

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

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

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

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

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

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

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

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

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

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

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

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

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

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

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

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

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

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

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD  
 Plug Back  Liner  Conv. to GSW  Conv. to Producer

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

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

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

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

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

Spud Date or Date Reached TD Completion Date or Recompletion Date

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

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

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

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

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

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

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

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

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

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

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

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

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

Multiple Stage Cementing Collar Used?  Yes  No

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

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

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

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

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

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

Location of fluid disposal if hauled offsite:

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

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

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

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

**AFFIDAVIT**

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

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

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

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

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

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

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	--	------------------------------------

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
----------------	-------	---------	------------	--



**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 # 1  
 Location: 1700'FSL and 1200' FEL  
 API: 15-051-26,954-00-00  
 Pool: WILDCAT  
 State: KANSAS

Field: UNNAMED  
 Country: USA



Scale 1:240 Imperial

Well Name: MATLOCK # 1  
 Surface Location: 1700'FSL and 1200' FEL  
 Bottom Location:  
 API: 15-051-26,954-00-00  
 License Number: 4787  
 Spud Date: 6/5/2019 Time: 10:00 PM  
 Region: ELLIS COUNTY  
 Drilling Completed: 6/12/2019 Time: 12:10 PM  
 Surface Coordinates: 1700' FSL & 1200' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2163.00ft  
 K.B. Elevation: 2172.00ft  
 Logged Interval: 3100.00ft 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:  
 Latitude:  
 N/S Co-ord: 1700' FSL  
 E/W Co-ord: 1200' FEL

**LOGGED BY**

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 #: 3  
 Rig Type: MUD ROTARY  
 Spud Date: 6/5/2019 Time: 10:00 PM  
 TD Date: 6/12/2019 Time: 12:10 PM

**ELEVATIONS**

K.B. Elevation: 2172.00ft  
 K.B. to Ground: 9.00ft

Ground Elevation: 2163.00ft

**NOTES**

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON LOG ANALYSIS AND POSITIVE RESULTS OF DST #1 AND # 4.

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: THREE (3) CONVENTIONAL TESTS AND ONE (1) STRADDLE TEST

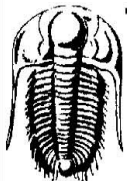
<b>MATLOCK # 1</b>	<b>YOUNGER # 1</b>	<b>BRULL FARMS # 1</b>
<b>NW SW NE SE</b>	<b>SW NE SW NW</b>	<b>SE NW NW NE</b>
<b>SEC.26-13S-19W</b>	<b>SEC.35-13-19W</b>	<b>SEC.25-13-19W</b>
<b>KB 2172'</b>	<b>KB 2174'</b>	<b>KB 2024'</b>

**LOG TOPS**

<b>Anhydrite top</b>	<b>1468 +704</b>	<b>+ 704</b>	<b>+ 715</b>
<b>Anhydrite base</b>	<b>1505 +667</b>	<b>+ 664</b>	<b>+ 678</b>
<b>Topeka</b>	<b>3182-1010</b>	<b>-1015</b>	<b>- 996</b>
<b>Heebner Sh.</b>	<b>3432-1260</b>	<b>-1267</b>	<b>-1253</b>
<b>Toronto</b>	<b>3452-1280</b>	<b>-1285</b>	<b>-1271</b>
<b>LKC</b>	<b>3477-1305</b>	<b>-1311</b>	<b>-1299</b>
<b>BKC</b>	<b>3714-1542</b>	<b>-1552</b>	<b>-1528</b>
<b>Arbuckle</b>	<b>3814-1642</b>	<b>-1668</b>	<b>-1638</b>
<b>RTD</b>	<b>3900-1728</b>	<b>-1751</b>	<b>-1648</b>

**SUMMARY OF DAILY ACTIVITY**

06-05-19 Spud 10:00pm, set  
 06-06-19 187', drilling, 8 5/8" surface casing to 212' w/ 180 sxs 60/40 2%gel 3%CC, plug down 9:30AM. slope 3/4 degree, drill plug at 5:30PM.  
 06-07-19 1042' drilling  
 06-08-19 2371', drilling  
 06-09-19 3196' drilling, CFS 3475', short trip 20 stands,  
 06-10-19 3535', CFS 3535', DST#1 33463'-3535', TOWB, slope 1 1/2 degree, TIWB, CFS 3580', DST # 2 3534'-3580'.  
 06-11-19 3660', DST # 3 3638'-3660', TIWB, drilling  
 06-12-19 3805', CFS 3805', CFS 3815', RTD 3900 @12:10PM, TOWB, logs, DST # 4 straddle test 3657'-3707'

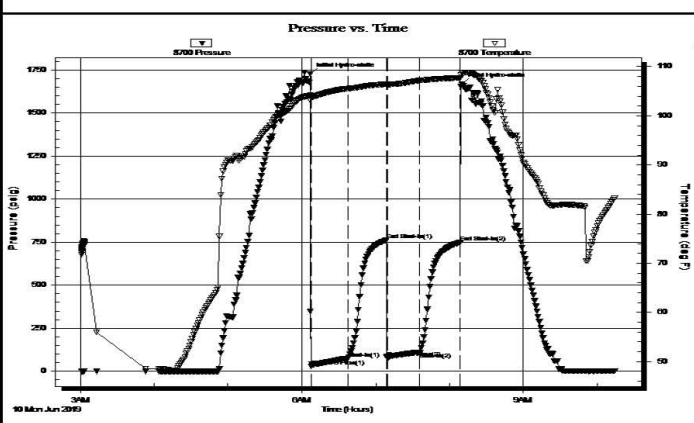
 <p><b>TRILOBITE TESTING, INC.</b></p>	<h3>DRILL STEM TEST REPORT</h3> <p>TDI, Inc. <span style="float: right;"><b>26-13S-19W Ellis, KS</b></span></p> <p>1310 Bison Rd. <span style="float: right;"><b>Matlock #1</b></span> Hays, KS 67601</p> <p>ATTN: Herb Deines <span style="float: right;">Job Ticket: 65692 <b>DST#: 1</b></span></p> <p style="text-align: right;">Test Start: 2019.06.10 @ 03:01:13</p>
---	--

**GENERAL INFORMATION:**

Formation: <b>LKC "A-D"</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Brannan Lonsdale
Time Tool Opened: 06:07:34	Unit No: 73
Time Test Ended: 10:14:19	Reference Elevations: 2172.00 ft (KB)
<b>Interval: 3464.00 ft (KB) To 3535.00 ft (KB) (TVD)</b>	2163.00 ft (CF)
Total Depth: 3535.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Poor

<b>Serial #: 8700</b> <b>Outside</b>	Capacity: 8000.00 psig
Press@RunDepth: 110.41 psig @ 3465.00 ft (KB)	Last Calib.: 2019.06.10
Start Date: 2019.06.10	End Date: 2019.06.10
Start Time: 03:01:14	End Time: 10:14:19
	Time On Btm: 2019.06.10 @ 06:06:49
	Time Off Btm: 2019.06.10 @ 08:10:04

**TEST COMMENT:** 30- IF- BOB 6mins. Built to 45.90'  
 30- IS- No blow  
 30- FF- BOB 3mins. Built to 50.91"  
 30- FS- No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.06	104.18	Initial Hydro-static
1	27.58	103.80	Open To Flow (1)
31	74.19	105.53	Shut-In(1)
62	762.11	106.42	End Shut-In(1)
63	75.99	106.35	Open To Flow (2)
89	110.41	107.17	Shut-In(2)
122	748.45	107.73	End Shut-In(2)
124	1666.27	108.71	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
125.00	GMVCO, 20%G 65%O 10%W 5%M	1.77
95.00	GOCM, 20%G 10%O 70%M	1.35
0.00	725' GIP	0.00

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

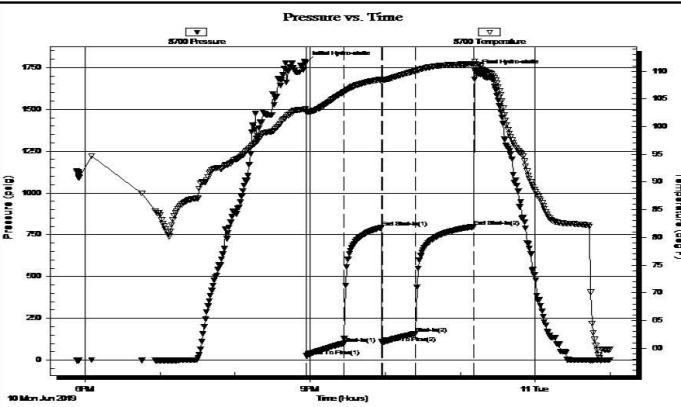
**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65693 **DST#: 2**  
Test Start: 2019.06.10 @ 17:53:25

**GENERAL INFORMATION:**

Formation: **LKC "F&G"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:56:46  
Time Test Ended: 00:59:31  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73  
Interval: **3534.00 ft (KB) To 3580.00 ft (KB) (TVD)**  
Total Depth: 3580.00 ft (KB) (TVD)  
Reference Elevations: 2172.00 ft (KB)  
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 2163.00 ft (CF)  
KB to GR/CF: 9.00 ft

**Serial #: 8700 Outside**  
Press@RunDepth: 159.09 psig @ 3535.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2019.06.10 End Date: 2019.06.11 Last Calib.: 2019.06.11  
Start Time: 17:53:26 End Time: 00:59:31 Time On Btm: 2019.06.10 @ 20:56:31  
Time Off Btm: 2019.06.10 @ 23:12:01

**TEST COMMENT:** 30- IF- BOB 13mins. Built to 18.44"  
30- IS- No blow  
30- FF- BOB 21mins. Built to 12.45"  
30- FS- No blow



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1782.51	103.21	Initial Hydro-static
1	25.33	102.62	Open To Flow (1)
31	100.00	106.24	Shut-In(1)
61	793.30	108.54	End Shut-In(1)
61	104.52	108.43	Open To Flow (2)
88	159.09	110.08	Shut-In(2)
135	798.50	111.36	End Shut-In(2)
136	1729.38	111.37	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbt)
190.00	MW, 20% M 80% W	2.69
110.00	WM, 15% W 85% M	1.56

\* Recovery from multiple tests

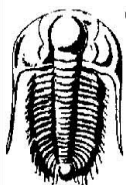
**Gas Rates**

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

Trilobite Testing, Inc

Ref. No: 65693

Printed: 2019.06.11 @ 07:18:20



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65694 **DST#: 3**  
Test Start: 2019.06.11 @ 11:00:55

**GENERAL INFORMATION:**

Formation: **LKC "I"**

Formation: LKC 3  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:31:01  
 Time Test Ended: 18:22:46

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73

Interval: 3638.00 ft (KB) To 3660.00 ft (KB) (TVD)  
 Total Depth: 3660.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2172.00 ft (KB)  
 2163.00 ft (CF)  
 KB to GR/CF: 9.00 ft

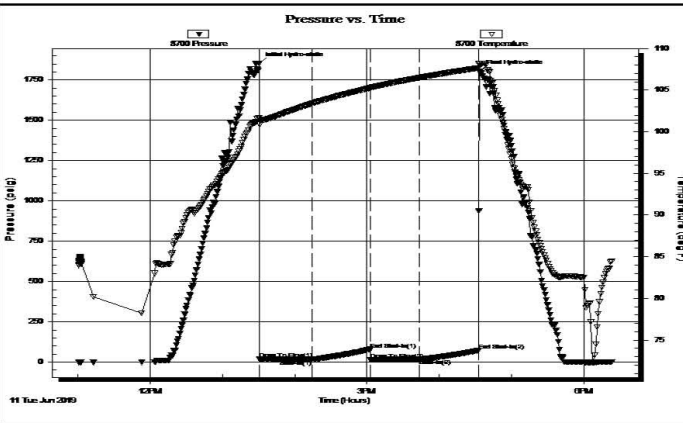
**Serial #: 8700**

**Outside**

Press@RunDepth: 17.83 psig @ 3639.00 ft (KB)  
 Start Date: 2019.06.11 End Date: 2019.06.11  
 Start Time: 11:00:56 End Time: 18:22:46

Capacity: 8000.00 psig  
 Last Calib.: 2019.06.11  
 Time On Btm: 2019.06.11 @ 13:30:46  
 Time Off Btm: 2019.06.11 @ 16:33:31

TEST COMMENT: 45- IF- Slow ly built to 2.45"  
 45- IS- No blow  
 45- FF- Initial surge 1.68" then built slow ly to 2.95"  
 45- FS- No blow



