



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1104656
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: _____



1104656

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
-------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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DRILL STEM TEST REPORT

Prepared For: **TDI inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Derrick #2

4-15s-18w Ellis,KS

Start Date: 2012.10.24 @ 23:48:05

End Date: 2012.10.25 @ 06:08:20

Job Ticket #: 49361 DST #: 1

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

Printed: 2012.10.25 @ 10:29:59



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

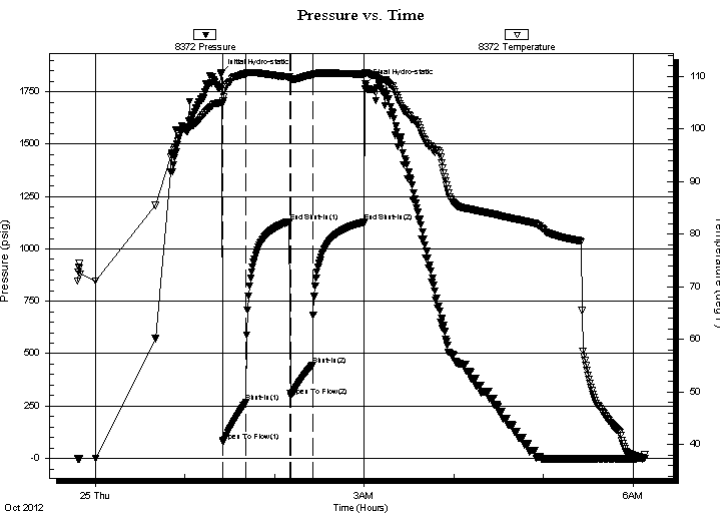
4-15s-18w Ellis,KS
Derrick #2
 Job Ticket: 49361 **DST#: 1**
 Test Start: 2012.10.24 @ 23:48:05

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:25:30
 Time Test Ended: 06:08:20
 Interval: **3598.00 ft (KB) To 3648.00 ft (KB) (TVD)**
 Total Depth: 3751.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Straddle (Initial)
 Tester: Andy Carreira
 Unit No: 39
 Reference Elevations: 2029.00 ft (KB)
 2019.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8372 Outside
 Press @ Run Depth: 445.91 psig @ 3605.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.10.24 End Date: 2012.10.25 Last Calib.: 2012.10.25
 Start Time: 23:48:05 End Time: 06:08:20 Time On Btm: 2012.10.25 @ 01:24:00
 Time Off Btm: 2012.10.25 @ 03:01:00

TEST COMMENT: IF:(15min) BOB 2 min
 IS:(30min) No Return
 FF:(15min) BOB 2 min
 FS:(30min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1836.25	104.98	Initial Hydro-static
2	79.81	105.43	Open To Flow (1)
17	269.38	110.47	Shut-In(1)
47	1130.93	109.83	End Shut-In(1)
47	296.49	109.54	Open To Flow (2)
62	445.91	110.27	Shut-In(2)
96	1126.77	110.35	End Shut-In(2)
97	1787.67	110.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w=100%	7.01
415.00	OCMW o=10% m=10% w=80%	5.82
120.00	HOCWM o=30% w=30% m=40%	1.68
5.00	CO o=100%	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

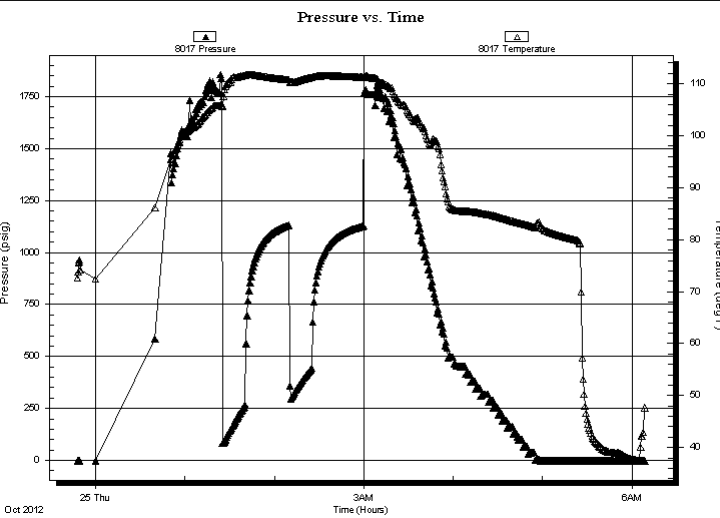
4-15s-18w Ellis,KS
Derrick #2
Job Ticket: 49361 **DST#: 1**
Test Start: 2012.10.24 @ 23:48:05

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:25:30
Time Test Ended: 06:08:20
Interval: 3598.00 ft (KB) To 3648.00 ft (KB) (TVD)
Total Depth: 3751.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Test Type: Conventional Straddle (Initial)
Tester: Andy Carreira
Unit No: 39
Reference Elevations: 2029.00 ft (KB)
2019.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8017 Inside
Press @ Run Depth: psig @ 3605.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.10.24 End Date: 2012.10.25 Last Calib.: 2012.10.25
Start Time: 23:48:05 End Time: 06:08:29 Time On Btm:
Time Off Btm:

TEST COMMENT: IF:(15min) BOB 2 min
IS:(30min) No Return
FF:(15min) BOB 2 min
FS:(30min) No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w=100%	7.01
415.00	OCMW o=10% m=10% w=80%	5.82
120.00	HOCWM o=30% w=30% m=40%	1.68
5.00	CO o=100%	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

4-15s-18w Ellis,KS

Derrick #2

Job Ticket: 49361

DST#: 1

Test Start: 2012.10.24 @ 23:48:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:25:30

Time Test Ended: 06:08:20

Test Type: Conventional Straddle (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3598.00 ft (KB) To 3648.00 ft (KB) (TVD)

Total Depth: 3751.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2029.00 ft (KB)

2019.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8647 Below (Straddle)

Press @ RunDepth: psig @ 3654.00 ft (KB)

Start Date: 2012.10.24

End Date: 2012.10.25

Capacity: 8000.00 psig

Last Calib.: 2012.10.25

Start Time: 23:48:05

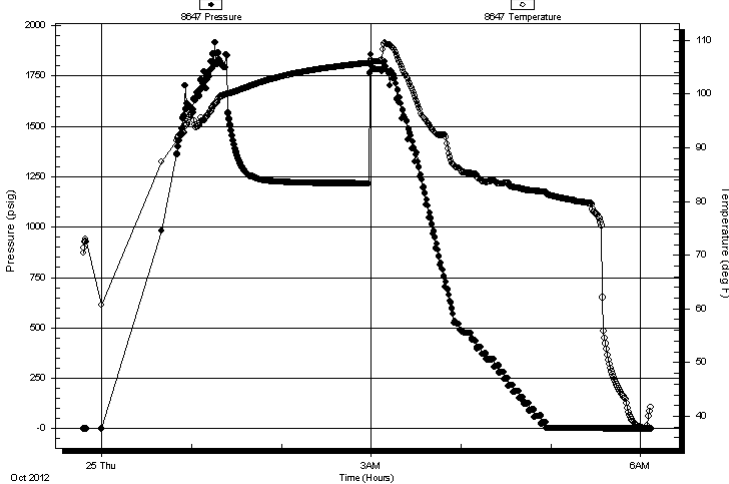
End Time: 06:06:50

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(15min) BOB 2 min
IS:(30min) No Return
FF:(15min) BOB 2 min
FS:(30min) No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w=100%	7.01
415.00	OCMW o=10% m=10% w=80%	5.82
120.00	HOCWM o=30% w=30% m=40%	1.68
5.00	CO o=100%	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

4-15s-18w Ellis,KS
Derrick #2
Job Ticket: 49361 **DST#: 1**
Test Start: 2012.10.24 @ 23:48:05

Tool Information

Drill Pipe:	Length: 3607.00 ft	Diameter: 3.80 inches	Volume: 50.60 bbl	Tool Weight: 4000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 50.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3598.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	3648.00 ft			
Interval between Packers:	50.00 ft			
Tool Length:	176.00 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			3579.00	
Shut In Tool	5.00			3584.00	
Hydraulic tool	5.00			3589.00	
Packer	5.00			3594.00	20.00 Bottom Of Top Packer
Packer	4.00			3598.00	
Stubb	1.00			3599.00	
Perforations	5.00			3604.00	
Change Over Sub	1.00			3605.00	
Recorder	0.00	8017	Inside	3605.00	
Recorder	0.00	8372	Outside	3605.00	
Drill Pipe	32.00			3637.00	
Change Over Sub	1.00			3638.00	
Perforations	5.00			3643.00	
Blank Off Sub	1.00			3644.00	
Blank Spacing	4.00			3648.00	50.00 Tool Interval
Packer	4.00			3652.00	
Perforations	1.00			3653.00	
Change Over Sub	1.00			3654.00	
Recorder	0.00	8647	Below	3654.00	
Drill Pipe	94.00			3748.00	
Change Over Sub	1.00			3749.00	
Perforations	2.00			3751.00	
Bullnose	3.00			3754.00	106.00 Bottom Packers & Anchor
Total Tool Length:	176.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

4-15s-18w Ellis,KS
Derrick #2
Job Ticket: 49361 **DST#: 1**
Test Start: 2012.10.24 @ 23:48:05

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:	40000 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5100.00 ppm			
Filter Cake: inches			

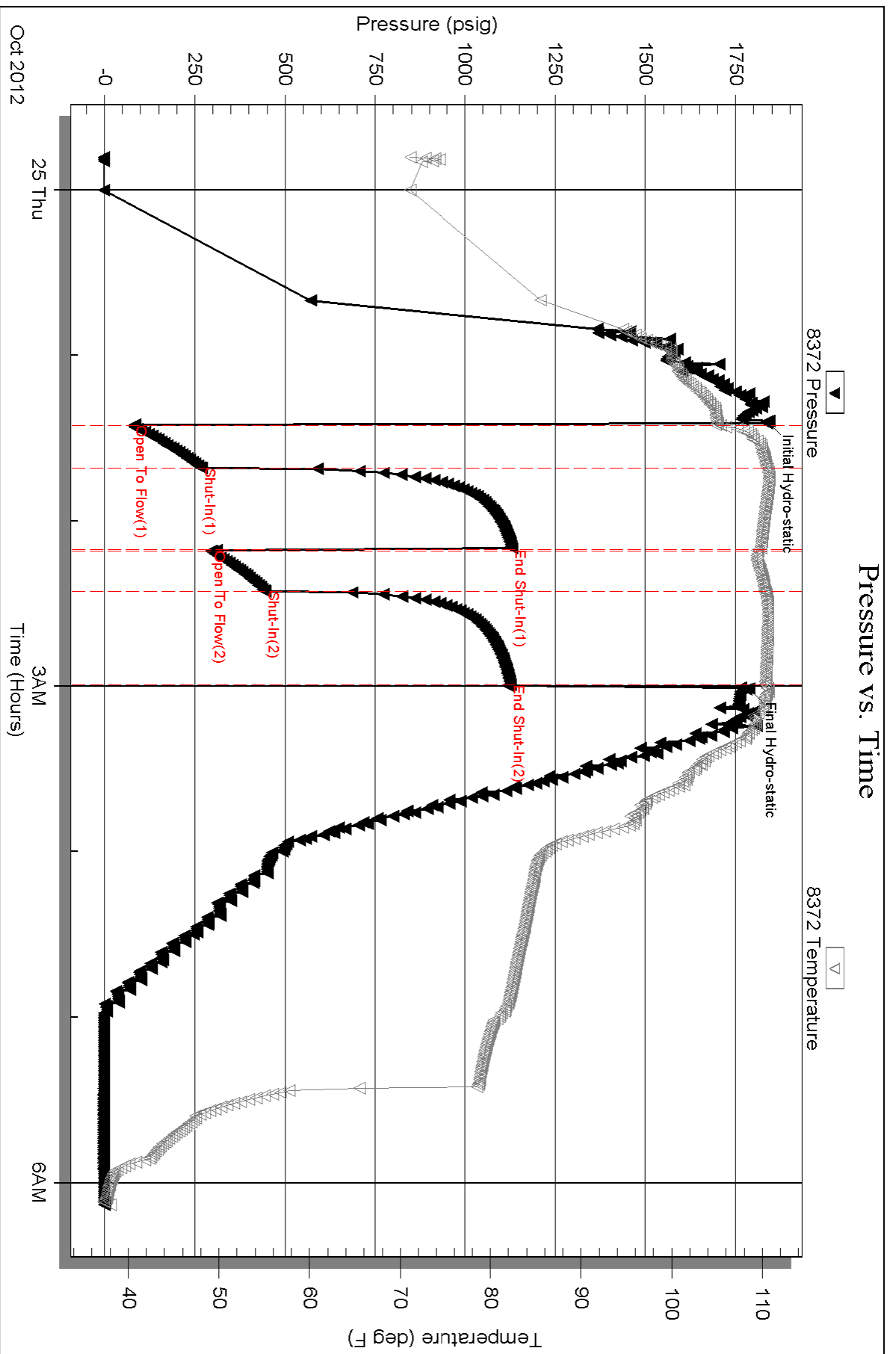
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	OSW o=tr w=100%	7.014
415.00	OCMW o=10% m=10% w=80%	5.821
120.00	HOCWM o=30% w=30% m=40%	1.683
5.00	CO o=100%	0.070

Total Length: 1040.00 ft Total Volume: 14.588 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time



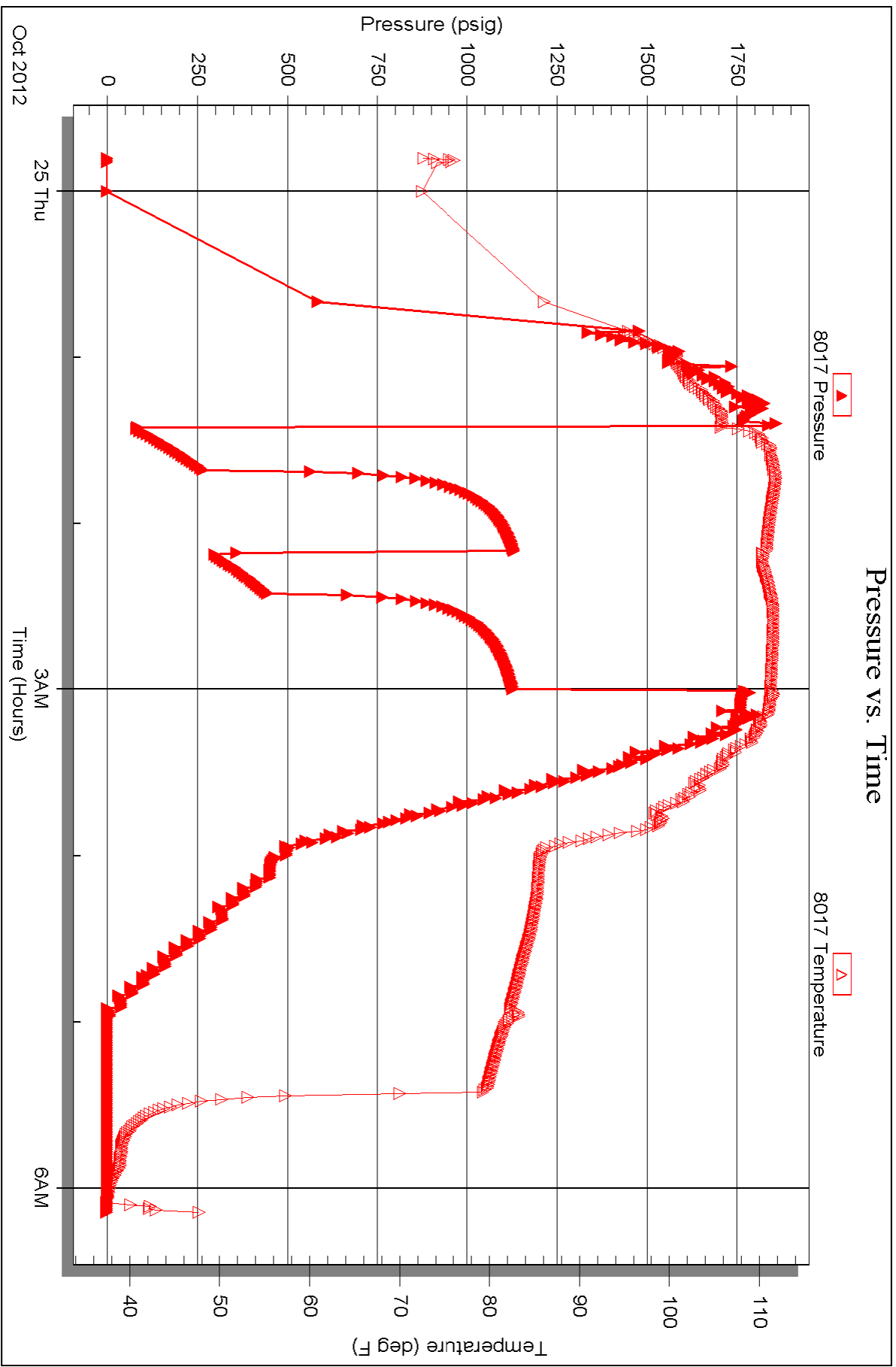
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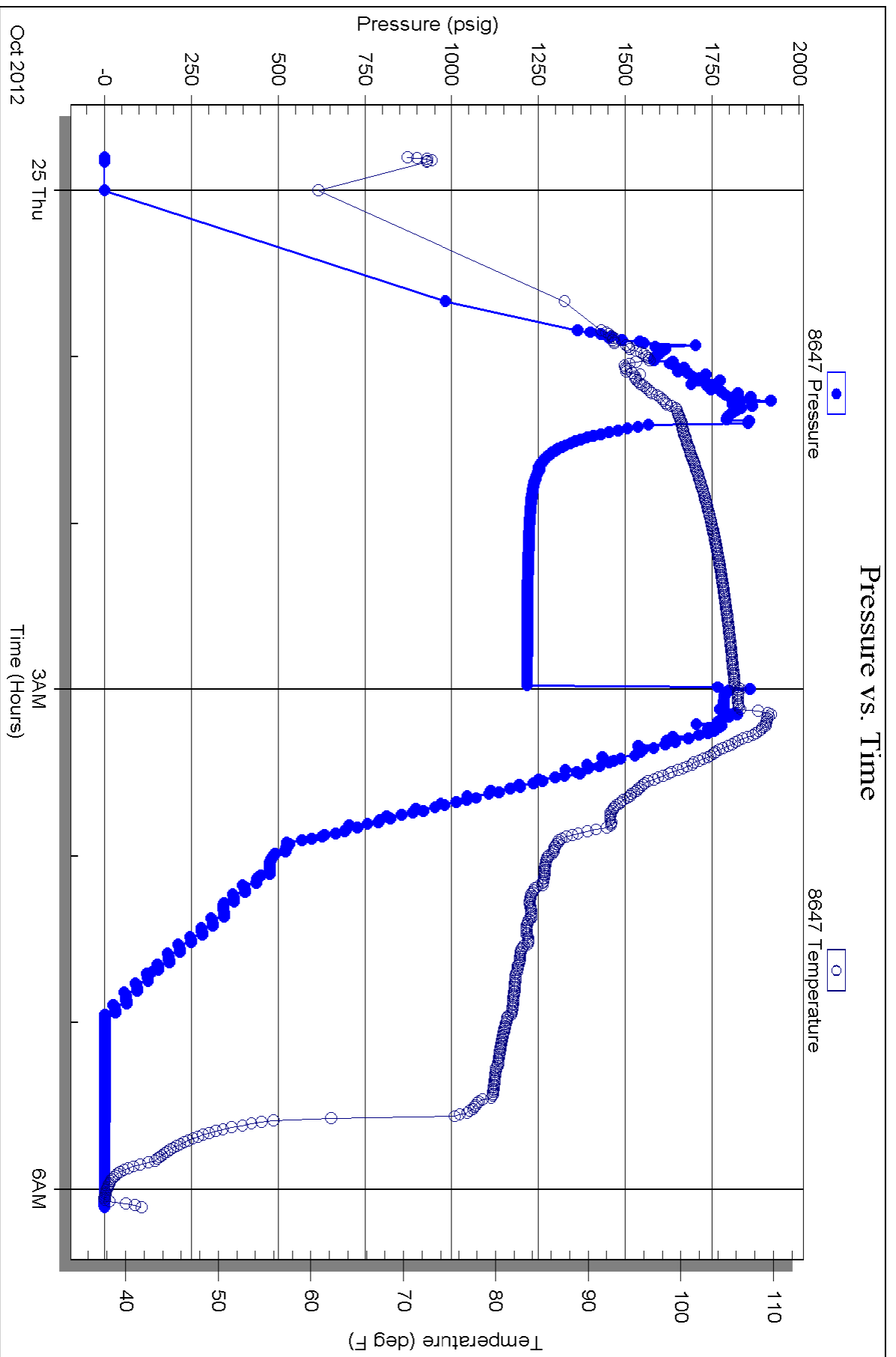
Inside

TD/Inc

Derrick #2

DST Test Number: 1







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49361

Well Name & No. DERRICK #2 Test No. 1 Date 10-24-12
 Company TPI INC. Elevation 2030 KB 2020 GL
 Address 1310 BISON RD Hays, Ks. 67601
 Co. Rep / Geo. Herb DEINES Rig Southwind 1
 Location: Sec. 4 Twp. 15S Rge. 18W Co. Ellis State Ks

Interval Tested 3598-3648 Zone Tested Arbuckle
 Anchor Length 50' Drill Pipe Run 3607 Mud Wt. 9.4
 Top Packer Depth 3598 Drill Collars Run 0 Vis 51
 Bottom Packer Depth 3648 Wt. Pipe Run 0 WL 8.0
 Total Depth 3751 Chlorides 5100 ppm System LCM 2 #5
 Blow Description IF: BOB 2min
ISF: NO RETURN
FF: BOB 2min
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>CO</u>		<u>100%</u>		
<u>120</u>	<u>HOCWM</u>	<u>30%</u>	<u>30%</u>	<u>30%</u>	<u>40%</u>
<u>415</u>	<u>OC MW</u>	<u>10%</u>		<u>80%</u>	<u>10%</u>
<u>500</u>	<u>OSW</u>	<u>10%</u>		<u>100%</u>	

Rec Total 1040' BHT 110° Gravity 22 API RW 37 @ 33 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic 1836 Test 1150 T-On Location 21:27
 (B) First Initial Flow 79 Jars _____ T-Started 23:48
 (C) First Final Flow 269 Safety Joint _____ T-Open 01:25
 (D) Initial Shut-In 1130 Circ Sub _____ T-Pulled 02:55
 (E) Second Initial Flow 296 Hourly Standby _____ T-Out 06:09
 (F) Second Final Flow 445 Mileage 20 RT 31 Comments _____
 (G) Final Shut-In 1126 Sampler _____
 (H) Final Hydrostatic 1787 Straddle E 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1781
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1781

Approved By _____ Our Representative [Signature]

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.

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: DERRICK # 2
 Location: S2 NW SW SE Sec.4-15w-18w
 Pool: IN FIELD
 State: KANSAS

API: 15-051-26,383-00-00
 Field: RUDER NORTHEAST
 Country: USA



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

Scale 1:240 Imperial

Well Name: DERRICK # 2
 Surface Location: S2 NW SW SE Sec.4-15w-18w
 Bottom Location:
 API: 15-051-26,383-00-00
 License Number: 4787
 Spud Date: 10/19/2012 Time: 4:00 PM
 Region: ELLIS COUNTY
 Drilling Completed: 10/24/2012 Time: 12:58 PM
 Surface Coordinates: 780' FSL & 2310' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2019.00ft
 K.B. Elevation: 2029.00ft
 Logged Interval: 2900.00ft To: 3750.00ft
 Total Depth: 3750.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 780' FSL
 E/W Co-ord: 2310' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING
 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: MED ROTARY

Rig Type: MED ROTARY
Spud Date: 10/19/2012
TD Date: 10/24/2012
Rig Release: 10/25/2012

Time: 4:00 PM
Time: 12:58 PM
Time: 11:00 PM

ELEVATIONS

K.B. Elevation: 2029.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 2019.00ft

NOTES

DECISION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE, LOG ANALYSIS AND POSITIVE RESULTS OF STRADDLE TEST # 1 OF THE UPPER ARBUCKLE.

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: ONE (1) CONVENTIONAL STRADDLE TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

DERRICK # 2

780' FSL & 2310' FEL, SE/4

Sec. 4-15s-18w

2019' GL 2029' KB

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1206+ 823	1205+ 824
B-Anhydrite	1243+ 786	1241+ 788
Topeka	2996- 967	2998- 969
Heebner Shale	3270-1241	3270-1241
Toronto	3292-1263	3290-1261
LKC	3322-1293	3322-1293
BKC	3552-1523	3556-1527
Arbuckle	3624-1595	3624-1595
RTD	3750-1721	
LTD		3752-1723

SUMMARY OF DAILY ACTIVITY


10-19-12 Spud, set 8 5/8" surface casing to 225.59' w/ 150 sxs common, 2%Gel, 3%CC, plug down 9:15 PM, slope 0 degree

10-20-12 270', drilling plug

10-21-12 1450' drilling

- 10-21-12 1450', drilling
- 10-22-12 2410', drilling, displace 2893'-2901'
- 10-23-12 3100', drilling
- 10-24-12 3607', drilling, RTD 3750' @ 12:58PM, short trip, logs, start DST 1
- 10-25-12 3750' finish pulling DST # 1, decision to run production casing

DST # 1 CONVENTIONAL STRADDLE TEST

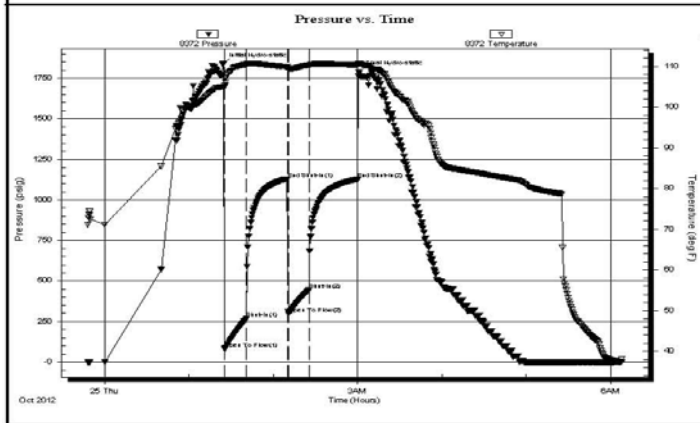
	DRILL STEM TEST REPORT		
	TDI inc 1310 Bison Rd Hays Ks 67601 ATTN: Herb Deines	4-15s-18w Ellis Derrick #2 Job Ticket: 49361 DST#: 1 Test Start: 2012.10.24 @ 23:48:05	

GENERAL INFORMATION:

Formation: Arbuckle	Test Type: Conventional Straddle (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Andy Carreira
Time Tool Opened: 01:25:30	Unit No: 39
Time Test Ended: 06:08:20	Reference Elevations: 2029.00 ft (KB)
Interval: 3598.00 ft (KB) To 3648.00 ft (KB) (TVD)	2019.00 ft (CF)
Total Depth: 3751.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches Hole Condition: Poor	

Serial #: 8372 Outside	Capacity: 8000.00 psig
Press@RunDepth: 445.91 psig @ 3605.00 ft (KB)	Last Calib.: 2012.10.25
Start Date: 2012.10.24 End Date: 2012.10.25	Time On Btm: 2012.10.25 @ 01:24:00
Start Time: 23:48:05 End Time: 06:08:20	Time Off Btm: 2012.10.25 @ 03:01:00

TEST COMMENT: IF:(15min) BOB 2 min
 ISl:(30min) No Return
 FF:(15min) BOB 2 min
 FSl:(30min) No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1836.25	104.98	Initial Hydro-static
2	79.81	105.43	Open To Flow (1)
17	269.38	110.47	Shut-In(1)
47	1130.93	109.83	End Shut-In(1)
47	296.49	109.54	Open To Flow (2)
62	445.91	110.27	Shut-In(2)
96	1126.77	110.35	End Shut-In(2)
97	1787.67	110.58	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w =100%	7.01
415.00	OCMV o=10% m=10% w =80%	5.82
120.00	HOCVM o=30% w =30% m=40%	1.68
5.00	CO o=100%	0.07

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

--	--	--	--

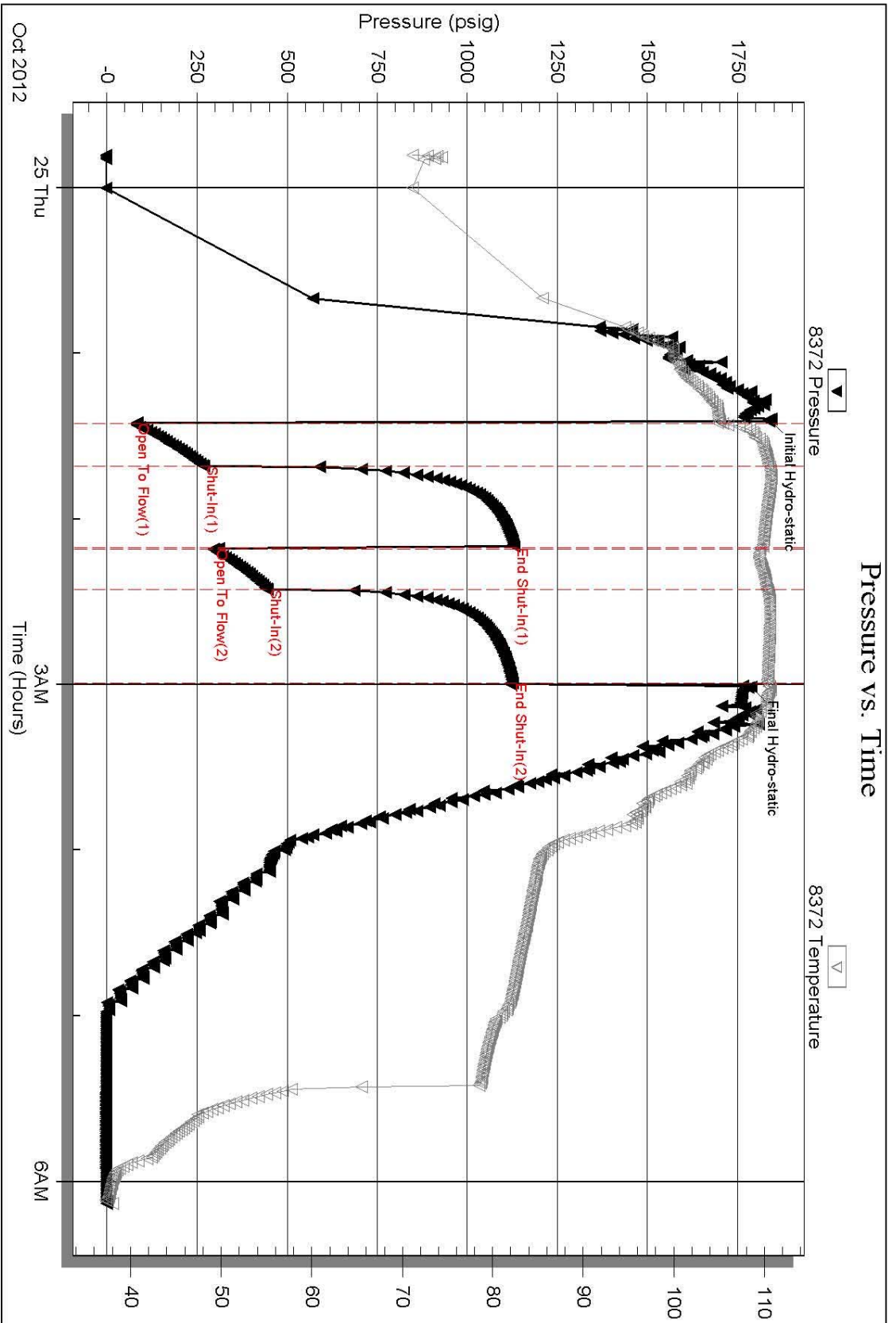
STRADDLE TEST # 1 EXPANDED CHART

Serial #: 8372


Outside TDI inc

Derrick #2

DST Test Number: 1



STRADDLE TEST # 1 BOTTOM PACKER CHART

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		
	TDI inc 1310 Bison Rd Hays Ks 67601 ATTN: Herb Deines	4-15s-18w Ellis Derrick #2 Job Ticket: 49361 DST#: 1 Test Start: 2012.10.24 @ 23:48:05	

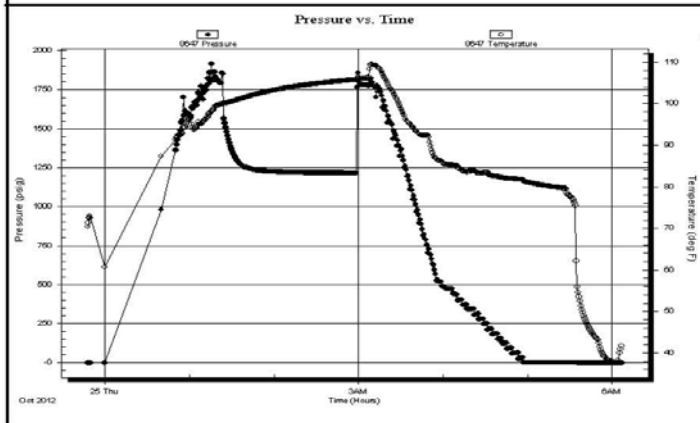
GENERAL INFORMATION:

Formation: Arbuckle Deviated: No Whipstock: ft (KB) Time Tool Opened: 01:25:30 Time Test Ended: 06:08:20	Test Type: Conventional Straddle (Initial) Tester: Andy Carreira Unit No: 39
Interval: 3598.00 ft (KB) To 3648.00 ft (KB) (TVD) Total Depth: 3751.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Poor	Reference Elevations: 2029.00 ft (KB) 2019.00 ft (CF) KB to GR/CF: 10.00 ft

Serial #: 8647 Below (Straddle)

Press@RunDepth: psig @ 3654.00 ft (KB)		Capacity: 8000.00 psig
Start Date: 2012.10.24 End Date: 2012.10.25		Last Calib.: 2012.10.25
Start Time: 23:48:05 End Time: 06:06:50		Time On Btm: Time Off Btm:

TEST COMMENT: IF:(15min) BOB 2 min
 ISl:(30min) No Return
 FF:(15min) BOB 2 min
 FS:(30min) No Return



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

Recovery		
Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w=100%	7.01
415.00	OCMV o=10% m=10% w=80%	5.82
120.00	HOCVM o=30% w=30% m=40%	1.68
5.00	CO o=100%	0.07

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

Trilobite Testing, Inc

Ref. No: 49361

Printed: 2012.10.25 @ 08:23:22

ROCK TYPES

Cht	Dolprim	shale, grn	shale, red	Lsongl
Cht vari	Lmst fw<7	shale, gry	Shcol	Dellime
Clstey	Lmet fw>7	Carbon Sh		

ACCESSORIES

MINERAL

- P Pyrite
- Varicolored chert
- Chert White

FOSSIL

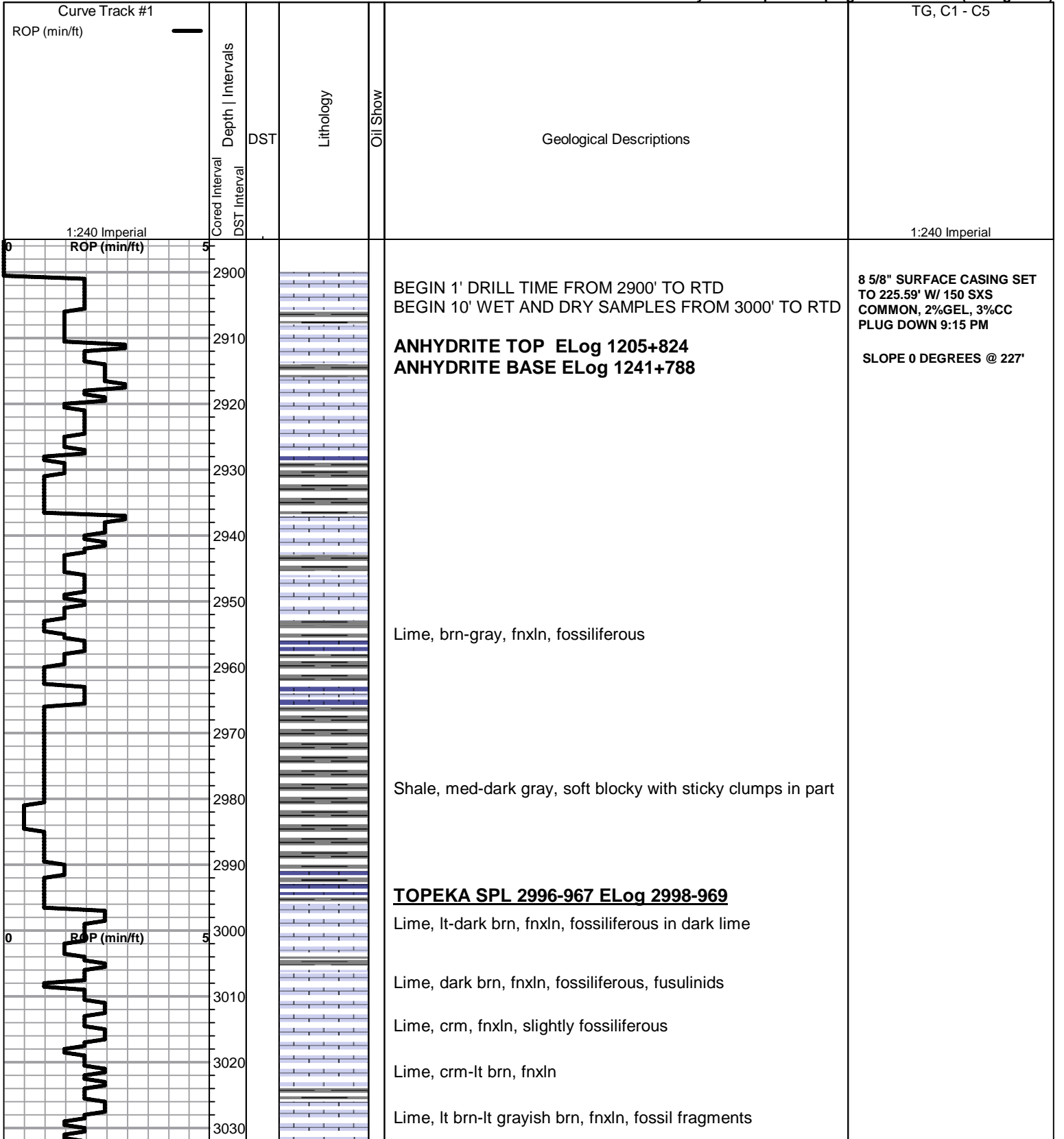
- Oolite
- Oomoldic

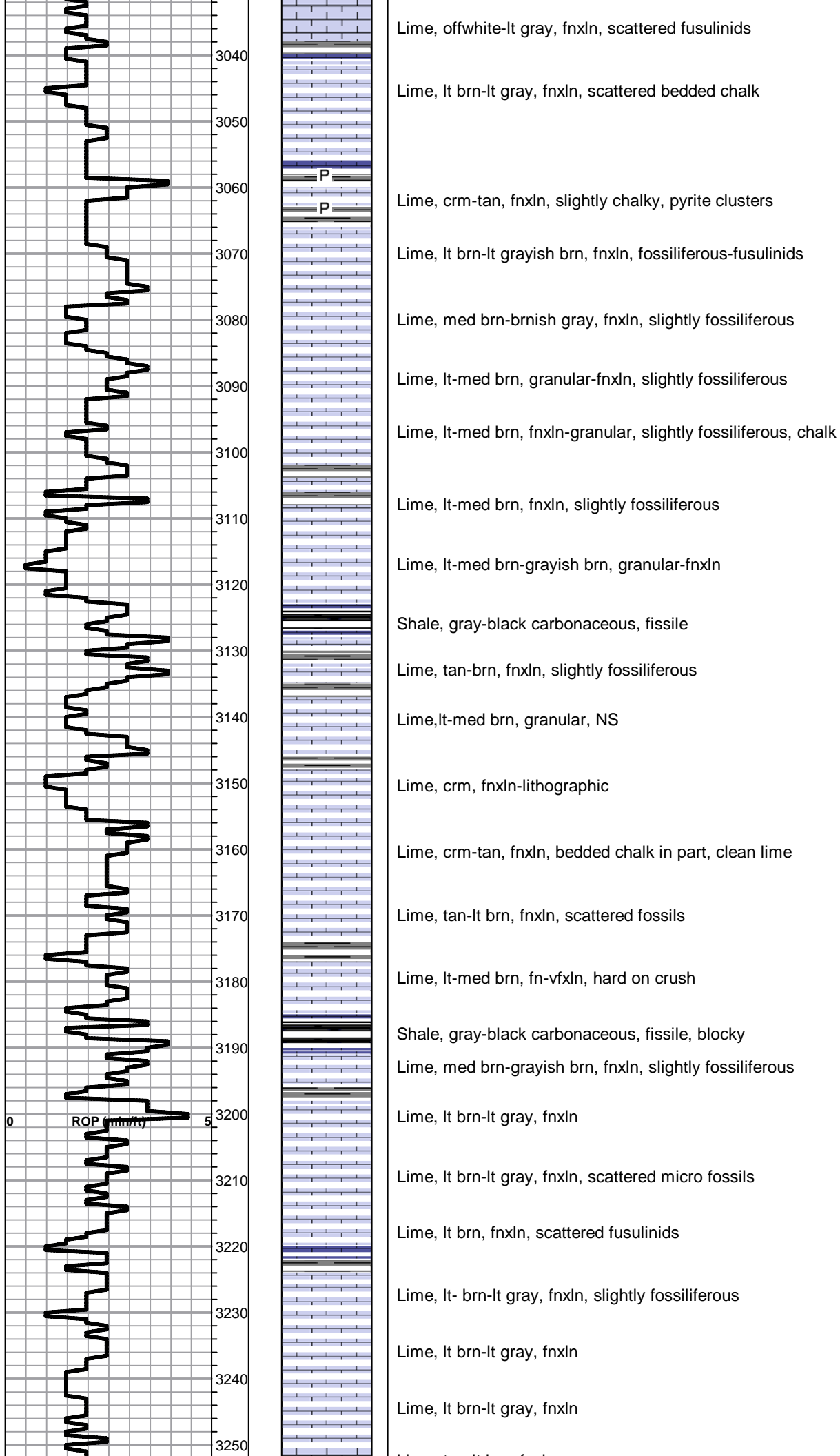
OTHER SYMBOLS

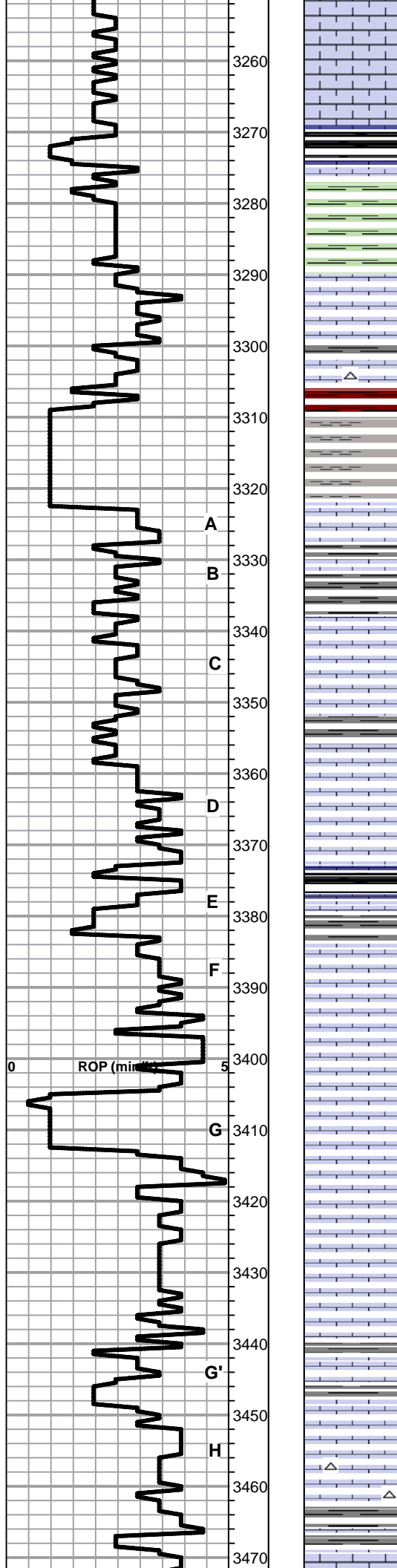
DST

- DST Int
- DST alt
- Core

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)







Lime, tan-lt brn, fnxln

Lime, tan-lt brn, fnxln

HEEBNER SHALE SPL 3270-1241 ELog 3270-1241

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

Shale, lime green, soft forming soft mud

TORONTO SPL 3292-1263 ELog 3290-1261

Lime, crm-lt brn, fnxln, NS

Lime, Crm-lt brn, fnxln, white chert with chalk NS

Shale, reddish brn-grayish green, soft with lt red wash

LKC SPL 3322-1293 ELog 3322-1293

Lime, crm-tan, fnxln, chalk, NS

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

Lime, white-crm, fn-vfxln, slightly chalky, NS

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

Shale, gray-black carbonaceous
Lime, grayish brn, fnxln

Lime, tan, mostly fnxln with few chips with scattered vugs with light scattered stain, very lite to nondetectable odor

Lime, tan, fnxln, cemented oolitic material

Lime, tan, oolitic with chalk, NS

Lime, crm-lt grayish brn, oolitic/oomoldic, mostly barren material with very minor staining

Lime, crm-tan, fnxln, bedded chalk in part

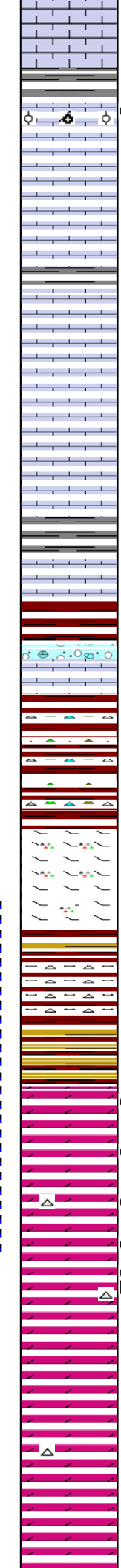
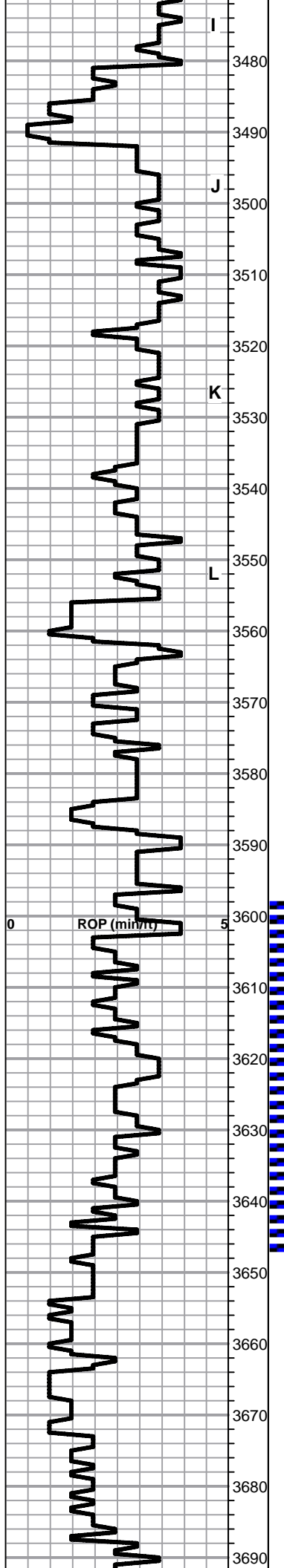
Lime, crm-tan, fnxln, slight bedded chalk in part

Lime, crm-tan, fnxln with few greenish tinted lime in part

Lime, dark brn, fnxln, scattered staining, NFO, scattered oolitic with fossil fragments.

