KOLAR Document ID: 1517345

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 # 32705
Name: Raney Oil Company, LLC
Address 1: 4665 BAUER BROOK CT.
Address 2:
City: LAWRENCE State: KS Zip: 66049 + 9013
Contact Person: Thomas Raney
Phone: (785) 749-0672
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Roger Martin
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 #:

12/14/2019 Spud Date or Recompletion Date
12/21/2019 Date Reached TD
2/04/2020 Completion Date or Recompletion Date

API No.: 15-035-24711-00-00
Spot Description:
SW - NW - SE - SW Sec. 31 Twp. 33 S. R. 6 ☑ East ☐ West
750 Feet from ☐ North / ☑ South Line of Section
1410 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Cowley
Lease Name: PRAY Well #: 3
Field Name:
Producing Formation: Mississippi
Elevation: Ground: 1263 Kelly Bushing: 1268
Total Vertical Depth: 3550 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 304 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: 05/26/2020
☐ **Confidential Release Date:**
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 05/29/2020

Operator Name: Raney Oil Company, LLC Lease Name: PRAY Well #: 3

Sec. 31 Twp. 33 S. R. 6 ☑ East ☐ West County: Cowley

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☑ Yes	☐ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☑ Yes	☐ No

List All E. Logs Run:

Sonic
Micro
Dual induction

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
heeb	1503	-233
lkc	2434	-1163
miss	3069	-1798
td	3551	-2280

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	24	304	Class A	200	3%cc 2%gel
Production	7.875	5.5	17	3550	Thick set	220	3%gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ 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: 2/20/2020	Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*					
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity	
	25					

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:	
		Top	Bottom
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	3070	3086
		3116	3124

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
1	3070	3086			
1	3116	3124			

TUBING RECORD:	Size:	Set At:	Packer At:	
	2.625	2942		

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Raney Oil Company, LLC
Well Name	PRAY 3
Doc ID	1517345

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	304	Class A	200	3%cc 2%gel
Production	7.875	5.5	17	3550	Thick set	220	3%gel

Conservation Division
266 N. Main St., Ste. 220
Wichita, KS 67202-1513

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

May 26, 2020

Thomas Raney
Raney Oil Company, LLC
4665 BAUER BROOK CT.
LAWRENCE, KS 66049-9013

Re: ACO-1
API 15-035-24711-00-00
PRAY 3
SW/4 Sec.31-33S-06E
Cowley County, Kansas

Dear Thomas Raney:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 12/14/2019 and the ACO-1 was received on May 26, 2020 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department

810 E 7TH
PO Box 92
EUREKA, KS 67045
(620) 583-5561

ELITE CEMENTING & ACID SERVICE, LLC

Cement or Acid Field Report
Ticket No. **4866**
Foreman David Gardner
Camp Eureka

API # 15-035-24711

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
12-14-19	1258	Pray #3	31	33 S.	6 E.	Cowley	KS

Customer: Raney Oil Company LLC
Mailing Address: 46605 Bauer Brook CT.
City: Lawrence | State: KS | Zip Code: 66049

Safety Meeting: DG ZM KM

Unit #	Driver	Unit #	Driver
105	Zevi		
112	Kevin		

Job Type: Surface
Casing Depth: 295.15' G.L.
Casing Size & Wt.: 8 5/8" 24#
Displacement: 18 1/2 Bbl
Hole Depth: 305' K.B.
Hole Size: 12 1/4"
Cement Left in Casing: 15' +/-
Displacement PSI:
Slurry Vol.: 48 Bbl Slurry
Slurry Wt.: 15#
Water Gal/SK: 6.5
Bump Plug to:
Tubing:
Drill Pipe:
Other:
BPM:

Remarks: Safety Meeting. Rig up to 8 5/8" casing. Break circulation w/ 10 Bbl fresh water. Mixed 200 SKS Class 'A' Cement w/ 3% CaCl2, 2% Gel, 1/4# Flosea1/SK @ 15#/gal, yield 1.35 = 48 Bbl slurry. Displace w/ 18 1/2 Bbl fresh water. Shut down. Close casing in. Good circulation @ all times while cementing. Good cement returns to surface = 8 Bbl Slurry to pit. Job complete. Rig down.

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C101	1	Pump Charge	890.00	890.00
C107	60	Mileage	4.20	252.00
C200	200 SKS	Class 'A' Cement	15.75	3150.00
C205	565#	CaCl2 @ 3%	.63	355.95
C206	375#	Gel @ 2%	.21	78.75
C209	50#	Flosea1 @ 1/4#/SK	2.35	117.50
C108B	9.4 Ton	Ton Mileage - Bulk Truck	1.40	789.60
		Thank You		
			Sub Total	5,633.80
		6.5%	Sales Tax	240.64
			Total	5,874.44

Authorization Dion Vasquez Title Tool Pusher

I agree to the payment terms and conditions of services provided on the back of this job ticket. Any amendments to payment terms must be in writing on the front of this job ticket or in the Customer's records at ELITE's office.

810 E 7TH
PO Box 92
EUREKA, KS 67045
(620) 583-5561

ELITE
CEMENTING & ACID SERVICE, LLC

Cement or Acid Field Report
Ticket No. **4932**
Foreman Russell McCoy
Camp Eureka

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
12-23-19	1258	Pran #3	36	33 S	6 E	Cowley	KS

Customer	Safety Meeting
Raney Oil Company LLC	RM JASON JOSH
Mailing Address: 4665 Bauer Brook CT	
City: Lawrence	State: KS Zip Code: 66049

Unit #	Driver	Unit #	Driver
105	JASON		
110	JOSH		
128	Russell		

Job Type Longstring — Hole Depth 3550' — Slurry Vol. 63 1/2 — Tubing
Casing Depth 3551 KB — Hole Size 7 7/8 — Slurry Wt. 13.8 — Drill Pipe
Casing Size & Wt. 5 1/2 — Cement Left in Casing 42' — Water Gal/SK 9 — Other
Displacement 84 — Displacement PSI 1100 — Bump Plug to 1100-1650 — BPM 5

Remarks: Safety Meeting + Job Procedure Run 3551 Casing w/ Basket shoe Set 1 1/2 Ft of Bottom, Drop Brass Ball set shoe @ 900# Pump 15 Bbl Fresh water Preflush Mix + Pump 220 SKs T.L. Cement w/ 2# Phenoseal 1/4 # CFL 115 @ 13.8 w/ yield 1.63 = 63 1/2 Bbl Slurry wash out Pump + Lines Release 5 1/2 Latch Down Plug Displace to seat w/ 84 Bbl Fresh water First 40 Bbl KCL City water Final Pump PSI 1100# Bump Plug to 1650# Check Float Float Held. Good Circulation During cementing Procedure. Job Complete, Tear Down.

Centralizers on #3 5 7 9 11 18 20 25 28 31 Baskets # 4 # 9 # 32

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C-102	1	Pump Charge	1100.00	1100.00
C-107	60	Mileage	4.20	252.00
C-201	240	SKs Thick set cement	20.50	4,920.00
C-208	400#	Phenoseal 2# Per/SK	1.30	624.00
C-211	50#	EFL Fluid loss = 1/4 %	11.00	550.00
C-108B	13.1	Ton mileage 60 miles	1.40	1100.40
C-761	1	5 1/2 TYPE BASKET SHOE	1355.00	1355.00
C-421	1	5 1/2 Latch Down Plug	242.00	242.00
C-604	3	5 1/2 Cement Baskets	236.00	708.00
C-504	10	5 1/2 x 7 7/8 Centralizers	50.00	500.00
C-222	5	gallons KCL CIN First 40 Bbl Displacement	30.00	150.00
				11,501.40
			Sales Tax	588.19
			Total	12089.59

Authorization Roger Martin Title Geo

I agree to the payment terms and conditions of services provided on the back of this job ticket. Any amendments to payment terms must be in writing on the front of this job ticket or in the Customer's records at ELITE's office.

From: **Roger Martin** rmrockhand@gmail.com
Subject: Pray#3 geo-log/report & invoice
Date: February 24, 2020 at 6:50 PM
To: Thomas Raney annraney@me.com, Ann Raney annraney@mac.com, Jeff Plummer Jeff.Plummer@18cg.com, Scott Asner asner1@swbell.net
Cc: Roger Martin rogermartingeo@yahoo.com

RM

Please find attached.
Thanks
Roger Martin
316-833-2722 {iPhone/voice/text
316-250-6970 {office/field/voice
316-655-1227 {voice/text

ROGER L. MARTIN

INDEPENDENT PETROLEUM GEOLOGIST 316-250-6970

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RANEY OIL COMPANY, LLC

LEASE PRAY #3

FIELD CABIN VALLEY

LOCATION 750' FSL & 1410' FWL (~SW-NW-SE-SW/4)

SECTION 31 TOWNSHIP 33S RANGE 6E

COUNTY COWLEY STATE KANSAS

ELEVATIONS

KB 1271' GL 1263'

Measurements Are All From KB:1271'

API 15-035-24711-0000

CONTRACTOR DUKE DRLG RIG #2

SPUD 12/14/2019 COMP 12/23/2019

RTD 3550' (-2279) LTD 3551' (-2280)

ELECTRICAL SURVEYS

ELI: DIL + CNL/CDL/PE; & SONIC + MEL

2 DST by TRILOBITE TESTING

CASING

SURFACE 8&5/8"x23#(295.15')@305'KB cmt'd w/ 200sx Class A+ (see Chrono)

PRODUCTION 5&1/2"x17#@~3549+'KB cmt'd w/ 220sx (see REMARKS)

FORMATION TOPS	LOG	SAMPLES	CHRONOLOGY
			12/14/19; MIRU; Spud@12;00am; Drlg@125@6:30am
HEEBNER SH	1503' (-232)	1504' (-233)	Drilled to 305'; Dev.Survey: 1/2deg.@ 305'
IATAN	1802' (-531)	1804' (-533)	Ran 7jts mew 8&5/8"x 23# (tally=295.15') set@~305'KB
STALNAKER SS	1869' (-598)	1867' (-596)	(strapped 1st 3jts & welded all collars) cmt'd w/ 200sx
			class A +3%CaCl +2%gel; cmt did circ; PD@4:45pm on
Upper LAYTON SS	2285' (-1014)	2289' (-1018)	12/14/19; by ELITE; Ticket # 4866
LAYTON SS	2304' (-1033)	2303' (-1032)	
			12/15/19; Drlg @ 544' @~6:45am
KANSAS CITY	2434' (-1163)	2430' (-1159)	
DODDS CREEK SS	2445' (-1174)	2446' (-1175)	12/16/19; Drlg @ 1615' @~6:45am
DENNIS LS	2501' (-1230)	2503' (-1232)	
SWOPE LS	2523' (-1252)	2525' (-1254)	12/17/19; Drlg @~2300'
HERTHA LS	2579' (-1308)	2579' (-1308)	
B/KC	2594' (-1123)	2595' (-1124)	12/18/19; Drlg @~2900'
HEPLER/CLEVELAND SS	2608' (-1337)	2610' (-1339)	
MARMATON	2675' (-1404)	2676' (-1405)	12/19/19; Drlg @~3100'; DST#1@3208'
ALTAMONT LS	2699' (-1428)	2700' (-1429)	
PAWNEE LS	2739' (-1468)	2740' (-1469)	12/20/19; Drlg @~3300'
FORT SCOTT LS	2780' (-1509)	2779' (-1508)	

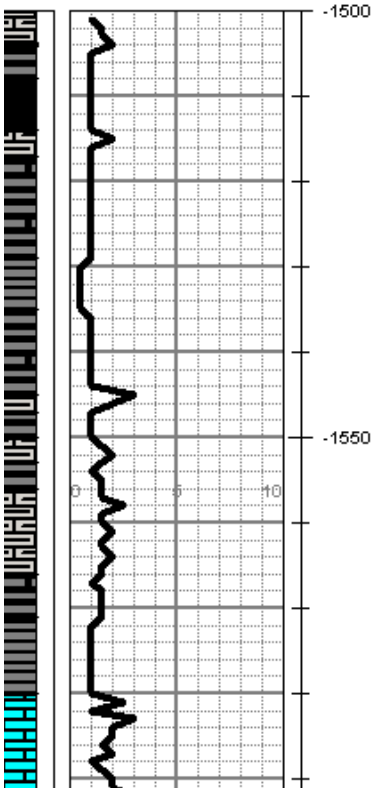
CHEROKEE GRP/SH	2813' (-1542)	2813' (-1542)	12/21/19; DST#2 @ 3500'
EROSIONAL MISS.	3065' (-1794)	3065' (-1794)	12/22/19; E-Logging @ RTD:3550' LTD:3551'
MISSISSIPPIAN	3069' (-1798)	3071' (-1800)	Ran 87jts of new 5&1/2"x17#/ft csg; tally=3541.93' +
MISS.CHERT POROSITY	3071' (-1800)	3071' (-1800)	9.31 landing jt = 3551.24 +~2' basket shoe & float collar
MISS. LS	3080' (-1809)	3081' (-1810)	=~3553' Total tally; tagged btm @~3551' - picked up
COWLEY FACIES/FORMATION	3204' (-1933)	3208' (-1937)	~1&1/2ft off btm; set shoe @~900psi; cmt'd w/ 220sx
			Thick Set (see Remarks) displaced w/~84 bbls; final
KINDERHOOK SH	3484' (-2213)	3486' (-2215)	pump pres=~1100psi & bump plug to ~1650 psi - held
CHATT./WOODFORD SH	3504' (-2233)	3503' (-2232)	(good circ & lift pressure) by ELITE; Ticket # 4932
			PD@~4:45am on12/23/2019; jet; set slips, dump &
ARBUCKLE	3539' (-2268)	3539' (-2268)	clean pits. Rig release @~6:45AM on 12/23/2019.
TOTAL DEPTH (LTD/RTD)	3551' (-2280)	3550' (-2279)	

