



KANSAS CORPORATION COMMISSION 1141320  
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: \_\_\_\_\_



1141320

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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<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Edison Operating Company LLC
Well Name	Kachelman 1A-36
Doc ID	1141320

All Electric Logs Run

Dual Induction
CDNL
Micro
Sonic



10244 NE Hwy. 61  
 P.O. Box 8613  
 Pratt, Kansas 67124  
 Phone 620-672-1201

FIELD SERVICE TICKET  
 1718 07444 A

36-245-14W

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB 12-28-12		DISTRICT Pratt, Kansas		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:		
CUSTOMER Edison Operating Company, LLC.				LEASE Kachelman				WELL NO. 1A-36		
ADDRESS				COUNTY Stafford		STATE Kansas				
CITY		STATE		SERVICE CREW C. Messick, M. Mattal, M. Lawrence						
AUTHORIZED BY				JOB TYPE: C.N.W. - Surface						
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
37216	.5						12-28-12			12:00
						ARRIVED AT JOB				2:00
						START OPERATION				5:45
19903-19905	.5					FINISH OPERATION				6:15
19826-19860	.5					RELEASED	12-28-12			7:00
						MILES FROM STATION TO WELL	25			

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: \_\_\_\_\_  
 (WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP106	A Serv Lite Cement	slr	150	\$	1,950 00
CP100C	Common Cement	slr	150	\$	2,400 00
CC102	Celloflatre	Lb	75	\$	277 50
CC109	Calcium Chloride	Lb	675	\$	708 75
CF193	Wooden Plug, 8 5/8"	ea	1	\$	160 00
CC131	Sugar	lb	50	\$	100 00
E100	Pickup Mileage	mi	25	\$	106 25
E101	Heavy Equipment Mileage	mi	50	\$	350 00
E113	Bulk Delivery	tm	340	\$	544 00
CE200	Cement Pump: 0 Feet To 500 Feet	hrs	4	\$	1,000 00
CE240	Blending and Mixing Service	slr	300	\$	420 00
CE504	Plug Container	Job	1	\$	250 00
S003	Service Supervisor	hrs	8	\$	175 00

CHEMICAL / ACID DATA:			

SUB TOTAL		ALS	\$ 6331.13
SERVICE & EQUIPMENT	%TAX ON \$		
MATERIALS	%TAX ON \$		
TOTAL			

SERVICE REPRESENTATIVE: Lawrence R. Messick  
 THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: \_\_\_\_\_  
 (WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO. \_\_\_\_\_





# **EDISON OPERATING COMPANY<sub>LLC</sub>**

Scale 1:240 (5"=100') Imperial

Well Name: Kachelman #1A-36  
Location: Sec. 36 - T24S - R14W, Stafford County, KS  
Licence Number: API No.: 15-185-23782-0000  
Spud Date: December 27, 2012  
Surface Coordinates: 330' FNL & 1650' FWL (NW NE NW)

Region: Koelsch Southeast  
Drilling Completed: January 4, 2013

## Bottom Hole Coordinates:

Ground Elevation (ft): 1942'      K.B. Elevation (ft): 1952'  
Logged Interval (ft): 3000'      To: 4275'      Total Depth (ft): 4274' (LTD)  
Formation: TD in Arbuckle  
Type of Drilling Fluid: Chemical Gel/Fresh Water Gel

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

## OPERATOR

Company: Edison Operating Company, LLC  
Address: 8100 E. 22nd St. North  
Building 1900  
Wichita, KS 67226

## GEOLOGIST

Name: Derek W. Patterson  
Company: Valhalla Exploration, LLC  
Address: 133 N. Glendale  
Wichita, KS 67208

## REMARKS

After review of the geologic log, positive DST #1 results, and the open hole logs for the Kachelman #1-36, it was decided upon by operator to run 5 1/2" production casing to further evaluate said well.

Following logging operations the Kachelman #1A-36 was deepened to a depth of 4275' (RTD)/4274' (LTD) for casing purposes.

The well samples were saved, submitted, and will be available for review at the Kansas Geologic Survey's Well Sample Library located in Wichita, KS.

Respectfully Submitted,

Derek W. Patterson

## COMMENTS

Please Note: The RTD was 4270' and the LTD 4269'.

The drill time, gas curves, and DST intervals have been shifted 3' shallow/higher to correspond with the electric log curves. All connection and circulation points have also been moved to match the overall shift.



General Information

**Service Companies**

Drilling Contractor: Maverick Drilling - Rig #108  
Tool Pusher: Jeremy Stuckey  
Daylight Driller: Marvin Petz  
Evening Driller: Marino Vergera  
Morning Driller: Robert Stevenson  
Relief: Mark Farmer

Drilling Fluid: Mud-Co/Service Mud  
Engineers: Jason Whiting  
Rick Hughes

Logging Company: Nabors  
Engineer: Mike Garrison  
Logs Ran: DI, CDNL, Micro, Sonic

Gas Detector: Bluestem Environmental  
Engineer: Sidney Edelbrock  
Unit: 0279  
Operational By: 1500'

Testing Company: Trilobite Testing  
Tester: Jim Svaty

Deviation Survey	
Depth	Survey
2909'	3/4°
4220'	1 1/4°
RTD - 4270'	1 1/4°

Pipe Strap	
Depth	Pipe Strap
4113'	None Performed

Bit Record								
Bit #	Size	Make	Type	Serial Number	Depth In	Depth Out	Feet	Hours
1	12 1/4"	JZ	Rock	RR	0'	301'	301'	3.5
2	7 7/8"	JZ	HA20QJ	K01324	301'	4113'	3812'	79.25
3	7 7/8"	JZ	QX20J	RR	4113'	4275'	162'	10.5

Surface Casing	
12.28.2012	Ran 7 joints of new 23 #/ft 8 5/8" casing, tallying 281', set @ 296' KB. Cemented with 150 sacks A Service Lite (3 % CC 1/4# Celoflake) & 150 sacks Common (3% CC, 2% gel). Cement did circulate. Plug down @ 0615 hrs 12.28.12. By Basic Energy Services.