Lime, crm-tan, fnxln, chert, white, fresh, sharp

Lime, lt-dark brn, fn-vfxln



Lime, crm-tan, fnxln, slight chalk

Lime, crm-tan, fnxln

3480

3490 ◊ ◊ ◊ ◊

Lime, lt brn, oolitic/oolmoldic, very lt odor with very light scattered staining,

3500

Lime, crm-tan, fnxln, bedded chalk

3510

Shale, grayish green, soft, blocky

Lime, lt-med brn, fn-vfxln

3520

Lime, crm-tan, fnxln, slight bedded chalk

3530

Lime, tan-lt brn, fnxln, slightly chalky

3540

Lime, lt-med brn, fn-vfxln

3550

Lime, lt-med brn, fnxln

BKC SPL 3552-1523 ELOG 3556-1527

3560

Shale, reddish brn-brn-lt gray. soft blocky

3570

Lime, partial clastic mix with red shale stain

3580

Shale, reddish-brn, soft blocky with vari colored chert

3590

Lime, crm-lt brn, fnxln, dolomitic, hard on crush, orange chert fragments

3600

Lime crm-lt brn, fnxln with decreasing chert content

3610

Shale, reddish brn, soft blocky

3620

Shale, red, greens with chert nodules

ARBUCKLE SPL 3624-1595 ELog 3624 -1595

3630 ●

Dolomite, cxln, sucrosic, very lite odor, lot of fines in spl

●

Dolomite, white-lt brn, c xln, scattered to saturated stain, lt odor, fair to good inter xln porosity throughout

3640 ● ◊

Dolomite, white-lt brn, cxln, scattered to saturated staining, lt odor on the decrease in intensity

3650 ● ◊ ◊

Dolomite, white-lt brn, cxln, very lt odor, gilsonitic

◊

Dolomite, white-lt brn, cxln

3660

Dolomite, white-lt brn, fnxln, fn-cxln

3670

Dolomite, ivory-crm, fn-cxln

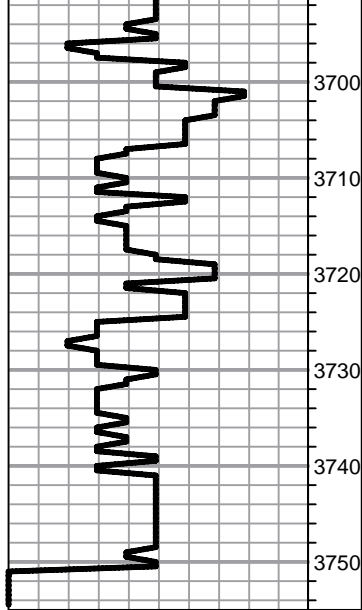
3680

Dolomite, ivory-crm, fn-cxln

3690

Dolomite ivory-crm fnxln

DST # 1 STRADDLE TEST
3598' TO 3648' SEE HEADER
FOR TEST SUMMARY



Dolomite, ivory crm, fnxln

Dolomite, ivory, fnxln with scattered med to cxln

Dolomite, ivory-crm with pink tint in part, cxln, sucrosic

Dolomite, ivory-crm, fn-cxln

Dolomite, ivory-crm, fn-cxln

Dolomite, ivory-crm, fn-cxln with increasing rhombic development with good inter xln porosity

Dolomite, crm, fn-cxln with light pink tint in part

RTD 3750-1721 LTD 3752-1723

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. 6127

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-19-12	4	15	18	Ellis	KS		9:00 p.m.
Location				Ways 5 to Grants Village Rd onto			

Lease	Well No.	Owner	
Derrick	2	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.	
Contractor	Type Job	Charge To	
Southwind #1	Surface	TDI	
Hole Size	T.D.	Street	
12 1/4	227		
Csg.	Depth	City	
8 5/8	225	State	
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
		Cement Amount Ordered 150 can 3 1/2 cu 2 1/2 cu	
Cement Left in Csg.	Shoe Joint		
15'			
Meas Line	Displace		
	13 BCL		

EQUIPMENT

Pumptrk	No.	Cement	Common
5		Helper	150
Bulktrk	No.	Driver	Poz. Mix
		Brett	3
Bulktrk	No.	Driver	Calcium
10		Doug	5

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
8 5/8 on bottom Est. Circulation.	Sand
Mix 150 can 3 1/2 cu 2 1/2 cu	Handling 158
	Mileage

FLOAT EQUIPMENT

Cement Circulated!	Guide Shoe
	Centralizer 8 5/8 surge
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge	Surface	Tax
Mileage	9	Discount
		Total Charge

X Signature *[Handwritten Signature]*

JOB LOG

SWIFT Services, Inc.

DATE 10-25-72 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
TOI		2		Derrick		5 1/2 Two Stage Longstring		22907	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
	1230								On location Laying Down Drill Pipe
									TO 3750 SS 42'
									TP 3748 DV 10" 60 1190'
									Insert @ 3706 5 1/2 14"
									Centerizers 1,3,5,6,8,10,12, 59
									Basket 2,13,60,76.
	1515								Start 5 1/2 casing
	1645								Drop Ball circulate Rotate
	1800	5	12		✓				Start Mud Flush
		5	20		✓				Start KCL Flush
		5	36		✓				Start Cement 150 SKS EA2
									Drop Plug
									Wash out Pump + Lines
	1820	6							Displace Plug
	1836		90.4		✓		1500		Land Plug
									Release PSI
	1840		7/5						Drop Open Plug
									Plug BH 30 MH 20
	1858						1100		Open DV
			20		✓				Start KCL Flush
			89		✓				Start SMD 160 SKS
									Drop Closing Plug
									Wash out Pump + Lines
	1925								Displace Plug
	1930		29		✓		1600		Land Plug Close DV
									Release PSI Dry
									Circulate 15 SKS to Pit
									Wash up truck
									Reck up
									Job Complete
									Thank You
									Josh, Roger, Jon, Flint

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

January 2, 2013

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

Re: ACO1
API 15-051-26383-00-00
Derrick 2
SE/4 Sec.04-15S-18W
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