

Lithology Strip Log

Rock Types

Accessories

WELLSITE GEOLOGIST'S REPORT

WellSight Systems

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

Well Name: CALCARA NO 1-19
 Location: SEC 19-T19S-R14W
 License Number: 15-009-25, Region: Barton Co
 Spud Date: MAY-29-2014 Drilling Completed: JUNE 2014
 Surface Coordinates: C E/2 E/2 E/2
 2600' FNL,330' FEL,40'N
 Bottom Hole Coordinates: VERTICAL
 Ground Elevation (ft): 1896' K.B. Elevation (ft): 1904'
 Logged Interval (ft): 1700' To: 3750' Total Depth (ft): 3750'
 Formation: LANSING/KC AND ARBUCKLE
 Type of Drilling Fluid: STARCH/CHEMICAL

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

OPERATOR:

Company: F.G. Holl Company LLC
 Address: 9431 E. Central, Suite 100
 Wichita, Kansas 67206

DRILLING CONTRACTOR:

DUKE RIG #2
 Double derrick; drill pipe 4.5' X H (16.6#); collars 6.25 x2.25 x 357.68'; Bit; 7 7/8, Reed HP52, 3-14's; Reference datum 8 ft above ground level. Poor Boy's (Martin- Decker) mechanical geologist.

SURFACE CASING:

CIRCULATION SYSTEM:

Pump Make: EWCO,Pump model: 14W400, liner size 6 ,stroke 14. Starch mud @ 1850' to 2590', Chemical mud @ 2590' to TD
 Mud/Co/Service Mud, Inc.-Jason Whiting-Great Bend, Ks-620-282-0556

GAS DETECTION SYSTEM:

MBC Well Logging and Leasing -Analog Gas Detection.

OPEN HOLE LOGS:

DN (PE), DI (SP), ML: 5" detail RTD-3600'; 2" DI to surface casing; No Sonic; Log-Tech, Inc., Hays, KS, Mike Garrison; Log total depth (4660) was even to rotary total depth (46??).

COMPLETION:

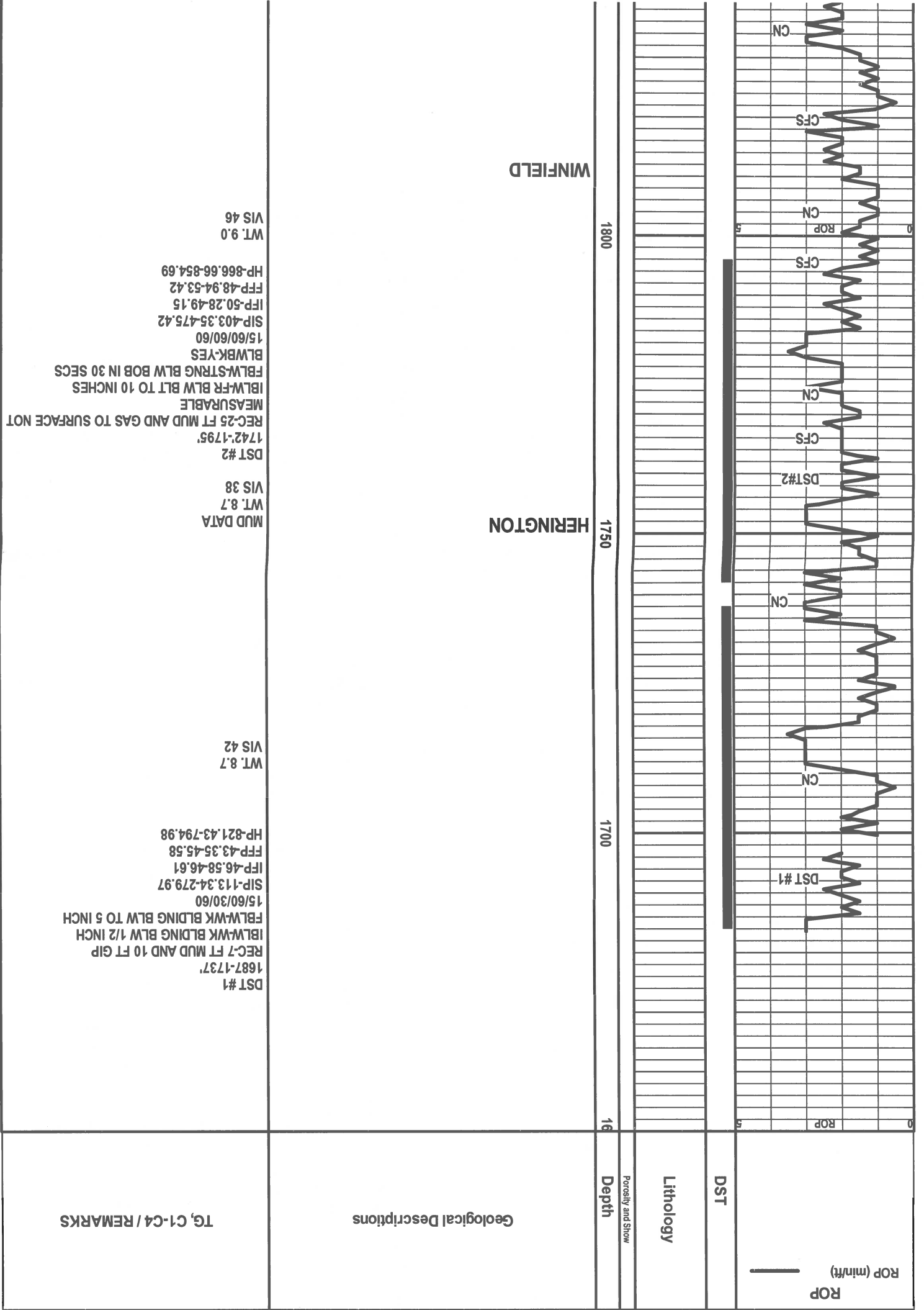
Dry and Abandoned.

