



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1168849  
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<br>Recompletion Date | Date Reached TD | Completion Date or<br>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

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: \_\_\_\_\_



1168849

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](mailto: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<br><i>(Attach Additional Sheets)</i><br><br>Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>List All E. Logs Run: _____ | <input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample<br><br>Name Top Datum |
|--|---|

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used  |                   |                           |                   |               |                |              |                            |
|---|-------------------|---------------------------|-------------------|---------------|----------------|--------------|----------------------------|
| Report all strings set-conductor, surface, intermediate, production, etc. |                   |                           |                   |               |                |              |                            |
| Purpose of String   | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |

| ADDITIONAL CEMENTING / SQUEEZE RECORD  |                  |                |              |                            |
|--|------------------|----------------|--------------|----------------------------|
| Purpose:   | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| <input type="checkbox"/> Perforate<br><input type="checkbox"/> Protect Casing<br><input type="checkbox"/> Plug Back TD<br><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<br>Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record<br><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 |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
|                                   |           |         |             |               |         |

|  |   |   |
|--|---|---|
| <b>DISPOSITION OF GAS:</b><br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | <b>METHOD OF COMPLETION:</b><br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____<br><i>(Submit ACO-4)</i> | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--|---|---|

|           |                        |
|-----------|------------------------|
| Form      | ACO1 - Well Completion |
| Operator  | Lasso Energy LLC       |
| Well Name | BOGNER A 1             |
| Doc ID    | 1168849                |

All Electric Logs Run

|   |
|---|
|   |
| Halliburton: MRIL Magnetic Resonance Imaging Analysis   |
| Halliburton: Micro Log                                  |
| Halliburton: AHV Annular Hole Volume Plot               |
| Halliburton: ACRT Log Array Compensated Resistivity Log |
| Halliburton: Porosity - DSNT, SDLT                      |
| Halliburton: IDT Insight Direction Log                  |
| LogTech of Kansas: Cement Bond Log                      |

|           |                        |
|-----------|------------------------|
| Form      | ACO1 - Well Completion |
| Operator  | Lasso Energy LLC       |
| Well Name | BOGNER A 1             |
| Doc ID    | 1168849                |

Tops

| Name                | Top  | Datum |
|---------------------|------|-------|
| Iatan               | 1851 | -628  |
| Stalnaker           | 1886 | -663  |
| Perry               | 2103 | -880  |
| Layton              | 2313 | -1090 |
| Kansas City         | 2502 | -1279 |
| Base Kansas City    | 2632 | -1409 |
| Oswego              | 2708 | -1485 |
| Pawnee              | 2767 | -1544 |
| Fort Scott          | 2804 | -1581 |
| Cherokee            | 2835 | -1612 |
| Cattleman Sand      | 2947 | -1724 |
| Bartlesville Sand   | 3025 | -1802 |
| Erosional Miss      | 3088 | -1865 |
| Mississippian Chert | 3096 | -1873 |
| Mississippian Lime  | 3137 | -1914 |
| Gilmore City        | 3442 | -2219 |
| Kinderhook          | 3460 | -2237 |
| Compton             | 3481 | -2258 |
| Woodford Shale      | 3496 | -2273 |
| Arbuckle            | 3548 | -2325 |



Scale 1:240 Imperial

Well Name: Bognar 'A' #1  
 Surface Location: 1825' FSL and 3145' FEL  
 Bottom Location:  
 API: 15-035-24538-0000  
 License Number: 34320  
 Spud Date: 11/9/2013 Time: 10:00 AM  
 Region: Sec. 22 - T33S - R05E, Cowley County  
 Drilling Completed: 11/14/2013 Time: 7:05 PM  
 Surface Coordinates:  
 Bottom Hole Coordinates:  
 Ground Elevation: 1215.00ft  
 K.B. Elevation: 1223.00ft  
 Logged Interval: 2000.00ft To: 3633.00ft  
 Total Depth: 3633.00ft  
 Formation: Mississippian  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Lasso Energy LLC  
 Address: P.O. Box 465  
 1125 S. Main St.  
 Chase, KS 67524  
 Contact Geologist: Bruce Kelso  
 Contact Phone Nbr: 918.633.9655  
 Well Name: Bognar 'A' #1  
 Location: 1825' FSL and 3145' FEL API: 15-035-24538-0000  
 Pool: Lorton  
 State: Kansas Country: USA

**LOGGED BY**



Company: Valhalla Exploration, LLC  
 Address: 8100 E. 22nd St. North  
 Building 1800-2  
 Wichita, KS 67226  
 Phone Nbr: 316.655.3550  
 Logged By: Geologist Name: Derek W. Patterson

**REMARKS**

After review of the geologic log and open hole electric logs for the Bognar 'A' #1, it was decided upon by operator to run 5 1/2" production casing for further evaluation of said well.

Note: the RTD was 3633' and the LTD 3626'. Drill time, lithology, and gas curves have been shifted 6' shallow/higher to correspond with the electric log curves. All circulation and connections points have also been moved to match the overall shift. The hole deviation at TD was 9°, however it was angled at a straight line with no doglegs.

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

Respectfully Submitted,

Derek W. Patterson

**GENERAL INFORMATION**

**Service Companies**

Drilling Contractor: Fossil Drilling - Rig #2  
 Tool Pusher: Glen Holmes  
 Daylight Driller: Kerry Clark

Drilling Fluid: Mud-Co/Service Mud Inc.  
 Engineer: Terry Ison

Evening Driller: Jesse Reynolds  
 Morning: Michael Moore  
 Relief: Edward Raney

Logging Company: Halliburton  
 Engineer: Andrew Hofkamp  
 Logs Ran: DI, CDNL, Micro, MRIL

Gas Detector: Bluestem Environmental  
 Engineer: Sidney Edelbrock  
 Unit: 0258  
 Operational By: 500'

Testing Company: No DSTs

| Deviation Survey |        |
|------------------|--------|
| Depth            | Survey |
| 316'             | 3/4°   |
| 936'             | 3/4°   |
| 1311'            | 1/4°   |
| 1844'            | 1/2°   |
| 2475'            | 1 1/2° |
| 3005'            | 5°     |
| 3068'            | 4°     |
| 3085'            | 5 1/4° |
| 3131'            | 4°     |
| 3246'            | 4 1/2° |
| 3560'            | 7°     |
| RTD - 3633'      | 7°     |

| Pipe Strap     |            |
|----------------|------------|
| Depth          | Pipe Strap |
| None Performed |            |

| Bit Record |         |          |       |               |          |           |       |       |
|------------|---------|----------|-------|---------------|----------|-----------|-------|-------|
| Bit #      | Size    | Make     | Type  | Serial Number | Depth In | Depth Out | Feet  | Hours |
| 1          | 12 1/4" | Ultrerra | RR    | --            | 40'      | 316'      | 276'  | 3.75  |
| 2          | 7 7/8"  | Ultrerra | U516M | 22683         | 316'     | 3633'     | 3317' | 63.5  |

