



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

Well Name: O'BRATE-UMCC # 1H-17
API: 15-119-21,423-01-00
Location: N/2-N/2 of Sec. 17 - T. 30 S. - R. 30 W.
License Number: KCC # 5003
Spud Date: 07/10/2018
Surface Coordinates: SPOT: 330' FNL & 1320' FWL

Region: MEADE CO., KS.
Drilling Completed: 07/29/2018

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2815' **K.B. Elevation (ft):** 2826'
Logged Interval (ft): 4704' **To:** 5652' **Total Depth (ft):** 5795'
Formation: MISSISSIPPIAN "CHESTER"
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL & MUD DISPLACEMENT @ 3179'.

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

OPERATOR

Company: McCOY PETROLEUM CORPORATION KCC LIC. NO. # 5003
Address: 9340 E. CENTRAL
WICHITA, KANSAS 67206-2573

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW ENERGY, LLC
Address: 312 N. BROADVIEW STREET
WICHITA, KANSAS 67208

CASING'S SET

Surface Casing: Spud at 11:45 PM on 07/10/18. Drilled 12-1/4" to 1780'. Ran 44 joints of new 36#, 9-5/8" casing. Tallied 1784.43' Set at 1780' KB. Welded straps on shoe, bottom 3 joints. Centralizers (18) on every other joints. Float insert in top of 1st joint. Cemented with 325 sks A-Con; 3% CC, 1/4# PF. Tailed with 150 sks Premium Plus; 2% CC, 1/4# PF. Cement did circulate. Plug down at 8:00 PM on 07/12/18. Basic Energy ticket #157736. After WOC 3 hours, cut off casing 1.50' below GL and welded on casing head.

7" Casing set in curve to surface: Drilled 8-3/4" hole to 5695'. Ran 134 joints new 26.0#, 7" casing. Tallied 5685'. Float shoe in top of 1st collar. Centralizers (14) on every 3rd joint 1-43. Set at 5685' KB. Cement with 270 sks Class H, 1/4# Polyflake. Lost 100% returns at 210 bbl into displacement. Had 6 bbl left to displace. Plug down at 11:00 am on 07/21/18. Basic Energy Services ticket #15855. String weight on 7" slips = 116,000 lbs. Pressure test casing to 1500 lb for 15 minutes using cement truck pump .

DEVIATION SURVEY'S

Deviation Survey's Taken by Sterling Rig #4: @ 1780' = 1.75 degree's; @ 1914' = 0.70; @ 2404' = 0.40; @ 2894' = 2.30; @ 3385' = 4.00; @ 3884' = 6.40; @ 4392' = 9.10; @ 4661' = 11.30; Skyline Directional Survey's: @ MD 4709.00/ TVD Inc=10.20; @ MD= 4740'/TVD=4727 & Inc= 7.10; @ MD 4836.00/TVD 4822.47 5.4 Inc; @ MD 4867.00/TVD =4853.26 & Inc= 7.90; @ MD 4899/ TVD= 4884.83 & Inc =10.9; @ MD 4931'/TVD=4916.06 & Inc=14.1; @ MD 4931/TVD 4946.87 & Inc=17.3; @ MD 4995/TVD 4977.14= Inc.=20.5; @ MD 5026/TVD 5005.83 & Inc=24; @ MD 5058/TVD 5034.66'=Inc.=27.4; @ MD 5090/TVD 5062.59 & Inc.=31; MD 5122/TVD 5089.49 & Inc=34.5; MD 5154/TVD 5115.30 & Inc 38; MD 5186/TVD5139.90 & Inc.41.5; MD 5217/TVD5162.38 & inc=45.5; MD 5249/TVD 5183.97 & Inc=49.6'; MD 5284/TVD 5203.74 & Inc=54.1; MD 5313/TVD 5221.49 & Inc=58.5; MD 5345/TVD 5237.29 & Inc=62.3; MD 5377/TVD 5251.42 & Inc=65.3; MD 5408/TVD 5363.65 & Inv=68.2; MD 5440/TVD 5274.62 & Inc=71.7; MD 5472/TVD 5283.76 & Inc= 75.1; MD 5504/TVD 5291.51 & Inc=76.9; MD 5536/TVD 5298.24 & Inc=78.8; MD 5567/TVD 5303.84 & Inc=80.4; MD 5599/TVD 5308.48 & Inc=82.9; MD 5631/TVD 5311.69 & Inc=85.6; MD 5652/TVD 5313.01 & Inc=87.2; MD

COMMENTS

See Horizontal Report for additional Comments:

Respectfully submitted,

David P. Williams, P.G.

Qualifiers: CARBONATE CLASSIFICATION: AFTER DUNHAM:

GRAIN; any fossil, fossil fragment, sand grain, or other rock fragment within the rock.

MUDSTONE; muddy carbonate rocks containing < (less than 10%) grains.

WACKESTONE; mud supported carbonate rocks with > (more than 10%) grains.

PACKSTONE; grain supported muddy carbonate rocks.

GRAINSTONE; mud free carbonate rock, grain supported.

BOUNDSTONE; carbonate rock bound together at deposition (coral, etc.).


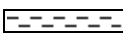

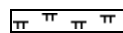

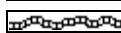
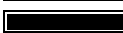



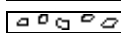





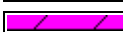
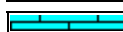
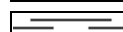

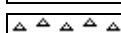
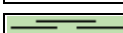

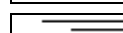
CRYSTALLINE CARBONATE; carbonate rock retaining to little of their depositional texture to be classified.

Qualifiers; (Fossils, Minerals, Shows, Porosity, etc.)

Rare = < (less than 1%) of sample total.

Trace = < (less than 5%) of sample total, > (greater than 5%) an estimate of total percentage.

ROCK TYPES

	Anhy		Clyst		Gry sh		Mrlst		Shgy
	Bent		Coal		Gyp		Red shale		Sltst
	Brec		Congl		Igne		Salt		Ss
	Carb sh		Dol		Lmst		Shale		Till
	Cht		Grn sh		Meta		Shcol		

ACCESSORIES

- MINERAL**
- [Symbol] Anhy
 - [Symbol] Arggrn
 - [Symbol] Arg
 - [Symbol] Bent
 - [Symbol] Bit
 - [Symbol] Brecrefrag
 - [Symbol] Calc
 - [Symbol] Carb
 - [Symbol] Chtdk
 - [Symbol] Chtlt
 - [Symbol] Dol
 - [Symbol] Feldspar
 - [Symbol] Ferrpel
 - [Symbol] Ferr
 - [Symbol] Glau
 - [Symbol] Gyp

- [Symbol] Hvymin
- [Symbol] Kaol
- [Symbol] Marl
- [Symbol] Minxl
- [Symbol] Nodule
- [Symbol] Phos
- [Symbol] Pyr
- [Symbol] Salt
- [Symbol] Sandy
- [Symbol] Silt
- [Symbol] Sil
- [Symbol] Sulphur
- [Symbol] Tuff

- FOSSIL**
- [Symbol] Algae
 - [Symbol] Amph

- [Symbol] Belm
- [Symbol] Bioclst
- [Symbol] Brach
- [Symbol] Bryozoa
- [Symbol] Cephal
- [Symbol] Coral
- [Symbol] Crin
- [Symbol] Echin
- [Symbol] Fish
- [Symbol] Foram
- [Symbol] Fossil
- [Symbol] Fuss
- [Symbol] Gastro
- [Symbol] Oolite
- [Symbol] Oomold
- [Symbol] Ostra
- [Symbol] Pelec

