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: Jeff Lawler
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 #:

| 6/20/2019 | 6/26/2019 | 6/27/2019 |
|---|---|---|
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |

API No.: 15-165-22167-00-00
Spot Description:
__ - __ - __ -NW Sec. 1 Twp. 16 S. R. 19 ☐ East ☑ West
1500 Feet from ☑ North / ☐ South Line of Section
790 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: Rush
Lease Name: FR WERTH Well #: 1
Field Name: Unnamed
Producing Formation: Dry Hole
Elevation: Ground: 2016 Kelly Bushing: 2025
Total Vertical Depth: 3675 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1221 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: 47000 ppm Fluid volume: 650 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: 07/11/2019
☐ **Confidential Release Date:** 07/10/2021
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
**ALT** ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/11/2019

Operator Name: TDI, Inc. Lease Name: FR WERTH Well #: 1

Sec. 1 Twp. 16 S. R. 19 ☐ East ☑ West County: Rush

**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 ☑ Yes ☐ No
*(Attach Additional Sheets)*

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 | 1211' | +815 |
| Topeka | 2992' | -966' |
| Heebner | 3264' | -1238' |
| Lansing/Kansas City | 3305' | -1279 |
| Base Kansas City | 3553' | -1527 |
| Arbuckle | 3615' | -1589 |

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 | 23 | 1221 | 60/40 Poz | 450 | 3% cc, 2% gel |
| | | | | | | | |
| | | | | | | | |

ADDITIONAL CEMENTING / SQUEEZE RECORD

| Purpose: ☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|
| | - | | | |
| | - | | | |

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: Top / Bottom |
|---|---|---|
| ☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)* | ☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* | |

| Shots Per Foot | Perforation Top | Perforation Bottom | Bridge Plug Type | Bridge Plug Set At | Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)* |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TUBING RECORD: Size: 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 | FR WERTH 1 |
| Doc ID | 1464957 |

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 | 23 | 1221 | 60/40 Poz | 450 | 3% cc, 2% gel |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

TDI, Inc.

Scale 1:240 Imperial

Well Name: FR WERTH #1
Surface Location: NW Sec. 1 - 16S - 19W
Bottom Location:
API: 15-165-22167
License Number: 4787
Spud Date: 6/20/2019 Time: 12:00 AM
Region: RUSH COUNTY
Drilling Completed: 6/26/2019 Time: 8:56 PM
Surface Coordinates: 1500' FNL & 790' FWL
Bottom Hole Coordinates:
Ground Elevation: 9.00ft
K.B. Elevation: 2025.00ft
Logged Interval: 2850.00ft To: 3675.00ft
Total Depth: 3675.00ft
Formation: LANSING-KANSAS CITY; ARBUCKLE
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

## OPERATOR

Company: TDI, INC.
Address: 1310 BISON RD
HAYS, KS 67601

Contact Geologist: TOM DENNING
Contact Phone Nbr: (785) 628-2593
Well Name: FR WERTH #1
Location: NW Sec. 1 - 16S - 19W
API: 15-165-22167
Pool: Field: UNNAMED
State: KANSAS Country: USA

## SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.3795096
Latitude: 38.6927504
N/S Co-ord: 1500' FNL
E/W Co-ord: 790' FWL

## LOGGED BY

BIG CREEK CONSULTING

Company: BIG CREEK CONSULTING, INC.
Address: 1909 MAPLE
ELLIS, KS 67637

Phone Nbr: (785) 259-3737
Logged By: GEOLOGIST Name: JEFF LAWLER

## CONTRACTOR

Contractor: SOUTHWIND DRILLING, INC
Rig #: 1
Rig Type: MUD ROTARY
Spud Date: 6/20/2019 Time: 12:00 AM
TD Date: 6/26/2019 Time: 8:56 PM
Rig Release: 6/27/2019 Time: 3:00 PM

## ELEVATIONS

K.B. Elevation: 2025.00ft Ground Elevation: 9.00ft
K.B. to Ground: 2016.00ft

## NOTES

AFTER LOG ANALYSIS AND THE LACK OF ECONOMICAL RECOVERY ON TWO DRILL STEM TESTS, IT WAS DECIDED TO PLUG AND ABANDON THE FR WERTH #1.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

## WELL COMPARISON SHEET

| | FR WERTH #1 | | | | MUSTANG ENERGY CORP. DOLECHECK #1 S2 S2 NE SW 1-16-19 | | | | MUSTANG ENERGY CORP. WERTH #1 NE NE NW 1-16-19 | | | | BLACK DIAMOND OIL, INC. WERTH B #1 NW SW NE 1-16-19 | | | | MUSTANG ENERGY, IN[C] GOTTSCHALK #1 E2 NW NW NE 2-16-1[9] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | KB 2026 | | GL 2016 | | KB 2034 | | | | KB 2012 | | | | KB 2018 | | | | KB 2008 | | |
| | LOG TOPS | | SAMPLE TOPS | | LOG | | LOG | SMPL. | COMP. CARD | | LOG | SMPL. | LOG | | LOG | SMPL. | LOG | | LOG |
| FORMATION | DEPTH | DATUM | DEPTH | DATUM | DEPTH | DATUM | CORR. | CORR. | DEPTH | DATUM | CORR. | CORR. | DEPTH | DATUM | CORR. | CORR. | DEPTH | DATUM | CORR. |
| ANHYDRITE TOP | | | 1211 | 815 | 1221 | 813 | | + 2 | 1190 | 822 | | - 7 | 1199 | 819 | | - 4 | 1207 | 801 | |
| BASE | | | 1240 | 786 | 1251 | 783 | | + 3 | 1223 | 789 | | - 3 | 1231 | 787 | | - 1 | 1239 | 769 | |
| TOPEKA | 2992 | -966 | 2986 | -960 | 2990 | -956 | - 10 | - 4 | 2966 | -954 | - 12 | - 6 | 2969 | -951 | - 15 | - 9 | 2965 | -957 | - 9 |
| HEEBNER SHALE | 3264 | -1238 | 3269 | -1243 | 3269 | -1235 | - 3 | - 8 | 3247 | -1235 | - 3 | - 8 | 3254 | -1236 | - 2 | - 7 | 3249 | -1241 | + 3 |
| TORONTO | 3285 | -1259 | 3287 | -1261 | 3291 | -1257 | - 2 | - 4 | | | | | 3274 | -1256 | - 3 | - 5 | 3269 | -1261 | + 2 |
| LKC | 3305 | -1279 | 3307 | -1281 | 3313 | -1279 | + 0 | - 2 | 3299 | -1287 | + 8 | + 6 | 3307 | -1289 | + 10 | + 8 | 3294 | -1286 | + 7 |
| BKC | 3553 | -1527 | 3556 | -1530 | 3561 | -1527 | + 0 | - 3 | 3546 | -1534 | + 7 | + 4 | 3548 | -1530 | + 3 | + 0 | 3537 | -1529 | + 2 |
| CONGLOMERATE | | | | | 3598 | -1564 | | | | | | | 3591 | -1573 | | | | | |
| ARBUCKLE | 3615 | -1589 | | | 3607 | -1573 | - 16 | | 3582 | -1570 | - 19 | | 3606 | -1588 | - 1 | | 3580 | -1572 | - 17 |
| REAGAN | 3644 | -1618 | | | 3652 | -1618 | + 0 | | | | | | | | | | 3638 | -1630 | + 12 |
| TOTAL DEPTH | 3673 | -1647 | 3675 | -1649 | 3681 | -1647 | + 0 | - 2 | 3607 | -1595 | - 52 | - 54 | 3693 | -1675 | + 28 | + 26 | 3651 | -1643 | - 4 |