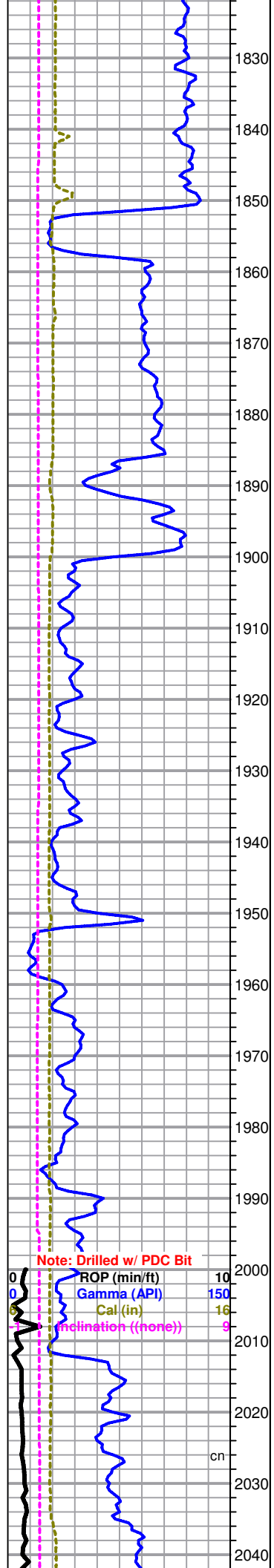
| Surface Casing |   |
|----------------|---|
| 11.9.2013      | Ran 7 joints of new 24#/ft 8 5/8" casing, tallying 305.01', set @ 316' KB. Cemented with 200 sacks Class A (3% CC, 2% gel, 1/2 lb poly flake). Cement did circulate. Plug down @ 2130 hrs 11.9.13. By Consolidated Oil Well Services. |

| Production Casing |  |
|-------------------|--|
| 11.16.2013        | Ran 86 joints of new 15.5#/ft 5 1/2" production casing, tallying 3621.94', set @ 3622' KB. Cemented with 245 sacks AA2, 69# cello flake for long string casing, 30 sacks AA2 for rathole. Plug down @ 1830 hrs 11.16.13. By Basic Energy Services. |

### DAILY DRILLING REPORT

| Date       | 0700 Hrs Depth             | Previous 24 Hours of Operations   |
|------------|----------------------------|---|
| 11.13.2013 | 3085'                      | Drilling and connections Perry and into Kansas City. Geologist Derek W. Patterson on location 0920 hrs 11.12.13. Resume drilling and connections Kansas City, Base Kansas City, Oswego, Pawnee, Fort Scott, and into Cherokee. Drilling and connections Cherokee. Stop at 3085' to evaluate penetration rates. Decision made to run bit trip @ 3085' due to poor penetration rates. CTCH, short trip 21 stands. CTCH when back on bottom, drop survey. TOH for bit trip 0330 hrs 11.13.13. Current bit was balled up. Clean bit, TIH with same bit. Made 635' over past 24 hrs of operations. WOB: 12-15k RPM: 85 PP: 950 SPM: 60 DMC: \$4,146.50 CMC: \$7,421.65 |
| 11.14.2013 | 3371'                      | TIH with bit. Resume drilling following bit trip 0730 hrs 11.13.13. Drilling and connections Cherokee and into Mississippian. Drilling and connections Mississippian. Decision made by rig to trip up collars to add 6 more collars in order to try and straighten out hole. CTCH, TOH 1345 hrs 11.13.13. TIH, CTCH. Resume drilling following trip 1900 hrs 11.13.13. Drilling and connections Mississippian. Made 286' over past 24 hrs of operations. WOB: 8k RPM: 100+ PP: 950 SPM: 60 DMC: \$2,241.30 CMC: \$9,662.95  |
| 11.15.2013 | RTD - 3633'<br>LTD - 3626' | Drilling and connections Mississippian, Gilmore City, Kinderhook, Woodford, and into Arbuckle. Drilling and connections Arbuckle ahead to RTD of 3633'. RTD reached 1905 hrs 11.14.13. Rig ordered to circulate hole while waiting on loggers. Geologist Derek W. Patterson off location 2030 hrs 11.14.13. Made 262' over past 24 hrs of operations. WOB: 4-6k RPM: 80-100 PP: 950 SPM: 60 DMC: \$615.60 CMC: \$10,278.55  |
| 11.16.2013 | RTD - 3633'<br>LTD - 3626' | Rig continue to circulate while waiting on loggers. Halliburton on site and rigged up. Conduct open hole logging operations. Orders received to run 5 1/2" production casing for further evaluation of the Bognar 'A' #1.   |





1830  
1840  
1850  
1860  
1870  
1880  
1890  
1900  
1910  
1920  
1930  
1940  
1950  
1960  
1970  
1980  
1990  
2000  
2010  
2020  
2030  
2040

Note: Drilled w/ PDC Bit

ROP (min/ft) 10  
Gamma (API) 150  
Cal (in) 16  
inclination ((none)) 9

**IATAN 1851' (-628')**

Displace Mud System @ 1867'

**STALNAKER 1886' (-663')**

Start Drill Time and Gas Readings @ 2000'

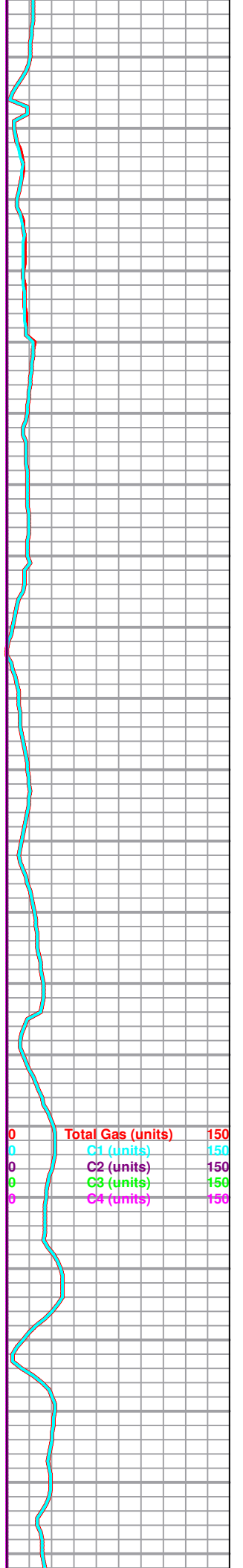
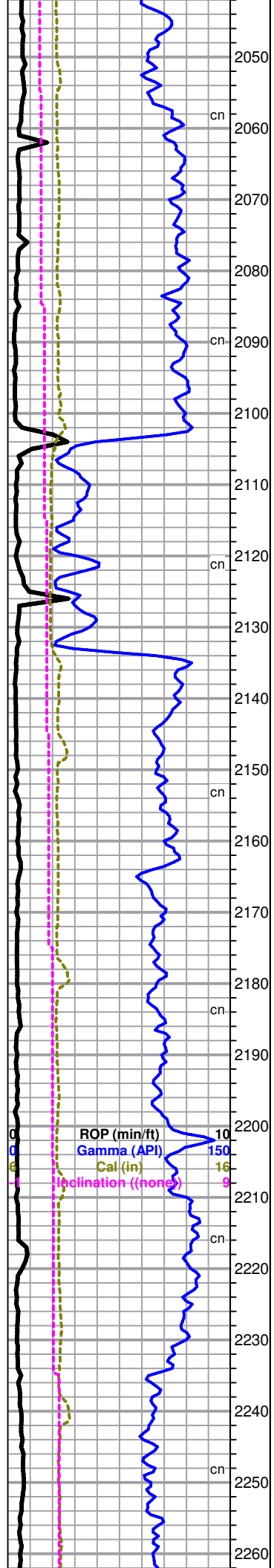
Mud-Co Mud Ck  
@ 1844'  
1145 hrs 11.11.13  
Vis: 34 Wt: 10.1  
PV: 6 YP: 8  
WL: N/A  
CHL: 1,200 ppm  
Cal: 160  
Solids: 12.8  
LCM: 0 #/bbl  
DMC: \$1,172.90  
CMC: \$3,275.15

