KOLAR Document ID: 1363867

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 # 35220
Name: James P. Williams Enterprises, Inc.
Address 1: PO BOX 226, 802 MAIN STREET
Address 2:
City: PALCO State: KS Zip: 67657 + __ __ __ __
Contact Person: James P. Williams
Phone: (479) 461-6553
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: Randall Kilian
Purchaser: Coffeyville Resources LLC

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 #:

07/06/2017	07/12/2017	07/22/2017
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-163-24343-00-00
Spot Description:
N2 - SE - SE - NE Sec. 8 Twp. 10 S. R. 20 ☐ East ☑ West
2200 Feet from ☑ North / ☐ South Line of Section
330 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: Rooks
Lease Name: WANKER Well #: 1
Field Name: Marcotte
Producing Formation: Simpson Sand
Elevation: Ground: 2243 Kelly Bushing: 2250
Total Vertical Depth: 3900 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 221 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2196 Feet
If Alternate II completion, cement circulated from: 2196
feet depth to: 0 w/ 355 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 1500 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated
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: 08/18/2017
☑ **Confidential Release Date:** 08/18/2019
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** Karen Ritter **Date:** 08/22/2017

Operator Name: James P. Williams Enterprises, Inc. Lease Name: WANKER Well #: 1

Sec. 8 Twp. 10 S. R. 20 ☐ East ☑ West County: Rooks

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	☐ Log ☑ Sample
Samples Sent to Geological Survey	☑ Yes	☐ No	Formation (Top), Depth and Datum
Cores Taken	☐ Yes	☑ No	Name: Attached; Top: Attached; Datum: Attached
Electric Log Run	☑ Yes	☐ No	
Geologist Report / Mud Logs	☐ Yes	☐ No	

List All E. Logs Run:
Attached

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	15.5	221	80/20 Common	150	3% CC, 2% Gel
Production	7.875	5.5	17	3900	Common	150	10% Salt, 5% Gilsonite, 500 Gals Mud Cl

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	0-2196	QMD Cement	355	1/4 # Flo Seal
	-			

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: 07/29/2017	Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	22		1		34

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)*	

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)*

TUBING RECORD: Size: 2.875 Set At: 3775' Packer At: N/A

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

Form	ACO1 - Well Completion
Operator	James P. Williams Enterprises, Inc.
Well Name	WANKER 1
Doc ID	1363867

All Electric Logs Run

Dual Induction Log
Compensated Denisity Neutron Log
Microresistivity Log
Cement Bond Log
Computer Generated Interpretation Log

Form	ACO1 - Well Completion
Operator	James P. Williams Enterprises, Inc.
Well Name	WANKER 1
Doc ID	1363867

Tops

Name	Top	Datum
Anhydrite	1750	+500
Base of Anyhydrite	1784	+467
Topeka	3281	-1033
Heebner Shale	3484	-1236
Toronto	3505	-1257
Lansing	3521	-1275
Base Kansas City	3740	-1493
Simpson Sand	3799	-1545
Arbuckle	3813	-1571
RTD	3900	-1650

Form	ACO1 - Well Completion
Operator	James P. Williams Enterprises, Inc.
Well Name	WANKER 1
Doc ID	1363867

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3796' - 3802'	N/A	

Form	ACO1 - Well Completion
Operator	James P. Williams Enterprises, Inc.
Well Name	WANKER 1
Doc ID	1363867

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	15.5	221	80/20 Common	150	3% CC, 2% Gel
Production	7.875	5.5	17	3900	Common	150	10% Salt, 5% Gilsonite, 500 Gals Mud Clear

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 1583

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-6-17	8	10	20	Rooks	KS		9:00PM

Location Palco 3s Winto

Lease Wanker Well No. 1

Owner

Contractor Discovery #2

To Quality Oilwell Cementing, Inc.
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

Hole Size 12 1/4 T.D. 222

Charge To James P. Williams Enterprises

Csg. 8 5/8 Depth 221

Street

Tbg. Size Depth

City State

Tool Depth

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

Cement Left in Csg. 10' Shoe Joint

Cement Amount Ordered 150 80/20 3% CC 2% Gel

Meas Line Displace 13 1/2 BL

EQUIPMENT

Pumptrk 5 No. Cementer Craig
Helper Brett

Bulktrk No. Driver
Driver

Bulktrk 15 No. Driver
Driver Doug

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

8 5/8 on Bottom. Est. Circulation. Mix 150sk Displace Cement Did Circulate!

Common	120
Poz. Mix	30
Gel.	3
Calcium	6
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	159
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	47
Tax	
Discount	
Total Charge	

X Signature

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 **Home Office P.O. Box 32 Russell, KS 67665** **No. 1587**

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-12-17	8	10	20	Rooks	KS		8:00 pm

Location Palco 3S W into

Lease Wanker Well No. 1

Contractor Discovery #2

Type Job DV Job

Hole Size 7 7/8 T.D. 3900

Csg. 5 1/2 17# Depth 3905

Tbg. Size Depth

Tool DV Tool Depth 2196

Cement Left in Csg. 14.42 Shoe Joint 14.62

Meas Line Displace 90 1/2 BL

EQUIPMENT

Pumptrk 5 No. Cementer Craig

Helper Brett

Bulktrk 21 No. Driver Brett

Driver Tanner

Bulktrk 15 No. Driver

Driver Jordan

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

5 1/2 set @ 3900 Ru 4 1/2 to 3890

Est. Circulation. Pump 500 gal mud Clear

10 Bbl Spacer. Cement 5 1/2 with 150 sk

Clear lines. Displace Plug.

Displace with 45 3/4 BL water

36 Bbl mud + 10 Bbl water to land

Plug. Plug land @ 1500#

Drop Bomb. Open DV Tool

Circulate 30 min

X Signature

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To James P. Williams Enterprise

Street

City State

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

Cement Amount Ordered 150 com 10# Salt 5# Gilsonite 500 gal mud Clear

Common

Poz. Mix

Gel.

Calcium

Hulls

Salt

Flowseal

Kol-Seal

Mud CLR 48

CFL-117 or CD110 CAF 38

Sand

Handling

Mileage

FLOAT EQUIPMENT

Guide Shoe

Centralizer 7

Baskets 3

AFU Inserts DV Tool

Float Shoe 1

Latch Down 1

Pumptrk Charge

Mileage

Tax

Discount

Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 **Home Office P.O. Box 32 Russell, KS 67665** **No.** 1588

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-12-17	8	10	20	Rooks	KS		10:00 A.M.

Location: Palco 3S Winto

Lease: Wanker	Well No. 1	Owner
Contractor: Discovery #2 Top Stage		To Quality Oilwell Cementing, Inc. 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: DV Job		Charge To: James P Williams Enterprise
Hole Size: 7 7/8	T.D. 3900	Street
Csg. 5 1/2	Depth 3[illegible]	City / State
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Tool: DV Tool	Depth 2196	Cement Amount Ordered: 380 80/20 QMDC 1/4# Flo
Cement Left in Csg.	Shoe Joint	
Meas Line	Displace 5[illegible] Bbl	

EQUIPMENT

	No.		
Pumptrk 5	No.	Cementer	Craig
		Helper	Brett
Bulktrk	No.	Driver	
		Driver	
Bulktrk 21	No.	Driver	
		Driver	

JOB SERVICES & REMARKS

Remarks:	
Rat Hole	30 sk
Mouse Hole	15 sk
Centralizers	
Baskets	
D/V or Port Collar	

Plug Rathole & Mousehole
Cement 5 1/2 with 335 sk
Displace [illegible]
Cement Circulated
Plug landed @ 1200#
30 sk to Pit

Item	
Common	
Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	

FLOAT EQUIPMENT

Item	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	
Mileage	
Tax	
Discount	
Total Charge	

X
Signature

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **James P. Williams Enterprise, Inc.**

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

Wanker #1

8-10S-20W Rooks,KS

Start Date: 2017.07.11 @ 08:52:00
End Date: 2017.07.11 @ 15:05:15
Job Ticket #: 62987 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.12 @ 09:52:33

DRILL STEM TEST REPORT

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62987 **DST#: 1**

Test Start: 2017.07.11 @ 08:52:00

GENERAL INFORMATION:

Formation: **Simpson-Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:24:45
Time Test Ended: 15:05:15

Test Type: Conventional Straddle (Initial)
Tester: Spencer J. Staab
Unit No: 84

Interval: 3780.00 ft (KB) To 3842.00 ft (KB) (TVD)
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

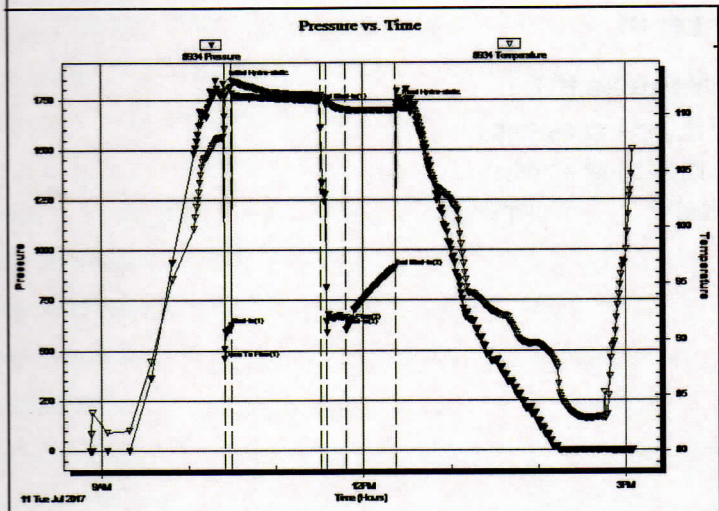
Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8934 **Inside**

Press@RunDepth: 665.49 psig @ 3781.00 ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 08:52:15 End Time: 15:05:15

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm: 2017.07.11 @ 10:24:15
Time Off Btm: 2017.07.11 @ 12:23:00

TEST COMMENT: 5-IF-Strong Blow ; BOB in 20 secs
60-ISI-No Return
15-FF-Strong Blow ; BOB in 5 secs
30-FSI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1830.17	108.15	Initial Hydro-static
1	460.41	108.79	Open To Flow (1)
6	628.74	112.57	Shut-In(1)
67	1745.48	111.79	End Shut-In(1)
71	646.82	111.00	Open To Flow (2)
84	665.49	110.52	Shut-In(2)
118	916.77	110.45	End Shut-In(2)
119	1730.70	110.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
945.00	Muddy Water 50%M 50%W	11.18
440.00	WCM 10%W 90%M	6.17

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62987 **DST#: 1**

Test Start: 2017.07.11 @ 08:52:00

GENERAL INFORMATION:

Formation: **Simpson-Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:24:45
Time Test Ended: 15:05:15