## DST #1 LKC A-D 3294' - 3370'

DRILL STEM TEST REPORT

## DST #2 LKC I-J 3454' - 3542'

DRILL STEM TEST REPORT

ROCK TYPES

ACCESSORIES

OTHER SYMBOLS

secondary reXLN porosity, barren

Lm- Tan, VF-FXLN, dense, well cemented, sctrd to dense XLN porosity, barren
Sh- Gray Maroon, silty & sl calcareous, gritty & earthy

Lm- Cream Off White, FXLN, oomoldic, no interconnectivity amongst molds, some soft chalk, SCTRD DRK STN, SOME BLK DEAD STN, SL SHEEN, NSFO, FR ODR, 1-2 PCS W/ SL GSY BUBBLES UPON CRUSH

Lm- Cream Off White, FXLN, oolitic w/ fusulinids, mod. dev. w/ sctrd fn ppt inter oolite porosity & dense XLN porosity, SCTRD LT STN, NSFO, FR SULPHURIC ODR

Lm- Cream Off White, FXLN, sl fsl, dense XLN porosity, less dev. than A/A, some sctrd secondary reXLN, SCTRD LT STN, FR OILY SHEEN, TR FRO, GD ODR

Lm- Cream Off White, FXLN, oolitic/sl oomoldic, mod. well dev. w/ sctrd vuggs & XLN porosity, SCTRD DRK STN, TR FO, FR ODR

Lm- Buff, VFXLN, dense, well cemented, tight w/ rare XLN porosity, barren

Lm- Cream Off White, CryptoXLN, densely packed oolitic packstone, clear replacement cementation, no vis. porosity, much soft white chalk

Lm/Chert- Cream Off White, VFXLN, dense, well cemented, dense micro XLN porosity, clean & barren, many pcs of semi-translucent vitreous chert

Lm- Cream Off White, FXLN, some sl dolomitic Ls??, dense XLN porosity, clean & barren

Lm- Cream, VF-FXLN, dense, well cemented, sctrd XLN porosity, clean & barren
Sh- Black Gray Maroon, fissile & carbonaceous, waxy & dense, gritty & earthy

Lm- Cream Off White, FXLN, mix of mostly tight w/ sctrd micro XLN, some edge XLN porosity, FEW PCS W/ WK EDGE STN, NSFO, WK ODR, & gritty dolomitic Ls w/ mostly consistent micro XLN porosity throughout, barren

Lm- Buff Smokey Gray, VF-FXLN, dense, well cemented, mostly cherty Ls w/o vis. porosity

Sh- Gray Maroon Brown, semi-waxy, gritty & earthy
Lm- Cream Off White, FXLN, dense, loosely-well cemented, dense micro XLN & fn ppt w/ some sctrd ppt porosity, SCTRD DRK STN, NSFO, WK ODR

Sh- Gray Maroon, dense & waxy, gritty & earthy

Lm- Cream Off White, FXLN, oolitic/oomoldic, poorly dev. vugs, no interconnectivity, 1 PC W/ POOR SCTRD DRK STN, NSFO, TR ODR??

Lm- Buff, VFXLN, dns, well cemented, mostly tight w/ sctrd micro XLN porosity

Sh- Black Gray Maroon, fissile & carbonaceous, gummy wash, gritty & earthy

Lm- Cream Off White, FXLN, some sl fsl, sctrd XLN porosity, clean & barren, 1 PC, OOMOLDIC W/ VUGS & XLN POROSITY, SCTRD DRK STN, FR SFO UPON CRUSH, TR ODR??

Lm- Cream Off White, FXLN, dense, well cemented & tight w/ rare sctrd XLN porosity, vry clean & barren

Lm- Tan, VFXLN, dense, well cemented, tight w/ min/no vis. porosity,

**BKC 3556' (-1530) E-LOG 3553' (-1527)** Sh- Maroon Gray, argillaceous wash, dense & waxy, some sl fsl
Lm/Ss- Maroon, Fn grn, limey Ss/Sandy Ls, loosely cemented, soft white chalk, barren

Lm- White Off White, FXLN, sl fsl, sctrd XLN porosity, few w/ sctrd glauconite/chlorite inclusion/tint, barren

Chert- Cream Off White, FXLN, gritty sl dolomitic chert, poor vis. porosity, barren, several pcs of fresh bedded vitreous chert

Chert-various colored, fresh bedded, dolomitic, all clean & barren
**3612' 40"-** Chert A/A, 2-3 pcs of vry friable, semi-sucrosic dolomite/dolomitic chert, clean & barren
**60"-** A/A w/ red wash shale, 1 pc of vry friable semi-sucrosic dolomite/dolomitic chert, barren
Conglomerate Chert- Salmon & various light colored detritial well cemented chert, barren Sh- Mint Green Various dark colors, semi-waxy & gummy clumps
**ARBUCKLE E-LOG 3615' (-1589)** Sand- Clear, Fn-Med Grn, sub-angular to rounded, mod. sorting, consolidated, friable clusters, most with dolomite cementation, some barren, DRK STN. FR SFO UPON CRUSH, BRT YLW FLOR UNPON CRUSH, NO STRM WET CUT, WK SULPHURIC ODR

**REAGAN SAND E-LOG 3644' (-1618)** Sand- Clear, Fn Grn, consolidated & well sorted clusters, mature & rounded, mod. cementation, WK DRK STN, TR FO UPON CRUSH, WK ODR, LT YLW FLOR.
Dolo- Cream, VF-FXLN, dense, mostly well cemented w/ consistent XLN porosity throughout, transitioning from Ss clusters w/ rounded fn-med qtz. inclustions, mostly barren throughout, few pcs SCTRD DRK STN, TR FO?, GD PUNGENT SULPHURIC ODR

Sh- Mint Green, dense & semi-waxy, some semi-gummy wash
Dolo- White, FXLN, well cemented, glauconitic w/ fn sub-rounded qtz inclusions, consistent XLN & sctrd fn ppt to ppt porosity, clean & barren

Dolo- Cream Off White, F-Med XLN, well dev. w/ consistent XLN & sctrd ppt porosity, few w/ med grn rounded qtz. inclusions, clean & barren

**RTD 3675' (-1649) RTD @ 20:56 6/26/2019**

FLUID
651' GIP
155' GHOC (40% G, 30% ...
124' GOCM (10% G, 1...
60% W, 2...
IFP: 29-88#
FFP: 96-14...
SIP: 790-76...
BHT: 103

