



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1146597
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: _____



1146597

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
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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
<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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

June 10, 2013

Scott Hampel
McCoy Petroleum Corporation
8080 E CENTRAL STE 300
WICHITA, KS 67206-2366

Re: ACO1
API 15-081-22015-00-00
FITZGERALD 'A' 4-30
NE/4 Sec.30-30S-31W
Haskell County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Scott Hampel



DRILL STEM TEST REPORT

Prepared For: **McCoy Petroleum Corporation**

8080 E Central STE 300
Wichita KS 67206 - 2366

ATTN: Dave Williams

Fitzgerald A #4-30

30-30s-31w Haskell,KS

Start Date: 2013.05.10 @ 09:25:00

End Date: 2013.05.10 @ 18:55:45

Job Ticket #: 53064 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.17 @ 09:27:49



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

McCoy Petroleum Corporation

30-30s-31w Haskell, KS

8080 E Central STE 300
Wichita KS 67206 - 2366

Fitzgerald A #4-30

ATTN: Dave Williams

Job Ticket: 53064

DST#: 1

Test Start: 2013.05.10 @ 09:25:00

GENERAL INFORMATION:

Formation: **Atoka - Morrow SS**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:14:15

Time Test Ended: 18:55:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Jace McKinney

Unit No: 46

Interval: 5270.00 ft (KB) To 5350.00 ft (KB) (TVD)

Reference Elevations: 2858.00 ft (KB)

Total Depth: 5350.00 ft (KB) (TVD)

2845.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

Serial #: 8650 Outside

Press @ Run Depth: 104.75 psig @ 5215.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.10 End Date: 2013.05.10

Last Calib.: 2013.05.10

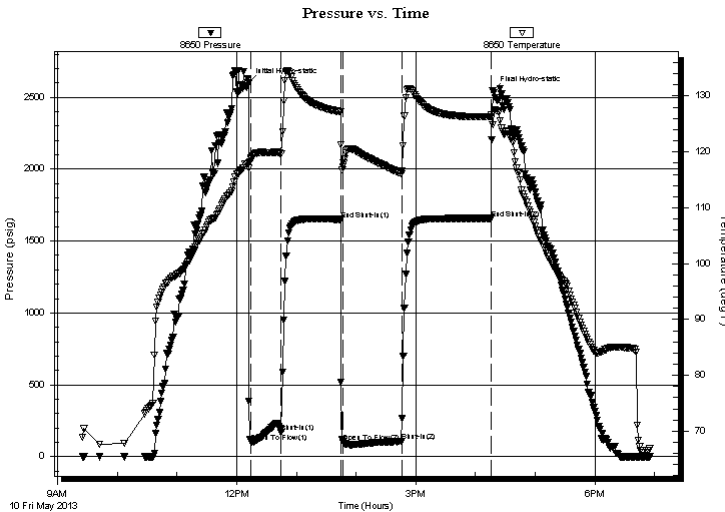
Start Time: 09:25:15 End Time: 18:55:45

Time On Btm: 2013.05.10 @ 12:12:00

Time Off Btm: 2013.05.10 @ 16:17:15

TEST COMMENT: B.O.B. in 30 seconds. GTS in 28 min
Bled off for 5 min. B.O.B. as soon as I closed the 2" valve
B.O.B as soon as I opened
Bled off for 5 min. B.O.B. as soon as I closed the 2" valve

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2600.04	117.98	Initial Hydro-static
3	102.56	118.68	Open To Flow (1)
33	169.13	119.73	Shut-In(1)
93	1651.40	127.20	End Shut-In(1)
95	102.68	117.39	Open To Flow (2)
154	104.75	116.04	Shut-In(2)
244	1658.44	126.28	End Shut-In(2)
246	2545.09	124.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
192.00	gcm 10%G 90%M	0.94
0.00	GTS	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	15.00	198.32
Last Gas Rate	0.50	20.00	232.05
Max. Gas Rate	0.50	20.00	232.05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

McCoy Petroleum Corporation

30-30s-31w Haskell, KS

8080 E Central STE 300
Wichita KS 67206 - 2366

Fitzgerald A #4-30

Job Ticket: 53064

DST#: 1

ATTN: Dave Williams

Test Start: 2013.05.10 @ 09:25:00

Tool Information

Drill Pipe:	Length: 4920.13 ft	Diameter: 3.80 inches	Volume: 69.02 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 297.86 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 108000.0 lb
			<u>Total Volume: 70.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.49 ft			String Weight: Initial 90000.00 lb
Depth to Top Packer:	5214.00 ft			Final 93000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	107.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			5187.50	
Shut In Tool	5.00			5192.50	
Hydraulic tool	5.00			5197.50	
Jars	5.00			5202.50	
Safety Joint	2.50			5205.00	
Packer	5.00			5210.00	27.50 Bottom Of Top Packer
Packer	4.00			5214.00	
Stubb	1.00			5215.00	
Recorder	0.00	8675	Inside	5215.00	
Recorder	0.00	8650	Outside	5215.00	
Perforations	11.00			5226.00	
Change Over Sub	1.00			5227.00	
Drill Pipe	63.00			5290.00	
Change Over Sub	1.00			5291.00	
Bullnose	3.00			5294.00	80.00 Bottom Packers & Anchor

Total Tool Length: 107.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

McCoy Petroleum Corporation

30-30s-31w Haskell, KS

8080 E Central STE 300
Wichita KS 67206 - 2366

Fitzgerald A #4-30

Job Ticket: 53064

DST#: 1

ATTN: Dave Williams

Test Start: 2013.05.10 @ 09:25:00

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:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
192.00	gcm 10%G 90%M	0.944
0.00	GTS	0.000

Total Length: 192.00 ft Total Volume: 0.944 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

McCoy Petroleum Corporation

30-30s-31w Haskell, KS

8080 E Central STE 300
Wichita KS 67206 - 2366

Fitzgerald A #4-30

Job Ticket: 53064

DST#: 1

ATTN: Dave Williams

Test Start: 2013.05.10 @ 09:25:00

Gas Rates Information

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

Gas Rates Table

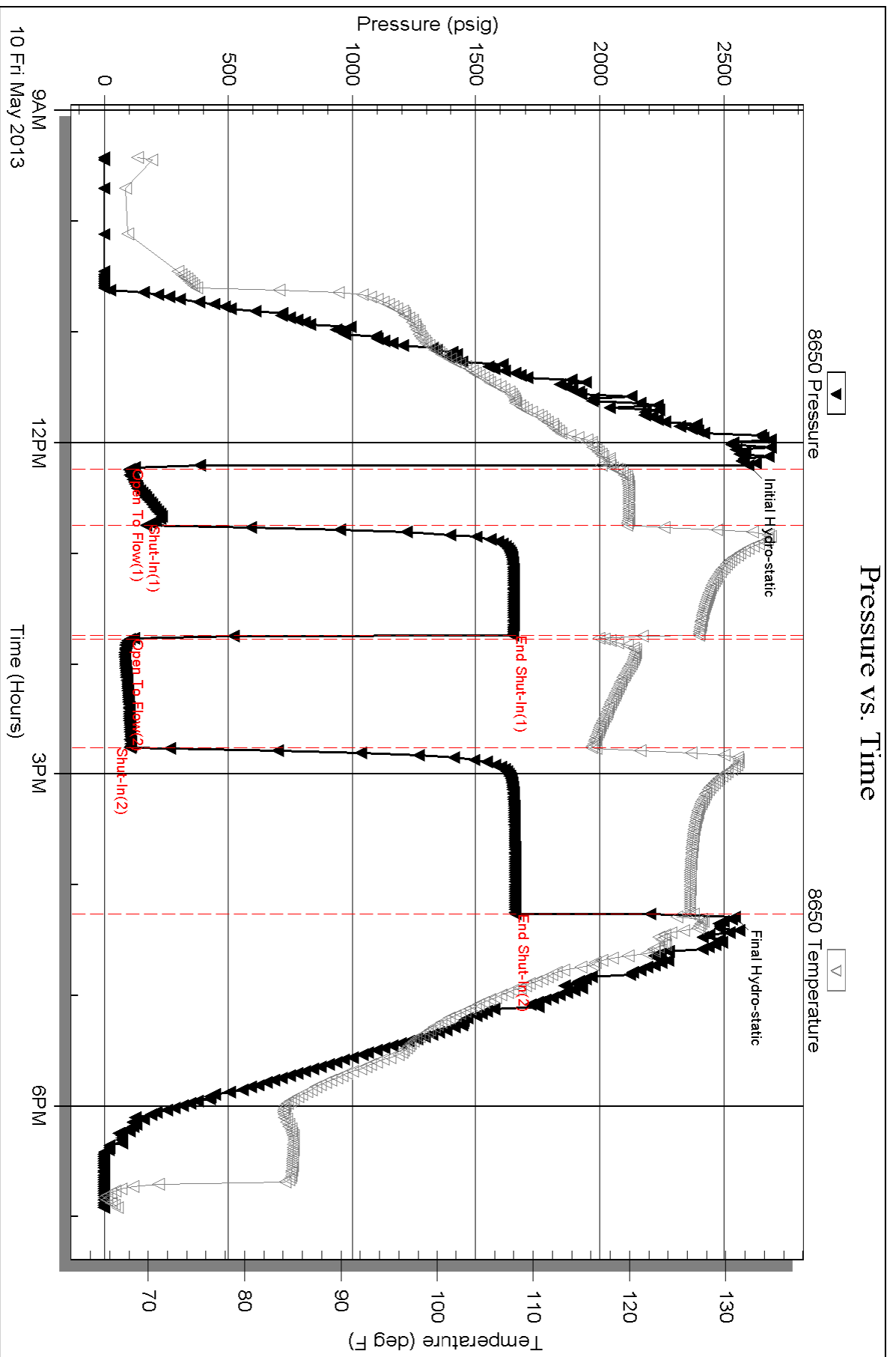
Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	0	0.50	15.00	198.32
2	5	0.50	15.00	198.32
2	10	0.50	15.00	198.32
2	15	0.50	15.00	198.32
2	20	0.50	18.00	218.56
2	25	0.50	18.00	218.56
2	30	0.50	20.00	232.05
2	35	0.50	20.00	232.05
2	40	0.50	20.00	232.05
2	45	0.50	20.00	232.05
2	50	0.50	20.00	232.05
2	55	0.50	20.00	232.05
2	60	0.50	20.00	232.05

