



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1174023
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: _____



1174023

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
--	---

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: 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

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> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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QUALITY OILWELL CEMENTING, INC.

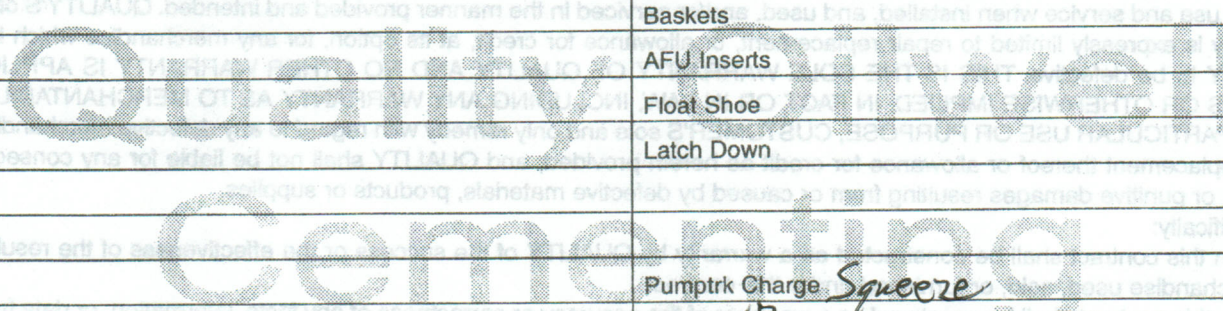
Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

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

No. 7381

Date	9-20-13	Sec.		Twsp.		Range		County	Rush	State	KS	On Location		Finish	10:30 AM
Location														Hays 5 Co Line 15 SW VINTO	
Lease	Gottschalk A			Well No.	1		Owner								
Contractor	K & M			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	Squeeze			Charge To											
Hole Size	5 7/8			T.D.	M. Stang Energy										
Csg.	5 1/2			Depth	Street										
Tbg. Size	2 3/8			Depth	City										
Tool				Depth	State										
Cement Left in Csg.				Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.										
Meas Line				Displace	Cement Amount Ordered 100 COM										
EQUIPMENT				USED 50SK											
Pumptrk	17	No.	Cement Helper	Common 50											
Bulktrk		No.	Driver	Poz. Mix											
Bulktrk	14	No.	Driver	Gel.											
JOB SERVICES & REMARKS				Calcium											
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											
Parts 3432-34 Rate 2200 @ 1300#				Sand											
Mixed 50 SK + Squeeze to 1500#				Handling 100											
Wash around tool. Pull 10 joints				Mileage											
Shooting 500#				FLOAT EQUIPMENT											
				Guide Shoe											
				Centralizer											
				Baskets											
				AFU Inserts											
				Float Shoe											
				Latch Down											
				Pumptrk Charge Squeeze											
				Mileage 17											
												Tax			
												Discount			
Signature												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. 7766

Date	9-10-13	Sec.	2	Twp.	16	Range	19	County	Rush	State	Ks	On Location		Finish	1:45 PM	
Lease	Gottschalk "A"							Well No.	1	Location Hay's, Ks - 5 to C.L., 15, 4 1/2 W, N/5						
Contractor	Discovery #4							Owner 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	Production							Charge To Mustang Energy								
Hole Size	7 7/8"		T.D.	3718'			Street									
Csg.	5 1/2 New 15.50th		Depth	3713.36'			City State									
Tbg. Size			Depth				The above was done to satisfaction and supervision of owner agent or contractor.									
Tool			Depth				Cement Amount Ordered 190 sx Common 10% Salt									
Cement Left in Csg.	43.50'		Shoe Joint	43.50'			5 1/2 Gilsonite - 500 gal Mud Clear 48									
Meas Line			Displace	87 1/4 BLS			Common 190									
EQUIPMENT																
Pumptrk	16	No.	Cementer	Billy			Poz. Mix									
Bulktrk	8	No.	Driver	Lannie M.			Gel.									
Bulktrk	p.u.	No.	Driver	Rick			Calcium									
JOB SERVICES & REMARKS																
Remarks:													Salt 17			
Rat Hole													Flowseal			
Mouse Hole													Kol-Seal 950#			
Centralizers	1, 2, 3, 5, 7, 9, 11, 13												Mud CLR 48 500 gal			
Baskets	2												CFL-117 or CD110 CAF/88			
D/V or Port Collar	pipe on bottom, break Circ												Sand			
	pump 500 gal Mud Clear 48, pump												Handling 216			
	10 BLS water, plug Rathole w/300												Mileage			
	plug mousehole w/ 20 sx, Hook												FLOAT EQUIPMENT			
	to 5 1/2" Casing + mix 140SX												Guide Shoe			
	Cement, shut down, wash pump												Centralizer 8 turbo's			
	+ lines Released plug + Displaced												Baskets 1			
	with 87 1/4 BLS of water,												AFU Inserts			
	Released + held.												Float Shoe 1			
													Latch Down 1			
	Lift pressure #												1 - Rotating head Assy			
	Land plug to #												Pumptrk Charge prod long String			
													Mileage 17			
													Tax			
													Discount			
X Signature	Rodney D. Burin												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. 7371

