



KANSAS CORPORATION COMMISSION 1120234
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009

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
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

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

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total 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

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1120234

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

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 Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> 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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other (Explain) _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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OPERATOR

Company: HERTEL OIL COMPANY, LLC
 Address: 704 E 12TH STREET
 HAYS, KANSAS 67601

Contact Geologist: DAVE HERTEL
 Contact Phone Nbr: 785-628-2445
 Well Name: R.C. UNIT # 1
 Location: NE NW NW SW Sec 17-15s-19w API: 15-051-26,459-00-00
 Pool: WILDCAT Field: UNNAMED
 State: KANSAS Country: USA



Scale 1:240 Imperial

Well Name: R.C. UNIT # 1
 Surface Location: NE NW NW SW Sec 17-15s-19w
 Bottom Location:
 API: 15-051-26,459-00-00
 License Number: 33625
 Spud Date: 1/15/2013 Time: 2:30 PM
 Region: ELLIS COUNTY
 Drilling Completed: 1/20/2013 Time: 2:01 PM
 Surface Coordinates: 2500' FSL & 550' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 1978.00ft
 K.B. Elevation: 1986.00ft
 Logged Interval: 2800.00ft To: 3665.00ft
 Total Depth: 3665.00ft
 Formation: REAGAN SAND
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 2500' FSL
 E/W Co-ord: 550' FWL

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: DISCOVERY DRILLING INC.
 Rig #: 4
 Rig Type: MUD ROTARY
 Spud Date: 1/15/2013 Time: 2:30 PM
 TD Date: 1/20/2013 Time: 2:01 PM
 Rig Release: 1/21/2013 Time: 3:00 AM

ELEVATIONS

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL DUE TO LOW STRUCTURE AND LACK OF DEVELOPMENT IN LKC AND LOW STRUCTURE OF BASAL SAND UNITS.

REFERENCE WELL USED FOR CORRELATION: # 1 PITTS 17 CD DRILLED BY RITCHIE EXPLORATION INC. LOCATED 2280' FSL AND 1260' FWL, SW/4 SEC 17-15S-19W

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: RADIATION GUARD LOG

NO DRILL STEM TESTS WERE RAN

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

R.C. UNIT # 1	# 1 Pitts 17 CD
2500' FSL & 550' FWL, SW/4	2280' FSL & 1260' FWL
Sec. 17-15s-19w	Sec. 17-15s-19w
1978' GL 1986' KB	Reference Well

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1228+ 758	1230+ 756	+753
B-Anhydrite	1258+ 728	1262+ 724	+719
Topeka	2973- 987	2968- 982	- 978
Heebner Shale	3242-1256	3238-1252	-1249
Toronto	3262-1276	3258-1272	-1269
LKC	3286-1300	3283-1297	-1294
BKC	3530-1544	3528-1542	-1541
Marmaton	3568-1582	3566-1580	-1581
Conglomerate Sand	3616-1630	3618-1632	<i>Not found</i>
Arbuckle		None found	-1611
Reagan Sand	3641-1655	3640-1654	-1621
RTD	3665-1679		
LTD		3665-1679	-1627

SUMMARY OF DAILY ACTIVITY

- 1-15-13 RU, spud 2:30 pm
- 1-16-13 953', drilling, set 8 5/8" to 1230' w/ 450 sxs Common, 2%Gel, 3%CC, plug down 10:15PM, slope 1 degree, WOC 12 hrs
- 1-17-13 1230', WOC, drill plug at 10:15 am
- 1-18-13 2303', drilling
- 1-19-13 3101', drilling

1-20-13 3573', drilling, short trip 26 stands @ 3573', RID 3665' 2:01 pm, logs
 1-21-13 3665', finish laying down drill pipe and plugging , RD

ROCK TYPES

	Cht vari		Lmst fw<7		Carbon Sh		Arg/Shale
	Clystgy		Lmst fw7>		shale, red		Dol Lime
	Congl		shale, grn		Shcol		Lscongl
	Chtcongl		shale, gry		Ss		CglSandy

