

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: HENMAN UNIT # 1
 Location: SE SW SW SW Sec.6-15s-19w
 Pool: WILDCAT
 State: KANSAS

API: 15-051-26,485-00-00
 Field: UNNAMED
 Country: USA



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

Scale 1:240 Imperial

Well Name: HENMAN UNIT # 1
 Surface Location: SE SW SW SW Sec.6-15s-19w
 Bottom Location:
 API: 15-051-26,485-00-00
 License Number: 4787
 Spud Date: 3/22/2013 Time: 6:30 PM
 Region: ELLIS COUNTY
 Drilling Completed: 3/28/2013 Time: 2:21 PM
 Surface Coordinates: 100' FSL & 625' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2038.00ft
 K.B. Elevation: 2048.00ft
 Logged Interval: 2250.00ft To: 3685.00ft
 Total Depth: 3700.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 100' FSL
 E/W Co-ord: 625' FWL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: Geologist Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING INC.
 Rig #: 1
 Rig Type: MUD ROTARY

Rig Type: MUD ROTARY
 Spud Date: 3/22/2013
 TD Date: 3/28/2013
 Rig Release: 3/28/2013

Time: 6:30 PM
 Time: 2:21 PM
 Time: 9:30 PM

ELEVATIONS

K.B. Elevation: 2048.00ft Ground Elevation: 2038.00ft
 K.B. to Ground: 10.00ft

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL DUE TO NEGATIVE RESULTS OF TWO DSTS. WELL WAS LOGGED TO 3685' AND DEEPENED TO 3700' TO DETERMINE UNDERLYING LITHOLOGY OF CONGLOMERATE SAND SECTION.

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, ONE (1) STRADDLE TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

Henman Unit # 1

100' FSL & 625' FWL, SW/4

Sec. 6-15s-19w

2038' GL 2048' KB

ORVILLE # 1

NE NE SW SE

Sec. 7-15s-19w

Reference Well


<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	
Anhydrite	1290+ 758	1286+ 762	+760	-2
B-Anhydrite	1326+ 722	1322+ 726	+722	-4
Topeka		3040- 992		
Heebner Shale	3299-1251	3294-1246	-1247	- 1
Toronto	3321-1273	3319-1271	-1267	+4
LKC	3345-1297	3343-1295	-1293	+2
BKC	3595-1547	3592-1544	-1545	- 1
Marmaton	3640-1592	3642-1594	-1591	+3
Conglomerate SS	3680-1632		-1626	- 6
RTD	3700-1652			
LTD		3683-1635		

SUMMARY OF DAILY ACTIVITY

- 3-22-13 RU, spud 6:30 PM, set 8 5/8" surface pipe to 222.46' w/ 150 sacks
Common, 2%Gel, 3%CC, plug down 11:15 PM, WOC 8hrs, slope 1/2
- 3-23-13 224', drill plug at 8:15AM
- 3-24-13 1880'drilling,
- 3-25-13 2589', drilling, displaced 2621' to 2638'

- 3-26-13 3260', drilling
- 3-27-13 3685', DST # 1 3656' to 3685' Conglomerate sand, open hole logs
- 3-28-13 3685', DST # 2 straddle test LKC "H" 3460' to 3484', deepen well to 3700' RTD @2:21 PM, P&A, plugging complete at 9:30 PM
- 3-29-13 3700', finish tear down and move rig

DST # 1 CONVENTIONAL TEST OVER CONGLOMERATE SAND TEST SUMMARY PAGE

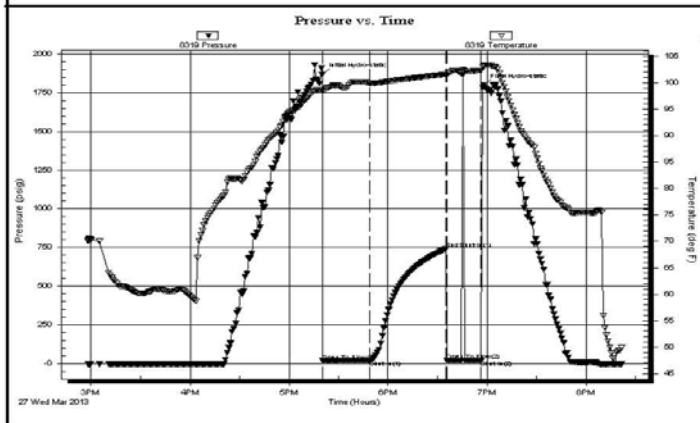
 <p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT	
	TDI Inc 1310 Bison RD Hays KS, 67601 ATTN: Herb	6-15s-19w Ellis KS Henman Unit #1 Job Ticket: 52164 DST#: 1 Test Start: 2013.03.27 @ 14:58:00