Date	9-4-13	Sec.	2	Twp.	16	Range	19	County	Rush	State	KS	On Location		Finish	9:45pm
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Location *Days 5 Coline 13 4/2w into*

Lease	<i>Cottschalk A</i>	Well No.	<i>1</i>	Owner	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	<i>Discovery #4</i>			Charge To	<i>Mustang Energy</i>
Type Job	<i>Surface</i>			Street	
Hole Size	<i>12 1/4</i>	T.D.	<i>1242</i>	City	State
Csg.	<i>8 5/8</i>	Depth	<i>1242</i>	The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size		Depth		Cement Amount Ordered	<i>4500m 3/11 2/1 GEL</i>
Tool		Depth			
Cement Left in Csg.	<i>42.48</i>	Shoe Joint	<i>42.48</i>		

Meas Line Displace *76 1/2 BBL*

EQUIPMENT				Common	<i>450</i>
Pumptrk	<i>17</i>	No.	Cementer	Poz. Mix	
			Helper	Gel.	<i>9</i>
Bulktrk		No.	Driver	Calcium	<i>16</i>
			Driver		
Bulktrk	<i>19</i>	No.	Driver		
			Driver		

JOB SERVICES & REMARKS		Hulls	
Remarks:		Salt	
Rat Hole		Flowseal	
Mouse Hole		Kol-Seal	
Centralizers		Mud CLR 48	
Baskets		CFL-117 or CD110 CAF 38	
D/V or Port Collar		Sand	
<i>8 5/8 serv 1242 Ball Valve 1199.52</i>		Handling	<i>475</i>
<i>Est Circulation Mix 4500m 4 Displace</i>		Mileage	
<i>Plug</i>			

FLOAT EQUIPMENT			
Guide Shoe	<i>8 5/8</i>		
Centralizer	<i>3</i>		
Baskets	<i>2</i>		
AFU Inserts	<i>Ball to plate</i>		
Float Shoe	<i>Rubber Plug</i>		
Latch Down			

<i>Thank St</i>	Pumptrk Charge	<i>Long Surface</i>	Tax	
	Mileage	<i>17</i>	Discount	
			Total Charge	
X Signature				

OPERATOR

Company: MUSTANG ENERGY CORPORATION
 Address: PO BOX 1121
 HAYS, KANSAS 67601

Contact Geologist: ROD BRIN
 Contact Phone Nbr: 785-623-0533
 Well Name: GOTTSCHALK A #1
 Location: S2 NW SW SE Sec. 2-16s-19w
 Pool: WILDCAT
 State: KANSAS
 API: 15-165-22,041-00-00
 Field: UNNAMED
 Country: USA

Scale 1:240 Imperial

Well Name: GOTTSCHALK A #1
 Surface Location: S2 NW SW SE Sec. 2-16s-19w
 Bottom Location:
 API: 15-165-22,041-00-00
 License Number: 33922
 Spud Date: 9/3/2013 Time: 5:41 PM
 Region: ELLIS COUNTY
 Drilling Completed: 9/9/2013 Time: 12:50 PM
 Surface Coordinates: 720' FSL & 2310' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2033.00ft
 K.B. Elevation: 2041.00ft
 Logged Interval: 2900.00ft To: 3718.00ft
 Total Depth: 3718.00ft
 Formation: LANSING/KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.3904915 Latitude: 38.6863734
 N/S Co-ord: 720' FSL
 E/W Co-ord: 2310' 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/CHRIS NEELEY

CONTRACTOR

Contractor: DISCOVERY DRILLING, INC.
 Rig #: 4
 Rig Type: MUD ROTARY
 Spud Date: 9/3/2013 Time: 5:41 PM
 TD Date: 9/9/2013 Time: 12:50 PM
 Rig Release: 9/10/2013 Time: 2:15 PM

ELEVATIONS

K.B. Elevation: 2041.00ft Ground Elevation: 2033.00ft
 K.B. to Ground: 8.00ft

NOTES

RECOMMENDATION TO RUN 5 1/2" PRODUCTION CASING BASED ON POSITIVE RESULTS OF DRILL STEM TEST #2, AND IDENTIFICATION OF ADDITIONAL POSSIBLE PAY ZONES ON OPEN HOLE LOGS.

