

WF

MACKLIN M. ARMSTRONG

Geologist

ROESENER # 1-27

License Number 743

316-209-5047

Scale 1:240 Imperial

Well Name: Roesener No. 1-27
 Surface Location: Sec 27 T27S R24W
 Bottom Location: 1752' FNL and 1452' FEL
 API: 15-057-20773
 License Number: 34318
 Spud Date: 1/10/2012
 Region: Ford County, Kansas
 Drilling Completed: 1/22/2012
 Surface Coordinates:
 Bottom Hole Coordinates:
 Ground Elevation: 2521.00ft
 K.B. Elevation: 2534.00ft
 Logged Interval: 2500.00ft
 Total Depth: 5230.00ft
 Formation: Mississippi
 Drilling Fluid Type: Chemical/Fresh Water Gel

Time: 3:00 PM
 Time: 7:48 AM
 To: 5194.00ft

OPERATOR

Company: BEREXCO LLC
 Address: 2020 North Bramblewood
 Wichita, Kansas 67206

Contact Geologist: Jim Hickman
 Contact Phone Nbr: 316-337-8331

Well Name: Roesener No. 1-27
 Location: Sec 27 T27S R24W
 Pool: Gas, Oil
 State: Kansas

API: 15-057-20773
 Field: Wilroads North
 Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: 99 55' 47.828" Latitude: 37 40' 20.231"
 N/S Co-ord:
 E/W Co-ord:

LOGGED BY

Company:
 Address: 100 South Ridge Road
 Wichita, Kansas 67209

Phone Nbr: 316-209-5047
 Logged By: Macklin M. Armstromg Name: Kansas License Number 743

CONTRACTOR

Contractor: BEREDCO
 Rig #: 2

Spud Date: 1/10/2012
 TD Date: 1/22/2012
 Rig Release: 1/23/2012

Time: 3:00 PM
 Time: 7:48 AM
 Time: 9:30 PM

ELEVATIONS

K.B. Elevation: 2534.00ft
 K.B. to Ground: 13.00ft
 Ground Elevation: 2521.00ft

NOTES

Date	Depth at 7 am	Activity
1-10-11	MIRU	Spud at 3 pm
1-11-12	597	Short Trip after CTCH
1-12-12	900	Drilling
1-13-12	2173	Drilling
1-14-12	2720	TIH for DST No. 1
1-15-12	3025	Drilling
1-16-12	3607	Drilling
1-17-12	4110	Drilling
1-18-12	4560	Drilling
1-19-12	4895	Drilling
1-20-12	4930	TIH after DST No. 2
1-21-12	5100	TOH for DST No. 3
1-22-12	5185	Drilling
1-23-12	5230	Set 5 1/2"

Surface Casing: 8 5/8" 20# at 597
 Production Casing: 5 1/2" 15.5# from 5194 to 4894 and 5 1/2" 14# from 4894 to surface

Deviation: 597 - 0.25 deg; 3607 - 1.5 deg; 5230 - 1.5 deg

Bit Record:	Make	Type	Depth In	Depth Out	Hours
	Smith	F271	597	5230	132

Drill Stem Tests:

DST No. 1 2672 to 2720 Formation: Krider
 30-60-60-60
 Recovery: 540' GIP
 360' GMW (10% gas, 20% mud, 70% water - Chl 90,000 ppm)
 IHP 1357 FHP 1257
 IFP 32-97 FFP 105-184
 ISIP 527 FSIP 497
 Temp 85 deg

DST No. 2 4890 to 4930 Formation: Pawnee
 30-60-45-90
 Recovery: 750' GIP
 95' GM (15%G, 85%M)
 180' GMCO (30%G, 22%M, 48%O)
 IHP 2386 FHP 2363
 IFP 31-77 FFP 85-131
 ISIP 1356 FSIP 1360
 Temp 113 deg

DST No. 3 5078 to 5100 Formation: Cherokee Sand Zone and Mississippi
 30-60-45-90
 Recovery: 58' GCM (10%G, 90%M)
 Initial Open: GTS in 5", 10" - TSTM, 20" - TSTM, 30" - 24 MCFG
 Final Open: 10" - 32 MCFG, 20" 28 MCFG, 30" - 24 MCFG, 40" - TSTM
 IHP 2480 FHP 2433
 IFP 48-20 FFP 22-12
 ISIP 1084 FSIP 1376
 Temp 116 deg

Formation	Sample*	E-Log	Datum	Well 1	Well 2	Well 3
Krider	2698	2658	-124	+9		
Windfield	2728	2688	-154	+13		
Towanda	2762	2722	-188	+9		
Fort Riley	2824	2784	-250	+7		
Heebner	4255	4219	-1685	+4	0	+11
Toronto	4270	4235	-1701	+8	+5	+12
Brown Lime	4375	4335	-1801	+6	0	+11
Lansing	4384	4345	-1811	+6	0	+10
Swope	4708	4671	-2137	+9	+11	+21
Hertha	4749	4711	-2177	+12	+6	+18
B/Kansas City	4818	4780	-2246	+13	+8	+21
Marmton	4834	4796	-2262	+13	+11	+24
Pawnee	4921	4883	-2349	+4	+4	+15
Cherokee Shale	4966	4928	-2394	+7	+5	+18
Lower Cherokee Shale	4994	4957	-2422	+11	+5	+21

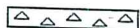



Cherokee Shale	4966	4928	-2394	+7	+5	+18
Lower Cherokee Shale	4994	4957	-2423	+11	+5	+21
B/Cherokee Lime	5062	5025	-2491	+9	+4	+21
Cherokee Sand Zone	5080	5044	-2510	+7	+3	
Mississippi	5094	5059	-2525	+8	+8	
Total Depth	5230	5194	-2660			+35

Well 1: J. Mark Richardson Rennich No. 1 NE NE NE Sec 27 T27S R24W
 Well 2: Pickrell Drilling Company Roenfeldt No. 1-A NE SE SW Sec 22 T27S R24W
 Well 3: Sam Gary Oil Producer Barngrover No. 26-4 NW NW NW Sec 26 T22S R23W
 *A pipe strap at 4930 feet was 31 feet short to the board and the electric log formation tops were 35 to 40 feet shallower than the geological log formation tops. Therefore, sample tops should be corrected accordingly.

Due to the results of the Drill Stem Tests and the electric log calculations, it was decided to set production pipe set to further test the Krider, Pawnee, Cherokee Sand, and Mississippi zones.