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1852.99	101.70	Initial Hydro-static
1	17.87	100.89	Open To Flow (1)
44	16.75	103.39	Shut-In(1)
92	79.53	105.26	End Shut-In(1)
92	15.21	105.28	Open To Flow (2)
133	17.83	106.49	Shut-In(2)
182	73.28	107.65	End Shut-In(2)
183	1803.65	108.16	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
30.00	GHOCM, 15%G 25%O 60%M	0.43
0.00	30' GIP	0.00

**Gas Rates**

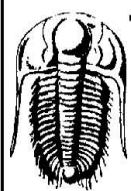
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 65694

Printed: 2019.06.11 @ 22:23:45



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI, Inc.  
 1310 Bison Rd.  
 Hays, KS 67601  
 ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
 Job Ticket: 65695 **DST#: 4**  
 Test Start: 2019.06.12 @ 20:31:31

**GENERAL INFORMATION:**

Formation: LKC "K"  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:33:07  
 Time Test Ended: 03:02:07

Test Type: Conventional Straddle (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73

Interval: 3657.00 ft (KB) To 3707.00 ft (KB) (TVD)  
 Total Depth: 3902.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2172.00 ft (KB)  
 2163.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 6771**

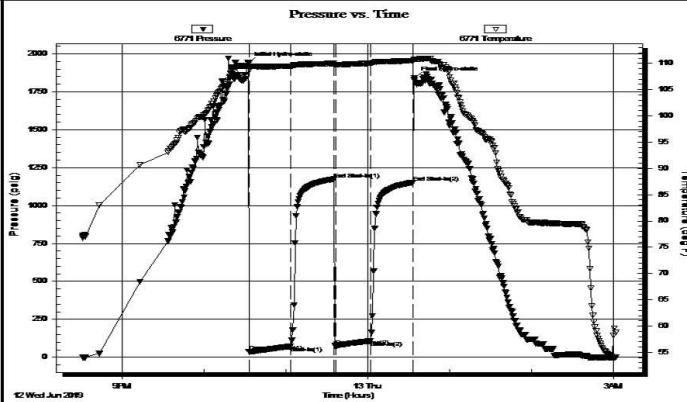
**Inside**

Press@RunDepth: 108.74 psig @ 3658.00 ft (KB)  
 Start Date: 2019.06.12 End Date: 2019.06.13  
 Start Time: 20:31:32 End Time: 03:02:07

Capacity: 8000.00 psig  
 Last Calib.: 2019.06.13  
 Time On Btm: 2019.06.12 @ 22:32:52  
 Time Off Btm: 2019.06.13 @ 00:34:22

TEST COMMENT: 30- IF- BOB 5mins. Built to 54.96"  
 30- IS- Slow ly built to 4.37"  
 30- FF- BOB 90secs. Built to 41.05"  
 30- FS- Slow ly built to 5 15"





PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.02	109.41	Initial Hydro-static
1	36.19	108.99	Open To Flow (1)
31	74.35	109.48	Shut-In(1)
63	1173.67	110.00	End Shut-In(1)
65	74.09	109.72	Open To Flow (2)
90	108.74	110.02	Shut-In(2)
121	1151.74	110.52	End Shut-In(2)
122	1841.75	110.77	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
60.00	HOCM, 30%O 70%M	0.85
60.00	GMCO, 30%G 50%O 20%M	0.85
130.00	CGO, 20%G 80%O	1.84
0.00	1000' GIP	0.00

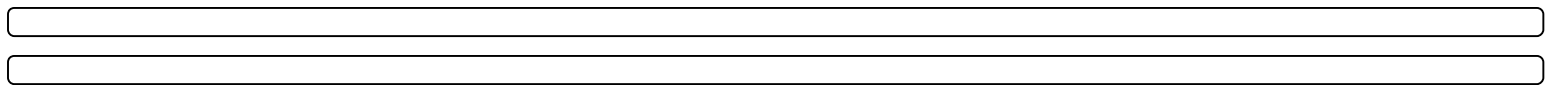
Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 65695

Printed: 2019.06.13 @ 08:10:14



### ROCK TYPES

	Cht vari		Lmst fw<7		shale, grn		shale, red
	Chtcongl		Lmst fw>7		shale, gry		Carbon Sh
	Dolprim		Lscongl				

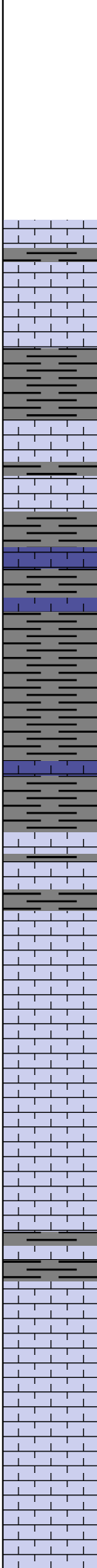
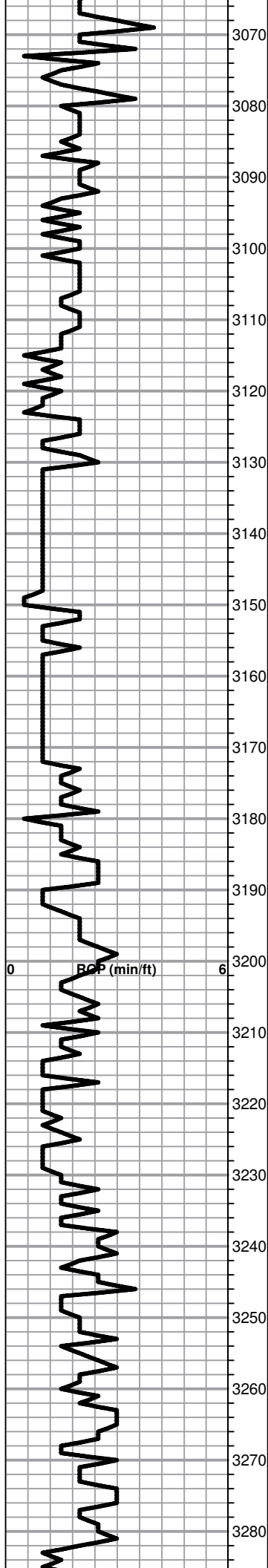
### ACCESSORIES

**FOSSIL**

- Oolite
- Oomoldic

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

Curve Track #1	Depth   Intervals	DST	Lithology	Oil Show	Geological Descriptions	Curve Track #3
ROP (min/ft) 	Cored Interval DST Interval 3040 3050 3060				BEGIN 1' DRILL TIME FROM 3050' TO RTD BEGIN 10' WET AND DRY SAMPLES FROM 3150' TO RTD  <b>ANHYDRITE TOP 1468+704</b> <b>ANHYDRITE BASE 1505+667</b>	1:240 Imperial 8 5/8" SURFACE CASING SET TO 212' W/ 180 SXS 60/40 2%GEL 3%CC.  SLOPE 3/4 DEGREE @212'



Shale, lt-med gray, soft blocky

Lime, lt-med brn, fnxln, fossiliferous in part

Shale, lt-med -dark gray, soft blocky

Lime, lt-med brn, fnxln, fossiliferous with fusulinids and crinoid fragments.

Shale, lt-med gray, soft blocky

Lime, crm-lt brn-lt gray, fnxln  
Sandstone, fine grained, gritty, NS, micaceous

**TOPEKA 3182-1010**

Lime, crm-lt brn, fn-vfxln, slight bedded chalk, slightly fossiliferous in part

Lime, crm-lt brn, fn-vfxln, slightly fossiliferous

Lime, lt-dark brn-med gray, fn-vfxln, fossiliferous-fusulinids

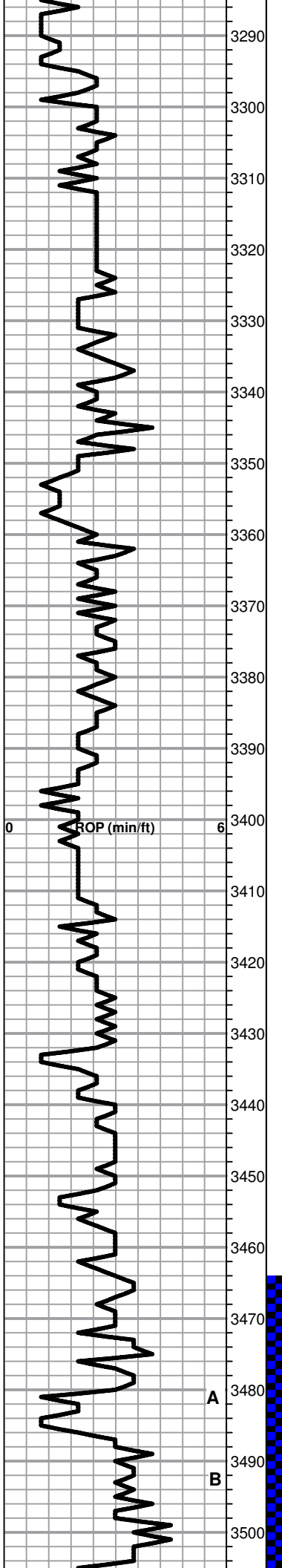
Lime, crm-lt-med brn, fn-vfxln, slightly granular in part, NS

Lime, lt-med brn-med grayish brn, fnxln, slightly fossiliferous

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

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

Lime, lt-med brn, fn-vfxln with granular in part



Lime, med brn, granular, slightly fossiliferous, some sticky chalk

Shale, dark gray-black carbonaceous, blocky

Lime, lt-med brn, fnxln

Lime, crm, fn-vfxln, lithographic

Lime, crm, fn-vfxln

Lime, crm-lt brn, fnxln, slight bedded chalk

Shale, black carbonaceous

Lime, offwhite-med brn, fn-vfxln

Lime, lt brn, fn-vfxln

Lime, offwhite-lt brn, fnxln, slight bedded chalk

Lime, offwhite-lt brn, fn-vfxln

○ \* Lime, mostly offwhite-lt brn, fnxln, 1 chip granular with trace of stain and very lt odor.

Lime, lt brn, fn-vfxln

**HEEBNER SHALE 3432-1260**

Shale, black carbonaceous, blocky  
Lime, med brn, vf-micro xln

Shale, lt gray to lime green, soft

**TORONTO 3452-1280**

○ Lime, crm-lt brn, fnxln, scattered to few saturated chips in fine interxln and pinpoint vuggy porosity. Lt odor, NFO

Lime, white-crm, fn-vfxln

Shale, red-gray, soft blocky

**LKC 3477-1305**

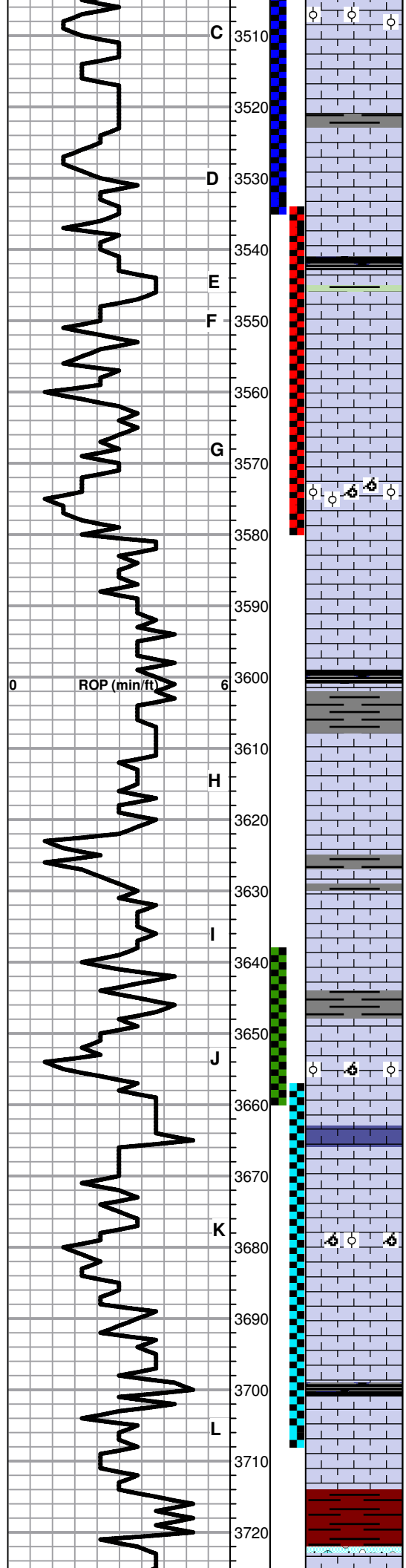
Lime, lt brn, vf-micro xln  
Shale, red with lt red wash

Lime, lt brn-lt gray, fn-micro xln

lime, lt brn-lt gray, fn-vfxln

CFS 3475', SHORT TRIP 20 STANDS

DST#1 3464' TO 3535' SEE HEADER FOR TEST SUMMARY



○ Lime, lt brn, few oolitic chips with spotty staining, NFO and very lt odor

Lime, lt-med brn, fn-vfxln

○ Lime, lt brn, fnxln, oolitic and oomoldic with dark spotty to saturated staining lt odor, NFO

Lime, lt brn, fn-vfxln

Shale, black carbonaceous

○ Lime, lt brn, fnxln, fossiliferous in part with spotty lt staining in interfossiliferous and fine inter xln porosity, lt odor, NFO

○ Lime, crm-lt brn, fnxln, bedded chalk with lt white wash, few chips with spotty lt stain and lt odor, NFO

Lime, lt-med brn, fn-vfxln, brittle in part

○ Lime, crm-lt brn, fnxln, few oolitic and oomoldic chips with scattered to saturated stain, lt odor and VMSFO, lt gassy.

