



GEOLOGIST'S REPORT

OPERATOR **MURFIN DRILLING COMPANY, INC.**

LEASE **FRAHM 'A' #1-18**

LOCATION **1240 FSL & 1900 FWL**

SEC. **18** TWP **10S** RGE **34W**

COUNTY **THOMAS** STATE **KANSAS**

FIELD **WILDCAT**

CONTRACTOR **Murfin Drilling Company** RIG NO. **8**

COMMENCED **24 March 2011** COMPLETED **2 April 2011**

MUD DISPLACED **3334** MUD TYPE **Chemical**

DRILLING TIME KEPT FROM **3800** TO **4890**

SAMPLES SAVED FROM **3800** TO **4890**

SAMPLES EXAMINED FROM **3800** TO **4890**

GEOLOGICAL SUPERVISION FROM **3650** TO **4890**

GEOLOGIST ON WELL **Paul Gunzelman**

ELEVATIONS

KB **3247 Ft.**

GL **3242 Ft.**

ALL MEASUREMENTS

FROM K.B.

CASING RECORD

Conductor **None**

Surface **8 5/8" @ 24'**

Production **None**

ELECTRICAL SURVEYS:

Log-Tech, Inc.

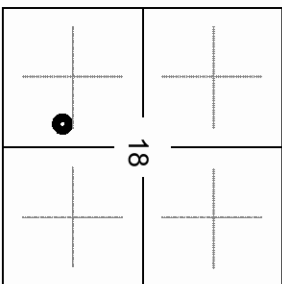
Comp. Neutron Density

Dual Induction

Micro-resistivity

Comp. Sonic

FORMATION NAME	LOG DATUM		SAMPLE DATUM	
	TOP	DATUM	TOP	DATUM
Stone Corral	2756	+491	2754	+493
Base/Anhydrite	2785	+462	2782	+465
Topoka	3910	-663	3908	-661
Heebner Shale	4128	-881	4125	-878
Lansing	4170	-923	4168	-921
Stark Shale	4395	-1148	4396	-1149
Marmaton	4484	-1237	4482	-1235
Cherokee	4680	-1433	4675	-1428
Mississippian	4826	-1579	4824	-1577
Total Depth	4892	-1645	4890	-1643



REMARKS

API 15-193-20790-00-00

Drilling Fluids: Morgan Mud, Inc. (David Lines, engineer)

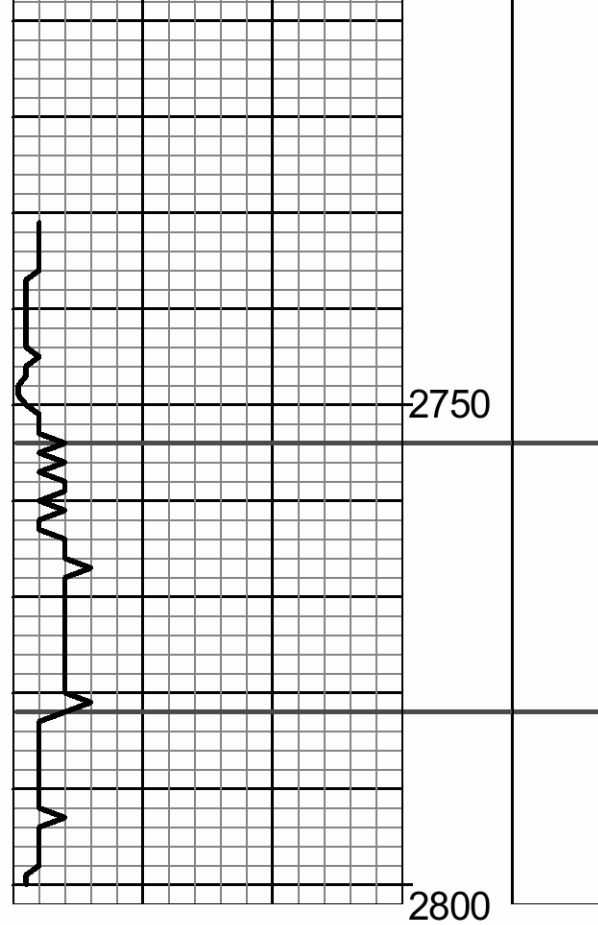
Drill Stem Testing: Trilobite Testing, Inc. (Mike Roberts, tester)

