

WELLSITE GEOLOGIST'S REPORT

RENE HUSTEAD
CONSULTANT GEOLOGIST



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

Well Name: Kruckenberg No 1-18
Well Id:
Location: Sec 18- T19S-R14W
License Number: 15-009-26,227-0000
Spud Date: Aug 2 2018
Surface Coordinates: 600' FNL,660' FEL
60' N. of C NE NE
Bottom Hole VERTICAL
Coordinates:
Ground Elevation (ft): 1908' K.B. Elevation (ft): 1916'
Logged Interval (ft): 1700' To: 3750' Total Depth (ft): 3750'
Formation: LANSING/KC
Type of Drilling Fluid: STARCH/CHEMICAL

Region: Barton
Drilling Completed: Aug 11 2018

Printed by WellSight LogViewer 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 #8
Double derrick; drill pipe 4.5' X H (16.6#); collars 6.25 x2.25 x 482'; Bit; 7 7/8,J2HA20L #1410643, 3-15's;
Reference datum 8 ft above ground level. Poor Boy's (Martin- Decker) mechanical geolograph. Toolpusher
-Hector Torres

SURFACE CASING:

SURFACE CASING SET 8 5/8 INCHES 23 LBS AT 854' WITH 350 SAXS OF CEMENT
PRODUCTION CASING SET 5 1/2 INCHES 15.5 LBS AT 3741 FT WITH 225 SAXS OF CEMENT

CIRCULATION SYSTEM:

Pump Make: IDECO,Pump, liner size 6 ,stroke 15. Starch mud @ 1650" to 2600', Chemical mud @ 2600' to TD,
Earth Pitts
Mud/Co/Service Mud, Inc.-Rick Hughes-Great Bend, Ks-620-791--7623

GAS DETECTION SYSTEM:

MBC Well Logging and Leasing -Analog Gas Detection.

OPEN HOLE LOGS:

GAMMA RAY NEUTRON LOG

COMPLETION:

PRODUCTION CASING SET ON LANSING/KC AND ARBUCKLE

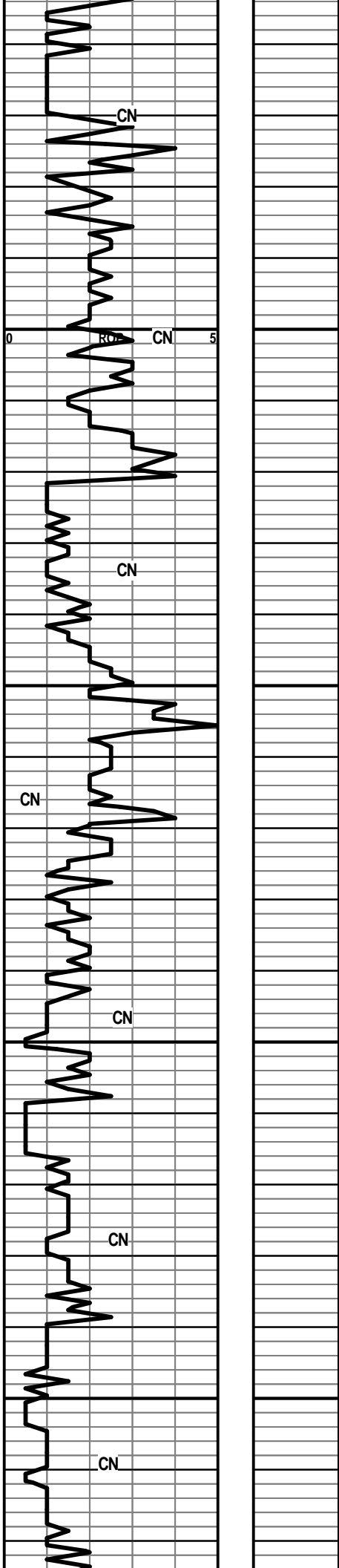
WELLSITE GEOLOGIST:

RENE HUSTEAD
 4714 N. PORTWEST CIRCLE
 WICHITA, KANSAS 67204
 PHONE (913) 208-3390

Rock Types

Accessories

ROP ROP (min/ft)	DST	Lithology	Porosity and Show MD	Geological Descriptions	TG, C1-C4 / REMARKS
<p>0 ROP 5</p> <p>CN</p> <p>16</p> <p>1700</p> <p>1750</p>					SURVEYS FT DEG 392' 1/4 854' 1/4 1359' 1/2 1833' 1/2 2368' 1/4 2839' 1/2 3750' 3/4



