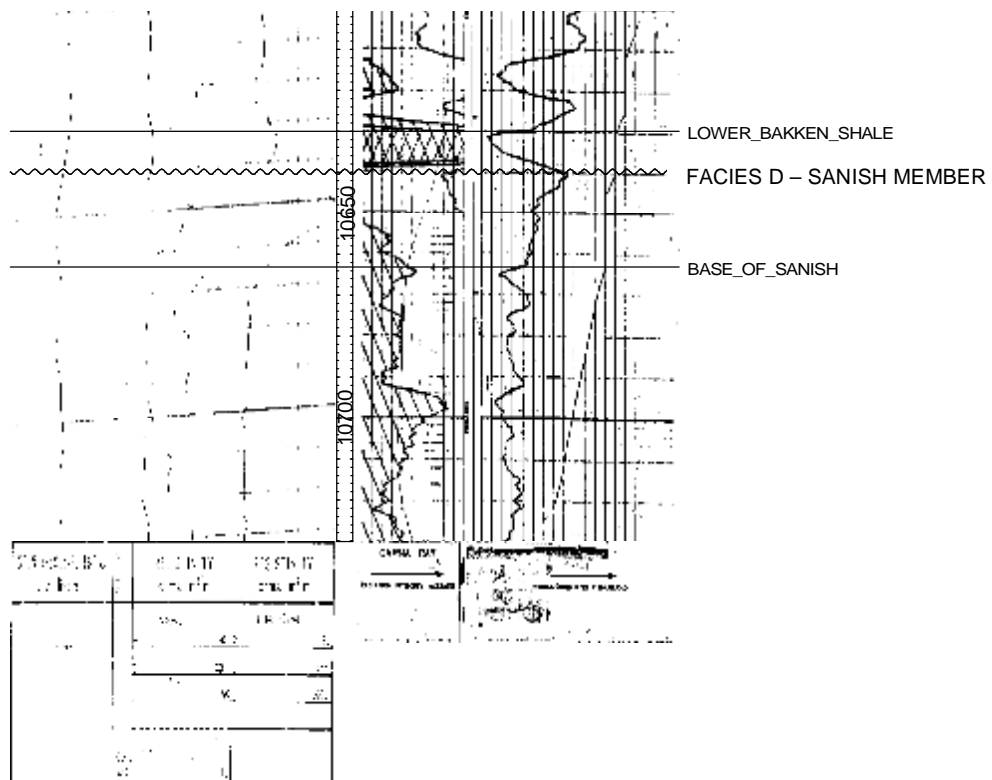


Appendix A.2  
Core #2  
Bennie Pierre Federal Unit #1 Core Descriptions  
148N 104W Sec 28  
Core to Log = -30'

Depth (ft)	Composition	Primary Structures	Secondary Structures	Single Diagnostic Criteria	Additional Diagnostic Criteria	Facies
10,680' - 10,680.5'	Grayish black (N2) to dark black (N1) shale	Vague parallel-laminations, very thin, platy.	Wavy bedding, bioturbation?			LBS/D
10,680.5' - 10,684'	Light green (5 G 8/1) to greenish gray (5 G 6/1) slightly dolomitic shale (85%) very light gray silty dolomite (N8) (15%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,684' - 10,689'	Light green to greenish gray slightly dolomitic shale (80%) to very light gray silty dolomite (20%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation, abundant pyrite nodules	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,689' - 10,691'	Light green to greenish gray slightly dolomitic shale (75%) to very light gray silty dolomite (25%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation, abundant pyrite nodules	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,691' - 10,691.4'	Light green to greenish gray slightly dolomitic shale /grey shale	Fining upwards to shale				D
10,691.4' - 10,694'	Light green to greenish gray slightly dolomitic shale (70%) to very light gray silty dolomite (30%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding	D
10,694' - 10,695'	Light green to greenish gray slightly dolomitic shale (40%) to very light gray silty dolomite (60%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding	D
10,695' - 10,696'	Gray - black shale (50%) with very light gray silty dolomite stringers (50%), 66-88μ.	Parallel-laminations, cross-laminations, SSD, coarsening	Desiccation cracks, scour surfaces, energy decrease features, loading	-Mud drapes -Uni- and bidirectional reactivation surfaces	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D

	well-sorted, tightly packed silty dolomite stringers	upwards to silty dolomite	features, brecciation	-Bottom sets -Flame structures		
10,696' - 10,696.8'	Gray - black shale (80%) with very light gray silty dolomite stringers (20%), 66-88μ, well-sorted, tightly packed silty dolomite stringers	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,696.8 - 10,698'	Light green to greenish gray slightly dolomitic shale (30%) to very light gray silty dolomite (70%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Highly deformed bedding, high amounts of brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,698' - 10,699'	Light green to greenish gray slightly dolomitic shale (50%) to very light gray silty dolomite (50%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,699' - 10,700'	Light green to greenish gray slightly dolomitic shale (70%) to very light gray silty dolomite (30%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation	-Mud drapes -Uni- and bidirectional reactivation surfaces -Bottom sets -Flame structures	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,700' - 10,700.8'	Light green to greenish gray slightly dolomitic shale (80%) to very light gray silty dolomite (20%), 66-88μ, well-sorted, tightly packed	Parallel-laminations, cross-laminations, SSD	Massive SSD loading features, brecciation	-Mud drapes	-Flaser bedding -Herringbone x-bedding -Syneresis cracks	D
10,700.8' - 10,709'	Moderate red (5 R 4/6) to pale red (5 R 6/2) slightly dolomitic shale	Massive, vague, discontinuous lenses of very fine to fine-crystalline dolomite and very fine to fine-grained sand	White clasts in matrix, rip-up clasts			A



Described cored interval 10,680' – 10,709'.