MUD LOG

WellSight Systems

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

Well Name: HOWELL UNIT # 1-2
API: 15-151-22,595-00-00
Location: SE NE SW SW
License Number: 31000
Region: Pratt County, Kansas
Spud Date: June 27, 2024
Drilling Completed: July 6, 2024
Surface Coordinates: 895' FSL & 1200' FWL Section 2-T29S-R14W

Bottom Hole Coordinates: Verticle Hole
Ground Elevation (ft): 2005'
K.B. Elevation (ft): 2016'
Logged Interval (ft): 2100' **To:** RTD
Total Depth (ft): 4725'
Formation: Arbuckle
Type of Drilling Fluid: Chemical Mud/Native Mud

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

OPERATOR

Company: Prater Oil & Gas Operations, Inc
Address: 10356 Bluestem Blvd
Pratt, Kansas 67124

GEOLOGIST

Name: Scott Alberg
Company: Alberg Petroleum, LLC
Address: 609 Meadowlark Lane
Pratt, Kansas 67124

Log Tops

LOG TOPS

Anhydrite	834 (+1182)
Herrington	2222 (- 206)
Council Grove	2550 (- 334)
Wabaunsee	3024 (- 1008)
Tarkio	3216 (- 1200)
Topeka	3469 (- 1453)
Heebner	3817 (- 1801)
Toronto	3837 (- 1821)
Douglas Sh	3866 (- 1850)
Br. Lime	3994 (- 1978)
Lansing	4007 (- 1991)
Swope	4300 (- 2284)
Hertha	4339 (- 2323)
BKC	4374 (- 2358)
Marmaton	4388 (- 2372)
Conglomerate	4470 (- 2454)
Viola Chert	4512 (- 2496)
Simpson Shale	4580 (- 2564)
Simpson Sand	4582 (- 2566)
Arbuckle	4676 (- 2660)

DSTs

DST # 1 4024-4063' Times 30-60-45-60 Lansing 'B' Zone
1st Opening - Strong Blow-BOB 45 Seconds, GTS 25 Min.
Initial Shut In - No Blow Back
2nd Opening-BOB & GTS immediately.
Final Shut In - No Blow Back.
Recovery: 3936' GIP, 70' GSOCM(6% Gas, 4% Oil, 90% Mud)
GTS 25 min 1st opening:
25 min 31.4 MCF/D
2nd Opening:
10 min 40.7 MCF
20 Min 44.7 MCF
30 Min 47.5 MCF
40 Min 50.33 MCF
45 Min 51.8 MCF
IHP 2067# FHP 1960#
IFP 39-57# FFP 54-67#
ISIP 1438# FSIP 1428#

DST #2 4164-4185' Lansing 'H' Zone Times 30-30-30-30
1st Opening - Weak Blow 2.4"
ISIP - No Blow Back
2nd Opening - Weak Blow 1"
FSIP - No Blow Back
Rec. 125' MCW (88% W, 12% M)
IHP 2109# FHP 2010#
IFP 20-60# FFP 64-94#
ISIP 1303# FSIP 1262#

DST #3 4201 to 4280'. J & K Zones Times 30-60-45-60
1st Opening Strong Blow, BOB 3 min.
ISIP - No Blow Back
2nd Opening - Strong Blow, BOB 3 minutes
FSIP - No Blow Back.
Rec. 845' GIP, 225' GCM (6% G, 94% Mud)
IHP 2186# FHP 2091#
IFP 59-109# FFP 101-156#
ISIP 1486# FSIP 1453#

DST'S

DST #4 4296 - 4372' Swope & Hertha Times 30-30-30-30
1st Opening - Weak Blow. Built to 5.31" ISIP - No Blow Back
2nd Opening -8"Blow
FSIP - No Blow Back
Rec. 60' SOCM (2% O, 98% M)
IHP 2252# FHP 2175#
IFP 59-68# FFP 67-82#
ISIP 526# FSIP 458#

DST #5 4536 - 4585' Times 30-30-30-30 Viola-Simpson
1st opening - No Blow
ISIP - No Blow Back
2nd Opening - Weak 2.56"
FSIP - No Blow Back
Rec. 5' Mud
IHP 2465# FHP 2259#
IFP 44-43# FFP 40-47#
ISIP 119# FSIP 108#

DST #6 4536 - 4594' Times 30-60-30-60 Viola-Simpson
1st opening - Weak -2.7" Blow
ISIP - No Blow Back
2nd Opening - Weak - 1.8" Blow
FSIP - No Blow Back
Rec. 150' GIP, 90' SOWCM (4% O, 2% W, 94% M)
IHP 2364# FHP 2268#

IFP 43-79# FFP 82-98#
ISIP 1047# FSIP 940#

Comments

Surface Casing: Set 8 5/8" Casing at 433' with 350 sks of H-325 Common, 2% Gel, 3% CC, 1/4# CF. Plug Down at 4:30 am on 6/28/2024. Cement did Circulate to surface.
Production: None
Deviation Surveys: .25 - 436'; Teledrift ran on well, See other surveys in comments, Survey at TD - .5 degrees.
Pipe Strap: .34" Short to Board at 4063'.
Contractor Bit Record: Surface: 1- HTC GTX 12 1/4" out at 436'.
2 - 7 7/8" Hole - #1 - STC FDS Out at 501'. (Clear Cement)
3 - 7 7/8" - Klear Bit 616 - PDC - Out at 4372'.
4 - 7 7/8" - Klear Bit 616 - PDC - Out at 4725'.

Mud Company: Mud Co/Service Mud
Brad Bortz/Justin Whiting - Representitives
Drill with Native Mud and Premix to 3428' and Displace System with Chemical Mud.

CREWS

Sterling Drilling Rig #4
Tool Pusher- Lannie Solaga/ Juan Chavez
Days - Ivan Chavez
Evening - Jose Munoz
Morning - Jorge Gutierrez

RECOMMENDATIONS

After review of samples, DST results, and Electric Log analysis, it was recommended by all parties this test well be Plugged and Abandoned.

