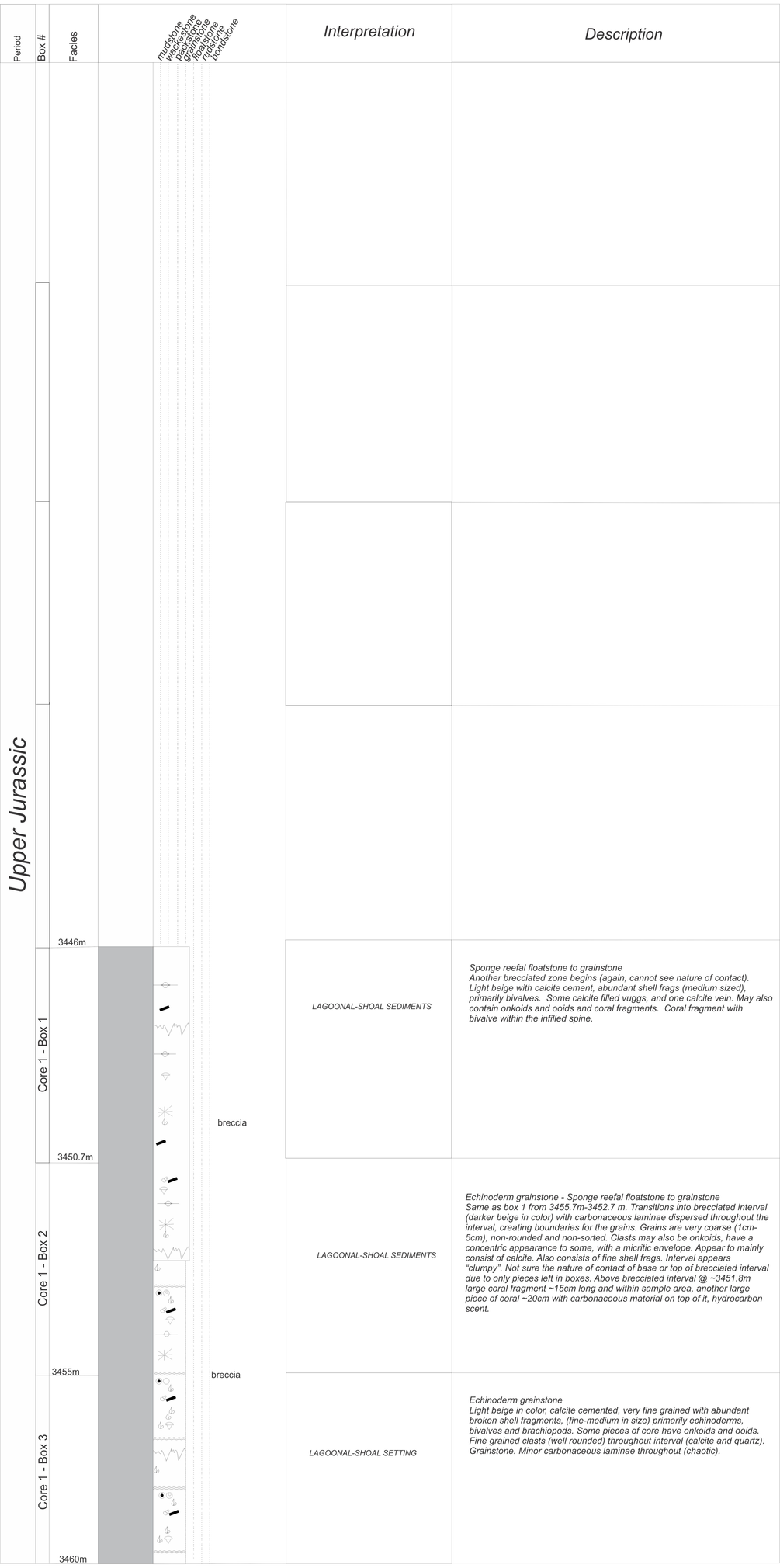
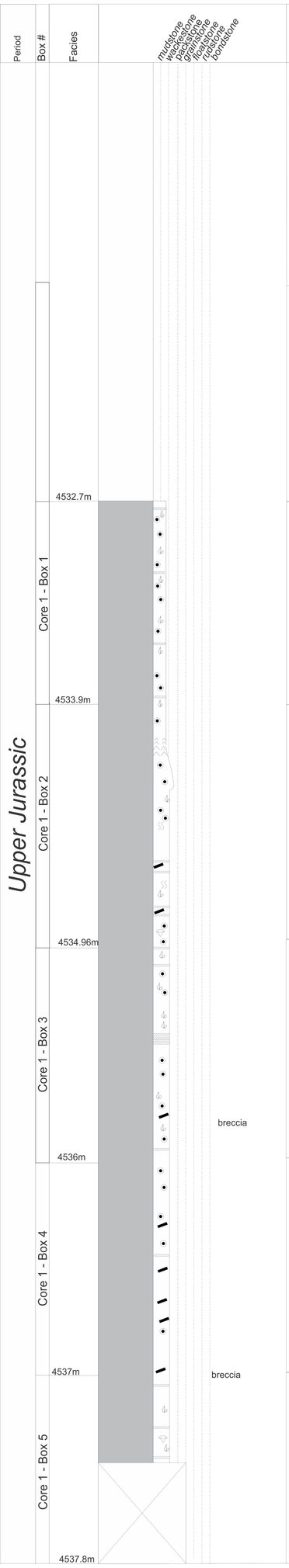
PCP Panuke H-08 core 1
Scotian Basin
Nova Scotia, Canada