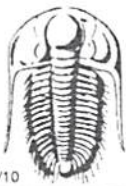
Serial #: 8650

Outside McCoy Petroleum Corporation

Fitzgerald A #4-30

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53064

Well Name & No. Fitzgerald "A" #4-30 Test No. 1 Date 5/10/13
 Company McCoy Petroleum Corporation Elevation 2858 KB 2845 GL
 Address 8080 E Central STE 300 Wichita KS 67206-2366
 Co. Rep / Geo. Dave Williams Rig Starling Rig 5
 Location: Sec. 30 Twp. 30S Rge. 31W Co. Haskell Co. State KS

Interval Tested 5270-5350 Zone Tested Aloka - Morrow SS.
 Anchor Length 80 Drill Pipe Run 4920.13 Mud Wt. 9.3
 Top Packer Depth 5266 Drill Collars Run 297.86 Vis 51
 Bottom Packer Depth 5270 Wt. Pipe Run _____ WL 10.8
 Total Depth 5350 Chlorides 2,500 ppm System LCM 2#

Blow Description B.O.B. in 30sec.
Bled for 5 min. B.O.B. as soon as I closed 2" Valve
B.O.B. as soon as I open

Bled for 5 min. B.O.B. as soon as I closed 2" Valve

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>3635 Feet GAS In Pipe</u>				
<u>192</u>	<u>6CM</u>	<u>10</u>			<u>90</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 192 BHT 125 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm
 (A) Initial Hydrostatic 2,600 Test 1350 T-On Location 6:40
 (B) First Initial Flow 103 Jars 250 T-Started 9:25
 (C) First Final Flow 169 Safety Joint 75 T-Open 12:12
 (D) Initial Shut-In 1,651 Circ Sub N/C T-Pulled 16:12
 (E) Second Initial Flow 103 Hourly Standby 1hr 1.25h 125 T-Out 18:56
 (F) Second Final Flow 105 Mileage 190 MT 294.50
 (G) Final Shut-In 1,658 Sampler _____
 (H) Final Hydrostatic 2,545 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Shale Packer _____ Ruined Packer _____
 Final Flow 60 Extra Packer _____ Extra Copies _____
 Final Shut-In 90 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2094.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 2094.50

Approved By D. P. Williams Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



**Scale 1:240 (5"=100') Imperial
Measured Depth Log**

Well Name: FITZGERALD "A" # 4-30
Location: NE - NE - NE of Sec. 30 - T. 30 S. - R. 31 W.
License Number: A.P.I. #15-081-22,015-00-00
Spud Date: 05/04/2013
Surface Coordinates: SPOT: 330' FNL & 330' FEL

Region: HASKELL CO., KS.
Drilling Completed: 5/12/2013

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2845' **K.B. Elevation (ft):** 2858'
Logged Interval (ft): 1831' **To:** 5703' **Total Depth (ft):** 5703'
Formation: MISSISSIPPIAN " ST. LOUIS'
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL

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

OPERATOR

Company: McCOY PETROLEUM CORPORATION KCC LIC. NO. # 5003
Address: 8080 E. CENTRAL, STE. 300
WICHITA, KANSAS 67206-2366

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW ENERGY, LLC
Address: 312 N. BROADVIEW STREET
WICHITA, KANSAS 67208

CASINGS & DEVIATION

Spud at 9:45 pm on 05/04/13. Drilled 12-1/4" to 1836'. Ran 43 joints of new 24#, 8-5/8" casing. Tallied 1816.' Set at 1831' KB. Welded straps on bottom 3 joints, tacked collars on the remainder. Centralizers (6) on joints 4;6;8;10;12;41. Basket at 120'. Float insert in top of 1st joint. Cemented with 450 sks MDC; 3% CC, & 1/4# FS; Plus tailed with 175 sks Common with 2% Gel; 3% CC & 1/4# CF. Cement did circulate.. Plug down at 12:30 pm on 05/05/13. Quality Cementing ticket #5879. Cement fell 55'. Added pea gravel..

Deviation Survey's Taken: @ 1836' = 1 degree; @ 2627' = 1 degree; @ 3332' = 1 degree; @ 5242' = 1 degree; @ 5342' = 1 degree; @ 5700' = 1 1/2 degree.