REMARKS: FOR A COMPLETION IN THE UPPER MISSISSIPPIAN SYSTEM; RAN 87 JOINTS OF NEW 5&1/2" x 17#/FT PRODUCTION CASING; TALLY=3541.93' +~2' BASKET SHOE & FLOAT COLLAR =~3543.93' + 9.31' LANDING JOINT =~ 3553' TOTAL; TAGGED BTM @~3551', PICKED UP ~1&1/2 FT & SET BASKET SHOE PACKER@~3549'+@~900 PSI PUMP 15 BBL FRESH WATER PRE-FLUSH: MIX & PUMP 220 SX THICK SET CEMENT + 2# PHENOSEAL/SK + 1/4% CFL; 13.8#; W/ 1.63 YIELD; ~63.5 BBL SLURRY. DISPLACE W/ 84 BBLS (1ST 40 BBLS KCL CITY WATER) FINAL PUMP PRESSURE= ~1100 PSI & BUMPED PLUG TO 1650 PSI; FLOAT HELD; GOOD CIRC & LIFT PRESSURE @~40 BBLS OUT. JOB BY ELITE CEMENTING & ACID SERVICE, LLC; TICKET # 4932. RAN 10 CENTRALIZERS: ON COLLARS OF JT#3 @~3422' & JT#5@3335' & JT#7@~3250' & JT#9@3165' & JT#11@~3085' & JT#18@~2799' & JT#20@~2720'& JT#25@~2514' & JT#28@~2390' & JT#31@~2317'. BASKETS ON JTS #4@~3420' & JT#9@~3210' & JT#32@~2315'

I RECOMMEND REVIEW OF THE UPPER LAYTON SANDSTONE & THE MARMATON GROUP BEFORE ABANDONMENT.

REPECTFULLY SUBMITTED,
ROGER L MARTIN, WELLSITE GEOLOGIST

d | POROSITY | DRILLING TIME MIN/FT | DST | SAMPLE DESCRIPTION | REMARKS

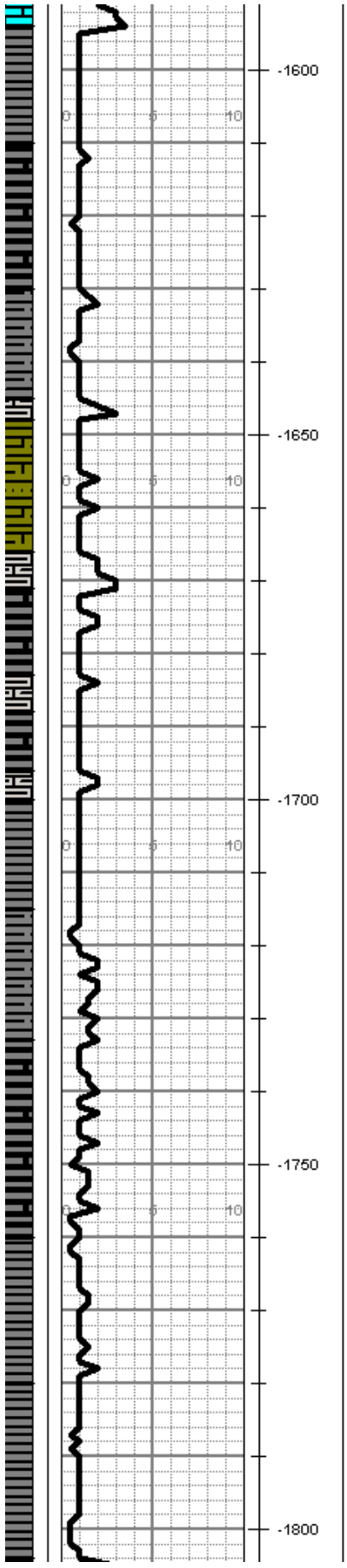


HEEBNER SH} bk subcarb to V.carb & sm LS: dk-gy-bk, dn & argil Mdst & Vgt'd SH.

V.abndt SH: bk subcarb-carb, & dk-gy & mrn, Vgt'd. SH:AA & LS:gy, dn & argil Mdst.

Abndt LS: {1609'spl} wh-gy-bf-tn, Wkst-Pkst, & prt chlky, & ux-fnXln, Vpr-Fr Visbl Poro w/ NS.

1504' (-233)
HEEBNER SH



V.Abndt SH: Vgt'd; abndt mrn-rd & gy-bk.

SH: Vgt'd AA.

sm Silty Sd Clust: Vfn-fnGr'd, sm calc & Lmy; Vpr-NVP w/ NS.

sm argil LS; Vpr-NVP; NS.

Silty Sd Clust: Lt-gy, VfnGr'd, well cmt'd w/ Vpr-pr Visbl Poro w/ NS.

& argil-silty & dn LS w/ Vpr-NVP; NS.

Abndt Vgt'd SH:AA.

sm dn LS:AA & sm Silty Sd Clust:AA w/ NS;

Pred SH: dk-gy-bk, mrn-rd, Vgt'd

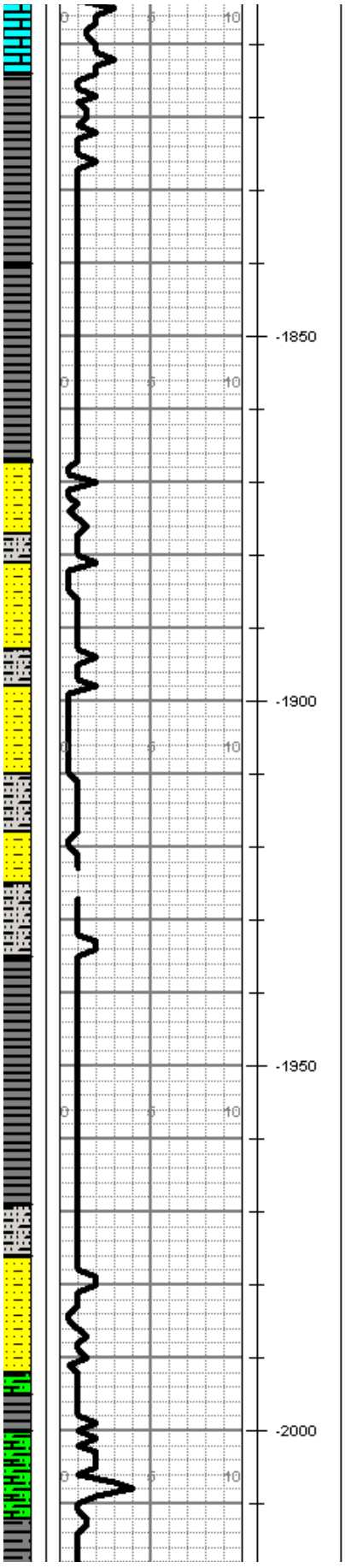
sm Silty Sd Clust - Sndy SILTS: pr-NVP; NS.

Pred SH: dk-gy-bk

SH:AA

Mud-Co Report
12/16/19@10:15A
Drlg @ 1734'
Wt:9.3; Vis:32
PV:4; YP:4
pH:9.0; WL:16.0
CT:1/32; Alka:0.3
Cl: 1300 ppm
Ca: 80 ppm
Solids: 7.1%
LCM: 0
ECD: 9.61 #/gal

1804' (-533)



[IATAN LS] Abndt LS {1828'KD.spl} wh-gy-tn- mot- Pkst, & ux-fnXln, Trc MdX's, sm chlky; pred Vpr-pr Visbl Poro w/ NS.

V.abndt SH: Vgt'd; dk-gy & gn-gy, & mrn.

SH:AA; Vgt'd, pred gy.

SS: Trc Sd Clust {1891'KD.spl} VfnGr'd; As Below {AB} NS.

SS: {1923'KD.spl} Abndt Sd Clusters: Lt-gy-wh, VfnGr'd, micac, well cmt'd to fribl, sm silty, w/ pr-Fr Visbl Poro & sm Gd aprnt Poro w/ NSO {No Show of Oil) No FLR {NF) No Cut {NC).

SS: {1954'KD->1987'KD.spl} Sd Clust:: As Above {AA) w/ sm Fr-Gd Poro; NSO; NF; NC.

{1954'->1987'KD.spl.cont'd} Abndt SH: gy-bk, & mrn, Vgt'd.

SH: Vgt'd; incrs mrn-rd, & gn-gy.

{2048'KD.spl} Abndt SH: gy-bk.

{2048'corrected-Kelly Down(KD)spl.cont'd} sm SILTS: gy, sm Sndy;
V.rare {Vrr) Sd Clust: gy-wh, Vfn-fnGr'd, well cmt'd to fribl w/ pr-Fr Visbl Poro w/ NSO; NF; NC.

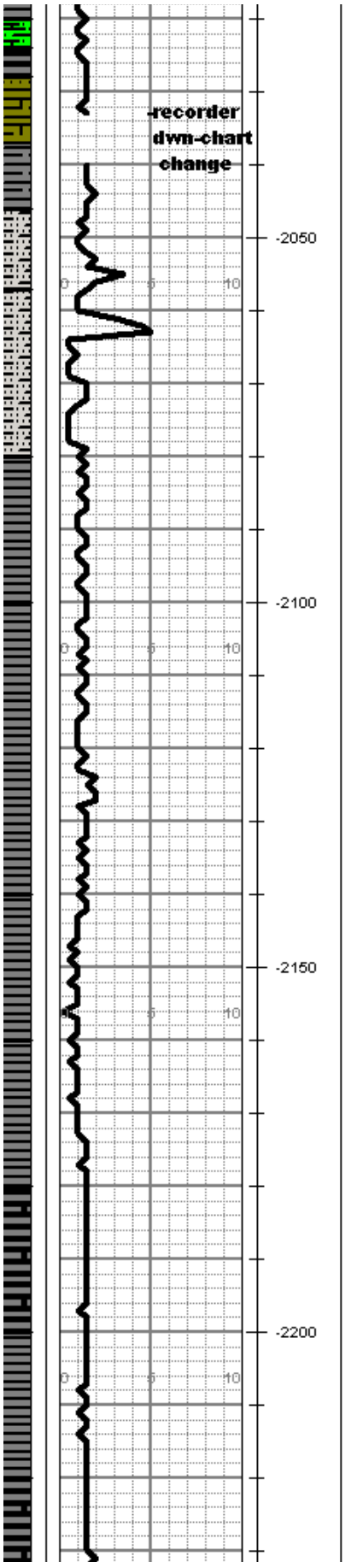
{2080'Corrected-KD.spl} incrs Sd Clust; AA; sm calc & Lmy w/ pred pr-Fr Visbl Poro w/ NSO; NF; NC.

SH: AA.

IATAN LS

1867' (-596)
STALNAKER SS

(drilled a joint down that was Not recorded on the dp tally board; confirmed on TOH for DST#1; sample lag & tops & drilling time, are all corrected to depth after re-tally @ 3208')



sm SILTS: calc & Lmy.

sm SS: Sd Clust: gy-wh, bf-gy, Vfn-fnGr'd, pred well cmt'd w/ Vpr-pr Poro; Trc Fr Visbl Poro w/ NSO; NF; NC.

Pred SH: dk-gy-bk.