DST #2 LK[C]
3454' - 3[542']
45-45-45...
45' MUD
IFP: 21-28#
FFP: 28-37...
SIP: 1116-1...
BHT: 104

10 STND
CTCH
SURV...
TOH FOR ...

# DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**Fr Werth #1**

**1-16S-19W-Rush**

Start Date: 2019.06.25 @ 10:03:00
End Date: 2019.06.25 @ 16:17:02
Job Ticket #: 66278 DST #: 1

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

Printed: 2019.06.27 @ 11:03:30

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66278 **DST#: 1**

Test Start: 2019.06.25 @ 10:03:00

## GENERAL INFORMATION:

Formation: **LKC A-D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:33:47
Time Test Ended: 16:17:02

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72

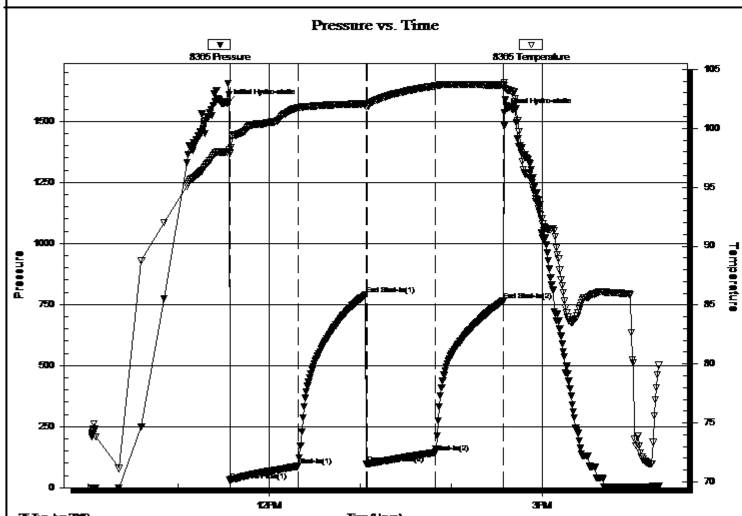
**Interval: 3294.00 ft (KB) To 3370.00 ft (KB) (TVD)**
Total Depth: 3370.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2026.00 ft (KB)
2016.00 ft (CF)
KB to GR/CF: 10.00 ft

**Serial #: 8365** **Inside**

| | | | | | |
|---|---|---|---|---|---|
| Press@RunDepth: | 144.01 psig @ 3295.00 ft (KB) | | | Capacity: | psig |
| Start Date: | 2019.06.25 | End Date: | 2019.06.25 | Last Calib.: | 2019.06.25 |
| Start Time: | 10:03:01 | End Time: | 16:17:02 | Time On Btm: | 2019.06.25 @ 11:32:17 |
| | | | | Time Off Btm: | 2019.06.25 @ 14:35:02 |

TEST COMMENT: IF 45 Minutes Blow to BOB in 6 min - Total build 60"
ISI 45 Minutes 4" blow back
FF 45 Minutes Blow to BOB in 12 min - Total build 41"
FSI 45 Mintues 7" blow back




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1571.34 | 98.01 | Initial Hydro-static |
| 2 | 29.76 | 97.86 | Open To Flow (1) |
| 47 | 88.84 | 101.77 | Shut-In(1) |
| 92 | 790.09 | 102.04 | End Shut-In(1) |
| 92 | 96.73 | 101.89 | Open To Flow (2) |
| 138 | 144.01 | 103.61 | Shut-In(2) |
| 182 | 764.17 | 103.67 | End Shut-In(2) |
| 183 | 1534.72 | 103.63 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 124.00 | GOCMW G10 O10 M20 W60% | 1.74 |
| 155.00 | GHOCM G40 O30% M30% | 2.17 |
| 0.00 | 651 GIP | 0.00 |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Law ler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66278 **DST#: 1**

Test Start: 2019.06.25 @ 10:03:00

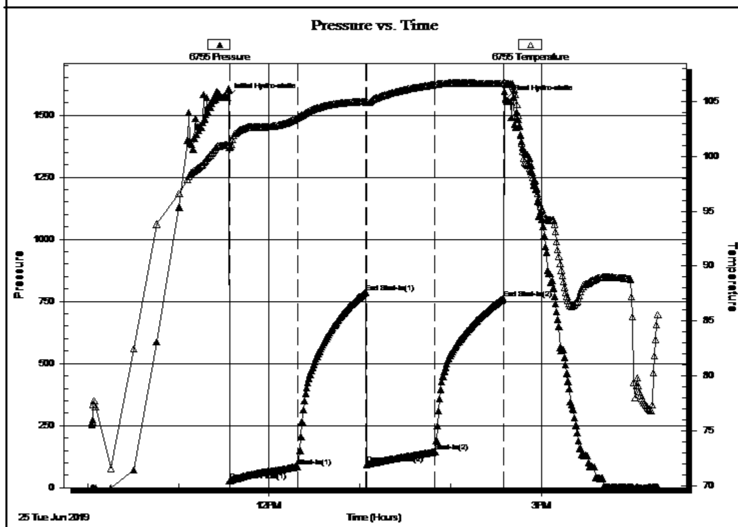
## GENERAL INFORMATION:

| | | | |
|---|---|---|---|
| Formation: | **LKC A-D** | | |
| Deviated: | No Whipstock: ft (KB) | Test Type: | Conventional Bottom Hole (Initial) |
| Time Tool Opened: | 11:33:47 | Tester: | Ken Sw inney |
| Time Test Ended: | 16:17:02 | Unit No: | 72 |
| **Interval:** | **3294.00 ft (KB) To 3370.00 ft (KB) (TVD)** | Reference Elevations: | 2026.00 ft (KB) |
| Total Depth: | 3370.00 ft (KB) (TVD) | | 2016.00 ft (CF) |
| Hole Diameter: | 7.88 inches Hole Condition: Fair | KB to GR/CF: | 10.00 ft |

**Serial #: 6755** **Outside**

| | | | | | |
|---|---|---|---|---|---|
| Press@RunDepth: | 761.81 psig @ | 3296.00 ft (KB) | | Capacity: | psig |
| Start Date: | 2019.06.25 | End Date: | 2019.06.25 | Last Calib.: | 2019.06.25 |
| Start Time: | 10:03:01 | End Time: | 16:17:02 | Time On Btm: | 2019.06.25 @ 11:32:17 |
| | | | | Time Off Btm: | 2019.06.25 @ 14:36:17 |

TEST COMMENT: IF 45 Minutes Blow to BOB in 6 min - Total build 60"
ISI 45 Minutes 4" blow back
FF 45 Minutes Blow to BOB in 12 min - Total build 41"
FSI 45 Mintues 7" blow back




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1570.28 | 101.03 | Initial Hydro-static |
| 2 | 25.98 | 100.80 | Open To Flow (1) |
| 47 | 85.05 | 103.53 | Shut-In(1) |
| 92 | 787.22 | 104.96 | End Shut-In(1) |
| 92 | 94.36 | 104.88 | Open To Flow (2) |
| 138 | 143.88 | 106.54 | Shut-In(2) |
| 183 | 761.81 | 106.66 | End Shut-In(2) |
| 184 | 1562.77 | 106.59 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 124.00 | GOCMW G10 O10 M20 W60% | 1.74 |
| 155.00 | GHOCM G40 O30% M30% | 2.17 |
| 0.00 | 651 GIP | 0.00 |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TRILOBITE TESTING, INC.