ACCESSORIES

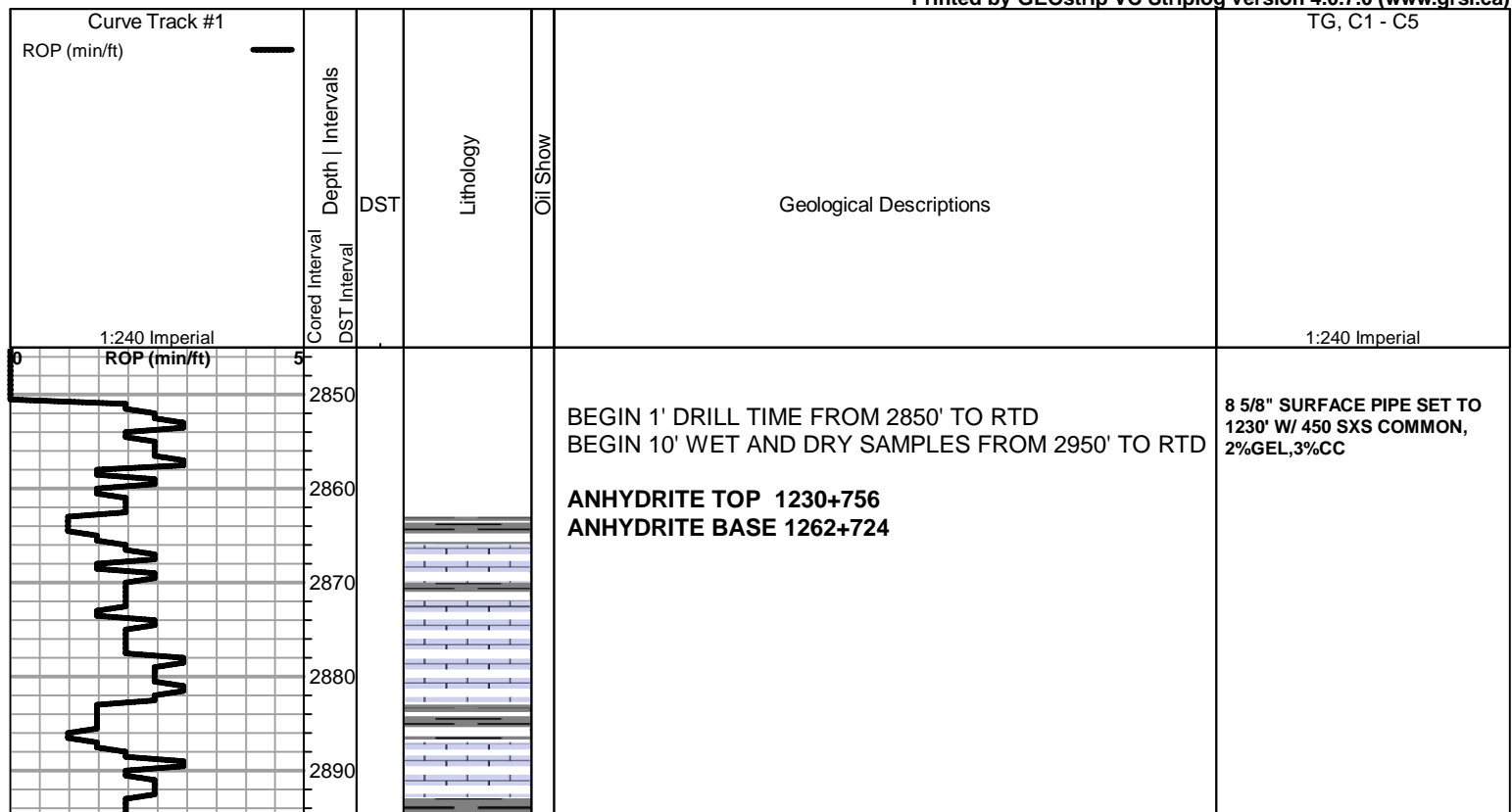
MINERAL	FOSSIL
▲ Chert, dark	○ Oolite
∩ Glauconite	⊕ Oomoldic
P Pyrite	
⬢ Varicolored chert	
△ Chert White	

