



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1140784
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: _____



1140784

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 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				

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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Tug Hill Operating, LLC
Well Name	Cline 1-14
Doc ID	1140784

Tops

Name	Top	Datum
Heebner Formation	-2092	SS
Lansing Formation	-2255	SS
Kansas City	-2465	SS
Hertha	-2613	SS
Marmaton	-2702	SS
Cherokee	-2751	SS
Mississippian Lime	-2759	SS
Kinderhook Shale	-2912	SS
Viola	-2945	SS
Simpson	-3050	SS
Arbuckle	-3179	SS

ALLIED OIL & GAS SERVICES, LLC 059772

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Medicine Wells KS

DATE <u>4-9-2013</u>	SEC <u>14</u>	TWP <u>32S</u>	RANGE <u>15W</u>	CALLED OUT <u>4:30 AM</u>	ON LOCATION <u>7:00 AM</u>	JOB START <u>8:30 PM</u>	JOB FINISH <u>9:30 PM</u>
LEASE <u>Cline</u>		WELL # <u>1-14</u>	LOCATION <u>NW 1/4 Deerhead Rd, 1 1/2 S</u>		COUNTY <u>Barber</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)			<u>Wintero</u>				

CONTRACTOR Patterson #172
 TYPE OF JOB Rerery Plus
 HOLE SIZE 8 1/4 T.D. _____
 CASING SIZE 9 5/8 DEPTH 826'
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE 5" DEPTH 4300'
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. _____
 PERFS. _____
 DISPLACEMENT 3 bbls water, 65 bbls mud

OWNER TUG Hill
 CEMENT AMOUNT ORDERED 150 sk 60' 40' 49' 06.91
 COMMON Class A 90s @ 12.90 1,611.00
 POZMIX 60s @ 1.35 564.00
 GEL 55s @ 23.40 117.00
 CHLORIDE @ _____
 ASC @ _____
Liquia Defoamer 19s @ 52.38 52.38
Insitins Time 8 hrs @ _____
NSR time 4 hrs @ NC NC
NSR time 4 hrs @ 440.00 1760.00
 HANDLING 163.88 sk @ 2.48 406.42
 MILEAGE 242.60 turn mi 2.60 130.76
 TOTAL 5,139.56

EQUIPMENT
 PUMP TRUCK CEMENTER Darin F.
#558-555 HELPER Scott P.
 BULK TRUCK
#561-553 DRIVER Justin R.
 BULK TRUCK
 # _____ DRIVER _____

REMARKS:
1st Plug-4300' - Loss hole, Pump 6 bbls water ahead, mix 50s cement, Displace 3 bbls water, 65 bbls mud
2nd Plug-900' - Loss hole, Pump 6 bbls water ahead, mix 60s, Displace 3 water, 5 bbls mud
3rd Plug-60' - mix 20s cement

SERVICE
 DEPTH OF JOB 4300'
 PUMP TRUCK CHARGE 2,765.75
 EXTRA FOOTAGE @ _____
 MILEAGE 35 @ 7.70 269.50
 MANIFOLD @ _____
Lisa's vehicle 35 @ 4.40 154.00

CHARGE TO: TUG Hill
 STREET _____
 CITY _____ STATE _____
 Well Name Cline #1-14
 AFE No. 13-1095
 ACCNT No. 830.18
 Name Jerry Auld
 SIGNATURE Jerry Auld
 PLUG & FLOAT EQUIPMENT

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME x Jerry Auld
 SIGNATURE x Jerry Auld
Thank you!!!

TOTAL 3,189.25
 SALES TAX (If Any) _____
 TOTAL CHARGES 8,327.81
 DISCOUNT 35% IF PAID IN 30 DAYS

Net @ 5,413.08

Well Name: Cline 1-14

Contractor/Rig: Patterson-UTI 421

State: KS

County: Barber

SHL: 2298' FSL & 1641' FWL

Township:

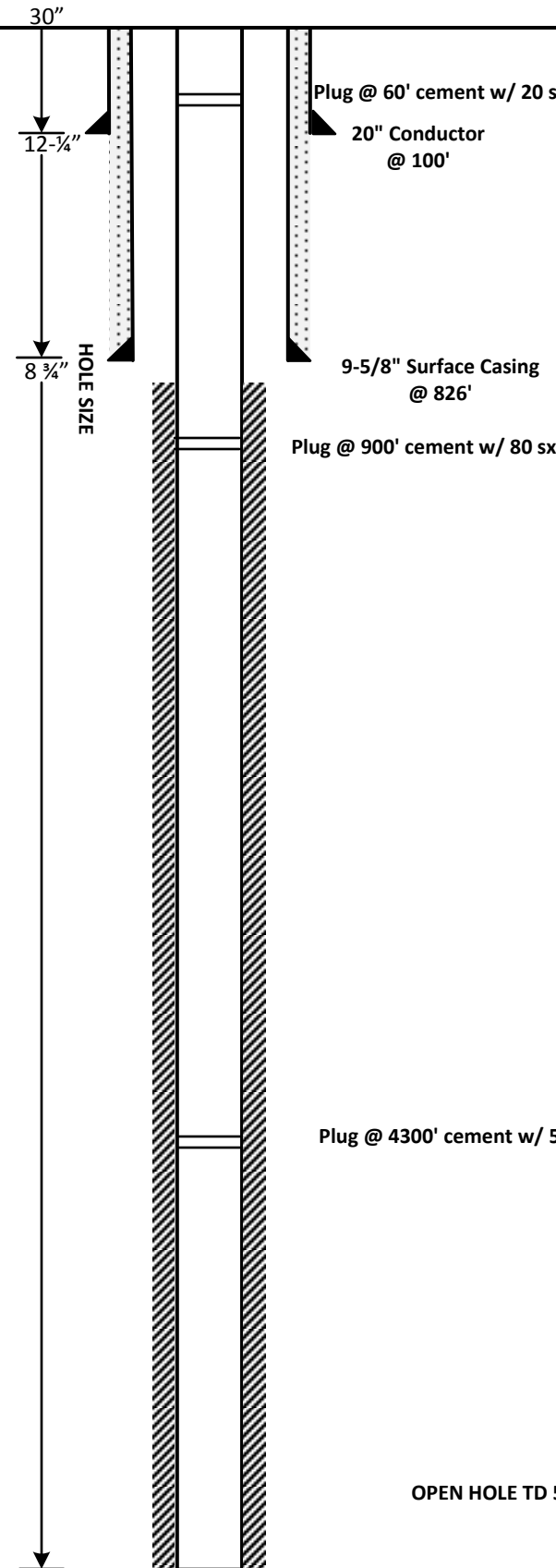
As Run

GL Elev: 1998' KB: KB Elev:

BHL:

AFE: 13-1095

Permit Number: 15-007-24002-00-00



Tubular Details

	20"	9 5/8"	7"	3 1/2"
Weight		36#		
Grade		J55		
Thread		STC		
Depth	100'	826'		

Cement Details

Interval	Company	Excess	Est. Vol
Surface			
Intermediate			
Production Lead			
Production Tail			

See attachments for slurry details



DRILL STEM TEST REPORT

Prepared For: **Tug Hill Operations**

550 Bailey Ave STE 510
Ft Worth TX 76107

ATTN: Winnie Scott/ Dave P

Cline #1-14

14-32s-15w Barber,KS

Start Date: 2013.04.25 @ 07:51:21

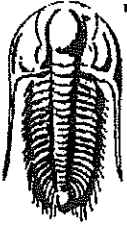
End Date: 2013.04.25 @ 22:50:51

Job Ticket #: 52305 DST #: 1

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

Printed: 2013.04.30 @ 08:33:49

Tug Hill Operations
14-32s-15w Barber,KS
Cline #1-14
DST # 1
Viola
2013.04.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Tug Hill Operations
550 Bailey Ave STE 510
Ft Worth TX 76107

ATTN: Winnie Scott/ Dave P

14-32s-15w Barber, KS

Cline #1-14

Job Ticket: 52305

DST#: 1

Test Start: 2013.04.25 @ 07:51:21

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:05:21

Time Test Ended: 22:50:51

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Staats

Unit No: 47

Interval: 4944.00 ft (KB) To 4994.00 ft (KB) (TVD)

Total Depth: 4994.00 ft (KB) (TVD)

Hole Diameter: 8.75 inches Hole Condition: Fair

Reference Elevations: 2021.00 ft (KB)

1998.00 ft (CF)

KB to GR/CF: 23.00 ft

Serial #: 6773

Outside

Press@RunDepth: 43.18 psig @ 4945.00 ft (KB)

Start Date: 2013.04.25

End Date:

2013.04.25

Start Time: 07:51:26

End Time:

22:50:51

Capacity: 8000.00 psig

Last Calib.: 2013.04.25

Time On Btm: 2013.04.25 @ 15:00:06

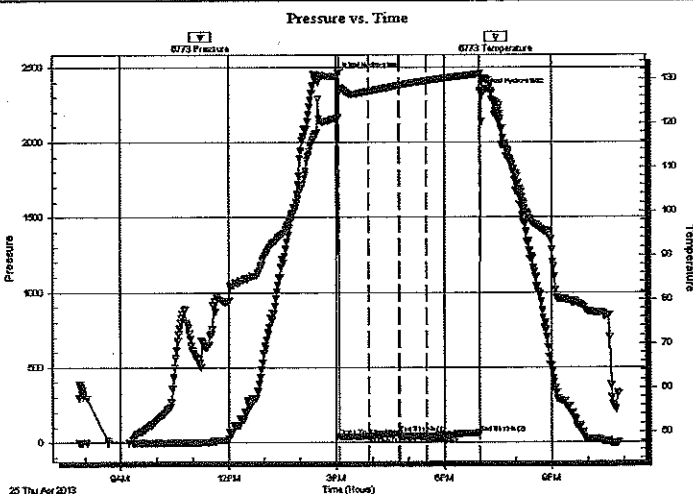
Time Off Btm: 2013.04.25 @ 19:01:06

TEST COMMENT: IF: Weak surface blow

IS: No blow back

FF: No blow

FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2439.59	121.00	Initial Hydro-static
6	39.28	127.73	Open To Flow (1)
54	40.06	127.04	Shut-In(1)
106	58.74	128.39	End Shut-In(1)
107	42.00	128.45	Open To Flow (2)
150	43.18	129.45	Shut-In(2)
239	61.02	131.00	End Shut-In(2)
241	2330.74	131.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tug Hill Operations

14-32s-15w Barber, KS

550 Bailey Ave STE 510
Ft Worth TX 76107

Cline #1-14

Job Ticket: 52305

DST#: 1

ATTN: Winnie Scott/ Dave P

Test Start: 2013.04.25 @ 07:51:21

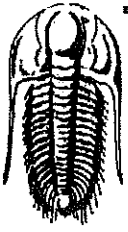
Tool Information

Drill Pipe:	Length: 4377.00 ft	Diameter: 4.80 inches	Volume: 97.96 bbl	Tool Weight: 2200.00 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: 549.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 155000.0 lb
			<u>Total Volume: 100.66 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 120000.0 lb
Depth to Top Packer:	4944.00 ft			Final 120000.0 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	79.00 ft			
Number of Packers:	2	Diameter: 8.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4916.00	
Shut In Tool	5.00			4921.00	
Hydraulic tool	5.00			4926.00	
Jars	5.00			4931.00	
Safety Joint	3.00			4934.00	
Packer	5.00			4939.00	29.00 Bottom Of Top Packer
Packer	5.00			4944.00	
Stubb	1.00			4945.00	
Recorder	0.00	6773	Outside	4945.00	
Recorder	0.00	8676	Inside	4945.00	
Change Over Sub	1.00			4946.00	
Drill Pipe	31.00			4977.00	
Change Over Sub	1.00			4978.00	
Perforations	13.00			4991.00	
Bullnose	3.00			4994.00	50.00 Bottom Packers & Anchor

Total Tool Length: 79.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Tug Hill Operations

14-32s-15w Barber,KS

550 Bailey Ave STE 510
Ft Worth TX 76107

Cline #1-14

Job Ticket: 52305

DST#: 1

ATTN: Winnie Scott/ Dave P

Test Start: 2013.04.25 @ 07:51:21

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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 3.99 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8500.00 ppm			
Filter Cake: 0.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	MUD	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Laboratory Name: Laboratory Location:

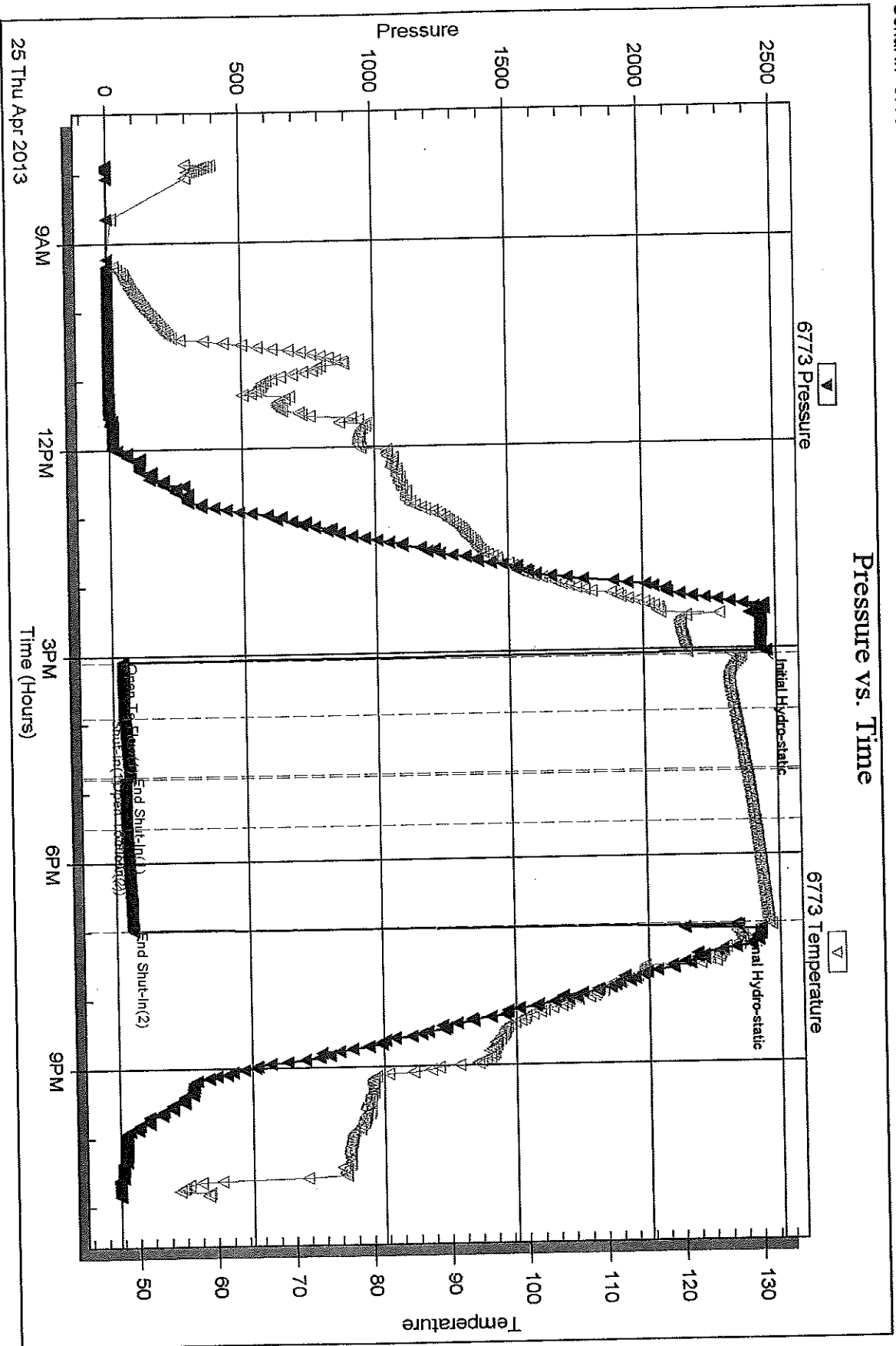
Recovery Comments:

Serial #: 6773

Outside Tug Hill Operations

Cline #1-14

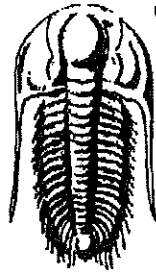
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52305

Printed: 2013.04.30 @ 08:33:51



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Tug Hill Operations**

550 Bailey Ave STE 510
Ft Worth TX 76107

ATTN: Winnie Scott/ Dave P

Cline #1-14

14-32s-15w Barber,KS

Start Date: 2013.04.27 @ 10:07:39

End Date: 2013.04.27 @ 22:51:24

Job Ticket #: 52306 DST #: 2

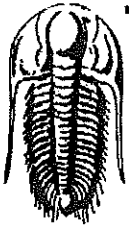
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 08:32:47

Tug Hill Operations
14-32s-15w Barber,KS
Cline #1-14
DST # 2
Viola
2013.04.27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Tug Hill Operations
550 Bailey Ave STE 510
Ft Worth TX 76107
ATTN: Winnie Scott/ Dave P

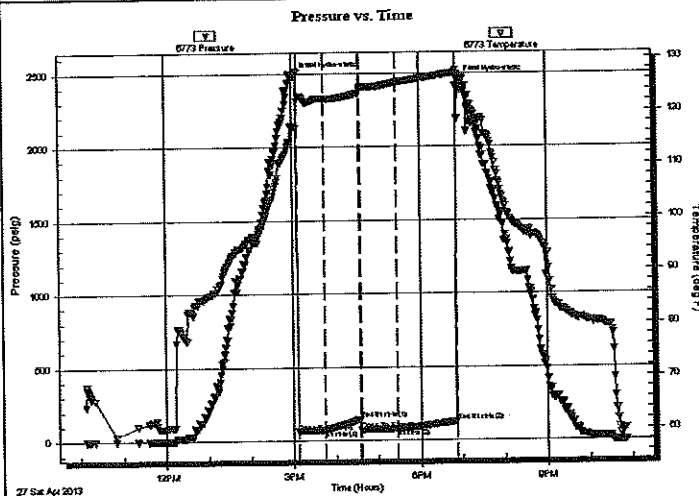
14-32s-15w Barber,KS
Cline #1-14
Job Ticket: 52306 **DST#: 2**
Test Start: 2013.04.27 @ 10:07:39

