

Confidentiality Requested:

☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1167970

Form ACO-1

August 2013

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 ☐ SIOW
- ☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
- ☐ OG ☐ GSW ☐ Temp. Abd.
- ☐ 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 ENHR ☐ Conv. to SWD
- ☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer
- ☐ Commingled Permit #: _____
- ☐ Dual Completion Permit #: _____
- ☐ SWD Permit #: _____
- ☐ ENHR Permit #: _____
- ☐ GSW Permit #: _____

Spud Date or
Recompletion Date

Date Reached TD

Completion Date or
Recompletion Date

API No. 15 - _____

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

☐ Geologist Report Received

☐ UIC Distribution

ALT ☐ I ☐ II ☐ III Approved by: _____ Date: _____



1167970

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 (Attach Additional Sheets)	☐ Yes ☐ No	☐ Log	Formation (Top), Depth and Datum	☐ Sample
Samples Sent to Geological Survey	☐ Yes ☐ No	Name	Top	Datum
Cores Taken	☐ Yes ☐ No			
Electric Log Run	☐ Yes ☐ No			
List All E. Logs Run:				

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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate				
☐ Protect Casing				
☐ Plug Back TD				
☐ Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☐ No (If No, skip questions 2 and 3)

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No (If No, skip question 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)

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: ☐ Yes ☐ No
Date of First, Resumed Production, SWD or ENHR.	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: ☐ Vented ☐ Sold ☐ Used on Lease (If vented, Submit ACO-18.)	METHOD OF COMPLETION: ☐ Open Hole ☐ Perf. ☐ Dually Comp. ☐ Commingled (Submit ACO-5) ☐ Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	TDI, Inc.
Well Name	Younger 1
Doc ID	1167970

Tops

Name	Top	Datum
Anhydrite	1252'	+764'
Topeka	3002'	-986'
Heebner	3260'	-1244'
Lansing/Kansas City	3307'	-1291'
Base Kansas City	3549'	-1533'
Marmaton	3589'	-1573'
Conglomerate	3630'	-1614'
Arbuckle	3642'	-1626'
Reagan Sand	3674'	-1658'

OPERATOR

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

Contact Geologist:	TOM DENNING		
Contact Phone Nbr:	785-628-2593		
Well Name:	YOUNGER # 1		
Location:	SW NE NW SW Sec.7-15s-19w	API:	15-051-26,595-00-00
Pool:	WILDCAT	Field:	UNNAMED
State:	KANSAS	Country:	USA



Scale 1:240 Imperial

Well Name:	YOUNGER # 1		
Surface Location:	SW NE NW SW Sec.7-15s-19w		
Bottom Location:			
API:	15-051-26,595-00-00		
License Number:	4787		
Spud Date:	10/26/2013	Time:	7:00 PM
Region:	ELLIS COUNTY		
Drilling Completed:	10/31/2013	Time:	6:35 PM
Surface Coordinates:	1985' FSL & 835' FWL		
Bottom Hole Coordinates:			
Ground Elevation:	2006.00ft		
K.B. Elevation:	2016.00ft		
Logged Interval:	2900.00ft	To:	3700.00ft
Total Depth:	3700.00ft		
Formation:	LANSING-KANSAS CITY		
Drilling Fluid Type:	CHEMICAL/FRESH WATER GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical		
Longitude:	-99.4825058	Latitude:	38.7601823
N/S Co-ord:	1985' FSL		
E/W Co-ord:	835' FWL		

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:	10/26/2013	Time:	7:00 PM
TD Date:	10/31/2013	Time:	6:35 PM
Rig Release:	11/2/2013	Time:	3:00 PM

ELEVATIONS

K.B. Elevation:	2016.00ft	Ground Elevation:	2006.00ft
K.B. to Ground:	10.00ft		

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF THREE DSTS

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

OPEN HOLE TESTING BY TRILOBITE TESTERS INC: THREE (3) STRADDLE TESTS

FORMATION TOPS SUMMARY AND CHRONOLGY OF DAILY ACTIVITY

YOUNGER # 1
SW NE NW SW
SEC.7-15S-19W
2006'GL 2016'KB

ORVILLE # 1
NE NE SW SE
SEC.7-15S-19W

FORMATION

SAMPLE TOPS

LOG TOPS

COMPARISON

Abstract

1256 + 760

1252-764

760

Dolprim

Dol Lime

Lmst fw<7

Lmst fw7>

Lscongl

shale, grn

shale, gry

Carbon Sh

shale, red

Shcol

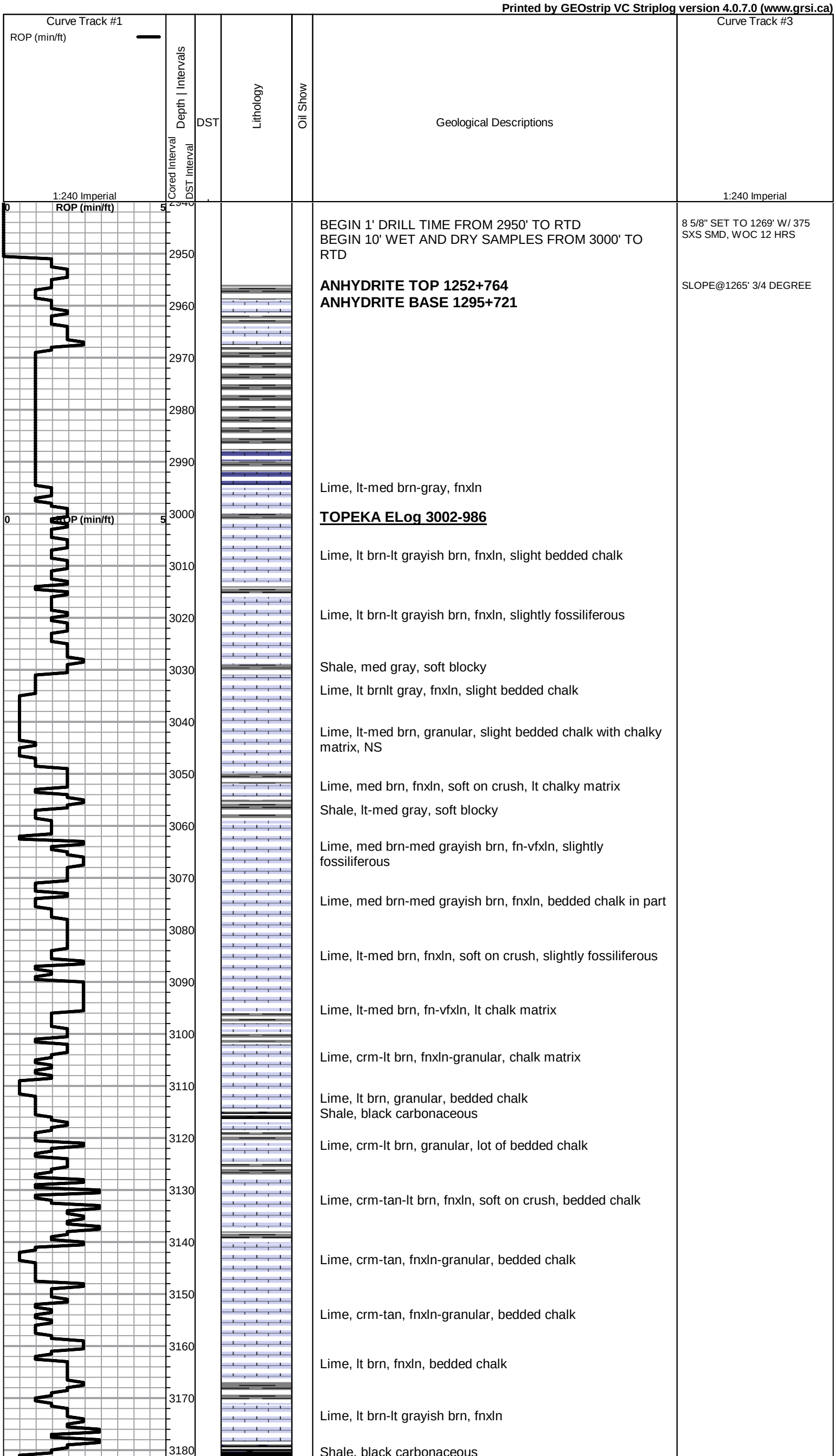
Ss

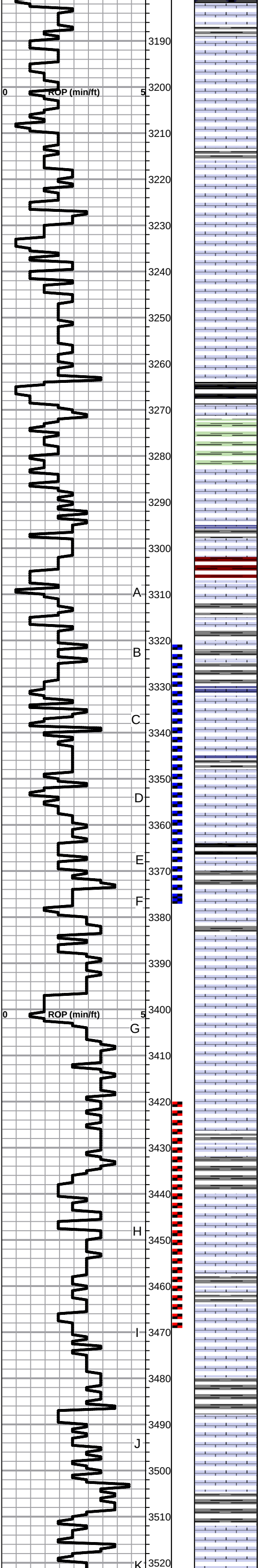
CglSandy

MINERAL

Varicolored chert

ACCESSORIES





Lime, med grayish brn, fnxln

Lime, tan-lt brn, fnxln, bedded chalk, NS

Lime, tan-lt brn, granular, bedded chalk, 1 pc fine vuggy with spotty staining, NFO, No Odor

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

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

Lime, lt brn, fnxln-granular, NS

Lime, lt brn, fnxln-granular

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

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

HEEBNER SHALE SPL 3264-1248 ELog 3260-1244

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

Shale, lime green, soft mud

TORONTO ELog 3283-1267

Lime, white, fn-micro xln, hard thin bedded chalk, NS

Lime, white-crm, fn-micro xln

Shale, red, soft sticky clumps

LKC ELog 3307-1291

Lime, crm-tan, fnxln, soft on crush, chalk beds, NS
Shale, grayish green, soft blocky

Lime, crm-tan, fnxln, bedded chalk, NS

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

Lime, crm-tan, fnxln, bedded chalk

Lime, crm-tan, mostly fnxln, fair odor, spotty fine staining in fine interxln porosity, NFO

Lime, tan-lt brn, fnxln, bedded chalk

Shale, gray-black carbonaceous
Lime, lt grayish green, fnxln

Shale, lt grayish green, forming soft mud clumps
Lime, crm-tan, oolitic/fossil fragments, spotty dark stain, NFO, No Odor

Lime, crm, fn-vfxln, bedded chalk

Lime, crm, fn-vfxln, bedded chalk

Lime, crm-tan, fnxln-granular, lot of bedded chalk, NS

Lime, tan-crm, fn-micro xln, bedded chalk

Lime, crm-tan, fn-micro xln, bedded chalk

Lime, crm-tan, fn-micro xln bedded chalk

Shale, gray-black carbonaceous in part

Lime, crm-tan mostly fn-vfxln, bedded chalk

Lime, crm-tan, fn-micro xln, bedded chalk

Lime, crm-tan, fnxln, bedded chalk

Lime, crm-tan, fnxln, fine spotty stainin, NFO, No Odor, appears poorly developed

Lime, crm-tan, fn-vfxln, bedded chalk

Shale, med gray, firm blocky

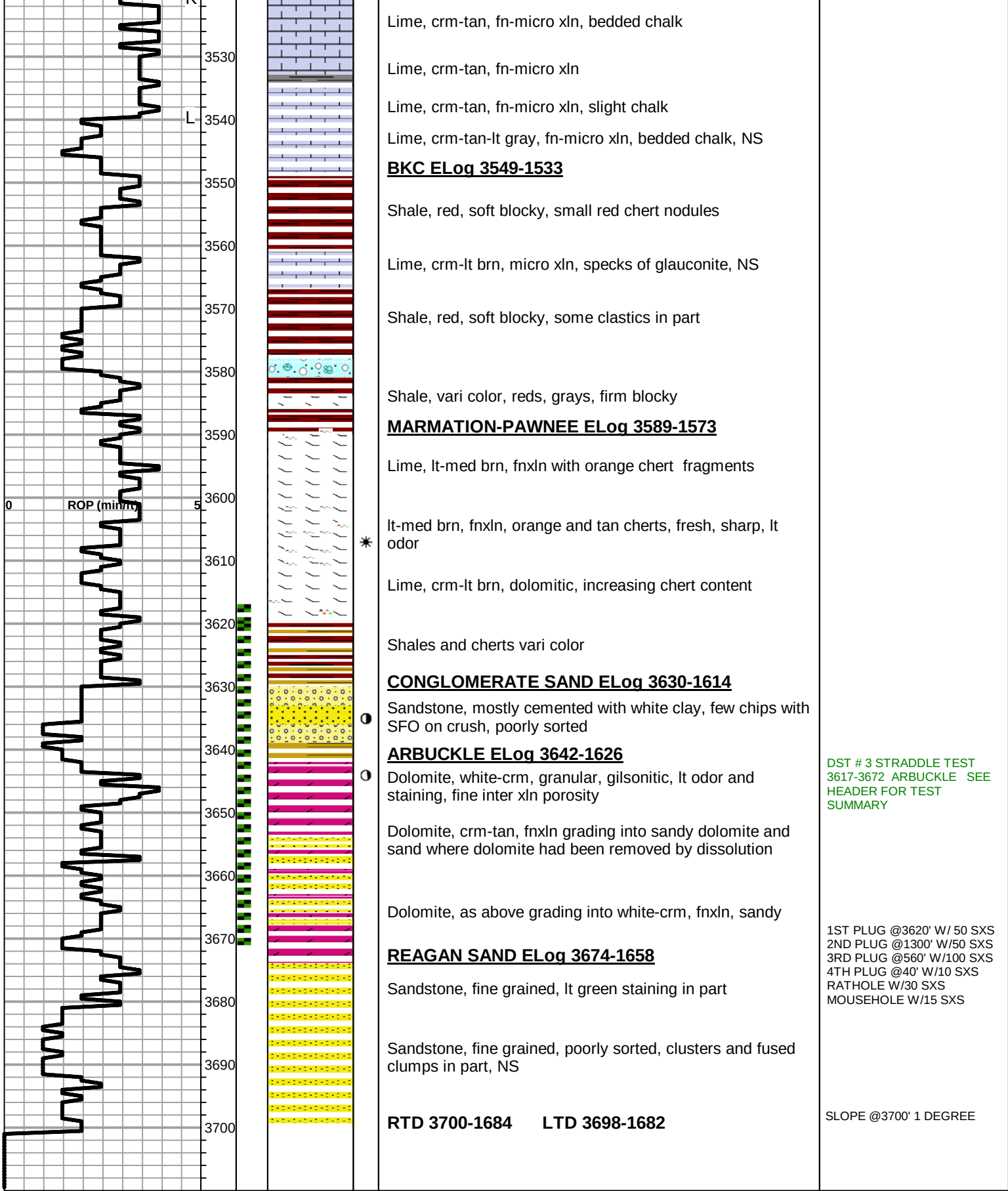
Lime, crm-tan, fnxln, bedded chalk, spotty staining, NFO, No Odor

Lime, crm-tan, fn-vfxln, chalk

Lime, crm-lt gray, fnxln, few fossiliferous chips, spotty staining, NFO, No Odor, bedded chalk

DST # 1 STRADDLE TEST
3321-3378 "C-D" LKC SEE
HEADER FOR TEST
SUMMARY

DST # 2 STRADDLE TEST
3420-3470 "H" LKC SEE
HEADER FOR TEST
SUMMARY



DATE	27 Oct 13	PAGE NO
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CUSTOMER TDI	WELL NO.	LEASE YOUNGER #1	JOB TYPE CEMENT 8 5/8	TICKET NO. 25779
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CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2200							ON LOCATION
	2350							START PIPE 8 7/8 - 23" RTD @ 1269 SHOE JT. 28' CENTRALIZERS 1, 3, 15
	0153							CIRCULATE.
	0221	L ₆	12		✓		200	Pump 500 gal MUD FLUSH
		L ₆	20		✓		200	Pump 20 Bbl KCL FLUSH
	0228				✓			MIX BMD CEMENT 100 sx @ 11.8 ppg. 150 sx @ 12.7 ppg. 75 sx @ 13.5 ppg. 50 sx @ 14.5 ppg.
			4L ₆					
			54 1/2					
			23					
			13					
	0243							WASH OUT PUMP & LINES.
	0245	L ₆			✓			START DISPLACING PLUG.
	0310	X	79 1/2		✓		400	PLUG DOWN - SHUT WELL IN. CIRCULATE CEMENT TO SURFACE
	0313							WASH TRUCK
	0345							JOB COMPLETE THANKS #115 JASON DUSTY ROB

SWIFT Services, Inc.

PAGE NO

CUSTOMER

TOI

WELL NO.

1

LEASE

Younes

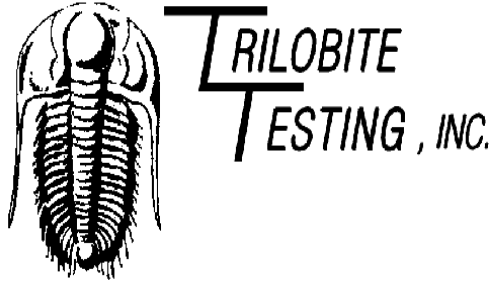
JOB TYPE

15A

TICKET NO

25228

CHART NO.	TIME	RATE (BPM)	VOLUME (GAL) (SAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0930							on location
								TD 3700
	1030							circulate 3620'
	1030		6					start H ₂ O
			13					Start Cement 50 sks
			2					Stop H ₂ O
			48					Start mud
	1235							circulate 1300'
	1250		9					start H ₂ O
			20.5					Start Cement 40 sks
			3					start H ₂ O
	1330							Circulate 500'
	1340		3					Start H ₂ O
			26					Start Cement 100 sks
			1					Start H ₂ O
	1415		2.5					Push Plug to 40' top off 10 sks
	1440		7					Plug AH 30 sks
	1450		4					Plug MH 15 sks
	1520							wash up Back up 245 sks 60/40 P20
	1530							Job complete Thank You Josh, David, Craig $\frac{1}{4}$ " / sk flow



DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Younger #1

7-15s-19w Ellis,KS

Start Date: 2013.11.01 @ 05:10:00

End Date: 2013.11.01 @ 12:21:45

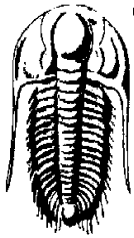
Job Ticket #: 55309 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.06 @ 10:32:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55309

DST#: 1

Test Start: 2013.11.01 @ 05:10:00

GENERAL INFORMATION:

Formation: **KC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:45:30

Time Test Ended: 12:21:45

Test Type: Conventional Straddle (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 3321.00 ft (KB) To 3378.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8736 Inside

Press@RunDepth: 61.13 psig @ 3357.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.01

Start Time: 05:10:05

End Time:

12:21:44

Capacity: 8000.00 psig

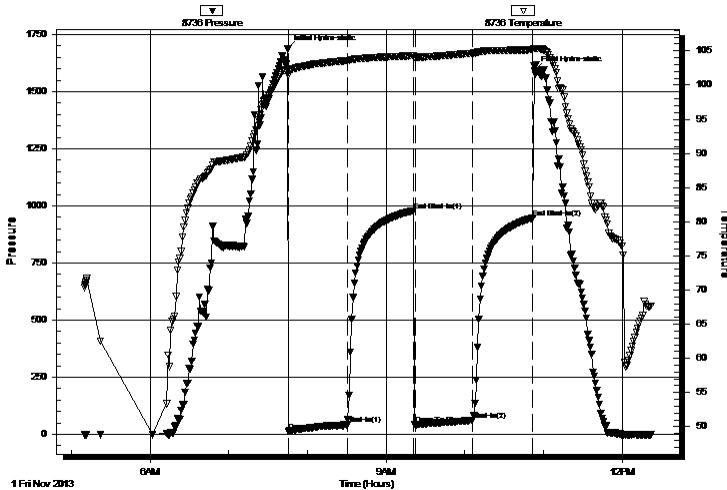
Last Calib.: 2013.11.01

Time On Btm: 2013.11.01 @ 07:45:00

Time Off Btm: 2013.11.01 @ 10:53:00

TEST COMMENT: IF-6 1/4" blow
ISI-No blow
FF-1 1/2" blow
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

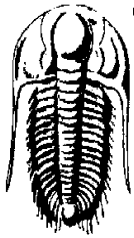
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1686.65	102.42	Initial Hydro-static
1	14.17	101.43	Open To Flow (1)
46	41.99	103.57	Shut-In(1)
96	979.31	104.29	End Shut-In(1)
97	42.18	104.05	Open To Flow (2)
141	61.13	104.64	Shut-In(2)
187	947.52	105.15	End Shut-In(2)
188	1592.99	105.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 25%W 75%M	0.84
50.00	Mud	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55309

DST#: 1

Test Start: 2013.11.01 @ 05:10:00

GENERAL INFORMATION:

Formation: **KC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:45:30

Time Test Ended: 12:21:45

Test Type: Conventional Straddle (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 3321.00 ft (KB) To 3378.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8319 Below (Straddle)

Press@RunDepth: psig @ 3383.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.01

Start Time: 05:10:05

End Time:

12:24:59

Capacity: 8000.00 psig

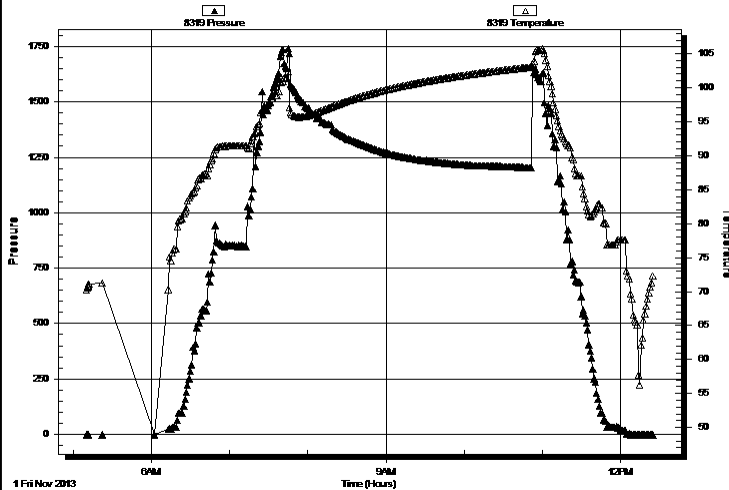
Last Calib.: 2013.11.01

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-6 1/4" blow
ISI-No blow
FF-1 1/2" blow
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

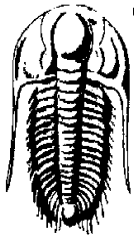
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 25%W 75%M	0.84
50.00	Mud	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55309

DST#: 1

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GENERAL INFORMATION:

Formation: **KC "C-D"**

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Test Type: Conventional Straddle (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 3321.00 ft (KB) To 3378.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753 Outside

Press@RunDepth: psig @ 3357.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.01

Start Time: 05:10:05

End Time:

12:21:59

Capacity: 8000.00 psig

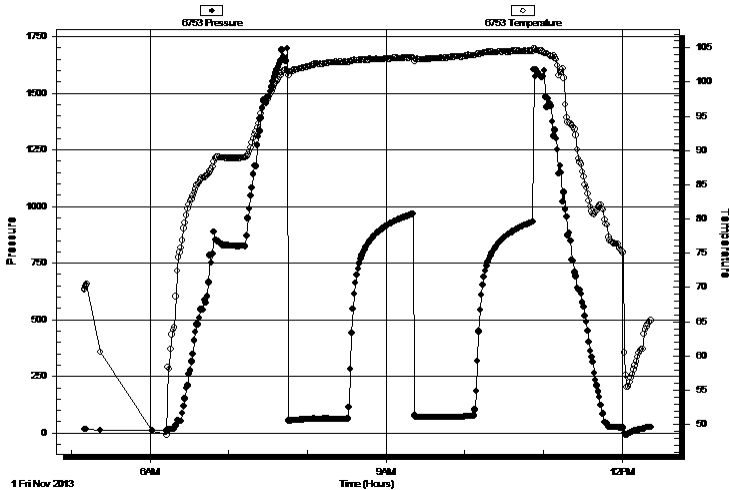
Last Calib.: 2013.11.01

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-6 1/4" blow
ISI-No blow
FF-1 1/2" blow
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

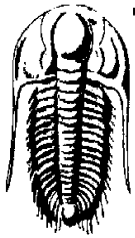
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 25%W 75%M	0.84
50.00	Mud	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55309

DST#: 1

Test Start: 2013.11.01 @ 05:10:00

Tool Information

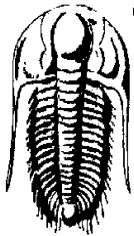
Drill Pipe:	Length:	3309.00 ft	Diameter:	3.80 inches	Volume:	46.42 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	47000.00 lb
					Total Volume:	46.42 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft						String Weight: Initial	40000.00 lb
Depth to Top Packer:	3321.00 ft						Final	41000.00 lb
Depth to Bottom Packer:	3378.00 ft							
Interval between Packers:	57.00 ft							
Tool Length:	402.00 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			3302.00		
Shut In Tool	5.00			3307.00		
Hydraulic tool	5.00			3312.00		
Packer	4.00			3316.00	20.00	Bottom Of Top Packer
Packer	5.00			3321.00		
Stubb	1.00			3322.00		
Perforations	1.00			3323.00		
change Over Sub	1.00			3324.00		
Blank Spacing	32.00			3356.00		
change Over Sub	1.00			3357.00		
Recorder	0.00	8736	Inside	3357.00		
Recorder	0.00	6753	Outside	3357.00		
Change Over Sub	1.00			3358.00		
Perforations	16.00			3374.00		
Blank Off Sub	4.00			3378.00	57.00	Tool Interval
Packer	4.00			3382.00		
Stubb	1.00			3383.00		
Recorder	0.00	8319	Below	3383.00		
perforations	3.00			3386.00		
Change Over Sub	1.00			3387.00		
Blank Spacing	316.00			3703.00	325.00	Bottom Packers & Anchor

Total Tool Length: 402.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.

7-15s-19w Ellis,KS

1310 Bison Rd
Hays KS 67601

Younger #1

Job Ticket: 55309

DST#: 1

ATTN: Herb Deines

Test Start: 2013.11.01 @ 05:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 5.99 in³

Resistivity: ohm.m

Salinity: 3000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WCM 25%W 75%M	0.842
50.00	Mud	0.701

Total Length: 110.00 ft

Total Volume: 1.543 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

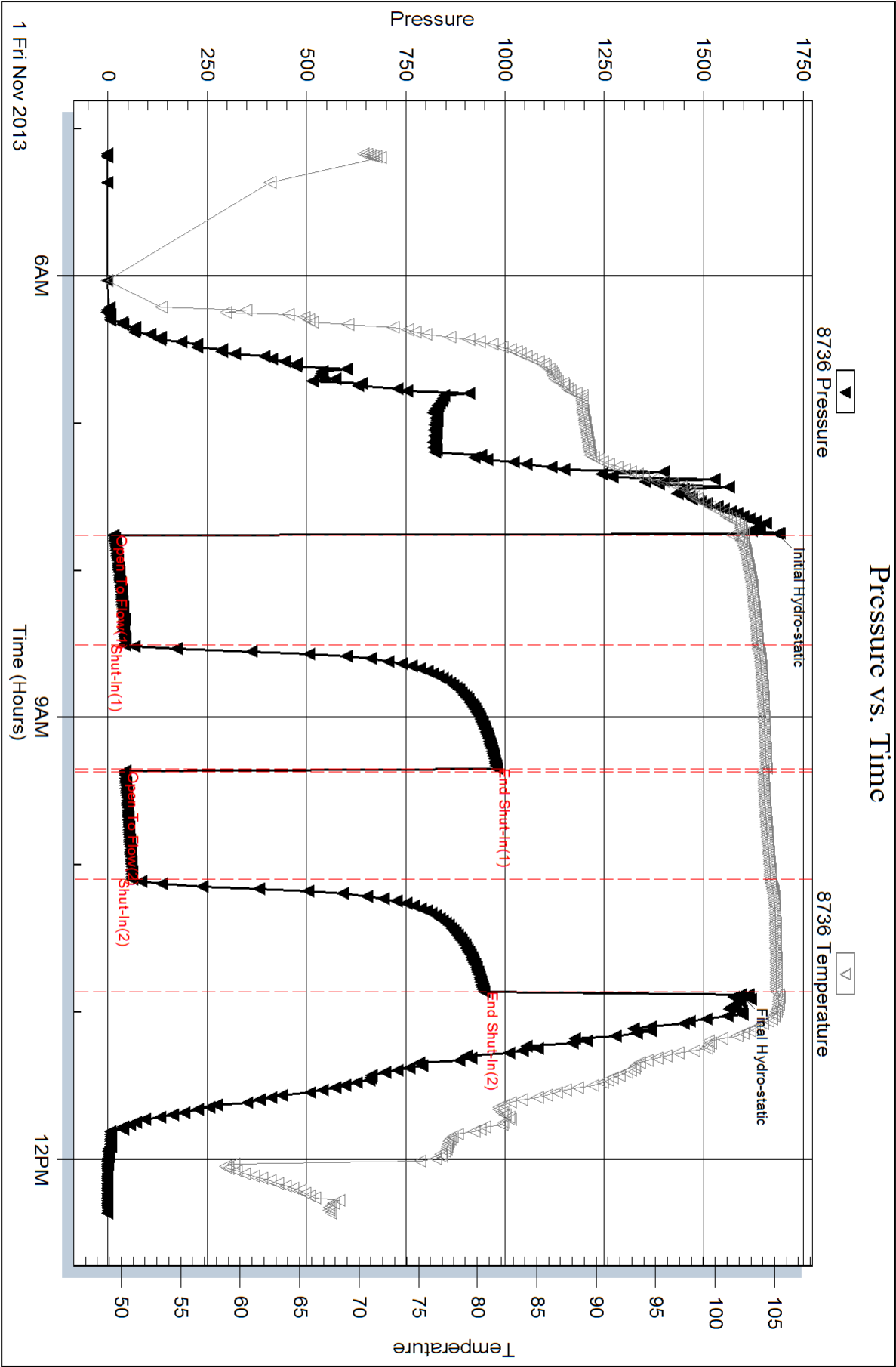
Serial #: 8736

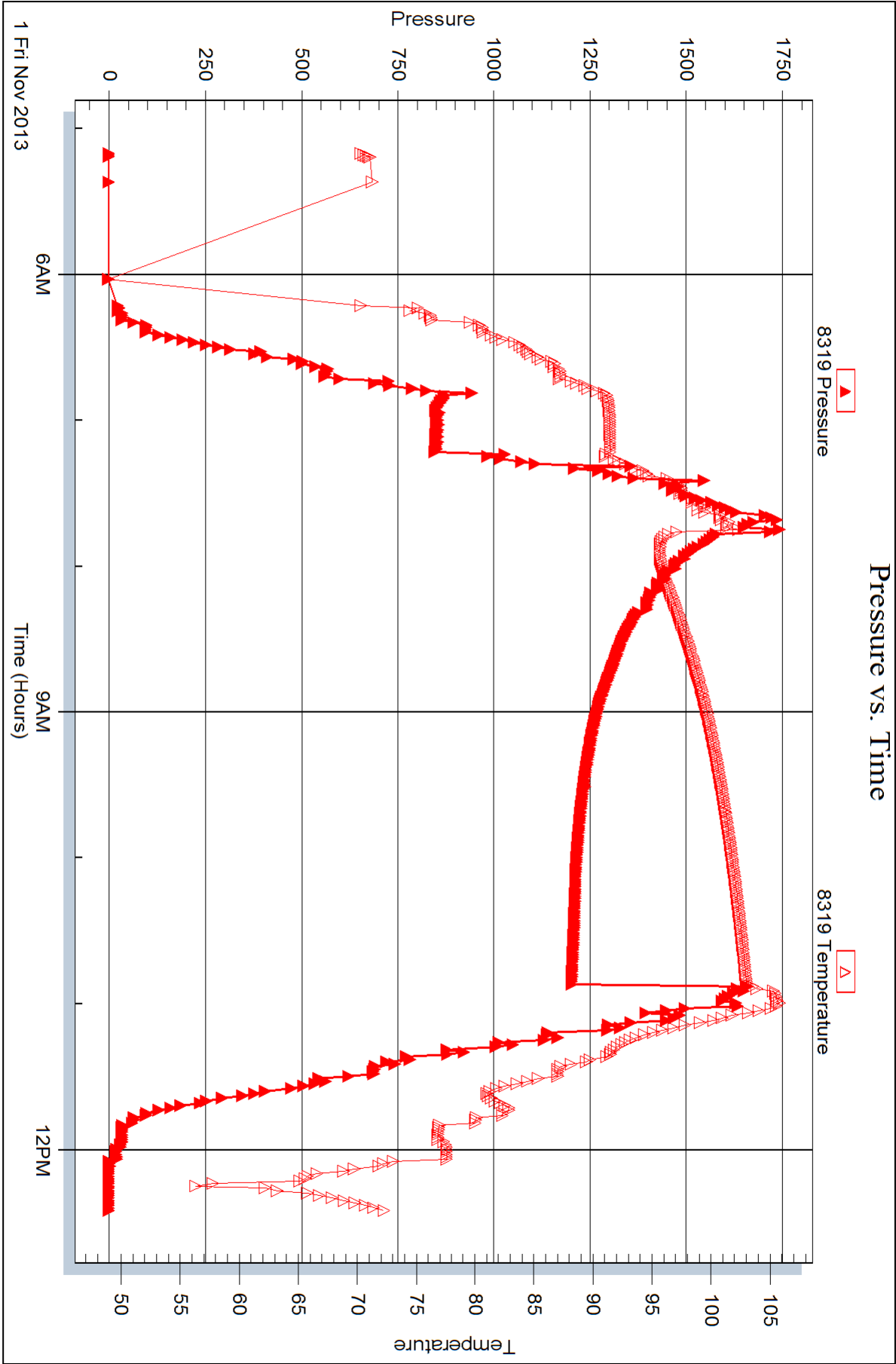
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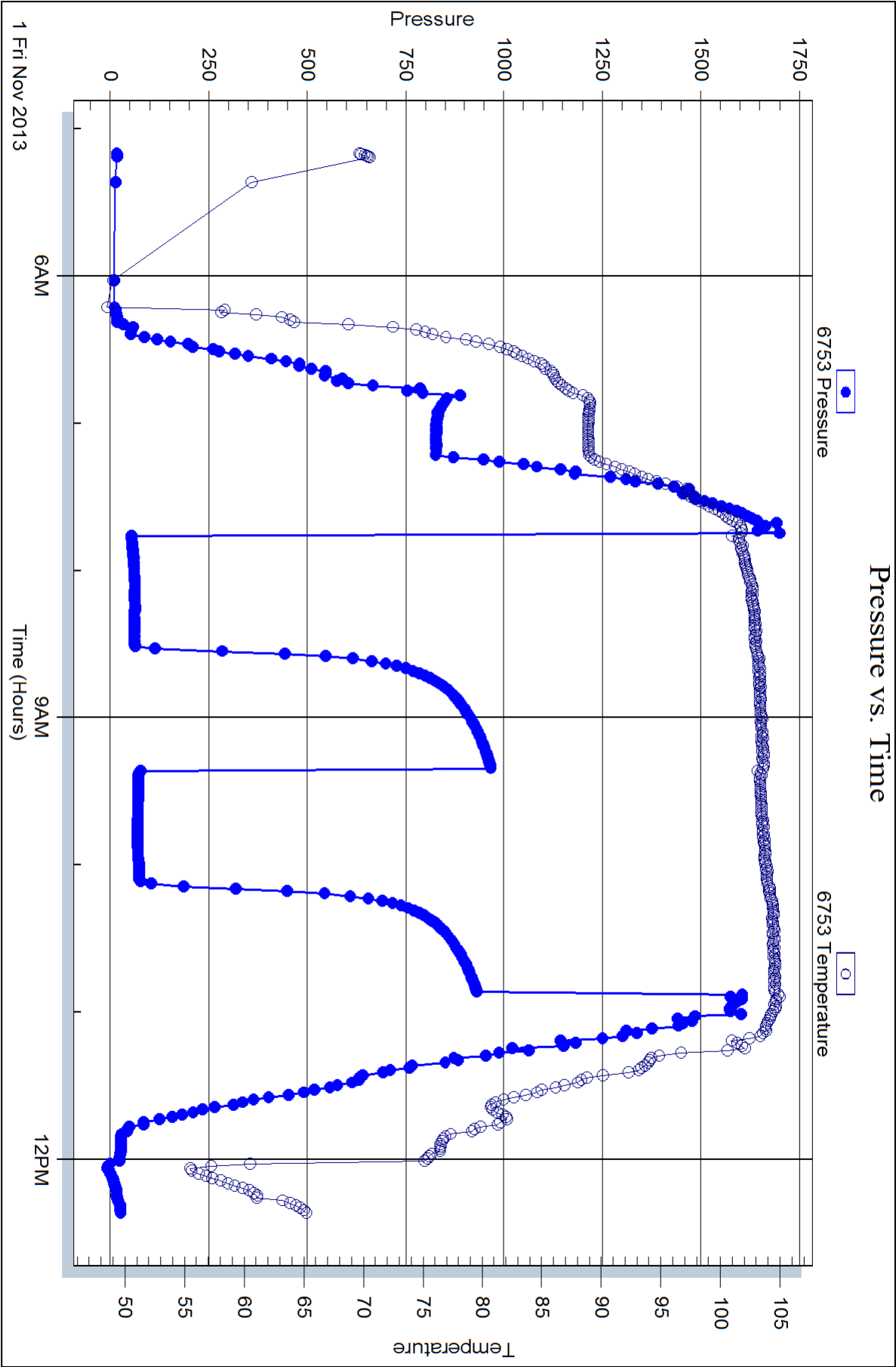
TDI, Inc.

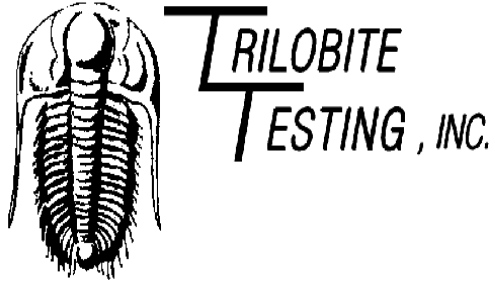
Younger #1

DST Test Number: 1









DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Younger #1

7-15s-19w Ellis,KS

Start Date: 2013.11.01 @ 12:45:00

End Date: 2013.11.01 @ 16:59:15

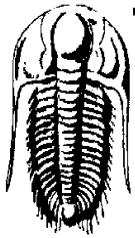
Job Ticket #: 55310 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.06 @ 10:28:53



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55310

DST#: 2

Test Start: 2013.11.01 @ 12:45:00

GENERAL INFORMATION:

Formation: **KC"H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:55:00

Time Test Ended: 16:59:15

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3420.00 ft (KB) To 3470.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753 Outside

Press@RunDepth: 45.19 psig @ 3456.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.01

Start Time: 12:45:05

End Time:

16:59:15

Capacity: 8000.00 psig

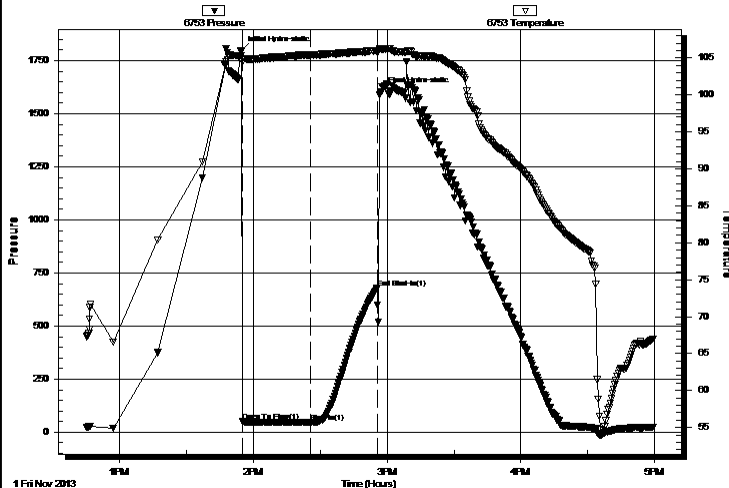
Last Calib.: 2013.11.01

Time On Btm: 2013.11.01 @ 13:54:30

Time Off Btm: 2013.11.01 @ 14:57:15

TEST COMMENT: IF-1/4" blow
ISI-No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.81	105.34	Initial Hydro-static
1	50.61	104.44	Open To Flow (1)
31	45.19	105.34	Shut-In(1)
61	678.94	105.91	End Shut-In(1)
63	1603.15	106.23	Final Hydro-static

Recovery

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

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TDL, Inc.

ATTN: Herb Deines

Younger #1

DST#: 2

Test Start: 2013.11.01 @ 12:45:00

KB to GR/CF: 10.00 ft

Time Off Btm:

Printed: 2013.11.06 @ 10:28:54



TDI, Inc.

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55310

DST#: 2

Test Start: 2013.11.01 @ 12:45:00

GENERAL INFORMATION:

Formation: $KC^{\circ}H^{\circ}$

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:55:00

Time Test Ended: 16:59:15

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3420.00 ft (KB) To 3470.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8319 **Below (Straddle)**

Press@RunDepth: psig @ 3475.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.01

Start Time: 12:45:05

End Time:

17:09:44

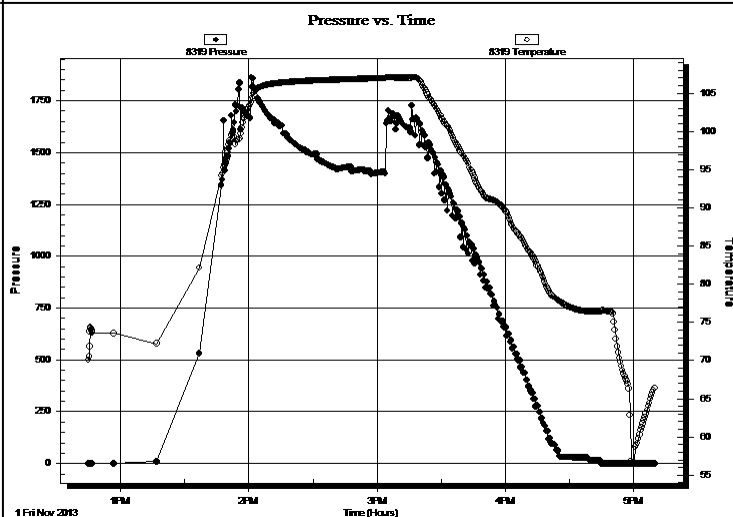
Capacity: 8000.00 psig

Last Calib.: 2013.11.01

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-1/4" blow
ISI-No blow



PRESSURE SUMMARY

[illegible]

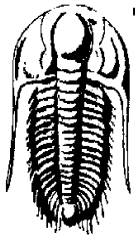
Recovery

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

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55310

DST#: 2

Test Start: 2013.11.01 @ 12:45:00

Tool Information

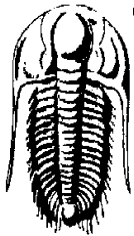
Drill Pipe:	Length:	3414.00 ft	Diameter:	3.80 inches	Volume:	47.89 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	62000.00 lb
					Total Volume:	47.89 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft							
Depth to Top Packer:	3420.00 ft							
Depth to Bottom Packer:	3470.00 ft							
Interval between Packers:	50.00 ft							
Tool Length:	303.00 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			3401.00		
Shut In Tool	5.00			3406.00		
Hydraulic tool	5.00			3411.00		
Packer	4.00			3415.00	20.00	Bottom Of Top Packer
Packer	5.00			3420.00		
Stubb	1.00			3421.00		
Perforations	1.00			3422.00		
change Over Sub	1.00			3423.00		
Blank Spacing	32.00			3455.00		
change Over Sub	1.00			3456.00		
Recorder	0.00	8736	Inside	3456.00		
Recorder	0.00	6753	Outside	3456.00		
Change Over Sub	1.00			3457.00		
Perforations	9.00			3466.00		
Blank Off Sub	4.00			3470.00	50.00	Tool Interval
Packer	4.00			3474.00		
Stubb	1.00			3475.00		
Recorder	0.00	8319	Below	3475.00		
perforations	5.00			3480.00		
Change Over Sub	1.00			3481.00		
Blank Spacing	222.00			3703.00	233.00	Bottom Packers & Anchor

Total Tool Length: 303.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.

7-15s-19w Ellis,KS

1310 Bison Rd
Hays KS 67601

Younger #1

Job Ticket: 55310

DST#: 2

ATTN: Herb Deines

Test Start: 2013.11.01 @ 12:45:00

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: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.99 in³

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
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:

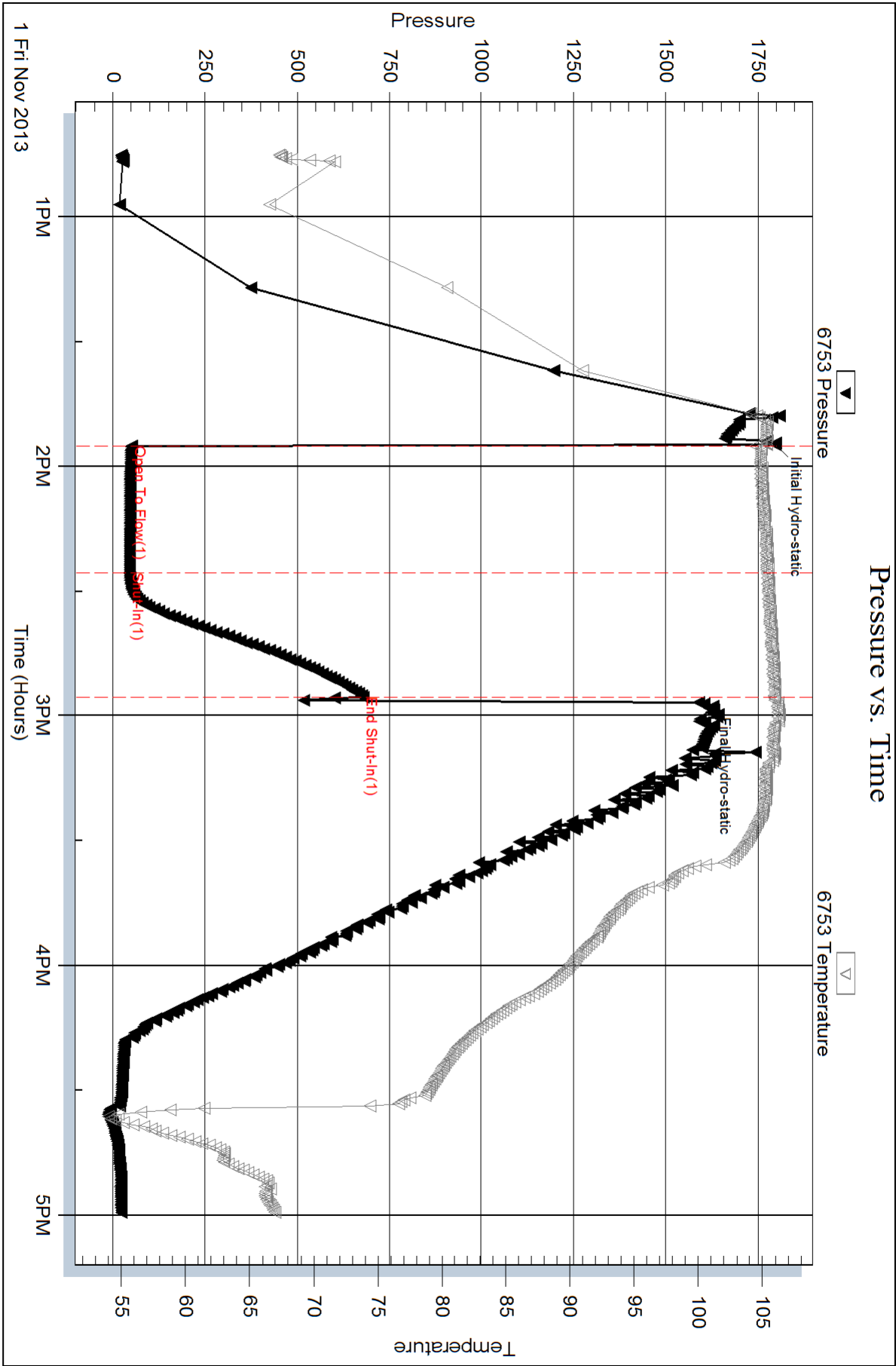
Recovery Comments:

Serial #: 6753

Outside TDI, Inc.

Younger #1

DST Test Number: 2



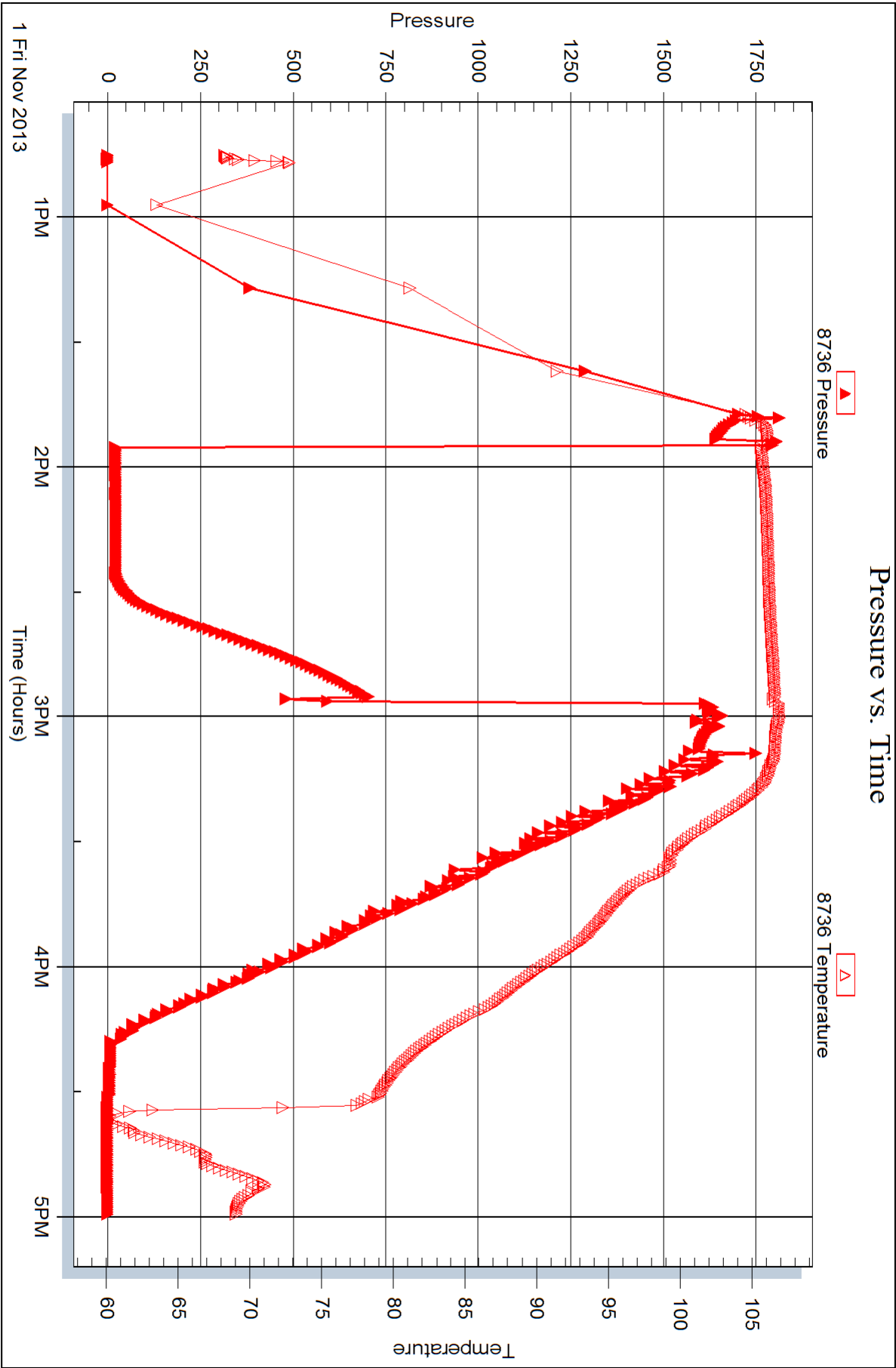
Serial #: 8736

Inside

TDI, Inc.

Younger #1

DST Test Number: 2

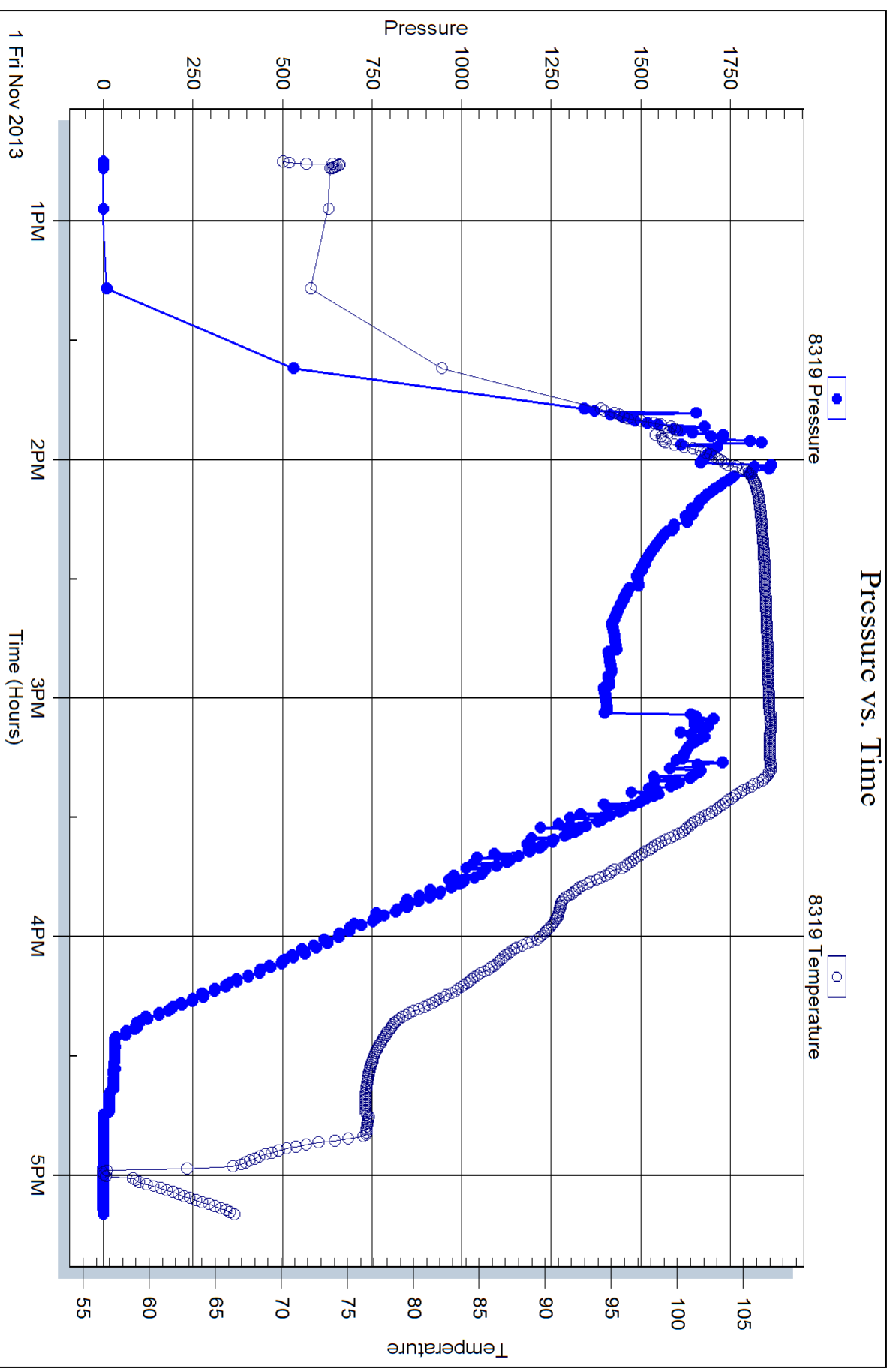


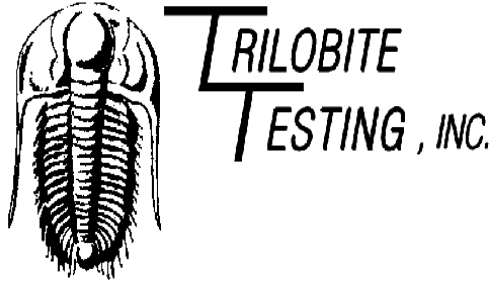
Serial #: 8319

Below (Straddle)

Younger #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **TDI, Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Younger #1

7-15s-19w Ellis,KS

Start Date: 2013.11.01 @ 21:40:00

End Date: 2013.11.02 @ 04:09:45

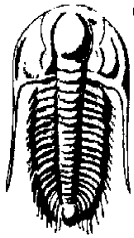
Job Ticket #: 55311 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.06 @ 10:28:24



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55311

DST#: 3

Test Start: 2013.11.01 @ 21:40:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:27:00

Time Test Ended: 04:09:45

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3617.00 ft (KB) To 3672.00 ft (KB) (TVD)

Reference Elevations: 2036.00 ft (KB)

Total Depth: 3699.00 ft (KB) (TVD)

2026.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6753 Outside

Press@RunDepth: 1046.91 psig @ 3658.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.01

End Date:

2013.11.02

Last Calib.: 2013.11.02

Start Time: 21:40:05

End Time:

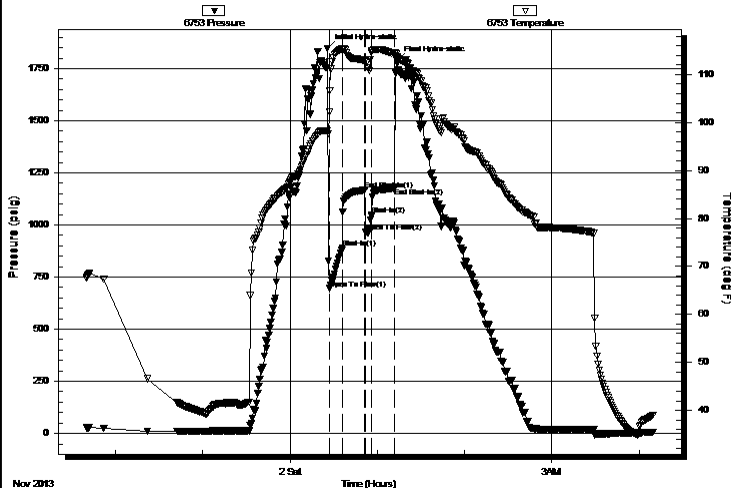
04:09:44

Time On Btm: 2013.11.02 @ 00:26:00

Time Off Btm: 2013.11.02 @ 01:13:30

TEST COMMENT: IF-BOB in 30 sec
ISI-No blow
FF-BOB in 30 sec
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1847.02	98.32	Initial Hydro-static
1	694.77	102.13	Open To Flow (1)
10	889.46	115.32	Shut-In(1)
26	1169.10	112.96	End Shut-In(1)
26	967.55	112.86	Open To Flow (2)
31	1046.91	114.87	Shut-In(2)
46	1180.17	114.25	End Shut-In(2)
48	1788.93	113.71	Final Hydro-static

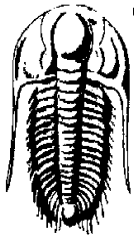
Recovery

Length (ft)	Description	Volume (bbl)
180.00	SMCW 10%M 90%W	2.52
180.00	SWCM 15%W 85%M	2.52
1480.00	SMCW 15%M 85%W	20.76
120.00	MCW 40%M 60%W	1.68
160.00	VSWCM 5%W 95%M	2.24

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55311

DST#: 3

Test Start: 2013.11.01 @ 21:40:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:27:00

Time Test Ended: 04:09:45

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3617.00 ft (KB) To 3672.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2036.00 ft (KB)

2026.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8736 Inside

Press@RunDepth: psig @ 3658.00 ft (KB)

Start Date: 2013.11.01

End Date:

2013.11.02

Start Time: 21:40:05

End Time:

04:09:59

Capacity: 8000.00 psig

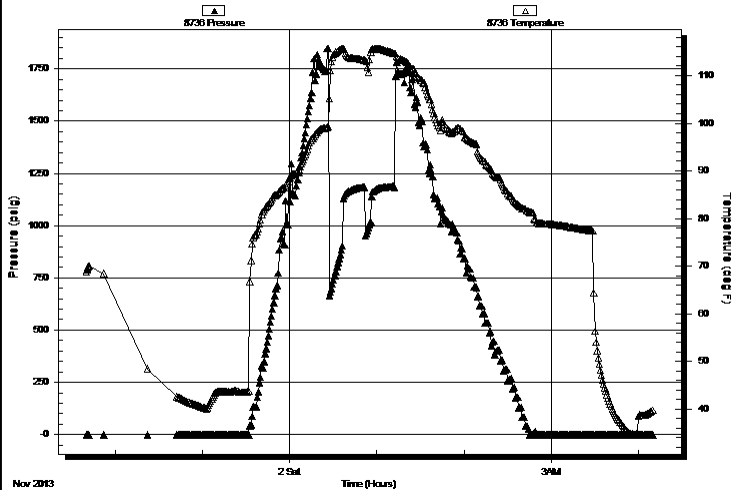
Last Calib.: 2013.11.02

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-BOB in 30 sec
ISI-No blow
FF-BOB in 30 sec
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
180.00	SMCW 10%M 90%W	2.52
180.00	SWCM 15%W 85%M	2.52
1480.00	SMCW 15%M 85%W	20.76
120.00	MCW 40%M 60%W	1.68
160.00	VSWCM 5%W 95%M	2.24

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TDL, Inc.

ATTN: Herb Deines

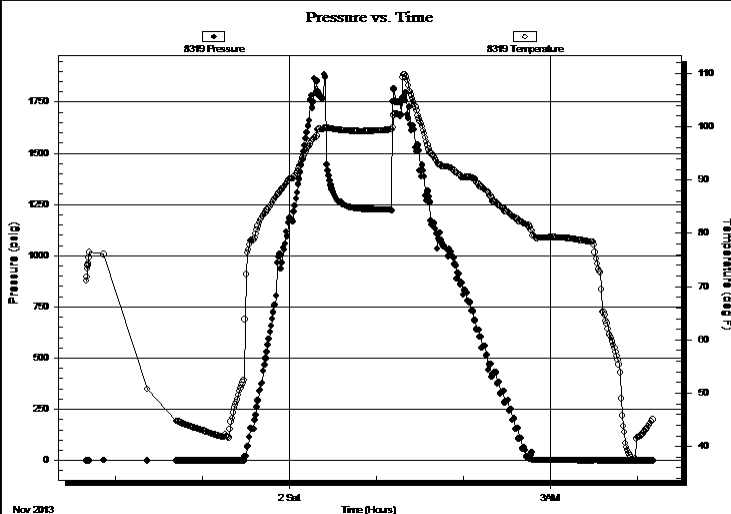
Younger #1

DST#: 3

Test Start: 2013.11.01 @ 21:40:00

KB to GR/CF: 10.00 ft

TEST COMMENT: IF-BOB in 30 sec
ISI-No blow
FF-BOB in 30 sec
FSI-No blow



PRESSURE SUMMARY

[illegible]

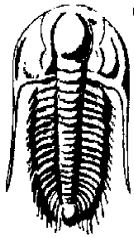
Recovery

Length (ft)	Description	Volume (bbl)
180.00	SMCW 10%M 90%W	2.52
180.00	SWCM 15%W 85%M	2.52
1480.00	SMCW 15%M 85%W	20.76
120.00	MCW 40%M 60%W	1.68
160.00	VSWCM 5%W 95%M	2.24

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc.

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

7-15s-19w Ellis,KS

Younger #1

Job Ticket: 55311

DST#: 3

Test Start: 2013.11.01 @ 21:40:00

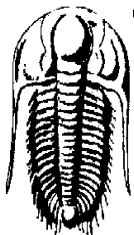
Tool Information

Drill Pipe:	Length:	3624.00 ft	Diameter:	3.80 inches	Volume:	50.84 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 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:	55000.00 lb
					Total Volume:	50.84 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft						String Weight: Initial	40000.00 lb
Depth to Top Packer:	3617.00 ft						Final	48000.00 lb
Depth to Bottom Packer:	3672.00 ft							
Interval between Packers:	55.00 ft							
Tool Length:	106.00 ft							
Number of Packers:	3		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			3598.00	
Shut In Tool	5.00			3603.00	
Hydraulic tool	5.00			3608.00	
Packer	4.00			3612.00	20.00 Bottom Of Top Packer
Packer	5.00			3617.00	
Stubb	1.00			3618.00	
Perforations	7.00			3625.00	
change Over Sub	1.00			3626.00	
Blank Spacing	31.00			3657.00	
change Over Sub	1.00			3658.00	
Recorder	0.00	8736	Inside	3658.00	
Recorder	0.00	6753	Outside	3658.00	
Change Over Sub	1.00			3659.00	
Perforations	9.00			3668.00	
Blank Off Sub	4.00			3672.00	55.00 Tool Interval
Packer	4.00			3676.00	
Stubb	1.00			3677.00	
Recorder	0.00	8319	Below	3677.00	
Perforations	23.00			3700.00	
Bullnose	3.00			3703.00	31.00 Bottom Packers & Anchor

Total Tool Length: 106.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc.

7-15s-19w Ellis,KS

1310 Bison Rd
Hays KS 67601

Younger #1

Job Ticket: 55311

DST#: 3

ATTN: Herb Deines

Test Start: 2013.11.01 @ 21:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 5.98 in³

Resistivity: ohm.m

Salinity: 3000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

26000 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	SMCW 10%M 90%W	2.525
180.00	SWCM 15%W 85%M	2.525
1480.00	SMCW 15%M 85%W	20.761
120.00	MCW 40%M 60%W	1.683
160.00	VSWCM 5%W 95%M	2.244

Total Length: 2120.00 ft

Total Volume: 29.738 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

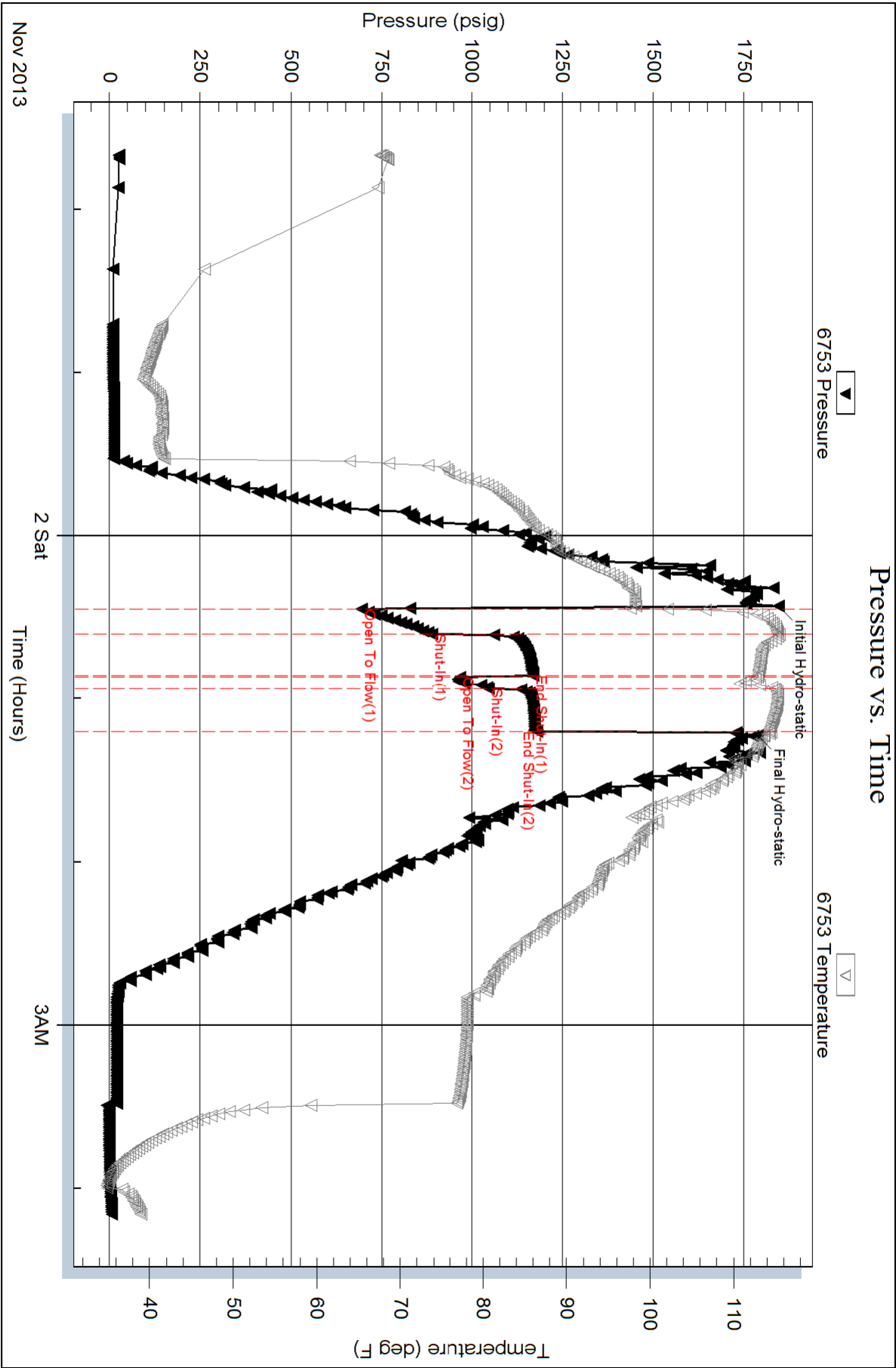
Recovery Comments:

Serial #: 6753

Outside TDI, Inc.

Younger #1

DST Test Number: 3



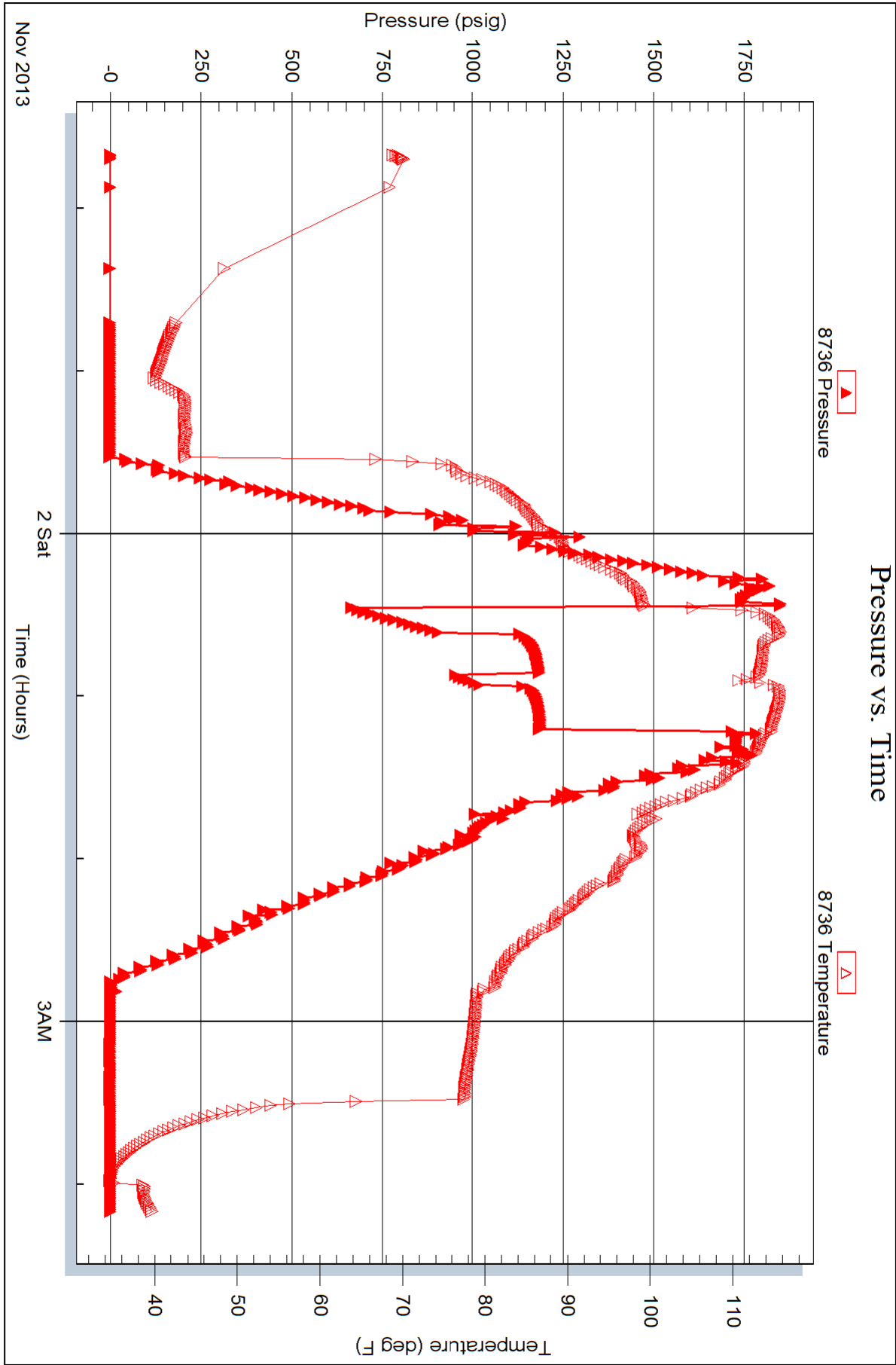
Serial #: 8736

Inside

TDI, Inc.

Younger #1

DST Test Number: 3

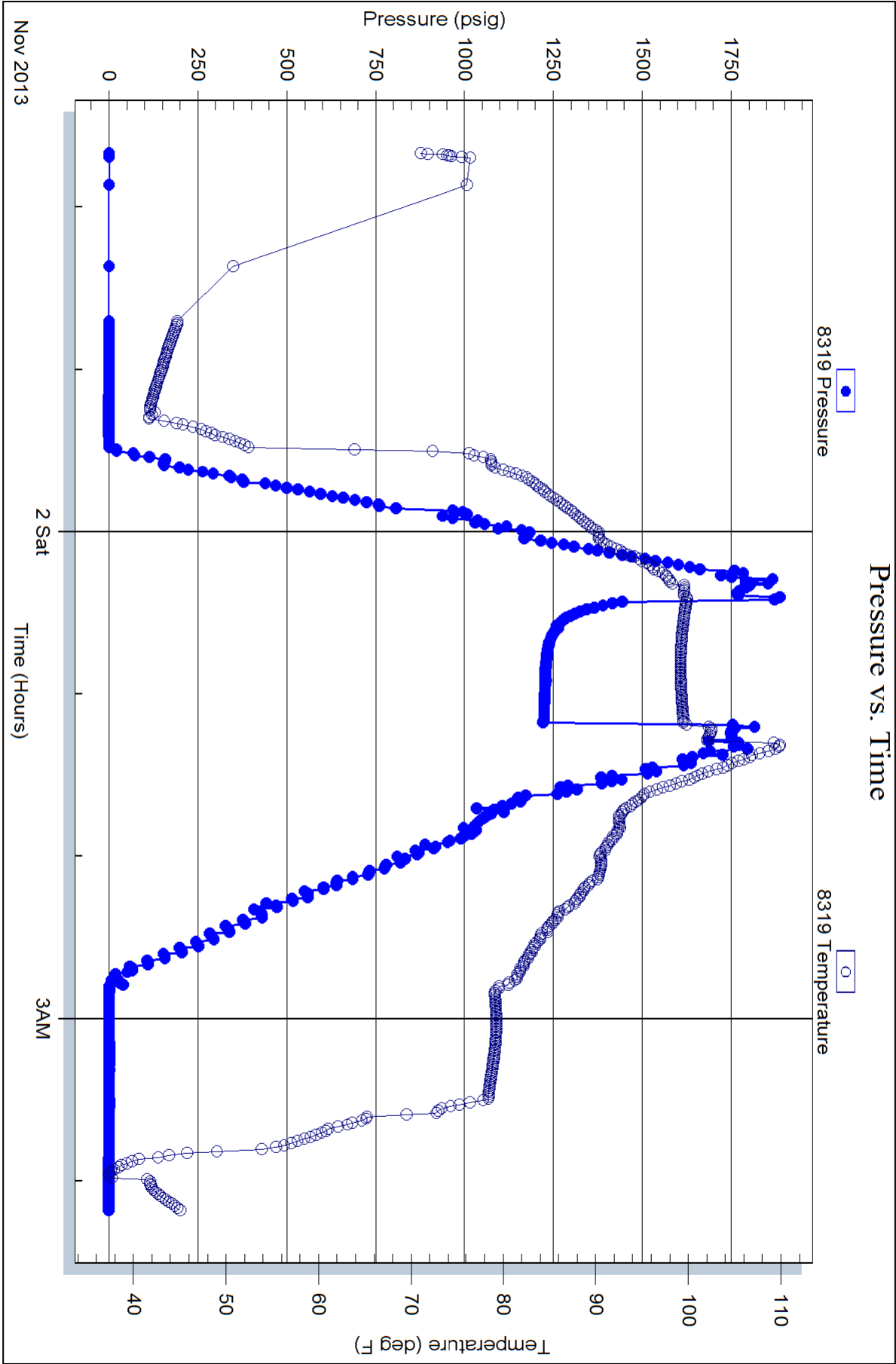


Serial #: 8319

Below (Straddle)

Younger #1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55309**

Well Name & No. Younger #1 Test No. 1 Date 11/1/13
 Company 7DI, Inc. Elevation 2036 KB 2026 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb D Rig Southwind #1
 Location: Sec. 7 Twp. 15 Rge. 19 Co. Ellis State KS

Interval Tested 3321 - 3378 Zone Tested KC "C-D"
 Anchor Length 57 Drill Pipe Run 3309 Mud Wt. 9.3
 Top Packer Depth 3316 + 3321 Drill Collars Run — Vis 55
 Bottom Packer Depth 3378 Wt. Pipe Run — WL 6.0
 Total Depth ~~3378~~ 3699 Chlorides 3,000 ppm System LCM 2

Blow Description IF - 6 1/4 in blow
FSI - No blow
FF - 1 1/2 in blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>WCM</u>		<u>25</u>	<u>75</u>	
<u>50</u>	<u>Mud</u>				

Rec Total 110 BHT 105 Gravity — API RW 122 @ 60 °F Chlorides 39000 ppm
 (A) Initial Hydrostatic 1687 ☒ Test 1150 T-On Location 4:20
 (B) First Initial Flow 14 ☐ Jars — T-Started 5:10
 (C) First Final Flow 42 ☐ Safety Joint — T-Open 7:42
 (D) Initial Shut-In 979 ☐ Circ Sub — T-Pulled 10:42
 (E) Second Initial Flow 42 ☐ Hourly Standby — T-Out 12:20
 (F) Second Final Flow 61 ☒ Mileage 41 RT 63.55
 (G) Final Shut-In 948 ☐ Sampler —
 (H) Final Hydrostatic 1,593 ☒ Straddle 600

Initial Open 45 ☐ Ruined Shale Packer —
 Initial Shut-In 45 ☐ Ruined Packer —
 Final Flow 45 ☐ Extra Copies —
 Final Shut-In 45 ☐ Extra Recorder — Sub Total 0
☐ Day Standby — Total 1813.55
☐ Accessibility — MP/DST Disc't —
 Sub Total 1813.55

Approved By — Our Representative Herb D

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. **55310**

Well Name & No. Younger #1 Test No. 2 Date 11/1/13
 Company TPE, Inc. Elevation 2036 KB 2026 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb D Rig Southwind #1
 Location: Sec. 7 Twp. 15 Rge. 19 Co. Ellis State KS

Interval Tested 3420-3470 Zone Tested KC
 Anchor Length 50 Drill Pipe Run _____ Mud Wt. 9.3
 Top Packer Depth 3415 3420 Drill Collars Run — Vis 55
 Bottom Packer Depth 3470 Wt. Pipe Run — WL 6.0
 Total Depth 3699 Chlorides 3,000 ppm System LCM 2
 Blow Description IF - 1/4 in blow
ISL - 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 106 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 1,796 ☒ Test 1150 T-On Location _____
 (B) First Initial Flow 51 ☐ Jars _____ T-Started 12:43
 (C) First Final Flow 45 ☐ Safety Joint _____ T-Open 13:56
 (D) Initial Shut-In 679 ☐ Circ Sub _____ T-Pulled 14:56
 (E) Second Initial Flow _____ ☐ Hourly Standby _____ T-Out 17:00
 (F) Second Final Flow _____ ☒ Mileage 41.1 Comments _____
 (G) Final Shut-In _____ ☐ Sampler _____
 (H) Final Hydrostatic 1,603 ☒ Straddle 600 ☐ Ruined Shale Packer _____
☐ Shale Packer _____ ☐ Ruined Packer _____
☐ Extra Packer _____ ☐ Extra Copies _____
 Initial Open 30 ☐ Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 ☐ Day Standby _____ Total 1750
 Final Flow _____ ☐ Accessibility _____ MP/DST Disc't _____
 Final Shut-In _____ Sub Total 1750

Approved By _____

Our Representative Bryce

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**TRILOBITE
TESTING INC.**

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55311**

Well Name & No. Younger #1 Test No. 3 Date 11/13
 Company TDT, Inc. Elevation 2036 KB 2026 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb D Rig Southwind #1
 Location: Sec. 7 Twp. 15 Rge. 19 Co. Ellis State KS

Interval Tested 3617 - 3672 Zone Tested Arb
 Anchor Length 55 Drill Pipe Run _____ Mud Wt. 9.3
 Top Packer Depth 3612, 3617 Drill Collars Run 5 Vis 55
 Bottom Packer Depth 3672 Wt. Pipe Run 1 WL 6.0
 Total Depth 3699 Chlorides 3000 ppm System LCM 2

Blow Description IF-BOB in 30sec
FSI-No blow
FF-BOB in 30sec
FSI-No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>SMCW</u>		<u>90</u>	<u>10</u>	
<u>160 180</u>	<u>SWCM</u>		<u>15</u>	<u>85</u>	
<u>1480</u>	<u>SMCW</u>		<u>85</u>	<u>15</u>	
<u>120</u>	<u>MCW</u>		<u>60</u>	<u>40</u>	
<u>160</u>	<u>VSWM</u>		<u>5</u>	<u>95</u>	

Rec Total 2120 BHT 114 Gravity _____ API RW 38 @ 56°F Chlorides 26000 ppm

(A) Initial Hydrostatic <u>1,847</u>	☒ Test <u>1150</u>	T-On Location <u>21:05</u>
(B) First Initial Flow <u>695</u>	☐ Jars _____	T-Started <u>21:40</u>
(C) First Final Flow <u>889</u>	☐ Safety Joint _____	T-Open <u>00:23</u>
(D) Initial Shut-In <u>1,169</u>	☐ Circ Sub _____	T-Pulled <u>1:08</u>
(E) Second Initial Flow <u>968</u>	☐ Hourly Standby _____	T-Out <u>4:06</u>
(F) Second Final Flow <u>1,047</u>	☒ Mileage <u>41.1</u> 63.55	Comments _____
(G) Final Shut-In <u>1,180</u>	☐ Sampler _____	
(H) Final Hydrostatic <u>1,789</u>	☒ Straddle <u>600</u>	

Initial Open <u>10</u>	☐ Shale Packer _____	☐ Ruined Shale Packer _____
Initial Shut-In <u>15</u>	☐ Extra Packer _____	☐ Ruined Packer _____
Final Flow <u>5</u>	☐ Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>15</u>	☐ Day Standby _____	Total <u>1813.55</u>
	☐ Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1813.55</u>	

Approved By _____ Our Representative Beth D

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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

November 12, 2013

Tom Denning
TDI, Inc.
1310 BISON RD
HAYS, KS 67601-9696

Re: ACO1
API 15-051-26595-00-00
Younger 1
SW/4 Sec.07-15S-19W
Ellis County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Tom Denning