



**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: \_\_\_\_\_



1086764

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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	American Warrior, Inc.
Well Name	Herman 2-24
Doc ID	1086764

Tops

Name	Top	Datum
Heebner	4177'	-1757
Lansing	4310'	-1890
Stark	4619'	-2199
B/KC	4697'	-2277
Marmaton	4751'	-2331
Cherokee	4879	-2459
Mississippian	4988'	-2568
Warsaw	5027'	-2607

# ALLIED OIL & GAS SERVICES, LLC KB 052452

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Liberal KS

DATE <u>6-11-12</u>	SEC <u>24</u>	TWP <u>27</u>	RANGE <u>22</u>	CALLED OUT	ON LOCATION	JOB START <u>4:00pm</u>	JOB FINISH <u>5:00pm</u>
LEASE <u>Herman</u>	WELL # <u>2-24</u>	LOCATION <u>North of Ford KS</u>			COUNTY <u>Ford</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR Duke Drilling Co rig #10

TYPE OF JOB Surface

HOLE SIZE 12 1/4 hole T.D. 280

CASING SIZE 8 5/8 24 DEPTH 262.03

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 44 FT

CEMENT LEFT IN CSG. 44 FT

PERFS.

DISPLACEMENT 13.88 bbl

EQUIPMENT

OWNER

CEMENT AMOUNT ORDERED 200SK class A 37cc 27 gel

COMMON	<u>200</u>	@	<u>16.25</u>	<u>3250.00</u>
POZMIX		@		
GEL	<u>4</u>	@	<u>21.25</u>	<u>85.00</u>
CHLORIDE	<u>7</u>	@	<u>58.20</u>	<u>407.40</u>
ASC		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<u>211</u>	@	<u>2.25</u>	<u>474.75</u>
MILEAGE	<u>5K X mil. X .11</u>			<u>1160.50</u>
TOTAL				<u>5377.65</u>

PUMP TRUCK CEMENTER Jose Gonzalez

#549550 HELPER Lenny B.

BULK TRUCK DRIVER Daniel P.

#470-528

BULK TRUCK DRIVER

#

REMARKS:

Thank you !!

CHARGE TO: America Warriors Inc

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Scott Edwards

SIGNATURE Scott Edwards

SERVICE

DEPTH OF JOB	<u>280</u>			
PUMP TRUCK CHARGE	<u>1125.00</u>			
EXTRA FOOTAGE	@			
MILEAGE <u>Heavy</u>	<u>50</u>	@	<u>7.00</u> <u>350.00</u>	
MANIFOLD <u>thead</u>		@	<u>200.00</u> <u>200.00</u>	
<u>Light</u>	<u>50</u>	@	<u>4.00</u> <u>200.00</u>	
		@		
TOTAL				<u>1875.00</u>

PLUG & FLOAT EQUIPMENT

<u>All 8 5/8</u>				
<u>Baffle plate</u>		@	<u>112.00</u> <u>112.00</u>	
		@		
<u>rubber plug</u>	<u>1</u>	@	<u>112.00</u> <u>112.00</u>	
		@		
		@		
TOTAL				<u>\$ 224.00</u>

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 7476.65

DISCOUNT 20% IF PAID IN 30 DAYS

\$ 5981.32

# ALLIED OIL & GAS SERVICES, LLC KB 053453

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Lipral KS

DATE <u>6/27/12</u>	SEC. <u>24</u>	TWP. <u>27S</u>	RANGE <u>22W</u>	CALLED OUT <u>12:55 AM</u>	ON LOCATION <u>3:00 PM</u>	JOB START <u>7:00 AM</u>	JOB FINISH <u>7:30 AM</u>
LEASE <u>Herman</u>			WELL # <u>7-24</u>	LOCATION <u>Ford Co</u>		COUNTY <u>Ford</u>	STATE <u>KS</u>
OLD OR <input checked="" type="checkbox"/> NEW (Circle one)							

CONTRACTOR Duke #10 OWNER American Warrior

TYPE OF JOB PTA

HOLE SIZE 7 7/8 T.D. 1570 CEMENT AMOUNT ORDERED 250sks, class A 60/40

CASING SIZE 8 5/8 DEPTH 262' Port + 48 gal + 1/8 Floreal

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE 4 1/2 DEPTH 1570

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT \_\_\_\_\_

**EQUIPMENT**

PUMP TRUCK CEMENTER David Mathis Ruben Chavez

# 549-550 HELPER Leahy Baeza

BULK TRUCK \_\_\_\_\_

# 457-251 DRIVER Ruben Chavez

BULK TRUCK \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_

**REMARKS:**

1570' 50sks  
730' 80sks  
300' 50sks  
68' 20sks  
Rot hole 20sks  
Mouse hole 20sks  
Total 250sks  
Thack 404

