KOLAR Document ID: 1476870

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 # 4787
Name: TDI, Inc.
Address 1: 1310 BISON RD
Address 2:
City: HAYS State: KS Zip: 67601 + 9696
Contact Person: Tom Denning
Phone: (785) 628-2593
CONTRACTOR: License # 33350
Name: Southwind Drilling, Inc.
Wellsite Geologist: Herb Deines
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 #:

9/18/2019	9/25/2019	9/25/2019
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-051-26965-00-00
Spot Description:
SE - NW - NE - SE Sec. 26 Twp. 13 S. R. 19 ☐ East ☑ West
2290 Feet from ☐ North / ☑ South Line of Section
700 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: Ellis
Lease Name: MATLOCK Well #: 2
Field Name: Unnamed
Producing Formation: Dry Hole
Elevation: Ground: 2160 Kelly Bushing: 2170
Total Vertical Depth: 3900 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 226 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: 42000 ppm Fluid volume: 600 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: 10/28/2019
☐ **Confidential Release Date:** 10/27/2021
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** Karen Ritter **Date:** 10/28/2019

Operator Name: TDI, Inc. Lease Name: MATLOCK Well #: 2

Sec. 26 Twp. 13 S. R. 19 ☐ East ☑ West County: Ellis

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:

Dual Induction Log
Dual Compensated Porosity Log
Microresistivity Log

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

Name	Top	Datum
Anhydrite	1463'	+707'
Topeka	3180'	-1010'
Heebner	3436'	-1266'
Lansing/Kansas City	3479'	-1309'
Base Kansas City	3714'	-1544'
Arbuckle	3844'	-1674'

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	20	226	60/40 Poz	150	3% cc, 2% 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:	Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

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

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

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: Set At: Packer At:

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

Form	ACO1 - Well Completion
Operator	TDI, Inc.
Well Name	MATLOCK 2
Doc ID	1476870

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	20	226	60/40 Poz	150	3% cc, 2% gel

OPERATOR

Company:	TDI, INC.		
Address:	1310 BISON ROAD HAYS, KANSAS 67601-9696		
Contact Geologist:	TOM DENNING		
Contact Phone Nbr:	785-628-2593		
Well Name:	MATLOCK # 2		
Location:	SE NW NE SE, SEC,26-T13S-R19W		
API:	15-051-26,965-00-00		
Pool:	IN FIELD	Field:	UNNAMED
State:	KANSAS	Country:	USA

TDI, Inc.©

Scale 1:240 Imperial

Well Name:	MATLOCK # 2		
Surface Location:	SE NW NE SE, SEC,26-T13S-R19W		
Bottom Location:			
API:	15-051-26,965-00-00		
License Number:	4787		
Spud Date:	9/18/2019	Time:	5:00 PM
Region:	ELLIS COUNTY		
Drilling Completed:	9/25/2019	Time:	3:30 AM
Surface Coordinates:	2290' FSL & 700' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	2160.00ft		
K.B. Elevation:	2170.00ft		
Logged Interval:	3000.00ft	To:	3900.00ft
Total Depth:	3900.00ft		
Formation:	LANSING-KANSAS CITY		
Drilling Fluid Type:	CHEMICAL/FRESH WATER GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	-99.3936799
Latitude:	38.8915823
N/S Co-ord:	2290' FSL
E/W Co-ord:	700' FEL

LOGGED BY

SOLUTIONS CONSULTING

Company:	SOLUTIONS CONSULTING, INC.		
Address:	108 W 35TH HAYS, KS 67601		
Phone Nbr:	(785) 639-1337		
Logged By:	GEOLOGIST	Name:	HERB DEINES

CONTRACTOR

Contractor:	SOUTHWIND DRILLING, INC.		
Rig #:	1		
Rig Type:	MUD ROTARY		
Spud Date:	9/18/2019	Time:	5:00 PM
TD Date:	9/25/2019	Time:	3:30 AM

Rig Release:	9/25/2019	Time:	4:30 PM

ELEVATIONS

K.B. Elevation:	2170.00ft	Ground Elevation:	2160.00ft
K.B. to Ground:	10.00ft		

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON LOG ANALYSIS AND NEGATIVE RESULTS OF TWO DSTS.

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, AND MICRORESISTIVITY LOG.

DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS.

	MATLOCK # 2 SE NW NE SE SEC.26-13S-19W KB 2170'	MATLOCK # 1 NW SW NE SE SEC.26-13-19W KB 2172'	HART # 1 NW SE SE NE SEC.26-13-19W KB 2105'
	LOG TOPS		
Anhydrite top	1463 +707	+ 704	+ 707
Anhydrite base	1502 +668	+ 667	+ 669
Topeka	3180-1010	-1010	-1015
Heebner Sh.	3436-1266	-1260	-1262
Toronto	3454-1284	-1280	-1288
LKC	3479-1309	-1305	-1311
BKC	3714-1544	-1542	-1541
Arbuckle	3844-1674	-1642	-1659
RTD	3900-1730	-1730	-1695

SUMMARY OF DAILY ACTIVITY

09-18-19	RU, Spud 5:00 pm, Drilling surface hole.
09-19-19	226', set 8 5/8" surface casing to 225.85' w/ 170 sxs 60/40 pos 2%gel 3%CC, plug down 1:30AM. Slope ¾ degree, WOC, drill plug 9:30 AM
09-20-19	1255' drilling
09-21-19	2180', drilling
09-22-19	2915' drilling, displace 2803' to 2826'
09-23-19	3491', drilling, CFS 3467', short trip 15 stds, CFS 3520', CFS 3535', DST # 1 3495'-3535', slope ½ degree
09-24-19	3665', drilling, CFS 3665', CFS 3700', DST # 2 3648' to 3700', TIWB, drilling

09-25-19 **3900', RTD 3900' @3:30 AM, TOWB, logs, decision to plug and abandon well**

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays Ks 67601

ATTN: Herb Deines

26 - 13S - 19W

Matlock #2

Job Ticket: 66317 **DST#: 1**

Test Start: 2019.09.23 @ 13:25:00

GENERAL INFORMATION:

Formation: **"C & D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:05:15
Time Test Ended: 19:33:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #77

Interval: 3495.00 ft (KB) To 3535.00 ft (KB) (TVD)
Total Depth: 3535.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

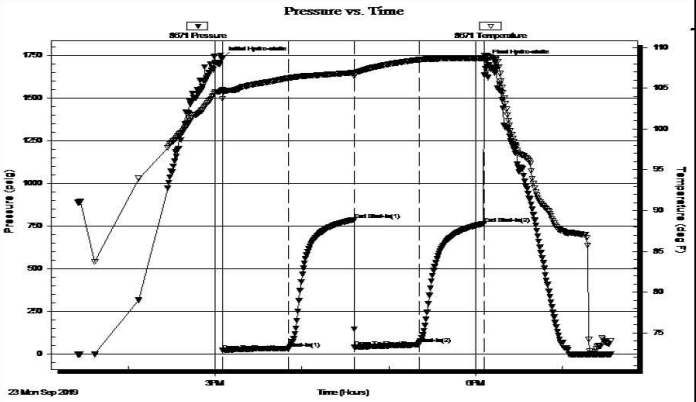
Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**

Press@RunDepth: 60.46 psig @ 3496.00 ft (KB)
Start Date: 2019.09.23 End Date: 2019.09.23
Start Time: 13:25:05 End Time: 19:33:44

Capacity: 8000.00 psig
Last Calib.: 2019.09.23
Time On Btm: 2019.09.23 @ 15:05:00
Time Off Btm: 2019.09.23 @ 18:07:30