1800

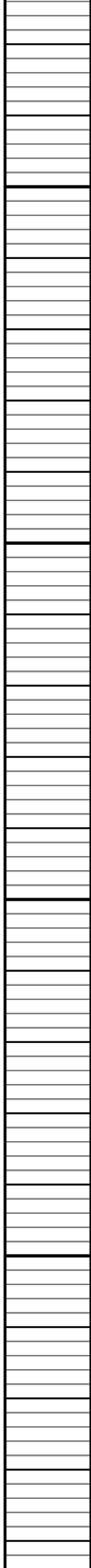
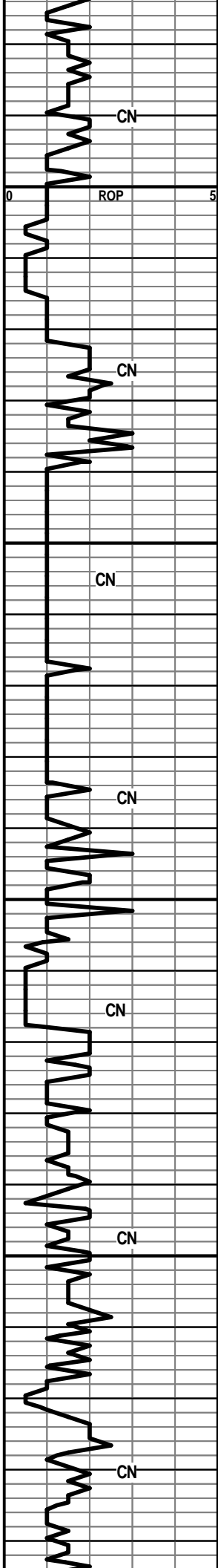
1850

1900

1950

HW - 8 UNIT GAS INCRS.

MUD DATA @ 1,927'
WT. 8.8
VIS-44
FIL-9.4
LCM-1

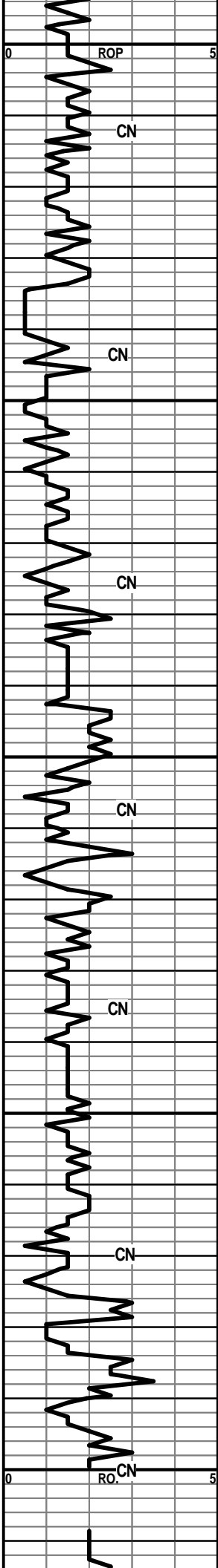


2000

2050

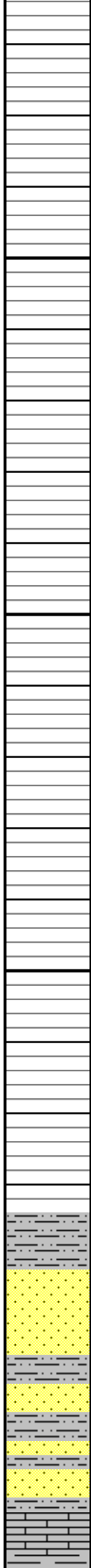
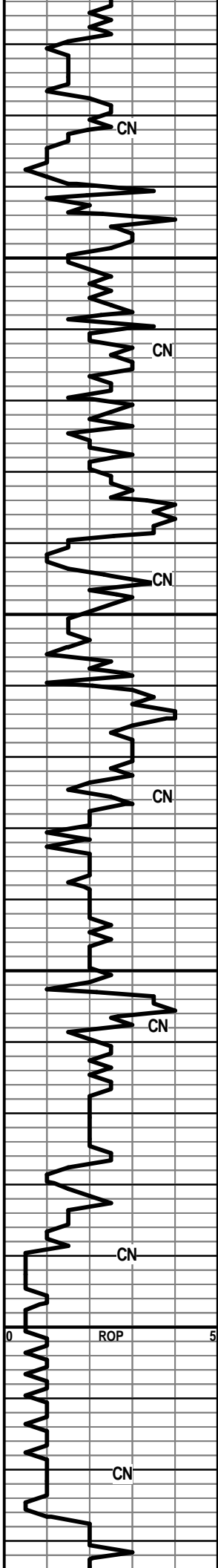
2100

2150



2400
2350
2300
2250
2200

HW- 9 UNIT GAS INCRS.



