Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1161941

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 # 4787
Name: TDI, Inc.
Address 1: 1310 BISON RD
Address 2:
City: HAYS State: KS Zip: 67601 + 9696
Contact Person: Tom Denning
Phone: (785) 628-2593
CONTRACTOR: License # 33350
Name: Southwind Drilling, Inc.
Wellsite Geologist: Herb Deines
Purchaser: Coffeyville Resources

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 #:

9/26/2013	10/1/2013	10/29/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-051-26589-00-00
Spot Description:
NW NE SE SE Sec. 9 Twp. 15 S. R. 18 ☐ East ☑ West
1290 Feet from ☐ North / ☑ South Line of Section
605 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*

Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84

County: Ellis
Lease Name: Munsch Well #: 7
Field Name: Schoenchen
Producing Formation: Arbuckle
Elevation: Ground: 2029 Kelly Bushing: 2039
Total Vertical Depth: 3750 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 212 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 1195 Feet
If Alternate II completion, cement circulated from: 1195
feet depth to: 0 w/ 200 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 62000 ppm Fluid volume: 800 bbls
Dewatering method used: Evaporated

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: 01/02/2014
☑ **Confidential Release Date:** 01/02/2016
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 01/02/2014

[redacted] 1161941

Operator Name: TDI, Inc. Lease Name: Munsch Well #: 7

Sec. 9 Twp. 15 S. R. 18 ☐ East ☑ West County: Ellis

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Dual Induction Log
Dual Compensated Porosity Log
Microresistivity Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Anhydrite	1208'	+831'
Topeka	2996'	-957'
Heebner	3275'	-1236'
Lansing/Kansas City	3320'	-1281'
Base Kansas City	3544'	-1505'
Arbuckle	3605'	-1566'

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	212	Common	150	2% gel, 3% cc
Production	7.875	5.5	14	3741	EA-2	150	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☑ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	0-1195	SMD	200	
	-			

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

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	3609-3613		

TUBING RECORD: Size: 2.875 Set At: 3688' Packer At:

Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 1/1/2014

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

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

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
Arbuckle

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	TDI, Inc.
Well Name	Munsch 7
Doc ID	1161941

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	212	Common	150	2% gel, 3% cc
Production	7.875	5.5	14	3741	EA-2	150	

DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning-Herb Dei

Munsch #7

9-15s-18w Ellis,KS

Start Date: 2013.09.30 @ 10:16:00
End Date: 2013.09.30 @ 16:53:09
Job Ticket #: 54820 DST #: 1

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

Printed: 2013.10.03 @ 10:20:41

DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning-Herb Dei

9-15s-18w Ellis,KS

Munsch #7

Job Ticket: 54820 **DST#: 1**

Test Start: 2013.09.30 @ 10:16:00

GENERAL INFORMATION:

Formation: **LKC A-C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:53:25
Time Test Ended: 16:53:09

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 70

Interval: 3302.00 ft (KB) To 3355.00 ft (KB) (TVD)
Total Depth: 3355.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

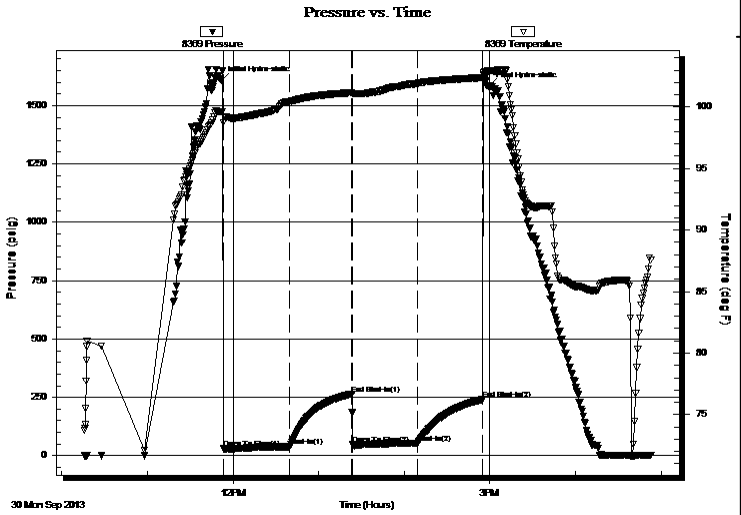
Reference Elevations: 2039.00 ft (KB)
2029.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8369 **Inside**

Press@RunDepth: 53.49 psig @ 3317.00 ft (KB)
Start Date: 2013.09.30 End Date: 2013.09.30
Start Time: 10:16:00 End Time: 16:53:09

Capacity: 8000.00 psig
Last Calib.: 2013.09.30
Time On Btm: 2013.09.30 @ 11:51:55
Time Off Btm: 2013.09.30 @ 14:59:24