OPEN HOLE LOGGING: NABORS COMPLETION AND PRODUCTION SERVICES CO: DUAL INDUCTION LOG, MICRO LOG, SONIC LOG, COMPENSATED DENSITY/NEUTRON LOG

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

FORMATION TOPS SUMMARY

GOTTSCHALK A #1	GOTTSCHALK # 1
720' FSL & 2310' FEL, SE/4	E2 NW NW NE
Sec. 2-16s-19w	Sec. 2-16s-19w
2033' GL 2041' KB	Reference Well


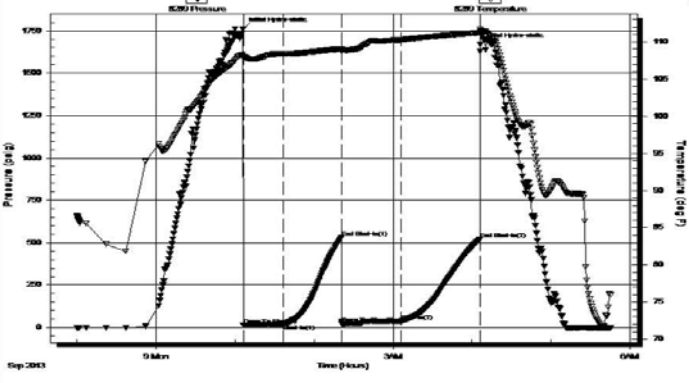
<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite		1243+ 805	+ 801
B-Anhydrite	1274+ 767	1274+ 767	+ 769
Topeka	3007- 966	3003- 962	- 957
Heebner Shale	3282-1241	3277-1236	-1241
Toronto	3302-1261	3298-1257	-1261

Toronto	3302-1281	3298-1237	-1201
LKC	3322-1281	3318-1277	-1286
BKC	3571-1530	3565-1524	-1529
Marmaton	3598-1557	3594-1553	-1558
Arbuckle	3618-1577	3611-1570	-1572
Reagan Sand	3658-1617	3655-1614	-1630
Granite Wash	3712-1671		
RTD	3718-1677		
LTD		3714-1673	-1642

SUMMARY OF DAILY ACTIVITY

- 9-03-13 RU, spud
- 9-04-13 976', drilling, set 8 5/8" to 1242' w/ 450 sxs Common, 2%Gel, 3%CC, plug down 9:45PM, WOC 12 hrs, slope 1/2 degree
- 9-05-13 1242', WOC, drill plug 10:30 AM
- 9-06-13 2095', drilling
- 9-07-13 2783', drilling, displaced mud system
- 9-08-13 3440', CFS 3626' DST # 1 3568'-3626' Arbuckle
- 9-09-13 3626', finish DST # 1, TIWB RTD 3718' @12:50PM. TOWB, logs, Straddle test # 2 3335'-3355' "C" LKC
- 9-10-13 3718' finish DST # 2, TIWB, LDDP, run 5 1/2" production casing set to 3713', plug down 1:45PM