2450

2500

2550

2600

SLTSS-FRSTYGRY-F-GRN-BLOCKY-V-SILTY -MICA-HEM

SS-FRSTY WHT-FRM-F-M-GRN-WELL SRTE-D-CALC
CMT-FR INTER-GRN POR-TR GLAU-NO GAS INCRS

SS W/ SLTSS A.A.

STOTLER 2628' (-712')

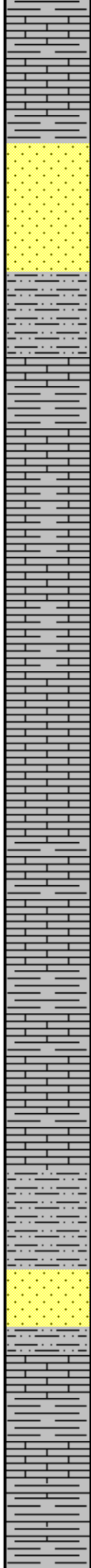
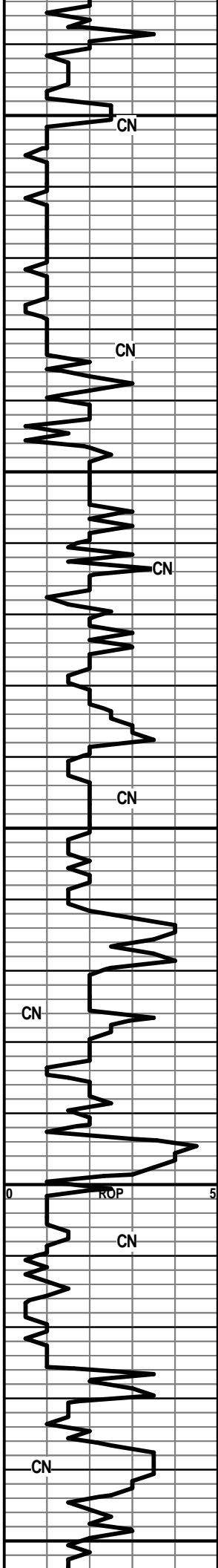
LS-TN-F-XLN-V-FOSS-HD-DNS W/ TR ISO VUG POR

HW- 7 UNIT GAS INCRS.

HW -9 UNIT GAS INCRS.

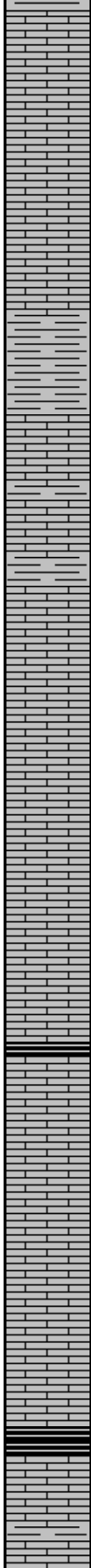
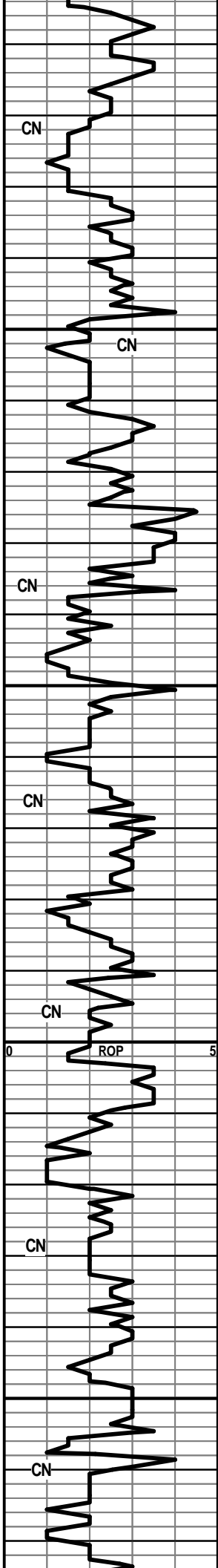
MUD DATA @ 2640'
WT. 8.7
VIS 72
FIL 8.0