TEST COMMENT: 45-IFP-w k to strg in 20 min
45-ISIP-no bl
45-FFP-strg bl in 1 min
45FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1607.53	99.61	Initial Hydro-static
2	32.21	98.73	Open To Flow (1)
48	39.30	100.45	Shut-In(1)
92	264.54	101.16	End Shut-In(1)
92	47.85	101.10	Open To Flow (2)
137	53.49	101.90	Shut-In(2)
183	241.01	102.39	End Shut-In(2)
188	1583.26	102.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	850'GIP	0.00
75.00	SGCM 5%G95%M w /show of oil	1.05

Gas Rates

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

DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning-Herb Dei

9-15s-18w Ellis,KS

Munsch #7

Job Ticket: 54820 **DST#: 1**

Test Start: 2013.09.30 @ 10:16:00

GENERAL INFORMATION:

Formation: **LKC A-C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:53:25
Time Test Ended: 16:53:09

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 70

Interval: 3302.00 ft (KB) To 3355.00 ft (KB) (TVD)
Total Depth: 3355.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

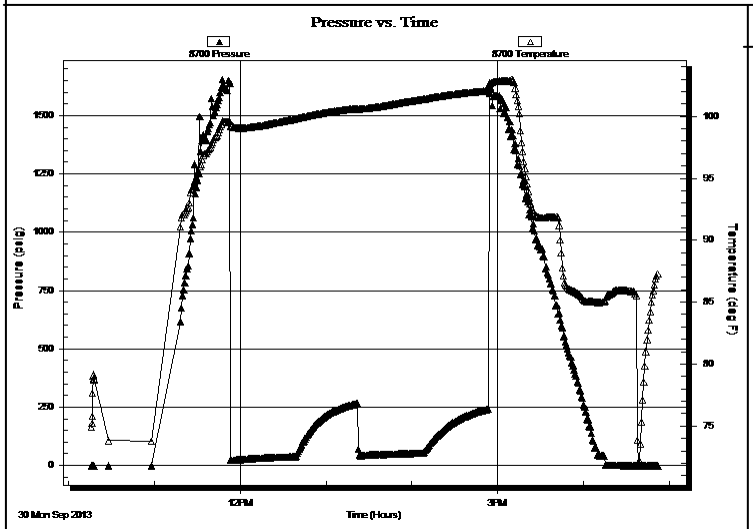
Reference Elevations: 2039.00 ft (KB)
2029.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8700 **Outside**

Press@RunDepth: psig @ 3317.00 ft (KB)
Start Date: 2013.09.30 End Date: 2013.09.30
Start Time: 10:15:58 End Time: 16:51:52

Capacity: 8000.00 psig
Last Calib.: 2013.09.30
Time On Btm:
Time Off Btm:

TEST COMMENT: 45-IFP-wk to strg in 20 min
45-ISIP-no bl
45-FFP-strg bl in 1 min
45FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	850'GIP	0.00
75.00	SGCM 5%G95%M w/show of oil	1.05

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning-Herb Dei

9-15s-18w Ellis,KS

Munsch #7

Job Ticket: 54820 **DST#: 1**

Test Start: 2013.09.30 @ 10:16:00

Tool Information

Drill Pipe:	Length:	3313.00 ft	Diameter:	3.80 inches	Volume:	46.47 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:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		50000.00 lb
					Total Volume:	46.47 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight:	Initial	36000.00 lb
Depth to Top Packer:		3302.00 ft						Final	37000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		53.00 ft							
Tool Length:		74.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3282.00		
Shut In Tool	5.00			3287.00		
Hydraulic tool	5.00			3292.00		
Packer	5.00			3297.00	21.00	Bottom Of Top Packer
Packer	5.00			3302.00		
Stubb	1.00			3303.00		
Perforations	14.00			3317.00		
Recorder	0.00	8369	Inside	3317.00		
Recorder	0.00	8700	Outside	3317.00		
Blank Spacing	33.00			3350.00		
Bullnose	5.00			3355.00	53.00	Bottom Packers & Anchor
Total Tool Length:	**74.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning-Herb Dei

9-15s-18w Ellis,KS

Munsch #7

Job Ticket: 54820 **DST#: 1**

Test Start: 2013.09.30 @ 10:16:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	850'GIP	0.000
75.00	SGCM 5%G95%M w/show of oil	1.052

