The Three Forks Formation - North Dakota to Sinclair Field, Manitoba

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**Manitou Field, North Dakota**

- Lodgepole Formation (Middle Member)
- Birdbear Formation (Middle Member)
- Duperow Formation (Middle Member)
- Three Forks Formation (Upper Member)

**Sinclair Field, Manitoba**

- Lodgepole Formation (Upper Member)
- Birdbear Formation (Middle Member)
- Duperow Formation (Middle Member)
- Three Forks Formation (Upper Member)

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**Unit 3**

- Massive oxidized silty shale (Nicholas’ Unit 2a).
- Anhydrite occurs throughout the unit as white or resinous brown blebs and large nodules.
- A thin layer of light brown to tan doloarenitic siltstone clasts capped by a thin, grey-green to rusty brown shale to silty shale. Overlain by a light brown to tan doloarenitic siltstone and grey-green shale (Nicholas’ Unit 4c).

**Unit 4**

- Randomly alternating cycles of light brown to tan doloarenitic siltstone clasts in a shale matrix. Capped by a thin, grey-green with light brown to tan doloarenitic siltstone clasts with a brecciated appearance (Nicholas’ Unit 4a and 4b). This overlain by a sequence of light brown to tan doloarenitic siltstone with grey-green shale as laminae, interbeds and matrix. Capped by a thin, grey-green with light brown to tan doloarenitic siltstone and grey-green shale (Nicholas’ Unit 4d).

**Unit 5**

- Light to dark grey, mottled to laminated, siltstones and sandstones.

**Unit 6**

- Basal thin, massive, tight grey-green dolomitic shale to silty shale sequence overlain by a sequence of light brown to tan doloarenitic siltstone clasts in a shale matrix. Capped by a thin, grey-green with light brown to tan doloarenitic siltstone clasts with a brecciated appearance (Nicholas’ Unit 4a and 4b). This overlain by a sequence of light brown to tan doloarenitic siltstone with grey-green shale as laminae, interbeds and matrix. Capped by a thin, grey-green with light brown to tan doloarenitic siltstone and grey-green shale (Nicholas’ Unit 4d).

**Reservoir Unit** - Sinclair Field, Manitoba

- Massive oxidized silty shale (Nicholas’ Unit 2a).
- Anhydrite occurs throughout the unit as white or resinous brown blebs and large nodules.
- A thin layer of light brown to tan doloarenitic siltstone clasts capped by a thin, grey-green to rusty brown shale to silty shale. Overlain by a light brown to tan doloarenitic siltstone and grey-green shale (Nicholas’ Unit 4c).

**Reservoir Unit** - Daly Field, Manitoba

- Massive oxidized silty shale (Nicholas’ Unit 2a).
- Anhydrite occurs throughout the unit as white or resinous brown blebs and large nodules.
- A thin layer of light brown to tan doloarenitic siltstone clasts capped by a thin, grey-green to rusty brown shale to silty shale. Overlain by a light brown to tan doloarenitic siltstone and grey-green shale (Nicholas’ Unit 4c).

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**Location Map**

- Location map showing the important fields producing from the Bakken and Three Forks Formations.

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**References**