

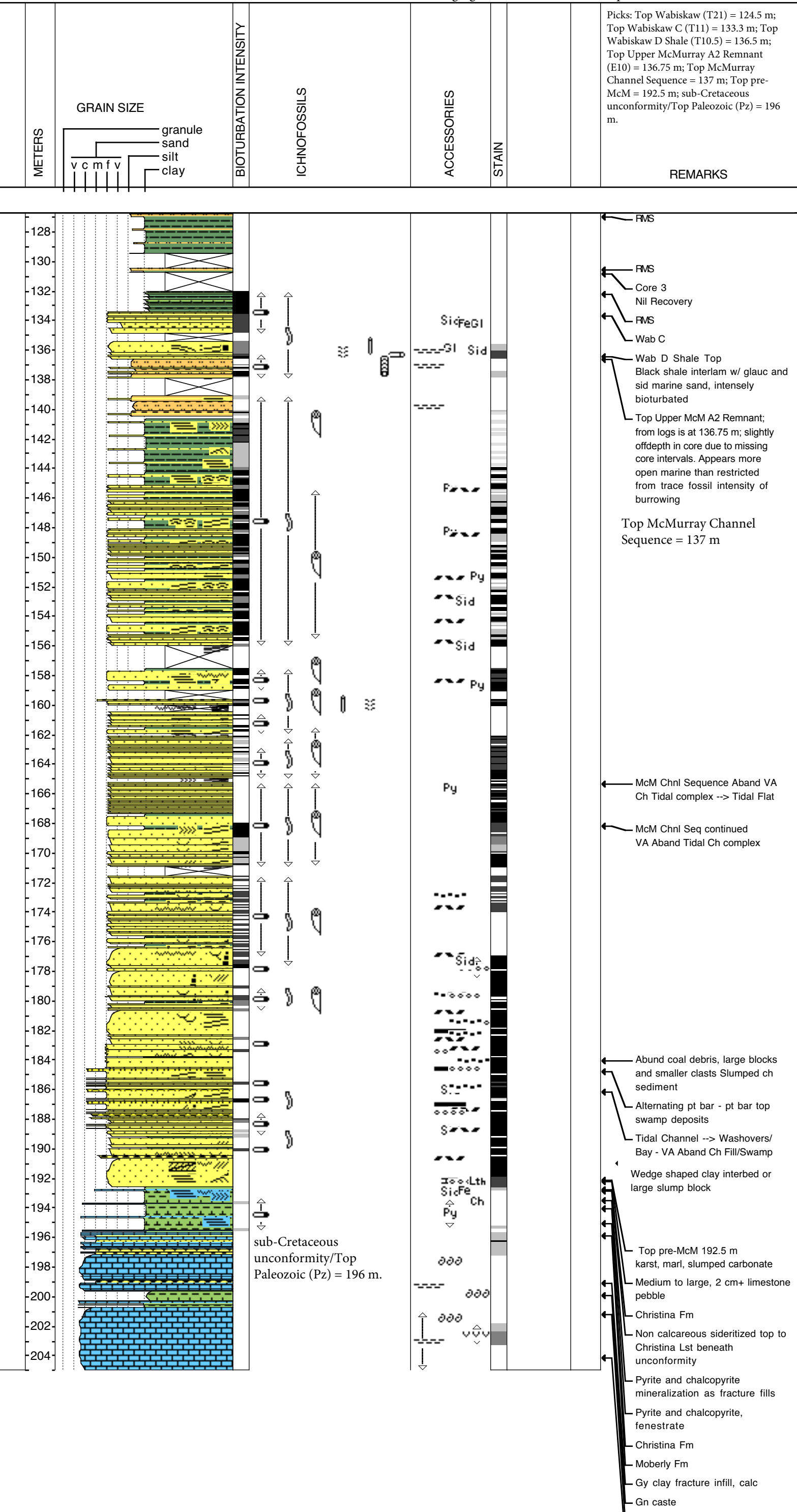
Date Logged: November 18, 1998; Ground: 456.1 m; KB: 456.1 m

Released as part of Appendix 6 in
AER/AGS Open File Report 2017-08

Logged by: F. J. Hein

Done as part of regional facies mapping and picks for the Athabasca
oil sands. Used in Hein and Langenberg AGS Report on seismic
imaging in the Clarke Creek area, posted on AGS website.