Test Type: Conventional Straddle (Initial)
Tester: Spencer J. Staab
Unit No: 84

Interval: 3780.00 ft (KB) To 3842.00 ft (KB) (TVD)
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

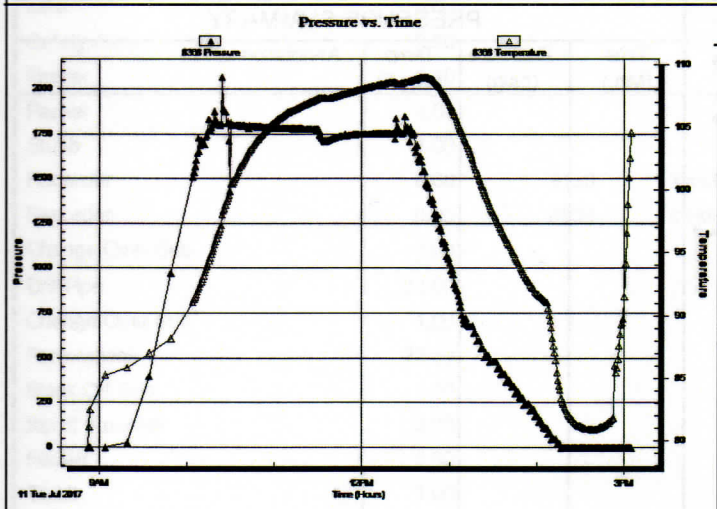
Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8368

Press@RunDepth: psig @ ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 08:52:15 End Time: 15:05:00

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 5-IF-Strong Blow ; BOB in 20 secs
60-ISI-No Return
15-FF-Strong Blow ; BOB in 5 secs
30-FSI-No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
945.00	Muddy Water 50%M 50%W	11.18
440.00	WCM 10%W 90%M	6.17

Gas Rates

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

DRILL STEM TEST REPORT

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62987 **DST#: 1**

Test Start: 2017.07.11 @ 08:52:00

GENERAL INFORMATION:

Formation: **Simpson-Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:24:45
Time Test Ended: 15:05:15

Test Type: Conventional Straddle (Initial)
Tester: Spencer J. Staab
Unit No: 84

Interval: 3780.00 ft (KB) To 3842.00 ft (KB) (TVD)
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

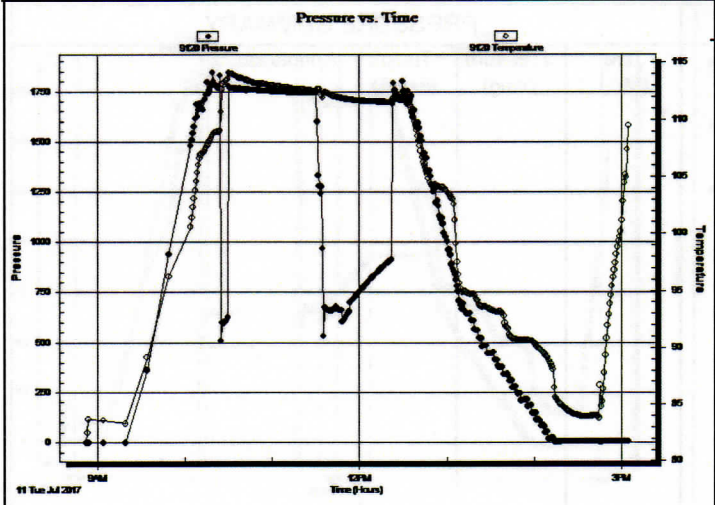
Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 9120 **Inside**

Press@RunDepth: psig @ 3781.00 ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 08:52:15 End Time: 15:05:15

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 5-IF-Strong Blow ; BOB in 20 secs
60-ISI-No Return
15-FF-Strong Blow ; BOB in 5 secs
30-FSI-No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
945.00	Muddy Water 50%M 50%W	11.18
440.00	WCM 10%W 90%M	6.17

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62987 **DST#: 1**

Test Start: 2017.07.11 @ 08:52:00

Tool Information

Drill Pipe:	Length:	3468.00 ft	Diameter:	3.80 inches	Volume:	48.65 bbl	
Heavy Wt. Pipe:	Length:	310.00 ft	Diameter:	2.75 inches	Volume:	2.28 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	50.93 bbl	

Drill Pipe Above KB:	26.00 ft
Depth to Top Packer:	3780.00 ft
Depth to Bottom Packer:	3842.00 ft
Interval between Packers:	62.00 ft
Tool Length:	148.00 ft
Number of Packers:	1 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	66000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	54000.00 lb
Final	62000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3753.00		
Shut In Tool	5.00			3758.00		
Hydraulic tool	5.00			3763.00		
Jars	5.00			3768.00		
Safety Joint	3.00			3771.00		
Packer	5.00			3776.00	28.00	Bottom Of Top Packer
Packer	4.00			3780.00		
Stubb	1.00			3781.00		
Recorder	0.00	9120	Inside	3781.00		
Recorder	0.00	8934	Inside	3781.00		
Change Over Sub	1.00			3782.00		
Drill Pipe	32.00			3814.00		
Change Over Sub	1.00			3815.00		
Perforations	23.00			3838.00		
Blank Off Sub	1.00			3839.00		
top of s.packer	3.00			3842.00	62.00	Tool Interval
Packer	0.00			3842.00		
Stubb	1.00			3843.00		
Change Over Sub	1.00			3844.00		
Recorder	0.00	8353	Below	3844.00		
Drill Pipe	32.00			3876.00		
Change Over Sub	1.00			3877.00		
Perforations	19.00			3896.00		
Bullnose	4.00			3900.00	58.00	Bottom Packers & Anchor
Total Tool Length:	**148.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62987 **DST#: 1**

Test Start: 2017.07.11 @ 08:52:00

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:	9700 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	9700.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
945.00	Muddy Water 50%M 50%W	11.185
440.00	WCM 10%W 90%M	6.172

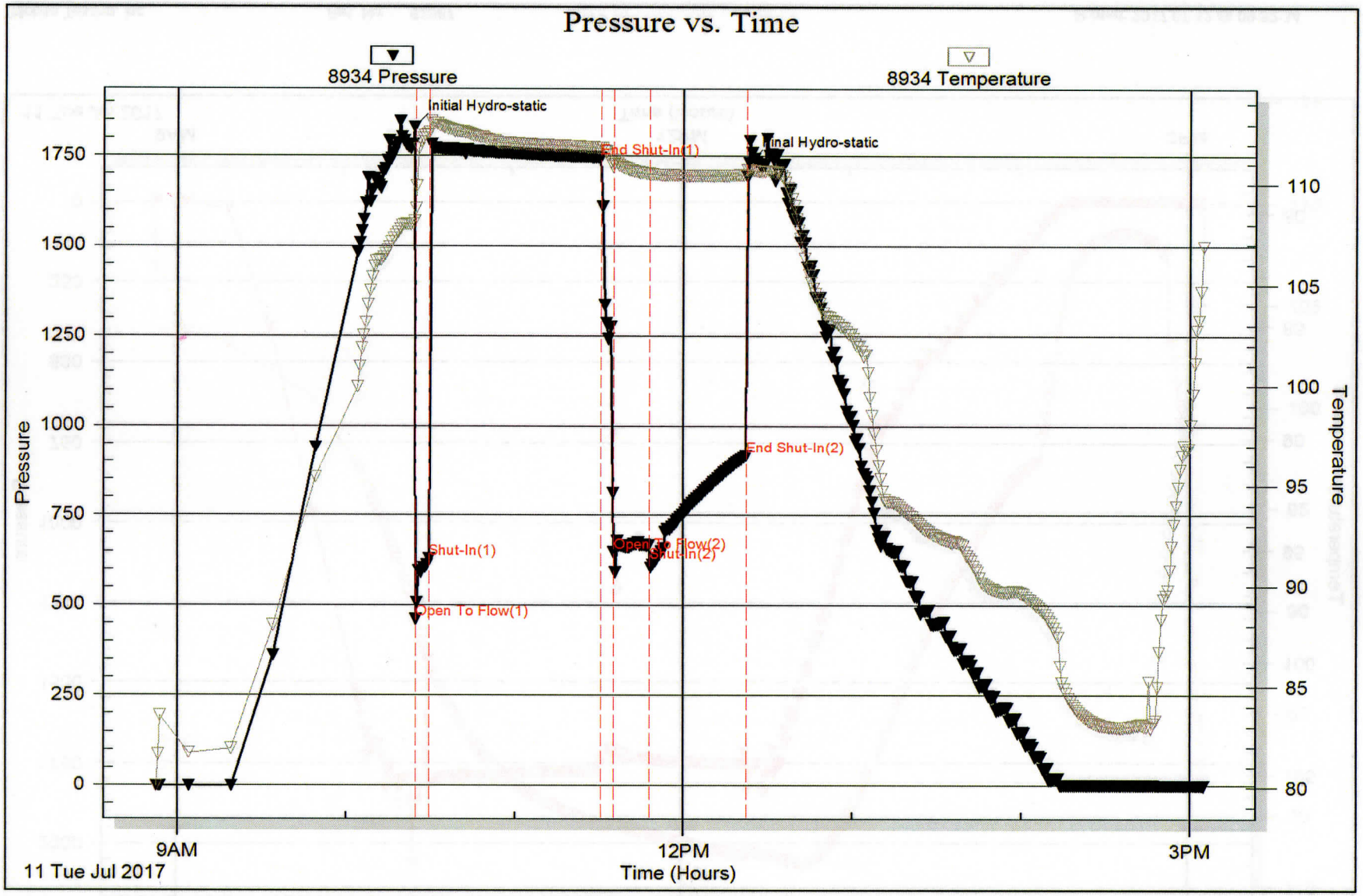
Total Length: 1385.00 ft Total Volume: 17.357 bbl

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

Laboratory Name: Laboratory Location:

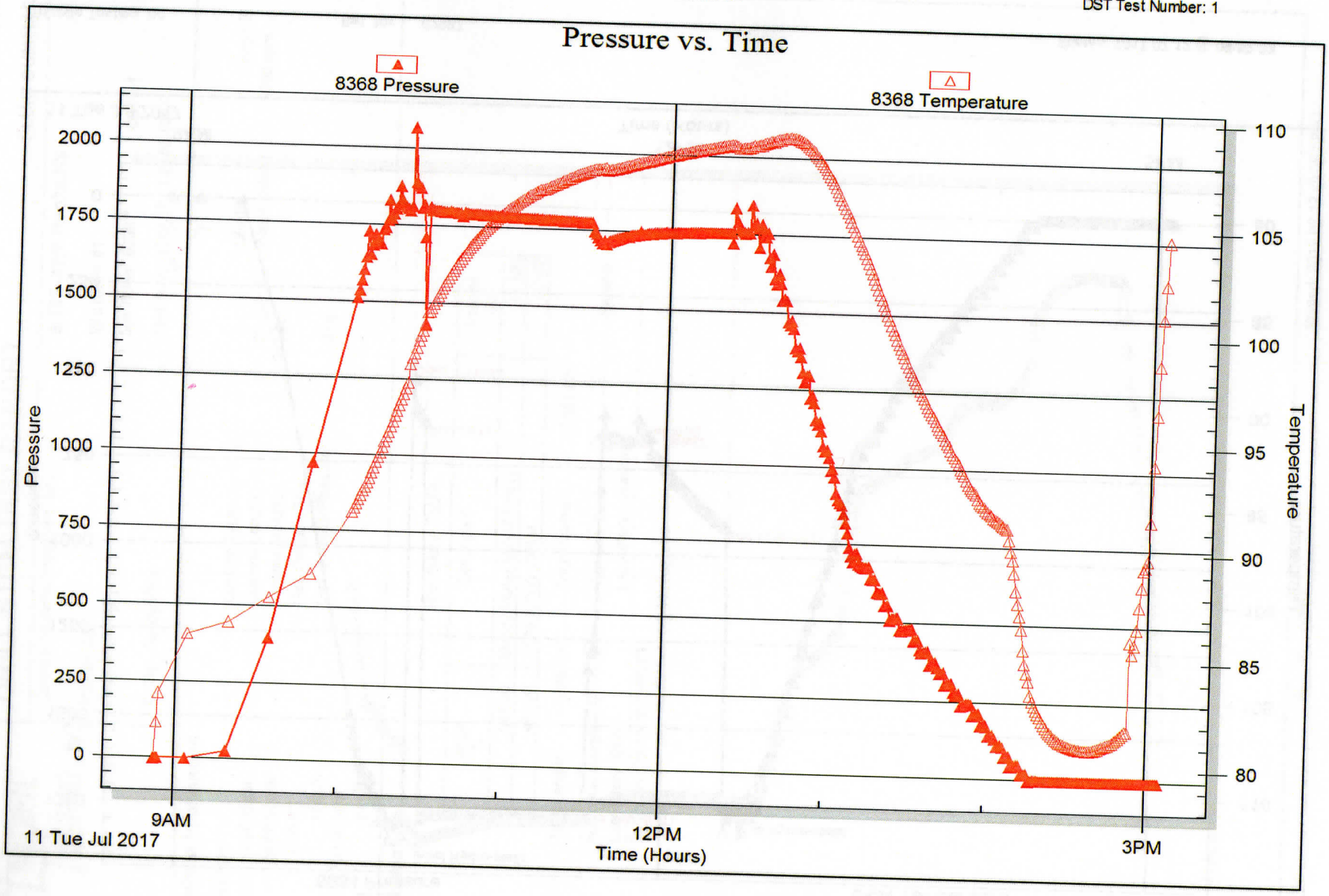
Recovery Comments: 4#LCM
RW=.179@110degrees

Serial #: 8934 **Inside** James P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 1



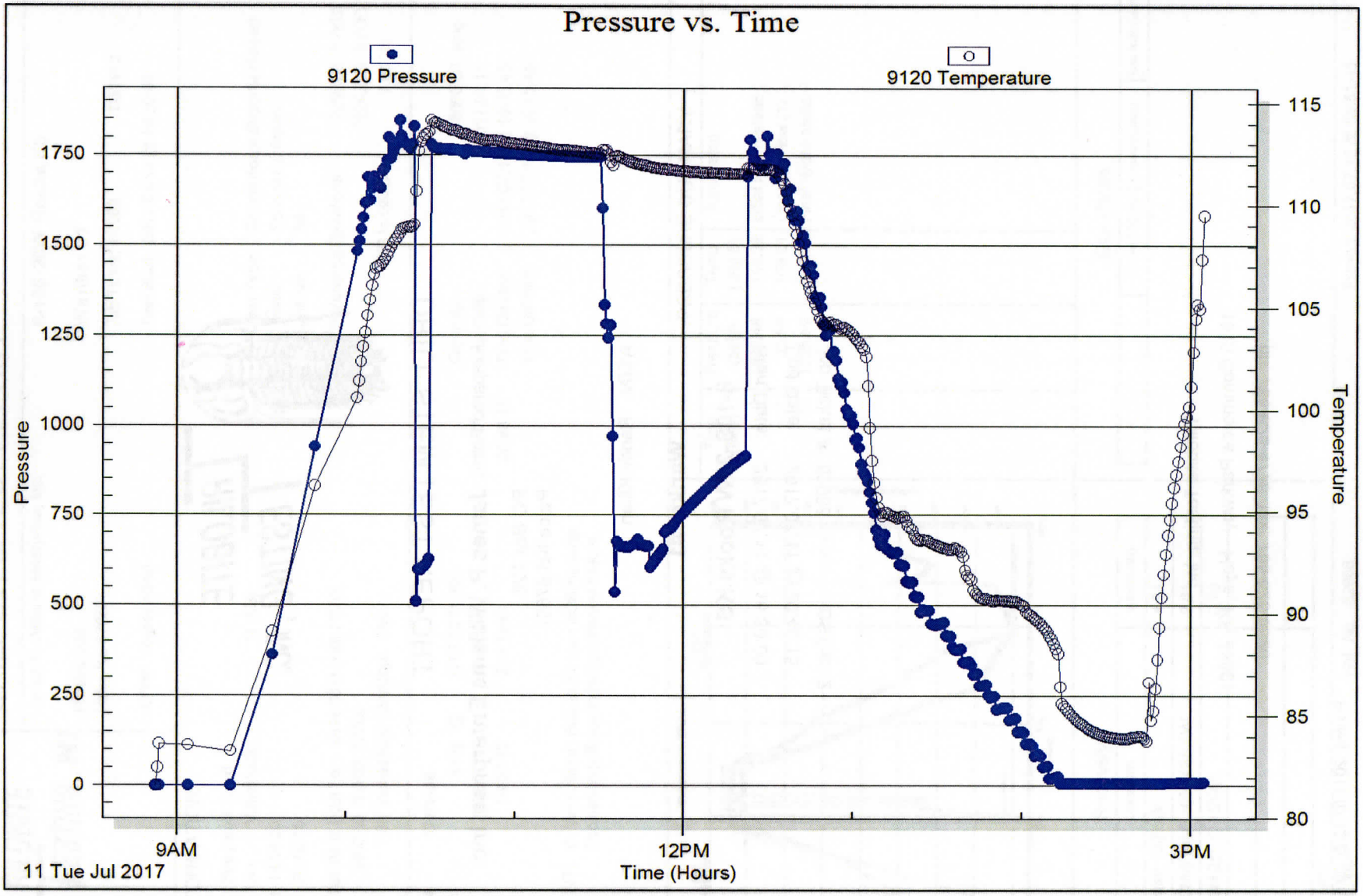
Trilobite Testing, Inc Ref. No: 62987 Printed: 2017.07.12 @ 09:52:33

Serial #: 8368 James P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62987 Printed: 2017.07.12 @ 09:52:34

Serial #: 9120 **Inside** James P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62987 Printed: 2017.07.12 @ 09:52:34

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **James P. Williams Enterprise, Inc.**

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

Wanker #1

8-10S-20W Rooks,KS

Start Date: 2017.07.11 @ 16:30:00
End Date: 2017.07.11 @ 20:48:15
Job Ticket #: 62988 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.12 @ 09:51:45

DRILL STEM TEST REPORT

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62988 **DST#: 2**

Test Start: 2017.07.11 @ 16:30:00

GENERAL INFORMATION:

Formation: **Simpson Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:04:00
Time Test Ended: 20:48:15

Test Type: Conventional Straddle (Reset)
Tester: Spencer J. Staab
Unit No: 84

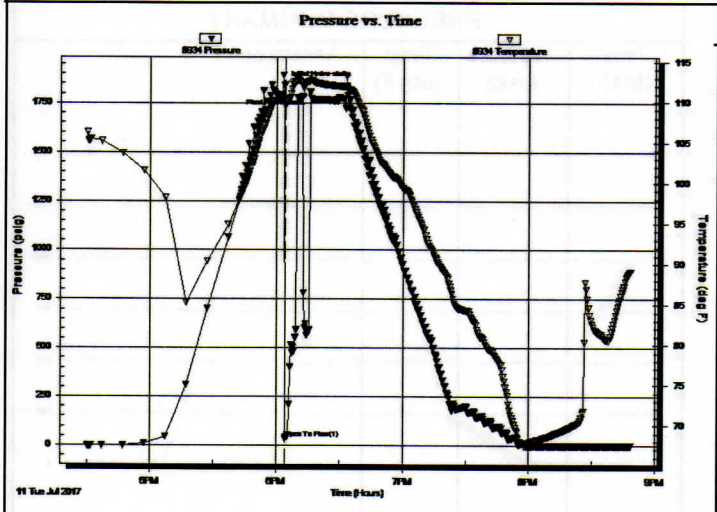
Interval: 3781.00 ft (KB) To 3814.00 ft (KB) (TVD)
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8934 **Outside**
Press@RunDepth: psig @ 3787.00 ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 16:30:15 End Time: 20:48:15

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm: 2017.07.11 @ 18:03:45
Time Off Btm: 2017.07.11 @ 18:15:45

TEST COMMENT: IF- Weak Blow ; Built to 3"; then BOB instantly
Decided to pull due to Bottom Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1842.48	110.39	Initial Hydro-static
1	35.69	109.51	Open To Flow (1)
12	1805.69	113.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	Water 100%W	4.94
200.00	OCMW 5%O 10%M 85%W	2.81
50.00	OCM 25%O 75%M	0.70

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62988 **DST#: 2**

Test Start: 2017.07.11 @ 16:30:00

GENERAL INFORMATION:

Formation: **Simpson Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:04:00
Time Test Ended: 20:48:15

Test Type: Conventional Straddle (Reset)
Tester: Spencer J. Staab
Unit No: 84

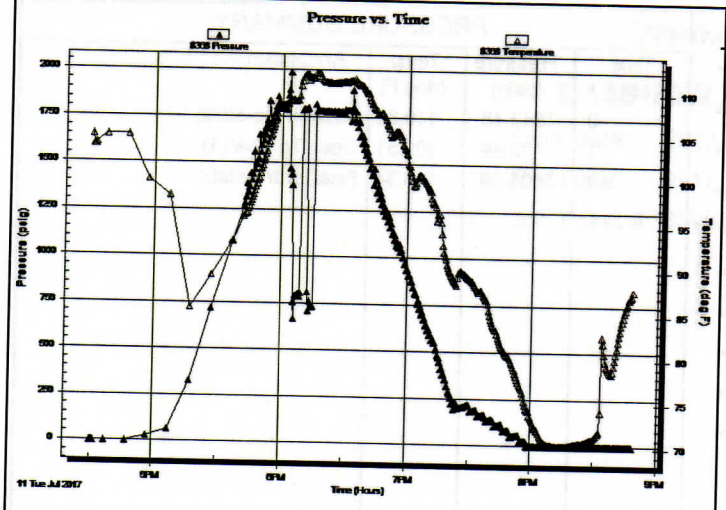
Interval: **3781.00 ft (KB) To 3814.00 ft (KB) (TVD)**
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8368 **Below (Straddle)**
Press@RunDepth: psig @ 3818.00 ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 16:30:15 End Time: 20:48:15