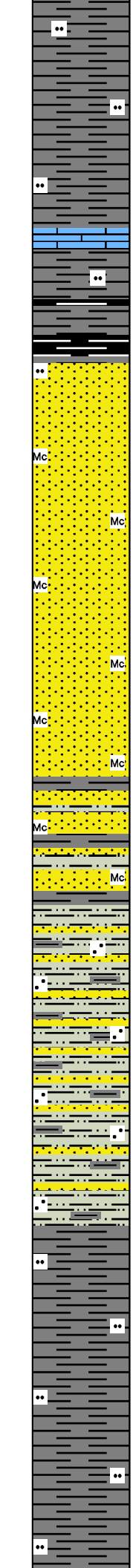
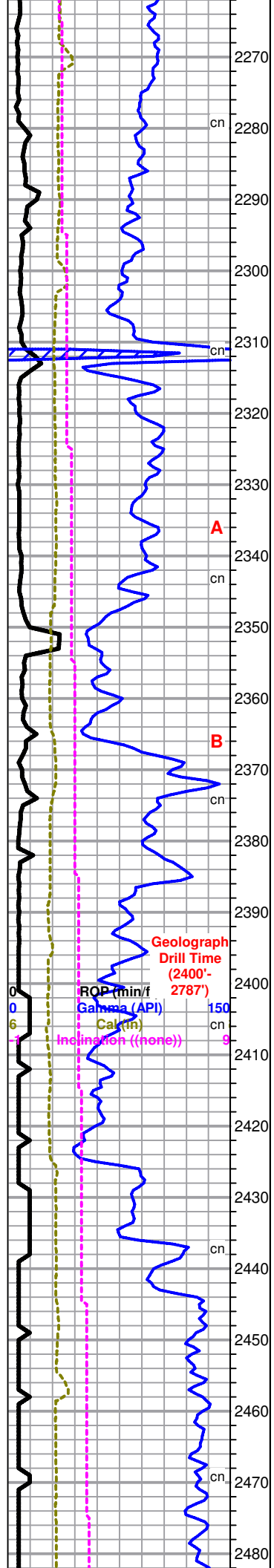
Vis: 60  
Wt: 8.6+  
LCM: 6 #/bbl

Total Gas (units) 150  
C1 (units) 150  
C2 (units) 150  
C3 (units) 150  
C4 (units) 150



**PERRY 2103' (-880')**





Shale: gray lt gray, blocky and firm, some waxy in part, silty in part.

Shale: gray lt gray, blocky and firm, some waxy in part, silty in part.

Limestone: dk brown tan, dense tight matrix, poo-no visible porosity, no shows, no fluorescence.

**Start 20' Wet & Dry Samples @ 2300'**

Shale: gray lt gray, blocky and firm, some waxy in part, silty in part, with Shale: black, carbonaceous, blocky and hard, no gas show.

**LAYTON 2313' (-1090')**

Sandstone: lt gray off white lt cream, mostly dense well cemented matrix, few slightly friable pieces, vfgrained, well sorted, micaceous in part, fair-poor intergranular porosity, no shows, no fluorescence.

Sandstone: lt gray off white lt cream, mostly dense well cemented matrix, few slightly friable pieces, vfgrained, well sorted, micaceous in part, fair-poor intergranular porosity, no shows, no fluorescence.

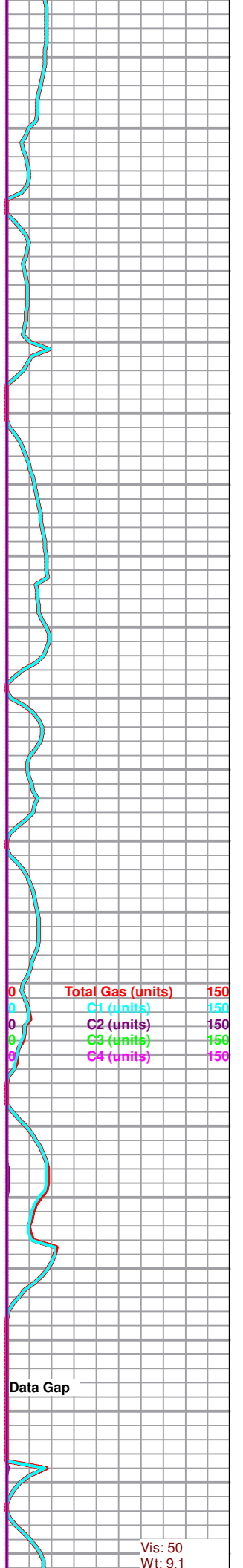
Sandstone: lt gray off white, sub-friable to fairly cemented matrix, f-vfgrained, fairly sorted, micaceous in part, fair intergranular porosity, no shows, no fluorescence.

Sandstone: lt gray off white, sub-friable to fairly cemented matrix, f-vfgrained, fairly sorted, micaceous in part, fair intergranular porosity, no shows, no fluorescence, with scattered Shale/Siltstone: gray lt gray, blocky to rounded, most dense.

Siltstone: gray smokey gray, dense tight well cemented matrix, vfgrained, shaley/sandy, poor visible porosity, no shows, no fluorescence, with scattered Sandstone as above.

Siltstone: gray smokey gray, dense tight well cemented matrix, vfgrained, shaley/sandy, poor visible porosity, no shows, no fluorescence, with scattered Sandstone as above.

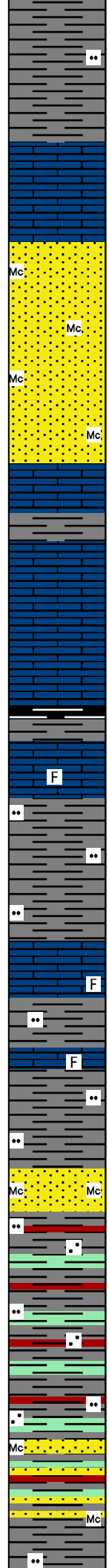
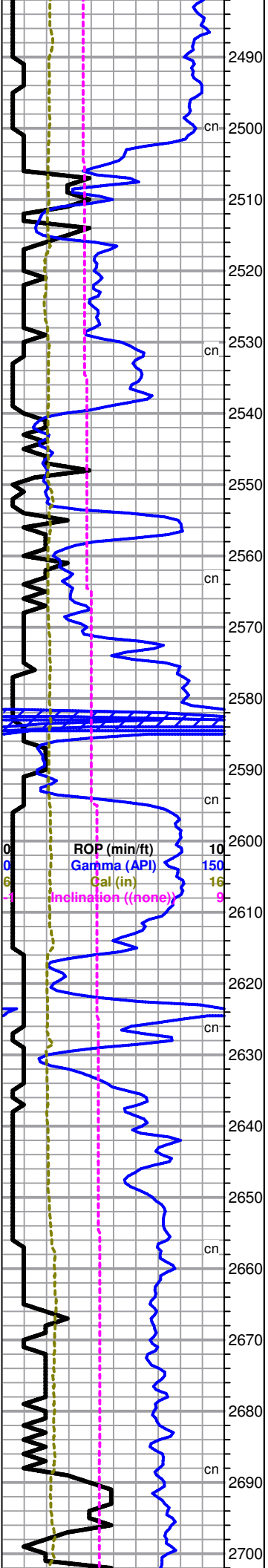
Shale: gray lt gray dk gray, blocky, firm and hard to waxy and gummy, most silty.



|                   |     |
|-------------------|-----|
| Total Gas (units) | 150 |
| C1 (units)        | 150 |
| C2 (units)        | 150 |
| C3 (units)        | 150 |
| C4 (units)        | 150 |

Data Gap

Chalc. gray lt gray dk gray, blocky, firm and hard to waxy and gummy, most silty.