DST # 1 TEST SUMMARY ARBUCKLE ZONE TEST

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT																																						
	Mustang Energy Corporation P.O. Box 1121 Hays KS 67601 ATTN: Chris Nealey		2 16s 19w Rush Gottschalk A # 1 Job Ticket: 50467 DST#: 1 Test Start: 2013.09.08 @ 23:00:00																																				
GENERAL INFORMATION:																																							
Formation: Arbuckle Deviated: No Whipstock: 2041.00 ft (KB) Time Tool Opened: 01:06:15 Time Test Ended: 05:45:00		Test Type: Conventional Bottom Hole (Initial) Tester: Jim Svaty Unit No: 54																																					
Interval: 3568.00 ft (KB) To 3626.00 ft (KB) (TVD) Total Depth: 3626.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 2041.00 ft (KB) 2033.00 ft (CF) KB to GR/CF: 8.00 ft																																					
Serial #: 8289 Outside																																							
Press@RunDepth: 37.20 psig @ 3589.00 ft (KB) Start Date: 2013.09.08 End Date: 2013.09.09 Start Time: 23:00:02 End Time: 05:45:00		Capacity: 8000.00 psig Last Calib.: 2013.09.09 Time On Btm: 2013.09.09 @ 01:06:00 Time Off Btm: 2013.09.09 @ 04:06:15																																					
TEST COMMENT: 30-IFP- Surface Blow Building to 1/4in. Died Back in 20min. 45-ISIP- No Blow 45-FFP- No Blow on Open Flushed at 15min. 1/4in. Blow Died Back in 7min. 60-FSP- No Blow																																							
Pressure vs. Time 		PRESSURE SUMMARY																																					
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>1762.54</td><td>108.33</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>13.60</td><td>107.83</td><td>Open To Flow (1)</td></tr> <tr><td>31</td><td>19.56</td><td>108.41</td><td>Shut-In(1)</td></tr> <tr><td>75</td><td>530.58</td><td>109.08</td><td>End Shut-In(1)</td></tr> <tr><td>76</td><td>21.72</td><td>108.93</td><td>Open To Flow (2)</td></tr> <tr><td>120</td><td>37.20</td><td>110.26</td><td>Shut-In(2)</td></tr> <tr><td>180</td><td>523.08</td><td>111.23</td><td>End Shut-In(2)</td></tr> <tr><td>181</td><td>1668.42</td><td>111.44</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1762.54	108.33	Initial Hydro-static	1	13.60	107.83	Open To Flow (1)	31	19.56	108.41	Shut-In(1)	75	530.58	109.08	End Shut-In(1)	76	21.72	108.93	Open To Flow (2)	120	37.20	110.26	Shut-In(2)	180	523.08	111.23	End Shut-In(2)	181	1668.42	111.44	Final Hydro-static
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Recovery		Gas Rates																																					
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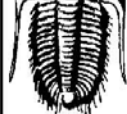
Trilobite Testing, Inc

Ref. No: 50467

Printed: 2013.09.09 @ 06:31:45

DST # 2 STRADDLE TEST SUMMARY "C" LKC 3335'-3355' BOTTOM PACKER HELD

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		
	Mustang Energy Corporation		2 16s 19w Rush



TESTING, INC.

P.O. Box 1121
Hays KS 67601

ATTN: Chris Neeley

Gottschalk A # 1

Job Ticket: 50468

DST#: 2

Test Start: 2013.09.09 @ 20:49:00

GENERAL INFORMATION:

Formation: **LKC " C "**
Deviated: No Whipstock: 2041.00 ft (KB)
Time Tool Opened: 22:21:30
Time Test Ended: 02:42:00

Test Type: Conventional Straddle (Reset)
Tester: Jim Svaty
Unit No: 54

Interval: **3335.00 ft (KB) To 3355.00 ft (KB) (TVD)**
Total Depth: 3714.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

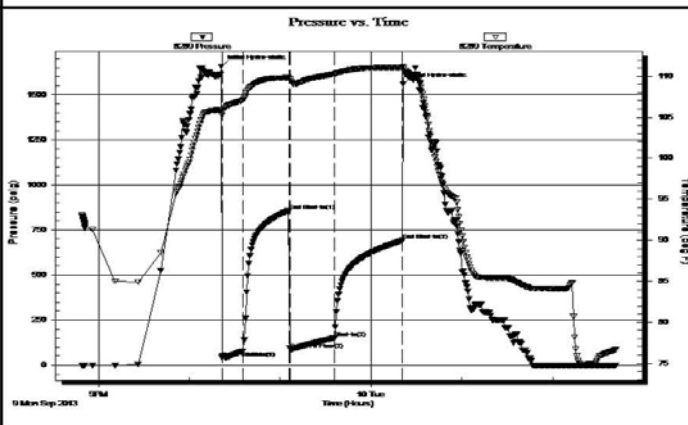
Reference Elevations: 2041.00 ft (KB)
2033.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8289

Outside
Press@RunDepth: 149.72 psig @ 3336.00 ft (KB)
Start Date: 2013.09.09 End Date: 2013.09.10
Start Time: 20:49:02 End Time: 02:42:00

Capacity: 8000.00 psig
Last Calib.: 2013.09.10
Time On Btm: 2013.09.09 @ 22:21:15
Time Off Btm: 2013.09.10 @ 00:21:15

