

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. 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
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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)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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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:	
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OPERATOR

Company: TDI, INC
 Address: 1310 BISON ROAD
 HAYS, KANSAS 67601

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: VIRGINIA # 2
 Location: SE SW NE NE SEC.16-T15S-R19W
 API: 15-051-26,878-00-00
 Pool: IN FIELD
 State: KANSAS

Field: VIRGINIA
 Country: USA



Scale 1:240 Imperial

Well Name: VIRGINIA # 2
 Surface Location: SE SW NE NE SEC.16-T15S-R19W
 Bottom Location:
 API: 15-051-26,878-00-00
 License Number: 4787
 Spud Date: 7/10/2017 Time: 2:30 PM
 Region: ELLIS COUNTY
 Drilling Completed: 7/16/2017 Time: 7:47 PM
 Surface Coordinates: 1005' FNL & 755' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2009.00ft
 K.B. Elevation: 2019.00ft
 Logged Interval: 2800.00ft To: 3638.00ft
 Total Depth: 3638.00ft
 Formation: CONGLOMERATE SAND
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.4328024
 Latitude: 38.752057
 N/S Co-ord: 1005' FNL
 E/W Co-ord: 755' 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 #: 1
 Rig Type: MUD ROTARY
 Spud Date: 7/10/2017
 TD Date: 7/16/2017

Time: 2:30 PM
 Time: 7:47 PM

ELEVATIONS

K.B. Elevation: 2019.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 2009.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON RESULTS OF DST # 3 AND LOG ANALYSIS.

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: THREE (3) CONVENTIONAL TESTS.

VIRGINIA # 2
SE SW NE NE
SEC.16-15S-19W
2019'KB

VIRGINIA # 1
SW NE NW NE
SEC.16-15-19W
KB 2024'

WILLIE # 1
NW SE SE SE
SEC.9-15-19W
KB 2043'

<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1235 +784	+ 784	+ 785
B-Anhydrite	1271 +748	+ 747	+ 749
Topeka	2993 - 974	- 970	- 969
Heebner Sh.	3267-1248	-1244	-1246
Toronto	3294-1275	-1266	-1268
LKC	3318-1299	-1291	-1293
BKC	3562-1543	-1537	-1540
Arbuckle	NOT REACHED	-1627	-1620
RTD	3638-1619	-1726	-1707

SUMMARY OF DAILY ACTIVITY

7-10-17 Spud 2:30 PM,
7-11-17 895', drilling, set 8 5/8" surface casing to 1250' w/ 375 sxs SMD, WOC 12 hrs, slope 1 degree.
7-12-17 1250', WOC, drill plug at 9:00 AM
7-13-17 2118', drilling
7-14-17 2815', drilling, displaced 2847' to 2878'
7-15-17 3350' drilling, CFS 3300', short trip, CFS 3375', DST # 1 3305' to 3375', slope 1 degree at 3375'

7-16-17

3535', drilling, CFS 3535', DST # 2 3486' to 3535', TIWB, CFS 3638',

RTD @ 7:47PM, DST # 3 3618' to 3638' conglomerate sand

7-17-17

3638', finish DST # 3, log behind DST # 3, TIWB, LDDP, run production casing and cement bottom stage



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
 1310 Bison RD
 Hays Ks 67601-9696
 ATTN: Tom Denning Herb Dei

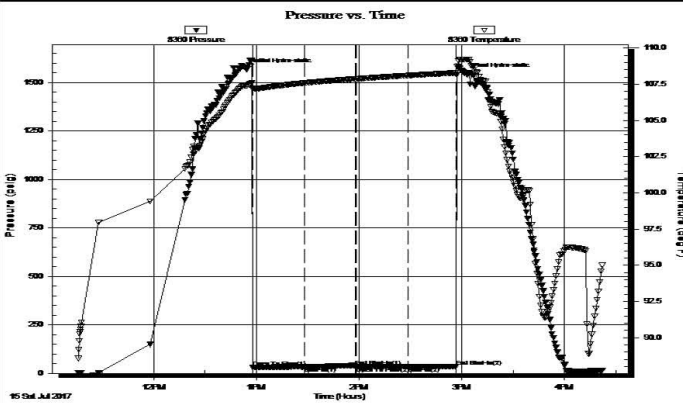
16-15s-19w Ellis
Virginia #2
 Job Ticket: 63975 **DST#: 1**
 Test Start: 2017.07.15 @ 11:16:04

GENERAL INFORMATION:

Formation: **LKC C-D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:57:44
 Time Test Ended: 16:21:58
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
Interval: 3305.00 ft (KB) To 3375.00 ft (KB) (TVD)
 Total Depth: 3375.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Reference Elevations: 2019.00 ft (KB)
 2009.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 34.50 psig @ 3309.00 ft (KB)
 Start Date: 2017.07.15 End Date: 2017.07.15
 Start Time: 11:16:04 End Time: 16:21:58
 Capacity: 8000.00 psig
 Last Calib.: 2017.07.15
 Time On Btm: 2017.07.15 @ 12:54:44
 Time Off Btm: 2017.07.15 @ 15:02:44

TEST COMMENT: 30-IFP-w k bl died in 15 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl



PRESSURE SUMMARY

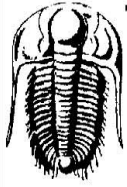
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1567.79	107.42	Initial Hydro-static
3	32.31	107.16	Open To Flow (1)
34	33.77	107.58	Shut-In(1)
64	35.66	107.87	End Shut-In(1)
64	35.60	107.87	Open To Flow (2)
94	34.50	108.10	Shut-In(2)
122	35.39	108.29	End Shut-In(2)
128	1544.27	109.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
1310 Bison RD
Hays Ks 67601-9696
ATTN: Tom Denning Herb Dei

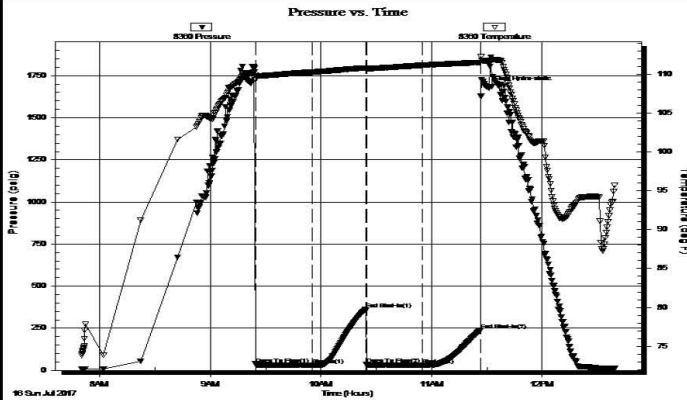
16-15s-19w Ellis
Virginia #2
Job Ticket: 63001 **DST#: 2**
Test Start: 2017.07.16 @ 07:50:09

GENERAL INFORMATION:

Formation: **LKC J-K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:24:34
Time Test Ended: 12:39:18
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77
Interval: **3486.00 ft (KB) To 3535.00 ft (KB) (TVD)**
Reference Elevations: 2019.00 ft (KB)
Total Depth: 3535.00 ft (KB) (TVD) 2009.00 ft (CF)
Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
Press@RunDepth: 32.16 psig @ 3499.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.07.16 End Date: 2017.07.16 Last Calib.: 2017.07.16
Start Time: 07:50:09 End Time: 12:39:18 Time On Btm: 2017.07.16 @ 09:22:04
Time Off Btm: 2017.07.16 @ 11:30:49

TEST COMMENT: 30-IFP-surface bl, died in 12 min
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.45	110.14	Initial Hydro-static
3	34.84	109.78	Open To Flow (1)
34	32.23	110.27	Shut-In(1)
62	362.93	110.80	End Shut-In(1)
63	34.08	110.70	Open To Flow (2)
93	32.16	111.14	Shut-In(2)
125	238.49	111.51	End Shut-In(2)
129	1680.93	111.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 1%O99%M	0.07

* Recovery from multiple tests

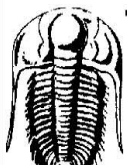
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 63001

Printed: 2017.07.16 @ 14:15:53



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
1310 Bison RD
Hays Ks 67601-9696

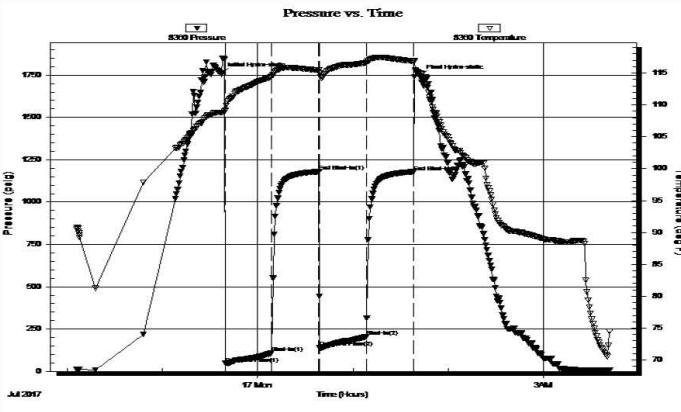
16-15s-19w Ellis
Virginia #2
Job Ticket: 63002 **DST#: 3**