GENERAL INFORMATION:

Formation: **Viola**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:06:54
Time Test Ended: 22:51:24
Interval: **4979.00 ft (KB) To 5060.00 ft (KB) (TVD)**
Total Depth: 4994.00 ft (KB) (TVD)
Hole Diameter: 8.75 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Chris Staats
Unit No: 47
Reference Elevations: 2021.00 ft (KB)
1998.00 ft (CF)
KB to GR/CF: 23.00 ft

Serial #: 6773 **Outside**
Press@RunDepth: 80.15 psig @ 4980.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.04.27 End Date: 2013.04.27 Last Calib.: 2013.04.27
Start Time: 10:07:44 End Time: 22:51:24 Time On Btm: 2013.04.27 @ 15:02:24
Time Off Btm: 2013.04.27 @ 18:54:54

TEST COMMENT: IF: Weak blow 3/4"
IS: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2480.56	116.95	Initial Hydro-static
5	63.28	121.96	Open To Flow (1)
43	75.25	122.28	Shut-In(1)
92	145.67	123.33	End Shut-In(1)
94	74.32	124.27	Open To Flow (2)
145	80.15	125.29	Shut-In(2)
229	126.82	127.12	End Shut-In(2)
233	2452.95	124.56	Final Hydro-static

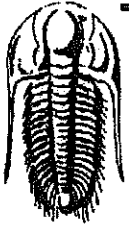
Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD	0.10

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Tug Hill Operations
 550 Bailey Ave STE 510
 Ft Worth TX 76107
 ATTN: Winnie Scott/ Dave P

14-32s-15w Barber, KS
Cline #1-14
 Job Ticket: 52306 DST#: 2
 Test Start: 2013.04.27 @ 10:07:39

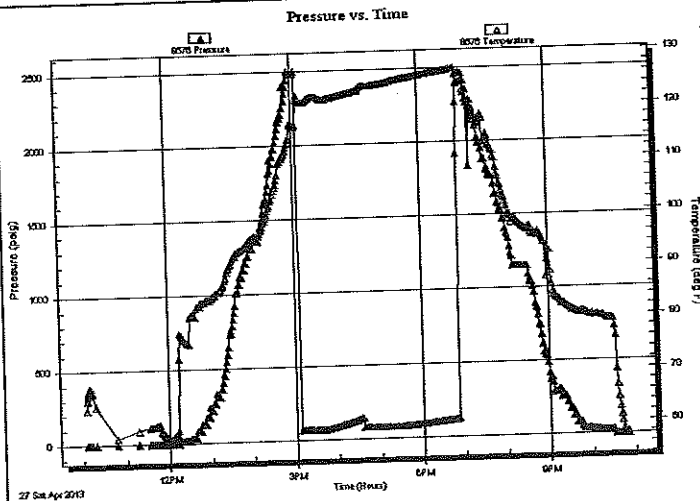
GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:06:54
 Time Test Ended: 22:51:24
 Interval: **4979.00 ft (KB) To 5060.00 ft (KB) (TVD)**
 Total Depth: 4994.00 ft (KB) (TVD)
 Hole Diameter: 8.75 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
 Tester: Chris Staats
 Unit No: 47
 Reference Elevations: 2021.00 ft (KB)
 1998.00 ft (CF)
 KB to GR/CF: 23.00 ft

Serial #: 8676 Inside
 Press@RunDepth: psig @ 4980.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.04.27 End Date: 2013.04.27 Last Calib.: 2013.04.27
 Start Time: 10:04:59 End Time: 22:50:24 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Weak blow 3/4"
 IS: No blow back
 FF: No blow
 FS: No blow back



PRESSURE SUMMARY

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

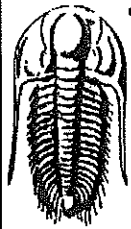
Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD	0.10