Lime, crm-lt brn, fn-micro xln

Lime, dark brn, fn-vfxln

Lime, white-crm-lt brn, fn-micro xln, slight bed chalk

Lime, crm-lt brn, fn-micro xln

Lime, lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, lt brn, fn-vfxln, zone of oolitic/oomoldic lime, lt odor, dark scattered to saturated staining, NFO

Shale, gray, platy, calcareous

Lime, crm-tan, fnxln-oolitic, lt staining, good odor, fair SFO

○ Lime, offwhite, fnxln, slightly chalky

Lime, crm-tan, fn-vfxln

**BKC 3714-1542**

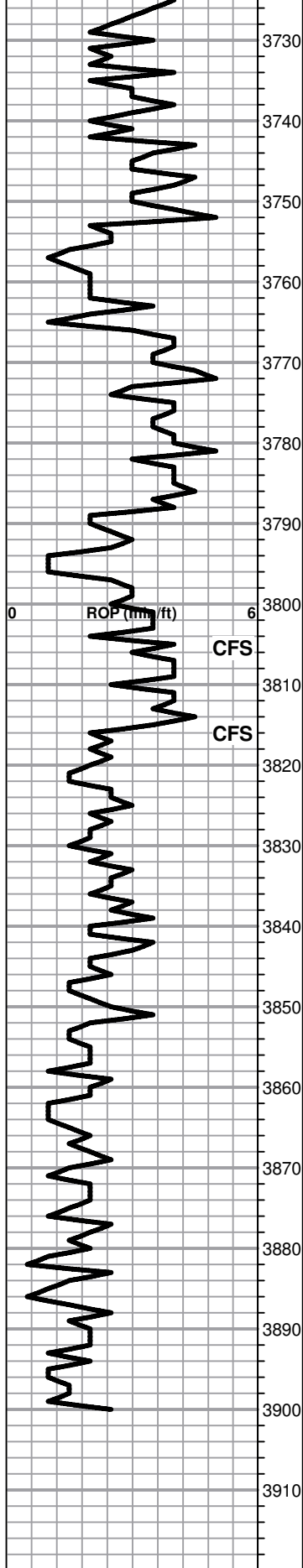
Shale, gray-reddish brn

Lime, crm, chalky, soft on crush, NS

SLOPE 1 1/2 DEGREE @  
3535'  
PIPE STRAP 3544.85'  
BOARD 3544.78'

DST # 2 3534' TO 3580'  
SEE HEADER FOR TEST  
SUMMARY

DST # 4 STRADDLE TEST  
3657' TO 3707'. SEE  
HEADER FOR TEST  
SUMMARY



Shale, varicolor grays and greens, dense, gritty

Lime, crm-offwhite, fnxln, slightly fossiliferous

Chert, maroon-vari colored, dense, no visible porosity, gummy red shale

Chert, lt color, barren, NS, clastic mix with some dolomite

Conglomerate mix of vari colored cherts and red shales

Chert, varicolored, some tarry residue, red wash shale, NS

Chert, lt colored mix, NS, some sand, NS

**ARBUCKLE 3814-1642**

Dolomite, crm, fn-vfxln, tight, poorly developed porosity, NS

Dolomite, offwhite-white, fn-med xln, slightly friable, NS, few qtz inclusions.

Dolomite, offwhite-buff, medxln-sucrosic, NS, few chips of oolitic chert

Dolomite, offwhite-buff, fnxln-granular

Dolomite, buff-crm, fn-med xln, sucrosic in part-granular, some rhombic xln development

Dolomite, crm-buff, fnxln-granular in part

Dolomite, crm-buff, medxln

5 1/2" PRODUCTION CASING SET TO 3899' WITH 150 SXS EA2. DV SET AT 1494' W/ 170 SXS SMD. 30 SXS RATHOLE. COMPLETED 7:00PM 6/13/2019

SLOPE 1 1/2 DEGREES @ 3692'





JOB LOG

SWIFT Services, Inc.

DATE 06/13/19 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
T.D.I.		#1		Matlock		2 Stage Li String		27579	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
									On location w/Float Equipment
									RTD - 3900 92 Its at 5 1/2" x 14# Set @ 3899' D.V. Tool @ 1494' on top of #56 Insert @ 3857' Turbolizers - 1, 3, 5, 7, 9, 11, 13, 15, 17, 55 Baskets - 2, 56 - Bottom of
	1240								Start Pipe w/Float Equip.
	1500								Break Circ
	1605								Hook up to Swift
		5	12			400			Pump Mud Flush
		5	20			400			Pump KCL Spacer
	1615	4 1/2							Start EA-2 - 150 SKS
	1625	4 1/2	36			Vac			Fin EA-2 Cement.
	1635	8 1/2							Drop Plug Wash out Pump Lines Start Displacement
	1645	6	71			400			Catch Cmt Lift PSI 900#
	1650	6	94			900 1400			Land Plug, Pressure bleed off to 500#
	1700								Release Truck, Dry, Wait 1 hour
	1805								Drop Bomb
	1810	2	7						Plug Rathole w/30 SKS Plug Abuschoff w/15 SKS No MH.
	1815					700			Open D.V. Tool
	1820	6				200			Start SMD Cmt
	1845	6	97			Vac			Fin Cmt
	1850								Drop Plug
	1855	6							Start Displacement
			25			500			Catch Cmt Lift PSI 500#
	1900	6	36 1/2			1350			Land Plug 30 SKS to pit.
	1905								Release Truck, Dry Wash up, Rack up
	1920								Job Complete

Thanks  
Jon, Austin, Share



## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.  
Hays, KS 67601

ATTN: Herb Deines

### **Matlock #1**

### **26-13S-19W Ellis,KS**

Start Date: 2019.06.10 @ 03:01:13

End Date: 2019.06.10 @ 10:14:19

Job Ticket #: 65692                      DST #: 1

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

Printed: 2019.06.13 @ 08:58:10

TDI, Inc.  
26-13S-19W Ellis,KS  
Matlock #1  
DST # 1  
LKC "A-D"  
2019.06.10





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65692      **DST#: 1**  
Test Start: 2019.06.10 @ 03:01:13

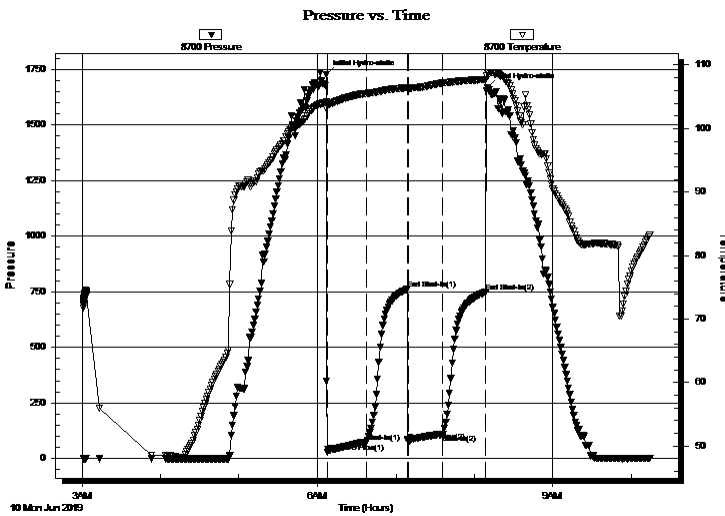
## GENERAL INFORMATION:

Formation: **LKC "A-D"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 06:07:34  
Time Test Ended: 10:14:19  
Interval: **3464.00 ft (KB) To 3535.00 ft (KB) (TVD)**  
Total Depth: 3535.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Reference Elevations: 2172.00 ft (KB)  
2163.00 ft (CF)  
KB to GR/CF: 9.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Brannan Lonsdale  
Unit No: 73

**Serial #: 8700      Outside**  
Press@RunDepth: 110.41 psig @ 3465.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2019.06.10      End Date: 2019.06.10      Last Calib.: 2019.06.10  
Start Time: 03:01:14      End Time: 10:14:19      Time On Btm: 2019.06.10 @ 06:06:49  
Time Off Btm: 2019.06.10 @ 08:10:04

**TEST COMMENT:** 30- IF- BOB 6 mins. Built to 45.90"  
30- IS- No blow  
30- FF- BOB 3 mins. Built to 50.91"  
30- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.06	104.18	Initial Hydro-static
1	27.58	103.80	Open To Flow (1)
31	74.19	105.53	Shut-In(1)
62	762.11	106.42	End Shut-In(1)
63	75.99	106.35	Open To Flow (2)
89	110.41	107.17	Shut-In(2)
122	748.45	107.73	End Shut-In(2)
124	1666.27	108.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	GWSMCO, 20%G 65%O 10%W 5%M	1.77
95.00	GOCM, 20%G 10%O 70%M	1.35
0.00	725' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
Job Ticket: 65692 **DST#: 1**  
Test Start: 2019.06.10 @ 03:01:13

**Tool Information**

Drill Pipe:	Length: 3450.00 ft	Diameter: 3.82 inches	Volume: 48.91 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	5.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3464.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	71.00 ft				
Tool Length:	91.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3445.00	
Shut In Tool	5.00			3450.00	
Hydraulic tool	5.00			3455.00	
Packer	5.00			3460.00	20.00 Bottom Of Top Packer
Packer	4.00			3464.00	
Stubb	1.00			3465.00	
Recorder	0.00	6771	Inside	3465.00	
Recorder	0.00	8700	Outside	3465.00	
Perforations	3.00			3468.00	
Change Over Sub	1.00			3469.00	
Drill Pipe	62.00			3531.00	
Change Over Sub	1.00			3532.00	
Bullnose	3.00			3535.00	71.00 Bottom Packers & Anchor

**Total Tool Length: 91.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
Job Ticket: 65692      **DST#: 1**  
Test Start: 2019.06.10 @ 03:01:13

### Mud and Cushion Information

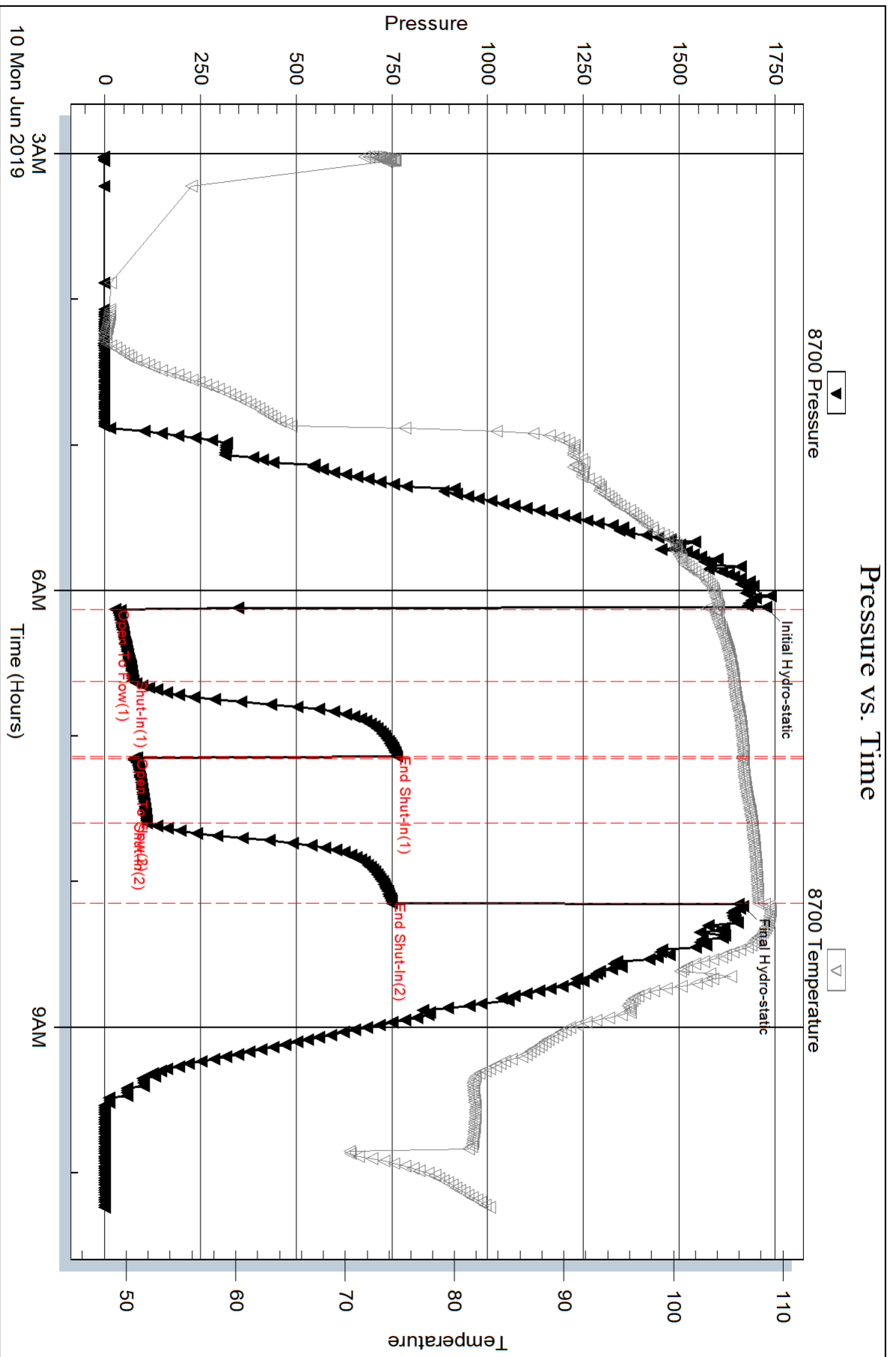
Mud Type: Gel Chem	Cushion Type:	Oil API: 29 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 22000 ppm
Viscosity: 45.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2700.00 ppm		
Filter Cake: inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	GWSMCO, 20%G 65%O 10%W 5%M	1.772
95.00	GOCM, 20%G 10%O 70%M	1.347
0.00	725' GIP	0.000