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Law ler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66278 **DST#: 1**

Test Start: 2019.06.25 @ 10:03:00

## Tool Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3304.00 ft | Diameter: | 3.80 inches | Volume: | 46.35 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: | 46.35 bbl | |

| | |
|---|---|
| Drill Pipe Above KB: | 30.00 ft |
| Depth to Top Packer: | 3294.00 ft |
| Depth to Bottom Packer: | ft |
| Interval betw een Packers: | 75.77 ft |
| Tool Length: | 95.77 ft |
| Number of Packers: | 2 Diameter: 6.75 inches |

| | | |
|---|---|---|
| Tool Weight: | | 2000.00 lb |
| Weight set on Packer: | | 20000.00 lb |
| Weight to Pull Loose: | | 50000.00 lb |
| Tool Chased | | 0.00 ft |
| String Weight: | Initial | 40000.00 lb |
| | Final | 42000.00 lb |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut-In Tool | 5.00 | | | 3279.00 | | |
| Hydraulic tool | 5.00 | | | 3284.00 | | |
| Top Packer | 5.00 | | | 3289.00 | | |
| Packer | 5.00 | | | 3294.00 | 20.00 | Bottom Of Top Packer |
| Recorder | 1.00 | 8365 | Inside | 3295.00 | | |
| Recorder | 1.00 | 6755 | Outside | 3296.00 | | |
| Anchor | 37.00 | | | 3333.00 | | |
| Change Over Sub | 1.00 | | | 3334.00 | | |
| Drill Pipe | 31.77 | | | 3365.77 | | |
| Change Over Sub | 1.00 | | | 3366.77 | | |
| Bullnose | 3.00 | | | 3369.77 | 75.77 | Anchor Tool |

**Total Tool Length: 95.77**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66278 **DST#: 1**

Test Start: 2019.06.25 @ 10:03:00

## 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: | 18000 ppm |
| Viscosity: | 53.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 5.99 $in^3$ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 7000.00 ppm | | | | |
| Filter Cake: | 1.00 inches | | | | |

## Recovery Information

Recovery Table

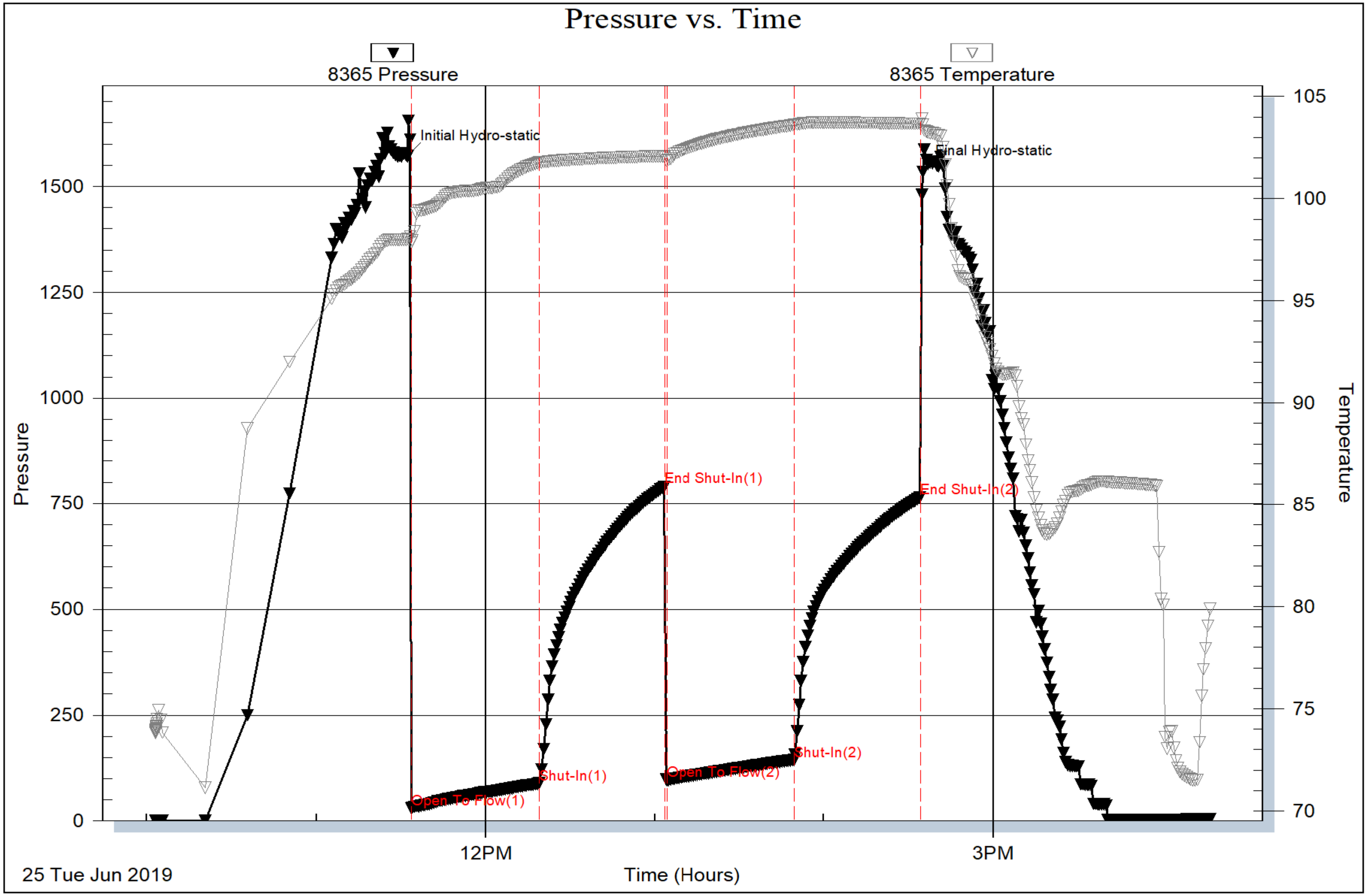
| Length ft | Description | Volume bbl |
|---|---|---|
| 124.00 | GOCMW G10 O10 M20 W60% | 1.739 |
| 155.00 | GHOCM G40 O30% M30% | 2.174 |
| 0.00 | 651 GIP | 0.000 |