0 ROP 5



2650
 LS-CRM-F-XLN-SM FOSS FRAGS-HD-DNS
 SS-FRSTY WHT-F-M-GRN-V-FRI-FR SRTEG-RND TO SUB-RNDED GRNS-TR CALC CMT-GD INTER-GRN POR-GAS KICK
 SLTSS-FRSTY GRY-V-F-GRN-SILTY-MICA-HEM
TARKIO 2684' (-768')
 LS-TN-F-XLN-FOSS FRAGS-HD-DNS
 SH-DK GRY-FRM-BLKY-CALC
 2700
 LS-GRY-F-XLN-SILTY-HD-DNS
 LS-GRY-F-XLN-BRIT-SHLY-TR FOSS-HD-DNS
 LS A.A. SHLY
 LS-GRY-F-XLN/GRN-FOSS-TR OOL-SHLY-HD-DNS
 LS-OFF WHT-F-XLN-SLI CHLKY IP-FOSS
 2750
 LS A.A. W/ SH-GRY-BLKY
 LS-GRY-F-XLN-SHLY-FOSS-TR OOL-HD-DNS W/ CHRT-GRY-OPQ-FRSH
 SH-GRY-BLKY
 LS/SH A.A. W/ PYR XLS IN TRAY
 LS-TN-V-F-XLN-CHRTY-HD-DNS
 2800
 SLTSS-FRSTY GRY-FRM-F-GRN-V-SILTY
 SS-FRSTY YEL/GRY-FRI-FN GRN-SILTY
 SS/SLTSS- AA
HOWARD 2826' (-910')
 SH-GRY-SILTY IP
 LS-GRY-F-XLN-BLK OOL FOSS-HD-DNS
 LS-A.A. SHLY
 2850
 SH-GRY-FRM-BLOCKY-CALC

HW-100 PLUS UNIT GAS INCRS



LS-TN-F-XLN-HD-DNS

LS-GRY/OFF WHT-F-XLN-BRIT-FOSS-CHLKY IP-MSTLY
DNS W/ CHLK

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

SEVERY 2898' (-982')

2900 SH-GRY-LMY-BLKY

TOPEKA 2912' (-996')

