

Geologic Report
Aaron L. Young

Drilling Time and Sample Log

**Scale 1:240 (5"=100') Imperial
Measured Depth Log**

Well Name: Zink #2-4
API: 15-151-22454
Location: Section 4 - T26S - R11W
License Number: 3180
Spud Date: 12 / 05 / 2016
Surface Coordinates: 3630' FSL and 2310' FEL
Approx. NW - SW - NE
Region: Pratt Co., KS
Drilling Completed: 12 / 12 / 2016

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 1841' **K.B. Elevation (ft):** 1848'
Logged Interval (ft): 3200' **To:** 4150' **Total Depth (ft):** 4150'
Formation: Kinderhook
Type of Drilling Fluid: Mud-Co

Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Deutsch Oil Company
Address: 8100 E 22nd St N, Bldg 600
Wichita, KS 67226

GEOLOGIST

Name: Aaron L. Young, M. S.
Company: Young Consulting LLC
Address: 100 S Main Ste 505
Wichita, KS 67202

General Info

CONTRACTOR: Pickrell Drilling, Rig #10

BIT RECORD:

No.	Size	Make	Jets	Out	Feet	Hours
1	12-1/4	RR	15-15-15	294'	287'	7
2	7-7/8	HA 20JQ	18-20-Plug	4150'	3856'	95.75

GENERAL DRILLING AND PUMP INFORMATION:

Drilling with 38,000 -42,000 lbs. on bit and approx 65-70 RPM.
Running 8 stands of collars; 458'
Pumping approx 750 psi at standpipe.

Notes:

Drill time taken electronically; accurate to 1/100 minute.
Lost circulation @ 3277'.
Hit bridge going in with logging tool @ approx 2970'.

Daily Status

12/05/16- Spud @ 5:00pm, Depth 212', ran 5 jts of used 8 5/8" 20# surface casing set @ 207', cemented w/ 150 sx. Common, 2% gel & 3% CC

12/06/16 - Ran 7 jts new 8 5/8" 23# surface casing. Set at 287', cement w/ 230 sx common, 2% gel, 3% CC, 1/4# cellflake.

12/07/16 - Drilling, @ 640'

12/08/16 - Drilling, @ 1746'

12/09/16 - Drilling, @ 2497'

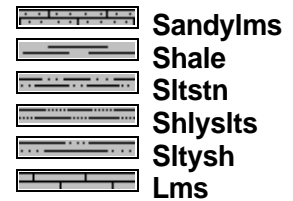
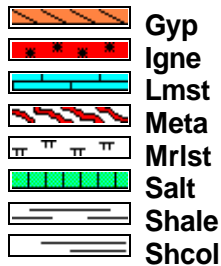
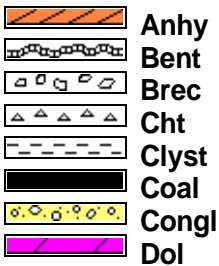
12/10/16 - Drilling, @ 3263'

12/11/16 - Drilling, @ 3838' TD 4150', Circulate hole clean, short trip, circulate hole clean, trip out with bit, run in with logging tool, hit bridge @ 2970'

12/12/16 - Reconditioning hole for logs

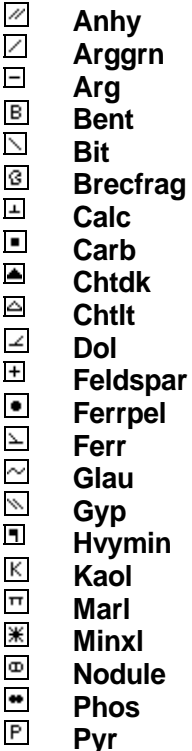
12/13/16 - Ran 94 jt of 5 1/2" 15.5# prod csg. set @ 4144', cem w/ 150 sx AA-2