Gas Trailer: No Gas Trailer

Reserve Pit Chlorides: 32,000 PPM

REMARKS	SAMPLE DESCRIPTIONS	SHOWS	LITHOLOGY	DEPTH	DRILL TIME (MIN/FT)

2700

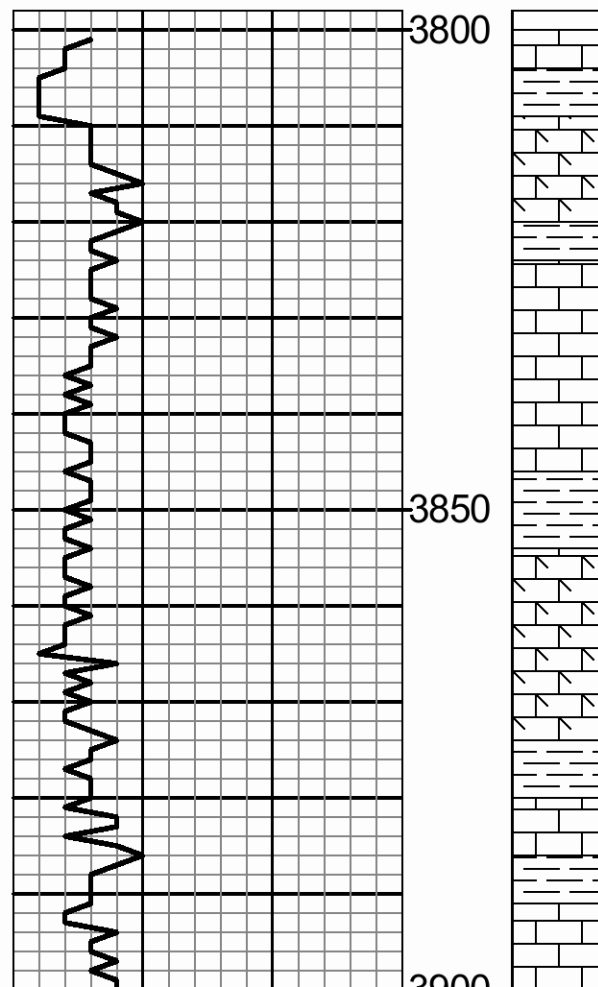


STONE CORRAL

2754 (+493)

BASE/ANHYDRITE

2782 (+465)



Ls: Crm, fnly gran, dol, chky, bcm frag & ool, n/s.

9:59 PM, 03/27/2011

Sh: Blk & v.dk gy, thn fis, slty, some carb.

Ls: Crm-gy, fxln-gran, some dol, tr org rem, occ arg-shly, n/s.

Sh: Lt gn-gy, fis, mica, calc, v.foss.

Ls: Crm-tn, fxln, sli foss, some chk, occ arg, n/s.

Ls: Crm-tn, fxln, tr med xln, sli ool, tr org rem, some chk, occ arg, tr amor calc, n.v.p.

Sh: Gy-gn, fis, occ calc, tr org rem.

Ls: Crm, fxln, sli foss (Fus) some chk, n.v.p.

Ls: Crm-tn, fxln-frag, dol, sli foss (Fus) chky, some arg-shly, cons sec calc, n/s.

Ls: Crm-gy, fxln, chky-sbchky, tr org rem, occ arg, intbd gy & dk gy fis sh, n/s.

