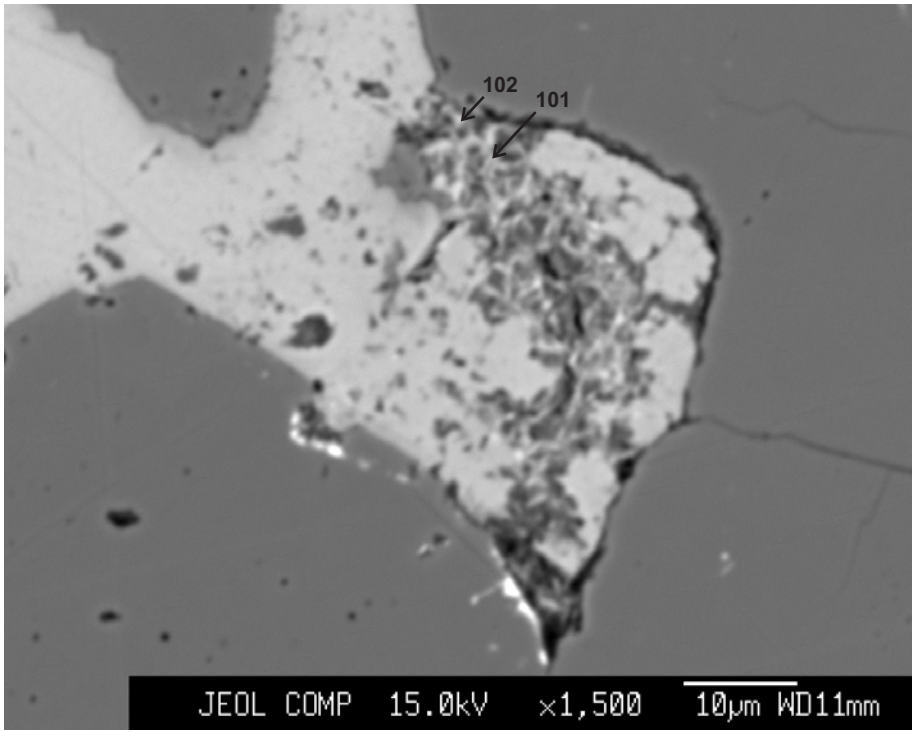
76: Fe-Mg-calcite

Figure 5: Mic Mac D-89-2502.71



90: Fe-Mg-calcite
91: Fe-Mg-calcite
92: Fe-calcite
93: Fe-calcite
94: Fe-calcite
95: Fe-calcite
96: Fe-calcite
97: Fe-calcite
98: Fe-calcite
99: Fe-Mg-calcite
100: Fe-Mg-calcite

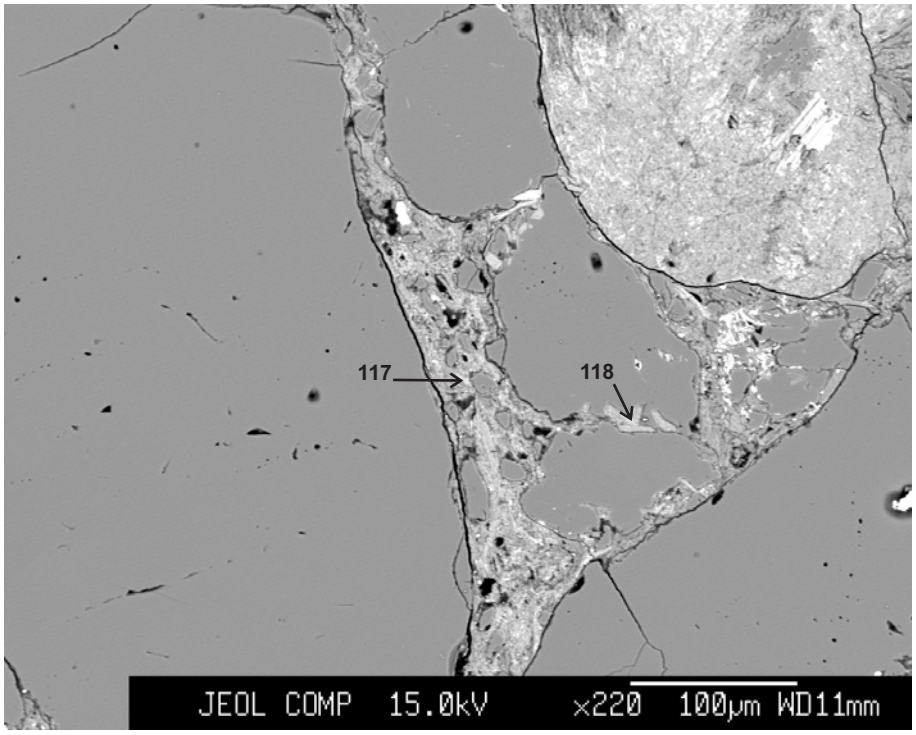
Figure 6: Mic Mac D-89-2502.71



101: chlorite
102: chlorite

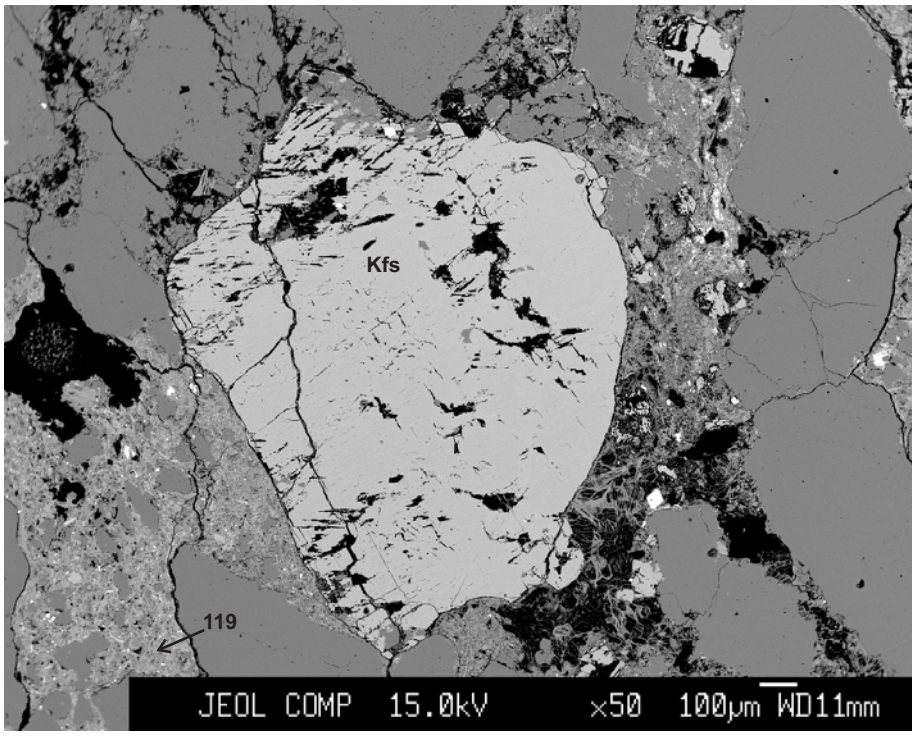
Figure 7: Mic Mac D-89-2502.71

Appendix 2B: Back-scattered electron images for the Mic Mac H-86 well



117: muscovite
118: muscovite

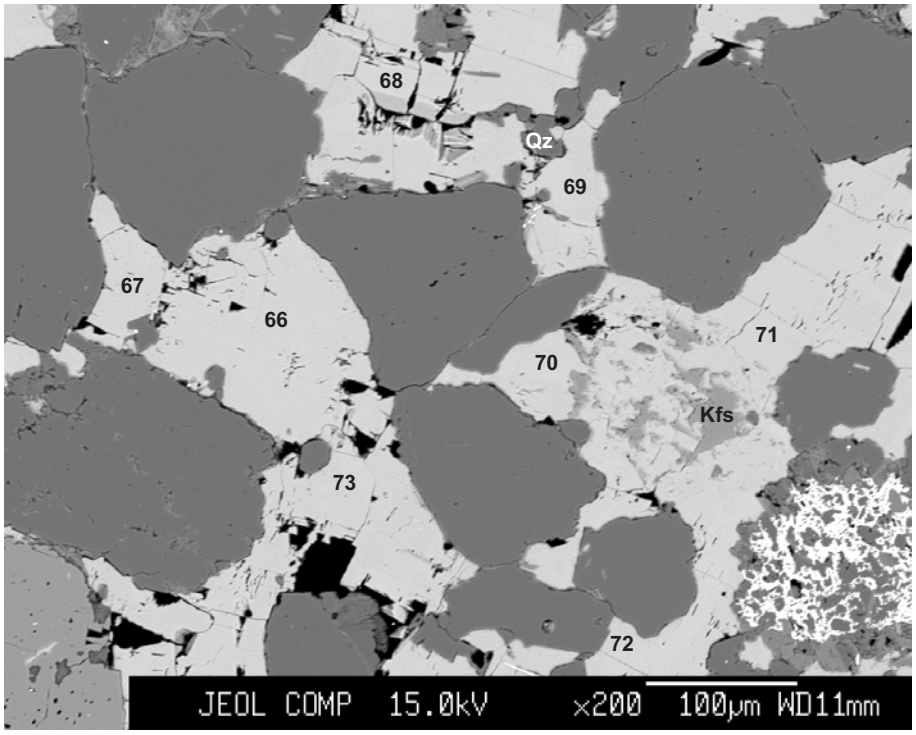
Figure 1: Mic Mac H-86-4721.04



119: muscovite

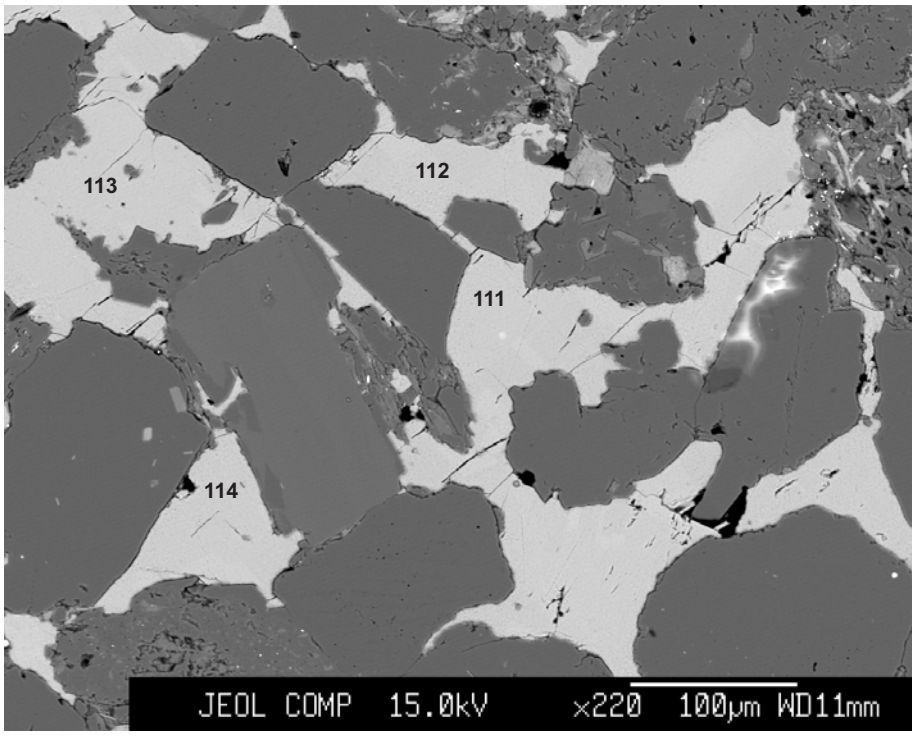
Figure 2: Mic Mac H-86-4721.04

Appendix 2C: Back-scattered electron images for the Mohican I-100 well



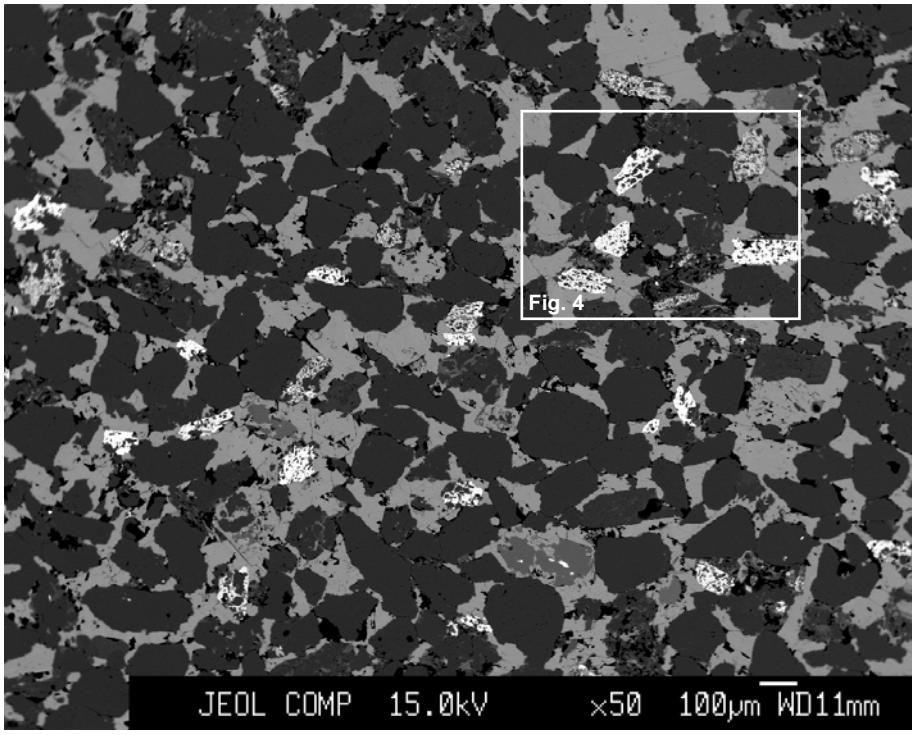
66: anhydrite
67: anhydrite
68: anhydrite
69: anhydrite
70: anhydrite
71: anhydrite
72: anhydrite
73: anhydrite

Figure 1: Mohican I-100-3692.42



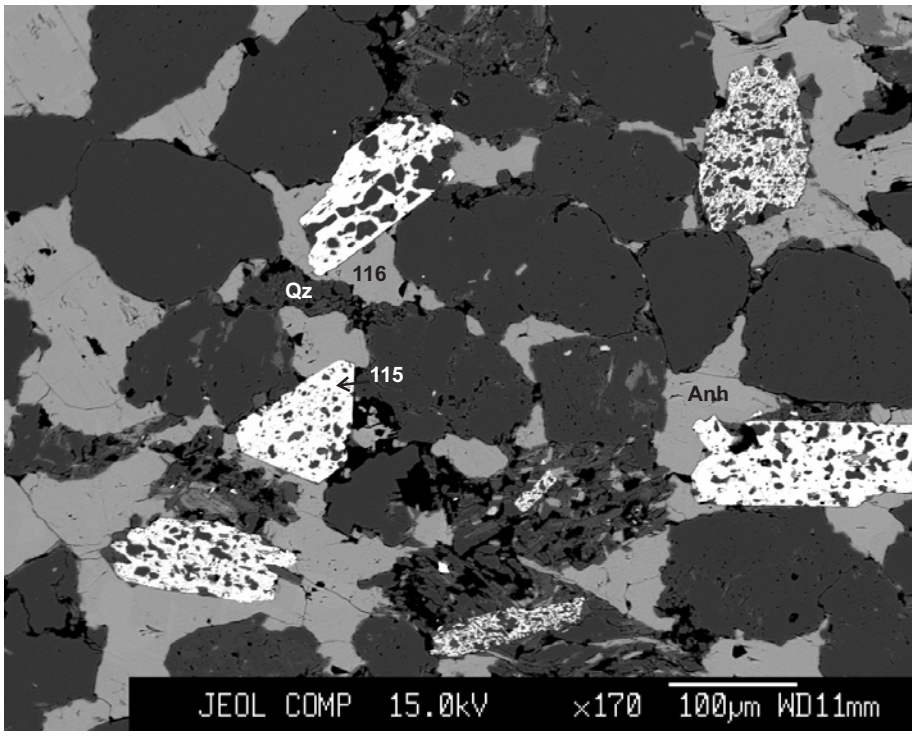
111: anhydrite
112: anhydrite
113: anhydrite
114: anhydrite

Figure 2: Mohican I-100-3692.42



66: anhydrite
67: anhydrite
68: anhydrite
69: anhydrite
70: anhydrite
71: anhydrite
72: anhydrite
73: anhydrite

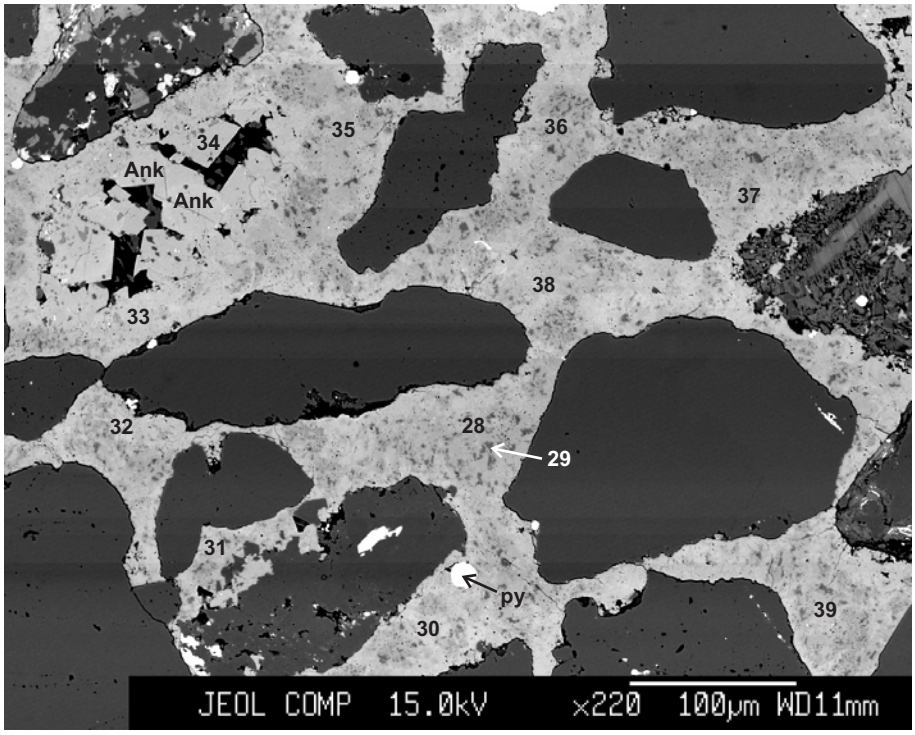
Figure 3: Mohican I-100-3692.42



115: titania (TiO_2)
116: anhydrite

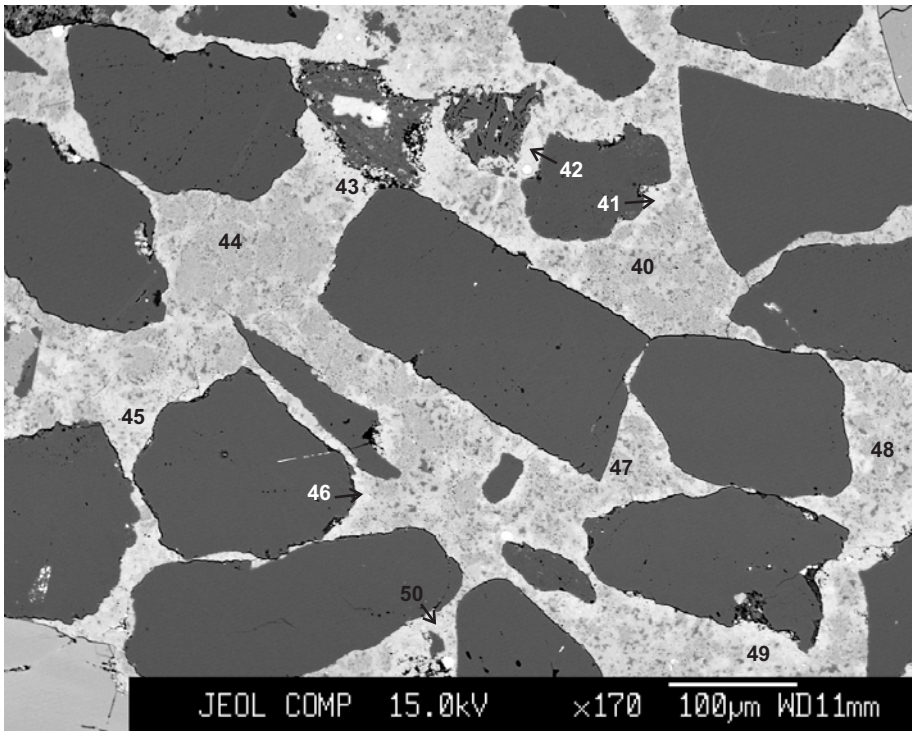
Figure 4: Mohican I-100-3692.42

Appendix 2D: Back-scattered electron images for the Onondaga O-95 well



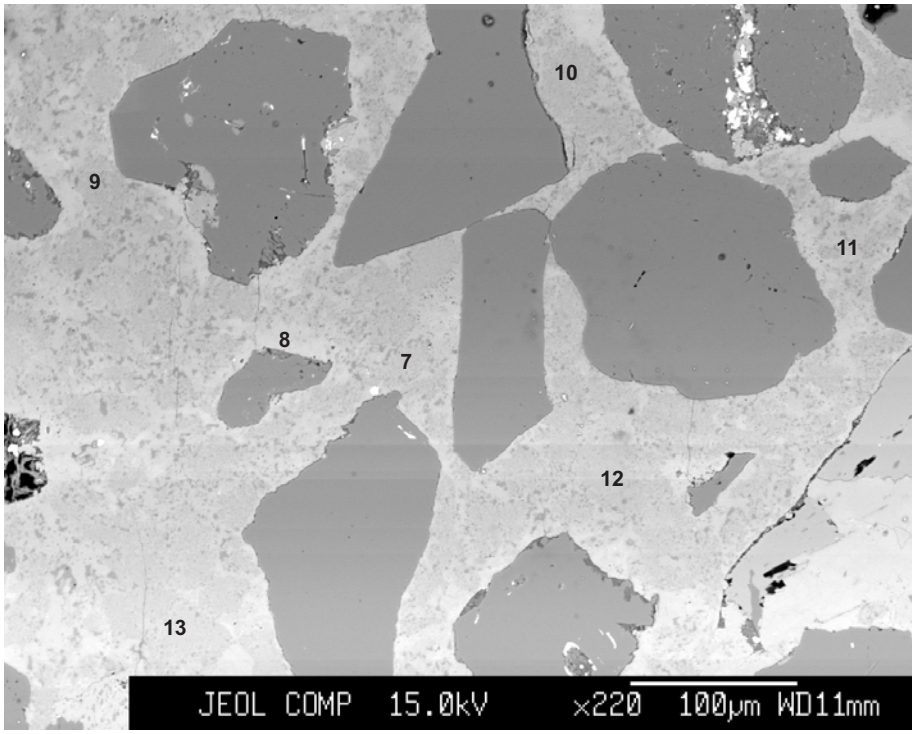
28: Fe-calcite
29: Mg-calcite
30: Fe-calcite
31: Mg-calcite
32: Mg-calcite
33: Fe-calcite
34: ankerite
35: Mg-calcite
36: Mg-calcite
37: Mg-calcite
38: Mg-calcite
39: calcite

Figure 1: Onondaga O-95-3266.71



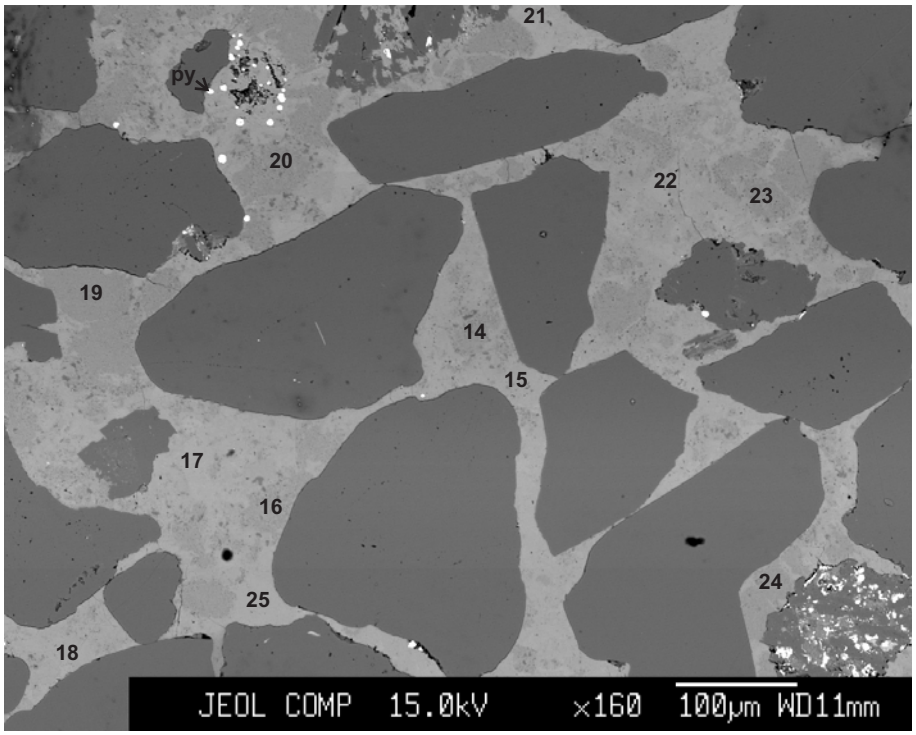
40: Mg-calcite
41: Fe-calcite
42: Fe-calcite
43: Fe-calcite
44: Mg-calcite
45: Fe-calcite
46: Mg-calcite
47: Mg-calcite
48: Mg-calcite
49: calcite
50: Mg-calcite

Figure 2: Onondaga O-95-3266.71



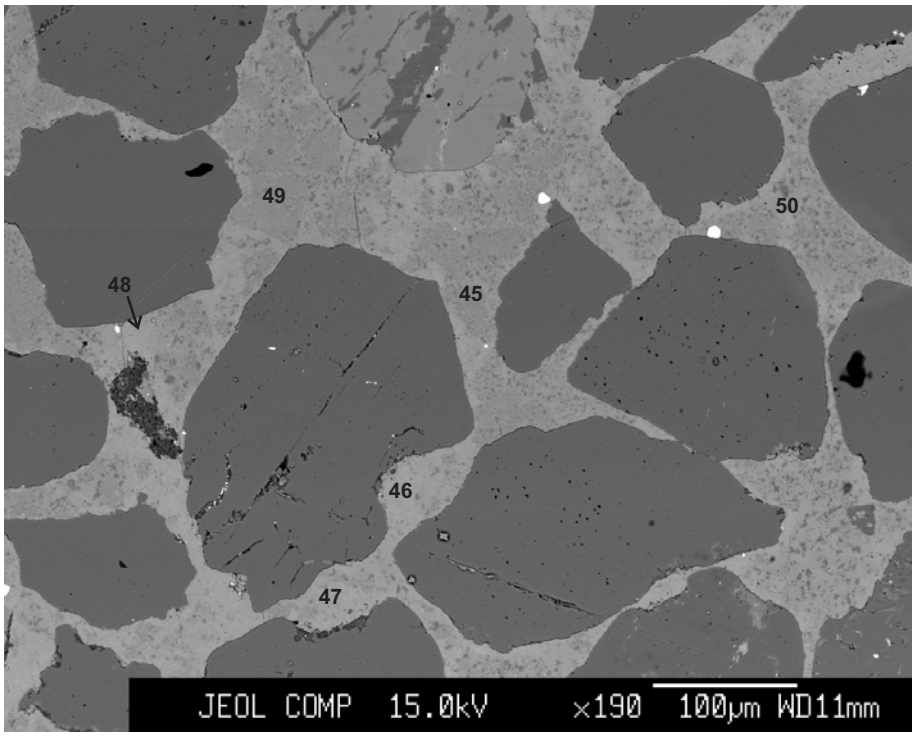
7: Mg-calcite
8: Fe-calcite
9: Mg-calcite
10: Mg-calcite
11: Mg-calcite
12: Mg-calcite
13: Mg-calcite

Figure 3: Onondaga O-95-3268.73



14: Mg-calcite
15: Mg-calcite
16: Mg-calcite
17: Mg-calcite
18: calcite
19: Mg-calcite
20: Mg-calcite
21: Fe-calcite
22: calcite
23: Mg-calcite
24: Mg-calcite
25: calcite

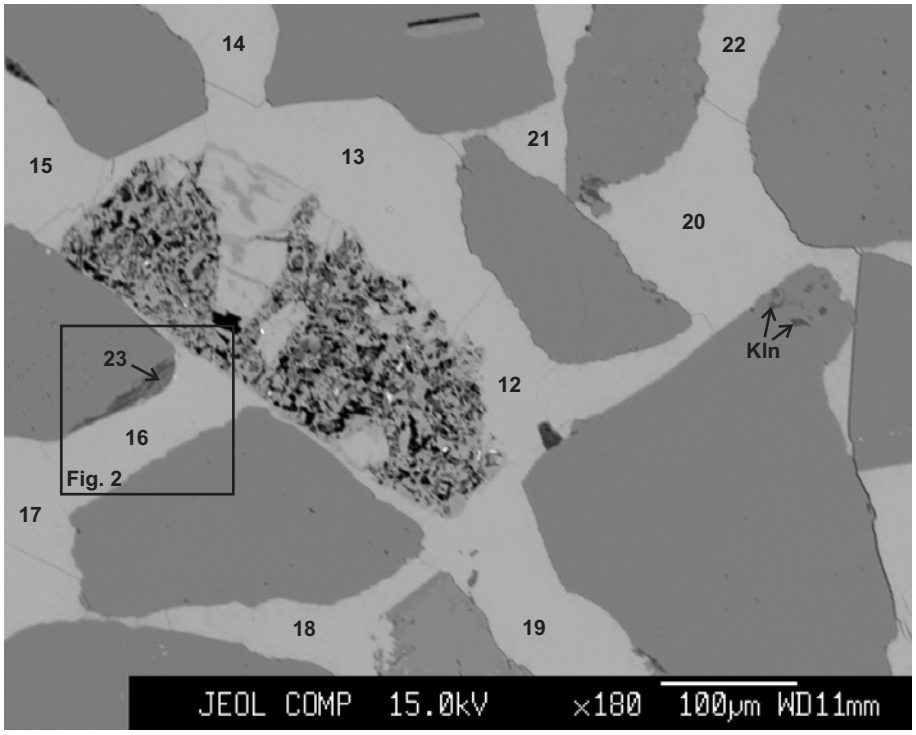
Figure 4: Onondaga O-95-3268.73



45: Mg-calcite
46: calcite
47: Fe-calcite
48: calcite
49: Mg-calcite
50: Mg-calcite

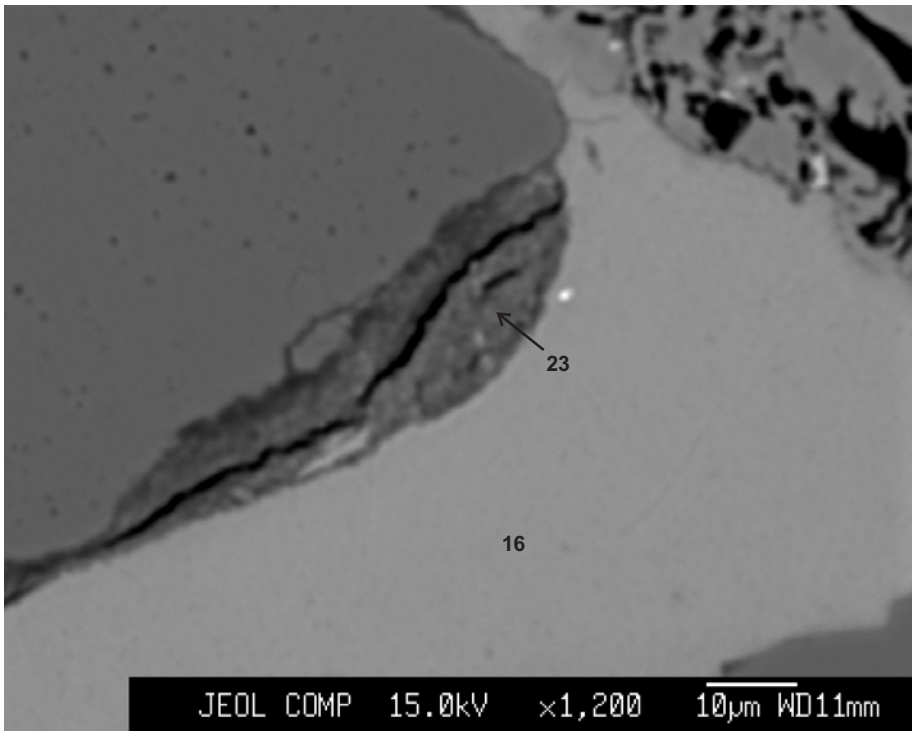
Figure 5: Onondaga O-95-3268.73

Appendix 2E : Back-scattered electron images for the Sable Island C-67 well



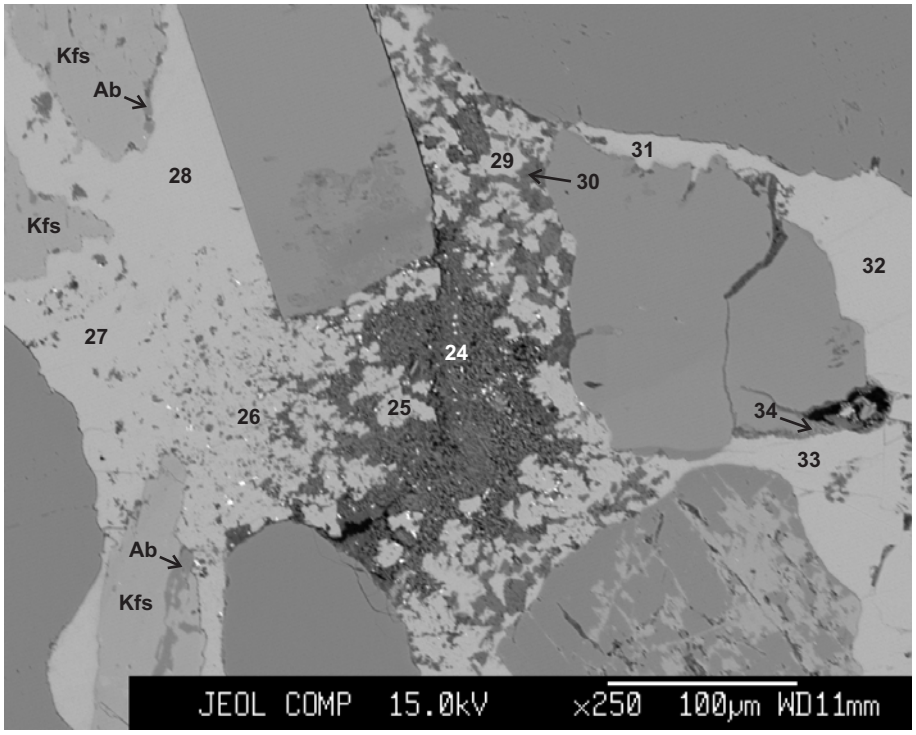
12: Fe-Mg-calcite
13: Fe-calcite
14: Fe-calcite
15: Fe-calcite
16: Fe-calcite
17: Fe-calcite
18: Fe-calcite
19: Fe-calcite
20: Fe-calcite
21: Fe-Mg-calcite
22: Fe-calcite
23: illite

Figure 1: Sable Island C-67-2471.43



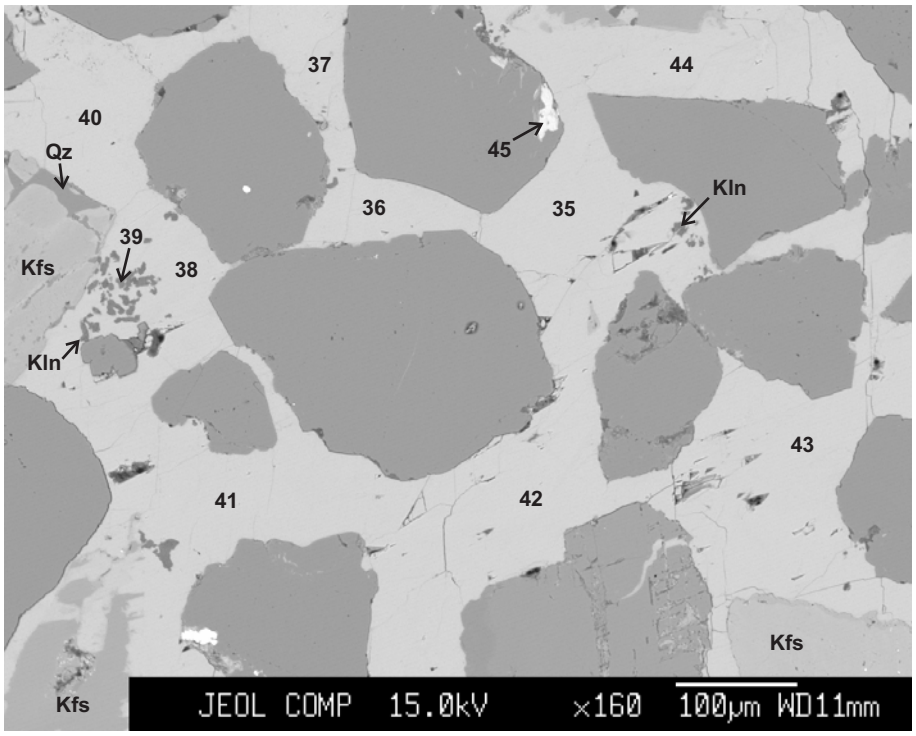
16: Fe-calcite
23: illite

Figure 2: Sable Island C-67-2471.43



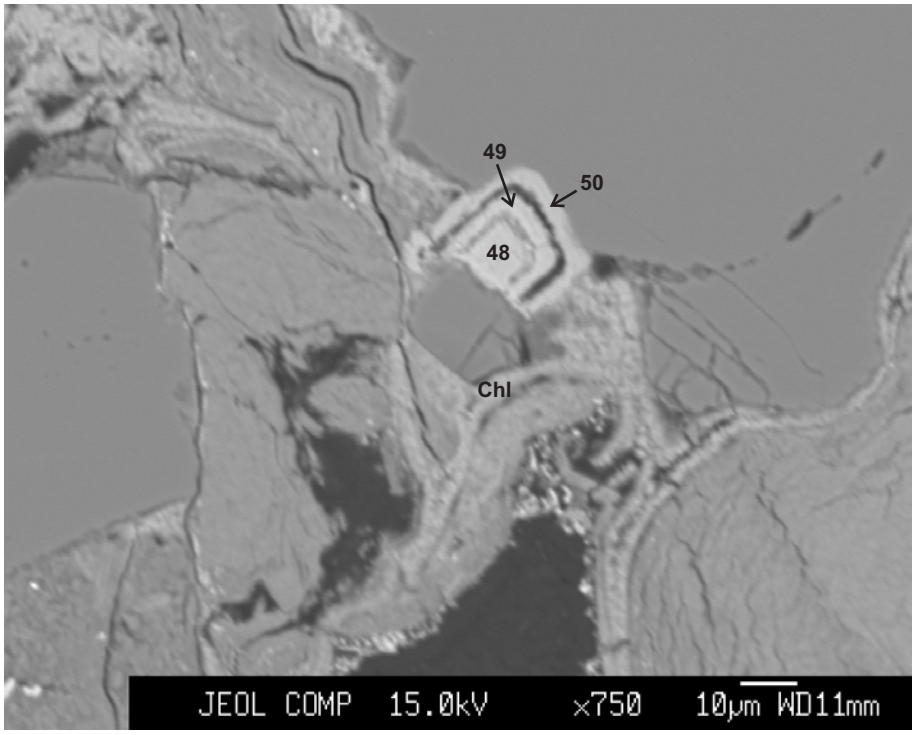
24: kaolinite
25: Fe-calcite
26: Fe-calcite
27: Fe-calcite
28: Fe-calcite
29: Fe-calcite
30: kaolinite
31: Fe-calcite
32: Fe-calcite
33: Fe-calcite
34: chlorite

Figure 3: Sable Island C-67-2471.43



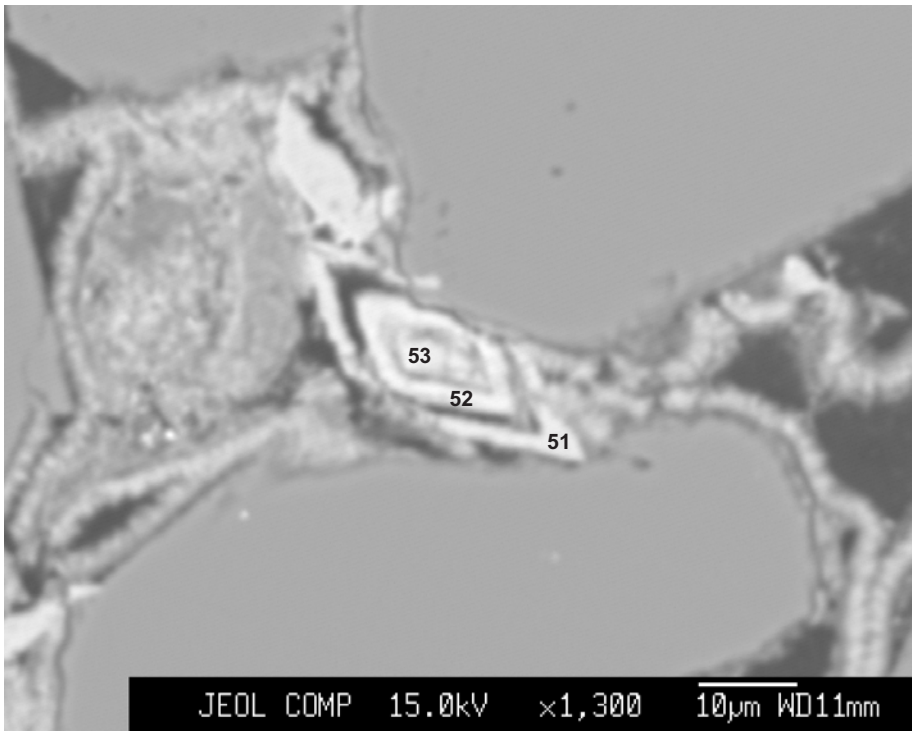
35: Fe-calcite
36: Fe-calcite
37: Fe-calcite
38: Fe-calcite
39: kaolinite
40: Fe-calcite
41: Fe-calcite
42: Fe-calcite
43: Fe-calcite
44: Fe-calcite
45: chlorite

Figure 4: Sable Island C-67-2471.43



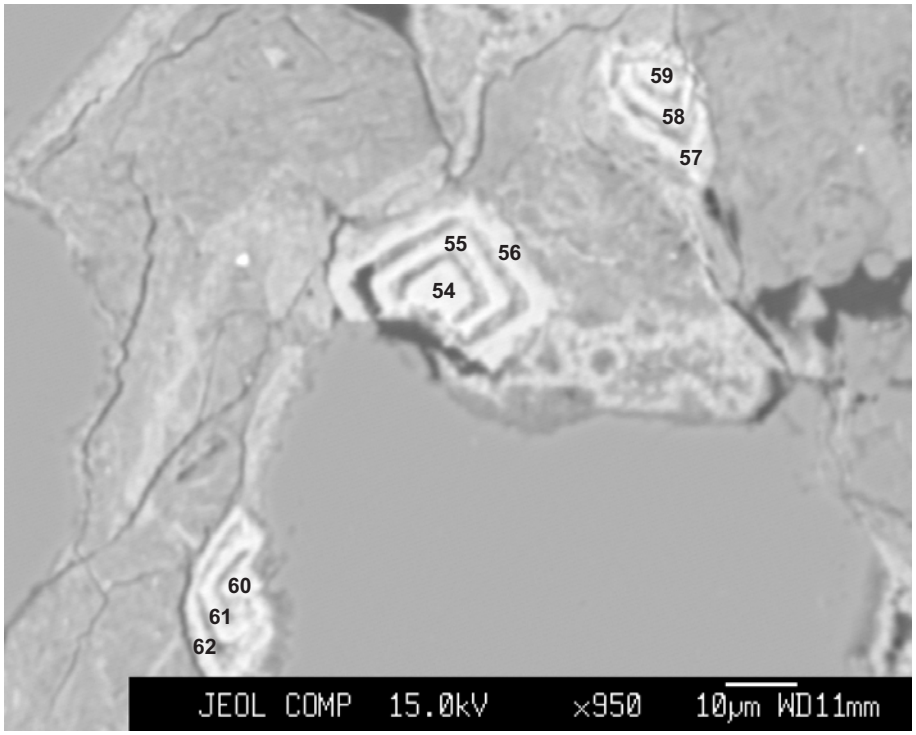
48: siderite
49: siderite
50: siderite

Figure 5: Sable Island C-67-2473.28



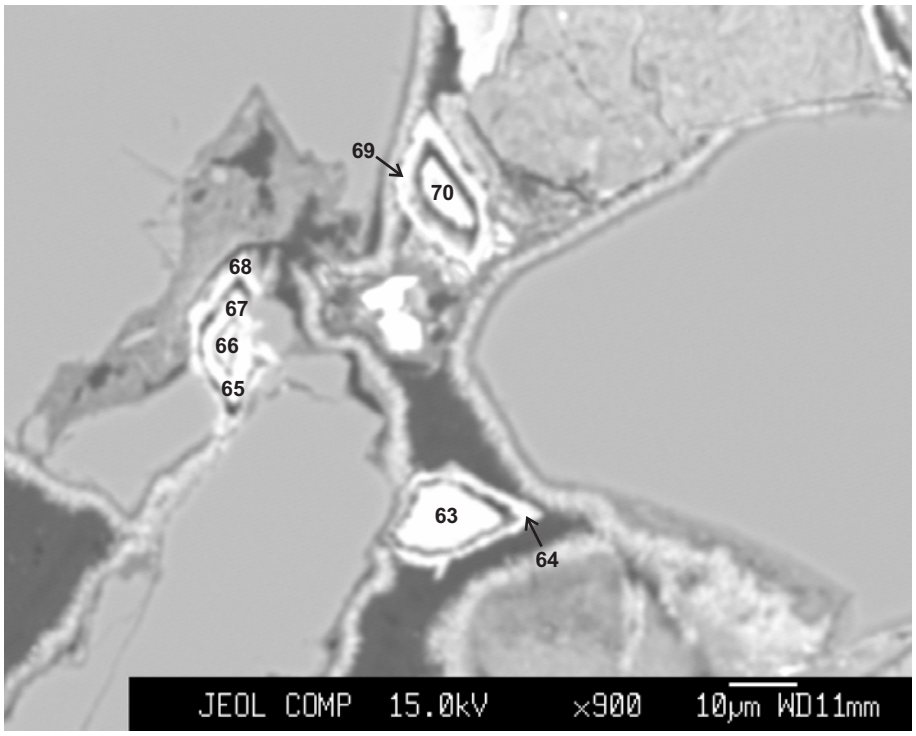
51: siderite
52: siderite
53: siderite

Figure 6: Sable Island C-67-2473.28



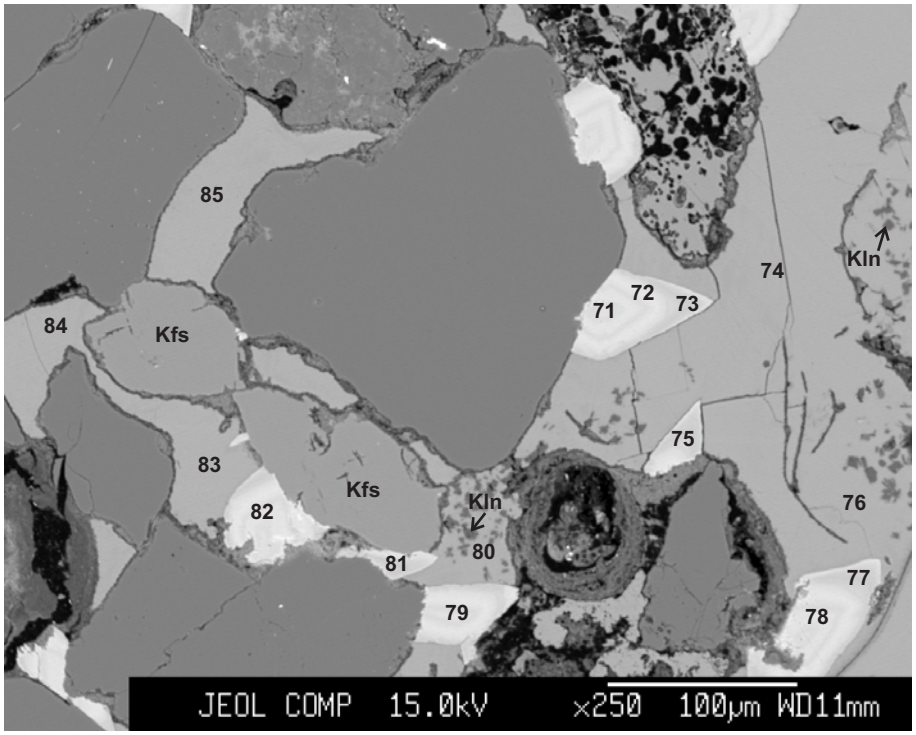
54: siderite
55: siderite
55: siderite
56: siderite
57: siderite
58: siderite
59: siderite
60: siderite
61: siderite
62: siderite

Figure 7: Sable Island C-67-2473.28



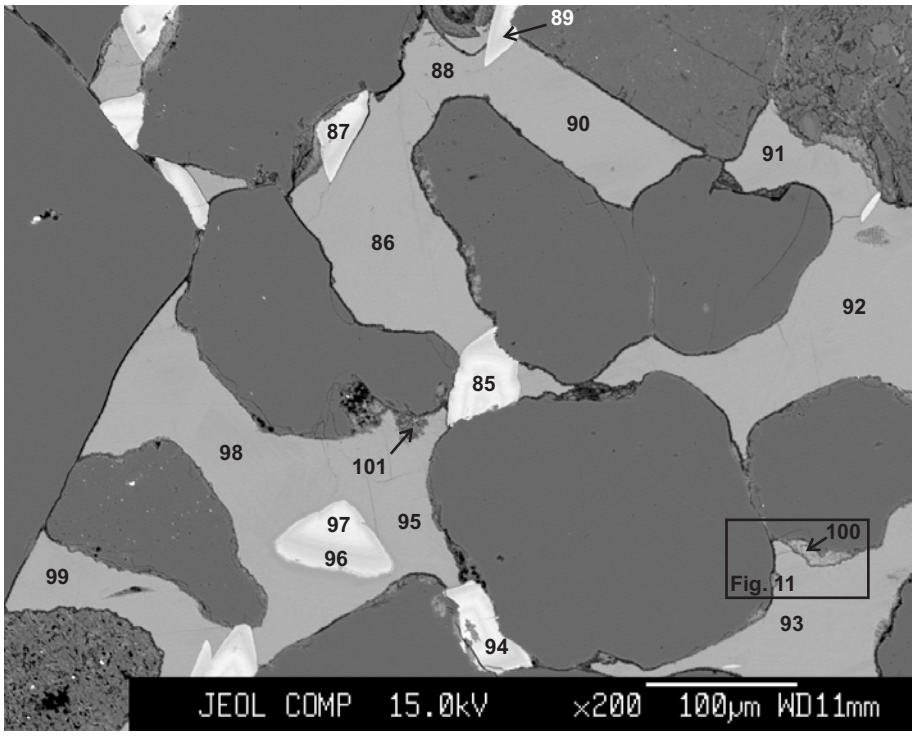
63: siderite
64: siderite
65: siderite
66: siderite
67: siderite
68: siderite
69: siderite
70: siderite

Figure 8: Sable Island C-67-2473.28



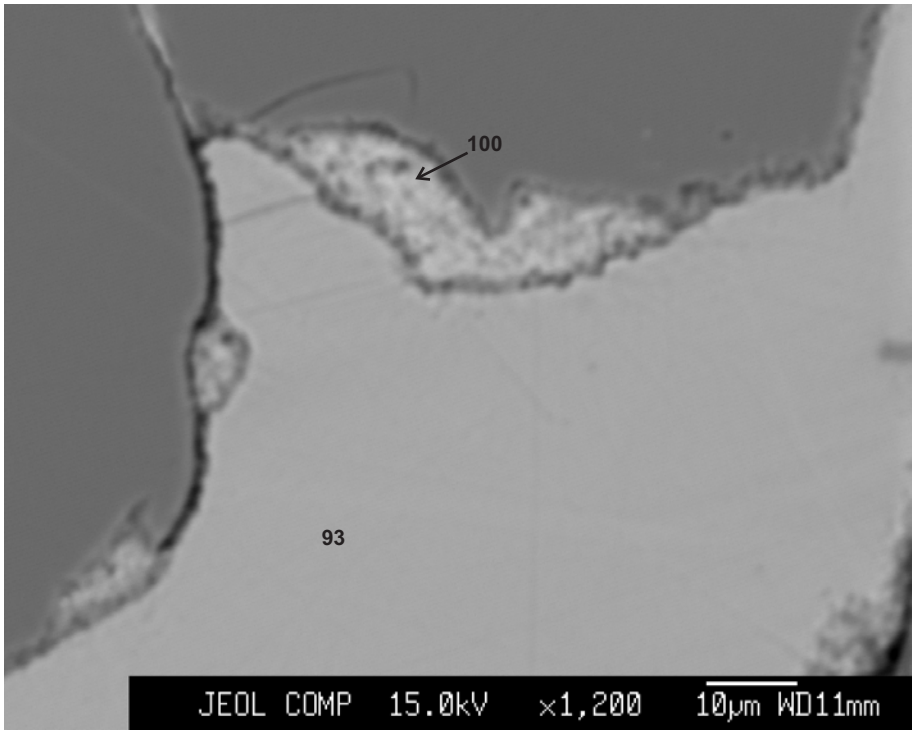
71: siderite
72: siderite
73: siderite
74: Fe-calcite
75: siderite
76: Fe-calcite
77: siderite
78: siderite
79: siderite
80: Fe-calcite
81: siderite
82: siderite
83: Fe-calcite
84: Fe-calcite
85: Fe-calcite