ROCK TYPES

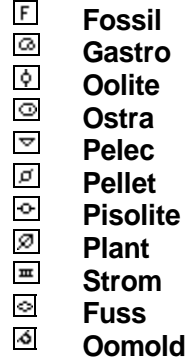
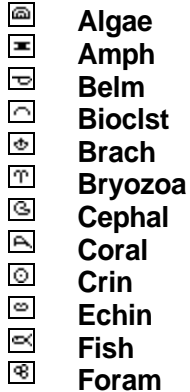


ACCESSORIES

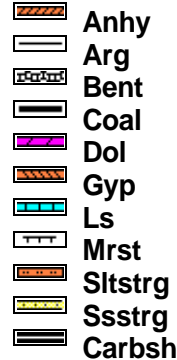
MINERAL



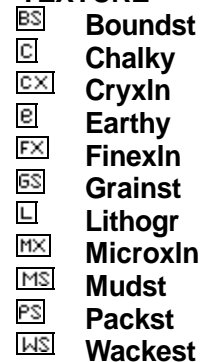
FOSSIL



STRINGER



TEXTURE



OTHER SYMBOLS

POROSITY TYPE

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

OIL SHOWS

- Even
- Spotted
- Ques
- Dead
- Gas show

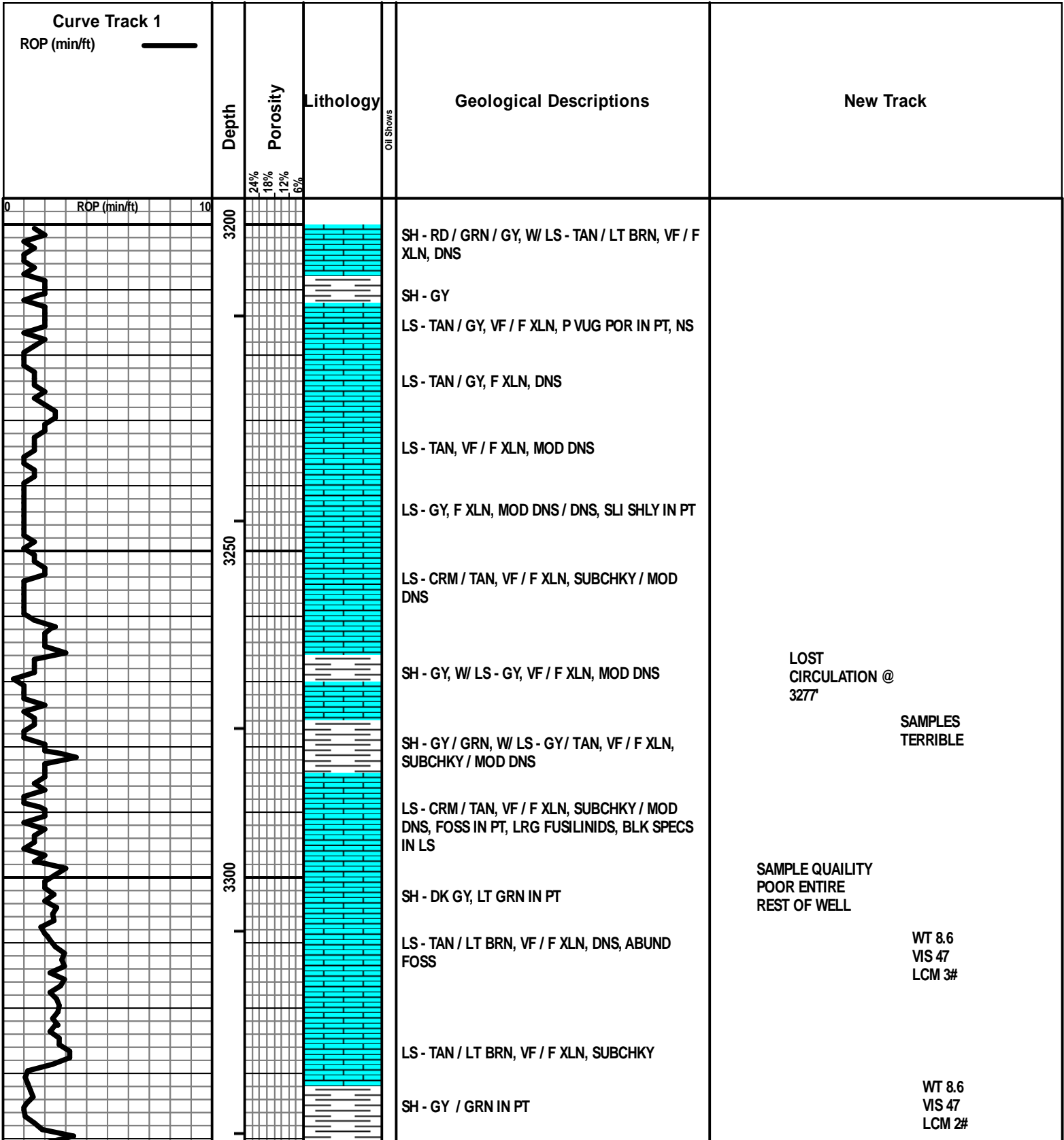
INTERVALS

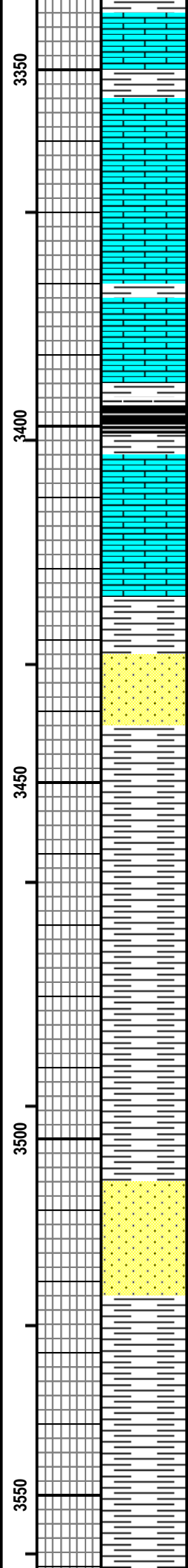
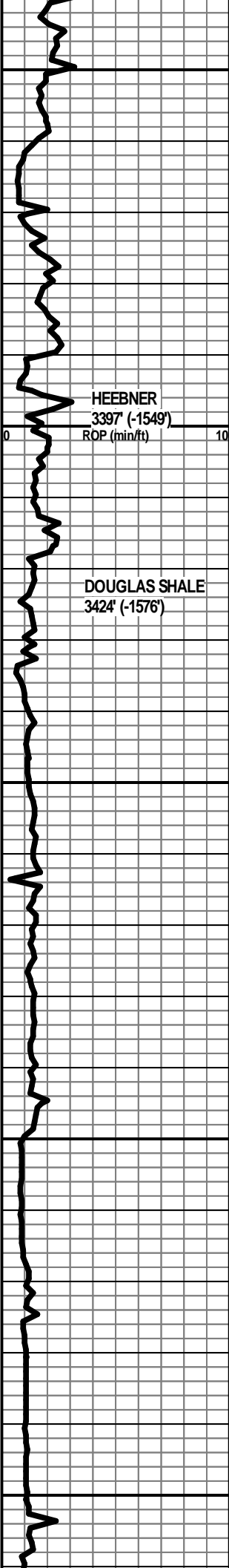
- Core
- Dst