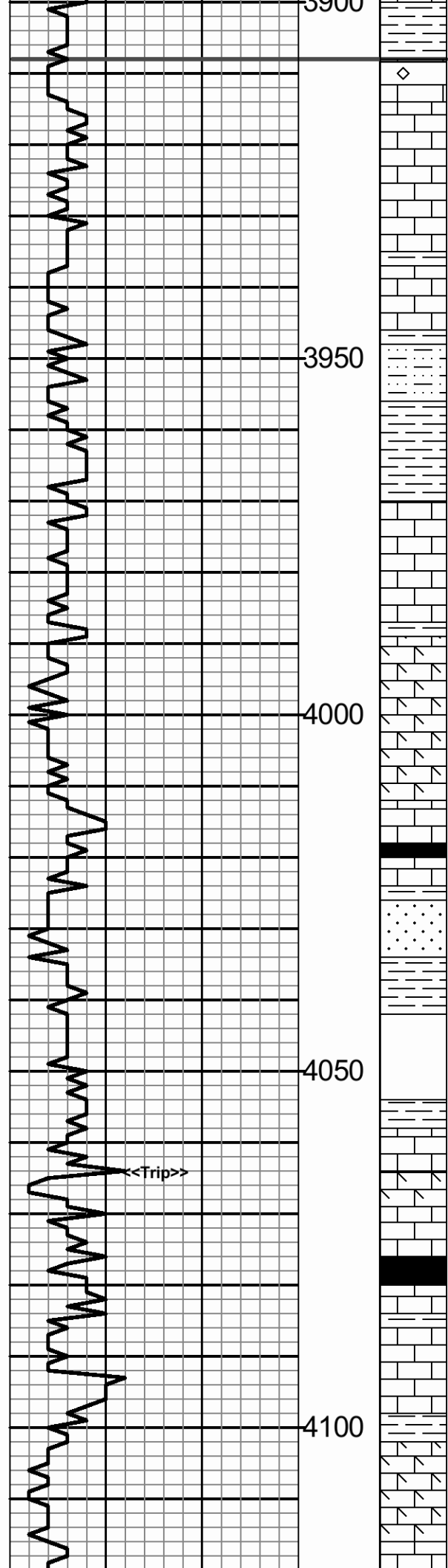
Ls: Crm-tn, fxln, chky, tr org rem, some amor calc, dol in pt, fr intgran por, n/s.

Sh: Gy-gn, fis, some calc.

Ls: Crm, fxln, chky-sbchky, tr amor calc & org rem, n/s.

TOPEKA

3908 (-661)