Figure 9: Sable Island C-67-2477.05



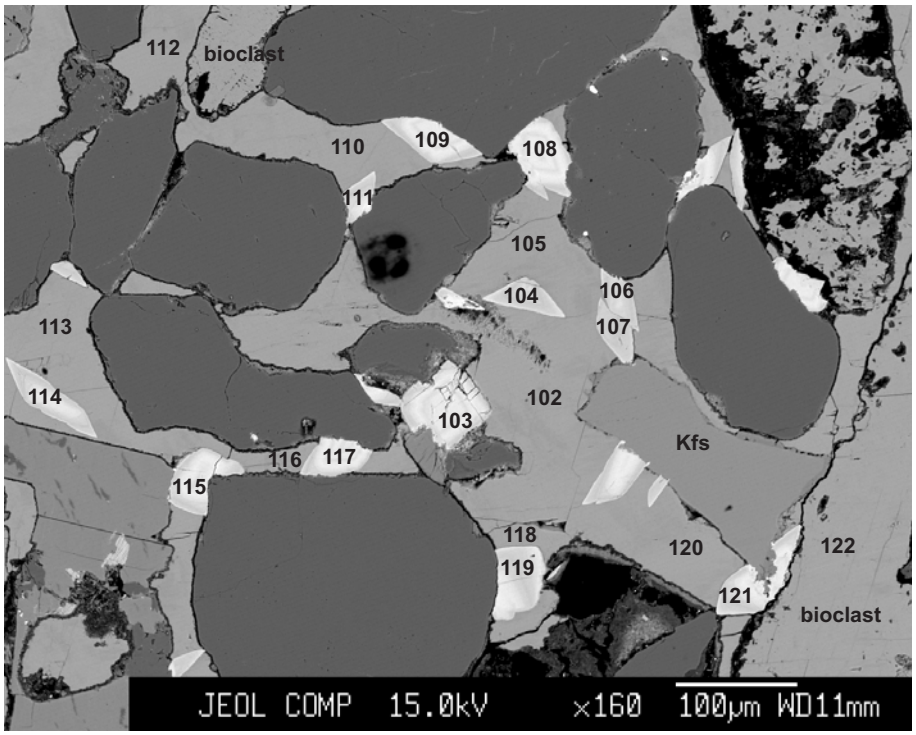
86: Fe-calcite
87: siderite
88: Fe-calcite
89: siderite
90: Fe-calcite
91: calcite
92: Fe-calcite
93: Fe-calcite
94: siderite
95: Fe-calcite
96: siderite
97: siderite
98: Fe-calcite
99: calcite
100: chlorite
101: mixture

Figure 10: Sable Island C-67-2477.05



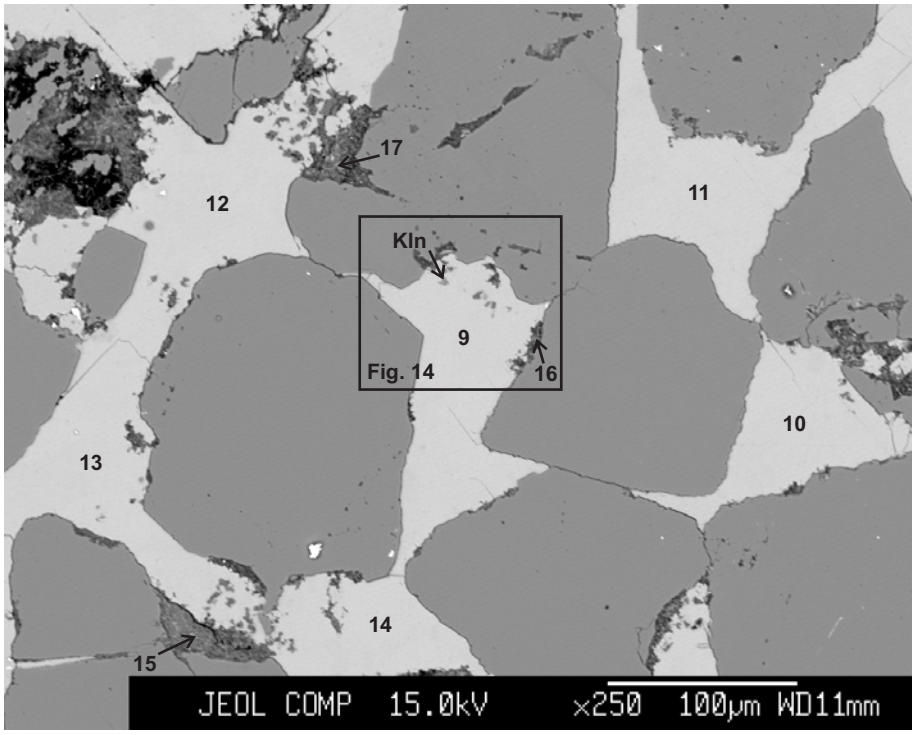
93: Fe-calcite
100: chlorite

Figure 11: Sable Island C-67-2477.05



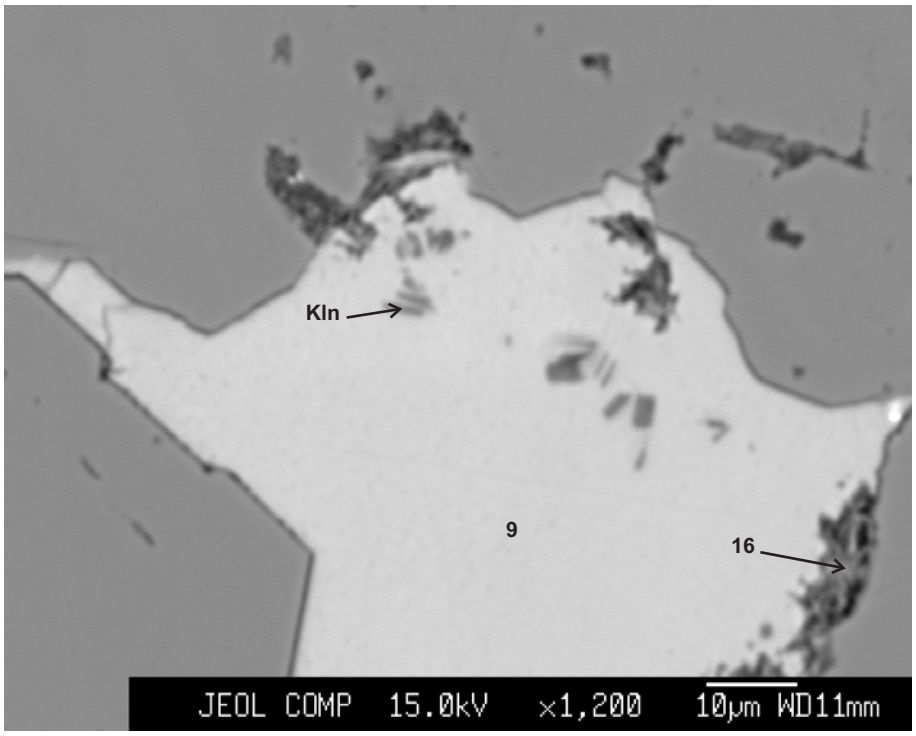
102: Fe-calcite
103: siderite
104: siderite
105: Fe-calcite
106: siderite
107: siderite
108: siderite
109: siderite
110: Fe-calcite
111: siderite
112: Fe-calcite
113: Fe-calcite
114: siderite
115: siderite
116: Fe-calcite
117: siderite
118: Fe-calcite
119: siderite
120: Fe-calcite
121: siderite
122: Fe-calcite

Figure 12: Sable Island C-67-2477.05



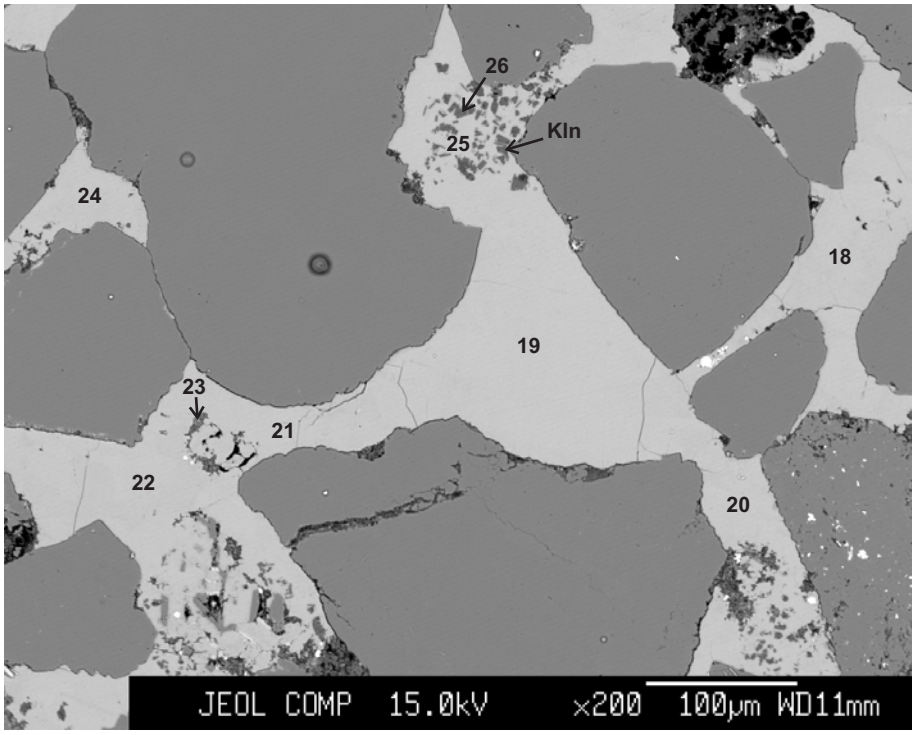
9: Fe-calcite
10: Fe-calcite
11: Fe-calcite
12: Fe-calcite
13: Fe-calcite
14: Fe-calcite
15: illite
16: chlorite
17: chlorite

Figure 13: Sable Island C-67-3376.48



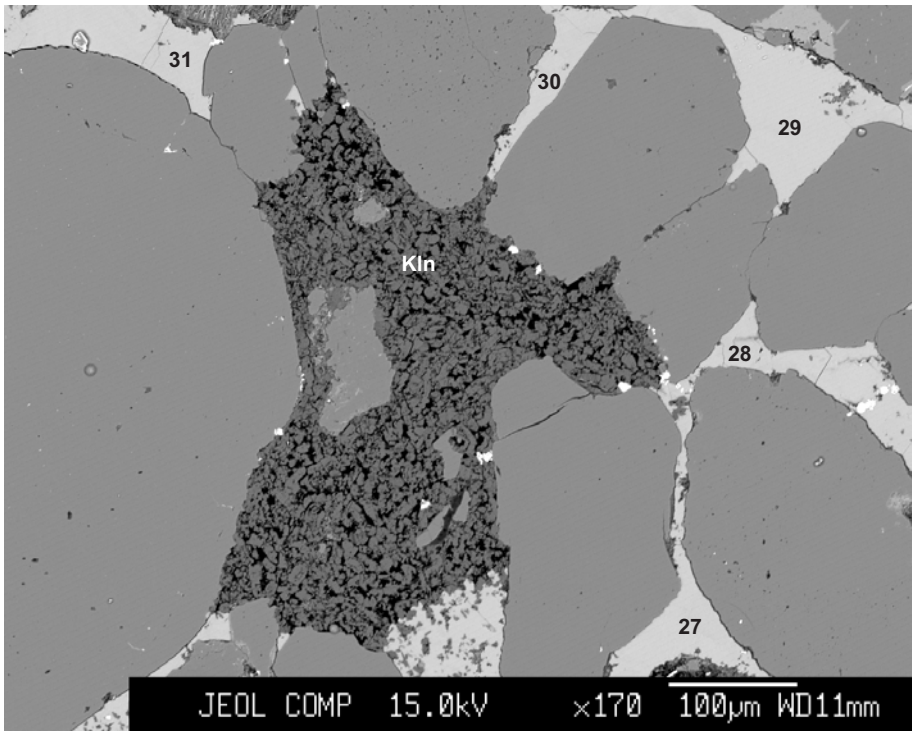
9: Fe-calcite
16: chlorite

Figure 14: Sable Island C-67-3376.48



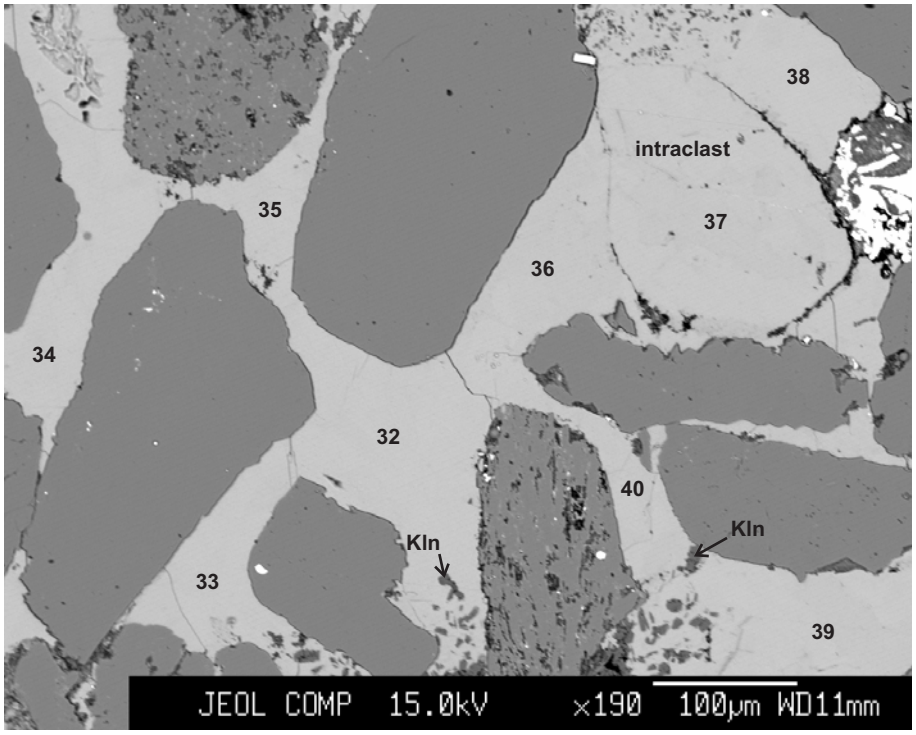
18: calcite
19: Fe-calcite
20: Fe-calcite
21: Fe-calcite
22: Fe-calcite
23: mixture
24: Fe-calcite
25: Fe-calcite
26: kaolinite

Figure 15: Sable Island C-67-3376.48



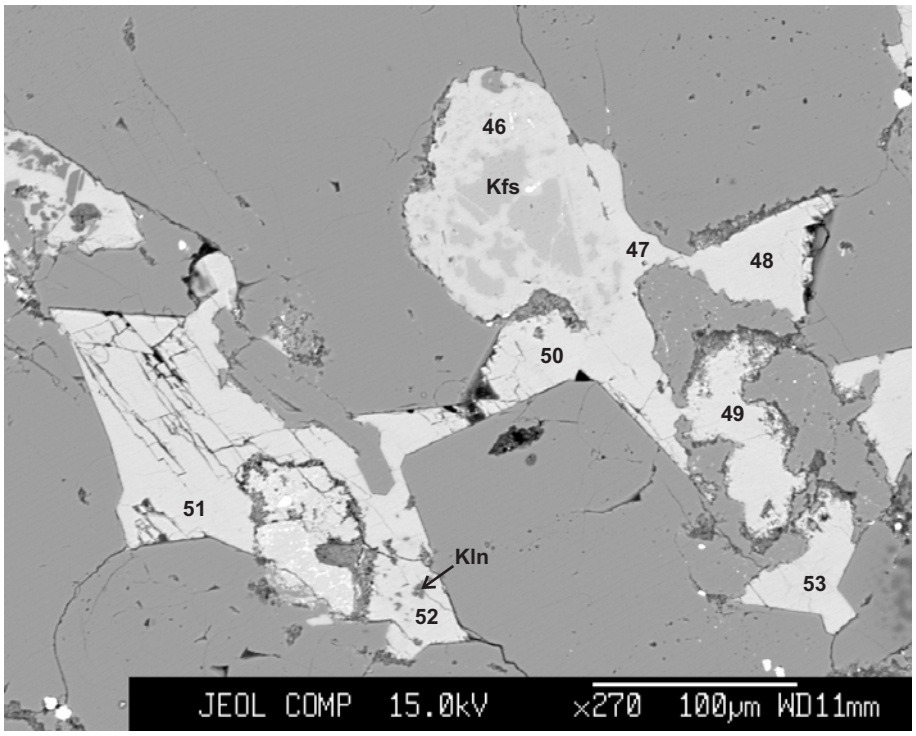
27: Fe-calcite
28: Fe-calcite
29: Fe-calcite
30: Fe-calcite
31: Fe-calcite

Figure 16: Sable Island C-67-3376.48



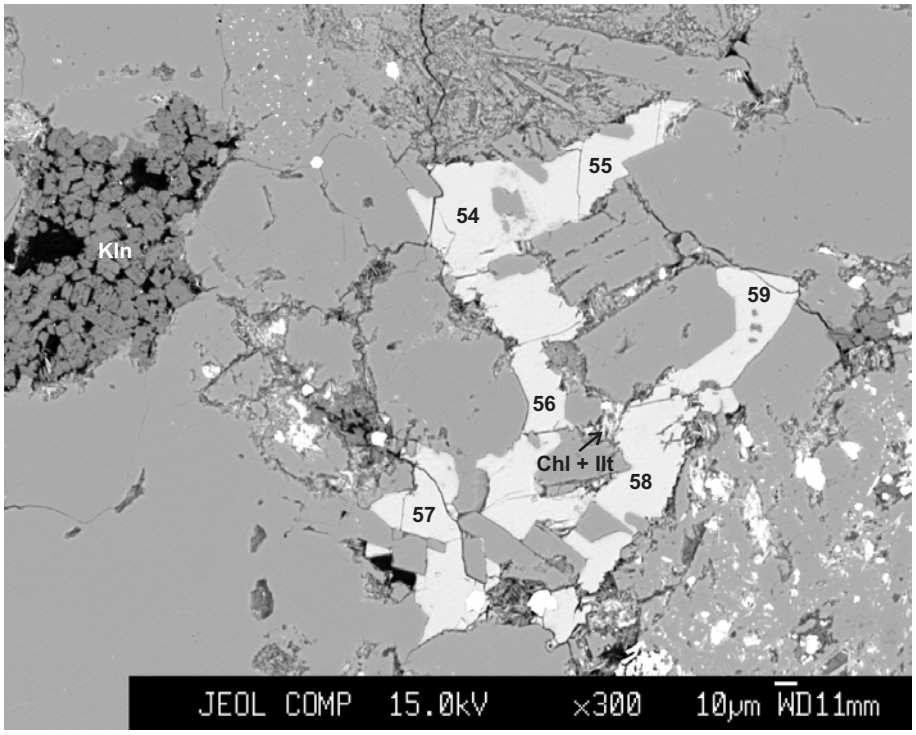
32: Fe-calcite
33: Fe-calcite
34: calcite
35: Fe-calcite
36: Fe-calcite
37: Fe-calcite
38: Fe-calcite
39: Fe-calcite
40: Fe-calcite

Figure 17: Sable Island C-67-3376.48



46: calcite
47: calcite
48: calcite
49: calcite
50: Fe-calcite
51: calcite
52: calcite
53: calcite

Figure 18: Sable Island C-67-4085.83



54: Fe-calcite
55: Fe-calcite
56: Fe-calcite
57: Fe-calcite
58: Fe-calcite
59: calcite

Figure 19: Sable Island C-67-4085.83

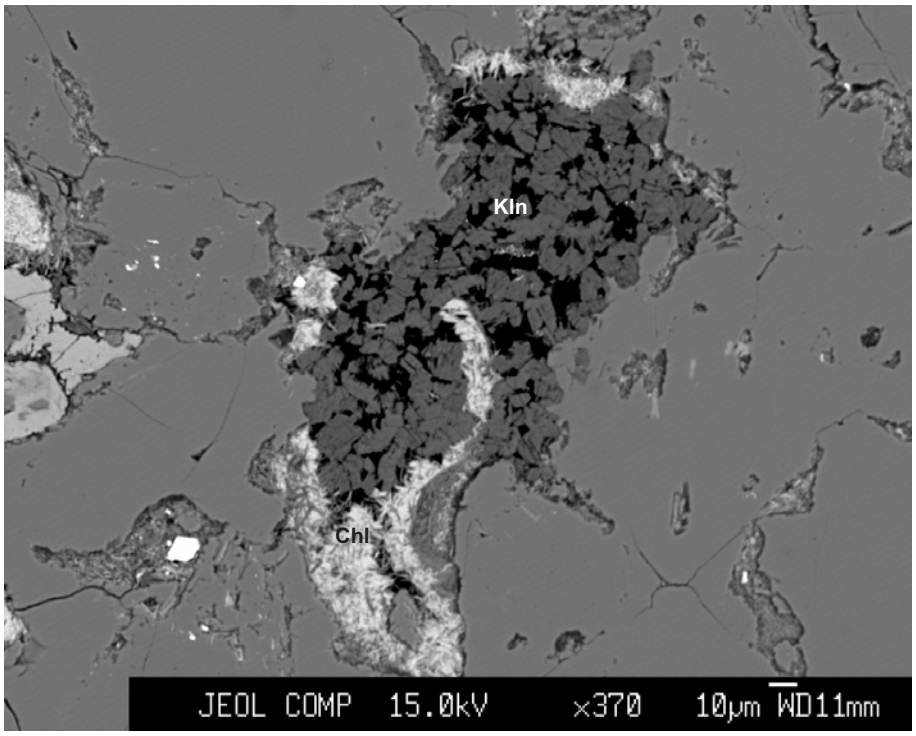
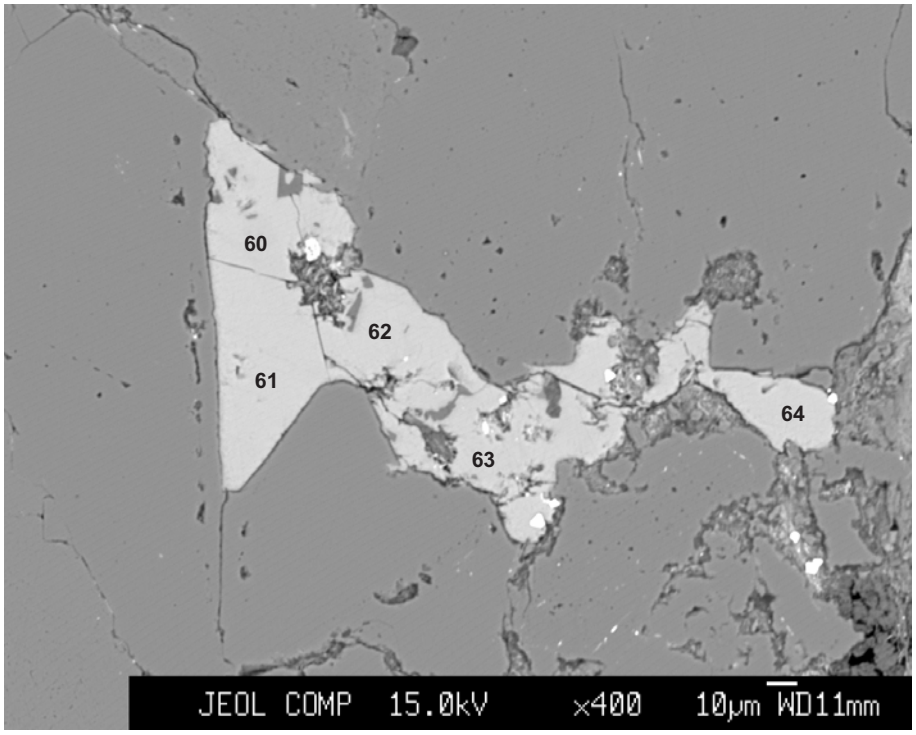
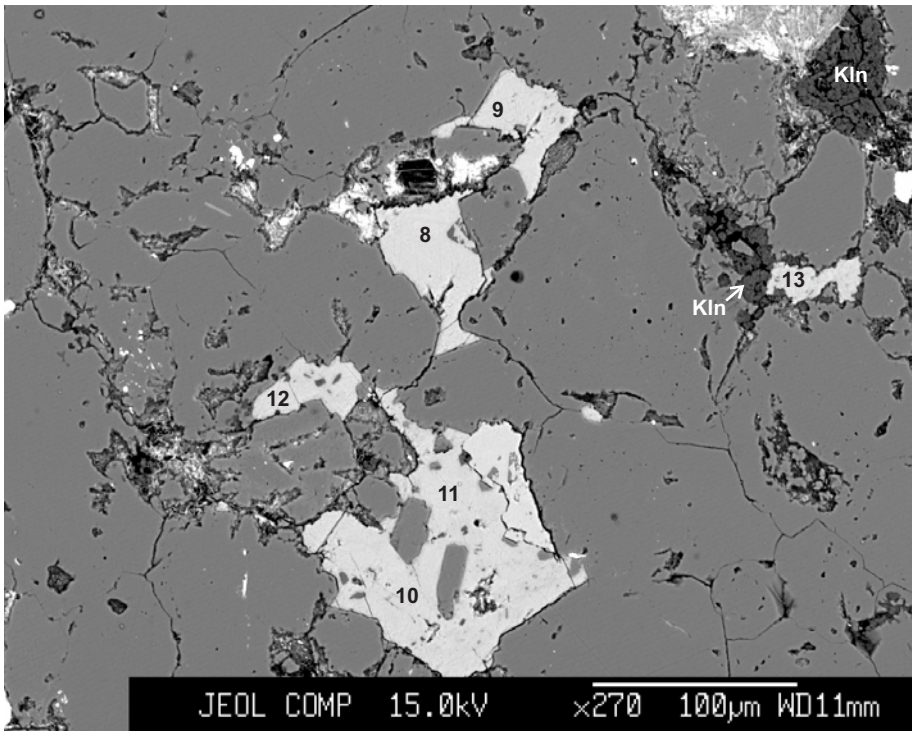


Figure 20: Sable Island C-67-4085.83



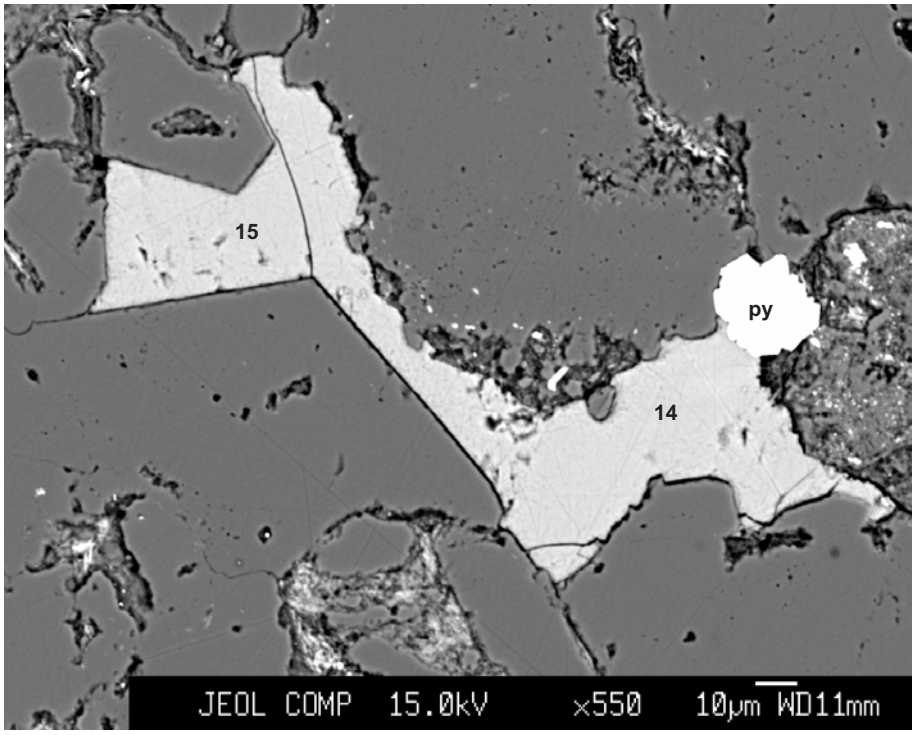
60: calcite
61: Fe-calcite
62: Fe-calcite
63: Fe-calcite
64: Fe-calcite

Figure 21: Sable Island C-67-4085.83



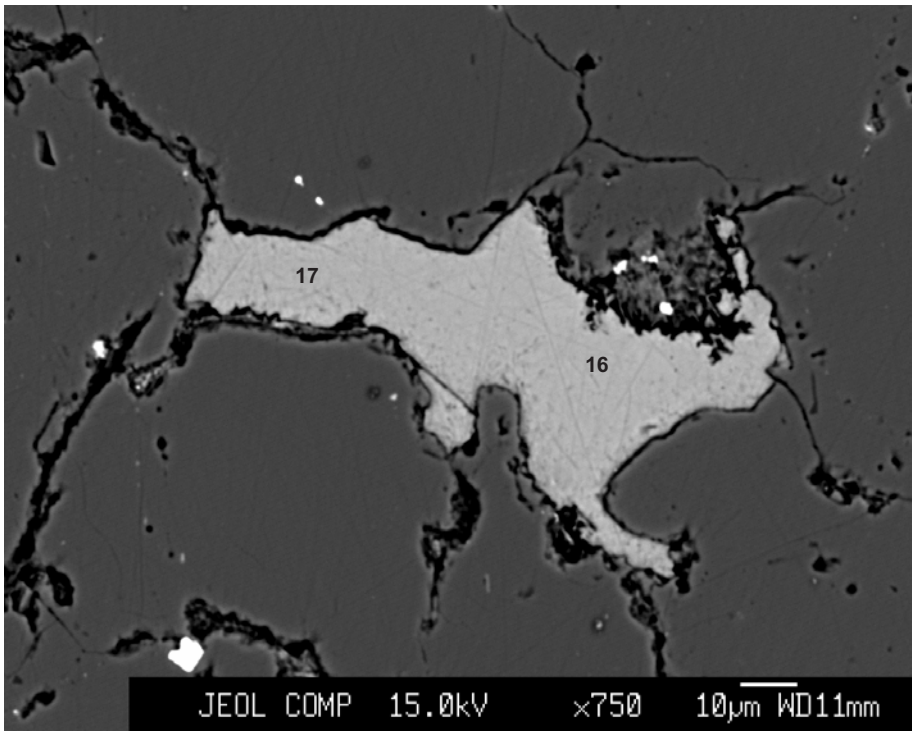
8: Fe-calcite
9: Fe-calcite
10: Fe-calcite
11: Fe-calcite
12: Fe-calcite
13: calcite

Figure 22: Sable Island C-67-4085.83



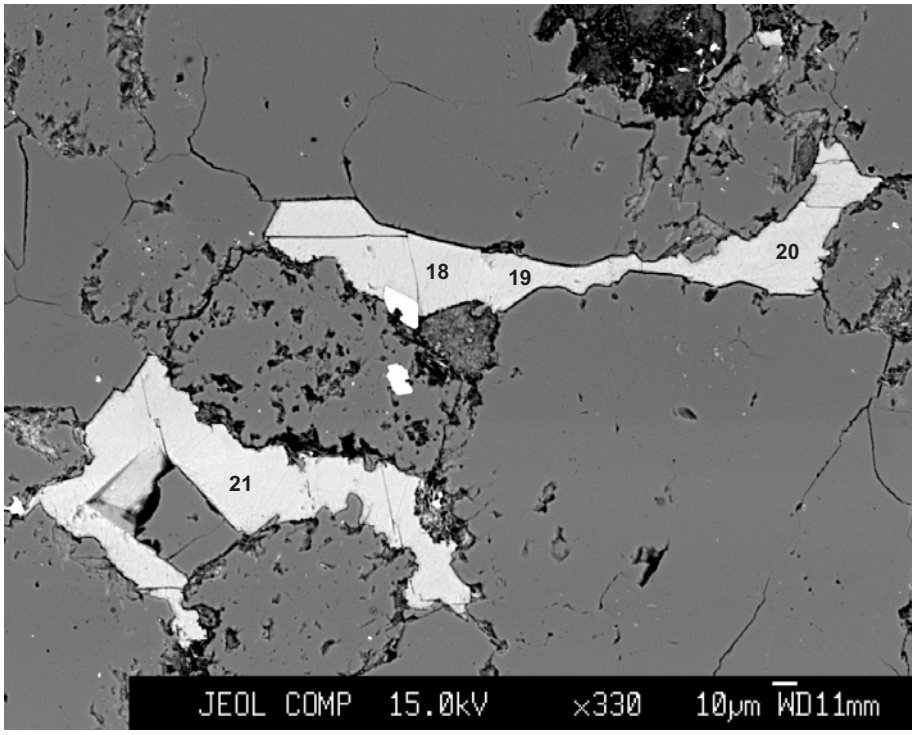
14: Fe-calcite
15: Fe-calcite

Figure 23: Sable Island C-67-4085.83



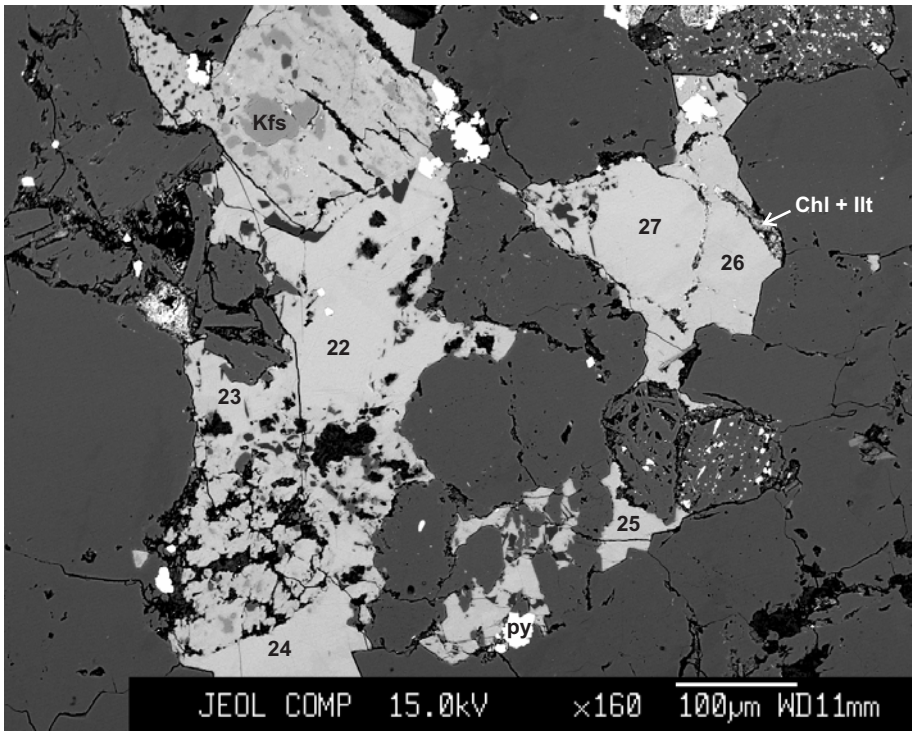
16: Fe-calcite
17: Fe-calcite

Figure 24: Sable Island C-67-4085.83



18: Fe-calcite
19: Fe-calcite
20: calcite
21: Fe-calcite

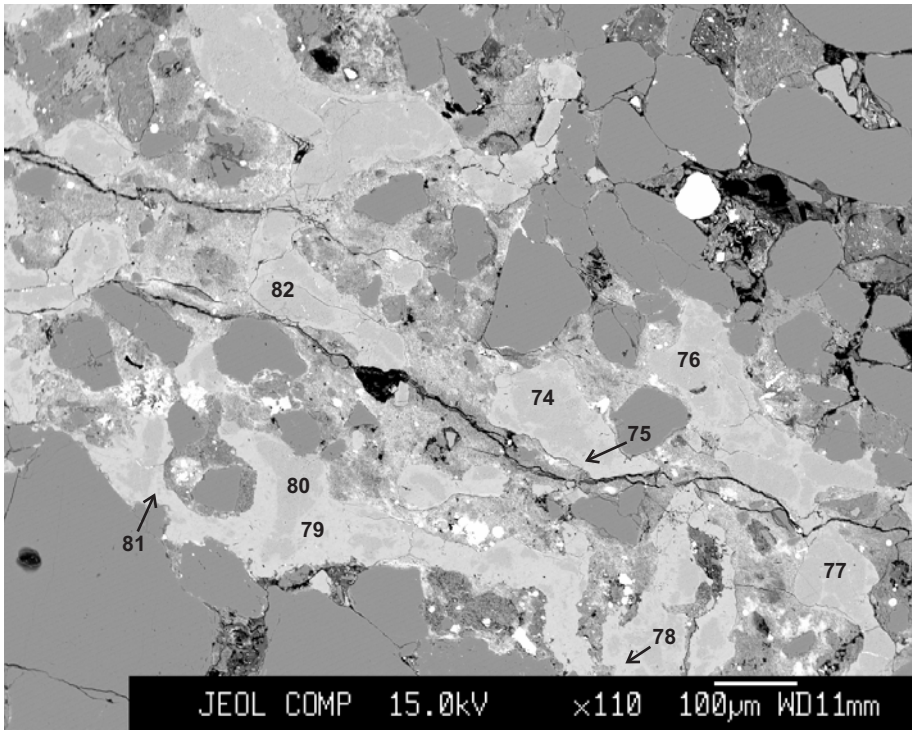
Figure 25: Sable Island C-67-4085.83



22: Fe-calcite
23: Fe-calcite
24: Fe-calcite
25: Fe-calcite
26: calcite
27: Fe-calcite

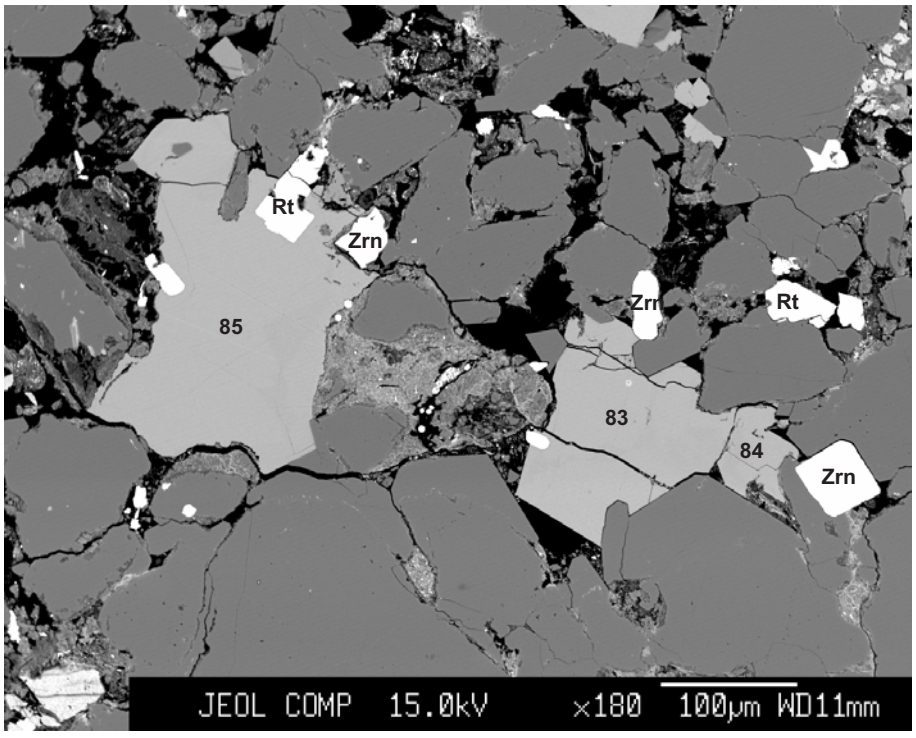
Figure 26: Sable Island C-67-4085.83

Appendix 2F : Back-scattered electron images for the South Desbarres O-76 well



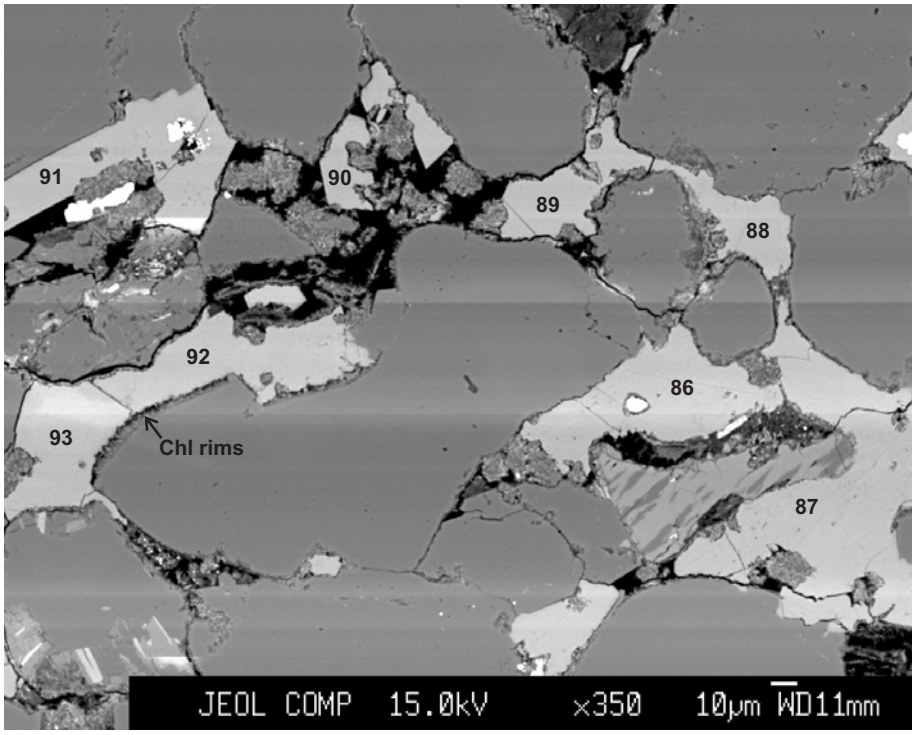
74: Mg-calcite
75: Fe-calcite
76: Mg-calcite
77: Mg-calcite
78: Fe-calcite
79: Fe-calcite
80: Mg-calcite
81: Fe-calcite
82: Mg-calcite

Figure 1: South Desbarres O-76-3809.66



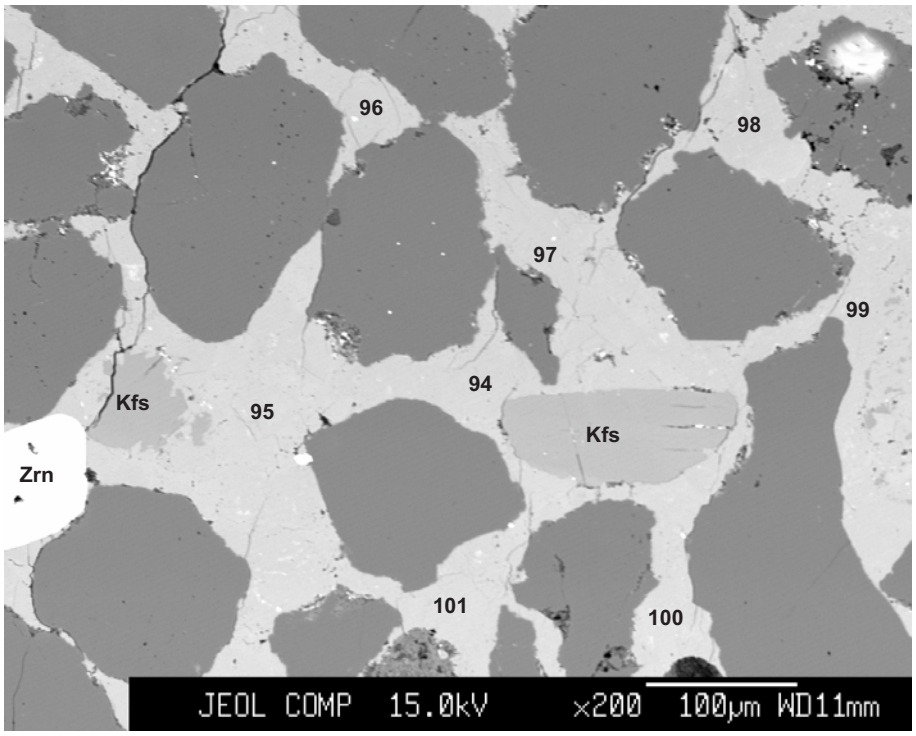
83: Fe-calcite
84: Fe-calcite
85: Fe-calcite

Figure 2: South Desbarres O-76-3809.66



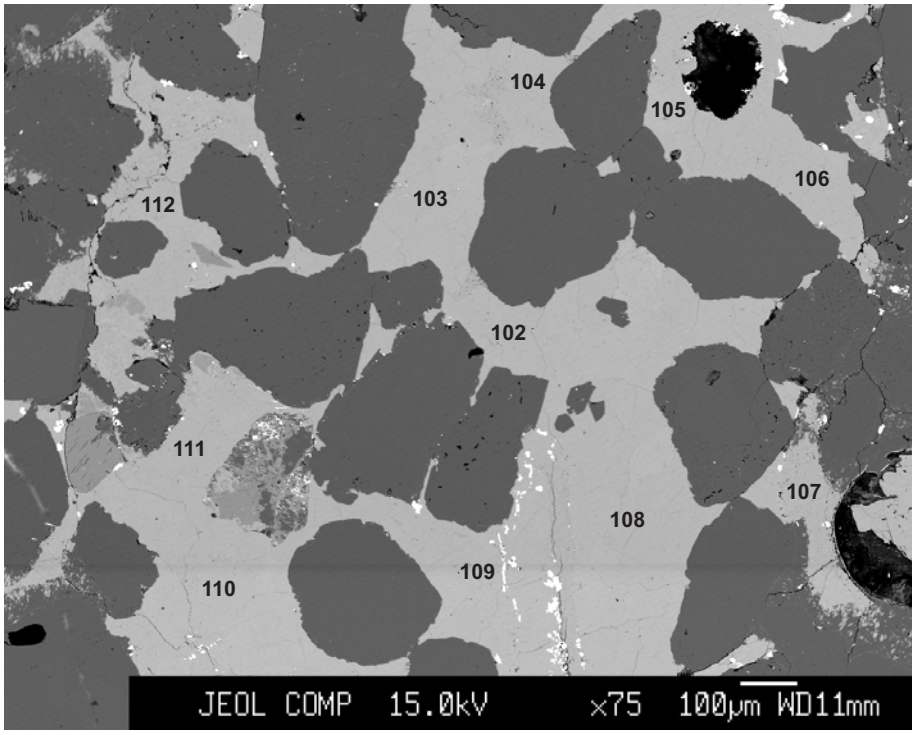
86: Fe-calcite
87: Fe-calcite
88: Fe-calcite
89: Fe-calcite
90: Fe-calcite
91: Fe-calcite
92: calcite
93: Fe-calcite

Figure 3: South Desbarres O-76-3809.66



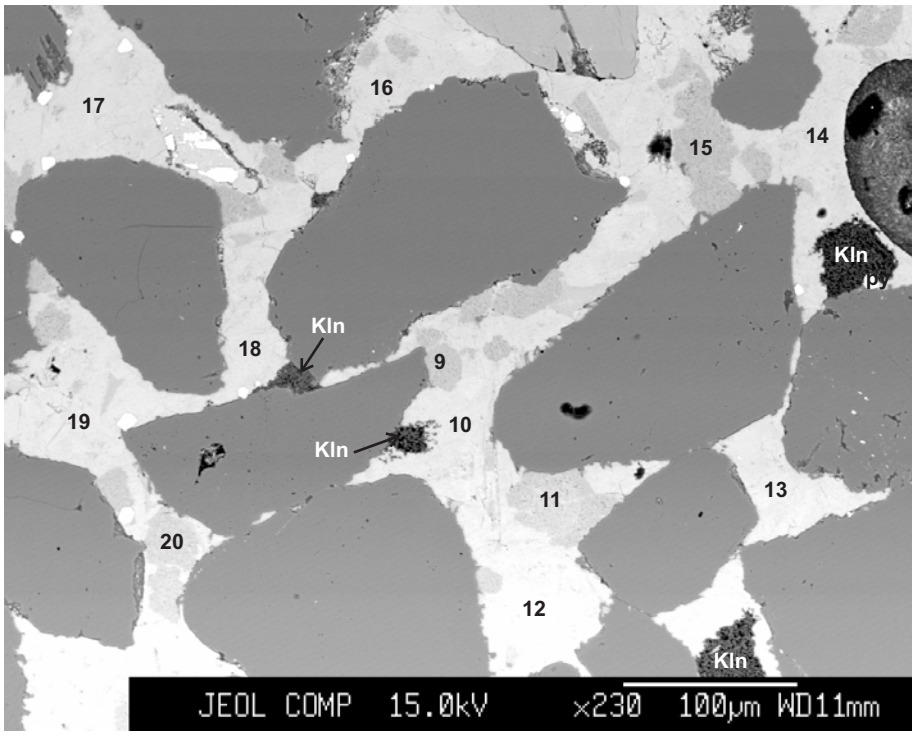
94: ankerite
95: ankerite
96: ankerite
97: ankerite
98: ankerite
99: ankerite
100: ankerite
101: ankerite

Figure 4: South Desbarres O-76-3818.26



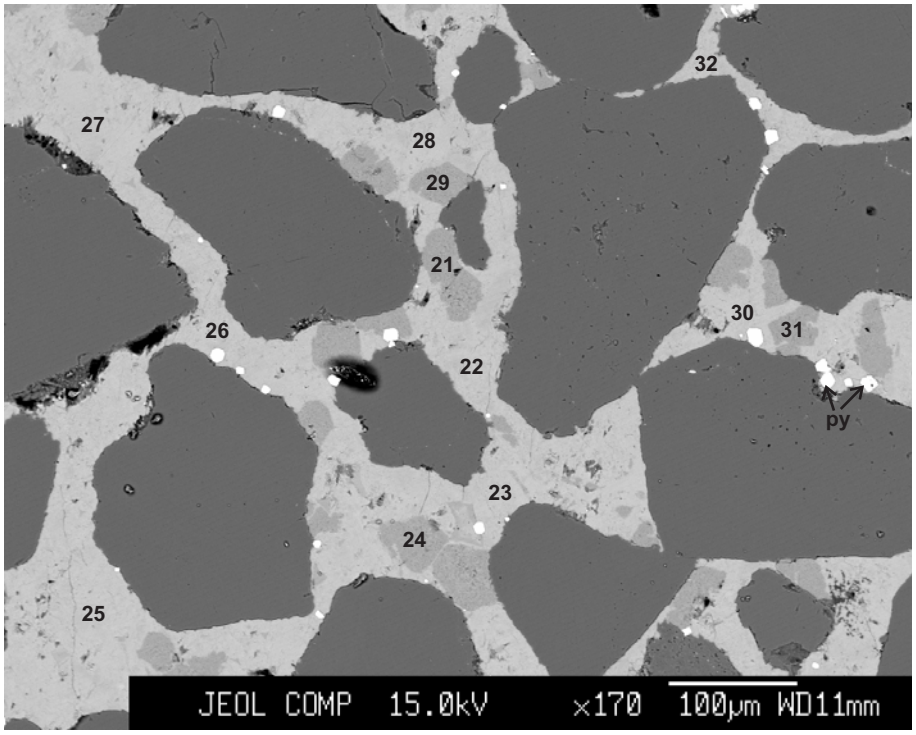
102: ankerite
103: ankerite
104: ankerite
105: ankerite
106: ankerite
107: ankerite
108: ankerite
109: ankerite
110: ankerite
111: ankerite
112: ankerite

Figure 5: South Desbarres O-76-3818.26



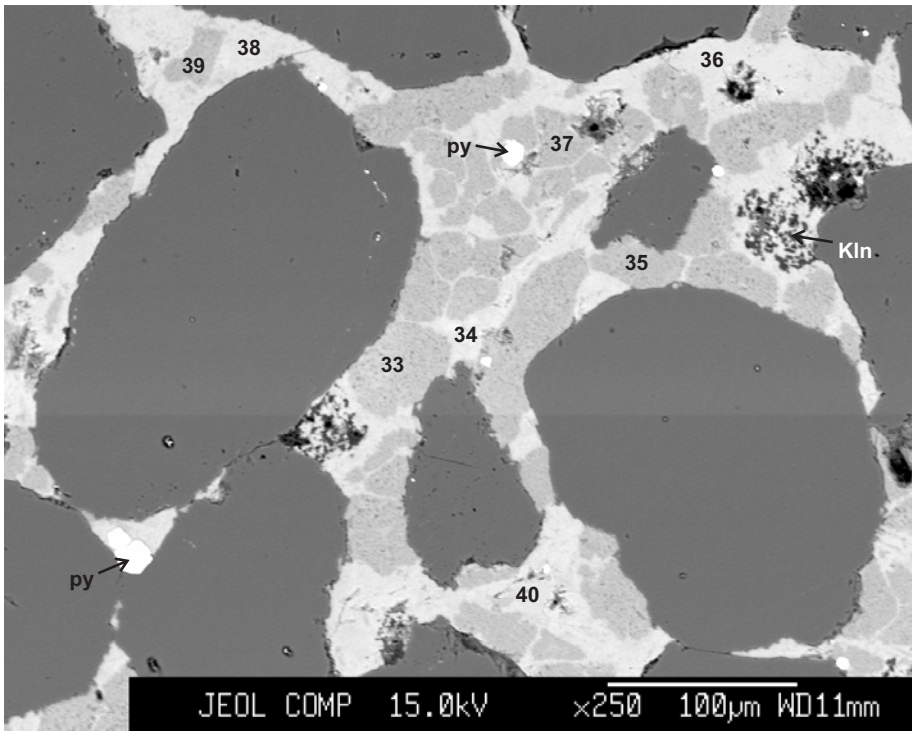
9: Mg-calcite
10: Fe-calcite
11: Mg-calcite
12: Fe-calcite
13: Fe-calcite
14: Fe-calcite
15: Mg-calcite
16: Fe-calcite
17: Fe-calcite
18: Fe-calcite
19: Fe-calcite
20: Mg-calcite