TEST COMMENT: 15-IFP- BOB in 1min. 30sec.
30-ISIP- BOB in 5min. 30sec.
30-FFP- BOB in 1min. 10sec.
45-FSP- BOB in 11min. 30sec.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1657.95	105.87	Initial Hydro-static
1	41.33	105.24	Open To Flow (1)
15	77.50	107.11	Shut-In(1)
45	857.57	109.84	End Shut-In(1)
46	88.15	109.63	Open To Flow (2)
75	149.72	110.26	Shut-In(2)
120	691.70	111.08	End Shut-In(2)
120	1557.75	111.23	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
123.00	MCO 15% m 85% o	1.45
567.00	Gassy CO 20% g 80% o	7.95

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

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 50468

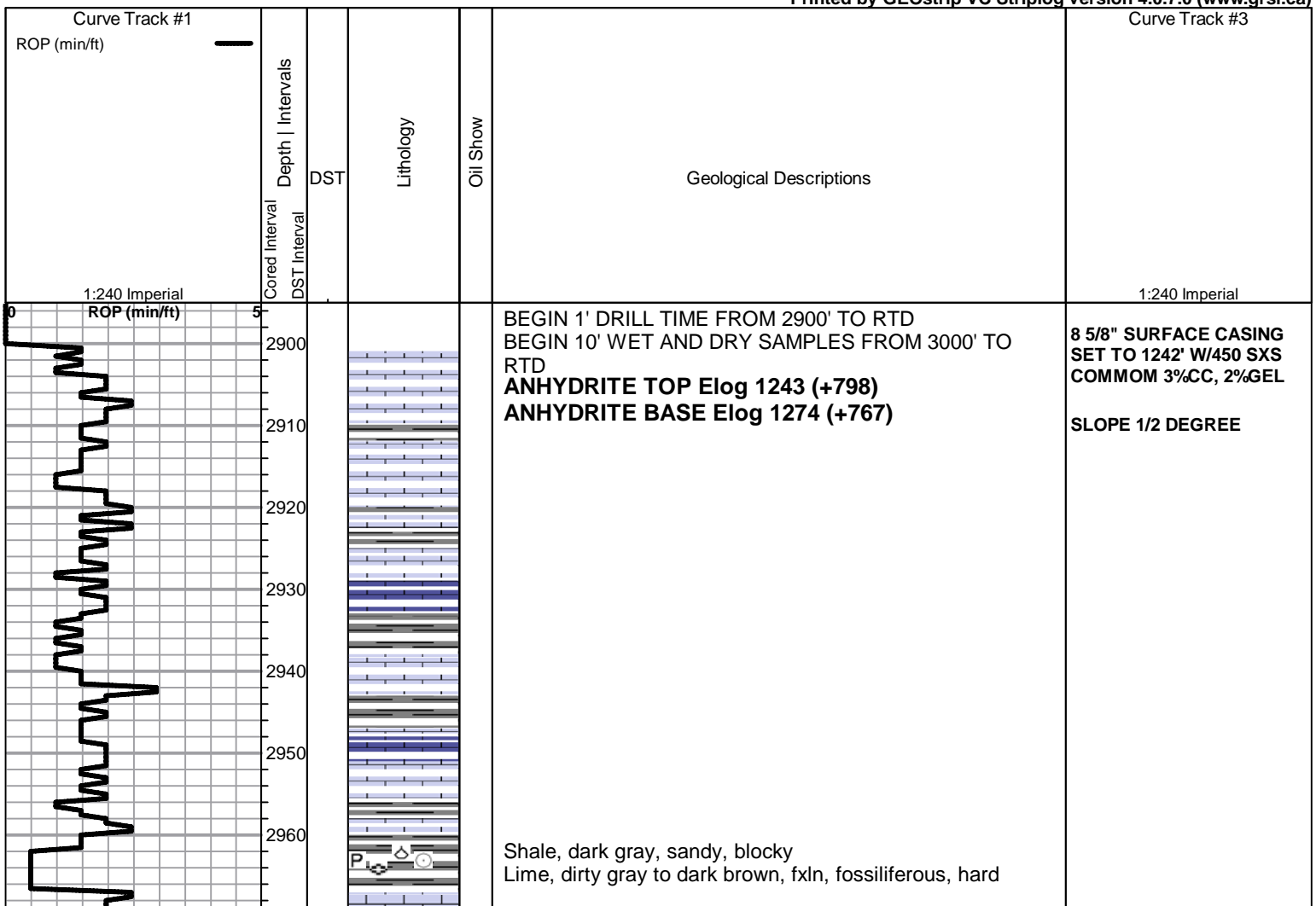
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ROCK TYPES					
	Clystgy		Dol Lime		Lscong1
	Clystcol		Lmst fw<7		shale, grn
	Dolprim		Lmst fw7>		shale, gry
					Carbon Sh
					shale, red
					grnt
					Ss