- [Symbol] Pellet
- [Symbol] Pisolite
- [Symbol] Plant
- [Symbol] Strom

- STRINGER**
- [Symbol] Anhy
 - [Symbol] Arg
 - [Symbol] Bent
 - [Symbol] Coal
 - [Symbol] Dol
 - [Symbol] Gyp
 - [Symbol] Ls
 - [Symbol] Mrst
 - [Symbol] Sltstrg
 - [Symbol] Ssstrg

- TEXTURE**
- [Symbol] Boundst
 - [Symbol] Chalky
 - [Symbol] Cryxln
 - [Symbol] Earthy
 - [Symbol] Finexln
 - [Symbol] Grainst
 - [Symbol] Lithogr
 - [Symbol] Microxln
 - [Symbol] Mudst
 - [Symbol] Packst
 - [Symbol] Wackest

OTHER SYMBOLS

- POROSITY**
- [Symbol] Earthy
 - [Symbol] Fenest
 - [Symbol] Fracture
 - [Symbol] Inter
 - [Symbol] Moldic
 - [Symbol] Organic
 - [Symbol] Pinpoint

- [Symbol] Ø
- [Symbol] Vuggy

- SORTING**
- [Symbol] Well
 - [Symbol] Moderate
 - [Symbol] Poor

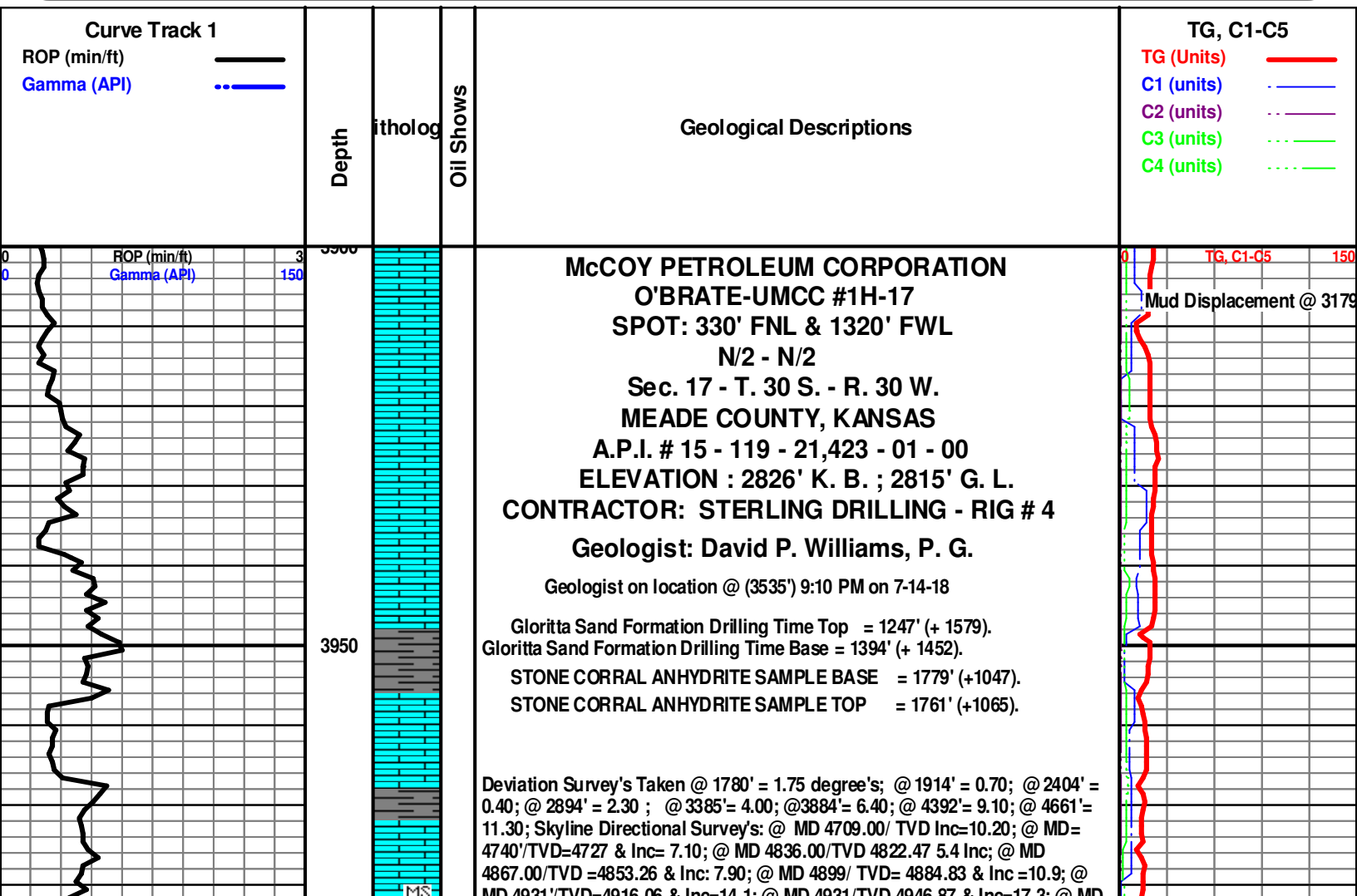
- ROUNDING**
- [Symbol] Rounded
 - [Symbol] Subrnd
 - [Symbol] Subang
 - [Symbol] Angular

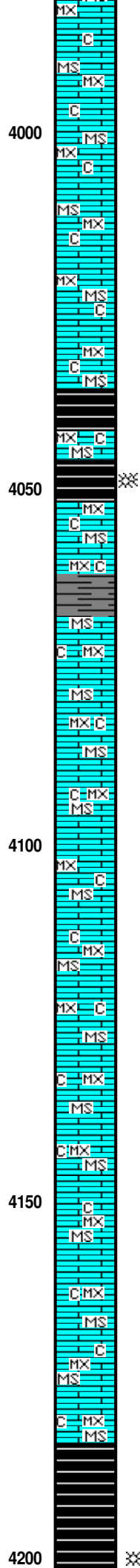
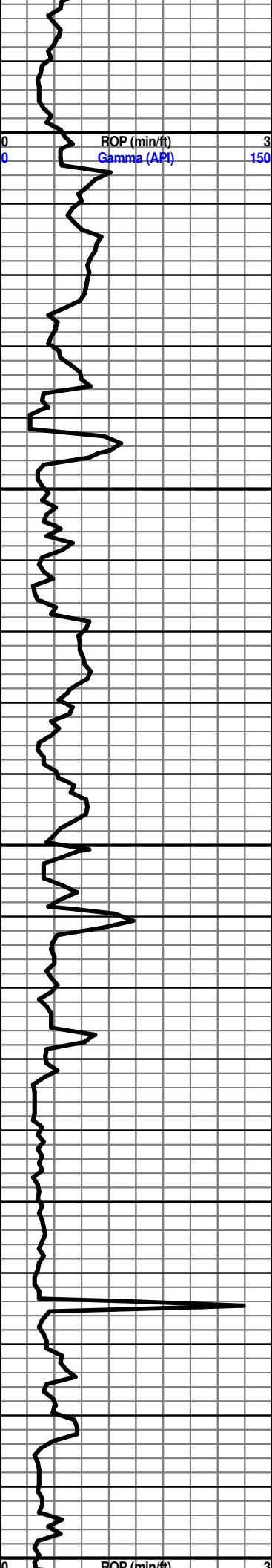
- OIL/GAS SHOW**
- [Symbol] Gas show