Production Casing	
1.5.2013	Ran 96 joint of new 25 #/ft 5 1/2" production casing, tallying 4281', set @ 4274' KB. Cemented with 135 sacks AA2. Plug down @ 1445 hrs 1.5.13. By Basic Energy Services.



Daily Drilling Report

Date	7:00 AM Depth	Previous 24 Hours of Operations
1.1.2013	3594'	Drilling and connections Topeka. Geologist Derek W. Patterson on location, 1930 hrs 12.31.12. Reset Bloodhound depth to correspond with geograph (15' behind). Resume drilling and connections Topeka. Run new line from extractor to gas detector, test with positive response. Drilling and connections Topeka, Heebner, Toronto, Douglas, and into Brown Lime. Made 782' over past 24 hrs of operations. WOB: 34k RPM: 75 PP: 850 SPM: 56 DMC: \$4,217.25 CMC: \$6,081.70
1.2.2013	4110'	Drilling and connections Brown Lime and into Lansing. CFS @ 3703' (LKC 'F'). Resume drilling and connections Lansing. Drilling and connections Lansing and into Base Kansas City. CFS @ 3879' to evaluate gas kick in Lansing 'L' zone. Resume drilling and connections Base Kansas City, Conglomerate, Kinderhook, and into Viola. Stop @ 4110' for bit trip due to poor penetration rates from worn bit. CTCH prior to bit trip. Made 516' over past 24 hrs of operations. WOB: 36k RPM: 75 PP: 900 SPM: 56 DMC: \$1,567.40 CMC: \$7,649.10
1.3.2013	4217'	CTCH prior to bit trip. Strap out for bit trip, 0745 hrs 1.2.13. TIH with new bit, CTCH, resume drilling following bit trip, 1340 hrs 1.2.13. Drilling and connections Viola and into Simpson. CFS @ 4169' (Simp) to evaluate the Simpson Sand zone. Resume drilling and connections Simpson. CFS @ 4189'. Drilling Simpson and into Arbuckle. CFS @ 4207' (Arb), CFS @ 4217' (Arb). Shows warrant test. CTCH, drop survey, TOH for DST #1, 0130 hrs 1.3.13. Made 107' over past 24 hrs of operations. WOB: 38k RPM: 75 PP: 900 SPM: 56 DMC: \$1,287.10 CMC: \$8,936.20
1.4.2013	4217'	Make up test tool. TIH with tool. Conducting DST #1, test successful. TIH with bit. Accident on rig floor involving rig hand. Tag bottom with bit. Bit plugged off, TOH for plugged bit. Clean out collar, TIH with bit. Made 0' over past 24 hrs of operations. DMC: \$1,752.35 CMC: \$10,688.55
1.5.2013	RTD - 4275' LTD - 4270'	TIH with bit. Production casing on location. TIH with bit, CTCH, run in premix, resume drilling, 1155 hrs 1.4.13. Drilling and connections Arbuckle ahead to RTD of 4270' RTD reached, 1410 hrs 1.4.13. CTCH, drop survey, TOH for open hole logging operations. Rig up loggers. Conduct open hole logging operations. Orders received to run 5 1/2" production casing for further evaluation of the Kachelman #1A-36. Geologist Derek W. Patterson off location, 1500 hrs 1.4.13. Made 50' over past 24 hrs of operations. WOB: 38-40k RPM: 65-70 PP: 900 SPM: 56 CMC: \$12,332.90
1.6.2013	RTD - 4275' LTD - 4270'	Following logging operations the Kachelman #1A-36 was deepened to a depth of 4275' (RTD) for casing purposes. Made 50' over past 24 hrs of operations. WOB: 38-40k RPM: 65-70 PP: 900 SPM: 56 CMC: \$12,332.90





Well Comparison Sheet

Drilling Well					Comparison Well				Comparison Well			
Edison Operating - Kachelman #1A-36 Sec. 36 - T24S - R14W NWNE NW					Westgate-Greenland- Kachelman #1 Sec. 36 - T24S - R14W NE NE NW				Westgate-Greenland - Kachelman #2 Sec. 36 - T24S - R14W SW NE NW			
1952 KB					Oil - Arbuckle 1949 KB		Structural Relationship		Oil - Arbuckle 1948 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Topeka	3046	-1094	3043	-1091								
King Hill	3245	-1293	3242	-1290								
Queen Hill	3349	-1397	3347	-1395								
Heebner	3457	-1505	3454	-1502	3446	-1497	-8	-5	3449	-1501	-4	-1
Toronto	3477	-1525	3474	-1522	3464	-1515	-10	-7	3469	-1521	-4	-1
Douglas	3496	-1544	3494	-1542	3483	-1534	-10	-8	3488	-1540	-4	-2
Brown Lime	3595	-1643	3592	-1640	3583	-1634	-9	-6	3589	-1641	-2	1
Lansing	3624	-1672	3626	-1674	3612	-1663	-9	-11	3621	-1673	1	-1
LKC 'B'	3643	-1691	3640	-1688	3632	-1683	-8	-5	3637	-1689	-2	1
LKC 'D'	3666	-1714	3663	-1711	3653	-1704	-10	-7	3658	-1710	-4	-1
LKC 'F'	3694	-1742	3692	-1740	3682	-1733	-9	-7	3688	-1740	-2	0
LKC 'G'	3711	-1759	3708	-1756	3698	-1749	-10	-7	3704	-1756	-3	0
Muncie Creek	3747	-1795	3744	-1792	3734	-1785	-10	-7	3738	-1790	-5	-2
LKC 'H'	3750	-1798	3747	-1795	3738	-1789	-9	-6	3742	-1794	-4	-1
LKC 'I'	3768	-1816	3766	-1814	3757	-1808	-8	-6	3763	-1815	-1	1
LKC 'J'	3786	-1834	3782	-1830	3775	-1826	-8	-4	3775	-1827	-7	-3
Stark	3820	-1868	3817	-1865	3806	-1857	-11	-8	3810	-1862	-6	-3
LKC 'K'	3828	-1876	3827	-1875	3814	-1865	-11	-10	3820	-1872	-4	-3
Hushpuckney	3856	-1904	3854	-1902	3842	-1893	-11	-9	3845	-1897	-7	-5
LKC 'L'	3860	-1908	3856	-1904	3848	-1899	-9	-5	3848	-1900	-8	-4
Base Kansas City	3875	-1923	3873	-1921	3862	-1913	-10	-8	3866	-1918	-5	-3
Conglomerate	3925	-1973	3924	-1972	3916	-1967	-6	-5	3920	-1972	-1	0
Kinderhook	3961	-2009	3964	-2012	3948	-1999	-10	-13	3949	-2001	-8	-11
Viola	4024	-2072	4025	-2073	4009	-2060	-12	-13	4004	-2056	-16	-17
Simpson	4164	-2212	4160	-2208	4144	-2195	-17	-13	4146	-2198	-14	-10
Simpson Sand	4177	-2225	4173	-2221	4154	-2205	-20	-16	4158	-2210	-15	-11
Arbuckle	4203	-2251	4204	-2252	4182	-2233	-18	-19	4185	-2237	-14	-15
Total Depth	4270	-2318	4269	-2317	4232	-2283	-35	-34	4210	-2262	-56	-55
**Final Total Depth	4275	-2323			4232	-2283	-40		4210	-2262	-61	