GENERAL INFORMATION:

Formation: Cong. Sand	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Cody Bloedorn
Time Tool Opened: 17:20:30	Unit No: 59
Time Test Ended: 20:21:30	Reference Elevations: 2048.00 ft (KB)
Interval: 3656.00 ft (KB) To 3685.00 ft (KB) (TVD)	2038.00 ft (CF)
Total Depth: 3685.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

Serial #: 8319	Outside	Capacity: 8000.00 psig
Press@RunDepth: 19.70 psig @ 3657.00 ft (KB)	End Date: 2013.03.27	Last Calib.: 2013.03.27
Start Date: 2013.03.27	End Time: 20:21:29	Time On Btm: 2013.03.27 @ 17:20:00
Start Time: 14:58:05		Time Off Btm: 2013.03.27 @ 18:58:00

TEST COMMENT: 30 - IF- 3/4" blow
 45 - IS- No return
 20 - FF- No blow for 10 Minutes, flushed tool, surged and died. w waited 10 Min. Pulled tool.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1868.47	98.68	Initial Hydro-static
1	18.52	98.36	Open To Flow (1)
29	19.70	99.89	Shut-In(1)
75	741.64	101.58	End Shut-In(1)
76	20.15	101.43	Open To Flow (2)
97	21.77	102.32	Shut-In(2)
98	1797.74	103.15	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	Mud, with show of Oil, 100%M	0.21