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tug Hill Operations

14-32s-15w Barber,KS

550 Bailey Ave STE 510
Ft Worth TX 76107

Cline #1-14

Job Ticket: 52306

DST#: 2

ATTN: Winnie Scott/ Dave P

Test Start: 2013.04.27 @ 10:07:39

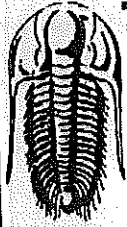
Tool Information

Drill Pipe:	Length: 4408.00 ft	Diameter: 4.80 inches	Volume: 98.66 bbl	Tool Weight: 2200.00 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: 549.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 160000.0 lb
			<u>Total Volume: 101.36 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 120000.0 lb
Depth to Top Packer:	4979.00 ft			Final 120000.0 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	110.00 ft			
Number of Packers:	2	Diameter: 8.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4951.00	
Shut In Tool	5.00			4956.00	
Hydraulic tool	5.00			4961.00	
Jars	5.00			4966.00	
Safety Joint	3.00			4969.00	
Packer	5.00			4974.00	29.00 Bottom Of Top Packer
Packer	5.00			4979.00	
Stubb	1.00			4980.00	
Recorder	0.00	6773	Outside	4980.00	
Recorder	0.00	8676	Inside	4980.00	
Change Over Sub	1.00			4981.00	
Drill Pipe	62.00			5043.00	
Change Over Sub	1.00			5044.00	
Perforations	13.00			5057.00	
Bullnose	3.00			5060.00	81.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Tug Hill Operations
 550 Bailey Ave STE 510
 Ft Worth TX 76107
 ATTN: Winnie Scott/ Dave P

14-32s-15w Barber,KS
 Cline #1-14
 Job Ticket: 52306
 Test Start: 2013.04.27 @ 10:07:39

DST#: 2

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: 4.00 in ^a	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 9000.00 ppm			
Filter Cake: 0.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MUD	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