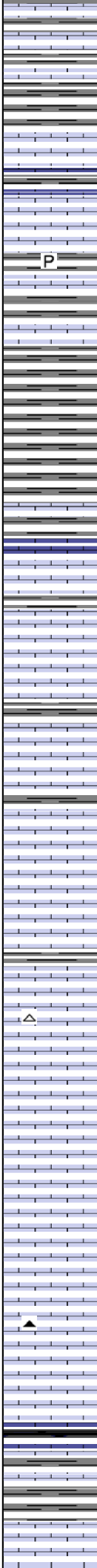
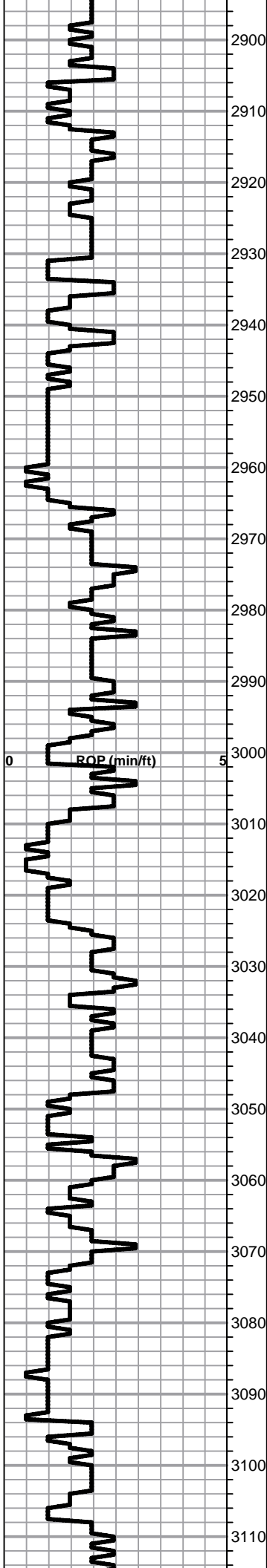
OTHER SYMBOLS

DST

	DST Int
	DST alt
	Core

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





Lime, lt brn-lt-med gray, fnxln-granular, fossiliferous in part with fusulinids, shaley in part

Lime, gray-med brn, fnxln, slightly fossiliferous, micro size pyrite crystal inclusions in lime near facies boundary
 Shale, lt-med gray, soft mud-soft blocky

Shale, lt-med gray, soft mud to soft blocky in part

TOPEKA SPL 2973-987

Lime, tan-lt brn, fnxln, hard on crush, slight bed chalk in part

Lime, tan-med brn, fnxln, chalky matrix in part with thin beds of fusulinids

Lime, lt-med brn, fnxln, chalky matrix in part with sticky clumps of soft chalk

Lime, lt-med brn, fnxln-granular, scattered beds of chalk, NS

Lime, lt brn, fnxln-granular, chalk matrix with sticky clumps of soft chalk, NS

Lime, granular-fnxln, med brn-med grayish brn, thin fossil beds in part, shaley in facies boundary

Lime, lt-med brn, fnxln, chalk matrix in part, mix of fusulinids and micro fossil fragments, soft sticky clumps of chalk in part

Lime, tan-lt brn, granular with beds of chalk, NS

Lime, lt-med brn, fnxln, slightly fossiliferous with thin beds of chalk in chalky matrix in granular mix

Lime, lt-med brn, fnxln-granular, chalky matrix, NS

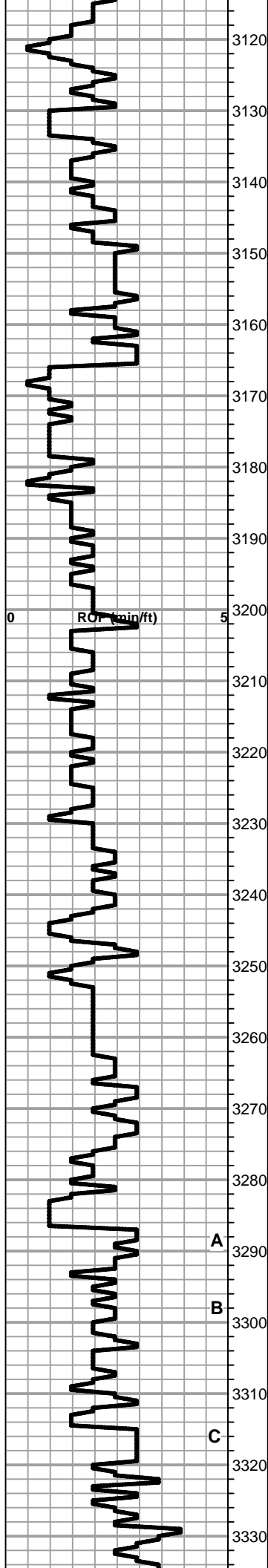
Lime, lt-med brn, granular, chalk matrix in part with light gray fresh, sharp chert in part