GENERAL INFORMATION:

Formation: **Congl Sd**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:39:34
 Time Test Ended: 03:42:03
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Interval: **3618.00 ft (KB) To 3638.00 ft (KB) (TVD)**
 Total Depth: 3638.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Reference Elevations: 2019.00 ft (KB)
 2009.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 205.82 psig @ 3619.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.16 End Date: 2017.07.17
 Start Time: 22:05:54 End Time: 03:42:03
 Time On Btm: 2017.07.16 @ 23:37:04
 Time Off Btm: 2017.07.17 @ 01:42:34

TEST COMMENT: 30-IFP-BOB in 7 min
 30-ISIP-1 1/2" bl bk
 30-FFP-BOB in 7 min
 30-FSIP-1/2" bl bk



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1759.13	108.78	Initial Hydro-static
3	46.30	109.10	Open To Flow (1)
32	109.56	114.44	Shut-In(1)
62	1179.97	115.42	End Shut-In(1)
62	140.13	114.93	Open To Flow (2)
92	205.82	116.63	Shut-In(2)
121	1178.79	116.86	End Shut-In(2)
126	1742.08	114.94	Final Hydro-static

Length (ft)	Description	Volume (bbt)
390.00	OO	5.47
124.00	GMO 20%G30%M50%O	1.74
0.00	100' GIP	0.00

* Recovery from multiple tests

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

Trilobite Testing, Inc

Ref. No: 63002

Printed: 2017.07.17 @ 07:13:44

ROCK TYPES

Cht vari	Lmst fw>7	shale, gry	Ss
Dol Lime	Lscongl	Carbon Sh	
Lmst fw<7	shale, grn	shale, red	

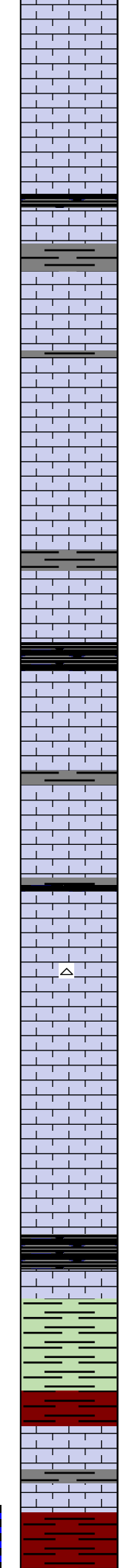
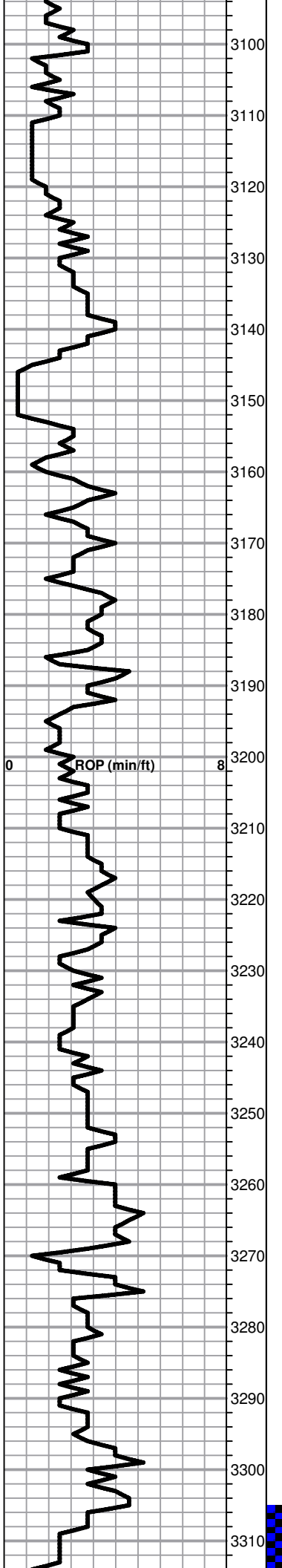
ACCESSORIES

MINERAL
 △ Chert White

FOSSIL
 ⚙ Oomoldic

Curve Track #1	Intervals	Curve Track #3
ROP (min/ft)		

Cored Interval DST Interval	Depth DST	Litholog	Oil Sho	Geological Descriptions
<p>1:240 Imperial</p> <p>ROP (min/ft)</p>	<p>1:240 Imperial</p> <p>2900</p> <p>2910</p> <p>2920</p> <p>2930</p> <p>2940</p> <p>2950</p> <p>2960</p> <p>2970</p> <p>2980</p> <p>2990</p> <p>3000</p> <p>3010</p> <p>3020</p> <p>3030</p> <p>3040</p> <p>3050</p> <p>3060</p> <p>3070</p> <p>3080</p> <p>3090</p>		<p>BEGIN 1' DRILL TIME FROM 2900' TO RTD BEGIN 10' WET AND DRY SAMPLES FROM 2950' TO RTD</p> <p>ANHYDRITE TOP 1235+784 ANHYDRITE BASE 1271+748</p> <p>Lime, med brn-med grayish brn, fnxln, fossiliferous</p> <p>Lime, lt-med brn, fnxln, slightly fossiliferous, lot of transition limestone types</p> <p>Lime, med brn-med grayish brn, fnxln, fossiliferous</p> <p>Lime, med brn, fnxln, fossiliferous, fusulinids</p> <p>Lime, lt brn, fnxln</p> <p>Shale, lt-med gray, soft blocky</p> <p><u>TOPEKA 2993-974</u> Lime, lt-med brn, fnxln, slightly fossiliferous</p> <p>Lime, crm-lt brn, fnxln, slight bedded chalk, slightly fossiliferous</p> <p>Lime, lt-med brn, fn-vfxln</p> <p>Lime, crm-lt brn, fnxln with increasing chalk cotent</p> <p>Lime,lt brn, fnxln with fine grainstone in part, NFO, no odor, lt wet cut in part</p> <p>Lime, lt-med brn-grayish brn, fnxln</p> <p>Lime, lt-med grayish brn, fn-vfxln, slightly fossiliferous</p> <p>Lime, lt-med brn, fnxln-chalky granular, NS</p> <p>Lime, lt-med brn, fnxln-granular with chalk</p>	<p>1:240 Imperial</p> <p>8 5/8" SURFACE CASING SET TO 1250' W/ 375 SXS SMP</p> <p>SLOPE 1 DEGREE @1250'</p>



Lime, lt-med brn, fnxln with sticky chalk in part

Lime, lt-med brn, fnxln-granular with chalk, lt chalk wash

Lime, lt brn, fnxln-granular with chalk
Shale, black carbonaceous, blocky

Lime, lt-med brn, fn-vfxln

Lime, crm-lt brn, vfxln, lithographic

○ Lime, crm-lt brn, fn-vfxln grading into soft grainstone with bedded chalk. NFO, no odor, few chips with lt wet cut

Lime, lt-med brn, fn-vfxln

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

Shale, lt gray, soft mud

Lime, crm-lt brn, fn-vfxln

Shale, black carbonaceous, fissile, blocky

Lime, lt gray-lt brn, fn-vfxln

Lime, lt brn, fnxln, soft chalk with lt white wash

Lime, lt-lt grayish brn, fnxln with soft chalk matrix in part

○ Lime, lt brn, fnxln, NFO, no odor, 1 chip with trace of free oil on crush in soft grainstone

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

Lime, crm-lt brn, fnxln, bedded chalk, slightly fossiliferous

Lime, lt brn, fn-vfxln

Lime, lt-med brn, fn-vfxln

HEEBNER SHALE 3267-1248

Shale, black carbonaceous, fissile, blocky
Lime, lt-med brn, fn-micro xln

Shale, dove gray-lime green, soft mud

TORONTO 3294-1275

Lime, crm-white, fn-micro xln, NS

Lime, white-crm, fn-micro xln

Shale, red-reddish brn, soft with red wash

LKC 3318-1299

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

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

Lime, crm-lt brn, fn-vfxln with few oomoldic chips with spotty stain

Lime, lt-med brn-lt gray, fnxln

Lime, lt brn-lt gray, slightly dolomitic in part, scattered pinpoint vuggy porosity, lt spotty stain in few fossil casts and oomolds, NFO, no odor

Lime, crm-lt brn, fn-vfxln

Shale, black carbonaceous, blocky
Lime, lt gray, fn-vfxln

Lime, crm-lt brn, fnxln, slightly fossiliferous with trace of stain, NFO, no odor

Lime, crm, fnxln

Lime, crm, fn-vfxln, slight bedded chalk, NS

Lime, crm-tan, fn-vfxln

Lime, crm-lt brn, fn-micro xln

Shale, gray-black carbonaceous, blocky
Lime, lt-med brn, vfxln

Lime, crm-lt brn, fn-micro xln, slightly granular in part with trace of spotty staining, NFO or odor