\*\* Well was deepened another 5' following logging operations for production casing purposes.

Note: DST intervals have been shifted 3' shallow/higher to correspond with the electric log curves.



**TRIBOLITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Edison Operating Co. Inc.

36 24s 14w Stafford

9427 E Cross Creek  
Wichita KS 67206

Kachelman # 1A-36

Job Ticket: 51546

DST#: 1

ATTN: Derek Patterson

Test Start: 2013.01.03 @ 05:22:00

## GENERAL INFORMATION:

Formation: **Simpson Sand & Arbuc**

Deviated: No Whipstock: 1952.00 ft (KB)

Time Tool Opened: 10:15:30

Time Test Ended: 19:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 41

Interval: **4148.00 ft (KB) To 4220.00 ft (KB) (TVD)**

Corrected  
4145' - 4217'

Reference Elevations: 1952.00 ft (KB)

Total Depth: 4220.00 ft (KB) (TVD)

1941.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

## Serial #: 8734

### Inside

Press@RunDepth: 1363.89 psig @ 4153.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.03

End Date: 2013.01.03

Last Calib.: 2013.01.03

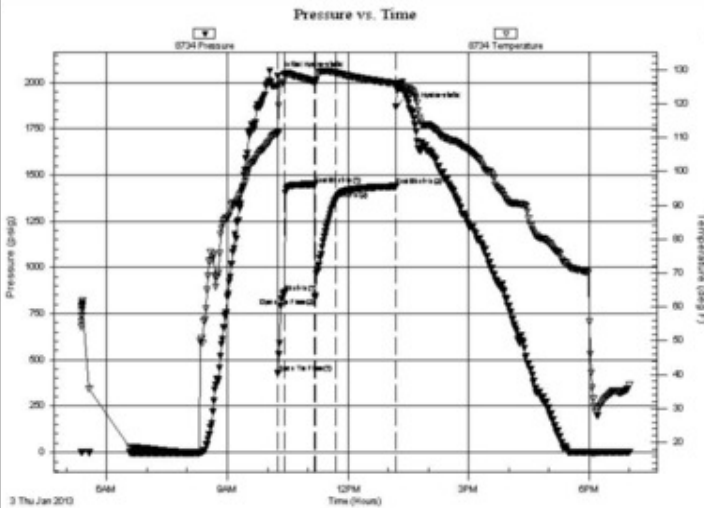
Start Time: 05:22:01

End Time: 18:59:49

Time On Btm: 2013.01.03 @ 10:15:10

Time Off Btm: 2013.01.03 @ 13:11:40

TEST COMMENT: 10-IFP- BOB in 45sec.  
45-ISIP- Surface Blow Died in 27min.  
30-FFP- BOB in 30sec.  
90-FSP- BOB in 50sec.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2032.46	111.47	Initial Hydro-static
1	429.71	111.22	Open To Flow (1)
11	865.54	128.72	Shut-In(1)
56	1448.51	126.40	End Shut-In(1)
56	834.73	126.14	Open To Flow (2)
86	1363.89	129.17	Shut-In(2)
177	1439.19	126.02	End Shut-In(2)
177	1870.74	126.22	Final Hydro-static

## Recovery

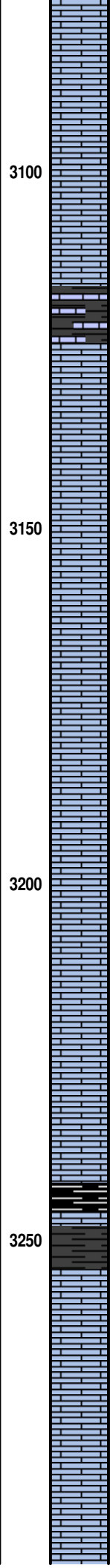
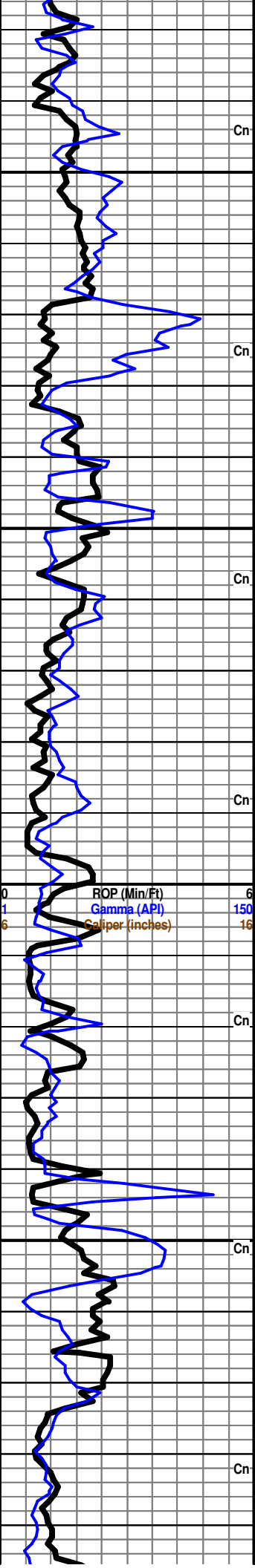
Length (ft)	Description	Volume (bbl)
448.00	Gassy Oil Speck Mud 100%	6.28
630.00	GMCO 25%g 25%m 50%o	8.84
1260.00	GO&MCW 20%g 20% o 20%m 40%w	17.67
508.00	GO&MCW 10%o 10%m 20%g 50%w	7.13
509.00	O&MCW 2%o 3%m 95%w	7.14