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

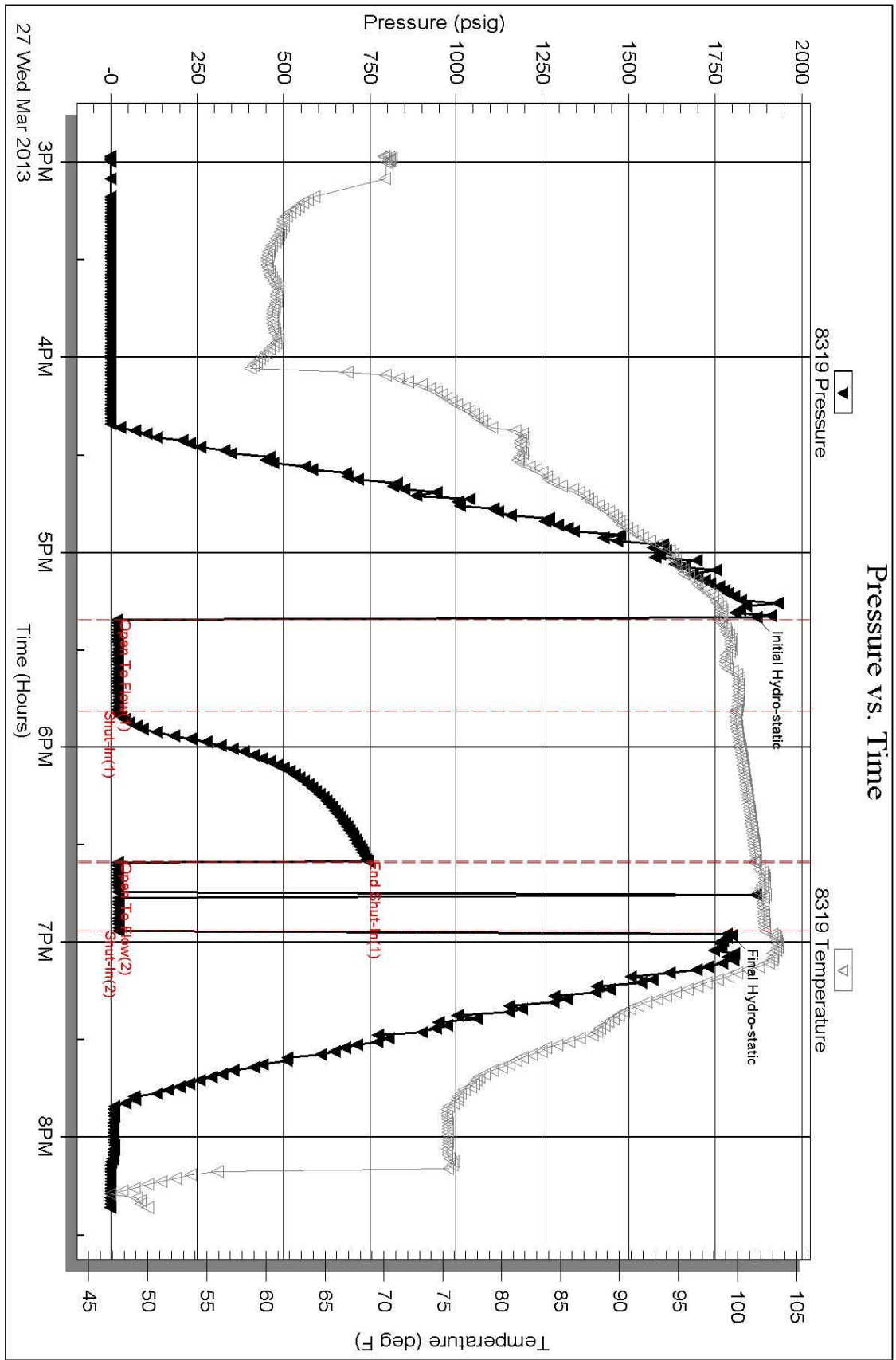
DST # 1 EXPANDED CHART

Serial #: 8319

Outside TDI Inc

Hennan Unit #1

DST Test Number: 1




Trilobite Testing, Inc

Ref. No: 52164

Printed: 2013.03.28 @ 07:59:57

DST # 2 STRADDLE TEST OF LKC "H" ZONE TEST SUMMARY PAGE

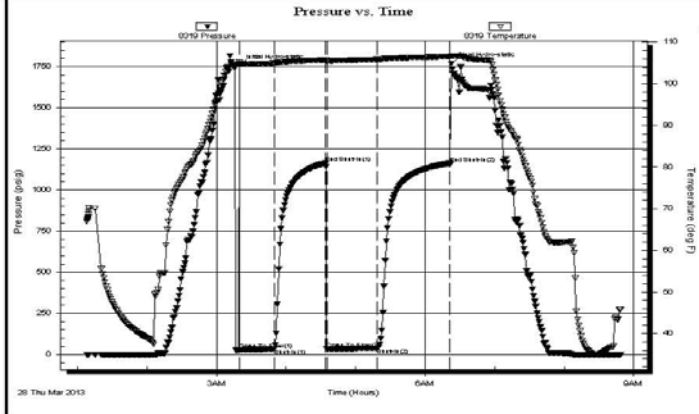
	DRILL STEM TEST REPORT	
	TDI Inc 1310 Bison RD Hays KS. 67601 ATTN: Herb	6-15s-19w Ellis KS Henman Unit #1 Job Ticket: 52165 DST#: 2 Test Start: 2013.03.28 @ 01:08:05

GENERAL INFORMATION:

Formation: "H"	Test Type: Conventional Straddle (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Cody Bloedorn
Time Tool Opened: 03:20:00	Unit No: 59
Time Test Ended: 08:48:29	Reference Elevations: 2048.00 ft (KB)
Interval: 3460.00 ft (KB) To 3484.00 ft (KB) (TVD)	2038.00 ft (CF)
Total Depth: 3684.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8319	Inside				
Press@RunDepth: 39.09 psig @ 3480.00 ft (KB)	Capacity: 8000.00 psig				
Start Date: 2013.03.28	End Date: 2013.03.28	Last Calib.: 2013.03.28			
Start Time: 01:08:05	End Time: 08:48:29	Time On Btm: 2013.03.28 @ 03:19:30			
		Time Off Btm: 2013.03.28 @ 06:22:30			

TEST COMMENT: 30 - IF- 1" blow
 45 - IS- No return
 45 - FF- 1/2" blow
 60 - FSI- No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1757.09	105.13	Initial Hydro-static
1	29.22	104.76	Open To Flow (1)
30	33.05	104.97	Shut-In(1)
75	1164.76	105.72	End Shut-In(1)
76	34.34	105.43	Open To Flow (2)
119	39.09	105.88	Shut-In(2)
182	1162.82	106.53	End Shut-In(2)
183	1769.98	106.75	Final Hydro-static