Lime, crm-lt brn, fn-vfxln

Lime, lt-med brn, fn-vfxln

Lime, crm-tan, fn-micro xln, trace of stain, NFO or odor

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, lt brn, oomoldic, scattered to saturated staining, very lt odor, NFO

Lime, crm-tan, fn-micro xln

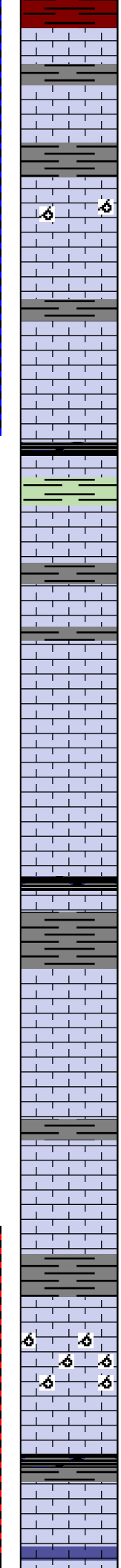
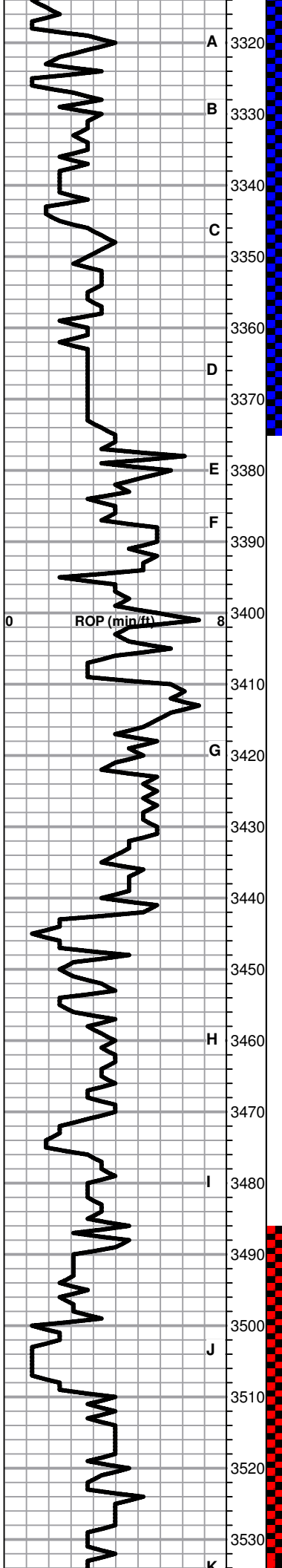
Shale, gray-black carbonaceous, blocky

Lime, crm-lt brn, fn-vfxln, trace of lt staining in fn granular chips

DST # 1 3305' TO 3375' SEE HEADER FOR TEST SUMMARY

SLOPE 1 DEGREE @3375'

DST # 2 3486' TO 3535' SEE HEADER FOR TEST SUMMARY

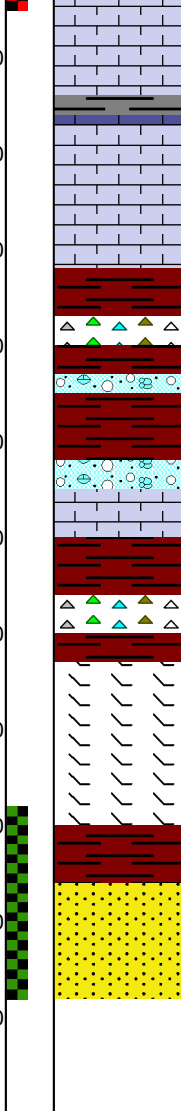
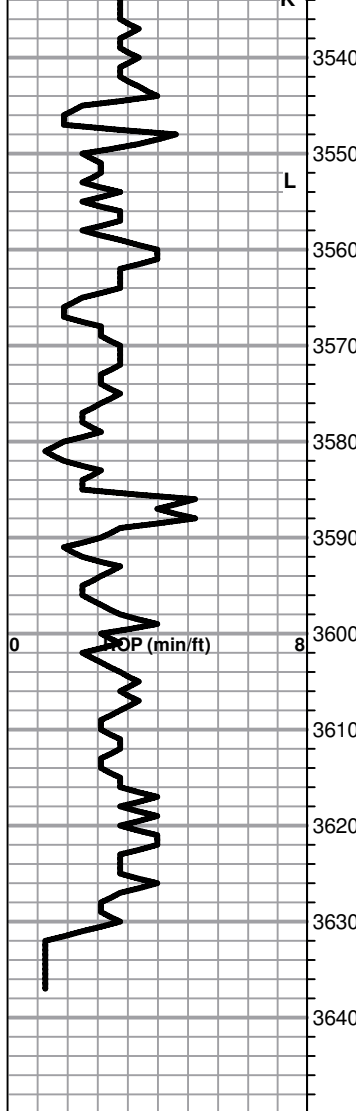


A 3320
B 3330
3340
C 3350
3360
D 3370
E 3380
F 3390
3400
3410
G 3420
3430
3440
3450
H 3460
3470
I 3480
3490
3500
J 3510
3520
K 3530

ROP (min/ft)

0

8



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

Lime, crm-lt brn, fn-micro xln

Lime, lt brn, fn-micro xln

BKC 3562-1543

Shale, red-reddish brn, soft blocky with lt red wash scattered chips of red chert rubble

Lime, clastic, crm-lt gray, fn xln with red shale specks

Lime, crm, fnxln-granular, clastic in part with red shale staining

Shale, reddish brn, soft blocky with lt red wash

Lime, crm, fnxln, slightly dolomitic with orange chert fragments

Lime, white-lt brn, fn-micro xln, slightly dolomitic

Shale, red soft mud

CONGLOMERATE SAND 3626-1607

○ Sandstone, fine grained, poorly sorted with white clay cementing grading into fair sorted, quartz sandstone, friable, scattered to saturated staining, lt odor and SFO

RTD 3638-1619 LTD 3637-1618

5 1/2" 15.5# production casing set to 3636' w/150 sxs EA2, 30 sxs in rathole, 20 sxs in mousehole.

DST # 3 3618' TO 3638' SEE HEADER FOR TEST SUMMARY



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison RD
Hays KS 67601-9696

ATTN: Tom Denning Herb Dei

Virginia #2

16-15s-19w Ellis,KS

Start Date: 2017.07.15 @ 11:16:04

End Date: 2017.07.15 @ 16:21:58

Job Ticket #: 63975 DST #: 1

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

Printed: 2017.07.17 @ 10:42:19

TDI Inc
16-15s-19w Ellis,KS
Virginia #2
DST # 1
LKC-C-D
2017.07.15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
 1310 Bison RD
 Hays KS 67601-9696
 ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
 Job Ticket: 63975 **DST#: 1**
 Test Start: 2017.07.15 @ 11:16:04

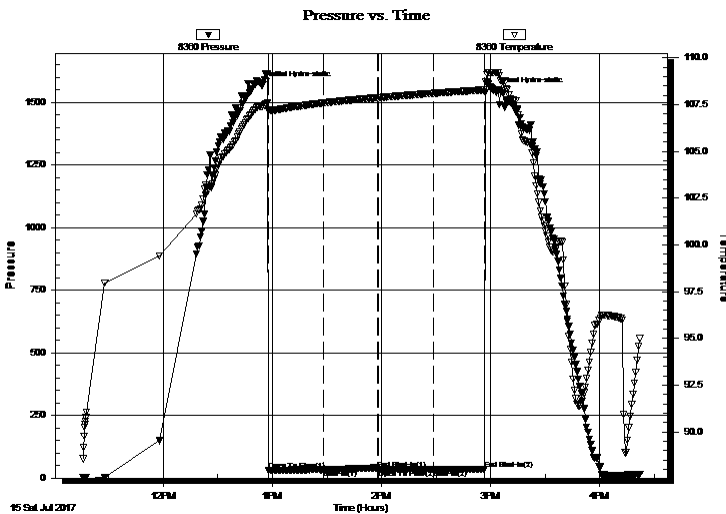
GENERAL INFORMATION:

Formation: **LKC C-D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:57:44
 Time Test Ended: 16:21:58
 Interval: **3305.00 ft (KB) To 3375.00 ft (KB) (TVD)**
 Total Depth: 3375.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2019.00 ft (KB)
 2009.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 34.50 psig @ 3309.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.15 End Date: 2017.07.15 Last Calib.: 2017.07.15
 Start Time: 11:16:04 End Time: 16:21:58 Time On Btm: 2017.07.15 @ 12:54:44
 Time Off Btm: 2017.07.15 @ 15:02:44

TEST COMMENT: 30-IFP-w k bl died in 15 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1567.79	107.42	Initial Hydro-static
3	32.31	107.16	Open To Flow (1)
34	33.77	107.58	Shut-In(1)
64	35.66	107.87	End Shut-In(1)
64	35.60	107.87	Open To Flow (2)
94	34.50	108.10	Shut-In(2)
122	35.39	108.29	End Shut-In(2)
128	1544.27	109.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