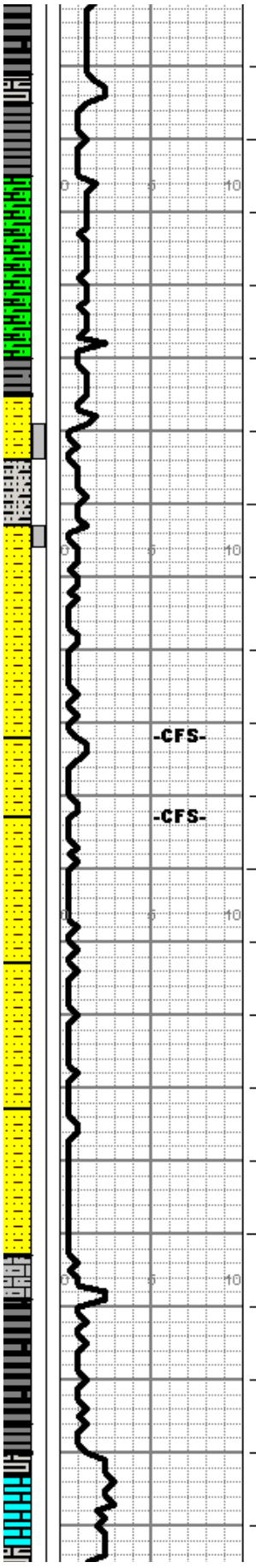
SH: gy-bk, sm bk-carb.

SH: AA

SH: AA & gy- micac

SH: dk-gy & gn-gy, sm Lmy; Trc argil- dn LS & Sndy SILTS.

Pred SH: AA.



Vrr LS: gy, dn-ux-fnX; & argil Mdst.

SH: gy-bk

SILTS: Lt-md-gy, micac & calc, sm Sndy: VfnGr'd; & sm argil-silty LS w/ Vpr-NVP w/NS.
& SS: Sd Clust: Lt-gy, VfnGr'd, micac, silty, well cmt'd to subfriblw/ pred Vpr-NVP w/ NSO.

UPPER LAYTON SS}Sd Clust: gy-bf, gy-wh, Vfn-fnGr'd, well Rnd'd to subanglr, pred well cmt'd- subfriblw/ pred pr-Fr Visbl Poro; & V.rare (Vrr) friblw/ Gd-lGr.Poro; ~20% w/ subsat dull yell FLR & Lt-tn-brn O.STN & Sl-Fr SFO-GSY- "Lively" Show Free Oil (SFO) & Sl-Fr milky Cut; Sl Odor; pred silty & micac; sm shly w/ Vpr-pr visbl Poro & pred barren; & SILTS: Lt-gy, micac, sm Sndy.

LAYTON SS} Sd Clust: Lt-gy-bf-wh, VfnGr'd, silty, micac, well cmt'd to friblw/ Fr-Gd Poro- Pred Barren; Trc FLR-Trc SFO-STN & Trc milky Cut.

SS: Sd Clust: gy-wh-bf, pred VfnGr'd, sm silty & micac & sm shly; sm friblw/ Fr-Gd Poro; >99% Barren w/ NSO.

SS: Sd Clust: Lt-gy-bf-wh, Vfn-fnGr'd, pred Rnd'd-Subanglr; prt silty- micac, sm sl shly, well cmt'd to friblw/ sm Fr-Gd Poro w/ NSO & NC; (abndt gy-bk SH in spls).

SS: Sd Clust: gy-wh-bf, Vfn-fnGr'd, Vrr prt mdGr'd, pred Rnd'd- subanglr; incrs in friblw/ Fr-Gd Poro w/ NSO & NC; sm silty & well cmt'd & micac & sm sl shly w/ NSO.

SS: Sd Clusters: decrs AA; Vfn-mdGr'd; sm Fr-Gd Visbl Poro; w/ NSO.

sm calc & Lmy Sd Clust & Sndy-silty-LS w/ NSO.

Pred SH: gy-bk; Trc Crs F.Sd.Gr's.

SH: gy-bk

KC} LS: gy-tn, dn-ux-fnX; & Mdst-Wkst w/ Vpr-NVP; NSO.

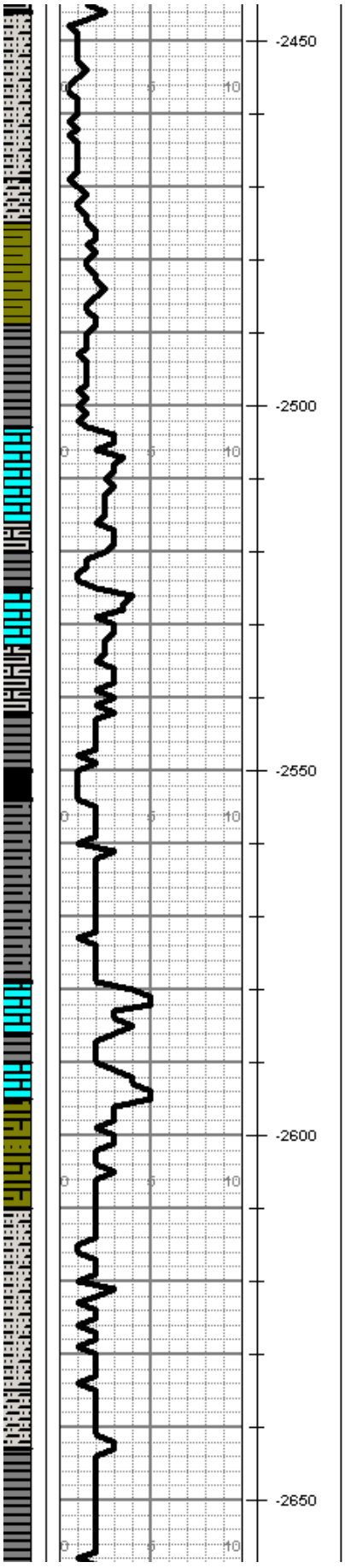
2289' (-1018)
UPR.LAYTON SS
(~20% Sl-Fr SFO)

2303' (-1032)
LAYTON SS
(Trc SFO)

2430' (-1159)
KANSAS CITY

2446' (-1175)

Mud-Co Report
12/17/19@10:30A
Drlg @ 2427'
(corrected depth)
Wt:9.3; Vis:47
PV:13; YP:14
pH:10.5; WL:7.2
CT:1/32; Alka:0.9
Cl: 1400 ppm
Ca: 60 ppm
Solids: 6.8%
LCM: 0
ECD: 9.61 #/gal



DODDS CRK.SS} Sd Clusters: Lt-gy-bf; gy-wh, pred VfnGr'd; sm Vfn-fnGr'd; Trc mdGr's; abndt silty micac, sm sl shly; Rr fribl w/ Fr-VGd Poro w/ NSO; NF; NC; & SILTS: Lt-gy, micac, sndy; NSO.

sm SS: Sd Clust:AA w/ NSO; NF; NC; Sharp incrs SILTS & Silty Sd Clust w/ Vpr-NVP; NSO; NF; NC.

Abndt SH: gy-bk; (sm SILTS & Rr Sd Clust:AA; NSO).

LS: cm-tn-gy, & sm wh-chly, sm ux-fnX; & Wkst-Pkst; pred pr-NVP; NSO,

LS: AA; & gy- argil.

Abndt SH:bk-carb & dk-gy.

LS: gy-bn, dn-ux-fnX; & argil- Mdst; Vpr-NVP; NS.

SH: dk-gy-bk;

shrp incrs bk-carb to V.carb SH.

SH: AA & sm Silty Sd Clust:AA & SILTS:AA.

SH & Sndy SILTS:AA.

LS: tn-gy-bn, pred dn- ux & sm wh-gy-subchlky & argil Mdst; Vpr-NVP; NS.

LS: gy-tn-wh, Wkst-Pkst, sl fos, sm chlky; pr-NVP; NS.

SH: dk-gy-bk, subcarb-carb; Rr Sndy SILTS & SiltySS- Sd Clust:gy, VfnGr'd, pr-Fr Poro w/ NSO; NF; NC.

Vrr Sd Clust gy, Vfn-fnGr'd w/ Fr-Gd-lGr.Poro w/ NSO; NF; NC.

Sndy-SILTS & Silty-SS: Sd Clust w/ pred pr Visbl Poro w/ NSO; NF; NC.

Pred SH: gy-bk, sm bk-carb.

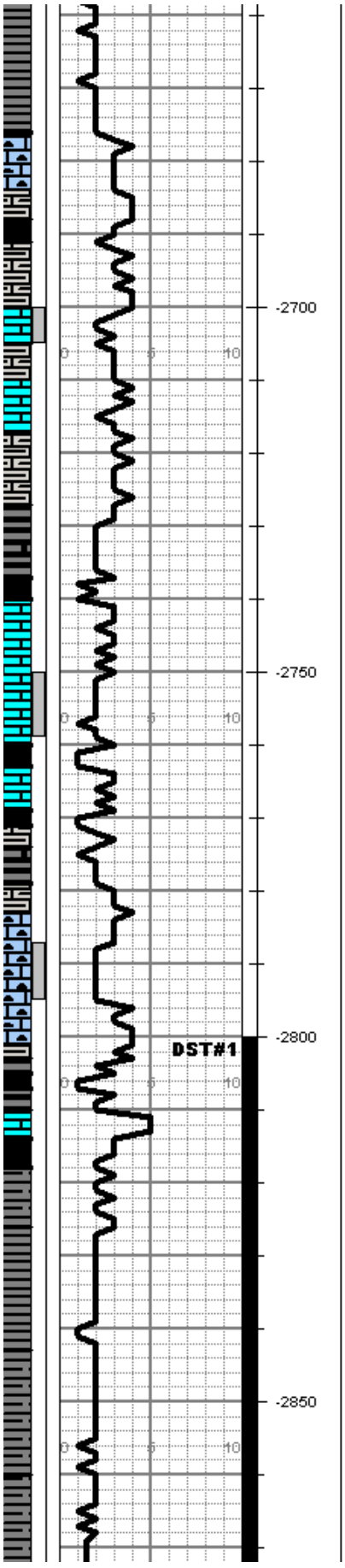
DODDS CRK.SS

2503' (-1232)
DENNIS

2525' (-1254)
SWOPE LS

2579' (-1308)
HERTHA LS

2595' (-1324)
B/KC



SH: AA.

MARMATON} LS: cm-tn-gy, Wkst-Pkst & wh-chlky; Sl Cherty; pr-NVP w/ NS.

LS: gy-tn-wh, dn-ux-fnX; sm argil; Vpr-NVP; NS.

SH: gy & bk-carb; & LS:AA, argil.

LS: gy-tn-wh, ux-fnXln, Vrr prt mdXln- Vrr fos- Coral, & sl oolc; Xln & Pkst w/ Fr Poro to Trc Gd.Poro: fos-vug, moldc & IXP; Vrr FLR & Lt-tn-bn-OSTN; Trc SFO & milky Cut, pred Barren w/ pr-NVP; & sm argil LS.

LS: AA, sm argil;

& SH: bk subcarb to V.carb.

SH:AA; sm calc & Lmy

PAWNEE} LS: tn-gy-wh, ux-fnXln, & Wkst-Pkst, prt chlky, w/ pr-Fr Poro: pp & IGr & IXP; Trc moldc Poro; Trc FLR-SFO-STN & Cut, pred Barren.

SH: bk-carb & subcarb.

LS: tn-gy-wh, pred dn- ux, & argril- Mdst.

SH: bk-carb & dk-gy- sm calc & Lmy.

FT.SCOTT} LS: wh-chlky & tn-gy- dn-ux- fnXln- sm 2nd ReX; sm Wkst-Pkst; Sl Cherty; sm pr-Fr-IGr & pp & IXP; ~5% w/ spt'd- subsat-FLR & VSl-SISFO & VLt-OSTN & Sl-milky-Cut, VSl Odor.

SH: bk-subcarb to V.carb.

LS:AA; tn-gy-wh, dn- ux & argil Mdst.

CHEROKEE} SH: bk-carb- V.carb; Trc Coal; & SH:gy.

SH-SILTS: Vgt'd, sm calc- sndy; (abndt LS:AA).

AA; sl incrs SH:AA.

SH: gy & bk-carb; & SILTS:AA.

Sharp ;incrs in SH & SILTS: AA.

SH-SILTS: AA; (Trc Sd Clust:AA; NS & sm LS:AA).

2676' (-1405)
MARMATON

2700' (-1429)
ALTAMONT
{Trc SFO)

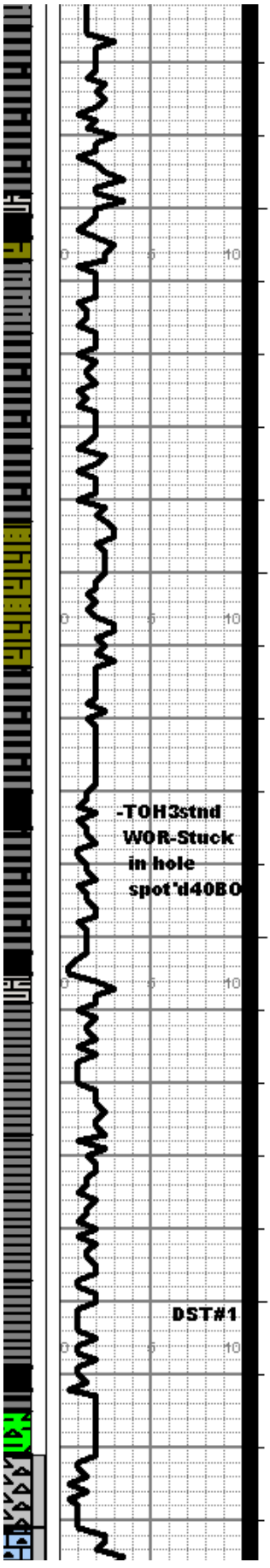
2740' (-1469)
PAWNEE

{Trc SFO)

2779' (-1508)
FT. SCOTT

{VSL-SLSFO)

2813' (-1542)
CHEROKEE



SH: pred gy & bk-carb.
& LS: dk-gy-bk, ux & argil Mdst

SH: bk-carb- V.carb.