Key

- Stromatolite
- Marl to mudrock
- Marly limestone
- Limestone
- Dolostone and dolomitic limestone
- Anhydrite
- Grading
- Stromatolitc lamination
- Cross-lamination
- Irregular lamination
- Planar lamination
- Cross bedding
- Oysters
- Gastropods
- Bivalves (general)
- Bivalve lag
- Valve (oriented)
- fossil wood
- Echinoids
- Peloids
- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*
- coral

PCP Panuke M-79 core 1
Scotian Basin
Nova Scotia, Canada



Interpretation	Description
LAGOONAL-SHOAL SEDIMENTS	*Oolitic mudstone* *Very similar to box 4, however more intervals of the coarse grained, well rounded and well-sorted clasts (<1cm-3cm in size). Still have carbonaceous laminations throughout in a light grey, ooid and shell fragment rich Packstone.*
LAGOONAL-SHOAL SEDIMENTS	*Oolitic mudstone* *Light grey (ooids and shell frags) with calcareous with carbonaceous, non-planar, wavy laminations (~4-5) throughout, appears as coal. Two intervals @ 4534.0m and 4533.7m of ~8cm thick with medium-coarse grained, well rounded and well sorts clasts of calcite, and quartz (storm deposits). No shell frags within these intervals (that can be seen in the core). Clast rich interval @4533.7m has a wavy, erosional contact with the VF grained Packstone with cross-stratified carbonaceous laminations. Mixed terrigenous mudstone/lime wackestone. Nodular bedding is mainly from differential compaction and burrowing.*
LAGOONAL-SHOAL SEDIMENTS	*Oolitic mudstone* *First half of box three (4536m-4535.48m) same as box 2. Mixed terrigenous mudstone/lime wackestone . Light grey with fine black specs (ooids, intraclasts) and shell frags interlayered with small carbonaceous laminations. Fine, well rounded clasts throughout (calcite). Second half of box three (4535.48m-4534.96m) is a transition zone from light grey with the darker grey laminations to dark grey/black with abundant well-rounded and well sorted clasts (calcite) and shell frags. It is an abrupt, non-planar change. Clasts are <1cm-3cm. Black wavy laminations, carbonaceous rich (coaly).*
LAGOONAL-SHOAL SEDIMENTS	*Oolitic mudstone* *Dark grey calcareous cemented Packstone with abundant black specs (almost certain they are ooids, could potentially also be intraclasts (took sample)). Still abundance of white clasts (>10%<20%), calcite or quartz. Becoming more layered, with lighter grey (ooids rich, shell frags and intraclasts), 2cm-10cm thick layers, and darker grey with minor shell frags. Layers are non-uniform, perhaps brecciated.*
LAGOONAL-SHOAL SETTING	*Light grey with dark grey non-parallel, non-planar, discordant laminations. Calcareous cement, abundant white clasts (calcite) and fine shell fragments (undistinguishable). Near top of box 1, lighter grey material becomes separated by the dark grey laminations (brecciated zone?)*