### KANSAS CITY 2502' (-1279')

Limestone: tan brown, dense tight matrix, microxln, barren, poor-no visible porosity, no shows, no fluorescence.

Sandstone: off white lt gray, sub-friable to fairly cemented matrix, vf-grained, micaceous, fair-good intergranular porosity throughout, no shows, no fluorescence.

Limestone: cream tan, dense tight matrix, micro-cryptoxln, barren, no visible porosity, no shows, no fluorescence.

Limestone: cream tan, dense tight matrix, micro-cryptoxln, barren, no visible porosity, no shows, no fluorescence.

### STARK 2581' (-1358')

Shale: black dk gray, most carbonaceous, blocky and firm, some softer and waxy, no gas show.

Limestone: cream tan gray mottled, most dense matrix, vf-fxl, scattered imbedded calcite shards, few scattered fossils, poor-no visible porosity, no shows, no fluorescence.

**Geologist Derek W. Patterson On Location, 0920 hrs 11.12.13**

Shale: gray dk gray, dense limey matrix, blocky to rounded, silty in part.

Limestone: brown cream gray mottled/specked, dense matrix, micro-vfxln, grainy in part, fossiliferous, poor visible porosity, no shows, no fluorescence.

Shale: gray dk gray, blocky, most firm, some waxy, silty in part.

### BASE KANSAS CITY 2632' (-1409')

Shale: gray dk gray, blocky, most firm, some waxy, silty in part.

### CLEVELAND 2646' (-1423')

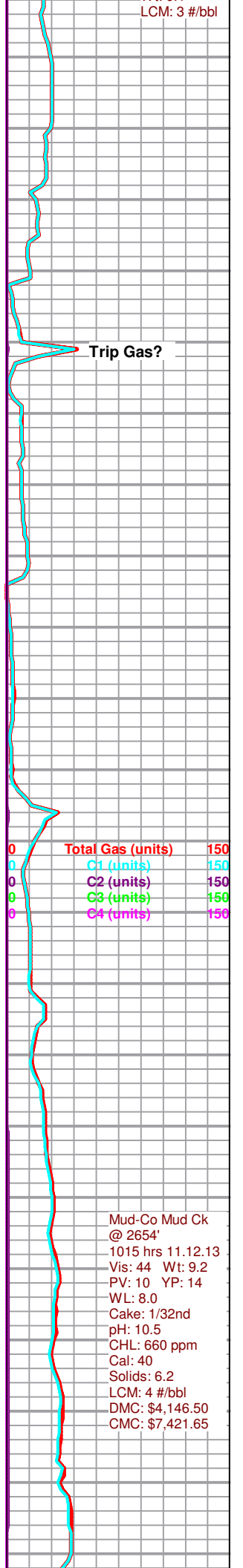
Sandstone: off white lt gray, sub-friable matrix, vfgrained, well sorted, pyritic, some micaceous in part, poor intergranular porosity, no shows, no fluorescence.

Shale: gray dk gray pale green some dk red, blocky to rounded, nearly all soft and waxy, silty/sandy in part.

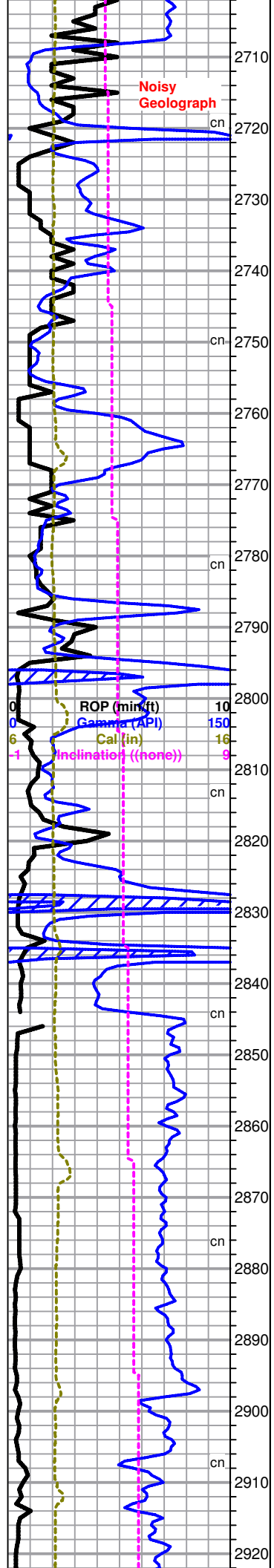
Shale: gray dk gray pale green some dk red, blocky to rounded, nearly all soft and waxy, silty/sandy in part.

INFLUX - Sandstone: off white lt gray, sub-friable matrix, vfgrained, well sorted, pyritic, some micaceous in part, poor intergranular porosity, no shows, no fluorescence, with fair amount of Shale as above.

**Start 10' Wet & Dry Samples @ 2700'**



Mud-Co Mud Ck @ 2654'  
 1015 hrs 11.12.13  
 Vis: 44 Wt: 9.2  
 PV: 10 YP: 14  
 WL: 8.0  
 Cake: 1/32nd  
 pH: 10.5  
 CHL: 660 ppm  
 Cal: 40  
 Solids: 6.2  
 LCM: 4 #/bbl  
 DMC: \$4,146.50  
 CMC: \$7,421.65



Noisy Geograph

**OSWEGO 2708' (-1485')**

Shale: gray dk gray pale green, blocky to rounded, soft to waxy, some silty.

Limestone: It cream off white, dense matrix, micro-cryptoxln, oolitic-fossiliferous, poor-no visible porosity, no shows, no fluorescence.

Limestone: It gray cream off white, dense tight matrix, crypto-microxln, barren, poor visible porosity, no shows, no fluorescence.

Limestone: It cream tan brown, dense tight matrix, microxln, sub-fossiliferous to barren, poor visible porosity, no shows, no fluorescence.

Limestone: It cream lt tan, dense tight matrix, microxln, sub-fossiliferous to barren, poor visible porosity, no shows, no fluorescence.

**PAWNEE 2767' (-1544')**

Limestone: It cream off white lt tan, dense matrix, micro-vfxln, most barren with some scattered sub-fossiliferous, poor visible porosity, no shows, no fluorescence.

Limestone: It cream off white lt tan, softer matrix, micro-vfxln, scattered fossiliferous, fair interxln porosity in few pieces, no shows, no fluorescence.

Limestone: It cream lt tan, dense matrix, micro-vfxln, most barren with some scattered sub-fossiliferous, poor visible porosity, no shows, no fluorescence.

Shale: black dk gray, most carbonaceous, blocky and firm, few pieces with fair show gas upon break.

**FORT SCOTT 2804' (-1581')**

Limestone: cream lt cream, dense tight matrix, vf-microxln. most fossiliferous, poor visible porosity, no shows, even bright lt yellow/orange mineral fluorescence, no cut, no odor.

Limestone: It cream lt tan, softer sub-friable matrix, vfxln, sub-fossiliferous to barren, fair interxln porosity, poor-fair show lt brown oil droplets/trace gas upon break, even lt yellow fluorescence, bluish-white cut, moderate odor.

**CHEROKEE 2835' (-1612')**

Shale: black dk gray, most carbonaceous, blocky and firm, very sandy/silty, some pyritic, poor gas show upon break.