WELLSITE GEOLOGIST:

RENE HUSTEAD
 600 N. WINWOOD ST.
 GARDNER, KANSAS 66030
 PHONE (913) 208-3390

Geologist Contact Info:

Name: Rene Husted
Company: Consultant
Address: 600 N. Winwood St.
 Gardner, Kansas 66030
Phone- (913) 908-3390



TG, C1-C4 / REMARKS

Geological Descriptions

Depth

Porosity and Shale

Lithology

DST

ROP (min/ft)

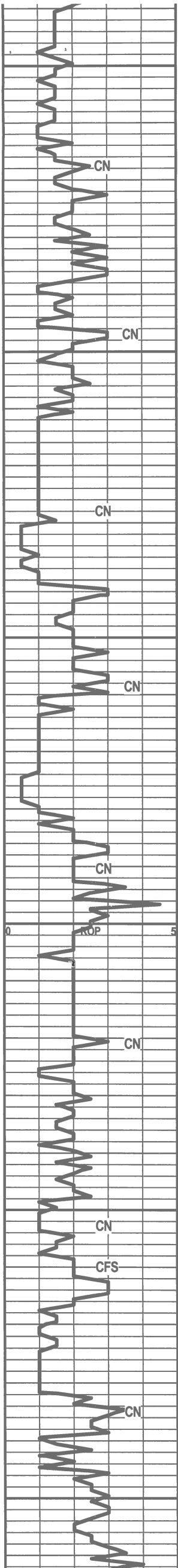
DST #1
 1687-1737'
 REC-7 FT MUD AND 10 FT GIP
 IBLW-WK BLDING BLW 1/2 INCH
 FBLW-WK BLDING BLW TO 5 INCH
 15/60/30/60
 SIP-113.34-279.97
 IFP-46.58-46.61
 FFP-43.35-45.58
 HP-821.43-794.98
 WT. 8.7
 VIS 42

MUD DATA
 WT. 8.7
 VIS 38

DST #2
 1742-1795'
 REC-25 FT MUD AND GAS TO SURFACE NOT
 MEASURABLE
 IBLW-FR BLW BLT TO 10 INCHES
 FBLW-STRNG BLW BOB IN 30 SECS
 BLWBK-YES
 15/60/60/60
 SIP-403.35-475.42
 IFP-50.28-49.15
 FFP-48.94-53.42
 HP-866.66-854.69
 WT. 9.0
 VIS 46