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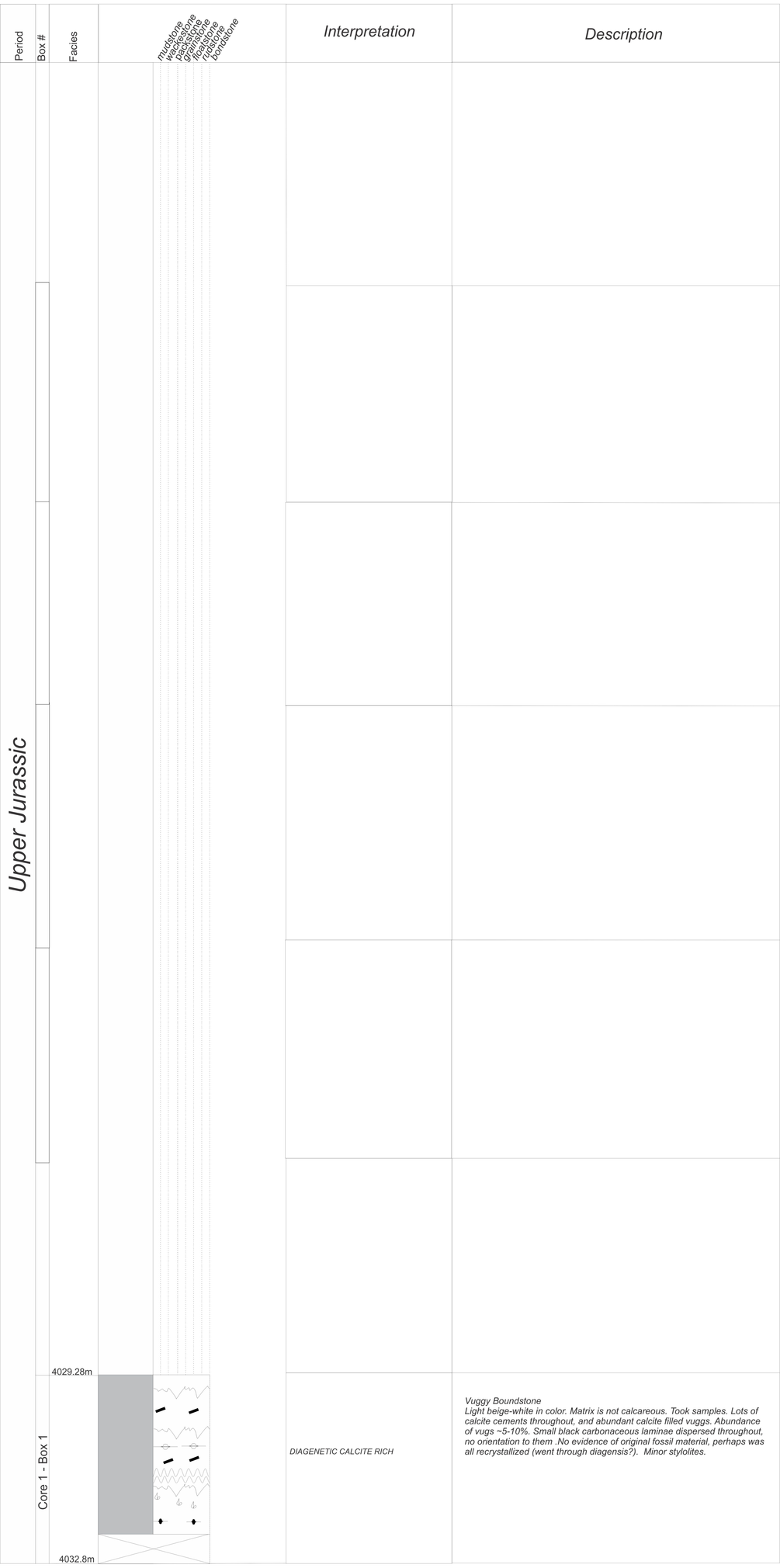
- Valve (oriented)
- fossil wood
- Echinoids
- Peloids
- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*
- coral

PCP Panuke PI-1A core 1
Scotian Basin
Nova Scotia, Canada



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- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*

Photo #4 - whole core - base - top.

WELL: Cohasset L-97 Core # 1 GEOL.: Taylor Campbell DATE: 04/20/16 PAGE: 1

BOX NO.	DEPTH FT/M	SEDIMENTARY STRUCTURES	LITHOLOGY & GRAIN SIZE (CBL, PBL, GRAN, VC ULL, C ULL, M ULL, F ULL, VF ULL, SILT, CLAY)	SURFACE DESCRIP. LAMINAE GEOMETRY	BED INTERPRETATION	BIOTURBATION INDEX 1 2 3 4	NOTES	LITHO FACIES	FACIES ASSN	DEP ENV	CHRONO STRAT/ LITHO
TSEC467	3410										
	10										
	3411						• Lots of calcite + stylolites				
	9	pyrite (55) #56		All brecciated w/ stylolites			• Calcite is surrounding some clasts	Mudstone-wackestone		Lagoonal / shoal.	
	3413										
	8			54			• Coral ~ 5cm				
TSBFG26	3414										
	7			Large calcite vien in breccia (53) (52)			• Lots of calcite. Appears brecciated. => clasts are lighter grey than matrix.				
	3416			Turns to a sponge-y looking coral. (missing Transition)							
	6			(50) • Large growth framed coral (51)			Starts in top of 1st half of 6 Pushed. 2nd half is coral • Gradual Das.	Brecciated wackestone-packstone		Open marine carb. bank. Faulting.	
	3417										
	5			Large coral (49) • Stylolite			• Large coral ~ 15cm long • also small coral ~ 5cm				
TSBFG27	3418										
	4			Stylolites. • Coral. MISSING Calcite vug. • bivalves • (47 & 48) MISSING			• poorly sorted				
	3419										
TSBFG28	3						• Lots of pressure solution => stylolites.	Crystalline mudstone		Open marine carb. bank	
	3421			Molluscs • bivalves => calcite filled Missing (46)			Calcite filled vuggs.				
	2			color gets lighter moving up. calcite viens.			• Light grey in color • Mottled look => mixed w/ black, brown & darker grey.				
	3422										
	1			• Clasts surrounded by laminae. • Pressure dissolution. Stylolite (45) • Small laminations							
	3425m										

Grant Wach 2/16/00

WELL: Cohasset L-97 Core #1 GEOL.: Taylor Campbell DATE: 04/20/16 PAGE: 2.