## Gas Rates

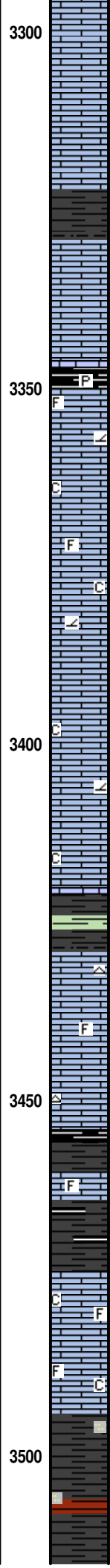
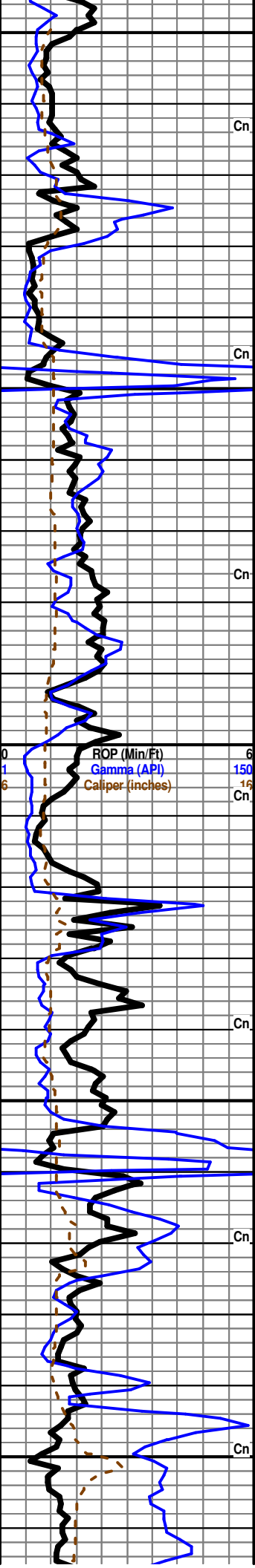
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Chlorides = 52,000 ppm





Note: gas readings invalid due to damaged hose line from extractor to Bloodhound	
Note: gas readings invalid due to damaged hose line from extractor to Bloodhound	
0	100
Note: gas readings invalid due to da	
Note: gas readings invalid due to da	



No sample descriptions available

Lithology picked from offset electric logs

**Queen Hill 3347 (-1395)**

Shale: black, carbonaceous, blocky and hard, some waxy, pyritic, fissile in part, very poor show gas upon break, grading to Limestone: lt tan cream, dense to slightly friable dolomitic matrix, vf-xln, fossiliferous to barren, fair interxln porosity, no shows noted, scattered poor mineral fluorescence.

Limestone: cream tan, dense tight sub-chalky matrix, micro-vfxln, fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence.

Sample returns regained @ 3380'  
Start 10' Wet & Dry Samples @ 3380'

Limestone: tan cream, dense dolomitic matrix, vfxln, mostly barren with some scattered sub-fossiliferous, fair interxln porosity in most, no shows noted, no fluorescence.

Limestone: cream lt cream off white, dense chalky matrix, mostly barren, poor visible porosity, no shows noted, no fluorescence, with some scattered loose Chalk.

Shale: gray dk gray dk green, blocky to rounded, firm to softer and waxy.

Limestone: cream lt cream lt gray, dense matrix, vfxln, mostly barren with trace sub-fossiliferous, some cherty, some imbedded calcite crystals and 2ndary xln, overall poor visible porosity, no shows noted, very poor scattered mineral fluorescence.

**Heebner 3454 (-1502)**

Shale: black, dk gray, mostly blocky and hard, waxy in part, fair show gas upon break.

Shale: gray dk gray some black, carbonaceous in part, blocky to rounded, hard to soft, some waxy, very poor show gas in few pieces upon break.

**Toronto 3474 (-1522)**

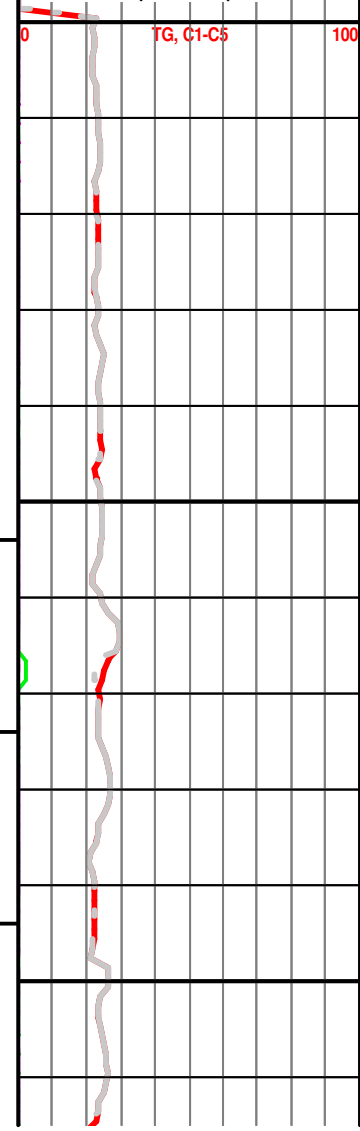
Limestone: off white lt cream lt gray, dense sub-chalky matrix, micro-vfxln, fossiliferous, overall poor interxln porosity, no shows noted, little-no mineral fluorescence.