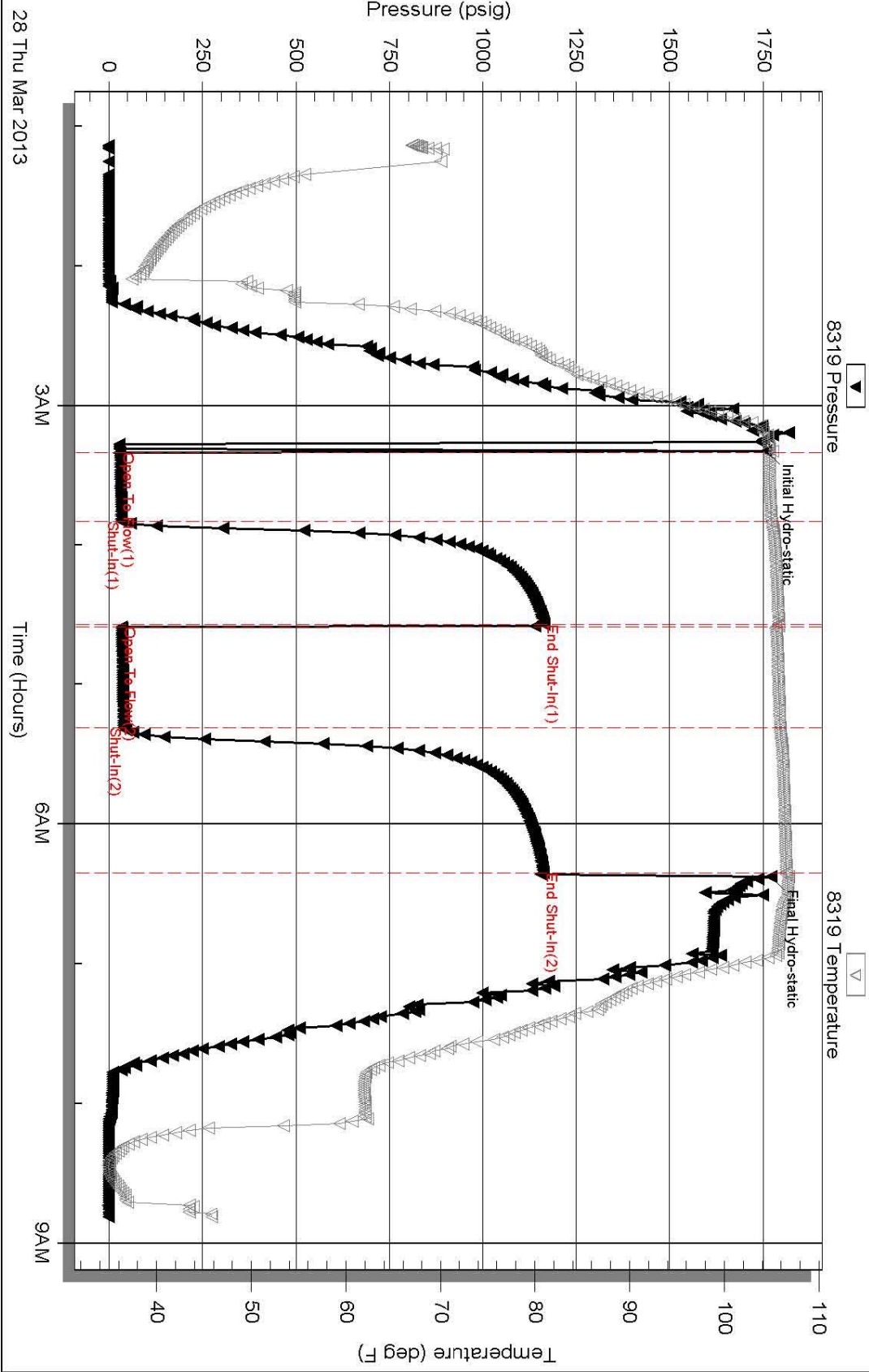
Recovery		
Length (ft)	Description	Volume (bbl)
45.00	Mud, w ith oil spots, 100% M	0.63

* Recovery from multiple tests

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

DST # 2 EXPANDED CHART

Pressure vs. Time



ROCK TYPES

- | | | | | | | | |
|--|-----------|--|------------|--|------------|--|----------|
| | Clystgy | | shale, grn | | shale, red | | Dol Lime |
| | Lmst fw<7 | | shale, gry | | Ss | | Lscongl |
| | Lmst fw>7 | | Carbon Sh | | Slst | | CglSandy |