BOX NO.	DEPTH FT/M	SEDIMENTARY STRUCTURES	LITHOLOGY & GRAIN SIZE (CBL, PBL, GRAN, VC UL, C UL, M UL, F UL, VF UL, SILT, CLAY)	SURFACE DESCRIP. LAMINAE GEOMETRY	BED INTERPRETATION	BIOTURBATION INDEX 1 2 3 4	NOTES	LITHO FACIES	FACIES ASSN	DEP ENV	CHRONO STRAT/ LITHO
	3406.04			(59) Transitions into lighter grey/brown bivalves				Mudstone-wackestone		Lagoonal / shoal.	
	14										
	3407.07										
	13			(58) → small brecciated zone.			→ surrounded by calcite → some coral.				
	3407.77			stylolites throughout							
TSBFG24	12			← brecciated.							
TSBFG25	3409			brecciated zone is (57) diminishing (getting finer)			• LOTS OF calcite + pyrite				
	11										
	3410										

Grant Wach 2/16/00

Shell Acadia K-62, core 4
Scotian Basin
Nova Scotia, Canada

Period	Box #	Facies	Interpretation	Description
Upper Jurassic	Core 4 - Box 7	3374m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. Large coral fragments.
	Core 4 - Box 8	3378m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Two stylolites. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. Most fossils have an envelope of pink/beige color (microbial?).
	Core 4 - Box 9	3382m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Not quite as interbedded as below, now is mostly grainstone (onkolitic grainstone). Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Two stylolites. Fossils are primarily coral frags (<1cm-5cm) and onkoids (<1cm-2cm). At ~3379m, erosional transition to ~10cm thick mudstone interval with shell frags and clay laminae. Erosional surface also at top. Transitions back into original grainstone.
	Core 4 - Box 10	3387m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Not quite as interbedded as below, now is mostly grainstone (onkolitic grainstone). Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Two stylolites. Fossils are primarily coral frags (<1cm-5cm) and onkoids (<1cm-2cm).
	Core 4 - Box 11	3391m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Largest fossils are coral and gastropods. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Large coral fragments ~<2-10cm within grainstone interval. Abundant onkoids. Bivalve shell ~8cm across. in thin section TSEC350 -fine grained, very well sorted, subrounded micritic clasts (peloids?), make up ~50% of section. -calcite formed planar (euhedral) -porosity=~50% -very large coral fragments have been recrystallized, which have micritic boundary (onkoids or micritic envelopes?) -onkoids
	Core 4 - Box 12	3395m	LAGOONAL-SHOAL SEDIMENTS	SHALLOW MARINE, LOW ENERGY ENVIRONMENT Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids.. Not as many large fossils within this section. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Wackestone interbedded with grainstone. Grainstone typically comprises shell-rich, clasts, poorly sorted grains (slightly darker beige). Wackestone comprises clay-silt size grains with scattered, discontinuous muddy laminae with minor fossil frags <10%.
	Core 4 - Box 13	3399.2m	SHOAL SEDIMENTS	SHALLOW MARINE, LOW ENERGY SETTING Missing core from 3399.2m-3397m. Light beige/peach color. Calcite cement, sparite matrix. Stylolites abundant. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Largest fossils are coral and gastropods. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Large calcite filled vuggs, typically within fossil frags (coral). Intraclast porosity. Isolated but common discontinuous, clay laminae. in thin section: TSEC351 -lots of recrystallisation --sparite cement -lots of porosity approx. 10% -calcite cement, blocky, consisting of medium-corase grained crystals without preferred orientation -coral (recrystallized) -mollusks, abundant onkoids -

brecciated fabric throughout

Period	Box #	Facies	Interpretation	Description
Upper Jurassic	Core 4 - Box 1	3339m	LAGOONAL-SHOAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM SETTING Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Fossils are primarily coral frags, although fossils are much smaller (<1cm-2cm). Color also changes slightly to darker beige/greenish tinge.
	Core 4 - Box 2	3344m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. Large coral fragments.
	Core 4 - Box 3	3349m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric.
	Core 4 - Box 4	3353m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. As onkoids get larger, more mudstone is present, surrounding them.
	Core 4 - Box 5	3358m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae.. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. Large coral fragments. 30cm thick interval ~3357m is darker grey/green matrix with abundant onkoids, coral and shell frags. Abrupt transition above and below.
	Core 4 - Box 6	3363m 3368m	LAGOONAL SEDIMENTS	SHALLOW MARINE, INNER PLATFORM-SLOPE EDGE SETTING Light beige/peach color. Calcite cement, sparite matrix. Large fossil frags, including bivalves, coral, gastropods, bryozoans, onkoids and ooids. Minor fine-medium grained clasts, rounded and dark grey, brown or white in color. Perhaps calcite, mudstone. Isolated but common discontinuous, clay laminae.. Fossils are primarily coral frags (<1cm-10cm) and onkoids (<1cm-10m). Onkoids are bordered by clay/silt laminae, brecciated fabric. Large coral fragments. in thin section TSEC364 -only 11 fragments of rock on thin section -micritic clasts (peloids?) -forminifera -small fragments of coral -onkoids, minor ooids -sparite cement, non-planar, closely packed anhedral crystals -~5% porosity, intraparticle

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- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*
- Coral