Respectfully submitted,
 Macklin M. Armstrong




ROCK TYPES

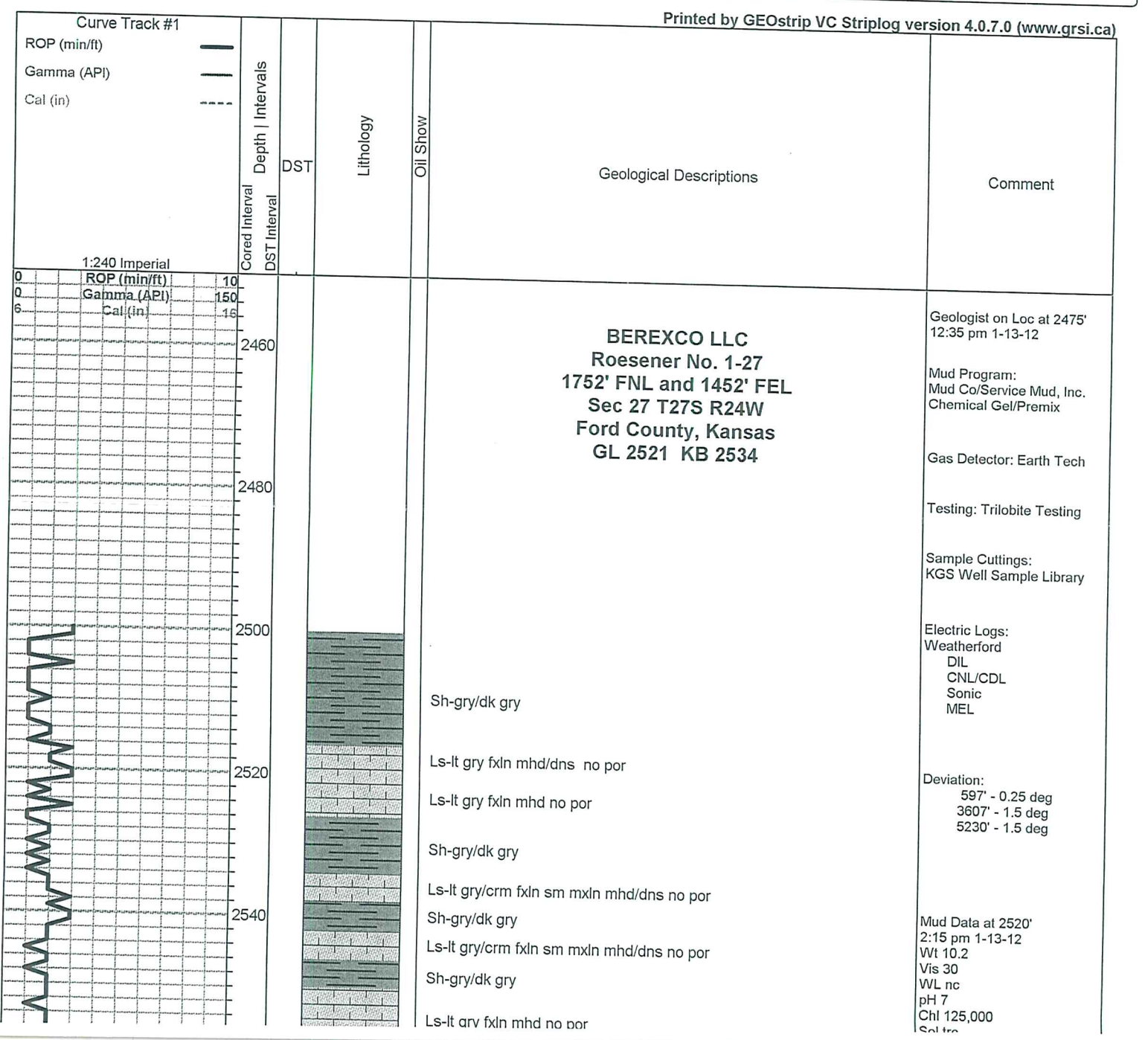
 Cht	 Lmst fw7> shale, gry	 Carbon Sh
 Dolprim		

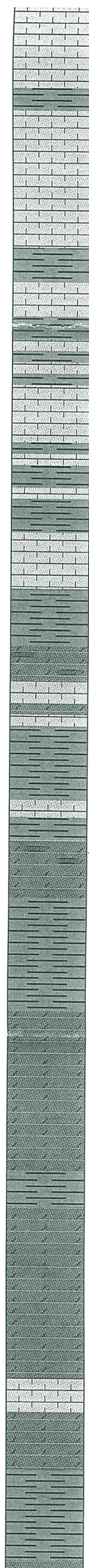
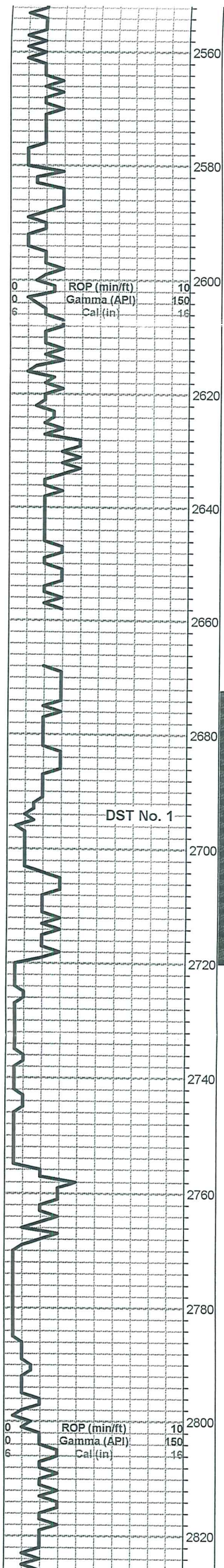
ACCESSORIES

MINERAL △ Chert White	FOSSIL F Fossils < 20% φ Oolite	STRINGER Dolomite Limestone Shale green shale carb shale	TEXTURE C Chalky
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OTHER SYMBOLS

DST
 DST Int
 DST alt
 Core





Ls-lt gry fxln mhd no por

Ls-AA

Sh-gry/dk gry

Ls-lt gry/gry fxln sm mxln mhd no por

Ls-lt gry/gry fxln soft fr interxln por nsfo

Ls-lt gry/gry fxln mhd/dns no por

Ls-lt gry/gry fxln soft/mhd pr interxln por nsfo

Sh-gry/dk gry

Ls-lt gry fxln mhd no por

Sh-gry/dk gry

Sh-AA

Sh-gry/dk gry

Ls-lt gry/gry fxln mhd/dns no por

Sh-gry/dk gry

Sh-AA

Sh-gry/dk gry

Ls-lt gry fxln mhd/dns no por

Sh-gry/dk gry

Dolo-gry fxln to sl suc sl lmy mhd/dns no por

Ls-tan/lt gry fxln mhd/dns no por

Dolo-AA

Sh-gry/dk gry

Sh-AA

Ls-tan/lt gry fxln mhd no por

Sh-gry/dk gry

-----Krider 2698 -164-----

* Dolo-tan/lt gry f/mxln to sl suc soft sl lmy sl fos gd interxln por trc vug por nsfo or gas