Total Length: 279.00 ft Total Volume: 3.913 bbl

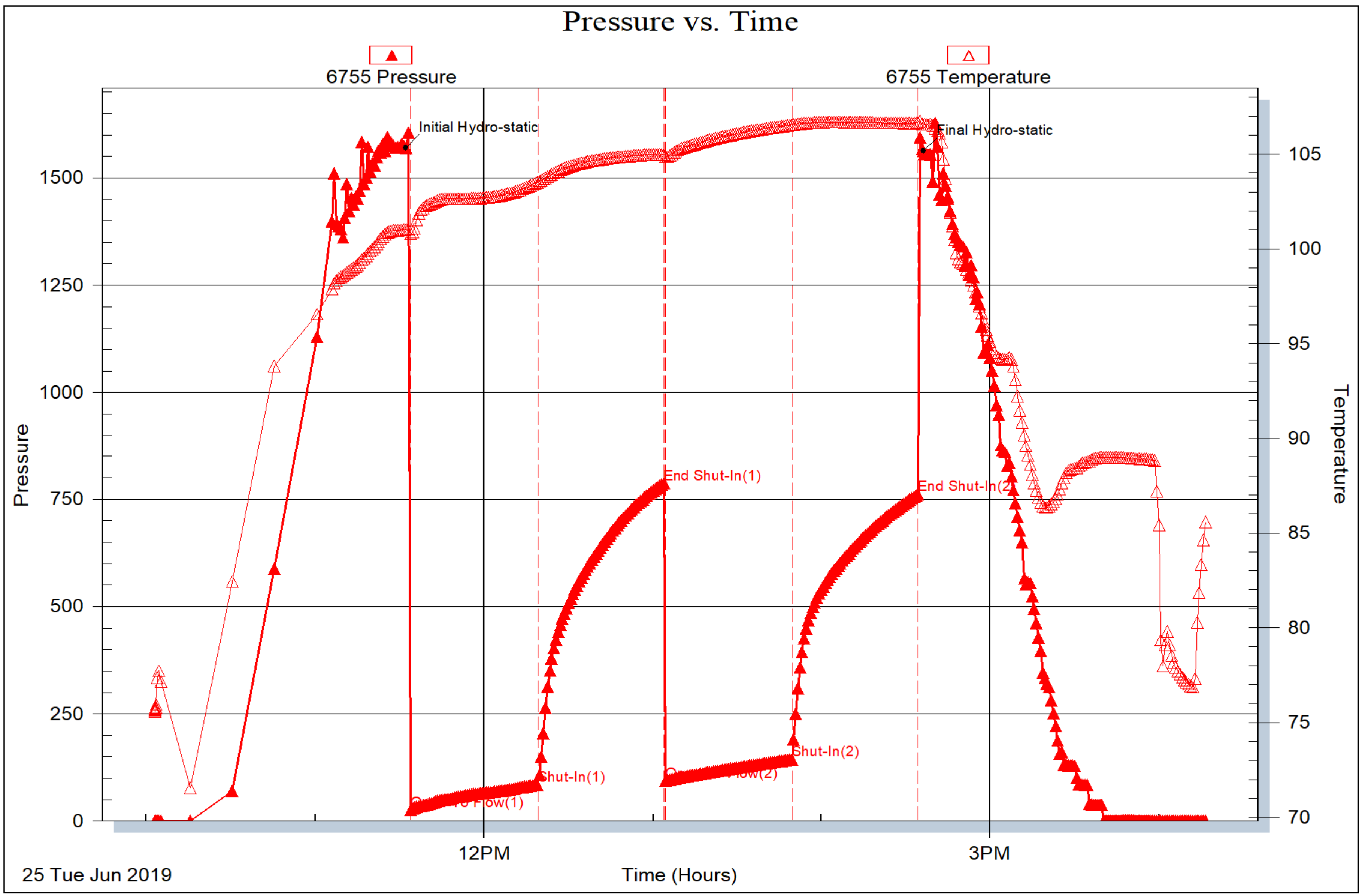
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: Recovery Resistivity .285 ohms @ 92deg


Pressure vs. Time
8365 Pressure
8365 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
End Shut-In(2)
Pressure
0
250
500
750
1000
1250
1500
Temperature
70
75
80
85
90
95
100
105
25 Tue Jun 2019
12PM
3PM
Time (Hours)

# Pressure vs. Time



# DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**Fr Werth #1**

**1-16S-19W-Rush**

Start Date: 2019.06.26 @ 07:07:00
End Date: 2019.06.26 @ 12:57:02
Job Ticket #: 66279 DST #: 2



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

Printed: 2019.06.27 @ 11:03:06

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66279 **DST#: 2**

Test Start: 2019.06.26 @ 07:07:00

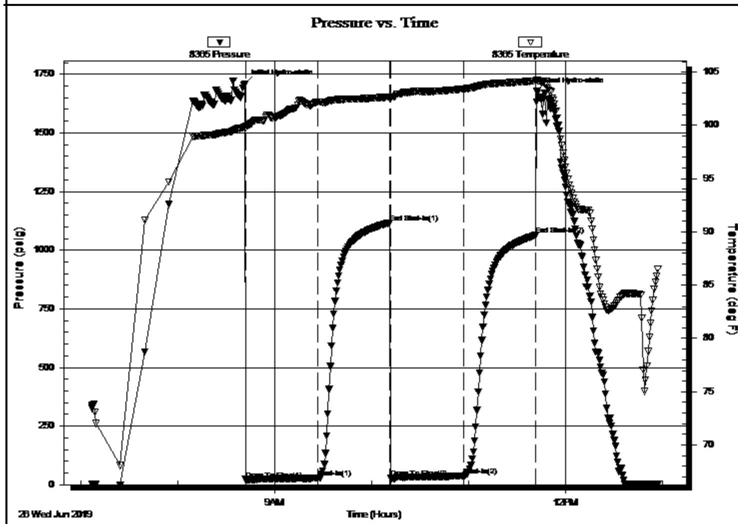
## GENERAL INFORMATION:

| | | | |
|---|---|---|---|
| Formation: | **LKC I-K** | | |
| Deviated: | No Whipstock: ft (KB) | Test Type: | Conventional Bottom Hole (Initial) |
| Time Tool Opened: | 08:41:47 | Tester: | Ken Swinney |
| Time Test Ended: | 12:57:02 | Unit No: | 72 |
| **Interval:** | **3454.00 ft (KB) To 3542.00 ft (KB) (TVD)** | Reference Elevations: | 2026.00 ft (KB) |
| Total Depth: | 3542.00 ft (KB) (TVD) | | 2016.00 ft (CF) |
| Hole Diameter: | 7.88 inches Hole Condition: Fair | KB to GR/CF: | 10.00 ft |

**Serial #: 8365** **Inside**

| | | | | | |
|---|---|---|---|---|---|
| Press@RunDepth: | 37.42 psig @ 3455.00 ft (KB) | | | Capacity: | psig |
| Start Date: | 2019.06.26 | End Date: | 2019.06.26 | Last Calib.: | 2019.06.26 |
| Start Time: | 07:07:01 | End Time: | 12:57:02 | Time On Btm: | 2019.06.26 @ 08:41:17 |
| | | | | Time Off Btm: | 2019.06.26 @ 11:42:02 |

TEST COMMENT: IF 45 Minutes Blow to 1 1/2"
ISI 45 Minutes No blow back
FF 45 Minutes Few bubbles at open then dead/ Flush tool build to 1"
FSI 45 Minutes No blow back




### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1706.75 | 99.84 | Initial Hydro-static |
| 1 | 21.86 | 99.78 | Open To Flow (1) |
| 46 | 28.15 | 102.21 | Shut-In(1) |
| 90 | 1116.78 | 102.65 | End Shut-In(1) |
| 91 | 28.48 | 102.59 | Open To Flow (2) |
| 136 | 37.42 | 103.44 | Shut-In(2) |
| 180 | 1063.73 | 104.20 | End Shut-In(2) |
| 181 | 1676.61 | 104.24 | Final Hydro-static |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 45.00 | Mud 100% | 0.63 |
| | | |
| | | |
| | | |
| | | |
| | | |