LS-LT BRN/OFFWHT-F-XLN-F-GRN IP-FOSS-TR
INTER-GRN POR-BRITE WHT FLOR-NO VIS CUT

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

LS-OFF WHT-F-XLN-BRIT-CHLKY IP-TR GLAU
IMBD-DULL WHT MIN FLOR-NO VIS SHOW

2950 LS-GRY-F-XLN-HD-DNS W/ CHRT-GRY-OPQ-FRSH

LS-CRM-F-GRN-BRIT-CHLKY IP-FOSS-DULL WHT
FLOR-NO VIS SHOW

LS-LT BRN-V-F-XLN-CHERTY-HD-DNS TR FOSS

LS-CRM-F-GRN-V-FOSS-SM BLK OOL-CHLKY IP- FR
INTER-GRN POR-DULL WHT MIN FLOR-NO SHOW

LS-CRM-F-GRN-V-FOSS-PR INTER-GRN POR-TR SH
IMBD-DULL MIN FLOR-NO SHOW

3000 SH-BLK-CARB

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

LS-LT BRN-F-GRN-V-FOSS-INTER-PRT AND
OOL-MOLDIC POR -NO VIS SHOW TR PYR XLS IN
TRAY

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

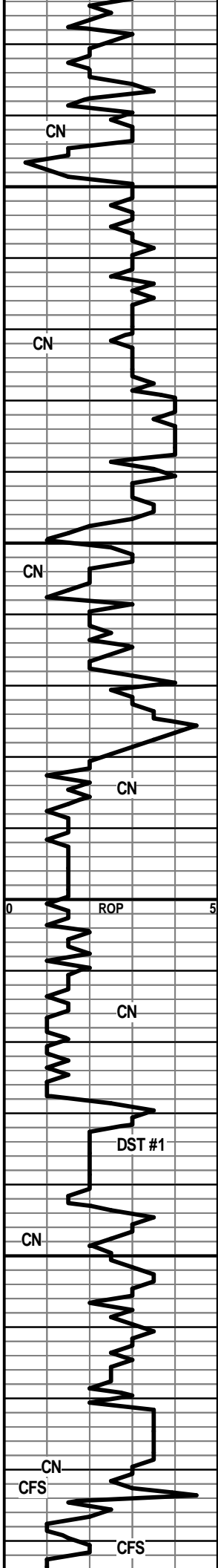
LS-TN-F-GRN-HD-DNS TR FOSS TR
CHRT-BRN-OPQ-FRSH

LS-OFF WHT-F-GRN-FOSS-SHLY-CHLKY-NO VIS SHOW

3050 SH-BLK-CARB

LS-CRM-F-XLN-BRIT IP-FOSS-OOL-OOL-MOLDIC IP-TR
PP POR-DULL WHTMIN FLOR-NO VIS SHOW

HW-100 UNIT GAS INCRS



LS-CRM-F-XLN-FOSS-TR INTER-GRN POR-DULL WHT
MINFLOR-NO VIS SHOW

3100

LS-CRM-F-XLN/GRN-FOSS-GD INTER-GRN /SM VUG
POR/OOL-MOLDIC IP-ABUNDT LT BRN STN-SCATT YEL
GLD FLOR-GD STRM CUT-FNT ODOR

POOR SAMPLES

LS-GRY/TN-F-XLN-FOSS-FUS-HD-DNS

LS A.A. W/ CHRT-WHT/GRY-OPQ-FRSH

HEEBNER 3146' (-1230')

SH-BLK-CARB

3150

TORONTO 3158' (-1242')

LS-CRM-F-XLN-TR FOSS-TR PP POR-TR LT BRN
STN-SCATT YEL FLOR-PR STRM CUT-NO ODOR

LS-TN-F-XLN-HD-DNS W/ TR PYR

DOUGLAS SH 3178' (-1262')

SH-DK GRY-SPLNTY

SH-GRY-BLKY-SILTY

3200

SH-LT GRY-SILTY
SLTSS-FRSTY GRY-F-GRN-SHLY-HEM-MICA

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

BROWN LS 3229' (-1313')

LS-BRN-F-XLN-HD-DNS

LANSING/KC 3239' (-1323')

LS-CRM-F-XLN-V-FOSS-GD-INTER-PRT POR-LT BRN
STN-GLD FLOR-GD STRM CUT-FREE OIL

3250

LS-CRM-F-XLN-FOSS-TR VUG POR-TR LT BRN STN-FR
CUT-NO FREE OIL

LS-CRM-V-F-GRN-OOL-FOSS-FR OOL-MOLDIC POR-LT
BRN STN-YEL FLOR-FR STRM CUT-SSFO

LS-GRY-F-XLN-TR FOSS-HD-MSTLY DNS W/ ISO VUG
POR-TR LT BRN STN-NO ODOR

LS-DK GRY/BLK-F-XLN-V-OOL-GD OOL-MOLDIC
POR-DK BRN STN-TR SCATT FLOR TO NO VIS
FLOR-GD STRM CUT-STRNG ODOR-SSFO

LS-GRY-F-XLN-BRIT-FOSS-OOL-NO VIS SHOW

HW 100 PLUS GAS INCRS.

MUD DATA @ 3119'
WT. 9.1
VIS-44
FIL 8.8

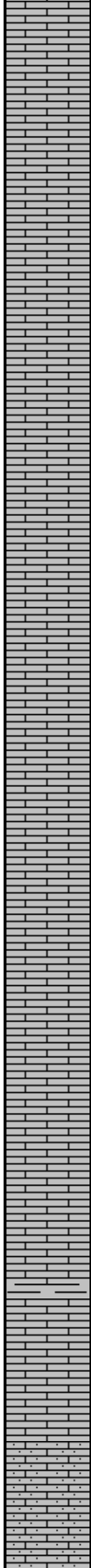
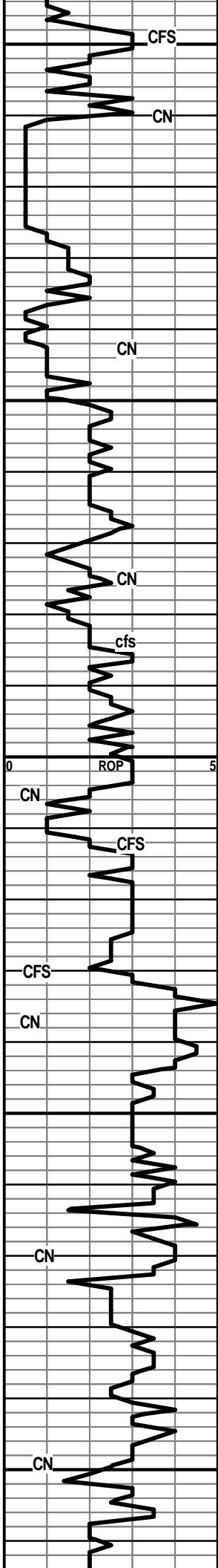
HW=100 UNIT PLUS