Dolo-gry fxln to fsuc dns no por

Sh-gry/dk gry/red

Sh-AA

-----Winfield 2728 -194-----

Dolo-lt gry fxln soft gd interxln por nsfo or gas

Dolo-AA

Dolo-lt gry/gry fsuc dns no por

Sh-gry/dk gry

-----Towanda 2762 -228-----

Dolo/lt gry/gry fxln to fsuc dns no por

Dolo-tan/gry fxln to fsuc mhd pr interxln por nsfo or gas

Dolo-AA

Dolo-tan/gry fxln to fsuc mhd no por

Ls-gry/lt gry fxln mhd sl dolo no por

Dolo-gry fxln to sl suc mhd/dns no por

Sh-gry/dk gry/red

Sh-AA

-----Fort Riley 2824 -290-----

Chi 125,000
Sol trc
YP 10

Reset Clock at 2558'

CFS at 2690' - 30"

22 units total gas

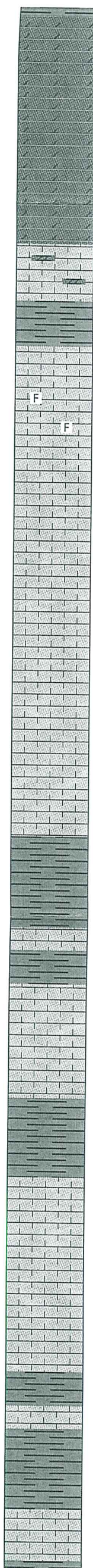
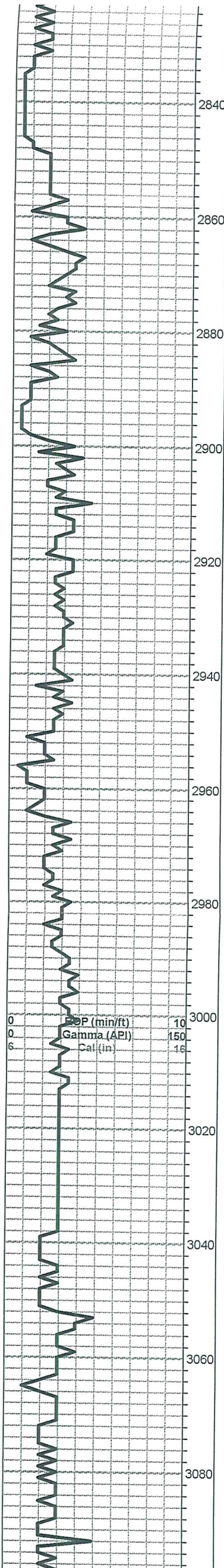
Pulled 10 stnd short trip at 2720' then spotted tank of mud on bottom for test. Cir to condition hole - 90"

CFS at 2720' - 60"

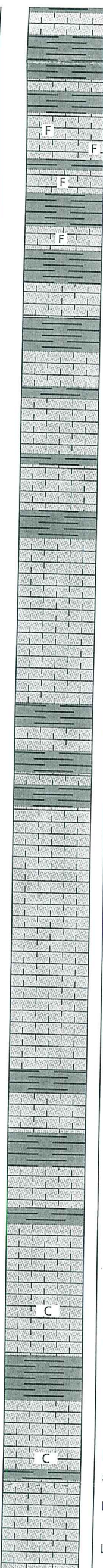
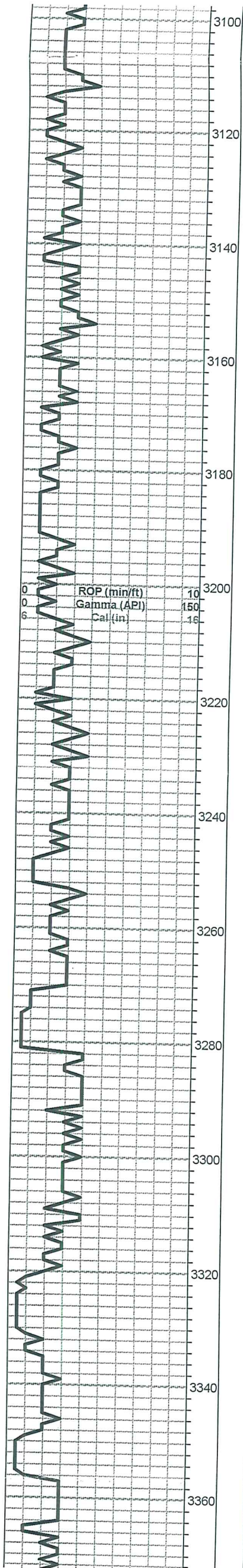
DST No. 1 2672 to 2720
30-60-60-60
1st Open: BOB in 7"
2nd Open BOB in 7"
Rec: 540' GIP
360' GMW (10%G
20%M,70%W
chl 23,000 ppm)
IHP 1357 FHP 1257
IFP 32-97 FFP 105-184
ISIP 527 FSIP 497
Temp 85 deg

Mud Data at 2720'
2:20 pm 1-14-12
Wt 9.2
Vis 29
WL nc
pH 7
Chi 71,000
Sol 2.2%
YP nc

Fort Riley 2824 -290

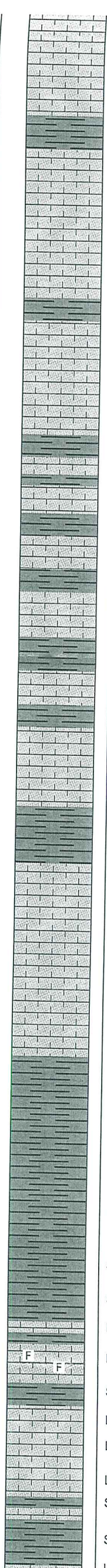
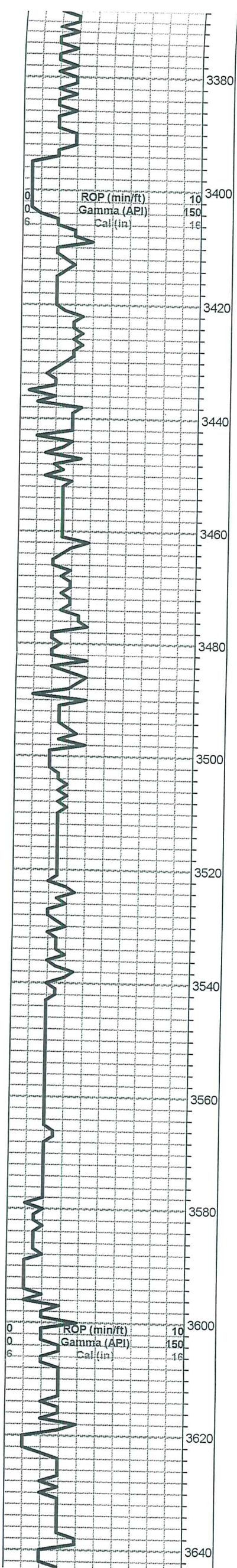