DSTs

~~~ DST # 1 5270'-5350'. Times: 30"- 60"- 60"- 90";

Blow: IF=Strong/ BOB/30 Sec. & GTS @ 28" (No Gauge). Strong BOB Blow Back During ISIP. FF= Strong Blow BOB/ Instant. FSIP= BOB Blow Back.

Recovery: 3635' GIP: 192' TF: ( 10(% G; 90% M)).

Pressures: IH=2600#; FH=2545#; IF=103-169#; FF =103-105#; ISIP =1651#; FSIP =1658#; T.=125 degrees. F.

Gas Gauge Volume: FF: @ 0"= 198.3 Mcf; @ 5" =183.5 Mcf;

@ 10"=183.5 Mcf; @ 15"=183.5 Mcf; @ 20"=218.6 Mcf; @25"= 218.6 Mcf; @ 30"=232.1 Mcf; @ 35"=232.1 Mcf; @40"=232.1Mcf; @ 45"=232.1 Mcf; @ 50"=232.1 Mcf; @ 55"=232.1 Mcf;@ 60" =232.1 Mcf.


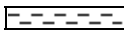



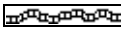




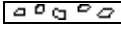






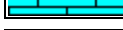
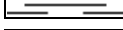
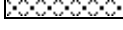
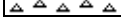


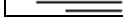
## Comments

After review of all geologic samples as examined, combined with the fluid and pressures results from all drill stem tests taken and analysis from the electric logs run, it was determined by all parties that production casing should be run in order to further evaluate this well.











































































Respectfully submitted,

David P. Williams, P.G

## ROCK TYPES

|                                                                                            |                                                                                            |                                                                                               |                                                                                                |                                                                                             |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|  Anhy    |  Clyst  |  Gry shale |  Mrlst     |  Shgy  |
|  Bent    |  Coal   |  Gyp       |  Red shale |  Sltst |
|  Brec    |  Congl  |  Igne      |  Salt      |  Ss    |
|  Carb sh |  Dol    |  Lmst      |  Shale     |  Till  |
|  Cht     |  Grn sh |  Meta      |  Shcol     |                                                                                             |

## ACCESSORIES

|                                                                                             |                                                                                             |                                                                                             |                                                                                                |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>MINERAL</b>                                                                              |  Hvymin  |  Belm    |  Pellet     |
|  Anhy     |  Kaol    |  Bioclst |  Pisolite   |
|  Arggrn   |  Marl    |  Brach   |  Plant      |
|  Arg      |  Minxl   |  Bryozoa |  Strom      |
|  Bent     |  Nodule  |  Cephal  |                                                                                                |
|  Bit      |  Phos    |  Coral   | <b>STRINGER</b>                                                                                |
|  Brecfrag |  Pyr     |  Crin    |  Anhy      |
|  Calc     |  Salt    |  Echin   |  Arg       |
|  Carb     |  Sandy   |  Fish    |  Bent      |
|  Chtdk    |  Silt    |  Foram   |  Coal      |
|  Chtlt    |  Sil     |  Fossil  |  Dol       |
|  Dol      |  Sulphur |  Fuss    |  Gyp       |
|  Feldspar |  Tuff    |  Gastro  |  Gryslt    |
|  Ferrpel  | <b>FOSSIL</b>                                                                               |  Oolite  |  Grysh     |
|  Ferr     |  Algae   |  Oomold  |  Lms       |
|  Glau     |  Amph    |  Ostra   |  Ls        |
|  Gyp      |                                                                                             |  Pelec   |  Mrst      |
|                                                                                             |                                                                                             |                                                                                             | <b>TEXTURE</b>                                                                                 |
|                                                                                             |                                                                                             |                                                                                             |  Boundst  |
|                                                                                             |                                                                                             |                                                                                             |  Chalky   |
|                                                                                             |                                                                                             |                                                                                             |  Cryxln   |
|                                                                                             |                                                                                             |                                                                                             |  Earthy   |
|                                                                                             |                                                                                             |                                                                                             |  Finexln  |
|                                                                                             |                                                                                             |                                                                                             |  Grainst  |
|                                                                                             |                                                                                             |                                                                                             |  Lithogr  |
|                                                                                             |                                                                                             |                                                                                             |  Microxln |
|                                                                                             |                                                                                             |                                                                                             |  Mudst    |
|                                                                                             |                                                                                             |                                                                                             |  Packst   |
|                                                                                             |                                                                                             |                                                                                             |  Wackest  |



**OTHER SYMBOLS**

- POROSITY**
- [E] Earthy
  - [B] Fenest
  - [F] Fracture
  - [X] Inter
  - [Z] Moldic
  - [O] Organic
  - [P] Pinpoint

[V] Vuggy

- SORTING**
- [W] Well
  - [M] Moderate
  - [P] Poor

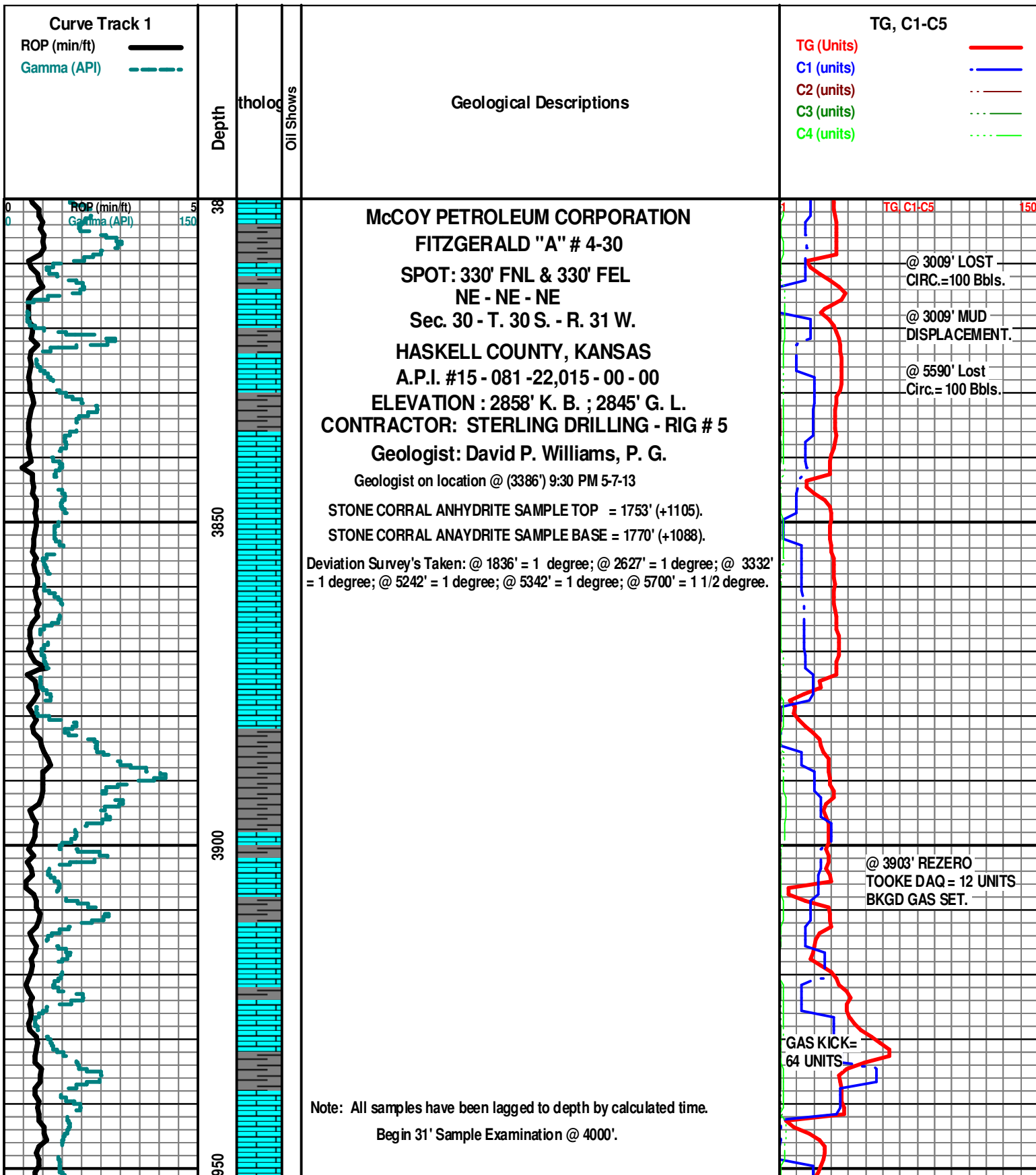
- ROUNDING**
- [R] Rounded
  - [r] Subrnd
  - [a] Subang
  - [A] Angular

- [●] Even
- [◉] Spotted
- [○] Ques
- [◻] Dead

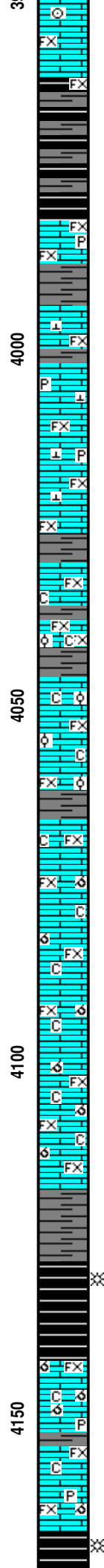
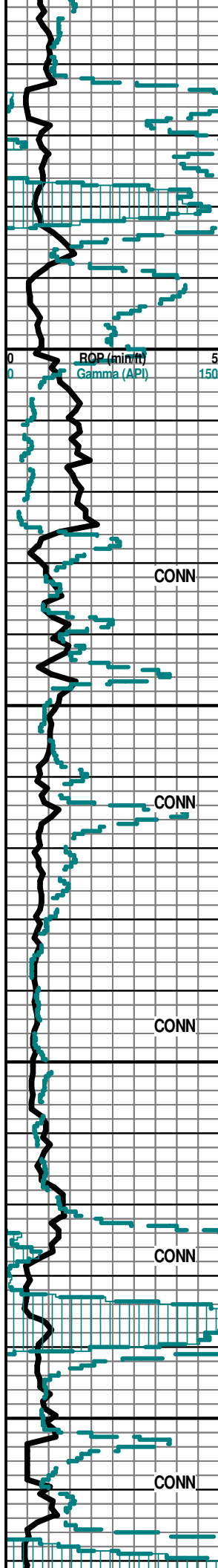
- EVENT**
- [▽] Rft
  - [▲] Sidewall

- OIL SHOW**
- [\*] Gas show

- INTERVAL**
- [■] Dst
  - [■] Dst\_alt



Note: All samples have been lagged to depth by calculated time.  
 Begin 31' Sample Examination @ 4000'.



Ls Wht-Crm FxIn Dns Micrite (w/Tr Pyr Incls) Grad Poor IxIn Por Barren Fos (Crin) Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor No Stn No Odor NS

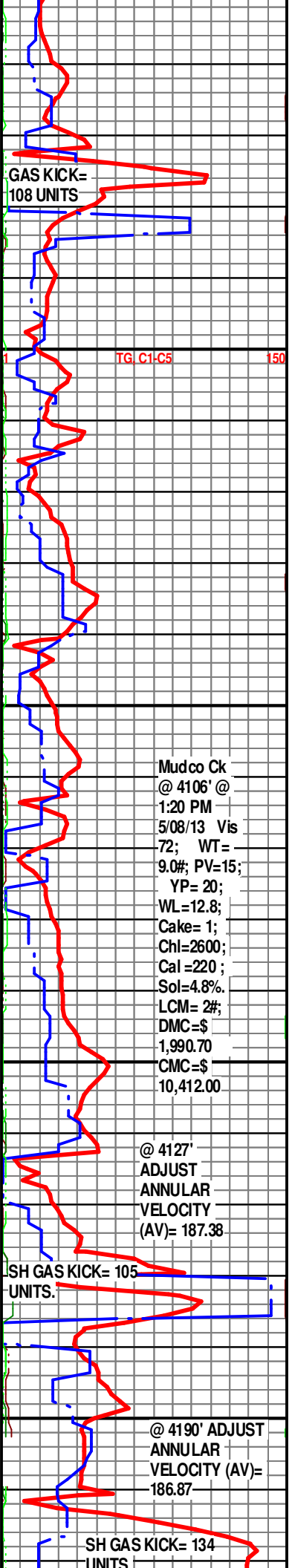
Ls Crm-Lt Gry-Drk Gry FxIn Dns Micrite (w/Tr Pyr Incls) Grad Poor IxIn Por Barren Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor No Stn No Odor NS

Ls Crm-Gry-Brn FxIn Dns Micrite Grad Poor OOL Por (w/Small OOL in pl) Barren Poor Dissolu Poor Leaching Tr Calcite XL (w/Tr 1 Pc w/Brn Stn w/No Cut or Flor) Sh Char-Gry-Blk Carb Fissil Abd ? Sluff No Flor Tr ? (1 Pc) Stn No Odor NS

Ls Crm-Gry FxIn Dns Micrite Grad Poor OOL Por (w/Small OOL in pl) Barren Poor Dissolu Poor Leaching Chalk Wht Soft Abd Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Ls Crm-Gry FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Sh Char-Gry-Blk Carb Fissil Abd Ls Crm-Gry FxIn Dns Micrite Grad Poor OOM Por Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft No Flor No Stn No Odor NS



HEEBNER 4166' (- 1308)

LEVENWORTH 4176' (- 1318)

Sh -Blk Carb-Char-Grn-Gry Fissil Abd Ls Wht-Crm-Gry-Brn FxIn Dns Micrite (w/Pyr Includ) Chalk Wht Soft No Flor No Stn No Odor NS

Ls Wht-Crm-Gry-Brn FxIn Dns Micrite (w/Pyr Includ) Chalk Wht Sh Char-Grn-Gry-Blk Carb Fissil Abd No Flor No Stn No Odor NS

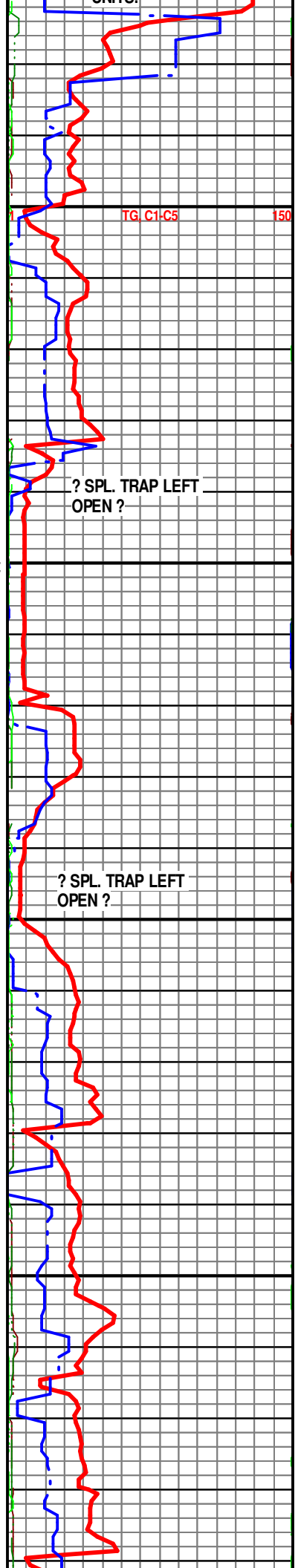
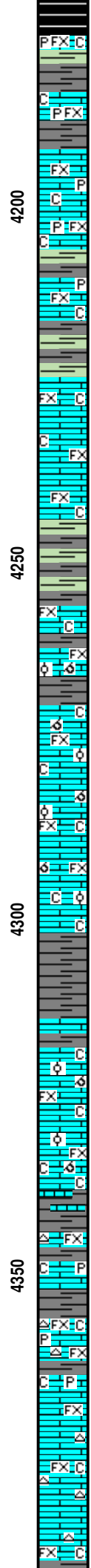
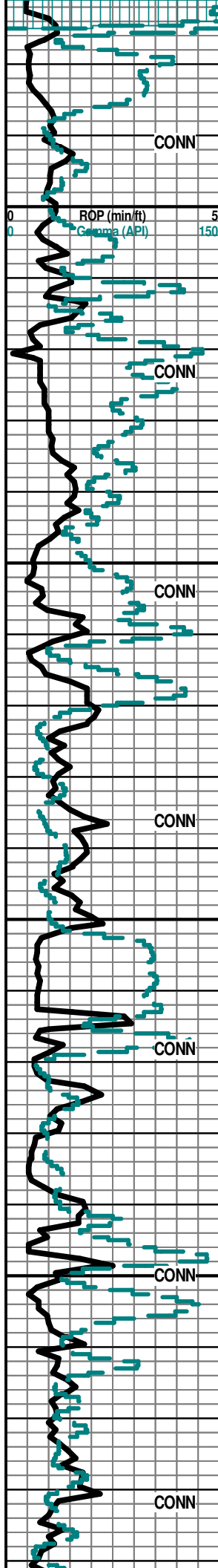
LANSING 4224' (- 1366)

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Fair IxIn Pin-Pt Por Barren Chalk Wht Sh Char-Grn-Gry-Blk Carb Fissil Abd No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Dns Micrite Grad Poor OOM Por (w/Small OOL In pl) Poor InterOOM Por Barren Poor Dissolu Poor Leaching Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil No Flor No Stn No Odor NS