SILTS-SH: Lt-dk-gy, micac

SH: pred dk-gy - bk-carb;
sm LS: dn-chlky.

SH: AA; sm dn & argil LS; Vrr Sd Clust:AA; NS.

SH: abndt gy & bk-carb, sm pyrtc; & sm LS.

SH: dk-Lt-gy

sm bk-carb SH.

Pred SH: dk-gy-bk & Vgt'd

Vrr Coal; sm pyrtc; sm LS:argil-Mdst.

Pred SH: Vgt'd, sm mrn-rd.

SH: Pred bk-carb & dk-gy.

SH: Vgt'd - mrn-rd & gy.

sm bk-carb SH.

SH: V-gt'd-gy & bk-carb, mrn-wxy; & sm dn-LS & argil-LS; & Trc sharp Chert.

CHERT: wh-bf-gy, sm w/ tn-O.STN; pred sharp & prtly Wthr'd- sub.Tripolc; ~30% Wthr'd-Tripolc w/ Fr-Gd Poro: pin point {pp) & vug & Inter-Granular {IGr) - Tripolc Poro w/ spt'd to sat.FLR & tn-O.STN w/ Fr-Gd SFO-Gsy, Sl to Gd milky Cut; Frly Strong Odor.

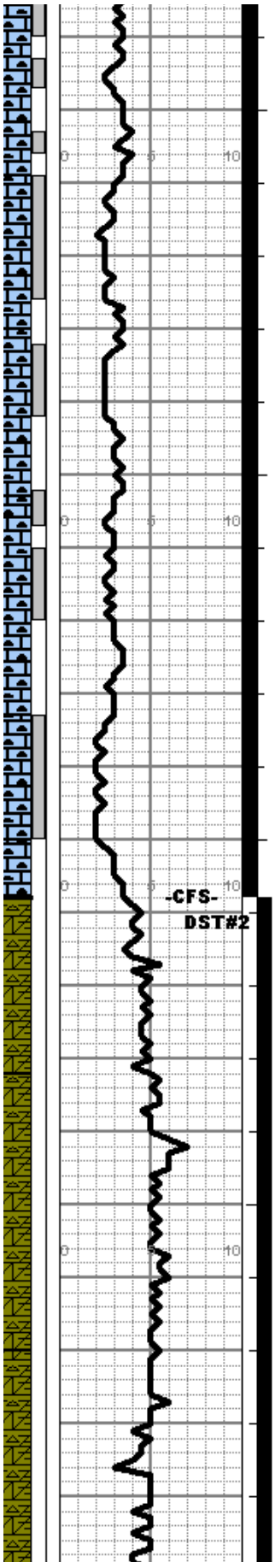
-TOH 3 stands to Work on rig-Stuck in hole spot'd 40 bbls oil-pulled loose after ~4hrs then circ & TIH 3 stnds, then back to drlg.

3071'(-1800)
MISS.CHERT PORO.
(Fr-Gd SFO)

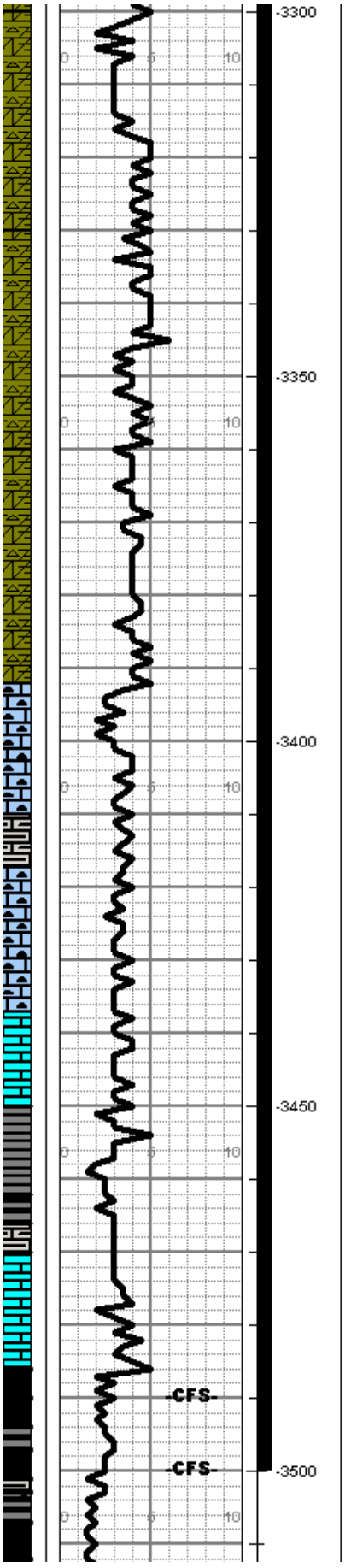
3081'(-1810)
MISS. LS

Mud-Co Report
12/18/19@11:30A
Drlg @ 2958'
(corrected depth)
Wt:9.5+; Vis:47
PV:15; YP:15
pH:10.5; WL:7.2
CT:1/32; Alka:1.0
Cl: 1500 ppm
Ca: 60 ppm
Solids: 8.5%
LCM: 1#/bbl
ECD: NC

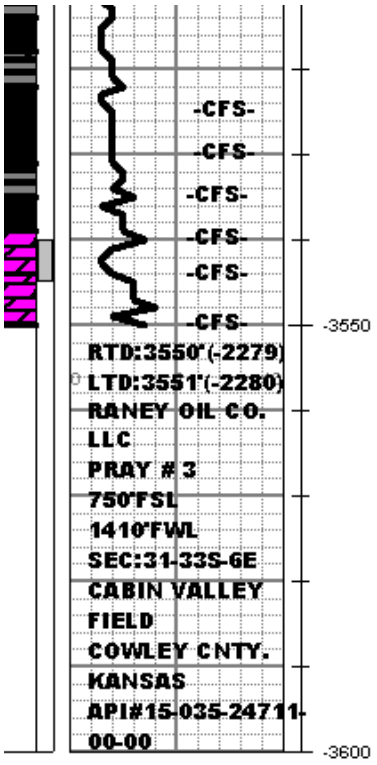
DST#1; MISS.
2800'--3208'
30-45-60-90min.
IF: Wk blow; bldg
to 3"; ISI: NBB.



LS: wh-chlky, & cm-bf, sub-chlky- Wkst-Pkst; & ux-fnX; Cherty; w/ V.rare(Vrr) pr Visbl Poro: pp-vug & u-IGr.Poro & u-Frac's Trc Fr Visbl.Poro; <5% w/ spt'd-subs at FLR & Lt.O.STN & VSLSFO & Cut, VSL Odor on brk; Trc Gd Visbl Poro w/ FLR-SFO-STN-Cut; (sm Chert:AA) (sm SH cavings).	{VSLSFO)	FF: Wk blow; bldg to 1"; FSI:NBB. Rec:100'Drlg Mud Tool Spl: Trc of OCM/Trc.Show Oil
LS: wh-chlky & subchlky; & cm-bf-tn & gy, Wkst-Pkst; & ux-fnX; Cherty (AA) sl incrs pr-Fr- Visbl Poro- AA~5% <10% w/ spt'd FLR & Lt-tn-O.STN & VSLSFO & milky Cut, Trc Odor on brk; Cherty: AA; (Abndt SH cavings).	{VSLSFO) {VSLSFO) {VSLSFO)	IHP: 1489 IFP: 24--39 ISIP: 529 FFP: 41--59 FSIP: 488 FHP: 1382 Temp: 104deg.F.
LS: wh-bf-tn-gy, sm mot- Wkst-Pkst, prt chlky; sm fos & ool, Cherty- sm ool & fos Chert, sharp & sl Wthr'd; sm Pr Visbl Poro: pp-vug & IGr.Poro & u-Frac's; <5% w/ spt'd FLR-VSLSFO & Cut, Trc O.STN; Trc Odor on brk.	{VSLSFO) {VSLSFO)	
LS: wh-chlky, & bf-tn-gy, Wkst-Pkst, ux-fnX; <5% w/ pr-Fr Poro: pp-vug, IGr, u-Frac's w/ Trc SFO-FLR-STN-Cut; Cherty:AA; <5% w/ pr-Fr Poro w/ spt'd-subs at FLR-SFO-STN-Cut, Vsl Odor on brk.	{VSLSFO) {VSLSFO) {VSLSFO)	Mud-Co Report 12/19/19@11:00A CIRC @ 3208' (corrected depth) Wt:9.4+; Vis:56 PV:22; YP:20 pH:10.5; WL:6.4 CT:1/32; Alka:0.8 Cl: 1900 ppm Ca: 80 ppm Solids: 7.7% LCM: 4#/bbl ECD: NC
LS: wh-gy-tn, sm mot- Wkst-Pkst, prt chlky, & Cherty; <5% w/ pr-Fr Poro: pp-vug, IGr.Poro & u-Frac's w/ FLR-SFO-STN & Vsl Cut.	{VSLSFO) {VSLSFO)	
LS: AA w/ Trc SFO-FLR-STN-Cut; & Abndt dn Mdst-Wkst w/ Vpr-NVP w/ NS.	{Trc SFO)	
COWLEY} LS: dk-md-gy-bn, dn-ux & Mdst-Wkst, sm silic, sm sl dolomc & argil; sl Cherty; pred Vpr-NVP; Trc u-Frac's & Edg w/ FLR & Trc SFO & Cut.	3208'(-1937) COWLEY {Trc SFO)	
LS: dk-Lt-gy & gy-bn, pred dn- ux-VfnXln, sm sl dolomc, sm sl silic, & argil-Mdst; pred Vpr-NVP; Trc Vpr Visbl Poro & u-Frac's & Edg w/ FLR- Trc SFO & Trc Cut; Sl Cherty:cm-gy-bf, wh, sharp to sl Wthr'd- Trc Vpr Visbl Poro- u-Frac's & Edg w/ FLR- Trc SFO & Trc Cut (sm SH cavings).	{Trc SFO)	
LS: Pred dk-gy-bn, dn- ux; & Mdst- sm shly- argil, sm silic, sm sl dolomc, Trc Vpr Visbl Poro: pin point (pp) & u-Frac's & u-IXP & Edges w/ FLR & Trc SFO & Trc resid.Cut; >99% Barren w/ Vpr-NVP (decrs in SH cavings).	{Trc SFO)	DST#2; Lwr.MISS 3208'--3500' 30-45-45-90min. IF: Wk blow, bldg to 2". ISI: NBB. FF: No Blow FSI: NBB. Rec: 30'Drlg.Mud IHP: 1596 IFP: 26--31 ISIP: 657 FFP: 32--33 FSIP: 219 FHP: 1550 Temp:110deg.F.