- Dolo-gry fxln to sl suc mhd/dns no por
- Dolo-AA
- Dolo-gry fxln to sl suc mhd pr interxln por nsfo
- Dolo-AA
- Dolo-gry/lt gry fxln mhd no por
- Dolo-AA
- Ls-gry/lt gry fxln mhd/dns sl dolo sl fos no por
- Sh-gry/dk gry
- Ls-gry/lt gry fxln dns no por
- Ls-gry/lt gry fxln sl fos pr/fr interxln por nsfo
- Ls-lt gry fxln dns no por
- Ls-AA
- Ls-lt gry fxln dns no por
- Ls-AA
- Ls-lt gry fxln dns no por
- Ls-AA
- Ls-lt gry/gry wt fxln mhd no por
- Ls-AA
- Sh-gry/dk gry
- Sh-AA
- Ls-lt gry/gry wt fxln mhd/dns no por
- Sh-gry/dk gry
- Ls-lt gry/gry wt fxln dns no por
- Ls-AA
- Ls-AA
- Sh-gry/dk gry
- Sh-AA
- Ls-lt gry fxln mhd/dns no por
- Ls-AA
- Ls-lt gry fxln mhd no por
- Ls-AA
- Ls-lt gry fxln dns no por
- Ls-AA
- Sh-gry/dk gry
- Ls-lt gry/gry wt fxln mhd/dns no por
- Sh-gry/dk gry
- Sh-AA
- Ls-lt gry/gry wt fxln mhd no por
- Sh-gry/dk gry



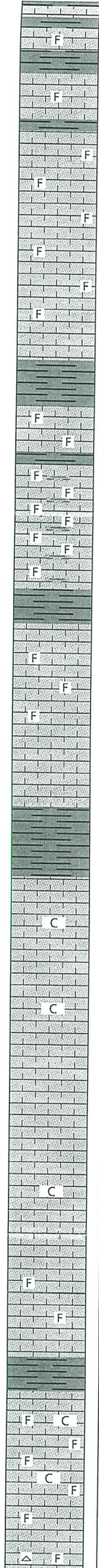
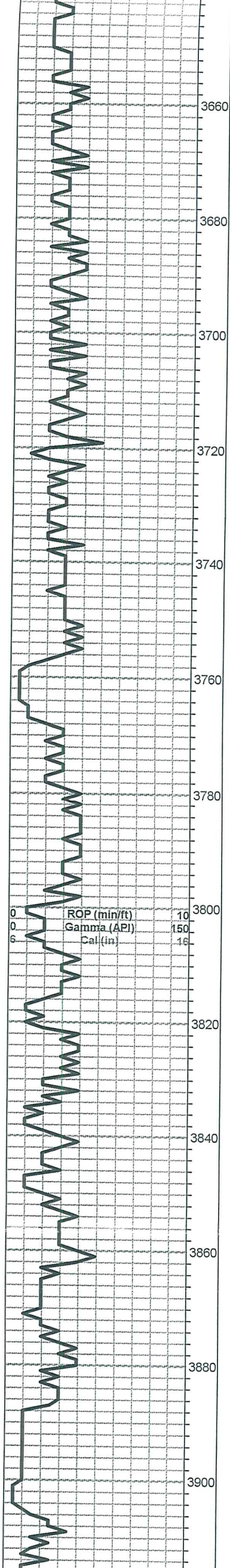
Ls-lt gry/gry wt fxln mhd no por
 Sh-gry/dk gry
 Ls-lt gry fxln dns no por
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd/dns no por
 Ls-AA
 Ls-lt gry/tan fxln mhd pr interxln por nsfo
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd pr interxln por nsfo
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd/dns no por
 Sh-gry/dk gry
 Ls-lt gry/tan fxln mhd/dns no por
 Ls-lt gry/gry wt fxln mhd pr interxln por nsfo
 Ls-lt gry/gry wt fxln mhd/dns no por
 Ls-AA
 Sh-gry/dk gry
 Ls-lt gry fxln mhd no por
 Sh-gry/dk gry
 Sh-gry/dk gry
 Ls-lt gry/gry wt fxln mhd no por
 Ls-lt gry/gry wt fxln soft/mhd fr interxln por nsfo
 Ls-lt gry/gry wt fxln mhd no por
 Ls-AA
 Ls-AA
 Ls-lt gry/wt fxln soft/mhd gd interxln por nsfo
 Ls-lt gry fxln dns no por
 Sh-gry/dk gry
 Ls-lt gry fxln dns no por
 Sh-gry/dk gry
 Ls-lt gry/gry wt fxln mhd no por
 Sh-gry/dk gry
 Ls-tan/crm fxln dns no por
 Ls-tan/crm fxln soft sl clky fr/gd interxln por nsfo
 Ls-tan/lt gry fxln dns no por
 Sh-gry/dk gry
 Ls-tan/crm fxln dns no por
 Ls-tan/crm fxln soft sl clky fr/gd interxln por nsfo
 Sh-gry/dk gry
 Ls-tan/crm/lt gry fxln dns no por
 Ls-AA

Mud Data at 3247'
 4:15 pm 1-15-12
 Wt 9.5
 Vis 32
 WL nc
 pH 7
 Chl 32,000
 Sol trc
 YP 14

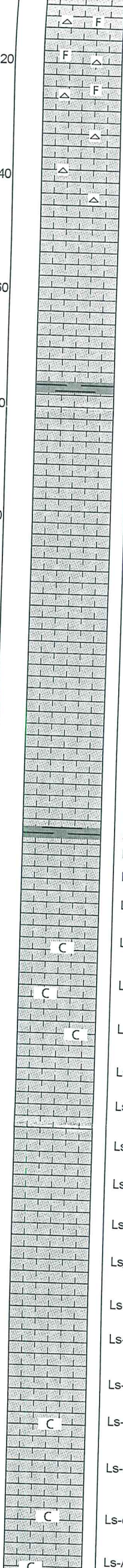
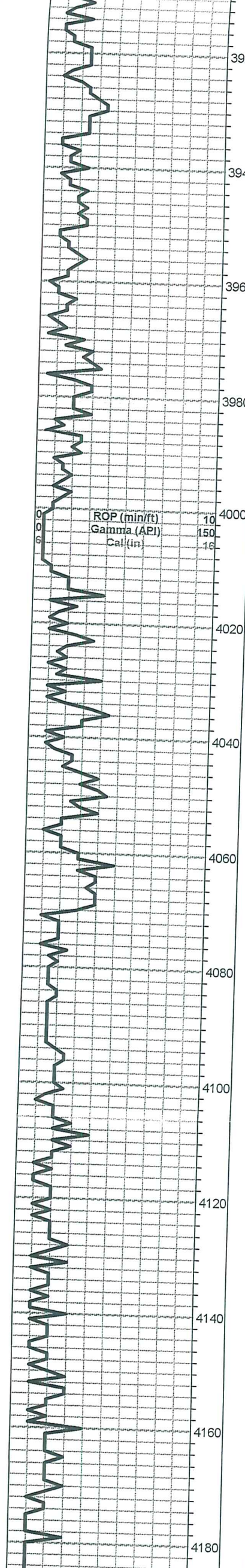


