

Appendix A.9  
Core #9  
Lawrence Bird Bill #1 Core Descriptions  
150N 94W Sec 30  
Core to Log = 0'

| Depth (ft)            | Composition  | Primary Structures  | Secondary Structures  | Single Diagnostic Criteria  | Additional Diagnostic Criteria                                 | Facies |
|-----------------------|--|---|---|---|--|--------|
| 10,750' – 10,756.5'   | Grayish black (N2) to dark black (N1) shale  | Vague parallel-laminations, very thin, platy,                           |   |   |  | LBS    |
| 10,756.5' – 10,758.2' | Grayish black (N2) to dark black (N1) /silty dolomite, very fine, 88 - 125 µ, well sorted, well packed   | Bioturbation and Burrows, parallel-laminations, cross-laminations, SSD, | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation |   |  | E      |
| 10,758.2' 10,763'     | Light green (5 G 8/1) to greenish gray (5 G 6/1) slightly dolomitic shale (50%) to very light gray silty dolomite (N8) (50%), 66-125µ, well-sorted, tightly packed | Parallel-laminations, cross-laminations, SSD, Abundant pyrite           | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D      |
| 10,763' 10,764'       | Light green to greenish gray slightly dolomitic shale (40%) to very light gray silty dolomite (60%), 66-125µ, well-sorted, tightly packed                          | Parallel-laminations, cross-laminations, SSD                            | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D      |
| 10,764' 10,766'       | Light green to greenish gray slightly dolomitic shale (30%) to very light gray silty dolomite (70%), 66-125µ, well-sorted, tightly packed                          | Parallel-laminations, cross-laminations, SSD, dark layering             | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D      |
| 10,766' 10,767'       | 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<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding                      | D      |
| 10,767' 10,770'       | Light green to greenish gray slightly dolomitic shale (50%) to very light gray silty dolomite (50%), 66-88µ, well-sorted,  | Parallel-laminations, cross-laminations, SSD                            | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame            | -Flaser bedding<br>-Herringbone x-bedding-<br>Syneresis cracks | D      |

|                    |  |   |  |   |  |   |
|--------------------|--|---|--|---|--|---|
|                    | tightly packed   |   |  | structures  |  |   |
| 10,770'<br>10,771' | 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                                    | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation            | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |
| 10,771'<br>10,772' | Light green to greenish gray slightly dolomitic shale (60%) to very light gray silty dolomite (40%), 66-88μ, well-sorted, tightly packed | Parallel-laminations, cross-laminations, SSD                                    | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation            | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |
| 10,772'<br>10,774' | 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                                    | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation            | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |
| 10,774'<br>10,775' | 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<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding                      | D |
| 10,775'<br>10,783' | 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                                    | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation            | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |
| 10,783'<br>10,788' | 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, dark layering                     | Desiccation cracks, scour surfaces, energy decrease features, loading features, brecciation (Tee-pee?) | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets<br>-Flame structures | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |
| 10,788'<br>10,789' | Cream silty dolomite to gray/green slightly dolomitic shale, 66-88μ, well-sorted, tightly packed   | Massive cross-laminations, SSD and parallel lamination in silty dolomite clasts | Highly deformed bedding, high amounts of brecciation   | -Mud drapes   |  | D |
| 10,789'<br>10,793' | Light green to greenish gray slightly dolomitic shale (30%) to very light gray silty dolomite (70%), 66-                                 | Parallel-laminations, cross-laminations, SSD                                    | Desiccation cracks, scour surfaces, energy decrease features, loading features,                        | -Mud drapes<br>-Uni- and bidirectional Reactivation surfaces<br>-Bottom sets                      | -Flaser bedding<br>-Herringbone x-bedding<br>-Syneresis cracks | D |

|                      |  |  |  |                      |  |   |
|----------------------|--|--|--|----------------------|--|---|
|                      | 88μ, well-sorted,<br>tightly packed  |  | brecciation  | -Flame<br>structures |  |   |
| 10,793'<br>10,799.3' | Light green (5 G<br>8/1) to greenish<br>gray (5 G 6/1) shale<br>and very light gray<br>(N8) to medium<br>gray (N5) silty<br>dolomite | Massive cross-<br>laminations,<br>SSD and<br>parallel<br>lamination in<br>silty dolomite<br>clasts | Highly<br>deformed<br>bedding, high<br>amounts of<br>brecciation | -Mud drapes          |  | C |
| 10,799.3'<br>10,802' | Dark greenish-gray<br>(5 GY 4/1) to<br>medium dark gray<br>(N4) silty dolomite   | Massive, rip-up<br>clasts of varying<br>size.  | Vague. Pyrite  |                      |  | B |