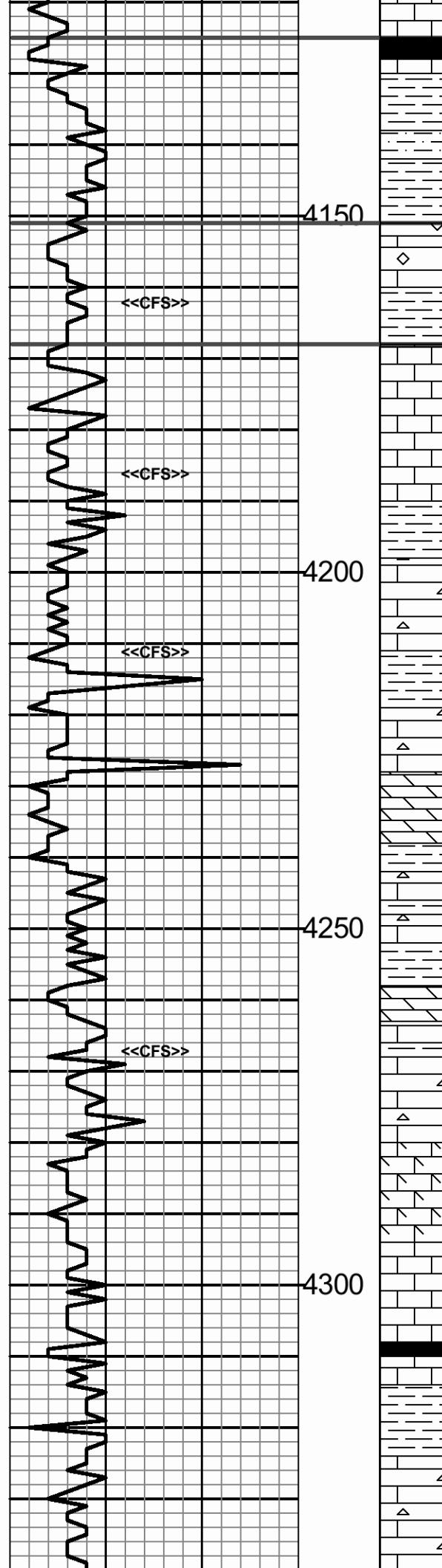


- Ls: Crm, tr yel, fxln, ool, bcm crm fxln-gran sli foss (Brach) sli dol, tr arg, n/s.
- Ls: Crm, fxln, ool, recem, tr chk & org rem, bcm gran, n.v.p, n/s.
- Ls: Crm, fxln, tr medxln, sbchky, tr org rem, occ dol, pr-fr pp por, n/s.
- Ls: Crm-lt gy, fxln, tr gran, sli chky, tr org rem, occ spr calc, n/s.
- Sh: V. dk gy, fis, tr pyr.
- Slst: Lt gy, calc, sli arg, tr pyr, some sdy, gd intgran por, n/s.
- Sh: Rd-brn brn & rd-or, blk, ea, cons rd-brn & brn v.arg sltst, tr gy fis sh.
- Ls: Crm, fxln, tr gran, sbchky, tr org rem, some dol, fr pp por, n/s.
- Ls: Crm, tr lt gy, fxln, occ medxln, some sbchky, tr org rem, occ spr calc, fr pp & intxln por, n/s.
- Sh: Lt gy & gy-gn, tr dk olv gn, fis.
- Ls: Crm, fxln-gran, sbchky, dol in pt, r.org rem, fr intgran por, n/s.
- Ls: Crm tr crm-lt gy, gran, sli dol, sbchky, tr spr calc, gd intgran por, n/s.
- Ls: Crm, fxln, tr vfxln, sbchky, r.org rem, n.v.p.
- Sh: Blk, thn fis, carb.
- Ls: Tn, fxln, mott w/dk gy sh, sli pyr, r.org rem.
- Sd: Lt gy & gy-gn, tr crm-gy, vvf, wl srt, sbfri-fri, sli pyr, gn & rd-brn sh inc, some slty, n/s.
- Sh: Gy dk gy & dk gn, fis, bcm rd-brn v.slty.
- NO SAMPLE
- Sh: Dk gy, fis, tr pyr.
- Ls: Crm, fxln, tr org rem, cons spr calc, tr lt gn sh inc, n.v.p.
- Ls: Wh-crm, gran, dol, sbchky, gd intgran por, n/s.
- Ls: Crm-tn, fxln, foss, occ spr calc, n.v.p.
- Sh: Blk, thn fis, carb.
- Ls: Lt gy-gn & lt gn, fn-vfxln, arg, dns, some intbd gn fis sh, n/s.
- Ls: Wh-crm, fxln-gran, sbchky, sli dol, fr-gd pp & intgran por, n/s.
- Ls: Crm-lt gy, fn-vfxln, some sbchky, bcm lt gy-gn & arg, n/s.
- Ls: Wh-crm, fxln, sbchky, tr amor calc, tr dol, fr pp por, n/s.
- Ls: Crm, fxln, tr gran, sbchky, occ amor calc, some dol, fr-gd pp & intgran por, n/s.

Morgan Mud check @ 3999'
 Vis: 65, Wt: 8.9, WL: 6.8
 Chlor: 5,000 ppm, LCM: 2#

Loss of pump pressure, trip out @ 4064'. Hole in drill collars.

<<Trip>>



Crm-gy, fxln, smwt arg, n.v.p.

- Sh: Blk, thn fis, carb, some tn vfxln dns Ls.
- Sh: Rd-brn, tr brn & rd-or, blk, ea, some slty.
- Sh: Gy-gn, fis, slty, some lmy, intbd gn & lt gy-gn arg calc sltst.
- Sh: Rd-brn & rd-or, some mar & brn, fis-blky.

HEEBNER SHALE

4125 (-878)

- Ls: Wh-v.lt gy, fxln, ool, rexlzd, foss, some sbchky, n.v.p, n/s.
- Sh: Rd-brn, tr brn, ea, some gy-gn fis sh.

TORONTO

4151 (-904)

- Ls: Crm, fxln, foss (Fus) sli chky, occ spr calc, pr intxln por, n/s.
- Ls: Crm-tn, fxln, tr frag ool, cons spr calc, some sbchky, n.v.p, n/s.
- Ls: Crm, frag, ool, sbchky, intbd dk gy fis occ slty sh, n/s.
- Sh: Gy & gn-gy, fis, some slty, tr mica.

LANSING

4168 (-921)

- Ls: Wh, fxln, v.chky, tr org rem, some wh op-trnsl vit cht, r.pyr, n.v.p, n/s.
- Ls: Wh, fxln, sbchky, tr org rem, some wh & v.lt or op-trnsl vit cht, n/s.
- Sh: Gy-gn, fis, tr calc, some slty.
- Ls: Wh-crm, fxln, some chk, tr org rem, wh-v.lt gy trnsl cht, n.v.p, n/s.
- Dol: Crm, fxln-gran, foss (Fus) sli chky, tr amor calc, n/s.
- Dol: Crm-tn, fxln, chky, tr wh op vit cht, some amor calc, fr pp & vug por, n/s.
- Ls: Crm-tn, fn-vfxln, tr org rem, sbchky, some tn trnsl frs cht, lt gy-gn & olv gn fis sh, n/s.