Shale: gray lt gray some dk gray, blocky to rounded, hard to soft, very silty/sandy, sample washes gray.

Shale: gray lt gray some dk gray, blocky to rounded, hard to soft, very silty/sandy, sample washes gray.

Shale: as above, with scattered Sandstone: It gray off white, poorly cemented friable matrix, fgrained, well sorted, most heavily pyritic, fair-good intergranular porosity, no shows, no fluorescence.

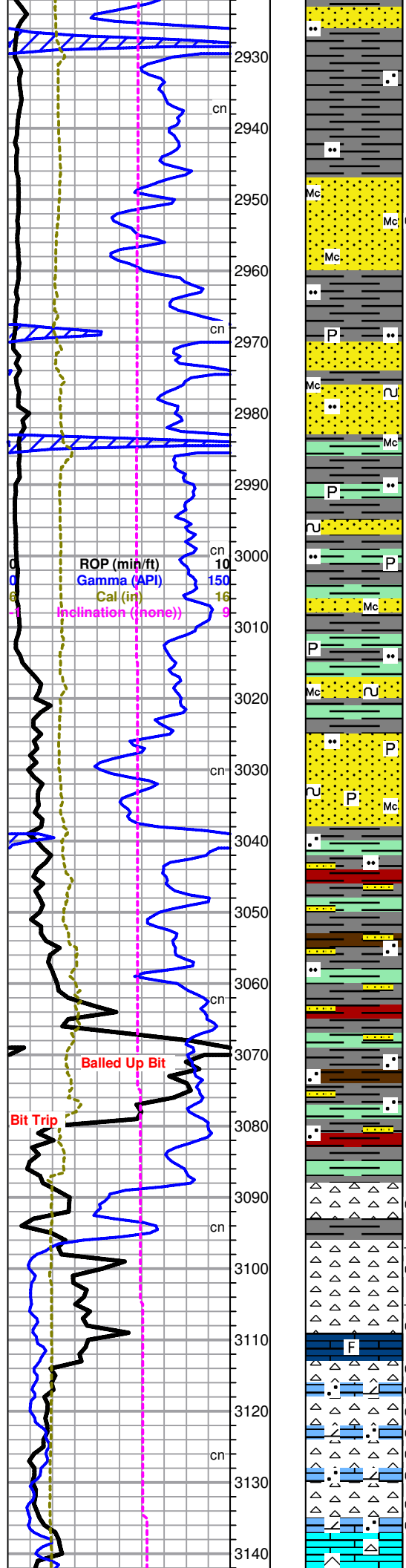
Data Gap

Data Gap

|                   |     |
|-------------------|-----|
| Total Gas (units) | 150 |
| C1 (units)        | 150 |
| C2 (units)        | 150 |
| C3 (units)        | 150 |
| C4 (units)        | 150 |

Shale Kick

Data Gap



Shale: gray lt gray some dk gray, blocky to rounded, hard to soft, very silty/sandy, sample washes gray.

**CATTLEMAN 2947' (-1724')**

Sandstone: lt gray off white cream, mostly dense well cemented matrix, f-vgrained, well sorted, most micaceous, poor intergranular porosity, 5% poor show lt brown oil droplets upon break, most shows are stringy oil residue, even dull lt yellow fluorescence, good bluish-white cut, very faint odor.

Shale: gray dk gray pale green, blocky, hard and firm to slightly soft and waxy, pyritic and silty in part, with abundant Sandstone: lt gray off white pale green, mostly dense well cemented matrix, f-vgrained, well sorted, most micaceous, some glauconitic, poor-fair intergranular porosity, no shows, no fluorescence.

Shale: gray dk gray pale green, blocky, hard and firm to slightly soft and waxy, pyritic and silty in part, with abundant Sandstone: lt gray off white pale green, mostly dense well cemented matrix, f-vgrained, well sorted, most micaceous, some glauconitic, poor-fair intergranular porosity, no shows, no fluorescence.

**BARTLESVILLE 3025' (-1802')**

Sandstone: off white lt gray pale green, sub-friable to fairly cemented matrix, fgrained, micaceous/glauconitic/pyritic, fair-good intergranular porosity, no shows, no fluorescence, no odor.

Shale: gray dk gray pale green dk red, blocky to rounded, hard to soft and waxy, most silty/sandy, with moderate amount of Sandstone stringers: lt gray pale green off white, mostly dense well cemented matrix, f-vgrained, well sorted, most micaceous, glauconitic in part, fair-poor intergranular porosity, no shows, no fluorescence.

Predominately Shale: gray dk gray dk red brown pale green, blocky and firm, large percentage of arenaceous material, fissile in part, with some scattered Sandstone stringers as above.

**EROSIONAL MISSISSIPPIAN 3088' (-1865')**

Chert: lt cream off white, fresh and sharp, with some poorly weathered pieces, poor show in few weathered pieces, poor fluorescence, faint odor.

**MISSISSIPPIAN CHERT 3096' (-1873')**

Chert: lt cream off white, large portion fresh and sharp, with gradual increase in weathered to sub-tripolitic material, fair visible porosity, most carrying good golden saturated stain, fair-good show golden brown oil and trace gas upon break, spotty lt yellow fluorescence, milky-white cut, moderate odor.

INFLUX - Limestone: cream lt cream lt tan, dense sub-chalky matrix, vxln, most fossiliferous, poor interxln porosity, no shows, no fluorescence, no cut.

Chert: cream tan, fresh and sharp to slightly weathered/tripolitic, slight stain in most, poor-fair show golden brown oil upon break in much of sample, milky-white cut, with Limestone: tan cream, slightly friable dolomitic matrix, fxln, grainy/arenaceous texture, good interxln porosity in most, golden saturated stain, fair show golden brown oil upon break, even-spotty lt yellow fluorescence, milky-white cut, moderate odor.

**MISSISSIPPIAN LIME 3137' (-1914')**

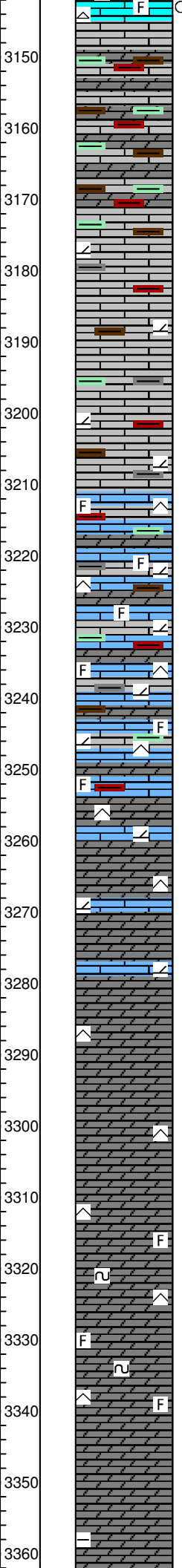
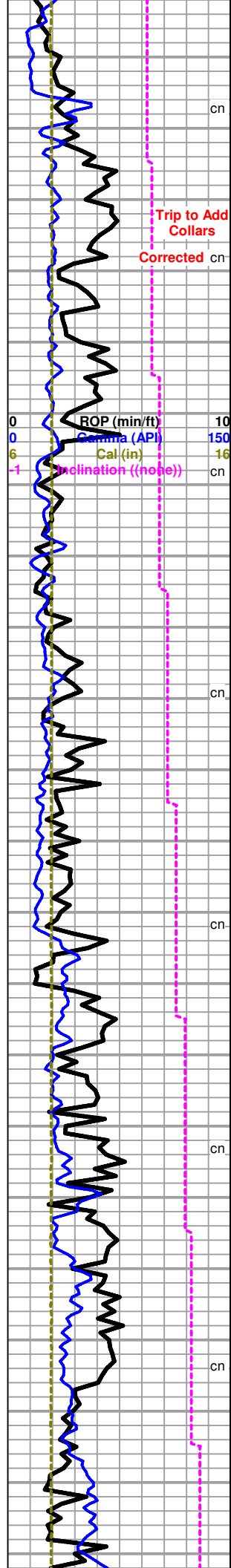
Limestone: tan brown dk gray, dense very siliceous matrix, micro-cryptoxln, most fossiliferous, poor visible porosity, few pieces with questionable edge

|   |                   |     |
|---|-------------------|-----|
| 0 | Total Gas (units) | 150 |
| 0 | C1 (units)        | 150 |
| 0 | C2 (units)        | 150 |
| 0 | C3 (units)        | 150 |
| 0 | C4 (units)        | 150 |