ACCESSORIES

MINERAL

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

FOSSIL

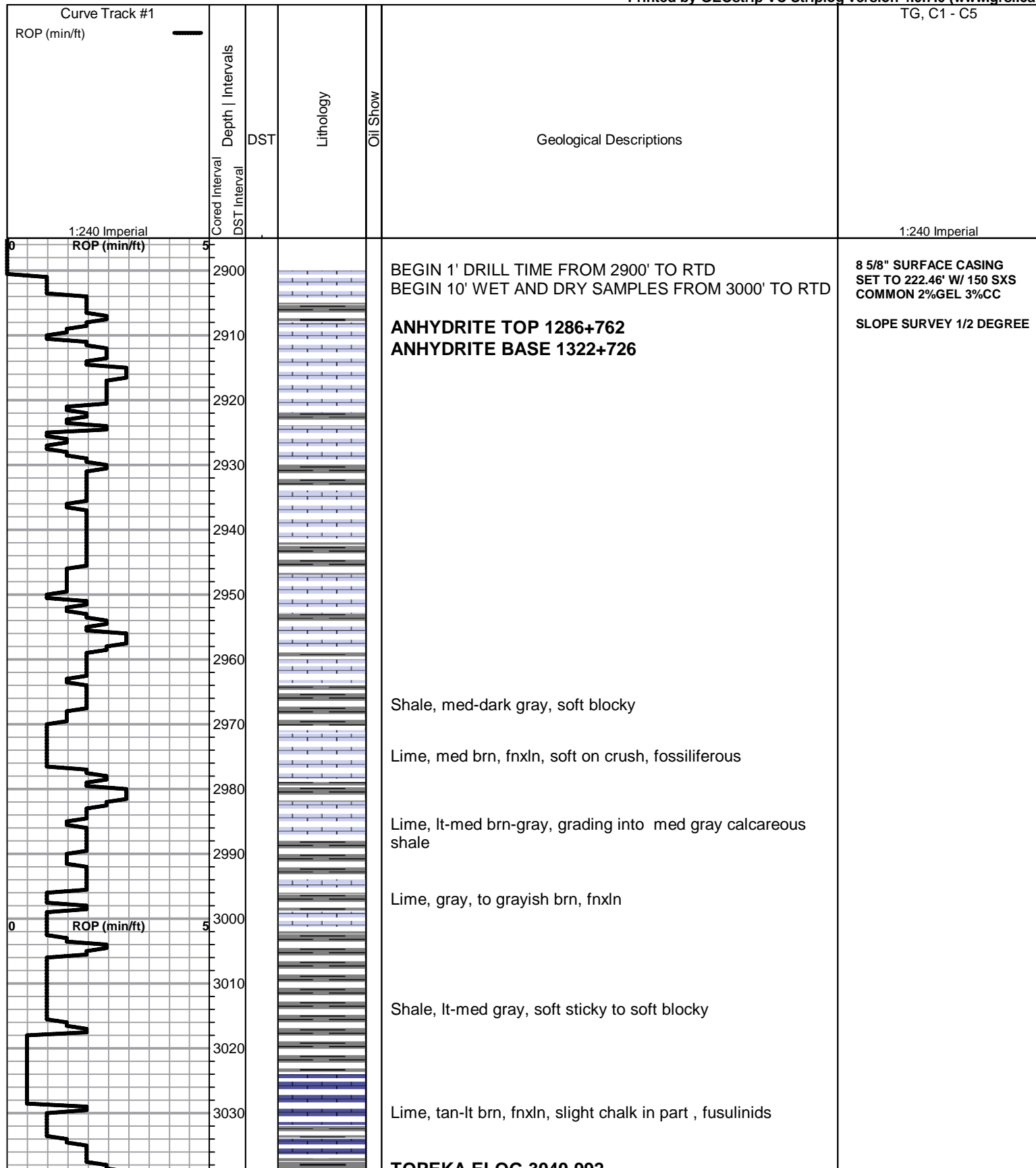
- Oolite

OTHER SYMBOLS

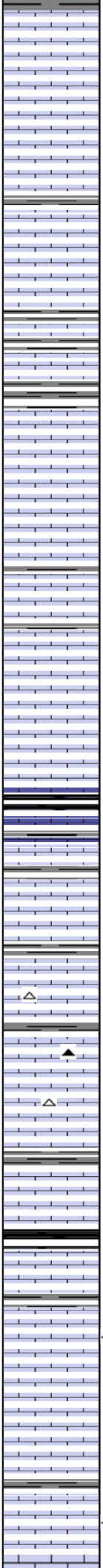
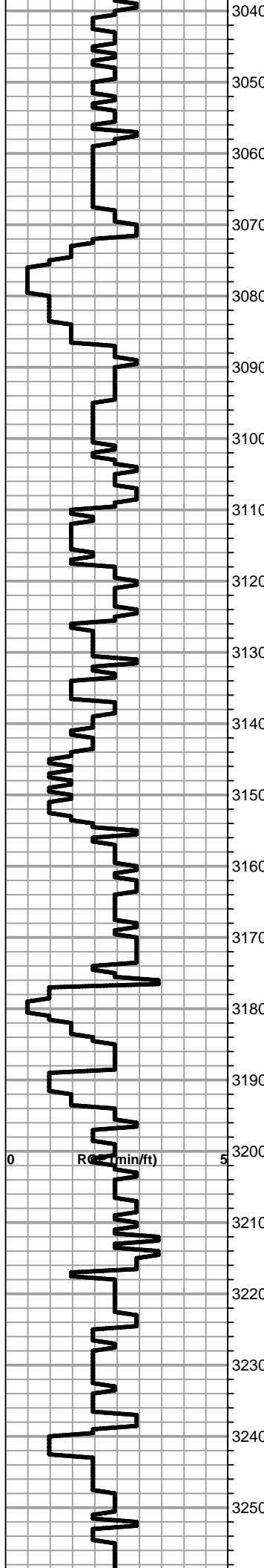
DST

- DST Int
- DST alt
- Core

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



TOPEKA ELOG 3040-992



Lime, lt-med brn, fnxln, soft on crush, chalk in part, slightly fossiliferous, scattered vfxln brn lime.

Lime, tan-lt gray, fnxln, chalk in part

Lime, lt-med brn-dark grayish brn, fnxln, scattered fossils

Lime, lt-med brn, soft crumbly, sticky chalk clumps in part, NS

Lime, lt-med brn-gray, fnxln, chalk in lighter color limes.

Lime, lt-med brn-gray, fnxln

Lime, lt-med brn-grayish brn, fnxln-granular, NS, slight chalk

Lime, lt-med brn-gray, fnxln-granular, stickly chalk clumps in part

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

Lime,lt-med brn, granular, slight chalk

Lime, brn-gray, granular
Shale, black carbonaceous, fissile, blocky

Lime, crm-lt brn, fnxln,
Shale, lt gray, soft forming soft mud clumps

Lime. crm, fnxln, bedded chalk

Lime, lt-med brn, slight bedded chalk in part, NS

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

Lime, crm-lt brn, fnxln-granular in part, sticky chalk clumps

Shale, lt-med gray, calcareous, soft blocky

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

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

* Lime, lt brn-lt grayish brn, bed chalk with chalky matrix in part, , V LT Odor, NFO, NO STAINING

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

Lime, offwhite-lt brn, fnxln, chalk and chalky matrix

* Lime, crm, mostly fnxln, soft on crush, few chips granular with lt odor and scattered specks of oil on crush.

ZONE DIDN'T APPEAR WELL DEVELOPED WITH TYPE OF GRANULAR LIME FOUND ASSOCIATED WITH THIS

CFS 3260

3260

Lime, lt brn, mostly granular w/ chalk matrix and bedded chalk, NS

3270

Lime, lt-med brn, granular with increasing fnxln, bedd chalk with scattered fusulinids

3280

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

3290

HEEBNER SHALE SPL 3299-1251 ELog 3294-1246

Shale, black carbonaceous, fissile, blocky
Lime, tan-med brn-grayish brn, fn-vfxln

3300

3310

Shale, lime green, soft blocky to forming soft mud

TORONTO SPL 3321-1273 ELog 3319-1271

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

3320

3330

Lime, lt brn, chalk in part, NS
Shale, red wash grading into soft gray shale

3340

LKC SPL 3345-1297 ELog 3343-1295

Lime, crm, brn, grays, fnxln

3350

A

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

3360

B

* Lime, mostly lt-med brn, soft with chalk, few oolmoldic, VLT ODOR, NFO, NO STAIN

3370

C

Lime, crm-lt brn, fnxln-granular, lot of bedded chalk

3380

Lime, crm-lt brn, fnxln, bedded chalk

3390

CFS 3392

Lime, lt brn, granular, scattered fine pinpt vuggy porosity, NS, No Wet Cut

3400

D

Shale, gray-black carbonaceous, soft blocky
Lime, lt gray, fnxln

3410

E

○ Lime, crm, fnxln-granular, trace of lt spotty stain, NFO, NO ODOR, looks wet on log

3420

F

Lime, crm-lt brn, fnxln, soft on crush, bedded chalk

3430

Lime, crm, fnxln, bedded chalk

3440

Lime, crm, fn-micro xln, slight bedd chalk

3450

G

Lime, offwhite-crm, fnxln, slight bedd chalk, hard on crush

3460

Lime, offwhite-crm, fnxln, slight bedd chalk, hard on crush

3470

G'