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Blow ; Built to 3"; then BOB instantly
Decided to pull due to Bottom Packer Failure



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	Water 100%W	4.94
200.00	OCMW 5%O 10%M 85%W	2.81
50.00	OCM 25%O 75%M	0.70

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62988 **DST#: 2**

Test Start: 2017.07.11 @ 16:30:00

GENERAL INFORMATION:

Formation: **Simpson Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:04:00
Time Test Ended: 20:48:15

Test Type: Conventional Straddle (Reset)
Tester: Spencer J. Staab
Unit No: 84

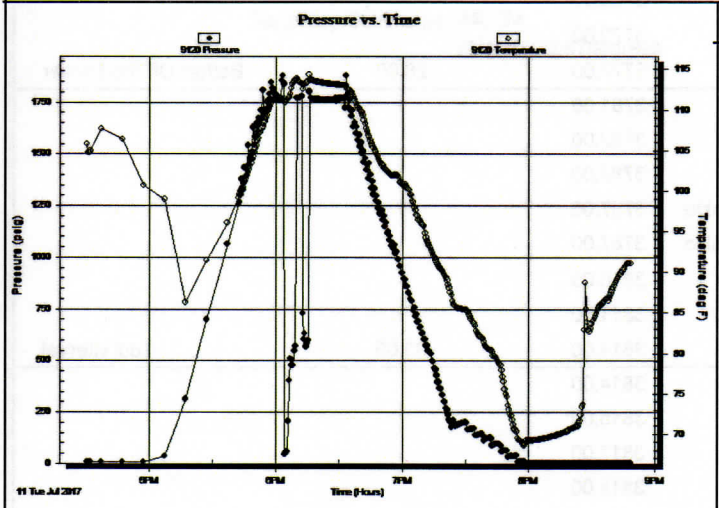
Interval: 3781.00 ft (KB) To 3814.00 ft (KB) (TVD)
Total Depth: 3900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2250.00 ft (KB)
2243.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 9120 **Inside**
Press@RunDepth: psig @ 3787.00 ft (KB)
Start Date: 2017.07.11 End Date: 2017.07.11
Start Time: 16:30:15 End Time: 20:48:15

Capacity: 8000.00 psig
Last Calib.: 2017.07.11
Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Blow ; Built to 3"; then BOB instantly
Decided to pull due to Bottom Packer Failure



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	Water 100%W	4.94
200.00	OCMW 5%O 10%M 85%W	2.81
50.00	OCM 25%O 75%M	0.70

* Recovery from multiple tests

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62988 **DST#: 2**

Test Start: 2017.07.11 @ 16:30:00

Tool Information

Drill Pipe:	Length:	3469.00 ft	Diameter:	3.80 inches	Volume:	48.66 bbl	
Heavy Wt. Pipe:	Length:	310.00 ft	Diameter:	2.75 inches	Volume:	2.28 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	50.94 bbl	

Drill Pipe Above KB:	26.00 ft
Depth to Top Packer:	3781.00 ft
Depth to Bottom Packer:	3814.00 ft
Interval between Packers:	33.00 ft
Tool Length:	148.00 ft
Number of Packers:	1
Diameter:	6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	61000.00 lb
Tool Chased	5.00 ft
String Weight: Initial	57000.00 lb
Final	60000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3754.00		
Shut In Tool	5.00			3759.00		
Hydraulic tool	5.00			3764.00		
Jars	5.00			3769.00		
Safety Joint	3.00			3772.00		
Packer	5.00			3777.00	28.00	Bottom Of Top Packer
Packer	4.00			3781.00		
Stubb	1.00			3782.00		
Perforations	5.00			3787.00		
Recorder	0.00	9120	Inside	3787.00		
Recorder	0.00	8934	Outside	3787.00		
Perforations	23.00			3810.00		
Blank Off Sub	1.00			3811.00		
top of s.packer	3.00			3814.00	33.00	Tool Interval
Packer	0.00			3814.00		
Stubb	1.00			3815.00		
Perforations	2.00			3817.00		
Change Over Sub	1.00			3818.00		
Recorder	0.00	8368	Below	3818.00		
Drill Pipe	63.00			3881.00		
Change Over Sub	1.00			3882.00		
Perforations	15.00			3897.00		
Bullnose	4.00			3901.00	87.00	Bottom Packers & Anchor
Total Tool Length:	**148.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

James P. Williams Enterprise, Inc.

PO Box 226
Palco KS 67657

ATTN: Randy Kilian

8-10S-20W Rooks,KS

Wanker #1

Job Ticket: 62988 **DST#: 2**

Test Start: 2017.07.11 @ 16:30:00

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:	12000 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	9700.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	Water 100%W	4.943
200.00	OCMW 5%O 10%M 85%W	2.805
50.00	OCM 25%O 75%M	0.701

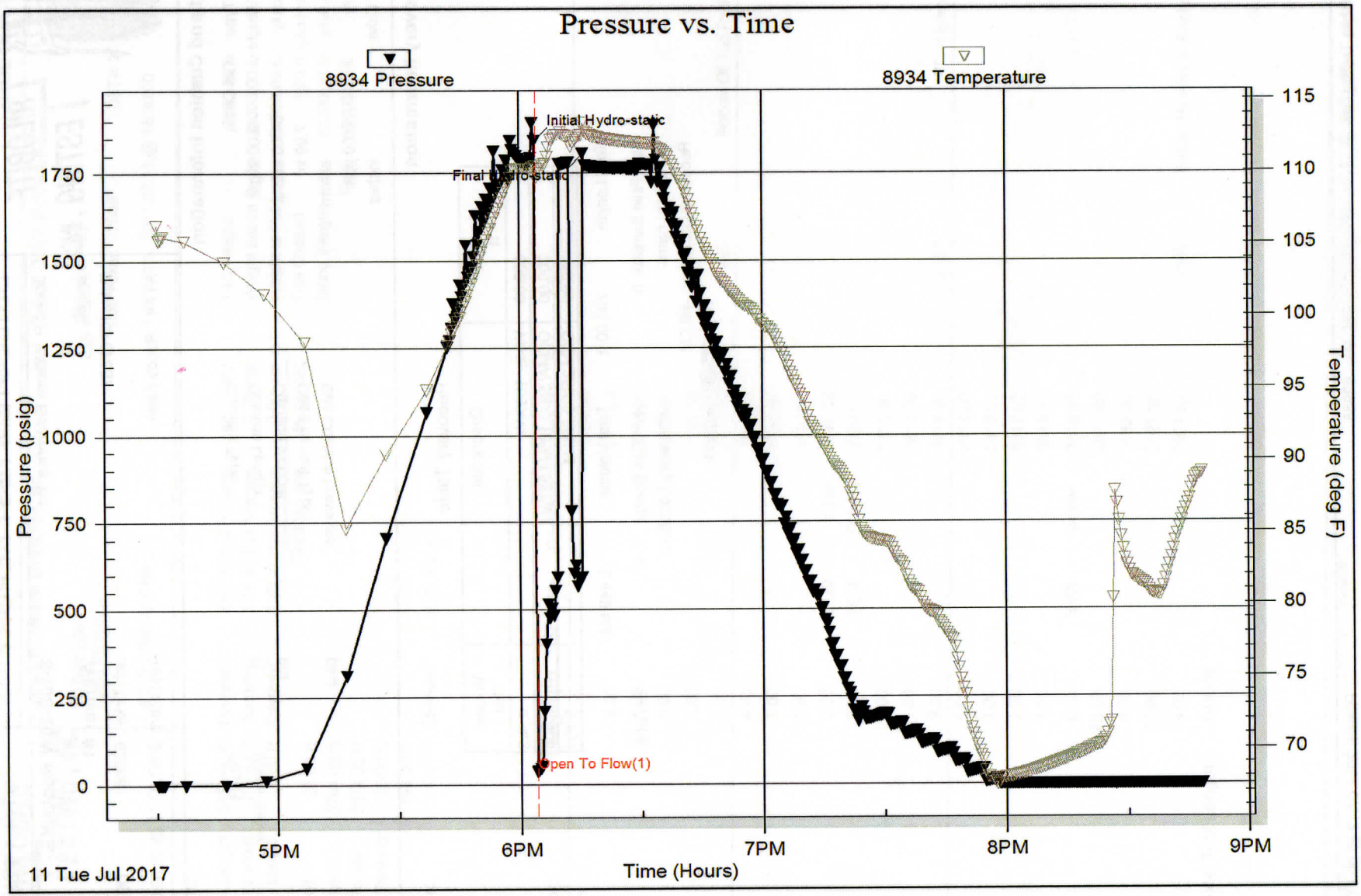
Total Length: 750.00 ft Total Volume: 8.449 bbl

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

Laboratory Name: Laboratory Location:

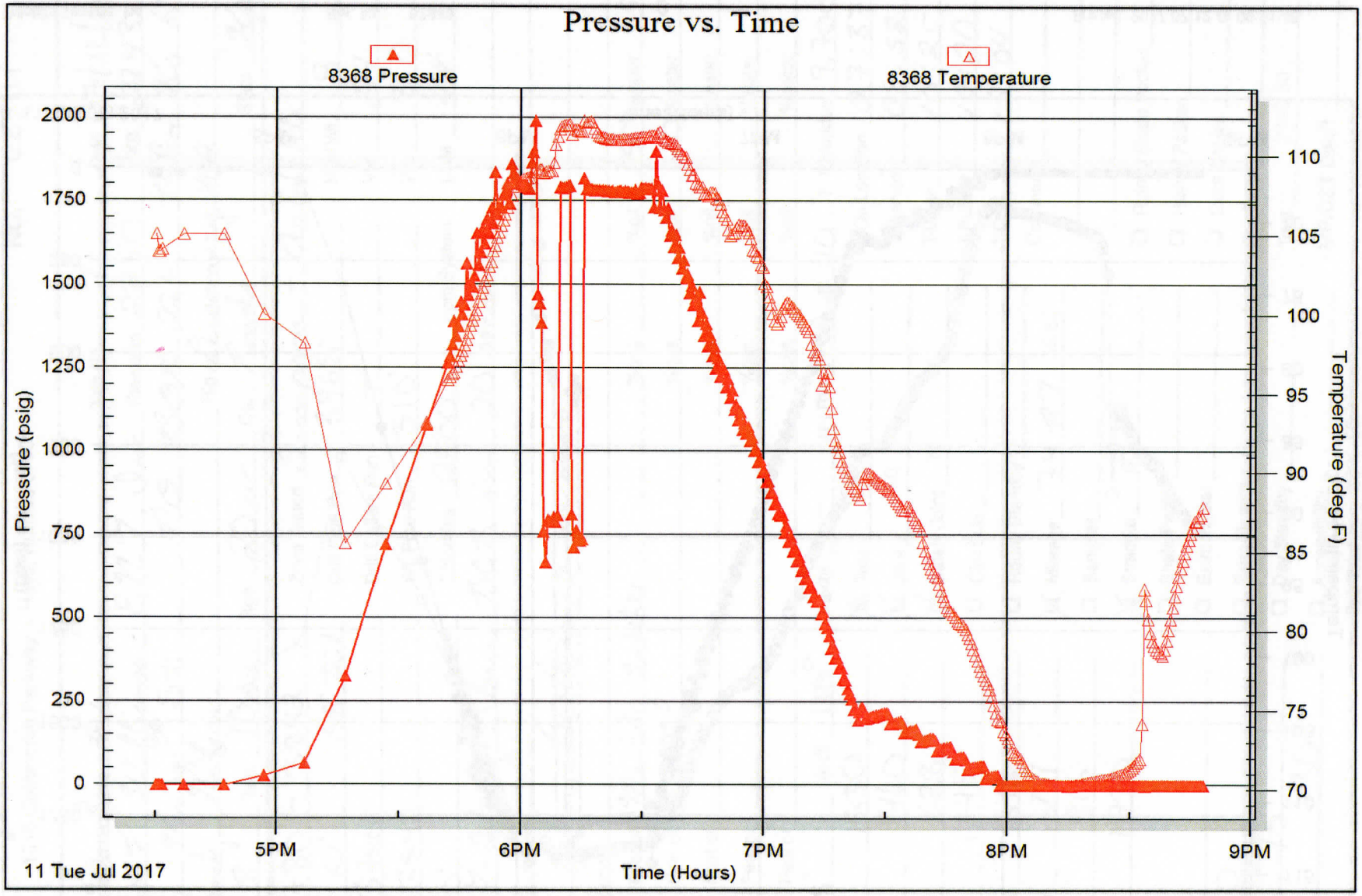
Recovery Comments: 4#LCM
RW=.189@87degrees

Serial #: 8934 **Outside** James P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 2



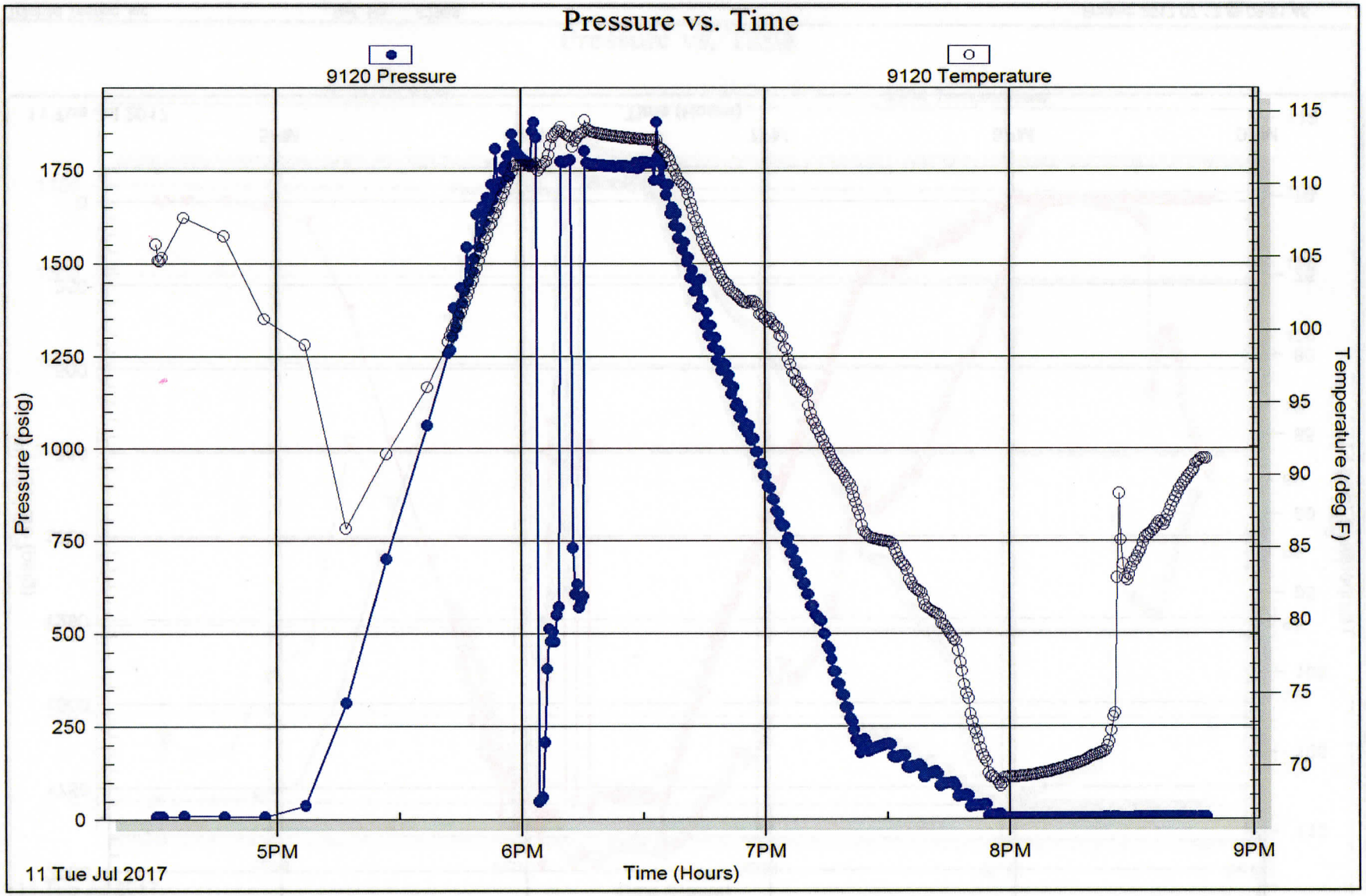
Trilobite Testing, Inc Ref. No: 62988 Printed: 2017.07.12 @ 09:51:46

Serial #: 8368 Below (Straddle) P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62988 Printed: 2017.07.12 @ 09:51:46

Serial #: 9120 **Inside** James P. Williams Enterprise, Inc. Wanker #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62988 Printed: 2017.07.12 @ 09:51:46

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 62987

Well Name & No. Wanker #1 Test No. 1 Date 07/11/2017

Company James P. Williams ENT. Inc. Elevation 2250 KB 2243 GL

Address 802 Main St PO BOX 226 Palco Ks 67657

Co. Rep / Geo. Randy Kilian Rig Discovery #2

Location: Sec. 8 Twp. 10s Rge. 20w Co. Rooks State Ks

Interval Tested 3780' - 3842' Zone Tested Simpson - Arbuckle

Anchor Length 62' 58' Tail Drill Pipe Run 3468' Mud Wt. 9

Top Packer Depth 3780' Drill Collars Run — Vis 54

Bottom Packer Depth 3842' Wt. Pipe Run 310' WL 8.0

Total Depth 3900' Chlorides 2500 ppm System LCM 4#

Blow Description 1st - Strong Blow; BOB in 20 seconds

1SSI - No Return

2nd - Strong Blow; BOB in 5 seconds

2SSI - No Return

Rec 945'	Feet of Muddy Water	%gas	%oil	50 %water	50 %mud	
Rec 440'	Feet of WCM	%gas	%oil	10 %water	90 %mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 1385' BHT 118° Gravity — API RW .179 @ 110 °F Chlorides 9,700 ppm

(A) Initial Hydrostatic 1830	☒ Test 1050	T-On Location 07:37	
(B) First Initial Flow 460	☒ Jars 250	T-Started 08:52	
(C) First Final Flow 628	☒ Safety Joint 75	T-Open 10:25	
(D) Initial Shut-In 1745	☐ Circ Sub	T-Pulled 12:20	
(E) Second Initial Flow 646	☐ Hourly Standby	T-Out 15:04	
(F) Second Final Flow 601	☒ Mileage 74 RT 55.50	Comments	
(G) Final Shut-In 916	☐ Sampler		
(H) Final Hydrostatic 1730	☒ Straddle 600	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 5	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 60	☐ Extra Recorder	Sub Total 0	
Final Flow 15	☐ Day Standby	Total 2030.50	
Final Shut-In 30	☐ Accessibility	MP/DST Disc't	
	Sub Total 2030.50		

Approved By Our Representative Spencer Seab Thanks!

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

JRC-JCG-MCL

Randall Killian Corporation
Geologist

Certified Petroleum
Geologist #3351
License #224

P.O. Box 26
Hays, Kansas 67601-0026
Phone: 785-628-6061
Cell: 785-635-1349

GEOLOGIST'S WELL REPORT

COMPANY JAMES P WILLIAMS ENTERPRISES, INC. (35220)

WELL Wanker #1

FIELD Marcotte

LOCATION (legal) N½ SE SE NE
2200' FNL & 330' FEL
Section 8 TWP 10S RGE 20W

(Map) 3.4 mi S of Palco, Ks

COUNTY Rooks STATE Kansas

ELEVATION: 2242' K.B., 2250' G.L.