### Gas Rates

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

# DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Law ler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66279 **DST#: 2**

Test Start: 2019.06.26 @ 07:07:00

## GENERAL INFORMATION:

Formation: **LKC I-K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:41:47
Time Test Ended: 12:57:02

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Sw inney
Unit No: 72

**Interval: 3454.00 ft (KB) To 3542.00 ft (KB) (TVD)**
Total Depth: 3542.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

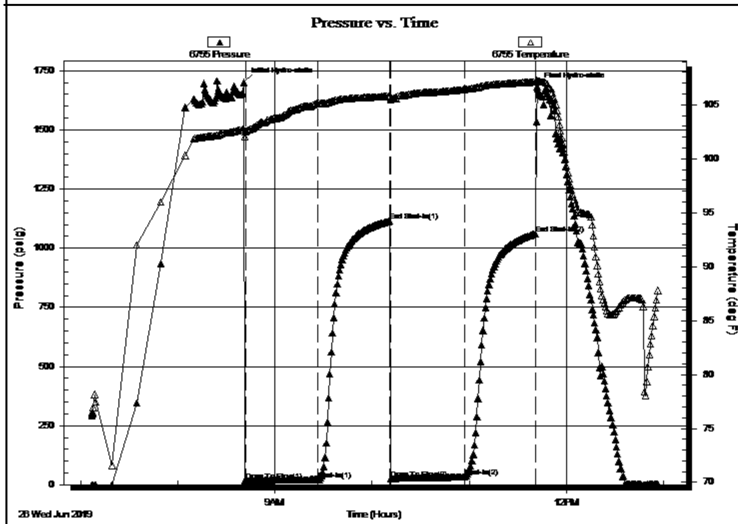
Reference Elevations: 2026.00 ft (KB)
2016.00 ft (CF)
KB to GR/CF: 10.00 ft

**Serial #: 6755** **Outside**

Press@RunDepth: 1061.76 psig @ 3456.00 ft (KB)
Start Date: 2019.06.26 End Date: 2019.06.26
Start Time: 07:07:01 End Time: 12:57:02

Capacity: psig
Last Calib.: 2019.06.26
Time On Btm: 2019.06.26 @ 08:41:02
Time Off Btm: 2019.06.26 @ 11:42:02

TEST COMMENT: IF 45 Minutes Blow to 1 1/2"
ISI 45 Minutes No blow back
FF 45 Minutes Few bubbles at open then dead/ Flush tool build to 1"
FSI 45 Minutes No blow back




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1702.35 | 102.74 | Initial Hydro-static |
| 1 | 15.54 | 102.50 | Open To Flow (1) |
| 46 | 22.12 | 105.17 | Shut-In(1) |
| 90 | 1115.08 | 105.77 | End Shut-In(1) |
| 91 | 25.35 | 105.60 | Open To Flow (2) |
| 137 | 33.34 | 106.43 | Shut-In(2) |
| 180 | 1061.76 | 107.14 | End Shut-In(2) |
| 181 | 1680.91 | 107.24 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 45.00 | Mud 100% | 0.63 |
| | | |
| | | |
| | | |
| | | |
| | | |

## 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+9696

ATTN: Jeff Lawler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66279 **DST#: 2**

Test Start: 2019.06.26 @ 07:07:00

## Tool Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3454.00 ft | Diameter: | 3.80 inches | Volume: | 48.45 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: | 48.45 bbl | |

| | |
|---|---|
| Tool Weight: | 2000.00 lb |
| Weight set on Packer: | 20000.00 lb |
| Weight to Pull Loose: | 55000.00 lb |
| Tool Chased | 0.00 ft |
| String Weight: Initial | 41000.00 lb |
| Final | 41000.00 lb |

| | | | |
|---|---|---|---|
| Drill Pipe Above KB: | 20.00 ft | | |
| Depth to Top Packer: | 3454.00 ft | | |
| Depth to Bottom Packer: | ft | | |
| Interval between Packers: | 87.53 ft | | |
| Tool Length: | 107.53 ft | | |
| Number of Packers: | 2 | Diameter: | 6.75 inches |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut-In Tool | 5.00 | | | 3439.00 | | |
| Hydraulic tool | 5.00 | | | 3444.00 | | |
| Top Packer | 5.00 | | | 3449.00 | | |
| Packer | 5.00 | | | 3454.00 | 20.00 | Bottom Of Top Packer |
| Recorder | 1.00 | 8365 | Inside | 3455.00 | | |
| Recorder | 1.00 | 6755 | Outside | 3456.00 | | |
| Anchor | 17.00 | | | 3473.00 | | |
| Change Over Sub | 1.00 | | | 3474.00 | | |
| Drill Pipe | 63.53 | | | 3537.53 | | |
| Change Over Sub | 1.00 | | | 3538.53 | | |
| Bullnose | 3.00 | | | 3541.53 | 87.53 | Anchor Tool |

**Total Tool Length: 107.53**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

TDI Inc

1310 Bison Rd
Hays KS 67601+9696

ATTN: Jeff Lawler

**1-16S-19W-Rush**

**Fr Werth #1**

Job Ticket: 66279 **DST#: 2**

Test Start: 2019.06.26 @ 07:07:00

## 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: | 53.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 5.99 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 7000.00 ppm | | | | |
| Filter Cake: | 1.00 inches | | | | |