Remarks: Moberly Lst, mottled, brecciated, fractured --> Christina
--> Thick tidal Mid McM --> VA Aband ch w/ coal detritus



AppleCore colour legend

LITHOLOGY

| | | | | | | | |
|---|----------------|---|----------------|---|---------------|---|------------------|
|  | SAND/SANDSTONE |  | SHALEMUDSTONE |  | organic shale |  | LIMESTONE |
|  | silty sand |  | silty shale |  | coal |  | Calcareous shale |
|  | shaly sand |  | sandy shale |  | breccia |  | Lost Core |
|  | sandy silt |  | clay/claystone | | | | |

CONTACTS

| | | | |
|---|-------|---|-----------|
|  | Sharp |  | Erosional |
|---|-------|---|-----------|

PHYSICAL STRUCTURES

| | | | | | | | |
|---|----------------------------|---|---------------------------|---|-----------------------|---|------------------------|
|  | Current Ripples |  | Trough Cross-strat. |  | Oscillatory Ripples |  | Planar Tabular Bedding |
|  | High Angle Tabular Bedding |  | Low Angle Tabular Bedding |  | Wavy Parallel Bedding |  | Synaeresis Cracks |

LITHOLOGIC ACCESSORIES

| | | | | | | | |
|---|----------------|---|---------------|---|------------------|---|----------------|
|  | Silt Lamina |  | Shale Lamina |  | Pebbles/Granules |  | Glauconitic |
|  | Feldspathic |  | Lithic |  | Rip Up Clasts |  | Coal Fragments |
|  | Wood Fragments |  | Salt & Pepper | | | | |

ICHTNOFOSSILS

| | | | | | | | |
|---|----------------|---|--------------|---|----------------|---|---------------|
|  | Rootlets |  | Skolithos |  | Planolites |  | Gyrolithes |
|  | Diplocraterion |  | Arenicolites |  | Escape Trace |  | Cylindrichnus |
|  | Bergaueria |  | Astrosoma |  | Thalassinoides |  | Chondrites |
|  | Teichichnus |  | Anconichnus | | | | |

Appendix 1. Definition of stratigraphic markers ('picks') with quality codes
(modified from Wynne et al., 1994 and Hein et al., 2000).*

| Pick | Type of Surface | Description | Quality Code** |
|---------------------|--------------------------------|--|---|
| T21 | Transgressive | Wabiskaw Marker Top Wabiskaw Mbr. 'A' | Good - Very Good |
| T15 | Transgressive | Top Wabiskaw Mbr. 'B' | Good - Very Good |
| E14 | Major Erosion | Wabiskaw Internal Incision | Good - Very Good |
| T11 | Transgressive | Base First Regional Marine Shale in the Clearwater Fm. Top Wabiskaw Mbr. 'C' | Very Good-Excellent |
| T10.5 | Transgressive | Top Wabiskaw Mbr. 'D' Incised Valley-Fill Deposit | Excellent-Very Good |
| E10 | Disconformity/ Unconformity | Top Upper McMurray Fm Major Erosion Surface | Excellent -Very Good |
| E5 | Disconformity/ Unconformity | Top Lower McMurray Fm. Major Erosion Surface | Variable Very Poor -Fair |
| Sub-Cret. (Pal.) | Unconformity | Base of McMurray Fm Major Erosion Surface | Variable Very Good-Excellent (However this is sometimes difficult to pick in areas of significant clastic karst-infill, or where marl is above the sub- Cretaceous unconformity) |