HERINGTON

WINFIELD



1850
1900
1950
2000
2050
2100

TOWANDA

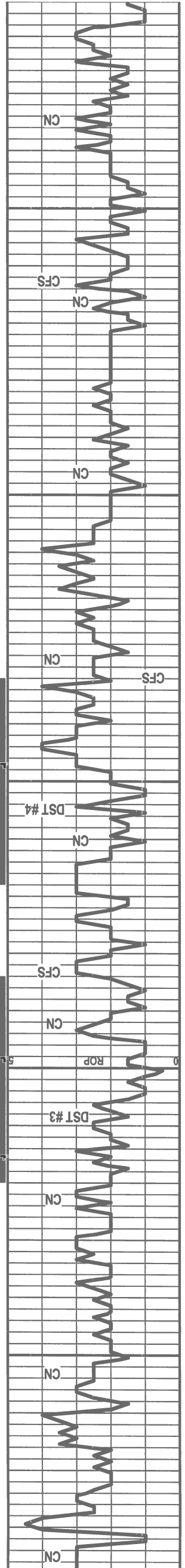
FT RILEY

B/FLORENCE

WREFORD

COUNCIL GROVE

CROUSE



2350

2300

2250

2200

2150

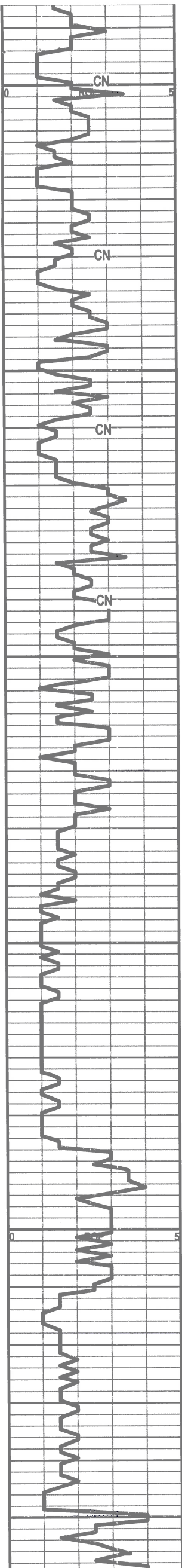
RED EAGLE

NEVA

COTTONWOOD

DST #4
 WT. 9.1
 VIS 40
 2232-2268'
 REC-30 FT MUD AND 17.74 MCF/D
 IBLW-STRNG BLDNG BLW BLT TO BOB
 IMMED/BLWBK-NO
 FBLW-STRNG BLW BLT TO BOB
 IMMED/BLWBK-YES
 15/60/60/90
 SIP-781.24-754.9
 IFP-71.67-47.49
 FFP-52.86-48.01
 HP-1149.12-1081.4

DST #3
 WT. 9.0
 VIS 40
 2180-2216'
 REC-75 FT MUD
 IBW-STRNG BLW BOB IN 1 AND 1/2 INCHES
 FBLW-STRNG BLW BOB IMMED
 BLWBK-NO
 15/60/45/90
 SIP-736.84-734.30
 IFP-39.19-50.72
 FFP-55.9-78.53
 HP-1119.65-1097.38



2400
2450
2500
2550
2600
2650

SH-RED-GRY-FRM-BLKY

LS-TN-F-XLN-OOL-TR FOSS-TR GLAU-HD-DNS -RARE
FRAC POR

SH-LT GRY-GUMMY

SH-GRY-SILTY AND LS-GRY-F-XLN-SILTY

SLTSS-FRSTY GRY-F-GRN-SHLY-MICA-TR HEM

SH-LT GRY-V-SFT-GUMMY

SS-FRSTY WHT-F-GRN-TT-WELL SRTE-D-CALC
CMT-MICA-TR HEM-PR INTER-GRN POR

SH-LT GRY-SFT-SILTY

SH-GRY-GRN-SPLNTY

SH-LT GRY/DK GRY-SPLNTY-SILTY

STOTLER 2586' (-682')