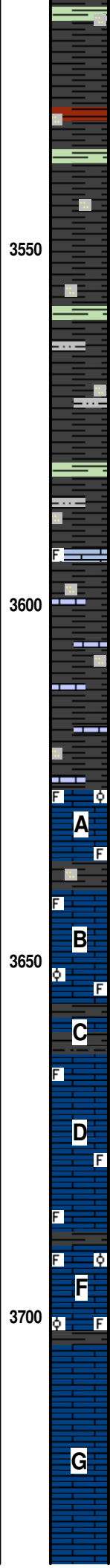
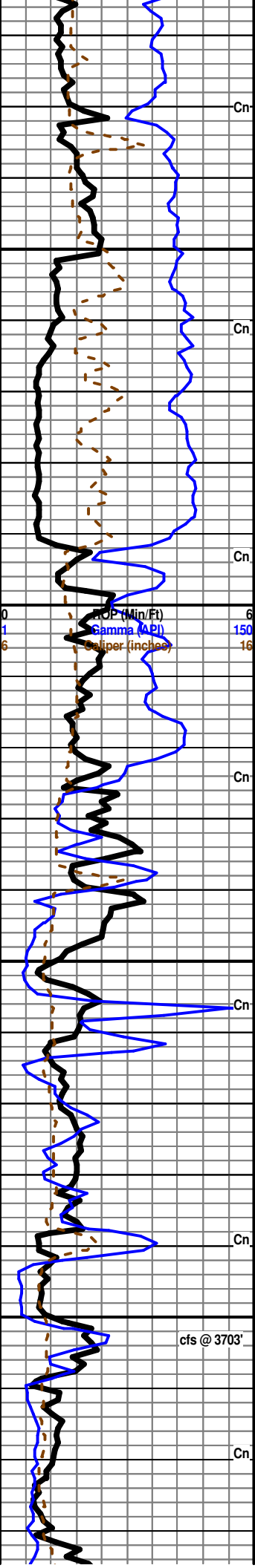
**Douglas 3494 (-1542)**

Shale: gray dk gray, blocky and hard, splintery to fissile material, silty in part.

damaged hose line from extractor to Bloodhound

Note: gas data omitted until 3400' due to invalid readings from damaged line in system. A new line was ran and the system tested with a positive response.





Shale: gray dk gray some dk green and brick red, blocky to slightly rounded, becoming softer, silty in part.

Shale: gray dk gray pale green, mostly blocky and hard, silty, with abundant mushy Shale, sample washes gray.

Shale: gray dk gray pale green, mostly blocky and hard, silty, with scattered Siltstone: lt gray, vfgained, blocky, heavily micaceous, poor visible porosity.

Shale: gray dk gray pale green, mostly blocky and hard, silty, with scattered Siltstone: lt gray, vfgained, blocky, heavily micaceous, poor visible porosity.

**Brown Lime 3592 (-1640)**

Limestone: tan brown cream, dense tight matrix, microxltn, fossiliferous in part, poor visible porosity, no shows noted, grading to Shale: gray dk gray, blocky and hard to waxy, silty in part.

Shale: gray dk gray, blocky and hard to waxy, silty, with Limestone stringers: as above.

**Lansing 3626 (-1674)**

Limestone: lt cream lt gray off white, dense tight matrix, micro-vfxln, sub-fossiliferous to poor oolitic, poor interxltn porosity, no shows noted, no fluorescence.

Shale: gray dk gray, blocky and hard, fair amount of splintery material, silty in part.

Limestone: off white lt cream, dense-friable xltn matrix, micro-vfxln, oolitic/fossiliferous, fair amount of 2ndary xltn along edges, fair interoolitic/pinpoint porosity, few scattered pieces with fair stain and very poor show oil upon break, scattered even lt yellow fluoescence in show rocks, poor-fair cut, faint odor.

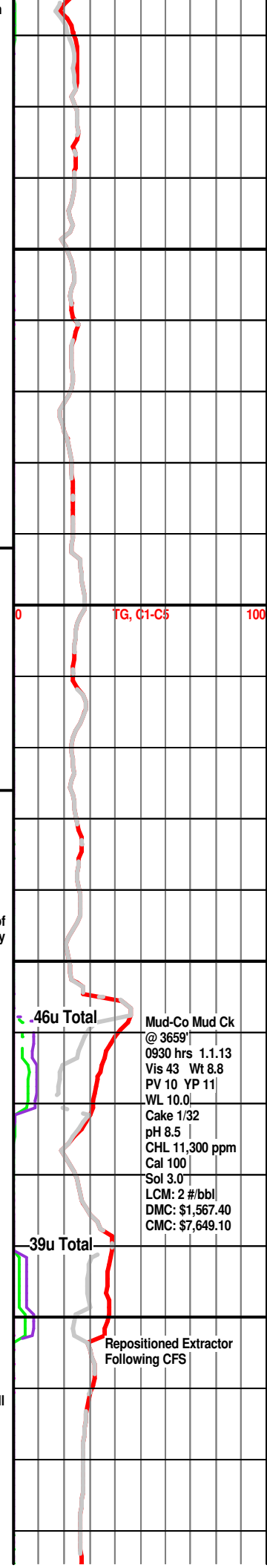
Limestone: scattered as above, still carrying poor-fair show upon break.

Limestone: cream lt cream, mostly dense matrix, micro-vfxln, fossiliferous to sub-fossiliferous, poor visible porosity with some 2ndary xltn fill, no shows noted, poor-no fluoescence, no cut, no odor.

3703' cfs - Limestone: off white lt cream, sub-friable matrix, vfxln, fossiliferous with scattered poor oolitic, overall fair-good interxltn/pinpoint porosity with a few scattered vugs, fair golden saturated stain, poor-fair show oil and gas from porosity with increase upon break, even bright lt yellow fluoescence, fair-good cut, faint odor.

Limestone: gray lt gray tan, dense sub-friable matrix, micro-vfxln, fossiliferous with fair oolitic, overall fair interxltn/interoolitic porosity, no shows noted, even dull pale yellow-no mineral fluoescence, no cut, no odor, with trace Chert: white bone white lt gray, fresh and sharp, barren.

Limestone: gray lt gray tan, dense tight matrix, micro-vfxln, fossiliferous with some scattered poor oolitic, overall poor interxltn/pinpoint porosity, no shows noted, even dull pale yellow mineral fluoescence, no cut, no odor, with scattered Chert: white bone white grav. fresh and sharp, barren.