- Dst

EVENTS

- Rft
- Sidewall
- Conn





SH - BLK, SLI CARB

SH - RD, W/ LS - GY / TAN, F XLN, DNS

LS - CRM / TAN, VF / F XLN, DNS, FOSS

LS - TAN / CRM / OFF-WHT, VF XLN, SUBCHKY / CHKY

LS - CRM, VF / F XLN, SUBCHKY / CHKY

SH - BLK, CARB, SHOW OF GAS BUBBLES

SH - GY / GRN / RD

LS - CRM / LT BRN, VF XLN, SUBCHKY / CHKY, BRN SPECS IN PT

LS - TAN / GY, F XLN, DNS / V DNS, W/ SH - GY

SH -GY / DK GY

SS - WHT / GY, FN GR, F INTERGR POR, NS, NO ODOR

SH - GY, SLTY

SH - GY, SLTY IN PT

SH - GY, SLTY IN PT

SH - GY, SLTY IN PT

SH - GY

SH - GY / DK GY

SS - WHY / LT GY, FN GR, F INTGR POR, NS, NO ODOR, W/ SH - LT GY, SLTY

SH - GY, SLTY

SH - GY, SLTY

SH - GY, SOFT

WT 8.6
VIS 45
LCM 2#

WT 8.7
VIS 45
LCM 2#

BROWN LIME
3574' (-1726')

ROP (min/ft)

LANSING
3606' (-1758')

3600

3650

3700

3750

SH - GY

LS - TAN / BRN, F XLN, DNS / V DNS, FOSS

SH - GY

LS - CRM / TAN, VF / F XLN, MOD DNS / DNS,
FOSS, NS, NO ODOR

LS - TAN / GY, F XLN, DNS, FOSS, W/ SH - GY

LS - TAN / BRN, F XLN, PRED DNS, FOSS, OOL, P
INTXLN POR IN PT, DEAD OIL STN, NO LIVE OIL,
NO ODOR, NO FLUOR

SH - GY

LS - TAN, VF / F XLN, SUBCHKY IN PT, P / F
INTXLN POR IN PT, SLI DEAD OIL STN, SSFO IN
ONE PIECE, NO ODOR, NO FLUOR

LS - TAN, F XLN, F INTXLN + FRACT POR, FSFO,
LT BRN OIL, FOSS, G ODOR, NO ODOR, NO
FLUOR

SH - GY

SH - GRN / GY / RD, W/ LS - CRM, VF / F XLN,
CHKY / SUBCHKY

SH - LT GY / GRN, WAXY IN PT

LS - TAN / LT GY, F XLN, MOD DNS / DNS, FOSS,
LARGE FUSILINIDS

SH - GY / GRN / RD, W/ LS - TAN / LT GY, F XLN,
DNS

SH - GY / GRN, W/ LS - CRM / OFF-WHT, VF / F
XLN, SUBCHKY / MOD DNS, CHKY IN PT

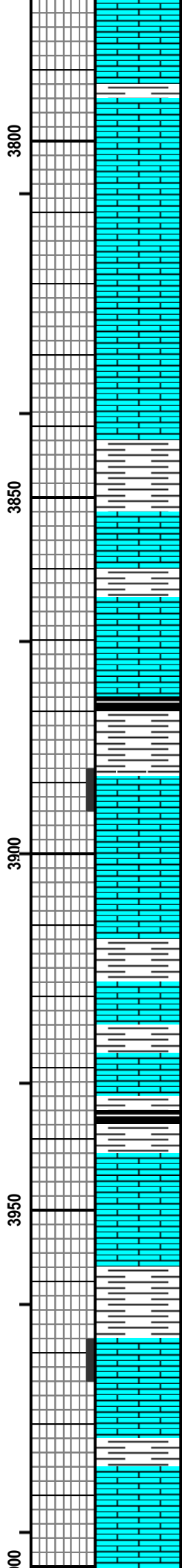
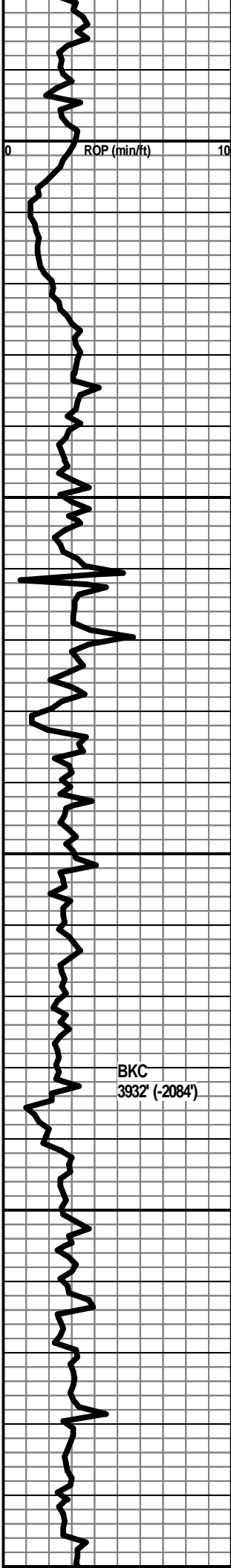
SH - GY / GRN