LS-CRM/GRY-F-XLN-FOSS FRAGS-HD-DNS LG PYR
XLS IN TRAY

LS-TN-F-XLN-FOSS-HD-DNS

LS-GRY-F-XLN-V-SHLY-FOSS/SH-GRY-FRM-BLKY-LMY

SH-GRY-BLKY-SILTY PYR XLS IN TRAY

SLTSS-FRSTY GRY-F-GRN-V-SHLY-MICA-HEM

SH-GRY-SFT-SILTY W/ SLTSS

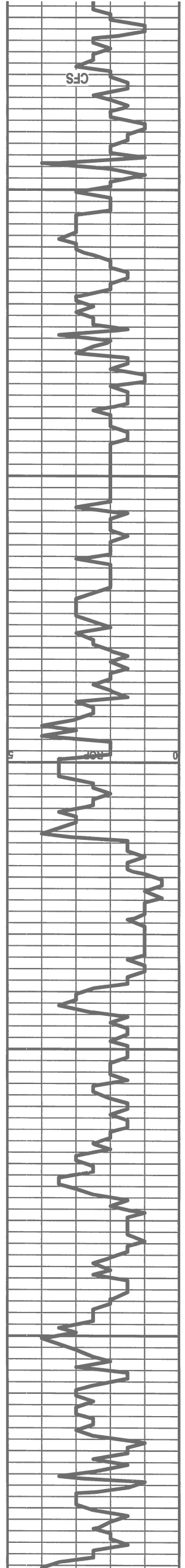
TARKIO 2649' (-745')

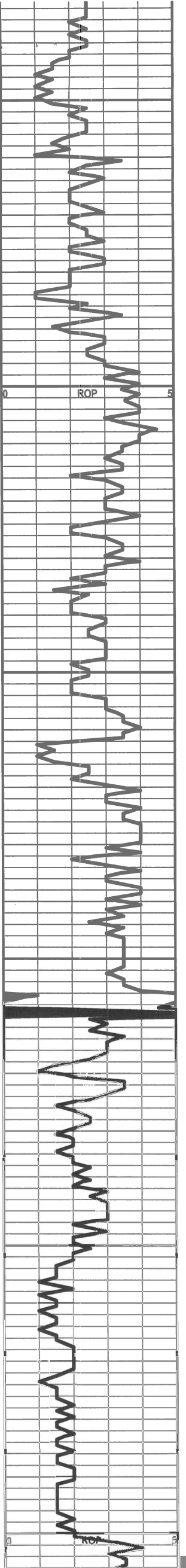
LS-DK CRM-V-F-XLN-HD-DNS

LS-CRM-F-XLN-HD-DNS TR FOSS IMBD

LS A.A
 LS-CRM-F-XLN-FOSS-TR SH IMBD-HD-DNS W/ SH-DK
 GRY-FRM-BLKY-LMY
 LS-TN-F-XLN-FOSS-HS-DNS
 LS-OFF WHT-V-F-XLN-V-BRIT-SLI CHLKY-DNS
 LS-TN-F-XLN-FOSS-OOL-BRIT-TR SM VUG POR-NO VIS
 SHOW
 SH-GRY-BLKY AND SLTSS
 LS-GRY-F-XLN-V-FOSS-HD-DNS
 SH-GRY AND WHT-V-FRM-BLKY-FOSS-LMY
 LS-GRY-F-XLN-FOSS-HD-DNS
 SH-GRY-BLKY
 LS-TN-F-XLN-FOSS-HD-DNS
 SLTSS-FRSTY GRY-M-GRN-V-SHLY-MICA
 SH-GRY-BLKY-SILTY
 SLTSS-FRSTY GRY-F-GRN-V-SHLY-MICA-HEM
HOWARD 2787' (-883')
 LS-OFF WHT-F-XLN-HD-DNS
 SH-DK BLK-SPLNTY
 LS-CRM-F-XLN-CHLKY-TR FOSS-BRIT-FR PP POR-NO
 VIS SHOW
 SH-GRN-GRY-SPLNTY
 LS-TN/GRY-F-GRN-V-FOSS-BRIT-DNS
 LS-CRM-F-GRN-FOSS-SHLY IP-MSTLY DNS TR
 INTER-GRN POR-NO SHOW
 LS A.A
 LS-GRY-F-XLN-HD-DNS
 LS-GRY-F-XLN-FOSS-OOL-SHLY-TR SM VUG POR-NO
 VIS SHOW
 LS-CRM-F-XLN-SUCRO-SM PYR XLS IMBD-DNS
 LS-CRM-F-GRN-CHLKY-BRIT-TR FOSS-DNS TR
 INTER-GRN POR-NO SHOW
 LS-CRM-F-XLN-FOSS-HD-DNS TR PYR IMBD
 LS-CRM/GRY-M-GRN-FOSS-BRIT-FR INTER-GRN
 POR-FREE SMALL SHELLS IN TRAY-NO VIS SHOW
 LS A.A W/ CHRT-GRY-OPQ-FOSS-FRSH
 LS-TN/GRY-F-XLN-FOSS-HD-DNS
 LS-TN-M-GRN-FOSS-PR TO FR INTER-GRN POR-NO VIS
 SHOW