Total Length: 220.00 ft      Total Volume: 3.119 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW: .26@81deg



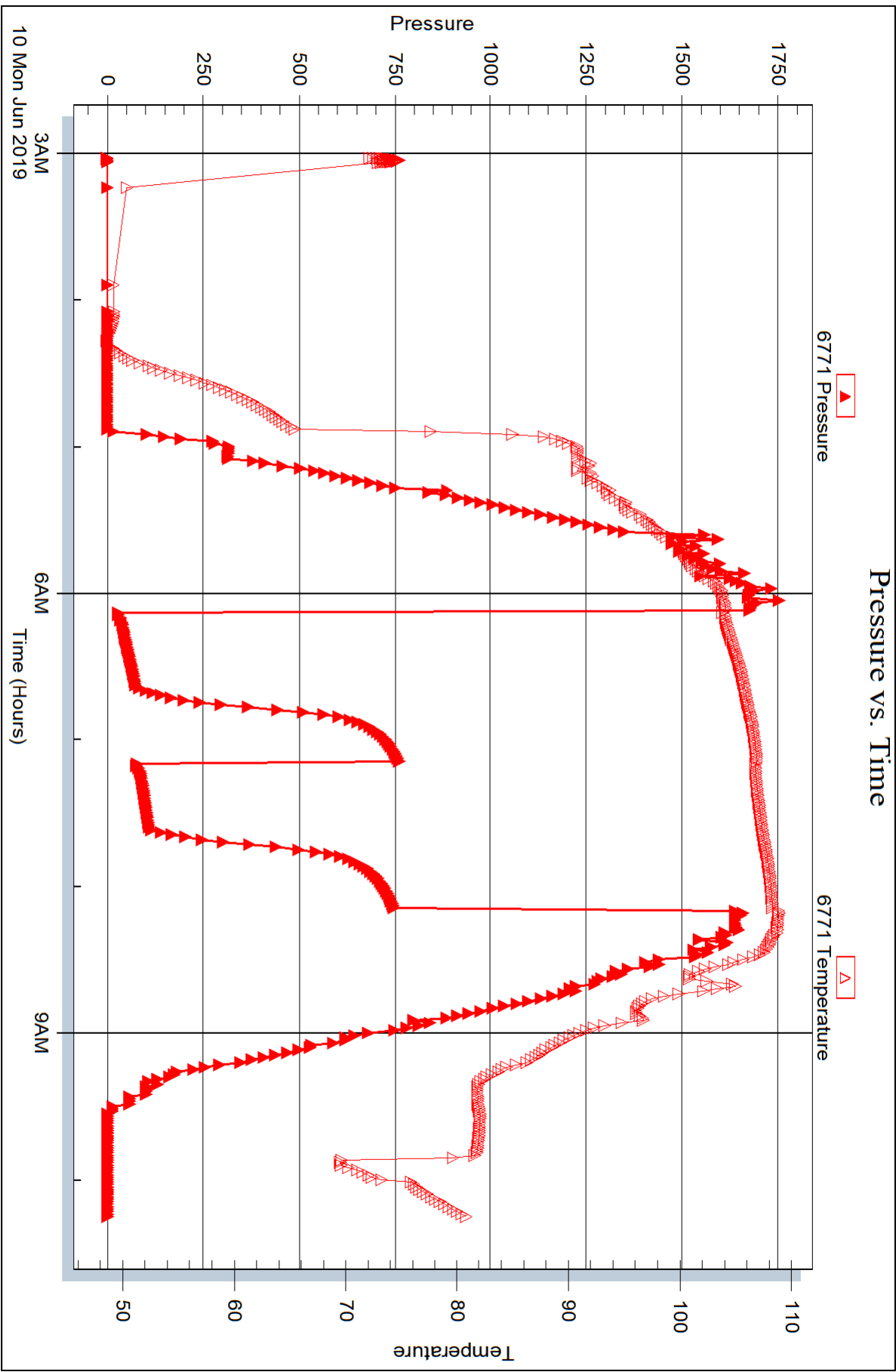
Serial #: 6771

Inside

TDI, Inc.

Matlock #1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.  
Hays, KS 67601

ATTN: Herb Deines

### **Matlock #1**

### **26-13S-19W Ellis,KS**

Start Date: 2019.06.10 @ 17:53:25

End Date: 2019.06.11 @ 00:59:31

Job Ticket #: 65693                      DST #: 2

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

Printed: 2019.06.13 @ 08:57:45



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65693 **DST#: 2**  
Test Start: 2019.06.10 @ 17:53:25

## GENERAL INFORMATION:

Formation: **LKC "F - G"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:56:46  
Time Test Ended: 00:59:31  
Interval: **3534.00 ft (KB) To 3580.00 ft (KB) (TVD)**  
Total Depth: 3580.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2172.00 ft (KB)  
2163.00 ft (CF)  
KB to GR/CF: 9.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73

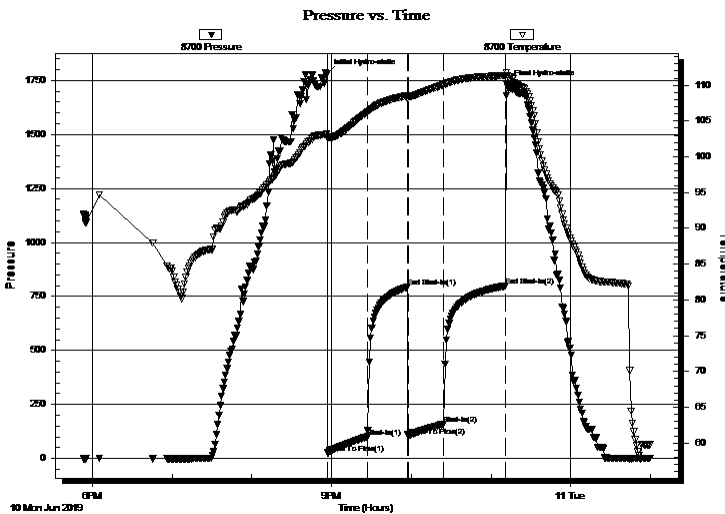
## Serial #: 8700

Outside

Press@RunDepth: 159.09 psig @ 3535.00 ft (KB)  
Start Date: 2019.06.10 End Date: 2019.06.11  
Start Time: 17:53:26 End Time: 00:59:31  
Capacity: 8000.00 psig  
Last Calib.: 2019.06.11  
Time On Btm: 2019.06.10 @ 20:56:31  
Time Off Btm: 2019.06.10 @ 23:12:01

TEST COMMENT: 30- IF- BOB 13 mins. Built to 18.44"  
30- IS- No blow  
30- FF- BOB 21 mins. Built to 12.45"  
30- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1782.51	103.21	Initial Hydro-static
1	25.33	102.62	Open To Flow (1)
31	100.00	106.24	Shut-In(1)
61	793.30	108.54	End Shut-In(1)
61	104.52	108.43	Open To Flow (2)
88	159.09	110.08	Shut-In(2)
135	798.50	111.36	End Shut-In(2)
136	1729.38	111.37	Final Hydro-static

## Recovery

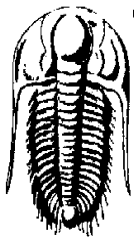
Length (ft)	Description	Volume (bbl)
190.00	MW, 20%M 80%W	2.69
110.00	WM, 15%W 85%M	1.56

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

TDI, Inc.  
 1310 Bison Rd.  
 Hays, KS 67601  
 ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
 Job Ticket: 65693 **DST#: 2**  
 Test Start: 2019.06.10 @ 17:53:25

### GENERAL INFORMATION:

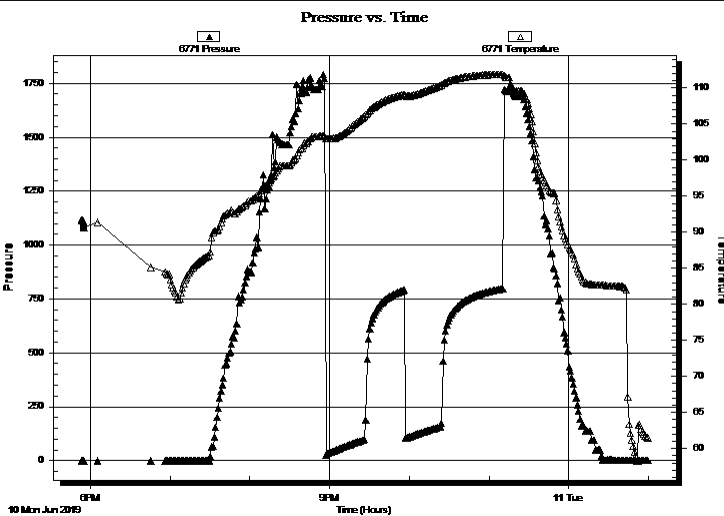
Formation: **LKC "F - G"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 20:56:46 Tester: Brannan Lonsdale  
 Time Test Ended: 00:59:31 Unit No: 73  
 Interval: **3534.00 ft (KB) To 3580.00 ft (KB) (TVD)** Reference Elevations: 2172.00 ft (KB)  
 Total Depth: 3580.00 ft (KB) (TVD) 2163.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 9.00 ft

### Serial #: 6771

Inside

Press@RunDepth: psig @ 3535.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.10 End Date: 2019.06.11 Last Calib.: 2019.06.11  
 Start Time: 17:53:29 End Time: 00:59:19 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30- IF- BOB 13 mins. Built to 18.44"  
 30- IS- No blow  
 30- FF- BOB 21 mins. Built to 12.45"  
 30- FS- No blow



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
190.00	MW, 20%M 80%W	2.69
110.00	WM, 15%W 85%M	1.56

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65693      **DST#: 2**  
Test Start: 2019.06.10 @ 17:53:25

**Tool Information**

Drill Pipe:	Length: 3544.00 ft	Diameter: 3.82 inches	Volume: 50.24 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3534.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	66.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3515.00	
Shut In Tool	5.00			3520.00	
Hydraulic tool	5.00			3525.00	
Packer	5.00			3530.00	20.00      Bottom Of Top Packer
Packer	4.00			3534.00	
Stubb	1.00			3535.00	
Recorder	0.00	6771	Inside	3535.00	
Recorder	0.00	8700	Outside	3535.00	
Perforations	9.00			3544.00	
Change Over Sub	1.00			3545.00	
Drill Pipe	31.00			3576.00	
Change Over Sub	1.00			3577.00	
Bullnose	3.00			3580.00	46.00      Bottom Packers & Anchor

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

TDI, Inc.