LS - TAN / LT BRN, GY IN PT, F XLN, MOD DNS /
DNS, FOSS IN PT

LS - CRM / TAN, F XLN, MOD DNS / DNS, FOSS IN
PT

WT 8.9
VIS 47
LCM 2#

WT 9.0
VIS 47
LCM 2#



LS - CRM, VF / F XLN, SUBCHKY

SH - MAR / GY / GRN, W / LS - TAN / GY, VF / F XLN, MOD DNS

LS - TAN / GY, VF / F XLN, MOD DNS, FOSS

LS - CRM, VF / F XLN, SUBCHKY, P / F INTXLN POR, NS, NO ODOR, NO FLUOR

LS - CRM / TAN, VF / F XLN, SUBCHKY / MOD DNS, NO VIS POR, NS, NO ODOR

SH - GY / GRN / MAR / RD-ORNG

LS - TAN / LT BRN, F XLN, DNS, ABUND FOSS, SLI OOL IN PT

SH - GY / GRN

LS - TAN, F XLN, DNS, FOSS, LRG BIVALVES

LS - TAN / GY, F XLN, DNS, FOSS

SH - GY / BLK, SLI CARB IN PT

LS - TAN / GY, F XLN, DNS, STYLITIZED IN PT, PYRITIC IN PT, P INTXLN POR IN PT, NS, NO ODOR

LS - TAN / LT BRN, F XLN, DNS, FOSS

SH - RD / GRN / GY, W / LS - BRN, F / M XLN, V DNS, ABUND FOSS

SH - GRN / GY / RD

SH - BLK, CARB, W / LS - CRM / OFF-WHT, SUBCHKY / CHKY

SH - GY, W / LS - CRM / TAN, VF / F XLN, MOD DNS, FOSS IN PT

SH - GY / GRN

SH - GRN / RD, W / LS - TAN / LT GY, VF / F XLN, SUBCHKY / MOD DNS, PINTXLN POR, NS, NO ODOR

LS - CRM / TAN, VF / F XLN, SUBCHKY / CHKY

SH - GRN / GY, W / LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, FOSS