2700 2750 2800 2850 2900





2950
3000
3050
3100
3150
3200

LS-TN-F-XLN-FOSS-HD-DNS

LS-TN/GRY-F-GRN-FOSS-FUS-BRIT-FR PP POR-NO VIS SHOW

SH-BLK-CARB

SH-GRY-BLKY-FOSS

LS-TN/GRY-M-GRN-FOSS-FR INTER-GRN/PP POR-NO VIS SHOW

SH-DK GRY-SPLNTY

LS-TN/GRY-F-M-GRN-FOSS-BRIT-FR INTER-GRN/PP POR-NO VIS SHOW

SH-GRY-BLKY

LS-TN/GRY-M-GRN-FOSS-SHLY-BRIT TO DNS-TR INTER-GRN POR-NO VIS FLOR-NO VIS CUT

SH-BLK-CARB

LS-CRM-M-GRN-FOSS-OOL-FR INTER-GRN POR-NO VIS FLOR-NO VIS CUT

LS-TN/GRY-F-M-GRN FOSS-FR INTER-GRN POR-NO VIS FLOR-NO VIS CUT

LS-TN-F-XLN-OOL-FR OOL-MOLDIC POR-NO VIS FLOR-NO VIS CUT

LS-GRY/OFF WHT-F-XLN-HD-DNS W/ TR DK BLK STN-NO VIS FLOR-NO VIS CUT —CHRT-DK BRN-OPQ-FRSH

LS-TN-F-XLN-HD-DNS

LS-GRY/TN-F-XLN-BLOCKY-HD-DNS

HEEBNER

SH-BLK-CARB

TORONTO

LS-TN-F-XLN-FOSS-BRIT-SM PYR XLS IMBD-TR FRAC POR-SCATT DULL WHT MIN FLOR-NO VIS SHOW

DOUGLAS SH

SH-GRN-RED-BLKY

SH-GRY-FRM-BLKY-FOSS

SH-GRY-SFT-SILTY-FOSS

SLTSS-FRSTY GRY-F-GRN-V-SHLY-MICA-HEM

SH-LT GRY-BLKY-SILTY

BROWN LS

LS-DK TN-F-XLN-HD-DNS

REC-252 F1 CLEAN GASSEY OIL
123 FT -10% GAS/80% OIL/10% MUD

LANSING/KC

LS-TN-F-XLN-FR PP POR-DK BLK STN-SCATT YEL
FLOR-V-FNT FLSH CUT -FNT ODOR

LS-CRM-F-XLN-F-OSS-HD-DNS W/ CHRT-TN-OPQ-FRSH

LS-TN-F-M-XLN-TR FOSS-BRIT-TR INTER-GRN POR-TR
DULL WHT FLOR-NO VIS CUT-NO ODOR

LS-TN-F-XLN-OOL-PR TO FR INTER-PRT POR-TR
OOL-MOLDIC-TR LT BRN STN-NO VIS FLOR-PR STRM
CUT-GD ODOR

LS-TN-F-XLN-OOL-FR INTER-PRT/INTER-GRN POR AND
SOME OOL-MOLDIC POR-LT BRN STN-YEL GLD
FLOR-FR STRM CUT-STRNG ODOR

DST #6

3271-3285
REC-195 FT MUDDY WATER -60% MUD AND
40% WATER

LS-TN-F-XLN-BRIT-OOL-FR TO GD
OOL-MOLDIC/INTER-GRN POR-LT BRN STN-GD STRM
CUT-GD ODOR

LS-TN-F-XLN-OOL-FR-OOL-MOLDIC POR-NO VIS
FLOR-LT BRN STN-FR STRM CUT-GD ODOR

LS A.A. SSFO

LS-TN-F-XLN-V-OOL-EX-OOL-MOLDIC POR-DULL WHT
MIN FLOR-NO VIS SHOW

LS-DK TN-F-XLN-SLI CHLKY-OOL-FR OOL-MOLDIC
POR-NO VIS FLOR-NO VIS CUT

DST #7

3330-3356
REC-1 FT MUD

LS-OFF WHT-F-XLN-TR FOSS FRAGS-HD-DNS

LS-TN-F-XLN-F-GRN-SUCRO-OOL-PR TO FR
INTER-GRN/SM VUG POR-LT BRN STN IP-SCATT YEL
FLOR-FR STRM CUT-STRNG ODOR-SM PYR XLS IMB

DST #8

3356-3377
REC-80 FT OIL CUT MUD -4% OIL 96% MUD

LS-OFF WHT-F-XLN-SUCRO IP-OOL-PR TO FR
INTER-PRT POR-SOME INTER-XLN/OOL-MOLDIC
POR-TR LT BRN STN-NO VIS FLOR-FR STRM
CUT-STRNG ODOR