TEST COMMENT: 45 - IFP - Surface blow gradually built up to 7"
45 - ISI - No Return
45 - FFP - Surface blow slowly built up to 6 1/2"
45 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.78	104.79	Initial Hydro-static
1	21.23	103.73	Open To Flow (1)
46	33.56	106.26	Shut-In(1)
91	787.29	106.89	End Shut-In(1)
92	42.55	106.71	Open To Flow (2)
136	60.46	108.50	Shut-In(2)
181	764.56	108.69	End Shut-In(2)
183	1715.00	108.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Free Oil - 100%o	0.03
90.00	OCMW - 10%o - 40%m - 50%w	0.92

Gas Rates

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

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays Ks 67601

ATTN: Herb Deines

26 - 13S - 19W

Matlock #2

Job Ticket: 66318 **DST#: 2**

Test Start: 2019.09.24 @ 12:40:00

GENERAL INFORMATION:

Formation: **"J & K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:09:45
Time Test Ended: 17:01:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #77

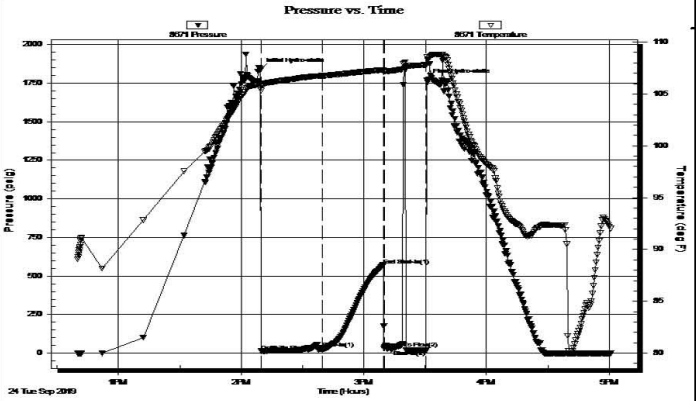
Interval: 3648.00 ft (KB) To 3700.00 ft (KB) (TVD)
Total Depth: 3700.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**
Press@RunDepth: 33.46 psig @ 3649.00 ft (KB)
Start Date: 2019.09.24 End Date: 2019.09.24
Start Time: 12:40:05 End Time: 17:00:59

Capacity: 8000.00 psig
Last Calib.: 2019.09.24
Time On Btm: 2019.09.24 @ 14:09:30
Time Off Btm: 2019.09.24 @ 15:31:00

TEST COMMENT: 30 - IFP - Surface blow built to a weak blow and stayed
30 - ISI - No Return
20 - FFP - No blow flushed tool 10 mins. in blow bubbled then died
0 - FSI -



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1838.54	106.05	Initial Hydro-static
1	13.69	105.34	Open To Flow (1)
30	33.46	106.75	Shut-In(1)
60	571.28	107.32	End Shut-In(1)
61	32.70	107.16	Open To Flow (2)
81	19.18	107.81	Shut-In(2)
82	1771.03	108.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM - Oil Spots - 100%m	0.10

