

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. 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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Form	ACO1 - Well Completion
Operator	Bird Dog Oil, LLC
Well Name	PIONEER-CARTER 2-14
Doc ID	1427497

All Electric Logs Run

DIL
DUCP
MEL
BHCS

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 072

Date	6-28-18	Sec.	14	Twp.	19s	Range	10w	County		State		On Location		Finish	9:15 PM
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Lease Pioneer-CARTER Location CLAPIN 10E 9S 2E 14N

Well No. 2-14 Owner To Quality Oilwell Cementing, Inc.

Contractor SOUTHWIND DELG. Rig # 3 'JAY' You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface Charge To BIRD DOG OIL LLC

Hole Size 12 1/4 T.D. 304 Street

Csg. 8 5/8 Depth 304 City State

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 15' Shoe Joint Cement Amount Ordered 250 SA 6940 48CC

Meas Line Displace 18.40/BBL 2290L #10 SEAL

EQUIPMENT				Common
Pumptrk	<u>12</u>	No.	Cementer	Poz. Mix
			Helper	
Bulktrk	<u>3</u>	No.	Driver	Gel.
			Driver	
Bulktrk		No.	Driver	Calcium
			Driver	

JOB SERVICES & REMARKS

Remarks:	Salt
Rat Hole	Flowseal
Mouse Hole	Kol-Seal
Centralizers	Mud CLR 48
Baskets	CFL-117 or CD110 CAF 38
D/V or Port Collar	Sand
	Handling
	Mileage

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge

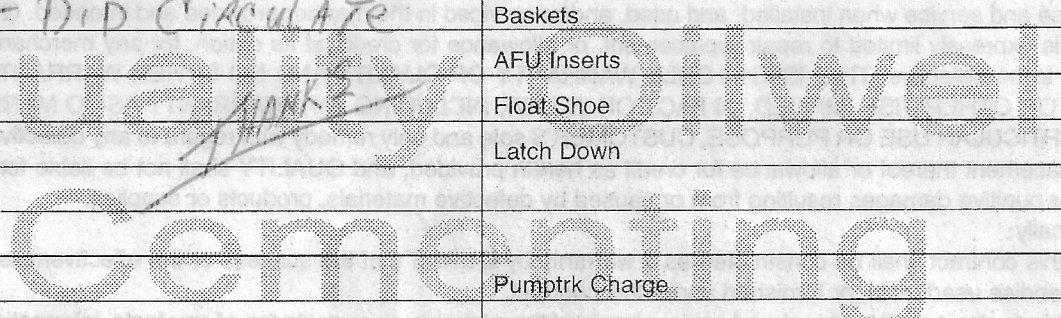
Mileage

Tax

Discount

Total Charge

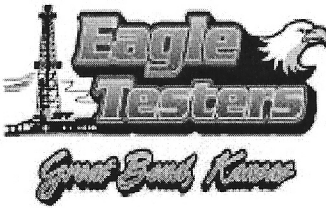
X Signature Jay King



Set 8 5/8 csg @ 304
Received Circulation
Mixed 250 SA 6940 48CC W/ #10 SEAL
Displaced 18.40 BBL H₂O
& Shut in @ 350 #
Cement DID CIRCULATE

Arbuckle	3294	-1545	3290	-1541	3266	-1515	-30	-26
Total Depth	3360	-1611	3356	-1607	3373	-1622	11	15

Drill Stem Test #1

	DRILL STEM TEST REPORT	
	Bird Dog Oil LLC	14-19s-10w Rice
	1801 Broadway Suite 200 Denver, Colorado 80202	Pioneer-Carter #2-14
A TTN: Keth Peavis	Job Ticket: 01037	DST#:1
	Test Start: 2018.07.01 @ 10:00:00	

GENERAL INFORMATION:

Formation: Douglas Sand
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:11:00
Time Test Ended: 00:00:00

Interval: 2831.00 ft (KB) To 2856.00 ft (KB) (TVD)
Total Depth: ft (KB) (TVD)
Hole Diameter: 7.88 inches Job Condition: Fair

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene Budig
Unit No: 1

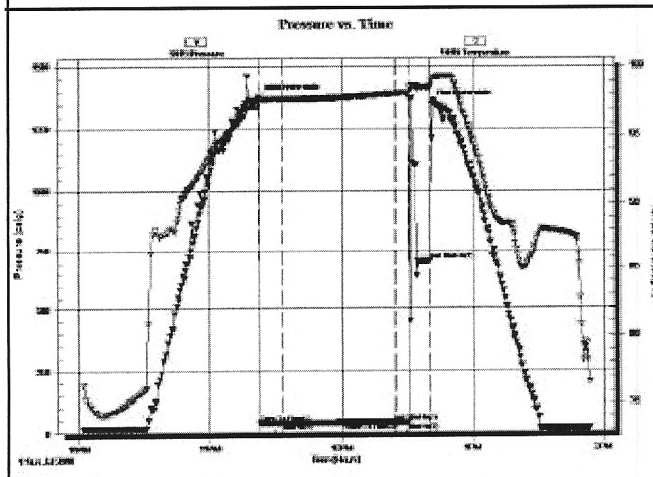
Reference Elevations: 1749.00 ft (KB)
1741.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9119 Inside

Press@RunDepth: 706.35 psig @ 2851.00 ft (KB)
Start Date: 2018.07.01 End Date: 2018.07.01
Start Time: 10:00:00 End Time: 13:53:30

Capacity: 5000.00 psig
Last Calb.: 2018.07.01
Time On Btm: 2018.07.01 @ 11:22:30
Time Off Btm: 2018.07.01 @ 12:41:00

TEST COMMENT: 1st Opening 10 Minutes very weak blow for 2 minutes and died
1st Shut-in 45 Minutes no blow back
2nd Opening 10 Minutes no blow flushed tool no help
2nd shut-in 10 Minutes no blow back




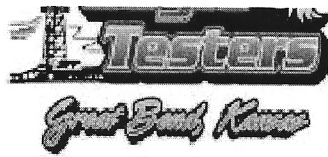
PRESSURE SUMMARY			
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1379.19	97.67	Initial Hydro-static
1	38.58	97.54	Open To Flow (1)
11	39.25	97.68	Shut-In(1)
62	42.80	98.07	End Shut-In(1)
63	38.90	98.08	Open To Flow (2)
68	38.54	98.15	Shut-In(2)
78	706.35	98.57	End Shut-In(2)
79	1352.86	98.88	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
1.00	Drilling Mud	0.01

Gas Rates		
Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Drill Stem Test #2

	DRILL STEM TEST REPORT	



Bird Dog Oil LLC
 1801 Broadway Suite 200
 Denver, Colorado 80202
 ATTN: Keith Peavis

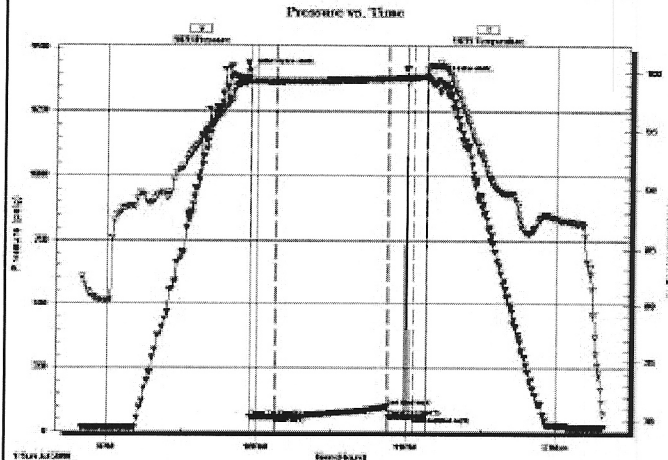
14-19-10w Rice
 Pioneer-Carter #2-14
 Job Ticket: 01088 DST#: 2
 Test Start: 2018.07.01 @ 08:47:00

GENERAL INFORMATION:

Formation: Douglas Sand
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:58:00
 Time Test Ended: 12:20:00
 Interval: 2830.00 ft (KB) To 2886.00 ft (KB) (TVD)
 Total Depth: 2886.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches - to b Condition: Fair
 Test Type: Conventional Bottom Hole / Initial
 Tester: Gene Budig
 Unit No: 1
 Reference Elevations: 1749.00 ft (KB)
 1741.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9139 Outside
 Press@RunDepth: 60.40 psig @ 2878.46 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.07.01 End Date: 2018.07.02 Last Callb.: 1899.12.30
 Start Time: 20:47:00 End Time: 00:18:59 Time On Btm: 2018.07.01 @ 21:57:00
 Time Off Btm: 2018.07.01 @ 23:08:30

TEST COMMENT: 1st Opening 10 Minutes very weak surface blow for 5 minutes and died
 2nd opening 45 minutes no blow back
 2nd Opening 10 Minutes no blow flushed tool no help
 2nd Shut-in 5 Minutes



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1405.38	99.51	Initial Hydro-static
1	57.93	99.21	Open To Flow (1)
11	58.48	99.19	Shut-in(1)
56	97.58	99.45	End Shut-in(1)
56	58.60	99.45	Open To Flow(2)
66	59.33	99.57	Shut-in(2)
71	60.40	99.63	End Shut-in(2)
72	1320.80	100.45	Final Hydro-static

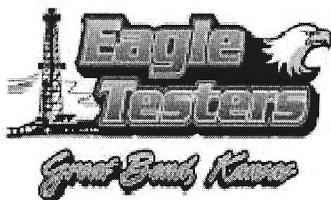
Recovery

Length (ft)	Description	Volume (bbl)
2.00	Drilling Mud	0.03

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Drill Stem Test #3



DRILL STEM TEST REPORT

Bird Dog Oil LLC
 1801 Broadway Suite 200
 Denver, Colorado 80202
 ATTN: Keith Peavis

14-19-10w Rice
 Pioneer-Carter #2-14
 Job Ticket: 01088 DST#: 3
 Test Start: 2018.07.02 @ 11:36:00

GENERAL INFORMATION:

Formation: Lansing "D&E"
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole / Initial

Time Tool Opened: 12:47:00
 Time Test Ended: 17:43:00

Tester: Gene Budig
 Unit No: 1

Interval: 2983.00 ft (KB) To 2911.00 ft (KB) (TVD)
 Total Depth: ft (KB) (TVD)
 Hole Diameter: 7.88 inches - Job Condition: Fair

Reference Elevations: 1749.00 ft (KB)
 1741.00 ft (CF)
 KB to GR/CF: 8.00 ft

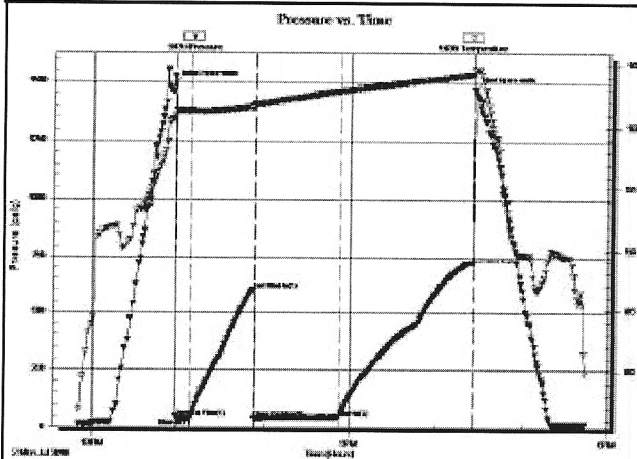
Serial #: 9139

Outside

Press@RunDepth: 714.04 psig @ 3006.00 ft (KB)
 Start Date: 2018.07.02 End Date: 2018.07.02
 Start Time: 11:47:00 End Time: 17:44:29

Capacity: 5000.00 psig
 Last Calb.: 2018.07.02
 Time On Btm: 2018.07.02 @ 12:57:30
 Time Off Btm: 2018.07.02 @ 16:26:00

TEST COMMENT: 1st Opening 10 Minutes fair blow built to 11 inches into the water
 1st Shut-in 45 Minutes fair blow back
 2nd Opening 60 Minutes Strong blow decreased to fair blow
 2nd Shut-in 90 Minutes fair blow back



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1492.33	100.91	Initial Hydro-static
1	43.27	101.30	Open To Flow (1)
11	38.97	101.25	Shut-In(1)
55	599.81	101.54	End Shut-In(1)
56	38.75	101.78	Open To Flow(2)
115	42.26	102.79	Shut-In(2)
208	714.04	104.10	End Shut-In(2)
209	1468.56	104.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	oL CUT mUD 20% Oil 80% Mud	0.35

Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (M/d)

Drill Stem Test #4



DRILL STEM TEST REPORT

Bird Dog Oil LLC
 1801 Broadway Suite 200
 Denver, Colorado 80202
 A TTN: Keith Peavis

14-19s-10w Rice
 Pioneer-Carrier #2-14
 Job Ticket: 01090 DST#:4
 Test Start: 2018.07.03 @ 17:45:00

GENERAL INFORMATION:

Formation: Arbuckle
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:07:00
 Time Test Ended: 01:00:00

Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1

Interval: 3219.00 ft (KB) To 3299.00 ft (KB) (TVD)
 Total Depth: 3299.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches - Job Condition: Fair

Reference Elevations: 1749.00 ft (KB)
 1741.00 ft (CF)
 KB to GR/CF: 8.00 ft

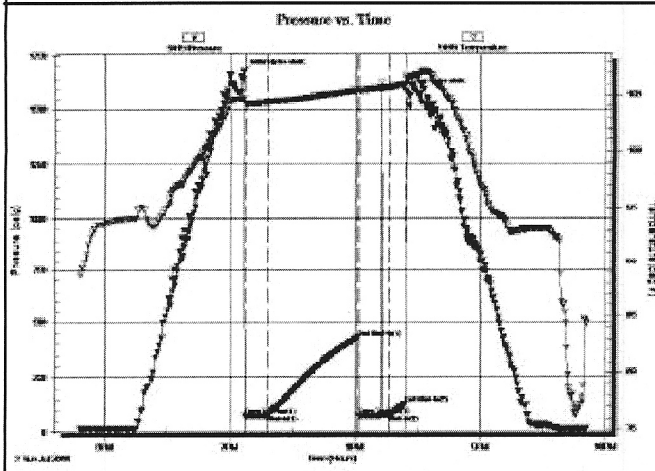
Serial #: 9119

Inside

Press@RunDepth: 126.56 psig @ 3293.35 ft (KB)
 Start Date: 2018.07.03 End Date: 2018.07.03
 Start Time: 17:45:00 End Time: 21:50:30

Capacity: 5000.00 psig
 Last Calb.: 2018.07.03
 Time On Btm: 2018.07.03 @ 19:06:30

TEST COMMENT: 1st Opening 10 Minutes very weak surface blow through out
 1st Shut-in 45 Minutes
 2nd Opening 16 Minutes no blow flushed tool no help
 2ND SHUT-IN 5 Minutes



Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.64	104.72	Initial Hydro-static
1	73.22	104.21	Open To Flow (1)
12	78.12	104.34	Shut-In(1)
55	433.07	105.45	End Shut-In(1)
55	75.02	105.38	Open To Flow(2)
69	79.72	105.73	Shut-In(2)
77	126.56	105.95	End Shut-In(2)
78	1586.78	106.66	Final Hydro-static

Length (ft)	Description	Volume (bbl)
25.00	Drilling Mud	0.35

Choke (inches)	Pressure (psig)	Gas Rate (M cfd)

ROCK TYPES

Dolprim
 Lmst fw>
 shale, gry
 shale, red
 Siltst
 Lmst fw<7
 shale, grn
 Carbon Sh
 Ss