Shell Acadia K-62, core 5
Scotian Basin
Nova Scotia, Canada

Period	Box #	Facies	mudstone wackestone packstone grainstone floatstone rudstone boundstone	Interpretation	Description
Upper Jurassic	Core 5 - Box 5	3743.9m		MUD-RICH REEF MOUND SEDIMENTS	*DEEP-WATER SHELF, NUTRIENT RICH, POTENTIALLY ALTERNATED THROUGH METEORIC DIAGENESIS* *Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance. Calcite filled vugg. Some intervals appear to be microbial. Laminae have been compactively deformed to create a nodular fabric.* *in thin section:TSRR176* *-peloidal micritic fabric-not as microbial and below* *-forminifera, ostracods,echinoderm spine, algae, onkolites, bryozoan,* *-stylolites, oolites within stylolite column (sediment from below)* *-calcite replacement of fossils and stylolite gauge* *-part of an ammonite?* *-few stages of diagenesis*
	Core 5 - Box 6	3745.3m		MUD-RICH REEF MOUND SEDIMENTS	*DEEP-WATER SHELF, NUTRIENT RICH, POTENTIALLY ALTERNATED THROUGH METEORIC DIAGENESIS* *Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance. Silt laminations are more abundant. Some intervals appear to be microbial.*
	Core 5 - Box 7	3746.7m		MUD-RICH REEF MOUND SEDIMENTS	*DEEP-WATER SHELF, NUTRIENT RICH, POTENTIALLY ALTERNATED THROUGH METEORIC DIAGENESIS* *Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance. Silt laminations are more abundant.*
	Core 5 - Box 8			MUD-RICH REEF MOUND SEDIMENTS	*Same rock type continues until 3748.8m, it then abruptly transitions to a darker grey mudstone with minor carbonaceous laminations. Pyrite formation throughout interval. Wavy, parallel laminations. Minor mixing of the darker grey mudstone with the lighter grey Wackestone (perhaps through bioturbation). Minor clasts (fine-medium grained), calcite or quartz, or rip up clasts from the lighter Wackestone. Above, approximately 0.5m of core is missing, and then it continues into the light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackestone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance.*
		pyrite		STORM DEPOSIT	
	Core 5 - Box 9	3748.1m		MUD-RICH REEF MOUND SEDIMENTS	*Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance*
	Core 5 - Box 10	3749.6m		MUD-RICH REEF MOUND SEDIMENTS	*Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance. Minor clasts (<1cm-3cm) of calcite, or darker grey mudstones (intraclasts)* *in thin section: TSEC352;TSEC369 (very thick thin section, hard to see)* *-microbial, not quite as layered as 353* *-peloidal micritic matrix* *-ostracods (small crustaceans)* *-brachiopods are recrystallized* *-bryozoans* *-calcite and dolomite replacement of some fossil fragments* *-shelter porosity, also moldic and intraparticle* *-perhaps ammonite (chambered fossil)* *-microboring* *-gastropod with the interior dissolved* *-fenestral porosity as well*
	Core 5 - Box 11	3751m		MUD-RICH REEF MOUND SEDIMENTS	*Missing core from 3752.4m-3752.1m. Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. No visible fossils, everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance.* *n thin section: TSEC353* *-microbial* *-micritic matrix(peloidal)* *-lots of coral (scleractina)* *-bivalves (recrystallized)* *-large gastropods* *-very fine ostracods* *-echinoderm spines* *-bryozoans (growing on gastropods, exposure, marine)* *-lots of calcite recrystallization also some dolomite* *-moldic porosity-->dissovled components as well as intraparticle* *-mollusks*
		brecciated fabric throughout entire core			
		3752.4m			

Period	Box #	Facies	mudstone wackestone packstone grainstone floatstone rudstone boundstone	Interpretation	Description
Upper Jurassic	Core 5 - Box 1	3736.2m		MUD-RICH REEF MOUND SEDIMENTS	*Light beige color, micritic matrix. Very brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance.*
	Core 5 - Box 2	3738.2m		MUD-RICH REEF MOUND SEDIMENTS	\ *Light beige color, micritic matrix. Very brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance.*
	Core 5 - Box 3	3739.6m		MUD-RICH REEF MOUND SEDIMENTS	*Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance. Some intervals appear to be microbial.*
	Core 5 - Box 4	3741.0m		MUD-RICH REEF MOUND SEDIMENTS	*DEEP-WATER SHELF, NUTRIENT RICH, POTENTIALLY ALTERNATED THROUGH METEORIC DIAGENESIS* *Light beige color, micritic matrix. Brecciated fabric. Abundant stylolites throughout, core is fracturing along stylolites. Minor shell frags, mollusks although everything is very recrystallized (diagenesis). Wackstone clasts intermixed with mudstone (lighter beige vs slightly darker beige). Mottled appearance.*
		3742.5m			