Morgan Mud check @ 4253'
 Vis: 64, Wt: 9.2, WL: 6.4
 Chlor: 4,800 ppm, LCM: 2#

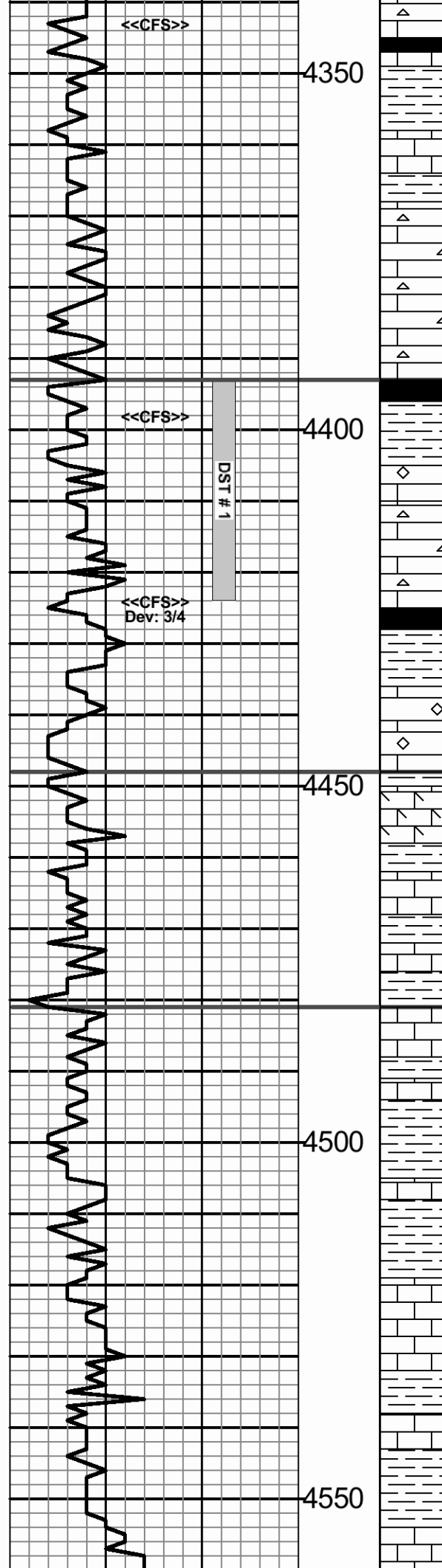
- Dol: Crm-tn, fxln, sbchky, occ spr calc, wh & lt gy op vit cht, fr-gd intxln & pp por, n/s.
- Ls: Crm-tn, fxln, sbchky, sli dol, lt gy crm & tn op-trnsl cht, n.v.p, n/s.
- Sh: Olv gn & olv brn fis, some calc.
- Ls: Crm, tr v.lt gy, fxln, sli dol, some spr calc, lt gy crm & lt or op vit cht, n/s.
- Ls: Tn, fxln, foss, some cht, dns, n/s.
- Ls: Crm, fnly gran, dol, some spr calc, tr tn op vit cht, fr intgran por, n/s.
- Ls: Crm-lt gy, fxln, sli ool, mott, dns, soem chk, n/s.

- Sh: Blk, thn fis, carb, some dk gy slty sli pyr sh & tn-lt brn fxln dns Ls.
- Sh: Lt gy & lt gn-gy, fis, some slty, sli pyr, v.gum.
- Ls: Crm-tn, fxln, occ gran dol, tr org rem, wh & crm trnsl vit cht, pr intgran por, n/s.

DST # 1 4394 - 4424

30"-60"-30"-30"

IF: V. Weak blow throughout
 EF: No blow



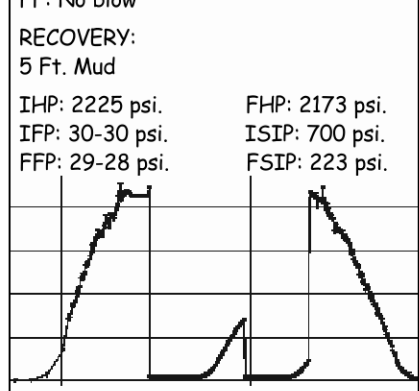
Ls: Crm, occ lt gy, fxln, sbchky, tr org rem, wh-crm op cht, n.v.p.
 Sh: Blk & v.dk gy, fis, some carb, intbd tn-brn vfxln dns Ls.
 Sh: Gy-gn, fis, occ calc, tr slty.
 Ls: Crm & v.lt gy, fxln, tr org rem, sbchky, dns, occ arg, n/s.
 Sh: Rd-brn brn rd-or & purp, blk, tr slty, some gy-gn & lt gy fis sh.
 Ls: Wh-crm, fxln, sbchky, r.org rem, tr wh op cht, n.v.p.
 Ls: Crm, fxln, sbchky, some wh & lt gy trnsl vit cht, r.pyr & org rem, n/s.