ACCESSORIES

MINERAL
 ▲ Chert, dark
 △ Chert White
FOSSIL
 ∩ Bioclastic or Fragmental
 F Fossils < 20%
 ◊ Oolite
 ♁ Pellets
 ⚙ Oomoldic
STRINGER
 ■ Limestone
 ..* Sandstone
 x.x.x.x Siltstone
TEXTURE
 C Chalky
 L Lithogr

OTHER SYMBOLS

Oil Show
 ● Good Show
 ○ Fair Show
 ⊙ Poor Show
 ⊖ Spotted or Trace
 ○ Questionable Strn
 D Dead Oil Strn
 ■ Fluorescence
 * Gas
DST
 ■ DST Int
 ■ DST alt
 ■ Core
 || tail pipe

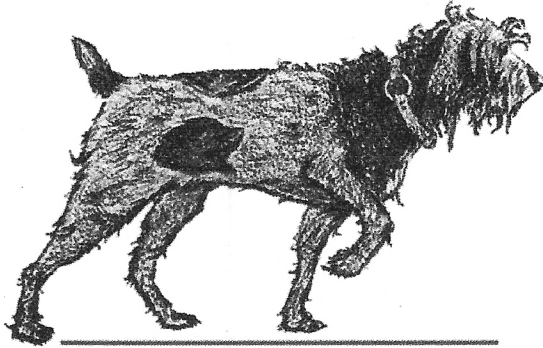
Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)

Curve Track #1				TG, C1 - C5				
ROP (min/ft)	—	Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions	Total Gas (units)	—
Gamma (API)	—						C1 (units)	—
Cal (in)	—						C2 (units)	—
	—						C3 (units)	—
	—						C4 (units)	—
	—						C5 (units)	—

OPERATOR

Company: Bird Dog Oil, LLC
Address: 1801 Broadway
Suite #200
Denver, CO 80202
Contact Geologist: Scott Stewart
Contact Phone Nbr: 303-534-1686
Well Name: Pioneer-Carter #2-14
Location: Sec. 14 - T19S -R10W
API: 15-159-22853-0000
Pool:
State: KANSAS

Field: Chase-Silica
Country: USA



BIRD DOG OIL, LLC

Scale 1:240 Imperial

Well Name: Pioneer-Carter #2-14
Surface Location: Sec. 14 - T19S -R10W
Bottom Location:
API: 15-159-22853-0000
License Number: 34655
Spud Date: 6/28/2018
Region: Rice
Drilling Completed: 7/4/2018
Surface Coordinates: 490' FSL & 540 FEL
Bottom Hole Coordinates:
Ground Elevation: 1741.00ft
K.B. Elevation: 1749.00ft
Logged Interval: 2600.00ft
Total Depth: 3360.00ft
Formation: Arbuckle
Drilling Fluid Type: Chemical/Fresh Water Gel

Time: 2:45 PM

Time: 5:10 AM

To: 3360.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -98.38976
Latitude: 38.39252
N/S Co-ord: 490' FSL
E/W Co-ord: 540 FEL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
Address: 3420 22nd Street
Great Bend, KS 67530

Phone Nbr: 620-617-4091
Logged By: KLG #136

Name: Keith Reavis

CONTRACTOR

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -98.38976
 Latitude: 38.39252
 N/S Co-ord: 490' FSL
 E/W Co-ord: 540 FEL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530

Phone Nbr: 620-617-4091
 Logged By: KLG #136

Name: Keith Reavis

CONTRACTOR

Contractor: Southwind Drilling
 Rig #: Rig 3
 Rig Type: mud rotary
 Spud Date: 6/28/2018
 TD Date: 7/4/2018
 Rig Release:

Time: 2:45 PM
 Time: 5:10 AM
 Time:

ELEVATIONS

K.B. Elevation: 1749.00ft
 K.B. to Ground: 8.00ft

Ground Elevation: 1741.00ft

NOTES

Due to negative drill stem tests and electrical log evaluation, it was determined that the Pioneer-Carter #2-14 should be plugged and abandoned as a dry test.

A Bloodhound gas detection system operated by Bluestem Labs was employed during the drilling of this well. ROP and gas data were imported into this log, as well as gamma ray and caliper curves from the electrical log suite.

IMPORTANT NOTE: The electrical log measurements were consistently 4-6 ft high to rotary measurement. At request of the operator, drill time and gas data were slid uphole 5 ft to match the log. The lithology column, sample descriptions and drill stem test intervals were also slid uphole 5 ft. However, all cfs depths that were notated in the depth column were left as recorded in the field.

Respectfully submitted,
 Keith Reavis

daily drilling report

DATE	7:00 AM DEPTH	REMARKS
06/30/2018		Geologist Keith Reavis on location @ 2205 hrs, 2717 ft, drilling ahead
07/01/2018	2856	drilling ahead, Queen Hill, Plattsmouth, Heebner, Toronto, Douglas, short trip, TOH w/bit, conduct and complete DST #1, successful test, TIH w/bit, drill lower sand, show warrants test, conduct and complete DST #2 successful test
07/02/2018	2980	TIH w/bit, resume drilling, Douglas, Brown Lime, Lansing, gas kicks in D & E zones warrant test, TOH for DST, conduct and complete DST #3, successful test, TIH w/bit, resume drilling, F and G zones
07/03/2018	3204	drilling ahead, Muncie, H, I, J, Stark, BKC, Arbuckle, show and kick in Arbuckle warrants test, TOH w/bit, in w/tools, conduct and complete DST #4, successful test, TIH w/bit

07/02/2018 2980 TIH w/bit, resume drilling, Douglas, Brown Lime, Lansing, gas kicks in D & E zones warrant test, TOH for DST, conduct and complete DST #3, successful test, TIH w/bit, resume drilling, F and G zones

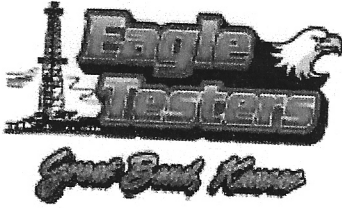
07/03/2018 3204 drilling ahead, Muncie, H, I, J, Stark, BKC, Arbuckle, show and kick in Arbuckle warrants test, TOH w/bit, in w/tools, conduct and complete DST #4, successful test, TIH w/bit

07/04/2018 3360 resume drilling Arbuckle, rathole ahead TD @ 3360', 0510 hrs 7/4/18 conduct and complete electrical logging operations, released @ 1200 hrs

well comparison sheet

DRILLING WELL					COMPARISON WELL			
Pioneer-Carter #2-14 490' FSL & 540' FEL Sec 14-T19S-R10W					Bird Dog Pioneer Stroud 2-23 360' FNL & 670' FEL Sec 23-T19S-R10W			
1749 KB					1751 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Queen Hill	2711	-962	2706	-957	2712	-961	-1	4
Heebner	2799	-1050	2795	-1046	2802	-1051	1	5
Toronto	2823	-1074	2818	-1069	2824	-1073	-1	4
Douglas	2833	-1084	2828	-1079	2834	-1083	-1	4
Brown Lime	2921	-1172	2917	-1168	2924	-1173	1	5
Lansing	2953	-1204	2948	-1199	2955	-1204	0	5
Muncie Creek	3084	-1335	3078	-1329	3083	-1332	-3	3
Stark Shale	3160	-1411	3158	-1409	3158	-1407	-4	-2
Base KC	3219	-1470	3215	-1466	3215	-1464	-6	-2
Arbuckle	3294	-1545	3290	-1541	3266	-1515	-30	-26
Total Depth	3360	-1611	3356	-1607	3373	-1622	11	15

Drill Stem Test #1

	DRILL STEM TEST REPORT	
	Bird Dog Oil LLC 1801 Broadway Suite 200 Denver, Colorado 80202 ATTN: Keith Feavis	14-19s-10w Rice Pioneer-Carter #2-14 Job Ticket: 01037 DST#:1 Test Start: 2018.07.01 @ 10:00:00

GENERAL INFORMATION:

Formation:	Douglas Sand	Test Type:	Conventional Bottom Hole (hitia)
Deviated:	No Whipstock: ft (KB)	Tester:	Gene Budig
Time Tool Opened:	11:11:00	Unit No:	1
Time Test Ended:	00:00:00	Reference Elevations:	1749.00 ft (KB) 1741.00 ft (CF)
Interval:	2831.00 ft (KB) To 2856.00 ft (KB) (TVD)	KB to GR/CF:	8.00 ft
Total Depth:	ft (KB) (TVD)		
Hole Diameter:	7.88 inches - to be Condition: Fair		

Serial #: 9119	Inside	Capacity:	5000.00 psig
Press@RunDepth:	706.35 psig @ 2851.00 ft (KB)	Last Calb.:	2018.07.01
Start Date:	2018.07.01	End Date:	2018.07.01
Start Time:	10:00:00	End Time:	13:53:30
		Time On Btm:	2018.07.01 @ 11:22:30
		Time Off Btm:	2018.07.01 @ 12:41:00

TEST COMMENT:

1st Opening 10 Minutes very weak blow for 2 minutes and died
 1st Shut-h 45 Minutes no blow back
 2nd Opening 10 Minutes no blow flushed tool no help
 2nd shut-h 10 Minutes no blow ack

Serial #: 9119

Inside

Press@RunDepth: 706.35 psig @ 2851.00 ft (KB)

Start Date: 2018.07.01

End Date:

2018.07.01

Capacity: 5000.00 psig

Last Calb.: 2018.07.01

Start Time: 10:00:00

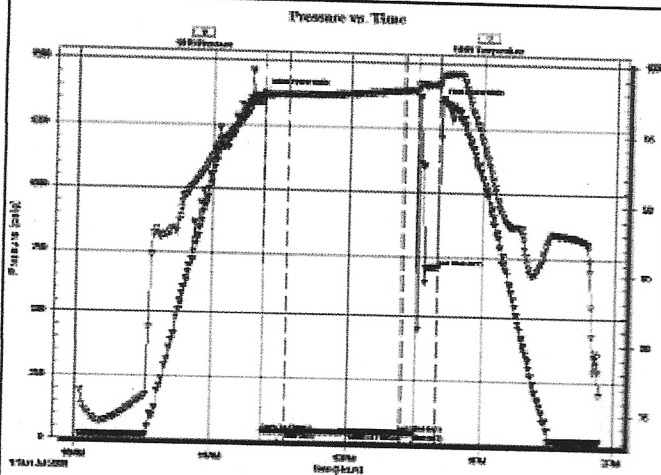
End Time:

13:53:30

Time On Btm: 2018.07.01 @ 11:22:30

Time Off Btm: 2018.07.01 @ 12:41:00

TEST COMMENT: 1st Opening 10 Minutes very weak blow for 2 minutes and died
1st Shut-in 45 Minutes no blow back
2nd Opening 10 Minutes no blow flushed tool no help
2nd shut-in 10 Minutes no blow ack



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1379.19	97.67	Initial Hydro-static
1	38.58	97.54	Open To Flow (1)
11	39.25	97.68	Shut-In(1)
62	42.80	98.07	End Shut-In(1)
63	38.90	98.08	Open To Flow(2)
68	38.54	98.15	Shut-In(2)
78	706.35	98.57	End Shut-In(2)
79	1352.86	98.88	Final Hydro-static

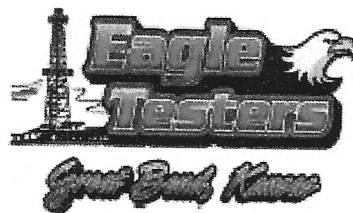
Recovery

Length (ft)	Description	Volume (bbl)
1.00	Drilling Mud	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (M/d)

Drill Stem Test #2



DRILL STEM TEST REPORT

Bird Dog Oil LLC

1801 Broadway Suite 200
Denver, Colorado 80202

ATTN: Keth Feavis

14-19s-10w Rice

Pioneer-Carter #2-14

Job Ticket: 01088 DST#: 2

Test Start: 2018.07.01 @ 08:47:00

GENERAL INFORMATION:

Formation: Douglas Sand
Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:58:00

Time Test Ended: 12:20:00

Interval: 2830.00 ft (KB) To 2886.00 ft (KB) (TVD)

Total Depth: 2886.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches - Job Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Reference Elevations: 1749.00 ft (KB)

1741.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 9139

Outside

Press@RunDepth: 60.40 psig @ 2878.46 ft (KB)

Start Date: 2018.07.01

End Date:

2018.07.02

Capacity: 5000.00 psig

Last Calb.: 1899.12.30

Start Time: 20:47:00

End Time:

00:18:59

Time On Btm: 2018.07.01 @ 21:57:00

Time Off Btm: 2018.07.01 @ 23:08:30

TEST COMMENT:

Interval: 2830.00 ft (KB) To 2886.00 ft (KB) (TVD)
 Total Depth: 2886.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches -to-b Condition: Fair

Reference Elevations: 1749.00 ft (KB)
 1741.00 ft (CF)
 KB to GR/CF: 8.00 ft

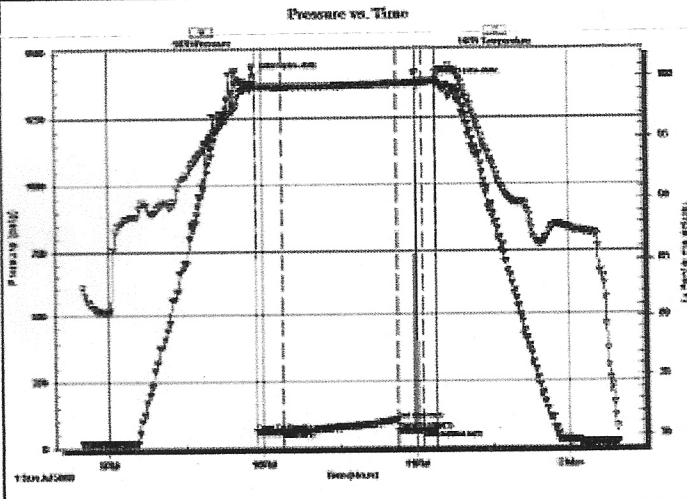
Serial #: 9139

Outside

Press@RunDepth: 60.40 psig @ 2878.46 ft (KB)
 Start Date: 2018.07.01 End Date: 2018.07.02
 Start Time: 20:47:00 End Time: 00:18:59

Capacity: 5000.00 psig
 Last Calb.: 1899.12.30
 Time On Btm: 2018.07.01 @ 21:57:00
 Time Off Btm: 2018.07.01 @ 23:08:30

TEST COMMENT: 1st Opening 10Minutes very weak surface blow for 6 minutes and died
 2nd opening 45 minutes no blow back
 2nd Opening 10Minutes no blow flushed tool no help
 2nd Shut-In 5 Minutes



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1405.38	99.51	Initial Hydro-static
1	57.93	99.21	Open To Flow (1)
11	58.48	99.19	Shut-in(1)
56	97.58	99.45	End Shut-in(1)
56	58.60	99.45	Open To Flow(2)
66	59.33	99.57	Shut-in(2)
71	60.40	99.63	End Shut-in(2)
72	1980.80	100.45	Final Hydro-static

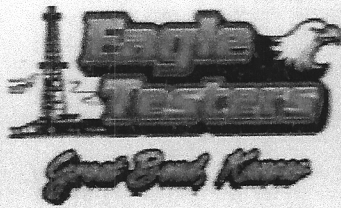
Recovery

Length (ft)	Description	Volume (bbl)
2.00	Drilling Mud	0.03

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/D)

Drill Stem Test #3



DRILL STEM TEST REPORT

Bird Dog Oil LLC
 1801 Broadway Suite 200
 Denver, Colorado 80202
 ATTN: Keith Peavis

14-19a-10a Rice
 Pioneer-Carter #2-14
 Job Ticket: 01089 DST# 3
 Test Start: 2018.07.02 @ 11:36:00

GENERAL INFORMATION:

Formation: Lansing "D&E"
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:47:00
 Time Test Ended: 17:43:00

Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1

Interval: 2983.00 ft (KB) To 2911.00 ft (KB) (TVD)
 Total Depth: ft (KB) (TVD)
 Hole Diameter: 7.88 inches -to-b Condition: Fair

Reference Elevations: 1749.00 ft (KB)
 1741.00 ft (CF)
 KB to GR/CF: 8.00 ft

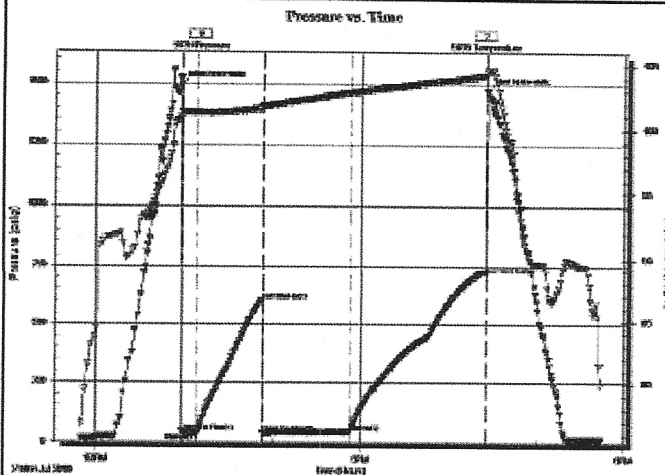
Serial #: 9139

Outside

Press@RunDepth: 714.04 psig @ 3006.00 ft (KB)
 Start Date: 2018.07.02 End Date: 2018.07.02
 Start Time: 11:47:00 End Time: 17:44:29

Capacity: 5000.00 psig
 Last Calb.: 2018.07.02
 Time On Btm: 2018.07.02 @ 12:57:30
 Time Off Btm: 2018.07.02 @ 18:28:00

TEST COMMENT: 1st Opening 10 Minutes fair blow built to 11 inches into the water
 1st Shut-in 45 Minutes fair blow back
 2nd Opening 60 Minutes Strong blow decreased to fair blow
 2nd Shut-in 80 Minutes fair blow back



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1492.33	100.91	Initial Hydro-static
1	43.27	101.30	Open To Flow (1)
11	38.97	101.25	Shut-in(1)
55	598.81	101.54	End Shut-in(1)
56	38.75	101.78	Open To Flow(2)
115	4.226	102.79	Shut-in(2)
208	714.04	104.10	End Shut-in(2)
209	1468.56	104.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	oL CUT MUD 20% Oil 80% Mud	0.35

Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (M cfd)

Drill Stem Test #4



DRILL STEM TEST REPORT

Bled Dog Oil LLC

14-19s-10w Rice

1801 Broadway Suite 200
 Denver, Colorado 80202

Pioneer-Center #2-14

Job Ticket: 01090 DSTM-4

ATTN: Keith Feavis

Test Start: 2018.07.03 @ 17:45:00

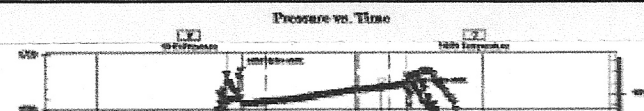
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:07:00
 Time Test Ended: 01:00:00
 Interval: 3219.00 ft (KB) To 3299.00 ft (KB) (TYD)
 Total Depth: 3299.00 ft (KB) (TYD)
 Hole Diameter: 7.88 inches -to-b Condition: Fair

Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Reference Elevations: 1748.00 ft (KB)
 1741.00 ft (CF)
 KB to GRCP: 8.00 ft

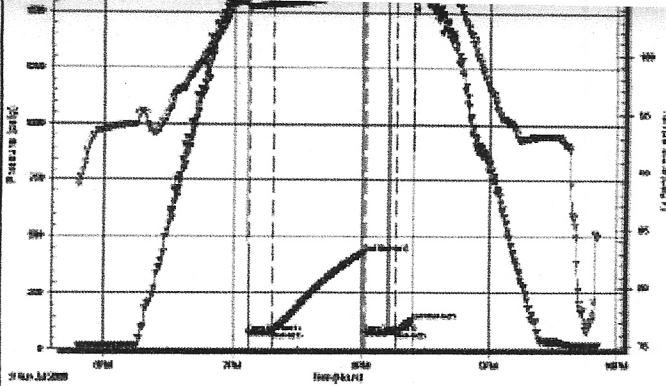
Serial #: 9119 inside
 Press@RunDepth: 126.56 psig @ 3293.35 ft (KB) Capacity: 3000.00 psig
 Start Date: 2018.07.03 End Date: 2018.07.03 Last Calc.: 2018.07.03
 Start Time: 17:45:00 End Time: 21:50:30 Time On Blm: 2018.07.03 @ 18:56:30
 Time Off Blm: 2018.07.03 @ 20:24:00

TEST COMMENT: 1st Opening 10 Minutes very weak surface blow through out
 1st Shut-in 45 Minutes
 2nd Opening 16 Minutes no blow flushed tool no help
 2ND SHUT-IN 5 Minutes



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.64	104.72	Initial Hydro-static



0	167.64	104.72	Initial Hydro-static
1	73.22	104.21	Open To Flow (1)
12	78.12	104.34	Shut-In(1)
55	433.07	105.45	End Shut-In(1)
55	75.02	105.38	Open To Flow(2)
69	79.72	105.73	Shut-In(2)
77	126.56	105.95	End Shut-In(2)
78	158.678	106.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	Drilling Mud	0.35

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (M cfd)

ROCK TYPES

Dolprim
 Lmst fw7>
 shale, gry
 shale, red
 Siltst
 Lmst fw<7
 shale, grn
 Carbon Sh
 Ss