HW-OFF CHART

HW-100 PLUS GAS INCRS.

DST #1
3230'-3279'
IBLW-STRG BLW GAS TO SURF IN 3 MIN
FBLW-STRG BLW GAS -GAS FLOW
REC-1000' GASSY FROTHY OIL
30% GAS-60% OIL-10% MUD
5/60/45/90
SIP-1128.32-1110.9
IFLW-513.45-335.37
FFLW-287.55-430.44
HP-1634.94-1599.55

GAS REPORT



3300
3350
3400
3450
3500

LS A.A. VERY SHLY

LS-CRM-F-XLN-BRIT-V-OOLMOLDIC POR-FREE OIL

LS-CRM-F-XLN-BRIT-OOL-OOL-MOLDIC POR -TR LT BRN STN

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

LS-TN/GRY-F-XLN-HD-DNS W/ PYR XLS IMBD

LS-TN-F-XLN-OOL-FOSS-GD INTER-PRT POR W/ TR OOL-MOLDIC POR-LT BRN STN-SCATT YEL/GLD FLOR-IMMED STRM CUT-GD ODOR

LS-TN-F-XLN-BRIT-DNS W/ TR LT BRN

LS-CRM-F-XLN-OOL-TR PP POR W/ LT BRN STN

LS-CRM-V-F-XLN-OOL-OOL-MOLDIC POR IP-FR PP POR-LT BRN STN-BRITE YEL/GLD FLOR-GD STRM CUT -FREE OIL

LS-OFFWHT-F-XLN-OOL-FOSS-HD-DNS

LS A.A. TR LT BRN STN

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

LS-CRM-F-XLN-OOL-FOSS-TR DK BLK STN-NO VIS FLOR-PR STRM CUT-NO ODOR

BASE OF THE B/KC 3473' (-1557')

SH-BLK-SPLINTY

LS-CRM-F-XLN-OOL-HD-DNS

CONGLOMERATE 3496' (-1580')

LS-OFF WHT-F-XLN-TIGHT-V-SNDY-F-GRN-WELL SRTED-RNDED-CALC CMT-PR INTER-GRN POR/PP POR-DK BRN STN-NO VIS FLOR-IMMED STRM CUT-FNT ODOR

LS-TN-V-F-XLN-CHRTY-HD-DNS W/ FRAC POR-DK BRN STN-NO VIS FLOR-IMMED STRM CUT-GD ODOR

GAS	CHOKE (IN)	PSIG	MCF/D
1ST	.38	7.86	81.54
LAST	.38	12.17	97.35
MAX	.38	15.65	110.08

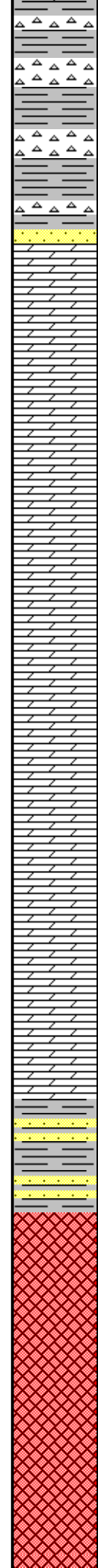
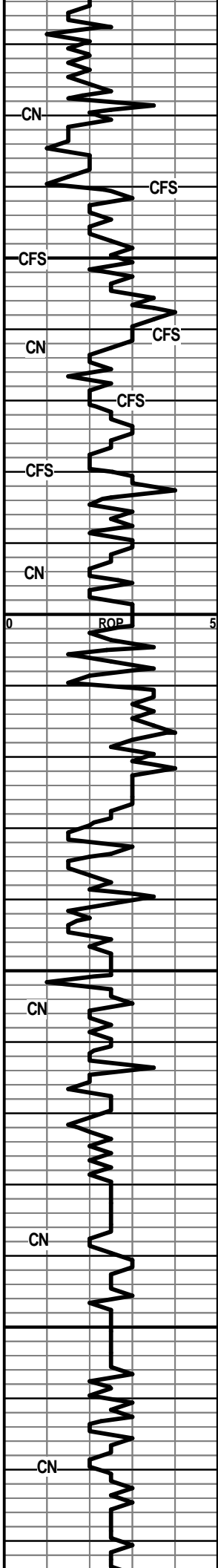
MUD DATA @ 3279' 8/9/18
WT. 9.3
VIS 50
FIL 8.8