- [Symbol] Even
- [Symbol] Spotted
- [Symbol] Ques
- [Symbol] Dead

- INTERVAL**
- [Symbol] Dst
 - [Symbol] Dst_alt

- EVENT**
- [Symbol] Rft
 - [Symbol] Sidewall





MD 4951/TVD=4976.00 & Inc.=14.1; @ MD 4951/TVD 4946.87 & Inc.=17.3; @ MD 4995/TVD 4977.14= Inc.=20.5; @ MD 5026/TVD5005.83 & Inc.=24; @ MD 5058/TVD 5034.66' =Inc.=27.4; @ MD 5090?TVD5062.59 & Inc.=31; MD 5122/TVD 5089.49 & Inc.=34.5; MD 5154/TVD 5115.30 & Inc 38; MD 5186/TVD5139.90 & Inc.41.5; MD 5217/TVD5162.38 & inc=45.5; MD 5249/TVD5183.97 & Inc.=49.6; MD 5284/TVD 5203.74 & Inc.=54.1; MD 5313/TVD5221.49 & Inc.=58.5; MD 5345/TVD5237.29 & Inc.=62.3; MD 5377/TVD5251.42 & Inc.=65.3; MD 5408/TVD 5363.65 & Inv=68.2; MD 5440/TVD5274.62 & Inc.=71.7; MD 5472/TVD 5283.76 & Inc= 75.1; MD 5504/TVD 5291.51 & Inc.=76.9; MD 5336/TVD 5298.24 & Inc.=78.8; MD 5567/TVD 5303.84 & Inc.=80.4; MD 5599/TVD 5308.48 & Inc.=82.9; MD 5631/TVD 5311.69 & Inc.=85.6; MD 5652/TVD 5313.01 & Inc.=87.2; MD : 5695.00/TVD = 5315.7 & Inc= 88.9.

Note: All samples have been lagged to depth by calculated time.

Begin 20' Sample Examination @ 4150'.

Ls Wht-Crm-Gry MicroIn Dns Mudstone Poor IxIn Ø Chalky Sh Char-Gry- Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn Dns Mudstone Poor IxIn Ø Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

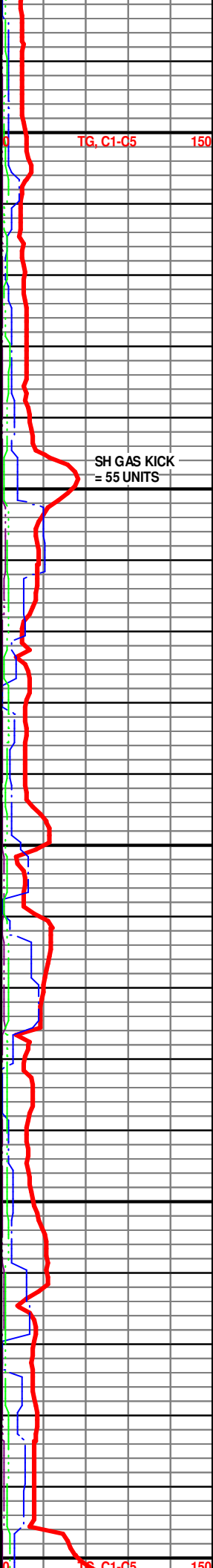
Ls Wht-Crm-Gry MicroIn Dns Mudstone Poor IxIn Ø Chalky Sh Char-Gry- Blk Carb Fissil No Odor No Stn No Flor NS

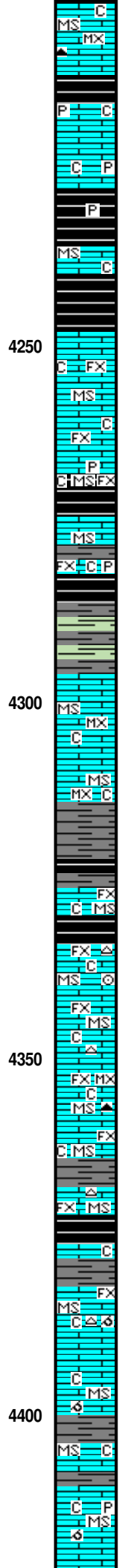
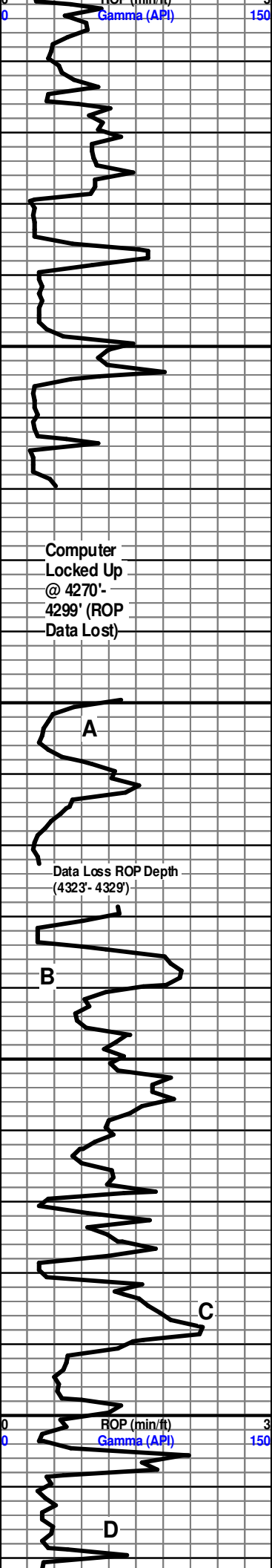
Ls Wht-Crm-Gry MicroIn Dns Mudstone (Mealy) Poor IxIn Ø Chalky Sh Char-Gry- Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn Dns Mudstone Poor IxIn Ø Chalky Sh Char- Gry -Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn Dns Mudstone Poor IxIn Ø Chalky Sh Char- Gry -Blk Carb Fissil No Odor No Stn No Flor NS

Sh Blk Carb-Char-Gry (w/Pyr Incls)-Maroon Soft-Fissil Ls Wht-Crm- Gry FxIn Dns Mudstone Grad Ls V Poor IxIn Ø Chalk Wht "Gummy" No Odor No Stn No Flor NS





Sh Blk Carb-Char-Gry-Maroon Fissil Ls Wht-Crm-Gry FxIn Dns Ø Mudstone
Cht Red Op Vit Chalk No Odor No Stn No Flor NS

HEEBNER 4229' (- 1403)

Sh Blk Carb-Char-Gry (w/Pyr Inklus)-Maroon Soft-Fissil Ls Wht-Crm- Gry FxIn
Dns Mudstone Grad Pin-Pt IxIn Ø Chalk No Odor No Stn No Flor NS

TORONTO 4249' (- 1423)

Ls Wht-Crm-Gry FxIn Dns Mudstone Grad Pin-Pt IxIn Ls Wht-Crm- Gry FxIn
Dns Mudstone Grad Pin-Pt IxIn Ø Chalk No Odor No Stn No Flor NS

Sh Char-Gry (w/Pyr Inklus)-Maroon Soft-Fissil Ls Wht-Crm-Gry FxIn Dns
Mudstone Grad Pin-Pt IxIn Ø Chalk (V Abd) No Odor No Stn No Flor NS

Sh AA No Ls Wht-Crm-Gry MicroIxIn Dns Poor IxIn Ø Mudstone Barren Chalk
Abd Odor No Stn No Flor NS

LANSING 4296' (- 1470)