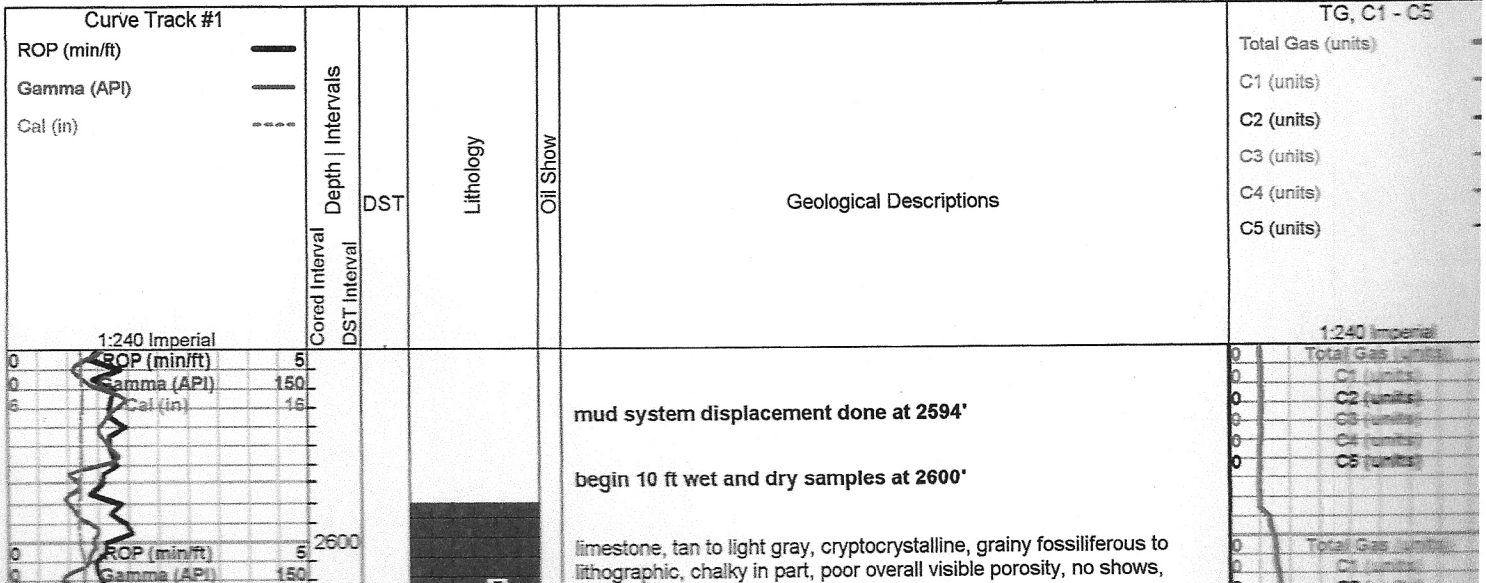
ACCESSORIES

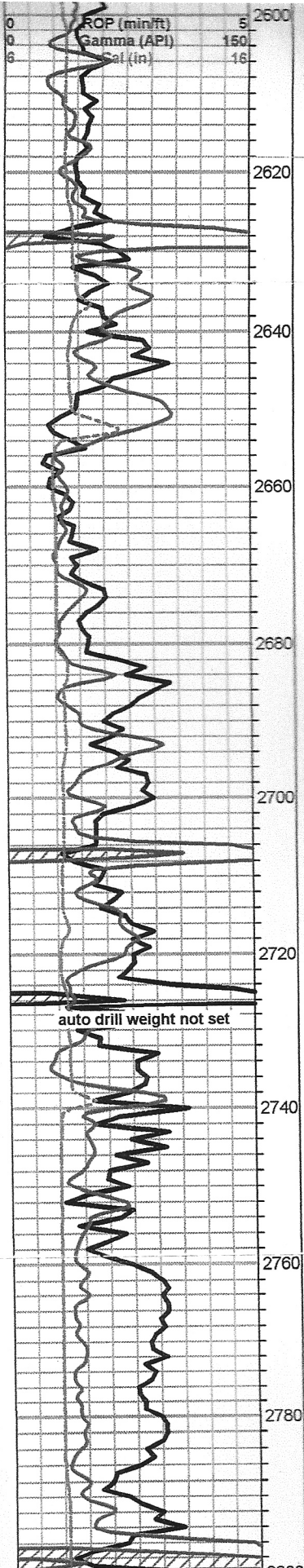
MINERAL
 ▲ Chert, dark
 △ Chert White
FOSSIL
 ∩ Bioclastic or Fragmental
 F Fossils < 20%
 φ Oolite
 ⚡ Pellets
 ⚡ Oomoldic
STRINGER
 ■ Limestone
 ··· Sandstone
 --- Siltstone
TEXTURE
 C Chalky
 L Lithogr

OTHER SYMBOLS

Oil Show
 ● Good Show
 ○ Fair Show
 ⊙ Poor Show
 ⊖ Spotted or Trace
 ○ Questionable Str
 D Dead Oil Str
 ■ Fluorescence
 * Gas
DST
 ■ DST Int
 ■ DST alt
 ■ Core
 || tail pipe

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limestone, tan to light gray, cryptocrystalline, grainy fossiliferous to lithographic, chalky in part, poor overall visible porosity, no shows, carrying abundant shales

Total Sol Units	100
C1 (units)	100
C2 (units)	100
C3 (units)	100
C4 (units)	100
C5 (units)	100

King Hill Shale 2627 -878 (log)

shale, black carbonaceous

abundant gray shales, mixed fossiliferous limestone, dark gray cherty limestones

limestone, tan, mixed gray and cream, micro-cryptocrystalline, fossiliferous, grainy in part, some lithographic, sub-chalky, scattered interclast porosity, no shows

fossiliferous limestone a.a., grainier, some bioclastic, scattered porosity, influx chalk and mottled with and gray fossiliferous chert, weathered in part, no shows

a.a.

Queen Hill Shale 2706 -957 (log)

shale, black carbonaceous

limestone, light gray, some gray/brown mottled, microcrystalline, fossiliferous to bioclastic, some large clasts, scattered porosity, no shows

limestones a.a.

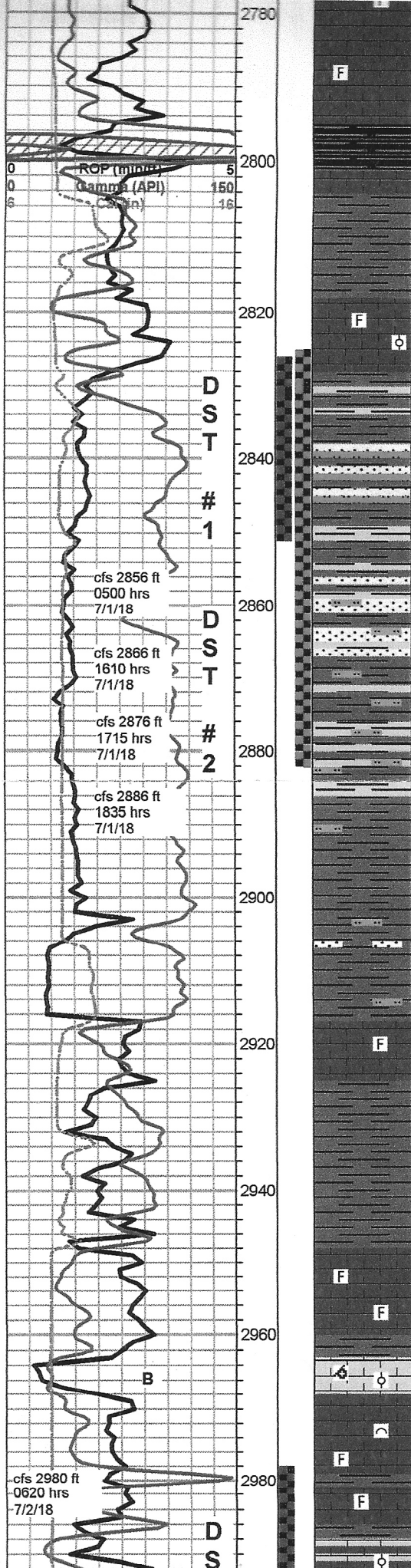
mixed fossiliferous to bioclastic limestones a.a., poor overall visible porosity

limestone, cream to light gray, mostly cryptocrystalline, fossiliferous to sub-lithographic, poor visible porosity, dense to chalky, no shows

limestones, mixed fossiliferous, marked increase in grainy fossiliferous, poor overall visible porosity, carrying abundant shale in samples, no shows

Heebner 2795 -1046 (log)

shale, black carbonaceous



limestones, mixed fossiliferous, marked increase in grainy fossiliferous, poor overall visible porosity, carrying abundant shale in samples, no shows

Heebner 2795 -1046 (log)

shale, black carbonaceous

Toronto 2818 -1069 (log)

limestone, cream, cryptocrystalline, fossiliferous, trace very fine oolitic, fairly chalky, poor visible porosity, no shows, abundant chalk

Douglas 2828 -1079 (log)

gray and green shales with siltstone, gray, micaceous, pyritic, few very small clusters sandstone, quartz, well rounded, very fine grain, micaceous, silty, very friable, abundant loose sand grains in tray, no visible shows

flood pyrite, with siltstone and trace sandstone, dark gray, very fine grain, silty, micaceous, sub-angular to rounded, fairly cemented, mostly good saturated black stain and oil saturation, good show oil on break, questionable odor, good fluorescence, excellent bright white streaming cut, 40 min sample, increase in sand - 2876 sample, sand a.a., marked increase in amount of sand, 20 min sample, a.a. with slight decrease in show, 40 min sample, still very abundant s.s. a.a., maintaining show appx 30% of sample

sand drops out, white gray and green shales, increase in gray micaceous siltstones

soft gray silty shale, micaceous siltstone, some scattered gray sandstone, silty, micaceous, very fine grain, well cemented, no shows

very soft, mushy, heavy gray wash in samples

Brown Lime 2917 -1168 (log)

limestone, tan to brown, cryptocrystalline, fossiliferous, some large clasts, dense, cherty, no shows

mixed gray shales, still heavy sluff from above

Lansing 2948 -1199 (log)