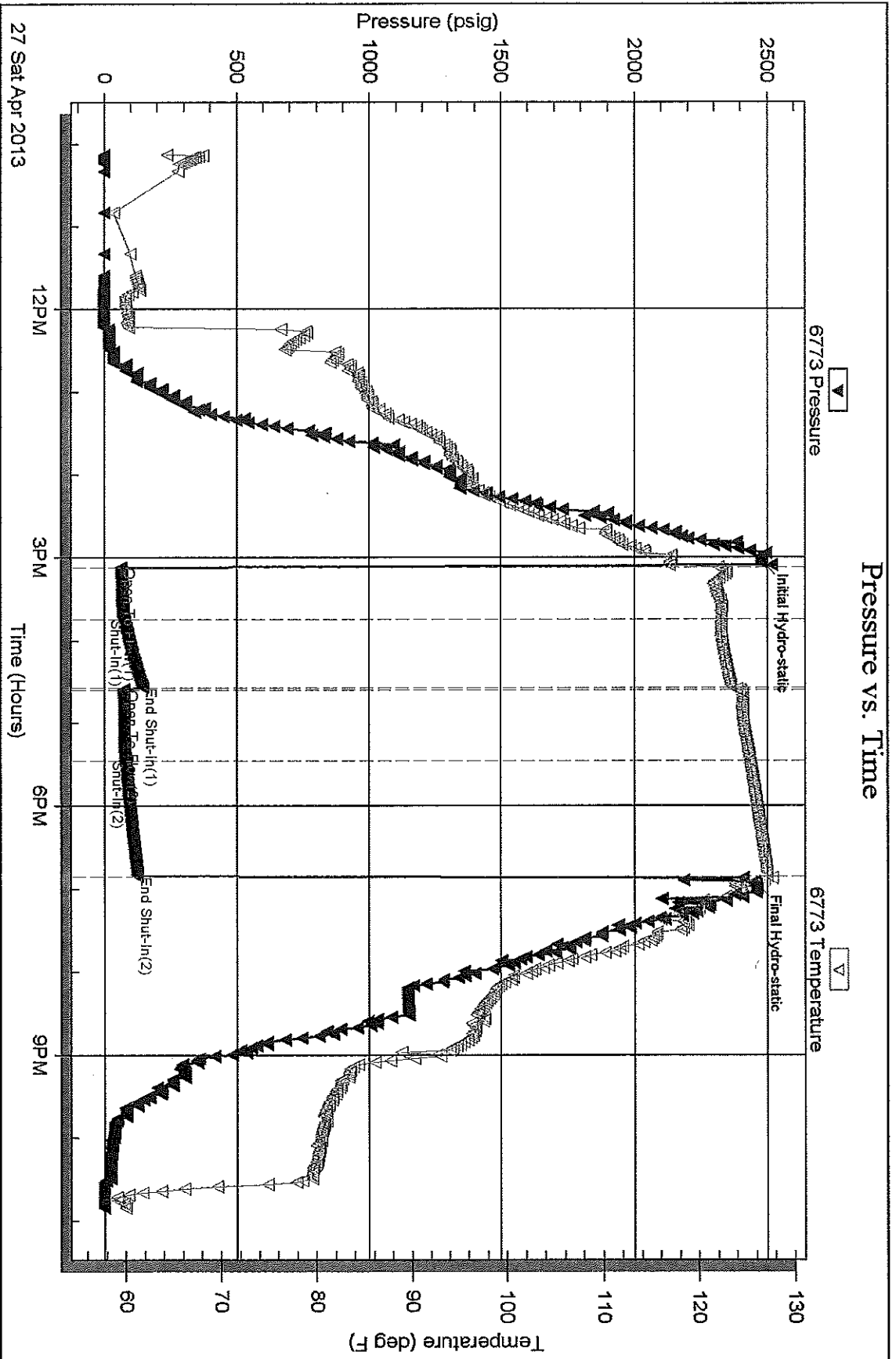
Serial #: 6773

Outside Tug Hill Operations

Cline #1-14

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 52306

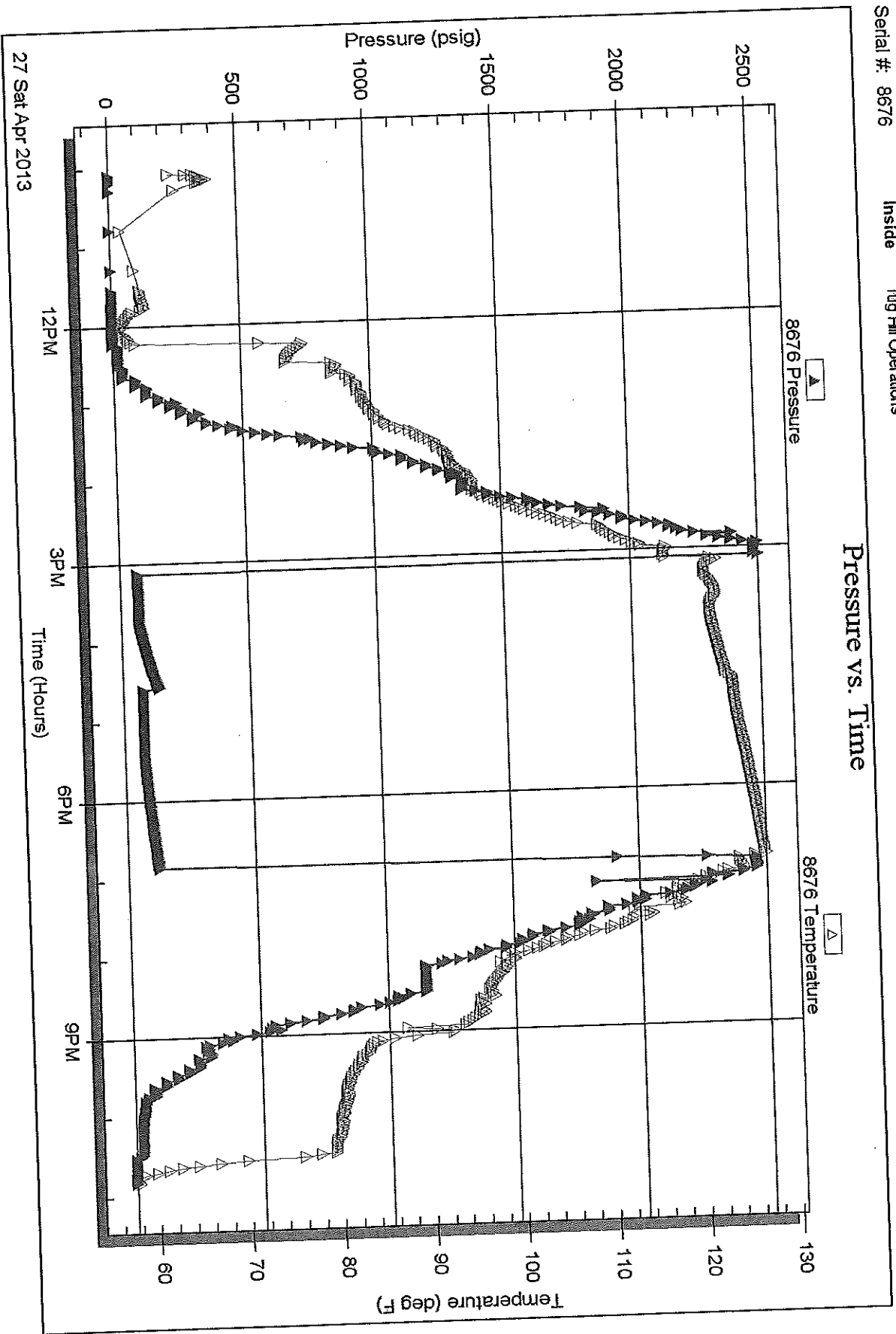
Printed: 2013.04.30 @ 08:32:50

Serial #: 8676

Inside Tug Hill Operations

Cline #1-14

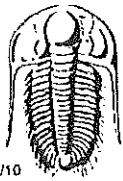
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 52306