Shale, med gray-black carbonaceous, soft blocky
Lime, crm-lt brn, mostly fnxln, few small chips with trace of

3480

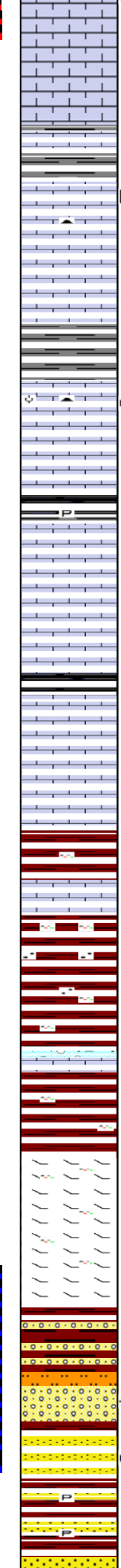
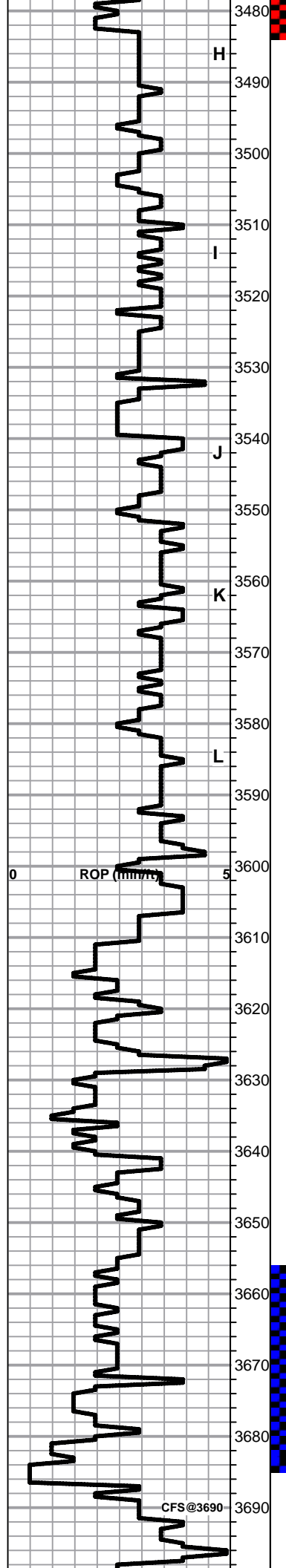
MICROLOG SHOWS ZONE IN THIS INTERVAL TO BE VERY THIN AND POORLY DEVELOPED

DST # 1 3460' TO 3484' STRADDLE TEST SEE HEADER FOR TEST SUMMARY

RC (min/ft)

0

5



oil stain, VLT ODOR in interfossiliferous porosity, Appears to be thin zone.

H 3480

3490 Lime, crm-lt brn, fnxln

3500 Shale, lime green-med gray, soft blocky, soft mud in part

D 3510 Lime, crm, mostly fnxln, scattered fine dead oil specks in fine, poorly developed, inter xln porosity, NFO, NO ODOR

I 3520 Lime, crm-lt brn, fn-vfxln, slight chalk

3530 Lime, crm-lt brn, fnxln, bed chalk
Shale, gray-grayish green, calcareous,

O 3540 Lime, crm-lt brn, very thin oolitic bed, lt spotty stain in 1 chip, NFO, NO ODOR

J 3550 Lime, crm-lt brn, fn-vfxln, bed chalk

3560 Shale, med-dark gray, soft blocky

K 3570 Lime, crm-lt brn, fn-vfxln, bed chalk

3580 Lime, crm-lt brn, fnxln, bedded chalk

3590 Shale, med gray -black carbonaceous, soft blocky

L 3595 Lime, crm-tan-lt brn, fn-vfxln, bedded chalk

3600 Lime, crm-lt brn, fn-micro xln, bed chalk, hard on crush

BKC SPL 3595-1547 ELog 3592-1544

3605 Shale, reddish brn, firm blocky-lt red wash

3610 Lime, lt gray, fine-vfxln, granular, hard on crush

3620 Shale, reddish brn, soft-firm blocky, slightly sandy in part

3630 Shale, reddish brn, soft

3640 Lime, crm, vfxln

3650 Shale, reddish brn, soft blocky

3660 Lime, crm-lt brn, fnxln, dolomitic, orange chert, fresh, sharp

3670 Lime, crm-lt brn, fnxln, dolomitic

3680 Lime, crm-lt brn, fnxln, dolomitic

Mix of vari color cherts, cemented sand clusters and red shale,

3685 Siltstone, white, sticky

* 3688 Sandstone, quartz, poorly developed, cemented, VLT ODOR

● 3690 SS, quartz, cemented to friable in part, p-f sorting, angular, IT ODOR, partial-saturated staining, lt SFO

