



DST #1

13-8N-90W
081-06335 RECEIVED
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2806 - 2865. Lynes conventional straddle packer, hook wall, open hole formation test. Wall hook 2904. Hook held, tool did not open.

DST #2

2806 - 2865 Upper Lewis sand zone.

Tester: Art Anderson, Lynes, Rock Springs, Wyoming.

Ran Lynes conventional hook wall, straddle, open hole, formation test tool, with jars, safety joint, two packers above and two packers below interval tested. Wall hook at 2903. T.D. 3309, logger.

Open 15 minutes, shut in 60 minutes, open 60 minutes, shut in 90 minutes.

Open with very weak blow in bucket. Increased to 1/4" after 4 minutes, then decreased to dead at end of 15 minutes.

Reopened after initial shut in; no blow.

No gas to surface.

Recovered 25 feet drilling mud.

Rm 5 ohm at 70°F (1100 ppm NaCl by chart)

Pit Mud.

Rm 6 ohm at 66°F (900 ppm NaCl by chart)

Make Up Water.

Rw 3 ohm at 64°F (1900 ppm NaCl by chart)

Sampler: Pressure: 1 p.s.i.

200 cc mud

Rm 6 ohm at 70°F (950 ppm NaCl by chart)

No Gas



Pressures:

IH	1439
IF	78
	41
ISI	1060
FF	78
	37
FSI	977
FH	1428

BHT 98°

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DATA SHEET

Operator: Chandler & Associates

Well: 4-13 Zsachach

Location: Sec. 13, T. 8 N., R. 90 W.,
Moffat County, Colorado
NW NW

Elevation: 6621 grd
6632 kb

T.D. 3301 Driller
3299 Strap
3309 Logger

Spud: June 2, 1978 12:30 PM

Finish Drilling: June 7, 1978 3:15 AM

P & A June 10, 1978

Hole Size: 7-7/8" below surface pipe

Casing: 8-5/8" at 331 kb

Tests: 1. 2806-2865. Hook wall straddle test -
misrun. Lynes Testers
2. 2806-2865. Hook wall straddle test -
25 feet mud. Lynes Testers

Logs: DIL, FDC, BHC by Schlumberger
Engineer John Lightner, Vernal

Rig: KENAI Drilling Rig 13
EMSCO 250-GMC twin
Lee C. Moore derrick (doubles)
Pump #1 EMSO D-300 14"
Pump #2 Gardner Denver FxK - 14"
Pusher: O. L. King
Drillers: Nelson, Gracey, Rhodes, Simondi

Mud: Baroid - Dave Decker, Mud Engineer

Gas Detector: Balab - manned Unit: Ray Boggan, Norm Kozak

Geologist: John H. Rathbone
1018 Republic Building
Denver, Colorado 80202

9-13 2200

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GENERALIZED SAMPLE DESCRIPTION

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The descriptions begin at 1570. By the time the geologist and mud logging trailer were set up and ready to go the hole was at 1600.

In general samples were not too good. Comparison with the logs showed that the samples usually carried too much shale, the sands were not present in the relative quantity cut. Coals and shale sloughed badly, and the more friable sands broke down to loose sand and were lost.

Descriptions are interpretive, and adjusted to the electric logs.

- 1570 - 1615 Sandstone: Light gray, very fine, fine, medium and some medium coarse, subangular to round, clay filled. Composed of quartz and black, red, and green grains. Generally good porosity, by log.
- 1615 - 1690 Shale with sandy streaks. Light gray, gray green, silty, very finely micaceous.
- 1690 - 1780 Sand and shale, interbedded.
Sand: Medium light gray, very fine to silty, speckled with black, green, and red. Friable to clay filled. Scattered fine, coarse grains. Porosity on logs.
Shale: Medium light gray, to light buff, soft, a claystone.
- 1780 - 1808 Shale: Medium gray to buff, often carbonaceous inclusions. Soft.
- 1808 - 1822 Sandstone: Light gray, medium fine, very speckled.
- 1822 - 1850 Shale: Light gray, silty, to waxy claystone.
- 1850 - 1878 Sandstone: Light gray, very fine, speckled, clayey. Poorly represented in the samples.
- 1878 - 2060 Shale and sandstones, interbedded, and occasional coal.
Shale: Light gray and light buff, waxy to silty, and medium light buffy gray, with many carbonaceous inclusions.
Sandstones: Light gray, speckled, very fine, clayey. A better sandstone is present 2005-12. It is medium to medium coarse. It appeared clay-filled, but the log indicates some porosity.
Coal: Present in a well developed bed 2044-48.