**26-13S-19W Ellis,KS**

1310 Bison Rd.  
Hays, KS 67601

**Matlock #1**

Job Ticket: 65693

**DST#: 2**

ATTN: Herb Deines

Test Start: 2019.06.10 @ 17:53:25

## 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:

82000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	MW, 20%M 80%W	2.693
110.00	WM, 15%W 85%M	1.559

Total Length: 300.00 ft

Total Volume: 4.252 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

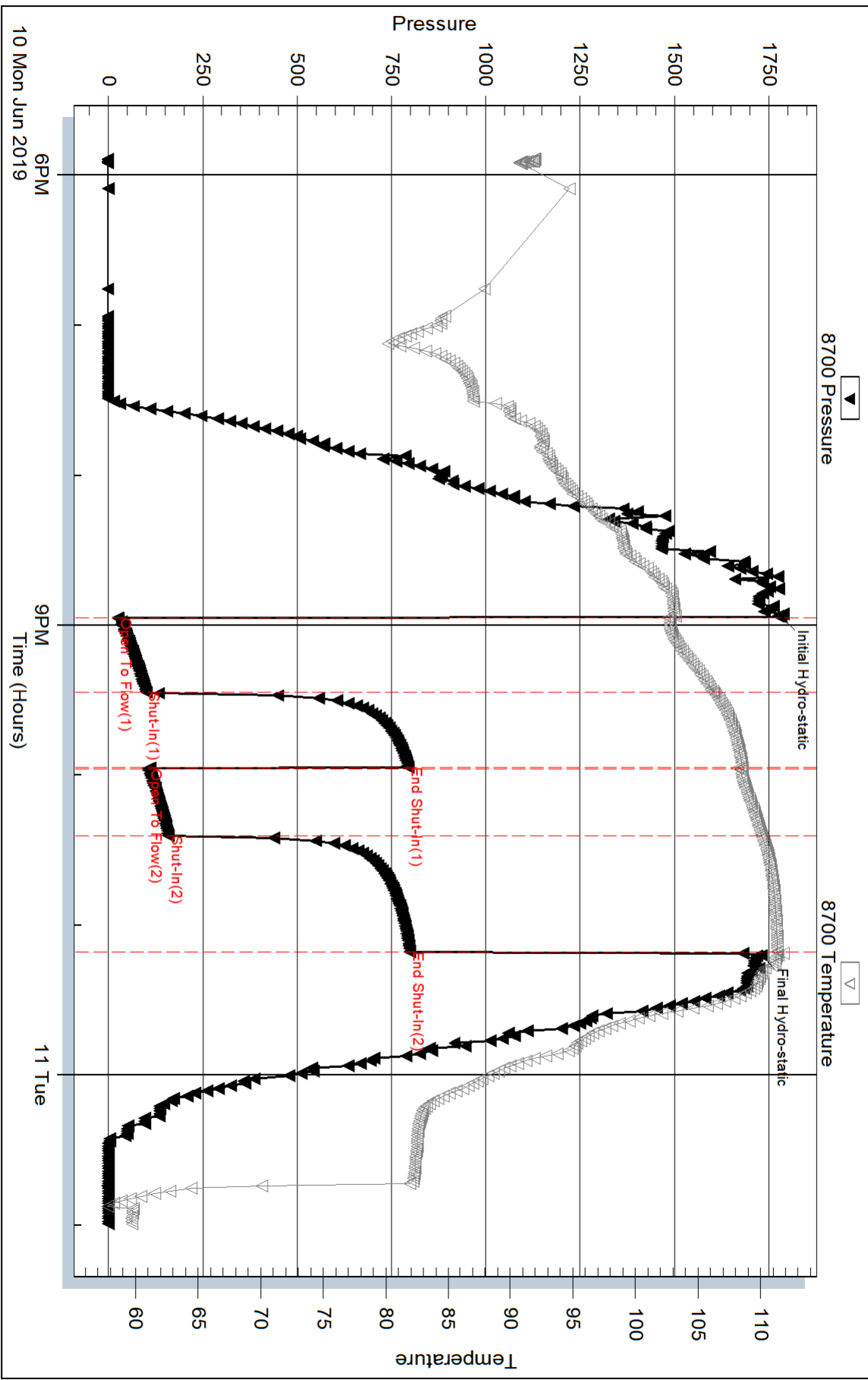
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



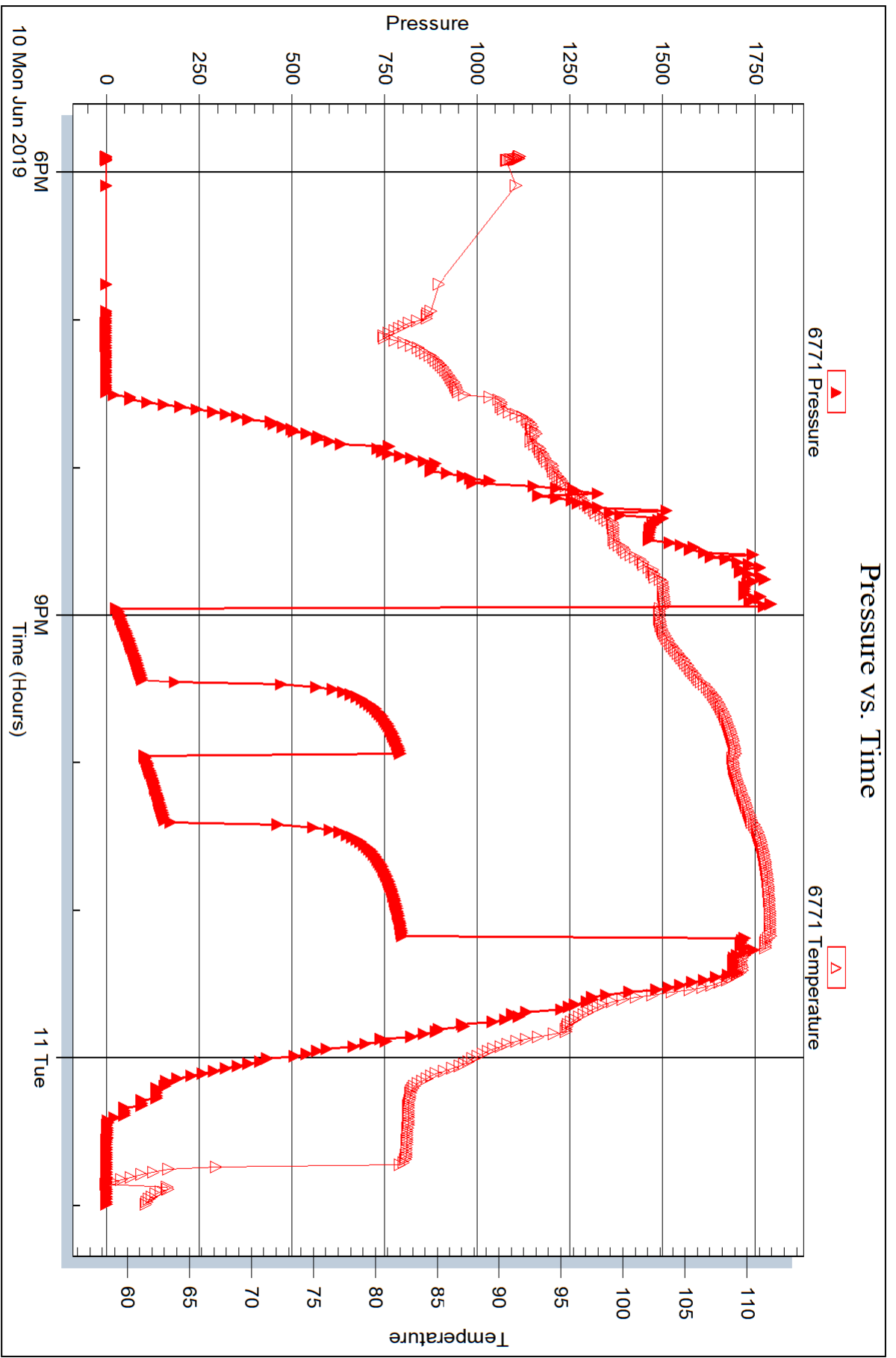
Serial #: 6771

Inside

TDI, Inc.

Matlock #1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.  
Hays, KS 67601

ATTN: Herb Deines

### **Matlock #1**

### **26-13S-19W Ellis,KS**

Start Date: 2019.06.11 @ 11:00:55

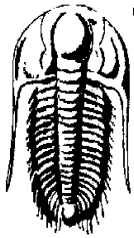
End Date: 2019.06.11 @ 18:22:46

Job Ticket #: 65694                      DST #: 3

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

Printed: 2019.06.13 @ 08:57:19

TDI, Inc. 26-13S-19W Ellis,KS Matlock #1 DST # 3 LKC "J" 2019.06.11



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
Job Ticket: 65694 **DST#: 3**  
Test Start: 2019.06.11 @ 11:00:55

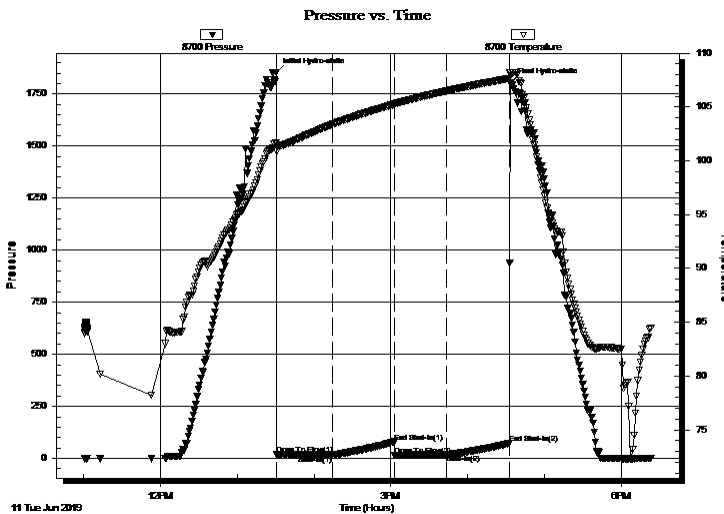
## GENERAL INFORMATION:

Formation: **LKC "J"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:31:01  
Time Test Ended: 18:22:46  
Interval: **3638.00 ft (KB) To 3660.00 ft (KB) (TVD)**  
Total Depth: 3660.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2172.00 ft (KB)  
2163.00 ft (CF)  
KB to GR/CF: 9.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73

**Serial #: 8700 Outside**  
Press@RunDepth: 17.83 psig @ 3639.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2019.06.11 End Date: 2019.06.11 Last Calib.: 2019.06.11  
Start Time: 11:00:56 End Time: 18:22:46 Time On Btm: 2019.06.11 @ 13:30:46  
Time Off Btm: 2019.06.11 @ 16:33:31

**TEST COMMENT:** 45- IF- Slowly built to 2.45"  
45- IS- No blow  
45- FF- Initial surge 1.68" then built slowly to 2.95"  
45- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1852.99	101.70	Initial Hydro-static
1	17.87	100.89	Open To Flow (1)
44	16.75	103.39	Shut-In(1)
92	79.53	105.26	End Shut-In(1)
92	15.21	105.28	Open To Flow (2)
133	17.83	106.49	Shut-In(2)
182	73.28	107.65	End Shut-In(2)
183	1803.65	108.16	Final Hydro-static

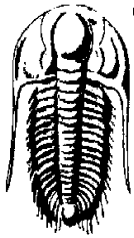
## Recovery

Length (ft)	Description	Volume (bbl)
30.00	GHOCM, 15%G 25%O 60%M	0.43
0.00	30' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

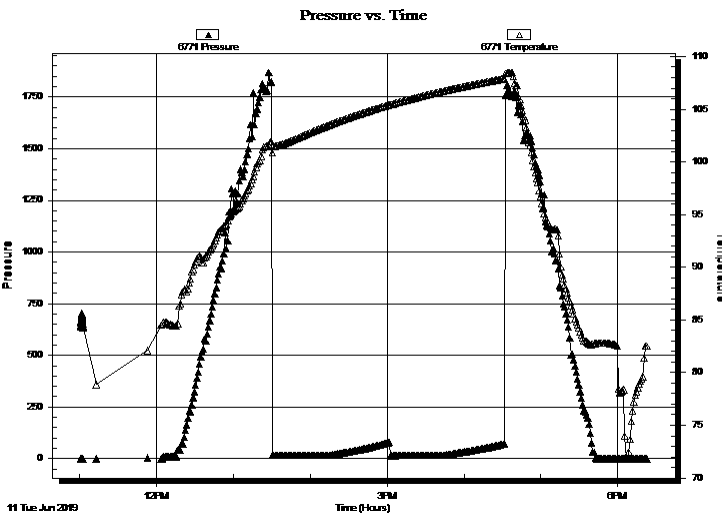
**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65694      **DST#: 3**  
Test Start: 2019.06.11 @ 11:00:55

## GENERAL INFORMATION:

Formation: <b>LKC "J"</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Brannan Lonsdale
Time Tool Opened: 13:31:01	Unit No: 73
Time Test Ended: 18:22:46	Reference Elevations: 2172.00 ft (KB)
<b>Interval: 3638.00 ft (KB) To 3660.00 ft (KB) (TVD)</b>	2163.00 ft (CF)
Total Depth: 3660.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

<b>Serial #: 6771</b>	<b>Inside</b>	Capacity: 8000.00 psig
Press@RunDepth: psig @ 3639.00 ft (KB)	Start Date: 2019.06.11	Last Calib.: 2019.06.11
End Date: 2019.06.11	Start Time: 11:00:43	Time On Btm: 18:22:33
End Time: 18:22:33	Time Off Btm:	

**TEST COMMENT:** 45- IF- Slow ly built to 2.45"  
 45- IS- No blow  
 45- FF- Initial surge 1.68" then built slow ly to 2.95"  
 45- FS- No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	GHOCM, 15%G 25%O 60%M	0.43
0.00	30' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65694      **DST#: 3**  
Test Start: 2019.06.11 @ 11:00:55

**Tool Information**

Drill Pipe:	Length: 3637.00 ft	Diameter: 3.82 inches	Volume: 51.56 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	45000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	38000.00 lb
Depth to Top Packer:	3638.00 ft			Final	39000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	22.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3619.00	
Shut In Tool	5.00			3624.00	
Hydraulic tool	5.00			3629.00	
Packer	5.00			3634.00	20.00      Bottom Of Top Packer
Packer	4.00			3638.00	
Stubb	1.00			3639.00	
Recorder	0.00	6771	Inside	3639.00	
Recorder	0.00	8700	Outside	3639.00	
Perforations	18.00			3657.00	
Bullnose	3.00			3660.00	22.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>42.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

TDI, Inc.