MUD DATA @ 3279' 8/10/18
WT. 8.6
VIS 78
FIL 7.6

HW-100 PLUS

HW-100 UNIT GAS INCRS

MUD DATA @ 3427'
WT. 8.9
VIS 50
FIL 8.8



SH-RED-GRY-BLKY

CHRT-VARIG-FRSH-TRANLS AND OPQ
 CHRT A.A. SH-GRY-RED
 CHRT-OFF WHT-OPQ-OOL IP

ARBUCKLE 3548' (-1632')

3550
 DOLO-OFF WHT-M-XLN-PR INTER-XLN POR-DK
 BRN/BLK STN-BRITE WHT FLOR-FR STRM CUT-FNT
 ODOR

DOLO-OFF WHT-M-XLN-GD INTER-XLN POR-TR LT BRN
 STN-NO VIS FLOR-GD STRM CUT-FREE OIL -FNT ODOR

DOLO-OFF WHT-M-XLN-FR TO GD INTER-XLN POR-NO
 VIS SHOW

DOLO-OFF WHT-M-XLN-V-SNDY-HD-DNS

3600
 DOLO A.A.

DOLO A.A. SNDY

DOLO-OFF WHT-F-XLN-SNDY-FR INTER-XLN/GRN
 POR-NO VIS SHOW

SS-FRSTY WHT-M-GRN-FRI-PR SRTEG-SUB-RNDED TO
 SUB-ANG-DOLO CMT-NO VIS SHOW

3650
 SH-GRY-RED-CHRT-RED-OPQ-FRSH-DOLO-A.A. V-SNDY

DOLO/SH A.A.

SH-GRY-RED-W/ DOLO-SNDY AND TR LG SND GRN IN
 TRAY

GRANITE-DK BLK MIN -HD-DNS

GRANITE A.A W/ SH AND DOLO A.A.

3700
 SHALES-W/ FEW PC'S OF GRANITE-RED-DK MIN

SH AND DOLO-OFF WHT-SNDY-TR GRANITE

SH-GRN-GRY-RED-DOLO-OFF WHT SNDY-TR GRANITE
 A.A. I PC LS-TN-F-XLN-OOL-FR VUG/PP POR-LT BRN
 STN

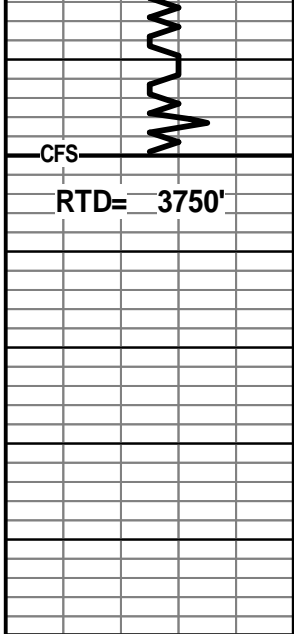
SH-GRY-GRN-RED A.A. W/TR SS AND DOLO

HW-100 UNIT GAS INCRS.

HW-OFF CHART

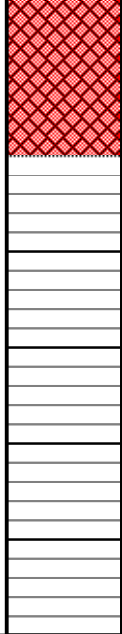
HW-OFF CHART

MUD DATA @ 3729'
 WT. 9.4
 VIS 50
 FIL 9.2



CFS

RTD= 3750'



3750

00

SH-GRY-SPLNTY-TR DOLO AND TR GRANITE

GRANITE -DK BRN/BLK-BLK MIN

HW-OFF CHART