LS-AA
Ls-tan/crm/lt gry fxln dns no por
Ls-AA
Sh-gry/dk gry
Ls-tan/crm fxln dns no por
Ls-tan/crm fxln soft gd interxln por nsfo
Ls-tan/lt gry fxln dns no por
Ls-AA
Sh-gry/dk gry
Ls-tan/lt gry fxln dns no por
Ls-AA
Ls-tan/lt gry fxln mhd pr interxln por nsfo
Ls-tan/lt gry fxln dns no por
Sh-gry/dk gry
Ls-tan/lt gry fxln mhd/dns no por
Sh-gry/dk gry
Ls-tan/lt gry fxln dns no por
Sh-gry/dk gry
Ls-lt gry/gry fxln mhd/dns no por
Sh-gry/dk gry
Ls-lt gry/gry fxln mhd/dns no por
Sh-gry/dk gry
Ls-lt gry/gry fxln mhd/dns no por
Sh-gry/dk gry
Ls-lt gry/gry fxln mhd no por
Ls-AA
Sh-gry/dk gry/dk grn
Ls-lt gry/gry wt fxln mhd no por
Ls-AA
Ls-lt gry/gry wt/crm fxln mhd no por
Ls-AA
Sh-gry/dk gry/gry grn
Sh-AA
Sh-AA
Sh-gry/dk gry
Sh-AA
Sh-AA
Ls-lt gry/crm fxln mhd no por
Ls-crm f/mxln mhd sl fos no por
Sh-gry/dk gry
Ls-tan/lt gry fxln mhd/dns no por
Ls-crm f/mxln soft/mhd fr interxln por nsfo
Ls-crm fxln mhd/dns no por
Sh-gry/dk gry
Sh-gry/dk gry
Ls-crm/lt gry fxln mhd no por

Vis 50
 WL 8
 pH 10.5
 Chl 7800
 Sol 3.8%
 YP 20

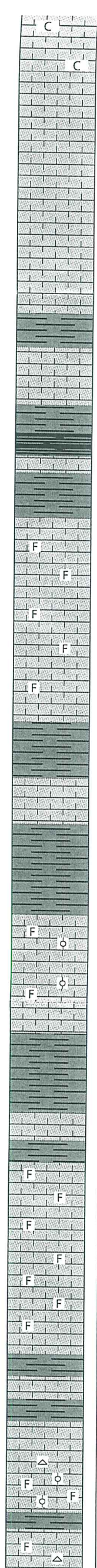
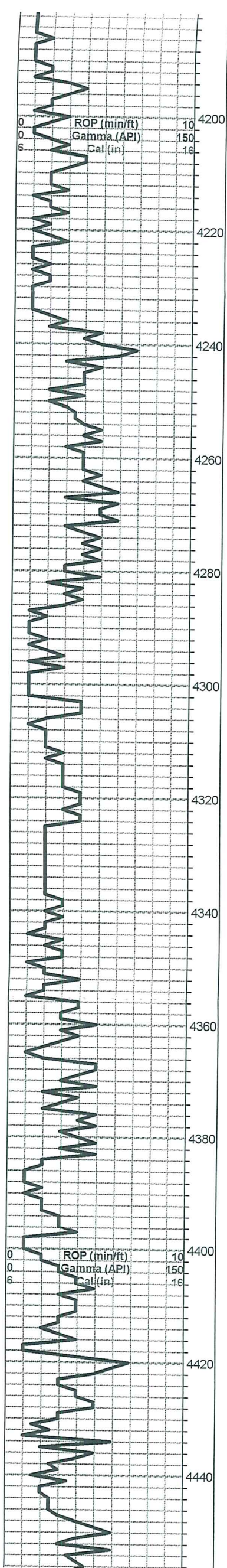


Ls-crm/lt gry fxln mhd no por
 Sh-gry/dk gry
 Ls-crm/lt gry f/xln mhd sl fos no por
 Sh-gry/dk gry
 Ls-crm/tan/gry f/mxln sl fos no por
 Sh-gry/dk gry
 Ls-crm/tan/gry f/mxln mhd sl fos no por
 Ls-AA
 Ls-crm/tan f/mxln mhd sl fos no por
 Ls-AA
 Ls-AA
 Sh-gry/dk gry
 Ls-gry fxln mhd/dns sl fos no por
 Ls-gry f/mxln soft/mhd sl fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-tan/gry m/cxln to sl frag mhd fos sl shly no por
 Ls-AA
 Ls-AA
 Ls-AA
 Sh-gry/dk gry
 Ls-crm/tan fxln dns sl fos no por
 Ls-crm/tan m/cxln to sl frg soft/mhd sl fos fr/gd interxln por nsfo
 Ls-AA
 Ls-crm/tan fxln mhd/dns no por
 Ls-AA
 Sh-gry/dk gry
 Ls-crm/lt tan fxln mhd/dns no por
 Ls-crm/lt tan f/mxln mhd sl clk pr interxln por nsfo
 Ls-crm/tan/lt gry fxln dns no por
 Ls-crm f/mxln soft sl clk pr interxln/vug por nsfo
 Ls-crm f/mxln mhd/dns no por
 Ls-AA
 Ls-crm/ f/mxln soft trc vug por nsfo
 Ls-crm f/mxln mhd/dng no por
 Ls-crm/tan fxln soft sl clk pr/fr interxln por nsfo
 Ls-crm/tan fxln mhd no por
 Ls-AA
 Ls-tan f/mxln mhd sl fos pr interxln por nsfo
 Ls-AA
 Ls-tan/lt gry fxln mhd/dns sl fos no por
 Sh-gry/dk gry
 Ls-tan/lt gry fxln mhd/dns sl fos no por
 Ls-tan f/mxln soft sl clk sl fos pr/fr interxln por nsfo
 Ls-AA
 Ls-AA
 Ls- tan fxln dns sl fos no por
 Ls-tan fxln mhd sl fos pr interxln por nsfo trc Cht-wt fsh