Vis: 42  
Wt: 9.3  
LCM: 4 #/bbl

62u Total

65u Total



stain, no live shows, no fluorescence, no cut, with scattered Chert: tan brown dk gray, fresh and sharp to slightly weathered, few pieces with questionable edge stain, no live shows, no fluorescence, no cut, no odor.

Limestone (dolomitic)/Dolomite (limey): dk gray brown, dense matrix, vfxln, sucrosic texture, fair-poor interxln porosity, no shows, no fluorescence, no cut, no odor, Chert drops out, and fair amount of Shale content (sluff?).

3179' cfs - Limestone (dolomitic): dk gray brown, dense matrix, vfxln, sucrosic texture, fair-poor interxln porosity, no shows, no fluorescence, no cut, no odor, and continued Shale content (sluff?).

Limestone (dolomitic): dk gray gray brown, dense tight matrix, vfxln, sucrosic texture, poor visible porosity, no shows, no fluorescence, no cut, no odor, with slight decrease in Shale content from above.

Limestone (dolomitic): dk gray gray brown, dense tight matrix, vfxln, sucrosic texture, poor visible porosity, no shows, no fluorescence, no cut, no odor, with continued scattered Shale as above.

INFLUX - Limestone: cream lt cream tan brown mottled, dense sub-cherty matrix, vf-fxln, fossiliferous, fair interxln porosity, no shows, no fluorescence, no cut, with scattered Limestone (dolomitic)/Dolomite (limey) as above, no shows, no fluorescence, no cut, no odor, and continued Shale in sample.

Limestone: cream lt cream tan brown mottled, dense sub-cherty to cherty matrix, vf-fxln, fossiliferous, fair interxln porosity, no shows, no fluorescence, no cut, with scattered Limestone (dolomitic)/Dolomite (limey) as above, no shows, no fluorescence, no cut, no odor, and continued Shale.

Limestone: cream lt cream tan brown mottled, dense sub-cherty to cherty matrix, vf-fxln, fossiliferous, fair interxln porosity, no shows, no fluorescence, no cut, with scattered Limestone (dolomitic)/Dolomite (limey) as above, no shows, no fluorescence, no cut, no odor, and continued Shale.

Predominately Dolomite: dk gray brown, dense tight siliceous matrix, vfxln, barren, poor visible porosity, no shows, few pieces with some poor edge fluorescence, no cut, no odor, with some scattered Limestone (dolomitic), nearly all Shale drops out.

Dolomite: dk gray brown, dense tight siliceous matrix, vfxln, barren, poor visible porosity, no shows, no fluorescence, no cut, no odor, with scattered Limestone (dolomitic).

Dolomite: dk gray brown, dense tight siliceous matrix, vfxln, barren, poor visible porosity, no shows, no fluorescence, no cut, no odor.

Dolomite: dk gray brown, dense tight siliceous matrix, vfxln, barren, poor visible porosity, no shows, no fluorescence, no cut, no odor.

Dolomite: dk gray brown trace lt gray, dense tight siliceous matrix, vfxln, picking up some glauconitic material, some fossiliferous/spiculitic in part, poor visible porosity, no shows, no fluorescence, no cut, no odor.

Dolomite: dk gray brown trace lt gray, dense tight siliceous matrix, vfxln, some glauconitic material, some fossiliferous/spiculitic in part, poor visible porosity, no shows, no fluorescence, no cut, no odor.

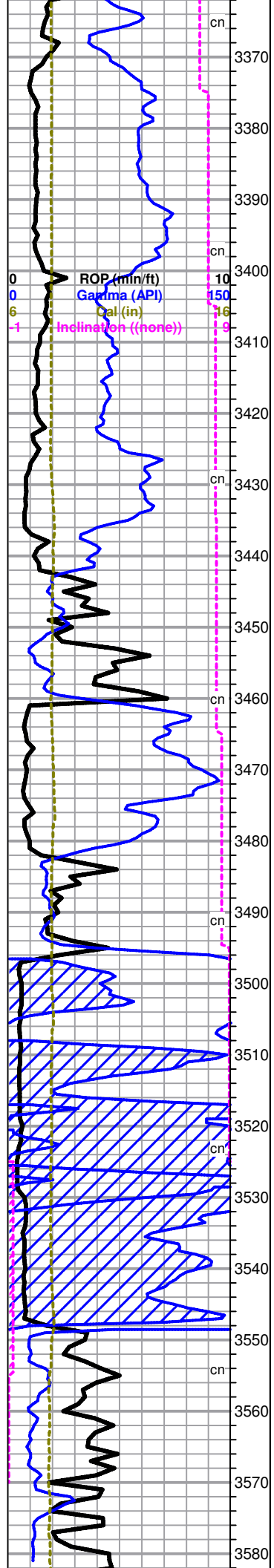
Dolomite: dk gray dk brown, dense matrix, vfxln, barren, poor xln development with associated poor porosity, no shows, no fluorescence, no odor.

Dolomite: dk gray some dk brown, dense matrix, vfxln, overall poor xln development and associated porosity, most argillaceous with fair amount of

Mud-Co Mud Ck  
 @ 3179'  
 1615 hrs 11.13.13  
 Vis: 40 Wt: 9.4  
 PV: 10 YP: 12  
 WL: 8.8  
 Cake: 1/32nd  
 pH: 10.5  
 CHL: 1,800 ppm  
 Cal: 40  
 Solids: 7.3  
 LCM: 2 #/bbl  
 DMC: \$2,241.30  
 CMC: \$9,662.95

|                   |     |
|-------------------|-----|
| Total Gas (units) | 150 |
| C1 (units)        | 150 |
| C2 (units)        | 150 |
| C3 (units)        | 150 |
| C4 (units)        | 150 |

Mud-Co Mud Ck  
 @ 3357'  
 0600 hrs 11.14.13  
 Vis: 38 Wt: 9.5  
 PV: 8 YP: 12  
 WL: 8.8  
 Cake: 1/32nd  
 pH: 9.5  
 CHL: 1,800 ppm  
 Cal: 40  
 Solids: 7.5  
 LCM: 2 #/bbl  
 DMC: \$615.60  
 CMC: \$10,278.55



glaucconitic material, no fluorescence, no cut, no odor.

Dolomite: dk gray, dense matrix, vfxln, overall poor xln development and associated porosity, most argillaceous with fair amount of glauconitic material, no shows, no fluorescence, no cut, no odor.