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Poor-Fair IxIn Pin-Pt Por Grad Poor OOM Por (w/OOL in pl) Poor Dissolu Poor Leaching Barren Chalk Wht Sh Char-Gry-Maroon-Red Fissil ? Min Flor (5 Pcs) No Stn No Odor NS

Ls Wht-Crm-Gry FxIn Dns Mostly Micrite Grad Poor-Fair IxIn Pin-Pt Por Barren Cht Wht Op Vit Shp Chalk Wht Sh Char- Grn- Gry-Maroon -Red Fissil ? Min Flor No Stn No Odor NS



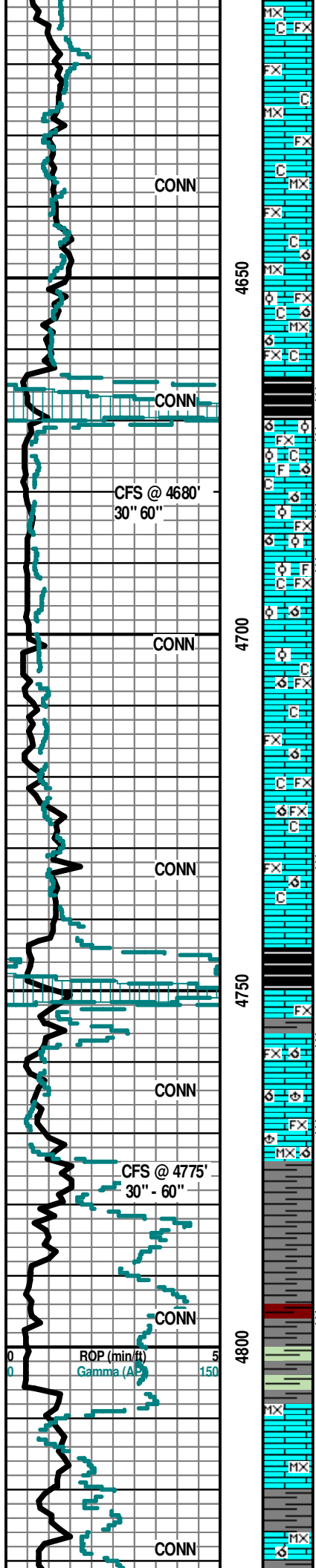
TG C1-C5 150

? SPL. TRAP LEFT OPEN ?

? SPL. TRAP LEFT OPEN ?







Ls Wht-Crm Fxln-Microxln Micrite Chalky Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm Fxln-Microxln Micrite Cht Drk-Gry Op Shp Vit Chalk Abd Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm Fxln-Microxln Micrite Cht Drk-Gry Op Shp Vit Chalk Abd Sh Char-Gry Fissil No Odor No Stn ? Min Flor NS

30" CFS @ 4680' Ls Wht-Crm-Tan Fxln-Microxln Micrite Grad Poor OOM Por (Tr Lg OOL in pl) Barren Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS

**STARK SHALE 4664' (- 1806)**

**KANSAS CITY "SWOPE (K)" 4670' (- 1812)**

60" CFS @ 4680' Ls Wht-Crm Fxln Med-Good OOM Por (w/Med Sized OOL in pl) Med-Good Dissolu Med-Good Vug Leaching GSG & FSFO (In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn-Wht) Cht Wht-Gry (w/Fos (Spiculitic Inklus) Op Shp Vit Chalk Sh Char-Gry-Blk Carb Fissil Med-Good Flor (30% of Tray) Med - Good Odor Med Sat Stn Lt Brn GSG & FSO

Ls Wht-Crm Fxln Med-Good OOM Por (w/Med Sized OOL in pl) Med-Good Dissolu Med-Good Vug Leached Por (w/Pyr Inklus) GSG & FSFO (In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn -Wht) Cht Wht-Gry (w/Fos (Spiculitic Inklus) Op Shp Vit Chalk Sh Char-Gry-Blk Carb Fissil Med-Good Flor (40% of Tray) Med - Good Odor Med Sat Stn Lt Brn GSG & FSO

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med -Good Vug Leached Por Chalk No Odor Med ? Flor No Stn

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med -Good Vug Leached Por Chalk No Odor Med ? Flor No Stn

Ls Crm-Tan Fxln Med-Good OOM Por Med-Good Dissolu Med-Good Vug Leached Por Chalk No Odor Med ? Flor No Stn NS

Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por (w/FSG & FSO (Lt Brn In Wtr Under Heat & Both Gas & Oil Do Flor (Lt Grn)) Sli Odor Med-Flor Lt Brn Stn FSG & FSO

**HUSHPUCKNEY SHALE 4744' (- 1886)**

Sh Blk Carb-Char Fissil Ls AA Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por SSG & SSO

**KANSAS CITY "HERTHA (L)" 4752' (- 1894)**

30" @ 4775' Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Med-Good Vug Leached Por (w/SG & SO Lt Brn In Wtr Under Heat Both Gas & Oil Do Flor (Lt Grn)) Sli Odor Med-Flor Lt Brn Stn FSG & FSO

60" @ 4775' Ls Wht-Crm Fxln Med-Good OOM Por Med-Good Dissolu Good Vug Leached Por (w/Sli ? Lt Brn Stn ? Sli Flor (Lt Grn)) Fos (Brach) No Odor NS

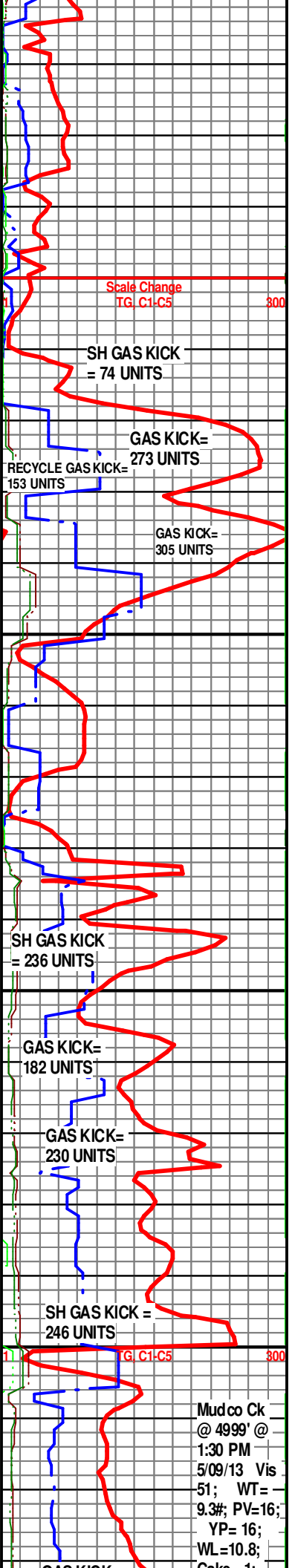
Sh Char-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Gry-Blk Carb-Red Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

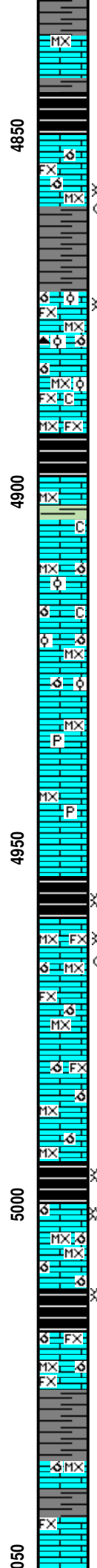
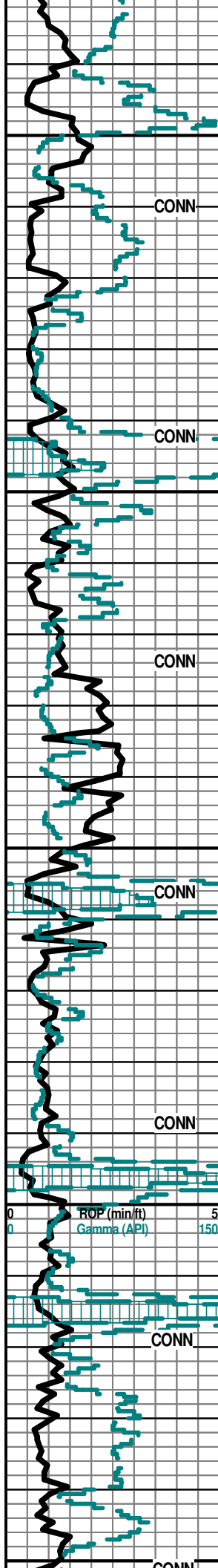
Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite AA No Odor no Flor No Stn NS

Sh Char-Grn-Gry-Blk Carb Fissil Ls Tan-Gry Fxln-Microxln Dns Micrite Grad Med-Good OOM Por (1 Pcs w/Good InterOOM Vug Por) Barren No Odor no Flor No Stn NS



Mud co Ck @ 4999' @ 1:30 PM 5/09/13 Vis 51; WT= 9.3#; PV=16; YP= 16; WL=10.8; Calc 1;



Ls Wht-Crm-Tan-Gry MicroxIn-FxIn Dns Micrite Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

**MARMATON 4850' (- 1992)**

Ls Wht-Crm-Tan-Gry MicroxIn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (2 Pcs w/Scatt Lt Brn Stn w/SG & SO) ? Sluff Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroxIn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (w/ Med Sized OOL in pl w/3 Pcs w/Scatt Lt Brn Stn w/SG & SO) ? Sluff Cht Wht Op Shp Vit Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

**MARMATON "B" 4872' (- 2014)**

Ls Wht-Crm-Tan MicroxIn-FxIn Dns Micrite Grad Fair-Med OOM Por Grad Good Vug InterOOL/OOM Leached Por (w/ Small/Med Sized OOL in pl & 10 Pcs w/Scatt V Lt Brn Stn w/FSG/NSO) ? Sluff Cht Drk Gry Op Shp Vit Sh Blk Carb-Char Fissil AA ? Faint Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan MicroxIn-FxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOM Leached Por (w/ Med Sized OOL in pl & 3 Pcs w/Scatt ? Brn Stn w/ ? NSG & ? NSO Dec) ? Sluff Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan MicroxIn-FxIn Dns Micrite Chalk Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroxIn Dns Micrite Chalk Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry MicroxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOL/OOM Leached Por (w/ 2 Pcs Small-Med Sized OOL in pl) BaRREN Chalky ? Sluff AA Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroxIn Dns Micrite Grad Med-Good OOM Por Good Vug InterOOL/OOM Leached Por (w/ 4 Pcs Small-Med Sized OOL in pl) Barren Chalky ? Sluff AA Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroxIn Dns Micrite (w/Pyr Includ) Barren Chalky Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm-Tan-Gry-Brn MicroxIn Dns Micrite (w/Pyr Includ) Barren Chalky Sh Blk Carb-Char Fissil No Flor No Stn ? Faint-No Odor NS

Ls Wht-Crm FxIn-MicroxIn Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor Dec NS

**PAWNEE 4960' (- 2102')**

Ls Wht-Crm FxIn-MicroxIn Grad Med-Good OOM Por (w/Small Ooids in pl) Med-Good Dissolu Med-Good Vug Leaching GSG & ? SO (In Wtr Under Heat Gas Does Flor (Lt Grn)) Sh Char-Gry-Blk Carb Fissil Sli ? Flor Med-Good Odor ? Stn Lt Brn GSG & ? SSO

Ls Wht-Crm FxIn-MicroxIn Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Sh Char-Gry-Blk Carb Fissil ? Faint-No Odor Dec NS

Ls Wht-Crm FxIn-MicroxIn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching w/SSG (In Wtr Under Heat Gas Does Flor (Lt Grn)) Sh Blk Carb-Char-Gry Fissil Faint-No Odor Dec NS

**LABETTE SHALE 4994' (- 2136)**

**FORT SCOTT 5000' (- 2142)**

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroxIn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching ? Faint-No Odor Dec NS

**CHEROKEE SHALE 5012' (- 2154)**

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroxIn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching w/SSG (In Wtr Under Heat Gas Does Flor (Lt Grn)) Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroxIn Micritic Grad Med-Good OOM Por Good Dissolu Good Vug Leaching Cht Amber Op Vit Shp Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroxIn Micritic Grad Med-Good OOL Por (w/OOids in pl) Poor Dissolu Poor Vug Leaching Faint-No Odor Dec NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm FxIn-MicroxIn Micritic Faint-No Odor Dec NS

**SECOND CHEROKEE SHALE 5051' (- 2192)**

GAS KICK = 198 UNITS  
 Cake= 1,  
 Chl=2500;  
 Cal = 40;  
 Sol= 7.0%  
 LCM= 2#;  
 DMC=\$  
 3,865.45  
 CMC=\$  
 14,277.45

GAS KICK = 371 UNITS

GAS KICK = 262 UNITS

? SPL TRAP LEFT OPEN ?

GAS KICK = 414 UNITS

GAS KICK = 298 UNITS

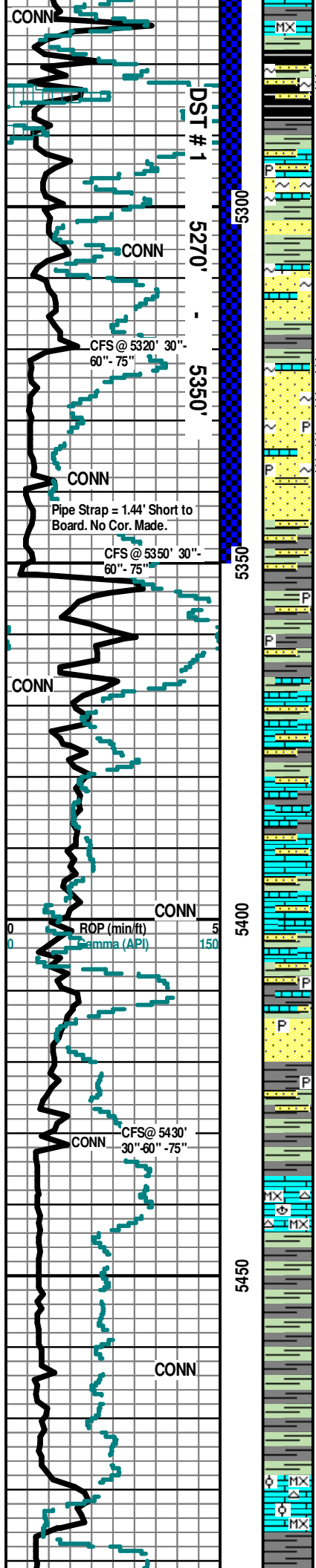
SH GAS KICK = 264 UNITS

SH GAS KICK = 333 UNITS

TG C1-C5 800







No Flor NS

### MORROW SHALE 5276' (- 2418)

Sh Char-Gry-Aqua-Blk Carb Fissil Ls Crm-Tan Fxn-Microxn Micritic Grad Poor Pin-Pt Ixn Por (w/SSG & SSO) Qtz Ss Wht Frosted (w/Glacu Includ Abd) Small-FGrn Poor Sort Friable No Odor No Flor NS

30" CFS @ 5320' Sh Char-Gry-Aqua-Blk Carb Fissil Ls Crm-Tan Fxn-Microxn Micritic Grad Poor Pin-Pt Ixn Por (w/SSG & SSO) Qtz Ss Wht Frosted (w/Glacu & Pyr Includ Abd) Small-FGrn Fair-Sort Friable (w/Gilsonitic Includ & SSG & SFO Under Heat In Wtr Drk Brn SFO & Both Gas & Oil Do Not Flor) ? Faint Odor > Gilsonitic Stn SSG & SSO

60" CFS @ 5320' Qtz Ss Wht Frosted-w/Aqua (CaCO3) Matrix (w/Glacu & Pyr Includ Abd) Small-FGrn Clusters Fair-Sort Friable (w/Gilsonitic Includ & SSG & SFO Under Heat In Wtr w/Drk Brn SFO & Both Gas & Oil Do Not Flor) Ls Crm-Tan Fxn-Microxn Micritic Grad Poor Pin-Pt Ixn Por (w/SSG & SSO) Fos (Bry) ? Faint-No Odor (w/Gilsonitic Stn) SSG & SSO

75" CFS @ 5320' Qtz Ss AA Ls AA Sh AA No Odor Stn AA No Flor SSG & SSO AA

### MORROW SAND 5320' (- 2464)

30" CFS @ 5350' Qtz Ss Drk Brn (w/CaCO3) Matrix (w/Glacu Includ) VFGm Clusters Fair-Sort Friable (w/Med-GSG Under Heat In Wtr w/Drk Brn Stn & Gas Does Not Flor) Fair Inc Odor No Flor Med-GSG

60" CFS @ 5350' Qtz Ss Drk Brn (w/CaCO3) Matrix (w/Glacu & Pyr Includ) VFGm Clusters Fair-Sort Fair Intergran Por Friable (w/Med-GSG Under Heat In Wtr w/Drk Brn Stn & Gas Does Not Flor) Med Inc Odor No Flor Med-GSG

75" CFS @ 5350' Sh Char-Gry-Grn Fissil Qtz Ss AA Brn VFG Well - Sort Fair-Med Intergran Por (w/Glacu & Pyr Includ) AA M-GSG No Flor Drk-Brn Stn Fair Odor M-GSG

Sh Char-Gry-Blk Carb-Aqua Fissil (with/Pyr Includ) Ls Wht-Crm Microxn Micrite Dns Barren Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren No Odor No Flor No Stn NS

### CHESTER 5366' (- 2508)

Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxn Micrite Dns Barren No Odor No Flor No Stn NS

Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht FGrn Well-Sort Poor-Fair Intergran Por Clusters (with/CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxn Micrite Dns Barren No Odor No Flor No Stn NS

30" CFS @ 5430' Sh Char-Gry-Blk Carb Fissil Qtz Ss Wht Ang - SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) (No Glacu) Barren Ls Wht-Crm Microxn Micrite Dns Barren No Odor No Flor No Stn NS

### CHESTER MARKER 5410' (- 2552)

60" CFS @ 5430' Sh Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell Fissil (w/Pyr Includ) Ls Wht-Crm Microxn Micrite Dns Barren Qtz Ss Wht Ang-SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) Barren Dec No Odor No Flor No Stn NS

### CHESTER SAND 5412' (- 2554)

75" CFS @ 5430' Sh Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell Fissil (w/Pyr Includ) Qtz Ss Wht Ang-SubAng FGrn Well-Sort Poor-Fair Intergran Por Clusters (with / CaCO3 Cmt Matrix) Barren Ls Wht-Crm Microxn Micrite Dns Barren No Odor No Flor No Stn NS

Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb- Aqua-Yell- Maroon- Red Fissil Cht Tan-Yell Op Shp Vit Ls Wht-Crm Microxn Micrite Dns Barren Qtz Ss AA Barren No Odor No Flor No Stn NS

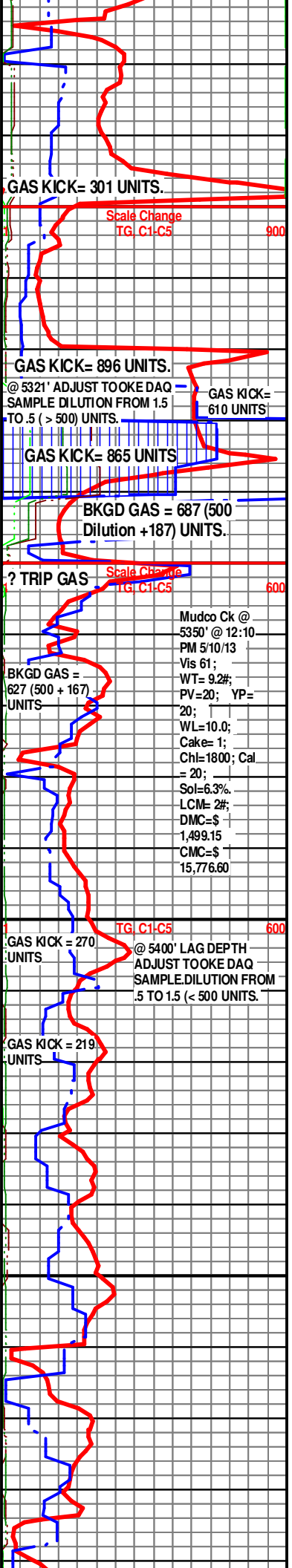
Ls Wht-Crm Microxn Micrite Dns Cht Tan-Yell Op Shp Vit Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb-Aqua-Yell-Maroon-Red Fissil AA Qtz Ss AA Barren Fos (Brach) No Odor No Flor No Stn NS

Ls Wht-Crm Microxn Micrite Dns Cht Tan-Yell Op Shp Vit Sh Varicolored Char-Lt Gry-Drk Gry- Blk Carb -Aqua- Yell- Purple -Maroon-Red Fissil AA Qtz Ss AA Barren No Odor No Flor No Stn NS

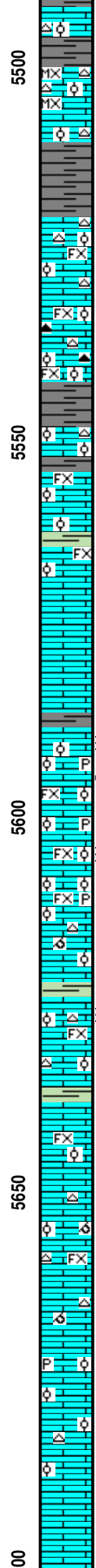
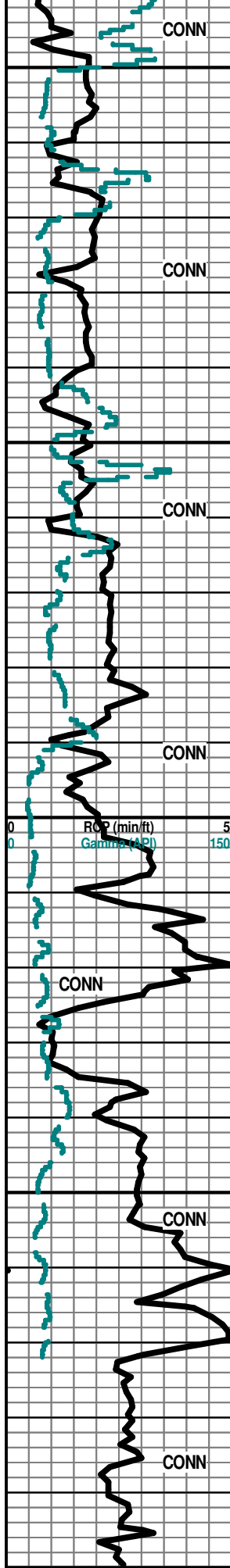
Ls Wht-Crm Microxn Micrite Dns Grad OOL Por (with/VFn (Small Ooids "Sandy Ls" in pl)) Poor Ixn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char-Aqua- Purple -Lt Gry- Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS

### MISSISSIPPIAN STE. GEN 5478' (- 2620)

Ls Wht-Crm Microxn Micrite Dns Grad OOL Por (with/VFn Ooids "Sandy Ls" in pl) Poor Ixn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua- Purple -Lt Gry- Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS



Mudco Ck @ 5350' @ 12:10 PM 5/10/13  
 Vis 61;  
 WT= 9.2#;  
 PV=20; YP=20;  
 WL=10.0;  
 Cake= 1;  
 Ch=1800; Cal=20;  
 Sol=6.3%  
 LCM= 2#;  
 DMC=\$ 1,499.15  
 CMC=\$ 15,776.60



Ls Wht-Crm Microxln Micrite Dns Grad OOL Por (with/VFn Ooids "Sandy Ls" in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Microxln Micrite Dns Grad OOL Por (with/VFn Ooids "Sandy Ls" in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Maroon-Red- Blk Carb Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Grn Microxln Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Yell-Olive- Maroon-Red- Blk Carb Fissil Dec No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Lt Grn Op Shp Vit Sh Varicolored Char --Aqua - Purple-Lt Gry-Yell-Olive- Maroon-Red- Blk Carb Fissil Dec No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht-Peach-Org Op Shp Vit Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Grn Fxn Micrite Dns Grad OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor lxn-InterOOL Por Cht Wht Trip (with/Gillisonitic Brn-Blk Stn) Translu Op Shp Vit Sh Vari- colored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Lt Grn Microxln OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor InterOOL Por Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Ls Wht-Lt Crm- Grn Fxn OOL Por (with/Fine Ooids "Sandy Ls" Inc in pl) Poor InterOOL Por Sh Varicolored AA Fissil No Odor No Flor No Stn NS

Lost Returns - No Sample

Lost Returns - No Sample

**MISS. ST. LOUIS "A" 5588' (- 2730)**

Ls Wht Fxn Med-Good OOL Por (with Small/Med OOids in pl) Med-Good InterOOL Por With F-M SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Fair OOid Leaching Fair-Med Develop Pyr Mass Sh Vari- colored Aqua-Char-Gry-Maroon-Yell AA No Flor Fair Inc Odor FSG & ? SO

Ls Wht Fxn Fair-Med-Good OOL Por (with Small/Med OOids in pl) Med-Good InterOOL Por With F-M SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Poor-Fair OOid Leaching Fair-Med Develop Friable ? Frac Por Cht Tan Op Shp Vit Pyr Mass Chalk Sh Varicolored Aqua -Char - Gry -Maroon-Yell AA No Flor Good Inc Odor FSG & ? SO

Ls Wht Fxn Micritic Dns Grad Poor-Fair OOL Por (with Small/Med OOids in pl) Poor InterOOL Por With Poor SG & ? SO (Drk Blk Gillsonitic Stn on OOL Edges) (Gas & Oil Do Not Flor) Poor OOid Leaching Poor-Fair Develop Friable Grad Ls Brn OOM Por Poor Inter OOM Por Barren Cht Wht Op Shp VitPyr Mass Chalk Sh Varicolored Aqua-Char-Gry-Maroon-Yell AA No Flor Poor Odor ? SSG & ? SSO

**MISS. ST. LOUIS "B" 5622' (- 2764)**

Ls Wht Fxn Med-Good OOL Por (with/Med OOids in pl) Good InterOOL Por With M-GSG & M-GSFO (Lt Brn) (Tr Drk Blk Gillsonitic Stn on OOid Edges) (Gas & Oil Do Not Flor) M-Good OOid Vug Leaching Good Develop V Friable Cht Wht- Lt Grn Op Shp Vit Pyr Mass Abd Chalk Sh Varicolored Aqua-Char-Gry-Maroon No Flor Good Inc Odor GSG & GSFO

Ls Wht Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Poor Leaching Poor Develop Dec Sh Varicolored Aqua-Char-Gry-Maroon AA No Flor V Faint Odor No Stn NS

Ls Wht-Crm Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Poor Leaching Poor Develop Dec Grad Tr Poor OOM Por Poor Inter OOM Por Poor Leaching Poor Vug Develop Cht Wht Translu-Op Shp Vit Sh Varicolored Aqua-Char-Gry-Maroon AA No Flor V Faint Odor No Stn NS

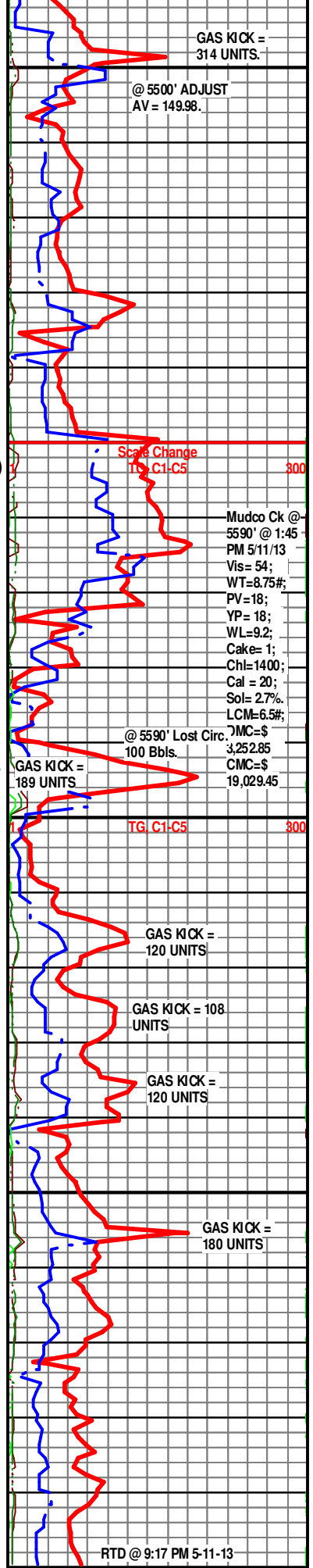
Ls Wht-Crm-Gry Fxn Micrite Grad VFn OOL (with V Small OOids in pl) Poor InterOOL Por Grad Tr Poor OOM Por Poor InterOOM Por Poor Leaching Poor Develop Cht Wht Translu-Op Shp Vit Sh Varicolored Aqua-Char-Gry-Maroon No Flor V Faint Odor No Stn NS

Ls Wht-Crm-Gry Fxn Micrite Grad VFn OOL (with V Small OOids & Pyr Includ in pl) Poor InterOOL Por Sh Varicolored Aqua-Char-Gry-Yell-Maroon No Flor No Odor No Stn NS

30" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Cht Wht Op Shp Vit Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS

60" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS

75" CFS @ 5700' Ls Wht-Crm Fxn Micrite Grad VFn OOL POR (with V Small OOids in pl) Poor InterOOL Por Sh Varicolored Aqua- Char- Gry No Flor No Odor No Stn NS



R.T.D. = 5700' (- 2842)  
L.T.D. = 5703' (- 2845)

Geologist Left Location @ 8:00 AM on 5-12-13

5750

00

ACO-1 Supplemental Information

SAMPLE TOPS

McCoy Petroleum Corporation  
 Fitzgerald 'A' #4-30  
 NE NE NE N2 NW NW SE SE NE  
 330'FNL & 330'FEL  
 Sec 30-30s-31w  
 Haskell County, KS  
 KB: 2858'

|               | Depth | Datum |
|---------------|-------|-------|
| Heebner       | 4165  | -1307 |
| Lansing       | 4224  | -1366 |
| Lansing 'G'   | 4512  | -1654 |
| Stark         | 4664  | -1806 |
| Swope         | 4669  | -1811 |
| Hushpuckney   | 4740  | -1882 |
| Hertha        | 4756  | -1898 |
| Marmaton      | 4846  | -1988 |
| Marmaton 'B'  | 4869  | -2011 |
| Pawnee        | 4960  | -2102 |
| Cherokee      | 5009  | -2151 |
| Atoka         | 5240  | -2382 |
| Morrow Sh     | 5286  | -2428 |
| Chester       | 5366  | -2508 |
| Chster Marker | 5410  | -2552 |
| St. Genevieve | 5478  | -2620 |
| St. Louis 'A' | 5588  | -2730 |
| St. Louis 'B' | 5622  | -2764 |
| RTD           | 5700  | -2842 |

LOG TOPS

McCoy Petroleum Corporation  
 Fitzgerald 'A' #4-30  
 NE NE NE N2 NW NW SE SE NE  
 330'FNL & 330'FEL  
 Sec 30-30s-31w  
 Haskell County, KS  
 KB: 2858'

|                | Depth | Datum |
|----------------|-------|-------|
| Heebner        | 4166  | -1308 |
| Lansing        | 4226  | -1368 |
| Lansing 'G'    | 4512  | -1654 |
| Stark          | 4664  | -1806 |
| Swope          | 4670  | -1812 |
| Hushpuckney    | 4745  | -1887 |
| Hertha         | 4758  | -1900 |
| Marmaton       | 4850  | -1992 |
| Marmaton 'B'   | 4876  | -2018 |
| Pawnee         | 4960  | -2102 |
| Ft Scott       | 5000  | -2142 |
| Cherokee       | 5013  | -2155 |
| Atoka          | 5242  | -2384 |
| Morrow Sh      | 5288  | -2430 |
| Morrow Sd      | 5324  | -2466 |
| Chester        | 5368  | -2510 |
| Chster Marker  | 5412  | -2554 |
| Solid St. Gen. | 5500  | -2642 |
| St. Louis 'A'  | 5590  | -2732 |
| St. Louis 'B'  | 5628  | -2770 |
| LTD            | 5703  | -2845 |



# QUALITY WELL SERVICE, INC.

5879

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

OFFICE | 620-727-3410  
Office | Fax 620-672-3663

Rich's Cell 620-727-3409  
Brady's Cell 620-727-6964

|                                |            |       |                                                                                  |                                                                                                                                          |       |             |           |
|--------------------------------|------------|-------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|-----------|
| Date                           | Sec.       | Twp.  | Range                                                                            | County                                                                                                                                   | State | On Location | Finish    |
| S-5-13                         | 30         | 30    | 31                                                                               | WASKELL                                                                                                                                  | Ks    | 6:30 AM     | 1:00 P.M. |
| Lease                          | Well No.   |       | Location                                                                         |                                                                                                                                          |       |             |           |
| Fitzgerald                     | A-4-30     |       | Tice Rd JU 75 to 230 Rd                                                          |                                                                                                                                          |       |             |           |
| Contractor                     |            |       |                                                                                  | Owner                                                                                                                                    |       |             |           |
| STEERING Dlg AS                |            |       |                                                                                  | LW to RL # 1004 near S W: Ho                                                                                                             |       |             |           |
| Type Job                       | T.D.       |       |                                                                                  | To Quality Well Service, Inc.                                                                                                            |       |             |           |
| SURFACE                        | 1336       |       |                                                                                  | You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |       |             |           |
| Hole Size                      | Depth      |       | Charge To                                                                        |                                                                                                                                          |       |             |           |