Printed: 2013.04.30 @ 08:32:50



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52305

Well Name & No. Cline # 1-14 Test No. 1 Date 4-25-13
 Company Tug Hill operations Elevation _____ KB _____ GL _____
 Address 550 Bailey Ave STE 510 Ft Worth TX 76107
 Co. Rep / Geo. Winnie Scott Rig Patterson #172
 Location: Sec. 14 Twp. 32 Rge. 15 Co. Barber State KCS

Interval Tested 4944 - 4994 Zone Tested Viola
 Anchor Length 50' Drill Pipe Run 4377 Mud Wt. 9.2
 Top Packer Depth 4939 Drill Collars Run 549 Vis 49
 Bottom Packer Depth 4944 Wt. Pipe Run 0 WL 4.0
 Total Depth 4994 Chlorides 8500 ppm System LCM 0
 Blow Description IF: weak surface blow
ISI: NO blow back
FF: NO blow
FSI: NO blow back

Rec	Feet of	Well Name	AFE No.	%gas	%oil	%water	%mud
Rec	10'	Feet of	MUD	13-1095			
Rec		Feet of		830.24			
Rec		Feet of					
Rec		Feet of					
Rec		Feet of					

Rec Total 10 BHT 130 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2439 Test 1,225⁰⁰ 1250 T-On Location 6:55
 (B) First Initial Flow 39 Jars 250⁰⁰ T-Started 7:31
 (C) First Final Flow 40 Safety Joint 75⁰⁰ T-Open 15:05
 (D) Initial Shut-In 58 Circ Sub _____ T-Pulled 19:00
 (E) Second Initial Flow 42 Hourly Standby 6hrs 5.75h 575 T-Out 22:45
 (F) Second Final Flow 43 Mileage 110 miles 170⁵⁰ Comments _____
 (G) Final Shut-In 61 Sampler _____
 (H) Final Hydrostatic 2330 Straddle _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer 2 8" packers Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2970.50
 Accessibility 150⁰⁰ MP/DST Disc't _____
 Sub Total 2970.50

Approved By [Signature] Our Representative Chris Stott

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. 52306

Well Name & No. Cline #1-14 Test No. 2 Date 4-27-13
 Company Tug Hill operations Elevation 2021 KB 1998 GL
 Address 550 Bailey Ave SFE 510 FT Worth TX 76107
 Co. Rep / Geo. Winnie Scott / David Patterson Rig Patterson #172
 Location: Sec. 14 Twp. 32 Rge. 1S Co. Barber State KS

Interval Tested 4979 - 5060 Zone Tested Viola
 Anchor Length 81' Drill Pipe Run 4408 Mud Wt. 9.3
 Top Packer Depth 4974 Drill Collars Run 549 Vis 54
 Bottom Packer Depth 4979 Wt. Pipe Run 0 WL 4.0
 Total Depth 5060 Chlorides 9,000 ppm System LCM 0
 Blow Description IF: weak blow 3/4"
LSI: NO blow back
FF: NO blow
FSI: NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>20'</u>	Feet of <u>MUD</u>	%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 20' BHT 182° Gravity - API RW - @ - F Chlorides - ppm
 (A) Initial Hydrostatic 3480 Test 1325⁰⁰ 1350 T-On Location 9:00
 (B) First Initial Flow 63 Jars 250⁰⁰ T-Started 10:07
 (C) First Final Flow 75 Safety Joint 75⁰⁰ T-Open 15:06
 (D) Initial Shut-In 145 Circ Sub T-Pulled 18:50
 (E) Second Initial Flow 74 Hourly Standby 4 hrs 2.75h 275 T-Out 22:50
 (F) Second Final Flow 80 Mileage 110 miles 170⁵⁰ Comments _____
 (G) Final Shut-In 126 Sampler _____
 (H) Final Hydrostatic 245² Straddle _____
 Initial Open 30 Extra Packer 8" packers 500⁰⁰ Ruined Shale Packer _____
 Initial Shut-In 60 Shale Packer _____ Ruined Packer _____
 Final Flow 45 Extra Recorder _____ Sub Total 341.67
 Final Shut-In 90 Day Standby 1d 10.25h Total 3112.17
 Accessibility 150⁰⁰ MP/DST Disc't _____
 Sub Total 2770.50

Approved By [Signature] Our Representative Chris Stant
 Trilobite Testing Inc. shall not be liable for damages 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.

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

Winnie Scott
Tug Hill Operating, LLC
550 BAILEY AVE, STE 510
FT. WORTH, TX 76107

Re: ACO1
API 15-007-24002-00-00
Cline 1-14
SW/4 Sec.14-32S-15W
Barber 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,
Winnie Scott