DST #9

3377-3395
REC-161 FT GASSEY OIL
63 FT 20% GAS/40% OIL/40% MUD

LS-TN-F-XLN-SUCRO-OOL-FR OOL-MOLDIC/INTER-GRN
POR-LT BRN STN-NO VIS FLOR-FR STRM CUT-GD
ODOR

LS-TN-F-XLN-PR TO FR PP POR-LT BRN STN-NO VIS
FLOR-FR FLSH CUT-GD ODOR

DST #10

3396-3412
REC-31 FT MUD

SH-GRY-SPLNTY-SILTY

LS-OFF WHT-F-XLN-CHLKY IP-BRIT TO HD-NO VIS
POR-DULL WHT FLOR-NO VIS CUT

LS-TN-F-XLN-TR FOSS-NO VIS POR-DULL WHT MIN
FLOR-NO VIS CUT OR SHOW WITH SHLT
GRY-BLKY-SILTY

SHALES-RED-GRY W/ CHRT AND LS

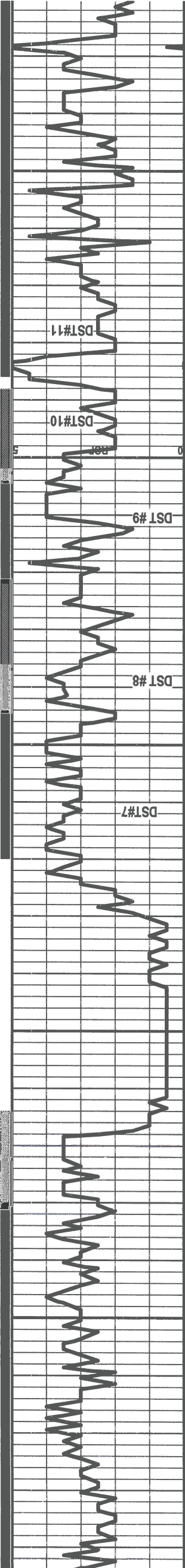
LS-OFF WHT-V-FXLN-SLI CHLKY-BRIT-DULL WHT
FLOR-NO VIS CUT

B/KC 3464

SHALES-GRY-GRN-RED-BLKY W/ CHRT-TN-OPQ-FRSH

SH-GRY-SPLNTY TR SH-RED-SFT-SILTY

SS-FRSTY GRY-F-GRN-V-SHLY-RNDED-WELL
SRTED-CALC CMT-DK BLK STN-NO VIS FLOR-GD STRM
CUT-NO ODOR



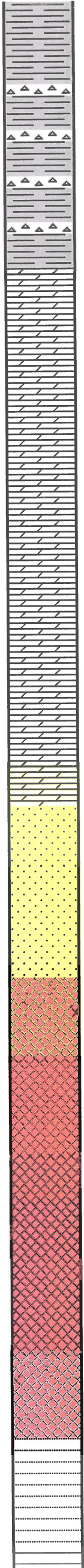
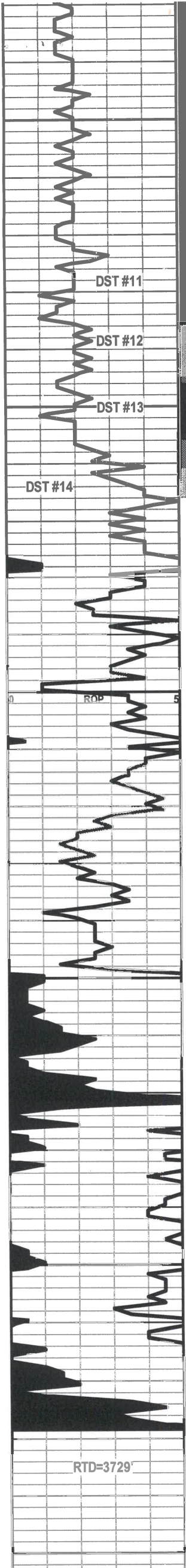
3450

3400

3350

3300

3250



SH-BRITE RED-BLKY-SNDY

SH-RED-SFT-SILTY WITH TR SH-GRY-SPLNTY

3500 SH-RED-SFT-SILTY W/
CHRT-TRANS-OOL-FRS-H/CHRT-VARIG-OPQ-FRSH/CHR'
WHT-TRIP-NO VIS POR-1 PC-SANDSTONE

SH-RED-SFT-SILTY WITH CHRT-YEL-RED-OPQ-FRSH

SH-RED-GRY-SFT-SPLNTY—CHRT-VARIG-OPQ-FRSH

ARBUCKLE

DOLO-OFF WHT-CRS-GRN-SCATT WHT FLOR-FR TO