Sh: Blk, thn fis, carb, bcm gy-gn & lt gn fis some calc-lmy.
 Ls: Wh lt gy tn & crm, fxln, tr frag ool, sbchky, occ arg & mott, fr pp por, v.sli shw FO sli odor, lt spty stn.
 Ls: Crm, fxln, sbchky, r.org rem, wh & lt gy trnsl vit cht, n.v.p, n/s.
 Sh: Blk, thn fis, carb.
 Sh: Dk gy, gn-gy & olv gn, fis, bcm rd-brn & mar.

Ls: Crm-lt gy, fxln, tr ool, sbchky, some arg, dns, n/s.
 Ls: Tn, fxln, sli ool, tr org rem, dns, some sbchky, n/s.
 Sh: Gy & gy-gn, fis, some calc.
 Ls: Crm-tn, fxln, w/crm fnly gran dol Ls, sbchky, fr por, n/s.
 Sh: Dk gy olv gn & gy-gn, pyr, some tn fn-vfxln dns Ls.
 Ls: Crm, fxln, tr vfxln, some org rem, amor calc, n.v.p, n/s.

Ls: Tn-lt gy, fn-vfxln, sli pyr, sbchky, n/s.
 Sh: V.dk gy, fis.
 Sh: Rd-brn brn mar & gy-gn, blk-splin, ea, some mott
 Ls: Crm-gy, fxln, tr org rem, some arg-shly, intbd gy-gn & gy-brn sh.
 Sh: V.lt gy, fis, some gy-gn & dk gy.
 Ls: Crm-v.lt gy, tr yel, vfxln-crpxln, frac, some mott w/mar & rd-brn sh, dns, n/s.

Sh: Gy, dk gy, fis.
 Ls: Crm-gy, fxln, sbchky, tr ool, r.spr calc, pr pp por, no odor, tr dk brn FO, r.dk stn.
 Sh: Gy, dk gy, & gy-gn fis, some calc-lmy.
 Ls: Crm, tr crm-tn, fn-vfxln, tr microxln, occ spr calc, some sbchky, r.org rem, dns,

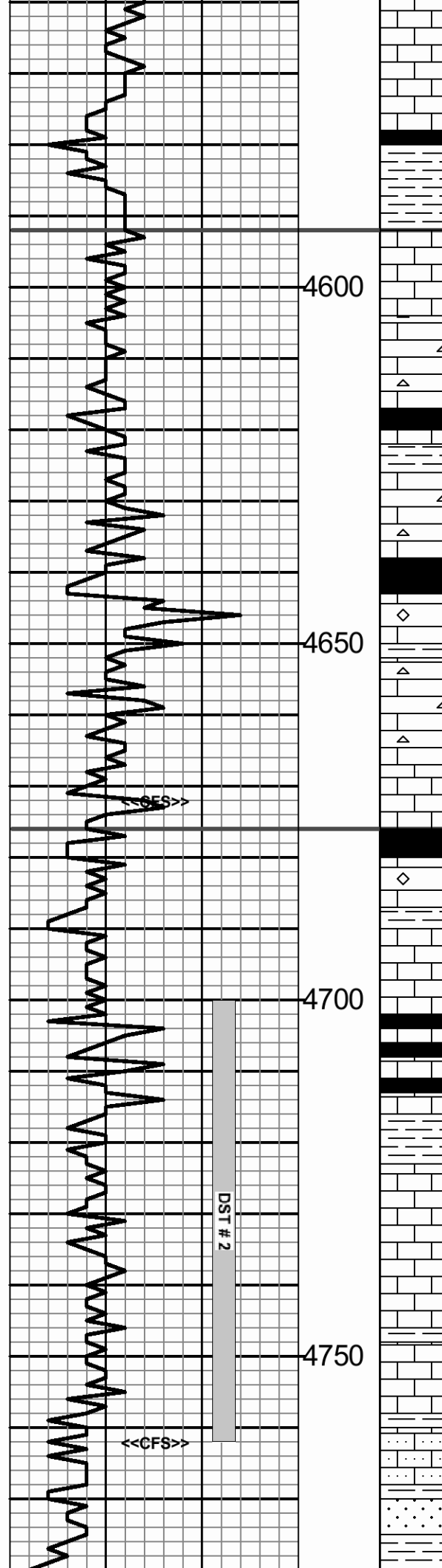


STARK SHALE
4393 (-1146)