Dolomite: dk gray gray, dense matrix, vfxln, overall poor xln development and associated porosity, most argillaceous with fair amount of glauconitic material, no shows, no fluorescence, no cut, no odor.

Dolomite: dk gray gray, dense matrix, vfxln, overall poor xln development and associated porosity, most argillaceous with fair amount of glauconitic material, no shows, no fluorescence, no cut, no odor.

Dolomite: gray dk gray, dense matrix, vfxln, fair xln development and associated porosity, most argillaceous, heavily glauconitic/chloritic, pyritic in part, no shows, no fluorescence, no cut, no odor.

Dolomite: gray dk gray, dense matrix, vfxln, fair xln development and associated porosity, most argillaceous, heavily glauconitic/chloritic, pyritic in part, no shows, no fluorescence, no cut, no odor.

**GILMORE CITY 3442' (-2219')**

Limestone: lt gray, sub-friable dolomitic matrix, vfxln, pyritic in part, fair interxln porosity, no shows, no fluorescence, with scattered Shale, no odor.

Limestone: off white lt cream lt gray, dense sub-chalky matrix, vfxln, barren, poor visible porosity, no shows, no fluorescence, no odor.

**KINDERHOOK 3460' (-2237')**

Shale: gray lt gray scattered pale green, blocky to slightly rounded, most firm, fissile/platy, pyritic, no gas show.

Shale: gray lt gray scattered pale green, blocky to slightly rounded, most firm, fissile/platy, pyritic, no gas show.

**COMPTON 3481' (-2258')**

Limestone: lt gray off white, dense sub-chalky matrix, microxln, scattered sub-fossiliferous, poor visible porosity, no shows, no fluorescence, no odor.

**WOODFORD 3496' (-2273')**

Shale: black dk brown, carbonaceous, blocky and firm, fair-good show gas upon break/under lamp, no fluorescence, no cut, fair gassy odor in wet cup.

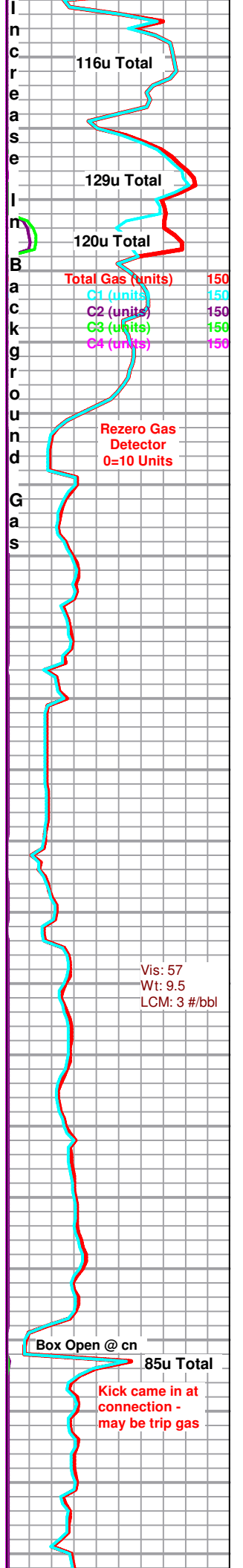
Shale: black dk brown, carbonaceous, blocky and firm, pyritic in part, fair-good show gas upon break/under lamp, no fluorescence, no cut, with scattered Pyrite nodules, fair gassy odor in wet cup.

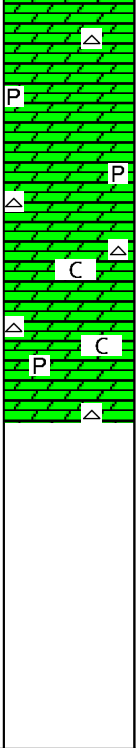
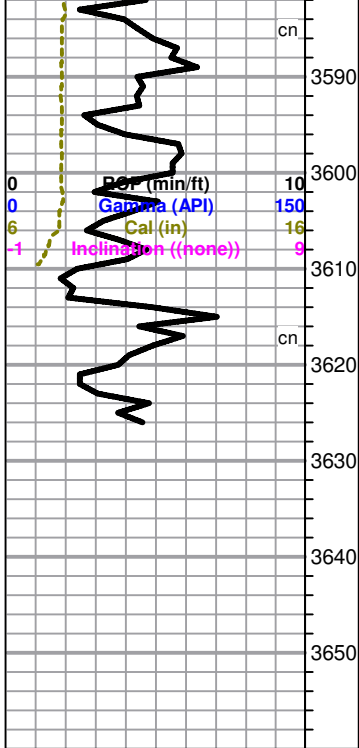
Shale: black dk brown, carbonaceous, blocky and firm, pyritic, fair-good gas show upon break/under lamp, no fluorescence, no cut, with large Pyrite nodules, strong oily odor in wet cup.

**ARBUCKLE 3548' (-2325')**

Dolomite: off white lt cream, mostly dense with some scattered sub-friable, vfxln, pyritic in part, fair rhombic development, some better xln development and associated porosity, few pieces with fair golden saturated stain, stained rocks carry poor-fair show lt brown oil droplets upon break, spotty greenish-yellow fluorescence, fair bluish-white cut on break, good odor.

Dolomite: cream lt cream tan, dense tight matrix, micro-vfxln, poor xln development in most with associated poor porosity, no shows, dull yellow mineral fluorescence, no cut, with Chert: bone white, opaque, fresh and sharp, most pyritic, fair odor in wet cup.





Dolomite: gray cream tan, dense tight matrix, microxln with some scattered fxln, overall poor xln development, poor visible porosity, no shows, dull yellow mineral fluorescence, no cut, with Chert: bone white, opaque, fresh and sharp, most pyritic, no odor in wet cup.

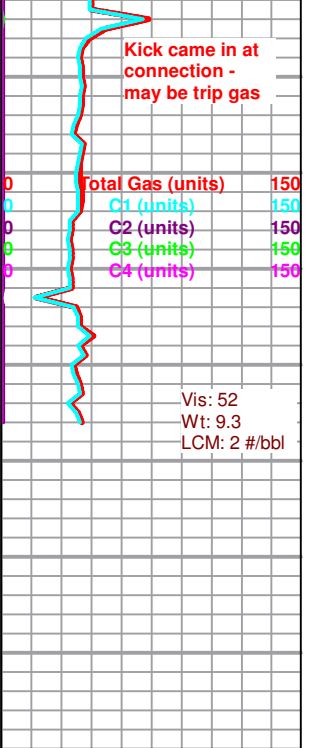
Dolomite: cream lt cream, dense tight matrix, most fxln, good visible rhombic development but poor porosity due to chalk/mineral fill, no shows, dull yellow mineral fluorescence, no cut, with Chert: bone white cream, fresh and sharp, scattered pyritic, no odor in wet cup.

3626' cfs - Dolomite: gray lt cream, dense tight matrix, f-vfxln, pyritic, overall poor xln development and associated porosity, no shows, dull yellow mineral fluorescence, no cut, with trace Chert as above.

**LTD 3626' (-2403')**  
**RTD 3633' (-2410')**

**Geologist Derek W. Patterson Off Location 2030 hrs 11.14.13**  
**Orders Received to Run 5 1/2" Production Casing**

**Respectfully Submitted,**  
*Derek W. Patterson*







# BASIC

energy services, L.P.