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: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
Job Ticket: 63975 **DST#: 1**
Test Start: 2017.07.15 @ 11:16:04

Tool Information

Drill Pipe:	Length: 3298.00 ft	Diameter: 3.80 inches	Volume: 46.26 bbl	Tool Weight:	22000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 46.26 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3305.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 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
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Change Over Sub	1.00			3285.00	
Shut In Tool	5.00			3290.00	
Hydraulic tool	5.00			3295.00	
Packer	5.00			3300.00	21.00 Bottom Of Top Packer
Packer	5.00			3305.00	
Stubb	1.00			3306.00	
Perforations	3.00			3309.00	
Recorder	0.00	8360	Inside	3309.00	
Recorder	0.00	6751	Outside	3309.00	
Blank Spacing	63.00			3372.00	
Bullnose	3.00			3375.00	70.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc **16-15s-19w Ellis,KS**
 1310 Bison RD **Virginia #2**
 Hays KS 67601-9696 Job Ticket: 63975 **DST#: 1**
 ATTN: Tom Denning Herb Dei Test Start: 2017.07.15 @ 11:16:04

Mud and Cushion Information

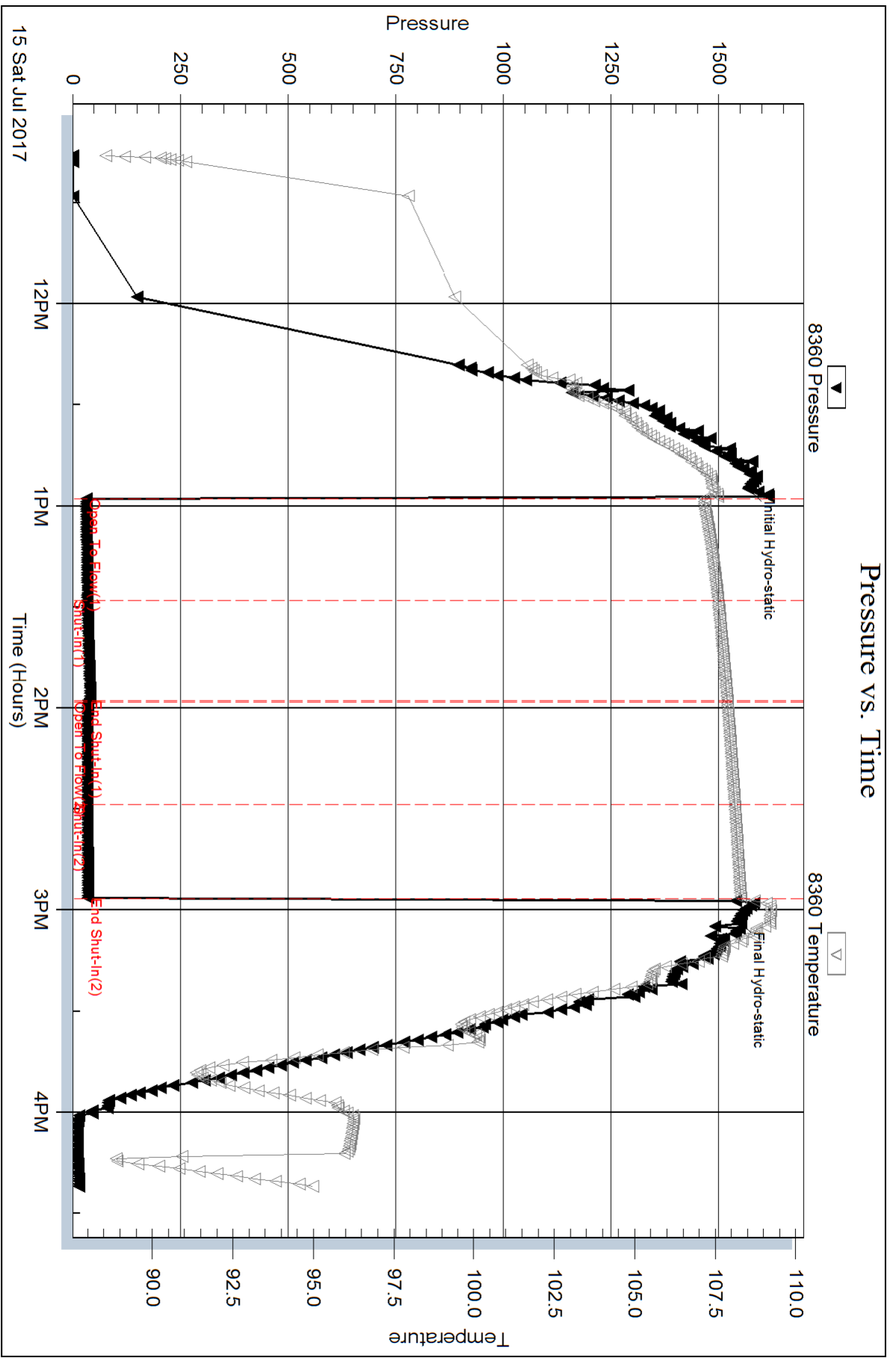
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

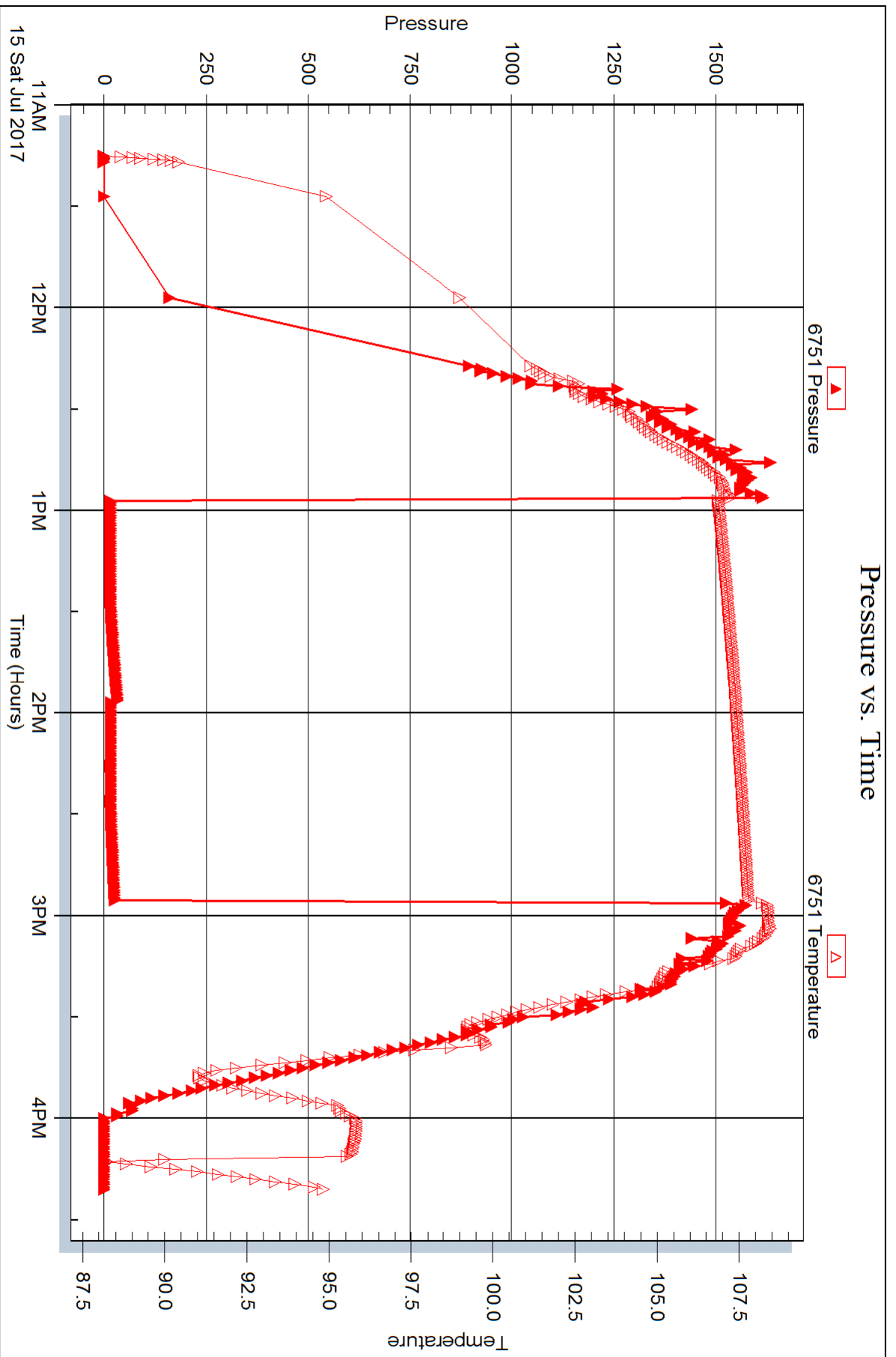
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.070

Total Length: 5.00 ft Total Volume: 0.070 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 67601-9696