Respectfully, Scott Alberg

ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till

ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- B Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Gyp
- Hvymin
- K Kaol
- Marl
- Minxl
- Nodule
- Phos
- P Pyr
- Salt
- Sandy
- Silt
- Sil
- S Sulphur
- Tuff

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- F Fossil
- Gastro
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Sltstrg
- Ssstrg

TEXTURE

- BS Boundst
- C Chalky
- CX Cryxln
- E Earthy
- FX Finexln
- GS Grainst
- L Lithogr
- MX Microxln
- MS Mudst
- PS Packst
- WS Wackest

Glau

Oolite

Mrst

OTHER SYMBOLS

POROSITY
- E Earthy
- ▣ Fenest
- F Fracture
- ☒ Inter
- ⊿ Moldic
- ⊙ Organic
- P Pinpoint
- V Vuggy

SORTING
- W Well
- M Moderate
- P Poor

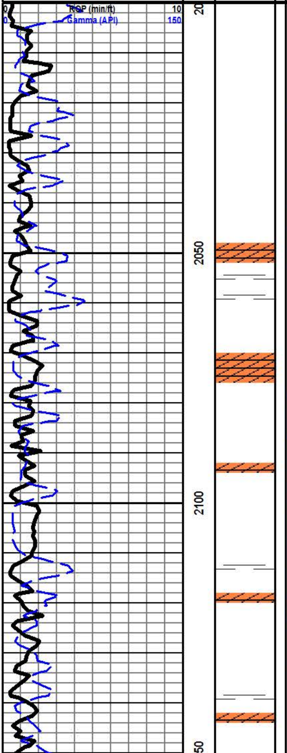
ROUNDING
- R Rounded
- r Subrnd
- a Subang
- A Angular

OIL SHOW
- ● Even
- ◑ Spotted
- ○ Ques
- D Dead
- ☼ Gas show
- ⁛ Dst

INTERVAL
- ■ Core
- ■ Dst pkr

EVENT
- ▷ Rft
- ▶ Sidewall

Curve Track 1 ROP (min/ft) Gamma (API)	MD	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5 TG (Units) C1 (units) C2 (units) C3 (units) C4 (units) C5 (units)



Anhydrilte Pick: Top 838', Bottom 860'

Daily Drilling Report
Move In Sterling Drilling - 6-27-2024
June 28, 2024 - 436' WOC
June 29, 2024 - 1484'@ 7:00 am - Drlg Ahead

June 30, 2024 - 3013' @ 7:00 am Drlg Ahead

July 1, 2024 - 4034' @ 7:00 am - Drlg Ahead
July 2, 2024 - 4185' @ 7:00 am DST #2
July 3, 2024 - 4280' @ 7:00 am DST #3
July 4, 2024 - 4454' @ 7:00 am CFS
July 5, 2024 - 4594' @ 7:00 am DST #6
July 6, 2024 - 4725' @ 7:00 am Logging

LOG TOPS

Anhydrite	834 (+1182)
Herrington	2222 (- 206)
Council Grove	2550 (- 334)
Wabaunsee	3024 (- 1008)
Tarkio	3216 (- 1200)
Topeka	3469 (- 1453)
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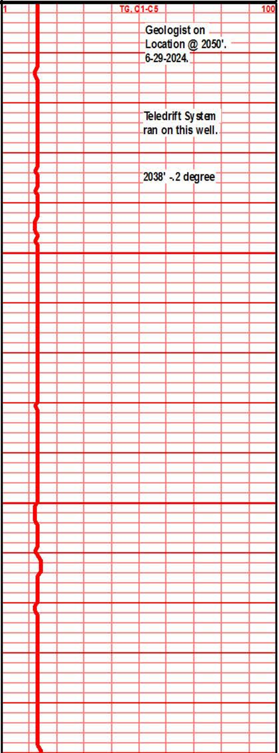
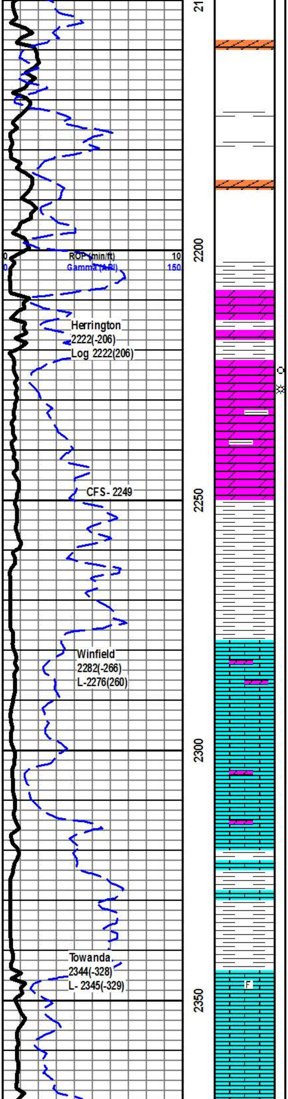


Geologist on
Location @ 2050'.
6-29-2024.

Teledrift System
ran on this well.

2038' -.2 degree



Start Samples @ 2200'

Shales, anhydrites, trace of dolomite.

Dolomite, light grey, buff, succ, trace succ porosity, no visible shows, mostly tight, Slight Gas increase.

Dolomite, buff, grey, suc, mostly dense, shaley in part.

Shale, grey-green

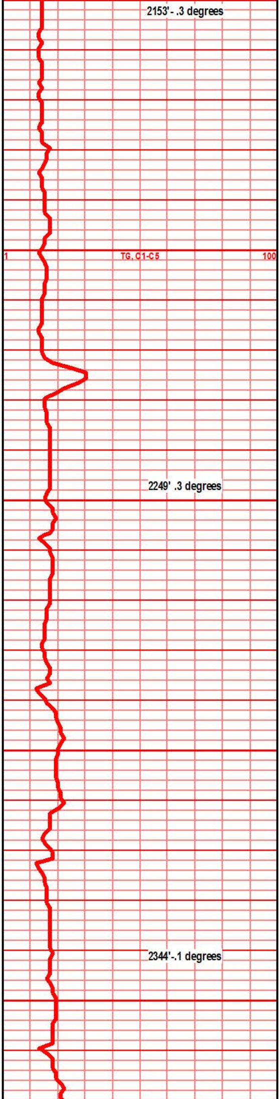
Limestone, grey, xln, dense in part, slightly dolomitic, no visible shows.

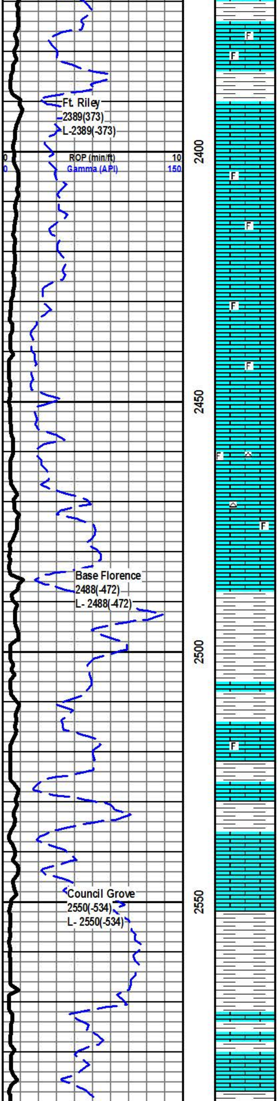
Limestone, grey-white, xln, dense in part, tr xln porosity, some chalky ls, shaley in part.