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- Bioturbation
- Fenestral Porosity
- Intraclasts
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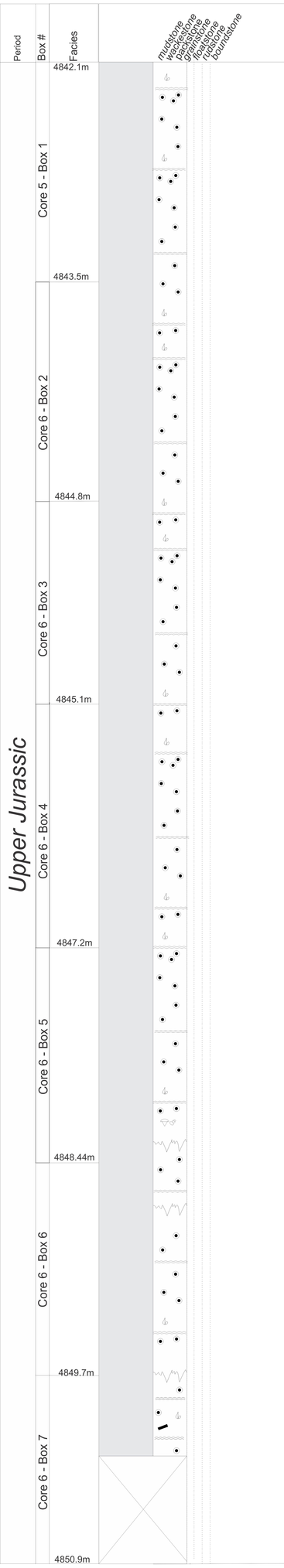
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*
- Coral

Shell Acadia K-62, core 6
Scotian Basin
Nova Scotia, Canada



Interpretation	Description
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Only two laminations. Minor clasts (fine-very fine grained), primarily quartz and calcite. One large ~15cm long, mud clast, parallel to coring direction. At 4843.8m, large chambered fossil (ammonite?), all replaced with calcite. Micritic matrix.*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Only two laminations. Minor clasts (fine-very fine grained), primarily quartz and calcite. Some intervals are light beige/grey in color, however that is believe to be due to exposure and age (happens to abruptly and randomly). Micritic matrix*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Only two laminations. Minor clasts (fine-very fine grained), primarily quartz and calcite. Micritic matrix.*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Laminations become more abundant, as well as parallel and wavy. They are not as "compact", or none of them are almost stylolites. Minor clasts (fine-very fine grained), primarily quartz and calcite. Micritic matrix.* *I*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Only two laminations. Minor clasts (fine-very fine grained), primarily quartz and calcite. Micritic matrix.* *in thin section: TSEC383* *-same as other two, except this has more bivalves as nuclei (or bivalves with micritic envelope* *-ooids within ooids (onkoids)* *-echinoderm spines* *-<1% porosity* *-gastropod as nuclei* *-minor intraclasts with bivalves and ooids* *-stylolites* *-some ooids fused together*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Dark grey grainstone, made up of >60% ooids, and other shell frags. Small carbonaceous mudstone laminae throughout, randomly oriented. Some laminations are almost stylolites. Minor clasts (fine-very fine grained), primarily quartz and calcite. Micritic matrix.*
OOID-RICH SHOAL SEDIMENTS	*PLATFORM INTERIOR AND INNER AND MID-RAMPS, HIGH ENERGY MARINE SETTINGS ON SHOAL, TIDAL BAR AND BEACH* *Core is missing until 4850.3m. Dark grey grainstone, almost appears as a sandstone, however under hand lens it is obvious they are ooids and VF grained shell frags. Small carbonaceous mudstone laminae throughout, randomly oriented. At 4849.5m, a mudstone lamina is almost a stylolite, it is outlined with pyrite, evident from the oxidation taking place. Minor clasts (fine-very fine grained), primarily quartz and calcite. Micritic matrix.* *in thin seciitions: TSEC354; TSEC384* *-90% ooids in sparite matrix* *-quartz is nucleus for~70% of ooids* *-mainly all concentric ooids* *-2 generations, 50% large and 50% small, some touching* *-some microboring on some larger ooids-->microboring also within nucleus of some large and small ooids* *-plagioclase as some nulcei?* *-354: similar to 384, except smaller ooids* *-well sorted with sparite cement, brachiopods as some nuclei*

Key

- Stromatolite
- Marl to mudrock
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- Stromatolitc lamination
- Cross-lamination
- Irregular lamination
- Planar lamination
- Cross bedding
- Oysters
- Gastropods
- Bivalves (general)
- Bivalve lag
- Valve (oriented)
- fossil wood
- Echinoids
- Peloids
- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*
- Coral

Mohican I-100 core 3
Scotian Basin
Nova Scotia, Canada

Period	Box #	Facies	Interpretation	Description
Upper Jurassic	Core 3 - Box 2	9322ft	FISSILE MUD-RICH DEEP OFFSHORE SEDIMENTS	Dark grey/black fissile shale (storm deposit?) (perhaps a grain-packstone) with abundant disarticulated shell frags (primarily bivalves). Silty to very fine grained sand size with scattered and discontinuous wavy laminae. No bioturbation unit this interval. Grains are well sorted. Intraclasts with onkoids, serpelids, bivalves and have micritic envelopes. Also some echinoderms (Intraclast came from quieter setting).
	Core 3 - Box 3	9325ft	FISSILE MUD-RICH DEEP OFFSHORE SEDIMENTS	Gradual transition into fissile shale (storm deposit?) (perhaps a grain-packstone) with abundant disarticulated shell frags (primarily bivalves). Silty to very fine grained sand size with scattered and discontinuous wavy laminae. No bioturbation unit this interval. Grains are well sorted. Intraclasts with onkoids, serpelids, bivalves and have micritic envelopes. Also some echinoderms (Intraclast came from quieter setting).
	Core 3 - Box 4	9329ft	MUD RICH MARINE SEDIMENTS	Missing core from 9327ft-9325ft. Dark grey in color. Small black organic rich laminations. Abundant shell frags including mollusks, gastropods, brachiopods. Other fossils visible include serpinlids and foraminifera. Heavily bioturbated ~3. Shell frags are all in the mud-wackestone, would have came from elsewhere (bivalves are filled with other seds). Mud-wackestone is interbedded with small intervals (<3cm thick) of argillaceous siltstone). Thalassinoid trace fossil.
	Core 3 - Box 5	9333ft	MUD RICH MARINE SEDIMENTS	Dark grey in color. Small black organic rich laminations. Abundant shell frags including mollusks, gastropods, brachiopods. Other fossils visible include serpinlids and foraminifera. Heavily bioturbated ~3. Shell frags are all in the mud-wackestone, would have came from elsewhere (bivalves are filled with other seds). Mud-wackestone is interbedded with small intervals (<3cm thick) of argillaceous siltstone).
	Core 3 - Box 6	9335ft	MUD RICH MARINE SEDIMENTS	Dark grey in color. Small black organic rich laminations. Abundant shell frags including mollusks, gastropods, brachiopods. Other fossils visible include serpinlids and foraminifera. Heavily bioturbated ~3. Shell frags are all in the mud-wackestone, would have came from elsewhere (bivalves are filled with other seds). Mud-wackestone is interbedded with small intervals (<3cm thick) of argillaceous siltstone).
	Core 3 - Box 7	9339ft	MUD RICH MARINE SEDIMENTS	Dark grey in color. Small black organic rich laminations. Abundant shell frags including mollusks, gastropods, brachiopods. Other fossils visible include serpinlids and foraminifera. Heavily bioturbated ~3. Shell frags are all in the mud-wackestone, would have came from elsewhere (bivalves are filled with other seds). Rhizocorallium trace fossil. Small <1cm microbial mud lamination. Mud-wackestone is interbedded with small intervals (<3cm thick) of argillaceous siltstone).
	Core 3 - Box 8	9344ft	MUD RICH MARINE SEDIMENTS EROSIONAL STORM EVENT MUD RICH MARINE SEDIMENTS	Dark grey in color. Small black organic rich laminations. Abundant shell frags including mollusks, gastropods, brachiopods. Other fossils visible include serpinlids and forminifera. Heavily bioturbated ~3. Shell frags are all in the mud-wackestone, would have came from elsewhere (bivalves are filled with other seds). *in thin section: TSBF545* -shell fragments in micritic matrix -gastropods, bivalves, brachiopods (larger than other shells) -shells infilled with micritic mud -minor echinoderm -serpilids, forminifera.
Upper Jurassic	Core 3 - Box 1	9314ft	MUD RICH MARINE SEDIMENTS FISSILE MUD RICH DEEP MARINE SEDIMENTS	Dark grey/black fissile shale from 9318ft-9316.5ft then abruptly transitions back into lighter grey wackestone that is heavily bioturbated. *in thin section : TSBF546* -lots of intraclasts (storm deposit) (contain serpelids, onkoids, mollusks, forminifera) -mollusks, bivalves, brachiopods -intraclasts have micritic envelopes
		9318ft		

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- Planar lamination
- Cross bedding
- Oysters
- Gastropods
- Bivalves (general)
- Bivalve lag
- Valve (oriented)
- fossil wood
- Echinoids
- Peloids
- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*

Mohican I-100 core 4
Scotian Basin
Nova Scotia, Canada

Period	Box #	Facies	mudstone wackestone packstone grainstone floatstone rudstone bondstone	Interpretation	Description
Upper Jurassic	Core 4 - Box 3	10577ft		SHALLOW MARINE SEDIMENTS	SHALLOW MARINE- COASTAL INFLUENCE, LOW ENERGY SETTING Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, not many structures to see. Minor black mud laminations (almost stylolites).
	Core 4 - Box 4	10579ft		SHALLOW MARINE SEDIMENTS	SHALLOW MARINE- COASTAL INFLUENCE, LOW ENERGY SETTING Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, not many structures to see. Minor black mud laminations (almost stylolites).
	Core 4 - Box 5	10582ft		SHALLOW MARINE SEDIMENTS	SHALLOW MARINE - COASTAL INFLUENCE, LOW ENERGY SETTING Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, not many structures to see. Minor black mud laminations (almost stylolites). in thin section: TSEC473 -micritic matrix with very fine grained quartz/calcite -no fossils (intraclasts) -wackestone due to very fine grained quartz/calcite -very fine grained wood debris
	Core 4 - Box 6	10585ft		SHALLOW MARINE SEDIMENTS	SHALLOW MARINE, LOW ENERGY SETTING Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, not many structures to see. Minor black mud laminations (almost stylolites). in thin section: TSEC474 -very fine grained quartz and calcite grains in micritic matrix -poorly sorted -in situ brachiopod -calcified fracture -micritic envelopes on intraclasts -ooids within intraclasts
	Core 4 - Box 7	10588ft		SHALLOW MARINE SEDIMENTS	LOW-ENERGY, LOW-NUTRIENT SHALLOW LAGOONAL SETTING (WAVE DOMINATED REGIME) TRANSITIONING TO DEEPER LOWER ENERGY Medium grey in color, with silty to medium grained framework grain component. Abundant black specs are primarily intraclasts with a micritic envelope (very minimal ooids). Intraclasts gradually disappear upwards (intra-oomicrite microbial mud). Ooids have a micritic envelope as well. The intervals with intraclasts are interbedded with intervals of no intraclasts (packstone and wackestone). Other shell frags include: disarticulated bivalve shells, crinoids. Bioturbation index ~3.
				LAGOONAL-SHALLOW MARINE SEDIMENTS	in thin section: TSBF542 -mud-rich (micrite) with ooids and intraclasts -<10% clasts/fossils -minor amounts of in situ grains = echinoderms, brachiopods, bivalves. -intraclasts with micritic envelopes -stylolite -ooids have micritic envelopes on interior of grain
	Core 4 - Box 8	10591ft		LAGOONAL-SHALLOW MARINE SEDIMENTS	LOW-ENERGY, LOW-NUTRIENT SHALLOW LAGOONAL SETTING (WAVE DOMINATED REGIME) Medium grey in color, with silty to medium grained framework grain component. Abundant black specs are primarily intraclasts with a micritic envelope (very minimal ooids). The intervals with intraclasts are interbedded with intervals of no intraclasts (packstone and wackestone). Other shell frags include: disarticulated bivalve shells. in thin sections: TSBF540; TSBF541 ->60% intraclasts, ooids inside intraclasts -micritic envelopes on all intraclasts (dissolution features on some) -micritic envelopes on inside of clasts (transported) -large shell frags:gastropods, mollusks, bivalves, and in situ large frags. -within intraclasts fossils are almost dissolved from microboring. -541 is primarily ooids with micritic envelopes. -in situ brachiopods (recrystallized), gastropods, criniods -intraclasts with bryozoans and echinoderms and forminifera
	Core 4 - Box 9	10595ft	brecciated fabric	LAGOONAL-SHALLOW MARINE SEDIMENTS	LOW-ENERGY, LOW-NUTRIENT SHALLOW LAGOONAL SETTING (WAVE DOMINATED REGIME) Medium grey in color, with silty to medium grained framework grain component. Micritic matrix with >10% grains. Abundant black specs are primarily intraclasts with a micritic envelope (very minimal ooids). Interval ~10592m has a brecciated fabric where medium grey wackestone is intermixed with dark grey laminations. The intervals with intraclasts are interbedded with intervals of no intraclasts (packstone and wackestone). Other shell frags include: disarticulated bivalve shells. in thin section: TSBF539 -grapestones -intraclasts in micritic matrix (within intraclasts=serpelids, mollusks, echinoderms) -bivalves and brachiopods, echinoderm spines, -microboring on most intraclasts -forminifera (multichambered uniserial)

Period	Box #	Facies	mudstone wackestone packstone grainstone floatstone rudstone bondstone	Interpretation	Description
Upper Jurassic	Core 4 - Box 1	10565ft		LAGOONAL-SHALLOW MARINE SEDIMENTS	LOW-ENERGY, LOW-NUTRIENT SHALLOW LAGOONAL SETTING (WAVE DOMINATED REGIME) Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, however ooids and intraclasts return >20% clasts. Minor black mud laminations (almost stylolites). in thin section: TSBF544 -ooids very abundant >60% -micritic matrix -micritic envelope on some ooids, majority does not -bivalves and brachiopods -quartz vein running through the whole section, overprinting ooids -several growths of ooids:concentric, very shallow, warm low energy, sand bar to radial, shallow marine, restricted calm lagoon -gastropods, large mollusks, echinoderms
	Core 4 - Box 2	10568ft 10572ft		LAGOONAL-SHALLOW MARINE SEDIMENTS	LOW-ENERGY, LOW-NUTRIENT SHALLOW LAGOONAL SETTING WITH COASTAL INFLUENCE(WAVE DOMINATED REGIME) Medium grey in color, with silty to medium grained framework grain component. Heavily bioturbated, not many structures to see. in thin section: TSBF543 -micritic matrix with white very fine grained quartz/calcite -abundance of quartz grains on half of thin section, >70% quartz, oriented in layers horizontally, intermixed with organic laminations -stylolitic viens -oriented grains, bivalves and brachiopods -wood debris throughout -echinoderm spine (non-oriented) -minor amounts of ooids with starting of micritic envelopes

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- Oysters
- Gastropods
- Bivalves (general)
- Bivalve lag
- Valve (oriented)
- fossil wood
- Echinoids
- Peloids
- Ooids
- Bioturbation
- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*

Mohican I-100 core 5
Scotian Basin
Nova Scotia, Canada

Key

- Stromatolite
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- Bivalve lag
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- Peloids
- Ooids
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- Fenestral Porosity
- Intraclasts
- Fossils
- Anydrite nodules
- Oncoid/Pisoid
- Lenticular bedding
- Vuggy Porosity
- *Zoophycos*