Gas Rates

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

ROCK TYPES

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

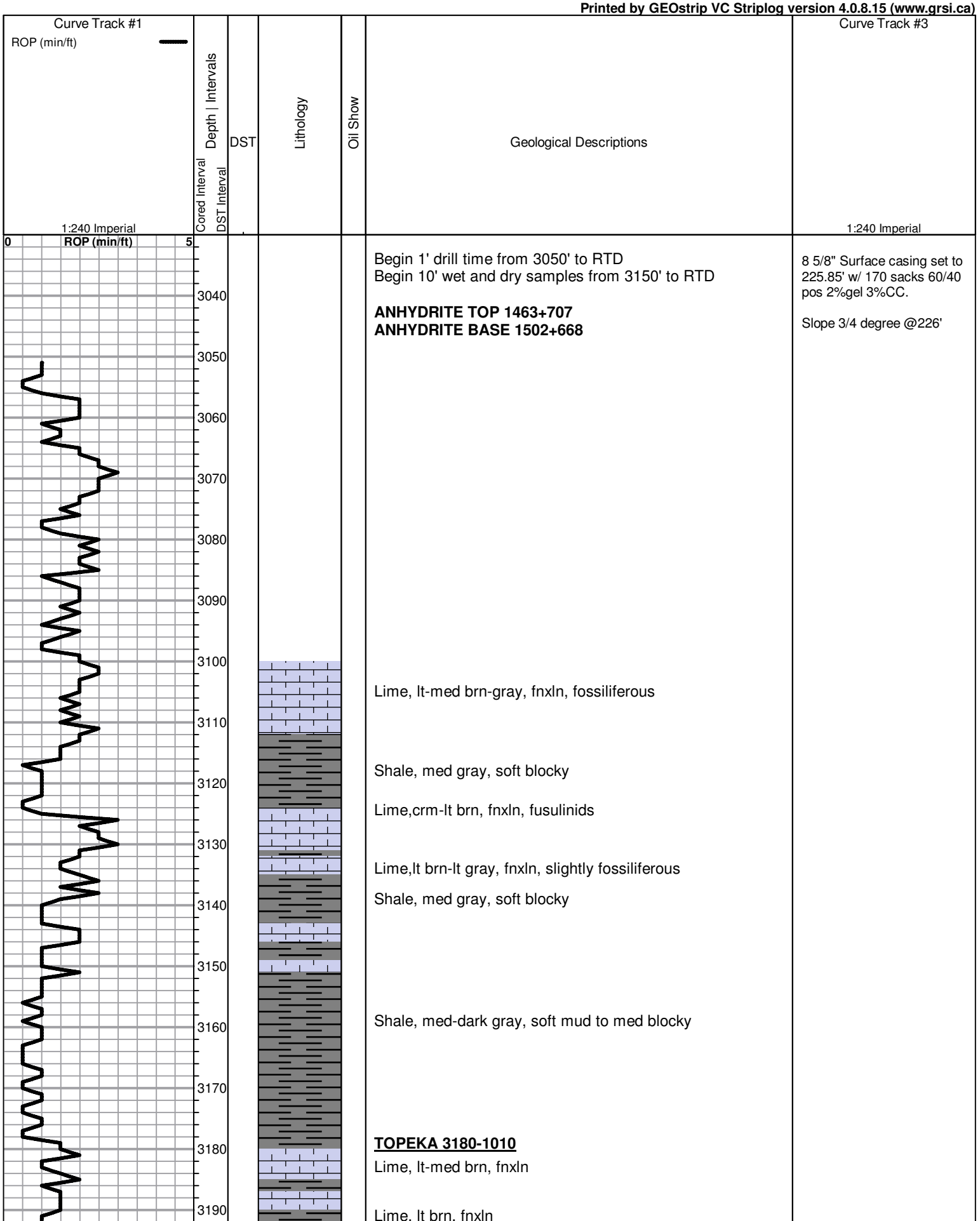
ACCESSORIES

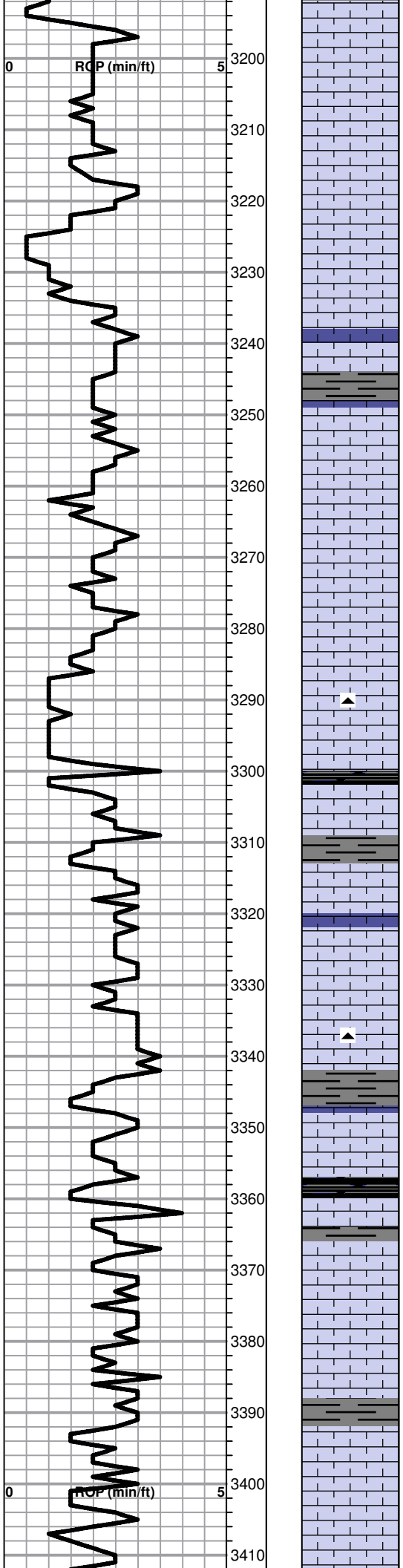
ACCESSORIES

MINERAL
▲ Chert, dark

FOSSIL
Oomoldic

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





Lime, lt brn, fnxln, sticky chalky clumps in part

Lime, lt brn, fnxln, bedded chalk

Lime, crm-lt brn, slightly granular to fnxln, NS, bedded chalk in part

Lime, lt brn, fn-vfxln, white chalk wash

Lime, lt-med brn, fnxln, bedded chalk

Lime, lt-med brn-lt gray, fn-vfxln

Lime, lt brn-lt gray, fnxln, slightly chalky

Lime, lt brn-lt grayish brn, granular to fnxln, chalky

Lime, lt brn, soft granular, chalky, white wash

Shale, black carbonaceous, blocky

Lime, lt brn, fnxln-granular, bedded chalk

Lime, crm-lt brn, fnxln-micro xln

Lime, buff-crm- vfxln, lithographic

Lime, crm-lt brn, fn-micro xln

Lime, lt brn-lt gray, fn-vfxln

Shale, black carbonaceous, blocky

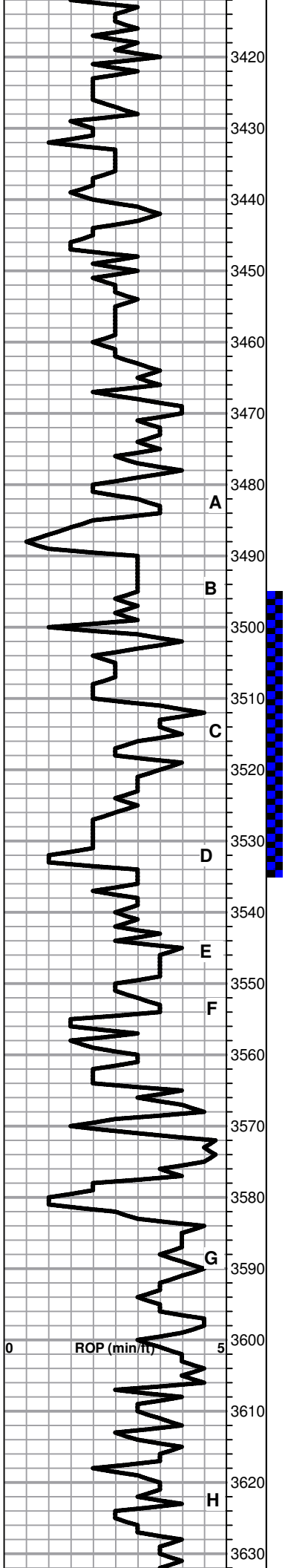
Lime, lt-med brn, fn-vfxln

Lime, lt-med brn, fn-vfxln, thin beds of cemented fusulinids

Lime, lt brn-lt gray, fnxln to slightly granular in part with bedded chalk, NS

Lime, lt-med brn, fn-vfxln

Lime, lt brn, fnxln-granular in part, NS



Lime, lt-med brn, fn-vfxln, bedded chalk

Lime, lt-med brn, fnxln-granular, bedded chalk

HEEBNER SHALE 3436-1266

Shale, black carbonaceous, blocky
Lime, lt brn, vfxln

Shale, lt gray-lime green, soft mud.

TORONTO 3454-1284

Lime, white-crm,mostly fnxln, part fine ppt and interxln porosity with lt spotty staining, NFO very lt odor

CFS 3470', Short Trip 15 stands

Lime, lt brn, fn-micro xln

LKC 3479-1309

Lime, lt brn, fn-micro xln

Shale, lt gray, soft sticky clumps

Lime, lt-med brn-med gray, fn-vfxln

Lime, crm-lt brn, fn-vfxln, bedded chalk

DST # 1 3495' TO 3535' SEE HEADER FOR TEST SUMMARY

Lime, crm-lt brn, fnxln, fossiliferous with sparry calcite backfill, scattered ppt porosity with trace of lt stain, NFO or odor

CFS 3520'

Lime, lt brn, fnxln, oolitic with fossil fragments in part, poor development, scattered lt spotty staining, NFO, very lt odor

CFS 3535'

Lime, lt brn, vfxln

Shale, black carbonaceous, blocky

Lime, crm, fnxln, fossiliferous, cemented, spotty staining, NFO or odor, white chalk wash.

Lime, crm-tan, soft chalky, NFO or odor or staining

Lime, white-crm, fnxln, bedded chalk

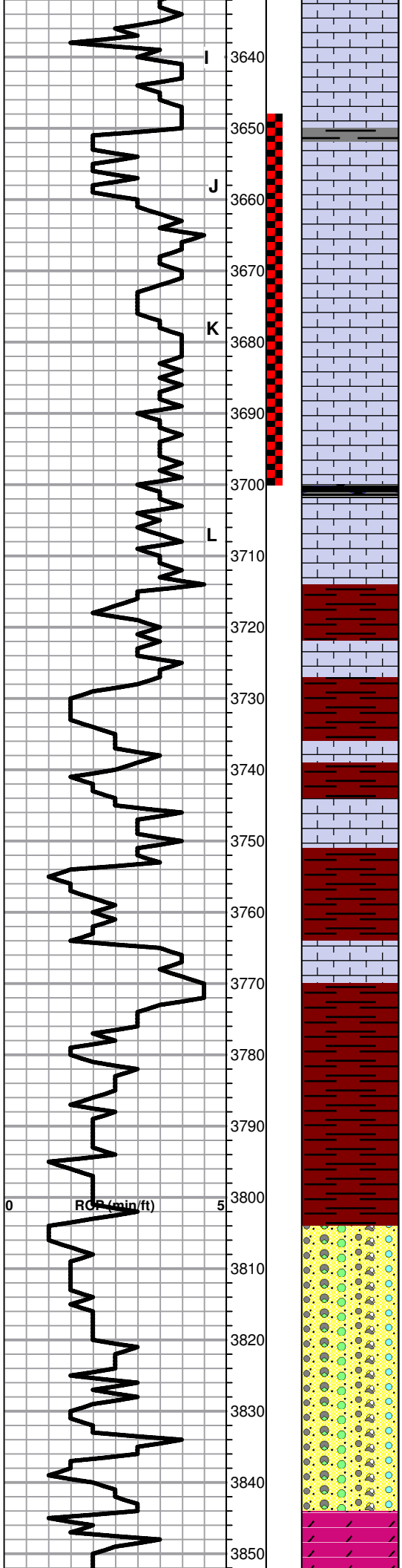
Lime, crm, fnxln to soft chalk and oomoldic, NS, few chips with black dead oil specks

Lime, crm-tan, fn-micro xln

Lime, crm-tan, fn-micro xln

LIme, med brn, fn-vfxln, fine oolitic in part with spotty dark staining, NFO or odor

Lime, crm-tan, fn-micro xln



Lime, crm-tan, fn-micro xln

Lime, crm, fn-micro xln

Lime, crm-tan, fnxln, white chalk wash

Lime, crm-tan, fn-micro xln with white chalk wash — CFS 3665'

DST # 2 3648' TO 3700'
SEE HEADER FOR TEST SUMMARY

Lime, crm-tan, fn-micro xln, NFO or odor, few chips with trace of spotty staining.