LS: dk-gy-bn, sm tn-bn, pred dn- ux {micro-xln) sm silic, sm sl dolomc; & Mdst- sm argil; w/ pred pr-NVP; Trc Vpr Visbl Poro & u-Frac's & Edg FLR & Trc SFO & resid.Cut; (Rr Chert:AA w/ FLR-SFO-STN-Cut). (sm SH cavings:AA).	(Trc SFO)	Mud-Co Report 12/20/19@10:30A Drlg @ 3305' Wt:9.3+; Vis:59 PV:20; YP:23 pH:10.5; WL:6.4 CT:1/32; Alka:0.8 Cl: 1100 ppm Ca: 60 ppm Solids: 7.1% LCM:3&1/2#/bbl ECD: NC
LS: dk-gy-bn, & gy-bk, ux-dn, sm silic & sm sl dolomc; & argil- Mdst w/ pred Vpr-NVP; Trc u-Frac's & u-IXP & Edg FLR- Trc SFO & Trc Resid.Cut; >99% Barren; (incrs SH cavings).	(Trc SFO)	
{V.Abndt SH cavings) & sm LS: dk-gy-bk & gy-bn; pred dn Mdst- sm argil, & ux-dn, sm sl silic, & sm sl dolomc; Trc Vpr Visbl Poro: u-Frac's & u-IXP & Edg w/ FLR- Trc SFO & Resid.Cut.	(Trc SFO)	
LS: wh-chlky, & cm-bf-gy, ux-fnX, & fos- Wkst-Pkst; pr-Vrr-Fr-Visbl-Poro- u-IGr & u-IXP & u-Frac's; Trc FLR-SFO-Cut; Trc Chert:AA w/ FLR-SFO-STN-Cut. (abndt SH cavings AA).	(Trc SFO)	
(V.abndt SH: bk-carb & dk-gy & gn-gy & mrn-rd).		
Sharp incrs in LS: wh-chlky, & cm-bf-gy, Wkst-Pkst, & ux-fnX, Vsl Cherty; Pred Vpr-pr Visbl Poro:AA; Trc Fr Visbl Poro; Trc FLR-SFO-STN-Cut; >99% Barren. (~50%LS:AA & ~50%SH:AA).	(Trc SFO)	
LS: wh-chlky & wh-bf-gy-subchlky to dn w/ pred Vpr-NVP w/ NS. (Trc Chert:AA) (incrs gn-gy-SH).		
incrs SH: gy, & gn-gy; & LS:gy, argil- Mdst, pred Vpr-NVP w/ NS.		
SH: AA & LS:AA		Mud-Co Report 12/21/19@8:45A DST#2 @ 3500' Wt:9.4; Vis:65 PV:24; YP:22 pH:10.5; WL:6.4 CT:1/32; Alka:0.7 Cl: 1100 ppm Ca: 60 ppm Solids: 7.8% LCM: 1#/bbl ECD: 10.14
LS: gy-tn, & gn-gy, dn- Lithogr & cryptox-ux & Mdst w/ pred Vpr-NVP w/ NS.		
LS: gy-bf-wh, dn-crypto-ux & chlky; Vpr-NVP; NS.		
KINDERHOOK SH} incrs SH in circ.spls @ 3490'} bk-carb- V.carb.	3486' (-2215) KINDERHOOK	
SH: bk & dk-gy, & bk-carb- V.carb. (sharp decrs in LS:AA).		
incrs in SH: Vgtd, abndt bk-carb.	3503' (-2232) CHATT/WOODFORD	SH



SH: abndt bk-carb & V.carb; (sm Rr LS:AA).

SH: pred bk-carb, sm sl pyrtc.

SH:AA, incrs pyrtc.

3540'circ.spls} Trc ARB. DOLO: AB (As Below)
3544'circ.spls} DOLO: gy-bf-crm, ux-mdXln; w/ Fr- Rr.Gd Poro: IXP & vug.Poro w/ FLR & SISFO & subsat STN & SI-Fr-Cut Vrr prt CrsXln w/ VGd Poro w/ SFO-FLR-STN-Cut; SI-Fr Odor; pred Barren.(3550'circ.spls} DOLO: crm-bf-gy, Vfn-mdXln, pred pr-Fr-Visbl-Poro: IXP & vug Poro; Rr Gd Visbl Poro: IXP & vug Poro- pred (~99%) Barren; ~1% w/ SFO-FLR-STN-Cut, Trc Odor; (~50% Arb.Dolo in 3550'+40min.circ.spl).

3539' (-2268)
ARBUCKLE
(SLSFO)

RTD:3550'(-2279)
LTD: 3551'(-2280)

RANEY OIL CO.,LLC
PRAY # 3
750'FSL & 1410'FWL
SEC: 31-33S-6E
CABIN VALLEY FIELD
COWLEY CNTY., KS.
API#15-035-24711-00-00

Mud-Co Report
12/22/19@4:00A
CIRC @ 3550'
Wt:9.4; Vis:61
PV:20; YP:20
pH:10.5; WL:6.4
CT:1/32; Alka:0.6
Cl: 1700 ppm
Ca: 60 ppm
Solids: 7.8%
LCM: 6#/bbl
ECD: 10.10

ROGER L. MARTIN

INDEPENDENT PETROLEUM GEOLOGIST 316-250-6970

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RANEY OIL COMPANY, LLC

LEASE PRAY #3

FIELD CABIN VALLEY

LOCATION 750' FSL & 1410' FWL (~SW-NW-SE-SW/4)

SECTION 31 TOWNSHIP 33S RANGE 6E

COUNTY COWLEY STATE KANSAS

ELEVATIONS

KB 1271' GL 1263'

Measurements Are All From KB:1271'

API 15-035-24711-0000

CONTRACTOR DUKE DRLG RIG #2

SPUD 12/14/2019 COMP 12/23/2019

RTD 3550' (-2279) LTD 3551' (-2280)

CASING

SURFACE 8&5/8"x23#(295.15')@305'KB cmt'd w/ 200sx Class A+ (see Chrono)

RTD [illegible] LTD [illegible]

ELECTRICAL SURVEYS

ELI: DIL + CNL/CDL/PE; & SONIC + MEL

2 DST by TRILOBITE TESTING

PRODUCTION 5&1/2"x17#@~3549+'KB

cmt'd w/ 220sx (see REMARKS)

FORMATION TOPS	LOG	SAMPLES	CHRONOLOGY
			12/14/19; MIRU; Spud@12;00am; Drlg@125@6:30am
HEEBNER SH	1503' (-232)	1504' (-233)	Drilled to 305'; Dev.Survey: 1/2deg.@ 305'
IATAN	1802' (-531)	1804' (-533)	Ran 7jts mew 8&5/8"x 23# (tally=295.15') set@~305'KB
STALNAKER SS	1869' (-598)	1867' (-596)	(strapped 1st 3jts & welded all collars) cmt'd w/ 200sx
			class A +3%CaCl +2%gel; cmt did circ; PD@4:45pm on
Upper LAYTON SS	2285' (-1014)	2289' (-1018)	12/14/19; by ELITE; Ticket # 4866
LAYTON SS	2304' (-1033)	2303' (-1032)	
			12/15/19; Drlg @ 544' @~6:45am
KANSAS CITY	2434' (-1163)	2430' (-1159)	
DODDS CREEK SS	2445' (-1174)	2446' (-1175)	12/16/19; Drlg @ 1615' @~6:45am
DENNIS LS	2501' (-1230)	2503' (-1232)	
SWOPE LS	2523' (-1252)	2525' (-1254)	12/17/19; Drlg @~2300'
HERTHA LS	2579' (-1308)	2579' (-1308)	
B/KC	2594' (-1123)	2595' (-1124)	12/18/19; Drlg @~2900'
HEPLER/CLEVELAND SS	2608' (-1337)	2610' (-1339)	
MARMATON	2675' (-1404)	2676' (-1405)	12/19/19; Drlg @~3100'; DST#1@3208'
ALTAMONT LS	2699' (-1428)	2700' (-1429)	
PAWNEE LS	2739' (-1468)	2740' (-1469)	12/20/19; Drlg @~3300'
FORT SCOTT LS	2780' (-1509)	2779' (-1508)	
CHEROKEE GRP/SH	2813' (-1542)	2813' (-1542)	12/21/19; DST#2 @ 3500'
EROSIONAL MISS.	3065' (-1794)	3065' (-1794)	12/22/19; E-Logging @ RTD:3550' LTD:3551'
MISSISSIPPIAN	3069' (-1798)	3071' (-1800)	Ran 87jts of new 5&1/2"x17#/ft csg; tally=3541.93' +
MISS.CHERT POROSITY	3071' (-1800)	3071' (-1800)	9.31 landing jt = 3551.24 +~2' basket shoe & float collar
MISS. LS	3080' (-1809)	3081' (-1810)	=~3553' Total tally; tagged btm @~3551' - picked up
COWLEY FACIES/FORMATION	3204' (-1933)	3208' (-1937)	~1&1/2ft off btm; set shoe @~900psi; cmt'd w/ 220sx
			Thick Set (see Remarks) displaced w/~84 bbls; final
KINDERHOOK SH	3484' (-2213)	3486' (-2215)	pump pres=~1100psi & bump plug to ~1650 psi - held
CHATT./WOODFORD SH	3504' (-2233)	3503' (-2232)	(good circ & lift pressure) by ELITE; Ticket # 4932
			PD@~4:45am on12/23/2019; jet; set slips, dump &
ARBUCKLE	3539' (-2268)	3539' (-2268)	clean pits. Rig release @~6:45AM on 12/23/2019.
TOTAL DEPTH (LTD/RTD)	3551' (-2280)	3550' (-2279)	

REMARKS: FOR A COMPLETION IN THE UPPER MISSISSIPPIAN SYSTEM; RAN 87 JOINTS OF NEW 5&1/2" x 17#/FT PRODUCTION CASING; TALLY=3541.93' +~2' BASKET SHOE & FLOAT COLLAR =~3543.93' + 9.31' LANDING JOINT =~ 3553' TOTAL; TAGGED BTM @~3551', PICKED UP ~1&1/2 FT & SET BASKET SHOE PACKER@~3549'+@~900 PSI

PUMP 15 BBL FRESH WATER PRE-FLUSH: MIX & PUMP 220 SX THICK SET CEMENT + 2# PHENOSEAL/SK + 1/4% CFL; 13.8#; W/ 1.63 YIELD; ~63.5 BBL SLURRY.

DISPLACE W/ 84 BBLS (1ST 40 BBLS KCL CITY WATER) FINAL PUMP PRESSURE= ~1100 PSI & BUMPED PLUG TO 1650 PSI; FLOAT HELD; GOOD CIRC & LIFT PRESSURE @~40 BBLS OUT. JOB BY ELITE CEMENTING & ACID SERVICE, LLC; TICKET # 4932.

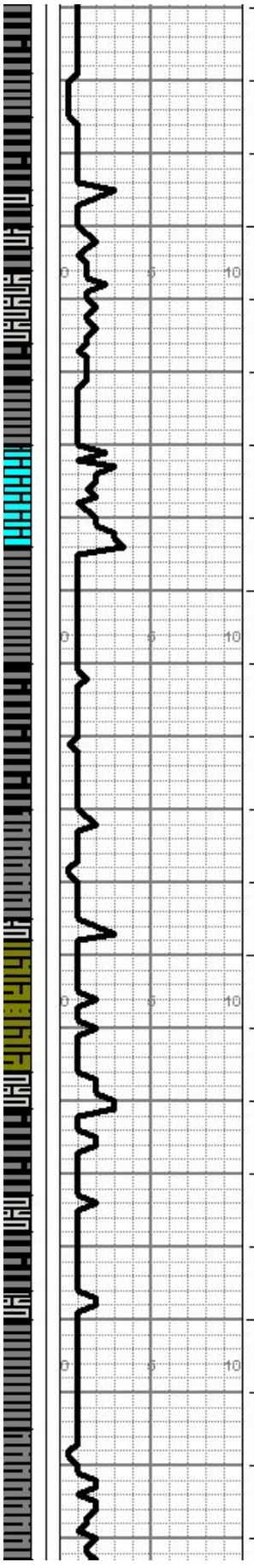
RAN 10 CENTRALIZERS: ON COLLARS OF JT#3 @~3422' & JT#5@3335' & JT#7@~3250' & JT#9@3165' & JT#11@~3085' & JT#18@~2799' & JT#20@~2720'& JT#25@~2514' & JT#28@~2390' & JT#31@~2317'.

BASKETS ON JTS #4@~3420' & JT#9@~3210' & JT#32@~2315'

I RECOMMEND REVIEW OF THE UPPER LAYTON SANDSTONE & THE MARMATON GROUP BEFORE ABANDONMENT.

REPECTFULLY SUBMITTED,
ROGER L MARTIN, WELLSITE GEOLOGIST

d	POROSITY	DRILLING TIME MIN/FT	DST	SAMPLE DESCRIPTION	REMARKS
			-1500	HEEBNER SH} bk subcarb to V.carb & sm LS: dk-gy-bk, dn & argil Mdst	1504' (-233) HEEBNER SH



& vgt'd SH:

V.abndt SH: bk subcarb-carb, & dk-gy & mrn, Vgt'd.

SH:AA & LS:gy, dn & argil Mdst.

Abndt LS: {1609'spl} wh-gy-bf-tn, W/kst-Pkst, & prt chlky, & ux-fnXln, Vpr-Fr Visbl Poro w/ NS.

V.Abndt SH: Vgt'd; abndt mrn-rd & gy-bk.

SH: Vgt'd AA.

sm Silty Sd Clust: Vfn-fnGr'd, sm calc & Lmy; Vpr-NVP w/ NS.

sm argil LS; Vpr-NVP; NS.

Silty Sd Clust: Lt-gy, VfnGr'd, well cmt'd w/ Vpr-pr Visbl Poro w/ NS.

& argil-silty & dn LS w/ Vpr-NVP; NS.