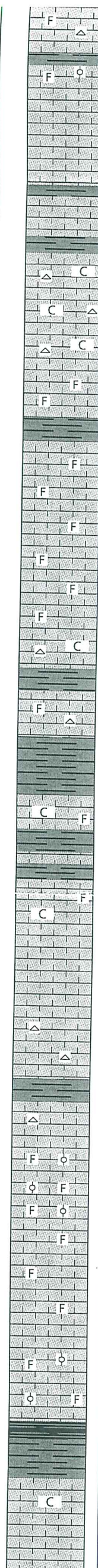
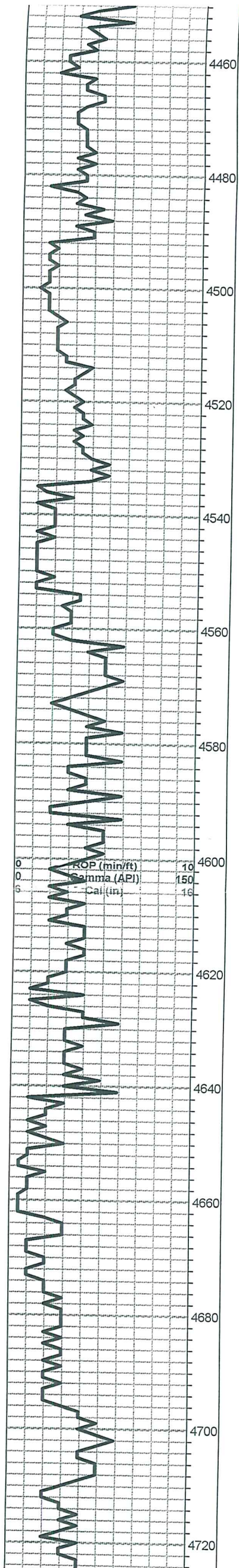


Ls-tan fxln mhd sl fos pr interxln por nsfo trc Cht-wt fsh
 Ls-tan fxln mhd/dns sl fos no por trc Cht-AA
 Ls-AA trc Cht-wt fsh
 Ls-tan fxln dns no por
 Ls-tan f/mxln mhd pr interxln por nsfo trc Cht-wt/crm fsh
 Ls-tan f/mxln mhd/dns no por trc Cht-AA
 Ls-tan f/mxln soft/mhd pr interxln por nsfo
 Ls-tan f/mxln mhd no por
 Ls-tan f/mxln soft/mhd pr interxln por nsfo
 Ls-AA
 Ls-tan fxln dns no por
 Sh-gry/dk gry
 Ls-tan fxln dns no por
 Ls-tan f/mxln soft/mdh pr interxln por nsfo
 Ls-tan f/mxln dns no por
 Ls-tan f/mxln mhd no por
 Ls-tan/crm f/mxln soft pr/fr interxln por nsfo
 Ls-AA
 Ls-tan/crm f/mxln dns no por
 Ls-crm/tan f/mxln mhd pr interxln por nsfo
 Ls-AA
 Ls-AA
 Ls-crm/tan fxln dns no por
 Ls-crm/tan fxln mhd fr vug por nsfo
 Ls-crm/lt gry fxln dns no por
 Ls-AA
 Sh-gry/dk gry
 Ls-crm/tan fxln mhd pr interxln por nsfo
 Ls-crm/lt tan fxln dns no por
 Ls-AA
 Ls-crm/lt tan f/mxln mhd sl clk pr interxln/vug por nsfo
 Ls-AA
 Ls-AA
 Ls-crm/lt gry fxln mhd no por
 Ls-AA
 Ls-crm/lt gry fxln dns no por
 Ls-crm/lt gry f/mxln mhd pr interxln por nsfo
 Ls-AA
 Ls-crm/tan fxln mhd no por
 Ls-AA
 Ls-crm/tan/lt gry fxln mhd no por
 Ls-AA
 Ls-crm fxln mhd sl clk pr interxln por nsfo
 Ls-crm/lt tan fxln mhd/dns no por
 Ls-crm/lt gry fxln soft/mhd sl clk pr/fr interxln por nsfo
 Ls-AA

Mud Data at 4130'
 6:45 am 1-17-12
 Wt 9.2
 Vis 45
 WL 7.2
 pH 10.5
 Chl 5700
 Sol 6.1%
 YP 15
 LCM trc

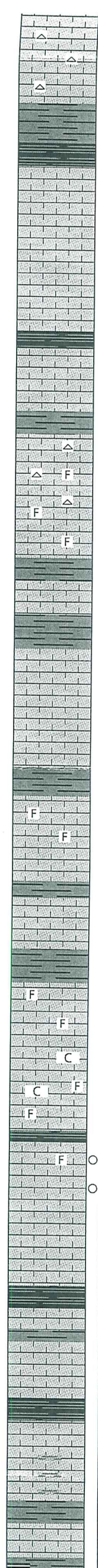
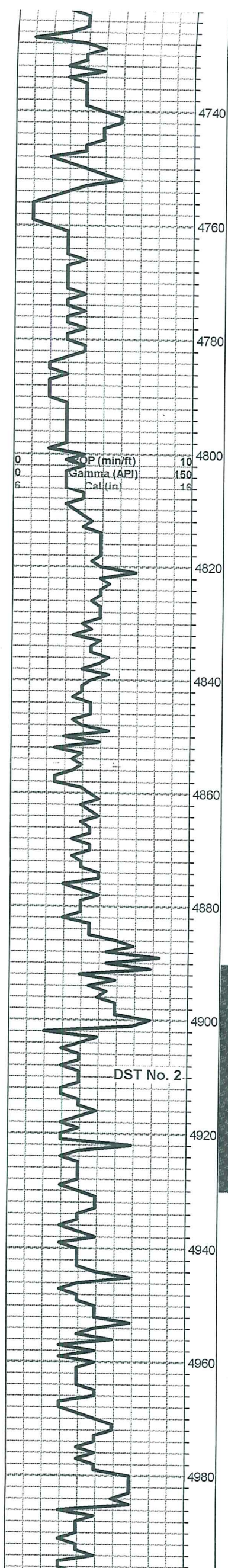