Depths measured from Kelly Bushing

A. P. I. NUMBER 15-163-24343

GEOLOGY BY Randall Killian

PERTINENT WELL DATA

CONTRACTOR Discovery Drilling (31548)

RIG #2 (Terry Wickham TP) HYDRAULICS Emsco D-375 6x14x60

DRILL PIPE 4½" X-H COLLARS 6¼" x 2¼" (409')

CASING: SURFACE 8 5/8" @ 221' w/ 150 sx 80/20

PRODUCTION 5 ½" @ 3899' w/ 150 sx Common

DV @ 2196' w/ 335 sx QMDC

DRILLING FLUID: COMPANY Andy's Mud & Chemical Co. (Brandon Mendez)

TYPE: Chemical

REMARKS: Full service

DRILL STEM TESTS: COMPANY Trilobite Testing Inc. (Spencer Staab)

NUMBER OF TESTS Two (2)

ELECTIC LOGS: COMPANY Gemeni Wireline Service

DETAIL (5") 3200' - RTD

TYPE Comp N-D, DI, Micro

DRILLING TIME FROM 3250' TO RTD

SAMPLE TIME FROM 3250' TO RTD

SUPERVISION FROM 3250' TO RTD

VERTICAL DEVIATION ¼°@ 222', 1°@ 3900'

PLUGGING REPORT 30 sx Rat, 15 sx Mouse

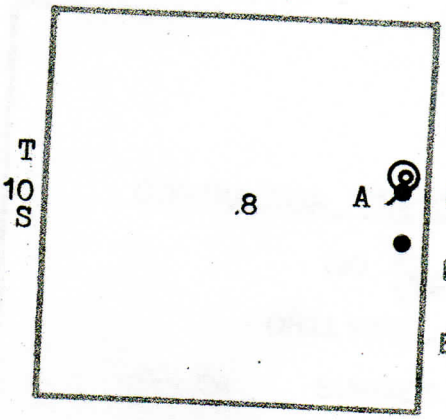
RESERVE PIT 600 bbls., Chl. 30,000 Ca 740

DAILY REPORT

DATE:	7 a.m. Depth	RIG ACTIVITY
7-06-17		MIRU, Spud
7-07-17	368'	DUS
7-08-17	2297'	Drilling shale & lime
7-09-17	3037'	Drilling lime & shale
7-10-17	3611'	Drilling LKc lime
7-11-17	3900'	TD Logged, DST #1
7-12-17	3900'	Set pipe

FORMATION TOPS & STRUCTURAL GEOLOGY

R 20 W



REFERRED TO:

A: D.G. HANSEN
#1 Oesterreich SE SE NE 8

B:

C:

D:

E:

STRATIGRAPHIC MARKERS	SUBJECT WELL SAMPLE	SUBJECT WELL E. LOG	DATUM	STRUCTURAL POSITION A	B	C	D	E
Anhydrite	1750'	1750'	+ 500	+ 501				
Base	1784'	1783'	+ 467	+ 468				
Topeka	3281'	3283'	-1033	-1029				
Heeb Sh	3484'	3486'	-1236	-1232				
Toronto	3505'	3507'	-1257	-1254				
Lansing	3521'	3525'	-1275	-1271				
BKc.	3740'	3743'	-1493	-1489				
Smp. Sand	3799'	3795'	-1545	-1544				
Arbuckle	3813'	3821	-1571	-1561				
TD	3900'	3900'	-1650	-1579				

*Structural position of subject well as compared to referred well.

DRILL STEM TESTS

INTERVAL	IFP/TIME	ISIP/TIME	FFP/TIME	FSIP/TIME	IHP/FHP	RECOVERY
Simp-Arb 3780-3842'	460# 5"	- 60"	629# 15"	917# 30"	1745# 1731#	1385' M,Wtr
Simp Sd 3781-3814'	36# 3"	LOWER PACKER FAILURE			1842# 1806#	50' O,C,Mud 25% Oil 200' O,C,W,Mud 5% O 500' Wtr

MUD RECORD

CHK	DEPTH	WT	VIS	FIL	CHL	YP	
1	3211'						
2	3220'	8.6	60	8.0	1.5K	19	Displaced
3	3470'	8.8	53				LCM 2½#
4	3590'	8.9	50				
5	3682'	9.0	50	8.4	1.5K	14	LCM 1#
6							
7							
8							
9							
10							
11							

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
1	12 ¼"	JZ	JC	222'	222'	2
2	7 7/8"	HTCo.	GX20C	3900'	3678'	70 ¼
3						
4						
5						
6						
7						

SUMMARY

The Wanker #1 well was drilled with Discovery Drilling tools rig #2 beginning July 6, 2017 and drilling was completed July 11, 2017.

T
10
S

The drilling location is located 110' north of the abandoned #1 Oesterreich well. This well produced 156,500 BO from 1954-2000.

The Wanker #1 well ran 4-10' lower structurally to the abandoned well. Oil shows were encountered in several zones. An 8' thick Simpson Sand developed with good oil shows which was not developed in the offset well. This zone was DST #2 but a packer failure caused an unsuccessful test. However, the oil recovery in the recovered fluid indicates permeability in the zones.

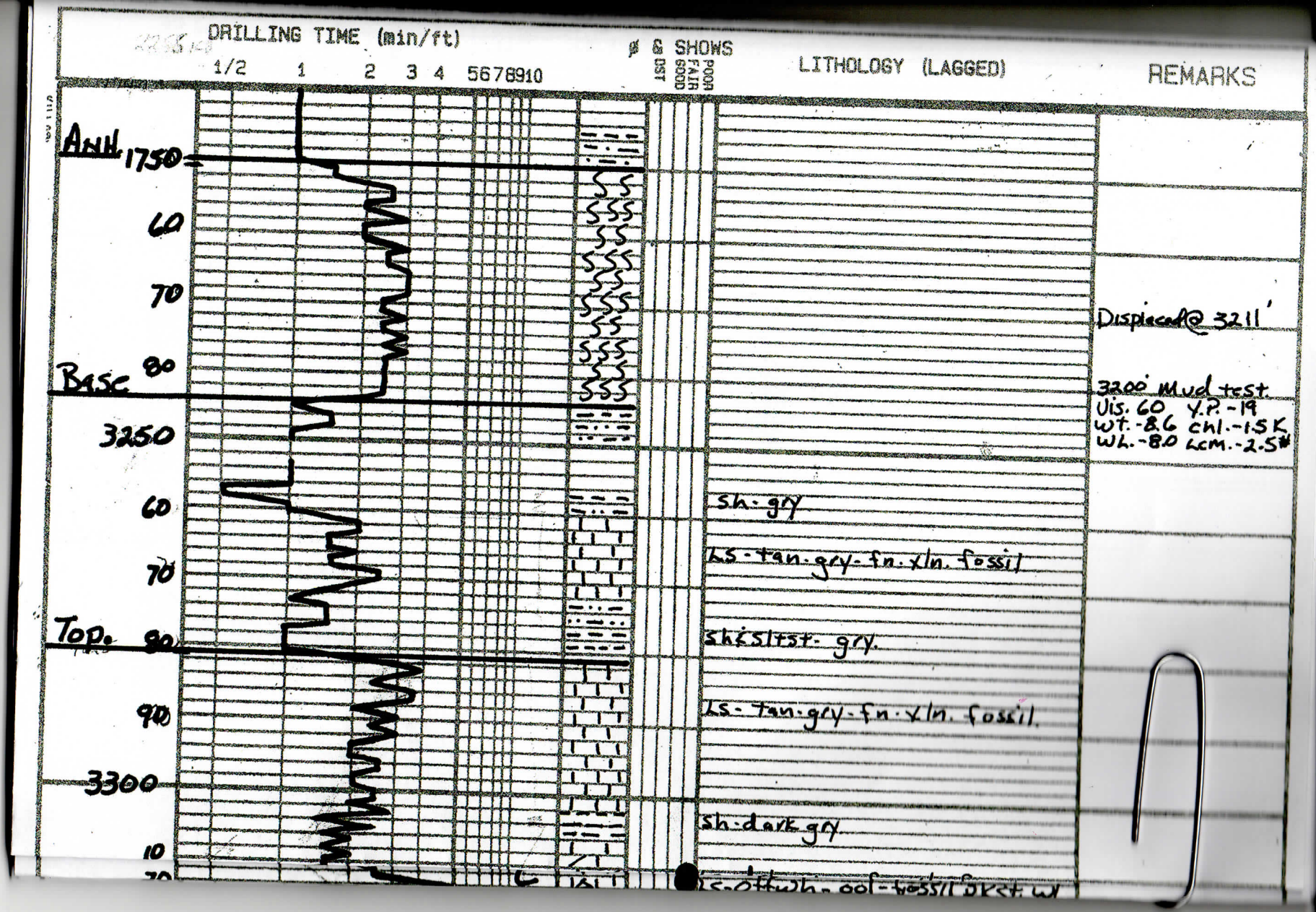
Based upon all data, casing was set and cemented to further test the well.

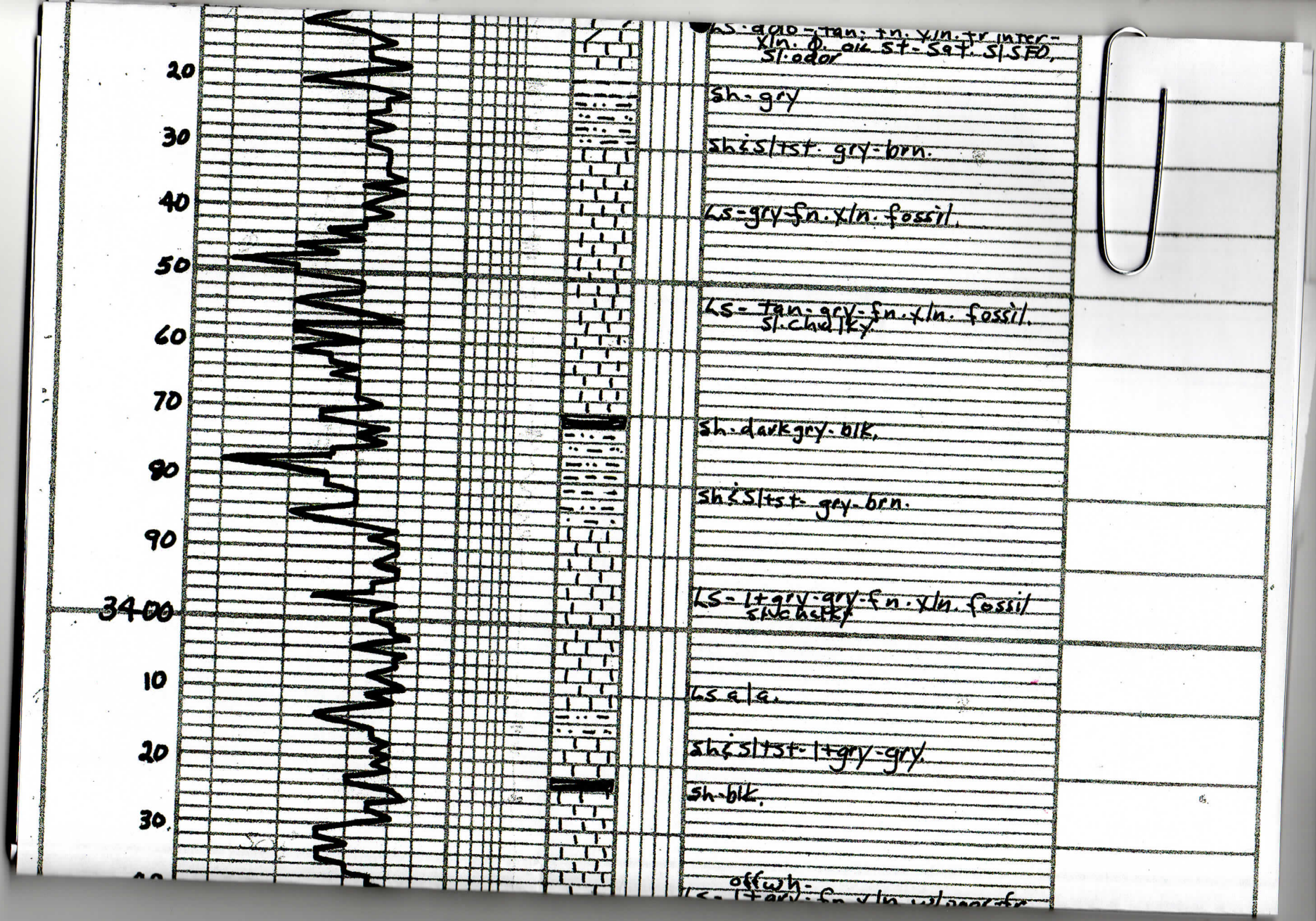
Recommended perfs; Smp Sd. 3796-3802', LKc K 3717-18',
Topeka 30' zone 3309'.
At some point LKc C 3566'.

