

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to [kcc-well-logs@kcc.ks.gov](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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# QUALITY WELL SERVICE, INC.

6885

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-21-13	5	26S	11W	PRATT	Ks		
Lease	CLARK FRALEY		Well No.	2-5		Location	
				PRESTON KS		3 N 1 E 1/2 N W into	
Contractor	Pickwell Drig. Reg 10			Owner			
Type Job	SURFACE			To Quality Well Service, Inc.			
Hole Size	12 1/4		T.D.	350'			
Csg.	8 7/8		Depth	349'			
Tbg. Size			Depth	Charge To			
Tool			Depth	DEUTSCH OIL CO.			
Cement Left in Csg.	25		Shoe Joint	Street			
Meas Line			Displace	20.4 Bbls		City	
EQUIPMENT				State			
Pumptrk	8 No.		T5		The above was done to satisfaction and supervision of owner agent or contractor.		
Bulktrk	10 No.		MKS		Cement Amount Ordered		
Bulktrk					325 sc 60/40 2% CEL		
Pickup			TODD		3% CL 1/2" CE		
JOB SERVICES & REMARKS				Common			
Rat Hole					195		
Mouse Hole					Poz. Mix		
Centralizers					130		
Baskets					Gel.		
D/V or Port Collar					5		
Ran 7 hrs 8 7/8 23' csg set @ 344				Calcium			
csg on bottom				10			
Hook up to csg break circ.				Hulls			
Pump 10 Bbls H <sub>2</sub> O				Salt			
Mk & Pump 325 sc 60/40				Flowseal			
2% cel 3% cl 1/2" ce				163			
SHUT DOWN RELEASE 8 7/8 WOODEN PLUG				Kol-Seal			
DISP 20.4 Bbls total				Mud CLR 48			
Close valve on csg 200' 3:55 AM				CFL-117 or CD110 CAF 38			
Circ off thru DB				Sand			
Circ out to pt				Handling			
Thank you				340			
PLEASE CALL AGAIN				Mileage			
TODD TS MK				20			
Signature				8 7/8 FLOAT EQUIPMENT			
				Guide Shoe			
				WOODEN PLUG			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				SERVICE SUPERVISOR			
				LMM 20			
				Pumptrk Charge			
				SURFACE			
				Mileage			
				20			
				Tax			
				Discount			
				Total Charge			

insur  
 urcup  
 mfero. Bupura  
 refer to auvoipe  
 1-800-338-1411  
 and bulsipe 832528



Energy services, L.P.

PROP CASING

**TREATMENT REPORT**

Customer: <u>Deutsche Oil</u>	Lease No.:	Date: <u>7-27-18</u>
Lease: <u>CLARK FRALEY</u>	Well #: <u>#2-5</u>	
Field Order #:	Station: <u>Pratt</u>	Casing: <u>5 1/2</u>
		Depth: <u>10420</u>
Type Job: <u>2 47 5% Long string</u>	Formation:	Legal Description: <u>S 26 S 11 W</u>
		County: <u>Pratt</u>
		State: <u>KS</u>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	<u>175 SW A1-7</u>	RATE	PRESS	ISIP
<u>5 1/2</u>	<u>4 1/2</u>			Pre Pad	<u>10% salt 5/16" D. 100</u>	Max	<u>390</u>	<u>5 Min.</u>
Depth	Depth	From	To	Pad	<u>35 60/4</u>	Min		<u>10 Min.</u>
<u>10420</u>	<u>10420</u>			Frac		Avg		<u>15 Min.</u>
Volume	Volume	From	To			HHP Used		Annulus Pressure
<u>17.7</u>	<u>17.7</u>			Flush	<u>96.8</u>	Gas Volume		Total Load
Max Press	Max Press	From	To					
<u>390</u>	<u>390</u>							
Well Connection	Annulus Vol.	From	To					
<u>10420</u>								
Plug Depth	Packer Depth	From	To					
<u>10420</u>								