LS - TAN, F XLN, MOD DNS / DNS, FOSS

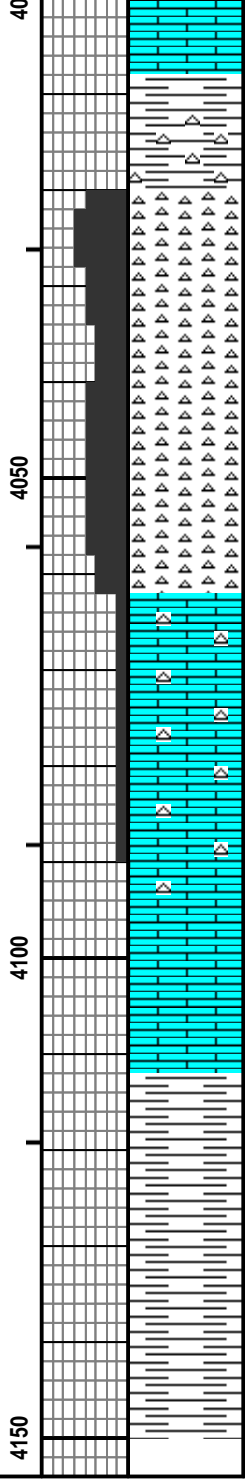
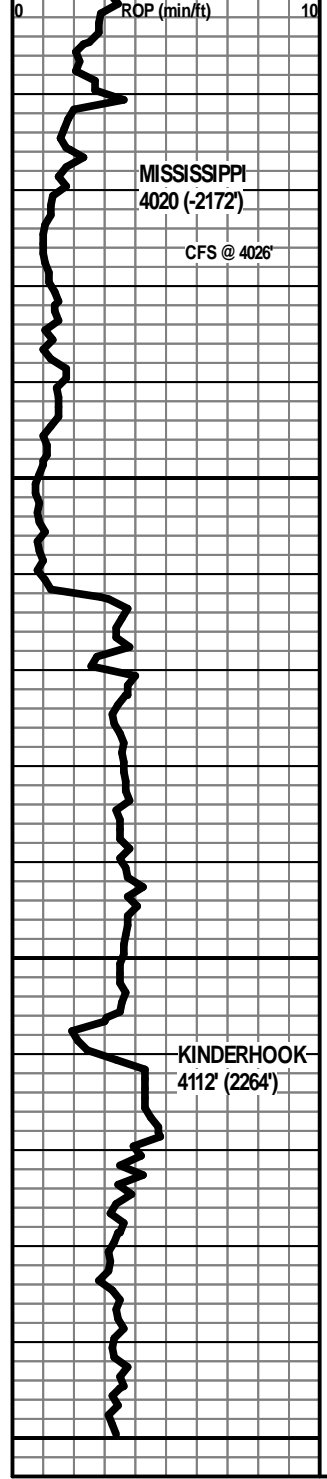
LS - OFF-WHT / CRM, VF / F XLN, SUBCHKY / MOD DNS, CHKY IN PT

WT 9.0
VIS 47
LCM 2#

WT 9.0
VIS 46
LCM 2#

WT 9.2
VIS 52
LCM 2#

WT 9.2
VIS 58
LCM 2#



MOD DNS, CHRY IN PT

SH - GY / GRN / RD, W / CHT - RD-ORNG / YEL / OFF-WHT, PRED OPAQ, TRANSLUCNT IN PT

CHT - WHT, PRED WEATH, FRSH IN PT, F / G WEATH + VUG POR, GSFO, SHOW OF GAS BUBB, F ODOR, G YEL-GRN FLUOR

CHT - WHT, PRED WEATH, FRSH IN PT, G WEATH + VUG POR, VGSFO, VG SHOW OF GAS BUBB, F ODOR, G YEL-GRN FLUOR

CHT - WHT, PRED WEATH, MORE FRSH THAN ABOBE, OPAQ, WEATH EDGES IN PT, P / F WEATH POR, FSFO, G SHOW OF GAS, F ODOR, F YEL GRN FLUOR

LS - CRM / TAN, F XLN, DNS, W / CHT - WHT, FRSH, TRANSLUCNT IN PT, PRED OPAQ

LS - TAN, F XLN, DNS, W / CHT - WHT, OPAQ / TRANSLUCNT IN PT, FRSH

LS - TAN, VF / F XLN, MOD DNS

SH - GRN

SH - GRN / GY

SH - GY / GRN

RTD 4150'

SAMPLE QUALITY VERY POOR

WT 9.3
VIS 55
LCM 2#

WT 9.3
VIS 53
LCM 2#

WT 9.4
VIS 46
LCM 2#

PICKED UP PIT MUD

WT 9.3 - Befor 1st log run - hit bridge
VIS 66
LCM 1#

WT 9.1 For 2nd log run
VIS 54
LCM 2#

TD Strap 3.61 Log to Board