Sh AA Ls Wht-Crm-Gry MicroIxIn Dns Mudstone Barren Chalk Abd No Odor No
Stn No Flor

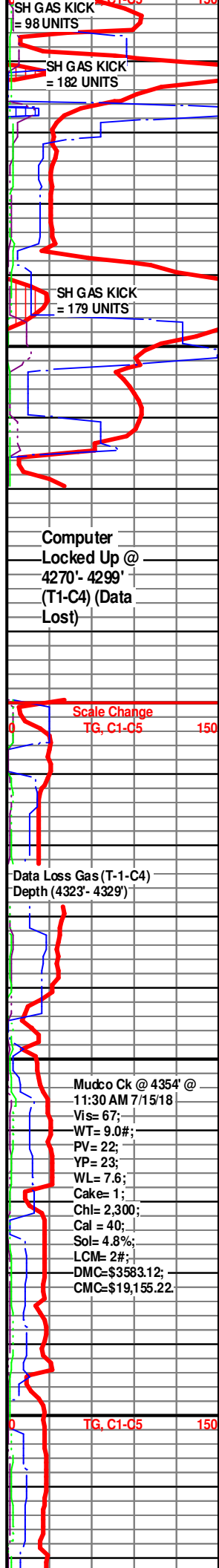
Sh AA Ls Wht-Crm-Tan-Gry MicroIxIn Dns Mudstone Barren Grad FxIn Poor
Pin-Pt IxIn Ø Barren Fos (Crim) Cht Wht Op Shp Vit Chalk AA No Odor No Stn
No Flor NS

Ls Wht-Crm MicroIxIn-FxIn Mudstone Barren Grad Poor Pin-Pt IxIn Ø Cht
Org/Red (? Sluff) Op Shp Vit Chalk Sh Char-Gry Soft-Fissil Soft No Odor No
Stn No Flor NS

Ls Wht-Crm-Gry FxIn Mudstone Barren Grad Poor Pin-Pt IxIn Ø Cht Wht Op
Shp Vit Chalk Sh Char-Gry-Blk Carb-Maroon Fissil Soft No Odor No Stn No
Flor NS

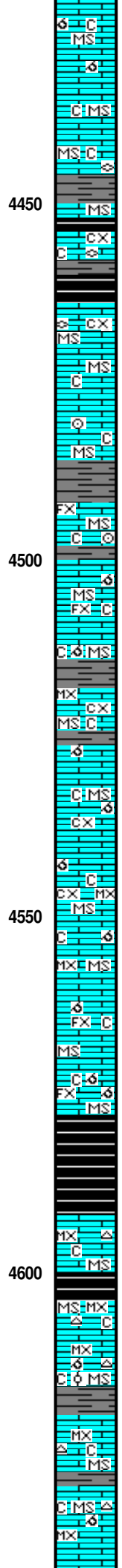
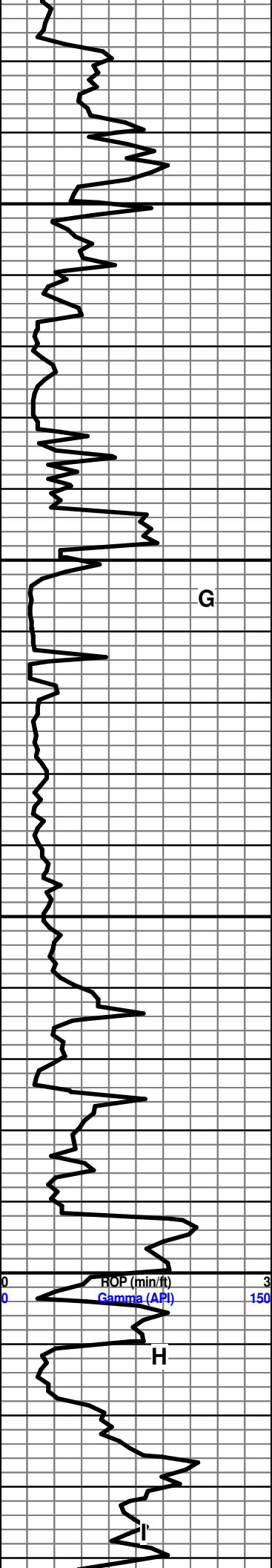
Ls Wht-Crm-Tan FxIn Mudstone Barren Cht Wht-Lt Gry Op Shp Vit Chalk Sh
Char-Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Mudstone Barren Grad Poor Pin-Pt IxIn Ø Grad Poor
OOM Ø Barren Chalk Abd Cht Lt Gry Op Shp Vit Sh Char-Gry Fissil-Soft No
Odor No Stn No Flor NS



Computer
Locked Up @
4270'- 4299'
(T1-C4) (Data
Lost)

Mudco Ck @ 4354' @
11:30 AM 7/15/18
Vis= 67;
WT= 9.0#;
PV= 22;
YP= 23;
WL= 7.6;
Cake= 1;
Chl= 2,300;
Cal = 40;
Sol= 4.8%;
LCM= 2#;
DMC≈\$3583.12;
CMC≈\$19,155.22.



Ls Wht-Crm-Gry FxIn Mudstone Barren Grad Fair Pin-Pt IxIn Ø Grad Poor OOM Por Poor InterOOM Ø Barren Chalk Abd Cht Wht-Tan Translu-Op Shp Vit Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Tan-Gry FxIn Dns Mudstone Poor-Fair IxIn Ø Barren Cht Wht-Lt Gry Op Vit Fos (Fuss) Chalky (Abd) Sh Blk Carb- Char- Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Gry FxIn Dns Mudstone Poor- IxIn Ø Barren Cht Wht-Lt Gry Op Vit Fos (Fuss) Chalky (Abd) Sh Blk Carb- Char- Gry Fissil No Odor No Flor No Stn NS

LANSING "G" 4493' (- 1671)

Sh Blk Carb-Char-Gry Fissil Ls Crm-Tan-Gry FxIn Dns Mudstone Poor IxIn Ø Barren Fos (Crin) Chalky (Tr Only) No Odor No Flor No Stn NS

Chalk Wht (V Abd) Ls Wht-Crm-Tan FxIn Poor OOM Ø Poor InterOOM Ø Barren Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

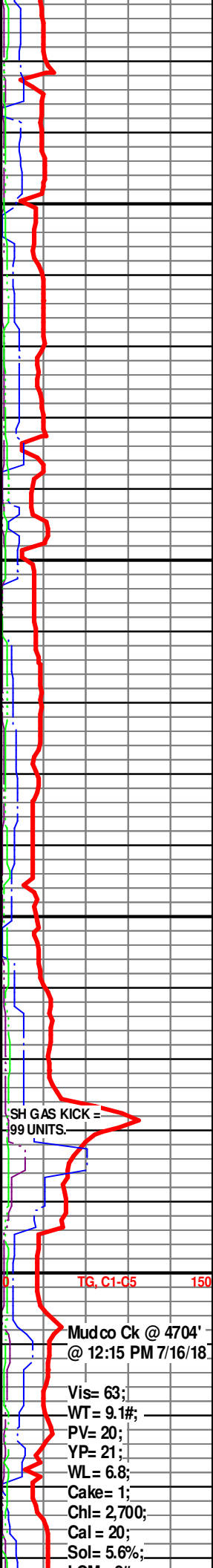
Ls Wht-Crm IxIn OOM Ø Poor-Fair InterOOM Ø Barren Chalk AA (Dec) Sh Char-Grn/Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan MicroxIn Grad Dns Poor IxIn Ø Grad Tan Tr Fair OOM Ø (w/Deep Vug Dissolu) Barren Chalk Fos (Crin) Cht Wht-Lt Gry Translu-Op Shp Vit Sh Char-Gry Fissil-Soft No Odor No Stn No Flor NS

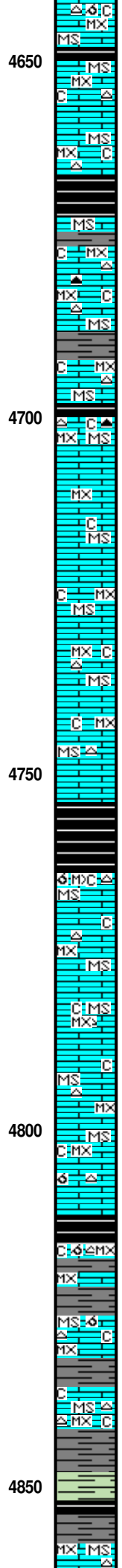
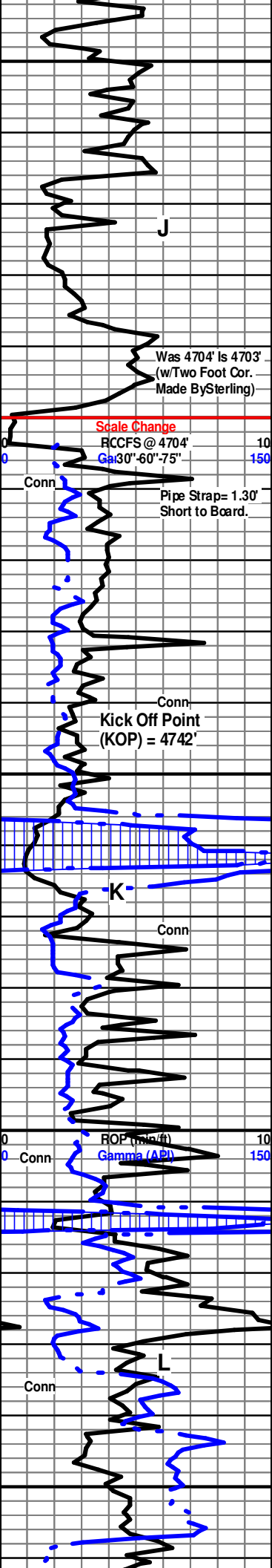
Sh Blk Carb-Char Fissil-Soft Ls Crm-Tan-Gry FxIn Dns Mudstone Poor InterOOM Ø (w/Deep Vug Dissolu) Barren Cht Wht Translu-Op Shp Vit Chalky No Odor No Flor No Stn NS

Ls Wht-Crm MicroxIn Dns Mudstone Grad Fair Granular IxIn Ø Barren Grad Med-Good OOM Ø (w/Deep Vug Dissolu & Tr/Solid OOL in pl) Med Develop Med-Good Leaching Ø Cht Wht-Gry Op Shp Vit Sh Blk Carb Fissil No Odor No Flor No Stn NS

Ls Wht-Crm MicroxIn Dns Mudstone Grad Fair Granular IxIn Ø Barren Grad



Vis= 63;
 WT= 9.1#;
 PV= 20;
 YP= 21;
 WL= 6.8;
 Cake= 1;
 Chl= 2,700;
 Cal = 20;
 Sol= 5.6%;



Med-Good Dissolu & Tr/Solid OOL in pl) Med Develop
Med-Good Leaching Ø Cht Wht-Gry Op Shp Vit Sh Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Microxln Dns Mudstone Cht Wht Op Shp Vit Chalk Sh Blk Carb-Char Fissil No Odor No Flor No Stn NS

30" CFS @ 4704' Ls Crm-Tan-Gry Microxln Grad Poor OOM Ø (w/Poor InterOOM Ø Poor Dissolu Poor Leaching Ø) Cht Lt Gry-Wht-Drk Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Flor No Stn NS

60" CFS @ 4704' Ls Crm-Tan-Gry Microxln Grad (Tr Only) Poor OOM Ø (w/Poor InterOOM Ø Poor Dissolu/Poor Leaching Ø) Cht Lt Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Flor No Stn NS

75" CFS @ 4704' Ls Wht-Crm Microxln Dns Mudstone Cht Wht-Gry-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Start Hole Deviation by Skyline Directional at 4704'.
Begin Kelly Down' Sample Examination @ 4704'.

Ls Wht-Crm Microxln Dns Mudstone Chalky (Abd) Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Microxln Dns Mudstone Chalky (Abd) Cht Wht Op Shp Vit Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

STARK SHALE 4755 MD & TVD 4741' (- 1915)

KC "SWOPE Ø" (K) 4764' MD & TVD 4750' (-1924)

Sh Char-Gry Fissil Ls Crm-Tan-Gry Microxln Grad Poor OOM Ø (w/Poor InterOOM Ø Poor Dissolu Poor Leaching Ø) Cht Lt Gry-Wht-Drk Gry Op Shp Vit Chalky No Odor No Flor No Stn NS

Ls Wht-Crm Microxln Dns Poor Vis Mudstone Chalky (Abd) Cht Wht Op Shp Vit Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

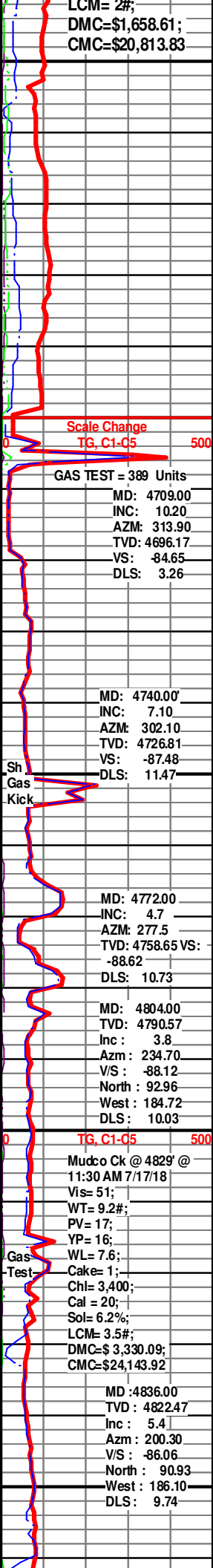
HUSHPUCKNEY SH 4812' MD & TVD 4798'(-1972)