CHARGE TO: American Warrior

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Everett Higdon

SIGNATURE Everett Higdon

CEMENT AMOUNT ORDERED 250sks, class A 60/40  
Port + 48 gal + 1/8 Floreal

COMMON \_\_\_\_\_ @ \_\_\_\_\_

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL \_\_\_\_\_ @ \_\_\_\_\_

CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

ASC \_\_\_\_\_ @ \_\_\_\_\_

ALC 250 @ 14.50 3625.00

Floreal 62 @ 2.70 167.40

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

HANDLING 250sks @ 2.25 562.50

MILEAGE 50x250 = 12500 @ .11 1375.00

TOTAL 5729.90

**SERVICE**

DEPTH OF JOB 1570'

PUMP TRUCK CHARGE Plugging 1250.00

EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_

MILEAGE Heavy 100 @ 7.00 700.00

MANIFOLD \_\_\_\_\_ @ \_\_\_\_\_

Light Poly 100 @ 4.00 400.00

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL 2350.00

**PLUG & FLOAT EQUIPMENT**

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 8079.90

DISCOUNT 6463.92 IF PAID IN 30 DAYS

**OPERATOR**

Company: American Warrior, Inc.  
 Address: 3118 Cummings Road  
 P.O. Box 399  
 Garden City, KS 67846

Contact Geologist: Kevin Wiles  
 Contact Phone Nbr: 620-275-2963  
 Well Name: Herman # 2-24  
 Location: Sec 24 - T27S - R22W  
 Pool:   
 State: Kansas

API: 15-057-20812-00-00  
 Field: Konda Southeast  
 Country: USA

## Scale 1:240 Imperial

Well Name: Herman # 2-24  
 Surface Location: Sec 24 - T27S - R22W  
 Bottom Location:   
 API: 15-057-20812-00-00  
 License Number: 4058  
 Spud Date: 6/11/2012 Time: 12:00 AM  
 Region: Ford County  
 Drilling Completed: 6/19/2012 Time: 3:50 PM  
 Surface Coordinates: 335' FNL & 400' FWL  
 Bottom Hole Coordinates:   
 Ground Elevation: 2409.00ft  
 K.B. Elevation: 2420.00ft  
 Logged Interval: 4000.00ft To: 5047.00ft  
 Total Depth: 5047.00ft  
 Formation: Mississippian  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: Latitude:  
 N/S Co-ord: 335' FNL  
 E/W Co-ord: 400' FWL

**LOGGED BY**

***Keith Reavis***  
*Consulting Geologist*

Company: Keith Reavis, Inc.  
 Address: 3420 22nd Street  
 Great Bend, KS 67530

Phone Nbr: 620-617-4091  
 Logged By: Geologist Name: Ted Pfau

**CONTRACTOR**

Contractor: Duke Drilling Co., Inc.  
 Rig #: 10  
 Rig Type: mud rotary  
 Spud Date: 6/11/2012 Time: 12:00 AM  
 TD Date: 6/19/2012 Time: 3:50 PM  
 Rig Release: Time:

**ELEVATIONS**

K.B. Elevation: 2420.00ft Ground Elevation: 2409.00ft  
 K.B. to Ground: 11.00ft

**NOTES**

Due to the poor shows in samples and poor results from DST #1, it was decided by all parties to refrain from running electric logs and plug and abandon the well.

An analog gas detector operated by MBC Well Logging was employed on this well. This was switched to a TookeDAQ gas detector during DST #1

gas detector during DST #1.

The samples from this well were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,  
Ted Pfau

DDR

## American Warrior, Inc. daily drilling report

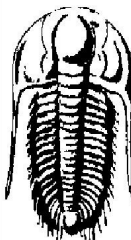
DATE	7:00 AM DEPTH	REMARKS
06/17/2012	4482	Geologist Ted Pfau on location @ 1445 hrs, 3940 ft., drilling ahead Heebner, Douglas, drilling Lansing
06/18/2012	4935	drilling ahead through Lansing, Stark, BKC, Marmaton, Cherokee
06/19/2012	5040	drilled through Cherokee and Missippian, CFS at 5010, 5030, 5035, 5040, Short trip and TOH for DST #1 at 5040 Finished DST #1 at 1026 hrs 6/19, TIH, resume drilling, cfs at 5047 TD at 5047, geologist released 1755 hrs