Customer Representative: DAV FAMILY Station Manager: WESTMAN Treater: MATTHEW

Service Units	<u>83353</u>	<u>7496</u>	<u>19843</u>	<u>19903</u>	<u>19860</u>				
Driver Names	<u>MATTHEW</u>	<u>PATRICK</u>		<u>ADRIAN</u>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<u>10:50</u>					<u>ON LOCATION / CASING HOISTING</u>
<u>2:49</u>					<u>RUN 5 1/2 17# casing / shot 100</u>
					<u>BASED ON TOP OF S</u>
					<u>TRIP TO 10420 275 BBL</u>
<u>4:25</u>					<u>CSG ON BOTTOM</u>
<u>4:41</u>					<u>HOW TO CSO / BREAK CROW W. CSO</u>
<u>6:49</u>	<u>150</u>		<u>10</u>	<u>5</u>	<u>PUMP 12 bbl. MUD WASH</u>
<u>5:51</u>	<u>150</u>			<u>5</u>	<u>PUMP 3 bbl. water</u>
<u>5:53</u>	<u>200</u>			<u>5.5</u>	<u>MIX 175 SW A1-7 CASING</u>
<u>6:05</u>			<u>4</u>	<u>3</u>	<u>WASH PUMP / CASING / PUMP PLUG</u>
<u>6:09</u>	<u>100</u>			<u>6</u>	<u>START DISPERSE</u>
<u>6:20</u>	<u>200</u>		<u>60</u>	<u>6</u>	<u>END PUMP</u>
<u>6:23</u>	<u>420</u>			<u>3</u>	<u>STOP PUMP</u>
<u>6:25</u>	<u>1500</u>		<u>96.8</u>		<u>PLUG DOWN / (1 x 10420 + 4-11)</u>
					<u>END THIS JOB</u>
<u>6:40</u>			<u>7</u>		<u>PLUG RAT HOLE</u>
					<u>JOB COMPLETE</u>
					<u>THANK YOU</u>
					<u>M. MATTHEW</u>
					<u>DAV FAMILY</u>









Geologic Report  
**Aaron L. Young**

Drilling Time and Sample Log

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

Well Name: Clark Fraley #2-5  
API: 15-151-22476  
Location: Section 5 - T26S - R11W  
License Number: 3180  
Spud Date: 07 / 20 / 2018  
Surface Coordinates: 2310' FSL and 990' FEL  
Approx. NW - NE - SE  
Region: Pratt Co., KS  
Drilling Completed: 07 / 26 / 2018  
Bottom Hole Coordinates:  
Ground Elevation (ft): 1835' K.B. Elevation (ft): 1842'  
Logged Interval (ft): 3300' To: 4200' Total Depth (ft): 4200'  
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	353'	346'	4.25
2	7-7/8	JZ HA23	14-14-14	4200'	3847'	99.00

Surveys: 353'-.75, 856'-1, 1361'-1, 1868'-.25, 2371'-.75, 2876'-.75, 4200'-.75

**GENERAL DRILLING AND PUMP INFORMATION:**

Drilling with 36,000 -38,000 lbs. on bit and approx 70-80 RPM.



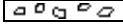

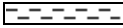







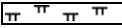

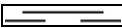

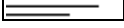





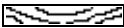







Running 9 stands of collars; 533.15'

Pumping approx 850 psi at standpipe; 50 strokes/min























































































## Daily Status

07/20/18- Spud @ 3:45pm, Drilled 12-1/4" surface hole to 353', ran 7 jts of new 8 5/8" 23# surface casing set @ 305', cemented w/ 325 sx. 60/40 pozmix, 2% gel & 3% CC. Plug down at 3:15am  
 07/21/18 - TD 353' WOC  
 07/22/18 - Drilling, @ 1235'  
 07/23/18 - Drilling, @ 2195'  
 07/24/18 - Drilling, @ 2930'  
 07/25/18 - Drilling, @ 3605'  
 07/26/18 - Drilling, @ 4012' TD 4200', Logged  
 07/27/18 - Ran 105 jts of used 5-1/2", 17#, LT&C, range 3 production casing. Set @ 4199'. Cemented w/175 sx AA-2, 2% defoamer, 10% salt, 5% C-17, 5#/sx gilsonite; 500 gl mud flush; mud flush spacer 3 bbls FW. Cement 35 sx 60/40 poz to plug rat and mouse holes. Plug down at 6:25pm

### ROCK TYPES









 Anhy  Bent  Brec  Cht  Clyst  Coal  Congl  Dol	 Gyp  Igne  Lmst  Meta  Mrlst  Salt  Shale  Shcol	 Shgy  Slstst  Ss  Till  Carb sh  Dol  Dtd  Gry sh	 Sandylms  Shale  Slststn  Shlyslts  Sltysh  Lms
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### ACCESSORIES



