

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

GRAND MESA OPERATING CO.

WELL: HUND #3-9
 LOC.: 2119' FNL & 1773' FWL
 SEC. 9-14-31W
 GOV. COUNTY, KANSAS
 API: 15-063-21924-00-00

ELEVATION

KB: 2937'
 GL: 2932'
 LOG MEASURED FROM: KB

SURFACE CASING

New 23# 8 5/8" surface csg.,
 Set @ 222' KB.
 Cemented w/1655x
 Common, 3% CC, 2% Gel

PRODUCTION CASING

D & A

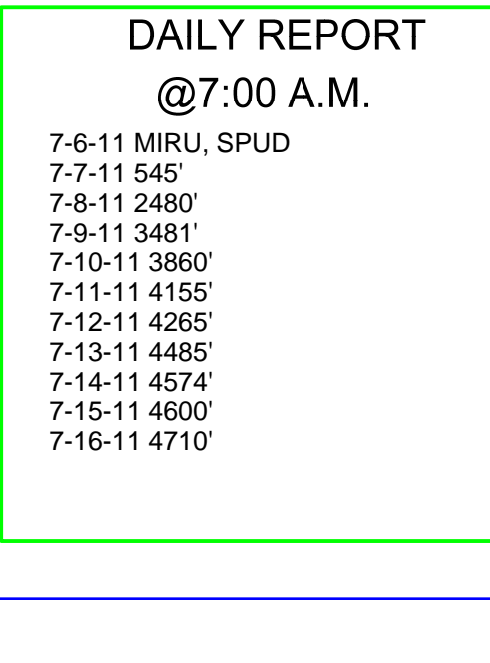
WELL LOG SURVEYS

DIL/CDL w/micro

DRILLING CONTR.: MURFIN RIG #24
 SPUD: 07-06-11 COMP: 07-16-11
 MUD UP: 3500' TYPE MUD: CHEM.
 DRILL TIME: 3600-RTD
 RTD: 4710' LTD: 4711'
 SAMPLES SAVED: 3800'-RTD
 GEOLOGIST: ROBERT J. PETERSEN

ELECTRIC LOG TOPS

Formation	Depth	Datum	Hund 1-9	Hund 2-9
SC	2419	518	-1	-1
BSC	2441	496	5	4
HEEB	3951	-1014	5	4
TOR	3971	-1034	4	4
LANS	3991	-1054	1	4
Muncie Cr	4147	-1210	2	0
Stark	4241	-1304	0	3
Swope	4255	-1318	1	5
Hushpuckney	4273	-1341	-1	2
Hertha	4294	-1357	-4	2
BKC	4313	-1376	-3	5
Marmaton	4348	-1411	1	7
Allamont	4389	-1452	-1	1
Little Osage	4463	-1526	-2	4
Excello	4487	-1550	-1	2
Johnson	4585	-1628	-4	0
Morrow	4585	-1651	7	2
Miss	4617	-1680	13	7



REFERENCE WELL:

WELL A: Grand Mesa HUND #1-9 KB 2951 1482' FSL & 1873' FWL 9-14-31W

WELL B: Grand Mesa HUND #2-9 KB 2936 977' FSL & 2188' FWL 9-14-31W

DAILY REPORT

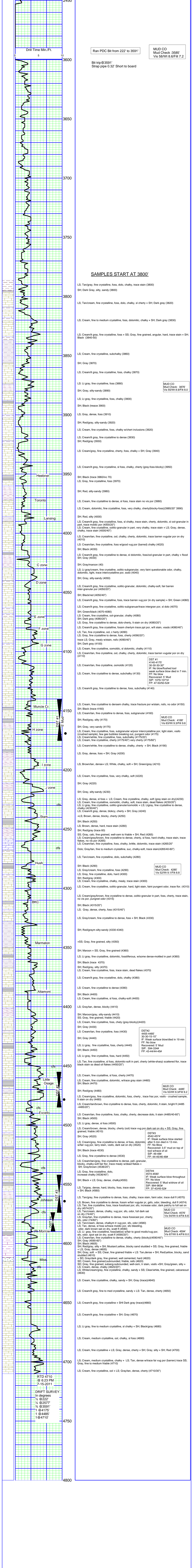
@ 7:00 A.M.