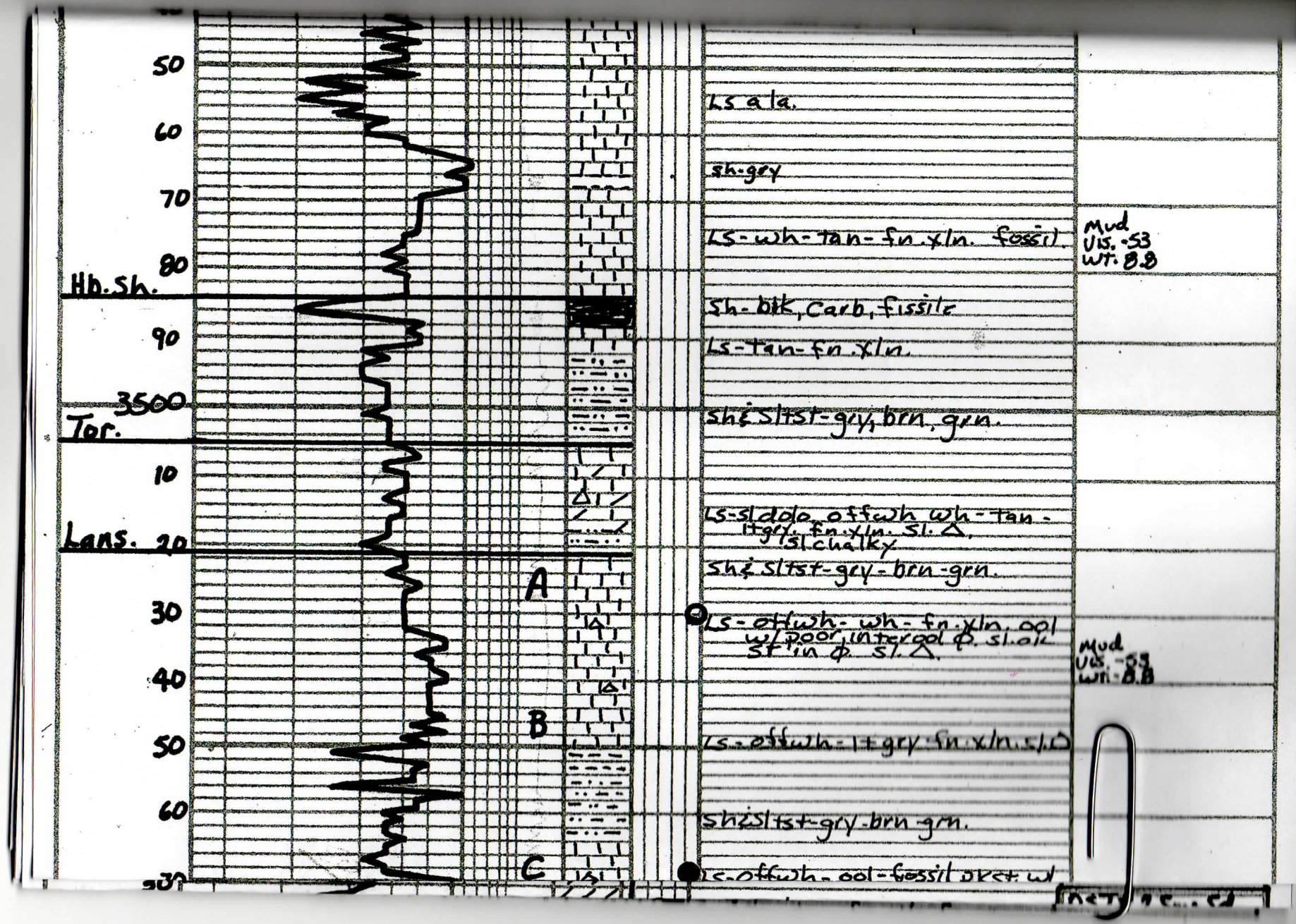
Respectfully,

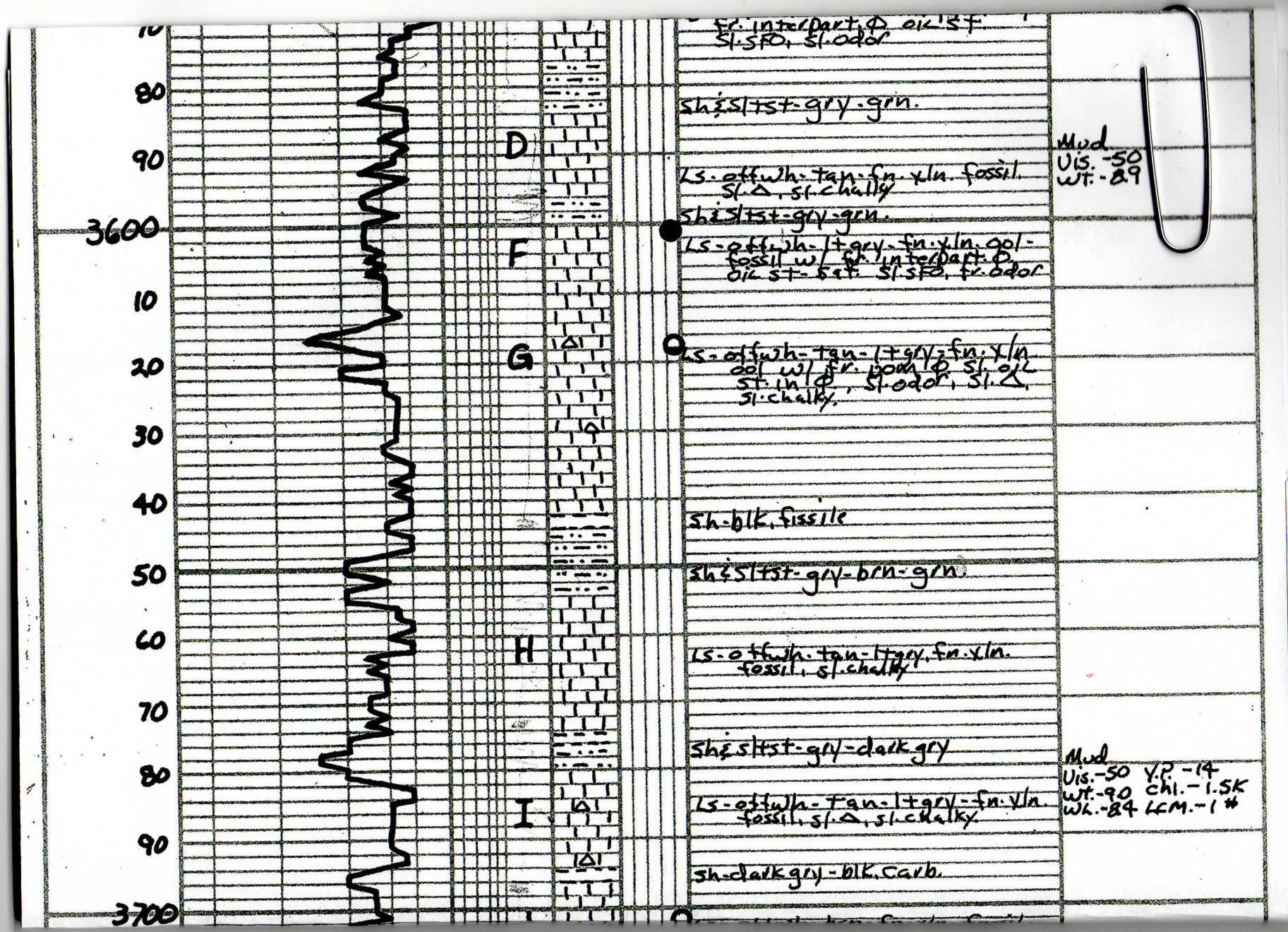
Randall K. Kilian

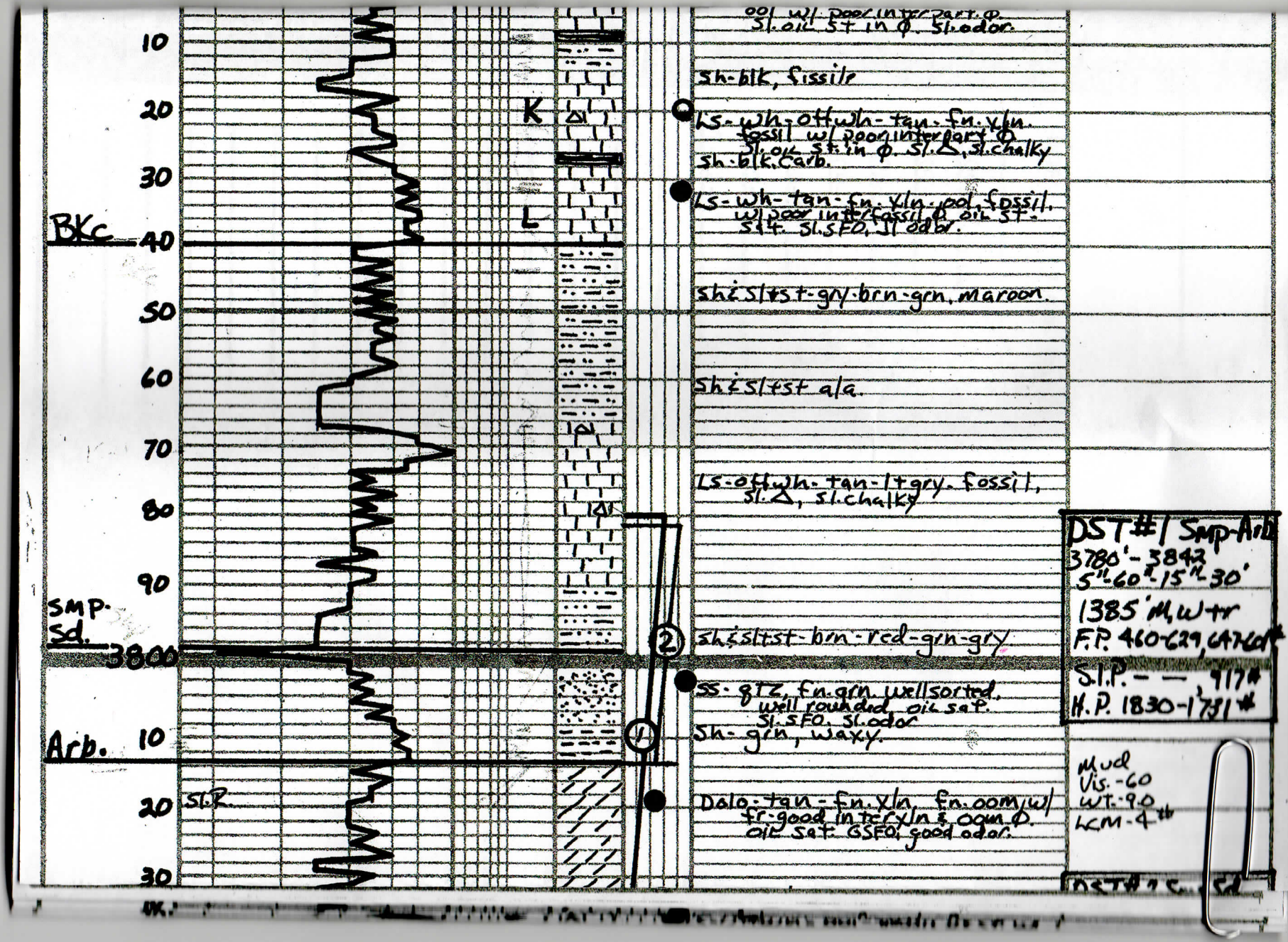
*S

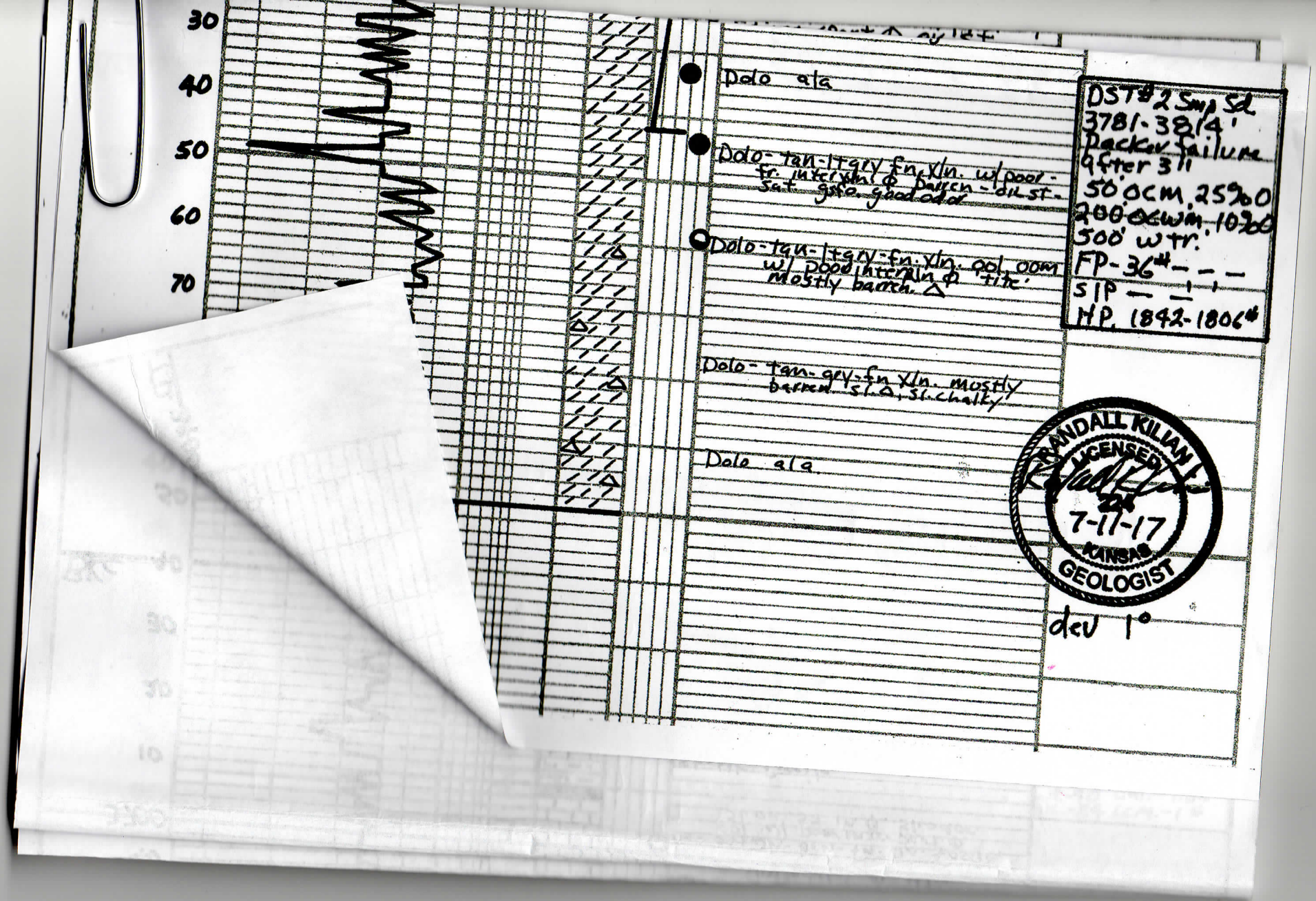

DRILLING TIME (min/ft)
1/2 1 2 3 4 5 6 7 8 9 10
SHOWS
POOR FAIR GOOD
DST
LITHOLOGY (LAGGED)
REMARKS
ANH.
1750
60
70
80
BASE
3250
60
70
TOP
90
90
3300
10
Displaced @ 3211'
3200' Mud test
Vis. 60 Y.P. -19
wt. -8.6 chl. -15K
WL. -8.0 LCM. -2.5#
sh. gry
ls - tan. gry - fn. x/n. fossil
sh/siltst - gry.
ls - tan. gry - fn. x/n. fossil.
sh. dark gry.
ls. off wh. oof - fossil pkst wi


20
30
40
50
60
70
80
90
3400
10
20
30
LS-gold-tan; fn. x/n. fr inter-x/n. ø. oil st-sat. s/sfo, sl. odor
sh-gry
sh; s/lst. gry-brn.
LS-gry; fn. x/n. fossil.
LS-tan-gry; fn. x/n. fossil. sl. chalky
sh. dark gry. blk.
sh; s/lst- gry-brn.
LS-lt gry-gry; fn. x/n. fossil sl. chalky
LS a/a.
sh; s/lst- lt gry-gry.
sh-blk.
off wh-
LS-lt gry; fn x/n


50
60
70
80
Hb. Sh.
90
3500
Tor.
10
Lans.
20
30
40
50
60
A
B
C
Ls a la.
sh-grey
Ls-wh-tan-fn.x/n. fossil
Mud
Vis. -53
Wt. 8.8
Sh-blk, Carb, fissile
Ls-tan-fn.x/n.
sh & Slts t-gry, brn, grn.
Ls-sl ddo, off wh wh-tan-ltgry. fn.x/n. sl. Δ. sl chalky
sh & Slts t-gry-brn-grn.
Ls-off wh-wh-fn.x/n. ool w/poor intergol φ. sl. oil stn in φ. sl. Δ.
Mud
Vis. -53
Wt. 8.8
Ls-off wh-ltgry fn.x/n. sl. Δ
sh & Slts t-gry-brn-grn.
Ls-off wh-ool-fossil dkst. w/


fr. interpart. Φ oil St.
Sl. SFO, Sl. odor
80
sh & s/lt st-gry-grn.
D
90
Ls-off wh-tan-fn. x/ln. fossil.
Sl. Δ, Sl. chalky
Mud
Vis. -50
Wt. -8.9
sh & s/lt st-gry-grn.
3600
F
Ls-off wh-lt gry-fn. x/ln. ool-
fossil w/ fr. interpart. Φ