Figure 6: South Desbarres O-76-3821.72



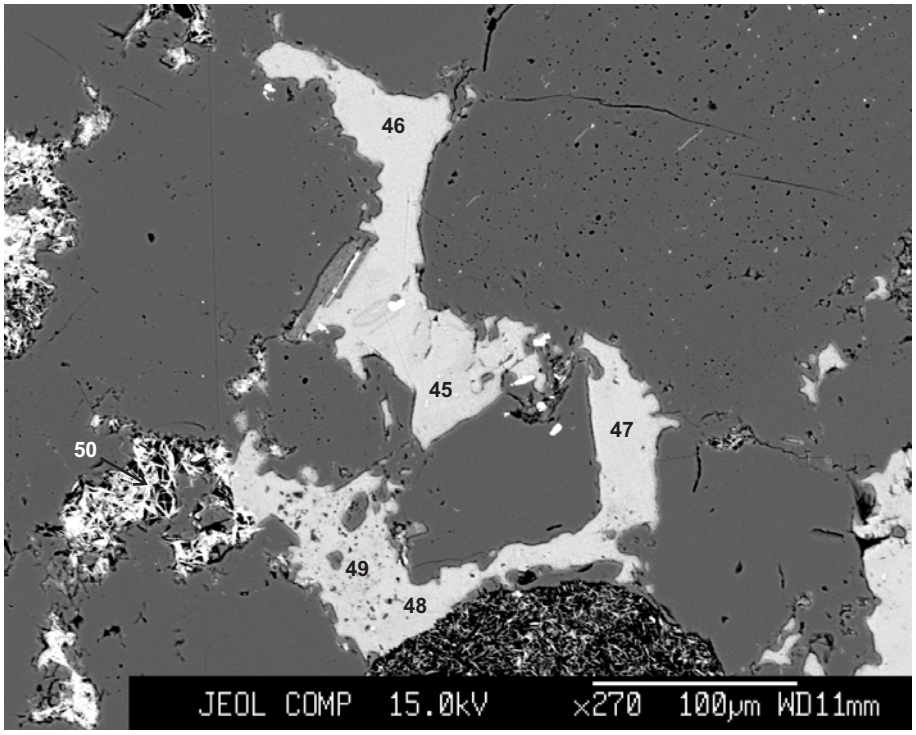
21: Mg-calcite
22: Fe-calcite
23: Fe-calcite
24: Mg-calcite
25: Fe-calcite
26: Fe-calcite
27: Fe-calcite
28: Fe-calcite
29: Mg-calcite
30: Fe-calcite
31: Mg-calcite
32: Fe-calcite

Figure 7: South Desbarres O-76-3821.72



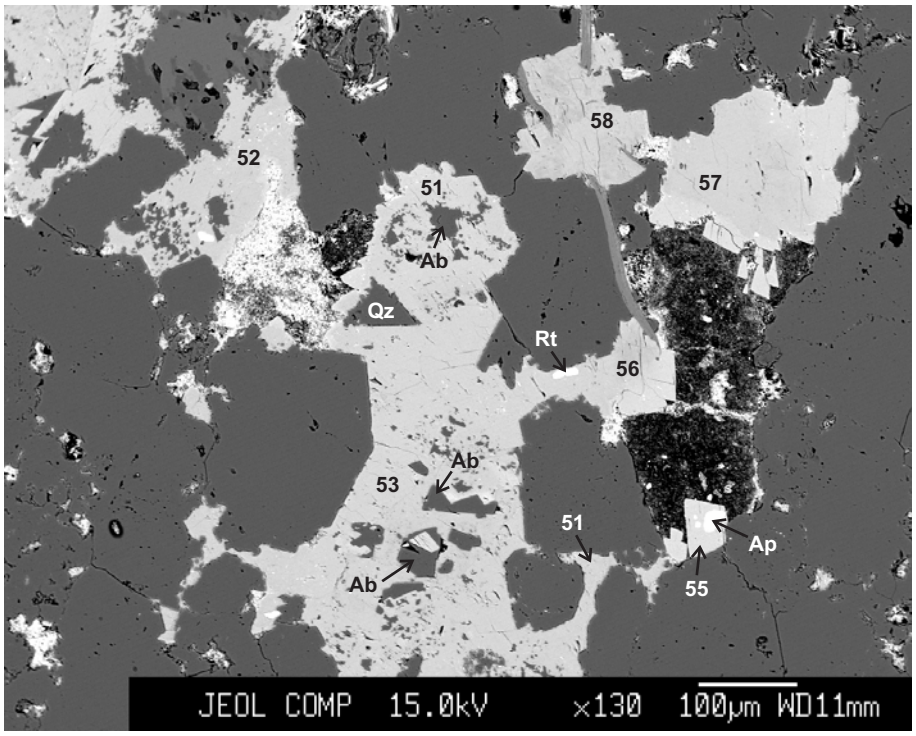
33: Mg-calcite
34: Fe-calcite
35: Mg-calcite
36: calcite
37: Mg-calcite
38: Fe-calcite
39: Mg-calcite
40: Fe-calcite

Figure 8: South Desbarres O-76-3821.72



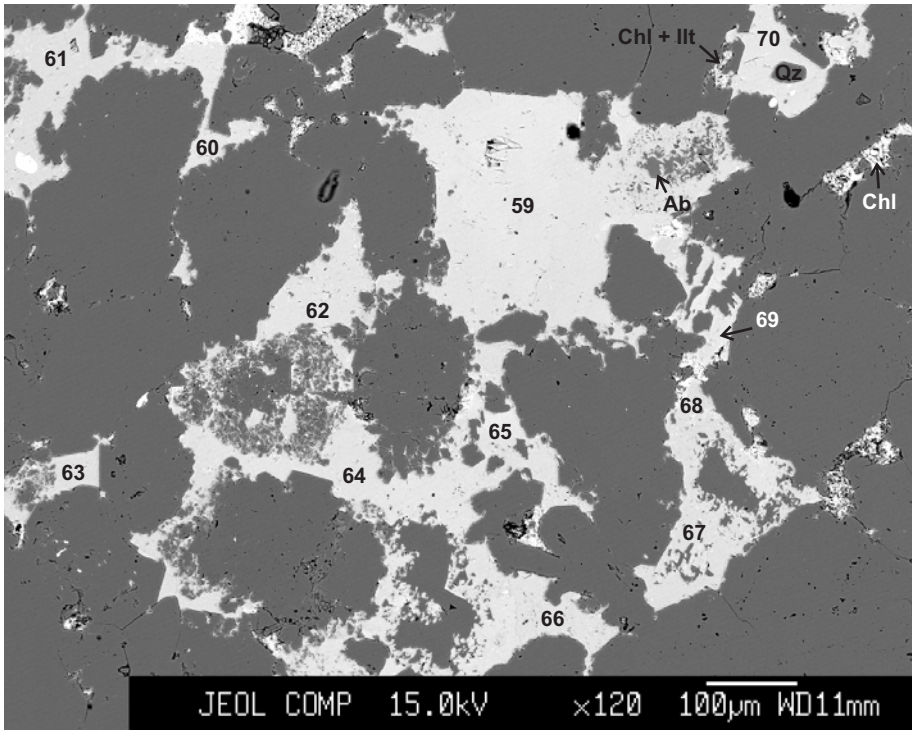
45: Fe-calcite
46: Fe-calcite
47: Fe-calcite
48: Fe-calcite
49: Fe-calcite
50: chlorite

Figure 9: South Desbarres O-76-5952.65



51: ankerite
52: ankerite
53: ankerite
54: ankerite
55: ankerite
56: ankerite
57: ankerite
58: ankerite

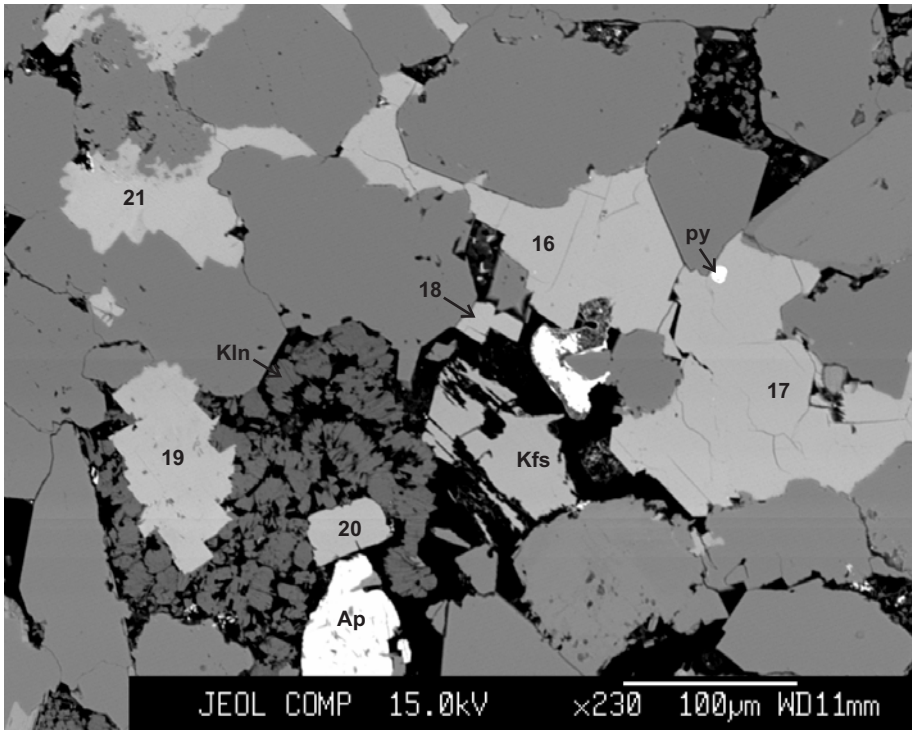
Figure 10: South Desbarres O-76-5952.65



59: ankerite
60: ankerite
61: ankerite
62: ankerite
63: ankerite
64: ankerite
65: ankerite
66: ankerite
67: ankerite
68: ankerite
69: ankerite
70: ankerite

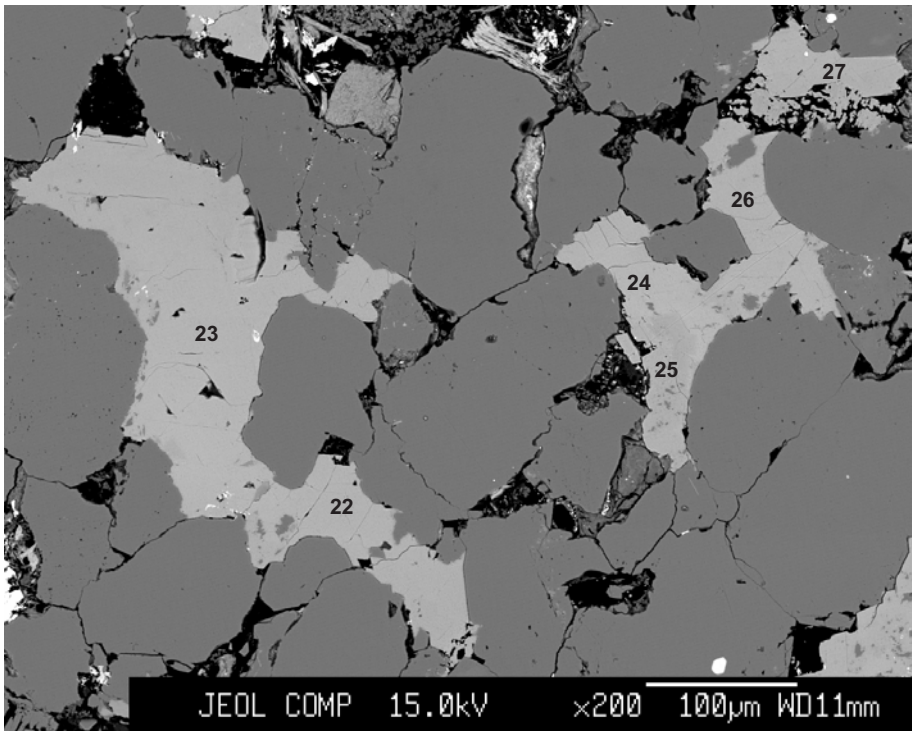
Figure 11: South Desbarres O-76-5952.65

Appendix 2G : Back-scattered electron images for the Wenonah J-75 well



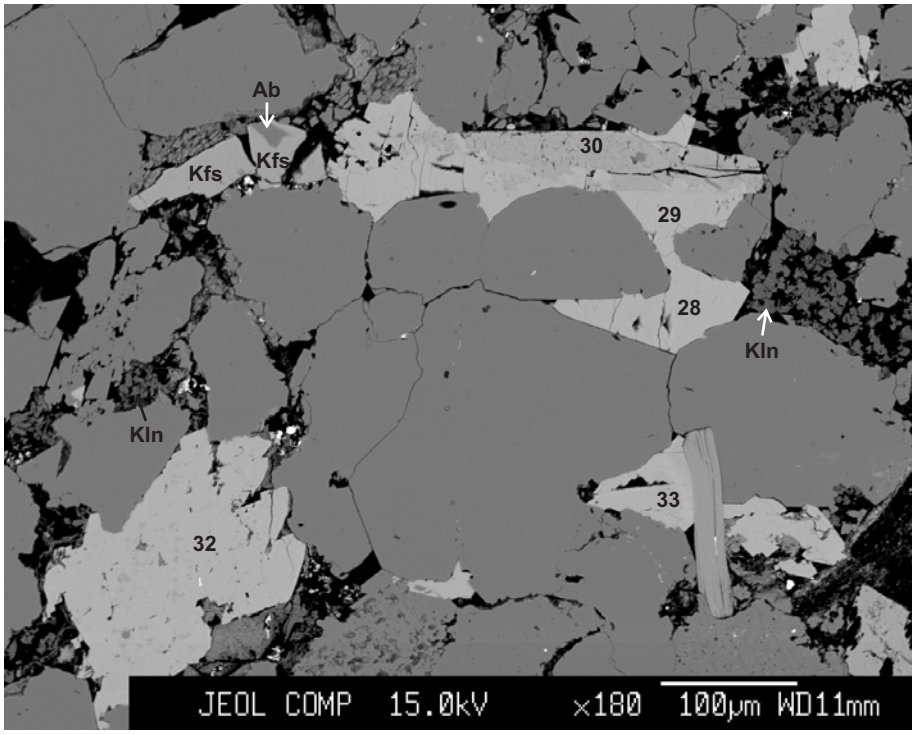
16: ankerite
17: ankerite
18: ankerite
19: ankerite
20: calcite
21: ankerite

Figure 1: Wenonah J-75-3071.17



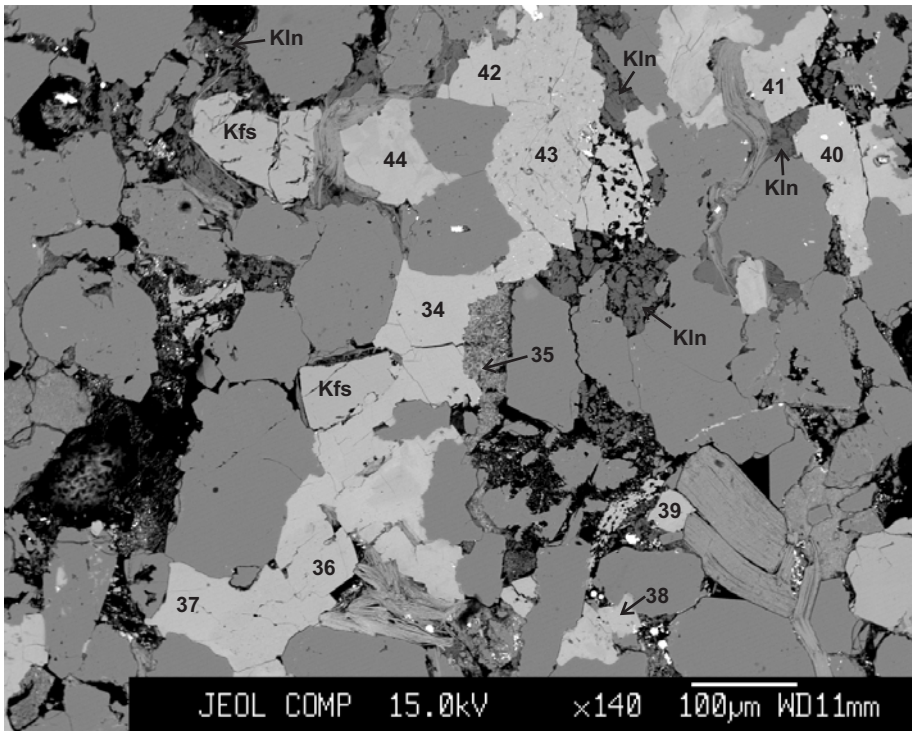
22: ankerite
23: ankerite
24: ankerite
25: ankerite
26: ankerite
27: ankerite

Figure 2: Wenonah J-75-3071.17



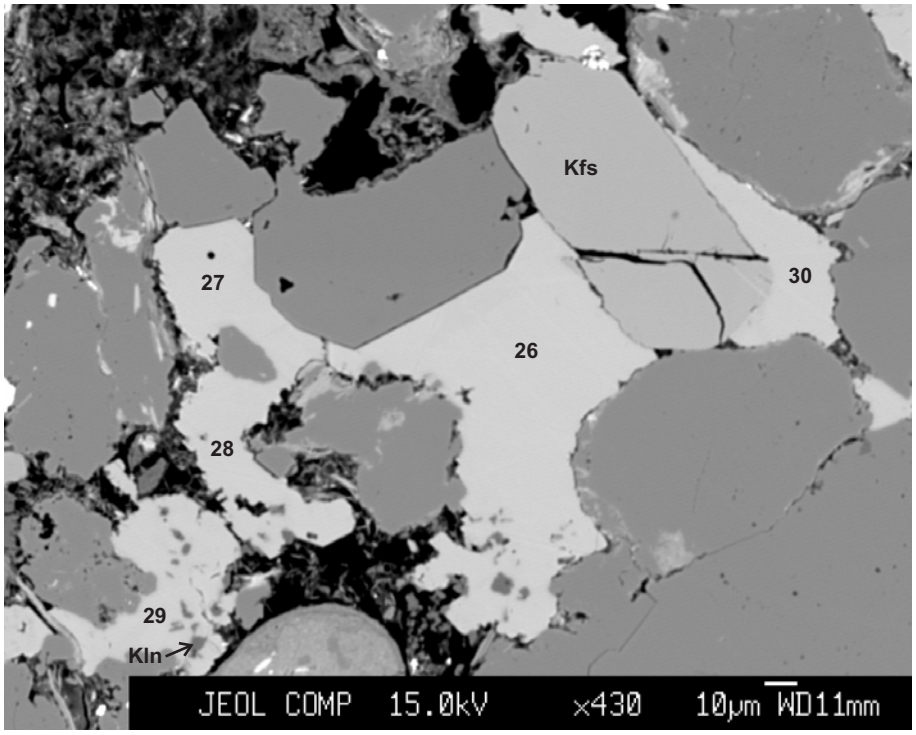
28: ankerite
29: ankerite
30: K-feldspar
31: ankerite
32: ankerite
33: ankerite

Figure 3: Wenonah J-75-3071.17



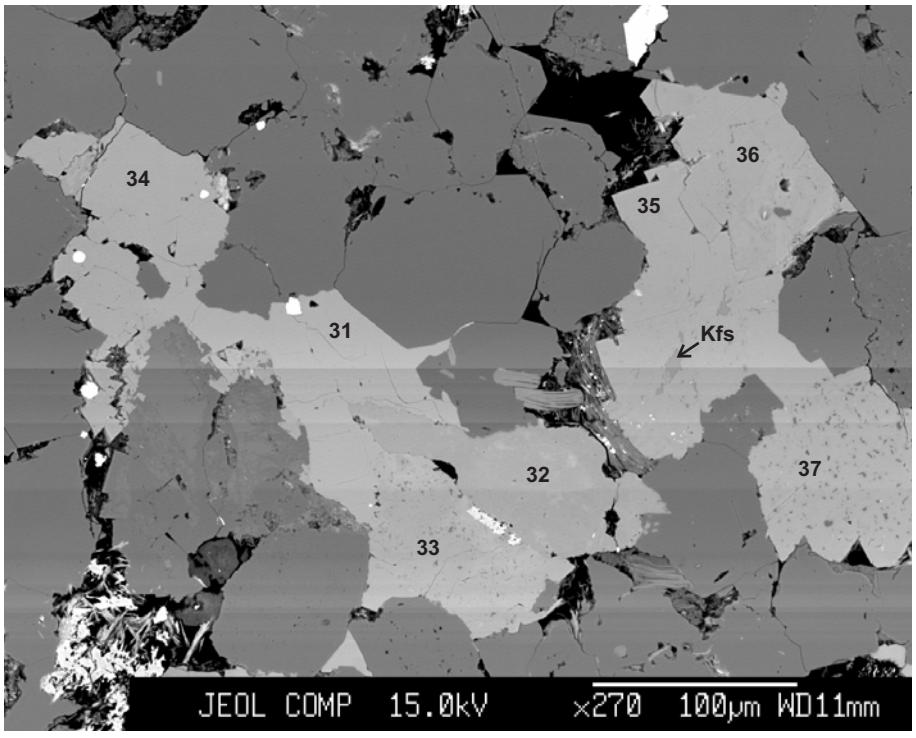
34: ankerite
35: chlorite + illite
36: ankerite
37: ankerite
38: ankerite
39: ankerite
40: ankerite
41: ankerite
42: ankerite
43: ankerite
44: ankerite

Figure 4: Wenonah J-75-3071.17



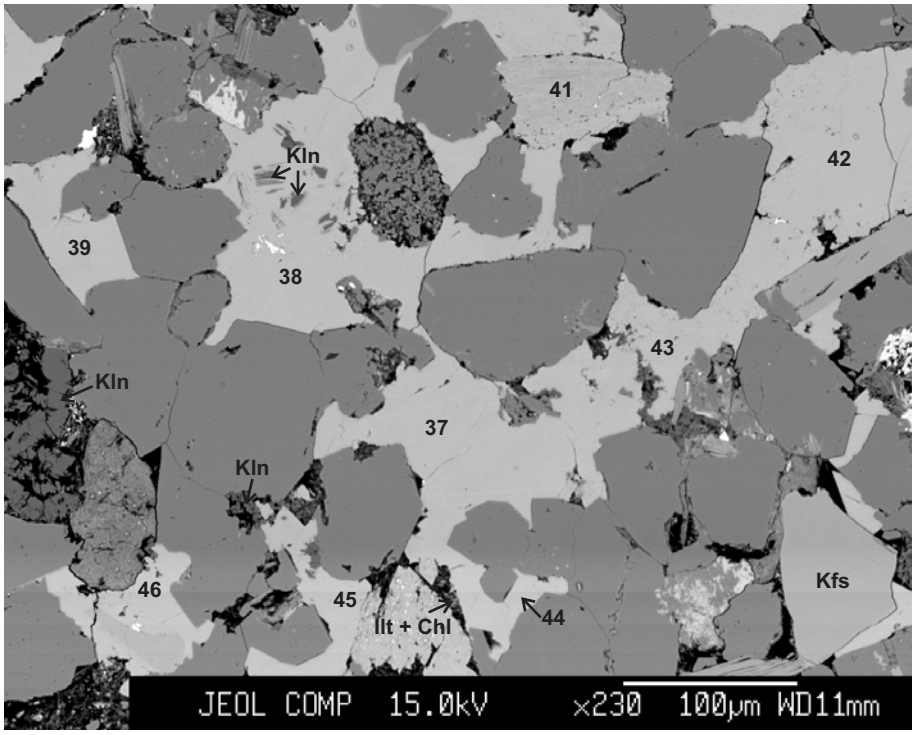
26: Fe-calcite
27: Fe-calcite
28: Fe-calcite
29: calcite
30: Fe-calcite

Figure 5: Wenonah J-75-3074.43



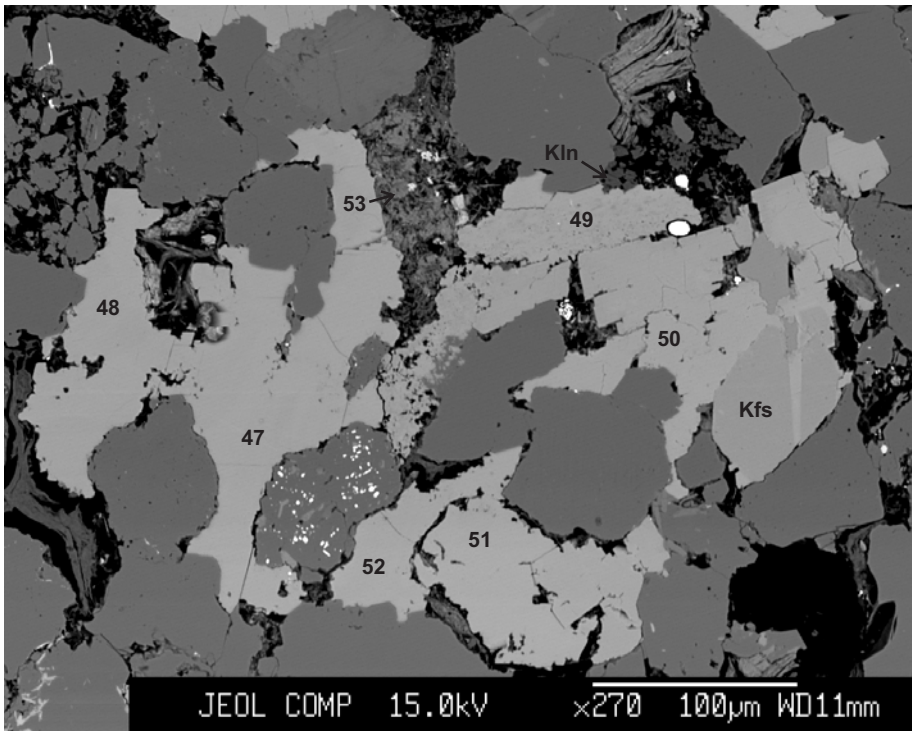
31: ankerite
32: calcite
33: ankerite
34: ankerite
35: ankerite
36: ankerite
37: ankerite

Figure 6: Wenonah J-75-3074.43



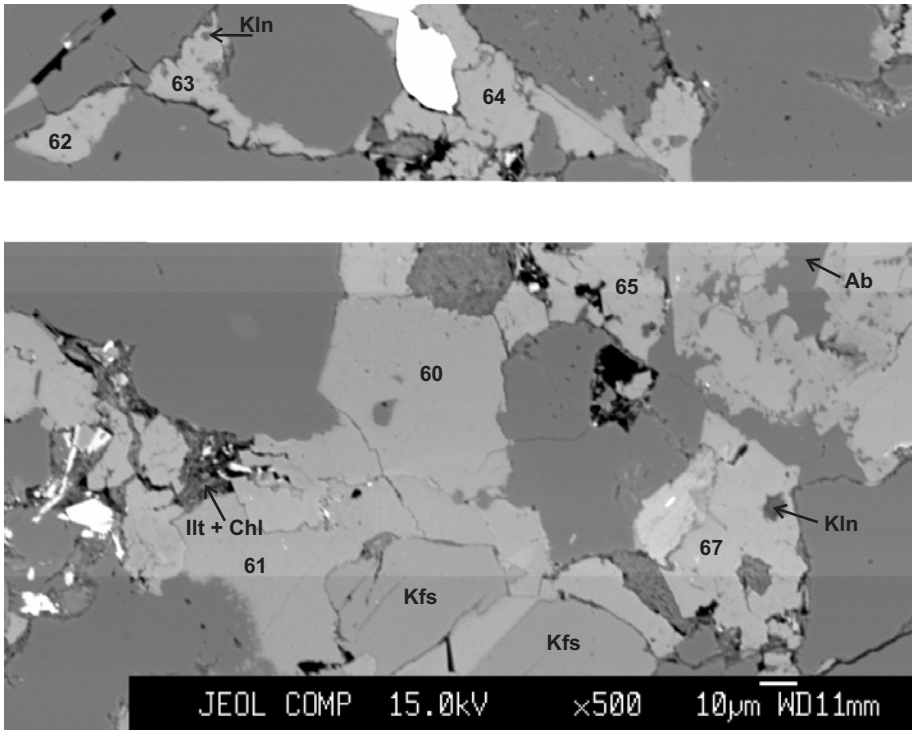
37: ankerite
38: calcite
39: calcite
40: calcite
41: calcite
42: calcite
43: calcite
44: calcite
45: calcite
46: calcite

Figure 7: Wenonah J-75-3074.43



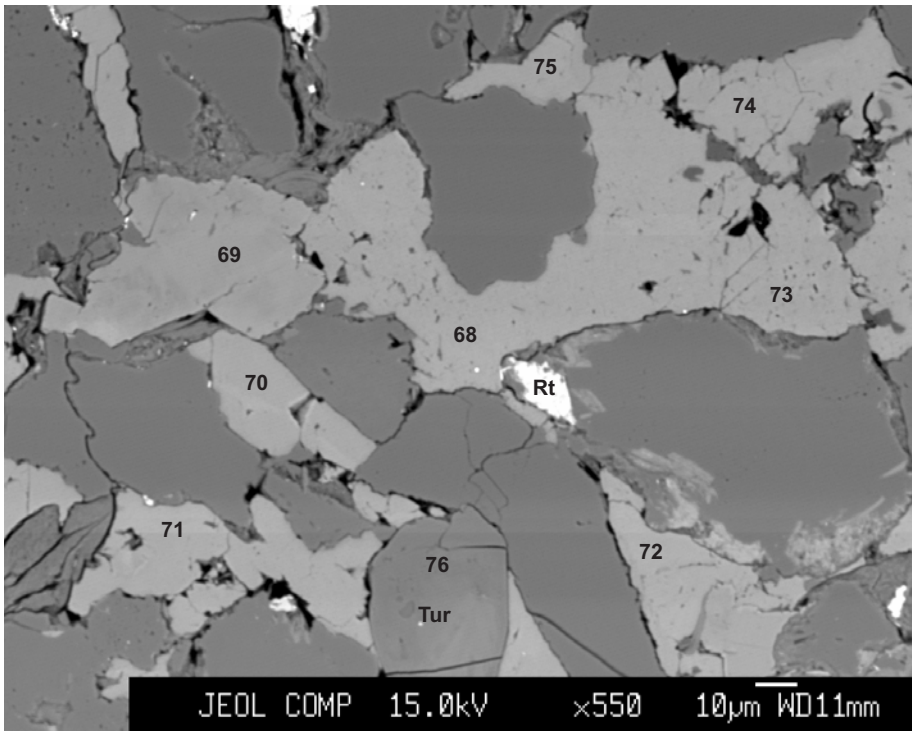
47: calcite
48: calcite
49: Fe-calcite
50: ankerite
51: Fe-calcite
52: calcite
53: illite

Figure 8: Wenonah J-75-3074.43



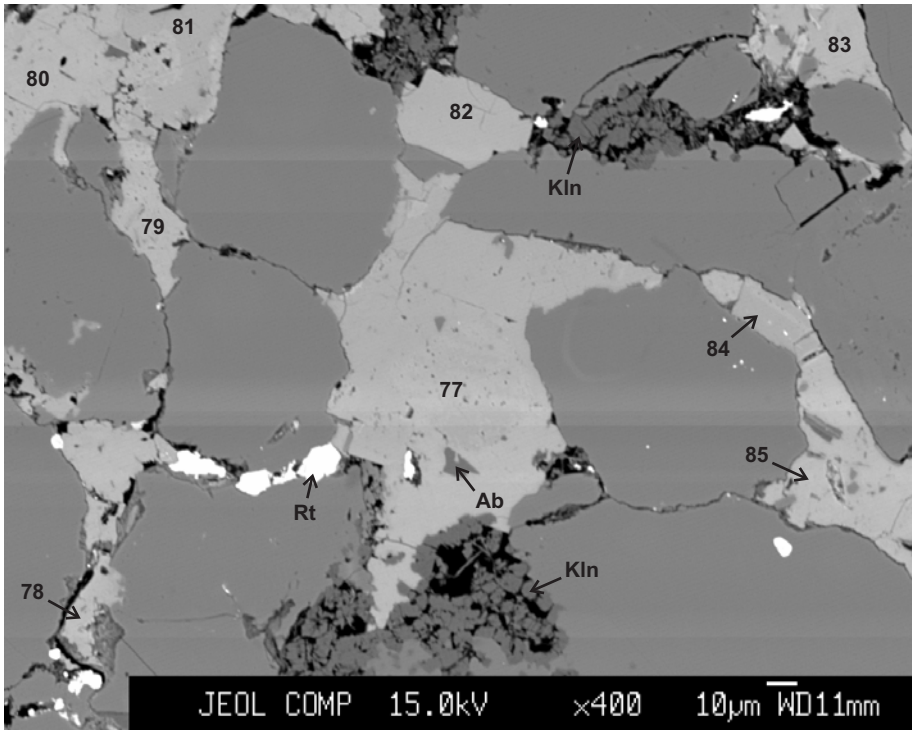
60: ankerite
61: calcite
62: Fe-calcite
63: Fe-calcite
64: Fe-calcite
65: Fe-calcite
66: ankerite
67: Fe-calcite

Figure 9: Wenonah J-75-3076.94



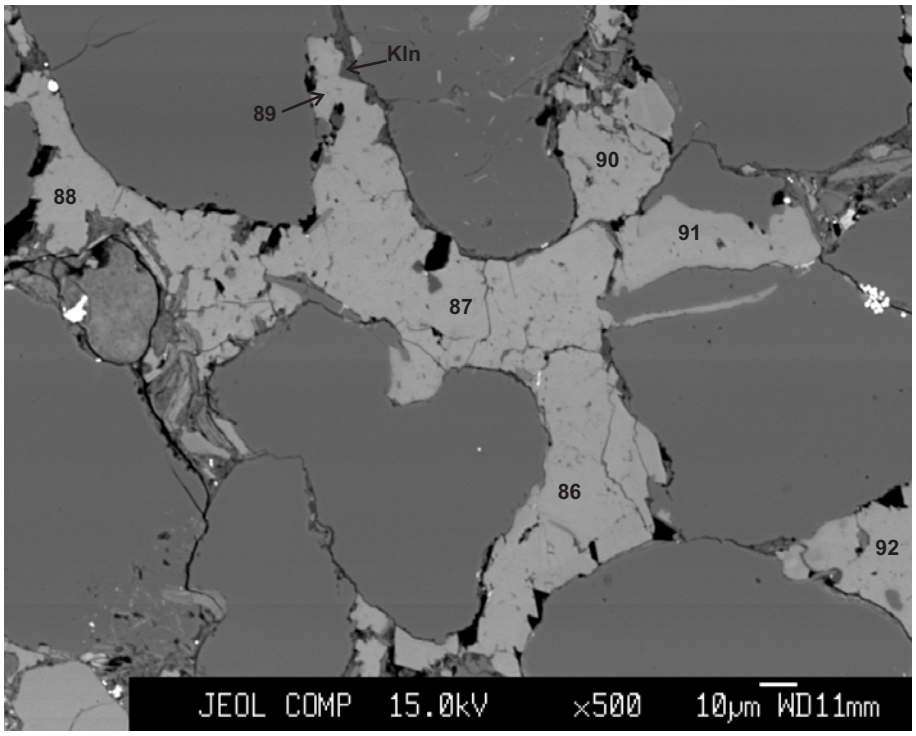
68: Fe-calcite
69: ankerite
70: calcite
71: calcite
72: Fe-calcite
73: Fe-calcite
74: Fe-calcite
75: Fe-calcite
76: tourmaline

Figure 10: Wenonah J-75-3076.94



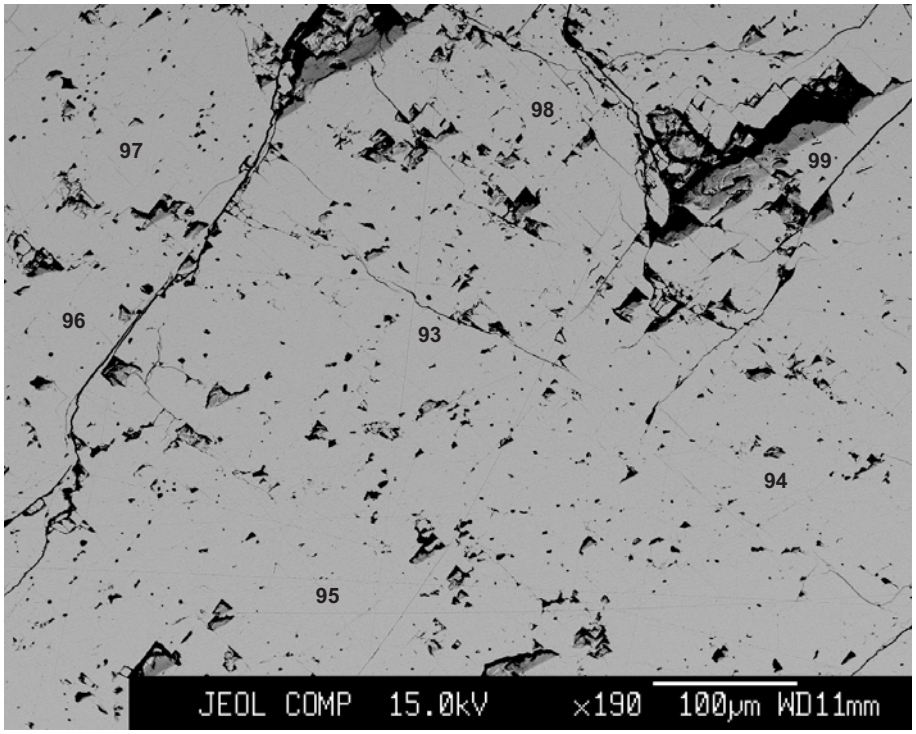
77: Fe-calcite
78: Fe-calcite + clay
79: Fe-calcite
80: Fe-calcite
81: ankerite
82: ankerite
83: Fe-calcite
84: calcite
85: Fe-calcite

Figure 11: Wenonah J-75-3076.94



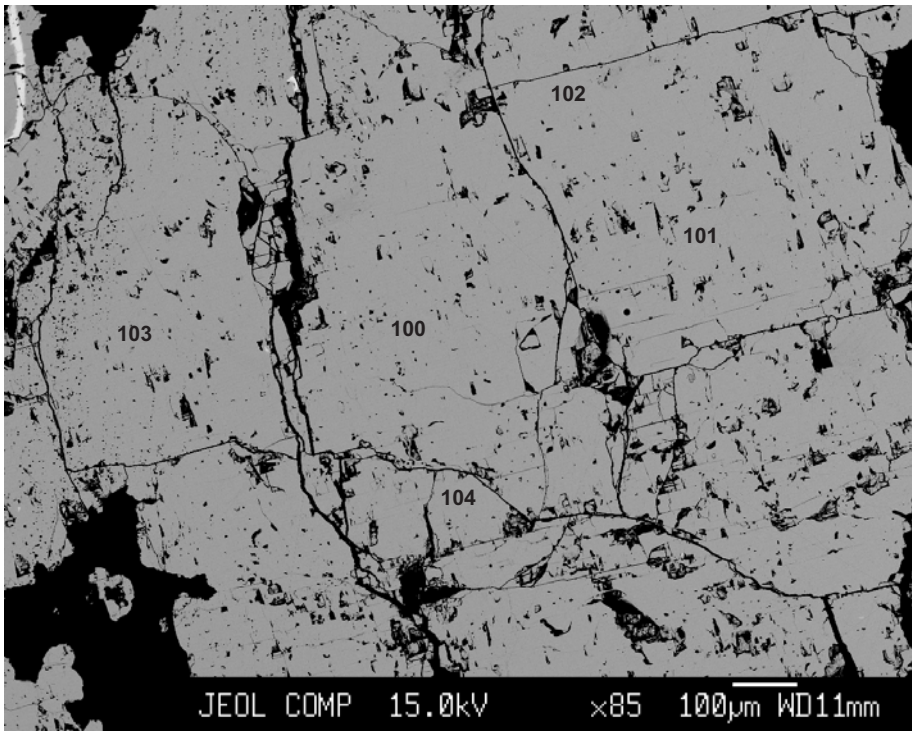
86: Fe-calcite
87: Fe-calcite
88: Fe-calcite
89: Fe-calcite
90: Fe-calcite
91: calcite
92: Fe-calcite

Figure 12: Wenonah J-75-3076.94



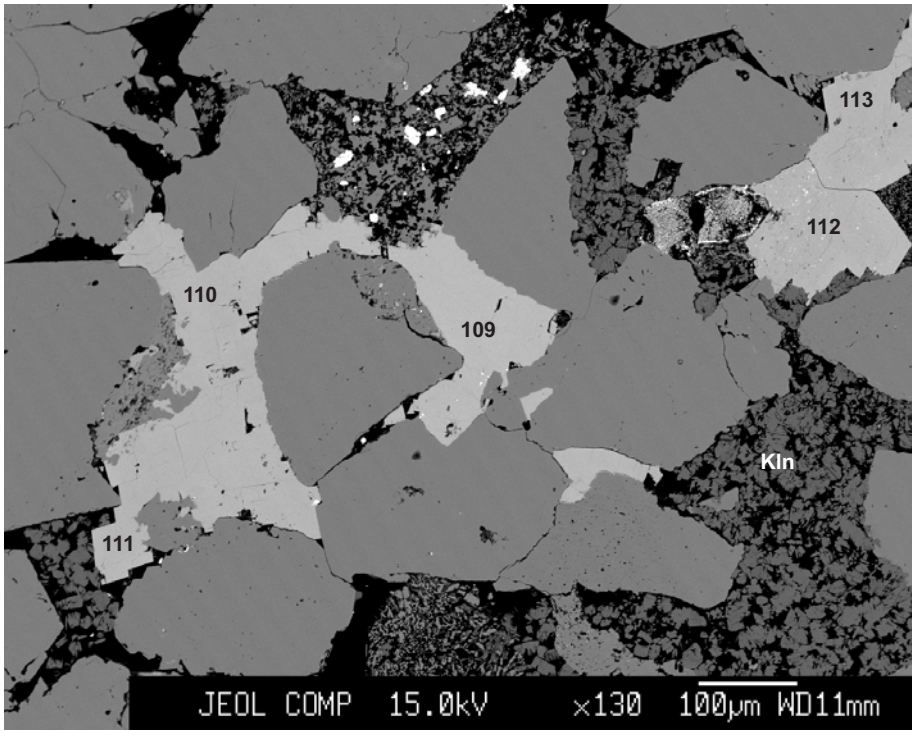
93: barite
94: barite
95: barite
96: barite
97: barite
98: barite
99: barite

Figure 13: Wenonah J-75-3076.94 barite vein



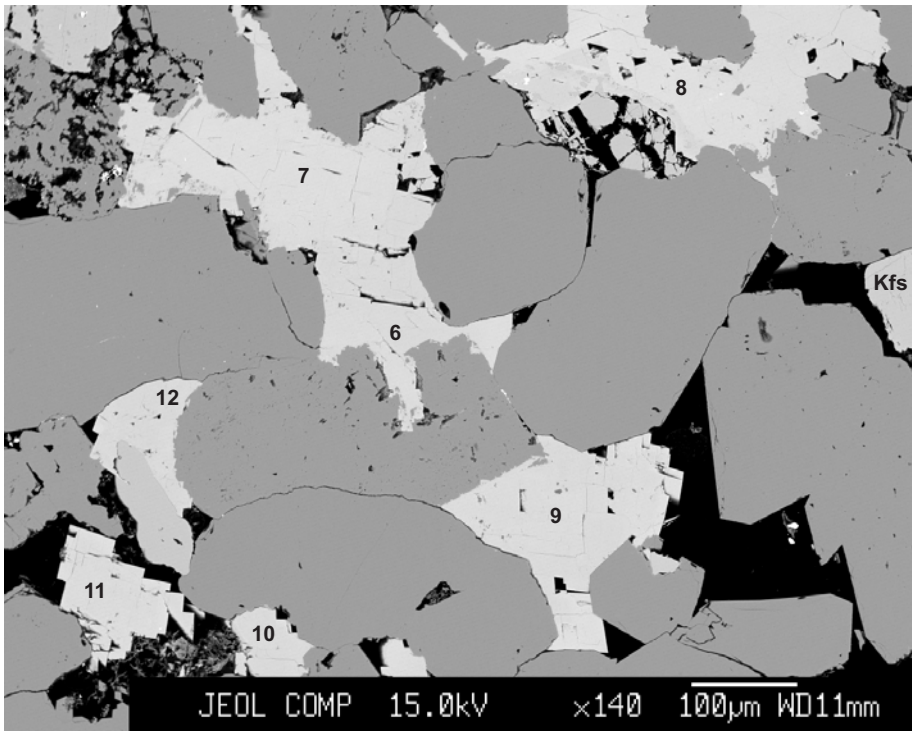
100: barite
101: barite
102: barite
103: barite
104: barite

Figure 14: Wenonah J-75-3076.94 barite vein



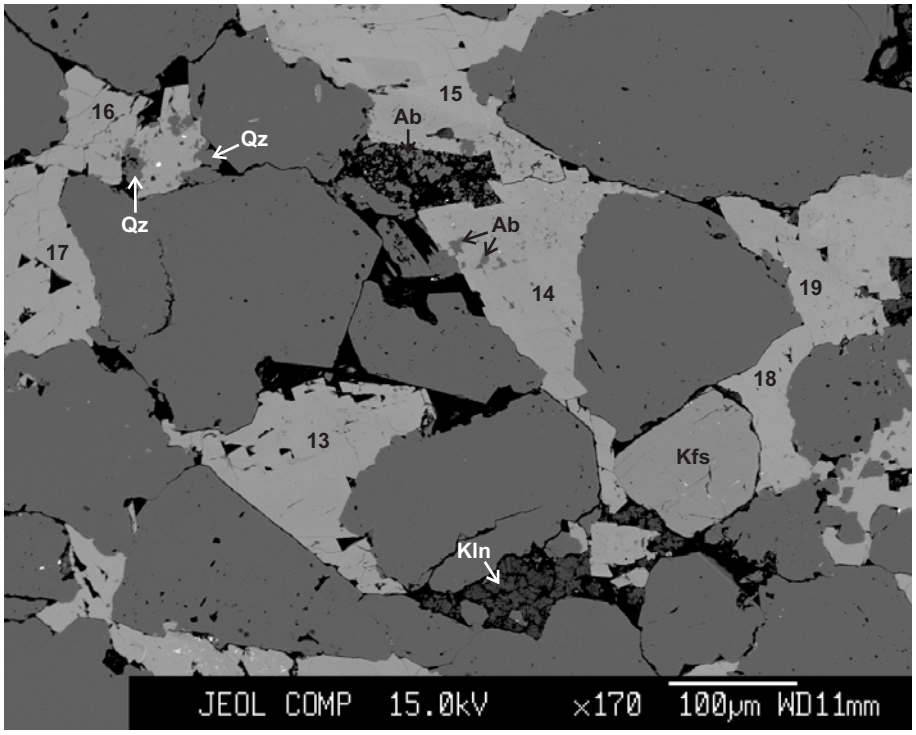
109: ankerite
110: ankerite
111: ankerite
112: ankerite
113: ankerite

Figure 15: Wenonah J-75-3079.14



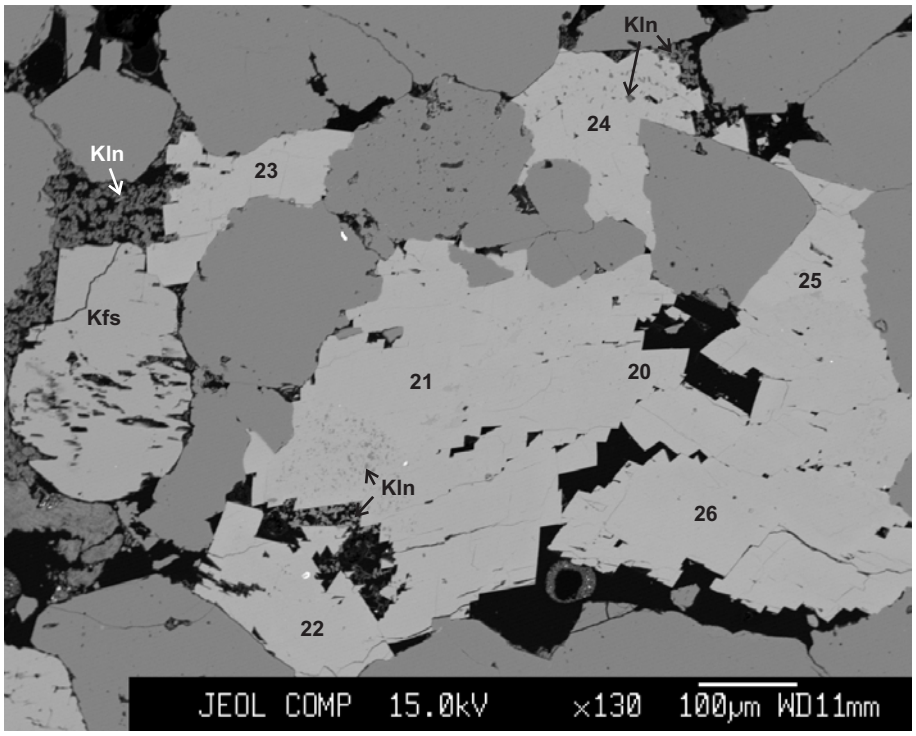
6: ankerite
7: ankerite
8: ankerite
9: ankerite
10: ankerite
11: ankerite
12: ankerite

Figure 16: Wenonah J-75-3079.14



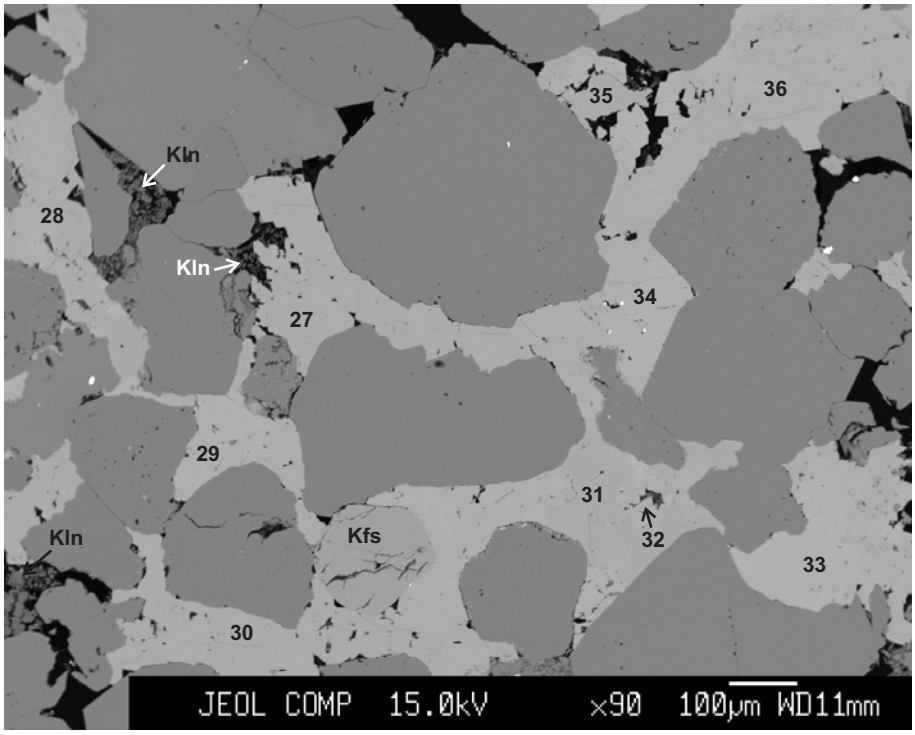
13: ankerite
14: ankerite
15: ankerite
16: ankerite
17: ankerite
18: ankerite
19: ankerite

Figure 17: Wenonah J-75-3079.14



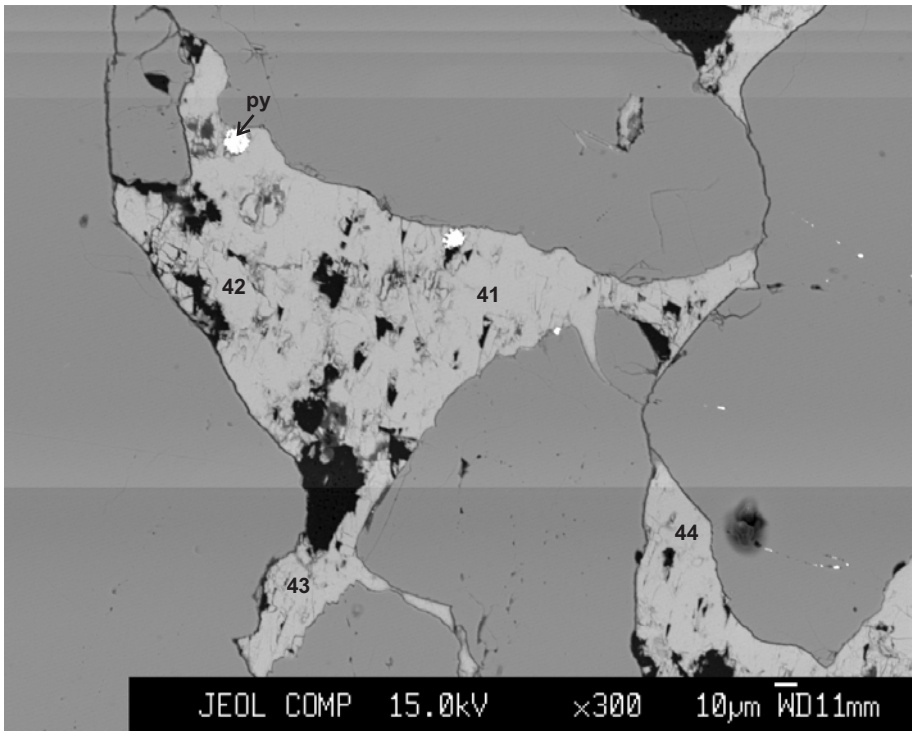
20: ankerite
21: ankerite
22: ankerite
23: ankerite
24: ankerite
25: ankerite
26: ankerite

Figure 18: Wenonah J-75-3079.14



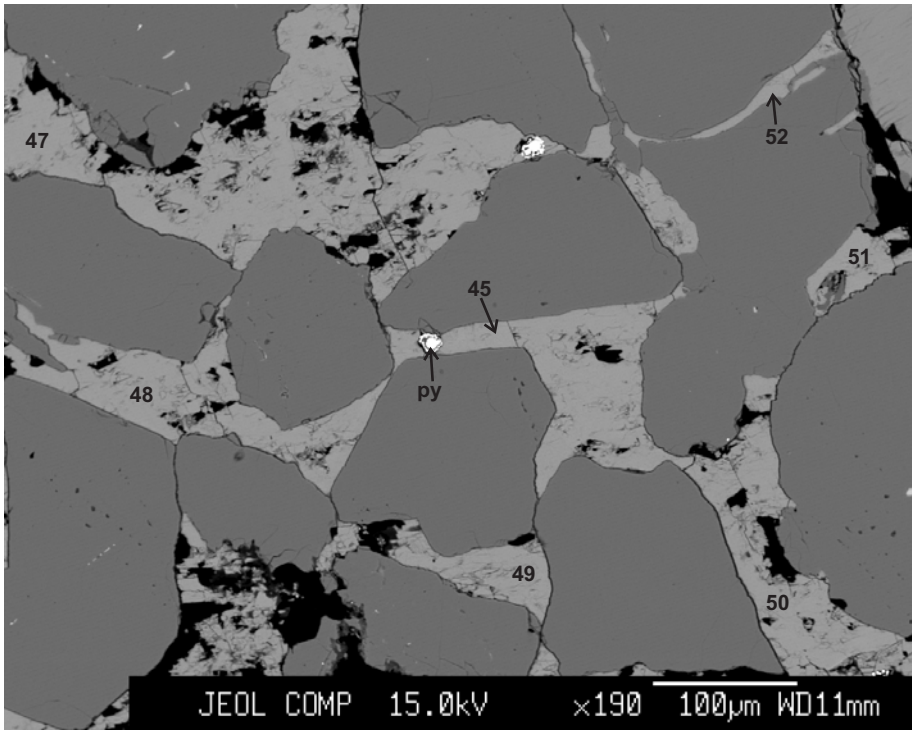
27: ankerite
28: ankerite
29: ankerite
30: ankerite
31: ankerite
32: ankerite
33: ankerite
34: ankerite
35: K-feldspar
36: ankerite