<b>MINERAL</b>  Anhy  Arggrn  Arg  Bent  Bit  Brecfrag  Calc  Carb  Chtdk  Chtlt  Dol  Feldspar  Ferrpel  Ferr  Glau  Gyp  Hvymin  Kaol  Marl  Minxl  Nodule  Phos  Pyr	 Salt  Sandy  Silt  Sil  Sulphur  Tuff  Chlorite  Dol  Sand  Slty  <b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram	 Fossil  Gastro  Oolite  Ostra  Pelec  Pellet  Pisolite  Plant  Strom  Fuss  Oomold  <b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst  Slststrg  Ssstrg  Carbsh	 Clystn  Dol  Grysh  Gryslt  Lms  Sandylms  Sh  Slststn  <b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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### 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

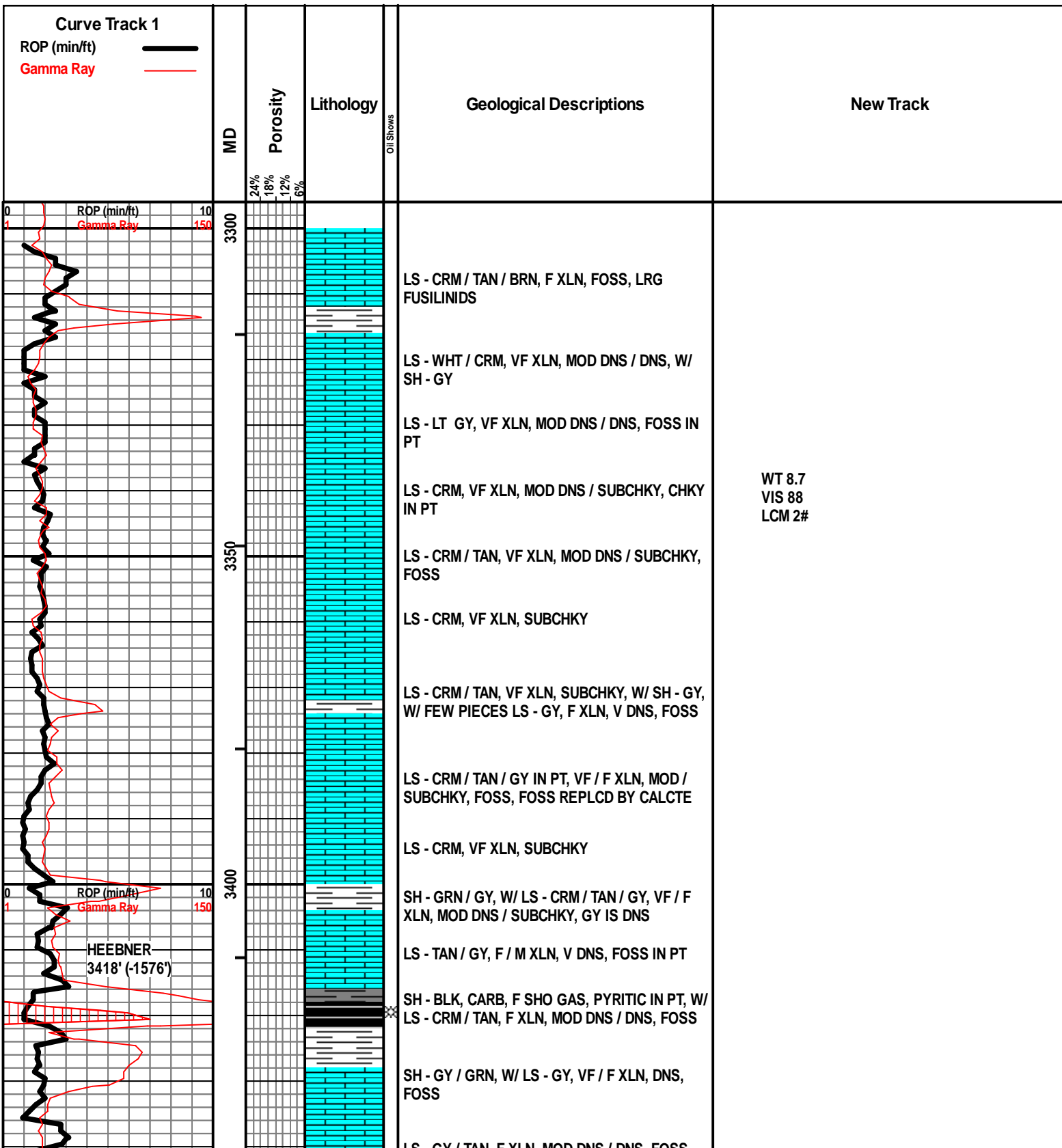
#### INTERVALS

-  Core
-  Dst

 Dst

#### EVENTS

-  Rft
-  Sidewall
-  Conn



DOUGLAS  
3446' (-1604')