Mud-Co Mud Ck @ 3659' 0930 hrs 1.1.13 Vis 43 Wt 8.8 PV 10 YP 11 WL 10.0 Cake 1/32 pH 8.5 CHL 11,300 ppm Cal 100 Sol 3.0 LCM: 2 #/bbl DMC: \$1,567.40 CMC: \$7,649.10



most carrying fair stain with most dead and tarry, very poor show live oil in few pieces upon break, fair visible porosity, poor-no fluorescence, poor cut, no odor, with Limestone stringers: as above.

### Kinderhook 3964 (-2012)

Shale: gray dk gray brown dk red dk green, very dense and blocky, hard, silty/pyritic, abundant splintery material.

Shale: gray dk gray brown dk red dk green, very dense and blocky, hard, silty/pyritic, abundant splintery material.

Shale: gray dk gray brown dk red dk green, very dense and blocky, hard, silty/pyritic in part, abundant splintery material.

Shale: gray dk gray brown dk red dk green, very dense and blocky, hard, silty/pyritic in part, abundant splintery material.

### Viola 4025 (-2073)

INFLUX - Chert: white bone white, sub-weathered to fresh and sharp, very limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, still carrying abundant Shale: as above (sluff?).

Chert: white bone white, sub-weathered to fresh and sharp, very limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, still carrying abundant Shale: as above (sluff?).

Chert: white bone white, sub-weathered to fresh and sharp, very limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, still carrying abundant Shale: as above (sluff?).

Limestone: cream lt cream off white, dense -sub-chalky to cherty matrix, micro-cryptoxln, barren, poor visible porosity, no shows noted, no fluorescence, still carrying abundant Shale: as above (sluff?).

Chert: white bone white, sub-weathered to fresh and sharp, very limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, with Limestone stringers: cream lt cream off white, dense -sub-chalky to cherty matrix, micro-cryptoxln, barren, poor visible porosity, no shows noted, no fluorescence, Shale beginning to drop out.

4110' cfs 40" - Chert: white bone white, mostly fresh and sharp with some scattered sub-weathered, some limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, with Limestone stringers: cream lt cream off white, dense -sub-chalky to cherty matrix, micro-cryptoxln, barren, poor visible porosity, no shows noted, no fluorescence.

Chert: white bone white, mostly fresh and sharp with some scattered sub-weathered, some limey, sub-fossiliferous to barren, poor visible porosity, no shows noted, no fluorescence, with continued Limestone stringers.

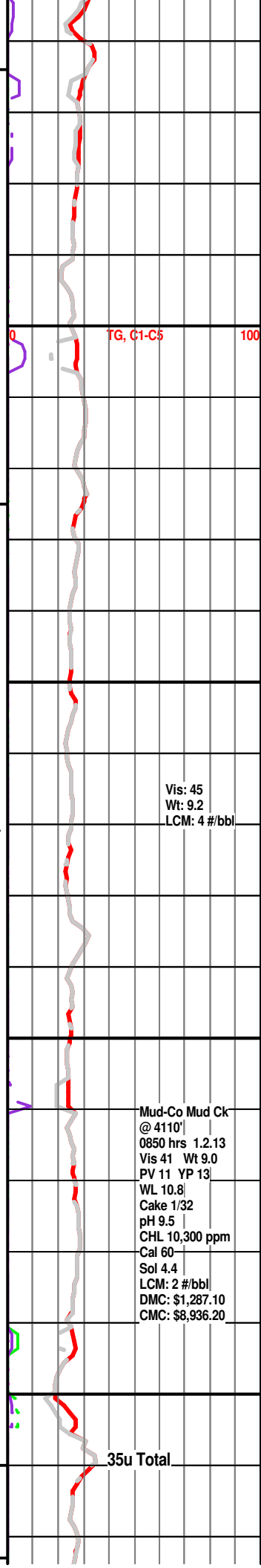
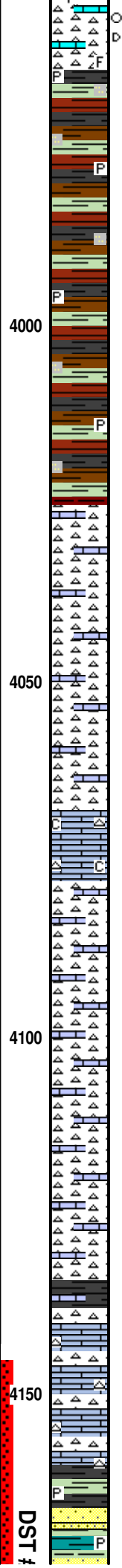
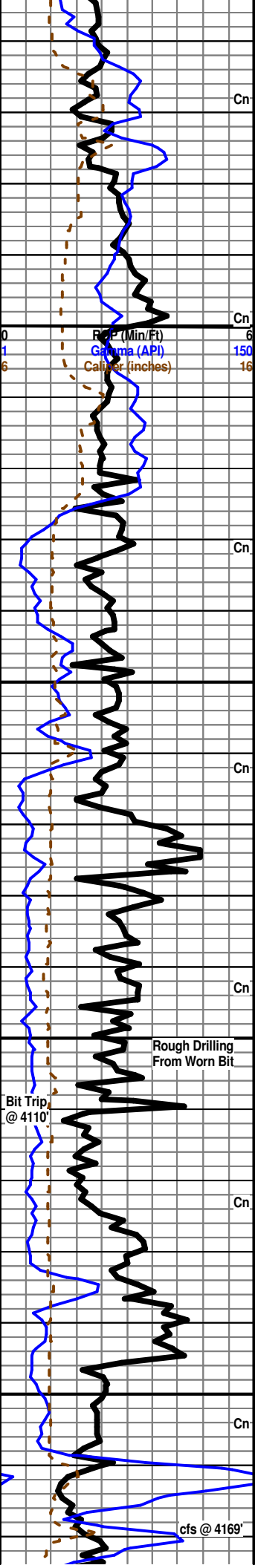
Interbedded Shale: gray dk gray, blocky and firm, limey.

Limestone: cream lt cream, dense cherty matrix, cryptoxln, barren, no visible porosity, no shows noted, no fluorescence, with abundant Chert: white bone white, fresh and sharp, barren, no shows noted.