Figure 19: Wenonah J-75-3079.14



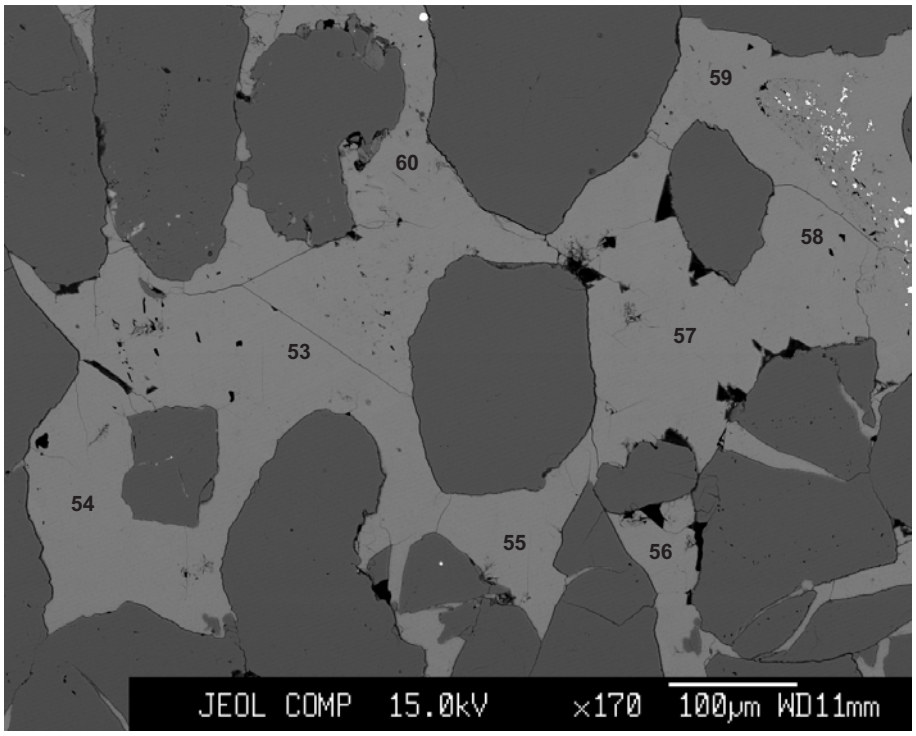
41: Fe-calcite
42: Fe-calcite
43: Fe-calcite
44: Fe-calcite

Figure 20: Wenonah J-75-3082.16



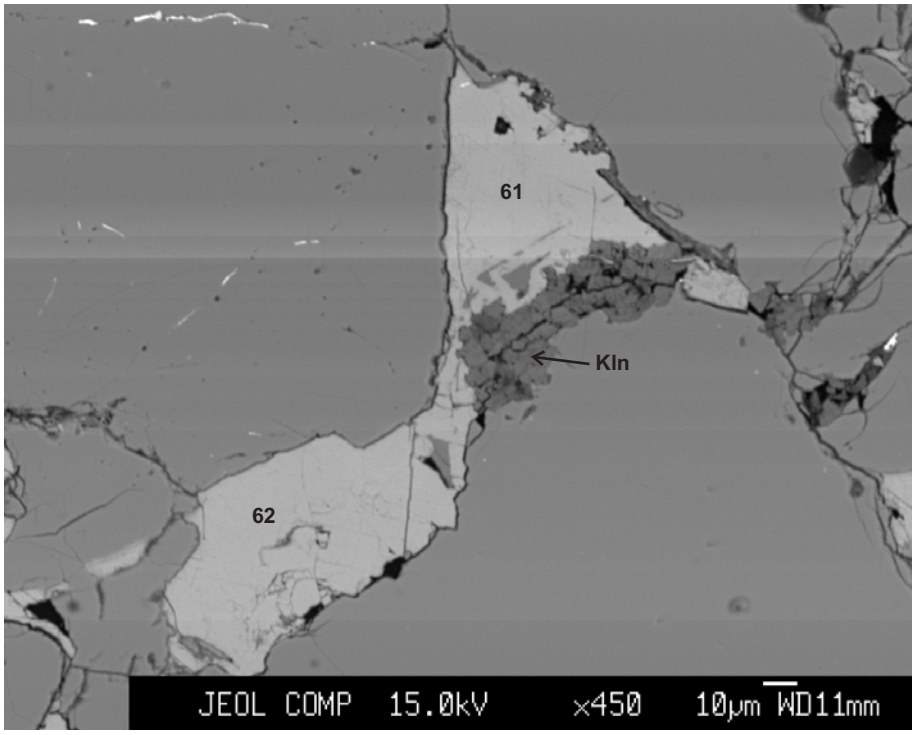
45: Fe-calcite
46: Fe-calcite
47: Fe-calcite
48: Fe-calcite
49: Fe-calcite
50: Fe-calcite
51: Fe-calcite
52: Fe-calcite

Figure 21: Wenonah J-75-3082.16



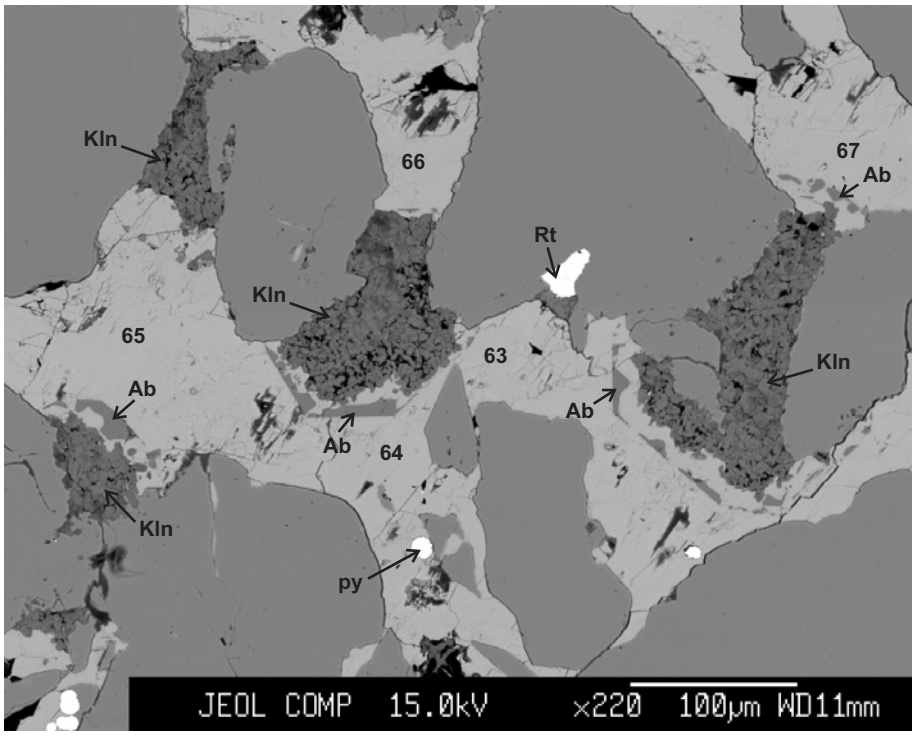
53: Fe-calcite
54: Fe-calcite
55: Fe-calcite
56: Fe-calcite
57: Fe-calcite
58: Fe-calcite
59: Fe-calcite
60: Fe-calcite

Figure 22: Wenonah J-75-3082.16



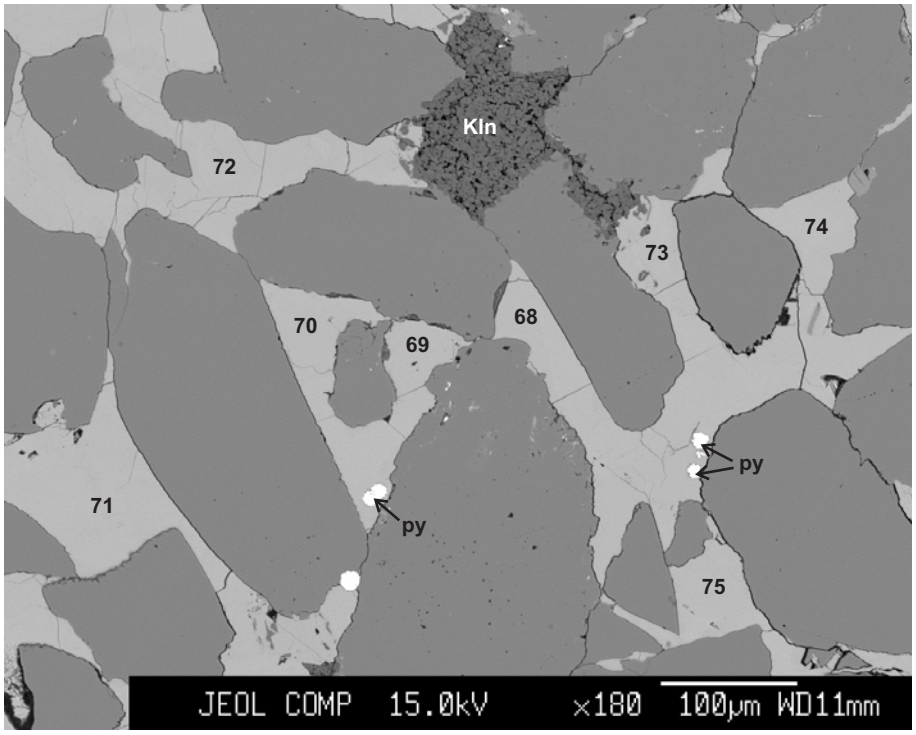
61: Fe-calcite
62: Fe-calcite

Figure 23: Wenonah J-75-3082.16



63: Fe-calcite
64: Fe-calcite
65: Fe-calcite
66: Fe-calcite
67: Fe-calcite

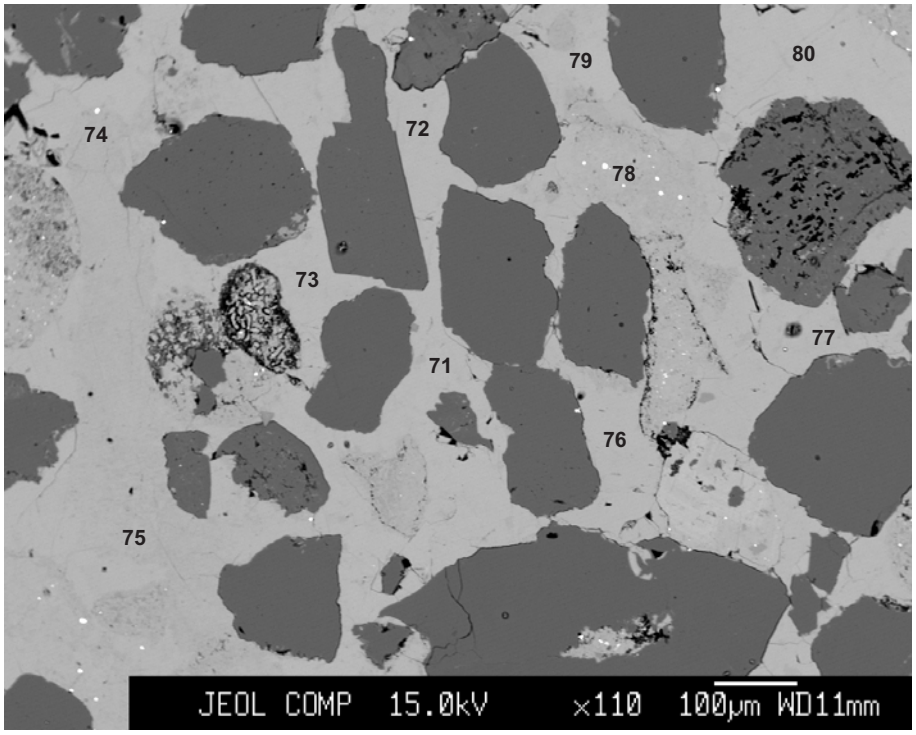
Figure 24: Wenonah J-75-3082.16



68: Fe-calcite
69: Fe-calcite
70: Fe-calcite
71: Fe-calcite
72: Fe-calcite
73: Fe-calcite
74: Fe-calcite
75: Fe-calcite

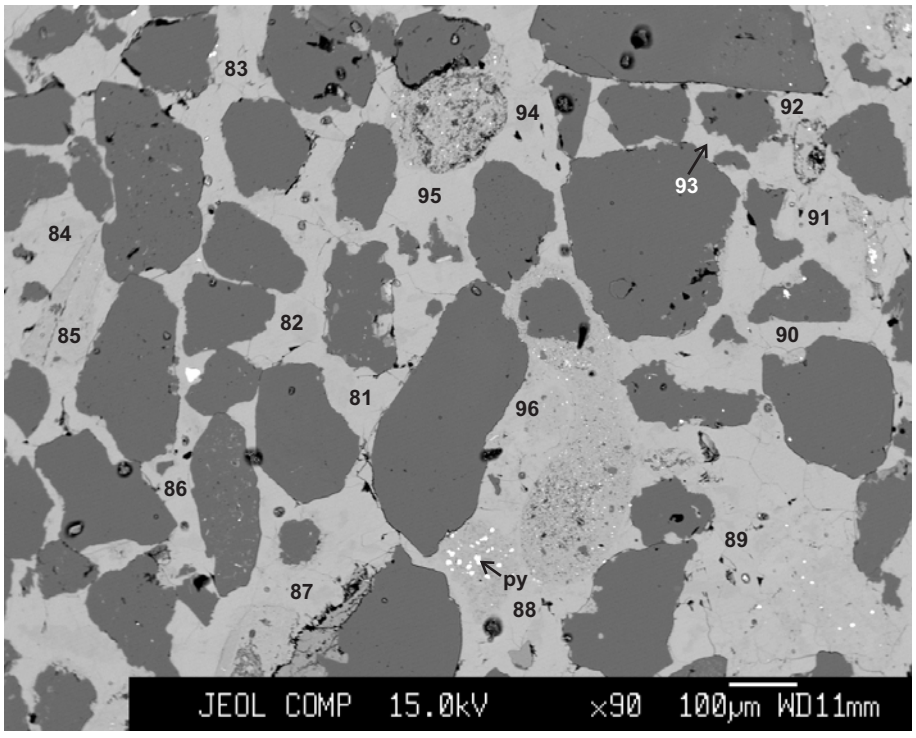
Figure 25: Wenonah J-75-3082.16

Appendix 2H : Back-scattered electron images for the Wyandot E-58 well



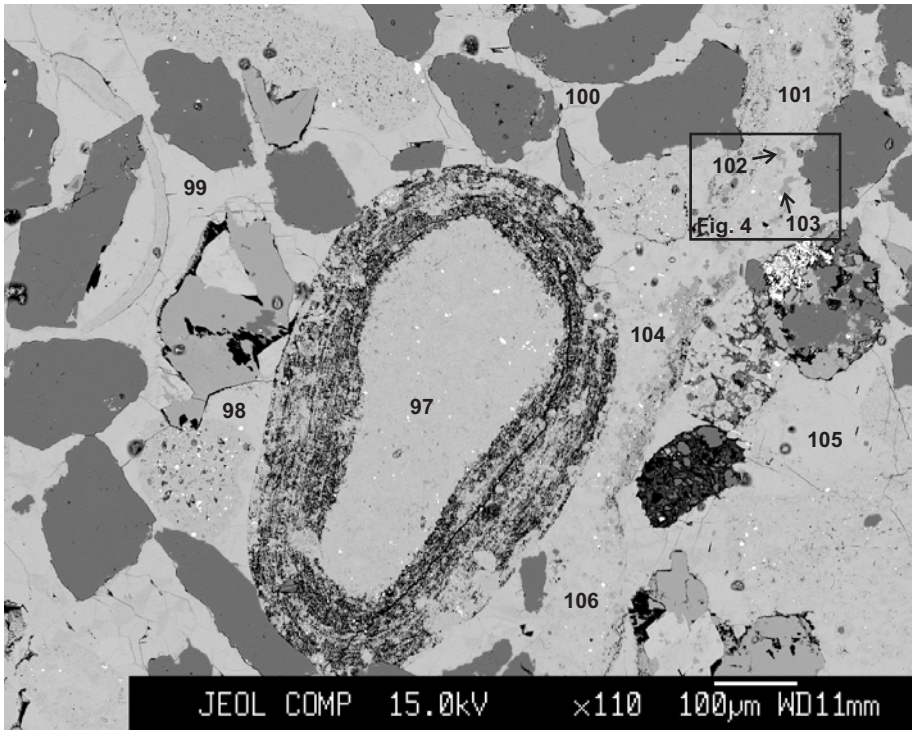
71: calcite
72: Fe-calcite
73: Fe-Mg-calcite
74: calcite
75: calcite
76: Fe-calcite
77: calcite
78: Fe-calcite
79: Fe-Mg-calcite
80: Fe-calcite

Figure 1: Wyandot E-58-2873.10



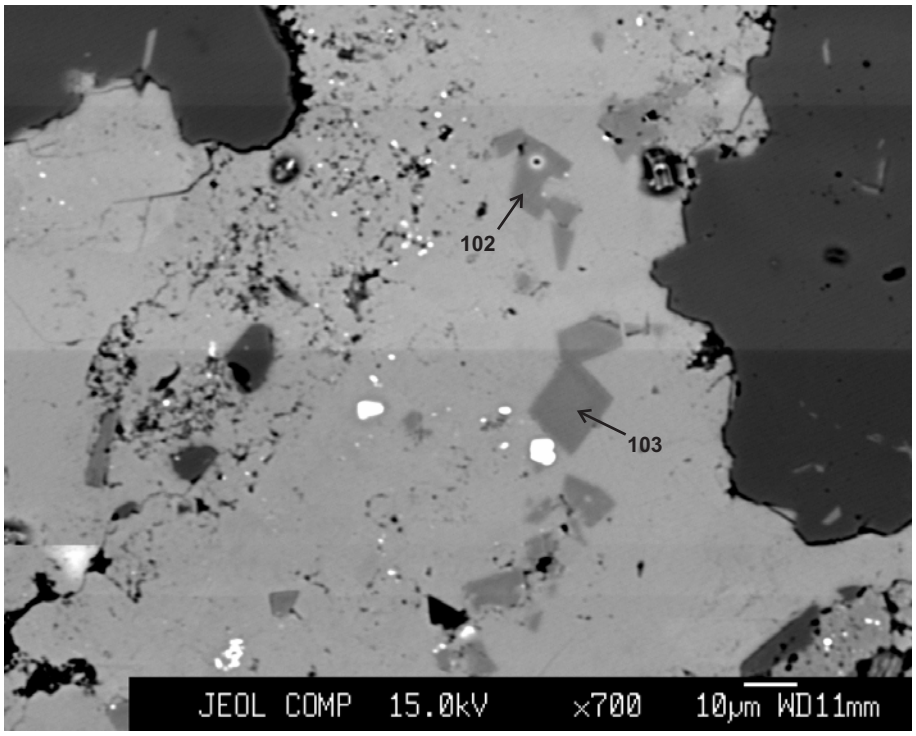
81: calcite
82: calcite
83: Fe-Mg-calcite
84: calcite
85: calcite
86: Fe-calcite
87: Fe-Mg-calcite
88: Fe-calcite
89: Fe-Mg-calcite
90: Fe-calcite
91: Fe-calcite
92: calcite
93: Fe-calcite
94: calcite
95: calcite
96: calcite

Figure 2: Wyandot E-58-2873.10



97: Fe-calcite
98: Fe-calcite
99: calcite
100: Fe-calcite
101: calcite
102: ankerite
103: ankerite
104: Fe-Mg-calcite
105: calcite
106: Fe-calcite

Figure 3: Wyandot E-58-2873.10



102: ankerite
103: ankerite

Figure 4: Wyandot E-58-2873.10

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Logan Canyon	Cree	1	1	2076.23	2076.35	436	24.9	
Cohasset A-52	Sable	Logan Canyon	Cree	1	2	2076.53	2076.66	120	29.9	
Cohasset A-52	Sable	Logan Canyon	Cree	1	AST2	2077.17	2077.33	120	29.9	
Cohasset A-52	Sable	Logan Canyon	Cree	2	3	2083.83	2084.03	21.8	14.7	
Cohasset A-52	Sable	Logan Canyon	Cree	2	4	2084.03	2084.18	1740	23.7	
Cohasset A-52	Sable	Logan Canyon	Cree	2	5	2084.18	2084.41	36.1	16.4	2084.36
Cohasset A-52	Sable	Logan Canyon	Cree	2	P1	2084.41	2084.57	74.4	17.7	
Cohasset A-52	Sable	Logan Canyon	Cree	2	6	2084.57	2084.77	935	29.1	
Cohasset A-52	Sable	Logan Canyon	Cree	2	7	2084.77	2084.86	1.83	18.9	
Cohasset A-52	Sable	Logan Canyon	Cree	2	AST6	2084.86	2084.90	935	29.1	
Cohasset A-52	Sable	Logan Canyon	Cree	2	8	2084.90	2085.07	0.01	5.7	
Cohasset A-52	Sable	Logan Canyon	Cree	3	9	2124.45	2124.55	0.14	10.2	
Cohasset A-52	Sable	Logan Canyon	Cree	3	10	2124.55	2124.72	5.21	11.3	
Cohasset A-52	Sable	Logan Canyon	Cree	4	11	2125.68	2125.89	0.02	6.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	P2	2126.74	2126.92	2.6	20.5	
Cohasset A-52	Sable	Logan Canyon	Cree	4	12	2126.92	2127.09	8.84	21.3	
Cohasset A-52	Sable	Logan Canyon	Cree	4	AST13	2127.09	2127.34	982	31.8	
Cohasset A-52	Sable	Logan Canyon	Cree	4	13	2127.34	2127.55	982	31.8	2127.50
Cohasset A-52	Sable	Logan Canyon	Cree	4	14	2127.82	2128.03	1400	29.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	15	2128.03	2128.24	1120	29	
Cohasset A-52	Sable	Logan Canyon	Cree	4	16	2128.24	2128.66	1360	29.6	2128.50
Cohasset A-52	Sable	Logan Canyon	Cree	4	17	2128.66	2128.98	1930	21.9	
Cohasset A-52	Sable	Logan Canyon	Cree	4	18	2128.98	2129.33	1290	24	2129.14
Cohasset A-52	Sable	Logan Canyon	Cree	4	P4	2129.33	2129.61	1510	28.2	
Cohasset A-52	Sable	Logan Canyon	Cree	4	19	2129.61	2129.83	985	27.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	20	2129.83	2130.13	672	26.4	2130.04
Cohasset A-52	Sable	Logan Canyon	Cree	4	21	2130.13	2130.27	0.04	4.3	
Cohasset A-52	Sable	Logan Canyon	Cree	4	22	2130.27	2130.57	472	27.8	
Cohasset A-52	Sable	Logan Canyon	Cree	4	P5	2130.57	2130.79	1550	28	
Cohasset A-52	Sable	Logan Canyon	Cree	4	23	2130.79	2131.02	1270	27.4	
Cohasset A-52	Sable	Logan Canyon	Cree	4	24	2131.02	2131.21	664	28.4	
Cohasset A-52	Sable	Logan Canyon	Cree	4	25	2131.21	2131.42	2340	28.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	P6	2131.42	2131.65	1950	27.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	26	2131.65	2131.89	189	26.9	
Cohasset A-52	Sable	Logan Canyon	Cree	4	P7	2131.89	2132.14	12.9	21.5	
Cohasset A-52	Sable	Logan Canyon	Cree	4	27	2132.14	2132.49	522	26	
Cohasset A-52	Sable	Logan Canyon	Cree	4	P8	2132.49	2132.72	663	28.5	
Cohasset A-52	Sable	Logan Canyon	Cree	4	28	2132.72	2133.00	79.5	27.1	
Cohasset A-52	Sable	Logan Canyon	Cree	4	29	2133.00	2133.14	241	23.9	
Cohasset A-52	Sable	Logan Canyon	Cree	4	30	2133.14	2133.35	736	30.5	
Cohasset A-52	Sable	Logan Canyon	Cree	4	31	2133.35	2133.72	2.6	18.4	
Cohasset A-52	Sable	Logan Canyon	Cree	4	AST32	2133.76	2133.84	207	26.6	
Cohasset A-52	Sable	Logan Canyon	Cree	4	32	2133.89	2134.03	363	27.7	
Cohasset A-52	Sable	Logan Canyon	Cree	4	33	2134.03	2134.36	791	29.8	
Cohasset A-52	Sable	Logan Canyon	Cree	4	AST34	2134.49	2134.60	244	28.3	2134.60
Cohasset A-52	Sable	Logan Canyon	Cree	4	34	2134.85	2135.28	244	28.3	
Cohasset A-52	Sable	Logan Canyon	Cree	5	A36	2147.01	2147.21	0.34	21.3	
Cohasset A-52	Sable	Logan Canyon	Cree	5	36	2147.21	2147.57	3.45	21.9	
Cohasset A-52	Sable	Logan Canyon	Cree	5	AST36	2148.25	2148.41	3.45	21.9	
Cohasset A-52	Sable	Logan Canyon	Cree	6	37	2152.38	2152.63		11.5	
Cohasset A-52	Sable	Logan Canyon	Cree	6	38	2153.29	2153.59	96.1	26.1	
Cohasset A-52	Sable	Logan Canyon	Cree	6	P10	2153.59	2153.89	118	25	
Cohasset A-52	Sable	Logan Canyon	Cree	6	39	2153.89	2154.13	97.1	26.7	
Cohasset A-52	Sable	Logan Canyon	Cree	6	40	2154.13	2154.33	93.5	26.3	
Cohasset A-52	Sable	Logan Canyon	Cree	6	41	2154.33	2154.53	281	30.2	
Cohasset A-52	Sable	Logan Canyon	Cree	6	P11	2154.53	2154.80	908	27.8	
Cohasset A-52	Sable	Logan Canyon	Cree	6	42	2154.80	2155.03	767	29.1	
Cohasset A-52	Sable	Logan Canyon	Cree	6	43	2155.03	2155.21	388	27.9	
Cohasset A-52	Sable	Logan Canyon	Cree	6	44	2155.21	2155.42	895	28.9	2155.30
Cohasset A-52	Sable	Logan Canyon	Cree	6	45	2155.42	2155.68	437	27.5	
Cohasset A-52	Sable	Logan Canyon	Cree	6	P12	2155.68	2155.90	616	28.1	
Cohasset A-52	Sable	Logan Canyon	Cree	6	46	2155.90	2156.09		28	
Cohasset A-52	Sable	Logan Canyon	Cree	6	47	2156.09	2156.34	217	26.9	
Cohasset A-52	Sable	Logan Canyon	Cree	6	48	2156.34	2156.59	1260	28.8	
Cohasset A-52	Sable	Logan Canyon	Cree	6	49	2156.59	2156.87	237	27.1	
Cohasset A-52	Sable	Logan Canyon	Cree	6	50	2157.14	2157.28	840	28.9	
Cohasset A-52	Sable	Logan Canyon	Cree	6	51	2157.28	2157.41	844	28.7	
Cohasset A-52	Sable	Logan Canyon	Cree	6	52	2157.41	2157.57	586	26.3	
Cohasset A-52	Sable	Logan Canyon	Cree	6	53	2157.57	2157.84	420	27.8	
Cohasset A-52	Sable	Logan Canyon	Cree	6	54	2157.84	2157.98	381	29.9	
Cohasset A-52	Sable	Logan Canyon	Cree	6	55	2157.98	2158.18	552		
Cohasset A-52	Sable	Logan Canyon	Cree	6	56	2158.31	2158.48	511	29.4	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Logan Canyon	Cree	6	57	2158.48	2158.56	0.01	10.2	
Cohasset A-52	Sable	Logan Canyon	Cree	6	58	2158.79	2159.04	0.01	8.6	
Cohasset A-52	Sable	Logan Canyon	Cree	7	59	2160.12	2160.36	0.01	8.5	
Cohasset A-52	Sable	Logan Canyon	Cree	7	60	2160.42	2160.62	0.01	13.9	2160.51
Cohasset A-52	Sable	Logan Canyon	Cree	7	61	2160.62	2160.72	0.07	14.5	
Cohasset A-52	Sable	Logan Canyon	Cree	7	62	2160.87	2161.07	0.01	7	
Cohasset A-52	Sable	Logan Canyon	Cree	7	63	2164.67	2164.85	0.86	12.5	
Cohasset A-52	Sable	Logan Canyon	Cree	7	64	2166.18	2166.47	0.01	7.3	
Cohasset A-52	Sable	Logan Canyon	Cree	7	65	2166.47	2166.68	0.11	15.6	
Cohasset A-52	Sable	Logan Canyon	Cree	7	66	2166.68	2166.91	0.23	16.5	
Cohasset A-52	Sable	Logan Canyon	Cree	7	67	2166.91	2167.05	0.16	7.6	
Cohasset A-52	Sable	Logan Canyon	Cree	7	P14	2167.05	2167.25	0.02	9.5	
Cohasset A-52	Sable	Logan Canyon	Cree	7	68	2167.25	2167.60	0.01	12.8	2167.31
Cohasset A-52	Sable	Logan Canyon	Cree	7	69	2167.60	2167.93	0.01	9.8	
Cohasset A-52	Sable	Logan Canyon	Cree	8	AST70	2216.90	2216.97	27.5	15.3	
Cohasset A-52	Sable	Logan Canyon	Cree	8	70	2217.00	2217.14	27.5	15.3	
Cohasset A-52				8	71	2217.14	2217.40	0.01	15.3	2217.17
Cohasset A-52	Sable	Logan Canyon	Cree	8	72	2217.40	2217.56	3010	29.5	
Cohasset A-52	Sable	Logan Canyon	Cree	8	A72	2217.56	2217.76	1990	27.4	
Cohasset A-52	Sable	Logan Canyon	Cree	9	73	2220.16	2220.26	0.01	10.3	
Cohasset A-52	Sable	Logan Canyon	Cree	9	74	2220.69	2221.01	19.9	18.1	
Cohasset A-52	Sable	Logan Canyon	Cree	9	75	2221.01	2221.30	35.6	18.2	2221.01
Cohasset A-52	Sable	Logan Canyon	Cree	9	76	2221.30	2221.41	27.4	19.7	
Cohasset A-52	Sable	Logan Canyon	Cree	9	77	2221.41	2221.55	417	29.8	
Cohasset A-52	Sable	Logan Canyon	Cree	9	P15	2221.55	2221.75	23.3	20.9	
Cohasset A-52	Sable	Logan Canyon	Cree	9	78	2221.75	2221.95	131	24.7	
Cohasset A-52	Sable	Logan Canyon	Cree	9	79	2221.95	2222.17	433	31	
Cohasset A-52	Sable	Logan Canyon	Cree	9	P16	2222.17	2222.40	261	27.9	
Cohasset A-52	Sable	Logan Canyon	Cree	9	80	2222.40	2222.70	195	27.2	
Cohasset A-52	Sable	Logan Canyon	Cree	9	81	2222.70	2222.96	372	30	2222.86
Cohasset A-52	Sable	Logan Canyon	Cree	9	82	2223.21	2223.34	587	31	
Cohasset A-52	Sable	Logan Canyon	Cree	9	83	2224.17	2224.45	1.99	14.5	
Cohasset A-52	Sable	Logan Canyon	Cree	9	AST83	2224.51	2224.53	1.99	14.5	
Cohasset A-52	Sable	Logan Canyon	Cree	10	84	2225.77	2225.94	62.5	20.7	
Cohasset A-52	Sable	Logan Canyon	Cree	10	85	2226.09	2226.35	1240	29.4	
Cohasset A-52	Sable	Logan Canyon	Cree	10	86	2226.35	2226.61	664	28.7	
Cohasset A-52	Sable	Logan Canyon	Cree	10	87	2226.61	2226.70	0.42	7.1	
Cohasset A-52	Sable	Logan Canyon	Cree	10	88	2226.70	2226.93	889	30.5	
Cohasset A-52	Sable	Logan Canyon	Cree	10	P17	2226.93	2227.25	1350	29	
Cohasset A-52	Sable	Logan Canyon	Cree	10	89	2227.25	2227.47	678	29.2	
Cohasset A-52	Sable	Logan Canyon	Cree	10	90	2227.47	2227.69	0.01	2	2227.64
Cohasset A-52	Sable	Logan Canyon	Cree	10	91	2227.69	2227.85	740	28.3	2227.64
Cohasset A-52	Sable	Logan Canyon	Cree	10	92	2227.85	2228.12	1370	30	
Cohasset A-52	Sable	Logan Canyon	Cree	10	93	2228.12	2228.34	1350	29	
Cohasset A-52	Sable	Logan Canyon	Cree	10	P18	2228.34	2228.54	883	27.9	
Cohasset A-52	Sable	Logan Canyon	Cree	10	94	2228.54	2228.81	439	27.9	2228.73
Cohasset A-52	Sable	Logan Canyon	Cree	10	P19	2228.81	2229.00	935	28.1	
Cohasset A-52	Sable	Logan Canyon	Cree	10	95	2229.00	2229.17	574	28.7	
Cohasset A-52	Sable	Logan Canyon	Cree	10	96	2229.17	2229.30	389	27.2	
Cohasset A-52	Sable	Logan Canyon	Cree	10	97	2229.30	2229.50	363	26.8	
Cohasset A-52	Sable	Logan Canyon	Cree	10	98	2229.80	2229.97	260	27.3	
Cohasset A-52	Sable	Logan Canyon	Cree	10	99	2229.97	2230.13	0.01	3.1	
Cohasset A-52	Sable	Logan Canyon	Cree	10	P21	2230.13	2230.31	0.01	4.5	
Cohasset A-52	Sable	Logan Canyon	Cree	10	100	2230.31	2230.59	0.01	4.7	2230.38
Cohasset A-52	Sable	Logan Canyon	Cree	10	101	2230.80	2231.11	703	31.2	
Cohasset A-52	Sable	Logan Canyon	Cree	10	102	2231.11	2231.33	478	27.9	
Cohasset A-52	Sable	Logan Canyon	Cree	10	103	2231.55	2231.80	1130	29.2	
Cohasset A-52	Sable	Logan Canyon	Cree	10	104	2231.80	2231.97	1070	27.6	
Cohasset A-52	Sable	Logan Canyon	Cree	10	105	2232.36	2232.61	363	27.5	
Cohasset A-52	Sable	Logan Canyon	Cree	10	106	2232.61	2232.78	485	29.1	
Cohasset A-52	Sable	Logan Canyon	Cree	10	107	2232.78	2233.03	591	29.2	
Cohasset A-52	Sable	Logan Canyon	Cree	10	108	2233.44	2233.62	20.9	25.5	2233.57
Cohasset A-52	Sable	Logan Canyon	Cree	10	109	2233.77	2233.91	0.32	16	
Cohasset A-52	Sable	Logan Canyon	Cree	10	110	2234.27	2234.66	170	29	
Cohasset A-52	Sable	Logan Canyon	Cree	10	111	2234.76	2234.91	42.3	23.9	
Cohasset A-52	Sable	Logan Canyon	Cree	10	112	2235.39	2235.51	52.8	26.5	
Cohasset A-52	Sable	Logan Canyon	Cree	10	113	2235.76	2235.83	39.5	25	
Cohasset A-52	Sable	Logan Canyon	Cree	11	114	2256.43	2256.64	756	23.6	
Cohasset A-52	Sable	Logan Canyon	Cree	11	115	2256.64	2256.86	627	23.7	
Cohasset A-52	Sable	Logan Canyon	Cree	11	P24	2256.86	2257.12	315	20.8	
Cohasset A-52	Sable	Logan Canyon	Cree	11	116	2257.12	2257.29	334	21.3	
Cohasset A-52	Sable	Logan Canyon	Cree	11	117	2257.29	2257.51	394	19.5	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Logan Canyon	Cree	11	118	2257.51	2257.71	2.78	16	
Cohasset A-52	Sable	Logan Canyon	Cree	11	119	2257.71	2257.89	580	26.4	
Cohasset A-52	Sable	Logan Canyon	Cree	11	120	2258.05	2258.35	23.6	20.5	
Cohasset A-52	Sable	Logan Canyon	Cree	11	121	2258.35	2258.62	202	21.2	
Cohasset A-52	Sable	Logan Canyon	Cree	11	122	2258.62	2258.85	8.76	14.7	
Cohasset A-52	Sable	Logan Canyon	Cree	11	123	2258.85	2259.05	11.7	17.2	
Cohasset A-52	Sable	Logan Canyon	Cree	11	124	2259.05	2259.27	14.6	12.6	
Cohasset A-52	Sable	Logan Canyon	Cree	11	125	2259.27	2259.37	2380	26.7	
Cohasset A-52	Sable	Logan Canyon	Cree	11	126	2259.49	2259.95	15.9	21.3	2259.62
Cohasset A-52	Sable	Logan Canyon	Cree	11	127	2259.95	2260.17	145	22.3	
Cohasset A-52	Sable	Logan Canyon	Cree	11	128	2260.27	2260.49	403	22.1	
Cohasset A-52	Sable	Logan Canyon	Cree	12	129	2261.97	2262.17	1460	24.4	
Cohasset A-52	Sable	Logan Canyon	Cree	12	130	2266.54	2266.72	0.13	20	
Cohasset A-52	Sable	Logan Canyon	Cree	12	131	2267.17	2267.42	913	26.4	
Cohasset A-52	Sable	Logan Canyon	Cree	12	132	2267.42	2267.80	427	27.4	2267.43
Cohasset A-52	Sable	Logan Canyon	Cree	12	133	2267.80	2268.04	341	26.3	
Cohasset A-52	Sable	Logan Canyon	Cree	12	134	2268.04	2268.21	210	24.4	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P27	2268.21	2268.44	275	25	
Cohasset A-52	Sable	Logan Canyon	Cree	12	135	2268.44	2268.62	61.6	22.9	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P28	2268.62	2268.82	109	23.5	
Cohasset A-52	Sable	Logan Canyon	Cree	12	136	2268.82	2269.05	46	23.5	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P29	2269.05	2269.23	598	27.3	
Cohasset A-52	Sable	Logan Canyon	Cree	12	137	2269.23	2269.43	479	27.1	
Cohasset A-52	Sable	Logan Canyon	Cree	12	138	2269.49	2269.63	303	27.8	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P30	2269.63	2269.93	118	24.8	
Cohasset A-52	Sable	Logan Canyon	Cree	12	139	2269.93	2270.21	357	27.6	2270.09
Cohasset A-52	Sable	Logan Canyon	Cree	12	AST140	2270.26	2270.32	17.2	15.9	
Cohasset A-52	Sable	Logan Canyon	Cree	12	140	2270.38	2270.50	17.2	15.9	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P31	2270.50	2270.81	20.9	15.5	
Cohasset A-52	Sable	Logan Canyon	Cree	12	141	2270.96	2271.04	15.5	21.4	
Cohasset A-52	Sable	Logan Canyon	Cree	12	142	2271.29	2271.48	129	26.1	
Cohasset A-52	Sable	Logan Canyon	Cree	12	143	2272.84	2273.07	3.39	22.3	
Cohasset A-52	Sable	Logan Canyon	Cree	12	P32	2276.61	2276.82	0.54	16.7	
Cohasset A-52	Sable	Logan Canyon	Cree	12	144	2276.82	2276.88	5.26	24.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	145	2338.83	2339.08	183	27	2338.92
Cohasset A-52	Sable	Logan Canyon	Cree	13	146	2339.08	2339.25	318	26.4	
Cohasset A-52	Sable	Logan Canyon	Cree	13	147	2339.48	2339.70	489	30	
Cohasset A-52	Sable	Logan Canyon	Cree	13	149	2339.84	2340.04	2180	25.5	
Cohasset A-52	Sable	Logan Canyon	Cree	13	150	2340.04	2340.15	409	26.2	
Cohasset A-52	Sable	Logan Canyon	Cree	13	P34	2340.15	2340.38	867	27.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	151	2340.38	2340.58	730	27.5	
Cohasset A-52	Sable	Logan Canyon	Cree	13	152	2340.58	2340.75	383	28.7	
Cohasset A-52	Sable	Logan Canyon	Cree	13	153	2340.75	2341.06	225	26.4	2340.87
Cohasset A-52	Sable	Logan Canyon	Cree	13	154	2341.06	2341.16	604	27.4	
Cohasset A-52	Sable	Logan Canyon	Cree	13	155	2341.39	2341.64	243	26.6	
Cohasset A-52	Sable	Logan Canyon	Cree	13	156	2341.64	2341.83	262	26.7	
Cohasset A-52	Sable	Logan Canyon	Cree	13	157	2341.83	2342.04	342	26.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	P36	2342.04	2342.24	381	27	
Cohasset A-52	Sable	Logan Canyon	Cree	13	158	2342.24	2342.48	141	24.5	
Cohasset A-52	Sable	Logan Canyon	Cree	13	159	2342.48	2342.79	344	26	
Cohasset A-52	Sable	Logan Canyon	Cree	13	160	2342.79	2343.00	76.8	25	
Cohasset A-52	Sable	Logan Canyon	Cree	13	161	2343.00	2343.26	547	28.2	
Cohasset A-52	Sable	Logan Canyon	Cree	13	162	2343.26	2343.54	656	29	
Cohasset A-52	Sable	Logan Canyon	Cree	13	P37	2343.54	2343.77	369	27.6	
Cohasset A-52	Sable	Logan Canyon	Cree	13	163	2346.79	2346.94	0.45	14.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	164	2347.84	2348.05	1.82	17.7	
Cohasset A-52	Sable	Logan Canyon	Cree	13	165	2348.74	2348.87	0.53	15.1	
Cohasset A-52	Sable	Logan Canyon	Cree	13	166	2348.87	2349.07	12.2	21.7	
Cohasset A-52	Sable	Logan Canyon	Cree	13	167	2349.07	2349.19	88.4	22.2	
Cohasset A-52	Sable	Logan Canyon	Cree	13	168	2349.19	2349.41	238	26.3	
Cohasset A-52	Sable	Logan Canyon	Cree	13	169	2349.63	2349.89	290	25.9	
Cohasset A-52	Sable	Logan Canyon	Cree	13	170	2350.90	2351.06	380	25.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	P38	2351.06	2351.33	310	25.9	
Cohasset A-52	Sable	Logan Canyon	Cree	13	171	2351.33	2351.57	38.7	22.8	
Cohasset A-52	Sable	Logan Canyon	Cree	13	172	2352.74	2353.09	178	21.2	2352.98
Cohasset A-52	Sable	Logan Canyon	Cree	13	P39	2353.09	2353.32	270	22.5	
Cohasset A-52	Sable	Logan Canyon	Cree	13	AST172	2353.32	2353.41	178	21.2	
Cohasset A-52	Sable	Logan Canyon	Cree	13	173	2353.41	2353.66	0.15	11	
Cohasset A-52	Sable	Logan Canyon	Cree	13	P40	2353.66	2353.86	0.11	9.2	
Cohasset A-52	Sable	Logan Canyon	Cree	13	174	2353.86	2354.19	0.06	9.5	2353.98
Cohasset A-52	Sable	Logan Canyon	Cree	13	175	2354.19	2354.40	0.06	10.7	
Cohasset A-52	Sable	Logan Canyon	Cree	13	176	2354.40	2354.54	0.06	9.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Logan Canyon	Cree	13	177	2354.54	2354.79	0.08	9.5	
Cohasset A-52	Sable	Logan Canyon	Cree	15	178	2386.05	2386.25	0.08	16.3	
Cohasset A-52	Sable	Logan Canyon	Cree	15	179	2386.25	2386.48	482	12	2386.29
Cohasset A-52	Sable	Logan Canyon	Cree	15	180	2386.48	2386.65	248	18	
Cohasset A-52	Sable	Logan Canyon	Cree	15	181	2386.87	2387.20	10240	21	
Cohasset A-52	Sable	Logan Canyon	Cree	15	182	2387.20	2387.46	7550	22.6	
Cohasset A-52	Sable	Logan Canyon	Cree	15	P42	2387.46	2387.72	7640	20	
Cohasset A-52	Sable	Logan Canyon	Cree	15	183	2387.72	2388.06	10240	22.7	2388.02
Cohasset A-52	Sable	Logan Canyon	Cree	15	P43	2388.06	2388.29	10240	22.4	
Cohasset A-52	Sable	Logan Canyon	Cree	15	184	2388.29	2388.50	9000	20	
Cohasset A-52	Sable	Logan Canyon	Cree	15	185	2388.50	2388.74	5500	21.3	
Cohasset A-52	Sable	Logan Canyon	Cree	15	186	2388.74	2388.95	8750	24.3	
Cohasset A-52	Sable	Logan Canyon	Cree	15	187	2389.00	2389.11	34.5	14.4	
Cohasset A-52	Sable	Logan Canyon	Cree	15	P44	2389.11	2389.35	10240	21.9	
Cohasset A-52	Sable	Logan Canyon	Cree	15	188	2389.35	2389.66	3460	21.3	
Cohasset A-52	Sable	Logan Canyon	Cree	15	189	2389.66	2389.98	5750	21.8	
Cohasset A-52	Sable	Logan Canyon	Cree	15	190	2390.17	2390.36	8740	23.3	
Cohasset A-52	Sable	Logan Canyon	Cree	15	191	2390.36	2390.50	9870	18.1	
Cohasset A-52	Sable	Logan Canyon	Cree	15	P46	2390.50	2390.72	4050	23.7	2390.52
Cohasset A-52	Sable	Logan Canyon	Cree	15	192	2390.72	2390.83	4360	25	
Cohasset A-52	Sable	Logan Canyon	Cree	15	193	2390.85	2391.04		22.1	
Cohasset A-52	Sable	Logan Canyon	Cree	15	194	2391.04	2391.28	886	22.1	
Cohasset A-52	Sable	Logan Canyon	Cree	15	195	2391.28	2391.46	963	24.1	
Cohasset A-52	Sable	Logan Canyon	Cree	15	196	2391.46	2391.66	5320	25.7	
Cohasset A-52	Sable	Logan Canyon	Cree	16	197	2394.51	2394.62	4490	22.9	2394.59
Cohasset A-52	Sable	Logan Canyon	Cree	16	198	2394.62	2394.80	9200	24.9	
Cohasset A-52	Sable	Logan Canyon	Cree	16	199	2394.80	2394.98	6160	24.6	
Cohasset A-52	Sable	Logan Canyon	Cree	16	P47	2394.98	2395.18	3020	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	16	200	2395.18	2395.42	8140	23.6	
Cohasset A-52	Sable	Logan Canyon	Cree	16	201	2395.42	2395.61	5920	25.9	
Cohasset A-52	Sable	Logan Canyon	Cree	16	202	2395.61	2395.88	10240	26.4	
Cohasset A-52	Sable	Logan Canyon	Cree	16	203	2396.03	2396.18	4400	25	
Cohasset A-52	Sable	Logan Canyon	Cree	16	204	2396.18	2396.32	5900	26.9	
Cohasset A-52	Sable	Logan Canyon	Cree	17	205	2419.96	2420.13	0.17	13.2	
Cohasset A-52	Sable	Logan Canyon	Cree	17	206	2420.13	2420.54	0.41	11.8	
Cohasset A-52	Sable	Logan Canyon	Cree	17	207	2421.00	2421.20	0.2	12.2	2421.04
Cohasset A-52	Sable	Logan Canyon	Cree	17	P49	2421.20	2421.37	0.17	10.5	
Cohasset A-52	Sable	Logan Canyon	Cree	17	208	2421.37	2421.65	0.28	13.2	
Cohasset A-52	Sable	Logan Canyon	Cree	17	209	2422.07	2422.19	0.12	25.5	
Cohasset A-52	Sable	Logan Canyon	Cree	17	210	2422.68	2422.92	0.24	23.3	
Cohasset A-52	Sable	Logan Canyon	Cree	17	211	2422.92	2423.13	0.21	18.7	2423.04
Cohasset A-52	Sable	Logan Canyon	Cree	17	212	2423.13	2423.37	0.24	24.9	
Cohasset A-52	Sable	Logan Canyon	Cree	17	213	2423.37	2423.60	0.23	24.2	
Cohasset A-52	Sable	Logan Canyon	Cree	17	P50	2423.60	2423.78	0.18	25.6	
Cohasset A-52	Sable	Logan Canyon	Cree	17	214	2423.78	2424.06	0.28	24.8	
Cohasset A-52	Sable	Logan Canyon	Cree	17	215	2424.06	2424.29	0.23	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	17	216	2424.29	2424.50	0.21	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	17	P51	2424.50	2424.67	0.17	24.9	
Cohasset A-52	Sable	Logan Canyon	Cree	17	217	2424.67	2424.90	0.24	24.6	
Cohasset A-52	Sable	Logan Canyon	Cree	17	218	2424.90	2425.13	776	24.1	
Cohasset A-52	Sable	Logan Canyon	Cree	17	219	2425.13	2425.42	248	24.2	
Cohasset A-52	Sable	Logan Canyon	Cree	18	220	2426.51	2426.88	285	23.8	
Cohasset A-52	Sable	Logan Canyon	Cree	18	P52	2426.88	2427.14	850	23.8	
Cohasset A-52	Sable	Logan Canyon	Cree	18	221	2427.14	2427.45	262	23.8	
Cohasset A-52	Sable	Logan Canyon	Cree	18	222	2427.45	2427.71	209	23.6	2427.56
Cohasset A-52	Sable	Logan Canyon	Cree	18	223	2427.71	2427.98	278	23.2	
Cohasset A-52	Sable	Logan Canyon	Cree	18	224	2427.98	2428.25	274	23.1	
Cohasset A-52	Sable	Logan Canyon	Cree	18	P53	2428.25	2428.51	254	22.5	
Cohasset A-52	Sable	Logan Canyon	Cree	18	225	2428.51	2428.77	793	23.2	
Cohasset A-52	Sable	Logan Canyon	Cree	18	226	2428.77	2429.07	612	20.1	
Cohasset A-52	Sable	Logan Canyon	Cree	18	227	2429.07	2429.38	1150	21.7	
Cohasset A-52	Sable	Logan Canyon	Cree	18	P54	2429.38	2429.61	334	23.5	
Cohasset A-52	Sable	Logan Canyon	Cree	18	228	2429.61	2429.87	591	23.1	
Cohasset A-52	Sable	Logan Canyon	Cree	18	229	2429.87	2430.16	2230	23.9	
Cohasset A-52	Sable	Logan Canyon	Cree	18	230	2430.16	2430.47	2.49	17.4	2430.30
Cohasset A-52	Sable	Logan Canyon	Cree	18	P55	2430.47	2430.72	3.1	17.8	
Cohasset A-52	Sable	Logan Canyon	Cree	18	231	2430.72	2431.05	11.5	20.1	
Cohasset A-52	Sable	Logan Canyon	Cree	18	232	2431.05	2431.33	14.3	20.8	
Cohasset A-52	Sable	Logan Canyon	Cree	18	233	2431.33	2431.61	53.1	22.9	
Cohasset A-52	Sable	Logan Canyon	Cree	18	P56	2431.61	2431.90	43.4	24.1	
Cohasset A-52	Sable	Logan Canyon	Cree	18	234	2431.90	2432.16	42.5	23.9	
Cohasset A-52	Sable	Logan Canyon	Cree	18	235	2432.16	2432.41	41.4	26.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Logan Canyon	Cree	18	236	2432.41	2432.67	93	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	18	P57	2432.67	2432.93	75.2	24.6	
Cohasset A-52	Sable	Logan Canyon	Cree	18	237	2432.93	2433.18	96.5	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	18	238	2433.18	2433.48	128	25.7	
Cohasset A-52	Sable	Logan Canyon	Cree	18	239	2433.48	2433.82	3.58	19.2	2433.68
Cohasset A-52	Sable	Logan Canyon	Cree	19	240	2435.65	2435.90	29	24.3	
Cohasset A-52	Sable	Logan Canyon	Cree	19	241	2435.90	2436.18	46.1	24.3	
Cohasset A-52	Sable	Logan Canyon	Cree	19	242	2436.18	2436.46	91.9	25.2	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P58	2436.46	2436.68	124	24.4	
Cohasset A-52	Sable	Logan Canyon	Cree	19	243	2436.68	2437.04	149	25.4	2436.83
Cohasset A-52	Sable	Logan Canyon	Cree	19	244	2437.04	2437.29	46.6	23.6	
Cohasset A-52	Sable	Logan Canyon	Cree	19	245	2437.29	2437.54		21.7	
Cohasset A-52	Sable	Logan Canyon	Cree	19	246	2437.54	2437.80	58	22.7	
Cohasset A-52	Sable	Logan Canyon	Cree	19	247	2437.80	2437.99	10.5	20	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P59	2437.99	2438.31	0.05	9.8	
Cohasset A-52	Sable	Logan Canyon	Cree	19	248	2438.31	2438.61	0.02	8.9	
Cohasset A-52	Sable	Logan Canyon	Cree	19	249	2438.61	2438.85	0.02	5	
Cohasset A-52	Sable	Logan Canyon	Cree	19	250	2438.85	2439.13	0.12	14.8	
Cohasset A-52	Sable	Logan Canyon	Cree	19	251	2439.44	2439.64	0.04	9.2	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P60	2439.64	2439.91	0.04	7.5	
Cohasset A-52	Sable	Logan Canyon	Cree	19	252	2439.91	2440.07	0.01	5.9	2440.04
Cohasset A-52	Sable	Logan Canyon	Cree	19	253	2440.07	2440.27	0.14	14.7	
Cohasset A-52	Sable	Logan Canyon	Cree	19	254	2440.27	2440.61	0.02	11.9	
Cohasset A-52	Sable	Logan Canyon	Cree	19	255	2440.68	2440.86	0.08	12.9	
Cohasset A-52	Sable	Logan Canyon	Cree	19	256	2440.86	2441.06	0.06	11.2	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P61	2441.06	2441.29	0.13	11.8	
Cohasset A-52	Sable	Logan Canyon	Cree	19	257	2441.29	2441.56	0.04	10.1	
Cohasset A-52	Sable	Logan Canyon	Cree	19	258	2441.56	2441.83	0.06	9.8	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P62	2441.83	2442.12	0.68	16.9	
Cohasset A-52	Sable	Logan Canyon	Cree	19	259	2442.12	2442.41	1.3	18.8	
Cohasset A-52	Sable	Logan Canyon	Cree	19	260	2442.41	2442.72	3.75	21	2442.57
Cohasset A-52	Sable	Logan Canyon	Cree	19	261	2442.72	2443.07	3.08	19.6	
Cohasset A-52	Sable	Logan Canyon	Cree	19	262	2443.07	2443.31	0.76	18.6	
Cohasset A-52	Sable	Logan Canyon	Cree	19	263	2443.31	2443.66	0.73	18.4	
Cohasset A-52	Sable	Logan Canyon	Cree	19	264	2443.66	2444.01	0.49	16.6	
Cohasset A-52	Sable	Logan Canyon	Cree	19	265	2444.01	2444.26	0.28	15.7	
Cohasset A-52	Sable	Logan Canyon	Cree	19	266	2444.26	2444.61	0.41	16.5	
Cohasset A-52	Sable	Logan Canyon	Cree	19	P63	2444.61	2444.80	0.18	13.2	
Cohasset A-52	Sable	Logan Canyon	Cree	19	267	2444.93	2445.16	0.75	17.2	
Cohasset A-52	Sable	Logan Canyon	Cree	19	268	2445.16	2445.39	24.3	25.4	
Cohasset A-52	Sable	Logan Canyon	Cree	19	269	2445.39	2445.58	15.9	24.9	
Cohasset A-52	Sable	Logan Canyon	Cree	19	270	2445.88	2446.12	59.6	24.1	
Cohasset A-52	Sable	Logan Canyon	Cree	19	271	2446.12	2446.36	37.9	23.6	
Cohasset A-52	Sable	Logan Canyon	Naskapi	19	272	2447.30	2447.73	0.37	12.7	
Cohasset A-52	Sable	Missisauga	Upper Mb	20	AST273	2598.01	2598.20	114	26.3	
Cohasset A-52	Sable	Missisauga	Upper Mb	20	273	2598.44	2598.73	114	26.3	
Cohasset A-52	Sable	Missisauga	Upper Mb	20	P64	2598.73	2598.96	310	27	
Cohasset A-52	Sable	Missisauga	Upper Mb	20	274	2598.96	2599.10	414	27.8	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	275	2599.64	2599.95	293	27	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	276	2600.21	2600.33	208	26.3	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	277	2600.33	2600.58	46.3	23.2	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	278	2600.58	2600.87	204	27.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	P66	2600.87	2601.12	171	27.1	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	AST278	2601.12	2601.16	204	27.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	279	2601.35	2601.54	85.9	26.6	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	280	2601.54	2601.73	76.1	24	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	AST280	2601.79	2601.84	76.1	24	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	281	2602.13	2602.47	195	27.3	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	282	2602.47	2602.71	128	28.1	2602.65
Cohasset A-52	Sable	Missisauga	Upper Mb	21	P67	2602.71	2602.97	112	27.9	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	283	2602.97	2603.24	103	29.2	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	284	2603.24	2603.46	0.01	5.9	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	285	2603.46	2603.65	0.01	7.1	2603.49
Cohasset A-52	Sable	Missisauga	Upper Mb	21	286	2603.65	2603.93	0.02	6.8	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	P68	2603.93	2604.21	0.02	9.2	
Cohasset A-52	Sable	Missisauga	Upper Mb	21	287	2604.21	2604.36	0.01	9	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	288	2605.67	2605.80	1.75	19.1	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	AST288	2605.99	2606.03	1.75	19.1	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	AST288	2606.49	2606.56	1.75	19.1	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	289	2607.65	2607.93	60.3	25.6	2607.88
Cohasset A-52	Sable	Missisauga	Upper Mb	22	P69	2607.93	2608.15	70.5	25.4	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	P70	2608.46	2608.61	0.01	6.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Cohasset A-52	Sable	Missisauga	Upper Mb	22	290	2608.61	2608.89	0.01	6.3	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	291	2608.89	2609.12	201	30	2609.04
Cohasset A-52	Sable	Missisauga	Upper Mb	22	292	2609.12	2609.24	229	30.9	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	P71	2609.24	2609.38	184	29.9	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	293	2609.38	2609.47	156	29.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	AST293	2609.66	2609.71	156	29.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	294	2610.09	2610.22	19.1	22.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	AST294	2610.38	2610.42	19.1	22.5	
Cohasset A-52	Sable	Missisauga	Upper Mb	22	295	2610.74	2610.85	26	21.6	
Como P-21	Sable	Missisauga	Middle Mb	2	AST1	2955.38	2955.53	0.17	5.8	
Como P-21	Sable	Missisauga	Middle Mb	2	1	2956.34	2956.60	0.17	5.8	
Como P-21	Sable	Missisauga	Middle Mb	2	2	2956.60	2956.78	0.3	6.6	
Como P-21	Sable	Missisauga	Middle Mb	2	3	2956.78	2956.95	0.26	7.2	2956.93
Como P-21	Sable	Missisauga	Middle Mb	2	AST3	2957.56	2957.76	0.26	7.2	
Como P-21	Sable	Missisauga	Middle Mb	2	4	2957.76	2958.04	3.44	13.6	2957.77
Como P-21	Sable	Missisauga	Middle Mb	2	AST4	2958.40	2958.64	3.44	13.6	
Como P-21	Sable	Missisauga	Middle Mb	2	AST4	2959.96	2960.16	3.44	13.6	
Como P-21	Sable	Missisauga	Middle Mb	2	AST4	2963.65	2963.91	3.44	13.6	
Como P-21	Sable	Missisauga	Middle Mb	2	5	2964.86	2965.32	353	18.3	
Como P-21	Sable	Missisauga	Middle Mb	2	6	2965.32	2965.98	150	16.5	
Como P-21	Sable	Missisauga	Middle Mb	2	7	2965.98	2966.58	218	17.7	2966.24
Como P-21	Sable	Missisauga	Middle Mb	2	AST7	2966.58	2966.76	218	17.7	
Como P-21	Sable	Missisauga	Middle Mb	2	8	2966.76	2967.57	23.9	13.7	2967.17
Como P-21	Sable	Missisauga	Middle Mb	2	9	2967.57	2968.23	16.9	11.9	
Como P-21	Sable	Missisauga	Middle Mb	2	10	2968.53	2968.96	18.9	13.2	
Como P-21	Sable	Missisauga	Middle Mb	2	AST10	2968.96	2969.18	18.9	13.2	
Como P-21	Sable	Missisauga	Middle Mb	2	11	2969.18	2970.02	50.2	11.9	2969.48
Como P-21	Sable	Missisauga	Middle Mb	2	AST11	2970.02	2970.23	50.2	11.9	
Como P-21	Sable	Missisauga	Middle Mb	3	12	3066.58	3066.85	7.42	12.1	
Como P-21	Sable	Missisauga	Middle Mb	3	13	3066.85	3067.08	8800	26.2	3066.95
Como P-21	Sable	Missisauga	Middle Mb	3	AST13	3067.08	3067.25	8800	26.2	
Como P-21	Sable	Missisauga	Middle Mb	3	14	3067.25	3067.39	262	13.8	
Como P-21	Sable	Missisauga	Middle Mb	3	15	3067.39	3067.65	0.17	4.3	
Dauntless D-35	Abenaki	Missisauga	Upper Mb	1	1	3162.60	3162.95	1401	21.6	3162.76
Dauntless D-35	Abenaki	Missisauga	Upper Mb	1	2	3164.47	3164.84	42.1	26.16	
Dauntless D-35	Abenaki	Missisauga	Upper Mb	1	3	3164.84	3165.20	81.7	24.84	3165.04
Dauntless D-35	Abenaki	Missisauga	Upper Mb	1	4	3165.20	3165.75	680	39.06	3165.65
Dauntless D-35	Abenaki	Missisauga	Upper Mb	1	5	3165.75	3166.30	1091	43.92	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	1	2960.56	2961.08	369	20.4	2961.01
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	2	2961.08	2961.59	446	20.9	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	3	2961.59	2962.05	427	17.5	2961.78
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	4	2962.05	2962.60	558	21.8	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	5	2962.60	2963.00	268	20	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	6	2963.00	2963.21	112	15.5	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	7	2963.21	2963.67	414	20.2	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	8	2963.67	2964.12	803	21.3	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	9	2964.12	2964.58	566	21.2	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	10	2964.58	2965.04	561	21.5	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	11	2965.04	2965.53	249	18.2	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	12	2965.53	2966.01	648	20.6	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	13	2966.01	2966.50	464	19.9	2966.28
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	14	2966.50	2966.96	108	19.1	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	15	2966.96	2967.42	79.5	15.2	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	16	2967.42	2967.84	296	17.9	2967.47
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	17	2967.84	2968.45	1.13	4.9	
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	18	2968.45	2968.91	1.98	6.9	2968.46, 2968.60, 2968.88
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	19	2968.91	2969.31	108	17.8	2968.26; 2969.30
Esperanto K-78	Abenaki	Missisauga	Middle Mb	1	20	2969.31	2969.70	128	19	
Glenelg E-58	Sable	Logan Canyon	Cree	1	1	2993.00	2993.25	18.1	19.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	2	2993.25	2993.45	11.9	19.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	3	2993.45	2993.72	12.2	18.6	2993.62
Glenelg E-58	Sable	Logan Canyon	Cree	1	4	2993.72	2993.94	12.7	18.4	
Glenelg E-58	Sable	Logan Canyon	Cree	1	5	2993.94	2994.09	9.14	17.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	6	2994.09	2994.28	0.64	20.4	2994.10
Glenelg E-58	Sable	Logan Canyon	Cree	1	7	2994.28	2994.41	6.09	14.9	2994.33
Glenelg E-58	Sable	Logan Canyon	Cree	1	8	2994.41	2994.77	0.45	11.9	2994.63
Glenelg E-58	Sable	Logan Canyon	Cree	1	9	2994.77	2995.02	0.08	9.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	10	2995.02	2995.15	0.05	5.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	11	2995.15	2995.27	0.23	10.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	12	2995.27	2995.51	0.04	6.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	13	2995.51	2995.65	0.04	10	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg E-58	Sable	Logan Canyon	Cree	1	14	2995.65	2995.92	0.02	15.8	
Glenelg E-58	Sable	Logan Canyon	Cree	1	15	2995.92	2996.07	0.077	17.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	16	2996.07	2996.20	0.6	16.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	17	2996.20	2996.48	0.53	16.4	
Glenelg E-58	Sable	Logan Canyon	Cree	1	18	2996.48	2996.75	0.08	8.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	19	2997.06	2997.27	0.08	12.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	20	2997.27	2997.44	0.05	10.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	21	2997.44	2997.71	0.18	14.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	22	2997.71	2997.86	0.05	7.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	23	2998.02	2998.23	0.47	16.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	24	2998.23	2998.39	0.63	17.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	25	2998.39	2998.64	0.86	17.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	26	2998.68	2998.94	0.08	11.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	27	2998.94	2999.10	0.08	8.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	28	2999.10	2999.37	0.17	10.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	29	2999.37	2999.55	0.08	12.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	30	2999.55	2999.79	0.18	14.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	31	2999.79	3000.07	0.31	15.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	32	3000.07	3000.29	0.31	14.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	33	3000.29	3000.48	3.65	18	
Glenelg E-58	Sable	Logan Canyon	Cree	1	34	3000.48	3000.72	2.93	17.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	35	3000.72	3000.83	2.32	15.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	36	3000.83	3001.05	2.87	11.5	3000.92
Glenelg E-58	Sable	Logan Canyon	Cree	1	37	3001.05	3001.16	0.94	13	
Glenelg E-58	Sable	Logan Canyon	Cree	1	38	3001.16	3001.39	0.65	15	
Glenelg E-58	Sable	Logan Canyon	Cree	1	39	3001.39	3001.50	0.12	10.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	40	3001.50	3001.77	0.18	9.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	41	3001.77	3001.98	0.18	8.8	3001.82
Glenelg E-58	Sable	Logan Canyon	Cree	1	42	3001.98	3002.25	0.26	11.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	43	3002.25	3002.51	0.21	11.4	
Glenelg E-58	Sable	Logan Canyon	Cree	1	44	3002.51	3002.67	0.21	13.4	
Glenelg E-58	Sable	Logan Canyon	Cree	1	45	3002.67	3002.94	0.13	6.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	46	3002.94	3003.14	0.13	12.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	47	3003.14	3003.35	0.43	14.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	48	3003.35	3003.50	0.09	10.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	49	3003.56	3003.77	0.18	9.9	
Glenelg E-58	Sable	Logan Canyon	Cree	1	50	3003.77	3003.94	0.25	10.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	51	3003.94	3004.32	0.13	12.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	52	3004.32	3004.53	0.61	12.8	
Glenelg E-58	Sable	Logan Canyon	Cree	1	53	3004.53	3004.77	0.21	13.4	
Glenelg E-58	Sable	Logan Canyon	Cree	1	54	3004.77	3004.95	0.21	13.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	55	3004.95	3005.20	4.66	16.3	3004.96
Glenelg E-58	Sable	Logan Canyon	Cree	1	56	3005.20	3005.56	0.13	8.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	57	3005.56	3005.72	1.01	15	
Glenelg E-58	Sable	Logan Canyon	Cree	1	58	3005.72	3005.85	0.09	12.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	59	3005.85	3006.02	0.26	16.1	3006.02
Glenelg E-58	Sable	Logan Canyon	Cree	1	60	3006.02	3006.21	0.57	14.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	61	3006.21	3006.41	0.72	13.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	62	3006.41	3006.68	0.08	12	
Glenelg E-58	Sable	Logan Canyon	Cree	1	63	3006.68	3006.95	0.2	12	
Glenelg E-58	Sable	Logan Canyon	Cree	1	64	3006.95	3007.25	0.16	13.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	65	3007.25	3007.43	0.2	13.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	66	3007.43	3007.64	0.12	12.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	67	3007.64	3007.87	0.08	10.6	
Glenelg E-58	Sable	Logan Canyon	Cree	1	68	3007.87	3008.06	0.23	13.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	AST69	3008.06	3008.16	0.78	16.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	69	3008.25	3008.51	0.78	16.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	70	3008.51	3008.69	0.08	14.1	
Glenelg E-58	Sable	Logan Canyon	Cree	1	71	3008.69	3008.93	0.07	9.8	
Glenelg E-58	Sable	Logan Canyon	Cree	1	72	3008.93	3009.23	0.12	11.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	73	3009.30	3009.56	0.04	11.3	
Glenelg E-58	Sable	Logan Canyon	Cree	1	74	3009.56	3009.79	0.08	10.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	75	3009.79	3010.13	0.19	12.5	
Glenelg E-58	Sable	Logan Canyon	Cree	1	76	3010.40	3010.67	0.15	11.2	
Glenelg E-58	Sable	Logan Canyon	Cree	1	77	3010.67	3010.87	0.08	10.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	78	3010.87	3011.14	0.2	10.7	
Glenelg E-58	Sable	Logan Canyon	Cree	1	79	3011.14	3011.60	0.07	12.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST80	3440.39	3440.44	0.01	12.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	80	3440.47	3440.58	0.01	12.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	81	3440.60	3440.68	0.02	12.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST81	3440.69	3440.79	0.02	12.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST81	3441.11	3441.19	0.02	12.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