ATTN: Tom Denning Herb Dei

Virginia #2

16-15s-19w Ellis,KS

Start Date: 2017.07.16 @ 07:50:09

End Date: 2017.07.16 @ 12:39:18

Job Ticket #: 63001 DST #: 2

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

Printed: 2017.07.17 @ 10:41:48

TDI Inc
16-15s-19w Ellis,KS
Virginia #2
DST # 2
LKC J-K
2017.07.16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
 1310 Bison RD
 Hays KS 67601-9696
 ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
 Job Ticket: 63001 **DST#: 2**
 Test Start: 2017.07.16 @ 07:50:09

GENERAL INFORMATION:

Formation: **LKC J-K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:24:34
 Time Test Ended: 12:39:18
 Interval: **3486.00 ft (KB) To 3535.00 ft (KB) (TVD)**
 Total Depth: 3535.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2019.00 ft (KB)
 2009.00 ft (CF)
 KB to GR/CF: 10.00 ft

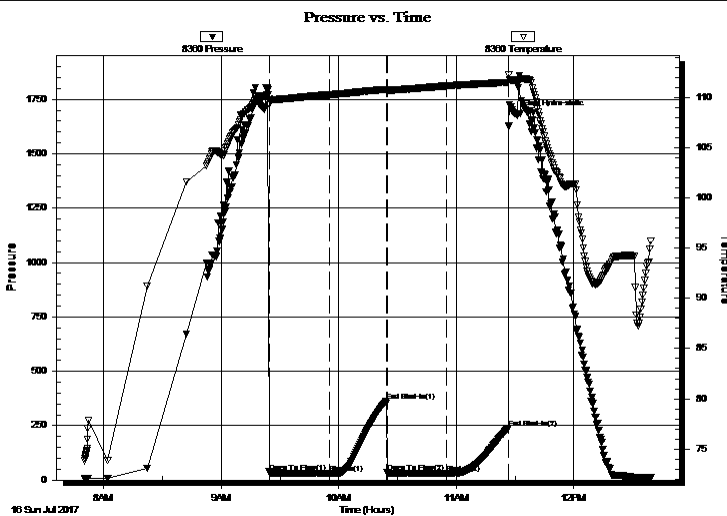
Serial #: 8360

Inside

Press@RunDepth: 32.16 psig @ 3499.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.16 End Date: 2017.07.16 Last Calib.: 2017.07.16
 Start Time: 07:50:09 End Time: 12:39:18 Time On Btm: 2017.07.16 @ 09:22:04
 Time Off Btm: 2017.07.16 @ 11:30:49

TEST COMMENT: 30-IFP-surface bl, died in 12 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.45	110.14	Initial Hydro-static
3	34.84	109.78	Open To Flow (1)
34	32.23	110.27	Shut-In(1)
62	362.93	110.80	End Shut-In(1)
63	34.08	110.70	Open To Flow (2)
93	32.16	111.14	Shut-In(2)
125	238.49	111.51	End Shut-In(2)
129	1680.93	111.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 1% O99%M	0.07

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 67601-9696
ATTN: Tom Denning Herb Dei

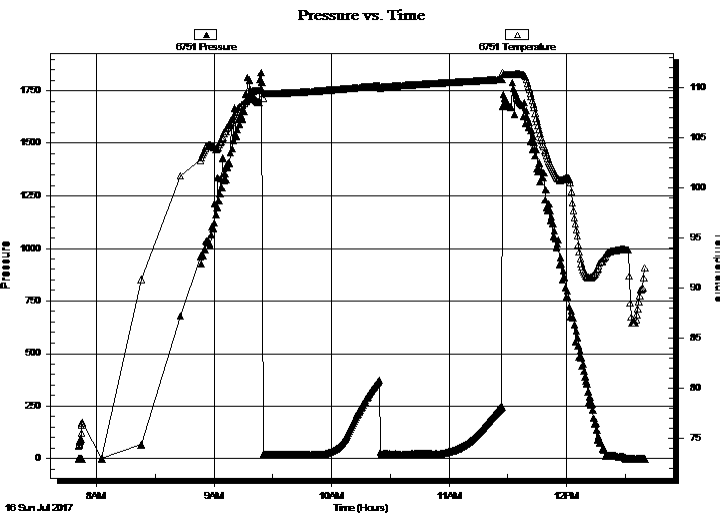
16-15s-19w Ellis, KS
Virginia #2
Job Ticket: 63001 **DST#: 2**
Test Start: 2017.07.16 @ 07:50:09

GENERAL INFORMATION:

Formation: **LKC J-K**
Deviated: **No** Whipstock: **ft (KB)** Test Type: **Conventional Bottom Hole (Reset)**
Time Tool Opened: **09:24:34** Tester: **Ray Schwager**
Time Test Ended: **12:39:18** Unit No: **77**
Interval: 3486.00 ft (KB) To 3535.00 ft (KB) (TVD) Reference Elevations: **2019.00 ft (KB)**
Total Depth: **3535.00 ft (KB) (TVD)** **2009.00 ft (CF)**
Hole Diameter: **7.85 inches** Hole Condition: **Fair** KB to GR/CF: **10.00 ft**

Serial #: 6751 **Outside**
Press@RunDepth: **psig @ 3499.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2017.07.16** End Date: **2017.07.16** Last Calib.: **2017.07.16**
Start Time: **07:50:47** End Time: **12:39:56** Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-surface bl, died in 12 min
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 1% O99%M	0.07

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 67601-9696
ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
Job Ticket: 63001 **DST#: 2**
Test Start: 2017.07.16 @ 07:50:09

Tool Information

Drill Pipe:	Length: 3488.00 ft	Diameter: 3.80 inches	Volume: 48.93 bbl	Tool Weight:	22000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.93 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	49000.00 lb
Depth to Top Packer:	3486.00 ft			Final	49000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	70.00 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			3466.00	
Shut In Tool	5.00			3471.00	
Hydraulic tool	5.00			3476.00	
Packer	5.00			3481.00	21.00 Bottom Of Top Packer
Packer	5.00			3486.00	
Stubb	1.00			3487.00	
Perforations	12.00			3499.00	
Recorder	0.00	8360	Inside	3499.00	
Recorder	0.00	6751	Outside	3499.00	
Blank Spacing	33.00			3532.00	
Bullnose	3.00			3535.00	49.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc **16-15s-19w Ellis,KS**
 1310 Bison RD **Virginia #2**
 Hays KS 67601-9696 Job Ticket: 63001 **DST#: 2**
 ATTN: Tom Denning Herb Dei Test Start: 2017.07.16 @ 07:50:09

Mud and Cushion Information

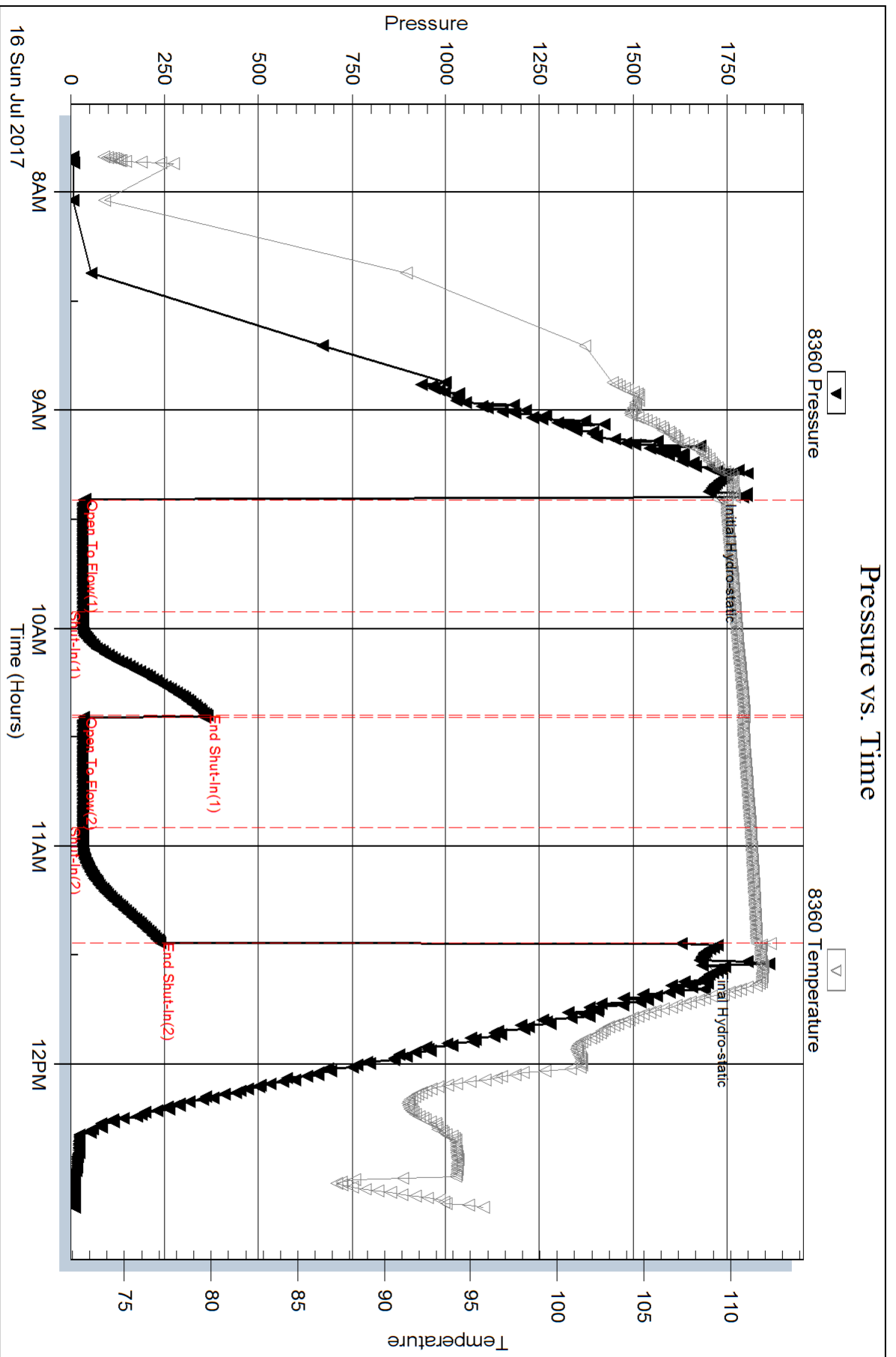
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5700.00 ppm			
Filter Cake: 1.00 inches			