3450

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

SH - LT GY / LT GRN

SH - GRN / GY

SH - LT GRN / LT GY

3500

WT 8.8  
VIS 50  
LCM 1#

SH - GY / GRN

SH - GY, SNDY IN PT

SH - GY

WT 8.9  
VIS 51  
LCM 1.5#

3550

SH - LT GRN / LT GY, SLTY

SH - PRED GRN, GY IN PT

WT 8.9  
VIS 51  
LCM 1.5#

BROWN LIME  
3591' (-1749')

3600

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

SH - LT GY / GY

SH - GY / BRN / RD

ROP (min/ft) 10  
Gamma Ray 150

LANSING  
3622' (-1780')

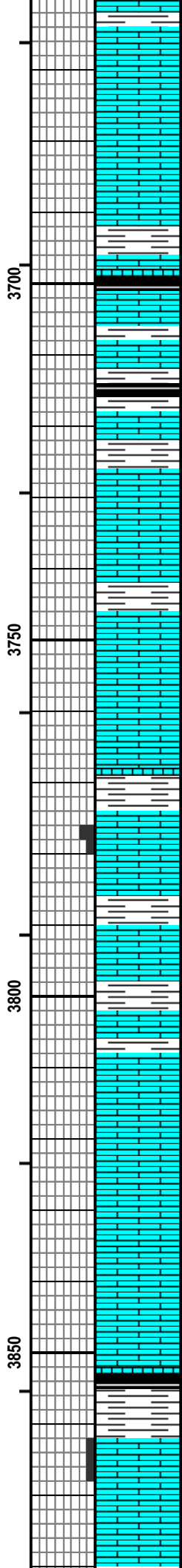
3650

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

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

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

LS - BRN / GY, F / M XLN, MOD DNS / DNS, FOSS IN PT, W/ SH - GY



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

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

LS - TAN / CRM, PRED DNS, SUBCHKY IN PT, FOSS

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

SH - BLK, SLI CARB, W/ SH - RD / GRN / GY, W/ LS - CRM / TAN, VF XLN, MOD DNS / SUBCHKY

SH - BLK, CARB, W/ SH - GY / GRN / RD, W/ LS - CRM / TAN, VF XLN, SUBCHKY / MOD DNS

SH - RD-ORNG / RD / MAR, GRN / GY, W/ LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, FOSS IN PT