ACCESSORIES		
MINERAL	FOSSIL	STRINGER
▲ Chert, dark	◇ Brachiopod	~ Chert
∩ Glauconite	○ Crinoids	■ Sandstone
P Pyrite	⊕ Fossiliferous	■ Shale
• Sandy		■ green shale
•• Varicolored chert		■ carb shale

OTHER SYMBOLS	
DST	
■ DST Int	
■ DST alt	

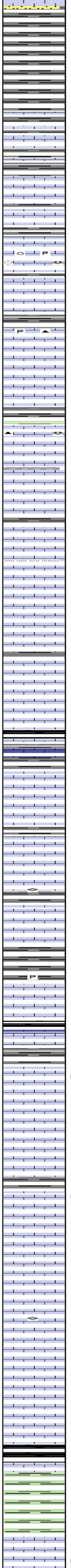
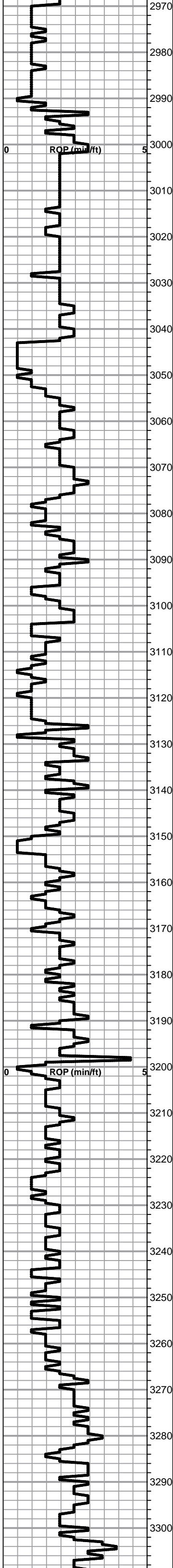
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BEGIN 1' DRILL TIME FROM 2900' TO RTD
BEGIN 10' WET AND DRY SAMPLES FROM 3000' TO RTD
ANHYDRITE TOP Elog 1243 (+798)
ANHYDRITE BASE Elog 1274 (+767)

8 5/8" SURFACE CASING
SET TO 1242' W/450 SXS
COMMOM 3%CC, 2%GEL
SLOPE 1/2 DEGREE

Shale, dark gray, sandy, blocky
Lime, dirty gray to dark brown, fxl, fossiliferous, hard



SS, dark gray, poorly sorted, sub rounded, glauconitic, micaceous

Lime, tan, fxln, flaky texture, hard and brittle

Lime, dark brown, vfxln to dense, hard on crush

Lime, dark brown, hard on crush, trashy

Lime, lt. tan, vfxln to dense, pisolitic grainstone, with intergranular porosity filled with sparry calcite

TOPEKA SPL 3007 (-966)

Lime, dark brown-grey, fxln, fossiliferous in part, hard and brittle

Lime, dark gray to gray-tan, vfxln, fossiliferous, hard

Lime, dark gray to brown, vfxln, fossiliferous, hard on crush

Lime, lt gray, trashy, dense hard and brittle

Lime, tan, slightly fossiliferous, clean

Shale, dark gray, blocky, silty

Lime, lt tan, vfxln, sucrosic with pinpoint porosity, sparry fill, brittle, chalky in part

Lime, mottled dark gray and brown, fxln, hard on crush

Lime, lt gray, vfxln, to dense, hard on crush

Lime, tan, fossiliferous, with hummucky dark gray shale stringers

Lime, tan, med-xln to fxln, sucrosic, chalky in part

Lime, med-gray with dark gray mottle, fxln, grading into dark gray fossiliferous, hard and brittle

Lime, tan to gray, granular in part, fossiliferous, chalky matrix, pinpoint porosity

Lime, brown, oolitic to fossiliferous, hard on crush

Lime, lt brown with red flecks, med-xln, consistent intergranular porosity

Shale, black, hard, carbonaceous; green/gray, silty, blocky

Lime, tan, dense, angular chips, very hard, clean

Lime, tan, packstone composed of very small oolites, hard on crush

Chert, gray, fossiliferous, spiculitic

Lime, gray, dense to granular fxln, cherty in part

Lime, brown, vfxln to fxln, fair intergranular porosity with pyrite backfill

Lime, lt tan, dense, clean and barren, hard on crush

Lime, tan to gray, med-xln, granular, soft on crush

Shale, black, carbonaceous

Lime, faint odor, very light oil on crush, good wet streaming cut, and UV, lt tan, med-xln, sucrosic, slightly chalky, soft on crush, fossiliferous, consistent pinpoint porosity, some chips oolitic