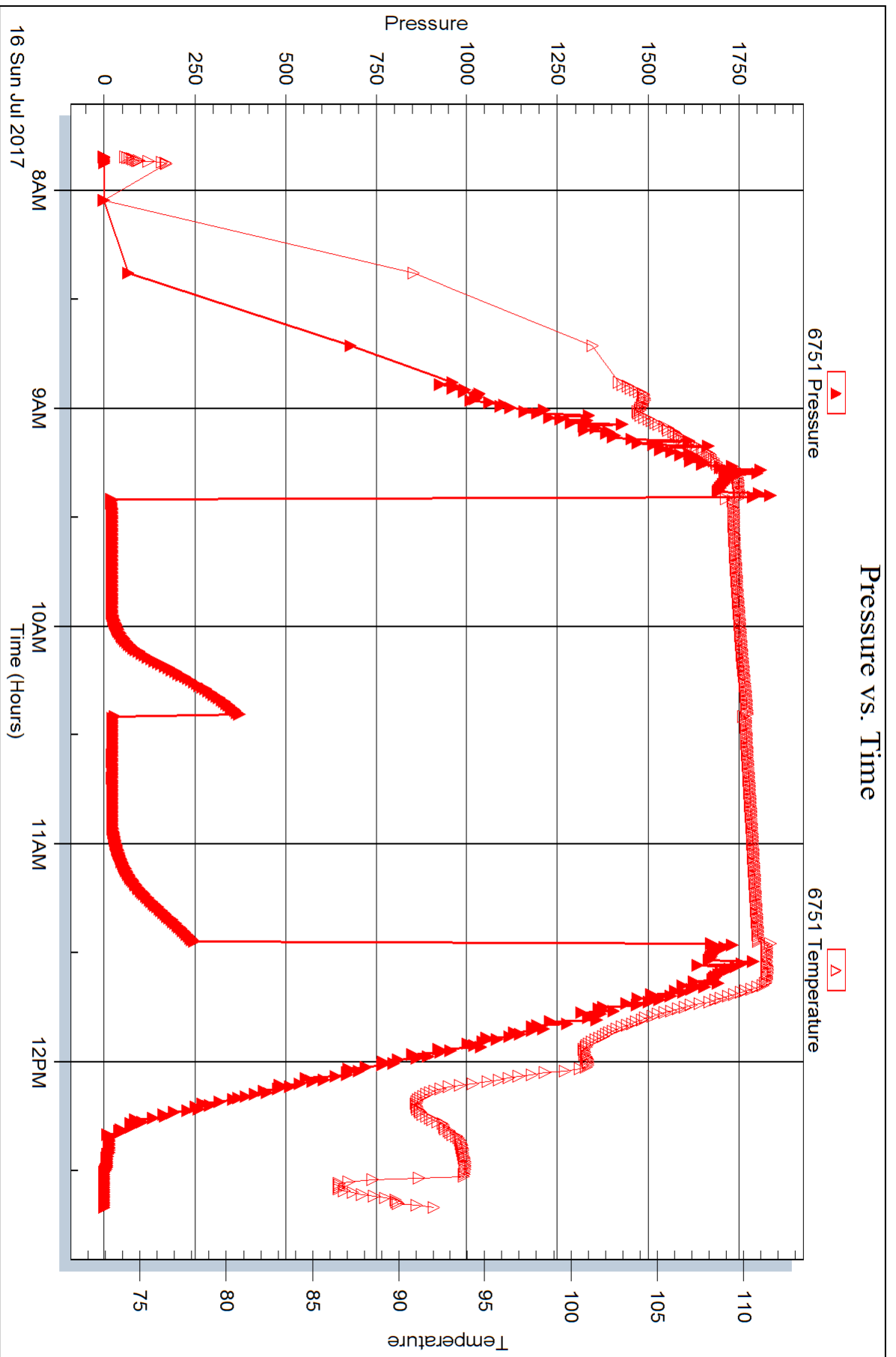
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOCM 1%O99%M	0.070

Total Length: 5.00 ft Total Volume: 0.070 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 67601-9696

ATTN: Tom Denning Herb Dei

Virginia #2

16-15s-19w Ellis,KS

Start Date: 2017.07.16 @ 22:05:54

End Date: 2017.07.17 @ 03:42:03

Job Ticket #: 63002 DST #: 3

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

Printed: 2017.07.17 @ 10:41:15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison RD
Hays KS 67601-9696
ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
Job Ticket: 63002 **DST#: 3**
Test Start: 2017.07.16 @ 22:05:54

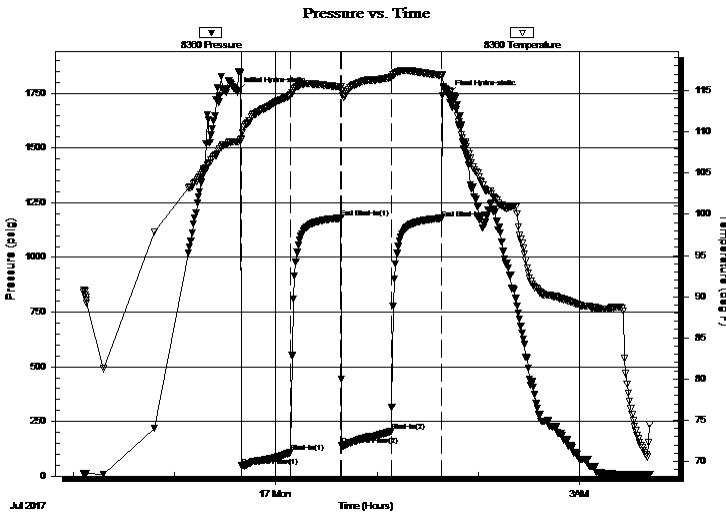
GENERAL INFORMATION:

Formation: **Congl Sd**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:34
Time Test Ended: 03:42:03
Interval: **3618.00 ft (KB) To 3638.00 ft (KB) (TVD)**
Total Depth: 3638.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77
Reference Elevations: 2019.00 ft (KB)
2009.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 **Inside**
Press@RunDepth: 205.82 psig @ 3619.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.07.16 End Date: 2017.07.17 Last Calib.: 2017.07.17
Start Time: 22:05:54 End Time: 03:42:03 Time On Btm: 2017.07.16 @ 23:37:04
Time Off Btm: 2017.07.17 @ 01:42:34

TEST COMMENT: 30-IFP-BOB in 7 min
30-ISIP-1 1/2"bl bk
30-FFP-BOB in 7 min
30-FSIP-1/2" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1759.13	108.78	Initial Hydro-static
3	46.30	109.10	Open To Flow (1)
32	109.56	114.44	Shut-In(1)
62	1179.97	115.42	End Shut-In(1)
62	140.13	114.93	Open To Flow (2)
92	205.82	116.63	Shut-In(2)
121	1178.79	116.86	End Shut-In(2)
126	1742.08	114.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
390.00	CO	5.47
124.00	GMO 20%G30%M50%O	1.74
0.00	100' 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 67601-9696
 ATTN: Tom Denning Herb Dei

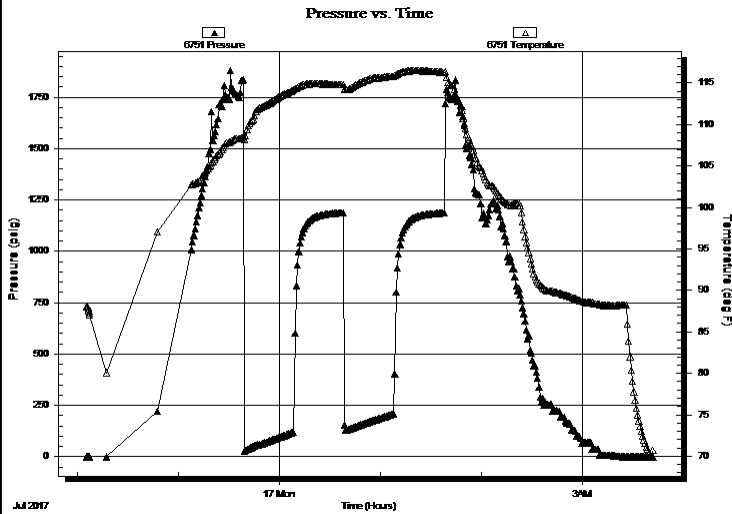
16-15s-19w Ellis,KS
Virginia #2
 Job Ticket: 63002 **DST#: 3**
 Test Start: 2017.07.16 @ 22:05:54

GENERAL INFORMATION:

Formation: **Congl Sd**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 23:39:34 Tester: Ray Schwager
 Time Test Ended: 03:42:03 Unit No: 77
 Interval: **3618.00 ft (KB) To 3638.00 ft (KB) (TVD)** Reference Elevations: 2019.00 ft (KB)
 Total Depth: 3638.00 ft (KB) (TVD) 2009.00 ft (CF)
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 6751 Outside
 Press@RunDepth: psig @ 3619.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.16 End Date: 2017.07.17 Last Calib.: 2017.07.17
 Start Time: 22:05:29 End Time: 03:41:38 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-BOB in 7 min
 30-ISIP-1 1/2"bl bk
 30-FFP-BOB in 7 min
 30-FSIP-1/2" bl bk



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
390.00	CO	5.47
124.00	GMO 20%G30%M50%O	1.74
0.00	100' 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 67601-9696
ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
Job Ticket: 63002 **DST#: 3**
Test Start: 2017.07.16 @ 22:05:54

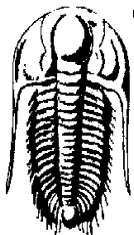
Tool Information

Drill Pipe:	Length: 3613.00 ft	Diameter: 3.80 inches	Volume: 50.68 bbl	Tool Weight: 22000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 50.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3618.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	41.00 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			3598.00	
Shut In Tool	5.00			3603.00	
Hydraulic tool	5.00			3608.00	
Packer	5.00			3613.00	21.00 Bottom Of Top Packer
Packer	5.00			3618.00	
Stubb	1.00			3619.00	
Recorder	0.00	8360	Inside	3619.00	
Recorder	0.00	6751	Outside	3619.00	
Perforations	16.00			3635.00	
Bullnose	3.00			3638.00	20.00 Bottom Packers & Anchor
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc
1310 Bison RD
Hays KS 67601-9696
ATTN: Tom Denning Herb Dei

16-15s-19w Ellis,KS
Virginia #2
Job Ticket: 63002
Test Start: 2017.07.16 @ 22:05:54

DST#: 3

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: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.78 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5700.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

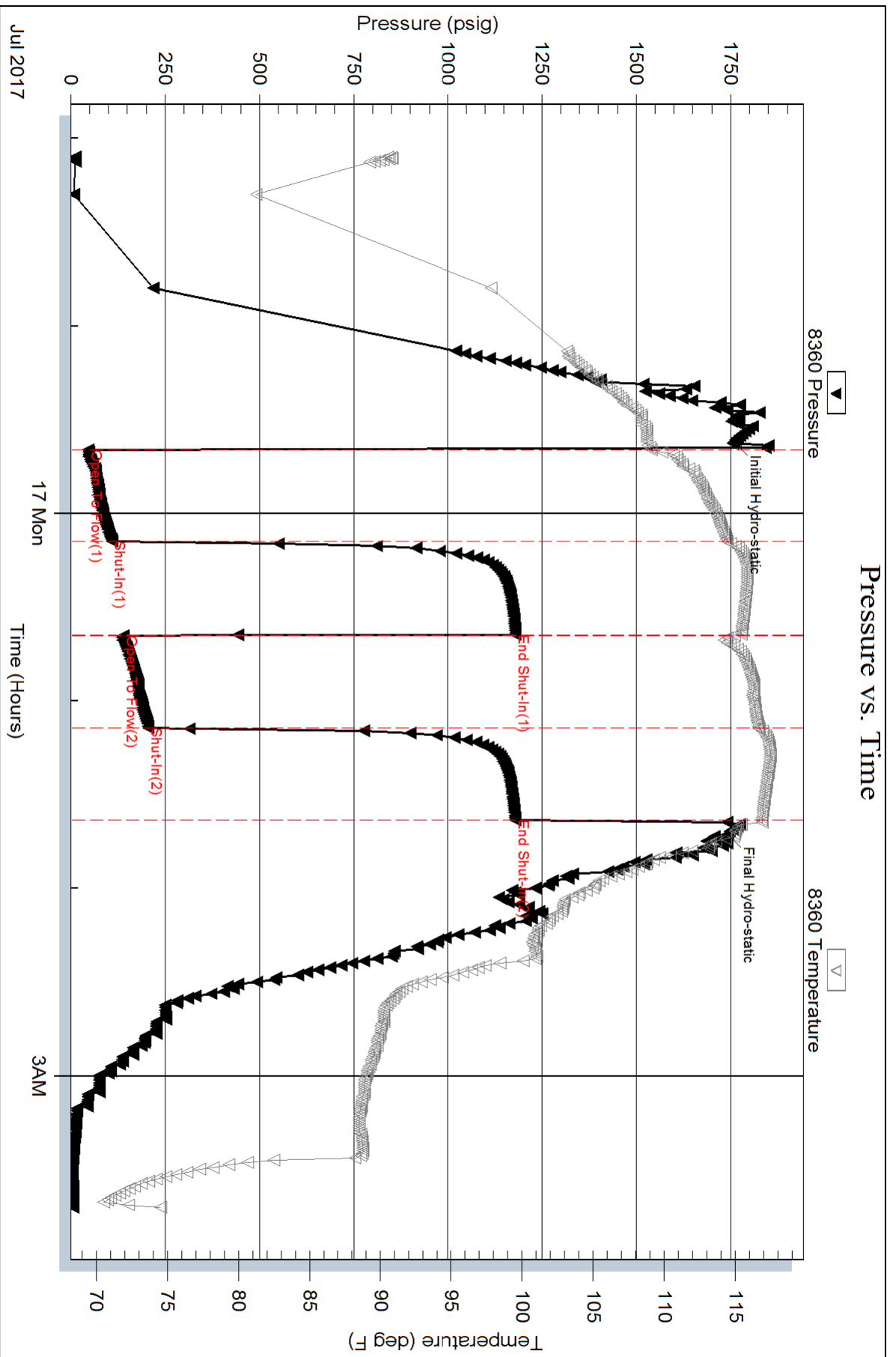
Length ft	Description	Volume bbl
390.00	CO	5.471
124.00	GMO 20%G30%M50%O	1.739
0.00	100' GIP	0.000

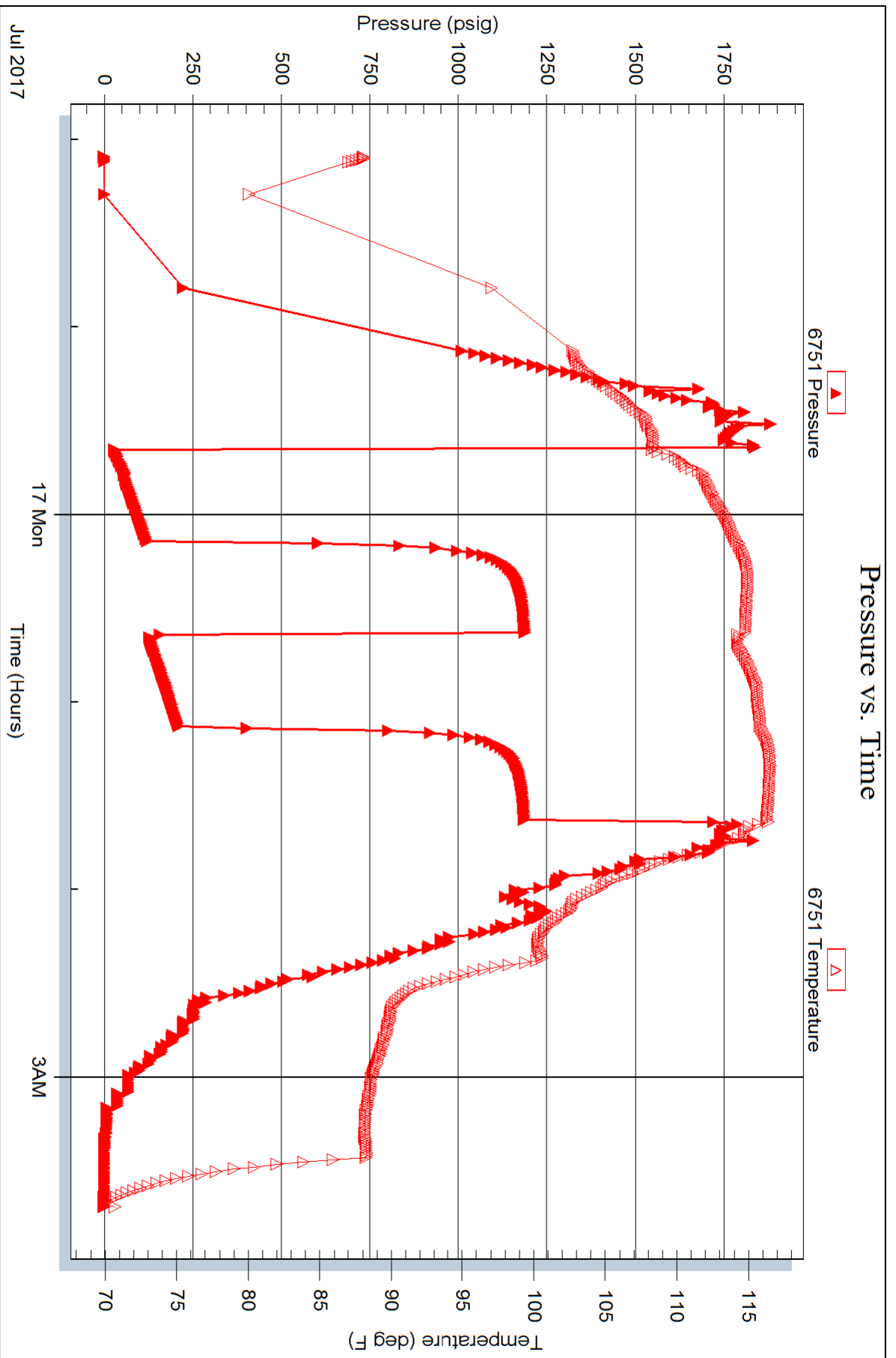
Total Length: 514.00 ft Total Volume: 7.210 bbl

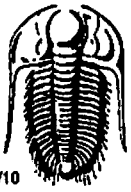
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63975

Well Name & No. VIRGINIA #2 Test No. 1 Date 7-15-17
 Company TOT, Inc Elevation 2019 KB 2009 GL
 Address 1310 Bison Rd Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Ornes Rig Southwind rig
 Location: Sec. 16 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3305-3375 Zone Tested LKC C-0
 Anchor Length 70 Drill Pipe Run 3298 Mud Wt. 9.1
 Top Packer Depth 3300 Drill Collars Run - Vis 54
 Bottom Packer Depth 3305 Wt. Pipe Run - WL 6.8
 Total Depth 3375 Chlorides 6000 ppm System LCM 2#

Blow Description IFP - Weak Blow, died in 15 min
TSTP - NO Blow
FFP - NO Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 108 Gravity - API RW @ F Chlorides - ppm

- (A) Initial Hydrostatic 1567
- (B) First Initial Flow 32
- (C) First Final Flow 33
- (D) Initial Shut-In 35
- (E) Second Initial Flow 35
- (F) Second Final Flow 34
- (G) Final Shut-In 35
- (H) Final Hydrostatic 1544

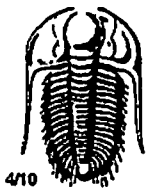
- Test 1050
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 34 RT 25.50
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility

T-On Location 1015
 T-Started 1115
 T-Open 1255
 T-Pulled 1455
 T-Out 1621

Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1075.50
 MP/DST Disc't _____

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

Approved By _____ Our Representative Ray Schwager Thank you
 Triobite 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. 63001

Well Name & No. VIRGINIA #2 Test No. 2 Date 7-16-17
 Company TOI Inc Elevation 2019 KB 2009 GL
 Address 1310 Bison Rd. Hays Ks 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind rig 1
 Location: Sec. 16 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3486-3535 Zone Tested LKC J-K
 Anchor Length 49 Drill Pipe Run 3488 Mud Wt. 9.1
 Top Packer Depth 3481 Drill Collars Run - Vis 52
 Bottom Packer Depth 3486 Wt. Pipe Run - WL 6.8
 Total Depth 3535 Chlorides 5700 ppm System LCM 2#
 Blow Description IFP - SURFACE Blow, died in 12 min
ISTP - NO Blow
FFP - NO Blow
FGIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>50 CM</u>		<u>1</u>		<u>99</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 111 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1703 Test 1050 T-On Location 0655
 (B) First Initial Flow 34 Jars _____ T-Started 0750
 (C) First Final Flow 32 Safety Joint _____ T-Open 0925
 (D) Initial Shut-In 362 Circ Sub _____ T-Pulled 1125
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 1239
 (F) Second Final Flow 32 Mileage 34 RT 25.50 Comments _____
 (G) Final Shut-In 238 Sampler _____
 (H) Final Hydrostatic 1680 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1075.50

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

Sub Total 1075.50
 Total 1075.50
 MP/DST Disc't _____

Approved By _____

Our Representative

RAY SCHWAGER Thank you
you



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63002

Well Name & No. Virginia #2 Test No. 3 Date 7-16-12
 Company TDI Inc Elevation 2019 KB 2009 GL
 Address 1310 Bison Rd Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind rig 1
 Location: Sec. 16 Twp. 15^s Rge. 19^w Co. Ellis State Ks

Interval Tested 3618-3638 Zone Tested Conglo. sd.
 Anchor Length 20 Drill Pipe Run 3613 Mud Wt. 9.2
 Top Packer Depth 3613 Drill Collars Run - Vis 48
 Bottom Packer Depth 3618 Wt. Pipe Run - WL 6.8
 Total Depth 3638 Chlorides 5700 ppm System LCM 2[#]

Blow Description TFP - BOB IN 7 MIN
ISIP - 1 1/2" BLOW BACK
FFP - BOB IN 7 MIN
FSIP - 1/2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>100</u>	<u>GTP</u>				
<u>390</u>	<u>CO</u>				
<u>124</u>	<u>GMO</u>	<u>20</u>	<u>50</u>		<u>30</u>

Rec Total 514 BHT _____ Gravity 30 API RW - @ - °F Chlorides _____ ppm

- (A) Initial Hydrostatic 1759
- (B) First Initial Flow 46
- (C) First Final Flow 109
- (D) Initial Shut-In 1179
- (E) Second Initial Flow 140
- (F) Second Final Flow 205
- (G) Final Shut-In 1178
- (H) Final Hydrostatic 1742

- Test 1050
- Jars _____
- Safety Joint _____
- Circ Sub _____
- Hourly Standby _____
- Mileage 34 RT 25.50
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____

T-On Location 2140
 T-Started 2205
 T-Open 2340
 T-Pulled 0140
 T-Out 0342

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1075.50
 MP/DST Disc't _____

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

Approved By _____ Our Representative Ray Schwager Thank you

JOB LOG

SWIFT Services, Inc.

DATE 11 Jul 17 PAGE NO. 1

CUSTOMER TDI WELL NO. # 2 LEASE Virginia JOB TYPE cement deep surface TICKET NO. 30556

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								375 sk SMD cement w/ 1/4" floccle 8 5/8" x 25# casing 31 joints TD=1250 Baffle - 1223'
	1730							on loc 4RK
	1752							start 8 5/8" x 25# casing in well
	1935							circulate well
		20	20					Pump 20 bbl Kch flush
		5 1/2	50			150		Mix SMD cement 125 sk @ 11.8 PPG
		5 1/2	38			150		100 sk @ 12.5 PPG
		4 1/2	23			200		75 sk @ 13.5 PPG
		4	20			200		75 sk @ 14.5 PPG
			139 total					Release plug
	2048	4 1/2				200		Displace plug
		4 1/2				400		→ cement to surface ←
	2100	4 1/2	77			800		Land plug
	2105							shot in 8 5/8" { 139 sk cement 45 to pit }
	2110							wash truck
								Rack up
	2140							job complete

Thanks
Blaine, Flint & Jonathan

JOB LOG

SWIFT Services, Inc.

DATE

7-17-17

PAGE NO.

1

CUSTOMER

T&I

WELL NO.

2

LEASE

Virginia

JOB TYPE

Long String

TICKET NO.

30438

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1530							On location
								Csg - 5 1/2 - 14'
								LTD - 3637'
								Centralizers - 1, 3, 5, 8, 10, 12, 14
								Baskets - 2, & 15
								Shoc Tr. 42.38 Baffle - 3599
								TOTAL Pipe - 3642
	1555							START Running Csg
	1730							Break Circulation On Bottom
	1830	2	7			0		plug rat Hole - 30 sks
	1833	2	5			0		plug Mouse Hob - 20 sks
	1835	6.5	12			200		pump mud flush - 500 gal
	1840	6.5	20			200		pump Kel Spacer
	1845	5	30			100		pump cmr
								Drop plug - Wash P & L
	1900	6.5	0			100		Start Disp
	1915	6.5	88			500		land plug lift psi - 500 +
								land psi - 1300 #
								Release psi - Dry
								Thanks
								David, Austin & Ricky