

RESPEC
RAPID CITY, SD

CORE LOG DATA SHEET

CORE RUN # _____
PAGE ____ OF ____

11-4-2014

SITE Pres Lo
CORE BARREL LENGTH _____
CORE BARREL DIAMETER _____
TOP CORE INTERVAL _____
BOTTOM CORE INTERVAL _____
LENGTH CORED INTERVAL _____

RECOVERY _____
TIME RECOVERED _____
DATE RECOVERED _____
RUN RQD _____
LOGGED BY _____

Depth	Interval		Lith	RQD	Description
	From	To			
488				60"	Grey shale N3; Bentonite layers frequent; Bentonite ~ 6-7 per foot (appears to be bentonite as opposed to concretions). Bentonite slipped/separated at 488' with shale filling slip plane. From 486.5 to 489 calcareous matrix. well indurated throughout. Small nodules (~1-2mm) occur throughout, may be small phosphate (?) nodules based on literature.
492				63"	Grey shale with many tan bentonite (?) layers. Tan layers show effect of soft sediment deformation because they are irregular and appear to have incorporated shale commonly. Fossil hesh zones at 491.5 and 492. The hesh zone at 491.5 has considerable pyrite whereas the hesh zone at 492 does not seem to have much. A small "tepee" structure occurs at 492 + it is formed from inoceramids (?) plates. But calcareous in both tan and grey.
494				66"	The "phosphate (?) nodules also occur in this core but have a calcareous component. Nodules may be large forams?
499					Grey shale N3; Bentonite layers less frequent but still common (~7 per ft); small nodules, white, round; Fossil hesh zone (1/4" thick) at 495.75'. Shale matrix is non-calcareous. Shale appears waxy and moderately well indurated (not as hard as previous cores). The small nodules are calcareous, could the nodules be forams?
					498.5 PW-15 from Bottom (just above shoe sample)

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Depth	Interval		Lith	RQD	Description
	From	To			
504				46"	Grey shale with irregular tan layers; Tan layers ~ 1/8" to 3/4" thick. In outcrop, the tan layers may appear to be mottled, perhaps. Small (1mm) round spherules common. Tan layers less common above 502 ft. In general, non calcareous but some matrix calcareous above 501'. Appears to be transition at 502' to less tan units.
509				77"	Grey shale with numerous tan, irregular layers. Some, but not all, tan layers are calcareous. Seems to be a marl. Augen structure in tan layers are filled with pyrite. These structures may be similar to Schieber (2011) who says due to oxygen events in black shales. Fracture at 505.5' showing brecciation and filling with pyrite. Fracture developed in limestone layer 8" thick - PW-16 from top of core.
514				51"	Grey shale with many small white spherules. Perhaps the spherules are small fossils as they are calcareous. Augen at 512'. Augen may be the result of differential compaction. The pyrite fill may be due to a worm burrow(?). Tan layers are calcareous varying between some and much-marls.

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CORE LOG DATA SHEET

CORE RUN # _____

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11-5-2014

SITE resho

CORE BARREL LENGH _____

CORE BARREL DIAMETER _____

TOP CORE INTERVAL _____

BOTTOM CORE INTERVAL _____

LENGTH CORED INTERVAL _____

RECOVERY _____

TIME RECOVERED _____

DATE RECOVERED _____

RUN RQD

LOGGED BY _____

Depth	Interval		Lith	RQD	Description
	From	To			
97				57.4	Grey shale N3; Tan concretions sometimes calcareous; shale is fissile; Tan is calcareous at 518 but not at 517 or 516; Tan concretions have iron sulfide "eyes"
63.5					iron sulfide tan concretions Grayish orange 10 YR 7/4
					fished for additional core; rephotographed.

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11-5-2011

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Depth	Interval		Lith	RQD	Description
	From	To			
98					62" Grey shale N3; Tan concretions - ^{iron sulfide} with iron sulfide centers 522.5' concretion; 522 concretion; 521.5' concretion; 520' concretion; none calcareous matrix and only the concretions at 522.5' and 522 have a small amount of calcareous material. seems to be moderately fissile. small Sulfide burrow(?) at 520'; suggestion was made that concretions may be phosphate(?) based on literature and context.
524					59.5" Grey shale N2; Bottom 4' has more fissility than previous cores; Tan nodule at 525.5'; pelecypod fossil at 526.5'; parts easily into smaller pieces; nodules at 528.
529					

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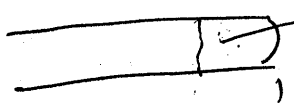
CORE LOG DATA SHEET

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PAGE ____ OF ____

SITE Freshwater
CORE BARREL LENGTH _____
CORE BARREL DIAMETER _____
TOP CORE INTERVAL _____
BOTTOM CORE INTERVAL _____
LENGTH CORED INTERVAL _____

11-5-2014

RECOVERY _____
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Depth	Interval		Lith	RQD	Description
	From	To			
100				61.5	Black shale N2; many horizontal partings; fissile; concretions at 533.5' very complex  lighter color; perhaps siliceous
					 siliceous? more indurated than upper core.
					At 532 small concretion that is calcareous at its base.
					PSS-100 from top of core.
534				57	Black shale N2; one small concretion seen at 538.75'; non calcareous; generally non fossiliferous; fissile but
					PW-17 from top.
539					

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11-5-2014

Depth	Interval		Lith	RQD	Description
	From	To			
102					Grey shale 102; small concretion at light area at 543.5 that is calcareous (about 5" thick) and 642' also calcareous (about 3" thick). PW-18 from bottom. PSS-102 from top

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CORE LOG DATA SHEET

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PAGE OF

11-6-2014

SITE Fresho

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Depth	Interval		Lith	RQD	Description
	From	To			
103					Black shale NZ; light grey layer at 524.5' ~ 2" thick. 1" thick zone of white speckles at 546.75' about 1" thick; light grey zone at 548.5' about 3" thick. Probably bentonite although it is slightly calcareous. Appears to have picked up some core (upper part of this core) from previous run because has cone catfish tooth marks on upper part of H.L. core.