Lime, lt brn grading into grayish brn, granular-fnxln

Shale, gray-black carbonaceous, blocky

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

Lime, lt brn, fn-micro xln, hard on crush, slightly fossiliferous



Lime, lt brn, fnxln-granular, bed chalk in part, NS

Lime, lt-med brn, fnxln-granular, bedded chalk in part with sticky clumps, scattered fusulinids

Lime, lt brn-lt gray near facies boundary, fnxln-granular, slightly fossiliferous

Shale, gray-black carbonaceous

Lime, brn-gray, fnxln, bed chalk in part

○ Lime, lt brn, granular, few chips with trace of spotty stain with very lt odor on crush, scattered staining in intergranular porosity. Not deemed commercial.

Lime, lt brn, granular with bed chalk

Lime, lt brn, granular with chalky matrix, scattered fnxln in part

Lime, lt-med brn, fnxln, with lt brn, fossiliferous chert in part

Lime, lt brn-lt grayish brn, fnxln, bed chalk in part

Lime, lt brn, fnxln

HEEBNER SHALE SPL 3242-1256

Shale, black carbonaceous, fissile, blocky
Lime, lt-med brn, fn-vfxln, hard on crush

Shale, lt gray-lime green, soft blocky-soft mud

TORONTO SPL 3262-1276

Lime, white-cream, fnxln, bed chalk, NS

Shale, dove gray, soft, sticky clumps
Lime, cream-lt brn, fn-microxln, hard on crush

Shale, lt red wash-lt gray, soft blocky to soft mud

LKC SPL 3286-1300

Lime, lt brn-lt grayish brn, fnxln

Lime, lt-med brn, fnxln, slightly fossiliferous with sparry calcite backfill in part, NS

Shale, grayish green, soft-firm blocky, w/ pyrite clusters

○ Lime, lt brn, fnxln, few chips oolitic-oolimoldic, gilsonite traces between oolites, NFO, No Odor,

Lime, lt-med brn, fnxln

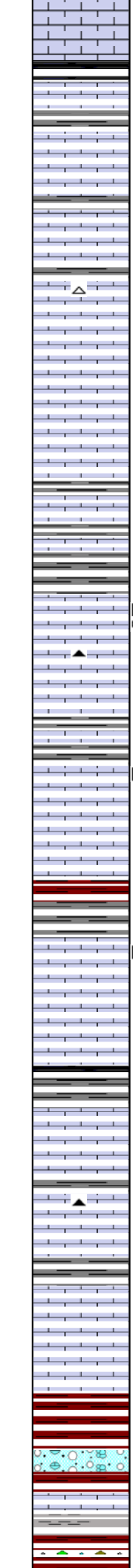
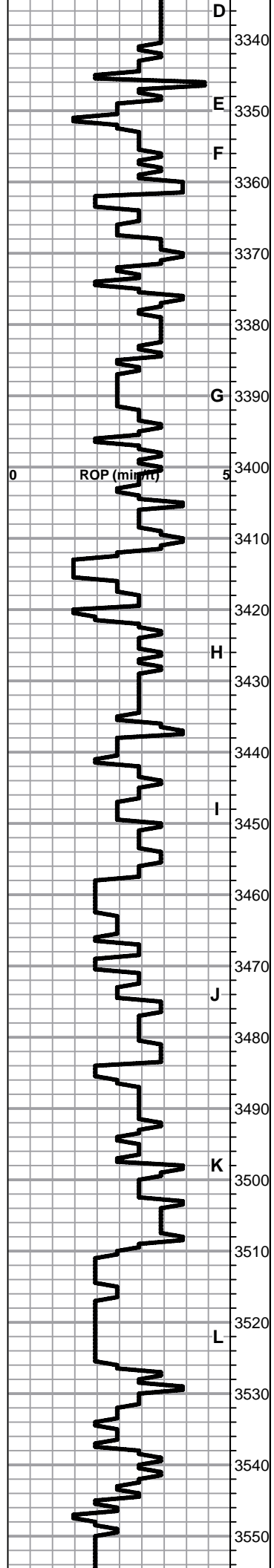
Shale, med gray, soft blocky