WCS

## American Warrior, Inc. well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Herman 2-24 335' FNL & 400' FWL Sec 24 T27S R22W					Am. Warrior - Linlor A6 425' FSL & 2300' FEL Sec 14 T27S R22W				Am. Warrior - Herman 1-24 1044' FNL & 354' FWL Sec 24 T27S R22W			
2420 KB					2421 KB		Structural Relationship		2418 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Heebner	4177	-1757	No		4169	-1748	-9		4176	-1758	1	
Douglas	4205	-1785	e-logs		4204	-1783	-2		4211	-1793	8	
Lansing	4310	-1890	run		4305	-1884	-6		4309	-1891	1	
Stark Shale	4619	-2199			4615	-2194	-5		4614	-2196	-3	
Base KC	4697	-2277			4695	-2274	-3		4696	-2278	1	
Marmaton	4751	-2331			4747	-2326	-5		4753	-2335	4	
Cherokee	4879	-2459			4868	-2447	-12		4876	-2458	-1	
Mississippian	4988	-2568			4990	-2569	1		4981	-2563	-5	
Warsaw Por.	5027	-2607			5026	-2605	-2		5023	-2605	-2	
Total Depth	5047	-2627			5132	-2711	84		5174	-2756	129	

DST #1

 <p><b>TRILOBITE TESTING, INC.</b></p>	<b>DRILL STEM TEST REPORT</b>	
	American Warrior INC  Po Box 399 Gardencity KS 67846  ATTN: Cecil Obrate/ Ted Pf	24-27s-22w  <b>Herman #2-24</b>  Job Ticket: 47557  Test Start: 2012.06.18 @ 23:28:00

GENERAL INFORMATION:

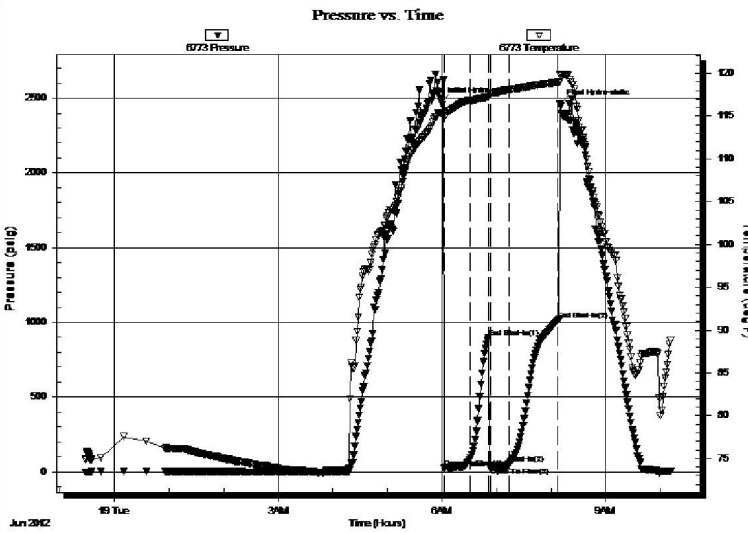
Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:02:45  
 Time Test Ended: 10:12:15  
 Interval: **5010.00 ft (KB) To 5040.00 ft (KB) (TVD)**  
 Total Depth: 5040.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Staats  
 Unit No: #47  
 Reference Elevations: 2420.00 ft (KB)  
 2409.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6773**

**Outside**

Press@RunDepth: 55.98 psig @ 5011.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.06.18 End Date: 2012.06.19 Last Calib.: 2012.06.19  
 Start Time: 23:28:05 End Time: 10:12:15 Time On Btm: 2012.06.19 @ 05:59:00  
 Time Off Btm: 2012.06.19 @ 08:10:00

TEST COMMENT: IF: Weak blow 2"  
 IS: No blow back  
 FF: Weak blow 2 1/2"  
 FSI: No blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2475.81	115.37	Initial Hydro-static
4	24.32	114.90	Open To Flow (1)
32	79.50	116.80	Shut-In(1)
52	894.04	117.23	End Shut-In(1)
54	31.26	117.66	Open To Flow (2)
76	55.98	118.10	Shut-In(2)
129	1015.89	118.96	End Shut-In(2)
131	2462.35	119.88	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
0.00	90' GIP	0.00
35.00	O,G,M 3%gas 5% oil 92%mud	0.49

**Gas Rates**

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

Trilobite Testing, Inc

Ref. No: 47557

Printed: 2012.06.19 @ 11:03:56

**ROCK TYPES**

Lmst fw<7	shale, grn	Carbon Sh
Lmst fw>7	shale, gry	shale, red

**ACCESSORIES**

**MINERAL**

- ▲ Chert, dark
- ∟ Dolomitic
- × Mineral Crystals
- ∴ Varicolored chert
- △ Chert White

**FOSSIL**

- Crinoids
- F Fossils < 20%
- Oolite
- ⊕ Oomoldic

**STRINGER**

- ▨ Dolomite










**TEXTURE**

- C Chalky





OTHER SYMBOLS

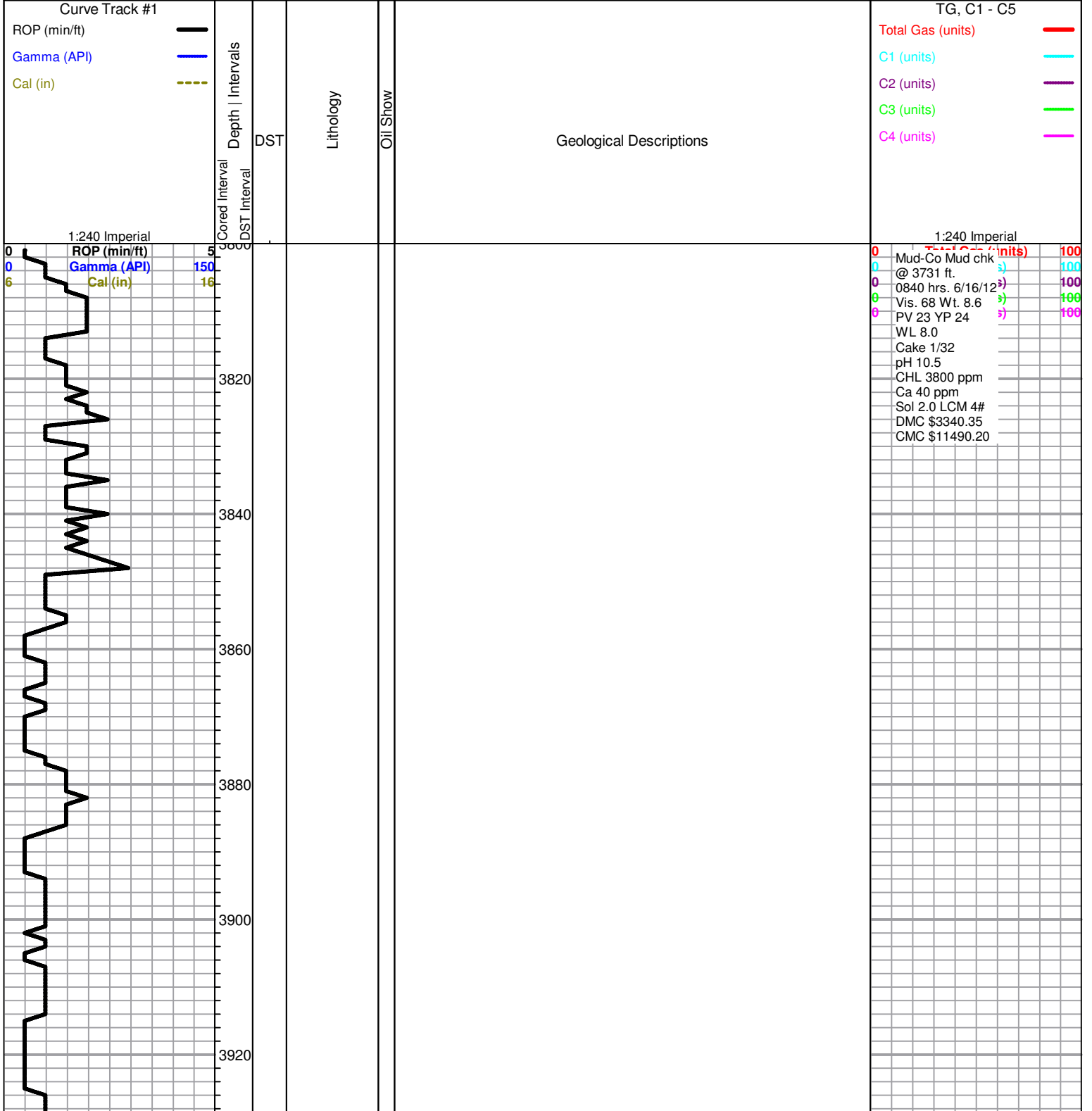
MISC

-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

DST

-  DST Int
-  DST alt
-  Core
-  tail pipe

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



geologist on  
location @ 3940 ft -  
1445 hrs 6/16/12

3940  
3960  
3980  
4000  
4020  
4040  
4060  
4080  
4100  
4120  
4140

ROP (min/ft) 5  
Gamma (API) 150  
Cal (in) 16

Begin 10 ft wet and dry samples, 4000 ft

limestone, cream to light gray, fossiliferous in part, microcrystalline, slightly chalky, poor visible porosity, no shows, no odor,

limestone, as above, more chalky, light gray chert

limestone, cream, as above, recrystallized in part

limestone, cream, cryptocrystalline to microcrystalline, chalky, fossiliferous, cherty, poor visible porosity, no shows, no odor, very dull yellow fluorescence

limestone, as above

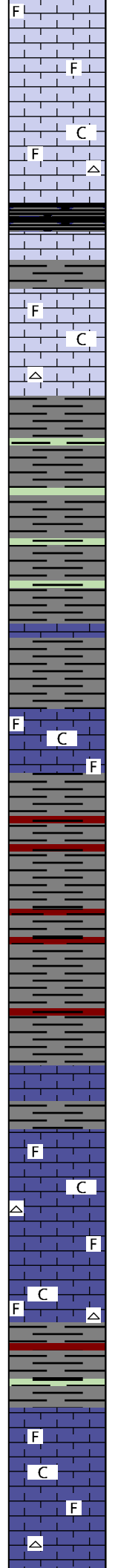
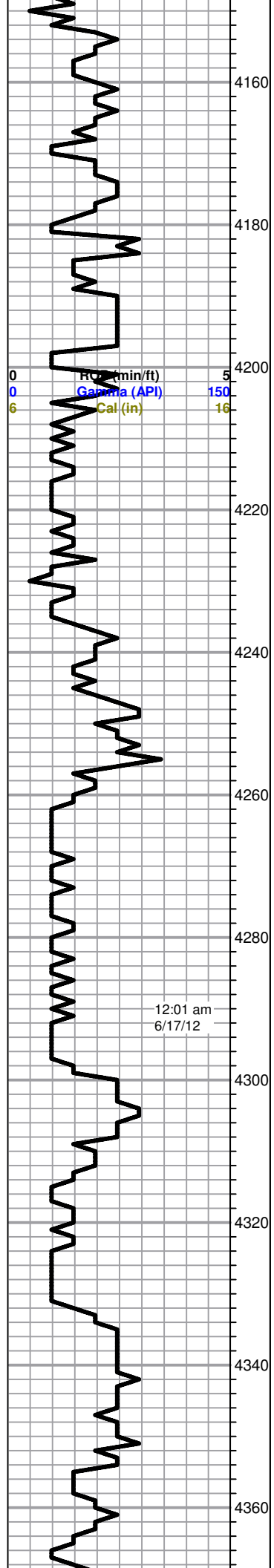
limestone, cream to light gray, microcrystalline, chalky, grainy, fossiliferous, cherty, poor visible porosity, very dull yellow fluorescence, no odor, no shows

limestone, as above, less chert

limestone, as above

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100





limestone, cream, microcrystalline to fine crystalline, fossiliferous, recrystallized in part, dense, poor visible porosity, cherty, slightly chalky, no odor, no shows

**Heebner 4177 -1757**

shale, black, carbonaceous

limestone, cream, micro to fine crystalline, fossiliferous, chalky, cherty, poor to fair visible porosity, no odor, no show

**Douglas 4205 -1785**

shale, gray, green, chalky,

shale, as above

limestone, light tan to light gray, very fossiliferous, dense, poor visible porosity, slightly chalky, no odor, no shows

shale, light gray to gray to red, fine to silty, firm

shale, as above

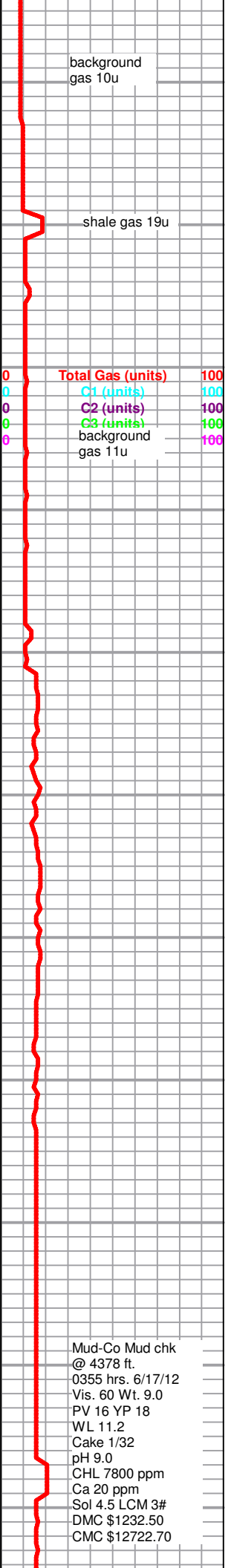
**Lansing 4310 -1890**

limestone, cream to light gray, microcrystalline, fossiliferous, dense, chalky, scattered chert, poor visible porosity, dull yellow-green fluorescence, no odor, no shows