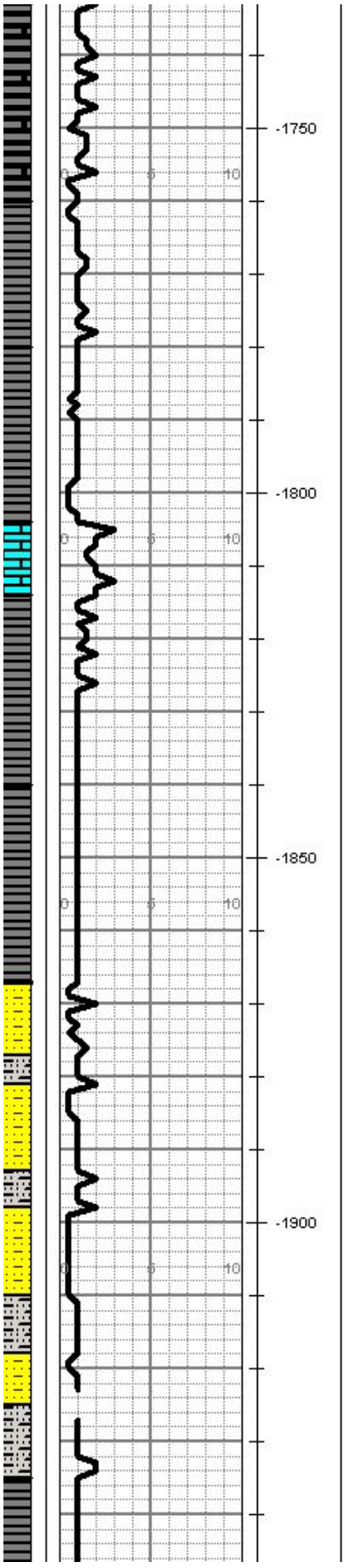
Abndt Vgt'd SH:AA.

sm dn LS:AA & sm Silty Sd Clust:AA w/ NS;

Pred SH: dk-gy-bk, mrn-rd, Vgt'd

sm Silty Sd Clust - Sndy SILTS: pr-NVP; NS.

Mud-Co Report
12/16/19@10:15A
Drlg @ 1734'
Wt:9.3; Vis:32
PV:4; YP:4
pH:9.0; WL:16.0
CT:1/32; Alka:0.3
Cl: 1300 ppm
Ca: 80 ppm
Solids: 7.1%
LCM: 0
ECD: 9.61 #/gal



Pred SH: dk-gy-bk

SH:AA

IATAN LS] Abndt LS {1828'KD.spl} wh-gy-tn- mot- Pkst, & ux-fnXln, Trc MdX's, sm chky; pred Vpr-pr Visbl Poro w/ NS.

V.abndt SH: Vgt'd; dk-gy & gn-gy, & mrn.

SH:AA; Vgt'd, pred gy.

SS: Trc Sd Clust {1891'KD.spl} VfnGr'd; As Below {AB) NS.

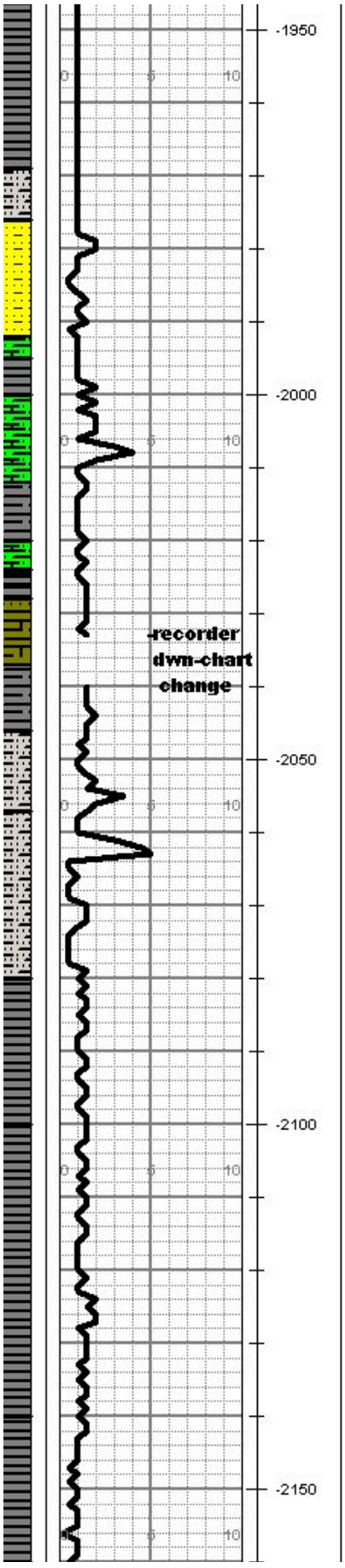
SS: {1923'KD.spl} Abndt Sd Clusters: Lt-gy-wh, VfnGr'd, micac, well cmt'd to fribl, sm silty, w/ pr-Fr Visbl Poro & sm Gd aprnt Poro w/ NSO {No Show of Oil) No FLR {NF) No Cut {NC).

SS: {1954'KD->1987'KD.spl} Sd Clust:: As Above {AA) w/ sm Fr-Gd Poro; NSO; NF; NC.

{1954'->1987'KD.spl.cont'd} Abndt SH: gy-bk, & mrn, Vgt'd.

1804' (-533)
IATAN LS

1867' (-596)
STALNAKER SS



SH: Vgt'd; incrs mrn-rd, & gn-gy.

{2048'KD.spl} Abndt SH: gy-bk.

{2048'corrected-Kelly Down(KD)spl.cont'd} sm SILTS: gy, sm Sndy;
V.rare {Vrr) Sd Clust: gy-wh, Vfn-fnGr'd, well cmt'd to fribl w/ pr-Fr Visbl Poro w/ NSO; NF; NC.

{2080'Corrected-KD.spl} incrs Sd Clust; AA; sm calc & Lmy w/ pred pr-Fr Visbl Poro w/ NSO; NF; NC.

SH: AA.

sm SILTS: calc & Lmy.

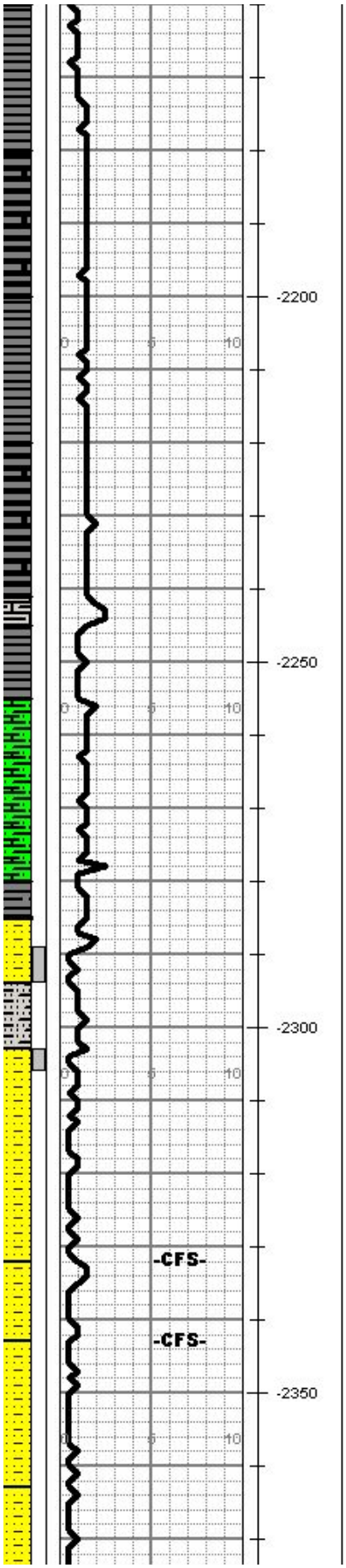
sm SS: Sd Clust: gy-wh, bf-gy, Vfn-fnGr'd, pred well cmt'd w/ Vpr-pr Poro; Trc Fr Visbl Poro w/ NSO; NF; NC.

Pred SH: dk-gy-bk.

SH: gy-bk, sm bk-carb.

SH: AA

{drilled a joint down that was Not recorded on the dp tally board; confirmed on TOH for DST#1; sample lag & tops & drilling time, are all corrected to depth after re-tally @ 3208')



SH: AA & gy- micac

SH: dk-gy & gn-gy, s m Lmy; Trc argil- dn LS & Sndy SILTS.

Pred SH: AA.

Vrr LS: gy, dn-ux-fnX; & argil Mdst.

SH: gy-bk

SILTS: Lt-md-gy, micac & calc, s m Sndy: VfnGr'd; & sm argil-silty LS w/ Vpr-NVP w/NS.
& SS: Sd Clust: Lt-gy, VfnGr'd, micac, silty, well cmt'd to subfribl w/ pred Vpr-NVP w/ NSO.

UPPER LAYTON SS}Sd Clust: gy-bf, gy-wh, Vfn-fnGr'd, well Rnd'd to subanglr, pred well cmt'd- subfribl w/ pred pr-Fr Visbl Poro; & V.rare (Vrr) fribl w/ Gd-lGr.Poro; ~20% w/ subsat dull yell FLR & Lt-tn-bn-O.STN & Sl-Fr SFO-GSY- "Lively" Show Free Oil (SFO) & Sl-Fr milky Cut; Sl Odor; pred silty & micac; sm shly w/ Vpr-pr visbl Poro & pred barren; & SILTS: Lt-gy, micac, sm Sndy.

LAYTON SS} Sd Clust: Lt-gy-bf-wh, VfnGr'd, silty, micac, well cmt'd to fribl w/ Fr-Gd Poro- Pred Barren; Trc FLR-Trc SFO-STN & Trc milky Cut.

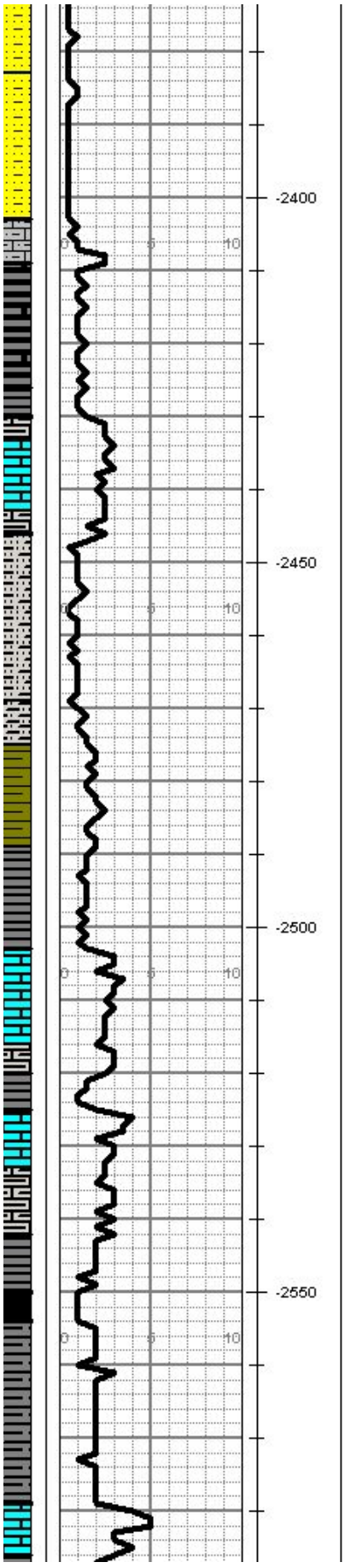
SS: Sd Clust: gy-wh-bf, pred VfnGr'd, s m silty & micac & sm shly; sm fribl w/ Fr-Gd Poro; >99% Barren w/ NSO.

SS: Sd Clust: Lt-gy-bf-wh, Vfn-fnGr'd, pred Rnd'd-Subanglr; prt silty- micac, sm sl shly, well cmt'd to fribl w/ sm Fr-Gd Poro w/ NSO & NC; (abndt gy-bk SH in spls).

SS: Sd Clust: gy-wh-bf, Vfn-fnGr'd, Vrr prt mdGr'd, pred Rnd'd- subanglr; incrs in fribl w/ Fr-Gd Poro w/ NSO & NC; s m silty & well cmt'd & micac & s m sl shly w/ NSO.

2289' (-1018)
UPR.LAYTON SS
(~20% Sl-Fr SFO)

2303' (-1032)
LAYTON SS
(Trc SFO)



SS: Sd Clusters: decrs AA; Vfn-mdGr'd; sm Fr-Gd Visbl Poro; w/ NSO.

sm calc & Lmy Sd Clust & Sndy-silty-LS w/ NSO.

Pred SH: gy-bk; Trc Crs F.Sd.Gr's.

SH: gy-bk

KC} LS: gy-tn, dn-ux-fnX; & Mdst-Wkst w/ Vpr-NVP; NSO.