**26-13S-19W Ellis, KS**

1310 Bison Rd.  
Hays, KS 67601

**Matlock #1**

Job Ticket: 65694

**DST#: 3**

ATTN: Herb Deines

Test Start: 2019.06.11 @ 11:00:55

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GHOCM, 15%G 25%O 60%M	0.425
0.00	30' GIP	0.000

Total Length: 30.00 ft      Total Volume: 0.425 bbl

Num Fluid Samples: 0

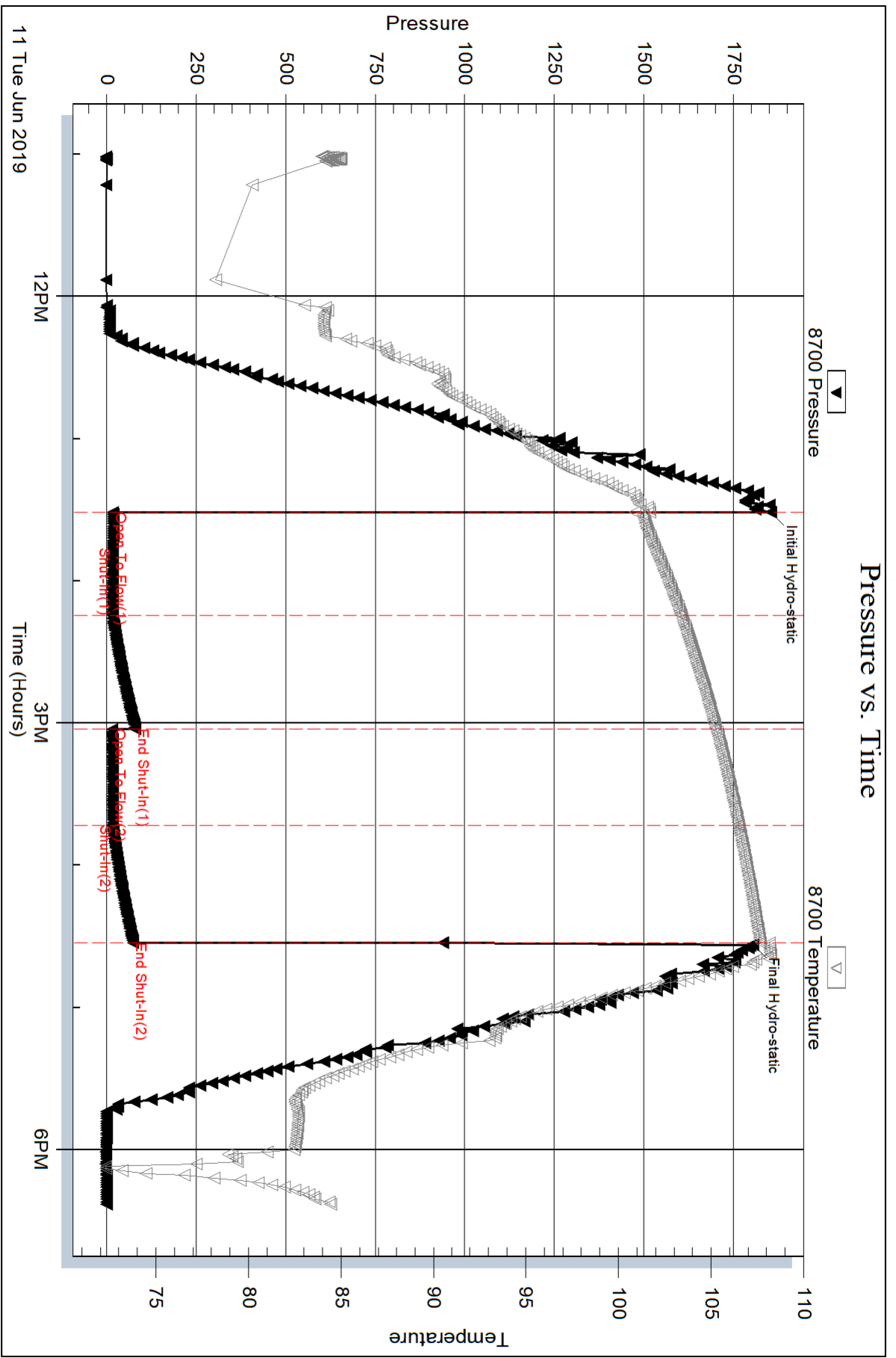
Num Gas Bombs: 0

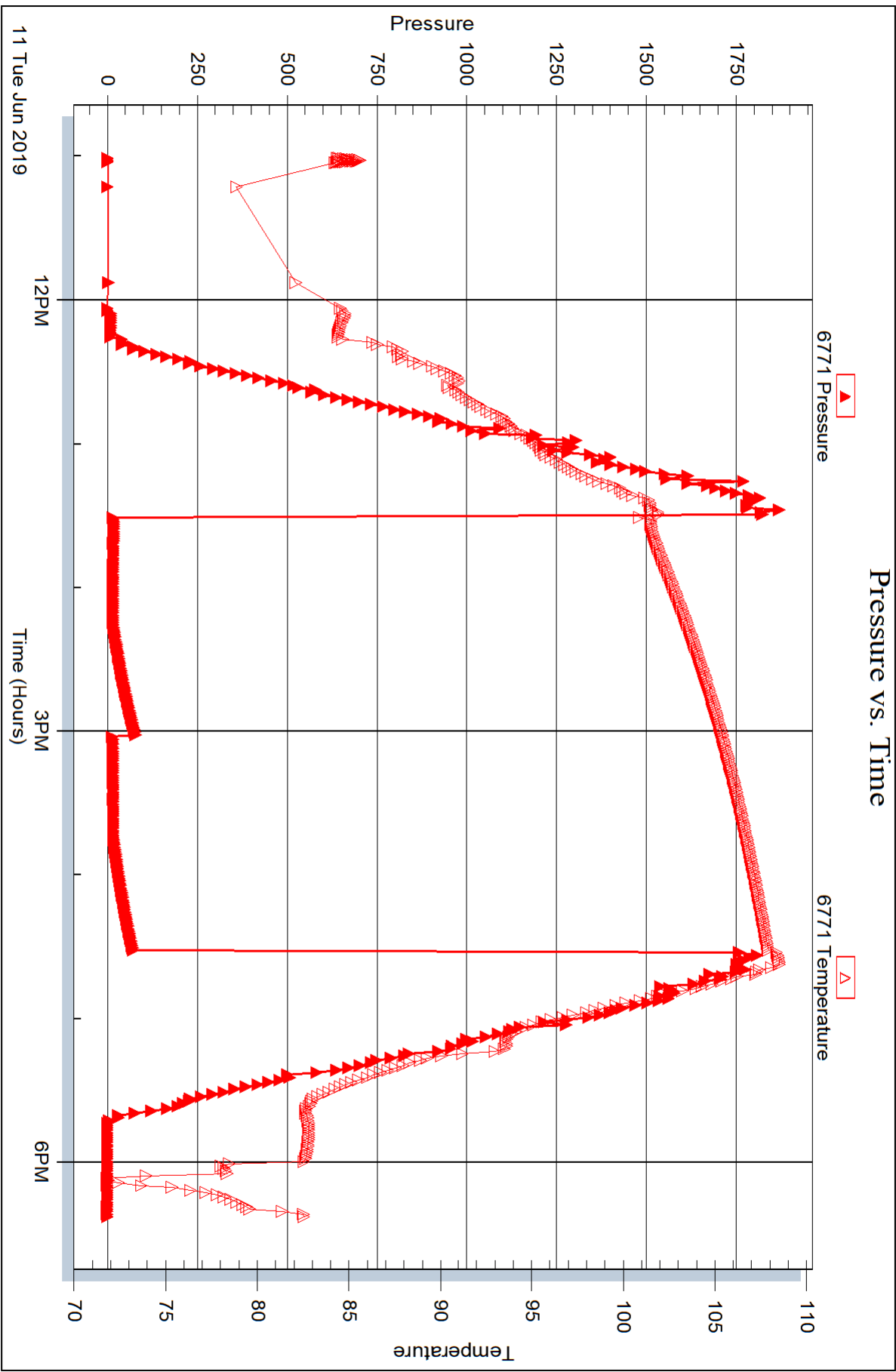
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd.  
Hays, KS 67601

ATTN: Herb Deines

### **Matlock #1**

### **26-13S-19W Ellis,KS**

Start Date: 2019.06.12 @ 20:31:31

End Date: 2019.06.13 @ 03:02:07

Job Ticket #: 65695                      DST #: 4

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

Printed: 2019.06.13 @ 08:56:50



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis, KS**  
**Matlock #1**  
Job Ticket: 65695 **DST#: 4**  
Test Start: 2019.06.12 @ 20:31:31

## GENERAL INFORMATION:

Formation: **LKC "K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:33:07  
 Time Test Ended: 03:02:07  
 Interval: **3657.00 ft (KB) To 3707.00 ft (KB) (TVD)**  
 Total Depth: 3902.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 2172.00 ft (KB)  
 2163.00 ft (CF)  
 KB to GR/CF: 9.00 ft

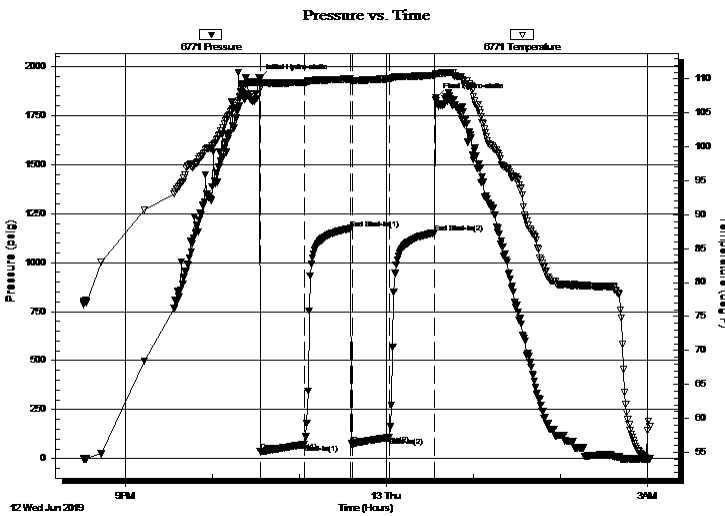
## Serial #: 6771

Inside

Press@RunDepth: 108.74 psig @ 3658.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.12 End Date: 2019.06.13 Last Calib.: 2019.06.13  
 Start Time: 20:31:32 End Time: 03:02:07 Time On Btm: 2019.06.12 @ 22:32:52  
 Time Off Btm: 2019.06.13 @ 00:34:22