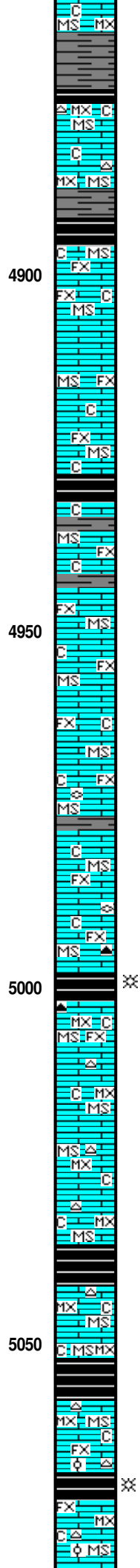
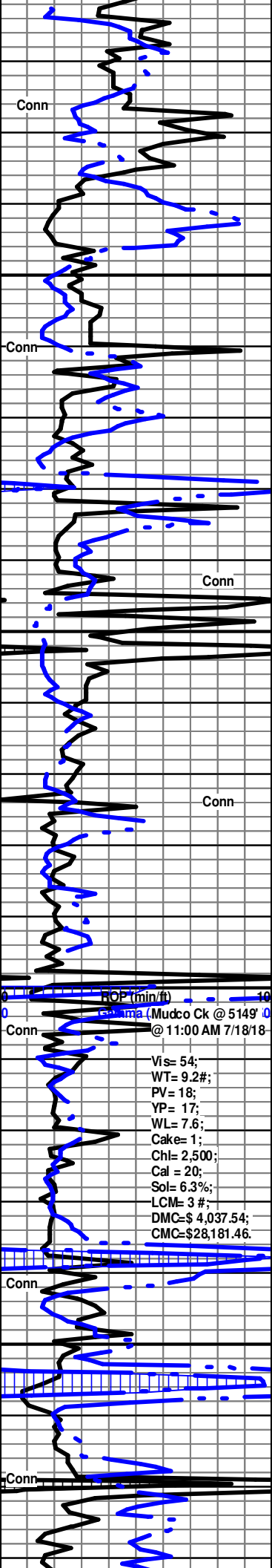
Sh Blk Carb-Char-Gry Fissil-Soft Ls Crm-Tan-Gry Microxln Dns Mudstone Grd Poor lxn OOM Ø (w/Poor InterOOM Ø Poor Dissolu/Poor Leaching Ø) Barren Cht Wht-Lt Gry Translu-Op Shp Vit Chalky No Odor No Flor No Stn NS

KC "HERTHA Ø" MD 4829' & TVD 4815' (-1989)

Ls Crm-Tan-Gry Microxln Dns Mudstone Poor lxn Ø Barren Cht Wht -Lt Gry Translu -Op Shp Vit Chalky Sh Blk Carb-Char-Gry Fissil-Soft No Odor No Flor No Stn NS

Ls Tan-Crm Microxln Mudstone Grad Poor Pin-Pt Ø Barren Cht Smoky Gry





Ls Tan-Crm Microxln Mudstone Gra Poor Pin-Pt Ø Barren Cht Smoky Gry
 Translu-Op Shp Vit Chalk Sh Blk Carb-Char-Gry Fissil No Odor No Flor No Stn NS

MARMATON MD 4893' & TVD 4878' (- 2052)
 Ls Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren Grad Fxln Chalk Sh
 Char-Gry-Maroon-Aqua Soft-Fissil No Odor No Flor No Stn NS

MARMATON "B" MD 4936' & TVD 4920'(- 2095)
 Ls Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren Grad Fxln Chalk Sh
 Blk Carb-Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor lxn Ø Mudstone Dns Barren Chalk Sh Char-Gry
 Soft-Fissil No Odor No Flor No Stn NS

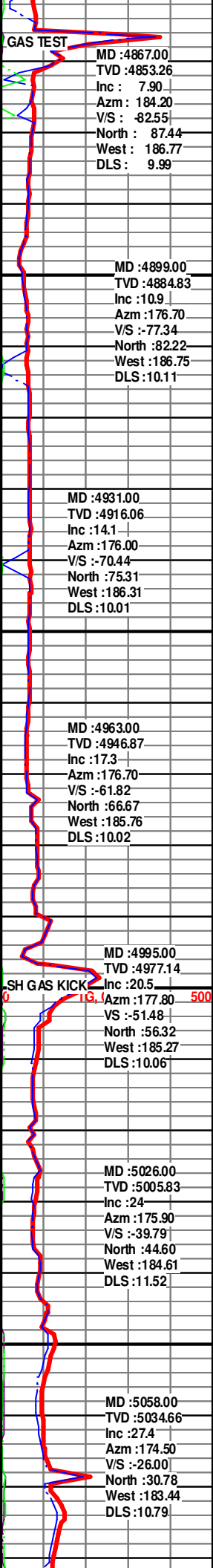
Ls Wht-Crm-Gry Fxln Poor lxn Pin-Pt Ø Mudstone (w/Pyr Inclus) Dns Barren
 Cht Wht Translu-Op Shp Vit Fos (Fuss) Chalk Sh Char-Gry Soft-Fissil No Odor
 No Flor No Stn NS

PAWNEE MD 5002' & TVD 4982' (- 2157)
 Sh Blk Carb-Char- Grn/Gry Fissil Ls Wht-Crm-Gry Microxln-Fxln Mudstone
 Dns Grad Poor lxn Gran Ø Cht Drk Gry Translu-Op Shp Vit Fos (Crim) No
 Odor No Flor No Stn NS

Ls Wht-Crm-Tan Microxln Mudstone Cht -Wht Op Shp Vit Chalky Sh Blk
 Carb-Char No Odor No Flor No Stn NS

FORT SCOTT MD 5042' & TVD 5020' (-2194)
CHEROKEE SHALE MD 5053' & TVD 5030' (- 2204)
 Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm-Tan Microxln Mudstone Grad Fxln
 Poor Pin-Pt lxn Ø Cht Amber-Wht Translu-Op Shp Vit Chalk No Odor No Flor
 No Stn NS

Sh Blk Carb-Char-Gry Fissil Ls Crm-Tan Microxln-Fxln Poor lxn Por Micritic
 Dns Barren Grad Poor OOL Ø (w/Small Poor Devel OOids in pl) Cht
 Amber-Gry Translu-Op Shp Vit Chalk No Odor No Flor No Stn NS



ROP (min/ft)
 Gamma (Mudco Ck @ 5149' @ 11:00 AM 7/18/18)
 Vi= 54;
 WT= 9.2#;
 PV= 18;
 YP= 17;
 WL= 7.6;
 Cake= 1;
 Chl= 2,500;
 Cal = 20;
 Sol= 6.3%;
 LCM= 3 #;
 DMC= \$ 4,037.54;
 CMC= \$ 28,181.46.

GAS TEST
 MD : 4867.00
 TVD : 4853.26
 Inc : 7.90
 Azm : 184.20
 V/S : -82.55
 North : 87.44
 West : 186.77
 DLS : 9.99

MD : 4899.00
 TVD : 4884.83
 Inc : 10.9
 Azm : 176.70
 V/S : -77.34
 North : 82.22
 West : 186.75
 DLS : 10.11

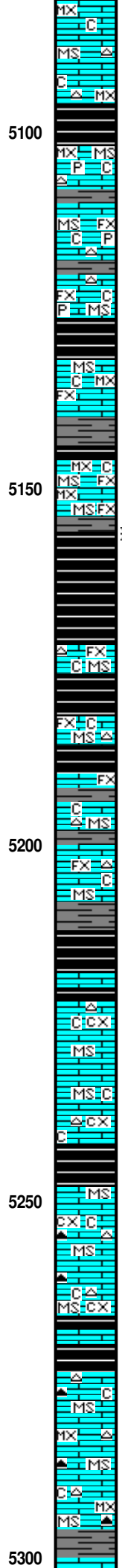
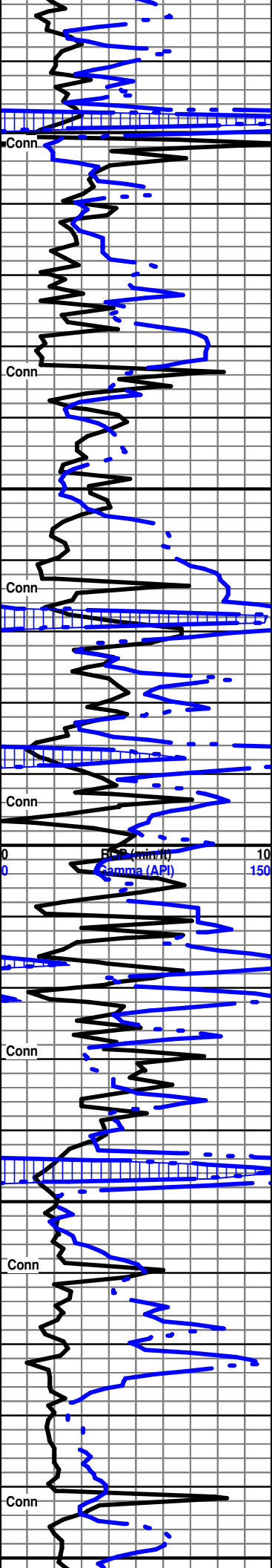
MD : 4931.00
 TVD : 4916.06
 Inc : 14.1
 Azm : 176.00
 V/S : -70.44
 North : 75.31
 West : 186.31
 DLS : 10.01