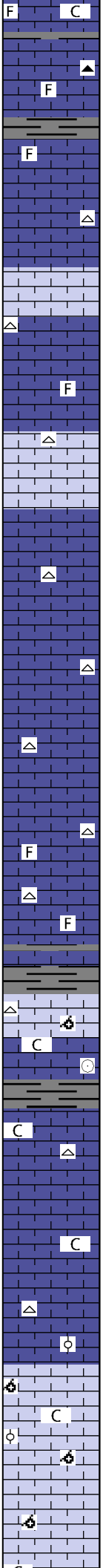
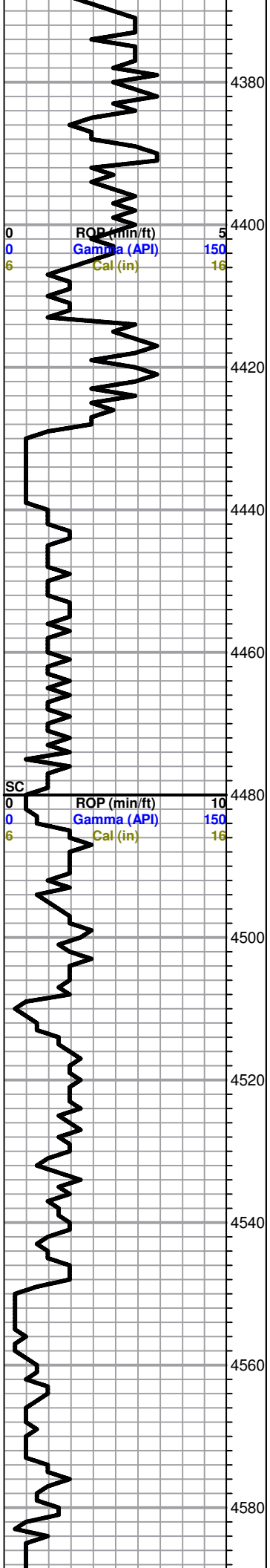
shale, gray, red, green

limestone, cream, crypto to microcrystalline, fossiliferous, dense, chalky, white chert, poor visible porosity, no odor

limestone, as above



Mud-Co Mud chk @ 4378 ft.  
 0355 hrs. 6/17/12  
 Vis. 60 Wt. 9.0  
 PV 16 YP 18  
 WL 11.2  
 Cake 1/32  
 pH 9.0  
 CHL 7800 ppm  
 Ca 20 ppm  
 Sol 4.5 LCM 3#  
 DMC \$1232.50  
 CMC \$12722.70



limestone, cream to light gray, dense, cryptocrystalline to microcrystalline, fossiliferous, scattered recrystallization, light chert and dark chert, less chalky

limestone, cream, fossiliferous, oolitic, poor to fair visible porosity, chert, off white to dark gray, no shows, no odor

limestone, tan to cream, cryptocrystalline, dense, fossiliferous, poor visible porosity, very dull green fluorescence, no odor, no shows

limestone, cream to tan, cryptocrystalline to fossiliferous, scattered oolitic, no visible porosity, cherty, no fluorescence, no odor, no show

limestone, as above, with scattered oomoldic porosity

limestone, as above, fossiliferous

limestone, cream to light gray, micro to fine crystalline, fossiliferous, oomoldic in part, slightly chalky, cherty, poor visible porosity, no odor, no shows

limestone, cream, cryptocrystalline, trace fossiliferous, slightly chalky, no odor, dull green-white fluorescence, no shows, cherty, poor visible porosity

limestone, as above, trace oolitic, poor to fair visible porosity, dim green fluorescence

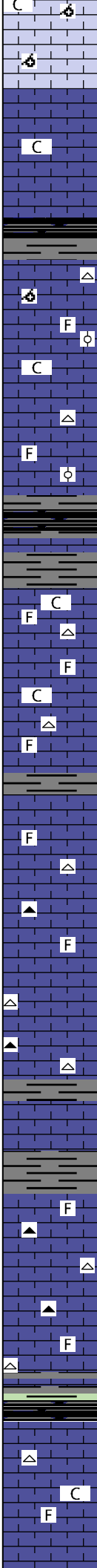
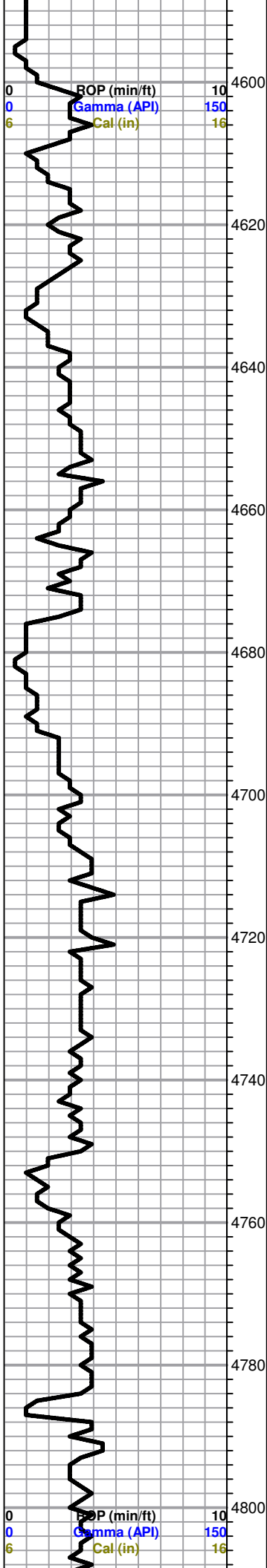
limestone, cream to light tan, oomoldic, slightly chalky, fair to good oomoldic porosity, dull green fluorescence, no odor, no shows