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Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST82	3441.39	3441.44	0.01	6.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	82	3441.47	3441.53	0.01	6.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST82	3441.56	3441.64	0.01	6.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	83	3442.65	3442.71	0.01	5.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST83	3442.74	3442.78	0.01	5.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	84	3443.80	3443.89	0.02	7.4	3443.86
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST84	3443.96	3444.04	0.02	7.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST84	3444.11	3444.17	0.02	7.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	85	3444.94	3445.05		8.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST85	3445.34	3445.40		9.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST86	3445.49	3445.56	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST86	3446.80	3446.82	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST86	3446.96	3446.99	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST86	3447.04	3447.14	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	86	3447.20	3447.28	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	86	3447.52	3447.59	0.01	9.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	87	3448.20	3448.34	0.01	9.5	3448.34
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST87	3448.67	3448.77	0.01	9.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST87	3448.80	3448.83	0.01	9.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	AST87	3448.88	3448.92	0.01	9.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	88	3449.52	3449.60	0.01	5.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	89	3449.88	3449.97	0.01	8.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	2	90	3458.32	3458.50	0.01	5.5	3458.48
Glenelg E-58	Sable	Missisauga	Upper Mb	3	91	3523.11	3523.31	0.92	13.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	92	3523.60	3523.71	0.16	14.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	93	3523.83	3524.02	0.33	13.4	3524.00
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST93	3524.23	3524.29	0.33	13.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	94	3524.42	3524.57	1.47	16.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST94	3524.59	3524.67	1.47	16.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	95	3524.69	3524.89	0.3	15.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	96	3524.89	3525.04	5.1	15.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	97	3525.04	3525.22	23.3	16.8	3525.16
Glenelg E-58	Sable	Missisauga	Upper Mb	3	98	3525.22	3525.39	65.2	13.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	99	3525.45	3525.67	44.1	16.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	100	3525.67	3525.92	34.2	13.8	3525.79
Glenelg E-58	Sable	Missisauga	Upper Mb	3	101	3525.92	3526.13	12.3	18.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	102	3526.13	3526.34	19.6	18.3	3526.28
Glenelg E-58	Sable	Missisauga	Upper Mb	3	103	3526.34	3526.59	25.8	17.3	3526.41
Glenelg E-58	Sable	Missisauga	Upper Mb	3	104	3526.59	3526.81	29.6	16.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	105	3526.81	3526.99	30.7	15.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	106	3526.99	3527.23	27.4	15.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	107	3527.23	3527.44	22.8	14.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	108	3527.44	3527.61	0.05	7.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	109	3527.71	3527.88	3.56	16.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	110	3527.88	3528.11	11	15.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	111	3528.11	3528.44	14	15.2	3528.08, 3528.21
Glenelg E-58	Sable	Missisauga	Upper Mb	3	112	3529.02	3529.24	1.1	15.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	113	3529.24	3529.49	0.62	15.8	3529.32
Glenelg E-58	Sable	Missisauga	Upper Mb	3	114	3529.49	3529.69	1.09	14	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	115	3529.69	3529.94	0.9	11.2	3530.06
Glenelg E-58	Sable	Missisauga	Upper Mb	3	116	3529.94	3530.15	1.05	11.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	117	3530.15	3530.48	0.18	10.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	118	3532.06	3532.24	0.01	8.9	3532.19
Glenelg E-58	Sable	Missisauga	Upper Mb	3	119	3532.24	3532.42	49.5	16.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	120	3532.42	3532.55	0.03	6.1	3532.60
Glenelg E-58	Sable	Missisauga	Upper Mb	3	121	3532.55	3532.81	50.7	18.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	122	3532.81	3533.04	0.1	8.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	123	3533.04	3533.26	0.23	9	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	124	3533.26	3533.55	15.1	14.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST125	3533.55	3533.59	0.01	10.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	125	3533.62	3533.74	0.01	10.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST125	3533.80	3533.85	0.01	10.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	126	3534.00	3534.33	44.5	17.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	127	3534.33	3534.54	41.1	16.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	128	3534.54	3534.79	29.2	18	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	129	3534.79	3535.01	46.9	18.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	130	3535.01	3535.23	62.1	17.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	131	3535.25	3535.38	4.05	13.1	3535.35
Glenelg E-58	Sable	Missisauga	Upper Mb	3	132	3535.47	3535.59	0.05	12.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST132	3535.72	3535.76	0.05	12.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST132	3535.77	3535.82	0.05	12.3	3535.83
Glenelg E-58	Sable	Missisauga	Upper Mb	3	AST132	3535.84	3535.89	0.05	12.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg E-58	Sable	Missisauga	Upper Mb	3	133	3536.42	3536.60	0.07	7.1	3536.42
Glenelg E-58	Sable	Missisauga	Upper Mb	3	134	3536.60	3536.81	3.61	13.1	3536.82
Glenelg E-58	Sable	Missisauga	Upper Mb	3	135	3536.81	3536.97	7.67	17.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	136	3536.97	3537.17	9.49	17.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	137	3537.17	3537.43	7.64	17.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	138	3537.53	3537.79	10.4	18.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	3	139	3537.79	3538.00	16.9	16.5	3537.98
Glenelg E-58	Sable	Missisauga	Upper Mb	4	140	3538.00	3538.32	15.9	18.5	3538.24
Glenelg E-58	Sable	Missisauga	Upper Mb	4	141	3538.32	3538.51	16.4	18.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	142	3538.51	3538.67	19.2	17.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	143	3538.67	3538.84	12.2	17.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	144	3538.84	3539.02	16.5	17.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	145	3539.24	3539.55	3.82	18.2	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	146	3539.55	3539.74	0.07	13.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	147	3539.74	3539.97	0.01	7.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	148	3539.97	3540.12	0.05	11.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST148	3540.12	3540.34	0.05	11.5	3540.23
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST149	3540.38	3540.45	0.01	10.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	149	3540.46	3540.67	0.01	10.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	150	3540.74	3540.96	0.16	15.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST150	3540.98	3541.07	0.16	15.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	151	3541.78	3542.00	0.52	14.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	152	3542.08	3542.20	0.01	11.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST152	3542.28	3542.32	0.01	11.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST152	3542.41	3542.47	0.01	11.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	153	3542.64	3542.71	0.73	14.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	154	3542.85	3543.11	0.73	16.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST154	3543.21	3543.27	0.73	16.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	AST155	3543.55	3543.61	0.08	11.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	155	3543.76	3543.97	0.08	11.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	157	3544.21	3544.44	0.21	15	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	158	3545.13	3545.27	0.01	11	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	159	3546.64	3546.92	0.01	14	3546.97
Glenelg E-58	Sable	Missisauga	Upper Mb	4	160	3547.25	3547.34	0.07	14.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	161	3547.34	3547.61	0.01	7.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	162	3547.61	3547.78	0.01	7.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	163	3547.78	3547.94	0.01	13.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	164	3547.94	3548.10	0.11	14.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	165	3548.10	3548.29	0.04	11.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	166	3548.39	3548.59	0.03	9.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	167	3549.21	3549.38	0.11	14.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	168	3549.53	3549.61	0.25	15.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	169	3549.64	3549.81	0.09	15.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	170	3549.90	3550.14	0.24	15.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	171	3550.57	3550.76	7.98	17.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	172	3550.81	3551.02	1.82	12.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	173	3551.02	3551.28	10.3	17.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	174	3551.28	3551.45	8.1	17.2	3551.29
Glenelg E-58	Sable	Missisauga	Upper Mb	4	175	3551.45	3551.72	7.87	17.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	176	3551.72	3551.92	5.65	16.3	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	177	3551.92	3552.12	9.02	17.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	178	3552.12	3552.37	0.04	9.5	3552.15
Glenelg E-58	Sable	Missisauga	Upper Mb	4	179	3552.37	3552.60	0.04	10.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	180	3552.60	3552.80	1.46	16.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	181	3552.80	3553.00	1.27	16.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	4	182	3554.63	3554.88	0.04	11.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	183	3708.28	3708.50	0.17	10.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	184	3708.56	3708.67	0.19	11.8	3708.67
Glenelg E-58	Sable	Missisauga	Upper Mb	5	185	3708.71	3708.82	0.09	10.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	AST185	3708.85	3708.93	0.09	10.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	186	3709.00	3709.20	0.14	12.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	187	3709.40	3709.68	0.18	12.4	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	188	3709.68	3709.85	0.09	11	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	189	3709.97	3710.11	0.16	12.1	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	190	3710.15	3710.26	0.15	11.7	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	191	3710.26	3710.35	0.1	10.9	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	192	3710.50	3710.69	0.09	10.8	3711.03
Glenelg E-58	Sable	Missisauga	Upper Mb	5	AST192	3710.70	3710.74	0.09	10.8	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	AST192	3710.78	3710.85	0.09	10.8	3710.80
Glenelg E-58	Sable	Missisauga	Upper Mb	5	193	3711.03	3711.27	0.05	10.6	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	194	3711.81	3711.99	0.05	9.3	3711.13
Glenelg E-58	Sable	Missisauga	Upper Mb	5	195	3712.07	3712.20	0.08	9.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg E-58	Sable	Missisauga	Upper Mb	5	196	3712.27	3712.48	0.04	6.5	
Glenelg E-58	Sable	Missisauga	Upper Mb	5	197	3712.54	3712.65	0.02	7.5	
Glenelg N-49	Sable	Logan canyon	Cree	1	1	2977.10	2977.31	3.26	17	
Glenelg N-49	Sable	Logan canyon	Cree	1	2	2977.31	2977.54	3.62	17.3	
Glenelg N-49	Sable	Logan canyon	Cree	1	3	2977.54	2977.68	2.39	16.4	
Glenelg N-49	Sable	Logan canyon	Cree	1	4	2977.68	2977.78	0.13	11.2	
Glenelg N-49	Sable	Logan canyon	Cree	1	5	2977.78	2977.87	0.17	10.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	6	2977.87	2978.04	0.1	8.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	7	2978.04	2978.21	0.47	13.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	8	2978.21	2978.34	0.27	11.7	
Glenelg N-49	Sable	Logan canyon	Cree	1	9	2978.34	2978.49	1.1	15.9	2978.54
Glenelg N-49	Sable	Logan canyon	Cree	1	10	2978.49	2978.57	0.34	13.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	11	2978.57	2978.76	0.43	14.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	12	2978.76	2978.87	0.4	14.7	
Glenelg N-49	Sable	Logan canyon	Cree	1	13	2978.87	2979.10	1.52	16.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	14	2979.10	2979.25	0.64	14.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	15	2979.25	2979.48	1.25	17.1	
Glenelg N-49	Sable	Logan canyon	Cree	1	16	2979.48	2979.69	0.14	12.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	17	2979.95	2980.19	0.13	12.6	2981.36
Glenelg N-49	Sable	Logan canyon	Cree	1	18	2980.19	2980.38	0.1	11.5	
Glenelg N-49	Sable	Logan canyon	Cree	1	19	2980.38	2980.54	0.1	11.8	2980.42
Glenelg N-49	Sable	Logan canyon	Cree	1	20	2980.54	2980.74	0.06	10.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	21	2980.74	2980.93	0.07	10.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	22	2980.93	2981.15	0.1	10.7	2983.18
Glenelg N-49	Sable	Logan canyon	Cree	1	23	2981.15	2981.25	0.11	9.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	24	2981.25	2981.42	0.1	11.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	25	2981.42	2981.56	0.93	13.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	26	2981.56	2981.77	0.14	13.4	
Glenelg N-49	Sable	Logan canyon	Cree	1	27	2981.77	2981.93	0.07	12.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	28	2983.65	2983.89	0.14	17.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	29	2983.89	2984.17	0.1	12.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	30	2984.17	2984.34	0.1	15.4	
Glenelg N-49	Sable	Logan canyon	Cree	1	31	2984.34	2984.43	0.03	10.4	
Glenelg N-49	Sable	Logan canyon	Cree	1	32	2984.53	2984.69	0.03	9.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	33	2984.69	2985.01	197	23.1	
Glenelg N-49	Sable	Logan canyon	Cree	1	34	2985.01	2985.20	176	22.3	2987.28
Glenelg N-49	Sable	Logan canyon	Cree	1	35	2985.20	2985.41	255	21.8	
Glenelg N-49	Sable	Logan canyon	Cree	1	36	2985.41	2985.65	337	20.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	37	2985.65	2985.80	295	19.9	
Glenelg N-49	Sable	Logan canyon	Cree	1	38	2985.80	2985.98	57.5	17.6	
Glenelg N-49	Sable	Logan canyon	Cree	1	39	2985.98	2986.20	3.23	11.2	
Glenelg N-49	Sable	Logan canyon	Cree	2	40	2988.50	2988.64	0.04	5.2	2988.51
Glenelg N-49	Sable	Logan canyon	Cree	2	41	2988.64	2988.81	0.13	7.6	
Glenelg N-49	Sable	Logan canyon	Cree	2	42	2988.81	2989.03	305	20.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	43	2989.03	2989.21	184	20.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	44	2989.21	2989.42	25.7	20.1	
Glenelg N-49	Sable	Logan canyon	Cree	2	45	2989.42	2989.54	82.3	20.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	46	2989.54	2989.66	260	21.1	
Glenelg N-49	Sable	Logan canyon	Cree	2	47	2989.66	2989.86	199	21.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	48	2989.86	2990.10	753	22.9	
Glenelg N-49	Sable	Logan canyon	Cree	2	49	2990.10	2990.34	755	22.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	50	2990.34	2990.54	757	22.9	
Glenelg N-49	Sable	Logan canyon	Cree	2	51	2990.54	2990.77	613	22.6	2990.58
Glenelg N-49	Sable	Logan canyon	Cree	2	52	2990.77	2991.04	324	22.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	53	2991.04	2991.21	152	22	
Glenelg N-49	Sable	Logan canyon	Cree	2	54	2991.21	2991.34	450	24	
Glenelg N-49	Sable	Logan canyon	Cree	2	55	2991.34	2991.46		22.1	
Glenelg N-49	Sable	Logan canyon	Cree	2	56	2991.46	2991.67	214	22.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	57	2991.67	2991.87	408	24.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	58	2991.87	2992.15	113	22.6	
Glenelg N-49	Sable	Logan canyon	Cree	2	59	2992.15	2992.39	398	23.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	60	2992.39	2992.61	264	22	
Glenelg N-49	Sable	Logan canyon	Cree	2	61	2992.61	2992.81	30.8	15.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	62	2992.81	2992.98	144	19.9	
Glenelg N-49	Sable	Logan canyon	Cree	2	63	2992.98	2993.16	59.3	19.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	64	2993.20	2993.29	28.5	19.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	65	2993.29	2993.44	130	21.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	66	2993.44	2993.64	0.7	14.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	67	2993.64	2993.89	0.46	12.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	68	2993.89	2994.14	0.13	8.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	69	2994.14	2994.33	0.13	8.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	70	2994.33	2994.52	0.23	9.2	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Logan canyon	Cree	2	71	2994.52	2994.65	150	21.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	72	2994.65	2994.84	83.7	20.2	
Glenelg N-49	Sable	Logan canyon	Cree	2	73	2994.90	2995.08	159	22.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	74	2995.08	2995.30	394	23.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	75	2995.30	2995.46	322	23	
Glenelg N-49	Sable	Logan canyon	Cree	2	76	2995.46	2995.75	460	23.2	
Glenelg N-49	Sable	Logan canyon	Cree	2	77	2995.78	2996.00	235	21.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	78	2996.00	2996.28	325	22.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	79	2996.28	2996.52	406	22.9	
Glenelg N-49	Sable	Logan canyon	Cree	2	80	2996.52	2996.72	94.4	19.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	81	2996.72	2996.95	135	20.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	82	2996.95	2997.19	93	19.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	83	2997.19	2997.43	51.1	18	
Glenelg N-49	Sable	Logan canyon	Cree	2	84	2997.43	2997.66	110	19.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	85	2997.66	2997.88	166	20.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	86	2997.88	2998.10	278	21.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	87	2998.10	2998.35	288	21.9	
Glenelg N-49	Sable	Logan canyon	Cree	2	88	2998.35	2998.58	183	20.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	89	2998.58	2998.79	180	20.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	90	2998.79	2999.04	191	21.1	
Glenelg N-49	Sable	Logan canyon	Cree	2	91	2999.04	2999.29	223	21.5	
Glenelg N-49	Sable	Logan canyon	Cree	2	92	2999.29	2999.46	260	21.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	93	2999.46	2999.69	300	21.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	94	2999.69	2999.94	394	22.2	
Glenelg N-49	Sable	Logan canyon	Cree	2	95	2999.94	3000.17	0.63	8.8	
Glenelg N-49	Sable	Logan canyon	Cree	2	96	3000.17	3000.43	1.56	11.3	2999.92
Glenelg N-49	Sable	Logan canyon	Cree	2	97	3000.43	3000.61		23.2	
Glenelg N-49	Sable	Logan canyon	Cree	2	98	3000.61	3000.85	35.3	19.9	3000.66
Glenelg N-49	Sable	Logan canyon	Cree	2	99	3000.85	3001.04	23.7	18.3	
Glenelg N-49	Sable	Logan canyon	Cree	2	100	3001.04	3001.19	17.7	18.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	A100	3001.19	3001.46	0.07	4.4	
Glenelg N-49	Sable	Logan canyon	Cree	2	101	3001.46	3001.71	0.04	4.7	
Glenelg N-49	Sable	Logan canyon	Cree	2	102	3001.71	3002.01	0.36	10.5	3001.84
Glenelg N-49	Sable	Missisauga	Upper Mb	3	103	3569.34	3569.39	0.1	12.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	104	3569.63	3569.90	0.13	10.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	105	3570.17	3570.30	0.13	12.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	106	3570.63	3570.82	0.89	15	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	107	3570.82	3571.02	0.46	11.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	108	3574.86	3574.99	0.13	10.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	109	3575.03	3575.27	0.56	12.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	110	3575.27	3575.42	0.59	12	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	111	3575.42	3575.64	0.43	11.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	112	3575.64	3575.76	0.03	3.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	113	3575.76	3575.95	1.74	14.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	114	3575.95	3576.12	2.2	14.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	115	3576.12	3576.25	1.15	13.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	116	3576.27	3576.44	0.07	7	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	117	3576.99	3577.14	0.23	12.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	118	3577.21	3577.44	0.27	12.3	3576.78
Glenelg N-49	Sable	Missisauga	Upper Mb	3	119	3577.69	3577.83	0.03	5.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	120	3577.83	3578.01	0.92	15.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	121	3578.01	3578.16	0.49	14.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	122	3579.22	3579.37	0.36	13.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	123	3579.37	3579.59	0.33	13.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	124	3579.59	3579.76	0.03	5.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	125	3579.80	3579.95	0.58	11.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	126	3579.95	3580.14	0.75	8.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	127	3580.14	3580.23	0.66	10.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	128	3580.27	3580.42	0.01	5.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	129	3582.11	3582.25	0.16	7.7	3581.99
Glenelg N-49	Sable	Missisauga	Upper Mb	3	130	3582.26	3582.49	0.01	2.4	3582.26
Glenelg N-49	Sable	Missisauga	Upper Mb	3	131	3584.74	3584.95	0.5	12.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	132	3584.95	3585.19	0.13	6.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	133	3585.19	3585.42	0.03	6.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	134	3585.42	3585.65	0.23	11.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	135	3585.65	3585.81	0.13	3.6	3585.56
Glenelg N-49	Sable	Missisauga	Upper Mb	3	136	3587.66	3587.90	0.1	9	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	137	3591.80	3591.97	0.72	5	3591.75
Glenelg N-49	Sable	Missisauga	Upper Mb	3	138	3591.97	3592.22	0.04	1.5	3592.15
Glenelg N-49	Sable	Missisauga	Upper Mb	3	139	3593.58	3593.75	0.32	8.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	140	3593.75	3593.91	0.08	6.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	141	3593.91	3594.10	1.68	10.5	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Missisauga	Upper Mb	3	142	3594.10	3594.36	0.18	7.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	143	3594.36	3594.52	0.13	8.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	144	3594.52	3594.69	0.03	8.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	145	3594.69	3594.85	0.06	6.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	146	3594.85	3594.99	0.03	5	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	147	3594.99	3595.13	0.03	4.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	148	3595.13	3595.29	0.4	9.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	149	3595.29	3595.50	7.86	12.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	150	3595.50	3595.63	2.77	11.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	151	3595.63	3595.80	120	11.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	152	3595.80	3595.99	603	13.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	3	153	3595.99	3596.15	938	14.7	3596.43
Glenelg N-49	Sable	Missisauga	Upper Mb	3	154	3596.15	3596.40	529	15.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	155	3596.40	3596.54	452	15.1	3596.89
Glenelg N-49	Sable	Missisauga	Upper Mb	4	156	3596.54	3596.74	541	14.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	157	3596.74	3596.92	411	19.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	158	3596.92	3597.11	731	21.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	159	3597.13	3597.33	740	17.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	160	3597.33	3597.56	750	16.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	161	3597.57	3597.76	196	16.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	162	3597.76	3597.96	162	14.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	163	3597.96	3598.18	229	17.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	164	3598.18	3598.41	535	17.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	165	3598.41	3598.67	466	18.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	166	3598.67	3598.84	177	16.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	167	3598.84	3599.09	21.5	12.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	168	3599.09	3599.37	8.77	13.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	169	3599.37	3599.62	688	18.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	170	3599.62	3599.91	752	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	171	3599.91	3600.11	650	16.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	172	3600.11	3600.30	793	16.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	173	3600.30	3600.48	536	17.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	174	3600.48	3600.75	0.56	4.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	175	3600.75	3600.94	0.26	9.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	176	3600.94	3601.17	1.52	11.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	177	3601.17	3601.43	0.96	10.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	178	3601.60	3601.87	74.7	19.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	179	3601.87	3602.15	79.2	19.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	180	3602.15	3602.42	23	18	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	181	3602.42	3602.65	56.5	18.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	182	3602.65	3602.77	224	19.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	183	3602.77	3602.89	3.68	10.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	184	3603.55	3603.70	2.13	13.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	185	3603.70	3603.84	2.02	12.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	186	3603.84	3604.02	18	8.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	187	3604.02	3604.13	0.6	11.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	188	3604.13	3604.31		11.9	3603.05
Glenelg N-49	Sable	Missisauga	Upper Mb	4	189	3604.31	3604.47	1.82	12.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	190	3604.47	3604.62	2.73	12.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	191	3604.62	3604.86	17.1	11	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	192	3604.86	3605.03	0.13	4.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	193	3605.03	3605.25	0.32	2.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	194	3605.25	3605.48	268	14.4	3605.45
Glenelg N-49	Sable	Missisauga	Upper Mb	4	195	3605.48	3605.73	130	14.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	196	3605.73	3606.01	306	15.1	3605.72
Glenelg N-49	Sable	Missisauga	Upper Mb	4	197	3606.01	3606.16	8260	16	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	198	3606.16	3606.35	1960	15.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	199	3606.35	3606.62	471	17.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	200	3606.62	3606.76	762	17.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	201	3606.76	3606.97	96.8	10.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	202	3606.97	3607.18	707	15.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	203	3607.18	3607.41	711	15	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	204	3607.41	3607.63	737	16.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	205	3607.63	3607.88	742	13.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	206	3607.88	3608.08	979	14.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	207	3608.08	3608.34	2180	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	208	3608.34	3608.55	1570	17.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	209	3608.55	3608.83	1840	17.5	3608.55
Glenelg N-49	Sable	Missisauga	Upper Mb	4	210	3608.83	3609.11	2680	14.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	211	3609.11	3609.37	1060	13.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	212	3609.37	3609.53	797	16.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	213	3609.53	3609.76	1060	15	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

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Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Missisauga	Upper Mb	4	214	3609.76	3610.02	2910	15.1	3609.63
Glenelg N-49	Sable	Missisauga	Upper Mb	4	215	3610.75	3611.02	0.49	9.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	216	3613.43	3613.55	0.39	13.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	217	3613.58	3613.86		4.5	3613.6
Glenelg N-49	Sable	Missisauga	Upper Mb	4	218	3615.33	3615.52	0.82	9.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	219	3615.69	3615.94	1.36	11.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	220	3616.36	3616.42	0.52	6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	221	3616.61	3616.81	1.86	6.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	222	3617.00	3617.10	2.44	7.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	223	3617.12	3617.29	0.59	7.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	224	3617.68	3617.75	20.9	9.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	225	3617.80	3618.03	57.2	14.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	226	3618.06	3618.19	435	13.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	227	3618.26	3618.49	487	15.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	228	3618.50	3618.67	342	18.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	229	3618.67	3618.89	882	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	230	3618.93	3619.15	49.4	10.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	231	3619.15	3619.47	0.36	4.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	232	3619.56	3619.84	764	19.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	233	3619.84	3620.02	914	19.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	234	3620.02	3620.16	622	17.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	235	3620.20	3620.27	55.5	12.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	236	3620.36	3620.57	710	17	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	237	3620.57	3620.78	242	15.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	238	3620.78	3620.96	458	16.1	3620.80
Glenelg N-49	Sable	Missisauga	Upper Mb	4	239	3621.59	3621.65	0.49	2.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	4	240	3621.83	3621.95	0.43	2.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	241	3622.65	3622.82	6100	16	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	242	3622.82	3623.00	2840	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	243	3623.00	3623.15	3020	17	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	244	3623.15	3623.26	239	13.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	245	3623.40	3623.55	7400	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	246	3623.55	3623.75	4250	15.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	247	3623.82	3624.04	15.9	7	3624.19
Glenelg N-49	Sable	Missisauga	Upper Mb	5	248	3624.04	3624.26	33.1	8.4	3624.29
Glenelg N-49	Sable	Missisauga	Upper Mb	5	249	3624.30	3624.44	420	17.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	250	3624.44	3624.51		8.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	251	3624.51	3624.65	268	15.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	252	3624.72	3624.97	306	14.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	253	3625.17	3625.36	594	17	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	254	3625.36	3625.62	1710	15.7	3626.94
Glenelg N-49	Sable	Missisauga	Upper Mb	5	255	3625.62	3625.80	675	14.8	3628.92
Glenelg N-49	Sable	Missisauga	Upper Mb	5	256	3625.80	3625.97	2020	15.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	257	3626.18	3626.38	365	16.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	258	3626.38	3626.54	563	15.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	259	3626.90	3627.15	50.2	8.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	260	3628.26	3628.50	1360	14.4	3628.25
Glenelg N-49	Sable	Missisauga	Upper Mb	5	261	3628.50	3628.79	3720	16.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	262	3628.79	3629.08	2790	16.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	263	3629.08	3629.35	1760	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	264	3629.35	3629.64	835	15.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	265	3629.64	3629.91	1420	16.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	266	3630.22	3630.43	5.71	14.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	267	3630.46	3630.61	7.27	13.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	268	3630.61	3630.75	9.22	13.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	269	3630.88	3631.01	2.06	12.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	270	3631.01	3631.28	35.3	16.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	271	3631.29	3631.42	32.3	17.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	272	3631.49	3631.72	55.8	15.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	273	3631.72	3631.88	7.82	13.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	274	3631.99	3632.21	0.29	6.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	AST274	3632.30	3632.36	0.29	6.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	275	3632.44	3632.57	1.8	9.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	276	3632.76	3633.03	35.8	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	AST276	3633.07	3633.13	35.8	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	277	3633.17	3633.35	436	19	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	AST277	3633.38	3633.43	436	19	3633.21
Glenelg N-49	Sable	Missisauga	Upper Mb	5	278	3633.45	3633.66	193	17.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	279	3633.66	3633.94	148	17.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	280	3633.99	3634.29	170	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	281	3634.29	3634.50	245	18.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	282	3634.50	3634.76	151	18.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Missisauga	Upper Mb	5	283	3634.76	3635.02	184	17.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	284	3635.02	3635.24	196	16.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	285	3635.24	3635.48	229	17.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	286	3635.48	3635.71	339	18.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	287	3635.71	3635.98	268	19	3635.48
Glenelg N-49	Sable	Missisauga	Upper Mb	5	288	3635.98	3636.25	139	15.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	289	3636.25	3636.49	247	17.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	290	3636.49	3636.77	168	16.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	291	3636.77	3637.03	247	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	292	3637.03	3637.23	217	19.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	293	3637.23	3637.40	128	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	294	3637.48	3637.76	153	19.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	295	3637.76	3637.96	168	19.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	296	3637.96	3638.17	222	18.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	297	3638.17	3638.43	119	16	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	298	3638.43	3638.68	68.8	15.6	3638.20
Glenelg N-49	Sable	Missisauga	Upper Mb	5	299	3638.68	3638.93	292	18.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	300	3638.93	3639.19	404	18.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	301	3639.19	3639.40	202	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	302	3639.40	3639.65	229	17.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	303	3639.65	3639.83	276	18.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	304	3639.83	3640.06	281	18.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	305	3640.06	3640.24	207	18	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	306	3640.24	3640.45	183	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	307	3640.45	3640.69	155	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	308	3640.69	3641.00	247	20.3	3641.11
Glenelg N-49	Sable	Missisauga	Upper Mb	5	309	3641.19	3641.44	25.6	16.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	310	3641.44	3641.67	28.2	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	311	3641.67	3641.92	18	16.2	3641.50
Glenelg N-49	Sable	Missisauga	Upper Mb	5	312	3641.92	3642.07	4.37	14.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	313	3642.07	3642.22	21	14.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	314	3642.22	3642.34	8.52	14.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	315	3642.63	3642.80	47.3	16.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	316	3642.80	3642.99	53.6	14.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	317	3642.99	3643.22	60.7	14.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	318	3643.22	3643.32		13.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	319	3643.34	3643.51	26.4	14.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	320	3643.51	3643.67	20.6	13	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	321	3645.12	3645.19	0.17	6.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	322	3645.67	3645.93	33.1	16.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	323	3645.93	3646.21	31.5	17.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	324	3646.21	3646.42	69.3	16.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	325	3646.42	3646.56	99.2	16.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	326	3646.56	3646.79	28.9	16	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	327	3646.79	3647.03	125	16.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	328	3647.49	3647.68	0.86	11.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	329	3647.84	3647.92	0.79	12.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	330	3648.02	3648.19	13.8	12.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	331	3648.19	3648.34	14.3	12.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	332	3648.37	3648.44	0.66	11.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	333	3648.54	3648.69	1.19	12.3	3648.12
Glenelg N-49	Sable	Missisauga	Upper Mb	5	334	3648.69	3648.96	8.4	10.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	335	3648.96	3649.24	1.87	8.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	336	3649.24	3649.46	1.83	8.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	5	337	3649.46	3649.61	21.6	14.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	338	3650.00	3650.18	62.7	16	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	339	3650.18	3650.34	12.2	13.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	340	3650.41	3650.58	74.9	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	341	3650.66	3650.87	78.1	17.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	342	3650.87	3651.12	48.7	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	AST342	3651.17	3651.24	48.7	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	343	3651.41	3651.55	88.1	13	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	344	3651.63	3651.70	25.6	10.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	345	3651.80	3651.86	70.3	13	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	346	3651.96	3652.16	140	14.9	3652.30
Glenelg N-49	Sable	Missisauga	Upper Mb	6	347	3652.16	3652.28	100	13.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	348	3652.30	3652.54	955	18.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	349	3652.56	3652.69	255	18.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	350	3652.78	3653.00	479	20.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	351	3653.03	3653.24	207	18.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	352	3653.24	3653.45	158	19	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	353	3653.50	3653.70	286	18.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Missisauga	Upper Mb	6	354	3653.70	3653.95	540	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	355	3653.95	3654.16	209	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	356	3654.16	3654.39	759	19.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	357	3654.39	3654.57	287	19.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	358	3654.57	3654.70	885	19.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	359	3654.70	3654.90	227	19.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	360	3654.93	3655.04	29.9	13	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	A360	3655.20	3655.41	302	19.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	361	3655.41	3655.67	554	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	AST361	3655.75	3655.78	554	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	362	3655.85	3656.10	1360	18.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	363	3656.10	3656.30	576	17.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	364	3656.30	3656.55	298	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	365	3656.55	3656.81	287	18.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	366	3656.81	3656.97	567	19.6	3656.94
Glenelg N-49	Sable	Missisauga	Upper Mb	6	367	3656.97	3657.18	425	19.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	368	3657.18	3657.37	198	18.3	3657.47
Glenelg N-49	Sable	Missisauga	Upper Mb	6	369	3657.45	3657.67	211	17.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	370	3657.68	3657.82	96.4	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	371	3657.82	3658.12	176	19.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	372	3658.52	3658.63	0.43	4.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	373	3658.97	3659.11	15.5	8.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	374	3659.12	3659.34	398	19.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	375	3659.34	3659.58	2310	17.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	376	3659.58	3659.86	799	16.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	377	3659.86	3660.13	646	17.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	378	3660.13	3660.27	73.6	17.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	379	3660.27	3660.47	321	19	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	380	3660.47	3660.66	341	19.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	381	3660.71	3660.97	0.09	2	3660.91
Glenelg N-49	Sable	Missisauga	Upper Mb	6	382	3660.99	3661.22	1.98	12.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	383	3661.22	3661.38	43.3	14.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	384	3661.38	3661.54	6.99	15.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	385	3661.54	3661.79	12	16.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	386	3661.79	3662.09	5.88	15.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	387	3662.09	3662.35	10.3	18.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	388	3662.35	3662.59	5.04	16.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	389	3662.59	3662.77	14.9	14.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	390	3663.08	3663.28	120	15.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	391	3663.28	3663.54	75.5	13.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	392	3663.54	3663.79	127	14.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	393	3663.87	3664.02	0.42	8.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	394	3664.09	3664.29	16.5	15.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	395	3664.29	3664.47	3.52	15.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	396	3664.47	3664.62	3.54	15.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	397	3664.78	3665.03	40.4	15.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	398	3665.03	3665.23	1.59	12.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	399	3665.30	3665.55	180	20.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	400	3665.55	3665.78	224	20.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	401	3665.78	3666.03	407	21.2	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	402	3666.03	3666.18	382	20.2	3666.24
Glenelg N-49	Sable	Missisauga	Upper Mb	6	403	3666.18	3666.39	296	19.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	404	3666.39	3666.61	403	20.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	405	3666.61	3666.82	376	19.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	406	3666.82	3667.01	338	19.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	407	3667.01	3667.20	393	19.8	3667.33
Glenelg N-49	Sable	Missisauga	Upper Mb	6	408	3667.79	3667.88	0.15	9.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	409	3669.05	3669.30	0.42	13.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	410	3669.30	3669.51	0.29	13.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	411	3669.51	3669.73	0.07	6.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	412	3669.85	3670.00	0.13	11.1	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	413	3670.74	3670.97	0.07	10	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	414	3670.97	3671.21	0.17	8.7	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	415	3671.46	3671.67	0.08	8.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	416	3671.84	3672.01	0.06	7.5	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	417	3672.01	3672.15	0.09	9.4	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	418	3672.49	3672.75	0.04	5.6	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	419	3673.20	3673.34	0.05	8.3	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	420	3674.00	3674.25	0.08	4.8	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	421	3674.79	3674.94	0.03	4.9	
Glenelg N-49	Sable	Missisauga	Upper Mb	6	422	3674.94	3675.19	0.05	7.5	3675.22
Glenelg N-49	Sable	Missisauga	Upper Mb	6	423	3675.39	3675.55	0.08	5.1	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Glenelg N-49	Sable	Missisauga	Upper Mb	6	424	3675.98	3676.16	0.11	10.1	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	1	1897.00	1897.34	735	26	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	2	1897.34	1897.61	1000	27.5	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	3	1897.61	1897.93	1270	27.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	4	1897.93	1898.20	666	27.9	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	5	1898.20	1898.48	1360	24.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	6	1898.48	1898.61	362	24.2	1898.50
Kegeshook G-67	Sable	Logan Canyon	Cree	1	7	1898.61	1898.71	309	25.5	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	8	1898.71	1898.87	446	25.4	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	9	1898.87	1899.11	1020	25.2	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	10	1899.11	1899.27	813	24.9	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	11	1899.27	1899.51	223	25.2	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	12	1899.51	1899.72	1310	28.4	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	13	1899.72	1900.03	215	27.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	14	1900.03	1900.28	306	27.2	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	15	1900.28	1900.47	610	28.4	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	16	1900.47	1900.66	66.6	24.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	17	1900.66	1901.00	360	26.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	18	1901.00	1901.32	380	27	1900.15
Kegeshook G-67	Sable	Logan Canyon	Cree	1	19	1901.32	1901.66	240	26.9	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	20	1901.66	1901.97	247	26.6	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	21	1901.97	1902.27	380	27	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	22	1902.27	1902.54	352	24.7	1902.30
Kegeshook G-67	Sable	Logan Canyon	Cree	1	23	1902.54	1902.82	90.9	25	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	24	1902.82	1903.15	715	27.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	25	1903.15	1903.52	2240	27.5	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	26	1903.52	1903.83	372	26.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	27	1903.83	1904.12	391	29	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	28	1904.12	1904.36	217	25.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	29	1904.36	1904.74	255	27.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	30	1904.74	1905.03	363	26.4	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	31	1905.03	1905.26	158	26.5	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	32	1905.26	1905.52	261	27.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	33	1905.52	1905.79	787	26.1	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	34	1905.79	1906.01	584	26.7	1905.90-1906.15
Kegeshook G-67	Sable	Logan Canyon	Cree	1	35	1906.01	1906.25	1370	24.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	36	1906.25	1906.45	400	27.7	1906.40
Kegeshook G-67	Sable	Logan Canyon	Cree	1	37	1906.45	1906.71	189	28.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	38	1906.71	1906.93	417	30.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	39	1906.93	1907.19	521	30.4	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	40	1907.19	1907.42	386	29.1	1907.39
Kegeshook G-67	Sable	Logan Canyon	Cree	1	41	1907.42	1907.64	40.4	24.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	42	1907.64	1907.89	37.9	25.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	43	1907.89	1908.19	112	29.2	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	44	1908.19	1908.47	86.1	28.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	45	1908.47	1908.76	11.6	26.5	1908.47
Kegeshook G-67	Sable	Logan Canyon	Cree	1	46	1908.76	1908.97	120	29.7	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	47	1908.97	1909.20	57.9	28.3	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	48	1909.20	1909.36	77.7	28.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	AST48	1909.62	1909.68	77.7	28.8	
Kegeshook G-67	Sable	Logan Canyon	Cree	1	49	1910.02	1910.22	63.2	27.5	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	50	2074.50	2074.80	743	26.4	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	51	2074.80	2075.13	660	26	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	52	2075.13	2075.38	868	26.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	53	2075.38	2075.61	625	24.7	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	54	2075.61	2075.87	1410	26.9	2075.67
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	55	2075.87	2076.14	936	27	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	56	2076.14	2076.37	522	27.1	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	57	2076.37	2076.70	941	24.7	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	58	2076.70	2076.94	1130	26.6	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	59	2076.94	2077.27	690	25.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	2	60	2077.27	2077.55	270	18.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	61	2080.00	2080.21	193	23.6	
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	62	2080.21	2080.38	84.3	21.4	
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	63	2080.53	2080.61	277	23.9	2080.49
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	64	2080.63	2080.77	155	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	65	2080.80	2081.12	4.06	17.2	
Kegeshook G-67	Sable	Missisauga	Upper Mb	3	66	2083.10	2083.20	17.7	22.2	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	67	2107.00	2107.26	237	24.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	68	2107.26	2107.56	471	24.3	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	69	2107.62	2107.84		14.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	70	2107.84	2108.08	466	24.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	71	2108.08	2108.37	1690	25.7	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	72	2108.37	2108.69	1430	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	73	2108.69	2109.00	1800	25.2	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	74	2109.00	2109.33	2020	25.6	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	75	2109.33	2109.57	2010	26.4	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	76	2109.57	2109.82	599	26.1	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	77	2109.82	2110.06	413	24	2210.36
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	78	2110.06	2110.30	374	24.2	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	79	2110.30	2110.53	557	24.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	80	2110.53	2110.79	602	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	81	2110.79	2111.05	701	24.9	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	82	2111.05	2111.40	624	24.9	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	83	2111.40	2111.72	670	24.7	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	84	2111.72	2111.95	725	24.6	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	85	2111.95	2112.17	884	25.2	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	86	2112.17	2112.48	731	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	87	2112.48	2112.77	707	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	88	2112.77	2113.02	1240	25.4	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	89	2113.02	2113.27	1350	25.4	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	90	2113.27	2113.55	1280	25	2113.39
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	91	2113.55	2113.78	591	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	92	2113.78	2113.98	578	25.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	AST93	2114.07	2114.11	164	22.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	93	2114.13	2114.36	164	22.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	94	2114.43	2114.58	81.6	22.9	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	95	2114.58	2114.82	178	25.9	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	96	2114.82	2115.11	288	27.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	97	2115.12	2115.29	226	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	98	2115.30	2115.58	213	26.8	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	99	2115.60	2115.77	24.8	21.1	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	100	2115.79	2116.06	97.3	24.2	2415.88
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	101	2116.12	2116.43	183	25.8	2116.41
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	102	2116.43	2116.65	119	25	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	103	2116.68	2116.93	168	24.7	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	104	2116.93	2117.30	237	25.9	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	105	2117.30	2117.55	322	26.5	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	106	2117.55	2117.85	32.6	20.7	2117.78
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	107	2117.85	2118.05	355	27	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	AST107	2118.11	2118.14	355	27	
Kegeshook G-67	Sable	Missisauga	Upper Mb	4	108	2118.18	2118.45	72.2	22.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	109	2414.00	2414.17	908	21.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	110	2414.17	2414.41	151	20	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	111	2414.41	2414.63	159	19.4	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	112	2414.63	2414.84	227	20.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	113	2414.84	2415.05	66	17.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	114	2415.05	2415.25	147	20.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	115	2415.25	2415.49	808	21.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	116	2415.49	2415.74	107	21.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	117	2415.74	2415.99	76.2	15.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	118	2415.99	2416.17	0.6	8.3	2415.88
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	119	2416.17	2416.40	0.8	9.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	120	2416.40	2416.71	6.62	13.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	121	2416.71	2416.95	476	19.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	122	2416.95	2417.08	1280	22.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	123	2417.08	2417.23	506	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	124	2417.23	2417.45	137	18.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	125	2417.45	2417.71	39.3	18.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	126	2417.71	2417.98	160	19.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	127	2417.98	2418.16	191	20	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	128	2418.16	2418.31	267	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	129	2418.31	2418.52	156	19.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	130	2418.52	2418.68	239	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	131	2418.68	2418.88	1310	21.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	132	2418.88	2419.03	2080	23.3	2418.91
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	133	2419.03	2419.19	879	19.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	134	2419.21	2419.44	456	19.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	135	2419.44	2419.64	363	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	136	2419.64	2419.88	2390	24.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	137	2419.88	2420.08	251	18.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	138	2420.08	2420.30	1030	21	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	139	2420.30	2420.45	1080	21.2	2420.30
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	140	2420.45	2420.65	4580	22.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