oil St-Stn. Sl. SFO, fr. odor
10
G
Ls-off wh-tan-lt gry-fn. x/ln
ool w/ fr. poor Φ Sl. oil
St. in Φ, Sl. odor, Sl. Δ,
Sl. chalky.
20
30
40
sh-blk. fissile
50
sh & s/lt st-gry-brn-grn.
60
H
Ls-off wh-tan-lt gry. fn. x/ln.
fossil, Sl. chalky
70
sh & s/lt st-gry-dark gry
Mud
Vis. -50 V.P. -14
wt. -9.0 chl. -1.5K
Wk. -84 LCM. -1 #
80
I
Ls-off wh-tan-lt gry-fn. x/ln.
fossil, Sl. Δ, Sl. chalky
90
sh-dark gry-blk. carb.
3700


ool w/ poor interpart. Φ
Sl. oil St in Φ. Sl. odor.
sh-blk, fissile
K
Δ
LS-wh-off wh-tan-fn. x/ln.
fossil w/ poor interpart Φ
Sl. oil St in Φ. Sl. Δ, sl. chalky
sh-blk. Carb.
L
LS-wh-tan-fn. x/ln. ool, fossil.
w/ poor int/fossil Φ, oil St.
St. Sl. SFO, Sl odor.
BKc
40
sh. Sltst-gry-brn-grn, maroon.
50
60
sh. Sltst a/a.
70
LS-off wh-tan-lt gry. fossil,
Sl. Δ, sl. chalky
80
90
Smp.
Sd.
3800
sh. Sltst-brn-red-grn-gry
2
ss. gtz, fn. grn. well sorted.
well rounded, oil sat.
Sl. SFO, Sl. odor
Sh-grn, waxy.
1
Arb.
10
Sl. P.
20
Dolo-tan-fn. x/ln, fn. oom w/
fr-good interx/ln & oom Φ.
oil sat. GSFO, good odor.
30
DST #1 Smp-Arb
3780'-3842
5"-60"-15"-30'
1385' M, W tr
F.P. 460-629, 647-691#
S.I.P. — — 917#
H.P. 1830-1731#
Mud
Vis. -60
Wt. -9.0
WL-4cc
DST #2 C. Sd.


30
40
50
60
70
Dolo qla
Dolo- tan-ltgry fn xln. w/pool- fr. intrxln ϕ barren - dk st- sat gstn. good odor
Dolo-tan-ltgry-fn.xln. pol oom w/ poor intrxln ϕ fair. mostly barren. △
Dolo- tan-gry-fn xln. mostly barren s.f.△+sl.chalky
Dolo qla
DST #2 Sm. Sl. 3781-3814'
Packer failure after 3 11
50 OCM 2520
200 OCWM 1020
500' WTR.
FP- 36# - - -
SIP — — —
HP 1842-1806#
RANDALL KILIAN
LICENSED
7-11-17
KANSAS
GEOLOGIST
dev 1°