limestone, as above

background gas 15u

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

power to extractor cut



limestone, cream to light gray, crypto to microcrystalline, scattered recrystallization, slightly chalky, poor visible porosity, no fluorescence, no shows

**Stark Shale 4619 -2199**

shale, black, carbonaceous

limestone, cream, oolitic, scattered oomoldic, slightly chalky, cherty, scattered green fluorescence, poor visible porosity with scattered fair oomoldic porosity, no odor, no show

limestone, as above

shale, black, carbonaceous

limestone, cream to light gray, fossiliferous, cherty, chalky, no odor no shows

**Base KC 4697 -2277**

limestone, cream to light gray, cryptocrystalline, scattered fossiliferous, chert, white to dark gray, no show, no odor, very dull yellow-green fluorescence

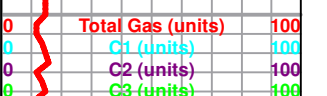
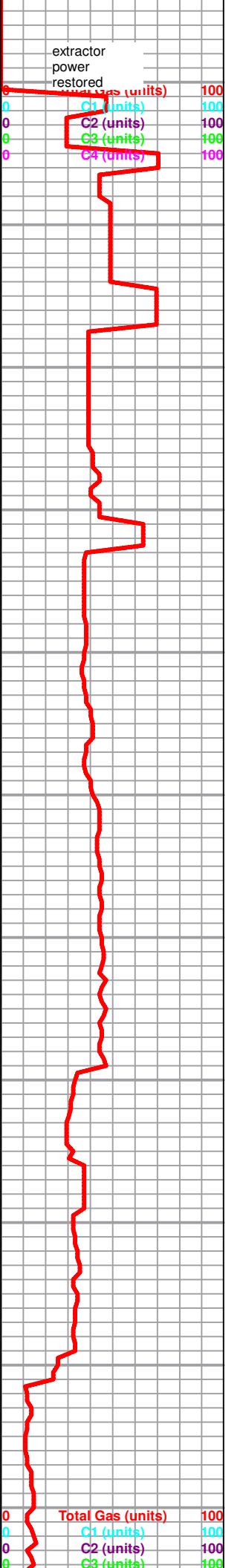
limestone, as above

**Marmaton 4751 -2331**

limestone, cream to light tan, cryptocrystalline, limestone, light brown, fossiliferous, chert, shades from white to black, no odor, no shows

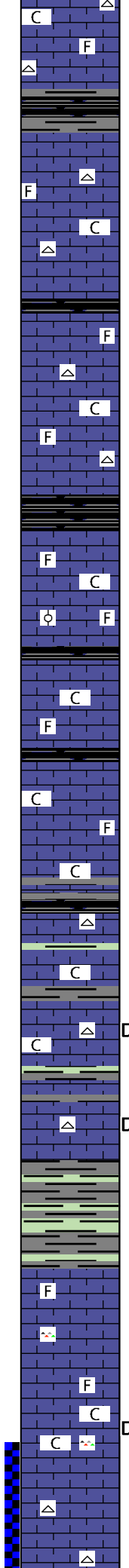
shale, black, carbonaceous

limestone, white to cream, cryptocrystalline, fossiliferous, oolitic in ipart, slightly chalky, shaley, cherty, poor visible porosity, no shows



12:01 am  
6/18/12

4820  
4840  
4860  
4880  
4900  
4920  
4940  
4960  
4980  
5000  
5020



limestone, as above

shale, black, carbonaceous

limestone, light gray to cream, cryptocrystalline, cherty, chalky, no visible porosity, no shows

shale, black, carbonaceous

limestone, cream to gray, crypto to microcrystalline, fossiliferous, slightly chalky, cherty, poor visible porosity