2430' (-1159)
KANSAS CITY

2446' (-1175)
DODDS CRK.SS

DODDS CRK.SS} Sd Clusters: Lt-gy-bf; gy-wh, pred VfnGr'd; sm Vfn-fnGr'd; Trc mdGr's; abndt silty micac, sm sl shly; Rr friblw/ Fr-VGd Poro w/ NSO; NF; NC; & SILTS: Lt-gy, micac, sndy; NSO.

sm SS: Sd Clust:AA w/ NSO; NF; NC; Sharp incrs SILTS & Silty Sd Clust w/ Vpr-NVP; NSO; NF; NC.

Abndt SH: gy-bk; (sm SILTS & Rr Sd Clust:AA; NSO).

LS: cm-tn-gy, & sm wh-chly, sm ux-fnX; & Wkst-Pkst; pred pr-NVP; NSO,

LS: AA; & gy- argil.

Abndt SH:bk-carb & dk-gy.

LS: gy-bn, dn-ux-fnX; & argil- Mdst; Vpr-NVP; NS.

2503' (-1232)
DENNIS

2525' (-1254)
SWOPE LS

SH: dk-gy-bk;

shrp incrs bk-carb to V.carb SH.

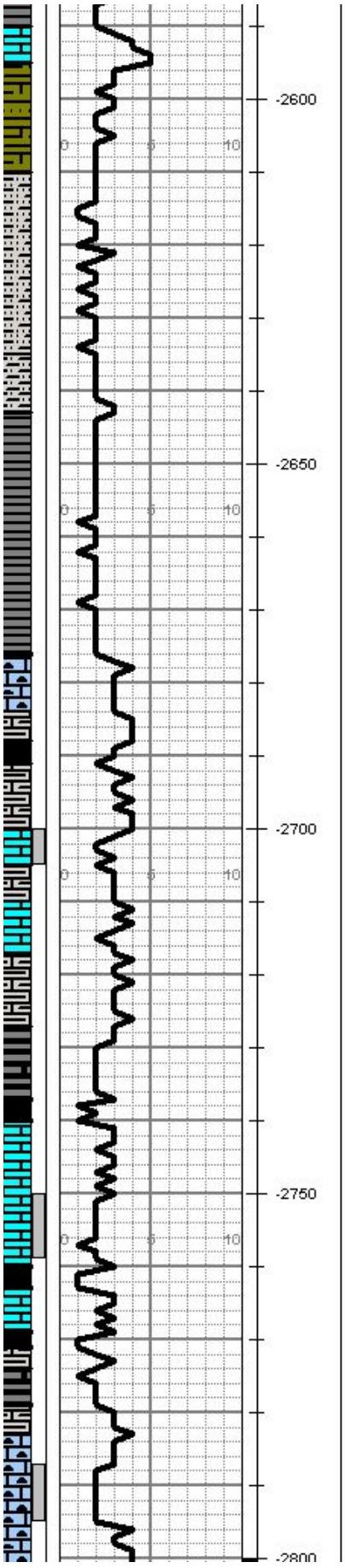
SH: AA & sm Silty Sd Clust:AA & SILTS:AA.

SH & Sndy SILTS:AA.

LS: tn-gy-bn, pred dn- ux & sm wh-gy-subchlky & argil Mdst; Vpr-NVP; NS.

2579' (-1308)
HERTHA LS

Mud-Co Report
12/17/19@10:30A
Drlg @ 2427'
(corrected depth)
Wt:9.3; Vis:47
PV:13; YP:14
pH:10.5; WL:7.2
CT:1/32; Alka:0.9
Cl: 1400 ppm
Ca: 60 ppm
Solids: 6.8%
LCM: 0
ECD: 9.61 #/gal



LS: gy-tn-wh, Wkst-Pkst, sl fos, sm chky; pr-NVP; NS.

SH: dk-gy-bk, subcarb-carb; Rr Sndy SILTS & SiltySS- Sd Clust:gy, VfnGr'd, pr-Fr Poro w/ NSO; NF; NC.

2595' (-1324)
B/KC

Vrr Sd Clust gy, Vfn-fnGr'd w/ Fr-Gd-lGr.Poro w/ NSO; NF; NC.

Sndy-SILTS & Silty-SS: Sd Clust w/ pred pr Visbl Poro w/ NSO; NF; NC.

Pred SH: gy-bk, sm bk-carb.

SH: AA.

2676' (-1405)
MARMATON

MARMATON} LS: cm-tn-gy, Wkst-Pkst & wh-chky; Sl Cherty; pr-NVP w/ NS.

LS: gy-tn-wh, dn-ux-fnX; sm argil; Vpr-NVP; NS.

SH: gy & bk-carb; & LS:AA, argil.

2700' (-1429)
ALTAMONT
{Trc SFO)

LS: gy-tn-wh, ux-fnXln, Vrr prt mdXln- Vrr fos- Coral, & sl oolc; Xln & Pkst w/ Fr Poro to Trc Gd.Poro: fos-vug, moldc & IXP; Vrr FLR & Lt-tn-bn-OSTN; Trc SFO & milky Cut, pred Barren w/ pr-NVP; & sm argil LS.

LS: AA, sm argil;

& SH: bk subcarb to V.carb.

SH:AA; sm calc & Lmy

2740' (-1469)
PAWNEE

PAWNEE} LS: tn-gy-wh, ux-fnXln, & Wkst-Pkst, prt chlky, w/ pr-Fr Poro: pp & lGr & IXP; Trc moldc Poro; Trc FLR-SFO-STN & Cut, pred Barren.

{Trc SFO)

SH: bk-carb & subcarb.

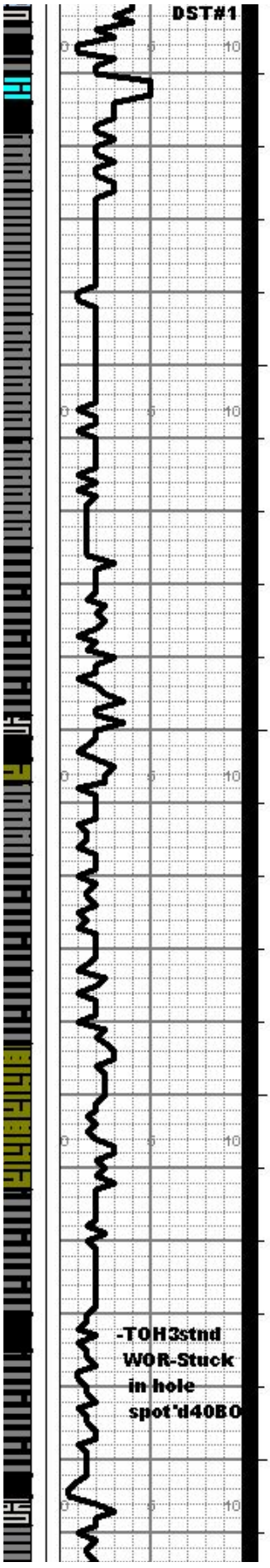
LS: tn-gy-wh, pred dn-ux, & argil- Mdst.

SH: bk-carb & dk-gy- sm calc & Lmy.

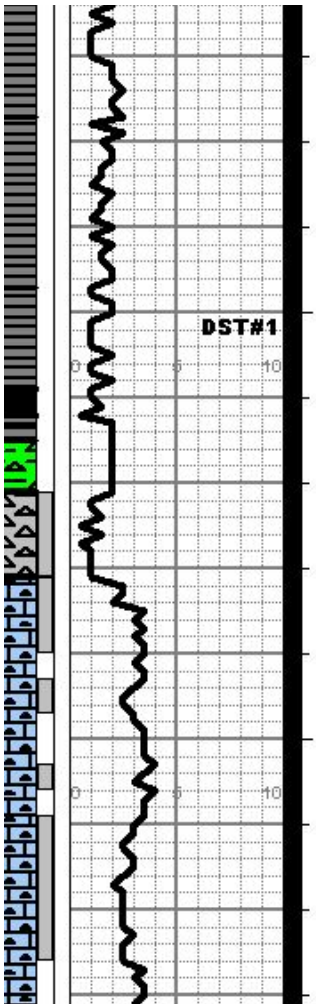
2779' (-1508)
FT. SCOTT

FT.SCOTT} LS: wh-chky & tn-gy- dn-ux- fnXln- sm 2nd ReX; sm Wkst-Pkst; Sl Cherty; sm pr-Fr-lGr & pp & IXP; ~5% w/ spt'd- subsat-FLR & VSl-SISFO & VLt-OSTN & Sl milky-Cut, VSl Odor.

{VSL-SLSFO)



SH: bk-subcarb to V.carb. LS:AA; tn-gy-wh, dn- ux & argil Mdst. CHEROKEE} SH: bk-carb- V.carb; Trc Coal; & SH:gy. SH-SILTS: Vgt'd, sm calc- sndy; (abndt LS:AA). AA; sl incrs SH:AA. SH: gy & bk-carb; & SILTS:AA. Sharp ;incrs in SH & SILTS: AA.	2813' (-1542) CHEROKEE	
SH-SILTS: AA; (Trc Sd Clust:AA; NS & sm LS:AA). SH: pred gy & bk-carb. & LS: dk-gy-bk, ux & argil Mdst		
SH: bk-carb- V.carb. SILTS-SH: Lt-dk-gy, micac SH: pred dk-gy - bk-carb; sm LS: dn-chlky. SH: AA; sm dn & argil LS; Vrr Sd Clust:AA; NS.		
SH: abndt gy & bk-carb, sm pyrtc; & sm LS. SH: dk-Lt-gy sm bk-carb SH. Pred SH: dk-gy-bk & Vgt'd	-TOH 3 stands to Work on rig-Stuck in hole spot'd 40 bbls oil-pulled loose after ~4hrs then circ & TIH 3 stnds, then back to drlg.	Mud-Co Report 12/18/19@11:30A Drlg @ 2958' (corrected depth) Wt:9.5+; Vis:47 PV:15; YP:15 pH:10.5; WL:7.2 CT:1/32; Alka:1.0 Cl: 1500 ppm Ca: 60 ppm Solids: 8.5% LCM: 1#/bbl ECD: NC
Vrr Coal; sm pyrtc; sm LS:argil-Mdst. Pred SH: Vgt'd, sm mrn-rd.		



SH: Pred bk-carb & dk-gy.

SH: Vgt'd - mrn-rd & gy.

sm bk-carb SH.

SH: V-gt'd-gy & bk-carb, mrn-wxy; & sm dn-LS & argil-LS; & Trc sharp Chert.

CHERT: wh-bf-gy, sm w/ tn-O.STN; pred sharp & prtly Wthr'd- sub.Tripolc; ~30% Wthr'd-Tripolc w/ Fr-Gd Poro: pin point {pp) & vug & Inter-Granular {IGr) - Tripolc Poro w/ spt'd to sat.FLR & tn-O.STN w/ Fr-Gd SFO-Gsy, Sl to Gd milky Cut; Frly Strong Odor.

LS: wh-chlky, & cm-bf, sub-chlky- Wkst-Pkst; & ux-fnX; Cherty; w/ V.rare(Vrr) pr Visbl Poro: pp-vug & u-IGr.Poro & u-Frac's Trc Fr Visbl.Poro; <5% w/ spt'd-subs at FLR & Lt.O.STN & VSLSFO & Cut, VSL Odor on brk; Trc Gd Visbl Poro w/ FLR-SFO-STN-Cut; (sm Chert:AA) (sm SH cavings).

LS: wh-chlky & subchlky; & cm-bf-tn & gy, Wkst-Pkst; & ux-fnX; Cherty (AA) sl incrs pr-Fr- Visbl Poro- AA~5% <10% w/ spt'd FLR & Lt-tn-O.STN & VSLSFO & milky Cut, Trc Odor on brk; Cherty: AA; (Abndt SH cavings).

3071'(-1800)
MISS.CHERT PORO. (Fr-Gd SFO)

3081'(-1810)
MISS. LS

(VSLSFO)

(VSLSFO)

(VSLSFO)

(VSLSFO)

DST#1; MISS. 2800'--3208'
30-45-60-90min.
IF: Wk blow; bldg to 3"; ISI: NBB.
FF: Wk blow; bldg to 1"; FSI:NBB.
Rec:100'Drlg Mud
Tool Spl: Trc of OCM/Trc.Show Oil

IHP: 1489
IFP: 24--39
ISIP: 529
FFP: 41--59
FSIP: 488
FHP: 1382
Temp: 104deg.F.