Shale, green, grey.

Limestone, grey buff, xln, slightly dolomitic, trace chalky ls, trace fossils. some foss porosity.

Limestone, buff, xln, dense in part, trace foss, slightly mottled, chalky.





Shale, Lt grey.

Ls., Cream buff, xln, slightly dense, trace fossils, slightly chalky.

Ls, cream white, abundent fossils, foss porosity, slight chalky, some chert towards base.

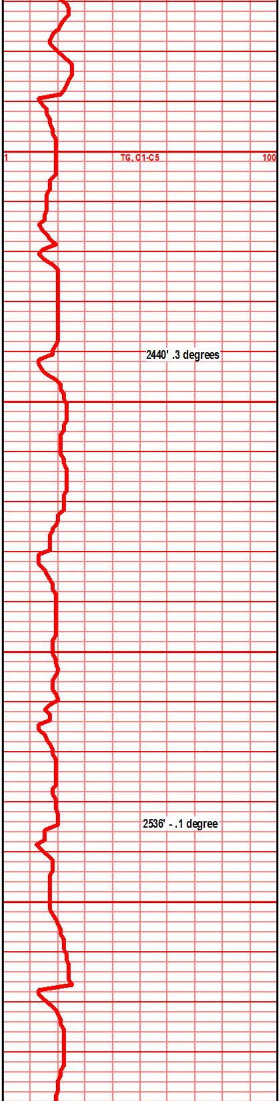
Ls, crm, buff, xln, dense, trace foss, cherty in part.

Shale, grey, green.

Ls, grey white, xln dense, trace chert.

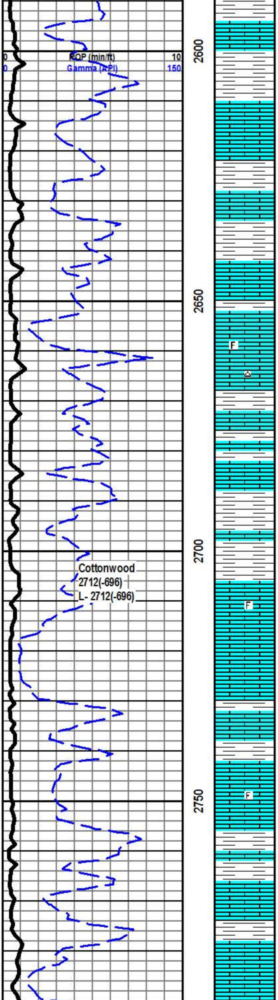
Shale, dark grey, grey, some maroons, soft.

Ls, grey, tan buff, xln, some chalky, shaley in part, mottled.



2440' .3 degrees

2536' - .1 degree



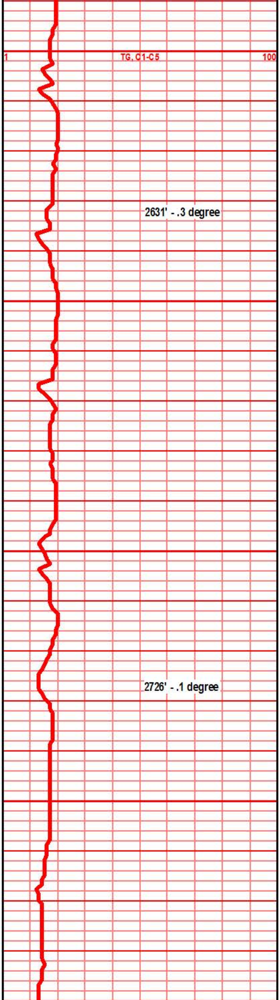
Shale, grey, Lt grey.

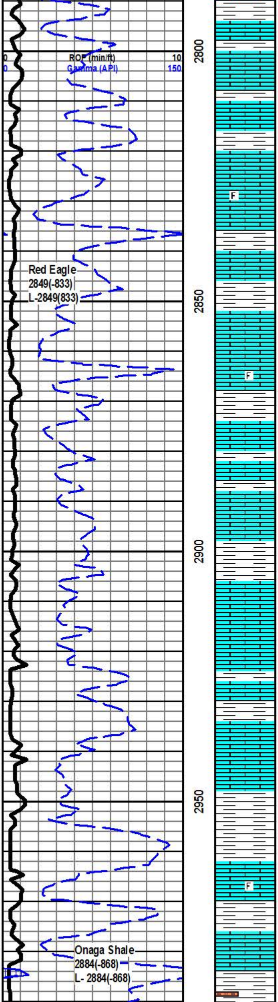
Ls, tan, buff, xln, dense, trace foss. some chert.

Shale, grey.

Ls, tan white, xln, foss, foss porosity. No visible shows, no kick.

Ls, tan, grey white, xln, dense in part, trace foss, chalky.





Red Eagle
2849(-833)
L-2849(833)

Onaga Shale
2884(-868)
L- 2884(-868)

Shale, grey, light grey.

Ls, grey, buff white, xln, foss., foss porosity.

Shale, grey, silty.

Ls., grey white, xln, dense. foss, foss porosity.
No visible shows.

Ls, grey white, xln, partly dense, shaley.

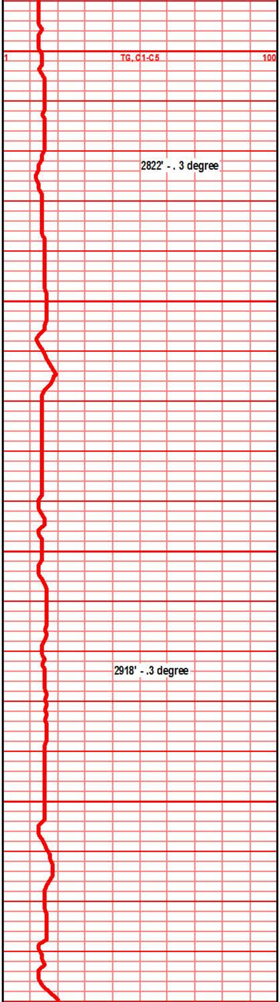
Ls., grey white, xln, partly dense, shaley in part.