TEST COMMENT: 30- IF- BOB 5 mins. Built to 54.96"  
 30- IS- Slow ly built to 4.37"  
 30- FF- BOB 90s ecs. Built to 41.05"  
 30- FS- Slow ly built to 5.15"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.02	109.41	Initial Hydro-static
1	36.19	108.99	Open To Flow (1)
31	74.35	109.48	Shut-In(1)
63	1173.67	110.00	End Shut-In(1)
65	74.09	109.72	Open To Flow (2)
90	108.74	110.02	Shut-In(2)
121	1151.74	110.52	End Shut-In(2)
122	1841.75	110.77	Final Hydro-static

## Recovery

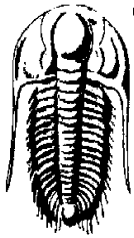
Length (ft)	Description	Volume (bbl)
60.00	HOCM, 30%O 70%M	0.85
60.00	GMCO, 30%G 50%O 20%M	0.85
130.00	CGO, 20%G 80%O	1.84
0.00	1000' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

TDI, Inc.  
 1310 Bison Rd.  
 Hays, KS 67601  
 ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
 Job Ticket: 65695 **DST#: 4**  
 Test Start: 2019.06.12 @ 20:31:31

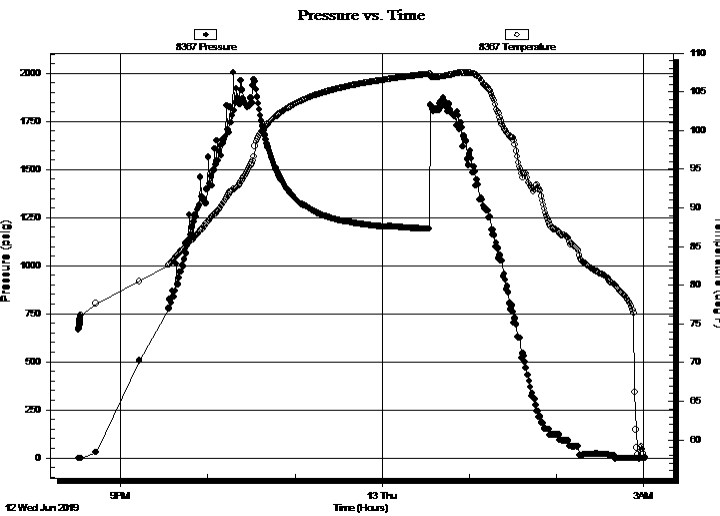
### GENERAL INFORMATION:

Formation: **LKC "K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:33:07  
 Time Test Ended: 03:02:07  
 Interval: **3657.00 ft (KB) To 3707.00 ft (KB) (TVD)**  
 Total Depth: 3902.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 2172.00 ft (KB)  
 2163.00 ft (CF)  
 KB to GR/CF: 9.00 ft

### Serial #: 8367 Below (Straddle)

Press@RunDepth: psig @ 3710.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.12 End Date: 2019.06.13 Last Calib.: 2019.06.13  
 Start Time: 20:30:55 End Time: 03:01:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30- IF- BOB 5 mins. Built to 54.96"  
 30- IS- Slow ly built to 4.37"  
 30- FF- BOB 90s ecs. Built to 41.05"  
 30- FS- Slow ly built to 5.15"



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	HOCM, 30%O 70%M	0.85
60.00	GMCO, 30%G 50%O 20%M	0.85
130.00	CGO, 20%G 80%O	1.84
0.00	1000' GIP	0.00

\* Recovery from multiple tests

### Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
Job Ticket: 65695      **DST#: 4**  
Test Start: 2019.06.12 @ 20:31:31

**Tool Information**

Drill Pipe:	Length: 3669.00 ft	Diameter: 3.82 inches	Volume: 52.01 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 44000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3657.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	3707.00 ft			
Interval between Packers:	50.00 ft			
Tool Length:	265.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3638.00	
Shut In Tool	5.00			3643.00	
Hydraulic tool	5.00			3648.00	
Packer	5.00			3653.00	20.00 Bottom Of Top Packer
Packer	4.00			3657.00	
Stubb	1.00			3658.00	
Recorder	0.00	6771	Inside	3658.00	
Recorder	0.00	8700	Outside	3658.00	
Perforations	7.00			3665.00	
Change Over Sub	1.00			3666.00	
Drill Pipe	31.00			3697.00	
Change Over Sub	1.00			3698.00	
Perforations	5.00			3703.00	
Blank Off Sub	1.00			3704.00	
Blank Spacing	3.00			3707.00	50.00 Tool Interval
Packer	1.00			3708.00	
Stubb	1.00			3709.00	
Change Over Sub	1.00			3710.00	
Recorder	0.00	8367	Below	3710.00	
Drill Pipe	188.00			3898.00	
Change Over Sub	1.00			3899.00	
Bullnose	3.00			3902.00	195.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>265.00</b>				



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

TDI, Inc.  
1310 Bison Rd.  
Hays, KS 67601  
ATTN: Herb Deines

**26-13S-19W Ellis,KS**  
**Matlock #1**  
Job Ticket: 65695      **DST#: 4**  
Test Start: 2019.06.12 @ 20:31:31

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API: 29 deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4300.00 ppm		
Filter Cake: inches		