### Cherokee 4879 -2459

shale, black, carbonaceous

limestone, cream, crushed fossiliferous, slightly oolitic, chalky, no shows, faint odor

shale, black, carbonaceous

limestone, as above

limestone, as above, with abundant chert

limestone, as above, chalky, cherty, abundant shale

limestone, cream to tan, fossiliferous to cryptocrystalline, dense, cherty, abundant shale, few scattered dead oil staining, no odor, no fluorescence, no shows

limestone, as above

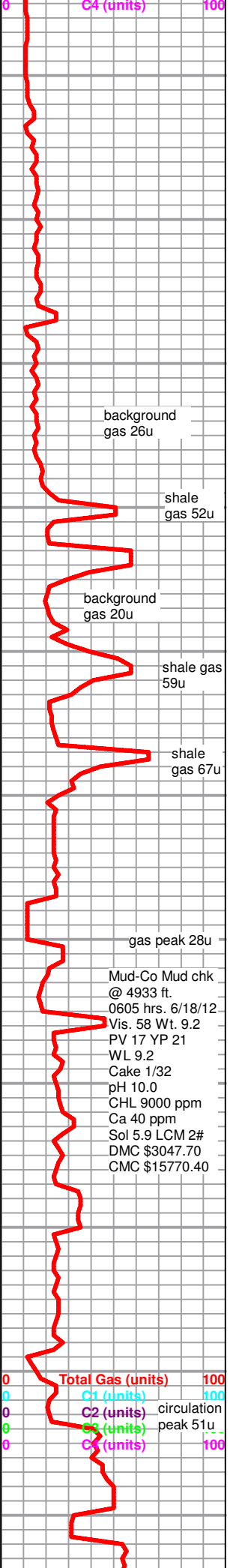
shale, dark gray to gray green, soft, platy to earthy

### Mississippian 4988 -2568

limestone, cream to gray, microcrystalline, fossiliferous, very chalky, chert, white to green to orange, poor visible porosity, trace spotty dead oil stain, scattered dull yellow fluorescence, no odor, no shows

Herman 2-24 DST#1.pdf

### Warsaw porosity 5027 -2607



background gas 26u

shale gas 52u

background gas 20u

shale gas 59u

shale gas 67u

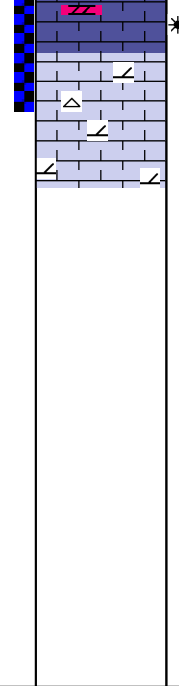
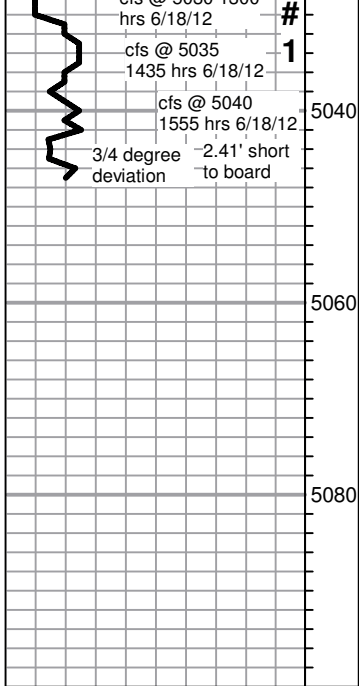
gas peak 28u

Mud-Co Mud chk @ 4933 ft.  
0605 hrs. 6/18/12  
Vis. 58 Wt. 9.2  
PV 17 YP 21  
WL 9.2  
Cake 1/32  
pH 10.0  
CHL 9000 ppm  
Ca 40 ppm  
Sol 5.9 LCM 2#  
DMC \$3047.70  
CMC \$15770.40

Total Gas (units) 100  
C1 (units) 100  
C2 (units) circulation  
C3 (units) peak 51u  
C4 (units) 100

ROP (min/ft) 10  
Gamma (API) 150  
Cal (in) 16  
cfs @ 5010 ft  
1100 hrs 6/18/12

D  
S  
T  
cfs @ 5030 1300



limestone, cream to light gray, microcrystalline, scattered fossiliferous, chalky, cherty as above, slightly dolomitic, poor visible porosity, slow outgassing under lamp, very faint odor, no show

dolomitic limestone, light cream, fine crystalline, sub sucrosic, fair intercrystalline porosity, limestone, light tan, cryptocrystalline, spotty dull yellow fluorescence, no odor

**rotary TD 5047 ft. 1550 hrs 6/19/12**

circulation peak 61u

switch to tookeDAQ gas detector

circulation peak 57u

Mud-Co Mud chk @ 5040 ft. 0615 hrs. 6/19/12  
 Vis. 41 Wt. 9.15  
 PV 12 YP 13  
 WL 15.6  
 Cake 1/32  
 pH 9.0  
 CHL 8200 ppm  
 Ca 40 ppm  
 Sol 5.3 LCM 3#  
 DMC \$660.20  
 CMC \$16430.60