Ls, buff, tan white, xln, dense.

Shale, light grey, grey.

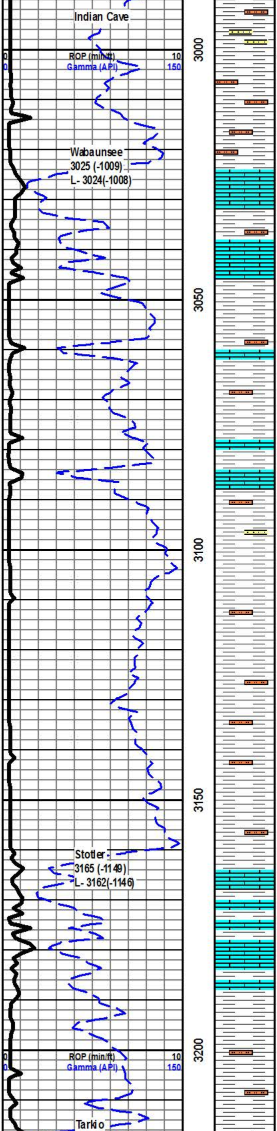
Ls, tan, white, xln, dense., trace fossils.

Shale, light grey, silty.



2822' - . 3 degree

2918' - .3 degree



Siltsone, light grey, grey, sandy in part, friable, mica, shaley, slight increase in gas., 10 unit over background.

Ls, crm white, xln, dense.

Ls, tan white, grey white, xln, dense in part, trace chalky.

Shale, grey, silty.

Ls, tan, grey white, xln, dense.

Shale, light grey, silty to sandy.

Shale, Light Grey, silty.

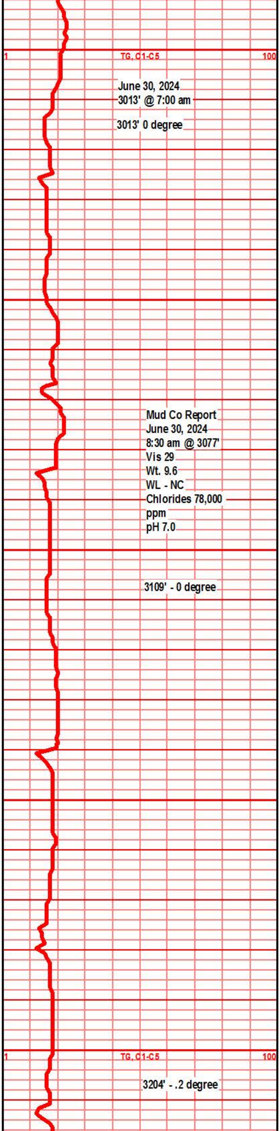
Shale, lt grey, silty

Ls, tan, buff white, xln, dense, sl. foss. in part.

Ls, tan, grey white, xln, dense, trace foss.

Shale, grey, silty.

Shale, light grey, silty.



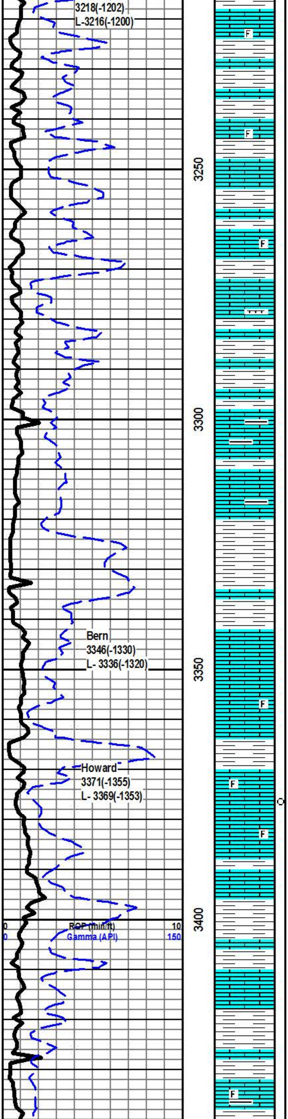
June 30, 2024
3013' @ 7:00 am

3013' 0 degree

Mud Co Report
June 30, 2024
8:30 am @ 3077'
Vis 29
Wt. 9.6
WL - NC
Chlorides 78,000
ppm
pH 7.0

3109' - 0 degree

3204' - .2 degree



Ls, crm white, tan, dense, tr foss.

Shale, light grey.

Ls, crm white, xln, dense in part, foss.

Shale, grey

Ls., buff white, xln, ptly dense, foss.

Shale, grey.

Ls, tan, xln, dense, mottled.

Shale, grey.

Ls, grey white, fn xln, soft. Shaley in part.

Ls, Grey white, shaley.

Shale, Grey-lt green, silty.

Ls., cream white, foss, slight dense, trace xln porosity, no visible shows, no kick.

Shale, light grey, grey.

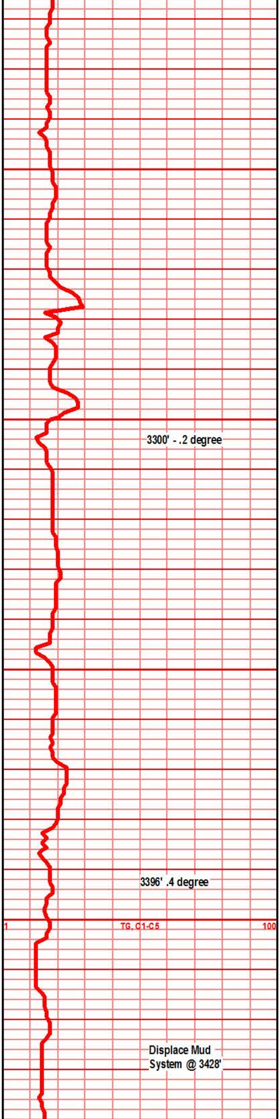
Ls, crm, tan white, xln, slightly mottled, trace stain, no odor, no kick, no flourence. Questionable show.

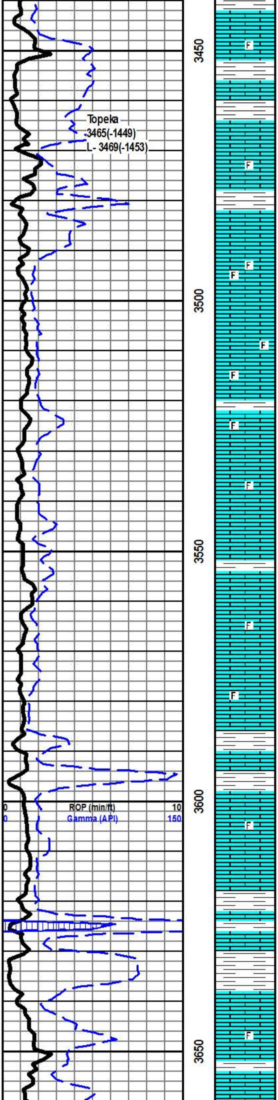
Shale, grey.