GD INTER-GRN POR-LT BRN STN-GD STRM CUT-GD
ODOR

DOLO-OFF WHT-CRS-GRN-SCATT WHT FLOR-FR
INTER-GRN POR-LT BRN STN-GD STRM CUT-GD ODOR

3550 DOLO-OFF WHT-M-GRN-WHT FLOR-FR INTER-GRN
POR-FR STRM CUT-GD ODOR

DOLO-OFF WHT-F-GRN-SNDY TEX -HD-DNS-BRITE
WHT FLOR-NO VIS CUT

DOLO A.A.

DOLO-OFF WHT-F-GRN-SNDY TEX-FR INTER-GRN
POR-BRITE WHT FLOR-NO VIS CUT

DOLO-OFF WHT-V-SNDY-FR INTER-GRN POR-W/ SND
GRNS IN TRAY-BRITE WHT FLOR-NO VIS CUT

3600 DOLO/SS A.A.

SS-TRANS-F-M-GRN-FRI TO TT-RNDED-PR SRTEG-TR
DOLO CMT-FR INTER-GRN POR-NO VIS FLOR-NO VIS
CUT

SS A.A.

SS-TRANS-M-GRN-FRI-RNDED-PR SRTEG-DOLO
CMT-FR INTER-GRN POR-W/ LG SND GRNS IN
TRAY-NO VIS FLOR-NO VIS CUT OR SHOW OF OIL

3650 GRANITE-PINK-W/ GRN AND BLK MINERALS-PYR
XLS-NO VIS FLOR-NO VIS SHOW

QUARTZITE-TRANS-W/ BLK MIN-NO VIS FLOR-NO VIS
SHOW

QUARIZITE A.A. SLI PINKISH

POOR SAMPLES

POOR SAMPLES

3700 QUARTZITE-TRANS W BLK MIN (LOTS OF SHALE IN
SAMPLE)

POOR SAMPLES

3750

DST #11
3414-3535
REC -161 GASSEY MUD CUT OIL
15% GAS/20% OIL/65% MUD
GAS TO SURF-2,916,000 MCF/D

DST #12
3536-3545
REC- 471 FT GASSEY OIL

DST #13
3546-3555 FT
REC- 2674 CLEAN GASSEY OIL
126 FT MUDDY WATER 20% MUD/80%
WATER

DST #14
3556-3565
REC 52 FT OIL CUT MUD —10% OIL/90%
MUD