○ Lime, cream-lt brn, fnxln, trace of lt stain in few fossiliferous

ZONE LOW TO OFFSET WELL WHICH RECOVERED SALT WATER ON DST OF THIS ZONE

CFS @ 3322'

ZONE LOW TO OFFSET WELL WHICH RECOVERED MUD ON



chips, NFO, No Odor

3340

Shale, gray-black carbonaceous, blocky
Lime, med brn, vfxln

3350

3360

Lime, tan-lt brn, fnxln, scattered granular, NS, No Staining

Lime, tan-lt brn, fnxln, well cemented oolitic in part, bedded
chalk in part, NS

3370

Lime, crm-lt brn, fnxln, slight bed chalk in part, white chert

3380

Lime, crm-tan-lt brn, fn-vfxln, hard on crush

3390

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

3400

Lime, lt grayish brn, fn-micro xln
Shale, gray-black carbonaceous

3410

Lime, brn, fnxln, fossiliferous
Shale, med gray, firm blocky

3420

D

Lime, lt brn, fnxln, few chips with trace of spotty staining, V
Lt Odor, NFO

3430

Lime, lt brn-lt grayish brn, fnxln, hard on crush, bed chalk in
part, tan-brn chert, fresh, sharp

3440

Shale, med gray, firm blocky with imbedded fossil
fragments, calcareous in part

D

Lime, tan-lt brn, fn-micro xln, hard on crush, few chips with
gilsonitic staining in poorly developed zone, NFO, No Odor

3450

Lime, lt brn-gray, frnxln

3460

Shale, red wash grading into soft dove gray mud

D

Lime, crm-tan, mostly fnxln, scattered ppt porosity in part
with gilsonitic stain, NFO, No Odor

3470

Lime, crm-lt brn, fn-vfxln, bed chalk in part

3480

Shale, med gray-black carbonaceous, firm, blocky

3490

Lime, crm-lt brn, fnxln

3500

Lime, crm-lt brn, fn-vfxln, scattered bed chalk

3510

Lime, tan-lt brn, fnxln
Shale, med grayish green, soft blocky

3520

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

L

Lime, lt-med brn, fn-vfxln
BKC SPL 3530-1544

3530

Shale, lt red wash, reddish brn, soft blocky

3540

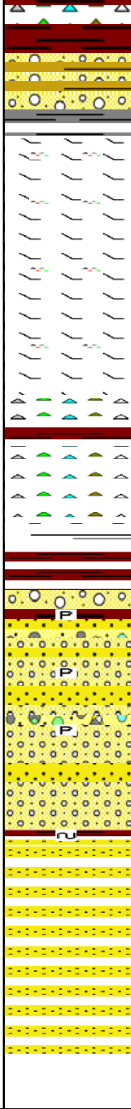
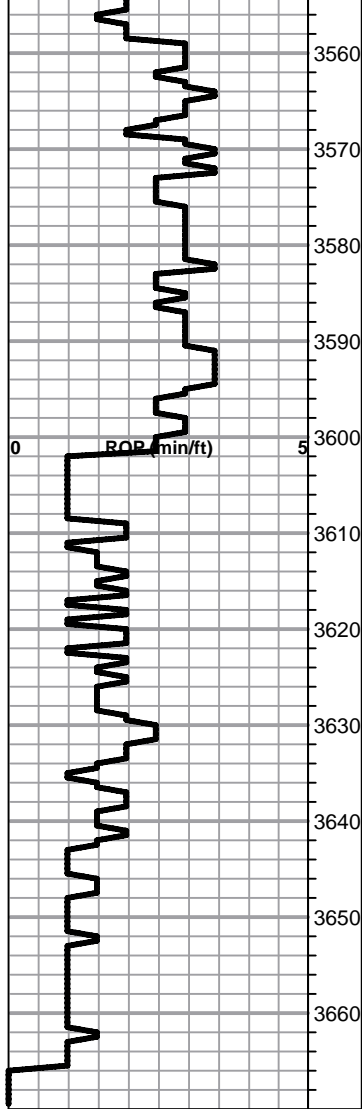
Shale with clastic lime mix in part