7-6-11 MIRU, SPUD
 7-7-11 545'
 7-8-11 2481'
 7-9-11 3481'
 7-10-11 3860'
 7-11-11 4155'
 7-12-11 4485'
 7-14-11 4574'
 7-15-11 4600'
 7-16-11 4710'

REMARKS AND RECOMMENDATIONS

Due to the negative drill stem test results this test was plugged and abandoned by the operator.

Respectfully submitted,
Robert J. Petersen



BIT RECORD

12 1/4" CH16M5 0-222'
 7 7/8" Q606F 222-3591' Ser. 7134212
 7 7/8" RR HVC GX222 Ser. No. 5190412 3591-4175'
 7 7/8" RR Smith F271 Ser. PS 9880 4175-4485'
 7 7/8" RR Smith F271 Ser. PS 8865 4485-4710'

Run PDC Bit from 222' to 3591'

Bit trip @ 3591'
 Strap pipe 0.32' Short to board

MUD CO
 Mud Check :3585'
 Vis 58/Wt 8.6/Filt 7.2

MUD CO
 Mud Check: 3876'
 Vis 55/Wt 8.9/Filt 8.0

MUD CO
 Mud Check: 4168'
 Vis 52/Wt 9.1/Filt 9.6

MUD CO
 Mud Check: 4285'
 Vis 52/Wt 9.1/Filt 8.8

MUD CO
 Mud Check: 4576'
 Vis 54/Wt 9.4/Filt 8.8

MUD CO
 Mud Check: 4594'
 Vis 67/Wt 9.4/Filt 8.0

MUD CO
 Mud Check: 4576'
 Vis 54/Wt 9.4/Filt 8.8

MUD CO
 Mud Check: 4594'
 Vis 67/Wt 9.4/Filt 8.0

MUD CO
 Mud Check: 4576'
 Vis 54/Wt 9.4/Filt 8.8

MUD CO
 Mud Check: 4594'
 Vis 67/Wt 9.4/Filt 8.0

SAMPLES START AT 3800'