Ls-AA
 Ls-AA
 Ls-crm/lt gry tan fxln dns no por
 Ls-crm/lt gry fxln soft/mhd pr interxln por nsfo
 Sh-blk carb
 Ls-crm/lt gry fxln dns no por
 Ls-crm/tan fxln mhd no por
 Ls-AA
 Ls-crm/tan fxln mhd no por
 Sh-gry/dk gry
 Ls-crm/lt tan fxln dns no por
 Ls-crm/tan fxln mhd/dns no por
 Sh-gry/dk gry
 -----Heebner 4255 -1721-----
 Sh-blk carb
 Ls-tan fxln dns no por
 Sh-gry/dk gry
 -----Toronto 4270 -1736-----
 Ls-crm fxln mhd/dns sl fos no por
 Ls-AA
 Ls-crm fxln soft/mhd sl fos pr interxln por nsfo
 Ls-AA
 Ls-crm/tan fxln dns no por
 Sh-gry/dk gry
 Ls-tan/brn fxln mhd/dns no por
 Sh-gry/dk gry
 Sh-AA
 Ls-crm/tan f/mxln soft/mhd fos sl ool pr interxln por nsfo
 Ls-tan/brn fxln dns no por
 Ls-tan/brn f/mxln soft fos sl ool pr pp/interxln por nsfo
 Ls-tan/brn fxln dns no por
 Sh-gry/dk gry
 Sh-AA
 -----Brown Lime 4375 -1841-----
 Ls-brn fxln mhd/dns no por
 -----Lansing 4384 -1850-----
 Ls-tan/gry f/mxln soft/mhd fos pr/fr interxln por nsfo
 Ls-tan/gry fxln dns sl fos no por
 Ls-tan/gry f/mxln soft/mhd fos pr/fr interxln por nsfo
 Ls-tan fxln dns sl fos no por
 Ls-crm f/mxln mhd fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-crm/tan f/mxln dns no por
 Sh-gry/dk gry
 Ls-crm/tan fxln mhd pr pp/vug por nsfo
 Ls-crm/tan fxln dns no por sm Cht-crm/tan fsh opac fos
 Ls-crm/tan f/mxln soft/mhd fos sl ool pr pp por nsfo
 Sh-gry/dk gry
 Ls-crm/tan fxln dns fos no por sm Cht-crm/tan fsh opac



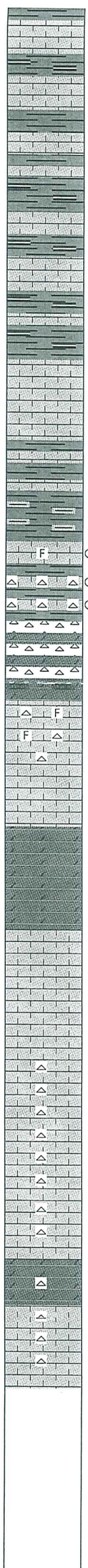
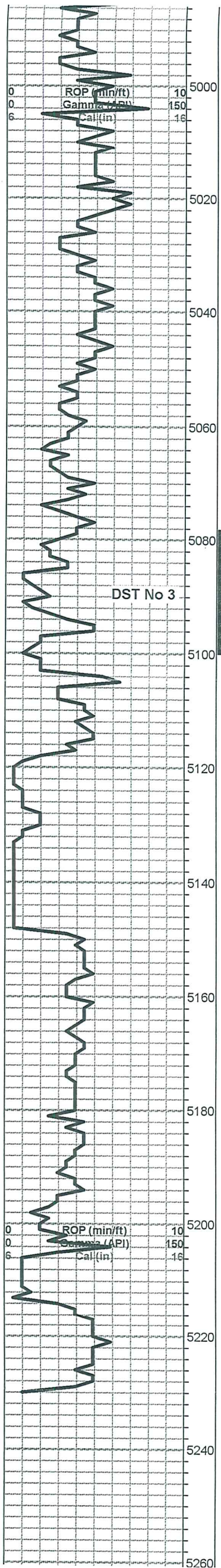
Ls-crm/tan fxln dns fos no por sm Cht-crm/tan fsh opac
 Sh-gry/dk gry
 Ls-crm/tan f/mxln mhd fos sl ool pr pp por nsfo
 Ls-crm/tan f/mxln dns no por
 Ls-crm/tan fxln mhd/dns no por
 Ls-AA
 Sh-gry/dk gry
 Ls-crm/tan fxln dns no por
 Sh-gry/dk gry
 Ls-crm fxln soft/mhd clk pr pp por nsfo sm Cht-wt/tan fsh opac
 Ls-AA sim Cht-AA
 Ls-crm fxln mhd clk pr pp por nsfo sm Cht-wt/tan fsh opac
 Ls-tan f/mxln mhd/dns sl fos no por
 Sh-gry/dk gry
 Ls-tan f/mxln dns sl fos no por
 Ls-tan f/mxln mhd sl fos no por
 Ls-AA
 Ls-tan/crm/tan/lt brn f/mxln soft fos fr pp/vug por nsfo
 Ls-tan fxln dns sl fos no por
 Ls-crm/off wt f/mxln dns sl clk no por sm Cht-wt fsh opac
 Sh-gry/dk gry
 Ls-crm/off wt f/mxln mhd sl fos pr interxln por nsfo sm Cht-AA
 Sh-gry/dk gry
 Ls-crm/lt tan f/mxln mhd clk sl fos pr interxln por nsfo
 Sh-gry/dk gry
 Ls-crm/lt tan f/mxln sl clk sl fos no por
 Sh-gry/dk gry
 Ls-crm/tan f/mxln mhd sl clk sl fos pr interxln por nsfo
 Ls-crm/tan fxln dns no por
 Ls-crm/tan fxln mhd pr interxln por nsfo
 Ls-crm/tan fxln dns no por sm Cht-wt/gr wt fsh opac
 Ls-crm/tan fxln mhd no por sm Cht-AA
 Sh-gry/dk gry
 Ls-crm/tan fxln s/mhd pr interxln por nsfo sm Cht wt/gry wt fsh
 Ls-crm/tan f/mxln soft fos ool and ooc gd ooc por nsfo
 Ls-AA
 Ls-tan f/mxln dns sl fos no por sm Cht-wt/gry wt fsh opac
 Ls-tan f/mxln mhd sl fos no por sm Cht-AA
 Ls-tan fxln dns sl fos no por
 Ls-crm/lt tan fxln mhd sl fos sl ool no por
 Ls-crm/lt tan fxln dns sl fos no por sm Cht-It gry fsh opac
 Sh-blk carb
 Sh-gry/dk gry
 -----Swope 4708 -2174-----
 Ls-crm/lt tan fxln soft/mhd clk pr pp por nsfo
 Ls-crm/lt tan fxln mhd/dns no por
 Ls-AA

Mud Data at 4534'
 5:10 am 1-18-12
 Wt 9.35
 Vis 53
 WL 8
 pH 9.5
 Chl 4400
 Sol 6.9%
 YP 17
 LCM 1 1/2#