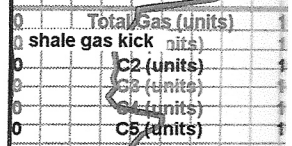
poor samples, still mostly shale sluff from above, limestone, cream, chalky, soft, fossiliferous, with gray to tan, cryptocrystalline, fossiliferous, dense, cherty, no shows or odor, no fluorescence

limestone, tan to light gray, oomoldic, sub-oolitic, some good mold porosity, no visible shows, no odor, poor fluorescence

limestones, mixed gray and cream, cryptocrystalline dense fossiliferous, to grainy bioclastic and fossiliferous, some scattered porosity, no show

as above

limestone, gray, mottled, micro-cryptocrystalline, fossiliferous, poor visible porosity, with scattered very fine oolitic, tan, some friable with

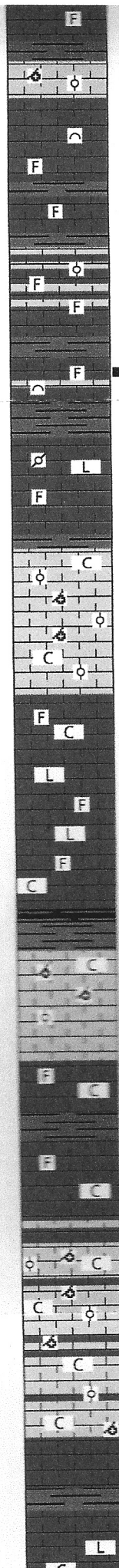
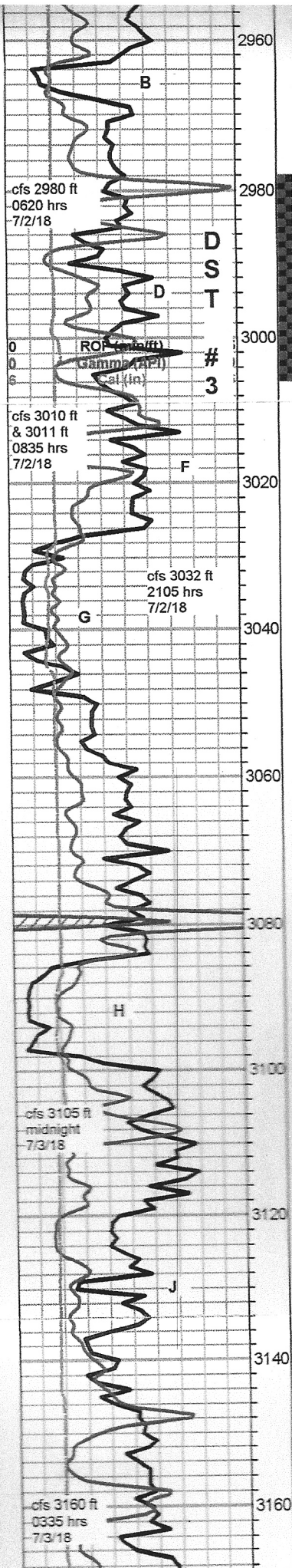


pipe strap
0.11' stb

gas spike 2
unit above
background

Mudco Mud Ch
0730 hrs 7/2/18
2990 ft
vis 51 wt 9.0
pv 12 yp 16
WL 8.8 pH 11.0
cake 1/32
Chl 5600 Ca 20
solids 4.7 LCM
dmc \$573.05
cmc \$5657.17

158 unit total



fossiliferous, dense, cherty, no shows or odor, no fluorescence

limestone, tan to light gray, oomoldic, sub-oolitic, some good mold porosity, no visible shows, no odor, poor fluorescence

limestones, mixed gray and cream, cryptocrystalline dense fossiliferous, to grainy bioclastic and fossiliferous, some scattered porosity, no show

as above

limestone, gray, mottled, micro-cryptocrystalline, fossiliferous, poor visible porosity, with scattered very fine oolitic, tan, some friable with inter-oolite porosity, no shows, good odor, no fluorescence, no cut but slight halo

limestone, cream to light gray, micro-cryptocrystalline, fossiliferous, chalky in part, some scattered grainy and vuggy bioclastic, no visible shows, fair odor, fair fluorescence, no cut but has halo

limestone, mixed gray to cream, some mottled, microcrystalline, fossiliferous to pelletal, grainy, some cream cryptocrystalline, chalky to dense, lithographic, 1 specimen with pin-point porosity and slight show oil on break, no other shows noted

limestone, gray to tan, oolitic to oomoldic, some good porosity, abundant chalk, abundant grainy flattened oolitic, no shows

limestone, white to cream and light gray, chalky fossiliferous, with limestone, dark gray, cryptocrystalline, dense compact lithographic, abundant chalk, no shows

Muncie Creek 3078 -1329 (log)

limestone, white to light gray and cream, mostly oomoldic, some oolitic, good porosity, abundant chalk, barren

limestone, cream to gray, mostly cryptocrystalline, chalky fossiliferous to dense cherty fossiliferous, poor visible porosity, abundant chalk, no shows

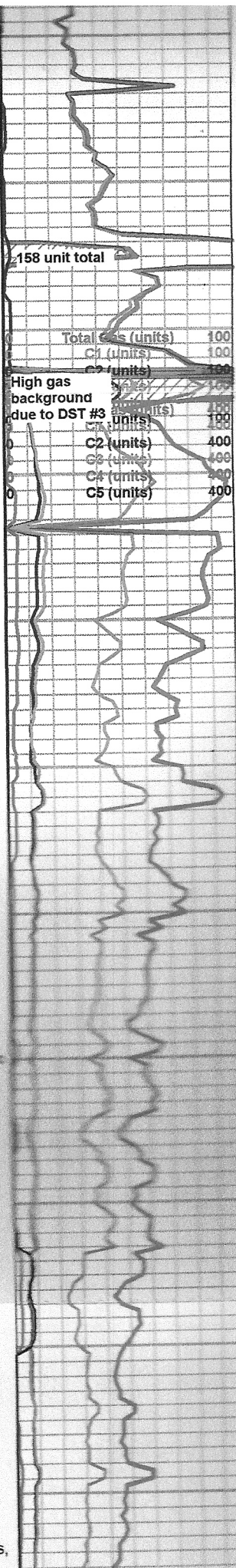
a.a.

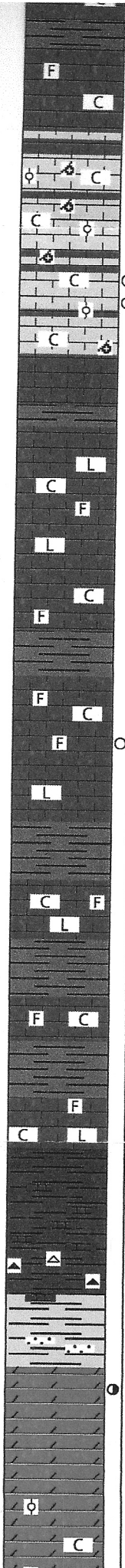
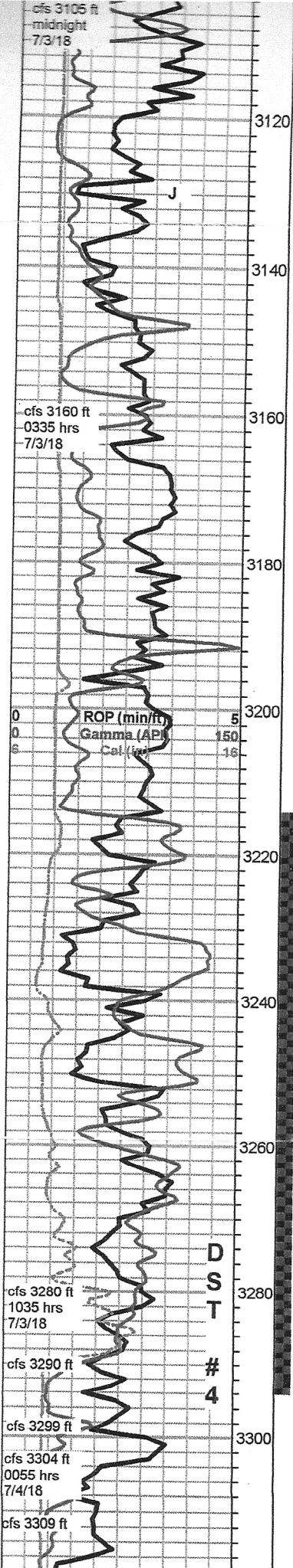
limestone, white to cream and gray, mixed size oolitic and oomoldic, chalky/weathered to dense, some scattered fair porosity, few scattered specimens with good fluorescence, flood chalk in samples, no visible shows

a.a., faint sour odor in 3160 sample, tested few good fluorescent specimens for cut, no cut, 30 min sample, few small pieces with slight staining, 1 with droplet free oil when broken,