Lime, crm-tan, mostly fn-micro xln, few oolitic chips well cemented with scattered oomolds with trace of free oil on crush. Does not appear well developed with little development of uniform porosity. — CFS 3700'

Lime, crm, fn-micro xln

BKC 3714-1544

Shale, red, soft with lt red wash and cherty rubble in part

Lime, clastic mix with red shale, fnxln

Shale, red, soft with red wash

Lime, crm, fnxln, some clastic lime mix

Lime, crm, fn-vfxln

Shale, red, soft with red wash

Lime, crm, vfxln, sticky chalk, some clastic lime.

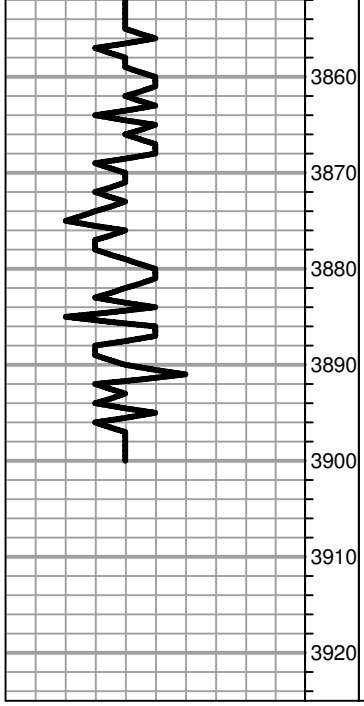
Shale, red wash with vari color cherts

Shale, red soft with red wash,increasing vari colored cherts and shales.

Vari color shales and vari colored cherts

ARBUCKLE 3844-1674

Dolomite, crm, fnxln-granular, sucrosic in part, NS



Dolomite. ivory to tan, fnxln-granular	1st plug@3820'w50 sxs 2nd plug@1485'w50 sxs 3rd plug@760'w100 sxs 4th plug@275'w/50 sxs 5th plug@40'w/10 sxs rathole/30 sxs mousehole 15 sxs
Dolomite, salmon-ivory-tan, fnxln-granular	Ordered 305 sacks 60/40pos 4% gel with 1/4# flocele per sack
Dolomite, ivory-crm, fnxln-granular, scattered glauconite	Plug down 4:30PM 9/25/19
Dolomite, ivory-crm, fnxln-granular	
RTD 3900-1730 LTD 3901-1731	

GLOBAL OIL FIELD SERVICES, LLC

13823

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE 9-19-19	SEC. 26	TWP. 13S	RANGE 19W	CALLED OUT	ON LOCATION	JOB START	JOB FINISH 1:30 am
LEASE Mallock	WELL # 2		LOCATION 2 W Wilson Old Hollow ½ South			COUNTY Ellis	STATE KS
OLD OR NEW (CIRCLE ONE)			Wilson				

CONTRACTOR Southwind Drilling Rig #1
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D.
CASING SIZE 8⅝ DEPTH 225'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 25'
PERFS
DISPLACEMENT

EQUIPMENT

PUMP TRUCK CEMENTER Cody
417 HELPER Jason
BULK TRUCK
392 DRIVER Tom
BULK TRUCK
DRIVER

OWNER TDI

CEMENT
AMOUNT ORDERED 150 sks 60/40 3%cc 2% Gel

COMMON @
POZMIX @
GEL @
CHLORIDE @
ASC @
HANDLING @
MILEAGE
TOTAL

REMARKS:

Ran 6 jts of 8⅝ casing + Lj + Hooked to Rig + Broke Circulation Hooked to Truck + Pumped 150 sks of Com + Gel + displaced 12 ¾ bbl of H2O + Shut In.
Cement Circulate to Surface

SERVICE

DEPTH OF JOB
PUMP TRUCK CHARGE
EXTRA FOOTAGE @
MILEAGE @
MANIFOLD @
@
@
TOTAL

CHARGE TO: TDI
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@
@
@
@
@
TOTAL

Global Oil Field Services, LLC
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

PRINTED NAME Cecil E. Farmer
SIGNATURE Cecil E. Farmer

DTCH
225

GLOBAL OIL FIELD SERVICES, LLC

13829

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE 9-25-19	SEC. 26	TWP. 13	RANGE 14W	CALLED OUT	ON LOCATION	JOB START	JOB FINISH 4:30 PM
LEASE Mallard	WELL # 2		LOCATION 2 1/2 W Hays 9N old 40 S			COUNTY Ellis	STATE KS
OLD OR NEW (CIRCLE ONE)			Wind				

CONTRACTOR Southwind Drilling Rig #1
TYPE OF JOB Rotary Plug
HOLE SIZE 7 7/8 T.D. 3900'
CASING SIZE DEPTH
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS
DISPLACEMENT

EQUIPMENT

PUMP TRUCK CEMENTER Cody
409 HELPER Tom
BULK TRUCK
451 DRIVER Mark
BULK TRUCK
DRIVER

OWNER TDI

CEMENT
AMOUNT ORDERED 305sks 60/40 Poz 6% Gel
4% Pheno Seal

COMMON	@		
POZMIX	@		
GEL	@		
CHLORIDE	@		
ASC	@		
	@		
	@		
	@		
	@		
	@		
	@		
	@		
	@		
HANDLING	@		
MILEAGE			
		TOTAL	

REMARKS:

3820' 50sks
1453' 50sks
760' 100sks
275' 50sks
40' 10sks Wiper Plug
RH 30sks MH 15sks

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			
EXTRA FOOTAGE	@		
MILEAGE	@		
MANIFOLD	@		
	@		
	@		
		TOTAL	

CHARGE TO: TDI
STREET
CITY STATE ZIP

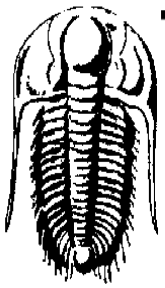
PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		
		TOTAL	

Global Oil Field Services, LLC
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

PRINTED NAME Cecil E. Farmer
SIGNATURE Cecil E. Farmer



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Matlock #2

26-13S-19W Ellis,KS

Start Date: 2019.09.23 @ 13:25:00

End Date: 2019.09.23 @ 19:33:45

Job Ticket #: 66317 DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.09.26 @ 09:05:39

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66317 **DST#: 1**

Test Start: 2019.09.23 @ 13:25:00

GENERAL INFORMATION:

Formation: **"C & D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:05:15
Time Test Ended: 19:33:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3495.00 ft (KB) To 3535.00 ft (KB) (TVD)
Total Depth: 3535.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

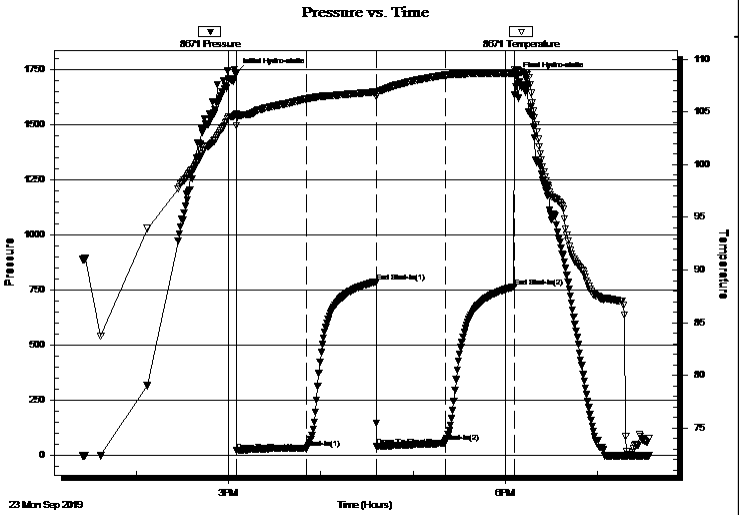
Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**

Press@RunDepth: 60.46 psig @ 3496.00 ft (KB)
Start Date: 2019.09.23 End Date: 2019.09.23
Start Time: 13:25:05 End Time: 19:33:44

Capacity: 8000.00 psig
Last Calib.: 2019.09.23
Time On Btm: 2019.09.23 @ 15:05:00
Time Off Btm: 2019.09.23 @ 18:07:30

TEST COMMENT: 45 - IFP - Surface blow gradually built up to 7"
45 - ISI - No Return
45 - FFP - Surface blow slow ely built up to 6 1/2"
45 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.78	104.79	Initial Hydro-static
1	21.23	103.73	Open To Flow (1)
46	33.56	106.26	Shut-In(1)
91	787.29	106.89	End Shut-In(1)
92	42.55	106.71	Open To Flow (2)
136	60.46	108.50	Shut-In(2)
181	764.56	108.69	End Shut-In(2)
183	1715.00	108.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Free Oil - 100%o	0.03
90.00	OCMW - 10%o - 40%m - 50%w	0.92

Gas Rates

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

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66317 **DST#: 1**

Test Start: 2019.09.23 @ 13:25:00

GENERAL INFORMATION:

Formation: **"C & D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:05:15
Time Test Ended: 19:33:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3495.00 ft (KB) To 3535.00 ft (KB) (TVD)
Total Depth: 3535.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

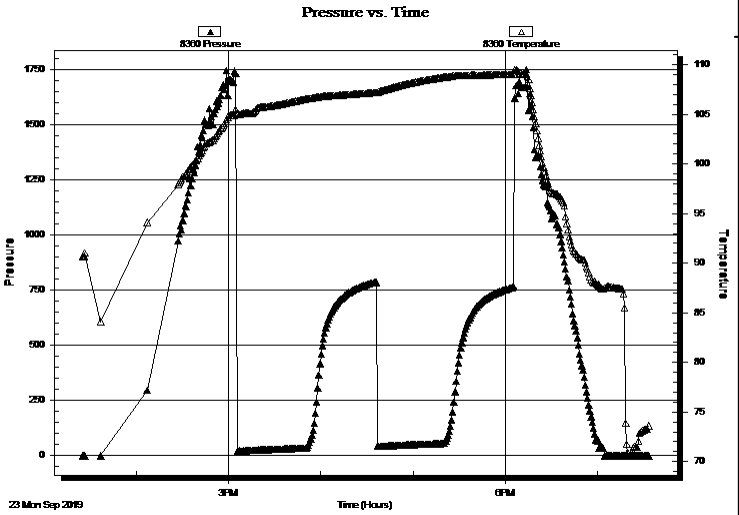
Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: psig @ 3496.00 ft (KB)
Start Date: 2019.09.23 End Date: 2019.09.23
Start Time: 13:25:05 End Time: 19:33:44

Capacity: 8000.00 psig
Last Calib.: 2019.09.23
Time On Btm:
Time Off Btm:

TEST COMMENT: 45 - IFP - Surface blow gradually built up to 7"
45 - ISI - No Return
45 - FFP - Surface blow slowely built up to 6 1/2"
45 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Free Oil - 100%o	0.03
90.00	OCMW - 10%o - 40%m - 50%w	0.92

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66317 **DST#: 1**

Test Start: 2019.09.23 @ 13:25:00

Tool Information

Drill Pipe:	Length:	3487.10 ft	Diameter:	3.25	inches	Volume:	35.78	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
						Total Volume:	35.78	bbl	

Drill Pipe Above KB:	12.10 ft
Depth to Top Packer:	3495.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	40.00 ft
Tool Length:	60.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		3.00 ft
String Weight:	Initial	38000.00 lb
	Final	40000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3480.00		
Hydraulic tool	5.00			3485.00		
Packer	5.00			3490.00	20.00	Bottom Of Top Packer
Packer	5.00			3495.00		
Stubb	1.00			3496.00		
Recorder	0.00	8360	Inside	3496.00		
Recorder	0.00	8671	Outside	3496.00		
perforations	36.00			3532.00		
Bullnose	3.00			3535.00	40.00	Bottom Packers & Anchor
Total Tool Length:	**60.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66317 **DST#: 1**

Test Start: 2019.09.23 @ 13:25:00

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:	34000 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2900.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Free Oil - 100%o	0.031
90.00	OCMW - 10%o - 40%m - 50%w	0.923

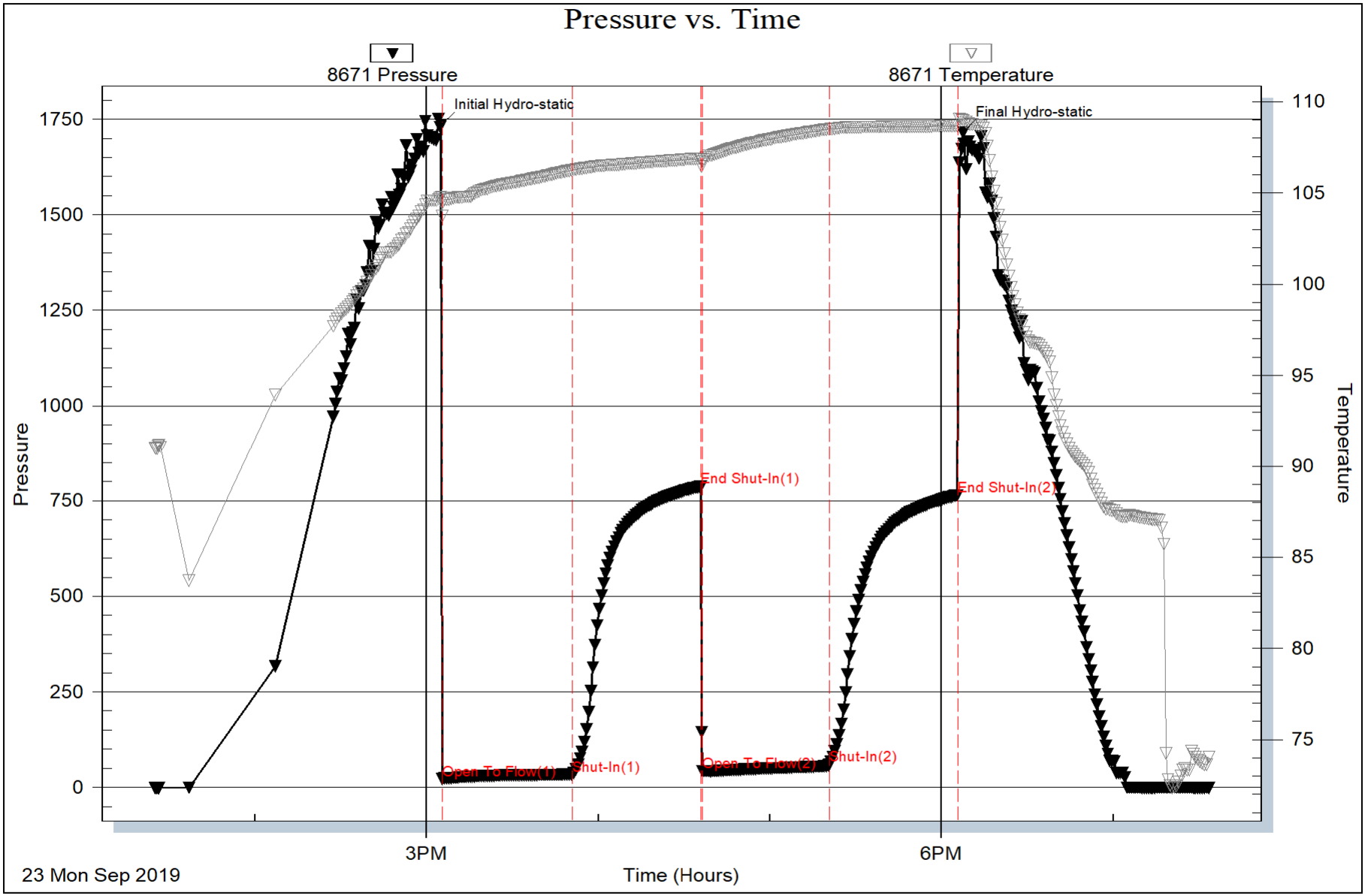
Total Length: 93.00 ft Total Volume: 0.954 bbl

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

Laboratory Name: Laboratory Location:

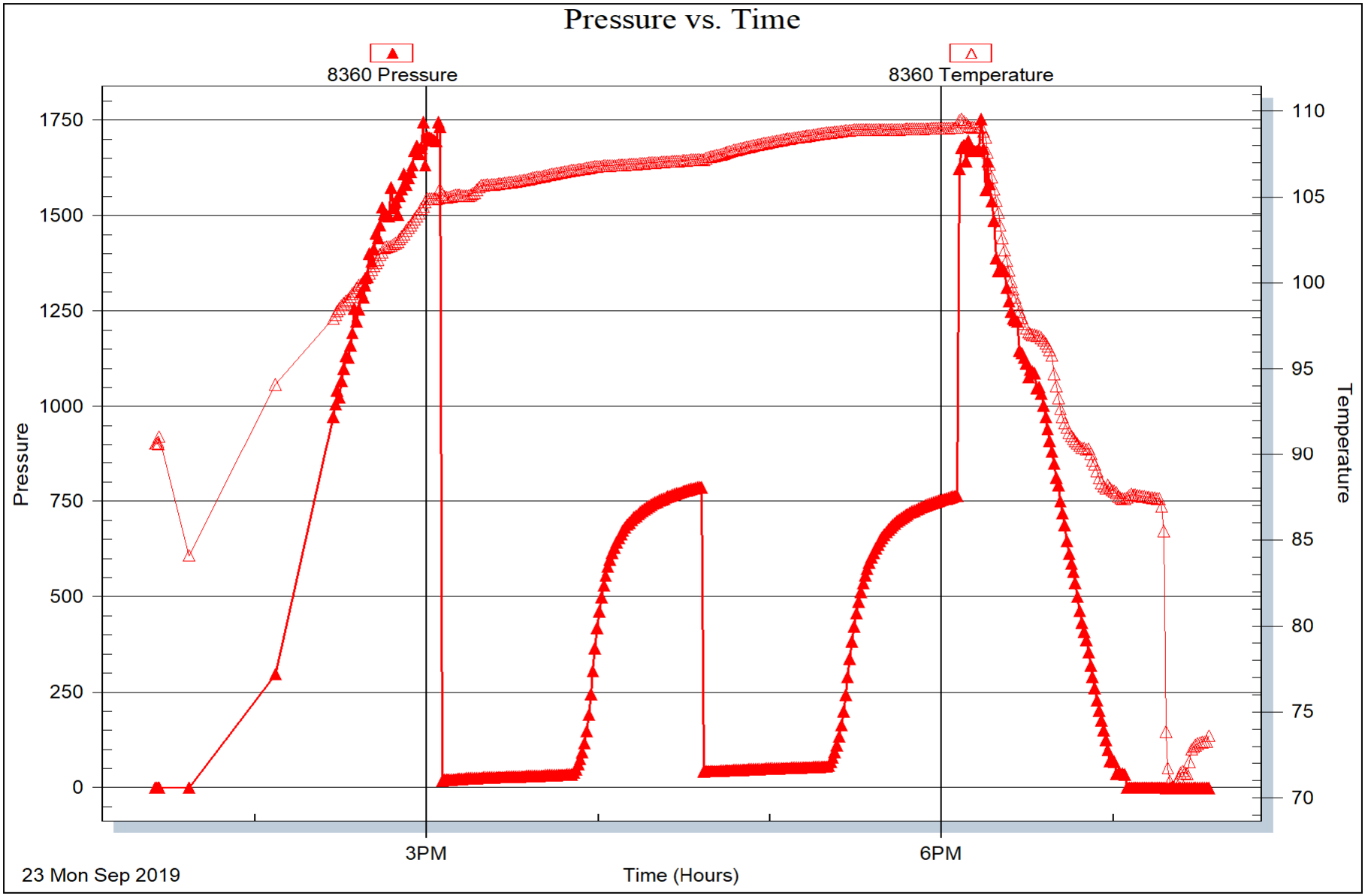
Recovery Comments: .179 @ 78deg.

Serial #: 8671 **Outside** TDI Matlock #2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 66317 Printed: 2019.09.26 @ 09:05:40

Serial #: 8360 **Inside** TDI Matlock #2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 66317 Printed: 2019.09.26 @ 09:05:40

DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Matlock #2

26-13S-19W Ellis,KS

Start Date: 2019.09.24 @ 12:40:00
End Date: 2019.09.24 @ 17:01:00
Job Ticket #: 66318 DST #: 2

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

Printed: 2019.09.26 @ 09:03:23

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66318 **DST#: 2**

Test Start: 2019.09.24 @ 12:40:00

GENERAL INFORMATION:

Formation: **"J & K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:09:45
Time Test Ended: 17:01:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3648.00 ft (KB) To 3700.00 ft (KB) (TVD)
Total Depth: 3700.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

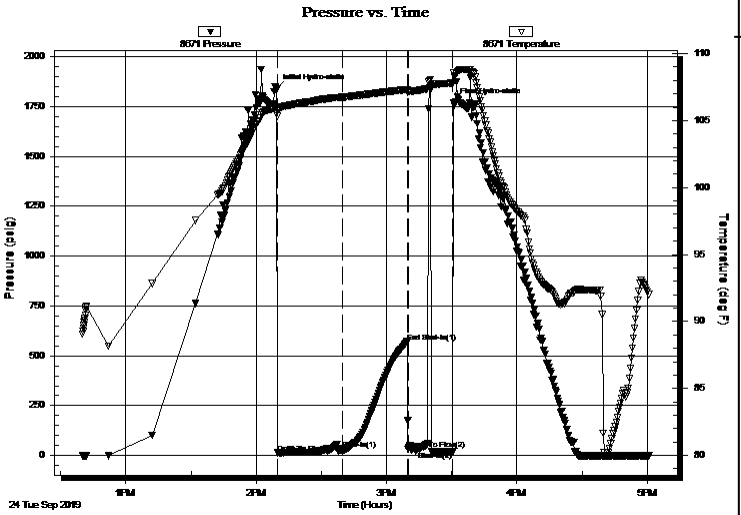
Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**

Press@RunDepth: 33.46 psig @ 3649.00 ft (KB)
Start Date: 2019.09.24 End Date: 2019.09.24
Start Time: 12:40:05 End Time: 17:00:59

Capacity: 8000.00 psig
Last Calib.: 2019.09.24
Time On Btm: 2019.09.24 @ 14:09:30
Time Off Btm: 2019.09.24 @ 15:31:00

TEST COMMENT: 30 - IFP - Surface blow built to a weak blow and stayed
30 - ISI - No Return
20 - FFP - No blow flushed tool 10 mins. in blow bubbled then died
0 - FSI -



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1838.54	106.05	Initial Hydro-static
1	13.69	105.34	Open To Flow (1)
30	33.46	106.75	Shut-In(1)
60	571.28	107.32	End Shut-In(1)
61	32.70	107.16	Open To Flow (2)
81	19.18	107.81	Shut-In(2)
82	1771.03	108.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM - Oil Spots - 100%m	0.10

Gas Rates

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

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66318 **DST#: 2**

Test Start: 2019.09.24 @ 12:40:00

GENERAL INFORMATION:

Formation: **"J & K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:09:45
Time Test Ended: 17:01:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3648.00 ft (KB) To 3700.00 ft (KB) (TVD)
Total Depth: 3700.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

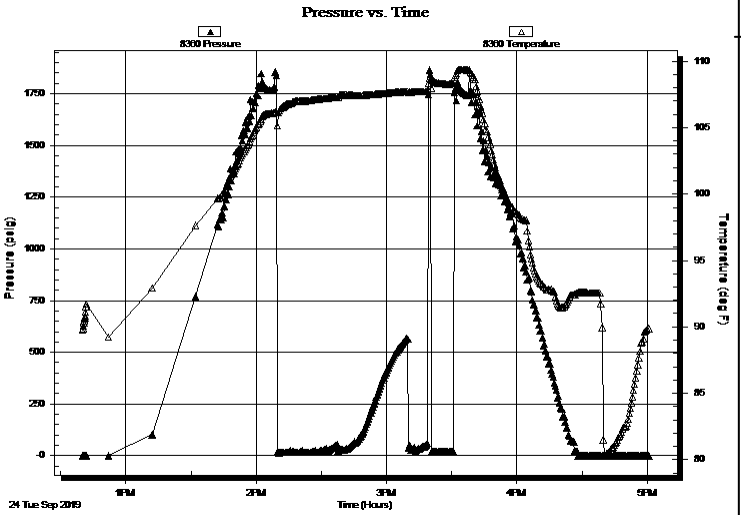
Reference Elevations: 2170.00 ft (KB)
2160.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: psig @ 3649.00 ft (KB)
Start Date: 2019.09.24 End Date: 2019.09.24
Start Time: 12:40:05 End Time: 17:00:59

Capacity: 8000.00 psig
Last Calib.: 2019.09.24
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IFP - Surface blow built to a weak blow and stayed
30 - ISI - No Return
20 - FFP - No blow flushed tool 10 mins. in blow bubbled then died
0 - FSI -



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM - Oil Spots - 100%m	0.10

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66318 **DST#: 2**

Test Start: 2019.09.24 @ 12:40:00

Tool Information

Drill Pipe:	Length:	3645.00 ft	Diameter:	3.25	inches	Volume:	37.40	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
						Total Volume:	37.40	bbl	

Drill Pipe Above KB:	17.00 ft
Depth to Top Packer:	3648.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	52.00 ft
Tool Length:	72.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		50000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	38000.00 lb
	Final	38000.00 lb

Tool Comments: Pulled tool after final open

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3633.00		
Hydraulic tool	5.00			3638.00		
Packer	5.00			3643.00	20.00	Bottom Of Top Packer
Packer	5.00			3648.00		
Stubb	1.00			3649.00		
Recorder	0.00	8360	Inside	3649.00		
Recorder	0.00	8671	Outside	3649.00		
perforations	15.00			3664.00		
Change Over Sub	1.00			3665.00		
Drill Pipe	31.00			3696.00		
Change Over Sub	1.00			3697.00		
Bullnose	3.00			3700.00	52.00	Bottom Packers & Anchor
Total Tool Length:	**72.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

26-13S-19W Ellis,KS

Matlock #2

Job Ticket: 66318 **DST#: 2**

Test Start: 2019.09.24 @ 12:40:00

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM - Oil Spots - 100%m	0.103

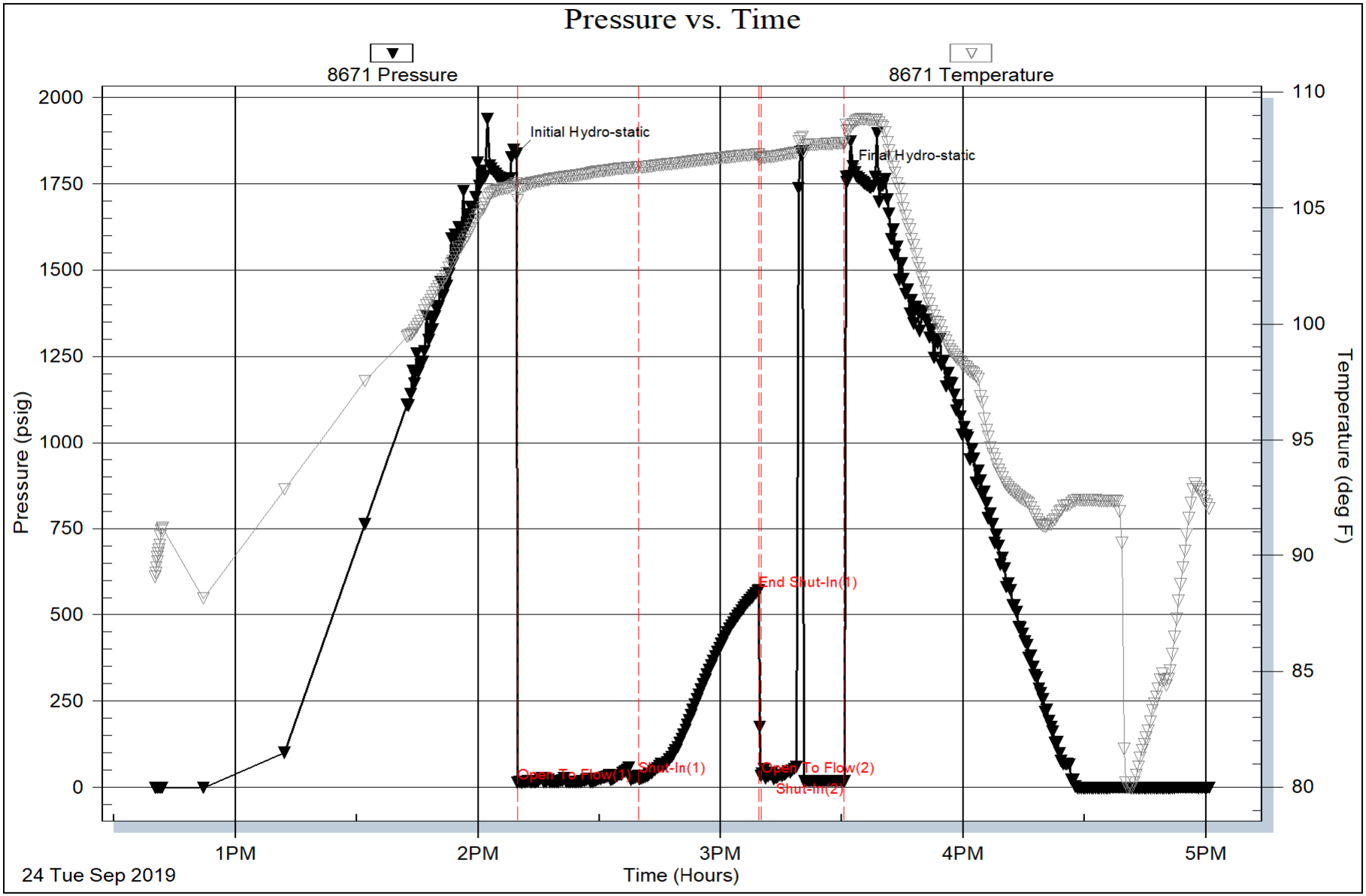
Total Length: 10.00 ft Total Volume: 0.103 bbl

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

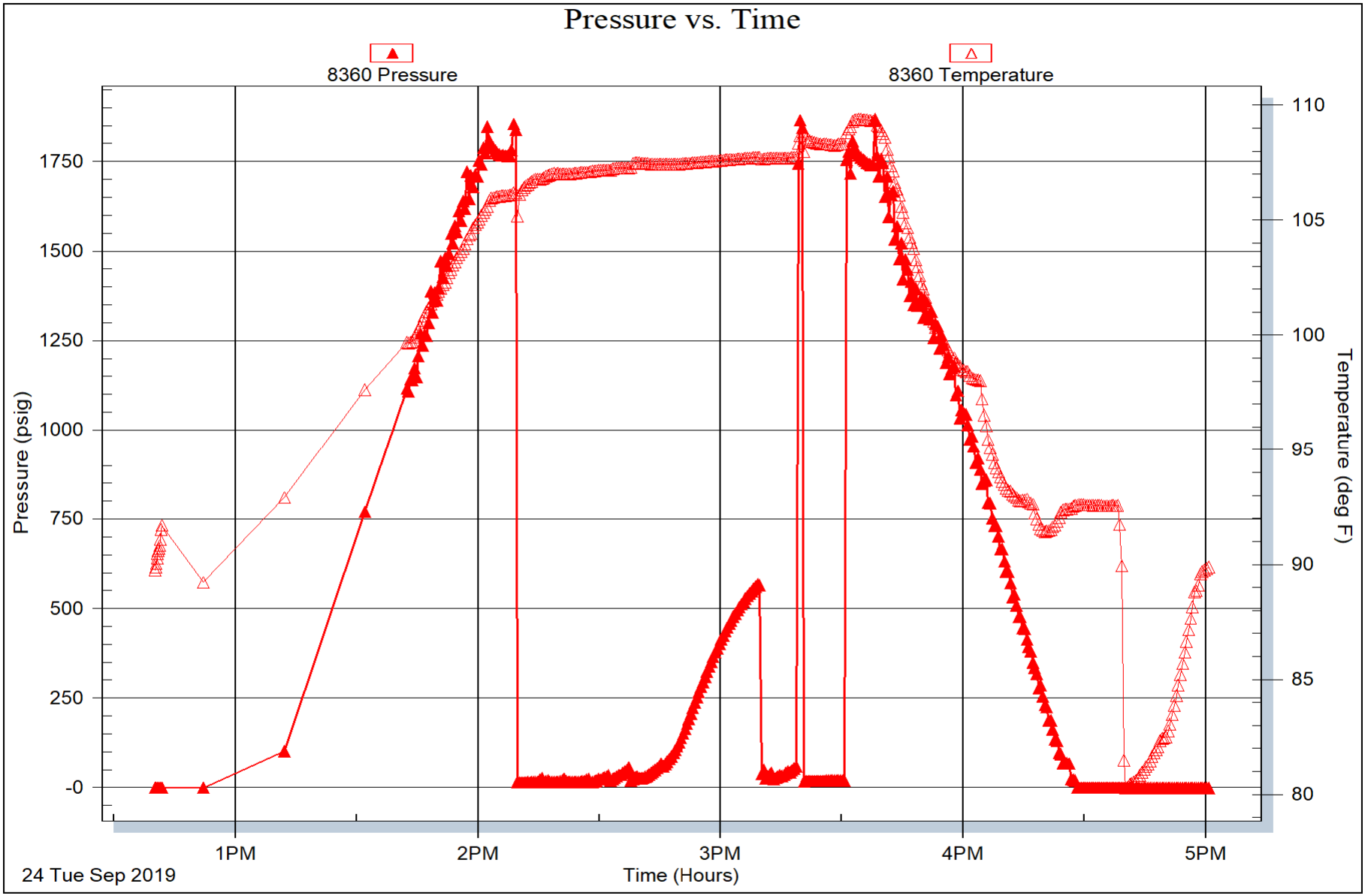
Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8671 **Outside** TDI Matlock #2 DST Test Number: 2



Serial #: 8360 **Inside** TDI Matlock #2 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 66318 Printed: 2019.09.26 @ 09:03:24

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66317

NO.

Well Name & No. Matlock #2 Test No. 1 Date 9-23-19

Company TDI Elevation 2170' KB 2160' GL

Address 1310 Bison Rd Hays Ks 67601

Co. Rep / Geo. Herb Deines Rig Southwind #1

Location: Sec. 26 Twp 13S Rge. 19W Co. Ellis State Ks

Interval Tested 3495'-3535' Zone Tested "C&D"

Anchor Length 40' Drill Pipe Run 3487.10' Mud Wt. 9.1

Top Packer Depth 3490' Drill Collars Run Ø Vis 54

Bottom Packer Depth 3495' Wt. Pipe Run Ø WL 6.8

Total Depth 3535' Chlorides 2900 ppm System LCM 1#

Blow Description IFP-Surface blow gradually built up to 7"
ISI-No Return
FFP-Surface blow slowly built up to 6½"
FSI-No Return

Rec 90'	Feet of ~~oil~~ OCMW	%gas 10	%oil 50	%water 40	%mud	
Rec 3'	Feet of Free Oil	%gas 100	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 93' BHT 109°F Gravity ____ API RW .179 @ 78 °F Chlorides 34,000 ppm

(A) Initial Hydrostatic 1734	☒ Test 1200	T-On Location 12:10pm	
(B) First Initial Flow 21	☐ Jars	T-Started 1:25pm	
(C) First Final Flow 34	☐ Safety Joint	T-Open 3:05pm	
(D) Initial Shut-In 787	☐ Circ Sub	T-Pulled 6:05pm	
(E) Second Initial Flow 43	☐ Hourly Standby	T-Out 7:34pm	
(F) Second Final Flow 60	☒ Mileage 18 R/T 18	Comments	
(G) Final Shut-In 764	☐ Sampler		
(H) Final Hydrostatic 1715	☐ Straddle	☐ EM Tool	
	☐ Shale Packer	☐ Ruined Shale Packer	
Initial Open 45	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 45	☐ Extra Recorder	☐ Extra Copies	
Final Flow 45	☐ Day Standby	Sub Total 0	
Final Shut-In 45	☐ Accessibility	Total 1218	
	Sub Total 1218	MP/DST Disc't	

Approved By ____ Our Representative Royal Winters

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66318

NO.

Well Name & No. Matlock #2 Test No. 2 Date 9-24-19

Company TDI Elevation 2170 KB 2160 GL

Address 1310 Bison Rd Hays Ks 67601

Co. Rep / Geo. Herb Deines Rig Southwind #1

Location: Sec. 26 Twp 13S Rge. 19W Co. Ellis State Ks

Interval Tested 3648' - 3700' Zone Tested J & K

Anchor Length 52' Drill Pipe Run 3645' Mud Wt. 9.2

Top Packer Depth 3643' Drill Collars Run 0 Vis 52

Bottom Packer Depth 3648' Wt. Pipe Run 0 WL 8.0

Total Depth 3700' Chlorides 3300 ppm System LCM 2#

Blow Description IFP: Surface blow built to a weak blow

ISI - No Return

FFP - Flushed tool 10mins in bubbled then died, pulled tool after open

FSI -

Rec 10'	Feet of OSM	%gas Spots	%oil	%water 100	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 108°F Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1839	☒ Test 1200	T-On Location 12:00pm	
(B) First Initial Flow 14	☐ Jars	T-Started 12:40pm	
(C) First Final Flow 33	☐ Safety Joint	T-Open 2:09pm	
(D) Initial Shut-In 571	☐ Circ Sub	T-Pulled 3:29pm	
(E) Second Initial Flow 32	☐ Hourly Standby	T-Out 5:01pm	
(F) Second Final Flow 19	☒ Mileage 18/R/T 36	Comments Flushed tool 10min into final open left open for 10mins then pulled	
(G) Final Shut-In	☐ Sampler		
(H) Final Hydrostatic 1771	☐ Straddle	☐ EM Tool	
	☐ Shale Packer	☐ Ruined Shale Packer	
Initial Open 30	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 30	☐ Extra Recorder	☐ Extra Copies	
Final Flow 20	☐ Day Standby	Sub Total 0	
Final Shut-In 0	☐ Accessibility	Total 1236	
	Sub Total 1236	MP/DST Disc't	

Approved By ____ Our Representative Ryan Thomas

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.

picked up tool 9-25-19 from 10:44am to 11:16am