Lime, tan, fnxln

3550

Shale, dove gray, soft mud grading into reddish brn

CFS @ 3350'



MARMATON SPL 3568-1582

Chert, vari colored with vari color shales

SHORT TRIP 26 STDS@ 3573'

Lime, dolomitic, lt-med brn, fnxln with chips of orange chert

Lime, dolomitic, crm-tan, cherty, gilsonitic stain, NFO, No Odor in very fine intergranular porosity

Lime, dolomitic, crm-lt brn, fnxln, cherty

Mix of vari colored cherts, shales and cemented sandstone clusters, NS, No Odor

CFS @ 3600' -1614

CFS @ 3605' -1619

Shales AA, white sticky clumps of fine clay

CFS @ 3610 -1624

Shale, lt red wash, vari colored cherts, NS, No Odor

CFS @ 3616 --1630

CONGLOMERATE SAND 3616-1630

Scattered sand clusters, poor-fair sorting, scattered lt stain w/ very lt detectable odor, few with heavy oil globules on crush mixed with vari color cherts, bedded pyrite w/ quartz grain inclusions

ZONE LOW TO OFFSET WELL WHICH TESTED TO -1631 AND RECOVERED SALT WATER WITH A VERY LT TRACE OF OIL

REAGAN SAND SPL 3641-1655

Sandstone, white, fine grained, well sorted, topped with green glauconite stain in contact with conglomerate section

ARBUCKLE COMPLETELY ERODED OFF IN THIS WELL. CONGLOMERATE SAND SECTION SITS ON TOP OF REAGAN SAND SECTION

RTD 3665-1679 LTD 3665-1679

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 6298

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
1-20-13	17	15	19	ELIOTS	KANSAS		2:00 AM
Lease				Well No.	Owner		
RC UNIT				#1	HERTEL OIL		
Contractor				To Quality Oilwell Cementing, Inc.			
DD #4				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				Charge To			
P.T.A.				HERTEL OIL			
Hole Size		T.D.		Street			
7 7/8"		1230'		704 E 12TH ST			
Csg.		Depth		City			
4 1/2"				HAYS			
Tbg. Size		Depth		State			
				KS, 67601			
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
				Cement Amount Ordered			
Cement Left in Csg.		Shoe Joint		175 40 202 - 4% GEL			
Meas Line		Displace		Common			
				Poz. Mix			
EQUIPMENT				Gel.			
Pumptrk #15		Cementer Helper		Calcium			
NICK				Hulls			
Bulktrk #14		Driver		Salt			
LONATE W.				Flowseal			
Bulktrk #14		Driver		Kol-Seal			
D/U		Driver		Mud CLR 48			
CISCO				CFL-117 or CD110 CAF 38			
JOB SERVICES & REMARKS				Sand			
Remarks:				Handling			
Rat Hole 30 SKS				Mileage			
Mouse Hole 15 SKS				FLOAT EQUIPMENT			
Centralizers				Guide Shoe			
Mud CLR 48				Centralizer			
CFL-117 or CD110 CAF 38				Baskets			
Sand				AFU Inserts			
1st @ 12.75'		40 SKS		Float Shoe			
2nd @ 500'		80 SKS		Latch Down			
3rd @ 40'		10 SKS		1-8 7/8 WOODEN PLUG			
RATHOLE		30 SKS		Pumptrk Charge			
MOUSEHOLE		15 SKS		Mileage			
		175 SKS		Tax			
				Discount			
				Total Charge			
THANK YOU!							
Signature							
Mike [Signature]							