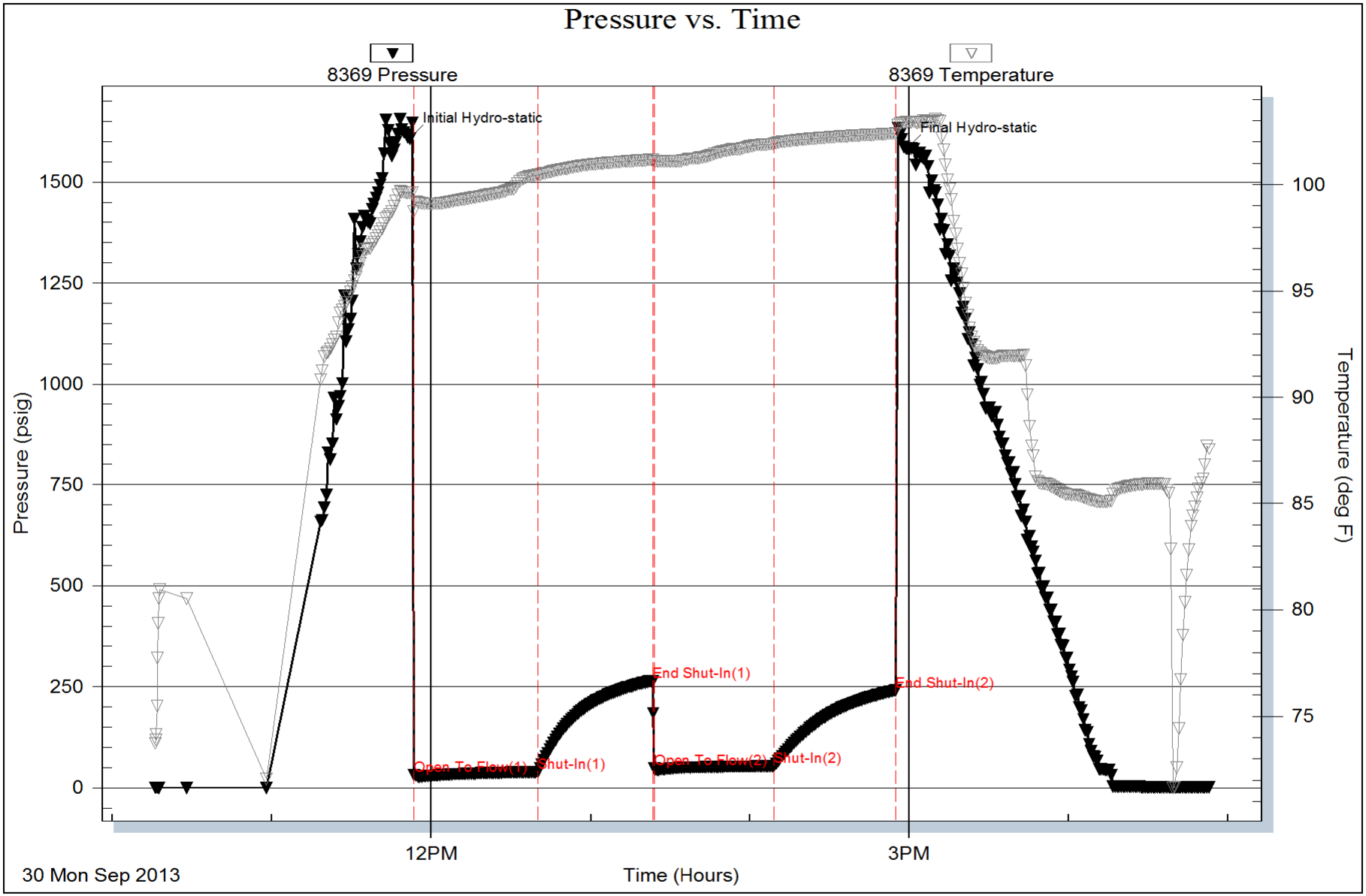
Total Length: 75.00 ft Total Volume: 1.052 bbl

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

Laboratory Name: Laboratory Location:

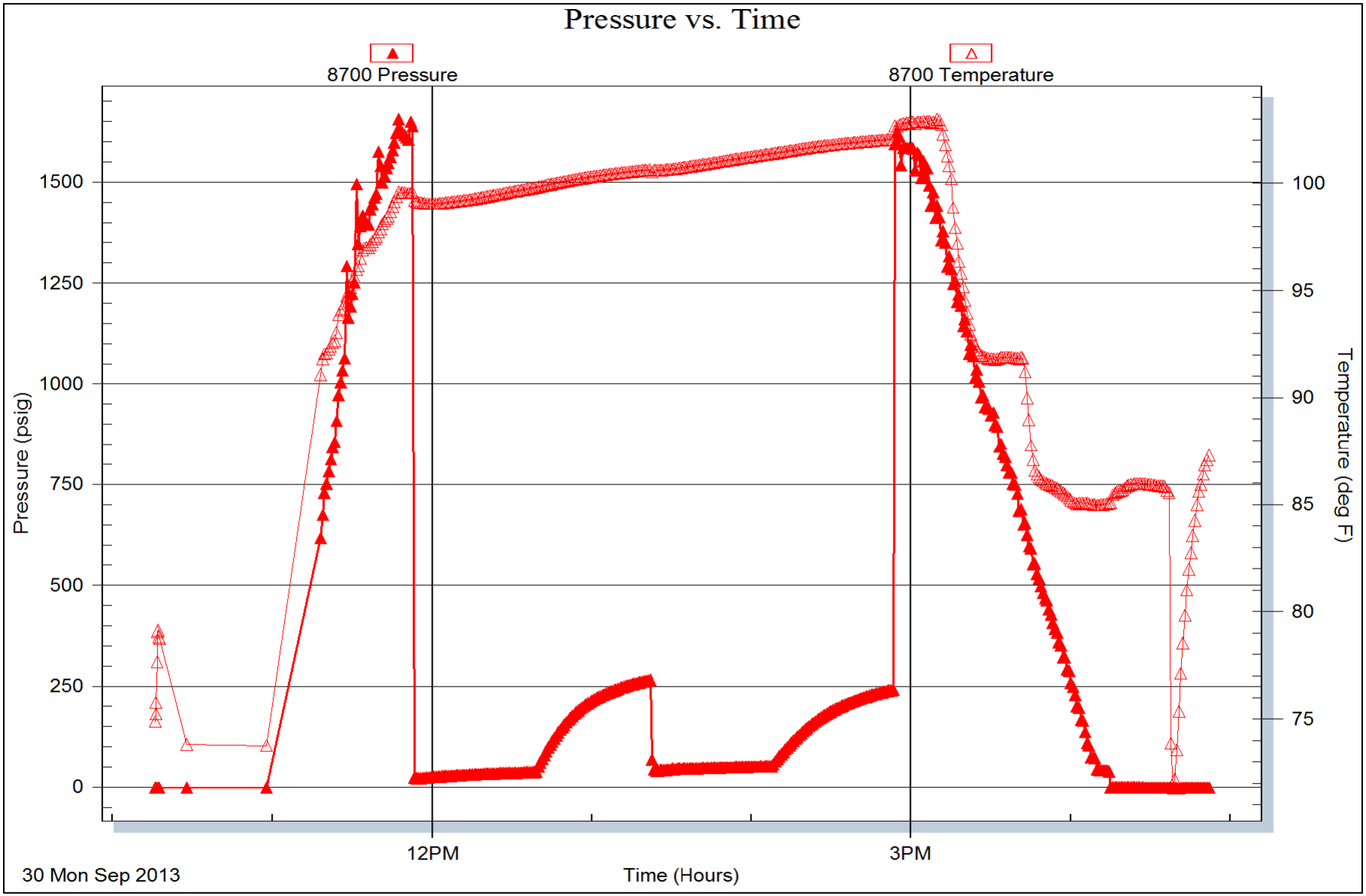
Recovery Comments:

Serial #: 8369 **Inside** TDI Inc Munsch #7 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 54820 Printed: 2013.10.03 @ 10:20:42

Serial #: 8700 **Outside** TDI Inc Munsch #7 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 54820 Printed: 2013.10.03 @ 10:20:42

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 54820

Well Name & No. Munsch #7 Test No. 1 Date 9-30-13

Company TDI, Inc. Elevation 2039 KB 2029 GL

Address 1310 Bison Rd. Hays, Ks 67601-9696

Co. Rep / Geo. Herb Deines Rig Southwind rig 1

Location: Sec. 9 Twp. 15S Rge. 18W Co. Ellis State Ks

Interval Tested 3302-3355 Zone Tested LKC A-C

Anchor Length 53 Drill Pipe Run 3313 Mud Wt. 9.2

Top Packer Depth 3297 Drill Collars Run - Vis 56

Bottom Packer Depth 3302 Wt. Pipe Run - WL 7.2

Total Depth 3355 Chlorides 4300 ppm System LCM 1#

Blow Description IFP - Weak To Strong IN 20min
ISIP - NO Blow
FFP - Strong Blow IN 1min
FSIP - NO Blow

Rec 850	Feet of GIP	%gas	%oil	%water	%mud
Rec 75	Feet of SGCM	5 %gas	%oil	%water 95	%mud
Rec	Feet of w/show of oil	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 75 BHT 102 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1607	☑ Test 1150	T-On Location 0900	
(B) First Initial Flow 32	☐ Jars	T-Started 1015	
(C) First Final Flow 39	☐ Safety Joint	T-Open 1155	
(D) Initial Shut-In 264	☐ Circ Sub	T-Pulled 1455	
(E) Second Initial Flow 47	☐ Hourly Standby	T-Out 1653	
(F) Second Final Flow 53	☑ Mileage 22 RT 68.20	Comments Loaded Tool, 1am 10-2-13	
(G) Final Shut-In 241	☐ Sampler		
(H) Final Hydrostatic 1583	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 45	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 45	☐ Extra Recorder	Sub Total 800	
Final Flow 45	☐ Day Standby 1d 8h	Total 2018.20	
Final Shut-In 45	☐ Accessibility	MP/DST Disc't	
	Sub Total 1218.20		

Approved By Our Representative Ray Schwager Thank You

OPERATOR

Company:	TDI, INC		
Address:	1310 BISON ROAD HAYS, KANSAS 67601		
Contact Geologist:	TOM DENNING		
Contact Phone Nbr:	785-628-2593		
Well Name:	MUNSCH # 7		
Location:	NW NE SE SE Sec.9-15s-18w	API:	15-051-26,589-00-00
Pool:	INFIELD	Field:	SCHOENCHEN
State:	KANSAS	Country:	USA