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Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	141	2420.65	2420.93	401	20.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	142	2420.93	2421.11	2180	22.8	2421.10
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	143	2421.11	2421.28	234	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	144	2421.28	2421.46	1420	29.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	145	2421.46	2421.72	1790	18.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	146	2421.72	2422.02	616	19.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	147	2422.02	2422.27	255	18.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	148	2422.27	2422.48	2120	23.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	149	2422.48	2422.64	2000	23.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	150	2422.64	2422.81	791	22.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	151	2422.81	2423.06	1.58	9.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	152	2423.06	2423.25	0.11	4.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	153	2423.25	2423.48	0.07	2.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	154	2423.48	2423.74	0.07	2.1	2423.58
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	155	2423.74	2423.97	0.1	4.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	156	2423.97	2424.22	0.08	6.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	157	2424.22	2424.40	0.11	4.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	158	2424.40	2424.69	1.12	7.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	159	2424.69	2424.90	377	23.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	160	2424.90	2425.09	0.46	6.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	161	2425.09	2425.27	1.1	7.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	162	2425.27	2425.41	3.04	9.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	163	2425.41	2425.61	145	20.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	164	2425.61	2425.86	176	21.4	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	165	2425.86	2426.04	186	21.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	166	2426.04	2426.26	162	21.2	2426.05
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	167	2426.26	2426.44	134	21.3	2426.32
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	168	2426.44	2426.66	143	21.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	169	2426.66	2426.83	172	21.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	170	2426.83	2427.07	149	19.4	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	171	2427.07	2427.30	167	21.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	172	2427.30	2427.55	157	21	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	173	2427.55	2427.76	186	21.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	174	2427.76	2427.90	154	20.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	175	2427.90	2428.17	197	21.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	176	2428.17	2428.38	182	20.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	177	2428.38	2428.57	147	21.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	178	2428.57	2428.82	156	20.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	179	2428.82	2429.04	172	19.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	180	2429.04	2429.26	305	21.4	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	181	2429.26	2429.51	483	21.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	182	2429.51	2429.73	261	20.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	183	2429.73	2429.94	252	21.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	184	2429.94	2430.16	210	20.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	185	2430.16	2430.40	129	19.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	186	2430.40	2430.55	189	20.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	187	2430.55	2430.70	240	21.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	188	2430.70	2430.89	138	20.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	189	2430.89	2431.06	117	21.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	190	2431.06	2431.22	149	22	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	191	2431.22	2431.44	163	20.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	192	2431.44	2431.66	192	20	2431.50
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	193	2431.66	2431.92	95.8	19.3	2431.72
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	194	2431.92	2432.14	111	18.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	195	2432.14	2432.34	33.4	15.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	196	2432.34	2432.54	1680	23.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	197	2432.54	2432.75	823	22.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	198	2432.75	2432.96	664	22.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	199	2432.96	2433.16	1120	22.8	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	200	2433.16	2433.36	854	22.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	201	2433.36	2433.55	2520	23.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	202	2433.55	2433.74	2660	23.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	203	2433.74	2433.95	2580	22.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	204	2433.95	2434.13	2160	22.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	205	2434.13	2434.32	1170	22	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	206	2434.32	2434.52	1410	22.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	207	2434.52	2434.66	1910	22.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	208	2434.66	2434.83	309	21.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	209	2434.83	2435.03	262	21.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	210	2435.03	2435.22	513	22.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	211	2435.22	2435.40	111	19.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	212	2435.40	2435.61	1950	23	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	213	2435.61	2435.77	1170	21	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	214	2435.77	2435.90	1660	22.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	215	2435.90	2436.04	1960	22.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	216	2436.04	2436.23	1770	22.4	2435.90
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	217	2436.23	2436.43	2140	21.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	218	2437.63	2437.79	2.09	18	2437.29
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	219	2437.79	2438.02	2.13	20.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	220	2438.02	2438.26	0.36	18.3	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	221	2438.26	2438.49	0.21	12.1	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	222	2438.49	2438.70	0.2	11.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	223	2438.70	2438.91	0.13	10.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	224	2438.91	2439.14	0.12	11.9	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	225	2439.14	2439.38	0.12	9.6	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	226	2439.38	2439.61	0.15	13.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	227	2439.61	2439.86	0.25	12.4	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	228	2439.86	2440.06	0.15	9.7	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	229	2440.06	2440.24	0.12	8.4	2440.07
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	230	2440.24	2440.41	0.13	9.5	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	231	2440.41	2440.60	0.23	12.2	
Kegeshook G-67	Sable	Missisauga	Middle Mb	5	232	2440.60	2440.80	110	27	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	1	4074.29	4074.47	0.01	2.8	4074.39
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	V1	4074.47	4074.61	0.01	4	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	2	4074.61	4074.87	0.01	4.9	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	3	4074.87	4075.08	0.1	5.8	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	4	4075.08	4075.24	0.02	4.6	4075.13
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	5	4076.20	4076.54	0.01	5.5	4076.26
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	6	4076.54	4076.82	0.02	5.2	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	7	4076.82	4077.07	0.04	9.6	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	8	4079.68	4079.94	0.24	9.9	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	AST9	4081.16	4081.70	0.02	4.1	4081.17
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	9	4081.70	4082.09	0.02	4.1	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	10	4082.09	4082.27	0.07	11.3	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	11	4085.38	4085.58	0.05	8	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	12	4085.58	4085.82	0.07	10.9	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	13	4085.82	4086.11	0.27	10.5	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	P1	4086.11	4086.26	0.09	8.4	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	P2	4086.26	4086.49	0.12	10.5	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	14	4086.49	4086.73	0.12	10	4086.45
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	P3	4086.73	4086.94	0.12	7.9	4086.86
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	15	4086.94	4087.30	0.12	8.8	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	P4	4087.30	4087.43	0.12	9	4087.25
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	AST16	4087.43	4087.52	0.03		
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	P5	4087.52	4087.64	0.55	9.4	
Louisbourg J-47	Abenaki	Missisauga	Middle Mb	1	16	4087.64	4087.91	0.03	6.9	
Louisbourg J-47	Abenaki	Mic Mac		2	P6	4405.30	4405.50	0.49	8.2	
Louisbourg J-47	Abenaki	Mic Mac		2	P7	4405.50	4405.61	0.45	7.6	
Louisbourg J-47	Abenaki	Mic Mac		2	P8	4405.61	4405.74	0.16	6.1	
Louisbourg J-47	Abenaki	Mic Mac		2	17	4405.74	4405.92	0.4	8.4	
Louisbourg J-47	Abenaki	Mic Mac		2	18	4405.92	4406.07	0.48	8.6	4406.04
Louisbourg J-47	Abenaki	Mic Mac		2	V18	4406.07	4406.19	0.63	8.8	
Louisbourg J-47	Abenaki	Mic Mac		2	P9	4406.19	4406.24	1.42	7.1	
Louisbourg J-47	Abenaki	Mic Mac		2	P10	4406.24	4406.32	0.86	7.4	
Louisbourg J-47	Abenaki	Mic Mac		2	P11	4406.32	4406.48	0.57	8.7	
Louisbourg J-47	Abenaki	Mic Mac		2	P12	4406.48	4406.64	0.55	8.8	
Louisbourg J-47	Abenaki	Mic Mac		2	P13	4406.64	4406.77	0.33	8.7	
Louisbourg J-47	Abenaki	Mic Mac		2	19	4406.77	4406.99	0.32	9.4	4406.64
Louisbourg J-47	Abenaki	Mic Mac		2	P14	4406.99	4407.13	0.41	7.9	
Louisbourg J-47	Abenaki	Mic Mac		2	20	4407.13	4407.42	0.32	8	
Louisbourg J-47	Abenaki	Mic Mac		2	P15	4407.42	4407.47	0.2	6.9	
Louisbourg J-47	Abenaki	Mic Mac		2	P16	4407.47	4407.61	0.16	7.2	
Louisbourg J-47	Abenaki	Mic Mac		2	P17	4407.61	4407.69	0.43	7.7	
Louisbourg J-47	Abenaki	Mic Mac		2	P18	4407.69	4407.83	0.29	7.2	
Louisbourg J-47	Abenaki	Mic Mac		2	AST20	4407.83	4407.90	0.32	8	
Louisbourg J-47	Abenaki	Mic Mac		3	21	4408.00	4408.16	0.09	3.3	
Louisbourg J-47	Abenaki	Mic Mac		3	22	4408.16	4408.56	0.02	3.9	4408.17
Louisbourg J-47	Abenaki	Mic Mac		3	P19	4408.56	4408.82	0.02	3.9	
Louisbourg J-47	Abenaki	Mic Mac		3	23	4408.82	4409.05	0.03	7.8	4408.90
Louisbourg J-47	Abenaki	Mic Mac		3	24	4409.05	4409.23	0.04	9.4	
Louisbourg J-47	Abenaki	Mic Mac		3	P20	4409.23	4409.51	0.1	8.1	
Louisbourg J-47	Abenaki	Mic Mac		3	25	4409.68	4410.06	0.01	5.7	
Louisbourg J-47	Abenaki	Mic Mac		3	26	4413.80	4413.92	0.01	3.2	
Louisbourg J-47	Abenaki	Mic Mac		3	27	4414.16	4414.29	0.03	4.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Louisbourg J-47	Abenaki	Mic Mac		3	28	4414.29	4414.45	0.02	7.8	
Louisbourg J-47	Abenaki	Mic Mac		3	V28	4414.45	4414.61	0.02	7.3	
Louisbourg J-47	Abenaki	Mic Mac		3	P21	4414.61	4414.86	0.12	8.1	4414.72
Louisbourg J-47	Abenaki	Mic Mac		3	29	4414.99	4415.28	0.02	8.2	
Louisbourg J-47	Abenaki	Mic Mac		3	P22	4415.28	4415.51	0.02	5.6	
Louisbourg J-47	Abenaki	Mic Mac		3	30	4415.51	4415.62	0.02	7.2	4415.52
Louisbourg J-47	Abenaki	Mic Mac		3	31	4415.66	4415.79	0.03	10	
Louisbourg J-47	Abenaki	Mic Mac		3	32	4416.04	4416.26	0.05	8.9	4416.21
Louisbourg J-47	Abenaki	Mic Mac		3	33	4416.30	4416.40	0.01	7.6	
Louisbourg J-47	Abenaki	Mic Mac		3	34	4416.73	4416.88	0.01	7.7	
Louisbourg J-47	Abenaki	Mic Mac		3	AST34	4416.91	4416.97	0.01	7.7	
Louisbourg J-47	Abenaki	Mic Mac		3	P23	4417.05	4417.35	0.02	5.6	
Louisbourg J-47	Abenaki	Mic Mac		3	35	4417.35	4417.43	0.01	6.6	
Louisbourg J-47	Abenaki	Mic Mac		3	36	4417.70	4417.80	0.01	6	
Louisbourg J-47	Abenaki	Mic Mac		3	37	4420.36	4420.50	0.16	10.6	
Louisbourg J-47	Abenaki	Mic Mac		4	AST38	4527.20	4527.31	7.92	10.8	
Louisbourg J-47	Abenaki	Mic Mac		4	P24	4527.31	4527.49	8.75	9.7	
Louisbourg J-47	Abenaki	Mic Mac		4	38	4527.49	4527.62	7.92	10.8	4527.60
Louisbourg J-47	Abenaki	Mic Mac		4	V38	4527.62	4527.76	6.25	9.9	
Louisbourg J-47	Abenaki	Mic Mac		4	39	4527.76	4528.01	4.23	9.4	
Louisbourg J-47	Abenaki	Mic Mac		4	40	4528.01	4528.26	0.74	8.4	4528.03
Louisbourg J-47	Abenaki	Mic Mac		4	P25	4528.26	4528.51	6.71	9.1	
Louisbourg J-47	Abenaki	Mic Mac		4	41	4528.51	4528.61	8.64	9.3	
Louisbourg J-47	Abenaki	Mic Mac		4	V41	4528.61	4528.85	3.16	8.8	
Louisbourg J-47	Abenaki	Mic Mac		4	42	4528.85	4529.07	7.55	10.5	
Louisbourg J-47	Abenaki	Mic Mac		4	P26	4529.07	4529.28	2.31	8.4	
Louisbourg J-47	Abenaki	Mic Mac		4	43	4529.28	4529.60	0.92	9.3	
Louisbourg J-47	Abenaki	Mic Mac		4	P27	4529.60	4529.74	3.5	7.9	
Louisbourg J-47	Abenaki	Mic Mac		4	44	4529.74	4530.03	5.53	7.7	
Louisbourg J-47	Abenaki	Mic Mac		4	45	4530.03	4530.33	0.24	7.8	
Louisbourg J-47	Abenaki	Mic Mac		4	46	4530.35	4530.50	6.7	11.7	
Louisbourg J-47	Abenaki	Mic Mac		4	47	4530.60	4530.83	54.8	13.6	
Louisbourg J-47	Abenaki	Mic Mac		4	48	4530.83	4531.02	77.6	12.9	4530.93
Louisbourg J-47	Abenaki	Mic Mac		4	P28	4531.02	4531.21	114	12	
Louisbourg J-47	Abenaki	Mic Mac		4	49	4531.21	4531.30	20.1	12.1	
Louisbourg J-47	Abenaki	Mic Mac		5	50	5451.17	5451.29	0.01		5451.23
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-851	2497.60	2497.90	0.17	10.2	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-852	2497.90	2498.02	0.15	9.5	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-853	2498.00	2498.18	0.1	8.1	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-854	2498.20	2498.50	0.07	8.1	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-855	2498.50	2498.80	0.11	7.9	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-856	2498.80	2499.10	0.06	9.9	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-857	2499.80	2499.89		8.1	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-858	2499.90	2500.05	0.27	7.8	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-859	2500.00	2500.18	0.1	7.7	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-860	2500.20	2500.35	0.23	12.6	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-861	2500.40	2500.57	5.12	7.4	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-862	2501.30	2501.39	0.06	6.2	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-863	2502.10	2502.28	0.3	0.9	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-864	2502.30	2502.42	0.93	18.2	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-865	2502.40	2502.70	0.11	6.8	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-866	2502.70	2502.82	0.08	2	2502.71
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-867	2502.90	2502.99	0.47	17.9	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-868	2503.00	2503.18	0.11	7.4	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-869	2503.10	2503.19	0.15	7.4	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-870	2503.20	2503.53	0.07	6.7	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-871	2503.60	2503.75	0.12	10.2	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-872	2503.70	2504.13	0.07	4.8	
Mic Mac D-89	Abenaki	Missisauga	Middle Mb	1	Y-873	2504.10	2504.22	0.14	12.9	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-312	2813.64	2813.95	2250	21.5	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-313	2813.95	2814.16	1790	20.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6413	2814.16	2814.25	3190	21.1	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-1	2814.25	2814.41		18.5	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-314	2814.41	2814.56	4930	24	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-315	2814.56	2814.68	2137	22	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6414	2814.68	2814.86		21.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-316	2814.86	2815.01	2130	22.1	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-2	2815.01	2815.05		22.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6415	2815.05	2815.11	1180	23.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-317	2815.11	2815.32	2380	22.9	2815.22
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-318	2815.32	2815.44	1840	22.8	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6416	2815.44	2815.50	4330	22.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-319	2815.50	2815.56	2680	20.1	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-3	2815.56	2815.72		20.9	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-320	2815.72	2816.08	1320	18.5	2815.97
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6417	2816.08	2816.33		19.6	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-321	2816.33	2816.42	3120	19.3	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-322	2816.42	2816.54	4500	21.1	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6418	2816.54	2816.57		19.4	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-4	2816.57	2816.63		20.1	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-323	2816.63	2816.72	3780	18.4	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-324	2816.72	2816.93	5140	20	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6419	2816.93	2817.00		18.4	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-325	2817.00	2817.30	5510	19.7	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-326	2817.30	2817.54	6.08	13.8	2817.30
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6420	2817.54	2817.61	1.97	14.8	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-5	2817.61	2817.73		18.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-327	2817.73	2817.85	756	25.8	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-328	2817.85	2817.97	213	21.9	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6421	2817.97	2818.06	13.7	17.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	S-18	2818.03	2818.28	666	20.2	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-329	2818.06	2818.28	869	25.9	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	C-6	2818.28	2818.37		18.9	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	L-330	2818.37	2818.46	419	24.6	
Mic Mac J-77	Abenaki	Missisauga	Middle Mb	1	X-6422	2818.46	2818.70	200	22.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF3	3238.12	3238.35	33.4	14.1	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF4	3238.35	3238.60	113	19.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF5	3238.60	3238.91	171	20.1	3238.67
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	6	3238.93	3239.08	102	18.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP7	3239.08	3239.15	169	15.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF8	3239.15	3239.42	179	19.7	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	9	3239.42	3239.67	86	19.2	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP10	3239.67	3239.75	35.3	15.7	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF11	3239.75	3239.99	132	20.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF12	3239.99	3240.28	88	19.5	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP13	3240.28	3240.36	18	14.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF14	3240.36	3240.65	70.1	18.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF15	3240.67	3240.90	49.8	17.4	3240.72
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	16	3240.90	3241.08	17.9	18.1	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF17	3241.08	3241.29	48.4	17.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF18	3241.29	3241.56	57	17.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP19	3241.56	3241.63	0.04	8.4	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF20	3241.63	3241.91	7.3	16.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF21	3241.91	3242.14	20.5	18	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF22	3242.14	3242.37	31.8	18.5	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF23	3242.37	3242.54	11.3	15.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF24	3242.57	3242.79	60.2	18.9	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF25	3242.81	3243.03	36.6	17.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF26	3243.03	3243.25	111	19.4	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF27	3243.25	3243.53	55.8	18	3243.39
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF28	3243.53	3243.69	68.5	18.4	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	29	3243.72	3243.94	0.04	3.9	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF30	3243.94	3244.11	0.06	3.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP31	3244.11	3244.24	0.09	12.5	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF32	3244.39	3244.49	0.21	12.5	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP33	3244.57	3244.69	0.06	10.2	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP34	3244.84	3244.92	0.02	9.5	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP35	3244.95	3245.00	0.01	6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF36	3245.06	3245.26	5.5	15	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF37	3245.26	3245.51	12.8	15.2	3245.42
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF38	3245.51	3245.71	12.8	16.9	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF39	3245.71	3245.90	17.6	14.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF40	3246.10	3246.35	0.06	2.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP41	3246.42	3246.53	0.05	1.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF42	3246.72	3246.86	0.03	1.8	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF43	3247.13	3247.50	3.05	5.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP44	3247.73	3247.79	0.01	0.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF45	3248.01	3248.26	0.06	2.6	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP46	3248.51	3248.61	0.02	1.1	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SP47	3249.11	3249.27	0.01	0.7	
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP48	3469.27	3469.36	0.03	3.3	3469.27
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP49	3469.49	3469.59	0.03	0.5	
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP50	3469.86	3469.97	0.26	0.9	3469.88
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP51	3469.97	3470.12	0.17	1.1	3469.88

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP52	3470.50	3470.58	0.06	0.3	
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP53	3470.61	3470.68	0.03	0.2	
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	AST54	3470.79	3470.83	0.03	0.2	
North Banquereau I-13	Abenaki	Missisauga	Upper Mb	2	SP54	3470.98	3471.04	0.03	0.2	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF1	3237.60	3237.91	188	20.3	
North Banquereau I-13	Abenaki	Logan Canyon	Nakapi	1	SPF2	3237.91	3238.12	180	19.5	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6423	3266.28	3266.40	74.4	18	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6454	3266.40	3266.49	26.5	15.4	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6424	3266.49	3266.58	79	15.6	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6455	3266.58	3266.73	0.04	4.6	3266.71
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6425	3266.73	3266.89	88.4	17.2	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6456	3266.89	3267.04	42.2	14.7	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6426	3267.04	3267.19	7.46	17.1	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6457	3267.19	3267.34	0.35	10	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6427	3267.34	3267.50	30.8	14.2	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6458	3267.50	3267.65	0.06	3.2	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6428	3267.65	3267.80	19.1	15.9	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6459	3267.80	3267.95	0.83	12	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6429	3267.95	3268.11	0.8	13	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6460	3268.11	3268.26	0.33	9.9	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6430	3268.26	3268.41	20.2	15.6	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6161	3268.41	3268.56	7.1	13.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6431	3268.56	3268.71	0.06	2.4	3268.67
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6432	3268.71	3269.02	3.69	10.9	3268.73
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6433	3269.02	3269.32	5.58	13.9	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6434	3269.32	3269.63	0.28	10.1	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6435	3269.63	3269.93	0.03	2	3269.82
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6436	3269.93	3270.24	0.05	7.5	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6437	3270.24	3270.54	0.11	7.5	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6438	3270.54	3270.85	0.14	11.3	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6439	3270.85	3271.15	0.19	9.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6440	3271.15	3271.46	0.28	12.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6441	3271.46	3271.76	0.48	11.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6442	3271.76	3272.07	1.59	9.2	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6443	3272.07	3272.37	0.85	14.6	3272.20
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6444	3272.37	3272.68	0.43	11.5	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6445	3272.68	3272.98	0.45	13.3	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6446	3272.98	3273.29	0.26	12.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6447	3273.29	3273.59	0.17	9.5	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6448	3273.59	3273.90	0.35	11.4	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6449	3273.90	3274.20	0.46	14.6	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6450	3274.20	3274.51	0.16	9.8	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6451	3274.51	3274.81	0.44	12.9	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6452	3274.81	3275.12	0.03	3.1	
Onondaga O-95	Sable	Missisauga	Middle Mb	1	X-6453	3275.12	3275.36	0.2	10.9	
Panuke B-90	Sable	Logan Canyon	Cree	1	1	2037.14	2037.32		16	
Panuke B-90	Sable	Logan Canyon	Cree	1	2	2037.35	2037.66	0.68	9.5	
Panuke B-90	Sable	Logan Canyon	Cree	1	3	2038.64	2038.73	3.85	23.3	
Panuke B-90	Sable	Logan Canyon	Cree	1	4	2038.84	2039.08	27	22.3	
Panuke B-90	Sable	Logan Canyon	Cree	1	5	2039.08	2039.41	2.02	22.1	
Panuke B-90	Sable	Logan Canyon	Cree	1	6	2039.62	2039.73	11.2	21.1	
Panuke B-90	Sable	Logan Canyon	Cree	1	7	2039.73	2039.93	13.1	21.9	
Panuke B-90	Sable	Logan Canyon	Cree	1	8	2039.93	2040.17	8.44	18.6	2040.00
Panuke B-90	Sable	Logan Canyon	Cree	1	9	2040.39	2040.56	13.8	20.7	
Panuke B-90	Sable	Logan Canyon	Cree	1	10	2040.56	2040.66	25	22.4	
Panuke B-90	Sable	Logan Canyon	Cree	1	11	2040.83	2041.17	127	25.2	
Panuke B-90	Sable	Logan Canyon	Cree	1	12	2044.38	2044.65	4.8	21.6	
Panuke B-90	Sable	Logan Canyon	Cree	1	13	2052.39	2052.52	1.01	14.8	
Panuke B-90	Sable	Logan Canyon	Cree	1	14	2061.38	2061.51	11.4	21.5	
Panuke B-90	Sable	Logan Canyon	Cree	1	15	2061.77	2061.90	7.03	18.3	
Panuke B-90	Sable	Logan Canyon	Cree	1	16	2062.49	2062.72	0.07	12.7	
Panuke B-90	Sable	Logan Canyon	Cree	1	17	2062.72	2062.98	196	24.7	
Panuke B-90	Sable	Logan Canyon	Cree	1	18	2062.98	2063.22	392	29.6	
Panuke B-90	Sable	Logan Canyon	Cree	1	19	2063.22	2063.35	603	29.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	20	2063.60	2063.82	0.13	12.5	
Panuke B-90	Sable	Logan Canyon	Cree	2	21	2063.82	2064.07	0.09	12.2	
Panuke B-90	Sable	Logan Canyon	Cree	2	22	2064.33	2064.64	2.12	21.4	
Panuke B-90	Sable	Logan Canyon	Cree	2	23	2064.93	2065.15	323	29.2	
Panuke B-90	Sable	Logan Canyon	Cree	2	24	2065.77	2066.02	272	30.2	
Panuke B-90	Sable	Logan Canyon	Cree	2	25	2066.02	2066.23	0.3	12.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	26	2066.23	2066.36	0.22	7.8	
Panuke B-90	Sable	Logan Canyon	Cree	2	27	2066.36	2066.73	1.7	13.8	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Logan Canyon	Cree	2	28	2067.46	2067.59	1220	29.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	29	2067.66	2067.79	2020	27	
Panuke B-90	Sable	Logan Canyon	Cree	2	30	2067.79	2068.04	124	22.9	
Panuke B-90	Sable	Logan Canyon	Cree	2	31	2068.04	2068.37	0.53	20.1	
Panuke B-90	Sable	Logan Canyon	Cree	2	32	2068.37	2068.62	0.06	10.1	
Panuke B-90	Sable	Logan Canyon	Cree	2	33	2068.62	2068.78	1.82	12.7	
Panuke B-90	Sable	Logan Canyon	Cree	2	34	2068.78	2069.02	0.9	13.3	2069.01
Panuke B-90	Sable	Logan Canyon	Cree	2	35	2069.20	2069.50	0.99	17.6	
Panuke B-90	Sable	Logan Canyon	Cree	2	36	2069.50	2069.63	6.88	19.8	
Panuke B-90	Sable	Logan Canyon	Cree	2	37	2069.63	2069.95	22.6	21.8	
Panuke B-90	Sable	Logan Canyon	Cree	2	38	2070.13	2070.24	6.56	19.9	
Panuke B-90	Sable	Logan Canyon	Cree	2	39	2070.24	2070.44	97.5	22.8	2070.42
Panuke B-90	Sable	Logan Canyon	Cree	2	40	2070.44	2070.72	184	24.5	
Panuke B-90	Sable	Logan Canyon	Cree	2	41	2070.72	2070.95	129	24.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	42	2070.95	2071.18	178	23	
Panuke B-90	Sable	Logan Canyon	Cree	2	43	2071.18	2071.51	0.09	11.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	44	2071.53	2071.82	0.06	9	
Panuke B-90	Sable	Logan Canyon	Cree	2	45	2072.02	2072.23	58.3	23.9	
Panuke B-90	Sable	Logan Canyon	Cree	2	46	2072.23	2072.46	0.77	17	
Panuke B-90	Sable	Logan Canyon	Cree	2	47	2072.46	2072.63	8.56	20.1	
Panuke B-90	Sable	Logan Canyon	Cree	2	48	2072.63	2072.88	0.28	17.7	
Panuke B-90	Sable	Logan Canyon	Cree	2	49	2072.88	2073.10	1.43	17.4	
Panuke B-90	Sable	Logan Canyon	Cree	2	50	2073.10	2073.32	6.25	19.5	
Panuke B-90	Sable	Logan Canyon	Cree	2	51	2073.32	2073.46	2.74	19.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	52	2073.46	2073.73	3.67	19.4	
Panuke B-90	Sable	Logan Canyon	Cree	2	53	2073.92	2074.17	3.1	20.5	
Panuke B-90	Sable	Logan Canyon	Cree	2	54	2074.17	2074.33	26.9	14.6	
Panuke B-90	Sable	Logan Canyon	Cree	2	55	2074.33	2074.58	283	24.8	
Panuke B-90	Sable	Logan Canyon	Cree	2	56	2074.58	2074.76	0.44	18	
Panuke B-90	Sable	Logan Canyon	Cree	2	57	2074.76	2075.10	1.77	18.9	
Panuke B-90	Sable	Logan Canyon	Cree	2	58	2075.10	2075.21	3.78	20.2	2075.19
Panuke B-90	Sable	Logan Canyon	Cree	2	59	2075.42	2075.67	1.43	18.6	
Panuke B-90	Sable	Logan Canyon	Cree	2	60	2075.78	2075.93	33	24.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	61	2075.97	2076.20	3.84	20.5	
Panuke B-90	Sable	Logan Canyon	Cree	2	62	2076.20	2076.36	6.72	21.6	
Panuke B-90	Sable	Logan Canyon	Cree	2	63	2076.73	2077.04	4.12	19.3	
Panuke B-90	Sable	Logan Canyon	Cree	2	64	2077.23	2077.63	0.05	11.6	
Panuke B-90	Sable	Logan Canyon	Cree	3	65	2098.13	2098.42	37.9	22.7	
Panuke B-90	Sable	Logan Canyon	Cree	3	66	2098.68	2098.95	6.45	20.5	
Panuke B-90	Sable	Logan Canyon	Cree	3	67	2098.95	2099.06	9.66	20.9	
Panuke B-90	Sable	Logan Canyon	Cree	3	68	2099.06	2099.26	19.7	21.1	2099.21
Panuke B-90	Sable	Logan Canyon	Cree	3	69	2099.26	2099.44	0.2	12.6	
Panuke B-90	Sable	Logan Canyon	Cree	3	70	2099.67	2099.93	0.04	7.9	
Panuke B-90	Sable	Logan Canyon	Cree	3	71	2099.93	2100.22	0.05	8.6	2099.96
Panuke B-90	Sable	Logan Canyon	Cree	3	72	2100.22	2100.44	1.09	10.6	
Panuke B-90	Sable	Logan Canyon	Cree	3	73	2100.66	2100.91	100	24.1	
Panuke B-90	Sable	Logan Canyon	Cree	3	74	2100.91	2101.10	70.8	23.9	
Panuke B-90	Sable	Logan Canyon	Cree	3	75	2101.10	2101.36	65.8	23.8	
Panuke B-90	Sable	Logan Canyon	Cree	3	76	2101.36	2101.56	63.5	24.4	
Panuke B-90	Sable	Logan Canyon	Cree	3	77	2101.56	2101.79	9.93	20.2	
Panuke B-90	Sable	Logan Canyon	Cree	3	78	2101.79	2101.97	46.4	20.9	
Panuke B-90	Sable	Logan Canyon	Cree	3	79	2101.97	2102.11	0.99	11.5	
Panuke B-90	Sable	Logan Canyon	Cree	3	80	2102.31	2102.55	1.09	16.7	
Panuke B-90	Sable	Logan Canyon	Cree	3	81	2102.55	2102.88	34.2	22.1	2102.68
Panuke B-90	Sable	Logan Canyon	Cree	3	82	2102.88	2103.18	35.6	22.1	
Panuke B-90	Sable	Logan Canyon	Cree	3	83	2103.18	2103.45	69.3	23.3	
Panuke B-90	Sable	Logan Canyon	Cree	3	84	2103.45	2103.72	99.1	24.5	
Panuke B-90	Sable	Logan Canyon	Cree	3	85	2103.72	2103.94	0.05	10.3	
Panuke B-90	Sable	Logan Canyon	Cree	3	86	2104.16	2104.49	0.07	9.3	
Panuke B-90	Sable	Logan Canyon	Cree	3	87	2104.49	2104.66	1.86	14.8	
Panuke B-90	Sable	Logan Canyon	Cree	3	88	2104.88	2105.18	48.5	23.9	
Panuke B-90	Sable	Logan Canyon	Cree	3	89	2105.18	2105.47	44.5	23.8	
Panuke B-90	Sable	Logan Canyon	Cree	3	90	2105.47	2105.81	20.2	21.7	
Panuke B-90	Sable	Logan Canyon	Cree	3	91	2106.05	2106.26	0.04	13.8	
Panuke B-90	Sable	Logan Canyon	Cree	3	92	2106.55	2106.63	31.3	24	
Panuke B-90	Sable	Logan Canyon	Cree	3	93	2106.81	2106.91	0.66	19.1	
Panuke B-90	Sable	Logan Canyon	Cree	3	94	2107.02	2107.15	17.2	23.4	
Panuke B-90	Sable	Logan Canyon	Cree	3	95	2107.36	2107.51	0.8	19.7	
Panuke B-90	Sable	Logan Canyon	Cree	3	96	2107.74	2107.85	2.89	20.6	
Panuke B-90	Sable	Logan Canyon	Cree	3	AST97	2107.98	2108.05	3.76	23.4	
Panuke B-90	Sable	Logan Canyon	Cree	3	97	2108.07	2108.21	3.76	23.4	2108.15
Panuke B-90	Sable	Logan Canyon	Cree	3	98	2108.43	2108.58	103	0.214	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Logan Canyon	Cree	3	99	2109.10	2109.27	2.45	0.227	
Panuke B-90	Sable	Logan Canyon	Cree	3	100	2110.10	2110.23	0.8	0.209	
Panuke B-90	Sable	Logan Canyon	Cree	3	101	2110.46	2110.60	0.78	0.209	
Panuke B-90	Sable	Logan Canyon	Cree	3	102	2111.02	2111.20	2.2	0.224	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	103	2221.11	2221.33		0.152	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	104	2221.68	2221.92	9.96	0.223	2221.92
Panuke B-90	Sable	Logan Canyon	Naskapi	4	105	2223.39	2223.52	400	26.9	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	106	2223.68	2223.76	0.4	20.6	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	107	2223.76	2223.96	443		2223.78
Panuke B-90	Sable	Logan Canyon	Naskapi	4	108	2223.96	2224.10	1030	28.1	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	109	2224.10	2224.26	0.01	1.7	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	110	2224.46	2224.64	2.1	6.5	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	111	2230.06	2230.44	0.14	5.5	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	112	2230.44	2230.63	0.36	16.8	
Panuke B-90	Sable	Logan Canyon	Naskapi	4	113	2236.98	2237.26	0.01		
Panuke B-90	Sable	Logan Canyon	Naskapi	5	114	2266.46	2266.68	0.17	12.9	
Panuke B-90	Sable	Logan Canyon	Naskapi	5	115	2266.68	2266.96	13.3	17.1	
Panuke B-90	Sable	Logan Canyon	Naskapi	5	116	2267.62	2267.91	13.8	21	
Panuke B-90	Sable	Logan Canyon	Naskapi	5	117	2267.91	2268.38	14.7	19.4	2268.07
Panuke B-90	Sable	Logan Canyon	Naskapi	6	118	2279.33	2279.59	7.49	22	
Panuke B-90	Sable	Missisauga	Upper Mb	6	119	2286.69	2286.86	0.07	13.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	120	2290.10	2290.37	237	12.5	
Panuke B-90	Sable	Missisauga	Upper Mb	7	121	2290.37	2290.65	165	22.3	
Panuke B-90	Sable	Missisauga	Upper Mb	7	122	2290.85	2291.06	422	23.6	
Panuke B-90	Sable	Missisauga	Upper Mb	7	123	2291.06	2291.26	232	22.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	124	2291.26	2291.50	111	22.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	125	2291.50	2291.73		23.6	2291.26
Panuke B-90	Sable	Missisauga	Upper Mb	7	126	2291.73	2292.04	26.5	18.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	127	2292.22	2292.33	0.98	10.8	
Panuke B-90	Sable	Missisauga	Upper Mb	7	128	2292.33	2292.58	0.11	9.1	
Panuke B-90	Sable	Missisauga	Upper Mb	7	129	2292.58	2292.86	0.11	10.7	2292.85
Panuke B-90	Sable	Missisauga	Upper Mb	7	130	2292.86	2293.12	0.09	10.6	
Panuke B-90	Sable	Missisauga	Upper Mb	7	131	2293.12	2293.28	0.11	8.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	132	2293.28	2293.40	15.9	18.1	
Panuke B-90	Sable	Missisauga	Upper Mb	7	133	2293.40	2293.63	8.38	18.1	
Panuke B-90	Sable	Missisauga	Upper Mb	7	134	2293.63	2293.86	2.53	16.2	
Panuke B-90	Sable	Missisauga	Upper Mb	7	135	2293.86	2294.07	303	23	
Panuke B-90	Sable	Missisauga	Upper Mb	7	136	2294.07	2294.44	389	21.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	137	2294.67	2294.93	184	23.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	138	2294.93	2295.15	235	24.3	
Panuke B-90	Sable	Missisauga	Upper Mb	7	139	2295.15	2295.40	408	24.4	2295.40
Panuke B-90	Sable	Missisauga	Upper Mb	7	140	2295.61	2295.81	271	22	
Panuke B-90	Sable	Missisauga	Upper Mb	7	141	2295.81	2295.99	219	21.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	142	2301.14	2301.24	0.46	12.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	143	2301.24	2301.45	8.18	19.9	2301.29
Panuke B-90	Sable	Missisauga	Upper Mb	7	144	2301.45	2301.67	158	24.3	
Panuke B-90	Sable	Missisauga	Upper Mb	7	145	2301.90	2302.05	203	25	
Panuke B-90	Sable	Missisauga	Upper Mb	7	146	2302.05	2302.27	149	21.8	
Panuke B-90	Sable	Missisauga	Upper Mb	7	147	2302.27	2302.61	0.53	13.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	148	2302.92	2303.13	0.13	5	
Panuke B-90	Sable	Missisauga	Upper Mb	7	149	2303.58	2303.77	0.88	13.2	2303.75
Panuke B-90	Sable	Missisauga	Upper Mb	7	150	2305.18	2305.35	0.16	22.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	151	2305.51	2305.72	184	22.6	
Panuke B-90	Sable	Missisauga	Upper Mb	7	152	2305.72	2305.96	200	20.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	153	2307.61	2307.85	3.22	22.5	
Panuke B-90	Sable	Missisauga	Upper Mb	7	AST154	2309.25	2309.29	46.8	19.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	154	2309.37	2309.59	46.8	19.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	155	2309.61	2309.82	108	21.2	
Panuke B-90	Sable	Missisauga	Upper Mb	7	156	2309.83	2309.92	110	19.2	
Panuke B-90	Sable	Missisauga	Upper Mb	7	157	2310.08	2310.18	84.6	16.8	
Panuke B-90	Sable	Missisauga	Upper Mb	7	158	2312.07	2312.24	0.11	17.6	
Panuke B-90	Sable	Missisauga	Upper Mb	7	159	2312.55	2312.81	0.09	11.1	
Panuke B-90	Sable	Missisauga	Upper Mb	7	160	2313.28	2313.39	41.9	18.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	161	2313.42	2313.62	137	22.9	
Panuke B-90	Sable	Missisauga	Upper Mb	7	162	2313.62	2313.84	151	20.9	
Panuke B-90	Sable	Missisauga	Upper Mb	7	163	2314.02	2314.16	18.4	24.1	
Panuke B-90	Sable	Missisauga	Upper Mb	7	164	2314.16	2314.36	2.19	20.6	
Panuke B-90	Sable	Missisauga	Upper Mb	7	165	2314.36	2314.45	2.53	14.2	
Panuke B-90	Sable	Missisauga	Upper Mb	7	166	2314.45	2314.67		23.5	
Panuke B-90	Sable	Missisauga	Upper Mb	7	167	2314.67	2314.88	138	23.4	
Panuke B-90	Sable	Missisauga	Upper Mb	7	168	2314.88	2315.00	0.11	11.7	
Panuke B-90	Sable	Missisauga	Upper Mb	7	169	2315.00	2315.26	0.01	7.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Missisauga	Upper Mb	8	170	2319.39	2319.63	4.54	18.9	
Panuke B-90	Sable	Missisauga	Upper Mb	8	172	2320.12	2320.38	12.9	6.4	
Panuke B-90	Sable	Missisauga	Upper Mb	8	172	2320.38	2320.51	0.39	3.4	2320.51
Panuke B-90	Sable	Missisauga	Upper Mb	8	173	2320.51	2320.69	355	16.5	
Panuke B-90	Sable	Missisauga	Upper Mb	8	174	2321.46	2321.78	0.05	5.9	
Panuke B-90	Sable	Missisauga	Upper Mb	8	175	2321.97	2322.15	1.8	23.9	
Panuke B-90	Sable	Missisauga	Upper Mb	8	176	2322.15	2322.43	1.12	23.4	
Panuke B-90	Sable	Missisauga	Upper Mb	8	177	2329.61	2329.82	124	17.3	
Panuke B-90	Sable	Missisauga	Upper Mb	8	178	2330.03	2330.18	224	19.9	2330.08
Panuke B-90	Sable	Missisauga	Upper Mb	8	179	2330.18	2330.53	273	20.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	180	2344.12	2344.31	11.2	22.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	181	2344.31	2344.62	35	21.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	182	2345.54	2345.77	70.3	21.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	183	2345.79	2345.97	59	18	
Panuke B-90	Sable	Missisauga	Upper Mb	9	184	2345.97	2346.16	228	22.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	185	2346.16	2346.40	218	22.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	186	2346.58	2346.71	205	22.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	187	2346.71	2347.02	376	21.4	2347.00
Panuke B-90	Sable	Missisauga	Upper Mb	9	188	2347.02	2347.30	289	20.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	189	2347.71	2347.84	183	22	
Panuke B-90	Sable	Missisauga	Upper Mb	9	190	2348.00	2348.12	14	18.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	191	2349.70	2349.94	8.61	19.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	192	2349.94	2350.12	0.41	16.5	
Panuke B-90	Sable	Missisauga	Upper Mb	9	193	2351.96	2352.31	1750	18.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	194	2352.31	2352.56		23.4	2352.51
Panuke B-90	Sable	Missisauga	Upper Mb	9	195	2352.76	2353.08	2710	21.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	196	2353.08	2353.35	7890	21.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	197	2353.35	2353.62	345	17.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	198	2353.62	2353.81	2610	20.2	2353.62
Panuke B-90	Sable	Missisauga	Upper Mb	9	199	2353.81	2354.08	2520	19.8	
Panuke B-90	Sable	Missisauga	Upper Mb	9	200	2354.28	2354.51	261	19.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	201	2354.51	2354.70	137	19.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	202	2354.70	2354.96	2430	17.5	
Panuke B-90	Sable	Missisauga	Upper Mb	9	203	2354.96	2355.08	195	17.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	204	2355.08	2355.35	87.1	15.8	
Panuke B-90	Sable	Missisauga	Upper Mb	9	205	2355.35	2355.51	1030	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	206	2355.51	2355.78	349	18.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	207	2355.78	2356.05	1140	17	2355.81
Panuke B-90	Sable	Missisauga	Upper Mb	9	208	2356.05	2356.24	2990	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	209	2356.24	2356.40	706	18.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	210	2356.40	2356.59	2230	19.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	211	2356.78	2357.07	1560	17.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	212	2357.07	2357.38	399	18.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	213	2357.38	2357.70	1460	20.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	214	2357.91	2358.15	1070	17.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	215	2358.15	2358.43		18.5	2358.16
Panuke B-90	Sable	Missisauga	Upper Mb	9	216	2358.43	2358.74	1490	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	217	2358.74	2359.03	1360	18.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	218	2359.29	2359.59	969	17.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	219	2359.59	2359.85	885	18.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	220	2359.85	2360.09	2230	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	221	2360.09	2360.30	1040	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	222	2360.30	2360.54	1860	20.8	
Panuke B-90	Sable	Missisauga	Upper Mb	9	223	2360.76	2360.94	1790	19.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	224	2360.94	2361.12	2570	22	
Panuke B-90	Sable	Missisauga	Upper Mb	9	225	2361.12	2361.40	1690	21.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	226	2361.40	2361.64	853	21.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	227	2361.64	2361.91	717	19.8	
Panuke B-90	Sable	Missisauga	Upper Mb	9	228	2361.91	2362.13	514	16.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	229	2362.13	2362.39	601	19.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	230	2362.39	2362.52	315	20.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	AST230	2362.70	2362.75	315	20.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	231	2362.77	2363.06	1700	19	
Panuke B-90	Sable	Missisauga	Upper Mb	9	232	2363.06	2363.29	1350	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	233	2363.47	2363.72	2320	20.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	234	2363.72	2363.91	2370	19.8	
Panuke B-90	Sable	Missisauga	Upper Mb	9	235	2364.16	2364.53	2370	20.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	236	2364.53	2364.71	1830	18.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	237	2364.71	2364.91	1390	18.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	238	2364.91	2365.09	1220	19	
Panuke B-90	Sable	Missisauga	Upper Mb	9	239	2365.09	2365.25	698	17.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	240	2365.25	2365.46	868	17.8	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

