



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1183202  
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: \_\_\_\_\_

1183202

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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## DRILL STEM TEST REPORT

Prepared For: **TDI, Inc**

1310 Bison Rd  
Hays KS 67601

ATTN: Herb Deines

**Lang #7**

**21-14s-16w Eliis KS**

Start Date: 2013.11.28 @ 08:50:00

End Date: 2013.11.28 @ 15:18:15

Job Ticket #: 55360                      DST #: 1

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

Printed: 2013.11.29 @ 13:05:25

TDI, Inc  
21-14s-16w Eliis KS  
Lang #7  
DST # 1  
Arbuckle  
2013.11.28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

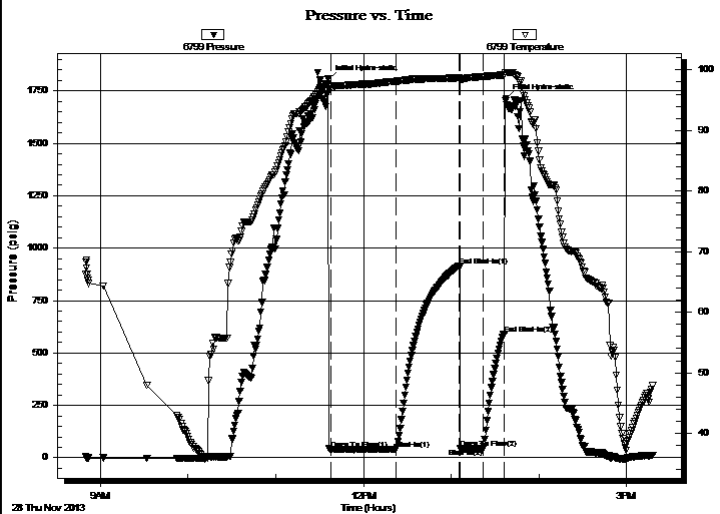
**21-14s-16w Eliis KS**  
**Lang #7**  
 Job Ticket: 55360 **DST#: 1**  
 Test Start: 2013.11.28 @ 08:50:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:37:45  
 Time Test Ended: 15:18:15  
 Interval: **3338.00 ft (KB) To 3405.00 ft (KB) (TVD)**  
 Total Depth: 3567.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Initial)  
 Tester: Cody Bloedorn  
 Unit No: 53  
 Reference Elevations: 1863.00 ft (KB)  
 1853.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 6799 Inside**  
 Press@RunDepth: 43.17 psig @ 3339.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.11.28 End Date: 2013.11.28 Last Calib.: 2013.11.28  
 Start Time: 08:50:05 End Time: 15:18:14 Time On Btm: 2013.11.28 @ 11:36:00  
 Time Off Btm: 2013.11.28 @ 13:37:30

TEST COMMENT: 45 - IF- 1" blow  
 45 - IS- No return  
 15 - FF- No blow  
 15 - FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1806.20	97.81	Initial Hydro-static
2	41.56	97.31	Open To Flow (1)
47	41.99	98.13	Shut-In(1)
90	916.88	98.70	End Shut-In(1)
90	44.15	98.48	Open To Flow (2)
106	43.17	98.90	Shut-In(2)
121	591.68	99.18	End Shut-In(2)
122	1712.68	99.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
25.00	Mud - Oil spots, 100%M	0.35

## 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

**21-14s-16w Eliis KS**  
**Lang #7**  
Job Ticket: 55360      **DST#: 1**  
Test Start: 2013.11.28 @ 08:50:00

**Tool Information**

Drill Pipe:	Length: 3349.00 ft	Diameter: 3.80 inches	Volume: 46.98 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: 46.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3338.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	3405.00 ft			
Interval between Packers:	67.00 ft			
Tool Length:	253.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3318.00	
Shut In Tool	5.00			3323.00	
Hydraulic tool	5.00			3328.00	
Packer	5.00			3333.00	21.00 Bottom Of Top Packer
Packer	5.00			3338.00	
Stubb	1.00			3339.00	
Recorder	0.00	6799	Inside	3339.00	
Recorder	0.00	8648	Outside	3339.00	
Perforations	5.00			3344.00	
Change Over Sub	1.00			3345.00	
Drill Pipe	31.00			3376.00	
Change Over Sub	1.00			3377.00	
Perforations	27.00			3404.00	
Blank Off Sub	1.00			3405.00	67.00 Tool Interval
Packer	4.00			3409.00	
Change Over Sub	1.00			3410.00	
Drill Pipe	155.00			3565.00	
Recorder	0.00	8655	Below	3565.00	
Perforations	2.00			3567.00	
Bullnose	3.00			3570.00	165.00 Bottom Packers & Anchor

**Total Tool Length: 253.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

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

**21-14s-16w Eliis KS**  
**Lang #7**  
Job Ticket: 55360      **DST#: 1**  
Test Start: 2013.11.28 @ 08:50:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4100.00 ppm			
Filter Cake: inches			

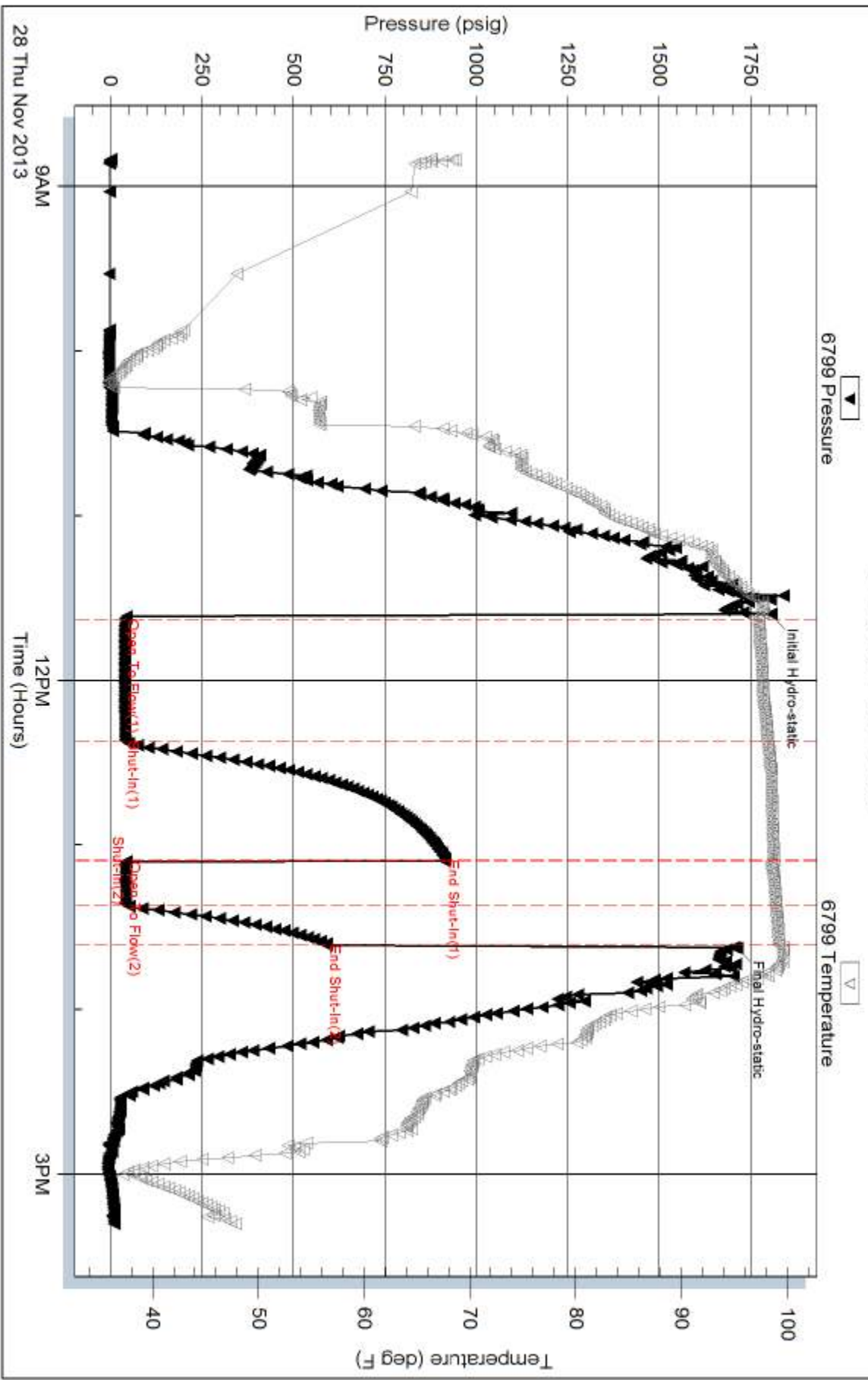
### Recovery Information

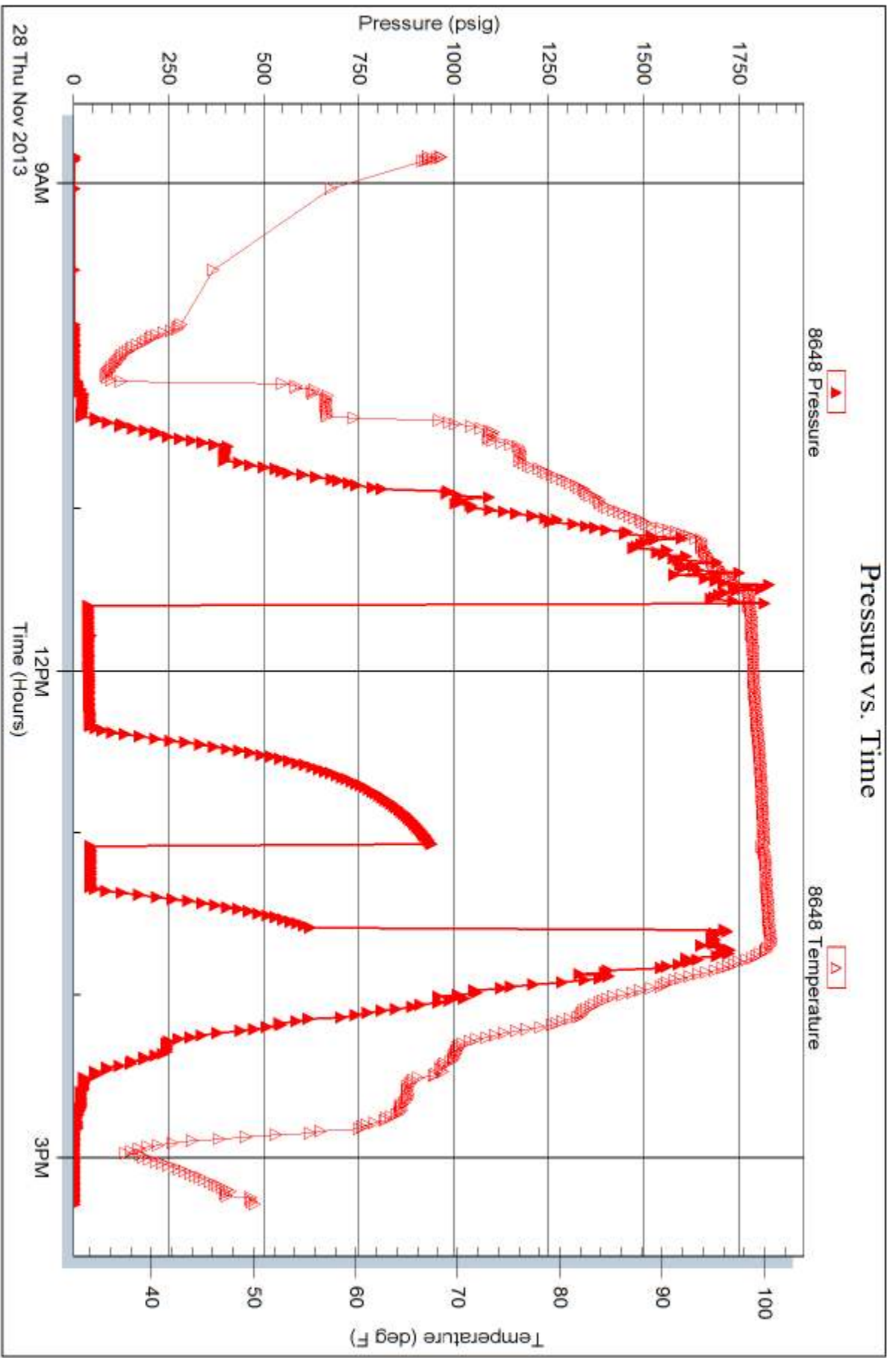
Recovery Table

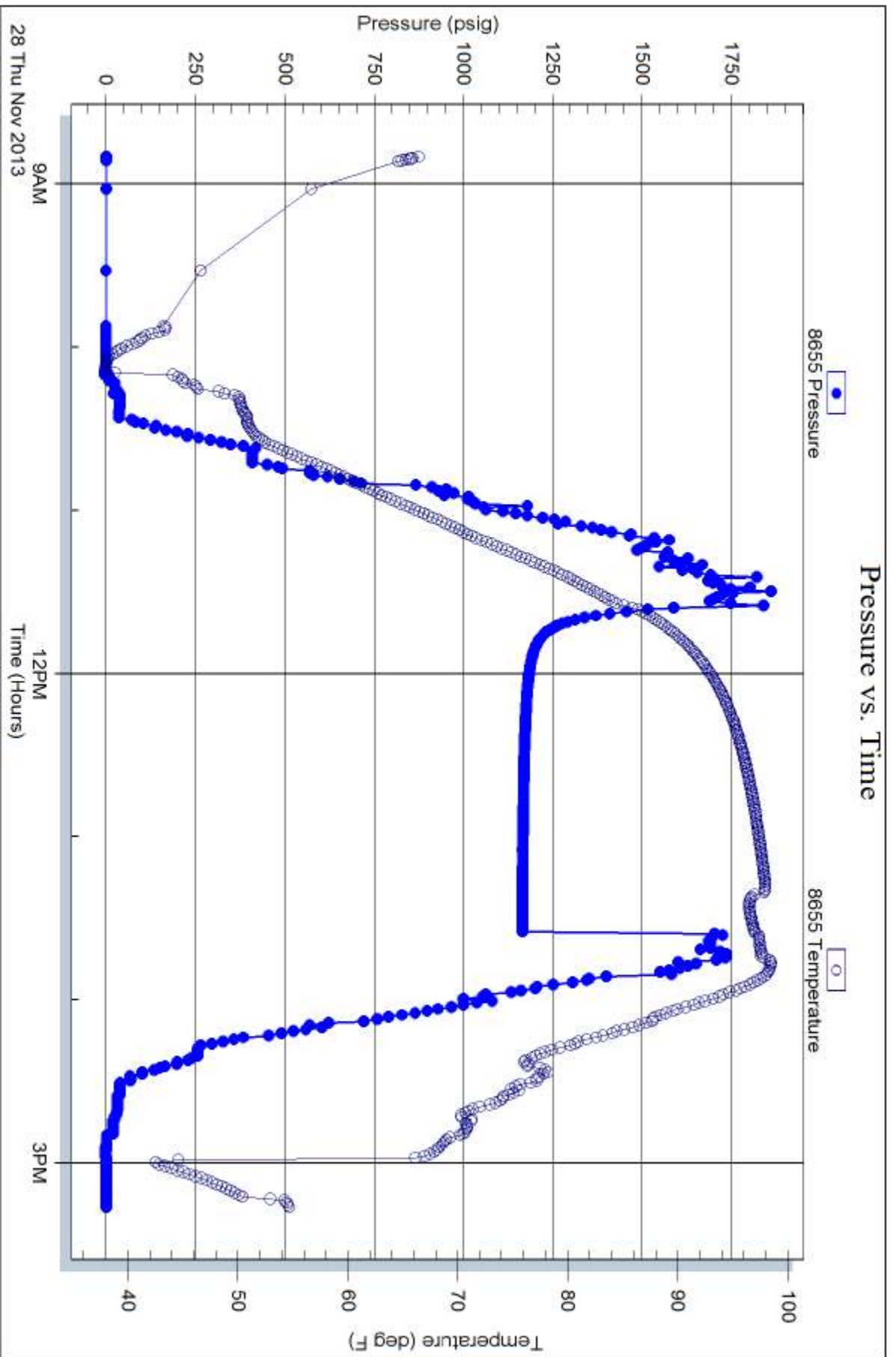
Length ft	Description	Volume bbl
25.00	Mud - Oil spots, 100%M	0.351

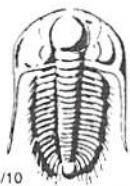
Total Length: 25.00 ft      Total Volume: 0.351 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **55360**

Well Name & No. Lang #7 Test No. 1 Date 11-28-13  
 Company TDI INC Elevation 1863 KB 1858 GL  
 Address 1310 Bison Rd, Hays KS, 67601  
 Co. Rep / Geo. Herb Rig Southwind #1  
 Location: Sec. 21 Twp. 14s Rge. 16w Co. Ellis State KS

Interval Tested 3338-3405 TD 3567 Zone Tested Arbuckle  
 Anchor Length 67' Drill Pipe Run 3349' Mud Wt. 9.6  
 Top Packer Depth 3333 Drill Collars Run - Vis 59  
 Bottom Packer Depth 3338 Wt. Pipe Run - WL 7.8  
 Total Depth 3405 Chlorides 4.100 ppm System LCM -

Blow Description IF- 1" blow  
ISI- No return  
FF- No blow  
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>Mud - oil spots</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 Total 25' BHT 99° Gravity - API RW - @ - °F Chlorides - ppm  
 (A) Initial Hydrostatic 1806  Test 1150 T-On Location 8:22 am  
 (B) First Initial Flow 41  Jars - T-Started 8:50 am  
 (C) First Final Flow 41  Safety Joint - T-Open 12:25  
 (D) Initial Shut-In 916  Circ Sub - T-Pulled 14:02  
 (E) Second Initial Flow 44  Hourly Standby - T-Out 15:44  
 (F) Second Final Flow 43  Mileage 49.60 Comments -  
 (G) Final Shut-In 591  Sampler -  
 (H) Final Hydrostatic 1712  Straddle 32 RT 600  Ruined Shale Packer -

Initial Open 45  Shale Packer -  Ruined Packer -  
 Initial Shut-In 45  Extra Packer -  Extra Copies -  
 Final Flow 15  Extra Recorder - Sub Total 0  
 Final Shut-In 15  Day Standby - Total 1799.60  
 Accessibility - MP/DST Disc't -  
 Sub Total 1799.60

Approved By \_\_\_\_\_ Our Representative Cody B...

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: 785-628-2593  
 Well Name: LANG # 7  
 Location: SE NW NW SE Sec.21-14s-16w      API: 15-051-26,631-00-00  
 Pool: INFIELD      Field: DREILING  
 State: KANSAS      Country: USA



Scale 1:240 Imperial

Well Name: LANG # 7  
 Surface Location: SE NW NW SE Sec.21-14s-16w  
 Bottom Location:  
 API: 15-051-26,631-00-00  
 License Number: 4787  
 Spud Date: 11/23/2013      Time: 5:00 PM  
 Region: ELLIS COUNTY  
 Drilling Completed: 11/28/2013      Time: 2:17 AM  
 Surface Coordinates: 2225' FSL & 1990' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 1863.00ft  
 K.B. Elevation: 1873.00ft  
 Logged Interval: 2200.00ft      To: 3567.00ft  
 Total Depth: 3567.00ft  
 Formation: ARBUCKLE  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -99.1022993      Latitude: 38.8190366  
 N/S Co-ord: 2225' FSL  
 E/W Co-ord: 1990' FEL

**LOGGED BY**

Company: SOLUTIONS CONSULTING, INC.  
 Address: 108 W 35TH  
 HAYS, KS 67601  
 Phone Nbr: (785) 639-1337  
 Logged By: GEOLOGIST      Name: HERB DEINES

**CONTRACTOR**

Contractor: SOUTHWIND DRILLING INC.  
 Rig #: 1  
 Rig Type: MUD ROTARY  
 Spud Date: 11/23/2013      Time: 5:00 PM  
 TD Date: 11/28/2013      Time: 2:17 AM  
 Rig Release: 11/29/2013      Time: 2:00 AM

**ELEVATIONS**

K.B. Elevation: 1873.00ft      Ground Elevation: 1863.00ft  
 K.B. to Ground: 10.00ft

**NOTES**

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON LOW STRUCTURE OF ARBUCKLE AND NEGATIVE RESULTS OF DST # 1 OVER 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) STRADDLE TEST

**FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY**

**LANG # 7**  
**SE NW NW SE**  
**SEC.21-14S-16W**  
**1863'GL 1873'KB**

**LANG # 4**  
**N2 N2 SE**  
**SEC.21-14S-16W**

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>COMPARISON</u>
<b>Anhydrite</b>	971 +902	<b>970 +903</b>	+ 904
<b>B-Anhydrite</b>	1008 +865	<b>1008 +865</b>	+ 867
<b>Stotler/Tarkio</b>	2604 -731	<b>2604 -731</b>	- 728



**ROCK TYPES**

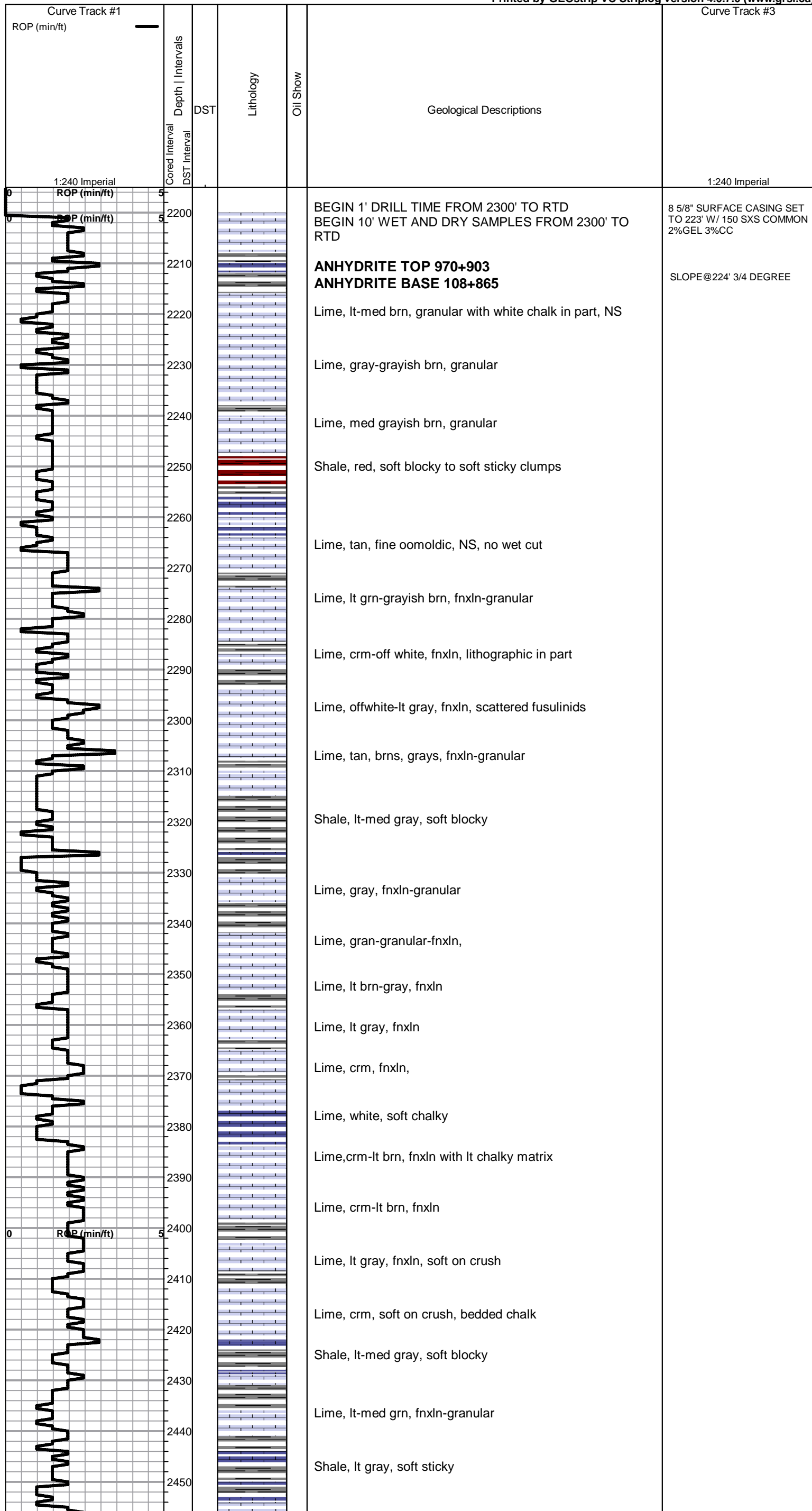
	Cht vari		Dolprim		Lscongl		Carbon Sh		Ss
	Clystgy		Lmst fw<7		shale, grn		shale, red		CglSandy
	Congl		Lmst fw>7		shale, gry		Shcol		

**ACCESSORIES**

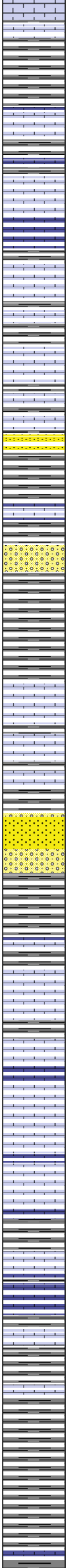
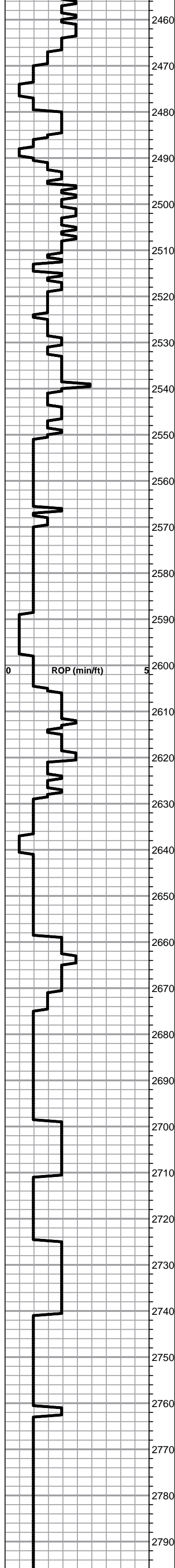
**FOSSIL**

- Oolite
- Oomoldic

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







Lime, tan, fxlIn, hard on crush

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

Lime, lt gray, fxlIn

Shale, lt gray, soft mud

Lime, crm-lt gray, fxlIn, chalky, soft on crush

Lime, crm-lt brn-lt gray, soft granular, slightly fossiliferous

Shale, lime green-lt gray, soft mud with sticky mix of clay and chalk

Lime, crm-lt brn, soft chalky

Lime, lt-med brn, fxlIn, chalk in part

Lime, lt brn-lt grayish brn, fxlIn with gray mottling near shale boundary

SS, lt gray, fine gritty, micaceous, glauconitic, appears to be thin and poorly developed, NS

Shale, lt gray, soft sticky clumps

Lime, lt-med brn, fxlIn  
Shale, lt gray sticky clumps grading into lt gray, fine gritty sandstone. Appears poorly developed and poorly sorted.

Shale, lt gray, soft sticky clumps

Shale, lt gray, soft sticky clumps

Lime, lt brn, fxlIn-granular in part, slightly fossiliferous, some bedded chalk in part

Lime, lt-med brn, fxlIn-granular in part, bed chalk in part

Lime, tan-lt brn, fn-vfxIn

Shale, lt gray, soft - soft sticky clumps grading into fine grained, micaceous, glauconitic sandstone. Poor to fair sorting with very lt show free oil on crush.

Shale, lt gray, soft-soft sticky clumps

Lime, lt brn, fxlIn

Lime, lt brn fxlIn

Lime, lt-med brn-grayish brn, granular with specks of glauconite in part

Lime, lt-med brn, fxlIn

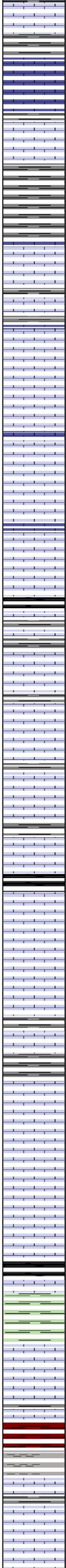
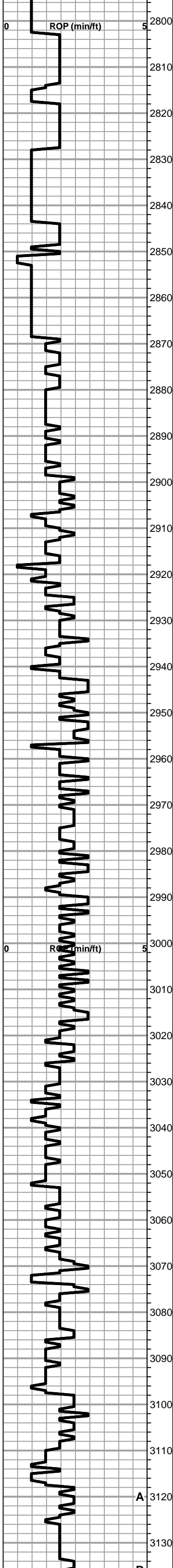
Lime, lt-med brn, fxlIn-granular, soft on crush

Lime, lt-med brn, fxlIn

Lime, med brn, fxlIn

Lime, lt -med brn, fxlIn, slightly fossiliferous

Shale, lt-med gray, soft-soft blocky



Lime, lt-med brn, granular

Lime, lt-med brn-grayish brn, fxlIn

Lime, lt-med brn, fxlIn-granular in part

Shale, lt-med gray, soft blocky

**TOPEKA ELog 2848-975**

Lime, lt-med brn-grayish brn, fxlIn-granular

Lime, crm-tan, fxlIn, soft on crush, chalky

Lime, white, fxlIn, slight chalk

Lime, lt-med brn, fxlIn

Lime, white-tan, fxlIn, slight chalk

Lime, white, fxlIn

Lime, tan, fxlIn, slight bedded chalk

Lime, crm-tan, fxlIn-granular, bedded chalk

Shale, black carbonaceous

Lime, lt-med brn, fxlIn

Lime, crm-tan, fxlIn, slight bedded chalk

Lime, crm to tan, fxlIn

Lime, crm-tan, fxlIn, bedded chalk

Lime, crm-tan, fxlIn, bedded chalk

Lime, lt-med gran, fxlIn,

Shale, black carbonaceous

Lime, white-crm, fxlIn

Lime, white-crm, fxlIn-slightly granular, bedded chalk

Lime, crm-lt brn, fxlIn-slightly granular, bedded chalk

Lime, crm-lt-med brn, fxlIn, bedded chalk in part

Lime,lt-med brn, fxlIn-granular

Lime, lt-med brn, fxlIn-granular, slight bedded chalk

Lime, lt-med brn, fxlIn-granular, slight bedded chalk

**HEEBNER SHALE, ELog 3068-1195**

Shale, black carbonaceous, fissile, blocky

Lime, med brn, microxlIn

Shale, dove gray-lime green, soft-soft mud clumps

**TORONTO ELog 3088-1215**

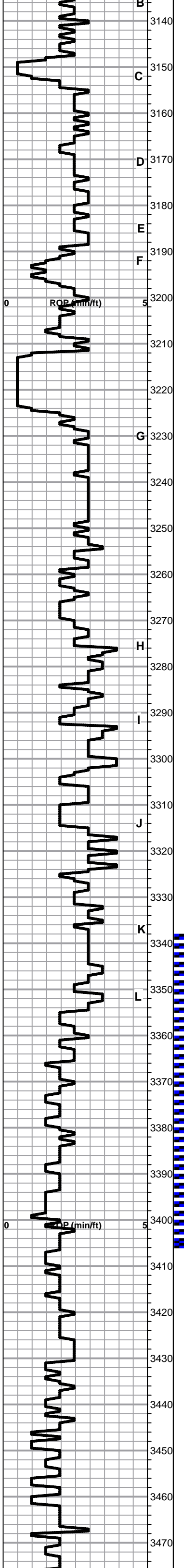
Lime, white, fxlIn-granular, slight bedded chalk

Lime, white-lt brn, fn-vfxIn

**LKC ELog 3116-1243**

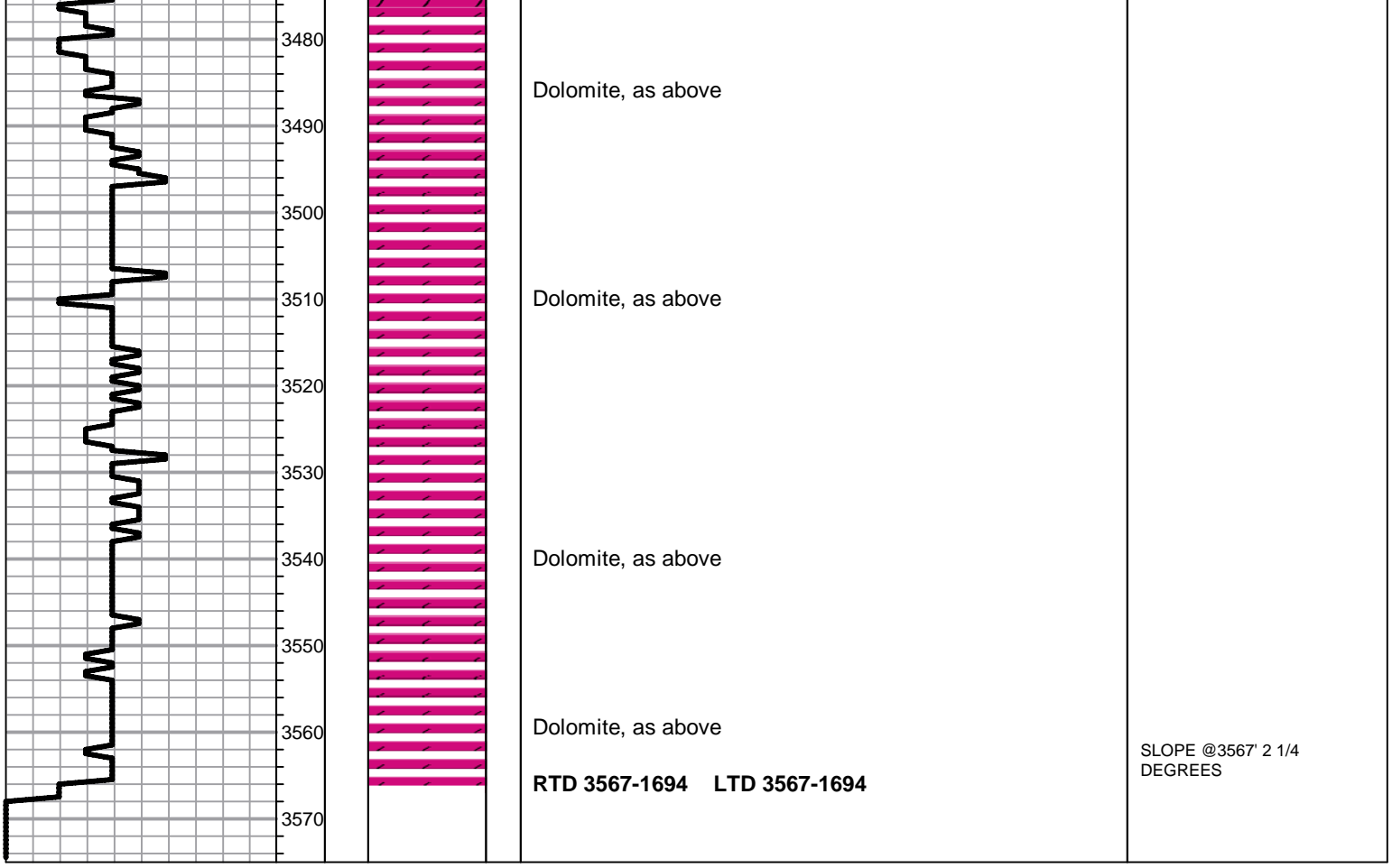
Lime, lt-med brn, fxlIn

Lime, crm, fxlIn



B 3140 Lime, lt-med brn, fnxln  
 C 3150 Lime, lt-med brn, fnxln grading into granular lime,  
 3160 Lime, lt-med brn, fnxln  
 D 3170 Lime, lt brn, fnxln-granular in part  
 3180 Lime, lt brn, fnxln  
 E 3180 Shale, gray-black carbonaceous  
 3190 Lime, pale gray, fine-vf xln  
 F 3190 Lime, crm-lt brn, fnxln-granular,  
 3200 Lime, crm, fnxln,  
 3210 Lime, crm, fnxln-oolitic/oomoldic, NS  
 3220 Lime, crm, fnxln  
 G 3230 Lime, crm-tan, fnxln, slight bedded chalk  
 3240 Lime, tan-lt brn, fnxln  
 3250 Lime, tan-lt-med brn, fn-vfxln  
 3260  
 3270 Lime, crm-tan, fnxln, NS  
 H 3280 Lime, lt-med brn, fn-vfxln  
 3290 Lime, lt brn, fnxln-granular in part  
 3300 Lime, crm-tan, fn-vfxln  
 3310 Lime, crm, fnxln-granular, lt bedded chalk, porosity appears  
 thinly developed and tite on the microlog  
 J 3320 Lime, crm, fn-micro xln, slight bed chalk  
 3330 Shale, gray-black carbonaceous in part  
 3340 Lime, crm-tan, fn-micro xln, slight bedded chalk  
 K 3350 Lime, crm-tan-lt brn, fn-micro xln  
 L 3350 Lime, crm, fn-micro xln  
**BKC ELog 3355-1482**  
 3360 Shale, reddish brn, firm blocky, mixed vari color chert  
 nodules  
 3370 Lime, crm-tan, fn-vfxln, slight chalk, few clastic chips  
 Vari color shales and cherts  
**ARBUCKLE ELog 3379-1506**  
 3380 Dolomite, tan-lt brn, granular, microlog indicates poor  
 porosity and permeability development  
 3390 Dolomite, tan-lt brn, fn-cxln, brittle but friable on crush, lt  
 odor and lt staining  
 3400 Dolomite, tan-lt brn, fn-cxln, granular in part , decreasing  
 odor and staining  
 3410 Dolomite, crm-tan, fn-cxln, granular in part  
 3420 Dolomite, as above  
 3430 Dolomite, crm-tan, fn-cxln, granular in part  
 3440 Dolomite, crm-tan, fn-cxln, granular  
 3450 Dolomite, crm-tan, fn-cxln, granular  
 3460 Dolomite, as above  
 3470

DST # 1 3338' TO 3405' SEE  
 HEADER FOR TEST  
 SUMMARY  
  
 1ST PLUG @3350' W/ 50 SXS  
 2ND PLUG @1025' W/25 SXS  
 3RD PLUG @425' W/ 80 SXS  
 4TH PLUG @40' W/ 10 SXS  
 RATHOLE W/ 30 SXS  
 MOUSEHOLE W/ 25 SXS



# 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. 7247

Date	Sec.	Twp.	Range	County	State	On Location	Finish
11-23-13	21	14	16	Ellis	KS		11:30PM

Location *walker 5 to Munger Rd, 1W, 1/2N, wn2*

Lease <i>Lang</i>	Well No. <i>7</i>	Owner
Contractor <i>Southwind #1</i>		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.
Type Job <i>Surface</i>		Charge To <i>TDI, Inc.</i>
Hole Size <i>12 1/4</i>	T.D. <i>224</i>	
Csg. <i>8 5/8</i>	Depth <i>223</i>	Street
Tbg. Size	Depth	City State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <i>20'</i>	Shoe Joint <i>20'</i>	Cement Amount Ordered <i>150 sk com 3%ecc 2%gel</i>
Meas Line	Displace <i>12 3/4 BBL</i>	

**EQUIPMENT**

Pumptrk <i>15</i>	No.	Cementer Helper <i>Nick</i>	Common <i>150</i>
Bulktrk <i>1</i>	No.	Driver <i>David</i>	Poz. Mix
Bulktrk <i>P4</i>	No.	Driver <i>Travis</i>	Gel. <i>3</i>
			Calcium <i>5</i>

**JOB SERVICES & REMARKS**

Remarks: <i>Cement did circulate</i>	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
	Sand
	Handling <i>158</i>
	Mileage

**FLOAT EQUIPMENT**

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge *Surface*  
Mileage *16*

X Signature <i>Lang Bear</i>	Tax
	Discount
	Total Charge

# ALLIED OIL & GAS SERVICES, LLC 056833

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT: Russell, Ks

DATE <u>11.28.13</u>	SEC <u>21</u>	TWP <u>14</u>	RANGE <u>10</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Lang</u>	WELL # <u>7</u>	LOCATION <u>Walker Ks</u>	COUNTY <u>CHIS</u>	STATE <u>KS</u>			
OLD OR (NEW) (Circle one)		<u>2 1/2 S 1 W 1/2 n West 4th</u>					

CONTRACTOR <u>Southern Drilling</u>	OWNER
TYPE OF JOB <u>PTA</u>	
HOLE SIZE <u>7 7/8</u>	T.D.
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>3350'</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT <u>See "Remarks"</u>	

EQUIPMENT	CEMENT
	AMOUNT ORDERED <u>210 SK</u>
	<u>60/10</u>
	<u>+ 1/1 gel + 1/4 - Flo-Seal</u>
	COMMON <u>1.26 SK</u> @ <u>17.9</u> \$ <u>2,255.40</u>
	POZMIX <u>84 SK</u> @ <u>9.35</u> \$ <u>785.40</u>
	GEL <u>7.22 SK</u> @ <u>23.4</u> \$ <u>168.94</u>
	CHLORIDE @
	ASC @
	Flo-Seal @ <u>4.50</u> @ <u>2.97</u> \$ <u>148.50</u>
	@ <u>2 SK</u> @
	@
	@
	@
	@
	HANDLING <u>225.37</u> @ <u>2.48</u> \$ <u>558.91</u>
	MILEAGE <u>178.904</u> @ <u>2.60</u> \$ <u>465.15</u>
	TOTAL <u>\$ 4,382.30</u>

REMARKS:  
P/O 3350' @ 50 SK - Pumped cement @ 8.21 <sup>50'</sup> <sub>min</sub>  
Displaced cement @ 4.76 <sup>1/2</sup> <sub>min</sub>  
P/O 1025' @ 25 SK - Pumped cement @ 4.10 <sup>1/2</sup> <sub>min</sub>  
Displaced cement @ 4.10 <sup>1/2</sup> <sub>min</sub>  
P/O 423' @ 80 SK - Pumped cement @ 13.14 <sup>1/2</sup> <sub>min</sub>  
Displaced cement @ 1/2 <sup>1/2</sup> <sub>min</sub>  
P/O 40' @ 10 SK - Pumped cement @ 1.64 <sup>1/2</sup> <sub>min</sub>  
1 x 8 5/8 wooden Plug - cement to surface.  
RAT = 30 SK MORA = 15 SK

SERVICE	
DEPTH OF JOB	<u>3350'</u>
PUMP TRUCK CHARGE	<u>\$ 2,600.00</u>
EXTRA FOOTAGE @	
MILEAGE Heavy <u>19m</u> @ <u>7.70</u> \$ <u>146.30</u>	
MANIFOLD Light <u>19m</u> @ <u>4.40</u> \$ <u>83.60</u>	
@	
@	
TOTAL	<u>\$ 2,830.39</u>

CHARGE TO: T.D.E. INC.

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT	
1 x 8 5/8 wooden Plug @	<u>\$ 107.64</u>
@	
@	
@	
@	
TOTAL	<u>\$ 107.64</u>

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 \_\_\_\_\_

SIGNATURE [Signature]

SALES TAX (if Any) \_\_\_\_\_

TOTAL CHARGES \$ 7,320.34

DISCOUNT \$ 1464.06 IF PAID IN 30 DAYS

Net 5856.25