Ls, crm, tan buff white, xln, dense in part, no vis shows, slightly chalky.

Shale. grey.

Ls, grey white, xln, dense, mottled. Trace foss.





Ls, tan, brwn white, xln, dense in part, trace fossils, slightly chalky.

Shale, grey, grey green.

Ls, crm, buff white, xln, partly dense, trace fossils.

Shale, grey.

Ls, crm-white, buff, fxln, partly dense. foss porosity, foss.. Trace chalky, some dense sharp chert. No vis shows.

Ls, buff white, xln, foss, foss porosity, no shows.

Ls., cream, tan white, buff, xln, dense, foss in part. no visible shows.

Ls, crm, grey white, buff, xln, dense, foss. some foss porosity, slightly chalky, some mottled.

Shale, light grey.

Ls, tan, buff white, xln, dense, dense, foss. no shows.

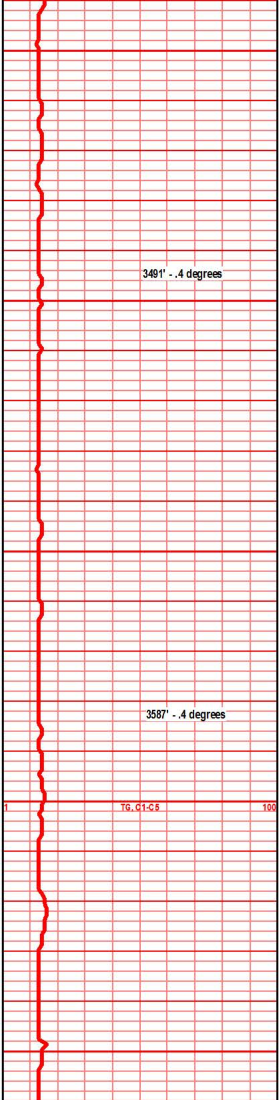
Shale, grey.

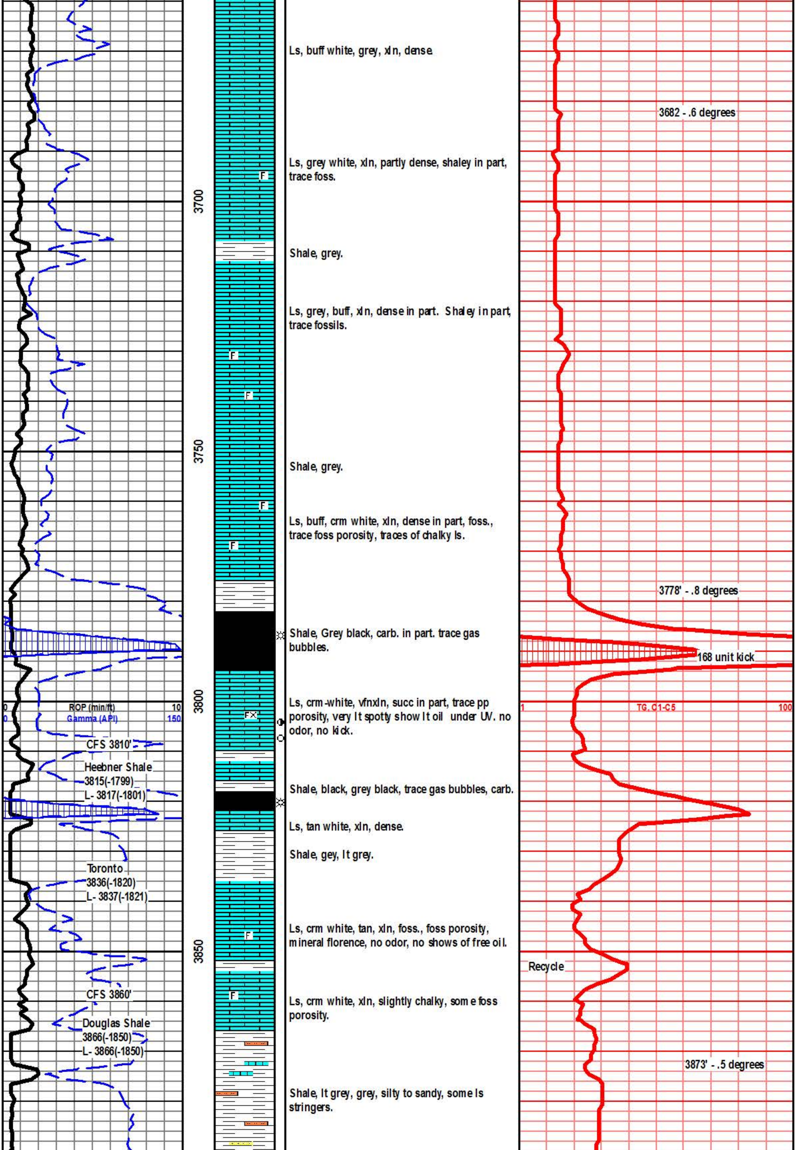
Ls, buff, tan white, xln, dense.

Shale, dk grey.

Ls, crm white, buff, fxln, dense, trace foss.

Shale, grey





Ls, buff white, grey, xln, dense.

Ls, grey white, xln, partly dense, shaley in part, trace foss.

Shale, grey.

Ls, grey, buff, xln, dense in part. Shaley in part, trace fossils.

Shale, grey.

Ls, buff, crm white, xln, dense in part, foss., trace foss porosity, traces of chalky ls.

Shale, Grey black, carb. in part. trace gas bubbles.

Ls, crm-white, vfnxln, succ in part, trace pp porosity, very lt spotty show lt oil under UV. no odor, no kick.

Shale, black, grey black, trace gas bubbles, carb.