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Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Missisauga	Upper Mb	9	241	2365.66	2365.81	497	15.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	242	2365.81	2366.04	1150	18.5	
Panuke B-90	Sable	Missisauga	Upper Mb	9	243	2366.04	2366.23	534	18.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	244	2366.23	2366.44	1010	21.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	245	2366.44	2366.60	584	20.7	
Panuke B-90	Sable	Missisauga	Upper Mb	9	246	2366.60	2366.81	441	22.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	247	2367.01	2367.24	1230	21.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	248	2367.24	2367.43	475	22.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	249	2367.43	2367.73	461	23.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	250	2367.73	2368.00	568	23.2	
Panuke B-90	Sable	Missisauga	Upper Mb	9	251	2368.00	2368.23	395	23.3	
Panuke B-90	Sable	Missisauga	Upper Mb	9	252	2368.23	2368.46		23.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	253	2368.68	2368.86	235	23	
Panuke B-90	Sable	Missisauga	Upper Mb	9	254	2368.86	2369.16	457	22.9	2369.14
Panuke B-90	Sable	Missisauga	Upper Mb	9	255	2369.16	2369.47	622	21.9	
Panuke B-90	Sable	Missisauga	Upper Mb	9	256	2369.47	2369.67	469	22.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	257	2369.67	2369.88	399	22.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	258	2369.88	2370.10	526	22.6	
Panuke B-90	Sable	Missisauga	Upper Mb	9	259	2370.10	2370.25	384	17.4	
Panuke B-90	Sable	Missisauga	Upper Mb	9	260	2370.28	2370.38	460	21.1	
Panuke B-90	Sable	Missisauga	Upper Mb	9	261	2370.57	2370.76	690	22.5	
Panuke B-90	Sable	Missisauga	Upper Mb	9	262	2370.76	2371.00	815	20.2	
Panuke B-90	Sable	Missisauga	Upper Mb	10	263	2371.00	2371.22	477	14.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	264	2371.22	2371.35	712	20.1	
Panuke B-90	Sable	Missisauga	Upper Mb	10	265	2371.53	2371.77	455	15.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	266	2371.77	2372.05	780	18.2	
Panuke B-90	Sable	Missisauga	Upper Mb	10	267	2372.05	2372.30	922	17.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	268	2372.30	2372.52	550	17.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	269	2372.52	2372.73	359	17	
Panuke B-90	Sable	Missisauga	Upper Mb	10	270	2372.96	2373.09	371	15.8	
Panuke B-90	Sable	Missisauga	Upper Mb	10	271	2373.09	2373.36	430	15.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	272	2373.36	2373.54	868	18.1	
Panuke B-90	Sable	Missisauga	Upper Mb	10	273	2373.54	2373.72	1200	18.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	274	2373.98	2374.22	1550	21.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	275	2374.22	2374.60	927	20.8	2374.62
Panuke B-90	Sable	Missisauga	Upper Mb	10	276	2374.60	2374.88	1330	22.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	277	2374.88	2375.14	1210	21.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	278	2375.14	2375.36	1540	22.2	
Panuke B-90	Sable	Missisauga	Upper Mb	10	279	2375.36	2375.52	2760	23.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	280	2375.52	2375.67	2750	21.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	281	2375.90	2376.19	2210	20.8	
Panuke B-90	Sable	Missisauga	Upper Mb	10	282	2376.19	2376.39	3810	22.8	2376.21
Panuke B-90	Sable	Missisauga	Upper Mb	10	283	2376.39	2376.55	2290	21.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	284	2376.55	2376.79	3120	22.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	285	2377.03	2377.26	1390	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	286	2377.26	2377.42	1600	20.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	287	2377.44	2377.58	133	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	288	2377.63	2377.73	67.3	19.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	289	2378.53	2378.74	506	19	
Panuke B-90	Sable	Missisauga	Upper Mb	10	290	2378.74	2378.95	252	16.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	291	2378.95	2379.19	3.29	7.3	
Panuke B-90	Sable	Missisauga	Upper Mb	10	292	2379.19	2379.34	0.26	4.6	2379.20
Panuke B-90	Sable	Missisauga	Upper Mb	10	293	2380.14	2380.35	1430	18.3	
Panuke B-90	Sable	Missisauga	Upper Mb	10	294	2380.35	2380.66	955	22.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	295	2380.66	2380.91	446	23.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	296	2380.91	2381.14	294	23.6	
Panuke B-90	Sable	Missisauga	Upper Mb	10	297	2381.32	2381.56	342	22.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	298	2381.56	2381.86	260	22.5	2381.85
Panuke B-90	Sable	Missisauga	Upper Mb	10	299	2381.86	2382.12	227	21.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	300	2382.12	2382.35	448	22.8	
Panuke B-90	Sable	Missisauga	Upper Mb	10	301	2382.35	2382.50	546	22.6	
Panuke B-90	Sable	Missisauga	Upper Mb	10	302	2382.50	2382.69	280	22.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	AST303	2382.92	2382.96	58.1	11.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	303	2382.97	2383.02	58.1	11.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	304	2383.03	2383.36	793	16.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	305	2383.36	2383.56	2820	19.1	
Panuke B-90	Sable	Missisauga	Upper Mb	10	306	2383.56	2383.76	3300	20	
Panuke B-90	Sable	Missisauga	Upper Mb	10	307	2383.96	2384.28	377	12.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	308	2384.28	2384.51	594	18	
Panuke B-90	Sable	Missisauga	Upper Mb	10	309	2384.51	2384.88	1000	19.2	
Panuke B-90	Sable	Missisauga	Upper Mb	10	310	2384.88	2385.07	602	19	
Panuke B-90	Sable	Missisauga	Upper Mb	10	AST309	2385.07	2385.13	1000	19.2	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Missisauga	Upper Mb	10	311	2385.13	2385.21	48.5	14.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	312	2385.21	2385.37	161	19.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	313	2385.56	2385.71	252	20	
Panuke B-90	Sable	Missisauga	Upper Mb	10	314	2385.71	2385.84	126	15.8	
Panuke B-90	Sable	Missisauga	Upper Mb	10	315	2385.84	2385.95	98.4	16.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	316	2385.95	2386.11	320	20.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	317	2386.11	2386.25	2260	18.4	2386.20
Panuke B-90	Sable	Missisauga	Upper Mb	10	318	2386.25	2386.43	1640	19.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	319	2386.43	2386.74	2390	19.7	
Panuke B-90	Sable	Missisauga	Upper Mb	10	320	2386.78	2386.95	410	23.5	
Panuke B-90	Sable	Missisauga	Upper Mb	10	321	2386.95	2387.25	159	21.1	2387.21
Panuke B-90	Sable	Missisauga	Upper Mb	10	322	2387.46	2387.61	2090	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	323	2387.61	2387.85	2030	19	
Panuke B-90	Sable	Missisauga	Upper Mb	10	324	2387.85	2388.06	1020	20.4	
Panuke B-90	Sable	Missisauga	Upper Mb	10	325	2388.06	2388.35	1240	20.3	
Panuke B-90	Sable	Missisauga	Upper Mb	10	326	2388.35	2388.75	1550	19.9	
Panuke B-90	Sable	Missisauga	Upper Mb	10	327	2388.75	2388.93	429	20.1	
Panuke B-90	Sable	Missisauga	Upper Mb	11	328	2392.00	2392.30	81.9	10.4	
Panuke B-90	Sable	Missisauga	Upper Mb	11	329	2392.30	2392.55	490	15.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	330	2392.55	2392.89	749	18	
Panuke B-90	Sable	Missisauga	Upper Mb	11	331	2393.06	2393.30	890	18.1	
Panuke B-90	Sable	Missisauga	Upper Mb	11	332	2393.30	2393.58	1010	17.6	
Panuke B-90	Sable	Missisauga	Upper Mb	11	333	2393.58	2393.85	479	15.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	334	2393.85	2394.12	0.04	3.1	2393.92
Panuke B-90	Sable	Missisauga	Upper Mb	11	335	2394.12	2394.38	0.04	2.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	336	2394.38	2394.65	0.02	7.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	337	2394.65	2394.93	557	19.1	
Panuke B-90	Sable	Missisauga	Upper Mb	11	338	2394.93	2395.14	722	10.6	2395.12
Panuke B-90	Sable	Missisauga	Upper Mb	11	339	2395.35	2395.70	970	17.6	
Panuke B-90	Sable	Missisauga	Upper Mb	11	340	2395.70	2395.86	938	16.4	
Panuke B-90	Sable	Missisauga	Upper Mb	11	341	2396.06	2396.24	811	16.7	
Panuke B-90	Sable	Missisauga	Upper Mb	11	342	2396.24	2396.38	771	15.7	
Panuke B-90	Sable	Missisauga	Upper Mb	11	343	2396.38	2396.61	1290	16.2	2396.56
Panuke B-90	Sable	Missisauga	Upper Mb	11	344	2396.61	2396.81	870	17.4	
Panuke B-90	Sable	Missisauga	Upper Mb	11	345	2396.81	2397.12	1520	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	11	346	2397.12	2397.36	1580	19.4	
Panuke B-90	Sable	Missisauga	Upper Mb	11	347	2397.36	2397.62	1440	19.3	
Panuke B-90	Sable	Missisauga	Upper Mb	11	348	2397.62	2397.72	1010	16.2	
Panuke B-90	Sable	Missisauga	Upper Mb	11	349	2397.89	2398.15	3020	19	
Panuke B-90	Sable	Missisauga	Upper Mb	11	350	2398.15	2398.40	1040	17	
Panuke B-90	Sable	Missisauga	Upper Mb	11	351	2398.40	2398.61	522	14.3	
Panuke B-90	Sable	Missisauga	Upper Mb	11	352	2398.61	2398.90	857	16.1	
Panuke B-90	Sable	Missisauga	Upper Mb	11	353	2398.90	2399.16	2460	14	
Panuke B-90	Sable	Missisauga	Upper Mb	11	AST353	2399.37	2399.41	2460	14	
Panuke B-90	Sable	Missisauga	Upper Mb	11	354	2399.41	2399.61	157	15.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	355	2399.61	2399.70	708	16.8	
Panuke B-90	Sable	Missisauga	Upper Mb	11	356	2399.70	2399.82	671	16.8	2399.81
Panuke B-90	Sable	Missisauga	Upper Mb	11	357	2400.02	2400.24	822	18.5	
Panuke B-90	Sable	Missisauga	Upper Mb	11	358	2400.24	2400.46	1180	16.6	
Panuke B-90	Sable	Missisauga	Upper Mb	11	359	2400.46	2400.57	1360	15.6	
Panuke B-90	Sable	Missisauga	Upper Mb	11	360	2400.57	2400.67	472	12.6	
Panuke B-90	Sable	Missisauga	Upper Mb	12	361	2405.15	2405.43	0.02	7.4	
Panuke B-90	Sable	Missisauga	Upper Mb	12	362	2405.43	2405.59	1.32	10.6	
Panuke B-90	Sable	Missisauga	Upper Mb	12	363	2405.59	2405.88	35	15	
Panuke B-90	Sable	Missisauga	Upper Mb	12	364	2405.88	2406.01	684	18.9	
Panuke B-90	Sable	Missisauga	Upper Mb	12	365	2406.01	2406.24	1380	20.3	
Panuke B-90	Sable	Missisauga	Upper Mb	12	366	2406.24	2406.42	690	19.8	
Panuke B-90	Sable	Missisauga	Upper Mb	12	367	2406.42	2406.57	1420	19.8	2406.56
Panuke B-90	Sable	Missisauga	Upper Mb	12	368	2406.75	2407.00	472	19.2	
Panuke B-90	Sable	Missisauga	Upper Mb	12	369	2407.00	2407.22	616	19	
Panuke B-90	Sable	Missisauga	Upper Mb	12	370	2407.22	2407.50	1240	21.1	
Panuke B-90	Sable	Missisauga	Upper Mb	12	371	2407.50	2407.73	596	20.7	
Panuke B-90	Sable	Missisauga	Upper Mb	12	372	2407.73	2408.02	117	18.4	
Panuke B-90	Sable	Missisauga	Upper Mb	12	373	2408.02	2408.17	507	21.1	
Panuke B-90	Sable	Missisauga	Upper Mb	12	374	2408.17	2408.38	1280	20	
Panuke B-90	Sable	Missisauga	Upper Mb	12	375	2408.59	2408.83	708	17.8	
Panuke B-90	Sable	Missisauga	Upper Mb	12	376	2408.83	2408.98	10.6	11.1	
Panuke B-90	Sable	Missisauga	Upper Mb	12	377	2409.01	2409.30	7.27	15.2	
Panuke B-90	Sable	Missisauga	Upper Mb	12	378	2409.47	2409.72	104	24.5	
Panuke B-90	Sable	Missisauga	Upper Mb	12	379	2409.72	2409.85	48.9	21.5	
Panuke B-90	Sable	Missisauga	Upper Mb	12	380	2409.85	2410.00	0.01	4.7	
Panuke B-90	Sable	Missisauga	Upper Mb	12	381	2410.00	2410.16	0.01	4.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Panuke B-90	Sable	Missisauga	Upper Mb	12	382	2410.16	2410.35	2.96	13.9	2410.34
Panuke B-90	Sable	Missisauga	Upper Mb	12	383	2410.35	2410.53	0.01	4.7	
Panuke B-90	Sable	Missisauga	Upper Mb	12	384	2411.37	2411.49	34.2	16.5	
Panuke B-90	Sable	Missisauga	Upper Mb	12	385	2411.49	2411.71	18.9	14.9	
Panuke B-90	Sable	Missisauga	Upper Mb	12	386	2411.71	2411.91	12.4	14	
Panuke B-90	Sable	Missisauga	Upper Mb	12	387	2412.70	2412.89	1.17	10.6	
Panuke B-90	Sable	Missisauga	Upper Mb	12	388	2412.89	2413.06	0.81	10.2	2413.05
Panuke B-90	Sable	Missisauga	Upper Mb	12	389	2413.06	2413.40	0.01	6.2	
Panuke B-90	Sable	Missisauga	Upper Mb	12	390	2413.40	2413.64	0.02	6.4	
Panuke B-90	Sable	Missisauga	Upper Mb	12	391	2413.64	2413.81	494	21.4	
Panuke B-90	Sable	Missisauga	Upper Mb	12	392	2414.00	2414.29	143	18.8	
Panuke B-90	Sable	Missisauga	Upper Mb	12	393	2419.25	2419.42	142	16.9	
Panuke B-90	Sable	Missisauga	Upper Mb	12	394	2419.42	2419.68	414	16	
Panuke B-90	Sable	Missisauga	Upper Mb	12	395	2419.68	2420.05	84	20.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	1	2208.00	2208.11	133	26.8	2280.09
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	2	2208.11	2208.45	4.63	15.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	3	2208.45	2208.75	0.09	13.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	4	2208.75	2208.92	0.01	12.3	2208.90
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	5	2209.64	2209.93	2.42	19.1	2209.83
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	6	2209.93	2210.13	2.54	17.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	7	2210.13	2210.31	177	26	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	8	2210.31	2210.54	213	26.2	2210.15; 2210.37
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	9	2210.54	2210.78	354	27.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	10	2210.78	2211.00	29	21.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	11	2211.00	2211.22	469	28.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	12	2211.22	2211.44	389	27.9	2211.47
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	13	2211.44	2211.59	53.5	21.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	14	2211.59	2211.74	1.15	9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	15	2211.74	2211.85	102	23.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	16	2211.85	2212.11	731	29	2212.20
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	17	2212.11	2212.34	268	28.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	18	2212.34	2212.53	362	28.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	19	2212.53	2212.73	365	28.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	20	2212.73	2213.03	345	28.4	2212.91
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	21	2216.12	2216.32	51.5	20.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	22	2216.32	2216.66	1.66	13.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	23	2216.66	2216.87	0.01	11.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	24	2216.87	2217.08	0.12	11.1	2217.15
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	25	2217.08	2217.31	0.01	9	2217.21
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	26	2217.31	2217.61	0.39	14.3	2217.57
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	27	2217.61	2217.77	2.54	22.6	2217.96
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	28	2221.03	2221.26	1.49	22.1	2221.17
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	29	2221.26	2221.40	1.2	12.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	30	2221.40	2221.56	12.6	23.7	2222.59
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	31	2221.56	2221.85	119	24.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	32	2221.85	2221.95	0.09	12	2222.10
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	33	2222.70	2223.05	0.07	14	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	34	2223.05	2223.43	0.25	13.9	2223.37
Peskowesk A-99	Abenaki	Logan Canyon	Cree	1	35	2223.43	2223.50	254	21.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	36	2226.16	2226.31	56.2	17.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	37	2226.40	2226.62	7.84	24.8	2226.44
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	AST38	2226.65	2226.69	3.48	20.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	38	2226.72	2226.88	3.48	20.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	39	2227.46	2227.54	5.99	14	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	AST40	2227.60	2227.68	13.1	23	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	40	2227.77	2227.87	13.1	23	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	41	2227.91	2228.05	4.72	22.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	42	2228.17	2228.49	24.8	23.4	2228.23; 2228.27; 2228.42
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	43	2228.58	2228.86	223	23.8	2228.82
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	44	2228.86	2229.16	10.1	20.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	45	2229.16	2229.41	116	21.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	46	2229.41	2229.64	410	25	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	47	2229.64	2229.86	865	26	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	48	2229.86	2230.06	594	25.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	49	2230.06	2230.33	939	27.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	50	2230.33	2230.66	540	26.7	2230.62
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	51	2230.66	2230.94	765	26.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	52	2230.94	2231.27	383	26.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	53	2231.27	2231.49	76.5	22.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	54	2231.49	2231.80	505	26.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	55	2231.80	2232.16	303	24.5	2231.82

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	56	2232.16	2232.38	705	26.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	57	2232.38	2232.69	280	25.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	58	2232.69	2233.01	222	23.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	59	2233.01	2233.33	257	24.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	60	2233.33	2233.56	536	25.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	61	2233.56	2233.86	243	24.9	2233.62
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	62	2233.86	2234.07	934	26.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	63	2234.07	2234.32	999	26.6	2234.44
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	64	2234.32	2234.79	384	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	65	2234.79	2235.04	279	24.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	66	2235.04	2235.37	344	24.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	67	2235.37	2235.73	650	25	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	68	2235.73	2236.02	585	25.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	69	2236.02	2236.26	434	24.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	70	2236.26	2236.52	228	23.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	71	2236.52	2236.75	389	24.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	72	2236.75	2236.98	209	25	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	73	2236.98	2237.22	300	25	2237.16
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	74	2237.22	2237.45	563	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	75	2237.45	2237.69	306	24.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	76	2237.69	2237.94	182	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	77	2237.94	2238.24	260	24.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	78	2238.24	2238.48	436	24.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	79	2238.48	2238.76	300	25	2238.65
Peskowesk A-99	Abenaki	Logan Canyon	Cree	2	80	2238.76	2239.00	328	24.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	81	2243.00	2243.32	203	23.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	82	2243.32	2243.55	280	24.1	2243.12
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	83	2243.55	2243.84	297	24.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	84	2243.84	2244.05	373	23.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	85	2244.05	2244.28	303	24.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	86	2244.30	2244.53	1260	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	87	2244.53	2244.73	1250	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	88	2244.73	2244.99	2020	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	89	2244.99	2245.20	1350	25.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	90	2245.20	2245.43	1840	25.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	91	2245.43	2245.66	1270	24.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	92	2245.66	2245.93	1510	25.8	2245.84
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	93	2245.93	2246.30	1940	24.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	94	2246.30	2246.46	1540	26.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	95	2246.46	2246.71	1850	26.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	96	2246.71	2246.92	954	24	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	97	2246.92	2247.17	1540	24.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	98	2247.17	2247.40	1480	22.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	99	2247.40	2247.68	1210	20.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	100	2247.68	2247.97	1930	25.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	101	2247.97	2248.25	937	24.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	102	2248.25	2248.51	1370	24.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	103	2248.51	2248.80	559	22.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	104	2248.80	2249.05	509	22.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	105	2249.05	2249.28	706	23.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	106	2249.28	2249.57	287	22.4	2249.39
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	107	2249.57	2249.81	500	22.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	108	2249.81	2250.15	4830	24.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	3	109	2250.15	2250.30	145	19.2	2250.17
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	110	2263.00	2263.32	0.11	8.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	111	2263.32	2263.62	55.4	20.7	2263.36
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	112	2263.62	2263.75	31.2	21.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	113	2263.84	2264.05	198	23.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	114	2264.05	2264.31	171	24.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	115	2264.31	2264.63	184	24.9	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	116	2264.63	2264.86	154	23.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	117	2264.86	2265.11	278	19.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	118	2265.11	2265.40	172	21.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	119	2265.40	2265.50	128	18.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	120	2265.50	2265.71	215	24.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	121	2265.71	2266.00	228	23.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	122	2266.00	2266.22	186	23.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	123	2266.22	2266.40	266	23.3	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	124	2266.40	2266.61	75.8	22.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	125	2266.61	2266.82	369	24.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	126	2266.82	2267.00	132	23.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	127	2267.00	2267.29	241	25.4	2267.02

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	128	2267.37	2267.58	187	19.9	2266.99
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	129	2267.58	2267.77	279	24.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	130	2267.77	2268.02	247	24.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	131	2268.02	2268.28	313	25.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	132	2268.28	2268.51	310	23.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	133	2268.51	2268.74	208	24.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	134	2268.74	2269.03	160	24	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	135	2269.03	2269.38	507	26.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	136	2269.38	2269.64	431	25.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	137	2269.64	2269.89	818	24.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	138	2269.89	2270.24	398	25.5	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	139	2270.24	2270.44	374	25.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	140	2270.44	2270.60	179	25.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	141	2270.60	2270.81	315	23.8	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	142	2270.81	2271.08	401	24.4	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	143	2271.08	2271.33	1190	26.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	144	2271.33	2271.63	247	24.7	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	145	2271.63	2271.99	224	24	2271.90
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	146	2271.99	2272.24	205	23.6	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	147	2272.24	2272.44	393	23.2	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	148	2273.19	2273.48	103	26.8	2273.15
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	149	2273.48	2273.71	167	26.1	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	150	2273.71	2273.96	350	28	
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	151	2273.96	2274.17	99.1	26.5	2274.07
Peskowesk A-99	Abenaki	Logan Canyon	Cree	4	152	2276.25	2276.50	0.11	17.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	153	2470.00	2470.09	0.19	12.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	154	2470.09	2470.31	128	24.9	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	155	2470.31	2470.51	12.9	15.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	156	2470.51	2470.69	0.65	16.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	157	2470.69	2470.99	0.09	10.6	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	158	2471.09	2471.37	84.1	23.2	2470.66
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	159	2471.37	2471.52	0.13	11	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	160	2472.80	2472.87	3.06	20.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	161	2473.01	2473.22	0.56	16.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	162	2473.22	2473.39	6.06	20.5	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	163	2473.39	2473.59	0.22	13.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	164	2473.59	2473.75	0.06	12.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	165	2474.43	2474.70	425	25.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	166	2474.70	2475.02	7.17	22.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	167	2475.02	2475.23	0.06	8.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	168	2475.28	2475.57	5.29	22.5	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	169	2475.57	2475.76	7.53	23.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	170	2475.76	2476.02	0.92	14.6	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	171	2476.02	2476.23	1.53	14.5	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	172	2476.23	2476.41	0.09	8.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	173	2476.41	2476.66	0.01	4.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	174	2476.66	2476.90	0.09	7.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	175	2476.90	2477.17	0.13	15.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	176	2477.17	2477.48	2.63	20.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	177	2477.48	2477.82	1.11	19.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	178	2477.82	2478.05	0.25	16.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	179	2478.05	2478.28	0.09	11.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	180	2478.28	2478.54	0.24	17.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	181	2478.54	2478.69	0.22	17.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	182	2478.69	2478.90	0.12	14.5	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	183	2478.90	2479.09	0.25	15.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	184	2481.18	2481.40	0.26	18.9	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	185	2481.40	2481.60	0.22	7.6	2481.34
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	186	2481.81	2481.96	0.09	14.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	187	2482.75	2483.01	83	24.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	188	2483.01	2483.31	105	23.5	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	189	2483.31	2483.53	165	24.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	190	2483.53	2483.72	158	22.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	191	2483.72	2483.98	129	24	2483.77
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	192	2483.98	2484.20	133	24.3	2482.14
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	193	2484.20	2484.48	191	25.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	194	2484.48	2484.69	43.3	22.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	195	2484.69	2484.88	2.62	18.1	2485.01
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	196	2484.88	2485.10	57.9	24.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	197	2485.12	2485.38	73.9	26	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	198	2485.38	2485.65	25.5	22.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	199	2485.65	2485.91	1.13	18.9	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

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Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	200	2485.91	2486.15	0.48	18.2	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	201	2486.15	2486.35	2.16	20.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	202	2491.94	2492.17	0.06	12.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	203	2492.36	2492.63	0.01	7.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	204	2492.63	2492.95	0.01	5.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	205	2494.01	2494.15	0.19	14.9	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	206	2494.56	2494.71	0.01	10.7	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	207	2495.27	2495.48	0.19	16.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	208	2495.48	2495.66	0.41	17.8	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	209	2495.71	2495.92	0.75	18.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	210	2495.92	2496.08	0.72	17	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	211	2496.08	2496.39	14.7	19	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	212	2496.39	2496.61	11.3	21.9	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	213	2496.61	2496.77	3.99	20.9	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	214	2496.77	2497.06	0.28	16.1	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	215	2497.06	2497.23	2.34	17.3	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	216	2497.23	2497.52	7.12	19.4	
Peskowesk A-99	Abenaki	Missisauga	Upper Mb	5	AST216	2497.61	2497.64	7.12	19.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	217	2930.30	2930.59	0.19	18.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	218	2930.59	2930.80	0.06	15.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	219	2930.98	2931.18	0.06	12.1	2931.07
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	220	2931.18	2931.37	0.06	12.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	221	2931.37	2931.60		8.8	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	222	2931.60	2931.77	0.06	10.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	223	2931.77	2931.90	0.19	10.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	224	2931.90	2932.10	0.03	5.4	2931.91
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	225	2932.10	2932.30	0.06	6.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	226	2932.30	2932.46	0.03	4.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	227	2932.46	2932.72	0.01	4.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	228	2932.72	2932.95	0.03	4.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	229	2932.95	2933.17	0.03	4.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	230	2933.17	2933.43	0.03	4.8	2933.38
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	231	2933.43	2933.66	0.28	8.9	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	232	2933.66	2933.87	107	19.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	233	2933.87	2934.20	70.5	18.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	234	2934.20	2934.36	0.09	6.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	235	2934.36	2934.54	0.01	3.5	2934.52
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	236	2934.54	2934.75	0.01	3.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	237	2934.75	2934.98	0.01	3.7	2933.62
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	238	2934.98	2935.20	100	18.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	239	2935.20	2935.48	10.1	17.6	2935.46
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	240	2935.48	2935.73	1.48	13.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	241	2935.73	2935.89	6.33	14	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	242	2935.89	2936.10	0.94	16.2	2936.01
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	243	2936.10	2936.34	0.09	5.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	244	2936.34	2936.57	0.03	3.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	245	2936.57	2936.84	0.03	3.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	246	2936.84	2937.06	0.06	4.1	2936.85; 2936.06
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	247	2937.06	2937.28	0.13	6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	248	2937.28	2937.54	0.06	5.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	249	2937.54	2937.77	0.06	4.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	250	2937.77	2937.96	0.03	3.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	251	2937.96	2938.18	0.3	3.6	2938.05
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	252	2938.18	2938.42	78	18.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	253	2938.42	2938.63	21.2	16.6	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	254	2938.63	2938.86	48.3	18	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	255	2938.86	2939.05	43.9	18.1	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	256	2939.05	2939.32	119	20.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	257	2939.32	2939.71	119	20.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	258	2939.71	2939.86	0.09	6.4	2939.79
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	259	2939.86	2940.04	0.09	7.2	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	260	2940.04	2940.27	0.06	5.8	2940.05
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	261	2940.27	2940.43	33.8	15.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	262	2940.43	2940.64	0.06	5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	263	2940.64	2940.90	0.03	4.9	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	264	2940.90	2941.16	0.03	4.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	265	2941.16	2941.35	0.03	4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	266	2941.35	2941.68	0.03	3.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	267	2941.68	2941.87	0.03	4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	268	2941.87	2942.04	0.06	4.2	2942.03
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	269	2942.04	2942.27	0.09	4.9	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	270	2942.27	2942.46	94.7	18.8	2940.48

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	271	2942.46	2942.77	100	19.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	272	2945.28	2945.43	3.38	13.6	2945.38
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	273	2945.43	2945.60	5.87	16.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	274	2945.60	2945.79	6.24	15.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	275	2946.26	2946.47	0.22	18.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	276	2946.47	2946.75	0.09	15.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	277	2946.75	2946.98	0.57	18.1	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	278	2946.98	2947.16	1.58	19.8	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	279	2947.16	2947.42	1.4	18.4	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	280	2950.74	2950.91	143	22.4	2950.73
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	281	2950.91	2951.09	149	21.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	282	2951.09	2951.39	98.7	16.9	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	283	2951.39	2951.60	212	21.4	2951.47
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	284	2951.60	2951.79	188	23	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	285	2951.79	2952.09	215	22.2	2951.92; 2952.02
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	286	2952.09	2952.30	271	21.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	287	2952.30	2952.57	147	22.3	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	288	2952.57	2952.78	219	22.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	289	2952.78	2952.96	148	22.3	2950.54
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	290	2952.96	2953.21	51.3	19.9	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	291	2953.21	2953.45	103	21.7	2953.10
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	292	2953.45	2953.63	98.1	18.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	293	2953.63	2953.87	113	20.7	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	294	2953.87	2954.14	98.3	20.5	
Peskowesk A-99	Abenaki	Missisauga	Middle Mb	6	295	2954.14	2954.36	127	20.1	2954.35
Peskowesk A-99	Abenaki	Mic Mac		7	296	3792.00	3792.07	0.2	11.3	
Peskowesk A-99	Abenaki	Mic Mac		7	297	3792.11	3792.30	0.47	13.6	
Peskowesk A-99	Abenaki	Mic Mac		7	AST297	3792.31	3792.34	0.47	13.6	
Peskowesk A-99	Abenaki	Mic Mac		7	298	3792.39	3792.54	157	17.7	3792.40
Peskowesk A-99	Abenaki	Mic Mac		7	299	3792.54	3792.70	72.4	17.9	
Peskowesk A-99	Abenaki	Mic Mac		7	300	3792.70	3792.90	106	18	
Peskowesk A-99	Abenaki	Mic Mac		7	301	3792.90	3793.05	60.4	19.5	
Peskowesk A-99	Abenaki	Mic Mac		7	302	3793.05	3793.17	6.82	14.6	
Peskowesk A-99	Abenaki	Mic Mac		7	303	3793.19	3793.36	10.3	14.7	
Peskowesk A-99	Abenaki	Mic Mac		7	304	3793.36	3793.60	14.9	15.2	3793.17
Peskowesk A-99	Abenaki	Mic Mac		7	305	3793.60	3793.81	59.1	18.9	
Peskowesk A-99	Abenaki	Mic Mac		7	306	3793.81	3794.04	89.6	18.2	
Peskowesk A-99	Abenaki	Mic Mac		7	307	3794.04	3794.28	10	13.7	
Peskowesk A-99	Abenaki	Mic Mac		7	308	3794.28	3794.45	1.95	14	3794.37
Peskowesk A-99	Abenaki	Mic Mac		7	309	3794.45	3794.58	89	19.2	
Peskowesk A-99	Abenaki	Mic Mac		7	310	3794.58	3794.79	49.6	17.4	
Peskowesk A-99	Abenaki	Mic Mac		7	311	3794.79	3794.98	4.73	12.6	
Peskowesk A-99	Abenaki	Mic Mac		7	312	3794.98	3795.23	0.8	10.9	
Peskowesk A-99	Abenaki	Mic Mac		7	313	3795.71	3795.89	0.52	7.5	3795.85; 3796.33
Peskowesk A-99	Abenaki	Mic Mac		7	314	3795.89	3796.03	0.36	8.5	
Peskowesk A-99	Abenaki	Mic Mac		7	315	3796.08	3796.34	0.1	5.5	
Sable Island C-67	Sable	Logan Canyon	Cree	1	1	2470.83	2471.41	0.1	1.5	
Sable Island C-67	Sable	Logan Canyon	Cree	1	2	2471.41	2471.96	0.1	1.7	2471.43
Sable Island C-67	Sable	Logan Canyon	Cree	1	3	2471.96	2472.39	0.1	2.9	
Sable Island C-67	Sable	Logan Canyon	Cree	1	4	2472.39	2472.63	25	24	
Sable Island C-67	Sable	Logan Canyon	Cree	1	5	2472.63	2473.03	19	22.8	
Sable Island C-67	Sable	Logan Canyon	Cree	1	6	2473.03	2473.39	12	24.2	
Sable Island C-67	Sable	Logan Canyon	Cree	1	7	2473.39	2473.76	9.4	22.7	
Sable Island C-67	Sable	Logan Canyon	Cree	1	8	2473.76	2474.06	8.3	22.8	2473.28
Sable Island C-67	Sable	Logan Canyon	Cree	1	AST8	2474.82	2474.85	8.3	22.8	
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS9	2475.19	2475.25	9.7	27.2	
Sable Island C-67	Sable	Logan Canyon	Cree	1	10	2475.49	2475.74	0.1	12.6	
Sable Island C-67	Sable	Logan Canyon	Cree	1	11	2475.80	2476.13	102	28.6	
Sable Island C-67	Sable	Logan Canyon	Cree	1	12	2476.13	2476.26	4.3	14.2	
Sable Island C-67	Sable	Logan Canyon	Cree	1	13	2476.26	2476.38	254	28.9	
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS14	2476.53	2476.59	0.7	23.2	
Sable Island C-67	Sable	Logan Canyon	Cree	1	N/A	2476.59	2476.68			
Sable Island C-67	Sable	Logan Canyon	Cree	1	15	2476.77	2477.14	2.5	19	2477.05
Sable Island C-67	Sable	Logan Canyon	Cree	1	16	2477.14	2477.51	16	21.5	
Sable Island C-67	Sable	Logan Canyon	Cree	1	17	2477.51	2477.75	44	20.2	
Sable Island C-67	Sable	Logan Canyon	Cree	1	18	2477.75	2478.05	295	28.4	
Sable Island C-67	Sable	Logan Canyon	Cree	1	19	2478.05	2478.27	218	27.8	2478.05
Sable Island C-67	Sable	Logan Canyon	Cree	1	20	2478.27	2478.36	338	29.3	2478.30
Sable Island C-67	Sable	Logan Canyon	Cree	1	21	2478.36	2478.54	0.9	14.1	
Sable Island C-67	Sable	Logan Canyon	Cree	1	22	2478.54	2478.85	1.1	14.1	
Sable Island C-67	Sable	Logan Canyon	Cree	1	23	2478.85	2479.12	0.69	12.4	
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS24	2479.12	2479.36	99	33.8	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS25	2479.67	2479.97	413	32.4	
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS26	2479.97	2480.31	387	33.7	
Sable Island C-67	Sable	Logan Canyon	Cree	1	SS27	2480.31	2480.64	0.1	4.6	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	28	2832.60	2832.88	5.1	16.1	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	29	2832.88	2833.15	0.22	11.9	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	30	2833.33	2833.58	6.4	21.2	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	S31	2833.67	2833.76	5.8	23.9	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	SS32	2835.28	2835.38	0.2	14.1	
Sable Island C-67	Sable	Logan Canyon	Naskapi	2	33	2835.53	2835.71	0.1	16.7	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	34	3375.82	3376.13	0.1	4.2	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	35	3376.13	3376.37	0.01	6	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	36	3376.37	3376.55	0.1	4.8	3376.48
Sable Island C-67	Sable	Missisauga	Middle Mb	3	37	3376.55	3376.71	1.2	12.8	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	38	3376.71	3377.10	0.05	3.8	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	39	3377.10	3377.47	0.11	4.4	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	40	3377.47	3377.71	0.16	5.9	
Sable Island C-67	Sable	Missisauga	Middle Mb	3	41	3377.71	3378.08	78	18.4	3378.01
Sable Island C-67	Sable	Missisauga	Middle Mb	3	42	3378.08	3378.44	85	19.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	1	3799.00	3799.26	4.2	15.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	2	3799.26	3799.54	1.29	14.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	3	3799.54	3799.84	4.64	14.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	4	3799.84	3799.98	0.27	10.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	5	3799.98	3800.19	2.65	12.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	AST4	3800.19	3800.24	0.27	10.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	6	3800.24	3800.44	2.12	12.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	7	3800.44	3800.64	0.27	12	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	8	3800.64	3800.82	0.37	13.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	9	3801.00	3801.13	0.27	11.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	10	3801.13	3801.44	0.46	13.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	11	3801.45	3801.73	0.18	15.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	12	3801.97	3802.22	56.8	13.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	13	3802.22	3802.43	53.3	13.5	3802.24
South Debarres O-76	Sable	Missisauga	Lower Mb	1	14	3802.43	3802.64	29.7	14.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	15	3802.64	3802.88	19.3	14.6	3802.65
South Debarres O-76	Sable	Missisauga	Lower Mb	1	16	3802.88	3803.17	42.3	13.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	17	3803.17	3803.42	34.3	13.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	18	3803.42	3803.61	76.2	13.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	19	3803.61	3803.83	41.6	13.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	20	3803.83	3804.11	53.3	13.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	21	3804.11	3804.34		13	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	22	3804.34	3804.46	87.7	14	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	23	3804.46	3804.67	40.9	10.8	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	24	3804.67	3804.86	70	14.5	3804.82
South Debarres O-76	Sable	Missisauga	Lower Mb	1	25	3804.86	3805.07	194		
South Debarres O-76	Sable	Missisauga	Lower Mb	1	26	3805.07	3805.27	0.73		
South Debarres O-76	Sable	Missisauga	Lower Mb	1	27	3805.37	3805.58	0.27	12.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	28	3805.58	3805.77	0.27	15	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	29	3805.77	3806.00	0.46	15.4	3805.93
South Debarres O-76	Sable	Missisauga	Lower Mb	1	30	3806.00	3806.30	0.72	14.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	31	3806.30	3806.43	0.73	13.6	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	AST32	3806.62	3806.67	0.01	5.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	32	3806.70	3806.81	0.01	5.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	33	3806.81	3807.01	0.18	13.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	1	34	3807.01	3807.28	0.18	13.3	3807.15
South Debarres O-76	Sable	Missisauga	Lower Mb	1	35	3807.28	3807.55	0.09	13.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	36	3808.40	3808.58	0.05	12.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	37	3808.58	3808.76	0.02	10.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	38	3808.89	3809.07	0.03	11	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	AST38	3809.11	3809.13	0.03	11	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	AST39	3809.16	3809.22	0.02	11.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	39	3809.23	3809.33	0.02	11.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	40	3809.33	3809.47	0.09	10.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	41	3809.47	3809.57	6.03	13.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	42	3809.57	3809.77	14.3	17.8	3809.66
South Debarres O-76	Sable	Missisauga	Lower Mb	2	43	3809.77	3810.03	8.72	18.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	44	3810.03	3810.08	0.27	10.6	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	45	3810.12	3810.31	2.29	15.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	46	3810.31	3810.54	13.6	20.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	47	3810.54	3810.79	4.29	16.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	48	3810.79	3811.02	1	15.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	49	3811.02	3811.27	3.65	15.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	50	3811.27	3811.46	2.84	15.5	3811.38

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
South Debarres O-76	Sable	Missisauga	Lower Mb	2	51	3811.46	3811.67	1.56	15.6	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	52	3811.67	3811.86	1.64	15	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	53	3811.86	3812.14	0.28	14.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	54	3812.16	3812.36	0.09	15.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	AST54	3812.39	3812.43	0.09	15.4	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	55	3817.64	3817.84	0.55	0.05	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	56	3817.84	3818.05	0.18	3.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	57	3818.05	3818.32	0.37	0.034	3818.26
South Debarres O-76	Sable	Missisauga	Lower Mb	2	58	3818.32	3818.51	0.09	0.084	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	59	3818.51	3818.77	0.09	12.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	60	3818.77	3819.06	0.09	11.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	61	3819.06	3819.37	0.09	11	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	62	3819.37	3819.69	0.03	6.7	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	63	3819.69	3819.92	0.05	11.1	3819.74
South Debarres O-76	Sable	Missisauga	Lower Mb	2	64	3819.92	3820.02	0.03	12.8	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	65	3820.09	3820.21	0.02	8.5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	66	3820.28	3820.49	0.07	7.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	67	3820.49	3820.69	0.01	7.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	68	3820.69	3820.90	0.63	6	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	AST68	3820.94	3820.98	0.63	6	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	69	3821.00	3821.31	0.02	10.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	70	3821.43	3821.55	0.07	6.8	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	71	3821.55	3821.85	3.08	9.1	3821.72
South Debarres O-76	Sable	Missisauga	Lower Mb	2	72	3821.85	3822.17	0.73	8.3	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	73	3822.17	3822.46	0.04	10	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	74	3822.46	3822.80	0.07	14.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	75	3822.80	3823.03	0.11	13.1	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	76	3823.03	3823.28	0.11	14	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	77	3823.28	3823.50	0.12	14.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	78	3823.50	3823.66	0.13	13.9	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	79	3823.66	3823.88	0.09	5	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	80	3823.88	3824.08	0.01	5.3	3823.98
South Debarres O-76	Sable	Missisauga	Lower Mb	2	81	3824.08	3824.35	0.01	6.2	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	82	3824.35	3824.54	0.04	7.6	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	83	3824.54	3824.84	0.11	6.8	
South Debarres O-76	Sable	Missisauga	Lower Mb	2	84	3825.07	3825.18	0.54	4.3	
South Debarres O-76	Sable	Mic Mac		3	85	5951.09	5951.34	0.04	3	
South Debarres O-76	Sable	Mic Mac		3	86	5951.34	5951.68	0.03	3.4	
South Debarres O-76	Sable	Mic Mac		3	87	5952.46	5952.75	0.01	3.7	5952.65
South Debarres O-76	Sable	Mic Mac		3	88	5953.75	5953.86	0.01	3.4	
South Debarres O-76	Sable	Mic Mac		3	AST88	5954.09	5954.17	0.01	3.4	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	1	4138.28	4138.39	0.11	7	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	H2	4138.39	4138.53	0.09	8.2	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	3	4138.53	4138.80	0.08	7	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	4	4138.80	4139.00	0.13	7.4	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	5	4139.00	4139.26	0.06	6.6	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	H6	4139.26	4139.42	0.06	3.5	4139.40
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	7	4139.42	4139.56	0.04	5.5	4139.65
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	8	4139.67	4139.74	0.06	4.5	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	9	4139.74	4139.85	0.06	5.3	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	H10	4139.85	4140.12	0.07	6.9	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	11	4140.12	4140.26	0.05	4.7	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	12	4140.26	4140.40	0.13	8.1	
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	13	4140.40	4140.70	0.02	4.1	4140.57
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	14	4140.70	4140.89	0.11	7.7	4140.70
South Griffin J-13	Abenaki	Missisauga	Middle Mb	1	H15	4140.89	4141.25	0.05	5.4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP1	3900.50	3900.83	0.08	4.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST2	3900.83	3901.08	0.3	9.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP2	3901.08	3901.16	0.3	9.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST2	3901.16	3901.32	0.3	9.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST2	3901.32	3901.56	0.3	9.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP3	3901.56	3901.86	0.77	11.7	3901.75
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP4	3901.86	3902.05	0.24	9.3	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP5	3902.05	3902.51	0.25	9.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP6	3902.51	3902.78	0.14	8.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP7	3902.78	3902.99	0.02	2.6	3902.95
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP8	3902.99	3903.28	0.02	4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP9	3903.28	3903.58	0.08	9.3	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP10	3903.58	3903.89	0.16	12.3	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP11	3903.89	3904.32	0.1	12.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP12	3904.32	3904.63	0.06	7.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST13	3904.63	3904.73	0.38	12.5	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP13	3904.73	3904.99	0.38	12.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP14	3904.99	3905.32	0.01	13.4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP15	3905.32	3905.54	0.92	13.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP16	3905.54	3905.78	0.14	9.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP17	3905.78	3906.17	0.04	13.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP18	3906.17	3906.53	0.57	17	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP19	3906.53	3906.84	0.24	12.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP20	3906.84	3907.04	0.04	9.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP21	3907.04	3907.31	0.11	15	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST22	3907.31	3907.62	37.3	22.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST22	3907.62	3907.70	37.3	22.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST22	3907.70	3907.78	37.3	22.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP22	3907.78	3907.97	37.3	22.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP23	3907.97	3908.14	0.22	11	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP24	3908.14	3908.64	0.64	10.9	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP25	3908.64	3908.90	2.79	10.1	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP26	3908.90	3909.07	0.11	12.3	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP27	3909.25	3909.50	0.14	12	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP28	3909.50	3909.62	33.2	23.1	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP29	3909.62	3910.01	0.02	11.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP30	3910.01	3910.44	0.36	12	3910.26
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP31	3910.44	3910.76	0.08	9.3	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST32	3910.76	3910.84	0.04	9.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP32	3910.84	3911.02	0.04	9.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP33	3911.02	3911.34	0.34	8	3911.16
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP34	3911.34	3911.65	0.04	10.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP35	3911.65	3911.97	0.01	7.5	3911.84
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP36	3911.97	3912.17	1.77	5.1	
Thebaud 3	Sable	Missisauga	Lower Mb	1	37	3912.17	3912.46	2290	23.5	3912.40
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP38	3912.46	3912.79	6.84	11.9	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP39	3912.79	3913.16	7.76	10.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP40	3913.16	3913.46	9.44	11	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP41	3913.46	3913.84	170	17.5	3913.54
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP42	3913.84	3914.15	957	20.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP43	3914.15	3914.36	2950	25.9	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP44	3914.36	3914.68	1290	22.8	3914.57
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST44	3914.68	3914.98	1290	22.8	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST44	3914.98	3915.18	1290	22.8	3915.04
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP45	3915.18	3915.24	2050	24.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST46	3915.24	3915.46	1570	25.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP46	3915.46	3915.79	1570	25.2	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST47	3915.79	3915.88	2880	25.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP47	3915.88	3915.98	2880	25.6	3915.96
Thebaud 3	Sable	Missisauga	Lower Mb	1	48	3915.98	3916.15	2510	23.1	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP49	3916.15	3916.25	2960	23.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST49	3916.25	3916.52	2960	23.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP50	3916.52	3916.77	3420	25.4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP51	3916.77	3917.04	2840	26.4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST51	3917.04	3917.35	2840	26.4	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP52	3917.35	3917.51	5000	28.6	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP53	3917.51	3917.66	852	21.7	3917.60
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST53	3917.75	3918.01	852	21.7	
Thebaud 3	Sable	Missisauga	Lower Mb	1	AST54	3918.01	3918.23	8800	26.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	SP54	3918.23	3918.35	8800	26.5	
Thebaud 3	Sable	Missisauga	Lower Mb	1	55	3918.35	3918.61	6600	29.3	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP56	4411.00	4411.57	0.01	10.1	4411.30
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP57	4411.57	4412.66	0.04	7.2	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP58	4412.66	4413.07	0.04	7.8	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP59	4413.07	4414.10	0.16	5.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP60	4414.10	4415.03	0.05	6.9	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP61	4415.03	4416.03	0.04	6.1	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP62	4416.03	4417.04	0.01	6.1	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP63	4417.04	4417.99	0.6	6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP64	4417.99	4418.52	0.04	8.1	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP65	4418.52	4419.64	0.2	6.2	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP66	4419.64	4420.59	0.01	5.9	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP67	4420.59	4421.66	0.17	4.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP68	4421.66	4422.09	0.91	6.1	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP69	4422.09	4422.68	0.06	6.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP70	4422.68	4422.89	0.16	9.9	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP71	4422.89	4423.17	0.12	8.5	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP72	4423.17	4423.59	0.06	7.4	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP73	4423.59	4423.82	0.23	6.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP74	4423.82	4424.15	0.16	8.3	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP75	4424.15	4424.35	0.29	8.2	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP76	4424.35	4424.64	1.51	11.3	4424.62
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP77	4424.64	4425.09	0.04	5.3	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP78	4425.09	4425.39	0.73	12.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP79	4425.39	4425.57	1.23	9.5	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP80	4425.57	4426.07	0.07	6.6	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP81	4426.07	4426.28	1.27	14	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP82	4426.28	4426.55	0.36	12.4	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP83	4426.55	4426.97	1.38	14.7	
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP84	4426.97	4427.19	0.07	8.7	4426.97
Thebaud 3	Sable	Missisauga	Lower Mb	2	SP85	4427.19	4427.60	0.3	10.2	
Thebaud 5	Sable	Missisauga	Lower Mb	1	AST1	4621.00	4621.26	0.11	6.7	4621.03
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP1	4621.26	4621.41	0.11	6.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	AST2	4621.41	4621.51	0.16	7.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP2	4621.51	4621.57	0.16	7.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	AST3	4621.57	4621.85	0.16	9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP3	4621.85	4622.01	0.16	9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP4	4622.01	4622.32	0.11	8.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP5	4622.32	4622.60	0.07	12.1	4622.45
Thebaud 5	Sable	Missisauga	Lower Mb	1	AST5	4622.60	4622.68	0.07	12.1	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP6	4622.68	4622.83	0.1	9.1	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP7	4622.83	4623.13	0.11	11.2	4623.10
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP8	4623.13	4623.47	0.2	6.5	4623.42
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP9	4623.47	4623.89	0.17	6.8	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP10	4623.89	4624.31	0.11	9.3	4624.15
Thebaud 5	Sable	Missisauga	Lower Mb	1	AST10	4624.31	4624.43	0.11	9.3	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP11	4624.43	4624.59	0.07	7.5	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP12	4624.59	4624.90	0.4	8.2	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP13	4624.90	4625.18	0.11	5.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP14	4625.18	4625.43	0.07	6.2	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP15	4625.43	4625.67	0.16	5.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP16	4625.67	4626.06	0.11	4.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP17	4626.06	4626.51	0.1	9.3	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP18	4626.51	4626.88	0.04	8.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP19	4626.88	4627.13	0.07	6.4	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP20	4627.13	4627.43	0.05	9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP21	4627.43	4627.87	0.25	7.6	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP22	4627.87	4628.40	0.04	6.6	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP23	4628.40	4629.47		7.8	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP24	4629.47	4630.20	0.01	7.6	4629.78
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP25	4630.20	4631.29	0.24	7.1	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP26	4631.29	4632.28	0.76	7.6	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP27	4632.28	4633.20	0.31	7.3	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP28	4633.20	4634.14	0.66	7.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP29	4634.14	4635.16	0.11	7.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP30	4635.16	4635.70	0.1	8.1	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP31	4635.70	4636.32	0.01	9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP32	4636.32	4637.40	0.01	6.7	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP33	4637.40	4638.32	0.01	8.3	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP34	4638.32	4639.21	0.74	7.9	
Thebaud 5	Sable	Missisauga	Lower Mb	1	SP35	4639.21	4639.80	0.66	8.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP36	4922.00	4922.22	474	25.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST37	4922.22	4922.30	911	24.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP37	4922.30	4922.51	911	24.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP38	4922.51	4922.62	669	22.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST38	4922.62	4922.99	669	22.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST39	4922.99	4923.04	511	20.3	4922.67
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP39	4923.04	4923.09	511	20.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST40	4923.09	4923.18	820	22.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP40	4923.18	4923.35	820	22.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP41	4923.35	4923.60	91.5	16.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP42	4923.60	4924.04	0.17	5.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP43	4924.04	4924.27	132	18.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST44	4924.27	4924.41	18.2	14.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP44	4924.41	4924.55	18.2	14.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP45	4924.55	4924.91	32.8	15.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP46	4924.91	4925.34	18.6	14.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP47	4925.34	4925.55	65.7	19.7	4925.84
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP48	4925.55	4925.74	1.75	12.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP49	4925.74	4926.04	2.16	12.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP50	4926.04	4926.40	41.3	15.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP51	4926.40	4926.60	55.6	18.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP52	4926.60	4926.93	100	16.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP53	4926.93	4927.29	251	16.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP54	4927.29	4927.64	34.1	15.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP55	4927.64	4928.09	44.9	17	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP56	4928.09	4928.29	50.2	14.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP57	4928.29	4928.46	36.9	16.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP58	4928.46	4928.86	139	17	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST59	4928.86	4928.92	89.5	17.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP59	4928.92	4929.06	89.5	17.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST59	4929.06	4929.35	144	17	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP60	4929.35	4929.64	36	15.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP61	4929.64	4929.87	37.1	12.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP62	4929.87	4930.10	67.3	15.7	4929.80
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP63	4930.10	4930.50	5.67	13.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP64	4930.50	4930.81	4.34	12.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP65	4930.81	4930.98	6.28	10.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP66	4930.98	4931.37	1.89	13	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP67	4931.37	4931.81	45.5	15.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP68	4931.81	4931.94	9.53	14.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP69	4931.94	4932.14	2.48	12.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP70	4932.14	4932.65	19.6	14.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP71	4932.65	4932.92	6.97	14.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP72	4932.92	4933.16	53.2	16.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP73	4933.16	4933.60	9.67	13.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP74	4933.60	4933.94	42.3	14.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP75	4933.94	4934.27	4.01	11.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP76	4934.27	4934.57	6.15	13.9	4934.94
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP77	4934.57	4934.77	16.3	14.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP78	4934.77	4935.06	19.5	14.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP79	4935.06	4935.24	15.2	13.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP80	4935.24	4935.58	24.2	14	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP81	4935.58	4935.82	5.5	13.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP82	4935.82	4936.19	1.8	10.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP83	4936.19	4936.46	1.84	13.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP84	4936.46	4936.65	0.21	10.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP85	4936.65	4937.11	0.04	3.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP86	4937.11	4937.51	0.05	7.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP87	4937.51	4937.75	0.99	8.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP88	4937.75	4938.04	1.27	12.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP89	4938.04	4938.28	27.9	16.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP90	4938.28	4938.57	449	22.2	4938.61
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP91	4938.57	4938.93	99.8	18.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP92	4938.93	4939.18	93.9	18.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST93	4939.18	4939.52	2.37	10.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP93	4939.52	4939.59	2.37	10.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST93	4939.59	4939.67	2.37	10.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP94	4939.67	4939.93	4.51	10.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP95	4939.93	4940.25	13.8	12.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP96	4940.25	4940.40	110	17.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST96	4940.40	4940.65	110	17.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST97	4940.65	4940.75	141	18.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP97	4940.75	4940.85	141	18.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP98	4940.85	4940.98	168	18.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST98	4940.98	4941.31	168	18.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST99	4941.31	4941.37	529	22.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP99	4941.37	4941.43	529	22.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP100	4941.43	4941.80	225	19.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP101	4941.80	4942.22	177	17.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP102	4942.22	4942.51	0.31	5.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP103	4942.51	4942.86	0.41	8.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP104	4942.86	4943.10	54.2	16.6	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP105	4943.10	4943.40	499	21	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP106	4943.40	4943.70	630	22.9	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP107	4943.70	4943.98	81.6	16.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP108	4943.98	4944.20	630	22.4	4944.28
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP109	4944.20	4944.70	953	22.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP110	4944.70	4944.87	163	16.8	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP111	4944.87	4945.24	243	20.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP112	4945.24	4945.73	795	21.4	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP113	4945.73	4945.83	655	20.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud 5	Sable	Missisauga	Lower Mb	2	AST113	4945.83	4945.94	655	20.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP114	4945.94	4946.39	148	17.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP115	4946.39	4946.66	10.3	12.3	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP116	4946.66	4946.90	15.1	16.2	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP117	4946.90	4947.38	124	20.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP118	4947.38	4947.64	121	19.5	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP119	4947.64	4947.83	2.04	19	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP120	4947.83	4948.22	125	19.1	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP121	4948.22	4948.40	23.5	16.7	
Thebaud 5	Sable	Missisauga	Lower Mb	2	SP122	4948.40	4948.90	28.2	15.3	4948.72
Thebaud C-74	Sable	Missisauga	Lower Mb	1	1	3861.09	3861.33	0.1	7.4	3861.23-3861.27
Thebaud C-74	Sable	Missisauga	Lower Mb	1	2	3862.40	3862.58	2.8	8.8	3862.56 - 3862.59
Thebaud C-74	Sable	Missisauga	Lower Mb	1	3	3862.80	3862.90	3.52	8.6	3862.91 - 3862.96
Thebaud C-74	Sable	Missisauga	Lower Mb	1	4	3862.90	3863.18	88.6	17	3862.99 - 3863.04; 3863.08 - 3863.17
Thebaud C-74	Sable	Missisauga	Lower Mb	1	P1	3863.18	3863.39	478	19.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	5	3863.39	3863.56	241	22.3	3863.94 - 3863.43
Thebaud C-74	Sable	Missisauga	Lower Mb	1	6	3863.56	3863.80	418	24.6	3863.53 - 3863.58
Thebaud C-74	Sable	Missisauga	Lower Mb	1	7	3863.80	3863.94	729	25.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	8	3863.94	3864.14	285	22.2	3863.99 - 3864.07
Thebaud C-74	Sable	Missisauga	Lower Mb	1	9	3864.14	3864.37	2.46	14.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	10	3864.37	3864.52	1.99	15.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	P2	3864.52	3864.84	0.3	12.8	3864.52; 3864.51 - 3864.77
Thebaud C-74	Sable	Missisauga	Lower Mb	1	11	3864.84	3865.04	0.41	10	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	12	3865.04	3865.32	0.1	12.1	3864.99 - 3865.04
Thebaud C-74	Sable	Missisauga	Lower Mb	1	13	3865.32	3865.56	0.1	12.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	P3	3865.56	3865.75	0.02	11.5	3865.53 - 3865.66; 3865.56
Thebaud C-74	Sable	Missisauga	Lower Mb	1	14	3865.75	3865.93	0.07	12.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	15	3865.93	3866.30	0.02	8.6	3865.95 - 3865.99
Thebaud C-74	Sable	Missisauga	Lower Mb	1	16	3866.88	3866.98	0.13	12.2	3866.79 - 3866.8
Thebaud C-74	Sable	Missisauga	Lower Mb	1	17	3867.24	3867.30	2.14	13.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	18	3867.30	3867.46	0.1	10.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	19	3867.46	3867.63	0.17	12.8	3867.39 - 3867.44
Thebaud C-74	Sable	Missisauga	Lower Mb	1	20	3868.50	3868.68	0.09	14.4	3868.31 - 3868.35
Thebaud C-74	Sable	Missisauga	Lower Mb	1	21	3868.68	3868.82	0.09	15.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	22	3868.82	3869.02	6.85	21.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	P4	3869.02	3869.19	77.1	12.1	3868.77 - 3868.90
Thebaud C-74	Sable	Missisauga	Lower Mb	1	23	3869.19	3869.29	0.05	11.6	3868.94 - 3868.99
Thebaud C-74	Sable	Missisauga	Lower Mb	1	24	3869.64	3869.77	0.02	9.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	25	3869.77	3870.09	0.07	10	3869.64 - 3869.71
Thebaud C-74	Sable	Missisauga	Lower Mb	1	26	3870.19	3870.33	0.07	15.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	27	3870.33	3870.44	0.21	14.5	3870.01 - 3870.06
Thebaud C-74	Sable	Missisauga	Lower Mb	1	28	3870.45	3870.65	0.07	14.8	3870.19-3870.23
Thebaud C-74	Sable	Missisauga	Lower Mb	1	29	3870.91	3871.11	0.33	18.9	3870.62 - 3870.66
Thebaud C-74	Sable	Missisauga	Lower Mb	1	30	3871.21	3871.37	0.05	11.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	31	3871.37	3871.56	0.16	16.9	3871.05 - 3871.10
Thebaud C-74	Sable	Missisauga	Lower Mb	1	32	3871.63	3871.86	66.1	25.5	3871.36 - 3871.41
Thebaud C-74	Sable	Missisauga	Lower Mb	1	P5	3871.86	3872.12	77.1	26.7	3871.47 - 3871.65
Thebaud C-74	Sable	Missisauga	Lower Mb	1	33	3872.12	3872.41	54.9	26.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	34	3872.72	3872.79		20.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	35	3872.79	3873.05	0.1	11.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	1	36	3873.05	3873.26	6.79	11.8	3872.58 - 3872.66
Thebaud C-74	Sable	Missisauga	Lower Mb	2	37	3874.92	3875.11	0.03	8.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	38	3875.11	3875.31	0.16	12.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	39	3875.40	3875.64	0.22	12.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	40	3875.64	3875.83	0.66	12.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	41	3875.83	3876.15	36.9	18.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P6	3876.15	3876.32	4.45	16.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	42	3876.32	3876.41	14.1	19.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	43	3876.54	3876.72	3.82	12.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P7	3876.72	3876.90	83.1	24.6	3876.72
Thebaud C-74	Sable	Missisauga	Lower Mb	2	44	3876.90	3877.15	31	21.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	45	3877.39	3877.59	0.17	13.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	46	3877.67	3877.92	76.4	25	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	47	3877.92	3878.03	74	24.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	48	3878.03	3878.31	107	25.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	49	3878.31	3878.50	102	21.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P8	3878.50	3878.85	76.5	24.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	50	3878.85	3879.18	154	24.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P9	3879.18	3879.38	82.1	23.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud C-74	Sable	Missisauga	Lower Mb	2	51	3879.38	3879.56	21.6	20.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P10	3879.56	3879.78	99.7	24.3	3879.56
Thebaud C-74	Sable	Missisauga	Lower Mb	2	52	3879.78	3879.93	124	24.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	53	3879.93	3880.09	70.5	22	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	54	3880.09	3880.31	151	24.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	55	3880.31	3880.37	9.58	15.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	56	3880.37	3880.68	21.7	20.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	57	3880.70	3880.95	87.2	23.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	58	3880.95	3881.13	43.9	20.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	59	3881.13	3881.34	125	24	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	60	3881.34	3881.59	26.8	21.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P11	3881.59	3881.80	80.5	23.4	3881.59
Thebaud C-74	Sable	Missisauga	Lower Mb	2	61	3881.80	3881.92	67.1	22.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	62	3881.92	3882.17	65.9	22.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	63	3882.17	3882.38	34.4	19.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	64	3882.38	3882.54	52.7	21.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	65	3882.54	3882.79	5.13	16.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	66	3882.79	3882.96	5.74	17	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	P12	3882.96	3883.17	2.45	17.4	3882.96
Thebaud C-74	Sable	Missisauga	Lower Mb	2	67	3883.17	3883.39	0.93	15.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	68	3883.39	3883.51	1.35	15.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	69	3883.51	3883.64	0.17	12	
Thebaud C-74	Sable	Missisauga	Lower Mb	2	70	3883.64	3883.86	0.19	11.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	71	3891.49	3891.65	0.04	14.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	72	3892.15	3892.35	0.11	16.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	73	3892.74	3892.90	0.07	14.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	74	3894.46	3894.61	0.02	8.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	75	3902.52	3902.65	0.35	7.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	P13	3902.65	3902.81	2.1	10.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	76	3902.81	3903.24	4.42	10.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	77	3903.24	3903.50	63.3	14.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	4	AST77	3903.50	3903.92	63.3	14.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	P14	3905.10	3905.37	13.7	14.8	3905.10
Thebaud C-74	Sable	Missisauga	Lower Mb	5	78	3905.37	3905.53	14.7	16.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	79	3905.53	3905.72	14.5	14.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	80	3905.72	3905.92	4.63	14.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	81	3905.95	3906.18	12.4	14.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	P15	3906.18	3906.42	8.59	14.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	82	3906.42	3906.59	6.96	13.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	83	3906.59	3906.75	2.72	13.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	P16	3906.75	3906.97	1.06	11.8	3906.75
Thebaud C-74	Sable	Missisauga	Lower Mb	5	84	3906.97	3907.13	0.37	10.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	85	3907.13	3907.28	0.46	11.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	86	3907.28	3907.44	0.32	10.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	87	3907.46	3907.59	0.02	10.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	88	3907.77	3907.87	0.07	12.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	89	3907.87	3907.93	1.14	7.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	P17	3907.93	3908.11	0.66	8.9	3907.93
Thebaud C-74	Sable	Missisauga	Lower Mb	5	90	3908.11	3908.26	0.45	9.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	91	3908.26	3908.41	72.9	20.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	92	3908.41	3908.60	31.8	19.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	93	3908.60	3908.65	59.4	19.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	P18	3908.65	3908.88	1.37	12.9	3908.65
Thebaud C-74	Sable	Missisauga	Lower Mb	5	94	3908.88	3909.06	1.47	12	
Thebaud C-74	Sable	Missisauga	Lower Mb	5	95	3909.06	3909.35	0.04	11.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	96	3909.67	3909.92	0.19	10.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P19	3909.92	3910.07	0.37	10.3	3909.92
Thebaud C-74	Sable	Missisauga	Lower Mb	6	97	3910.07	3910.30	0.51	10.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	98	3910.30	3910.66	0.07	9.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	99	3911.02	3911.12	0.4	12.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	100	3911.23	3911.30	3.8	12.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	101	3911.32	3911.44	42.8	20.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	102	3911.44	3911.66	29.9	19.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P20	3911.66	3911.82	30.4	20.3	3911.66
Thebaud C-74	Sable	Missisauga	Lower Mb	6	103	3911.82	3912.10	23.7	18.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	104	3912.10	3912.27	14.2	16.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	105	3912.27	3912.40	39.6	21	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P21	3912.40	3912.58	524	24.3	3912.40
Thebaud C-74	Sable	Missisauga	Lower Mb	6	106	3912.58	3912.86	1030	25.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	107	3912.86	3913.10	779	21.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	108	3913.10	3913.30	849	21.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	109	3913.30	3913.47	906	24.5	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud C-74	Sable	Missisauga	Lower Mb	6	110	3913.47	3913.73	625	23.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P22	3913.73	3913.95	896	24.4	3913.73
Thebaud C-74	Sable	Missisauga	Lower Mb	6	111	3913.90	3914.07		23.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	111	3913.95	3914.12	666	22.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	112	3914.12	3914.34	532	22.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P23	3914.34	3914.55	339	18.5	3914.34
Thebaud C-74	Sable	Missisauga	Lower Mb	6	113	3914.55	3914.86	209	19	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	114	3914.86	3915.14	192	19	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	115	3915.14	3915.46	200	19.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	116	3915.46	3915.74	224	19.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P24	3915.74	3915.90	236	19	3915.74
Thebaud C-74	Sable	Missisauga	Lower Mb	6	117	3915.90	3916.22	257	19.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	118	3916.22	3916.38	216	19.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	119	3916.38	3916.63	361	20.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	120	3916.63	3916.86	107	20.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	121	3916.86	3917.06	213	20.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P25	3917.06	3917.28	558	21.8	3917.06
Thebaud C-74	Sable	Missisauga	Lower Mb	6	122	3917.28	3917.51	360	20.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	123	3917.51	3917.76	225	20.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	124	3917.76	3918.00	578	22.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	125	3918.00	3918.26	386	21.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	126	3918.26	3918.46	0.04	5.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	127	3918.46	3918.64	0.12	5.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P26	3918.64	3918.82	0.96	8.6	3918.64
Thebaud C-74	Sable	Missisauga	Lower Mb	6	128	3918.82	3919.03	0.63	13	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	129	3919.03	3919.28	2.42	14.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	130	3919.28	3919.56	1.78	14.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	131	3919.56	3919.82	0.33	13.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	132	3919.82	3920.04	0.37	13.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P27	3920.04	3920.25	0.13	11.8	3920.04
Thebaud C-74	Sable	Missisauga	Lower Mb	6	133	3920.25	3920.49	1.4	13.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	134	3920.49	3920.63	107	21	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	135	3920.63	3920.86	3.46	16.1	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	136	3920.86	3921.13	78.4	18.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	137	3921.13	3921.42	59.9	18.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P28	3921.42	3921.60	29.4	18.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	138	3921.60	3921.79	38.8	16.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	139	3921.79	3921.98	15.8	15.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P29	3921.98	3922.20	2.93	11.9	3921.98
Thebaud C-74	Sable	Missisauga	Lower Mb	6	140	3922.20	3922.40	13.6	15.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	141	3922.40	3922.56	13.6	14.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	142	3922.56	3922.79	34.9	15.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	143	3922.79	3923.06	40.6	15.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	144	3923.06	3923.30	37.3	15.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	145	3923.30	3923.55	36.6	15.6	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	146	3923.55	3923.72	26.8	15.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	147	3923.72	3923.91	28.3	13.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	148	3923.91	3924.06	8.96	12.5	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	149	3924.06	3924.28	2.85	13.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	150	3924.28	3924.50	3.27	13.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P30	3924.50	3924.67	0.16	11	3924.50
Thebaud C-74	Sable	Missisauga	Lower Mb	6	151	3924.67	3924.93	1	11.8	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	152	3924.93	3925.18	1.88	14.2	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	153	3925.18	3925.41	0.1	7.4	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	154	3925.41	3925.64	0.02	6.3	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	155	3925.64	3925.86	0.19	9.9	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	156	3925.86	3926.15	0.58	11.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	P31	3926.15	3926.33	0.13	11	3926.15
Thebaud C-74	Sable	Missisauga	Lower Mb	6	157	3926.33	3926.48	0.03	7.7	
Thebaud C-74	Sable	Missisauga	Lower Mb	6	158	3926.48	3926.83	0.19	12	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	1	3065.68	3065.90	0.11	7.4	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	2	3065.90	3066.11	0.28	7.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	3	3066.11	3066.37	0.04	5.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P1	3066.39	3066.70	0.01	5.8	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	4	3066.70	3066.98	0.06	5.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P2	3066.98	3067.31	0.1	2.9	3067.00
Thebaud I-93	Sable	Missisauga	Middle Mb	1	5	3067.31	3067.58	0.03	2.6	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P3	3067.58	3067.88	0.16	8.4	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	6	3067.88	3068.15	0.3	8.2	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	7	3068.15	3068.39	0.34	8.9	3068.39
Thebaud I-93	Sable	Missisauga	Middle Mb	1	8	3068.39	3068.60	0.5	8.6	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P4	3068.60	3068.90	0.03	3.3	