| 12 1/4                         | 1830.72    |       | McCoy Pet. Corp                                                                  |                                                                                                                                          |       |             |           |
| Csg.                           | Depth      |       | Street                                                                           |                                                                                                                                          |       |             |           |
| 35/3                           |            |       |                                                                                  |                                                                                                                                          |       |             |           |
| Tbg. Size                      | Depth      |       | City                                                                             |                                                                                                                                          |       |             |           |
|                                |            |       | State                                                                            |                                                                                                                                          |       |             |           |
| Tool                           | Shoe Joint |       | The above was done to satisfaction and supervision of owner agent or contractor. |                                                                                                                                          |       |             |           |
|                                | 42.29      |       |                                                                                  |                                                                                                                                          |       |             |           |
| Cement Left in Csg.            | Displace   |       | Cement Amount Ordered                                                            |                                                                                                                                          |       |             |           |
|                                | 114        |       | 450 5/8 MDC 3 1/2 CL 1/4" CF                                                     |                                                                                                                                          |       |             |           |
| EQUIPMENT                      |            |       |                                                                                  | 175 5/8 Common 2% GEL 3 1/2 CL 1/4" CF                                                                                                   |       |             |           |
| Pumptrk                        | No.        |       |                                                                                  | Common                                                                                                                                   |       |             |           |
| 8                              |            | BRADY |                                                                                  | 175 5/8                                                                                                                                  |       |             |           |
| Bulktrk                        | No.        |       |                                                                                  | Poz. Mix                                                                                                                                 |       |             |           |
| 7                              |            | M.KE  |                                                                                  | 450 5/8                                                                                                                                  |       |             |           |
| Bulktrk                        | No.        |       |                                                                                  | Gel.                                                                                                                                     |       |             |           |
| 10                             |            | SHAY  |                                                                                  | 3                                                                                                                                        |       |             |           |
| Pickup                         | No.        |       |                                                                                  | Calcium                                                                                                                                  |       |             |           |
|                                |            | TODD  |                                                                                  | 22                                                                                                                                       |       |             |           |
| JOB SERVICES & REMARKS         |            |       |                                                                                  | Hulls                                                                                                                                    |       |             |           |
| Rat Hole                       |            |       |                                                                                  | Salt                                                                                                                                     |       |             |           |
| Mouse Hole                     |            |       |                                                                                  | Flowseal                                                                                                                                 |       |             |           |
|                                |            |       |                                                                                  | 156.25                                                                                                                                   |       |             |           |
| Centralizers                   |            |       |                                                                                  | Kol-Seal                                                                                                                                 |       |             |           |
| Kawai #1-3-5-7-9-40            |            |       |                                                                                  |                                                                                                                                          |       |             |           |
| Baskets                        |            |       |                                                                                  | Mud CLR 48                                                                                                                               |       |             |           |
| 40                             |            |       |                                                                                  |                                                                                                                                          |       |             |           |
| D/V or Port Collar             |            |       |                                                                                  | CFL-117 or CD110 CAF 38                                                                                                                  |       |             |           |
| Run 43 H's 8 5/8 24 H Csg.     |            |       |                                                                                  | Sand                                                                                                                                     |       |             |           |
| G. SHOE & AFU Insert 1 H 42.29 |            |       |                                                                                  | Handling                                                                                                                                 |       |             |           |
|                                |            |       |                                                                                  | 650                                                                                                                                      |       |             |           |
|                                |            |       |                                                                                  | Mileage                                                                                                                                  |       |             |           |
|                                |            |       |                                                                                  | 30                                                                                                                                       |       |             |           |