LS-AA
 Ls-crm/tan fxln mhd no por sm Cht-gry wt fsh opac
 Ls-crm/tan fxln dns no por trc Cht-AA
 Sh-gry/dk gry
 Sh-blk carb
 -----Hertha 4749 -2215-----
 Ls-tan fxln dns no por
 Ls-tan fxln soft/mhd fr/gd interxln por nsfo
 Ls-tan fxln dns no por
 Ls-AA
 Ls-AA
 Sh-blk carb
 Ls-tan fxln dns no por
 Ls-crm/tan fxln mhd no por
 Sh-gry/dk gry
 Ls-tan fxln mhd/dns sl fos no por sm Cht-wt fsh opac
 Ls-AA
 Ls-tan fxln dns sl fos no por
 -----B/KansasCity 4818 -2284-----
 Sh-gry/dk gry/gry grn
 Ls-gry/brn fxln dns no por
 Sh-gry/dk gry
 -----Marmaton 4834 -2300-----
 Ls-gry/brn fxln dns no por
 Ls-tan/brn fxln dns no por
 Ls-AA
 Sh-gry/dk gry
 Ls-tan fmfxln dns sl fos no por
 Ls-AA
 Sh-gry/dk gry
 Ls-crm/tan fxln dns no por
 Sh-gry/dk gry
 Ls-crm/tan fxln dns sl fos no por
 Ls-crm/tan fxln sm mxln mhd sl clkly no por
 Ls-AA
 Ls-crm/tan fxln mhd sl clkly sl fos no por
 -----Pawnee 4921 -2387-----
 Ls-crm/tan fxln mhd sl fos pr interxln por trc stn in few pcs
 Ls-AA
 Ls-gry/tan fxln dns no por
 Ls-gry/tan fxln dns no por
 Sh-blk carb
 Ls-tan/gry fxln dns no por
 Sh-gry/dk gry
 Ls-tan/gry fxln mhd/dns no por
 -----Cherokee Shale 4966 -2432-----
 Ls-tan/gry brn fxln dns no por
 Ls-tan/gry/brn f/mxln mhd/dns no por
 Ls-tan/brn fxln dns sl shly no por
 Sh-gry/dk gry
 Ls-tan/brn fxln dns no por
 -----Lower Cherokee Shale 4994 -2460-----
 Sh-arv/dk arv/sm blk

6 units total gas
 CFS at 4840' - 60"
 5 units total gas
 6 units total gas
 Mud Data at 4924'
 9:30 am 1-19-12
 Wt 9.25
 Vis 51
 WL 6.8
 pH 9.5
 Chl 2800
 Sol 6.3
 YP 18
 LCM 1 1/2#
 CFS at 4911' - 60"
 6 units total gas
 CFS at 4930' - 60"
 Pulled 25 stand short trip at 4930' then Cir for Test - 60"
 Pipe strap at 4930' - 31' short
 DST No. 2 4890 to 4930
 30-60-45-90
 1st Open: BOB in 2.5 min
 2nd Open: BOB in 20 sec
 Rec: 750' GIP
 95' GM (15%M 85%O)
 180' GMCO (30%, 22%M, 48%O)
 IHP 2386 FHP 2363
 IFP 31-77 FFP 85-131
 ISIP 1356 FSIP 1360
 Temp 113 deg
 Mud Data at 4930'
 6:35 am 1-20-12
 Wt 9.35
 Vie 47



Sh-gry/dk gry
 Ls-tan/brn fxln dns no por
 -----Lower Cherokee Shale 4994 -2460-----
 Sh-gry/dk gry/sm blk
 Ls-tan/brn f/mxln dns no por
 Sh-gry/dk gry
 Ls-gry/brn f/mxln dns no por
 Sh-gry/dk gry
 Sh-gry/dk gry/blk
 Ls-gry/tan/brn f/mxln dns no por
 Sh-gry/dk gry/blk
 Ls-tan/gry/brn fxln dns no por
 Sh-gry/dk gry/blk
 Sh-gry/dk gry/blk
 Ls-crm/tan fxln dns no por
 Ls-AA
 -----B/Cherokee Lime 5062 -2528-----
 Ls-crm/tan fxln mhd no por
 Sh-gry/dk gry
 Ls-lt gry/wt fxln dns sl fos no por
 Sh-gry/dk gry/gry grn
 -----Cherokee Sand Zone 5080 -2546-----
 Ls-wt fxln mhd sl fos sl show gas bub on brk in few pcs
 Cht-wt weat and trip fr vug por scat lt brn stn sl fluor fr cut
 Cht-AA
 -----Mississippi 5094 -2560-----
 Dolo-lt gry/tan fsuc soft/mdh pr por nsfo and Cht wt fsh opac no por nsfo or gas
 Dolo-lt gry/tan fsuc mhd/dns sl imy no por
 Ls-wt/crm fxln mhd/dns sl fos no por sm Cht-wt fsh and weat
 Ls-AA sm Cht-AA
 Ls-wt/crm fxln soft fr interxln por nsfo or gas
 Ls-wt/crm fxln mhd no por
 Dolo-wt/lt tan/crm fxln to fxuc soft pr/fr pp por nsfo
 Dolo-AA
 Ls-crm/lt tan fxln mhd/dns no por
 Ls-AA
 Ls-crm/lt tan mhd/dns no por sm Cht-wt fsh opac
 Ls-AA sm Cht-AA
 Ls-crm/lt tanfxln mhd/dns no por sm Cht-wt fsh opac
 Ls-crm/lt tan fxln mhd no por sm Cht-AA
 Ls-crm/lt tan fxln dns no por sm Cht-AA
 Dolo-crm/lt tan fxln to fsuc mhd pr pp por sm Cht-wt fsh opac
 Ls-crm/lt tan/wt fxln dns sm Cht-wt/gry wt fsh opac
 Ls-AA sm Cht-AA
 -----RTD 5230 -2696-----

Mud Data at 4930'
 6:35 am 1-20-12
 Wt 9.35
 Vis 47
 WL 8
 pH 9.5
 Chl 4100
 Sol 6.9%
 YP 15
 LCM 1 1/2#

DST No. 3 5078 to 5100
 30-60-45-90
 1st Open: GTS in 5"
 10" TSTM
 20" TSTM
 30" 24 MCFG
 2nd Open: 10" 32 MCFG
 20" 28 MCFG
 30" 24 MCFG
 40" TSTM
 Rec: 58' GCM (10%G
 90%M)
 IHP 2480 FHP 2433
 IFP 48-20 FFP 22-12
 ISIP 1084 FSIP 1376
 Temp 116 deg

CFS at 5074' - 60"
 18 units total gas
 50 units total gas
 25 units total gas

CFS at 5100' - 90"
 100 units total gas
 200 units total gas

Mud Data at 5100'
 6:50 am 1-21-12
 Wt 9.2
 Vis 61
 WL 7.6
 pH 10
 Chl 3500
 Sol 6.2%
 YP 21
 LCM 2#

Mud Data at 5196'
 6:25 am 1-22-12
 Wt 9.4
 Vis 47
 WL 7.6
 pH 9
 Chl 4250
 Sol 7.6%
 YP 15
 LCM 2#

Finished Drilling at 7:48 pm
 on 1-22-12 Cir for Log - 90"
 Finished Logging at 5:30 pm
 on 1-22-12