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- 2060 - 2082 Sandstone, porous; light gray to buff, speckled, medium to medium coarse. Much clay, very high "Q" (clay) factor.
- 2082 - 2230 Shale interbedded with thin sands and some coal beds. Shale: Waxey to silty, light gray to buff with some gray green, and some carbonaceous brown. Sandstones: Very fine, light gray speckled to "dirty," generally clay-filled. The sand at 2140-46 is a little cleaner, but still very clay-filled. Coal: Coals are present at 2120 and esp 2196.
- 2230-2275 Sandstone and coal. Coal: A thick coal bed is present between 2232 and 2240, below which is a sandstone, which barely showed in the samples, although it was unmistakable on the drilling log. Sand: The sand in the samples was very fine to medium fine, clayey and speckled. It was much lower in clay than previously, so was probably friable and lost as loose sand.
- 2275 - 2285 Shale: Waxey, light gray to gray green.
- 2285 - 2360 Sandstone with lesser amount of interbedded shale. The sandstones again did not show in the samples. The sandstone observed was clayey, very fine, speckled, but the log indicates that there was a considerable amount of porous sand present. Several shale beds are present.
- 2360 - 2385 Shale is light brown to buff, light gray, light gray green, and some carbonaceous brown.
- 2385 - 2400 Sandstone: Light gray, very fine, speckled, clayey shaley.
- 2400 - 2425 Siltstone and shale: Silt is light gray, shaley. Shale is light gray, brown and gray green, as above.
- 2425 - 2460 Shale and siltstone. The shale is variegated as above, to silty, and the silt varies to very fine, shaley sand. A streak of hard, light gray, clayey sandstone which is chippy is present from 2443 - 50.
- 2460 - 2465 Sandstone: Medium light gray, medium grain, angular to round, fair sorting, spec., clayey to porous. No show.
- 2465 - 2486 Shale: Light gray, buff, brown, and green-gray. Generally waxey.
- 2486 - 2528 Sandstone: Light gray, speckled with black, green, and pink; subangular, fine-medium fine, fair sorting, clay matrix. No visible porosity, though logs indicate some. No show.

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- 2528 - 2562 Sand and shale, interbedded, becoming more shaley downward.
Sandstone: Light gray, very fine to fine with scattered medium grains. Clayey.
Shale: Light gray, buff, light brown, green gray.
- 2562 - 2668 Shale, with streaks of siltstone. Shale.
- 2668 - 2680 Sandstone: Light gray to off white, very fine, clayey speckled. No visible porosity.
- 2680 - 2804 Shale: Light to medium gray, very finely micaceous to silty, occasionally waxey.
- 2804 - 2865 Sandstone: Light gray to light brown, fine to very fine, speckled, clay matrix, but some visible porosity. No shows. Somewhat lighter 2811-18, and hard and tight 2832-40, 2849-55.
- 2865 - 2885 Sandstone: Light gray, light brown, off-white; very fine to fine, clayey, tighter.
- 2885 - 3006 Shale: Medium gray, very fine micaceous to occ. silty; occ. waxey; some buff, gray green.
- 3006 - 3012 Sandstone: Shaley, medium light gray, hard, tight, very fine, shaley, firm.
- 3011 - 3301 Shale: Medium gray to medium dark gray, very finely micaceous to almost waxey, but laminated; blocky to flakey.

CHRONOLOGY

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2. Spud 12:30 PM Ran 8-5/8" to 331 kb
3. Plug down 4:00 AM
Drillout 4:30 PM. New fm. 8:00 P.M.
4. 1127 at 7:00
5. 2096 at 7:00 AM
6. 2858 at 7:00 AM
7. 3301. TD 3:15 AM Log
8. 3301. Logged. TD 3309. DST #1 failed
9. 3301 - 3309 Logger DST #2 2806-2865. 25' mud

CASING

Ran 8 joints of 8-5/8" to 331 kb. Cemented with 200 sacks type G,
CaCl₂. Plug Down 4:00 AM, June 3, 1978