| Mix & Pump 450 5/8 MDC         |            |       |                                                                                  | 35/3 FLOAT EQUIPMENT                                                                                                                     |       |             |           |
| 12 1/4 GAC                     |            |       |                                                                                  | Guide Shoe                                                                                                                               |       |             |           |
|                                |            |       |                                                                                  | 1 EA                                                                                                                                     |       |             |           |
|                                |            |       |                                                                                  | Centralizer                                                                                                                              |       |             |           |
|                                |            |       |                                                                                  | 6 EA                                                                                                                                     |       |             |           |
| Mix & Pump 175 5/8 Common      |            |       |                                                                                  | Baskets                                                                                                                                  |       |             |           |
| 15 1/4 H                       |            |       |                                                                                  | 1 EA                                                                                                                                     |       |             |           |
|                                |            |       |                                                                                  | AFU Inserts                                                                                                                              |       |             |           |
|                                |            |       |                                                                                  | 1 EA                                                                                                                                     |       |             |           |
|                                |            |       |                                                                                  | Float Shoe                                                                                                                               |       |             |           |
|                                |            |       |                                                                                  |                                                                                                                                          |       |             |           |
| LWT down release SW Plug       |            |       |                                                                                  | Latch Down TOP Rbbr Plug                                                                                                                 |       |             |           |
|                                |            |       |                                                                                  | 1 EA                                                                                                                                     |       |             |           |
| START DISC #                   |            |       |                                                                                  | LMD                                                                                                                                      |       |             |           |
|                                |            |       |                                                                                  | 30                                                                                                                                       |       |             |           |
| Plug down 114 Bbl total        |            |       |                                                                                  | Pumptrk Charge                                                                                                                           |       |             |           |
| Good line thru JPS             |            |       |                                                                                  | SURFACE                                                                                                                                  |       |             |           |
| Circ CMC to P.F                |            |       |                                                                                  | Mileage                                                                                                                                  |       |             |           |
|                                |            |       |                                                                                  | 30                                                                                                                                       |       |             |           |
| Thanks Todd Brady's M. Ke      |            |       |                                                                                  | Tax                                                                                                                                      |       |             |           |
|                                |            |       |                                                                                  | Discount                                                                                                                                 |       |             |           |
| X Signature                    |            |       |                                                                                  | Total Charge                                                                                                                             |       |             |           |

# QUALITY WELL SERVICE, INC.

5883

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Heath's Cell 620-727-3410

Rich's Cell 620-727-3409

Office / Fax 620-672-3663

Brady's Cell 620-727-6964

|                                   |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
|-----------------------------------|---------------------------|------|------------|----------|------|----------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------|----|--------------|---------|--------|---------|
| Date                              | 5-12-13                   | Sec. | 30         | Twp.     | 30   | Range    | 31                                                                               | County                                                                                                                                                                    | Haskell                             | State | Ks | On Location  | 7:30 PM | Finish | 4:00 AM |
| Lease                             | F. Fitzgerald A           |      |            | Well No. | 4-30 |          |                                                                                  | Location                                                                                                                                                                  | Tice Ks Rd 00 St 0 Rd 230 W to R1 H |       |    |              |         |        |         |
| Contractor                        | Sterling Drigs "S"        |      |            |          |      |          |                                                                                  | Owner                                                                                                                                                                     | S'w into                            |       |    |              |         |        |         |
| Type Job                          | Longstems                 |      |            |          |      |          |                                                                                  | To Quality Well Service, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |                                     |       |    |              |         |        |         |
| Hole Size                         | 7 7/8                     |      | T.D.       | 5700     |      |          | Charge To                                                                        | McCoy Pet                                                                                                                                                                 |                                     |       |    |              |         |        |         |
| Csg.                              | 5 1/2                     |      | Depth      | 5701     |      |          | Street                                                                           |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Tbg. Size                         |                           |      | Depth      |          |      |          | City                                                                             | State                                                                                                                                                                     |                                     |       |    |              |         |        |         |