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

Scale 1:240 Imperial

Well Name:	MUNSCH # 7		
Surface Location:	NW NE SE SE Sec.9-15s-18w		
Bottom Location:			
API:	15-051-26,589-00-00		
License Number:	4787		
Spud Date:	9/26/2013	Time:	6:00 PM
Region:	ELLIS COUNTY		
Drilling Completed:	10/1/2013	Time:	4:45 PM
Surface Coordinates:	1290' FSL & 605' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	2029.00ft		
K.B. Elevation:	2039.00ft		
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:	-99.3211198	Latitude:	38.7584877
N/S Co-ord:	1290' FSL		
E/W Co-ord:	605' FEL		

LOGGED BY

SOLUTIONS CONSULTING

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:	9/26/2013	Time:	6:00 PM
TD Date:	10/1/2013	Time:	4:45 PM
Rig Release:	10/2/2013	Time:	11:00 AM

ELEVATIONS

K.B. Elevation:	2039.00ft	Ground Elevation:	2029.00ft
K.B. to Ground:	10.00ft		

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON FAVORABLE ARBUCKLE STRUCTURE AND LOG ANALYSIS.

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 TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

MUNSCH #7	MUNSCH # 3
NW NE SE SE	SW NE NE SE
Sec. 9-15s-18w	Sec. 9-15s-18w
2029’ GL 2039’ KB	Reference Well

FORMATION	SAMPLE TOPS	LOG TOPS	LOG TOPS
Anhydrite	1209+ 830	**1208+ 831**	*+ 835*
B-Anhydrite	1246+ 793	**1244+ 795**	*+ 798*
Topeka	2997- 958	**2996- 957**	*- 962*
Heebner Shale	3276-1237	**3275-1236**	*-1240*
Toronto	3294-1255	**3294-1255**	*-1257*
LKC	3321-1282	**3320-1281**	*-1287*
BKC	3544-1505	**3544-1505**	*-1512*
Arbuckle	3608-1569	**3605-1566**	*-1588*
RTD	3750-1711		
LTD		**3752-1713**	*-1701*

SUMMARY OF DAILY ACTIVITY

09-26-13 RU, spud 6:00PM, set 8 5/8" to 212' w/ 150 sxs Common, 2%Gel, 3%CC, plug down 11:59PM, WOC 8 hrs, slope 1/2 degree

09-27-13 217', WOC, drill plug 8:00 AM

09-28-13 1765', drilling

09-29-13 2720', drilling, displace 2666'-2689'

09-30-13 3355', drilling, CFS 3355' DST # 1 3302'-3355' "A"-"C" LKC

10-01-13 3503', drilling, RTD 3750'@4:42PM, CCH, TOWB, logs

10-02-13 3750', LDDP, run production casing and cement, RD

DST # 1 TEST SUMMARY

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc

1310 Bison Rd
Hays Ks 67601-9696

ATTN: Tom Denning-Herb Dei

9-15s-18w Ellis

Munsch #7

Job Ticket: 54820 **DST#: 1**

Test Start: 2013.09.30 @ 10:16:00

GENERAL INFORMATION:

Formation: **LKC A-C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:53:25
Time Test Ended: 16:53:09

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 70

Interval: 3302.00 ft (KB) To 3355.00 ft (KB) (TVD)
Total Depth: 3355.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2039.00 ft (KB)
2029.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8369 **Inside**
Press@RunDepth: 53.49 psig @ 3317.00 ft (KB)
Start Date: 2013.09.30 End Date: 2013.09.30
Start Time: 10:16:00 End Time: 16:53:09

Capacity: 8000.00 psig
Last Calib.: 2013.09.30
Time On Btm: 2013.09.30 @ 11:51:55
Time Off Btm: 2013.09.30 @ 14:59:24

TEST COMMENT: 45-IFP-wk to strg in 20 min
45-ISIP-no bl
45-FFP-strg bl in 1 min
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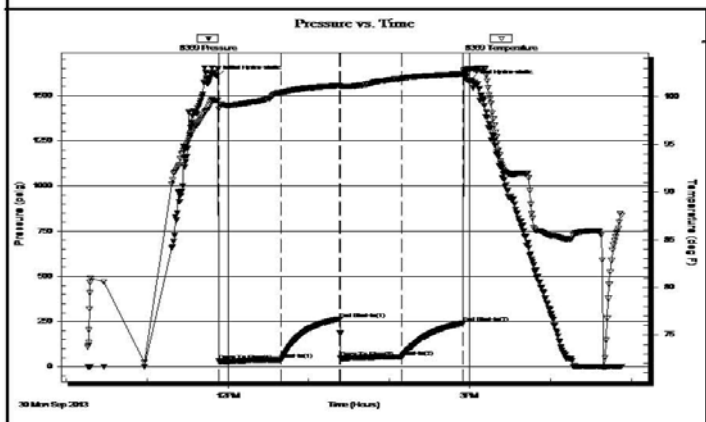


PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1607.53	99.61	Initial Hydro-static
2	32.21	98.73	Open To Flow (1)
48	39.30	100.45	Shut-In(1)
92	264.54	101.16	End Shut-In(1)
92	47.85	101.10	Open To Flow (2)
137	53.49	101.90	Shut-In(2)
183	241.01	102.39	End Shut-In(2)
188	1583.26	102.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	850'GIP	0.00
75.00	SGCM 5%G95%M w/show of oil	1.05

Gas Rates

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

Trilobite Testing, Inc Ref. No: 54820 Printed: 2013.09.30 @ 22:51:02

ROCK TYPES

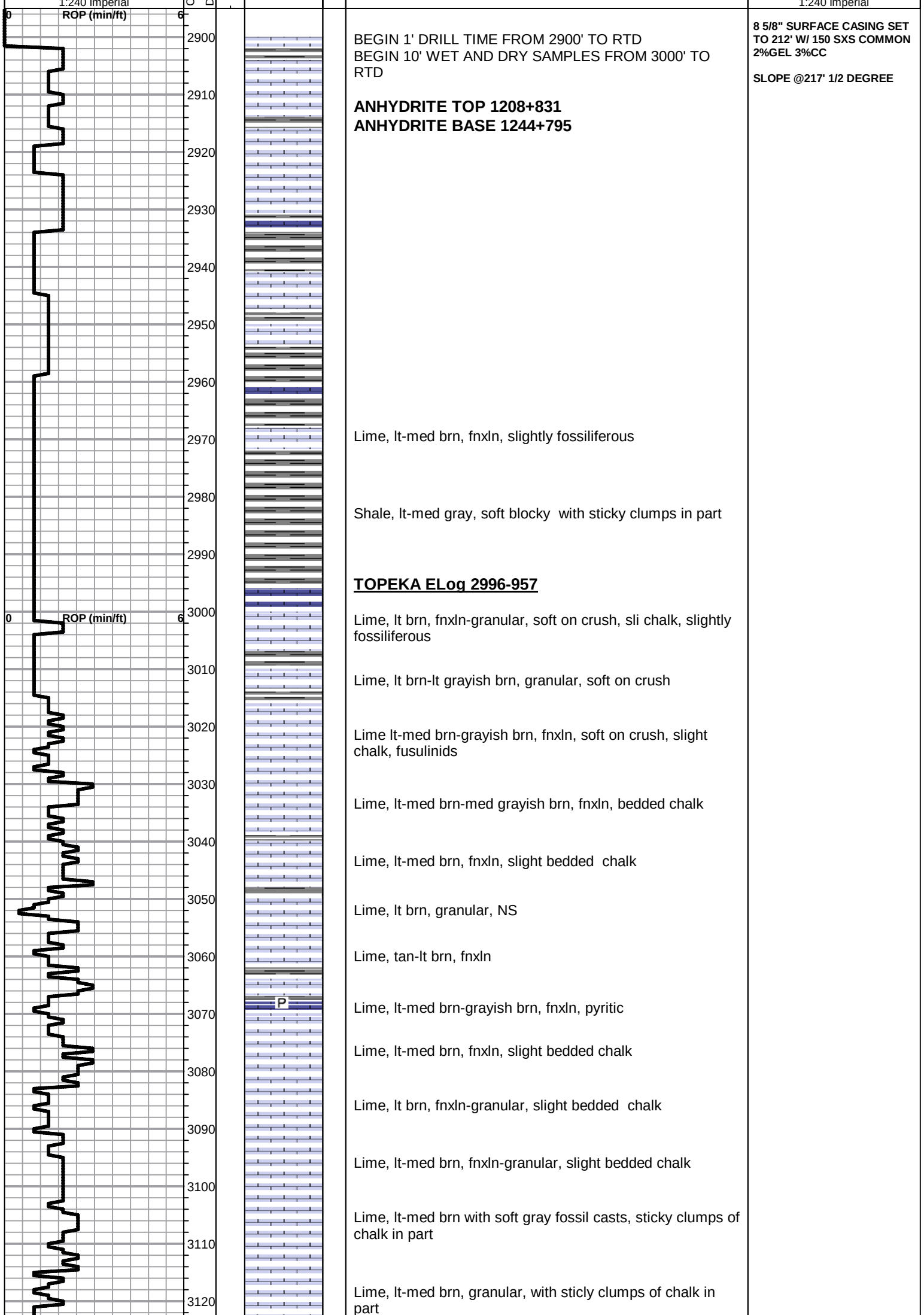
Clystgy	Lmst fw<7	shale, grn	shale, red
Dolprim	Lmst fw7>	shale, gry	Shcol
Dol Lime	Lscongl	Carbon Sh	

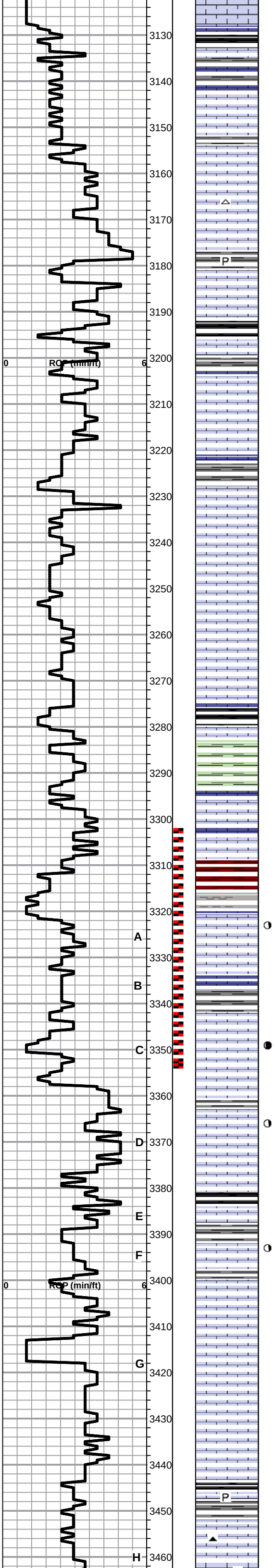
ACCESSORIES

MINERAL

- Chert, dark
- Nodules
- Pyrite
- Sandy
- Chert White

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





Shale, black carbonaceous

Shale, lt gray, soft sticky clumps
Lime, lt-med brn, fnxln

Lime, crm, fn-vfxln, lithographic

Lime, lt gray tint, fnxln

lime, crm-tan, fnxln, slightly fossiliferous
Chert, lt gray with fusilinids

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

Shale, med gray, calcareous in part

Lime, lt-med brn, fnxln-granular, trashy near shale boundary

Shale, black carbonaceous

Lime, lt-med brn-grayish brn, fnxln, soft on crush

Lime, lt brn, fnxln-granular, slightly fossiliferous, NS

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

Shale, med gray, soft slivers

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

Lime, lt-med brn, fnxln-granular, wide range of lime types and colors.

Lime, crm-lt brn, fnxln, bedded chalk

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

Lime, crm-lt brn, fnxln

HEEBNER SHALE ELog 3275-1236
Shale, black carbonaceous, fissile, blocky
Lime, lt brn-lt gray, vfxln, hard on crush

Shale, dove gray-lime green, soft sticky clumps

TORONTO ELog 3294-1255

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

Lime, crm-tan, fnxln, NS

Shale, red-brn, soft blocky forming soft mud clumps in part

LKC ELog 3320-1281

Lime, crm-lt brn, fnxln, V Lt Odor, in thin zone with inter xln with scattered vuggy porosity, spotty stain, NFO

DST # 1 3302' TO 3355' SEE HEADER FOR TEST SUMMARY

Lime, lt brn-gray, fnxln

Lime, crm-tan, fnxln with oomoldic/fossil fragments in part, dark stain with saturated fresh oil stain in part, V Lt Odor

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

Lime crm-tan, fnxln with zone of oolitic/fossil fragment material with lt spotty stain V Lt Odor, NFO

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

Shale, black carbonaceous
Lime, pale gray with green tint, fn-vfxln

Lime, crm-tan, fnxln with thin zone of fossil fragments with spotty stain, lt odor. Not well developed

Lime, crm-tan, fnxln with thin cemented oolitic beds, NS

Lime, tan-lt brn, fnxln with bedded chalk grading into oomoldic zone, no wet cut, barren

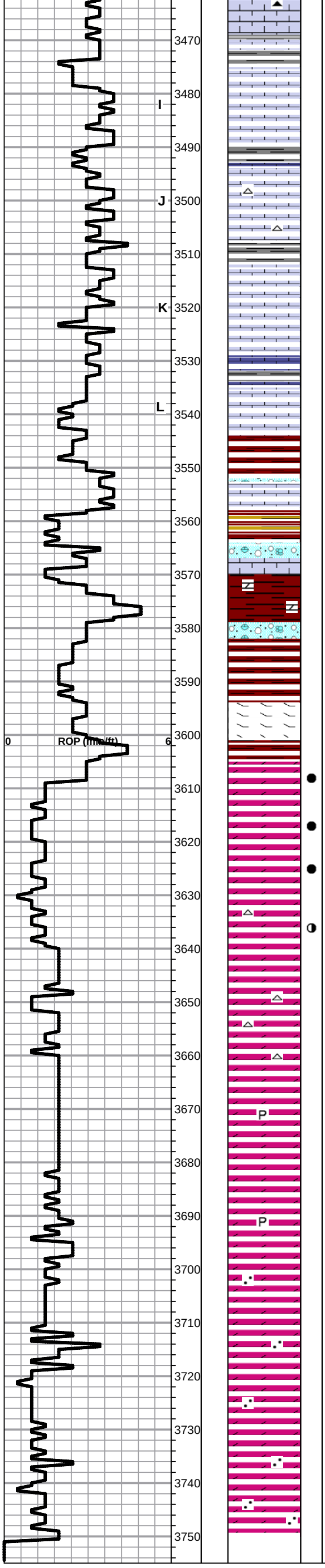
Lime, lt brn, fn-micro xln, slight bedded chalk

Lime, tan-lt brn, fn-vfxln, slight bedded chalk

Lime, lt brn, fn-vfxln

Shale, gray-black carbonaceous
Lime, lt brn, fn-vfxln

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



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

Shale, lt gray-lime green, forming soft mud clumps
Lime, tan, fn-vfxln, bedded chalk, NS

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

Shale, med -dark gray, firm blocky

Lime, crm-lt brn, fn-micro xln, slight bedded chalk, white chert

Lime, crm-tan, fn-micro xln

Shale, med gray, soft-firm blocky

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

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

Lime, lt-med brn, fnxln,
Shale, med-dark gray-greenish gray, soft blocky

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

BKC ELog 3544-1505

Shale, lt red wash, soft blocky

Lime, crm-lt brn, fn-vfxln, slight bedded chalk

Shale, gray, brn, maroon, soft-firm blocky

Lime, crm-lt brn, clastic mix with red shale staining

Shale, red wash, forming soft mud, dark chert nodules

Clastic lime mix

Shale, dark brn, soft-firm blocky

Lime, crm, fnxln, dolomitic with orange chert fragments
Shale, lime green-red, soft sticky clumps

ARBUCKLE ELog 3605-1566

Dolomite, crm-lt brn, med-cxln, sucrosic in part, lt odor with saturated staining

Dolomite, crm-lt brn, fn-cxln sucrosic, good odor with saturated staining

Dolomite, crm-lt brn, fn-cxln, F-G odor with saturated staining, less sucrosic with depth, good inter xln porosity

Dolomite, ivory-crm, fn-cxln, opaque chert, lt sulfur odor with much staining.

Dolomite, ivory-crm, fn-cxln

Dolomite, ivory-crm, fn-cxln

Dolomite, ivory-crm, fn-cxln

Dolomite, ivory, fn-cxln

Dolomte, ivory-lt steel gray with lt green tint, micro pyrite crystalline inclusions

Dolomite, crm-ivory, fnxln

Dolomite, crm-ivory, fnxln with increasing quartz grain inclusions

Dolomite, ivory-crm, fn-cxln, quartz grain inclusions with few fused quartz clusters.

Dolomite, ivory-crm, fnxln-granular, hard on crush

Dolomite, crm-ivory, fnxln-granular

RTD 3750-1711 LTD 3752-1713

SLOPE @3750' 1 DEGREE

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 7872

Cell 785-324-1041

Date	Sec.	Twp.	Range	Called Out	On Location	Job Start	Finish
9-26-13	9	15	18			10:15pm	11:30pm

Lease	Well No.	Location	County	State
Munsch	#7	Hays 7 5¼ Winto	Ellis	KS

Contractor Southwind 1

Type Job Surface

Hole Size 12¼ T.D. 218'

Csg. 8 5/8 Depth 212'

Tbg. Size Depth

Drill Pipe Depth

Tool Depth

Cement Left in Csg. 20ft. Shoe Joint 20 ft.

Press Max. Minimum

Meas Line Displace 12¼ BBL

Perf.

Owner T.D.1

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.

Charge To T.D.1

Street

City Hays State Kansas

The above was done to satisfaction and supervision of owner agent or contractor.

EQUIPMENT

	No.		
Pumptrk 5		Cementer Helper	Matt
Bulktrk 14		Driver	Lonnie W
~~Bulktrk~~ PU		Driver	Lonnie M

JOB SERVICES & REMARKS

Pumptrk Charge Surface

Mileage

Footage

Total

Remarks:
Cement did Circulate!

X
Signature

CEMENT

Amount Ordered 150 com 3% cc 2% gel

Consisting of

Common 150

Poz. Mix

Gel. 3

Chloride 5

Hulls

Salt

Flowseal

Sales Tax

Handling 158

Mileage 8

Sub Total

Total

Floating Equipment & Plugs

Squeeze Manifold

Rotating Head

Tax

Discount

Total Charge

JOB LOG

SWIFT Services, Inc.

DATE 10-2-13 | PAGE NO.

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
TOI	7	Munsch	5½ Two Stage	25206

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0730							on location
								TD 3751 SJ 42
								TP 3547 Insert 3705
								DV top @ 1195'
								Centralizers 1, 3, 5, 6, 8, 10, 12, 59
								Baskets 3, 13, 60, 75
	0930							Start Casing
	1100							Drop Ball Break Circulation Rotate
	1205	5	12		✓		300	Start Mud flush
		5	20		✓		300	Start KCL Flush
	1215	5	36		✓		200	Start EA-2 Cement 150 sks
	1225							Drop Plug
								Wash out Pump + Lines
	1226	6.5					200	Start Displacement
			70		✓			Start KCL Flush
	1240		90.4		✓		700/1500	land Plug
	1245							Drop open Plug
	1250		7/5					Plug RH 30 sks MH 20 sks
	1305				✓		1100	Open DV
	1306	5	59		✓		300	Start SMD 125 @ 11.7 #/gal
		5	7		✓			Bring weight up to 13.5 #/gal
								wash out Pump + Lines
	1330							Drop Closing Plug
					✓		400	Start Displacement
	1345		29.1		✓		1520	land Plug
								close DV
								Circulated 15 sks to pit
								wash up Rack up
	1430							Job Complete
								Thank You
								Josh, Boran Isaac