- LS: Tan/gray, fine crystalline, foss, dolo, chalky, trace stain (3800)
- SH: Dark Gray, silty, sandy (3800)
- LS: Tan/cream, fine crystalline, foss, dolo, chalky, sl cherty + SH: Dark gray (3820)
- LS: Cream, fine to medium crystalline, foss, dolomitic, chalky + SH: Dark gray (3830)
- LS: Cream/lt gray, fine crystalline, foss + SS: Gray, fine grained, angular, hard, trace stain + SH: Black (3840-50)
- LS: Cream, fine crystalline, subchalky (3860)
- SH: Gray (3870)
- LS: Cream/lt gray, fine crystalline, foss, chalky (3870)
- LS: Lt gray, fine crystalline, foss (3880)
- SH: Gray, silty-sandy (3890)
- LS: Lt gray, fine crystalline, foss, chalky (3900)
- SH: Black (trace 3900)
- LS: Gray, dense, foss (3910)
- SH: Red/gray, silty-sandy (3920)
- LS: Cream, fine crystalline, foss, chalky w/chert inclusions (3920)
- LS: Cream/lt gray, fine crystalline to dense (3930)
- SH: Red/gray (3930)
- LS: Cream/gray, fine crystalline, cherty, foss, chalky + SH: Gray (3940)
- LS: Cream/lt gray, fine crystalline, sl foss, chalky, cherty (gray-foss-blocky) (3950)
- SH: Black (trace 3960/inc 70)
- LS: Gray, fine crystalline, foss (3970)
- SH: Red, silty-sandy (3980)
- LS: Cream, fine crystalline to dense, sl foss, trace stain no vis por (3980)
- LS: Cream, dolomitic, fine crystalline, foss, very chalky, cherty(blocky-foss)(3985/20' 3990)
- SH: Red, silty (4000)
- LS: Cream/lt gray, fine crystalline, foss, sl chalky, trace stain, cherty, dolomitic, sl ool-granular in part, trace mudstone (4000/20')
- LS: Cream, fine crystalline, oolitic-granular/oomoldic + LS: Ltgray, fine crystalline to dense, chalky, trace stain (4000/40')
- LS: Cream/tan, fine crystalline, ool, chalky, cherty, dolomitic, trace barren vugular por on dry (4010)
- LS: Cream/tan, fine crystalline, foss w/wood vug por (barred) chalky (4020)
- SH: Black (4030)
- LS: Cream/lt gray, fine crystalline to dense, sl dolomitic, foss/ool-granular in part, chalky + flood SH: Gray (4035)
- SH: Gray/maroon (40)
- LS: Lt gray/cream, fine crystalline, oolitic-subgranular, very faint questionable odor, chalky, dolomitic, light, trace intercrystalline por, ssdo (4040)
- SH: Gray, silty-sandy (4050)
- LS: Cream/lt gray, fine crystalline, oolitic-granular, dolomitic, chalky-soft, fair barren inter-granular por (4050/20')
- SH: Black/red (4050/40')
- LS: Cream/lt gray, fine crystalline, foss, trace barren vug por (in dry sample) + SH: Green (4060)
- LS: Cream/lt gray, fine crystalline, oolitic-subgranular/trace intergran, sl dolo (4070)
- SH: Green/black (4070-4080)
- LS: Cream, fine crystalline, ool-granular, chalky (4080)
- SH: Dark gray (4080/20')
- LS: Gray, fine crystalline to dense, dolo-cherty, lt stain on dry (4080/20')
- LS: Cream/lt gray, fine crystalline, foss, chertym trace ppt por, w/lt stain, vssdo (4080/40')
- LS: Tan, fine crystalline, ool, cherty (4090)
- LS: Cream, fine crystalline, oolitic-granular/oomoldic + LS: Ltgray, fine crystalline to dense, chalky (4230/40')
- LS: Cream/lt gray, dense, blocky, cherty + SH: Gray (4240)
- +LS: Brown, dense, blocky, cherty (4250)
- SH: Black (4250)
- LS: Brown, dense, hard, trace stain (4260)
- SH: Red/gray (trace 60)
- SS: Gray, calc, fine grained, well-cem to friable + SH: Red (4265)
- LS: Cream/gray/brown, fine crystalline to dense, cherty, sl foss, hard chalky, trace stain, trace flakes, no vis por (4265)
- LS: Cream/tan, fine crystalline, foss, chalky, brittle, dolomitic, trace stain (4265/20')
- Dolo: Gray/tan, fine to medium crystalline, suc, chalky-soft, trace stain(4265/40-60')
- LS: Tan/cream, fine crystalline, dolo, subchalky (4280)
- SH: Black (4290)
- LS: Gray/cream, fine crystalline, foss (4290)
- LS: Gray, fine crystalline, dolo, hard (4300)
- SH: Red/gray (4300)
- LS: Cream, fine crystalline, chalky, mealy, trace stain (4300)
- LS: Cream, fine crystalline, oolitic-granular, hard, light stain, faint pungent odor, trace flor. (4310)
- LS: Cream/gray/brown, fine crystalline to dense, oolitic-granular in part, foss, cherty, trace stain, no vis por, pungent odor (4315)
- SH: Black (4315/20')
- LS: Gray, dense, cherty, foss (4315/40')
- LS: Gray/cream, fine crystalline to dense, foss + SH: Black (4330)
- SH: Red/gray silty-sandy (4330-4340)
- +SS: Gray, fine grained, silty (4350)
- SH: Maroon + SS: Gray, fine grained (4360)
- LS: Lt gray, fine crystalline, dolomitic, fossiliferous, w/some dense-mottled in part (4360)