Morgan Mud check @ 4424'
 Vis: 53, Wt: 9.3, WL: 7.2
 Chlor: 6,900 ppm, LCM: 2#

BASE/KANSAS CITY
4448 (-1201)

MARMATON
4481 (-1234)



Ls: Tn, some lt brn, fxlIn, dns, r.org rem, some sbchky, n/s.

Sh: Blk, thn fis, carb, bcm gy-gn & dk gy fis some vgt.

Ls: Crm, fxlIn, sbchky, dns, frac, tr arg, n/s.

Ls: Wh-crm, fxlIn, tr vfxln, wthd-sbchky, dns, n/s.

Ls: Crm-tn, fxlIn, tr vfxln, some wthd, occ blu-gy lt gy tn & dk brn trnsl vit cht, tr pr pp por, no odor, no FO, spty v.dk stn.

Sh: Blk, thn fis, carb, bcm gy-gn & olv gn fis, pyr.

Ls: Wh-crm, fxlIn, foss (Fus) some sbchky, tr spr calc, occ lt gy & crm trnsl vit cht, n.v.p, n/s,

Ls: Wh-crm, fxlIn, tr vfxln, sbchky, tr org rem, r.pyr, lt gy & tn trnsl cht, n/s.

Sh: Blk, thn fis, carb.

Ls: Crm-tn mott w/dk gy & brn ool, fxlIn, some wthd-sbchky, cons sec calc, tr pyr, n.v.p, n/s.

Ls: Crm, fxlIn, some lt gy & tn trnsl cht, intbd lt gn fis sh, n/s.

Ls: Crm, occ crm-tn, fxlIn, some sbchky, sli pyr, tr ool, v.lt gy trnsl cht, n.v.p, n/s.

Ls: Tn-lt brn, vfxln, pyr, tr org rem, dns.

Sh: Blk, thn fis, carb.

Ls: Wh-crm, frag, dk gy & crm ool, cons spr calc, n.v.p, n/s.

Sh: V.dk gy, fis, tr pyr, some carb mat.

Ls: Tn, fxlIn, rexlzd, tr ool, some arg, dns, n/s.

Sh: Blk, thn fis, carb, intbd w/crm-gy fn-vfxln, dns Ls, tr org rem & spr calc, n/s.

Sh: Dk gy & dk gy-brn fis, some carb, tr pyr.

Ls: Tn-lt brn, fn-vfxln, tr spr calc, gen dns, tr pr intxln por, no odor, v.dk spty stn, no FO.

Ls: Tn, vfxln, tr org rem, n.v.p, n/s.

Ls: Crm-tn, vfxln, tr pyr, r.org rem, some v.dk gy-blk intbd sh, n.v.p, n/s.

Ls: Crm, tr crm-tn, fxlIn, some gran & sbchky, tr org rem, pr-fr intgran por, n/s.

Ls: Crm, gran, sbchky, cons vfn ang-sbrnd qtz sd, fr intgran por, n/s.

Sh: Blu-gn, some yel & mar, blk, sli pyr, occ sbwxy.

Sd: Wh-v.lt gy, vfn-fn, sbrnd, sbfri-wl cmt, fr-gd intgran por, n/s.

PAWNEE

4592 (-1345)

Morgan Mud check @ 4667'
Vis: 69, Wt: 9.4, WL: 8.0
Chlor: 6,000 ppm, LCM: 1.5 #

CHEROKEE

4676 (-1429)

DST # 2 4700 - 4762

30"-60"-60"-90"

IF: Fair blow, incr to 8 inches.

FF: Fair blow, incr to 8 inches.

RECOVERY:

124 Ft. Mud

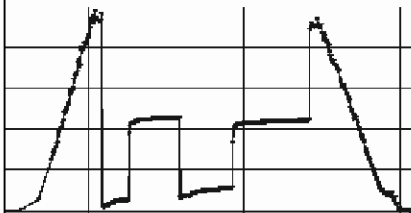
477 Ft. Muddy Water

IHP: 2425 psi. FHP: 2332 psi.