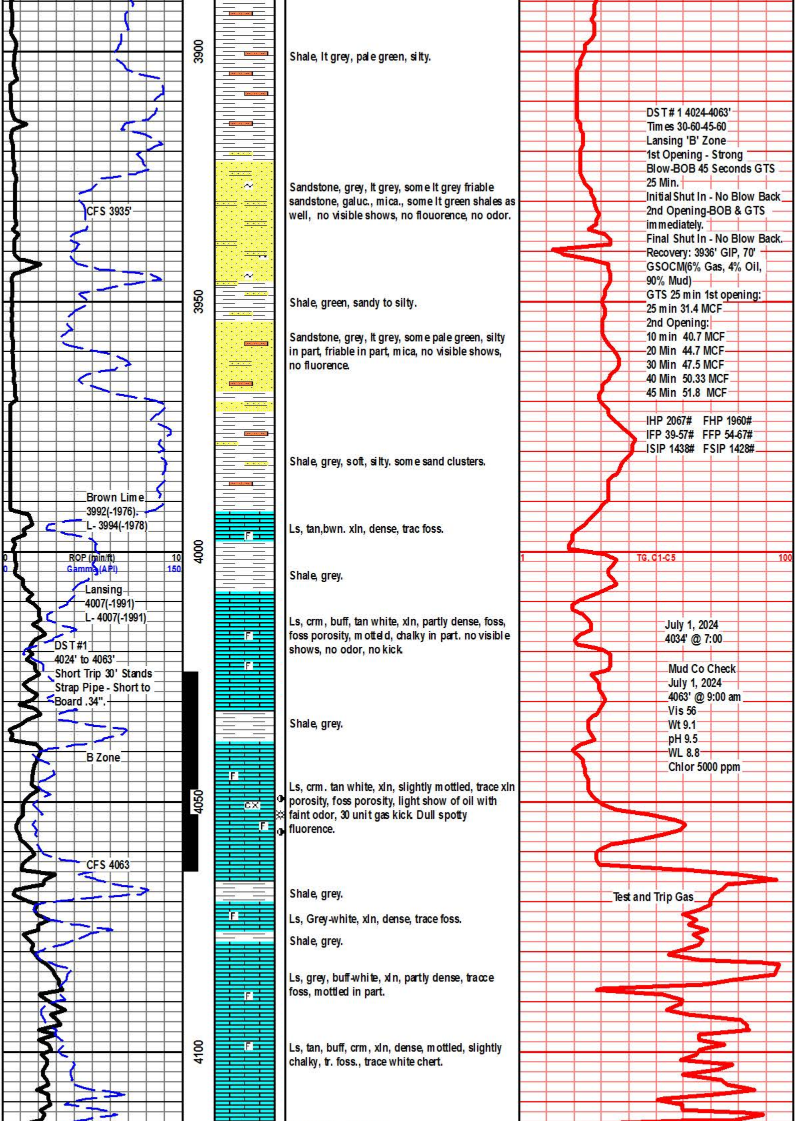
Ls, tan white, xln, dense.

Shale, gey, lt grey.

Ls, crm white, tan, xln, foss., foss porosity, mineral florence, no odor, no shows of free oil.

Ls, crm white, xln, slightly chalky, some foss porosity.

Shale, lt grey, grey, silty to sandy, some ls stringers.



Shale, lt grey, pale green, silty.

Sandstone, grey, lt grey, some lt grey friable sandstone, galuc., mica., some lt green shales as well, no visible shows, no flouorence, no odor.

Shale, green, sandy to silty.

Sandstone, grey, lt grey, some pale green, silty in part, friable in part, mica, no visible shows, no fluorence.

Shale, grey, soft, silty. some sand clusters.

Ls, tan,bwn. xln, dense, trac foss.

Shale, grey.

Ls, crm, buff, tan white, xln, partly dense, foss, foss porosity, mottled, chalky in part. no visible shows, no odor, no kick.

Shale, grey.

Ls, crm. tan white, xln, slightly mottled, trace xln porosity, foss porosity, light show of oil with faint odor, 30 unit gas kick. Dull spotty fluorence.

Shale, grey.

Ls, Grey-white, xln, dense, trace foss.

Shale, grey.

Ls, grey, buff-white, xln, partly dense, tracce foss, mottled in part.

Ls, tan, buff, crm, xln, dense, mottled, slightly chalky, tr. foss., trace white chert.

Brown Lime
3992(-1976).
L- 3994(-1978)

Lansing
4007(-1991)
L- 4007(-1991)

DST #1
4024' to 4063'
Short Trip 30' Stands
Strap Pipe - Short to
Board .34".

B Zone

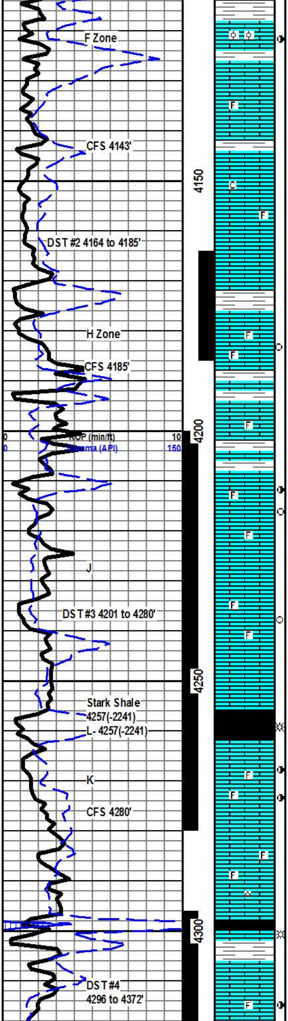
DST # 1 4024-4063'
Times 30-60-45-60
Lansing 'B' Zone
1st Opening - Strong
Blow-BOB 45 Seconds GTS
25 Min.
Initial Shut In - No Blow Back
2nd Opening-BOB & GTS
immediately.
Final Shut In - No Blow Back.
Recovery: 3936' GIP, 70'
GSOCM(6% Gas, 4% Oil,
90% Mud)
GTS 25 min 1st opening:
25 min 31.4 MCF
2nd Opening:
10 min 40.7 MCF
20 Min 44.7 MCF
30 Min 47.5 MCF
40 Min 50.33 MCF
45 Min 51.8 MCF

IHP 2067# FHP 1960#
IFP 39-57# FFP 54-67#
ISIP 1438# FSIP 1428#

July 1, 2024
4034' @ 7:00

Mud Co Check
July 1, 2024
4063' @ 9:00 am
Vis 56
Wt 9.1
pH 9.5
WL 8.8
Chlor 5000 ppm

Test and Trip Gas



Shale, grey, light grey.

Ls, tan, xln, oolitic, ool. porosity, firm, inter cst porosity, show oil, lt brwn staining, good odor, dull spotty fluorence. Kick?

Ls, grey-white, xln, chalky, soft in part, trace foss.

Ls, buff, crm-white, xln, prtly dense, very chalky, tr foss, no show. Tr chert towards base.