- SH: Black (trace 4370)
- SH: Red/gray, silty (4370)
- LS: Cream, fine crystalline, foss, trace stain, dead flakes (4370)
- LS: Cream/lt gray, fine crystalline, dolo, chalky (4380)
- LS: Cream, fine crystalline to dense (4390)
- SH: Black (4400)
- LS: Cream, fine crystalline, sl foss, chalky-soft (4400)
- LS: Graytan, dense, blocky (4410)
- SH: Maroon/gray, silty-sandy (4410)
- SS: Gray, fine grained, friable (4420)
- LS: Cream, fine crystalline, foss, cherty (gray-blocky)(4420)
- SH: Gray (4430)
- LS: Cream/tan, fine crystalline, foss (4430)
- SH: Gray (4440)
- LS: Lt gray, fine crystalline, foss, cherty (4440)
- SH: Black (4450)
- LS: Lt gray, fine crystalline, foss, hard (4450)
- LS: Tan, fine crystalline, sl foss, dolomitic-soft in part, cherty (white-sharp) scattered flor, trace black stain ss dead oil flakes (4450/20')
- LS: Cream, fine crystalline, sl foss, cherty (4470)
- LS: Cream, fine crystalline, dolomitic, w/trace gray stain (4460)
- SH: Red/gray (4480)
- LS: Cream/gray, fine crystalline, dolomitic, foss, cherty, trace frac por, vssdo - crushed sample, lt stain on dry (4480)
- LS: Cream/tan/brown, fine crystalline to dense, foss, cherty, dolomitic, lt stain, bright fl (4485-4485/20')
- LS: Cream/tan, fine crystalline, foss, chalky, cherty, decrease dolo, lt stain (4485/40-60')
- SH: Black (4500)
- LS: Lt gray, dense, sl foss (4500)
- LS: Cream/brown, dense, blocky, cherty (ool) trace vug por dark sat on dry + SS: Gray, fine grained, friable (4510)
- SH: Gray (4520)
- LS: Cream/lt gray, fine crystalline to dense, sl foss, dolomitic, w/air vug por, tarry stain, vssdo, scatt fl (4520)
- SH: Black (trace 4530)
- LS: Gray, fine crystalline to dense (4530)
- LS: Cream/tan/gray, fine crystalline to dense, pellicular, blocky, chalky-soft fair flor, trace mealy w/dead flakes + SH: Gray/brown (4536/40')
- LS: Gray, fine crystalline, oolitic-granular, increase chalky (4536/40')
- SH: Black + LS: Gray, dense, chalky(4550)
- LS: Tan/gray, dense, hard, blocky, foss, trace stain + SH: Black (4560)
- LS: Tan/gray, fine crystalline to dense, foss, chalky, trace stain, faint odor, trace dull fl (4570)
- LS: Brown, fine crystalline to dense, foss w/air vugular pr, gsto, odor, bleeding, dull fl (4574)
- LS: Tan, fine crystalline, foss, trace fossiliferous, sfo, increase odor, dark patchy to full sat on dry (74/40')
- LS: Tan/cream, dense, chalky, vug por, sfo, odor, full dark sat on dry (74/40')
- LS: Graytan, fine crystalline to dense, trace fossiliferous, cherty, (4580)
- LS: Tan/cream, dense, chalkym tr vug por, sfo, odor (4580)
- LS: Tan, dense, sl foss w/trace modic por, sfo, odor (4590)
- SD: Cream, fine grained, subrounded, friable, sfo (4620)
- LS: Lt gray, fine crystalline, foss(fraction) w/air to good modic/vug por, sfo, odor, spot sat on dry, scatt fl (4590/20')
- LS: Cream/tan, fine crystalline to dense, chalky, cherty (blocky)(4590/40')
- SH: Gray (4590-60')
- SH: Black (4605)
- SH: Red/gray, silty + SH: Mustard yellow, blocky sand studded + SS: Gray, fine grained, friable + LS: Gray, dense (4605)
- LS: Cream, fine crystalline, silty, clear, fine grained friable + LS: Tan, dense + SH: Red/yellow, blocky, sand studded (4610)
- +SD: Gray/dark gray, fine grained, well-cemented, hard (4620)
- SD: Cream, fine grained, subrounded, friable, sfo (4620)
- SS: Gray, fine grained, subground, well-cem, tr stain, vssdo +SH: Gray/green, silty + LS: Cream, dense, chalky (4620/20')
- LS: White/cream/gray, fine crystalline, chalky, sandy + SS: Clear/white, fine grained, calcareous (4630)
- LS: Cream, fine crystalline, chalky, sandy + SH: Gray (trace)(4640)
- LS: Cream/lt gray, fine to med crystalline, sandy + LS: Tan, dense, cherty (4650)
- LS: Cream/lt gray, fine crystalline + SH: Dark gray (trace)(4660)
- LS: Cream/lt gray, fine crystalline + SH: Gray (4670)
- LS: Lt gray, fine to medium crystalline, sl chalky + SH: Black/gray (4680)
- LS: Cream, medium crystalline, ool, chalky, sl foss (4690)
- LS: Cream, fine crystalline + LS: Gray, dense, cherty + SH: Gray, silty + SH: Red (4700)
- LS: Cream, medium crystalline, chalky + LS: Tan, dense w/trace fair vug por (barren) trace SS: Gray, fine to medium friable (4710)
- LS: Cream, fine crystalline, ool + LS: Graytan, dense, cherty (4710/30')

RTD 4710 @ 6:23 PM 7-15-2011

DRIFT SURVEY
 In degrees
 1/2 @ 222'
 1/2 @ 2577'
 1/3 @ 3591'
 1 @ 4175'
 1 @ 4485'
 1 @ 4710'