IFP: 52-141 psi. ISIP: 1142 psi.

FFP: 167-286 psi. FSIP: 1111 psi.

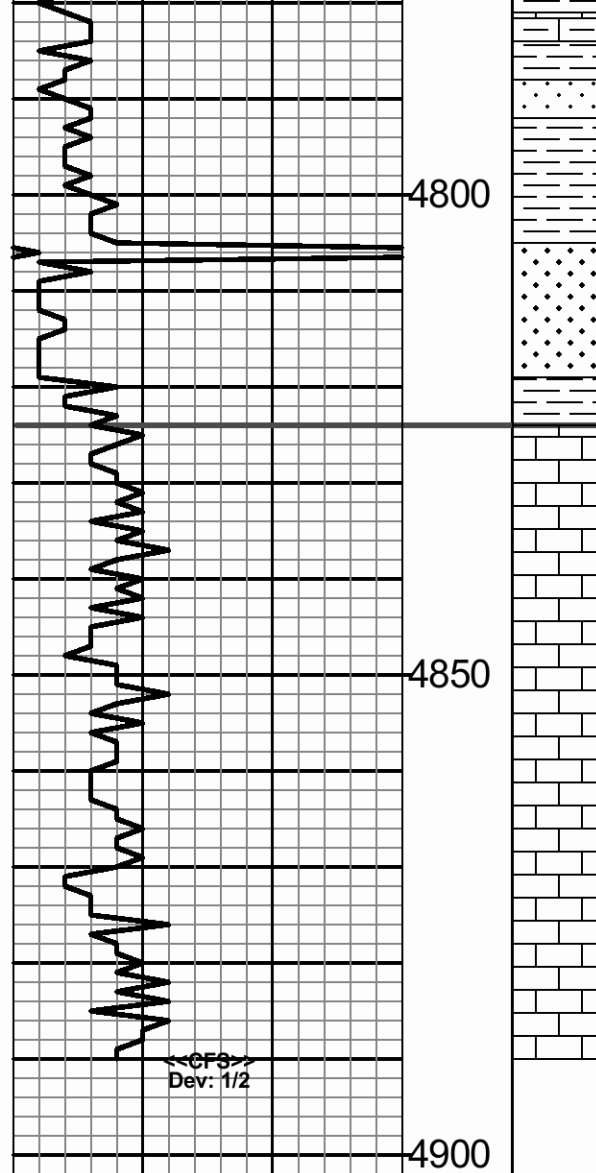
BHT: 132 deg. F.



Morgan Mud check @ 4763'

Vis: 46, Wt: 8.9, WL: 8.4

Chlor: 8,000 ppm, LCM: 4#



Ls: Crm-tn, fxln, sbchky, tr org rem, some spr calc, n.v.p, intbd gy dk gy & gy-gn fis sh.

Sh: Gy-gn blu-gn yel purp mar & dk gy, some wxy, tr pyr, tr blk carb sh, some lt gy fn sbrnd fri arg sd, n/s.

Sh: Gy purp gn yel & blu-gn, sbwxy, some sdy, intbd tn crpxln dns Ls, some fn sd clus, n/s.

Sd: Wh & lt gy, vvf-n-med, ang-sbrnd, pr srt, sbfri-wl cmt, occ calc, some glauc & arg, r.pyr, gd intgran por, n/s.

Ls: Crm, tr tn, fxln, ool, tr org rem, occ sbchky, tr aren, intbd gn & yel sh, n.v.p, n/s.

Ls: Crm, fxln, some vfxln-microxln, occ sbchky, tr sdy, n.v.p.

Ls: Crm, gran-frag, ool, aren, sbchky, tr vfxln & dns, n/s.

Ls: Crm, some wh-crm, fxln-frag, ool, sbchky, occ vfxln, n/s.

Ls: Crm, tr crm-tn, fxln-frag, ool, tr org rem, sbchky in pt, occ sdy, n.v.p, n/s.

MISSISSIPPIAN

4824 (-1577)

TOTAL DEPTH

4890 (-1643)

5:35 PM, 1 April 2011

Operator: MURFIN DRILLING COMPANY, INC.

Lease: FRAHM 'A' #1-18

Location: 1240 FSL & 1900 FWL SEC. 18 TWSP 10S RGE 34W

County: THOMAS State: KANSAS