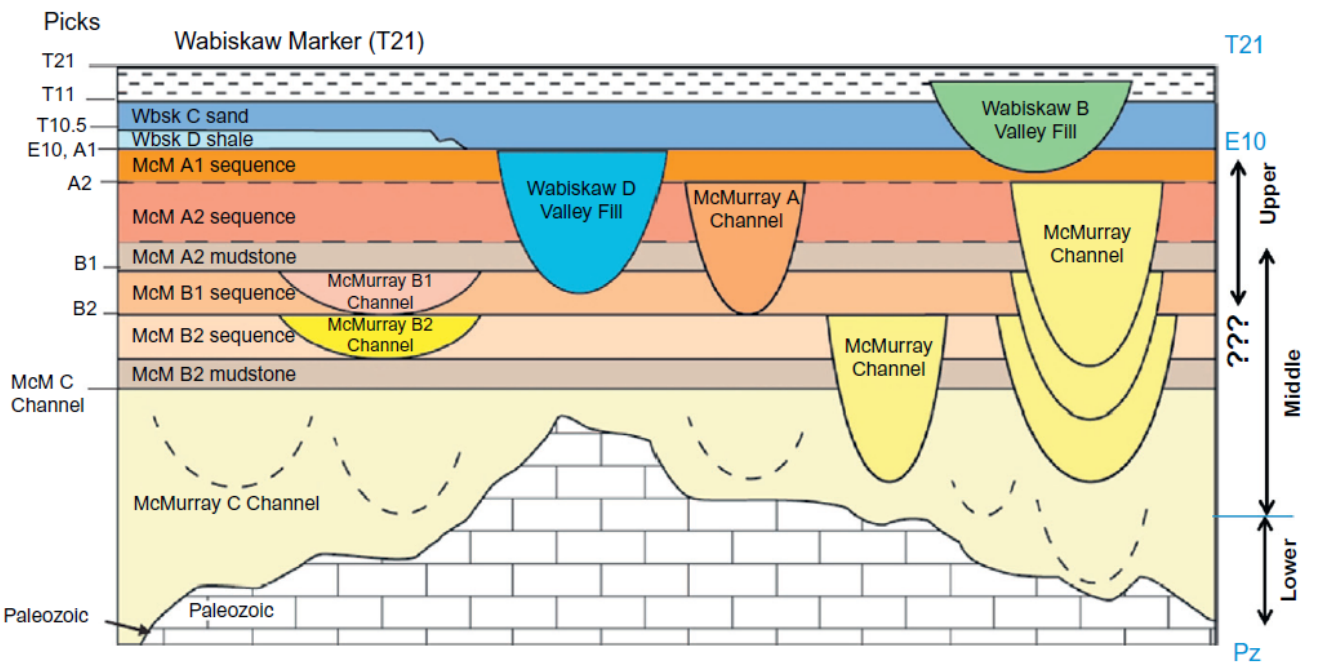
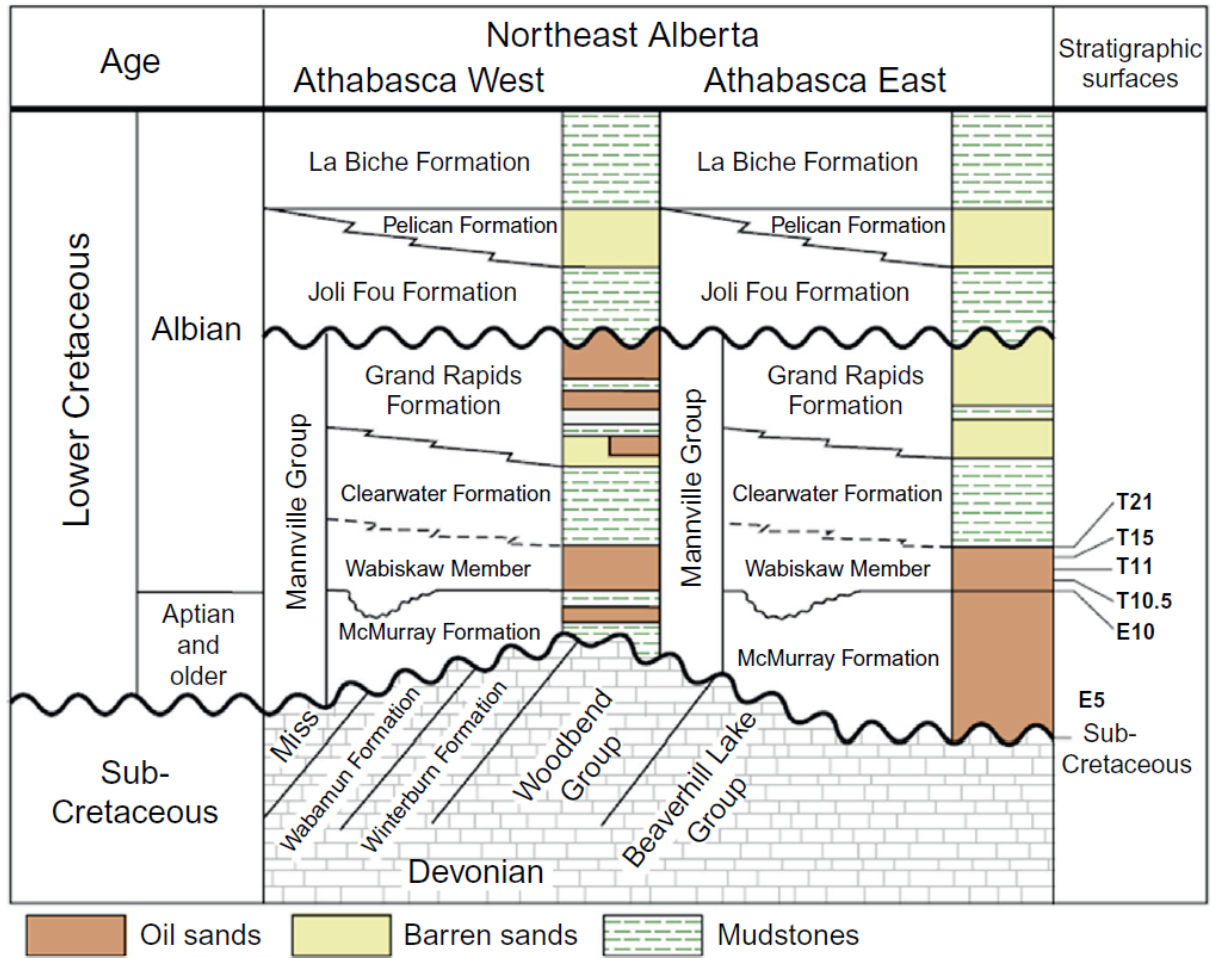
* Abbreviations: Group, Grp.; Formation, Fm.; Member, Mbr.

** Quality Codes are relative: Excellent to Very Good, can be picked on all wire-line logs and seismic; Poor to Very Poor, need to be confirmed by outcrops or core, difficult to pick on wire-line logs, somewhat easier to pick on seismic.

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Stratigraphic Nomenclature for Picks



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