## Recovery Information

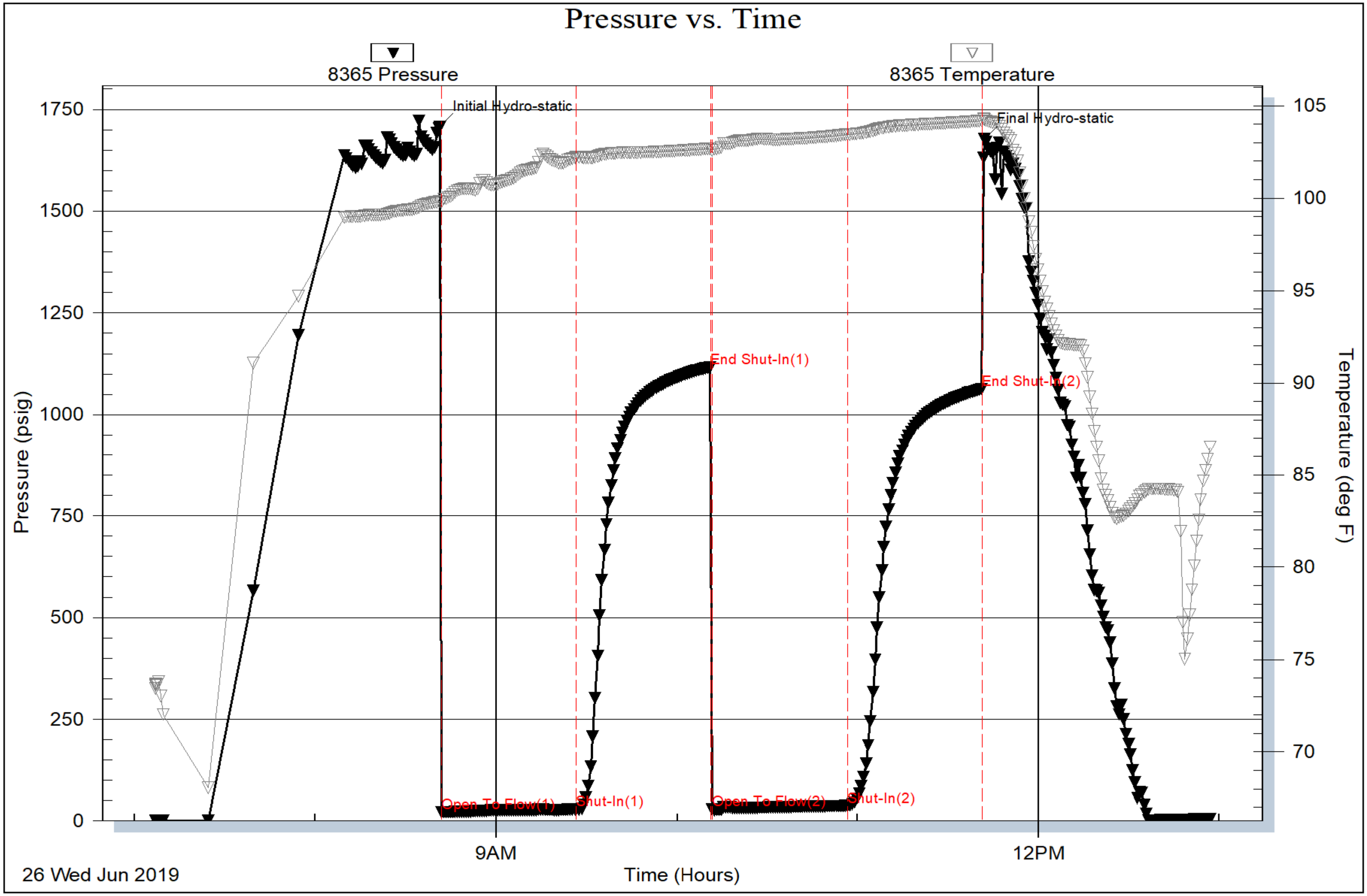
Recovery Table

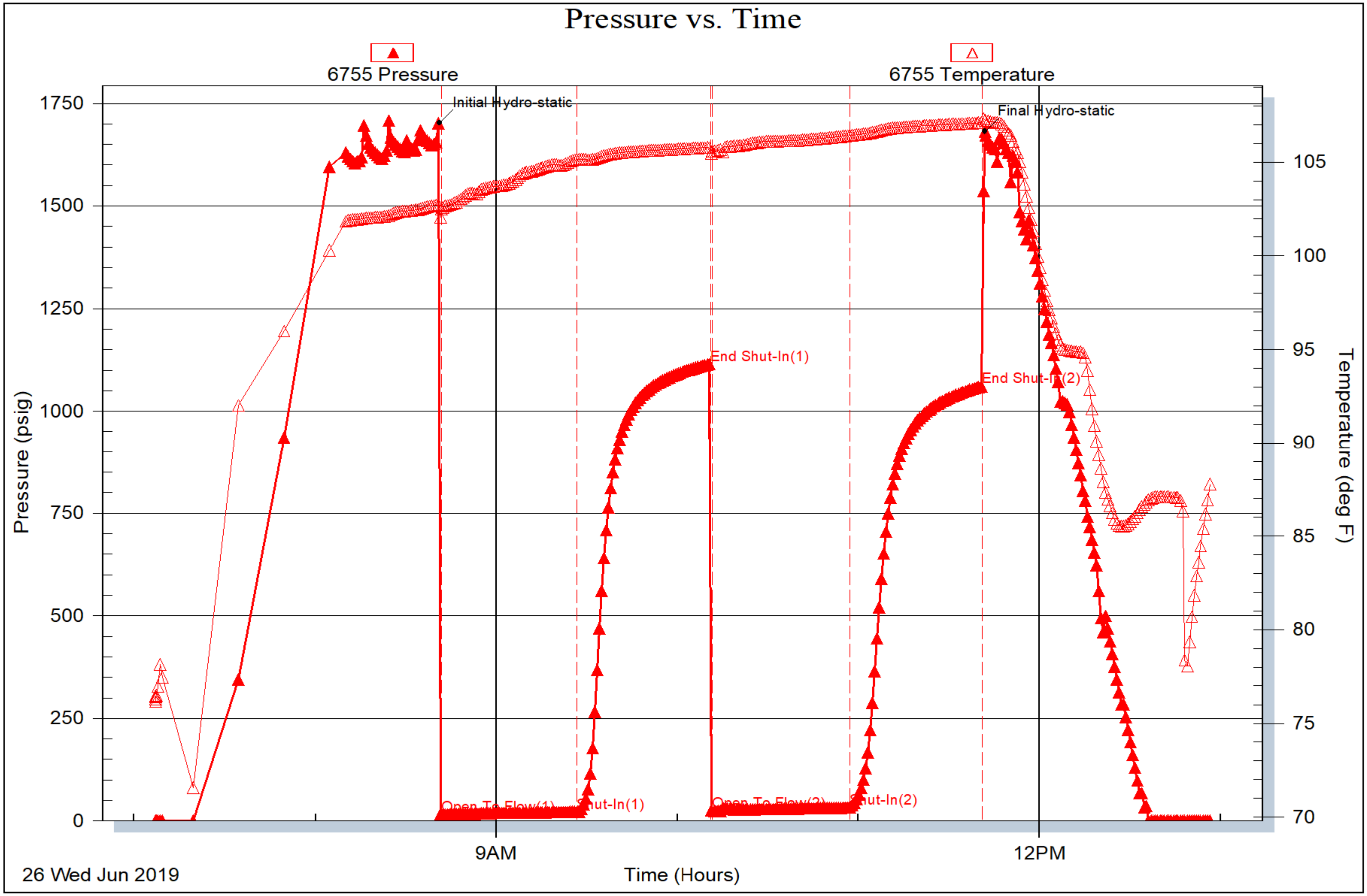
| Length ft | Description | Volume bbl |
|---|---|---|
| 45.00 | Mud 100% | 0.631 |

Total Length: 45.00 ft Total Volume: 0.631 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8365 **Inside** TDI Inc Fr Werth #1 DST Test Number: 2




Pressure vs. Time
6755 Pressure
6755 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
1750
1500
1250
1000
750
500
250
0
Temperature (deg F)
105
100
95
90
85
80
75
70
9AM
12PM
26 Wed Jun 2019
Time (Hours)

**TRILOBITE TESTING INC.**
1515 Commerce Parkway • Hays, Kansas 67601

4/10

# Test Ticket NO. 66278

Well Name & No. Fr Werth #1 Test No. 1 Date 25 JUN 19
Company TDI Inc. Elevation 2026 KB 2016 GL
Address 1310 Bison Rd Hays Kansas 67601 + 9696
Co. Rep / Geo. Jeff Lawler Rig Southwind Rig 1
Location: Sec. 1 Twp 16S Rge. 19W Co. Rush State KS