LS - CRM / TAN, F XLN, DNS / V DNS, ABUND FOSS

SH - BLK, BRN STRIATIONS IN BED PLNS, W/ LS - CRM, SUBCHKY, FOSS

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

LS - TAN / BRN, F XLN, P INTXLN POR IN PT, SSFO WHEN BROKN, V TARRY OIL, V SLI ODOR, NO FLUOR, ABUND FOSS

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

LS - CRM / TAN, F XLN, MOD DNS / DNS, FOSS, W/ SH - GRN / RD

SH - GY, W/ LS - CRM, VF XLN, SUBCHKY / MOD DNS

SH - RD / GRN / GY, W/ LS - CRM, VF / F XLN, MOD DNS

LS - CRM, VF XLN, SUBCHKY

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

LS - CRM / GY, VF / F XLN, MOD DNS / SUBCHKY

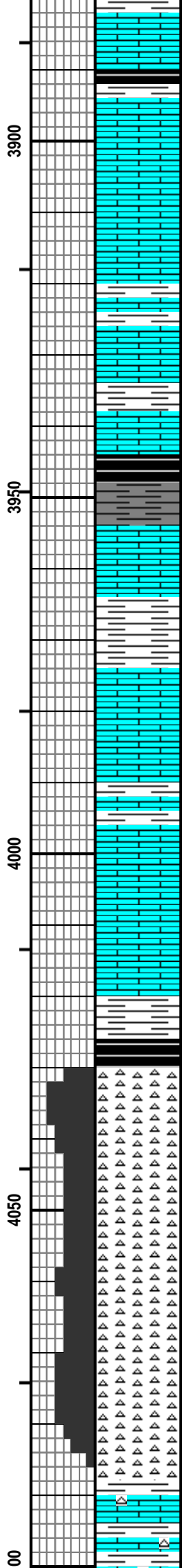
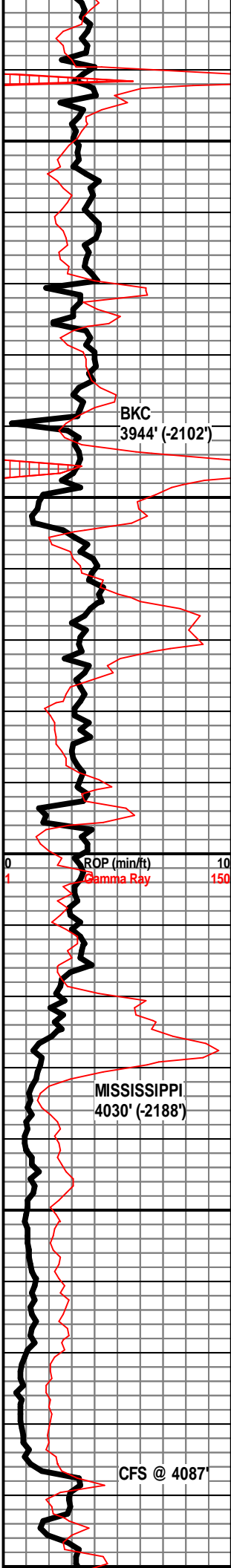
SH - BLK, SLI CARB, W/ SH - GY

LS - CRM / TAN, F XLN, MOD DNS / DNS / SUBCHKY IN PT, P INTXLN POR IN PT, NS, NO ODOR, ABUND OF FOSS FRAG, LRG FUSILINIDS, DULL YEL-GRN FLUOR IN PT

LS - CRM, VF / F XLN, MOD DNS / SUBCHKY, FOSS

WT 9.1  
VIS 54  
LCM 2#

WT 9.2  
VIS 62  
LCM 2#



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

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

LS - CRM / TAN / GY, F XLN, MOD DNS / DNS, ABUND FOSS, ABUND FUSILINIDS, NO VIS POR, NS

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

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

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

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

SH - BLK, CARB

SH - RD / GRN / GY, W/ LS - CRM / TAN, SUBCHKY / MOD DNS, FEW PIEC CHKY

SH - GY / RD / GRN, W/ LS - TAN / BRN, F XLN, MOD DNS / DNS, FOSS

SH - GRNISH-GY, W/ LS - CRM / TAN, VF / F XLN, MOD DNS

LS - CRM / TAN / GY IN PT, VF XLN, SUBCHKY / CHKY

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

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

SH - BLK, SLI CARB

CHT - WHT / CRM, OPAQ, G WEATH POR, FSFO, V LT BRN OIL, G SHO GAS, BRI YEL-GRN FLUOR

CHT - CRM / WHT / GY, OPAQ & TRANSLUCNT, PRED WEATH, FRSH IN PT, F / G WEATH POR, SSFO, V G SHO GAS, F ODOR, BRI YEL-GRN FLUOR

CHT - CRM / WHT / GY, OPAQ & TRANSLUCNT, PRED WEATH, FRSH IN PT, F / G WEATH POR, GSFO, G SHO GAS, G ODOR, BRI YEL-GRN FLUOR

CHT - CRM / WHT, OPAQ & TRANSLUCNT, PRED WEATH, G WEATH POR, GSFO, INCREASING OIL SHO W/ DEPTH, G SHO OF GAS, G ODOR, BRI YEL-GRN FLUOR

SH - GY

LS - CRM, VF / F XLN, MOD DNS / DNS, FOSS IN PT W/ CHT - GY FRSH TRANSLUCNT

WT 9.2  
VIS 59  
LCM 2#

WT 9.3  
VIS 59  
LCM 1#

WT 9.1  
VIS 54  
LCM 2#

WT 9.5  
VIS 52  
LCM 2#

DECREASING GAS SHOW WITH DEPTH

INCREASING OIL SHOW WITH DEPTH

WT 9.3  
VIS 48  
LCM 2#

FI, W/ CRT - GY, FRSH, TRANSLUCENT

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

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

SH - GY / GRN / RD

SH - RD / RD-ORNG / GRN / GY

SH - MAR / RD / GRN / GY

SH - LT GY / GY, V SOFT IN PT

SH - GY

SH - RD / GRN / GY

RTD 4200'

WT 9.3  
VIS 52  
LCM 2#

DRILL TIME SLID  
DOWN 2' TO  
MATCH LOGS

KINDERHOOK  
4142' (-2300')

4150

4200

ROP (min/ft) 10  
Gamma Ray 150