### Simpson 4160 (-2208)

4169' cfs - Shale: gray dk gray pale green some teal green, blocky and hard with some softer and waxy, fissile/splintery, pyritic in part, with interbedded Sandstone: gray lt gray smokey gray, dense tight well cemented calcareous matrix in most, fgrained with some scattered coarse, poor porosity, no shows noted, no fluorescence.

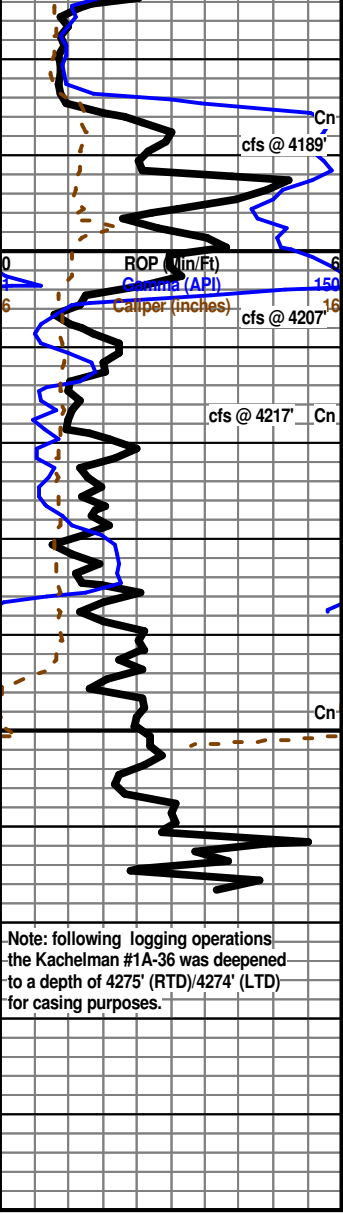
### Simpson Sand 4173 (-2221)



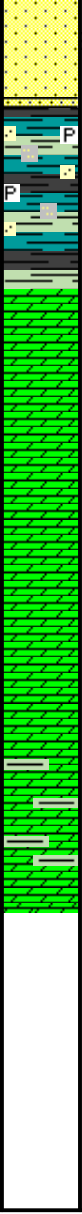
Vis: 45  
Wt: 9.2  
LCM: 4 #/bbl

Mud-Co Mud Ck @ 4110'  
0850 hrs 1.2.13  
Vis 41 Wt 9.0  
PV 11 YP 13  
WL 10.8  
Cake 1/32  
pH 9.5  
CHL 10,300 ppm  
Cal 60  
Sol 4.4  
LCM: 2 #/bbl  
DMC: \$1,287.10  
CMC: \$8,936.20





#1 4145' - 4217'  
 4200  
 4250  
 4290



4189' cfs - INFLUX Sandstone: lt gray clear, fairly cemented sub-irradiable calcareous matrix, f-coarse grained, fair-well sorted sub-rounded/sub-angular grains, micaceous in part, overall good intergranular porosity, even golden stain, good-excellent show oil and scattered gas bubbles upon break in nearly all of sample, spotty-even bright greenish-yellow fluorescence, milky-white cut, strong odor.

Shale: teal green gray dk gray dk green, blocky, hard to slightly waxy, fair amount of silty and pyritic material, some sandy.

**Arbuckle 4204 (-2252)**

4207' cfs (4204'-4207') - Dolomite: tan cream, mostly dense matrix, micro-vfxln with some scattered fxln with depth, poor-fair xln development in most, scattered small solution vugs, appears to have been arenaceous with sand mechanically removed resulting in fair-good pinpoint/vuggy porosity, slight golden stain, poor-good show oil upon break, even bright lt yellow fluorescence, poor-fair cut, fair odor.

4217' cfs (4208'-4217') - Dolomite: tan cream, dense matrix, vfxln, poor-fair xln development, overall fair interxln porosity, poor stain, poor-fair show oil upon break in scattered pieces, even pale lt yellow fluorescence, poor-no cut, faint odor.

Sample Quality Extremely Poor - Tons of Trip Trash and Sluff

Dolomite: cream lt tan, dense tight matrix, micro-vfxln, poor xln development, overall poor visible porosity, no stain or shows noted, even dull greenish-yellow fluorescence, no cut fluorescence, no odor.

Dolomite: cream lt tan, dense tight matrix, micro-vfxln, poor xln development, overall poor visible porosity, no stain or shows noted, even dull greenish-yellow fluorescence, no cut fluorescence, no odor, with flood of Shale: teal, blocky and hard, fissile/splintery material (sluff?).

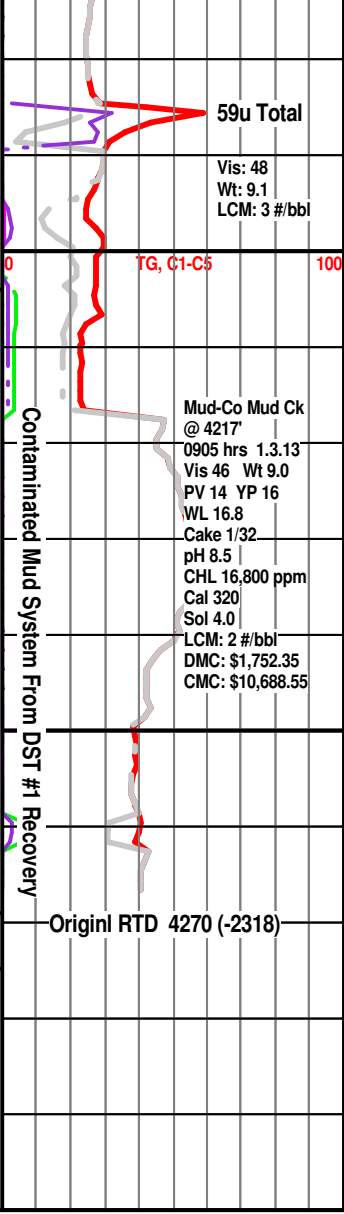
**LTD 4269 (-2317)**

**Final RTD 4275 (-2323)**

Orders Received to Run 5 1/2" Production Casing For Further Evaluation

Geologist Derek W. Patterson Off Location, 1500 hrs 12.22.12

**Respectfully Submitted,  
Derek W. Patterson**



Note: following logging operations the Kachelman #1A-36 was deepened to a depth of 4275' (RTD)/4274' (LTD) for casing purposes.