Shale, grey.

Ls, tan white, buff, xln, foss porosity, tr oolites, very faint odor, slight lt stain, 38 unit kick over background.

Shale, grey.

Ls, tan white, buff, xln, mostly dense, tr foss, no vis shows.

Shale, grey.

Ls, tn white, buff, xln, partly dense, tr foss porosity, tr, lt st, ft odor on break, very faint show free oil.

Ls, crm white, xln, partly dense, chalky, foss in part.

Ls, tan, crm -white, xln, xln porosity, succ in part, tr foss, faint odor, v ft spotted fluorence.

Ls, tan-white, xln, dense, tr tan chert.

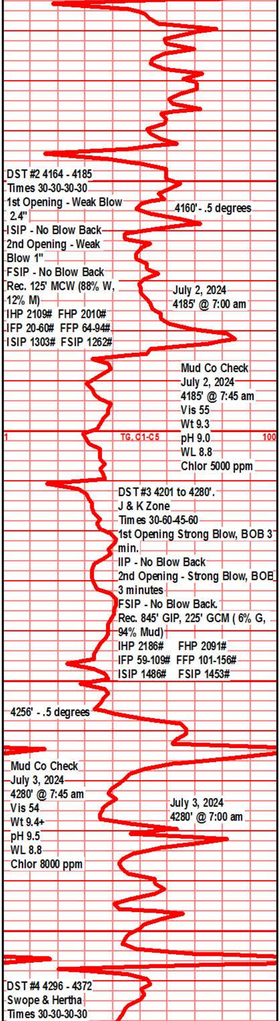
Shale, grey black, sl carb.

Ls, crm, tan, buff, xln, xln porosity, trace scattered vugs, some foss porosity, fair odor, spotty bright fluorence, fair show of free oil when broken, light oil.

Ls, crm, tan white, xln, dense, tr chert, sl. foss.

Shale, grey black, carb.

Ls, Crm-white, xln, partly dense, trace xln porosity, very light staining, slight odor. very faint fluor.



DST #2 4164 - 4185
Times 30-30-30-30
1st Opening - Weak Blow 2.4"
ISIP - No Blow Back
2nd Opening - Weak Blow 1"
FSIP - No Blow Back
Rec. 125' MCW (88% W, 12% M)
IHP 2109# FHP 2010#
IFP 20-60# FFP 64-94#
ISIP 1303# FSIP 1262#

4160' - .5 degrees

July 2, 2024
4185' @ 7:00 am

Mud Co Check
July 2, 2024
4185' @ 7:45 am
Vis 55
Wt 9.3
pH 9.0
WL 8.8
Chlor 5000 ppm

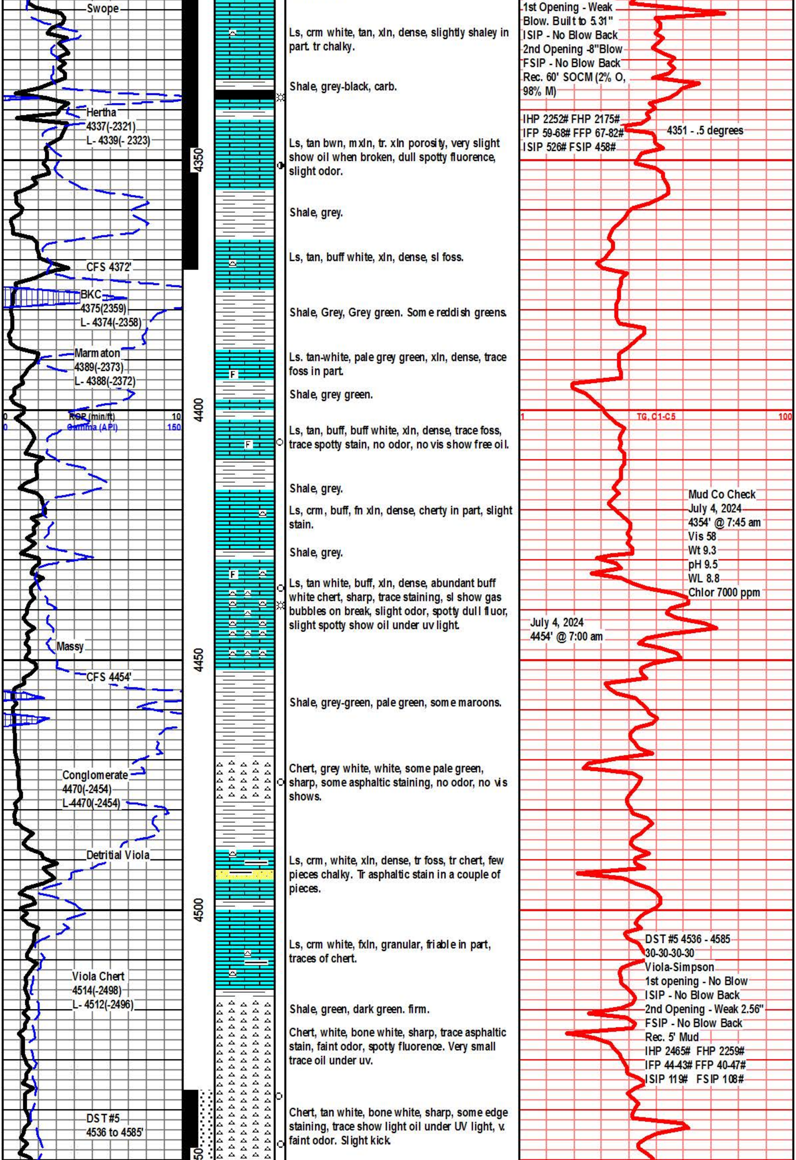
DST #3 4201 to 4280'.
J & K Zone
Times 30-60-45-60
1st Opening Strong Blow, BOB 3 min.
IIP - No Blow Back
2nd Opening - Strong Blow, BOB 3 minutes
FSIP - No Blow Back.
Rec. 845' GIP, 225' GCM (6% G, 94% Mud)
IHP 2186# FHP 2091#
IFP 59-109# FFP 101-156#
ISIP 1486# FSIP 1453#

4256' - .5 degrees

Mud Co Check
July 3, 2024
4280' @ 7:45 am
Vis 54
Wt 9.4+
pH 9.5
WL 8.8
Chlor 8000 ppm

July 3, 2024
4280' @ 7:00 am

DST #4 4296 - 4372
Swope & Hertha
Times 30-30-30-30



Ls, crm white, tan, xln, dense, slightly shaley in part. tr chalky.