Lime, tan-brown, oolitic in part, slight chalky matrix

Lime, fxln to dense, oolitic to vuggy porosity, some subhedral recrystallization, stained, some free oil on crush

Lime, tan-gray, coarse xln, slight stain; sticky white chalk

Lime, tan to cream, vfxln, soft on crush

Lime, gray, fxln, soft on crush, even pinpoint porosity

Lime, tan, fxln, with brown to dark grey hummucky lamination

HEEBNER SPL 3282 (-1241)

Shale, black carbonaceous

Lime, lt brown-tan, vfxln, hard on crush

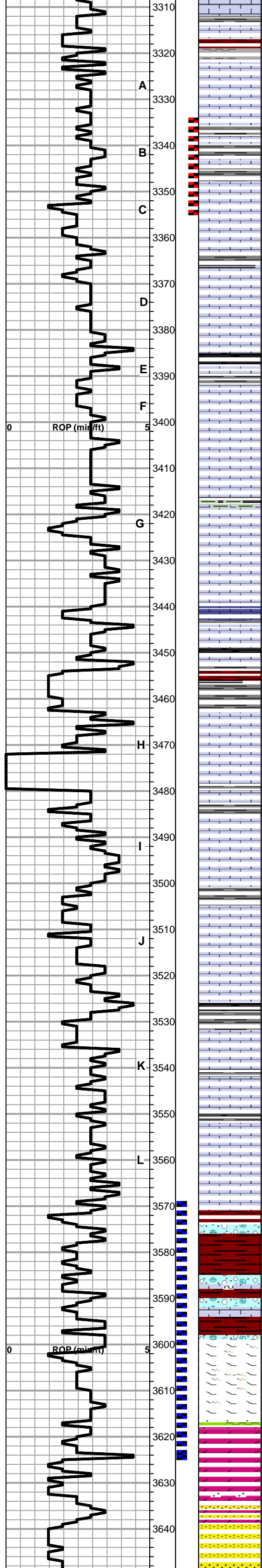
TORONTO SPL 3302 (-1261)

Lime, tan, fxln, vuggy porosity, oil oozing from chips, significant show on crush

LOG INTERVAL 3197-99 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL BASED ON HIGH STRUCTURE. ZONE LOOKS WET ON LOGS BUT HAD A SHOW IN SAMPLES.

LOG INTERVAL 3222-24 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL BASED ON HIGH STRUCTURE OF WELL.

LOG INTERVAL 3303-05 SHOULD BE PERFORATED AND TESTED PRIOR TO



3310
Lime, tan, fxln, granular, pinpoint porosity, soft on crush, chalky, dark stain

3320
Shale, red, blocky, hard, sandy; green, soft, sticky
LKC SPL 3322(-1281)

3330
Lime, tan, fxln, granular, saturated stain

3340
Lime, lt brown, vfxln to dense, chert in part, faint odor

3350
Lime, dark gray, fxln, oolitic in part, hard on crush

3360
Lime, cream, vfxln, fossiliferous in part, pinpoint to vuggy porosity, surface stain common, good odor

3370
Lime, off-white, vfxln, scattered oolites

3380
Lime, lt tan/cream, fxln, fossil fragments, vuggy solution porosity, consistent intergranular porosity, good odor, lt brown surface stain