| Tool                              |                           |      | Depth      |          |      |          | The above was done to satisfaction and supervision of owner agent or contractor. |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Cement Left in Csg.               |                           |      | Shoe Joint | 42.13    |      |          | Cement Amount Ordered                                                            | 300 SK MPC                                                                                                                                                                |                                     |       |    |              |         |        |         |
| Meas Line                         |                           |      | Displace   | 134.7    |      |          | 206 CC 1/2" CF. 75# O-Air-1                                                      |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| <b>EQUIPMENT</b>                  |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Pumptrk                           | 8                         | No.  | BRADY      |          |      | Common   | 300                                                                              |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Bulktrk                           | 7                         | No.  | DEREK      |          |      | Poz. Mix |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Bulktrk                           |                           | No.  |            |          |      | Gel.     |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Pickup                            |                           | No.  | TODD       |          |      | Calcium  | 7                                                                                |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| <b>JOB SERVICES &amp; REMARKS</b> |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Rat Hole                          | 30 SK                     |      |            |          |      |          | Hulls                                                                            |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Mouse Hole                        | 20 SK                     |      |            |          |      |          | Salt                                                                             |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Centralizers                      | 1-3-5-7-10-17-21-25-26-29 |      |            |          |      |          | Flowseal                                                                         | 150"                                                                                                                                                                      |                                     |       |    |              |         |        |         |
| Baskets                           | 23-27                     |      |            |          |      |          | Kol-Seal                                                                         | O-Air-1 70.5"                                                                                                                                                             |                                     |       |    |              |         |        |         |
| D/V or Port Collar                |                           |      |            |          |      |          | Mud CLR 48                                                                       | 150 gal                                                                                                                                                                   |                                     |       |    |              |         |        |         |
| Ron                               | 135 #s 5 1/2 15.5" Csg    |      |            |          |      |          | CFL-117 or CD110 CAF 38                                                          |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Float Shoe                        | FLD Baffle 1st            |      |            |          |      |          | Sand                                                                             |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
|                                   | = 42.13 top bot 70 5703'  |      |            |          |      |          | Handling                                                                         | 307                                                                                                                                                                       |                                     |       |    |              |         |        |         |
|                                   | set 7 5701                |      |            |          |      |          | Mileage                                                                          | 30                                                                                                                                                                        |                                     |       |    |              |         |        |         |
| Mix Pump                          | 13 Bbls 1100 Flush        |      |            |          |      |          | 5 1/2                                                                            | <b>FLOAT EQUIPMENT</b>                                                                                                                                                    |                                     |       |    |              |         |        |         |
| Pump                              | 5 Bbls 1125               |      |            |          |      |          | Guide Shoe                                                                       |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Mix Pump                          | 13 Bbls 1100 Flush        |      |            |          |      |          | Centralizer                                                                      | 10 EA                                                                                                                                                                     |                                     |       |    |              |         |        |         |
| 2100 DSW Plog R-M Holes           |                           |      |            |          |      |          | Baskets                                                                          | 2 EA                                                                                                                                                                      |                                     |       |    |              |         |        |         |
| Mix Pump                          | 250 SK MPC                |      |            |          |      |          | AFU Inserts                                                                      |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| 13 #/gal                          |                           |      |            |          |      |          | Float Shoe                                                                       | 1 EA                                                                                                                                                                      |                                     |       |    |              |         |        |         |
| SLOT down wash up tick            |                           |      |            |          |      |          | Latch Down                                                                       | 1 EA                                                                                                                                                                      |                                     |       |    |              |         |        |         |
| SPEC also lost circ 27 bbl        |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| PT W/ LTR PSI 700 psi             |                           |      |            |          |      |          | Pumptrk Charge                                                                   | Longstems                                                                                                                                                                 |                                     |       |    |              |         |        |         |
| 130 ed lost circ                  |                           |      |            |          |      |          | Mileage                                                                          | 30                                                                                                                                                                        |                                     |       |    |              |         |        |         |
| 1307 Landa Plog 1200+             |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| Release Head                      |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    |              |         |        |         |
| X Signature                       | [Signature]               |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    | Tax          |         |        |         |
|                                   |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    | Discount     |         |        |         |
|                                   |                           |      |            |          |      |          |                                                                                  |                                                                                                                                                                           |                                     |       |    | Total Charge |         |        |         |