Stark Shale 3158 -1409 (log)

limestone, cream to light gray, cryptocrystalline, lithographic, dense, some scattered fossiliferous, chalky in part, moderate chalk in samples, no shows





shows

a.a.

limestone, white to cream and gray, mixed size oolitic and oomoldic, chalky/weathered to dense, some scattered fair porosity, few scattered specimens with good fluorescence, flood chalk in samples, no visible shows

a.a., faint sour odor in 3160 sample, tested few good fluorescent specimens for cut, no cut, 30 min sample, few small pieces with slight staining, 1 with droplet free oil when broken,

Stark Shale 3158 -1409 (log)

limestone, cream to light gray, cryptocrystalline, lithographic, dense, some scattered fossiliferous, chalky in part, moderate chalk in samples, no shows

limestones, a.a. with chalk, 1 specimen with slight oily stain, no odor in samples, no other shows noted, trace gray frosted cherts

Base KC 3215 -1466 (log)

limestone, light gray to cream, crypto-microcrystalline, fossiliferous, trace oolitic, chalky, with variable gray cryptocrystalline, lithographic, moderate chalk in samples, no shows

limestone a.a.

limestones a.a.

mixed limestones a.a. with marked influx red silty shales

cfs samples, a.a. with chert, variable grays with frosted white, no shows

flood shales, red, green and gray, mixed chert and limestone a.a. 30 min sample, increase shales, plus waxy green shale (Simpson?) trace argillaceous gray and green sandstone, soft, no porosity or shows

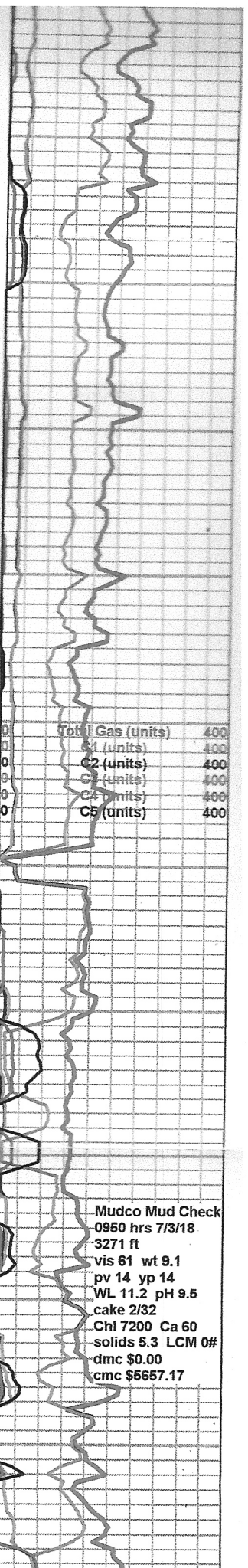
Arbuckle 3290 -1541 (log)

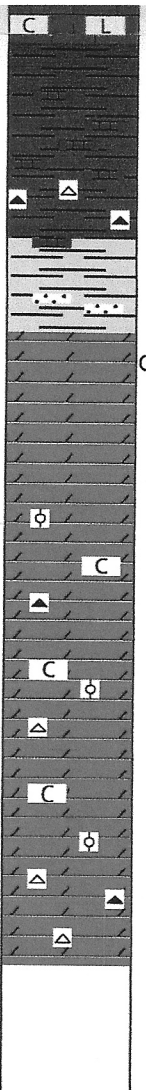
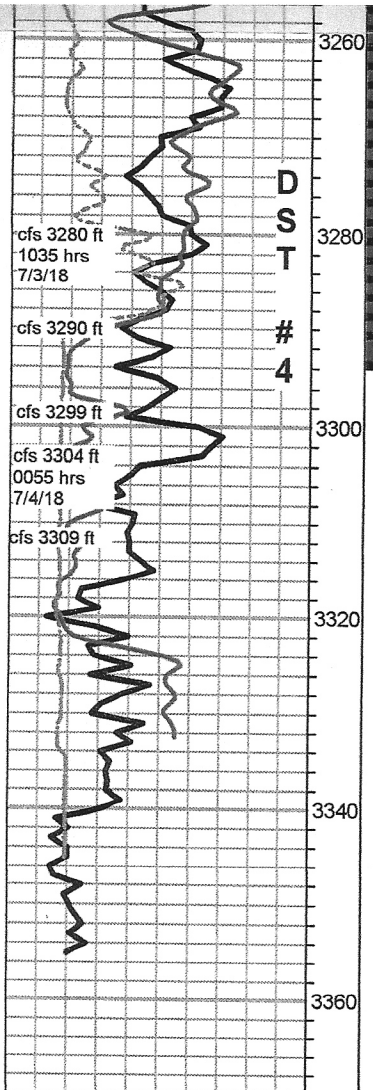
dolomite, cream, microcrystalline, sub-rhombic, recrystallized rhombic and some sucrosic, scattered light golden stain, streaming sheen, slight show oil on break, strong sweet odor, good bright green/white fluorescence, fair to poor cuts,

3299-3304 a.a. with trace sandy dolomite, abundant shales

3304-09 dolomite, white to cream, mixed crystalline, poor visible porosity, scattered light golden stain, trace oil with gas on break, good odor, more sour than above, good fluorescence

3310 - 3344 dolomite, cream to light gray, cryptocrystalline, dense, sub-lithographic with chalky sub-sucrosic and oolitic, some recrystallized, poor





limestones a.a.

mixed limestones a.a. with marked influx red silty shales

cfs samples, a.a. with chert, variable grays with frosted white, no shows

flood shales, red, green and gray, mixed chert and limestone a.a. 30 min sample, increase shales, plus waxy green shale (Simpson?) trace argillaceous gray and green sandstone, soft, no porosity or shows

Arbuckle 3290 -1541 (log)

dolomite, cream, microcrystalline, sub-rhombic, recrystallized rhombic and some sucrosic, scattered light golden stain, streaming sheen, slight show oil on break, strong sweet odor, good bright green/white fluorescence, fair to poor cuts,

3299-3304 a.a. with trace sandy dolomite, abundant shales

3304-09 dolomite, white to cream, mixed crystalline, poor visible porosity, scattered light golden stain, trace oil with gas on break, good odor, more sour than above, good fluorescence

3310 - 3344 dolomite, cream to light gray, cryptocrystalline, dense, sub-lithographic with chalky sub-sucrosic and oolitic, some recrystallized, poor visible porosity, no staining, trace sheen, good odor and stain, abundant boney white to gray cherts, abundant caliche

dolomite, mixed crystalline and oolitic a.a., increase in chert, decrease in caliche, no shows, good sour odor

rotary TD 3360 ft 0510 hrs 7/4/18
Pioneer Wireline TD 3356 ft

Mudco Mud Check
0950 hrs 7/3/18
3271 ft
vis 61 wt 9.1
pv 14 yp 14
WL 11.2 pH 9.5
cake 2/32
Chl 7200 Ca 60
solids 5.3 LCM 0#
dmc \$0.00
cmc \$5657.17

Mudco Mud Check
1005 hrs 7/4/18
3360 ft
vis 68 wt 9.2
pv 16 yp 16
WL 10.4 pH 10.0
cake 2/32
Chl 5700 Ca 40
solids 6.1 LCM 0#
dmc \$580.73
cmc \$6237.90