3390
Shale, black, carbonaceous

3400
Lime, lt brown/gray mottled, fxln matrix, fossiliferous

3410
Lime, tan, fxln, well cemented and tight

3420
Lime, tan to faint gray, dense oolitic

3430
Lime, tan, vfxln, hard and brittle

3440
Shale, black, hard, carbonaceous with wavy green stringers

3450
Lime, tan, fxln, chalky and clean

3460
Lime, lt brown, fxln, hard on crush

3470
Shale, varicolored, platy, blocky

3480
Lime, tan, clean, vfxln to dense

3490
Lime, lt tan, fxln, vuggy porosity, slightly chalky matrix, soft on crush, surface stain

3500
Lime, cream, vfxln to dense, scattered pinpoint porosity, significant amounts of white chalk clumps

3510
Lime, cream, vfxln, fossiliferous, pinpoint porosity, slight surface stain

3520
Lime, tan to lt brown, vfxln, hard on crush

3530
Lime, lt brown, vfxln, with some sparry backfill, chalky in part, hard on crush

3540
Lime, gray, shaly

3550
Shale, black, carbonaceous, hard

3560
Lime, cream, fxln, sporadic intergranular porosity with significant calcite mineralization, hard on crush

3570
Lime, lt brown, dense, angular chips, hard on crush

3580
Shale, dark gray

3590
Lime, lt brown to reddish-brown, micro-xln, cherty, few chips of conglomerate

3600
BKC SPL 3571 (-1530)

3610
Lime, fxln to dense, dark brown to dark gray, fossiliferous, oolitic

3620
Shale, red wash, soft

3630
Lime, clastic mix, white to gray, significant red shale staining

3640
MARMATON SPL 3598 (-1557)

3650
Lime, cream, fxln, intergranular porosity

3660
Dolomitic limestone, tan to cream, fxln, hard on crush

3670
ARBUCKLE SPL 3618 (-1577)

3680
Dolomite, lt brown, med-xn, fair intergranular porosity, with spotty to saturated stain, very light oil on crush, free oil in cup, good odor

3690
Sandstone resulting from dissolution of dolomite clear quartz grains, subangular, moderate sorting, some fused grains, friable, spotty to saturated stain

3700
Sandstone, fabric as above, but color appears dark grey to

ABANDONMENT OF WELL

LOG INTERVAL 3319-21 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL

DST #2 STRADDLE TEST 3335' TO 3355' SEE HEADER FOR SUMMARY

LOG INTERVAL 3347-52 SHOULD BE PERFORATED AND TESTED.

LOG INTERVAL 3361-64 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL

LOG INTERVAL 3390-93 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL

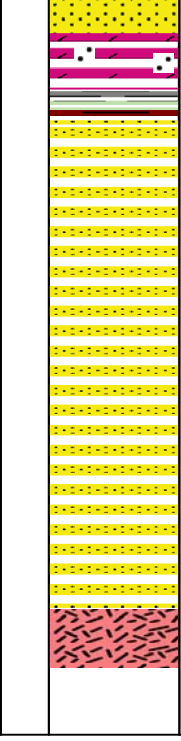
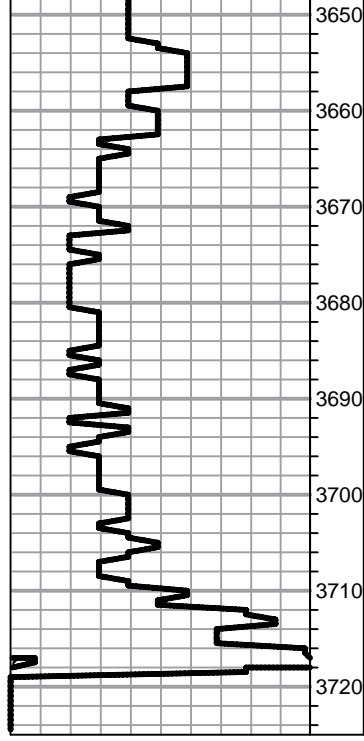
LOGS SHOW ZONE TO BE WET

GEOLOGRAPH ISSUE

MICROLOG SHOWS ZONES BELOW "G" ZONE TO HAVE VERY LIMITED PERMEABILITY

DST #1 CONVENTIONAL BOTTOM HOLE TEST 3568' TO 3626' SEE HEADER FOR TEST SUMMARY

LOG INTERVALS 3619, 3622 AND 3626-28 SHOULD BE PERFORATED AND TESTED. LOG INTERVAL 3632-45 SANDY WITH POTENTIAL FOR HIGH PERMEABILITY AND SALT WATER.



jet black due to saturation with flaky dead oil, upon crush stain washes readily leaving clear quartz grains

REAGAN SAND SPL 3658 (-1617)

Sandstone, white, frosted grains, clean, well-rounded, poorly sorted, loose grains

GRANITE WASH SPL 3712 (-1671)

RTD 3718 (-1677) LTD 3714 (-1673)

5 1/2" PRODUCTION SET TO 3713' W/ 140 SXS COMMON, 10% SALT, 5% GILSONITE RATHOLE W/ 30 SXS MOUSEHOLE W/ 20 SXS PLUG DOWN 1:45PM 9/10/2013

SLOPE 1 1/4 DEGREES @ 3718