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Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud I-93	Sable	Missisauga	Middle Mb	1	9	3068.90	3069.06	0.06	3.5	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	10	3069.06	3069.28	27.8	13	3069.30
Thebaud I-93	Sable	Missisauga	Middle Mb	1	11	3069.28	3069.54	449	17.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	12	3077.52	3077.81	413	20.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	13	3077.81	3078.12	60.2	21.4	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	14	3078.12	3078.32	1160	23.2	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P5	3078.32	3078.65	1240	23	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	15	3078.65	3078.90	876	21.8	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	16	3078.90	3079.18	363	19.6	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	P6	3079.18	3079.49	472	20.4	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	17	3079.49	3079.71	535	20.1	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	18	3079.71	3079.94	394	19.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	19	3079.94	3080.19	689	20.3	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	20	3080.56	3080.82	0.04	5.8	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	21	3080.82	3081.05	0.09	5.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	1	22	3081.05	3081.27	3.72	9.1	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	23	3358.29	3358.65	882	24.3	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	24	3358.65	3358.89	476	22.3	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	25	3358.89	3359.18	330	23.2	3359.06
Thebaud I-93	Sable	Missisauga	Middle Mb	2	26	3359.18	3359.41	496	23.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	P7	3359.41	3359.71	517	22.1	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	27	3359.71	3359.98	1380	24.2	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	28	3359.98	3360.34	639	22.6	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	29	3360.34	3360.63	287	25.5	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	P8	3360.63	3360.91	1090	23.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	30	3360.91	3361.09	1420	22.8	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	31	3361.11	3361.30	1010	26.8	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	32	3361.30	3361.50	1200	29.2	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	33	3361.50	3361.87	1500	28.9	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	P9	3361.87	3362.21	1030	26.3	3361.87
Thebaud I-93	Sable	Missisauga	Middle Mb	2	34	3362.21	3362.44	703	27	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	35	3362.44	3362.69	641	27.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	AST35	3362.71	3362.73	641	27.7	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	P10	3362.73	3363.09	1160	28	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	36	3363.09	3363.39	888	27	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	37	3363.39	3363.61	443	26.1	
Thebaud I-93	Sable	Missisauga	Middle Mb	2	AST37	3363.72	3363.78	443	26.1	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	38	3914.85	3914.97	229	28.6	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P11	3914.97	3915.22	78	14.3	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	39	3915.22	3915.35	17.3	6.3	3915.19
Thebaud I-93	Sable	Missisauga	Lower Mb	3	40	3915.42	3915.73	575	25.9	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	41	3915.73	3916.05	320	27.5	3915.95; 3916.06
Thebaud I-93	Sable	Missisauga	Lower Mb	3	42	3916.05	3916.16	4.07	7.2	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	43	3916.18	3916.46	0.58	17.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	44	3916.46	3916.71	300	26	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	45	3916.71	3916.85	0.41	4.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P12	3916.85	3917.08	0.61	7.3	3916.89
Thebaud I-93	Sable	Missisauga	Lower Mb	3	46	3917.08	3917.16	0.5	4.1	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	47	3917.16	3917.51	0.41	16.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	48	3917.51	3917.85	0.15	13.3	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P13	3917.85	3918.11	0.52	16.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	49	3918.11	3918.42	0.46	15.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	50	3918.42	3918.71	0.04	11.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	51	3918.71	3918.96	0.06	13.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P41	3918.96	3919.27	0.05	13.2	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	52	3919.27	3919.58	0.1	4.9	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	53	3919.58	3919.82	0.04	11.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	AST54	3922.60	3922.65	0.06	18.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	54	3923.05	3923.15	0.12	18.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	55	3923.67	3923.82	0.04	14.3	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	56	3923.82	3924.10	4.92	22.7	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	57	3924.10	3924.27	13	24.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P15	3924.27	3924.48	36.5	25.9	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	58	3924.48	3924.83	54.4	27.1	3924.81
Thebaud I-93	Sable	Missisauga	Lower Mb	3	59	3924.83	3925.02	3.7	10.9	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	60	3925.42	3925.56	1.07	8.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P16	3925.56	3925.85	7.26	11.8	3925.79
Thebaud I-93	Sable	Missisauga	Lower Mb	3	61	3925.85	3926.24	5.76	7.6	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	62	3926.24	3926.58	3.59	7.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	P17	3926.58	3926.86	4.43	7	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	AST62	3926.86	3926.90	3.59	7.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	63	3927.03	3927.40	2.14	7.2	3927.13

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Thebaud I-93	Sable	Missisauga	Lower Mb	3	64	3927.40	3927.77	4.95	12.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	65	3927.77	3927.99	2.38	11.5	
Thebaud I-93	Sable	Missisauga	Lower Mb	3	66	3927.99	3928.17	7.07	3.1	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	67	3935.95	3936.12	0.6	18.8	3936.10
Thebaud I-93	Sable	Missisauga	Lower Mb	5	AST68	3936.40	3936.46	0.17	18.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	68	3936.48	3936.64	0.17	18.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	69	3936.78	3936.89	0.06	11.9	3936.86
Thebaud I-93	Sable	Missisauga	Lower Mb	5	70	3939.93	3940.07	0.04	8.2	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	71	3940.13	3940.28	0.06	10.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	P18	3940.28	3940.52	0.09	12.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	72	3940.52	3940.75	0.07	10	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	73	3940.75	3940.90	0.05	9.1	3940.88
Thebaud I-93	Sable	Missisauga	Lower Mb	5	74	3941.01	3941.11	0.07	14.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	AST75	3941.19	3941.26	0.01	9.1	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	75	3941.34	3941.44	0.01	9.1	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	AST76	3941.56	3941.64	0.06	12.3	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	76	3941.67	3941.91	0.06	12.3	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	77	3943.34	3943.53	0.01	9.1	3943.35
Thebaud I-93	Sable	Missisauga	Lower Mb	5	78	3943.63	3943.90	0.01	6.9	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	79	3948.50	3948.65	0.01	7.8	3948.63
Thebaud I-93	Sable	Missisauga	Lower Mb	5	AST79	3948.77	3948.89	0.01	7.8	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	80	3949.09	3949.28	0.06	11.2	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	81	3949.53	3949.96	0.23	4	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	82	3949.96	3950.12	0.1	0.4	
Thebaud I-93	Sable	Missisauga	Lower Mb	5	P19	3950.12	3950.36	0.1	0.5	3950.18
Venture B-13	Sable	Missisauga	Lower Mb	1	42	4701.80	4701.80	0.013	4.1	
Venture B-13	Sable	Missisauga	Lower Mb	1	43	4702.02	4702.02	0.006	3.9	Plug 43B
Venture B-13	Sable	Missisauga	Lower Mb	1	44	4702.27	4702.27	0.008	6.7	
Venture B-13	Sable	Missisauga	Lower Mb	1	46	4702.77	4702.77	0.024	4.6	Plug 46B
Venture B-13	Sable	Missisauga	Lower Mb	1	47	4703.13	4703.13	0.15	6.6	
Venture B-13	Sable	Missisauga	Lower Mb	1	48	4703.17	4703.17	0.076	6.4	
Venture B-13	Sable	Missisauga	Lower Mb	1	51	4703.95	4703.95	0.13	5.9	
Venture B-13	Sable	Missisauga	Lower Mb	1	56	4704.99	4704.99	0.024	3.9	Plug 56B
Venture B-13	Sable	Missisauga	Lower Mb	1	58	4705.55	4705.55	0.17	3.5	Plug 58T
Venture B-13	Sable	Missisauga	Lower Mb	1	60	4705.93	4705.93	0.13	6.2	
Venture B-13	Sable	Missisauga	Lower Mb	1	61	4705.97	4705.97	0.16	6.2	
Venture B-13	Sable	Missisauga	Lower Mb	1	64	4706.64	4706.64	0.1	6.7	Plug 64T
Venture B-13	Sable	Missisauga	Lower Mb	1	66	4706.98	4706.98	0.36	11.7	Plug 66B
Venture B-13	Sable	Missisauga	Lower Mb	1	75	4708.91	4708.91	0.29	16.7	
Venture B-13	Sable	Missisauga	Lower Mb	1	77A	4709.40	4709.40	0.24	16.9	
Venture B-13	Sable	Missisauga	Lower Mb	2	100	4713.82	4713.82		18.1	Plug 100B, 4713.82
Venture B-13	Sable	Missisauga	Lower Mb	2	109B	4715.84	4715.84		8.3	
Venture B-13	Sable	Missisauga	Lower Mb	2	109A	4715.68	4715.68		23.9	4715.84
Venture B-13	Sable	Missisauga	Lower Mb	3	112	4716.70	4716.70	3.38	23.9	Plug 112, 4716.44
Venture B-13	Sable	Missisauga	Lower Mb	3	117A	4717.49	4717.49	107	23.8	
Venture B-13	Sable	Missisauga	Lower Mb	3	117B	4717.53	4717.53	79.7	23.9	
Venture B-13	Sable	Missisauga	Lower Mb	3	118	4717.63	4717.63	59.2	17.8	
Venture B-13	Sable	Missisauga	Lower Mb	3	120	4717.93	4717.93	42.5	18.9	
Venture B-13	Sable	Missisauga	Lower Mb	3	121	4718.17	4718.17	71.5	26	
Venture B-13	Sable	Missisauga	Lower Mb	3	123A	4718.63	4718.63	23.7	23.2	
Venture B-13	Sable	Missisauga	Lower Mb	3	126A	4719.11	4719.11	94.3	23.9	
Venture B-13	Sable	Missisauga	Lower Mb	3	126	4719.15	4719.15	348	25.1	
Venture B-13	Sable	Missisauga	Lower Mb	3	128	4719.39	4719.39	184	22.7	Plug 128
Venture B-13	Sable	Missisauga	Lower Mb	3	132	4719.95	4719.95	172	21	
Venture B-13	Sable	Missisauga	Lower Mb	3	134	4720.27	4720.27	132	18.5	Plug 134 4720.55
Venture B-13	Sable	Missisauga	Lower Mb	3	151A	4724.34	4724.34	9.66	24.4	
Venture B-13	Sable	Missisauga	Lower Mb	3	116A	4717.37	4717.37	42.3	20.5	
Venture B-13	Sable	Missisauga	Lower Mb	3	140	4722.21	4722.21	5.01	23.5	Plug 140 4722.18
Venture B-13	Sable	Missisauga	Lower Mb	3	151	4724.39	4724.39	6.68	22.3	Plug 151, 4724.31
Venture B-13	Sable	Missisauga	Lower Mb	3	170	4728.48	4728.48	3.31	20.6	Plug 170
Venture B-13	Sable	Missisauga	Lower Mb	4	188A	4950.02	4950.02	74.1	19.8	
Venture B-13	Sable	Missisauga	Lower Mb	4	189	4950.12	4950.12	1.5	13.4	Plug 189
Venture B-13	Sable	Missisauga	Lower Mb	4	191	4950.45	4950.45	1.39	11.1	
Venture B-13	Sable	Missisauga	Lower Mb	4	194	4951.03	4951.03	0.94	16.2	Plug 194
Venture B-13	Sable	Missisauga	Lower Mb	4	194A	4951.08	4951.08	0.15	12.3	
Venture B-13	Sable	Missisauga	Lower Mb	4	196	4951.44	4951.44	21.8	24.8	
Venture B-13	Sable	Missisauga	Lower Mb	4	197	4951.82	4951.82	19.7	24.6	
Venture B-13	Sable	Missisauga	Lower Mb	4	198	4951.75	4951.75	33.7	24.1	
Venture B-13	Sable	Missisauga	Lower Mb	4	198A	4951.94	4951.94	17.4	24.7	
Venture B-13	Sable	Missisauga	Lower Mb	4	198B	4951.99	4951.99	31.1	26.1	
Venture B-13	Sable	Missisauga	Lower Mb	4	203	4952.79	4952.79	403	26.3	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Venture B-13	Sable	Missisauga	Lower Mb	4	205A	4953.14	4953.14	217	25.3	Plug 205
Venture B-13	Sable	Missisauga	Lower Mb	4	212	4954.46	4954.46	208	25.2	
Venture B-13	Sable	Missisauga	Lower Mb	4	214	4954.67	4954.67	1093	21.4	
Venture B-13	Sable	Missisauga	Lower Mb	4	214A	4954.76	4954.76	67.7	23.9	
Venture B-13	Sable	Missisauga	Lower Mb	4	214A	4954.81	4954.81	73.9	23.6	
Venture B-13	Sable	Missisauga	Lower Mb	4	219A	4955.61	4955.61	52.7	23.3	
Venture B-13	Sable	Missisauga	Lower Mb	4	219	4955.65	4955.65	120	24.9	
Venture B-13	Sable	Missisauga	Lower Mb	4	222	4956.21	4956.21	148	24.6	Plug 222, 4956.08
Venture B-13	Sable	Missisauga	Lower Mb	4	223	4956.40	4956.40	14	18.5	
Venture B-13	Sable	Missisauga	Lower Mb	4	234A	4959.05	4959.05	4.17	20.5	
Venture B-13	Sable	Missisauga	Lower Mb	4	234B	4959.20	4959.20	19.8	18.5	
Venture B-13	Sable	Missisauga	Lower Mb	4	235	4959.24	4959.24	25.7	22.5	
Venture B-13	Sable	Missisauga	Lower Mb	4	253A	4965.18	4965.18	0.13	15.3	
Venture B-13	Sable	Missisauga	Lower Mb	4	253B	4965.22	4965.22	0.11	15.1	
Venture B-13	Sable	Missisauga	Lower Mb	4	255	4965.44	4965.44	1.57	22.4	
Venture B-13	Sable	Missisauga	Lower Mb	4	256B	4965.90	4965.90	3.78	19.6	
Venture B-52	Sable	Missisauga	Lower Mb	1	1	4707.90	4708.05	0.13	14.9	
Venture B-52	Sable	Missisauga	Lower Mb	1	2	4708.05	4708.23	0.07	15.8	
Venture B-52	Sable	Missisauga	Lower Mb	1	3	4708.23	4708.39	0.18	11.9	
Venture B-52	Sable	Missisauga	Lower Mb	1	4	4708.39	4708.52	0.12	11.2	
Venture B-52	Sable	Missisauga	Lower Mb	1	5	4708.52	4708.89	0.01	3.4	4708.52; 4708.62
Venture B-52	Sable	Missisauga	Lower Mb	1	6	4708.89	4709.19	0.01	6	
Venture B-52	Sable	Missisauga	Lower Mb	1	7	4709.19	4709.51	0.18	15.4	
Venture B-52	Sable	Missisauga	Lower Mb	1	8	4709.51	4709.73	0.2	16.2	
Venture B-52	Sable	Missisauga	Lower Mb	1	9	4709.73	4709.93	0.14	15.4	
Venture B-52	Sable	Missisauga	Lower Mb	1	10	4709.93	4710.17	0.16	16.2	
Venture B-52	Sable	Missisauga	Lower Mb	1	11	4710.17	4710.37	0.37	17.1	
Venture B-52	Sable	Missisauga	Lower Mb	1	12	4710.37	4710.51	0.48	17.9	
Venture B-52	Sable	Missisauga	Lower Mb	1	13	4710.51	4710.64	2.7	21	4710.51
Venture B-52	Sable	Missisauga	Lower Mb	1	AST13	4710.64	4710.77	2.7	21	
Venture B-52	Sable	Missisauga	Lower Mb	1	14	4710.77	4710.93	0.05	6.3	
Venture B-52	Sable	Missisauga	Lower Mb	1	15	4710.93	4711.05	0.2	4.2	
Venture B-52	Sable	Missisauga	Lower Mb	1	SP16	4711.05	4711.11	1.23	7.6	
Venture B-52	Sable	Missisauga	Lower Mb	1	SP17	4711.13	4711.34	9.18	20.8	4711.13; 4711.15
Venture B-52	Sable	Missisauga	Lower Mb	1	18	4711.34	4711.54	2.87	24.7	
Venture B-52	Sable	Missisauga	Lower Mb	1	19	4711.54	4711.81	3.57	23.5	
Venture B-52	Sable	Missisauga	Lower Mb	1	20	4711.81	4712.04	0.38	16.4	
Venture B-52	Sable	Missisauga	Lower Mb	1	21	4712.04	4712.18	0.42	15.1	
Venture B-52	Sable	Missisauga	Lower Mb	1	SP22	4712.18	4712.41	10.7	22.3	
Venture B-52	Sable	Missisauga	Lower Mb	1	23	4712.41	4712.67	3.05	23.7	
Venture B-52	Sable	Missisauga	Lower Mb	1	24	4712.67	4712.91	10.4	17.3	
Venture B-52	Sable	Missisauga	Lower Mb	1	25	4712.91	4713.08	1.89	21.7	4712.49; 4713.05
Venture B-52	Sable	Missisauga	Lower Mb	1	AST25	4713.08	4713.21	1.89	21.7	
Venture B-52	Sable	Missisauga	Lower Mb	1	26	4713.21	4713.44	0.51	11.1	
Venture B-52	Sable	Missisauga	Lower Mb	1	27	4713.44	4713.64	20.7	24	4713.44
Venture B-52	Sable	Missisauga	Lower Mb	1	28	4713.64	4713.91	3.79	22.5	
Venture B-52	Sable	Missisauga	Lower Mb	1	29	4713.91	4714.18	1.99	21.1	
Venture B-52	Sable	Missisauga	Lower Mb	1	30	4714.18	4714.40	7.95	20.1	
Venture B-52	Sable	Missisauga	Lower Mb	1	31	4714.40	4714.70	4.94	22.8	
Venture B-52	Sable	Missisauga	Lower Mb	1	32	4714.70	4715.00	11.9	18.9	4714.70
Venture B-52	Sable	Missisauga	Lower Mb	2	33	4940.50	4940.92	5.37	15.3	4940.50; 4940.55
Venture B-52	Sable	Missisauga	Lower Mb	2	34	4940.92	4941.26	0.65	19.1	
Venture B-52	Sable	Missisauga	Lower Mb	2	35	4941.29	4941.62	0.12	8	
Venture B-52	Sable	Missisauga	Lower Mb	2	SP36	4941.66	4941.73	0.12	11.6	
Venture B-52	Sable	Missisauga	Lower Mb	2	37	4941.73	4942.17	1.15	12.5	
Venture B-52	Sable	Missisauga	Lower Mb	2	38	4942.17	4942.53	1.12	11.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	39	4942.53	4942.83	0.51	13.6	4942.53
Venture B-52	Sable	Missisauga	Lower Mb	2	40	4942.94	4943.22	0.2	10.5	
Venture B-52	Sable	Missisauga	Lower Mb	2	41	4943.22	4943.51	0.52	14.3	
Venture B-52	Sable	Missisauga	Lower Mb	2	42	4943.56	4943.83	0.7	12.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	43	4943.83	4944.18	1.18	17	
Venture B-52	Sable	Missisauga	Lower Mb	2	44	4944.18	4944.48	0.36	13.4	
Venture B-52	Sable	Missisauga	Lower Mb	2	45	4944.51	4944.92	0.16	10.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	46	4944.95	4945.23	21.9	10.6	4944.95
Venture B-52	Sable	Missisauga	Lower Mb	2	C1	4945.44	4945.64	0.1	9.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	47	4945.83	4946.17	2.94	14.4	
Venture B-52	Sable	Missisauga	Lower Mb	2	48	4946.17	4946.48	5.33	16	
Venture B-52	Sable	Missisauga	Lower Mb	2	48A	4946.27	4946.27	10.7	15.6	
Venture B-52	Sable	Missisauga	Lower Mb	2	49	4946.57	4946.90	0.04	6.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	50	4946.90	4947.16	0.07	6.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	51	4947.16	4947.40	2.13	11.8	
Venture B-52	Sable	Missisauga	Lower Mb	2	52	4947.40	4947.70	0.13	4.9	4947.40

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Venture B-52	Sable	Missisauga	Lower Mb	2	53	4948.12	4948.28	0.04	12.1	
Venture B-52	Sable	Missisauga	Lower Mb	2	54	4948.41	4948.64	0.57	13.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	55	4948.64	4949.14	0.72	10.3	
Venture B-52	Sable	Missisauga	Lower Mb	2	56	4949.14	4949.64	1.28	14.4	
Venture B-52	Sable	Missisauga	Lower Mb	2	57	4949.70	4949.96	4.06	14	4949.70
Venture B-52	Sable	Missisauga	Lower Mb	2	F1	4950.03	4950.15	0.1	7.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	58	4950.50	4950.65	0.09	7	
Venture B-52	Sable	Missisauga	Lower Mb	2	A59	4951.37	4951.67	0.1	5	
Venture B-52	Sable	Missisauga	Lower Mb	2	G1	4951.71	4951.82	0.1	2.5	
Venture B-52	Sable	Missisauga	Lower Mb	2	60	4952.03	4952.28	0.1	4.8	4952.03
Venture B-52	Sable	Missisauga	Lower Mb	2	61	4952.28	4952.50	1.17	9.7	
Venture B-52	Sable	Missisauga	Lower Mb	2	62	4952.57	4952.91	1.02	10.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	63	4952.91	4953.12	1.05	9.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	H1	4953.18	4953.27	0.1	5	
Venture B-52	Sable	Missisauga	Lower Mb	2	64	4953.29	4953.68	1.57	8.9	
Venture B-52	Sable	Missisauga	Lower Mb	2	65	4953.74	4954.05	1.22	10.2	
Venture B-52	Sable	Missisauga	Lower Mb	2	66	4954.05	4954.43	1.37	15.1	
Venture B-52	Sable	Missisauga	Lower Mb	2	66A	4954.15	4954.15	0.82	13	
Venture B-52	Sable	Missisauga	Lower Mb	2	67	4954.43	4954.69	3.97	15.2	4954.43; 4954.36
Venture B-52	Sable	Missisauga	Lower Mb	2	68	4954.69	4955.03	0.23	14.3	
Venture B-52	Sable	Missisauga	Lower Mb	2	69	4955.03	4955.33	0.09	12	
Venture B-52	Sable	Missisauga	Lower Mb	2	70	4955.33	4955.63	0.01	8.3	
Venture B-52	Sable	Missisauga	Lower Mb	2	71	4955.63	4956.04	0.65	15.8	
Venture B-52	Sable	Missisauga	Lower Mb	2	72	4956.04	4956.31	39	19.1	4956.04
Venture B-52	Sable	Missisauga	Lower Mb	2	72A	4956.14	4956.14	8.19	16.6	
Venture B-52	Sable	Missisauga	Lower Mb	2	73	4956.31	4956.60	3.09	16.8	
Venture B-52	Sable	Missisauga	Lower Mb	2	2	4953.00	4953.00		2.4	
Venture B-52	Sable	Missisauga	Lower Mb	3	74	5018.60	5018.92	3.47	19.3	
Venture B-52	Sable	Missisauga	Lower Mb	3	75	5018.92	5019.20	0.14	14.4	
Venture B-52	Sable	Missisauga	Lower Mb	3	76	5019.20	5019.48	0.36	14.1	
Venture B-52	Sable	Missisauga	Lower Mb	3	77	5019.48	5019.83	1	16.6	
Venture B-52	Sable	Missisauga	Lower Mb	3	78	5019.83	5020.11	4.72	21.7	
Venture B-52	Sable	Missisauga	Lower Mb	3	79	5020.11	5020.33	0.1	1.3	5020.11
Venture B-52	Sable	Missisauga	Lower Mb	3	80	5020.53	5020.88	0.1	2.4	5020.59
Venture B-52	Sable	Missisauga	Lower Mb	3	81	5020.88	5021.28	3.05	18.2	
Venture B-52	Sable	Missisauga	Lower Mb	3	82	5021.28	5021.63	0.02	10.7	
Venture B-52	Sable	Missisauga	Lower Mb	3	83	5021.83	5022.15	0.02	10	
Venture B-52	Sable	Missisauga	Lower Mb	3	84	5022.15	5022.34	0.04	9.2	
Venture B-52	Sable	Missisauga	Lower Mb	3	85	5022.34	5022.51	0.01	6.5	
Venture B-52	Sable	Missisauga	Lower Mb	3	86	5022.51	5022.78	3.95	20.4	5022.74
Venture B-52	Sable	Missisauga	Lower Mb	3	87	5022.78	5023.19	0.07	6.6	
Venture B-52	Sable	Missisauga	Lower Mb	3	88	5023.39	5023.65	0.64	6.6	5023.39
Venture B-52	Sable	Missisauga	Lower Mb	3	89	5023.65	5023.88	0.63	8.6	
Venture B-52	Sable	Missisauga	Lower Mb	3	90	5023.88	5024.16	0.34	9.7	
Venture B-52	Sable	Missisauga	Lower Mb	3	91	5024.16	5024.38	1.46	15.4	
Venture B-52	Sable	Missisauga	Lower Mb	3	92	5024.38	5024.75	0.31	11.4	
Venture B-52	Sable	Missisauga	Lower Mb	3	92A	5024.48	5024.48	0.28	6.7	
Venture B-52	Sable	Missisauga	Lower Mb	4	93	5036.00	5036.35	0.03	5.9	
Venture B-52	Sable	Missisauga	Lower Mb	4	94	5036.35	5036.71	0.02	7.4	
Venture B-52	Sable	Missisauga	Lower Mb	4	95	5036.71	5037.00	0.03	6	
Venture B-52	Sable	Missisauga	Lower Mb	4	96	5037.00	5037.25	0.28	12.4	5037.00
Venture B-52	Sable	Missisauga	Lower Mb	4	97	5037.25	5037.55	128	21.8	5037.25
Venture B-52	Sable	Missisauga	Lower Mb	4	97A	5037.45	5037.45	66.4	20	
Venture B-52	Sable	Missisauga	Lower Mb	4	98	5037.62	5037.96	2.16	11.2	
Venture B-52	Sable	Missisauga	Lower Mb	4	99	5037.96	5038.34	0.1	8.1	
Venture B-52	Sable	Missisauga	Lower Mb	4	100	5038.34	5038.61	0.74	15.3	
Venture B-52	Sable	Missisauga	Lower Mb	4	101	5040.69	5041.03	0.02	8	
Venture B-52	Sable	Missisauga	Lower Mb	4	102	5041.03	5041.34	0.5	16.5	
Venture B-52	Sable	Missisauga	Lower Mb	4	103	5041.34	5041.68	3.08	12.8	
Venture B-52	Sable	Missisauga	Lower Mb	4	104	5041.84	5042.29	1.95	17.4	5041.84
Venture B-52	Sable	Missisauga	Lower Mb	4	105	5042.29	5042.66	1.29	16.6	
Venture B-52	Sable	Missisauga	Lower Mb	4	105B	5042.49	5042.49	5	14.6	
Venture B-52	Sable	Missisauga	Lower Mb	4	106	5042.66	5043.16	6.33	16.6	
Venture B-52	Sable	Missisauga	Lower Mb	4	107	5043.28	5043.72	497	32.9	5043.28
Venture B-52	Sable	Missisauga	Lower Mb	4	107A	5043.38	5043.38	192	24	
Venture B-52	Sable	Missisauga	Lower Mb	4	108	5043.82	5044.13	969	25.2	
Venture B-52	Sable	Missisauga	Lower Mb	4	109	5044.13	5044.46	2040	25.4	
Venture B-52	Sable	Missisauga	Lower Mb	4	110	5044.46	5044.78	2.9	8.6	
Venture B-52	Sable	Missisauga	Lower Mb	4	SP111	5044.78	5044.97	71.8	19.6	
Venture B-52	Sable	Missisauga	Lower Mb	4	112	5045.17	5045.42	0.22	4.7	5045.32
Venture B-52	Sable	Missisauga	Lower Mb	4	113	5045.45	5045.93	0.94	9.1	
Venture B-52	Sable	Missisauga	Lower Mb	4	114	5046.17	5046.44	0.62	13.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Venture B-52	Sable	Missisauga	Lower Mb	4	115	5046.44	5046.78	0.18	5.9	
Venture B-52	Sable	Missisauga	Lower Mb	4	116	5046.78	5047.03	0.55	6.4	5046.78
Venture B-52	Sable	Missisauga	Lower Mb	4	117	5047.03	5047.36	0.36	6.3	
Venture B-52	Sable	Missisauga	Lower Mb	4	118	5047.46	5047.74	0.23	7	5047.51
Venture B-52	Sable	Missisauga	Lower Mb	4	119	5047.74	5048.00	0.29	9.9	
Venture B-52	Sable	Missisauga	Lower Mb	4	120	5048.00	5048.27	3.74	13.1	
Venture B-52	Sable	Missisauga	Lower Mb	5	ASTA120	5113.71	5113.77	0.08	5.4	5113.77
Venture B-52	Sable	Missisauga	Lower Mb	5	A120	5115.16	5115.47	0.08	5.4	5115.16
Venture B-52	Sable	Missisauga	Lower Mb	5	B120	5115.47	5115.93	0.32	7.2	
Venture B-52	Sable	Missisauga	Lower Mb	5	C120	5116.38	5116.81	0.18	6.4	5116.38
Venture B-52	Sable	Missisauga	Lower Mb	5	120C-2	5116.48	5116.48	5.5	13.9	
Venture B-52	Sable	Missisauga	Lower Mb	5	D120	5116.81	5117.23	0.16	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	E120	5117.23	5117.65	152	19.9	
Venture B-52	Sable	Missisauga	Lower Mb	5	F120	5117.65	5117.91	73.9	17.9	
Venture B-52	Sable	Missisauga	Lower Mb	5	G120	5117.91	5118.15	81.2	17.2	
Venture B-52	Sable	Missisauga	Lower Mb	5	H120	5118.15	5118.46	243	28.3	5118.15
Venture B-52	Sable	Missisauga	Lower Mb	5	I120	5118.46	5118.84	129	18.9	
Venture B-52	Sable	Missisauga	Lower Mb	5	J120	5118.84	5119.19	21.2	14.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	120J-2	5118.94	5118.94	79.8	19.3	
Venture B-52	Sable	Missisauga	Lower Mb	5	K120	5119.19	5119.59	239	18.4	5119.19
Venture B-52	Sable	Missisauga	Lower Mb	5	L120	5119.59	5120.02	12.2	15.5	5119.97
Venture B-52	Sable	Missisauga	Lower Mb	5	M120	5120.02	5120.42	0.35	9.3	
Venture B-52	Sable	Missisauga	Lower Mb	5	N120	5120.42	5120.86	0.1	7.9	
Venture B-52	Sable	Missisauga	Lower Mb	5	STO120	5121.22	5121.39	4.94	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	P120	5121.54	5121.73	0.11	7.7	5121.54
Venture B-52	Sable	Missisauga	Lower Mb	5	O120	5121.83	5121.97	4.94	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	R120	5121.97	5122.15	0.06	5.6	
Venture B-52	Sable	Missisauga	Lower Mb	5	STO120	5122.15	5122.23	4.94	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	ASTO120	5122.29	5122.37	4.94	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	STO120	5122.45	5122.62	4.94	8.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	S120	5122.62	5122.92	0.36	9.2	
Venture B-52	Sable	Missisauga	Lower Mb	5	T120	5122.92	5123.31	0.1	8.4	5123.20
Venture B-52	Sable	Missisauga	Lower Mb	5	ASTU120	5123.41	5123.54	0.13	9.3	
Venture B-52	Sable	Missisauga	Lower Mb	5	U120	5123.61	5123.84	0.13	9.3	
Venture B-52	Sable	Missisauga	Lower Mb	5	V120	5123.84	5124.01	0.19	10.3	5123.84
Venture B-52	Sable	Missisauga	Lower Mb	5	W120	5124.15	5124.57	0.16	6.7	
Venture B-52	Sable	Missisauga	Lower Mb	5	X120	5124.57	5124.99	0.12	6.4	
Venture B-52	Sable	Missisauga	Lower Mb	5	Y120	5124.99	5125.24	0.18	6.8	
Venture B-52	Sable	Missisauga	Lower Mb	5	Z120	5125.41	5125.62	0.04	7	
Venture B-52	Sable	Mic Mac		7	121	5266.60	5266.76	0.05	13.5	5166.73
Venture B-52	Sable	Mic Mac		7	122	5266.76	5266.98	0.05	10	
Venture B-52	Sable	Mic Mac		7	123	5266.98	5267.21	0.04	7.6	
Venture B-52	Sable	Mic Mac		7	124	5267.21	5267.45	0.03	9	
Venture B-52	Sable	Mic Mac		7	125	5267.45	5267.70	0.01	4.5	
Venture B-52	Sable	Mic Mac		7	126	5267.70	5267.93	0.03	12.7	
Venture B-52	Sable	Mic Mac		7	127	5267.93	5268.15	0.22	12.6	
Venture B-52	Sable	Mic Mac		7	128	5268.15	5268.36	0.02	10.6	5268.15
Venture B-52	Sable	Mic Mac		7	129	5268.36	5268.54	0.05	5.6	
Venture B-52	Sable	Mic Mac		7	130	5268.54	5268.84	0.03	7.8	
Venture B-52	Sable	Mic Mac		7	131	5268.84	5269.05	0.04	8.6	
Venture B-52	Sable	Mic Mac		7	132	5269.05	5269.24	0.02	6.4	5269.08
Venture B-52	Sable	Mic Mac		7	133	5269.24	5269.42	0.02	7.8	
Venture B-52	Sable	Mic Mac		7	134	5269.42	5269.62	0.02	1.4	
Venture B-52	Sable	Mic Mac		7	135	5269.62	5269.83	0.02	1.7	
Venture B-52	Sable	Mic Mac		7	136	5269.83	5270.01	0.04	3	
Venture B-52	Sable	Mic Mac		7	137	5270.01	5270.24	0.02	1.5	
Venture B-52	Sable	Mic Mac		7	138	5270.24	5270.42	0.03	1.8	
Venture B-52	Sable	Mic Mac		7	139	5270.42	5270.64	0.04	2.4	
Venture B-52	Sable	Mic Mac		7	140	5270.64	5270.86	0.02	3.5	5270.80
Venture B-52	Sable	Mic Mac		7	141	5270.86	5271.16	0.02	3	
Venture B-52	Sable	Mic Mac		7	142	5271.16	5271.47	0.04	5.8	
Venture B-52	Sable	Mic Mac		7	143	5271.47	5271.72	0.05	7.2	
Venture B-52	Sable	Mic Mac		7	144	5271.72	5271.92	0.04	4.2	
Venture B-52	Sable	Mic Mac		7	145	5271.92	5272.20	0.02	6	
Venture B-52	Sable	Mic Mac		7	146	5272.20	5272.42	0.02	5.4	
Venture B-52	Sable	Mic Mac		7	147	5272.42	5272.65	0.02	6.3	
Venture B-52	Sable	Mic Mac		7	148	5272.65	5272.93	0.02	2.1	
Venture B-52	Sable	Mic Mac		7	149	5272.93	5273.11	0.03	4.9	
Venture B-52	Sable	Mic Mac		7	150	5273.11	5273.29	0.08	8.8	
Venture B-52	Sable	Mic Mac		7	151	5273.29	5273.49	0.13	4.3	5273.48
Venture B-52	Sable	Mic Mac		7	152	5273.49	5273.68	0.21	12.4	
Venture B-52	Sable	Mic Mac		7	153	5273.68	5273.93	0.02	5.6	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Venture B-52	Sable	Mic Mac		7	154	5273.93	5274.18	13.8	21.9	5273.93
Venture B-52	Sable	Mic Mac		7	155	5274.18	5274.41	53	25.2	
Venture B-52	Sable	Mic Mac		7	155B	5274.28	5274.28	45.1	25.4	
Venture B-52	Sable	Mic Mac		7	156	5274.41	5274.62	67.4	25.5	
Venture B-52	Sable	Mic Mac		7	157	5274.62	5274.94	0.79	7.5	5274.62
Venture B-52	Sable	Mic Mac		7	158	5274.94	5275.10	0.13	14.1	
Venture B-52	Sable	Mic Mac		7	159	5275.10	5275.33	1.86	10.3	
Venture B-52	Sable	Mic Mac		7	160	5275.33	5275.58	8.21	24.1	
Venture B-52	Sable	Mic Mac		7	161	5275.58	5275.75	2.1	20.3	
Venture B-52	Sable	Mic Mac		7	162	5275.75	5276.03	0.05	13.6	5275.98
Venture B-52	Sable	Mic Mac		7	163	5276.03	5276.26	1.88	23.1	5276.03
Venture B-52	Sable	Mic Mac		7	164	5276.26	5276.50	7.25	23.4	
Venture B-52	Sable	Mic Mac		7	165	5276.50	5276.72	11.7	24.7	
Venture B-52	Sable	Mic Mac		7	166	5276.72	5276.91	13.7	23	
Venture B-52	Sable	Mic Mac		7	167	5276.91	5277.12	6.68	21.3	
Venture B-52	Sable	Mic Mac		7	168	5277.12	5277.34	6.61	18.1	
Venture B-52	Sable	Mic Mac		7	169	5277.34	5277.57	1.51	15.4	
Venture B-52	Sable	Mic Mac		7	170	5277.57	5277.81	0.85	16.8	
Venture B-52	Sable	Mic Mac		7	171	5277.81	5277.99	4.02	21.9	
Venture B-52	Sable	Mic Mac		7	172	5277.99	5278.25	1.35	18.9	
Venture B-52	Sable	Mic Mac		7	173	5278.25	5278.43	0.7	18.8	
Venture B-52	Sable	Mic Mac		7	174	5278.43	5278.68	0.73	16.9	
Venture B-52	Sable	Mic Mac		7	175	5278.68	5278.88	0.07	9.8	5278.82
Venture B-52	Sable	Mic Mac		7	176	5278.88	5279.16	0.04	6.5	
Venture B-52	Sable	Mic Mac		7	177	5279.16	5279.40	0.05	6.5	5279.22
Venture B-52	Sable	Mic Mac		8	178	5538.24	5538.56	0.12	7.1	
Venture B-52	Sable	Mic Mac		8	179	5538.79	5539.27	0.33	10.1	5538.79
Venture B-52	Sable	Mic Mac		8	180	5539.50	5539.75	0.06	5.6	
Venture H-22	Sable	Missisauga	Lower Mb	1	9A	4712.30	4712.30	0.42	18.5	
Venture H-22	Sable	Missisauga	Lower Mb	1	11	4712.96	4712.96	0.31	15.9	
Venture H-22	Sable	Missisauga	Lower Mb	1	20A	4715.69	4715.69	0.31	17.4	
Venture H-22	Sable	Missisauga	Lower Mb	1	22	4716.27	4716.27	0.55	21	
Venture H-22	Sable	Missisauga	Lower Mb	1	23A	4716.52	4716.52	1.01	18	
Venture H-22	Sable	Missisauga	Lower Mb	1	29	4718.15	4718.15	0.33	15.5	
Venture H-22	Sable	Missisauga	Lower Mb	1	31	4718.53	4718.53	0.93	21	
Venture H-22	Sable	Missisauga	Lower Mb	1	34A	4719.32	4719.32	1.77	20.2	
Venture H-22	Sable	Missisauga	Lower Mb	1	35	4719.56	4719.56	1.3	17.7	
Venture H-22	Sable	Missisauga	Lower Mb	1	44A	4721.99	4721.99	1.8	20	
Venture H-22	Sable	Missisauga	Lower Mb	1	47	4722.73	4722.73	0.27	12.1	
Venture H-22	Sable	Missisauga	Lower Mb	3	74	4957.71	4957.71	0.49	13.4	
Venture H-22	Sable	Missisauga	Lower Mb	3	75	4957.91	4957.91	0.39	12.7	
Venture H-22	Sable	Missisauga	Lower Mb	3	80A	4958.85	4958.85	1.08	15.3	
Venture H-22	Sable	Missisauga	Lower Mb	3	93A	4961.43	4961.43	54.3	23.8	
Venture H-22	Sable	Missisauga	Lower Mb	3	94	4961.58	4961.58	2.21	18.3	
Venture H-22	Sable	Missisauga	Lower Mb	3	98	4962.33	4962.33	1.24	17.9	
Venture H-22	Sable	Missisauga	Lower Mb	3	103	4963.45	4963.45	0.33	15.7	
Venture H-22	Sable	Missisauga	Lower Mb	3	107	4964.43	4964.43	1.88	19.9	
Venture H-22	Sable	Missisauga	Lower Mb	3	109	4964.81	4964.81	0.53	18.2	
Venture H-22	Sable	Missisauga	Lower Mb	3	125	4968.04	4968.04	2.61	19.5	
Venture H-22	Sable	Missisauga	Lower Mb	3	129	4968.68	4968.68	0.55	17.7	
Venture H-22	Sable	Missisauga	Lower Mb	3	137	4970.27	4970.27	0.72	17.8	
Venture H-22	Sable	Missisauga	Lower Mb	3	141	4971.18	4971.18	0.25	11.5	
Venture H-22	Sable	Missisauga	Lower Mb	3	144	4971.72	4971.72	1.05	16	
Venture H-22	Sable	Missisauga	Lower Mb	3	146A	4972.11	4972.11	12.8	21.7	
Venture H-22	Sable	Missisauga	Lower Mb	3	147A	4972.24	4972.24	23.6	23.6	
Venture H-22	Sable	Missisauga	Lower Mb	4	162	4975.45	4975.45	38.9	25.7	
Venture H-22	Sable	Missisauga	Lower Mb	4	166	4976.14	4976.14	24	25.5	
Venture H-22	Sable	Missisauga	Lower Mb	4	167	4976.37	4976.37	6.73	23.3	
Venture H-22	Sable	Missisauga	Lower Mb	4	177	4978.30	4978.30	0.15	14.8	
Venture H-22	Sable	Missisauga	Lower Mb	4	197	4982.35	4982.35	7.56	21.4	
Venture H-22	Sable	Missisauga	Lower Mb	4	199	4982.72	4982.72	12.8	23.9	
Venture H-22	Sable	Missisauga	Lower Mb	4	203	4983.50	4983.50	12.7	22	
Venture H-22	Sable	Missisauga	Lower Mb	4	214	4986.11	4986.11	0.52	13.5	
Venture H-22	Sable	Missisauga	Lower Mb	5	275	5015.54	5015.54	0.16	10.3	
Venture H-22	Sable	Missisauga	Lower Mb	5	276	5015.85	5015.85	108	15.7	
Venture H-22	Sable	Missisauga	Lower Mb	5	277A	5016.08	5016.08	792	26.1	
Venture H-22	Sable	Missisauga	Lower Mb	5	282A	5017.53	5017.53	21.2	12.6	
Venture H-22	Sable	Missisauga	Lower Mb	5	283	5017.66	5017.66	62.9	17.4	
Venture H-22	Sable	Missisauga	Lower Mb	5	286	5018.27	5018.27	357	23.8	
Venture H-22	Sable	Missisauga	Lower Mb	5	288	5018.68	5018.68	10.4	17.2	
Venture H-22	Sable	Missisauga	Lower Mb	5	290	5018.91	5018.91	3.55	12.6	
Venture H-22	Sable	Missisauga	Lower Mb	5	291	5019.05	5019.05	136	21.5	

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.

Appendix 3: Porosity and permeability analyses from plug samples from selected wells in the Abenaki and Sable subbasins. Analyses made by operating company. Samples (thin section, geochemical) corresponding to plug intervals are also listed.

Well	Subbasin	Formation	Member	Core Number	Plug Number	Top (m)	Bottom (m)	Kmax (m darcys)*	Porosity (%)	Corresponding Sample ID**
Venture H-22	Sable	Missisauga	Lower Mb	6	292	5021.00	5021.00	2.51	16.5	
Venture H-22	Sable	Missisauga	Lower Mb	6	293	5021.32	5021.32	40.6	17.2	
Venture H-22	Sable	Missisauga	Lower Mb	6	295	5021.77	5021.77	4.54	18.4	
Venture H-22	Sable	Missisauga	Lower Mb	6	300A	5023.12	5023.12	19.4	17.9	
Venture H-22	Sable	Missisauga	Lower Mb	6	308A	5025.04	5025.04	0.16	12.3	
Venture H-22	Sable	Missisauga	Lower Mb	6	315	5026.73	5026.73	1.13	16.8	
Venture H-22	Sable	Missisauga	Lower Mb	6	317	5027.11	5027.11	1.6	18.5	
Venture H-22	Sable	Missisauga	Lower Mb	6	322A	5028.47	5028.47	0.56	16.3	
Venture H-22	Sable	Missisauga	Lower Mb	6	325	5029.30	5029.30	0.2	14.8	
Venture H-22	Sable	Missisauga	Lower Mb	6	331	5030.74	5030.74	0.55	16.6	
Venture H-22	Sable	Missisauga	Lower Mb	6	334	5031.62	5031.62	2.57	20.5	
Venture H-22	Sable	Missisauga	Lower Mb	6	335	5031.79	5031.79	3.15	19.8	
Venture H-22	Sable	Missisauga	Lower Mb	6	336	5031.99	5031.99	2.79	20.2	
Venture H-22	Sable	Missisauga	Lower Mb	6	341	5033.33	5033.33	0.39	17.1	
Venture H-22	Sable	Missisauga	Lower Mb	7	401A	5052.36	5052.36	6.62	21.6	
Venture H-22	Sable	Missisauga	Lower Mb	7	411	5055.14	5055.14	0.73	19	
Venture H-22	Sable	Missisauga	Lower Mb	7	412	5055.42	5055.42	15.3	24.1	
Venture H-22	Sable	Missisauga	Lower Mb	7	414	5055.86	5055.86	18.2	23.9	
Venture H-22	Sable	Missisauga	Lower Mb	7	417A	5056.63	5056.63	11.6	23.4	
Venture H-22	Sable	Missisauga	Lower Mb	7	421	5057.45	5057.45	1.54	18.4	
Venture H-22	Sable	Missisauga	Lower Mb	7	427	5058.80	5058.80	0.18	14.6	
Venture H-22	Sable	Missisauga	Lower Mb	7	432	5060.99	5060.99	0.69	16.9	
Venture H-22	Sable	Missisauga	Lower Mb	7	435	5061.80	5061.80	1.92	19.9	
Venture H-22	Sable	Missisauga	Lower Mb	7	438A	5062.62	5062.62	1.99	20.6	
Venture H-22	Sable	Missisauga	Lower Mb	7	441	5063.29	5063.29	4.26	21.1	
Venture H-22	Sable	Missisauga	Lower Mb	7	444	5064.02	5064.02	0.25	17.3	
Venture H-22	Sable	Missisauga	Lower Mb	7	445	5064.32	5064.32	0.44	16.9	
Venture H-22	Sable	Missisauga	Lower Mb	7	446A	5064.60	5064.60	0.24	15.4	
Venture H-22	Sable	Missisauga	Lower Mb	7	455	5067.07	5067.07	0.31	14.3	
Venture H-22	Sable	Mic Mac		8	500	5241.96	5241.96	0.21	10.5	
Venture H-22	Sable	Mic Mac		8	502A	5242.27	5242.27	0.51	10.4	
Venture H-22	Sable	Mic Mac		8	501	5242.28	5242.28	0.28	9.7	
Venture H-22	Sable	Mic Mac		8	510	5244.82	5244.82	8.55	14.2	
Venture H-22	Sable	Mic Mac		8	516	5246.23	5246.23	0.28	10.8	
Venture H-22	Sable	Mic Mac		8	517A	5246.40	5246.40	0.36	12.8	
Venture H-22	Sable	Mic Mac		8	519A	5247.09	5247.09	3.33	15.7	
Venture H-22	Sable	Mic Mac		8	520	5247.45	5247.45	0.16	12.5	

Note: No plug analyses were availablefor Como P-21 (core 1), Hesper I-52, Marmora P-35 Mic Mac D-89 (core 2), Panuke B-90 (core 13), Sable Island C-67 (core 4), Venture B-52 (core 6), Venture H-22 (core 2), Thebaud C-74 (core 3), Thebaud I-93 (core 4), Wenonah J-75

* Maximum horizontal permeability measurement, generally parallel to direction of principal fracture.

**Depth of sample and/or sample ID recorded by logger. May be different from plug depth if logger did not use operator's depths.