## DRILL STEM TEST REPORT

Prepared For: **Edison Operating Co. Inc.**

9427 E Cross Creek  
Wichita KS 67206

ATTN: Derek Patterson

**Kachelman # 1A-36**

**36 24s 14w Stafford**

Start Date: 2013.01.03 @ 05:22:00

End Date: 2013.01.03 @ 19:00:00

Job Ticket #: 51546                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.01.03 @ 19:45:36



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Edison Operating Co. Inc.

**36 24s 14w Stafford**

9427 E Cross Creek  
Wichita KS 67206

**Kachelman # 1A-36**

ATTN: Derek Patterson

Job Ticket: 51546

**DST#: 1**

Test Start: 2013.01.03 @ 05:22:00

## GENERAL INFORMATION:

Formation: **Simpson Sand & Arbuc**

Deviated: No Whipstock: 1952.00 ft (KB)

Time Tool Opened: 10:15:30

Time Test Ended: 19:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 41

**Interval: 4148.00 ft (KB) To 4220.00 ft (KB) (TVD)**

Reference Elevations: 1952.00 ft (KB)

Total Depth: 4220.00 ft (KB) (TVD)

1941.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8734**

**Inside**

Press @ Run Depth: 1363.89 psig @ 4153.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.03

End Date:

2013.01.03

Last Calib.: 2013.01.03

Start Time: 05:22:01

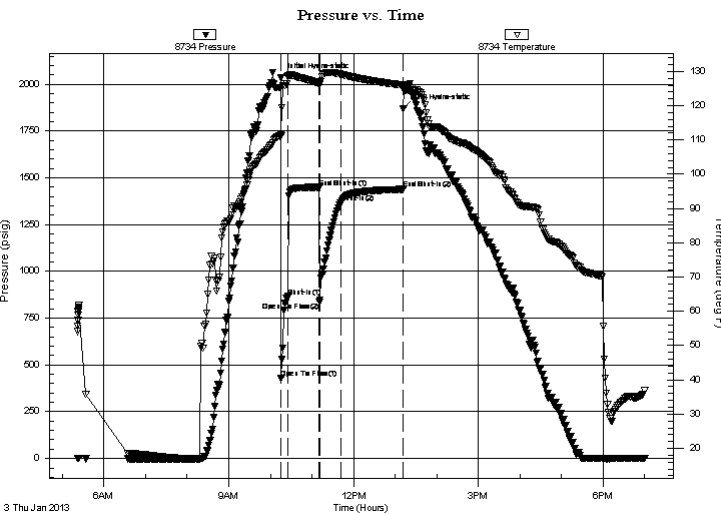
End Time:

18:59:49

Time On Btm: 2013.01.03 @ 10:15:10

Time Off Btm: 2013.01.03 @ 13:11:40

**TEST COMMENT:** 10-IFP- BOB in 45sec.  
45-ISIP- Surface Blow Died in 27min.  
30-FFP- BOB in 30sec.  
90-FSIP- BOB in 50sec.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2032.46	111.47	Initial Hydro-static
1	429.71	111.22	Open To Flow (1)
11	865.54	128.72	Shut-In(1)
56	1448.51	126.40	End Shut-In(1)
56	834.73	126.14	Open To Flow (2)
86	1363.89	129.17	Shut-In(2)
177	1439.19	126.02	End Shut-In(2)
177	1870.74	126.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
448.00	Gassy Oil Speck Mud 100%	6.28
630.00	GMCO 25%g 25%m 50%o	8.84
1260.00	GO&MCW 20%g 20% o 20%m 40%w	17.67
508.00	GO&MCW 10%o 10%m 20%g 50%w	7.13
509.00	O&MCW 2%o 3%m 95%w	7.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Edison Operating Co. Inc.

**36 24s 14w Stafford**

9427 E Cross Creek  
Wichita KS 67206

**Kachelman # 1A-36**

Job Ticket: 51546

**DST#: 1**

ATTN: Derek Patterson

Test Start: 2013.01.03 @ 05:22:00

## Tool Information

Drill Pipe:	Length: 4148.00 ft	Diameter: 3.80 inches	Volume: 58.19 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4148.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.00 ft			
Tool Length:	99.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4126.00	
Hydraulic tool	5.00			4131.00	
Jars	5.00			4136.00	
Safety Joint	2.00			4138.00	
Packer	5.00			4143.00	27.00 Bottom Of Top Packer
Packer	5.00			4148.00	
Stubb	1.00			4149.00	
Perforations	3.00			4152.00	
Change Over Sub	1.00			4153.00	
Recorder	0.00	8734	Inside	4153.00	
Recorder	0.00	8322	Outside	4153.00	
Blank Spacing	63.00			4216.00	
Change Over Sub	1.00			4217.00	
Bullnose	3.00			4220.00	72.00 Bottom Packers & Anchor

**Total Tool Length: 99.00**



**TRILOBITE**  
**TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Edison Operating Co. Inc.

**36 24s 14w Stafford**

9427 E Cross Creek  
Wichita KS 67206

**Kachelman # 1A-36**

Job Ticket: 51546

**DST#: 1**

ATTN: Derek Patterson

Test Start: 2013.01.03 @ 05:22:00

## 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:

52000 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 16.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 16800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
448.00	Gassy Oil Speck Mud 100%	6.284
630.00	GMCO 25%g 25%m 50%o	8.837
1260.00	GO&MCW 20%g 20% o 20%m 40%w	17.674
508.00	GO&MCW 10%o 10%m 20%g 50%w	7.126
509.00	O&MCW 2%o 3%m 95%w	7.140

Total Length: 3355.00 ft

Total Volume: 47.061 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .343 @ 30



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**GAS RATES**

Edison Operating Co. Inc.

**36 24s 14w Stafford**

9427 E Cross Creek  
Wichita KS 67206

**Kachelman # 1A-36**

Job Ticket: 51546

**DST#: 1**

ATTN: Derek Patterson

Test Start: 2013.01.03 @ 05:22:00

## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
		0.00	0.00	0.00

### Pressure vs. Time