3695 Shale, reddish brn-dark brn, soft-firm blocky, very little odor

3700 SS, quartz, hard clusters to fused solid, pyrite in part

DST # 1 3656' TO 3685' SEE HEADER FOR TEST SUMMARY

ORIGINAL RTD 3685 LTD 3683 WELL DEEPENED TO 3700' TO DETERMINE UNDERLYING LITHOLOGY

DIDN'T CALL REAGAN SAND DUE TO HARDNESS OF QUARTZ MATERIAL IN THE LAST SAMPLE

3700

2025-01-01



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. 6551

Date	3-22-13	Sec.	10	Twp.	15	Range	19	County	ELLIS	State	KANSAS	On Location		Finish	11:15 AM
------	---------	------	----	------	----	-------	----	--------	-------	-------	--------	-------------	--	--------	----------

Location Antonia 40-19-74 W

Lease	<u>HENMAN UNIT</u>	Well No.	<u>#1</u>	Owner	<u>T.D.I</u>
Contractor	<u>GUD #1</u>	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	<u>SURFACE</u>	Charge To <u>T.D.I</u>			
Hole Size	<u>12 1/4"</u>	T.D.	<u>334'</u>	Street	<u>1310 BISON RD</u>
Csg.	<u>8 1/2'</u>	Depth	<u>222'</u>	City	<u>Hays</u> State <u>KS 67760</u>
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	<u>150 sks Com 302-2 gal</u>
Cement Left in Csg.		Shoe Joint			
Meas Line		Displace	<u>13 BBL</u>		

EQUIPMENT

Pumptrk # <u>15</u>	No.	Cementer		Common	<u>150</u>
		Helper	<u>NICK W.</u>	Poz. Mix	
Bulktrk # <u>14</u>	No.	Driver		Gel.	<u>3</u>
		Driver	<u>LONGER M.</u>	Calcium	<u>5</u>
Bulktrk # <u>14</u>	No.	Driver			
		Driver	<u>CSCO H.</u>		

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
	Sand
	Handling <u>158</u>

CEMENT DID CIRCULATE

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge Surface
Mileage 14

THANK YOU!

Signature <u>Ruby L</u>	Tax	
	Discount	
	Total Charge	

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. 6475

Date	3-28-13	Sec.	6	Twp.	15	Range	19	County	Ellis	State	KS	On Location		Finish	9:30 p.m.
Lease								Well No.		Owner					
Henman Unit								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.					
Contractor										Charge To					
Southwest #1										T.D.I.					
Type Job										Street					
Rotary Plug										City					
Hole Size								T.D.		State					
7 7/8								3200		The above was done to satisfaction and supervision of owner agent or contractor.					
Csg.								Depth		Cement Amount Ordered					
										220 60/40 4 1/2 1/4 #10					
Tbg. Size								Depth		Cement Left in Csg.					
										Shoe Joint					
Tool								Depth		Meas Line					
										Displace					
Cement Left in Csg.										EQUIPMENT					
Meas Line										Common					
Displace										138					
No.								Cementer		Poz. Mix					
16								Gaug		92					
No.								Helper		Gel.					
Bulktrk								Cisco		8					
No.								Driver		Calcium					
Bulktrk								Clayton		Hulls					
1										Salt					
JOB SERVICES & REMARKS										Flowseal					
Remarks:										50#					
Rat Hole								305K		Kol-Seal					
Mouse Hole								155K		Mud CLR 48					
Centralizers										CFL-117 or CD110 CAF 38					
Baskets										Sand					
D/V or Port Collar										Handling					
1st								1320 255K		228					
2nd								537 1005K		Mileage					
3rd								275 405K		FLOAT EQUIPMENT					
4th								40 105K		Guide Shoe					
										Centralizer					
										Baskets					
										8 5/8 wooden Plug					
										AFU Inserts					
										Float Shoe					
										Latch Down					
										Pumptrk Charge					
										Surface plug					
										Mileage					
										14					
										Tax					
										Discount					
										Total Charge					
Signature								[Signature]							