MD : 4963.00
 TVD : 4946.87
 Inc : 17.3
 Azm : 176.70
 V/S : -61.82
 North : 66.67
 West : 185.76
 DLS : 10.02

SH GAS KICK
 MD : 4995.00
 TVD : 4977.14
 Inc : 20.5
 Azm : 177.80
 V/S : -51.48
 North : 56.32
 West : 185.27
 DLS : 10.06

MD : 5026.00
 TVD : 5005.83
 Inc : 24
 Azm : 175.90
 V/S : -39.79
 North : 44.60
 West : 184.61
 DLS : 11.52

MD : 5058.00
 TVD : 5034.66
 Inc : 27.4
 Azm : 174.50
 V/S : -26.00
 North : 30.78
 West : 183.44
 DLS : 10.79



2nd CHEROKEE SH MD 5096' & TVD 5068'(- 2242)

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm-Tan (w/Pyr Inclus) Microxln
Mudstone Grad Fxln Poor Pin-Pt lxn Ø Cht Amber-Wht-Tan Translu-Op Shp
Vit Chalk No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor lxn Ø Mudstone Dns (w/Pyr Inclus) Barren Chalk Cht
Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

3rd CHEROKEE SH MD 5154' & TVD 5115'(- 2289')

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm-Tan Microxln-Fxln Poor lxn Ø
Mudstone Dns Barren Chalk Wht Soft No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren
Chalk Wht Soft Cht-Wht-Amber Op Shp Vit No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren Chalk Cht Wht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren Chalk Cht Wht-Amber
Op Shp Vit Sh Blk Carb-Gry-Lt Brn Fissil No Odor No Flor No Stn NS

Ls Lt Gry-Crm-Wht-Tan Fxln Poor lxn Ø Mudstone Dns Barren Chalk Cht
Wht-Amber-Drk Gry Translu-Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No
Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Lt Gry-Crm-Wht-Tan Microxln Poor lxn Ø Mudstone
Dns Barren Chalk Cht Wht-Amber-Drk Gry Translu-Op Shp Vit No Odor No
Flor No Stn NS

MD:5090.00
TVD :5062.59
Inc :31
Azm :173.40
V/S :10.53
North :15.26
West :181.79
DLS :11.37

MD :5122.00
TVD :5089.49
Inc :34.5
Azm :172.30
V/S :6.58
North :1.91
West :179.63
DLS :11.09

MD :5154.00
TVD :5115.30
Inc :38
Azm :170.00
V/S :25.19
North :20.60
West :176.70
DLS :11.73

MD :5186.00
TVD :5139.90
Inc :41.5
Azm :168.50
V/S :45.18
North :40.70
West :172.87
DLS :11.34

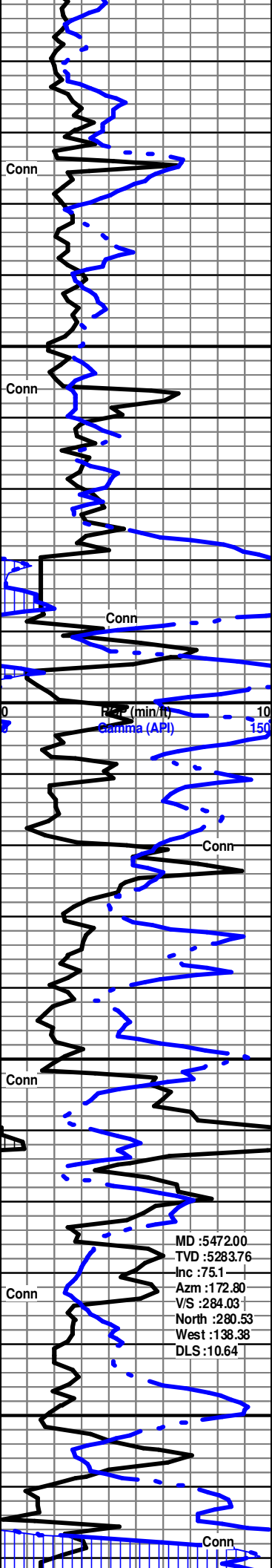
MD :5217.00
TVD :5162.38
Inc :45.5
Azm :168.10
V/S :65.95
North :61.59
West :168.55
DLS :12.93

MD :5249.00
TVD :5183.97
Inc :49.6
Azm :168.80
V/S :88.95
North :84.72
West :163.82
DLS :12.91

MD :5281.00
TVD :5203.74
Inc :54.1
Azm :171.00
V/S :113.60
North :109.49
West :159.43
DLS :15.0

SH GAS
KICK

TG. DLS :11.34 500



Sh Blk Carb-Char-Gry (w/Pyr Inklus) Fissil Ls Drk Gry MicroIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Lt Gry (w/Pyr Inklus)-Drk Gry (w/Sm OOL Inklus) Translu-Op Shp Vit I No Odor No Flor No Stn NS

5350

Ls Crm-Wht-Tan FxIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Blk (w/Sm OOL Inklus)-Wht Translu-Op Shp Vit Sh Blk Carb-Char-Gry Fissil No Odor No Flor No Stn NS

ATOKA MD 5376' & TVD 5253' (-2427)

Sh Blk Carb-Char-Gry (w/Pyr Inklus) Soft-Fissil Ls Crm-Wht-MicroIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Gry-Wht (w/ OOL Inklus AA) Op Shp Vit Tr Qtz Ss Crm-Wht (w/Pyr Inklus) Hvy CaCO3 Inklus) Poor IGran Ø No Flor No Stn NS

5400

Ls Crm-Wht-Tan MicroIn-FxIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Blk-Wht-Smoky Gry (w/Fos (Rd Sphere ? OOL) Translu-Op Shp Vit Sh Char-Gry-Blk Carb Soft-Fissil No Odor No Flor No Stn NS

5450

Sh Char-Gry-Blk Carb Soft-Fissil Ls Crm-Wht-Tan MicroIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Gry-Wht Op Shp Vit No Odor No Flor No Stn NS

5500

Sh Char-Gry-Blk Carb Soft-Fissil Ls Crm-Wht-Tan MicroIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Gry-Wht Op Shp Vit No Odor No Flor No Stn NS

MORROW SH MD 5510' & TVD 5293' (- 2467)

Sh Blk Carb-Char-Gry Soft-Fissil Ls Crm-Wht-Tan MicroIn Poor IxIn Ø Mudstone Dns Barren Chalk Cht Drk Gry-Wht Op Shp Vit No Odor No Flor No Stn NS

MD :5313.00
TVD :5221.49
Inc :58.5
Azim :172.70
V/S :139.84
North :135.83
West :155.66
DLS:14.44

MD :5345.00
TVD :5237.29
Inc :62.3
Azim :173.30
V/S :167.35
North :163.45
West :152.28
DLS:11.99