Interval Tested 3294-3370 Zone Tested Lansing/Kansas City A-D
Anchor Length 76 Drill Pipe Run 3304 Mud Wt. 9.1
Top Packer Depth 3289 Drill Collars Run — Vis 53
Bottom Packer Depth 3294 Wt. Pipe Run — WL 6.0
Total Depth 3370 Chlorides 7000 ppm System LCM 1#

Blow Description IF Blow to BOB 6 minutes / Total build 60"
ISI 4" blow back
FF Blow to BOB 12 minutes / Total build 41"
FSI 7" blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|---|---|---|---|---|---|
| 651 | GIP | | | | |
| 155 | GHOCM | 40 | 30 | | 30 |
| 124 | GOCMW | 10 | 10 | 60 | 20 |
| | | | | | |
| | | | | | |

Rec Total 279 BHT 103 Gravity ____ API RW .285 @ 92 °F Chlorides 18000 ppm

(A) Initial Hydrostatic 1571
(B) First Initial Flow 29
(C) First Final Flow 88
(D) Initial Shut-In 790
(E) Second Initial Flow 96
(F) Second Final Flow 144
(G) Final Shut-In 764
(H) Final Hydrostatic 1534

Initial Open 45
Initial Shut-In 45
Final Flow 45
Final Shut-In 45

☒ Test 1200
☐ Jars
☐ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 38 38
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 1238

T-On Location 8:55 am
T-Started 10:03 am
T-Open 11:34 am
T-Pulled 2:34 pm
T-Out 4:15 pm
Comments

☐ EM Tool
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1238
MP/DST Disc't

Approved By ____ Our Representative [signature]

**TRILOBITE TESTING INC.**
1515 Commerce Parkway • Hays, Kansas 67601

4/10

# Test Ticket NO. 66279

Well Name & No. Fr Werth #1 Test No. 2 Date 26 Jun 19

Company TDI Inc. Elevation 2026 KB 2016 GL

Address 1310 Bison Rd Hays Kansas 67601+9696

Co. Rep / Geo. Jeff Lawler Rig Southwind Rig 1

Location: Sec. 1 Twp 16S Rge. 19W Co. Rush State KS

Interval Tested 3454-3542 Zone Tested Lansing/Kansas City IJK

Anchor Length 88 Drill Pipe Run ____ Mud Wt. 9.1

Top Packer Depth 3449 Drill Collars Run — Vis 53

Bottom Packer Depth 3454 Wt. Pipe Run — WL 6.0

Total Depth 3542 Chlorides 7000 ppm System LCM 1#

Blow Description IF Blow to 1 1/2 inches
ISF No blow back
FF Few bubbles at open dead Flush tool build to 1 inch
FSI No blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|---|---|---|---|---|---|
| 45 | Mud | | | | 100 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Rec Total 45 BHT 104 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1706
(B) First Initial Flow 21
(C) First Final Flow 28
(D) Initial Shut-In 1116
(E) Second Initial Flow 28
(F) Second Final Flow 37
(G) Final Shut-In 1063
(H) Final Hydrostatic 1676

Initial Open 45
Initial Shut-In 45
Final Flow 45
Final Shut-In 45

☑ Test 1200
☐ Jars
☐ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☑ Mileage 38 76
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 1276

T-On Location 6:11 am
T-Started 7:07 am
T-Open 8:42 am
T-Pulled 11:42 am
T-Out 12:58 pm
Comments
loaded tools 6/27 4:30

☐ EM Tool
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1276
MP/DST Disc't

Approved By ____ Our Representative [signature]

# GLOBAL OIL FIELD SERVICES, LLC

13760

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

| DATE | SEC. | TWP. | RANGE | CALLED OUT | ON LOCATION | JOB START | JOB FINISH |
|---|---|---|---|---|---|---|---|
| 6-21-19 | 1 | 16S | 19W | | | 9:55 PM | 12:30 AM |

(JOB FINISH: Top off)

| LEASE | WELL #. | LOCATION | COUNTY | STATE |
|---|---|---|---|---|
| AR Werth | 1 | Intersection of 1 + Hwy 4 ... 1 ... 1 + Auer 4W, 1/4 N East Into | Rush | KS |

OLD OR NEW (CIRCLE ONE) — NEW circled

CONTRACTOR Southwind Drilling Rig #1

OWNER TDI

TYPE OF JOB Deep Surface

HOLE SIZE 12 1/4 T.D. 1221

CEMENT

CASING SIZE 8 5/8 DEPTH

AMOUNT ORDERED 450sks 60/40 Poz, 3% CC 2% Gel, 70sks top off, total of 520sks

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 25'

CEMENT LEFT IN CSG. 25'

PERFS

DISPLACEMENT

EQUIPMENT

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

PUMP TRUCK CEMENTER Cody

\# 417 HELPER Jason

BULK TRUCK

\# 473 DRIVER Tom

BULK TRUCK

\# DRIVER

REMARKS:

Ran 29jt of 8 5/8 casing + Lit. Hooked to Rig + Broke circulation + Hooked to truck + Pumped 450sks of Cement Opened plug + Displaced 76bbls of H2O Landed plug + Shut IN Waited on Cement to top off 10pm + 12:30am

Ran 35' of 1in + pumped 70sks to top off
Apx. 10sks to Pit
Cement DiD 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

| | | | |
|---|---|---|---|
| 8 5/8 Rubber Plug | 2 8 5/8 Centralizers | @ | |
| 8 5/8 Baffle Plate | | @ | |
| | | @ | |
| | | @ | |
| | | @ | |
| | | @ | |
| | | 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.

PRINTED NAME JEFF CRAWFORD BCS

SIGNATURE

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

# GLOBAL OIL FIELD SERVICES, LLC

13761

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

| DATE 6-22-14 | SEC. 1 | TWP. 16S | RANGE 19W | CALLED OUT | ON LOCATION | JOB START | JOB FINISH 11:15am |
|---|---|---|---|---|---|---|---|
| LEASE Ft. Worth | WELL #. 1 | LOCATION 1 North of Liebenthal 1/2 W 1/4 N East into | | | | COUNTY Rush | STATE KS |
| OLD OR NEW (CIRCLE ONE) | | | | | | | |

CONTRACTOR Southwind Drilling Rig #1

OWNER TDI

TYPE OF JOB Rotary Plug

HOLE SIZE 7 7/8 T.D. 3675'

CEMENT

AMOUNT ORDERED 210sks 60/40 4% Gel 1/4# per Flowseal

CASING SIZE DEPTH

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS

DISPLACEMENT

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

EQUIPMENT

PUMP TRUCK CEMENTER Cody
# 417 HELPER Jason
BULK TRUCK
# 410 DRIVER Tom
BULK TRUCK
# DRIVER

REMARKS:

1 3610' 50sks
1250' 50sks
500' 40sks
60' 20sks
Mouse 20sks Rat 50sks

TDI

CHARGE TO:

STREET

CITY STATE ZIP

SERVICE

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

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.

PRINTED NAME Cecil E. Farmer

SIGNATURE Cecil E. Farmer

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS