



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1140738
OIL & GAS CONSERVATION DIVISION

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
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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: _____



1140738

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

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				

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 <i>(Amount and Kind of Material Used)</i>	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)* _____

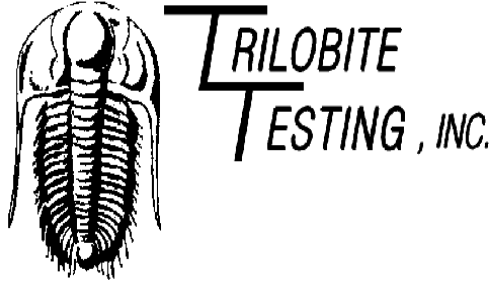
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	TDI, Inc.
Well Name	Lilly 1
Doc ID	1140738

Tops

Name	Top	Datum
Anhydrite	1300'	+755'
Topeka	3052'	-997'
Heebner	3301'	-1246'
Lansing/Kansas City	3348'	-1293'
Base Kansas City	3598'	-1543'
Marmaton	3648'	-1593'
Conglomerate	3682'	-1627'
Arbuckle	3706'	-1651'



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Lilly #1

1-15s-20w Ellis,KS

Start Date: 2013.04.09 @ 02:58:45

End Date: 2013.04.09 @ 09:30:05

Job Ticket #: 45520 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.16 @ 11:22:55

TDI Inc
1-15s-20w Ellis,KS
Lilly #1
DST # 1
Topoka-Oread
2013.04.09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

1-15s-20w Ellis,KS
Lilly #1
 Job Ticket: 45520 **DST#: 1**
 Test Start: 2013.04.09 @ 02:58:45

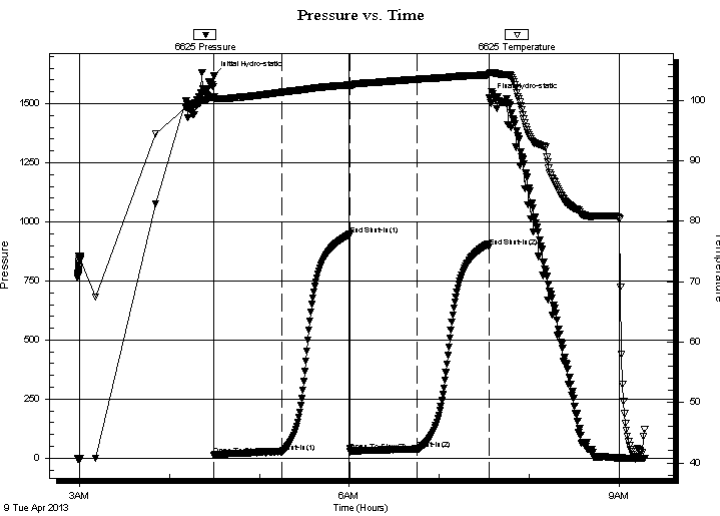
GENERAL INFORMATION:

Formation: **Topeka-Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:29:55
 Time Test Ended: 09:30:05
 Interval: **3220.00 ft (KB) To 3264.00 ft (KB) (TVD)**
 Total Depth: 3264.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jeff Brown
 Unit No: 67
 Reference Elevations: 2055.00 ft (KB)
 2044.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 39.35 psig @ 3256.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.04.09 End Date: 2013.04.09 Last Calib.: 2013.04.09
 Start Time: 02:58:46 End Time: 09:17:05 Time On Btm: 2013.04.09 @ 04:29:45
 Time Off Btm: 2013.04.09 @ 07:33:35

TEST COMMENT: IFP-Fair blow built to 6 1/4"
 ISI-Dead no blow back
 FFP-Fair blow built to 9 1/2"
 FSI-Dead no blow back



PRESSURE SUMMARY

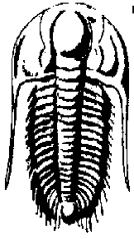
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1616.98	100.55	Initial Hydro-static
1	13.46	100.26	Open To Flow (1)
46	26.91	101.33	Shut-In(1)
91	946.54	102.53	End Shut-In(1)
91	28.46	102.45	Open To Flow (2)
136	39.35	103.48	Shut-In(2)
184	895.08	104.20	End Shut-In(2)
184	1524.34	104.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
66.00	V SOCGM 5%G 5%O 90%M	0.93

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

1-15s-20w Ellis,KS
Lilly #1
Job Ticket: 45520 **DST#: 1**
Test Start: 2013.04.09 @ 02:58:45

Tool Information

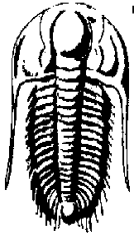
Drill Pipe:	Length: 3214.00 ft	Diameter: 3.80 inches	Volume: 45.08 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 46000.00 lb
			<u>Total Volume: 45.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3220.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	64.00 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			3201.00	
Shut In Tool	5.00			3206.00	
Hydraulic tool	5.00			3211.00	
Packer	4.00			3215.00	20.00 Bottom Of Top Packer
Packer	5.00			3220.00	
Stubb	1.00			3221.00	
Perforations	2.00			3223.00	
Change Over Sub	1.00			3224.00	
Drill Pipe	31.00			3255.00	
Change Over Sub	1.00			3256.00	
Recorder	0.00	6625	Outside	3256.00	
Recorder	0.00	8679	Inside	3256.00	
Perforations	5.00			3261.00	
Bullnose	3.00			3264.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

1-15s-20w Ellis,KS
Lilly #1
Job Ticket: 45520
Test Start: 2013.04.09 @ 02:58:45

DST#: 1

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: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
66.00	VSOCGM 5%G 5%O 90%M	0.926

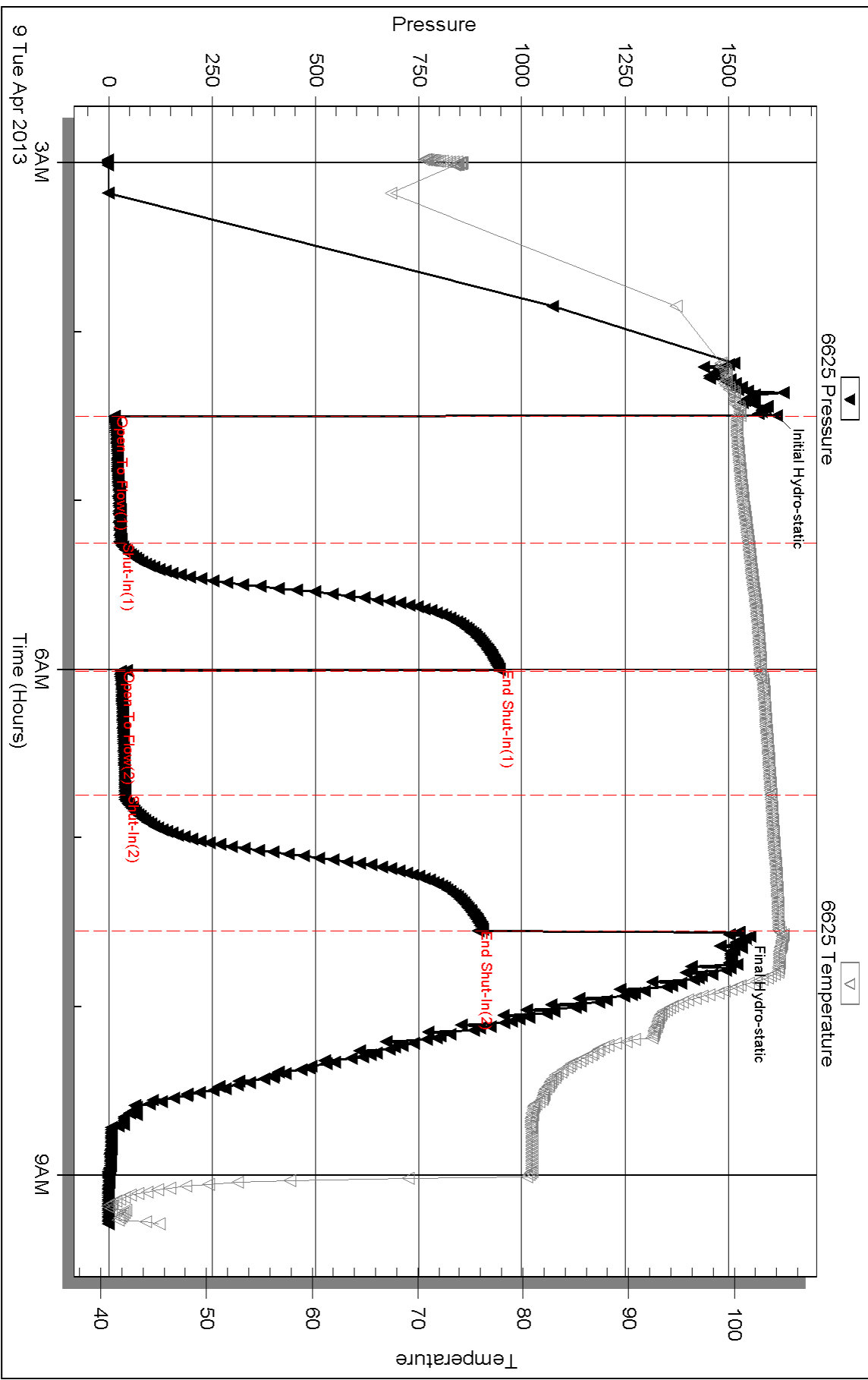
Total Length: 66.00 ft Total Volume: 0.926 bbl

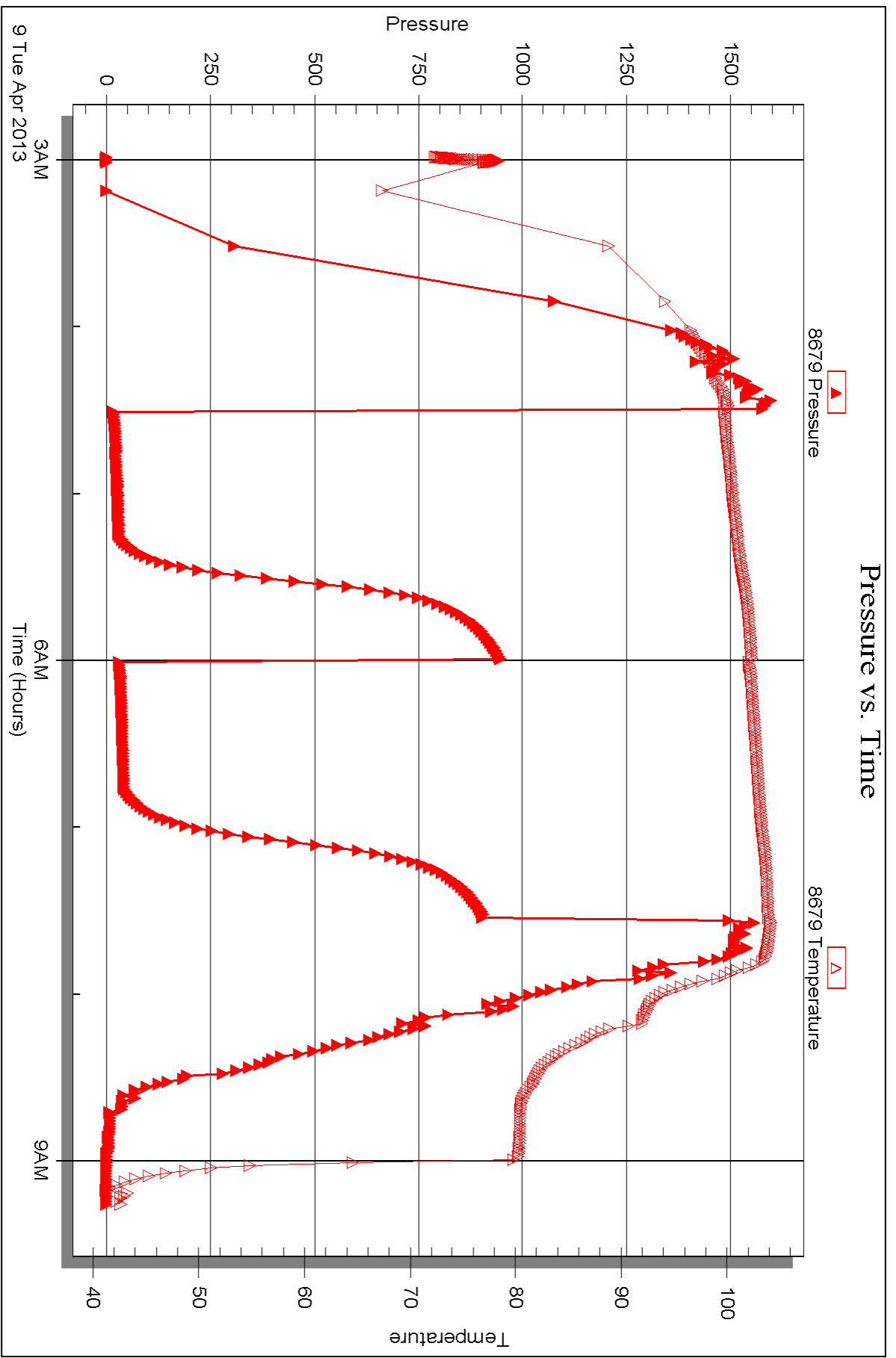
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

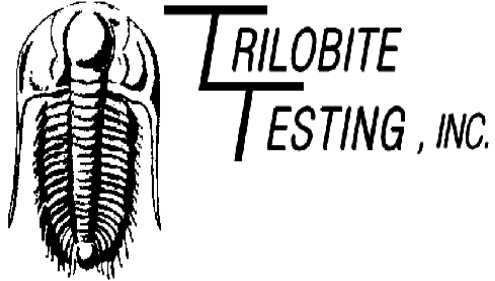
Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Lilly #1

1-15s-20w Ellis,KS

Start Date: 2013.04.10 @ 02:17:37

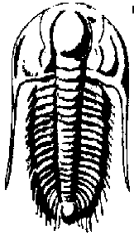
End Date: 2013.04.10 @ 10:38:57

Job Ticket #: 48521 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.16 @ 11:22:08

TDI Inc
1-15s-20w Ellis,KS
Lilly #1
DST # 2
Lansing-C-D
2013.04.10



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

1-15s-20w Ellis,KS
Lilly #1
Job Ticket: 48521 **DST#: 2**
Test Start: 2013.04.10 @ 02:17:37

Tool Information

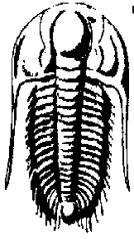
Drill Pipe:	Length: 3372.00 ft	Diameter: 3.80 inches	Volume: 47.30 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	48000.00 lb
			<u>Total Volume: 47.30 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	38000.00 lb
Depth to Top Packer:	3364.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	60.00 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			3345.00	
Shut In Tool	5.00			3350.00	
Hydraulic tool	5.00			3355.00	
Packer	4.00			3359.00	20.00 Bottom Of Top Packer
Packer	5.00			3364.00	
Stubb	1.00			3365.00	
Perforations	2.00			3367.00	
Change Over Sub	1.00			3368.00	
Drill Pipe	30.00			3398.00	
Change Over Sub	1.00			3399.00	
Recorder	0.00	6625	Outside	3399.00	
Recorder	0.00	8679	Inside	3399.00	
Perforations	2.00			3401.00	
Bullnose	3.00			3404.00	40.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc	1-15s-20w Ellis,KS
1310 Bison Rd Hays KS 67601	Lilly #1
ATTN: Herb Deines	Job Ticket: 48521 DST#: 2
	Test Start: 2013.04.10 @ 02:17:37

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: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

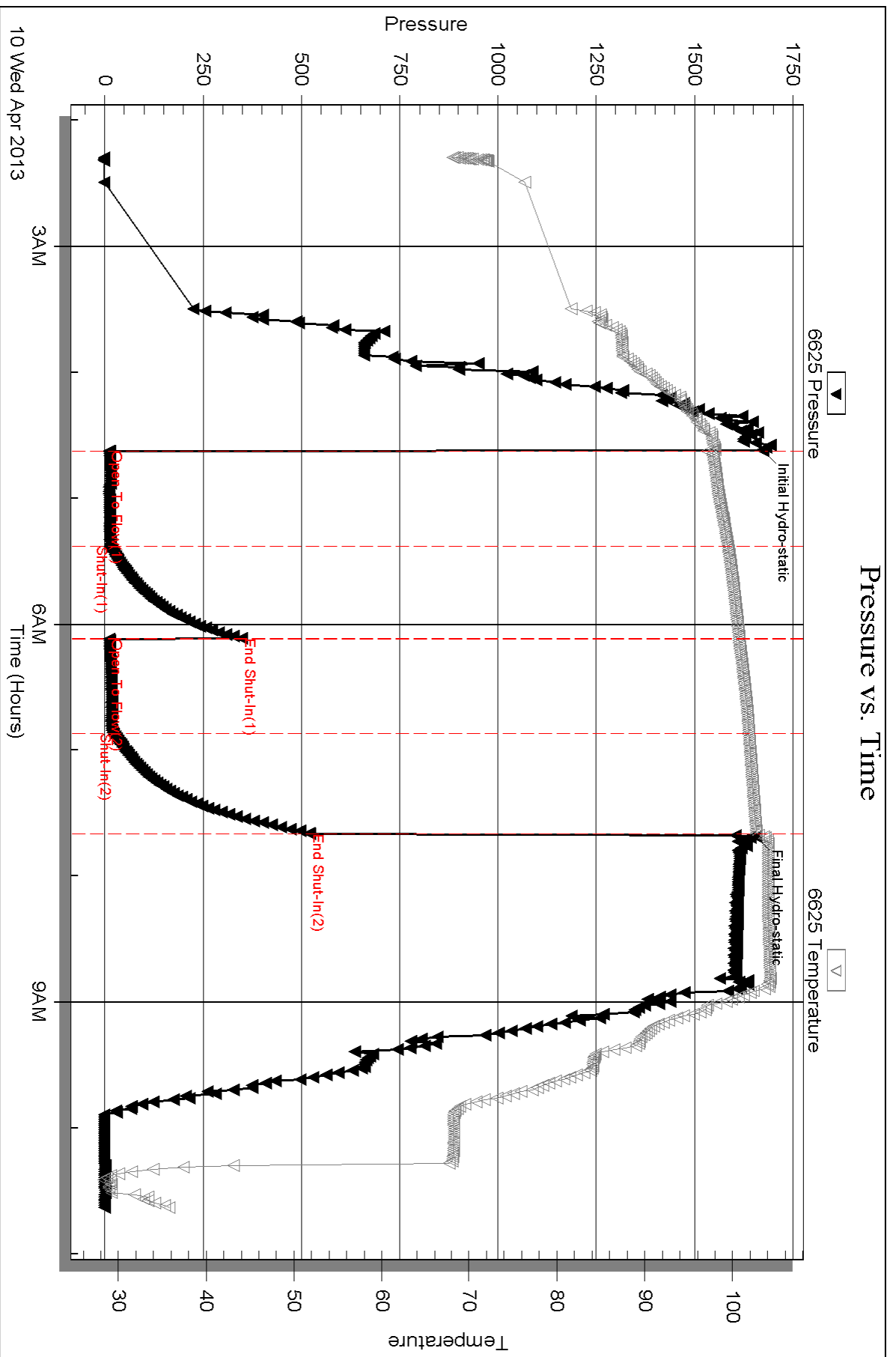
Length ft	Description	Volume bbl
31.00	SOCM 10%O 90%M	0.435
0.00	157-GIP	0.000

Total Length: 31.00 ft Total Volume: 0.435 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



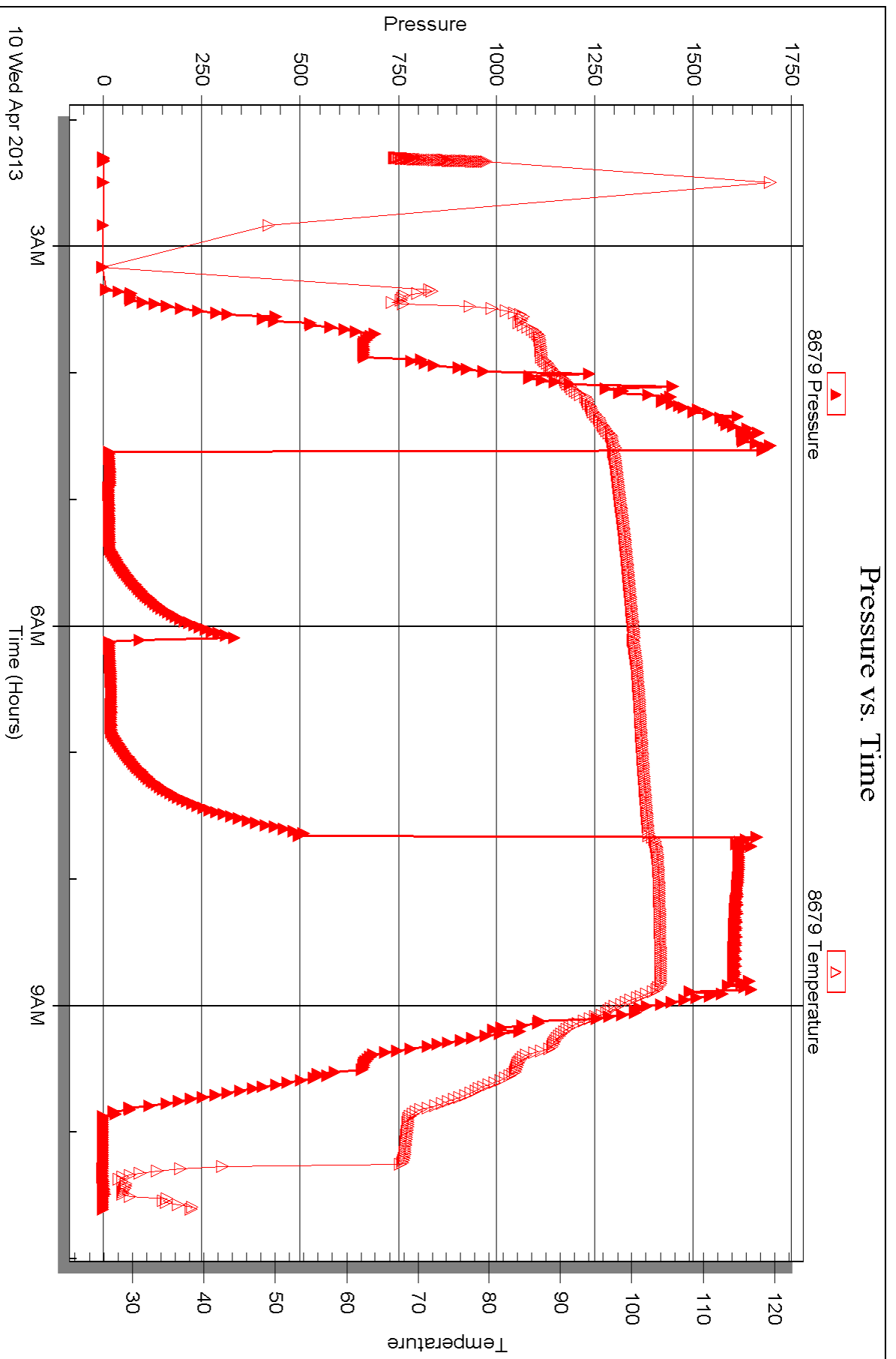
Serial #: 8679

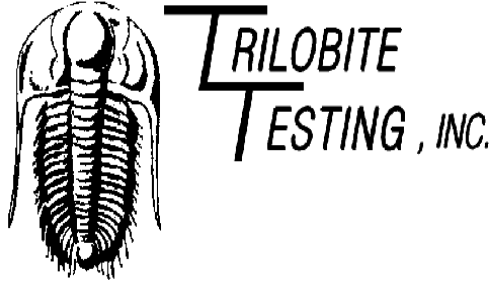
Inside

TDI Inc

Lilly #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Lilly #1

1-15s-20w Ellis,KS

Start Date: 2013.04.11 @ 20:01:12

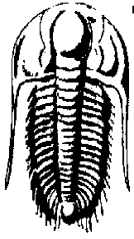
End Date: 2013.04.12 @ 03:05:06

Job Ticket #: 48522 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.04.16 @ 11:21:14

TDI Inc
1-15s-20w Ellis,KS
Lilly #1
DST # 3
LKC-H-I-J
2013.04.11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

1-15s-20w Ellis,KS
Lilly #1
 Job Ticket: 48522 **DST#: 3**
 Test Start: 2013.04.11 @ 20:01:12

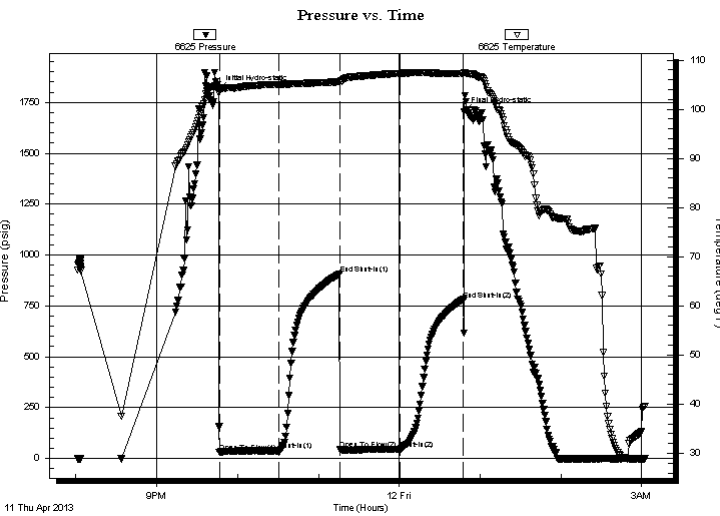
GENERAL INFORMATION:

Formation: **LKC-H-I-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:46:27
 Time Test Ended: 03:05:06
 Interval: **3492.00 ft (KB) To 3540.00 ft (KB) (TVD)**
 Total Depth: 3748.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Straddle (Reset)
 Tester: Jeff Brown
 Unit No: 67
 Reference Elevations: 2055.00 ft (KB)
 2044.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 46.35 psig @ 3528.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.04.11 End Date: 2013.04.12 Last Calib.: 2013.04.12
 Start Time: 20:01:13 End Time: 03:02:07 Time On Btm: 2013.04.11 @ 21:46:07
 Time Off Btm: 2013.04.12 @ 00:48:17

TEST COMMENT: IFP-Weak blow built to 3 1/2"
 ISI-Dead no blow back
 FFP-Weak surface blow built to 1"
 FSI-Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1814.77	104.16	Initial Hydro-static
1	30.70	103.87	Open To Flow (1)
45	37.99	105.08	Shut-In(1)
90	906.19	105.61	End Shut-In(1)
90	44.96	105.54	Open To Flow (2)
135	46.35	107.32	Shut-In(2)
182	777.81	107.28	End Shut-In(2)
183	1703.91	107.51	Final Hydro-static

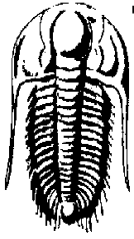
Recovery

Length (ft)	Description	Volume (bbl)
41.00	Mud with oil spot's	0.58

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

1-15s-20w Ellis, KS
Lilly #1
Job Ticket: 48522 **DST#: 3**
Test Start: 2013.04.11 @ 20:01:12

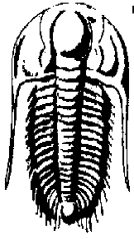
Tool Information

Drill Pipe:	Length: 3498.00 ft	Diameter: 3.80 inches	Volume: 49.07 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 48000.00 lb
			Total Volume: 49.07 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3492.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	3540.00 ft			
Interval between Packers:	48.00 ft			
Tool Length:	276.00 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			3473.00	
Shut In Tool	5.00			3478.00	
Hydraulic tool	5.00			3483.00	
Packer	4.00			3487.00	20.00 Bottom Of Top Packer
Packer	5.00			3492.00	
Stubb	1.00			3493.00	
Perforations	2.00			3495.00	
Change Over Sub	1.00			3496.00	
Drill Pipe	31.00			3527.00	
Change Over Sub	1.00			3528.00	
Recorder	0.00	8679	Inside	3528.00	
Recorder	0.00	6625	Outside	3528.00	
Perforations	8.00			3536.00	
Blank Off Sub	1.00			3537.00	
Stubb	3.00			3540.00	48.00 Tool Interval
Packer	1.00			3541.00	
Stubb	1.00			3542.00	
Perforations	12.00			3554.00	
Recorder	0.00	8167	Below	3554.00	
Change Over Sub	1.00			3555.00	
Drill Pipe	189.00			3744.00	
Change Over Sub	1.00			3745.00	
Bullnose	3.00			3748.00	208.00 Bottom Packers & Anchor
Total Tool Length:		276.00			



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

1-15s-20w Ellis,KS
Lilly #1
Job Ticket: 48522
Test Start: 2013.04.11 @ 20:01:12

DST#: 3

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

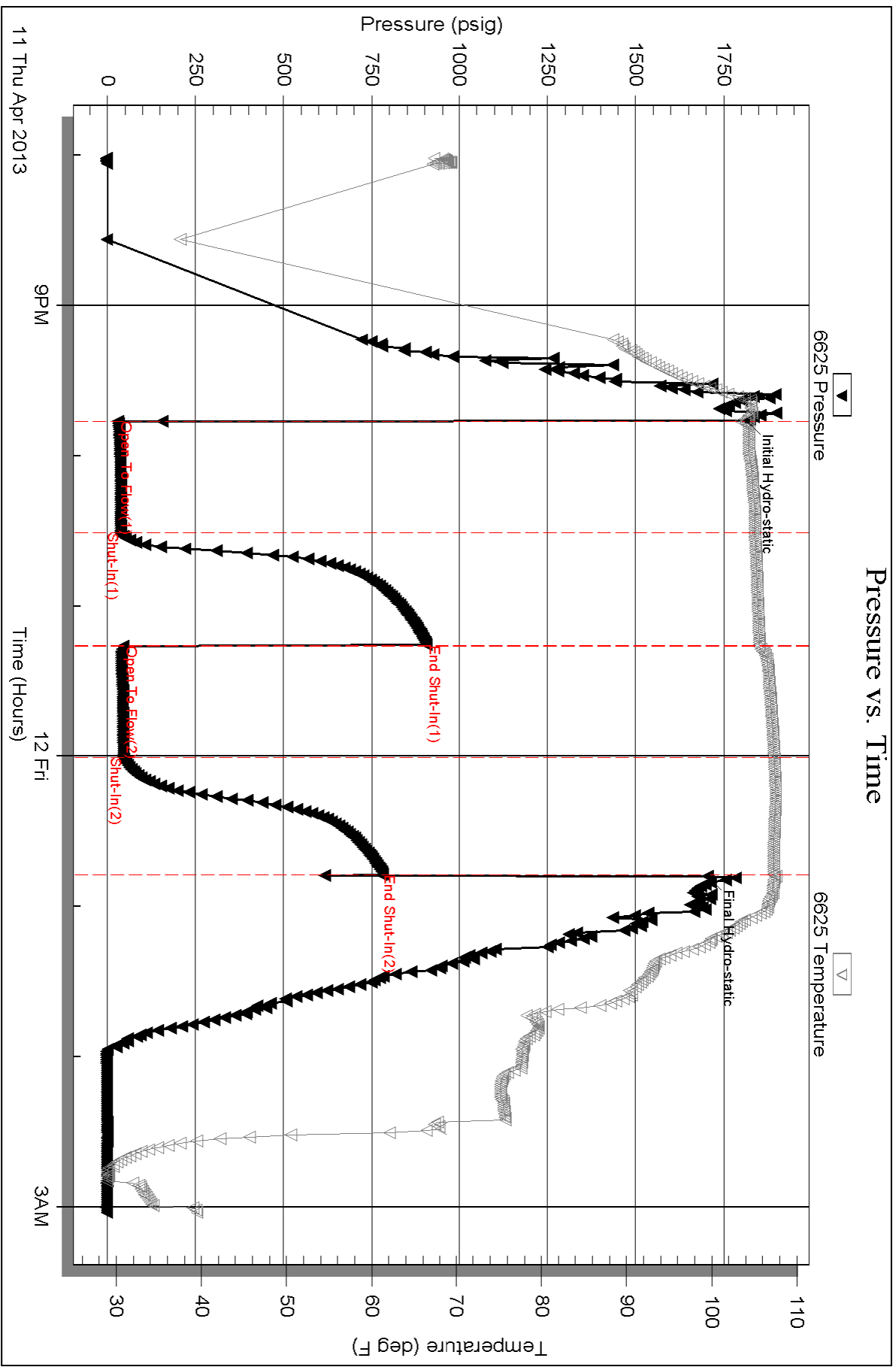
Length ft	Description	Volume bbl
41.00	Mud w ith oil spot's	0.575

Total Length: 41.00 ft Total Volume: 0.575 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



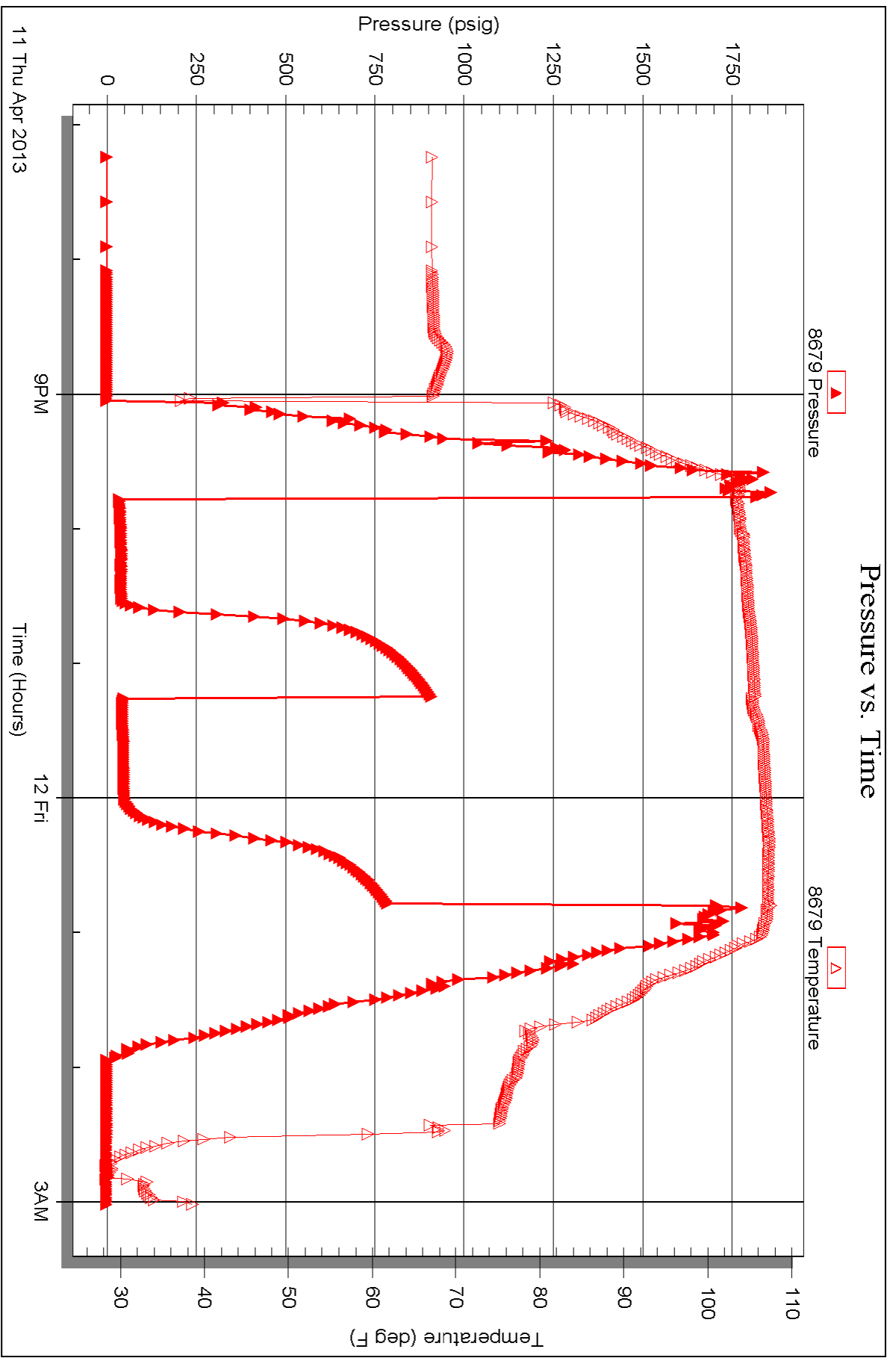
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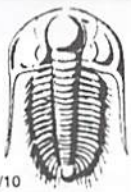
Inside

TDI Inc

Lilly #1

DST Test Number: 3





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48520

Well Name & No. Lilly #1 Test No. 1 Date 4-9-13
 Company IDE INC Elevation 2055 KB 2045 GL
 Address 1310 BISON RD Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig SOUTHWD #1
 Location: Sec. 1 Twp. 15S Rge. 20 W Co. ELLIS State KS

Interval Tested 3220 - 3264 Zone Tested Topeka - Oread
 Anchor Length 44 Drill Pipe Run 3214 Mud Wt. 8.9
 Top Packer Depth 3215 Drill Collars Run 0 Vis 61
 Bottom Packer Depth 3220 Wt. Pipe Run 0 WL 8.0
 Total Depth 3264 Chlorides 5500 ppm System LCM TR

Blow Description FP - Fair Blow Built To 6 1/4 IN
IST - Dead No Blow Back
FP - Fair Blow Built To 9 1/2 IN
FST - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>600</u>	<u>VSOC GM</u>	<u>5</u>	<u>5</u>	<u>90</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 600 BHT 104 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1417 Test 1150 T-On Location 2:32
 (B) First Initial Flow 13 Jars _____ T-Started 2:58
 (C) First Final Flow 27 Safety Joint _____ T-Open 4:30
 (D) Initial Shut-In 947 Circ Sub _____ T-Pulled 9:30
 (E) Second Initial Flow 28 Hourly Standby _____ T-Out 9:30
 (F) Second Final Flow 39 Mileage 36 RT 55.80 Comments _____
 (G) Final Shut-In 895 Sampler _____
 (H) Final Hydrostatic 1524 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 45 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 45 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1205.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1205.80

Approved By _____ Our Representative Jeff Brown

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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48521

Well Name & No. Lilly #1 Test No. 2 Date 4-10-13
 Company TDI INC Elevation 2055 KB 2045 GL
 Address 1310 Bison RD Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 1 Twp. 15S Rge. 20W Co. ELLIS State KS

Interval Tested 3364-3404 Zone Tested 4" Sing - C-D
 Anchor Length 40 Drill Pipe Run 3372 Mud Wt. 9.1
 Top Packer Depth 3359 Drill Collars Run 0 Vis 53
 Bottom Packer Depth 3364 Wt. Pipe Run 0 WL 7.4
 Total Depth 3404 Chlorides 5500 ppm System LCM 1
 Blow Description FP-GOOD Blow BOB IN 44 min
ISI-Dead No Blow Back
FP-GOOD Blow BOB IN 6 1/2 min
ISI-Dead No Blow Back

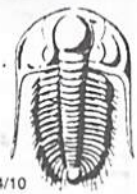
Rec	Feet of	%gas	%oil	%water	%mud
<u>31</u>	<u>Sacm</u>		<u>10</u>		<u>90</u>
	<u>157-GIP</u>				

Rec Total 31 BHT 103 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1673 Test 1150 T-On Location 1:18
 (B) First Initial Flow 10 Jars _____ T-Started 2:17
 (C) First Final Flow 13 Safety Joint _____ T-Open 4:38
 (D) Initial Shut-In 348 Circ Sub _____ T-Pulled 7:38
 (E) Second Initial Flow 11 Hourly Standby _____ T-Out 10:38
 (F) Second Final Flow 22 Mileage 55.80 Comments _____
 (G) Final Shut-In 522 Sampler _____
 (H) Final Hydrostatic 1657 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 45 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1205.80
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1205.80

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48522

Well Name & No. Lilly #1 Test No. 3 Date 4-11-13
 Company TDI INC Elevation 2055 KB 2045 GL
 Address 1310 BISON RD HAYS KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 1 Twp. 15S Rge. 20 W Co. Ellis State Ks

Interval Tested 3492-3540 Zone Tested LKC-I+J
 Anchor Length 43' Anchor 208' Tail Drill Pipe Run 3498 Mud Wt. 9.3
 Top Packer Depth 3487 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 3492 Wt. Pipe Run 0 WL 7.6
 Total Depth 3748 Chlorides 5500 ppm System LCM 2
 Blow Description FP-Weak Blow Built To 3 1/2 IN
1ST-Dead No Blow Back
FP-Weak Surface Blow Built To 1 IN
1ST-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>41</u>	<u>MUD WITH OIL SPOT'S</u>			<u>100</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 41 BHT 107 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1815 Test 1150 T-On Location 19:48
 (B) First Initial Flow 31 Jars _____ T-Started 20:01
 (C) First Final Flow 38 Safety Joint _____ T-Open 21:40
 (D) Initial Shut-In 906 Circ Sub _____ T-Pulled 00:46
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 3:05
 (F) Second Final Flow 46 Mileage 55.80 Comments _____
 (G) Final Shut-In 778 Sampler _____
 (H) Final Hydrostatic 1704 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 300
 Day Standby 1d 9h Total 2105.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1805.80

Approved By _____ Our Representative Jeff Brown

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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: LILLY # 1
 Location: NW SE SE NE
 Pool: WILDCAT
 State: KANSAS

API: 15-051-26,487-00-00
 Field: UNNAMED
 Country: USA



1310 BISON ROAD
 HAYS, KANSAS 67601
 (785) 628-2593

Scale 1:240 Imperial

Well Name: LILLY # 1
 Surface Location: NW SE SE NE
 Bottom Location:
 API: 15-051-26,487-00-00
 License Number: 4787
 Spud Date: 4/5/2013 Time: 3:00 PM
 Region: ELLIS COUNTY
 Drilling Completed: 4/11/2013 Time: 10:55 AM
 Surface Coordinates: 2270' FNL & 490' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2045.00ft
 K.B. Elevation: 2055.00ft
 Logged Interval: 2900.00ft To: 3749.00ft
 Total Depth: 3749.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 2270' FNL
 E/W Co-ord: 490' 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

Rig Type: MUD ROTARY
Spud Date: 4/5/2013
TD Date: 4/11/2013
Rig Release: 4/12/2013

Time: 3:00 PM
Time: 10:55 AM
Time: 11:00 PM

ELEVATIONS

K.B. Elevation: 2055.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 2045.00ft

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF THREE DSTS. WELL RAN STRUCTURALLY HIGH BUT LACKED RESERVOIR DEVELOPMENT IN OIL PRODUCING HORIZONS.

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

OPEN HOLE DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS AND ONE (1) STRADDLE TEST.

SUMMARY OF FORMATION TOPS AND CHRONOLOGY OF DAILY ACTIVITY

LILLY # 1

2270' FNL & 490' FEL, NE/4

Sec. 1-15s-20w

2045' GL 2055' KB

IRVIN # 1

NW SW NW NE

Sec. 6-15s-19w

Reference Well

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1308+ 747	1300+ 755	+754
B-Anhydrite	1346+ 709	1330+ 725	+714
Topeka	3051- 996	3052- 997	- 993
Heebner Shale	3303-1248	3301-1246	-1244
Toronto	3326-1271	3324-1269	-1267
LKC	3350-1295	3348-1293	-1290
BKC	3602-1547	3598-1543	-1537
Marmaton	3645-1590	3648-1593	-1592
Conglomerate SS	3686-1631	3682-1627	NONE
Arbuckle	3706-1651	3706-1651	-1635
RTD	3749-1694		
LTD		3747-1692	

SUMMARY OF DAILY ACTIVITY


4-05-13 RU, spud 3:00 PM, set 8 5/8" surface pipe to 213' w/ 150 sacks
Common, 2%Gel, 3%CC, plug down 7:10 PM, WOC 8hrs, slope 1/2

4-06-13 534', drilling

4-07-13 2204'drilling, displaced 2616'-2633'

- 4-08-13 2940', drilling
- 4-09-13 3264', DST # 1 lower Topeka-Oread 3220'to 3264'
- 4-10-13 3404', DST # 2 3364' to 3404' LKC "C & D"
- 4-11-13 3667', drilling, RTD 3749'@ 10:55am, logs, straddle DST # 3 3492' to 3540', LKC "I & J", start in hole with test at 7:48PM
- 4-12-13 3749', DST # 3 done at 3:05AM, P&A

DST # 1 LOWER TOPEKA-OREAD TEST SUMMARY

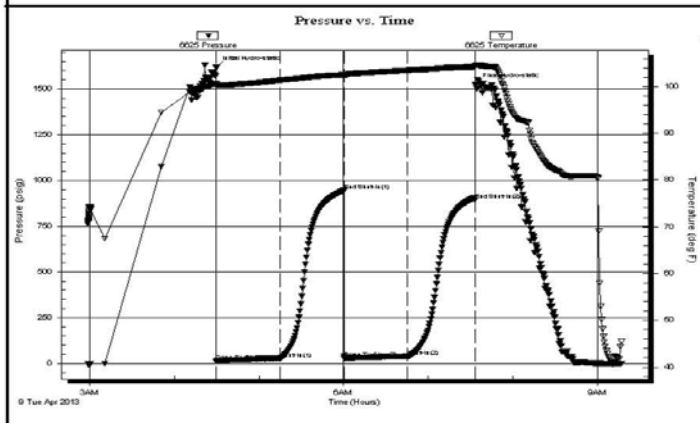
 <p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT		
	TDI Inc 1310 Bison Rd Hays Ks 57601 ATTN: Herb Deines	1-15s-20w Lilly #1 Job Ticket: 45520 DST#: 1 Test Start: 2013.04.09 @ 02:58:45	

GENERAL INFORMATION:

Formation: Topeka-Oread	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Jeff Brown
Time Tool Opened: 04:29:55	Unit No: 67
Time Test Ended: 09:30:05	Reference Elevations: 2055.00 ft (KB)
Interval: 3220.00 ft (KB) To 3264.00 ft (KB) (TVD)	2044.00 ft (CF)
Total Depth: 3264.00 ft (KB) (TVD)	KB to GR/CF: 11.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 6625	Outside	Capacity: 8000.00 psig
Press@RunDepth: 39.35 psig @ 3256.00 ft (KB)	Start Date: 2013.04.09	End Date: 2013.04.09
Start Time: 02:58:46	End Time: 09:17:05	Last Calib.: 2013.04.09
		Time On Btm: 2013.04.09 @ 04:29:45
		Time Off Btm: 2013.04.09 @ 07:33:35

TEST COMMENT: IFF=Fair blow built to 6 1/4 in
 ISI=Dead no blow back
 FFP=Fair blow built to 9 1/2 in
 FSI=Dead no blow back


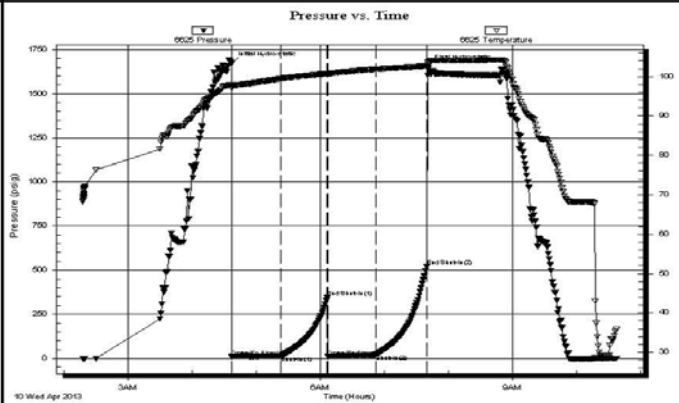


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1616.98	100.55	Initial Hydro-static
1	13.46	100.26	Open To Flow (1)
46	26.91	101.33	Shut-In(1)
91	946.54	102.53	End Shut-In(1)
91	28.46	102.45	Open To Flow (2)
136	39.35	103.48	Shut-In(2)
184	895.08	104.20	End Shut-In(2)
184	1524.34	104.38	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
66.00	V SOCGM 5%G 5%O 90%M	0.93

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

DST # 2 LKC "C" AND "D" TEST SUMMARY

 <p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT			
	TDI Inc 1310 Bison Rd Hays Ks 57601 ATTN: Herb Deines	1-15s-20w Lilly #1 Job Ticket: 48521 Test Start: 2013.04.10 @ 02:17:37	DST#: 2	
GENERAL INFORMATION:				
Formation: Lansing-C-D Deviated: No Whipstock: ft (KB) Time Tool Opened: 04:37:17 Time Test Ended: 10:38:57		Test Type: Conventional Bottom Hole (Reset) Tester: Jeff Brown Unit No: 67		
Interval: 3364.00 ft (KB) To 3404.00 ft (KB) (TVD) Total Depth: 3404.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good		Reference Elevations: 2055.00 ft (KB) 2044.00 ft (CF) KB to GR/CF: 11.00 ft		
Serial #: 6625 Outside Press@RunDepth: 21.61 psig @ 3399.00 ft (KB) Start Date: 2013.04.10 End Date: 2013.04.10 Start Time: 02:17:38 End Time: 10:37:57 Capacity: 8000.00 psig Last Calib.: 2013.04.10 Time On Btm: 2013.04.10 @ 04:37:07 Time Off Btm: 2013.04.10 @ 07:41:07				
TEST COMMENT: IFF=Good blow BOB in 44 min ISI=Dead no blow back FFP=Good blow BOB in 6 1/2 min FSI=Dead no blow back				
	PRESSURE SUMMARY			
	Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
	0	1672.59	98.02	Initial Hydro-static
	1	9.96	97.09	Open To Flow (1)
	46	13.38	99.44	Shut-In(1)
	90	348.30	100.74	End Shut-In(1)
	90	10.65	100.75	Open To Flow (2)
	135	21.61	101.85	Shut-In(2)
	183	521.80	102.72	End Shut-In(2)
	184	1656.77	103.55	Final Hydro-static
Recovery		Gas Rates		
Length (ft)	Description	Volume (bbt)	Choke (inches) Pressure (psig) Gas Rate (Mcf/d)	
31.00	SOCM 10%O 90%M	0.43		
0.00	157-GIP	0.00		
<small>* Recovery from multiple tests</small>				

DST # 3 STRADDLE TEST LKC "I" AND "J" TEST SUMMARY

 <p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT		
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TRILOBITE TESTING, INC.

TDI Inc
1310 Bison Rd
Hays Ks 57601
ATTN: Herb Deines

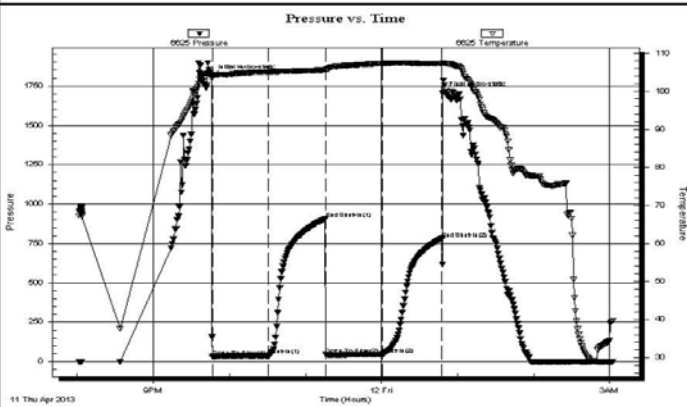
1-15s-20w
Lilly #1
Job Ticket: 48522 **DST#: 3**
Test Start: 2013.04.11 @ 20:01:12

GENERAL INFORMATION:

Formation: **LKC-H-I-J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:46:27
Time Test Ended: 03:05:06
Test Type: Conventional Straddle (Reset)
Tester: Jeff Brown
Unit No: 67
Interval: **3492.00 ft (KB) To 3540.00 ft (KB) (TVD)**
Reference Elevations: 2055.00 ft (KB)
Total Depth: 3748.00 ft (KB) (TVD)
2044.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 11.00 ft

Serial #: 6625 Outside
Press@RunDepth: 46.35 psig @ 3528.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.04.11 End Date: 2013.04.12 Last Calib.: 2013.04.12
Start Time: 20:01:13 End Time: 03:02:07 Time On Btm: 2013.04.11 @ 21:46:07
Time Off Btm: 2013.04.12 @ 00:48:17

TEST COMMENT: IFF=Weak blow built to 3 1/2 in
IS=Dead no blow back
FFP=Weak surface blow built to 1 in
FS=Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1814.77	104.16	Initial Hydro-static
1	30.70	103.87	Open To Flow (1)
45	37.99	105.08	Shut-In(1)
90	906.19	105.61	End Shut-In(1)
90	44.96	105.54	Open To Flow (2)
135	46.35	107.32	Shut-In(2)
182	777.81	107.28	End Shut-In(2)
183	1703.91	107.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
41.00	Mud w ith oil spot's	0.58

Gas Rates

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

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 48522

Printed: 2013.04.12 @ 03:39:35

ROCK TYPES

Clystgy	Lmst fw<7	shale, gry	Ss	Lscong1
Dolprim	Lmst fw>7	Carbon Sh	Stst	Cg1Sandy
Dolsec	shale, grn	shale, red	Dol Lime	

ACCESSORIES

MINERAL

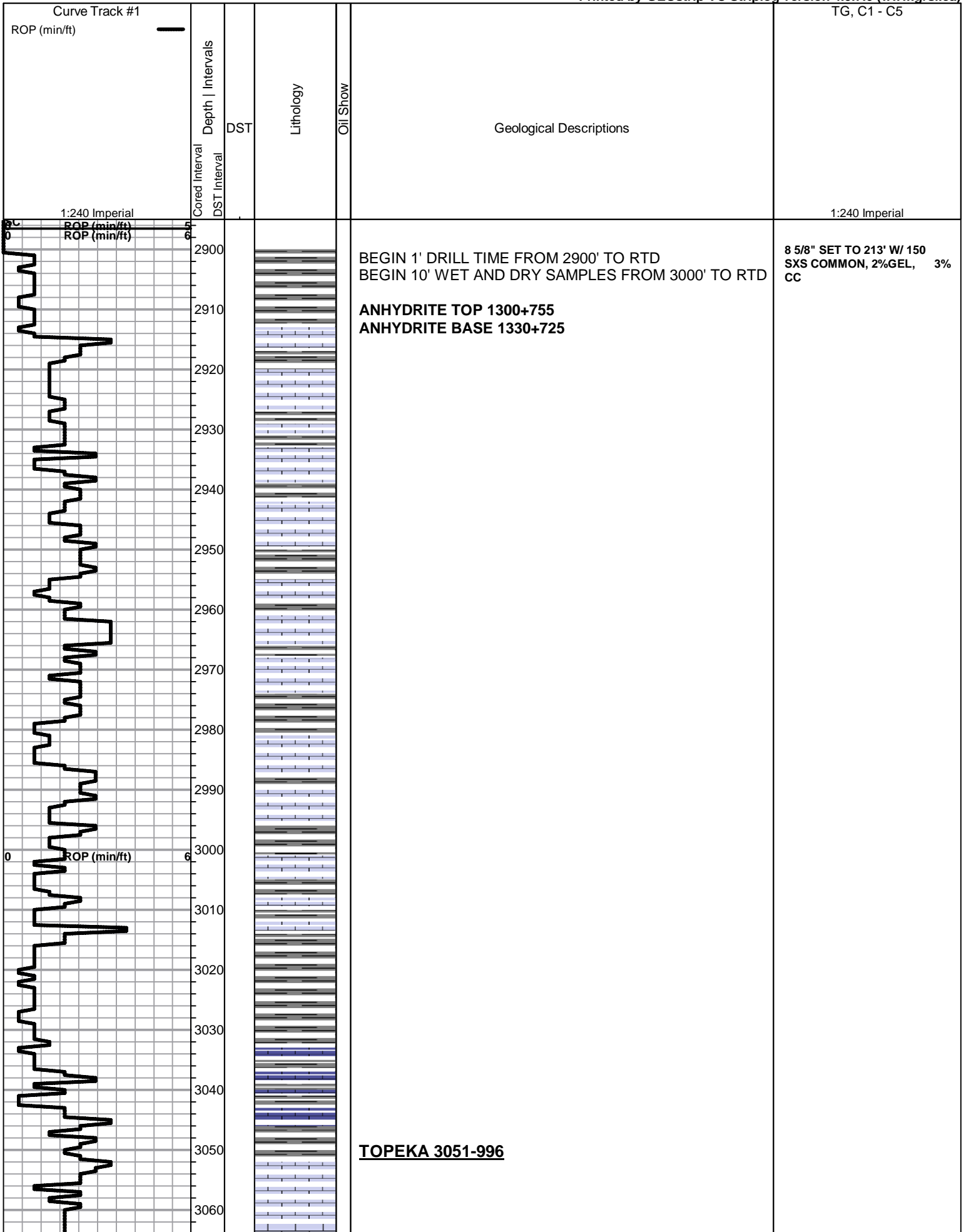
- ▲ Chert, dark
- ≡ Nodules
- P Pyrite
- Sandy
- Varicolored chert
- △ Chert White

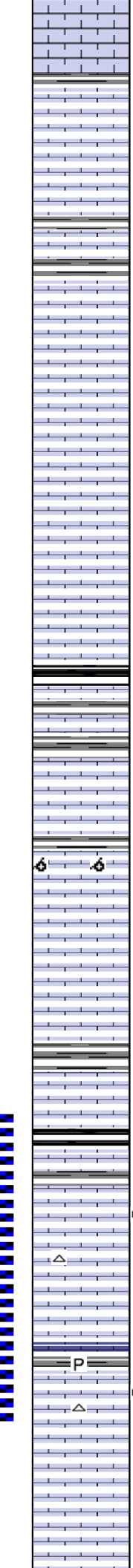
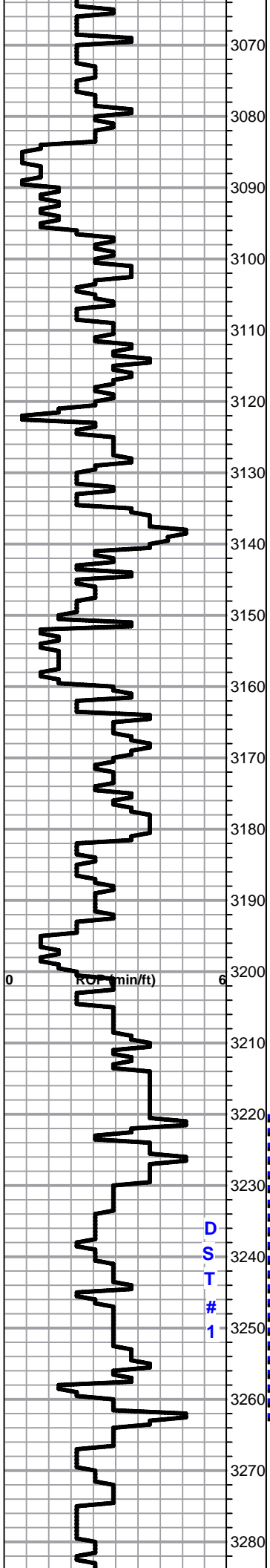
FOSSIL

- Oolite
- ⊕ Oomoldic

OTHER SYMBOLS

DST
 ■ DST Int
 ■ DST alt
 ■ Core





Lime, lt brn-lt grayish brn, fnxln, fusulinids

Lime, lt-med brn, fnxln-granular, chalky, sticky in part

Shale, black carbonaceous, fissile, blocky

Shale, lt-med gray, soft blocky with sticky clumps in part

Lime, crm-lt brn, fn-vfxln, lithographic, very clean

Lime, crm-lt brn, fnxln with fine oolmoldic in part, NS, No Wet Cut

Lime, lt brn, fnxln-granular, bedded chalk in part

Lime, lt-med brn, fnxln-granular, slight bed chalk

Lime, lt-dark brn, fnxln

Shale, black carbonaceous, fissile, blocky

Lime, med brn-grayish brn, fn-vfxln

Lime, crm-lt brn, granular, trace of oil staining in interxln porosity, lt odor

Lime, lt grayish brn, fnxln-granular, soft on crush, chalk in part

Lime, lt-med brn, fnxln-granular

Shale, lt gray, soft blocky with sticky clumps in part

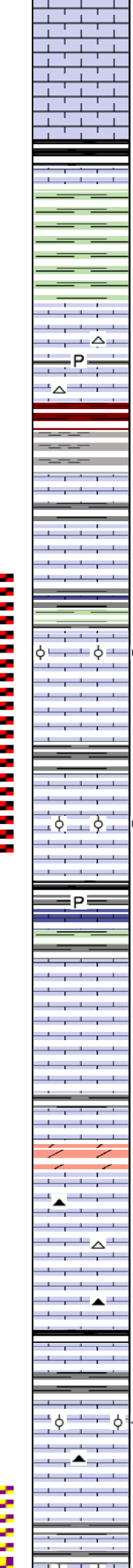
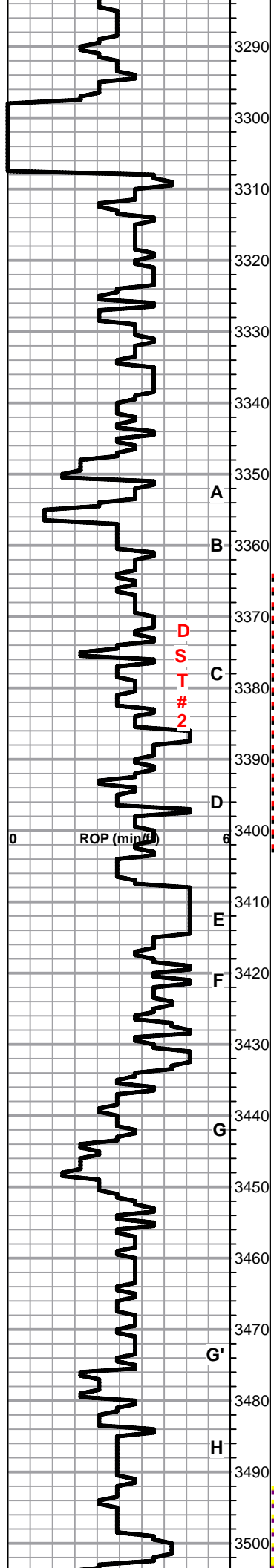
Lime, lt brn, granular, trace staining, lt odor

Lime, lt brn-lt grayish brn, fnxln-granular, fusulinids

D
S
T

1

DST # 1 3220' TO 3264' SEE
HEADER FOR TEST
SUMMARY



Lime, lt brn, fnxln-granular, slight bedded chalk in part

HEEBNER SHALE 3303-1248

Shale, black carbonaceous, fissile, blocky
Lime, lt grayish brn, fnxln

GEOLOGRAPH CABLE BROKE

Shale, lime green, soft blocky with sticky clumps in part

TORONTO SPL 3326-1271

Lime, white-crm, fn-vfxln, lt bedded chalk, NS

Lime, crm-lt brn, fnxln, slight bedded chalk in part, NS

Shale, lt red wash, soft, dove gray, soft mud clumps

LKC SPL 3350-1295

Lime, med brn, fnxln, slightly fossiliferous
Shale, lt gray, soft forming soft sticky mud clumps

A

Lime, lt-med brn, fn-micro xln

B

Shale, lime green-lt gray, soft forming sticky mud clumps

D
S
T

2

Lime, crm-lt brn, mostly fnxln with thin bed of oolitic material, lt scattered stain, NFO, inter oolitic porosity

C

Lime, crm-tan, fnxln, chalk in part

Shale, med gray, soft blocky

D

Lime, crm-lt brn, mostly fnxln, thin bed of oolitic material, spotty lt stain, lt odor, interoolitic porosity

D

ROP (min/#)

Lime, lt-med brn, fnxln

E

Shale, gray-black carbonaceous,
Lime, lt gray, fn-vfxln
Shale, lime green-dove gray, soft forming sticky clumps

E

Lime, white-crm, vfxln, lithographic, NS

F

Lime, crm-lt brn, fn-vfxln, NS

G

Lime, crm-lt brn, fnxln

G

Lime, lt brn, granular with granular dolomite in part, No Wet Cut

G

Lime, crm-lt brn-offwhite, fn-micro xln, slight chalk

G

Lime, crm-lt brn, fn-micro xln

G

Shale, gray-black carbonaceous
Lime, lt-med brn, fnxln
Shale, lt gray, soft forming sticky mud clumps

G'

Lime, crm-lt brn, fnxln, slight bedded chalk, VLT Odor, Source ?

H

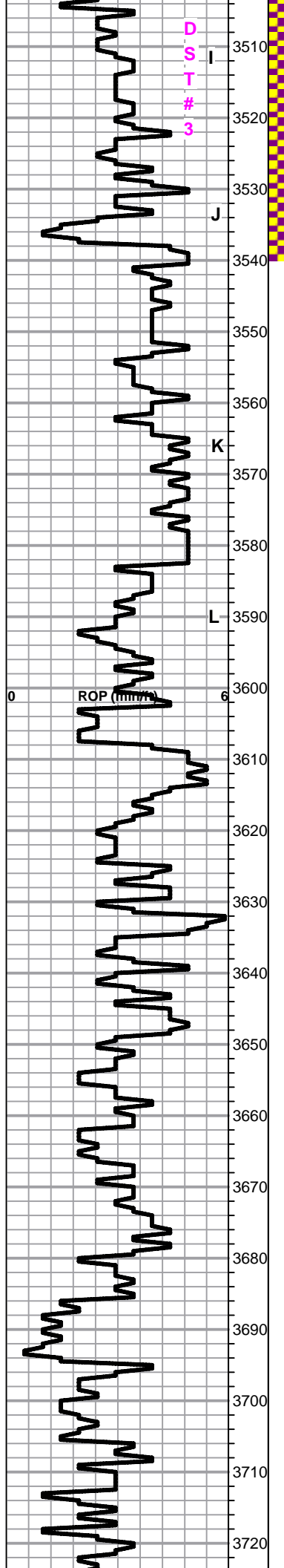
Lime, crm-lt brn, fn-micro xln, slightly fossiliferous, slight chalk

H

DST # 2 3364' TO 3404' SEE
HEADER FOR TEST
SUMMARY

CFS @ 3385'

CFS @ 3404'



Lime, crm, mostly fnxn, thin oolitic bed with bed chalk, gilsonitic, sparry calcite backfill limiting porosity & permeability, lt odor, trace free oil

Lime, crm, fnxn, slight bedded chalk

Lime, crm, fnxn, few fossiliferous chips with trace oil staining

Lime, white, oolmoldic, NS

Lime, lt brn-lt gray, fn-vfxn, bedded chalk in part

Shale, dark gray-grayish green, soft blocky

Lime, lt brn, fn-micro xln, slight chalk

Lime, lt-med brn, fn-micro xln

Shale, gray-black carbonaceous, soft blocky

Lime, lt-med brn, fn-micro xln, increasing chalk content

Lime, lt-med brn, fnxn, slight chalk, NS

BKC SPL 3602-1547

Shale, red wash, reddish brn-deep red, soft

Lime, lt brn, micro xln, hard on crush, clastic lime in part

Shale, reds, brns, greens, soft blocky, chert nodules

Shale, red, very soft mud

Shale, reds, brn, soft blocky-sticky mud

MARMATON ELog 3648-1593

Lime, crm, fnxn, dolomitic, orange cherts, fresh, sharp

Lime, crm-lt brn, fnxn-granular, dolomitic, hard on crush, NS

Lime, crm, fnxn, dolomitic, hard on crush

Lime, crm, fnxn, dolomitic

CONGLOMERATE SAND SPL 3686-1631

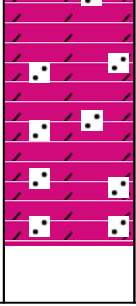
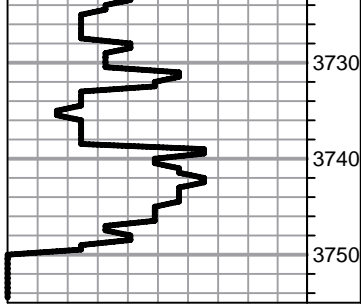
Sandstone, quartz, mostly cemented w/ white clay, scattered SFO on crush in friable uncemented clusters

Sandstone, quartz, friable-cemented, mixed with cherts

ARBUCKLE ELog 3706-1651

Dolomite, crm-lt brn, granular w quartz granules, NS

Dolomite, crm, granular w quartz granules



Dolomite, crm, granular w quartz granules, cxln in part

Dolomite, crm, granular, quartz granules, fn-cxln

RTD 3749-1694 LTD 3747-1692

SLOPE 1 3/4 DEGREE

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6683

Date	4-5-13	Sec.	1	Twp.	15	Range	20	County	Ellis	State	KS	On Location		Finish	7:00 p.m.
Lease								Location				Antonino SW 1/23 Winto			
Contractor								Well No.				Owner			
Type Job								To Quality Oilwell Cementing, Inc.				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Hole Size								Charge To				T.D.			
Csg.								Depth				Street			
Tbg. Size								Depth				City			
Tool								Depth				State			
Cement Left in Csg.								Shoe Joint				The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line								Displace				Cement Amount Ordered			
EQUIPMENT								Common				150			
Pumptrk								No. Cementer				Poz. Mix			
Bulktrk								No. Driver				Gel.			
Bulktrk								No. Driver				Calcium			
JOB SERVICES & REMARKS								Hulls							
Remarks:								Salt							
Rat Hole								Flowseal							
Mouse Hole								Kol-Seal							
Centralizers								Mud CLR 48							
Baskets								CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
8 5/8 on bottom. ESK Circulation.								Handling				158			
Mix 150 cc + Displace.								Mileage							
Cement + Circulation								FLOAT EQUIPMENT							
								Guide Shoe							
								Centralizer							
								Baskets				8 5/8 sewage			
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge				Surface			
								Mileage				15			
								Tax							
								Discount							
Signature								Total Charge							

Date 4-12-03 District Great Bend, KS Ticket No. 57334
 Company TLP INC Rig Southwind #1
 Lease Lilly Well No. 1
 County Ellis State KS
 Location 5W 1/2 S Field _____

CASING DATA: Conductor PTA Squeeze Misc
 Surface Intermediate Production Liner
 Size 4-1/2 Type _____ Weight 12.0 Collar _____

Casing Depths: Top K13 Bottom 3656

Drill Pipe: Size 4 1/2 Weight 16.6 Collars X-hole
 Open Hole: Size _____ T.D. _____ ft. P.B. to _____ ft.

CAPACITY FACTORS:
 Casing: Bbbls/Lin. ft. 0.0637 Lin. ft./Bbl. 15.70
 Open Holes: Bbbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Drill Pipe: Bbbls/Lin. ft. 0.0142 Lin. ft./Bbl. 70.32
 Annulus: Bbbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Perforations: From _____ ft. to _____ ft. Amt. _____

CEMENT DATA:
 Spacer Type: Freshwater
 Amt. _____ Sks Yield _____ ft³/sk Density 8.34 PPG

LEAD: Pump Time _____ hrs. Type _____
 Excess _____
 Amt. _____ Sks Yield _____ ft³/sk Density _____ PPG

TAIL: Pump Time Thicken Time hrs. Type 60% cement A
4104.032 414 gal 1/4 Flt Excess _____
 Amt. 270 Sks Yield 1.40 ft³/sk Density 14.5 PPG

WATER: Lead _____ gals/sk Tail _____ gals/sk Total _____ Bbls.

Pump Trucks Used 366-Charles K - Mike Scotton
 Bulk Equip. 344-170 - Joel M

Floater Equip: Manufacturer _____
 Shoe: Type _____ Depth _____
 Floater: Type _____ Depth _____
 Centralizers: Quantity _____ Plugs Top _____ Btm. _____
 Stage Collars _____
 Special Equip. _____
 Disp. Fluid Type Freshwater Amt. _____ Bbls. Weight 6.34 PPG
 Mud Type None Weight 9.1 PPG

COMPANY REPRESENTATIVE _____

CEMENTER Dustin C

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	AM/PM	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	
						ON location - Aigup Had safety meeting
						Run 4 1/2 Drill pipe Fill hole with 6' High Mud Hook up cement pump
						1. 3656 - 60 SKS
						2. 1325 - 25 SKS
						3. 550 - 120 SKS
						4. 265 - 40 SKS
						5. 40 - 10 SKS
						6. BH - 30 SKS
						7. MH - 15 SKS
						plug Down 11:30 AM
						Aig, Down

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

May 21, 2013

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

Re: ACO1
API 15-051-26487-00-00
Lilly 1
NE/4 Sec.01-15S-20W
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