MD :5377.00
TVD :5251.42
Inc :65.3
Azim :173.20
V/S :195.76
North :191.96
West :148.90
DLS:9.38

MD :5408.00
TVD :5263.65
Inc :68.2
Azim :173.70
V/S :223.96
North :220.25
West :145.65
DLS:9.47

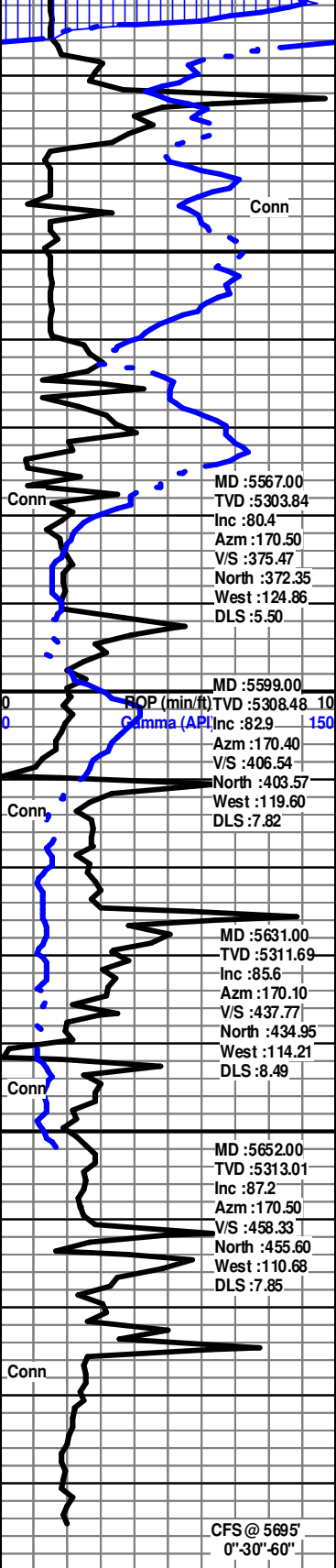
MD :5440.00
TVD :5274.62
Inc :71.7
Azim :173.00
V/S :253.71
North :250.10
West :142.17
DLS:11.13

Mudco Ck @ 5476'
@ 10:30 AM
7/19/18
Vis= 56;
WT= 9.2#;
PV= 21;
YP= 20;
WL= 5.6;
Cake= 1;
Chl= 2,050;
Cal= 20;
Sol= 6.3%;
LCM= 3 #;
DMC=\$5,829.09;
CMC=\$34,101.55

ChangeOut Tooke Daq
Extractor Filter @ 5547'
MD. BKGD GAS SET @
15 UNITS.

MD :5504.00
TVD :5291.51
Inc :76.9
Azim :172.10
V/S :314.69
North :311.31
West :134.30

Mudstone Dns Barren Chalk Cht Drk Gry w/ht Op Shp Vit Wht No Odor No Flor No Stn NS



5550
5600
5650
5700

MD :5567.00
TVD :5303.84
Inc :80.4
Azm :170.50
V/S :375.47
North :372.35
West :124.86
DLS :5.50

MD :5599.00
TVD :5308.48
Inc :82.9
Azm :170.40
V/S :406.54
North :403.57
West :119.60
DLS :7.82

MD :5631.00
TVD :5311.69
Inc :85.6
Azm :170.10
V/S :437.77
North :434.95
West :114.21
DLS :8.49

MD :5652.00
TVD :5313.01
Inc :87.2
Azm :170.50
V/S :458.33
North :455.60
West :110.68
DLS :7.85

CFS @ 5695'
0°-30°-60°

MD : 5695.00
TVD : 5315.7 Set 7"
Production Casing



MISS. CHESTER MD 5556' & TVD 5302' (- 2476)

Sh Blk Carb-Char-Gry Fissil Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable w/SSG (In Wtr Under Heat) (w/Drk Stn & SSFO) Tr Ls Wht Fair OOM Ø (w/Med Vug Dissolu) Cht Wht-Gry Translu-Op Shp Vit Chalky Fos (Abd Well Rd Free Indiv OOids Char-Drk Gry) Fos (Fuss) Faint Odor Fair Cut (w/Acid Lt Blue-Grn Flor w/SSO After Cut) Scat Lt Brn Stn SSO (After Cut) SSG & SSO

Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable (w/Tr Drk Stn) Fair Cut (w/Acid Lt Blue-Grn Flor w/SSO After Cut) Tr Ls Wht Fair OOM Ø (w/Med Vug Dissolu) Cht Wht-Gry Translu-Op Shp Vit Fos (Abd Well Rd Free Indiv OOids Char-Drk Gry) Chalky Sh Blk Carb-Char-Gry Fissil Faint Odor Scat Lt Brn Stn SSO (After Cut)

Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable (w/Tr /Drk Stn) Fair Cut (w/Acid Lt Blue-Grn Flor w/SSO After Cut) SSO (After Cut) Cht Wht-Gry Translu-Op Shp Vit Chalky Fos (Abd Well Rd Free Indiv OOids Char-Drk Gry) Pyr Sh Blk Carb-Char-Gry Fissil Faint Odor Sli Scat Lt Brn Stn SSO (After Cut)

0" CFS @ 5695' Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable (w/Tr /Drk Stn) Fair (w/Acid-Lt Blue-Lt Grn Flor w/SSO) Cht Wht-Gry Translu-Op Shp Vit Chalky Fos (Abd Well Rd Indiv Free OOids Char-Drk Gry) Pyr Sh Blk Carb-Char-Gry Fissil Faint Odor Scat Lt Brn Stn SSO (After Cut)

30" CFS @ 5695' Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable (w/Tr /Drk Stn) Fair Cut (w/Acid-Lt Blue-Lt Grn Flor w/SSO) Cht Wht-Gry Translu-Op Shp Vit Chalky Fos (Abd Well Rd Free Indiv OOids Char-Drk Gry) Pyr Sh Blk Carb-Char-Gry Fissil Faint Odor Sli Scat Lt Brn Stn SSO (After Cut)

60" CFS @ 5695' Ls Crm-Tan Fxln Mudstone Poor lxn Pin-Pt Ø Sli Friable (w/Tr /Drk Stn) Fair Cut (w/Acid-Lt Blue-Lt Grn Flor w/SSO) Cht Wht-Gry Translu-Op Shp Vit Chalky Fos (Abd Well Rd Free Indiv OOids Char-Drk Gry) Pyr Sh Blk Carb-Char-Gry Fissil Faint Odor Sli Scat Lt Brn Stn SSO (After Cut)

@ 5695' Preparing to TOH & Condition Mud Prior to running 7" Production Casing into Horizontal Lateral and cementing the Production Casing.

Horizontal Log Continues from this vertical portion to MD 9825' TVD 5324'.

MD :5536.00
TVD :5298.24
Inc :78.8
Azm :171.10
V/S :345.51
North :342.25
West :129.73
DLS :6.68

TG, C 105 500

Mudco Ck @ 5695' @
12:00 PM 7/20/18
Vis= 80;
WT= 9.1#;
PV= 30;
YP= 31;
WL= 4.4;
Cake= 1;
Chl= 2,600;
Cal = 20;
Sol= 5.63%;
LCM= 3#;
Oil%V= 3.0
DMC=\$5,351.16;
CMC=\$39,361.71

Mudco Ck @ 5695' @
12:45 PM 7/21/18

5750

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DMC=\$ 359.34;		
CMC=\$39,721.05		