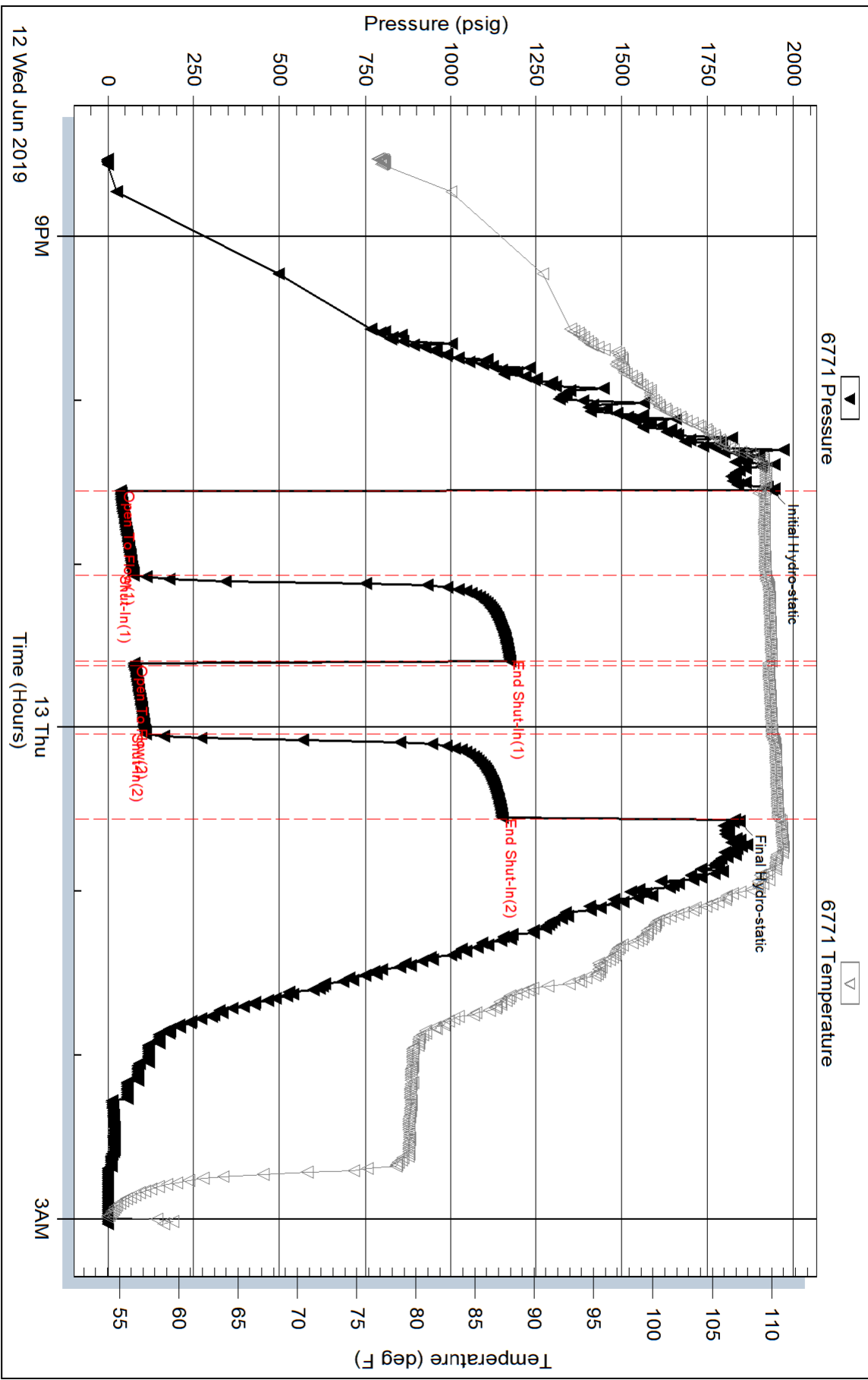
**Recovery Information**

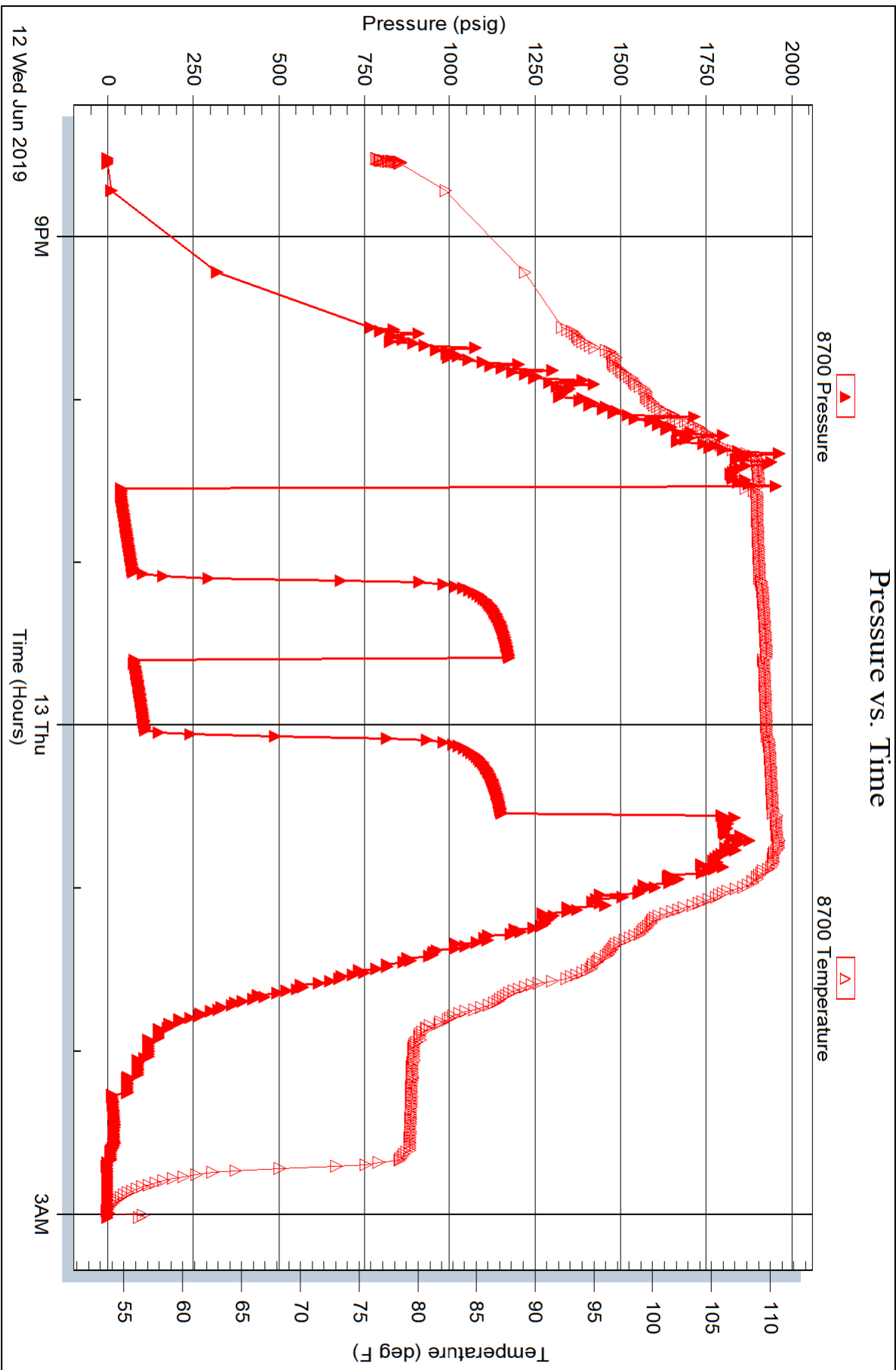
Recovery Table

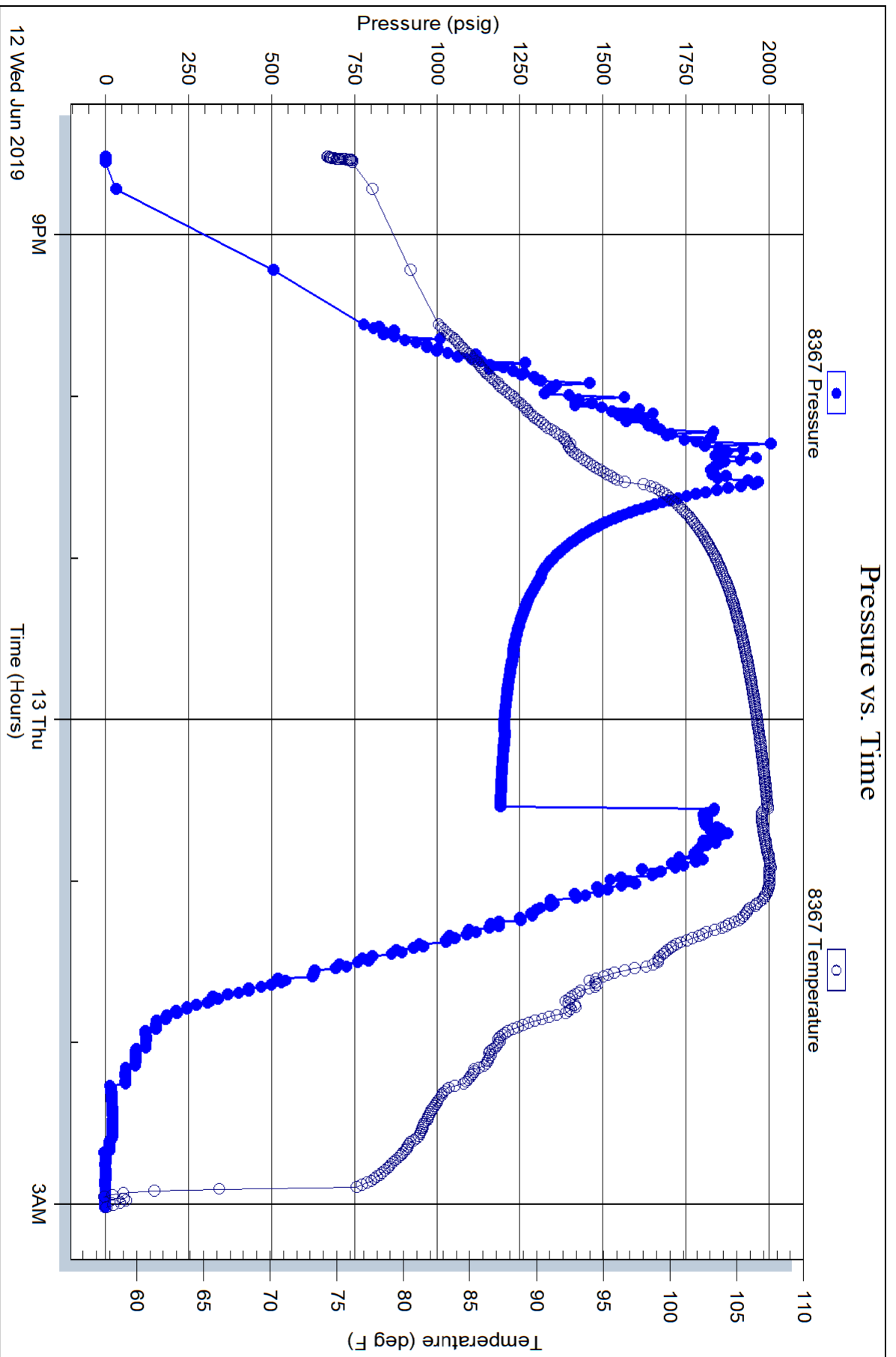
Length ft	Description	Volume bbl
60.00	HOCM, 30%O 70%M	0.851
60.00	GMCO, 30%G 50%O 20%M	0.851
130.00	CGO, 20%G 80%O	1.843
0.00	1000' GIP	0.000

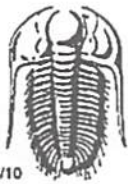
Total Length: 250.00 ft      Total Volume: 3.545 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65692

Well Name & No. Matlock #1 Test No. 1 Date 6/10/19  
 Company TPE, Inc. Elevation 2172 KB 2163 GL  
 Address 1310 Bison Rd. Hays, KS 67601  
 Co. Rep / Geo. Herb Deines Rig Southwind 3.1  
 Location: Sec. 26 Twp 13 S Rge. 19 W Co. Ellis State KS

Interval Tested 3464-3535 Zone Tested LSC "A-D"  
 Anchor Length 71' Drill Pipe Run 3450 Mud Wt. 8.9  
 Top Packer Depth 3459 Drill Collars Run --- Vis 45  
 Bottom Packer Depth 3464 Wt. Pipe Run --- WL 6.0  
 Total Depth 3535 Chlorides 2,700 ppm System LCM 2<sup>+</sup>

Blow Description IF- BOB 6 mins. Built to 45.90"  
EST- No blow  
FF- BOB 3 mins. Built to 50.91"  
EST- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>Feet of GWSMCO</u>	<u>20%</u>	<u>65%</u>	<u>10%</u>	<u>5%</u>
<u>95</u>	<u>Feet of GOCM</u>	<u>20%</u>	<u>10%</u>	<u>---</u>	<u>70%</u>
<u>---</u>	<u>Feet of 225' GIP</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>Feet of</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>Feet of</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

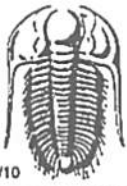
Rec Total 220' BHT 108" Gravity 29 API RW .26 @ 81° F Chlorides 23,000 ppm  
 (A) Initial Hydrostatic 1726  Test 1200 T-On Location 0245  
 (B) First Initial Flow 28  Jars --- T-Started 0301  
 (C) First Final Flow 74  Safety Joint --- T-Open 0607  
 (D) Initial Shut-In 762  Circ Sub --- T-Pulled 0807  
 (E) Second Initial Flow 76  Hourly Standby --- T-Out 1014  
 (F) Second Final Flow 110  Mileage 20 RT 20 Comments ---  
 (G) Final Shut-In 748  Sampler ---  
 (H) Final Hydrostatic 1666  Straddle ---  EM Tool ---  
 Shale Packer ---  Ruined Shale Packer ---  
 Extra Packer ---  Ruined Packer ---  
 Extra Recorder ---  Extra Copies ---  
 Day Standby --- Sub Total 0  
 Accessibility --- Total 1220  
 Sub Total 1220 MP/DST Disc't X

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Approved By \_\_\_\_\_ Our Representative Brannan Lonsdale

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.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65693

Well Name & No. Matlock #1 Test No. 2 Date 6/10/19  
 Company TDI, Inc. Elevation 2172 KB 2163 GL  
 Address 1310 Bison Rd. Hays, KS 67601  
 Co. Rep / Geo. Herb Dernes Rig Southwind 3.1  
 Location: Sec. 26 Twp 13 S Rge. 19 W Co. Ellis State KS

Interval Tested 3534-3580 Zone Tested LKC "F+G"  
 Anchor Length 46' Drill Pipe Run 3544 Mud Wt. 9.0  
 Top Packer Depth 3529 Drill Collars Run --- Vis 56  
 Bottom Packer Depth 3534 Wt. Pipe Run --- WL 6.0  
 Total Depth 3580 Chlorides 2,900 ppm System LCM 1<sup>F</sup>  
 Blow Description IF-BOB 13 mins. Built to 18.44"  
ISF- No Flow  
FF-BOB 21 mins. Built to 12.45"  
FSF- No Flow

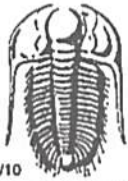
Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>MW</u>		<u>20</u>	<u>20</u>	
<u>110</u>	<u>WM</u>		<u>15</u>	<u>85</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300' BHT 111° Gravity --- API RW 110 @ 56° F Chlorides 82000 ppm  
 (A) Initial Hydrostatic 1783  Test 1200 T-On Location 1733  
 (B) First Initial Flow 25  Jars --- T-Started 1753  
 (C) First Final Flow 100  Safety Joint --- T-Open 2056  
 (D) Initial Shut-In 793  Circ Sub --- T-Pulled 2256  
 (E) Second Initial Flow 105  Hourly Standby --- T-Out 6/11 0100  
 (F) Second Final Flow 159  Mileage 20 RT 20 Comments ---  
 (G) Final Shut-In 799  Sampler ---  
 (H) Final Hydrostatic 1729  Straddle ---  
 Shale Packer ---  EM Tool ---  
 Extra Packer ---  Ruined Shale Packer ---  
 Extra Recorder ---  Ruined Packer ---  
 Day Standby ---  Extra Copies ---  
 Accessibility --- Sub Total 0  
 Sub Total 1220 Total 1220 MP/DST Disc't ---

Approved By \_\_\_\_\_

Our Representative Brannan Lowndale

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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65694

Well Name & No. Matlock #1 Test No. 3 Date 6/11/19  
 Company TDF, Inc. Elevation 2172 KB 2163 GL  
 Address 1310 Bison Rd. Hays, KS 67601  
 Co. Rep / Geo. Herb Darnes Rig Southwind 3.1  
 Location: Sec. 24 Twp B S 5 Rge. 19 W Co. Ellis State KS

Interval Tested 3638-3660 Zone Tested LKC "J"  
 Anchor Length 22' Drill Pipe Run 3637 Mud Wt. 9.2  
 Top Packer Depth 3633 Drill Collars Run --- Vis 52  
 Bottom Packer Depth 3638 Wt. Pipe Run --- WL 6.8  
 Total Depth 3660 Chlorides 3,000 ppm System LCM 1#

Blow Description IF - Slowly built to 2.45"  
FST - No blow  
FF - 1.68" initial surge. Slowly built to 2.95"  
FST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>GHOCM</u>	<u>15</u>	<u>25</u>	<u>60</u>	<u>60</u>
	<u>30' GIP</u>				

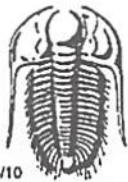
Rec Total \_\_\_\_\_ BHT 108' Gravity 30 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1853</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1045</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars _____	T-Started <u>1100</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>1330</u>
(D) Initial Shut-In <u>80</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1630</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1823</u>
(F) Second Final Flow <u>18</u>	<input checked="" type="checkbox"/> Mileage <u>20 RT</u> 20	Comments _____
(G) Final Shut-In <u>73</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1804</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility _____	Total <u>1220</u>
	Sub Total <u>1220</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative Brannan Long Sale

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.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65695

Well Name & No. Matlock #1 Test No. 4 Date 6/12/19  
 Company TDI, Inc. Elevation 2172 KB 2163 GL  
 Address 1310 Bison Rd Hays, KS 67601  
 Co. Rep / Geo. Jeff Laufer Rig Southwind 3.1  
 Location: Sec. 26 Twp 13 S Rge. 19 Wco. Ellis State KS

Interval Tested 3657-3707 Zone Tested LKC "K"  
 Anchor Length 50' Tail: 195' Drill Pipe Run 3669 Mud Wt. 9.5  
 Top Packer Depth 3652-3657 Drill Collars Run — Vis 58  
 Bottom Packer Depth 3707 Wt. Pipe Run — WL 6.0  
 Total Depth 3902 Chlorides 4300 ppm System LCM 2#

Blow Description IF-BOB 5mins. Built to 54.96"  
IFT- slowly built to 4.37"  
FF-BOB 90secs. Built to 41.05"  
FST- slowly built to 5.15"

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>HOCM</u>	<u>30</u>	<u>30</u>	<u>70</u>	<u>—</u>
<u>60</u>	<u>GMCO</u>	<u>30</u>	<u>50</u>	<u>20</u>	<u>—</u>
<u>130</u>	<u>CGO</u>	<u>20</u>	<u>80</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>1000' CIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 250' BHT 111° Gravity 29 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1937</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1830</u>
(B) First Initial Flow <u>36</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>2031</u>
(C) First Final Flow <u>74</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>2233</u>
(D) Initial Shut-In <u>1174</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>6/13</u> <u>0033</u>
(E) Second Initial Flow <u>74</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0302</u>
(F) Second Final Flow <u>109</u>	<input checked="" type="checkbox"/> Mileage <u>20 RT</u> <u>20</u>	Comments <u>—</u>
(G) Final Shut-In <u>1152</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> EM Tool <u>—</u>
(H) Final Hydrostatic <u>1842</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>2070</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>2070</u>	

Approved By \_\_\_\_\_ Our Representative Brannan Lonsdale

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.