Shale, grey-black, carb.

Ls, tan bwn, mxln, tr. xln porosity, very slight show oil when broken, dull spotty fluorence, slight odor.

Shale, grey.

Ls, tan, buff white, xln, dense, sl foss.

Shale, Grey, Grey green. Some reddish greens.

Ls. tan-white, pale grey green, xln, dense, trace foss in part.

Shale, grey green.

Ls, tan, buff, buff white, xln, dense, trace foss, trace spotty stain, no odor, no vis show free oil.

Shale, grey.

Ls, crm, buff, fn xln, dense, cherty in part, slight stain.

Shale, grey.

Ls, tan white, buff, xln, dense, abundant buff white chert, sharp, trace staining, sl show gas bubbles on break, slight odor, spotty dull fluor, slight spotty show oil under uv light.

Shale, grey-green, pale green, some maroons.

Chert, grey white, white, some pale green, sharp, some asphaltic staining, no odor, no vis shows.

Ls, crm, white, xln, dense, tr foss, tr chert, few pieces chalky. Tr asphaltic stain in a couple of pieces.

Ls, crm white, fxln, granular, friable in part, traces of chert.

Shale, green, dark green. firm.

Chert, white, bone white, sharp, trace asphaltic stain, faint odor, spotty fluorence. Very small trace oil under uv.

Chert, tan white, bone white, sharp, some edge staining, trace show light oil under UV light, v. faint odor. Slight kick.

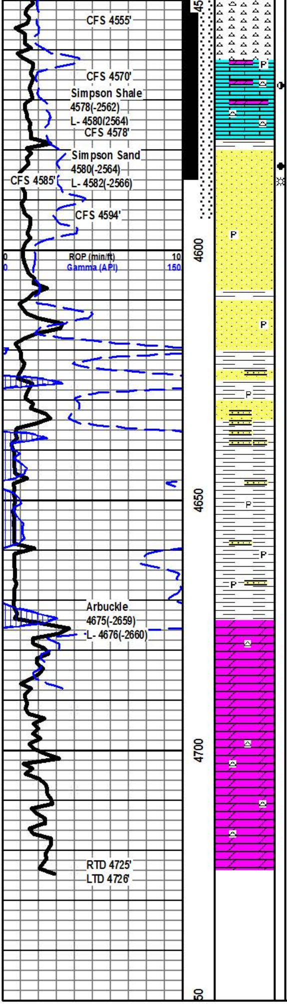
1st Opening - Weak
Blow. Built to 5.31"
ISIP - No Blow Back
2nd Opening -8"Blow
FSIP - No Blow Back
Rec. 60' SOCM (2% O, 98% M)

IHP 2252# FHP 2175#
IFP 59-68# FFP 67-82#
ISIP 526# FSIP 458#

Mud Co Check
July 4, 2024
4354' @ 7:45 am
Vis 58
Wt 9.3
pH 9.5
WL 8.8
Chlor 7000 ppm

July 4, 2024
4454' @ 7:00 am

DST #5 4536 - 4585
30-30-30-30
Viola-Simpson
1st opening - No Blow
ISIP - No Blow Back
2nd Opening - Weak 2.56"
FSIP - No Blow Back
Rec. 5' Mud
IHP 2465# FHP 2259#
IFP 44-43# FFP 40-47#
ISIP 119# FSIP 108#



Ls, crm, tan white, fn xln, dense,cherty, dolomitic in part, succ to sandy.

One piece hard, cherty sand looking piece.angular, dolomitic, well cemented, show of balck asphaltic oil, very dull fluorence. Trace odor.

Shale, dark green, pale green, traces of pyrtie.

Sandstone. clear to frosted subrounded, grains, fair odor, good fluorence, good gas kick, friable in part. Fair show saturated pieces, some bleeding gas.

Sandstone, clear to tan frosted subangular grains, some saturated, fair odor, spotty good fluor, kick, some traces of pyrite?

Shale, dark grey, dark greena, traces of pyrite.

Sandstone, clear to frosted, slightly friable, subangular, asphaltic staining, slight show of oil, slight odor, traces of pyrite. Shales, grey green.

Shale, dark green, grey, firm, pyritic.

Sandstone, clear to frosted grey, subangular, trace shows of asphaltic oil, slight show free oil, spotty fluor.

Shale, grey green, firm, dark grey, trace pyrite. Some firm pale green shale.

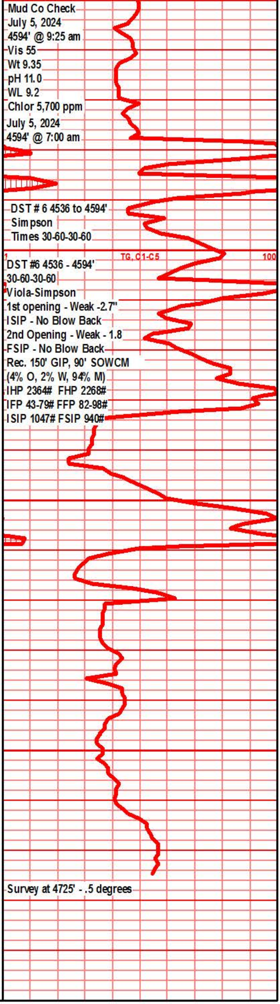
Shale, pale green grey, firm, pyritc in part. Some sand stringers. Very firm.

Shale, light grey-green, firm waxey, pyrite, sand grains in shale.

Dolomite, crm to tan, sandy texture, dense, dull flour, no visible show, no odor.

Dolomite, tan, crm white, succ texture, mostly dense, trace tan chert, dull fluor, no visible show, no odor.

Dolomite, tan, crm, tan cherts, sharp, dull fluor, no odor, no shows of free oil, no odor.



Mud Co Check
July 5, 2024
4594' @ 9:25 am
Vis 55
Wt 9.35
pH 11.0
WL 9.2
Chlor 5,700 ppm
July 5, 2024
4594' @ 7:00 am

DST # 6 4536 to 4594'
Simpson
Times 30-60-30-60

DST #6 4536 - 4594'
30-60-30-60
Viola-Simpson
1st opening - Weak -2.7"
ISIP - No Blow Back
2nd Opening - Weak - 1.8
FSIP - No Blow Back
Rec. 150' GIP, 90' SOWCM
(4% O, 2% W, 94% M)
IHP 2364# FHP 2268#
IFP 43-79# FFP 82-98#
ISIP 1047# FSIP 940#

Survey at 4725' - .5 degrees