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Raney Oil Company, LLC

4665 Bauer Brook Court
Lawrence, KS
66049-2013
ATTN: Thomas Raney/Roger M

31/33S/6E Cowley, KS

Pray #3

Job Ticket: 65419 **DST#: 1**

Test Start: 2019.12.19 @ 14:14:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:42:00
Time Test Ended: 21:00:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 2800.00 ft (KB) To 3208.00 ft (KB) (TVD)
Total Depth: 3208.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

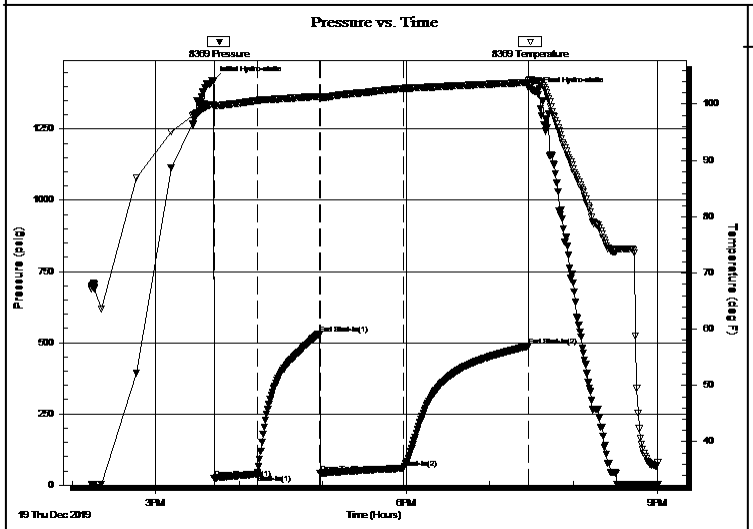
Reference Elevations: 1271.00 ft (KB)
1263.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8369 **Outside**

Press@RunDepth: 58.93 psig @ 2801.00 ft (KB)
Start Date: 2019.12.19 End Date: 2019.12.19
Start Time: 14:14:01 End Time: 21:00:30

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2019.12.19 @ 15:41:10
Time Off Btm: 2019.12.19 @ 19:33:30

TEST COMMENT: IF - Weak blow building to 3 inches during initial flow period.
FF - Weak blow building to 1 inch during final flow n period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1418.88	99.91	Initial Hydro-static
1	24.15	99.36	Open To Flow (1)
32	39.09	100.63	Shut-In(1)
77	529.14	101.39	End Shut-In(1)
77	40.72	101.23	Open To Flow (2)
137	58.93	102.81	Shut-In(2)
227	487.86	103.87	End Shut-In(2)
233	1382.45	104.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Drilling mud 100% M	1.05
0.00	TS Trace OCM Tr O & 100% M	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Raney Oil Company, LLC

4665 Bauer Brook Court
Lawrence, KS
66049-2013
ATTN: Thomas Raney/Roger M

31/33S/6E Cowley, KS

Pray #3

Job Ticket: 65419 **DST#: 1**

Test Start: 2019.12.19 @ 14:14:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:42:00
Time Test Ended: 21:00:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 2800.00 ft (KB) To 3208.00 ft (KB) (TVD)
Total Depth: 3208.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

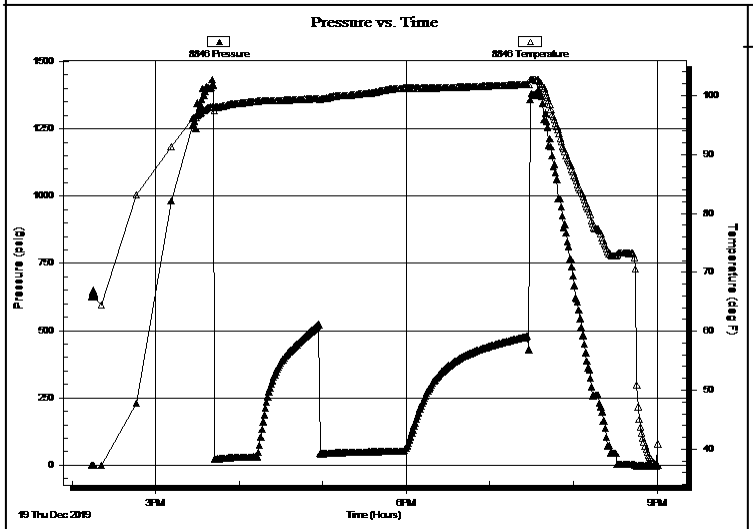
Reference Elevations: 1271.00 ft (KB)
1263.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8846 **Inside**

Press@RunDepth: psig @ 2801.00 ft (KB)
Start Date: 2019.12.19 End Date: 2019.12.19
Start Time: 14:14:01 End Time: 21:00:40

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 3 inches during initial flow period.
FF - Weak blow building to 1 inch during final flow n period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Drilling mud 100% M	1.05
0.00	TS Trace OCM Tr O & 100% M	0.00

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Raney Oil Company, LLC

4665 Bauer Brook Court
Law rence, KS
66049-2013

ATTN: Thomas Raney/Roger M

31/33S/6E Cowley, KS

Pray #3

Job Ticket: 65419 **DST#: 1**

Test Start: 2019.12.19 @ 14:14:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.39 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1900.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	Drilling mud 100% M	1.052
0.00	TS Trace OCM Tr O & 100% M	0.000

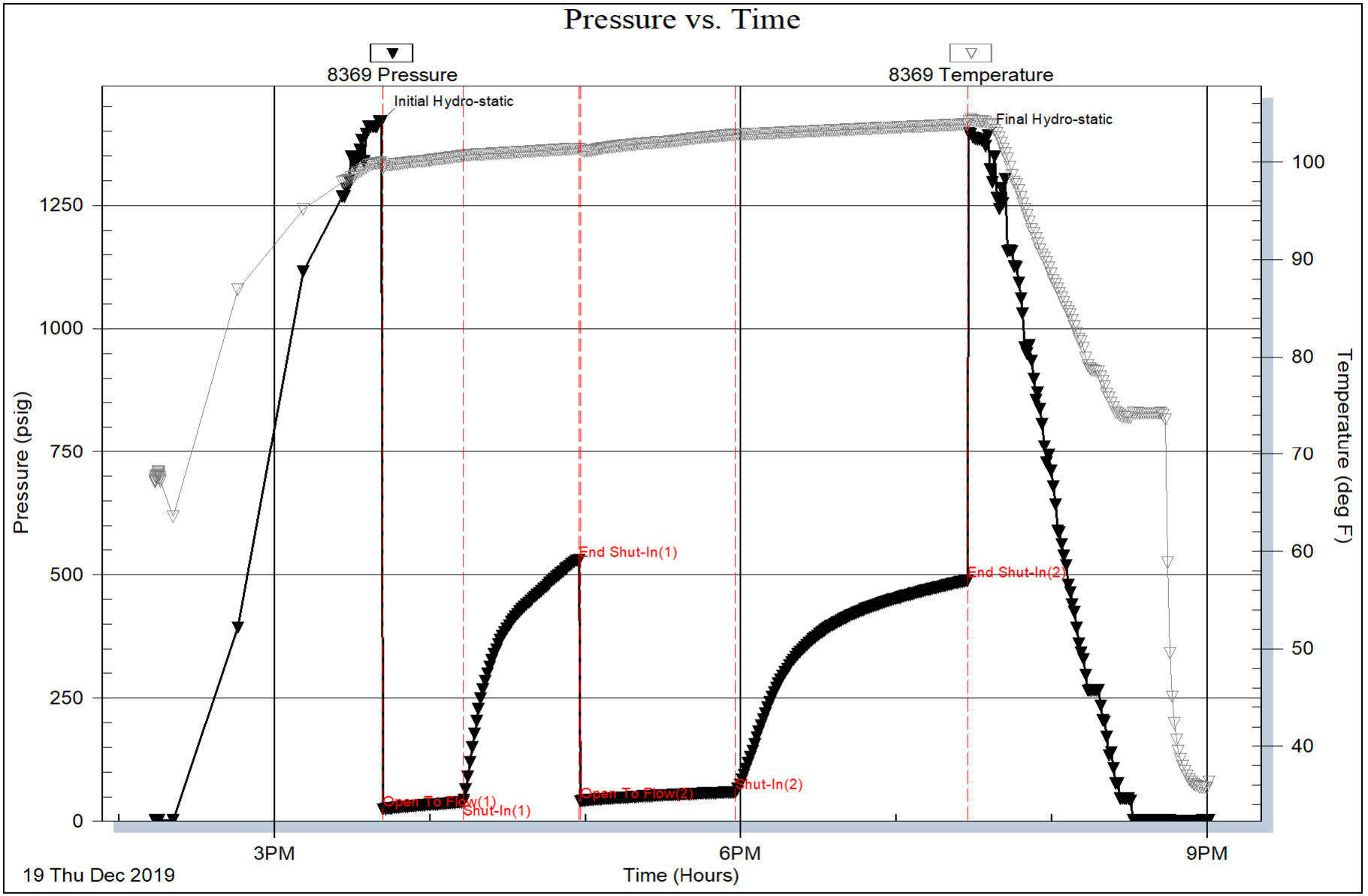
Total Length: 75.00 ft Total Volume: 1.052 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

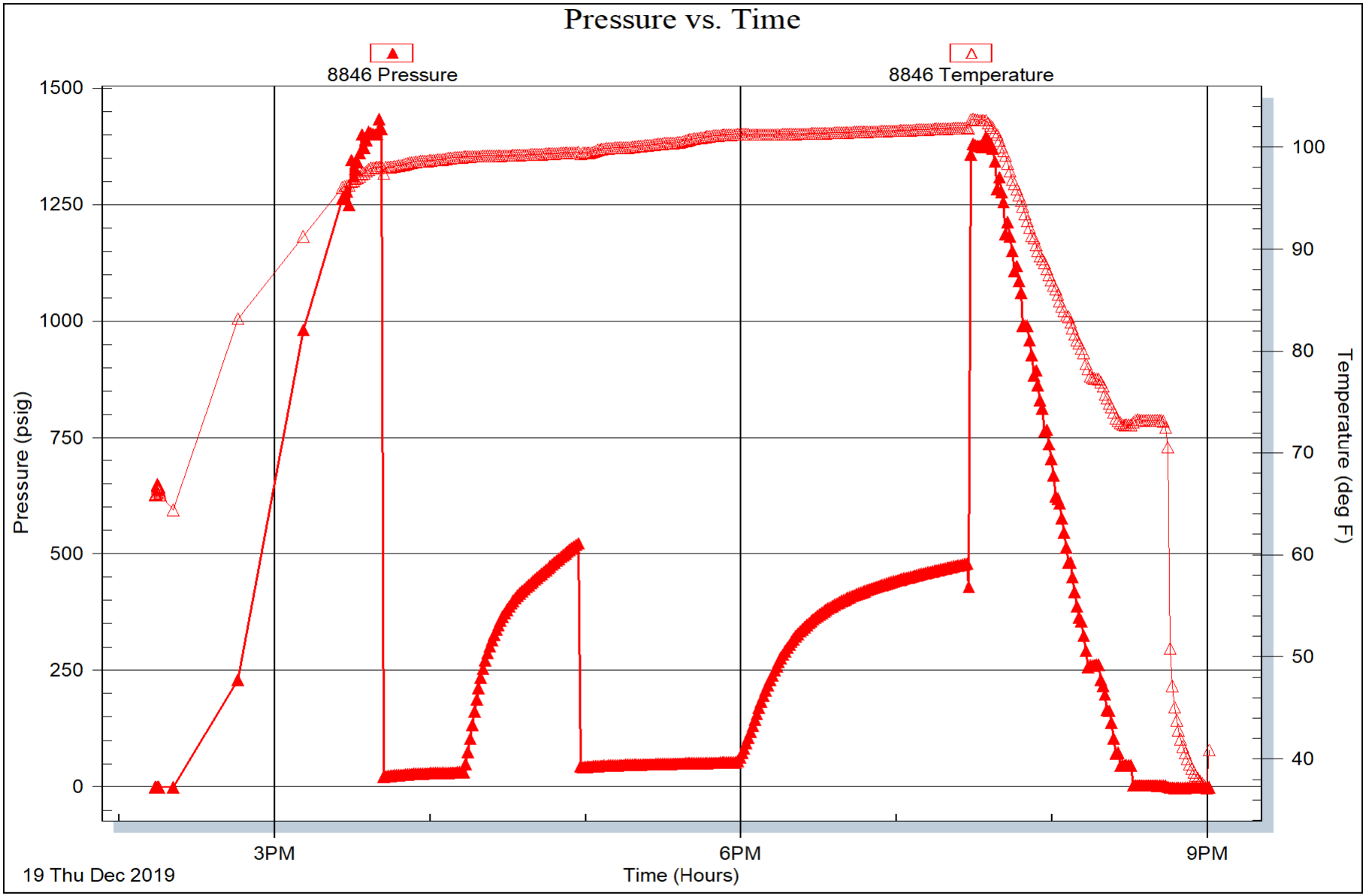
Recovery Comments:

Serial #: 8369 **Outside** Raney Oil Company, LLC Pray #3 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 65419 Printed: 2019.12.20 @ 11:51:55

Serial #: 8846 **Inside** Raney Oil Company, LLC Pray #3 DST Test Number: 1



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