## TREATMENT REPORT

|                                |                      |                                  |
|--------------------------------|----------------------|----------------------------------|
| Customer <b>Lasso Energy</b>   | Lease No.            | Date <b>11-16-13</b>             |
| Lease <b>Bogner</b>            | Well # <b>A1</b>     |                                  |
| Field Order # <b>9072</b>      | Station <b>Pratt</b> | Casing <b>5 1/2</b>              |
|                                |                      | Depth <b>3633</b>                |
| Type Job <b>CNW LongString</b> | Formation            | County <b>Cowley</b>             |
|                                |                      | State <b>KS</b>                  |
|                                |                      | Legal Description <b>2233 SE</b> |

| PIPE DATA              |              | PERFORATING DATA |    | FLUID USED |            | TREATMENT RESUME |                  |
|------------------------|--------------|------------------|----|------------|------------|------------------|------------------|
| Casing Size            | Tubing Size  | Shots/Ft         |    | Acid       | RATE       | PRESS            | ISIP             |
| <b>5 1/2</b>           |              |                  |    |            |            |                  |                  |
| Depth <b>3633</b>      | Depth        | From             | To | Pre Pad    | Max        |                  | 5 Min.           |
| Volume <b>55</b>       | Volume       | From             | To | Pad        | Min        |                  | 10 Min.          |
| Max Press              | Max Press    | From             | To | Frac       | Avg        |                  | 15 Min.          |
| Well Connection        | Annulus Vol. | From             | To |            | HHP Used   |                  | Annulus Pressure |
| Plug Depth <b>3600</b> | Packer Depth | From             | To | Flush      | Gas Volume |                  | Total Load       |

Customer Representative \_\_\_\_\_ Station Manager **Kevin** Treater **JIE**

|               |              |              |             |             |  |  |  |  |
|---------------|--------------|--------------|-------------|-------------|--|--|--|--|
| Service Units | <b>14559</b> | <b>14543</b> | <b>1953</b> | <b>2549</b> |  |  |  |  |
| Driver Names  | <b>ED</b>    | <b>Jesse</b> | <b>JM</b>   |             |  |  |  |  |

| Time                        | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log                       |
|-----------------------------|-----------------|-----------------|--------------|------|-----------------------------------|
| <del>1400</del> <b>1400</b> |                 |                 |              |      | on loc / safety meeting           |
|                             |                 |                 |              |      | Run 86 JTB of 5 1/2 csg 15-5"     |
|                             |                 |                 |              |      | cen. on 3-5-6-8-10-12-14-16-18-20 |
|                             |                 |                 |              |      | - 21-24-28-32-36-39               |
| <del>1400</del> <b>1400</b> |                 |                 |              |      | Start Running CSS                 |
| <del>1730</del> <b>1730</b> |                 |                 |              |      | CSS on bottom / circ with Rig     |
| <del>1730</del> <b>1730</b> |                 |                 |              |      | Hook up to start JTB              |
|                             |                 |                 | 5            | 5    | H2O                               |
|                             |                 |                 | 12           | 5    | Super Flush                       |
|                             |                 |                 | 5            | 5    | H3O                               |
|                             |                 |                 | 62           | 6.5  | mix 245SK of 4 A2 cement @ 15"    |
|                             |                 |                 |              |      | Shut Down clear Pump and Lines    |
| <b>1500</b>                 |                 |                 |              | 7    | Start H2O DISP                    |
|                             |                 |                 | 40           | 7    | LIFT PST                          |
|                             |                 |                 | 75           | 5    | slow Rate                         |
| <b>1530</b>                 |                 |                 | 55           | 0    | Plug down                         |
|                             |                 |                 |              |      | Plug RH                           |
|                             |                 |                 |              |      | JTB COMPLETE                      |
|                             |                 |                 |              |      | Thank you                         |
|                             |                 |                 |              |      | JIE                               |



**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

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

FIELD SERVICE TICKET  
1718 09072 A

|                        |          |  |                                   |
|------------------------|----------|--|-----------------------------------|
| DATE OF JOB: 11-16-13  | DISTRICT | DATE   | TICKET NO.                        |
| CUSTOMER: Lasso Energy |          | NEW WELL <input checked="" type="checkbox"/> | OLD WELL <input type="checkbox"/> |
| ADDRESS                |          | PROD <input type="checkbox"/>                | INJ <input type="checkbox"/>      |
| CITY                   | STATE    | WDW <input type="checkbox"/>                 | CUSTOMER ORDER NO.                |
| AUTHORIZED BY          |          | LEASE: Bogner A1                             | WELL NO.                          |
|                        |          | COUNTY: Cowley                               | STATE: KS                         |
|                        |          | SERVICE CREW: ED Jesse Joe                   |                                   |
|                        |          | JOB TYPE: CNW Longstring                     |                                   |

| EQUIPMENT#  | HRS | EQUIPMENT# | HRS | EQUIPMENT# | HRS | TRUCK CALLED               | DATE     | AM | TIME  |
|-------------|-----|------------|-----|------------|-----|----------------------------|----------|----|-------|
| 19554-19543 | 1hr |            |     |            |     |                            | 11/16/13 | AM | 12:00 |
| 19581-19562 | 1hr |            |     |            |     |                            |          | AM | 02:00 |
| 125443      |     |            |     |            |     |                            |          | AM | 5:30  |
|             |     |            |     |            |     |                            |          | AM | 6:30  |
|             |     |            |     |            |     |                            |          | AM | 7:30  |
|             |     |            |     |            |     | MILES FROM STATION TO WELL |          |    | 120   |

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

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

SIGNED: *[Signature]*  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

| ITEM/PRICE REF. NO. | MATERIAL, EQUIPMENT AND SERVICES USED | UNIT | QUANTITY | UNIT PRICE | \$ AMOUNT |
|---------------------|---------------------------------------|------|----------|------------|-----------|
| CP 105              | AA2 Cement                            | SK   | 1245     |            |           |
| CP 105              | AA2 Cement                            | SK   | 30       |            |           |
| CC 102              | celloflake                            | lb   | 69       |            |           |
| CC 105              | C-41 P Defoamer                       | lb   | 52       |            |           |
| CC 111              | Salt                                  | lb   | 1385     |            |           |
| CC 112              | Cement Friction Reducer               | lb   | 78       |            |           |
| CC 129              | FLA-322                               | lb   | 130      |            |           |
| CC 201              | GILSONITE                             | lb   | 1375     |            |           |
| CF 103              | TOP Rubber Plug                       | eq   | 1        |            |           |
| CF 251              | Guide Shoe                            | eq   | 1        |            |           |
| CF 1451             | Flapper Insert                        | eq   | 1        |            |           |
| CF 1651             | Turbolizer                            | eq   | 16       |            |           |
| CC 154              | Super flush                           | gal  | 500      |            |           |
| E 100               | Pickup mileage                        | mi.  | 120      |            |           |
| E 101               | Heavy mileage                         | mi   | 240      |            |           |
| E 113               | Bulk Delivery                         | tm   | 1560     |            |           |
| CE 204              | Depth Charge                          | 4hr  | 1        |            |           |
| CE 240              | Mixing Charge                         | SK   | 275      |            |           |
| CE 504              | Plug Container                        | JOB  | 1        |            |           |
| CE 501              | Casing Swivel                         | eq   | 1        |            |           |
| S 00                | CHEMICAL / ACID DATA: Supervisor      | eq   | 1        |            |           |
|                     |                                       |      |          |            | SUB-TOTAL |
| SERVICE & EQUIPMENT |                                       |      |          | %TAX ON S  | 1,763.63  |
| MATERIALS           |                                       |      |          | %TAX ON S  |           |
|                     |                                       |      |          |            | TOTAL     |

SERVICE REPRESENTATIVE: *[Signature]* THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *[Signature]*  
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

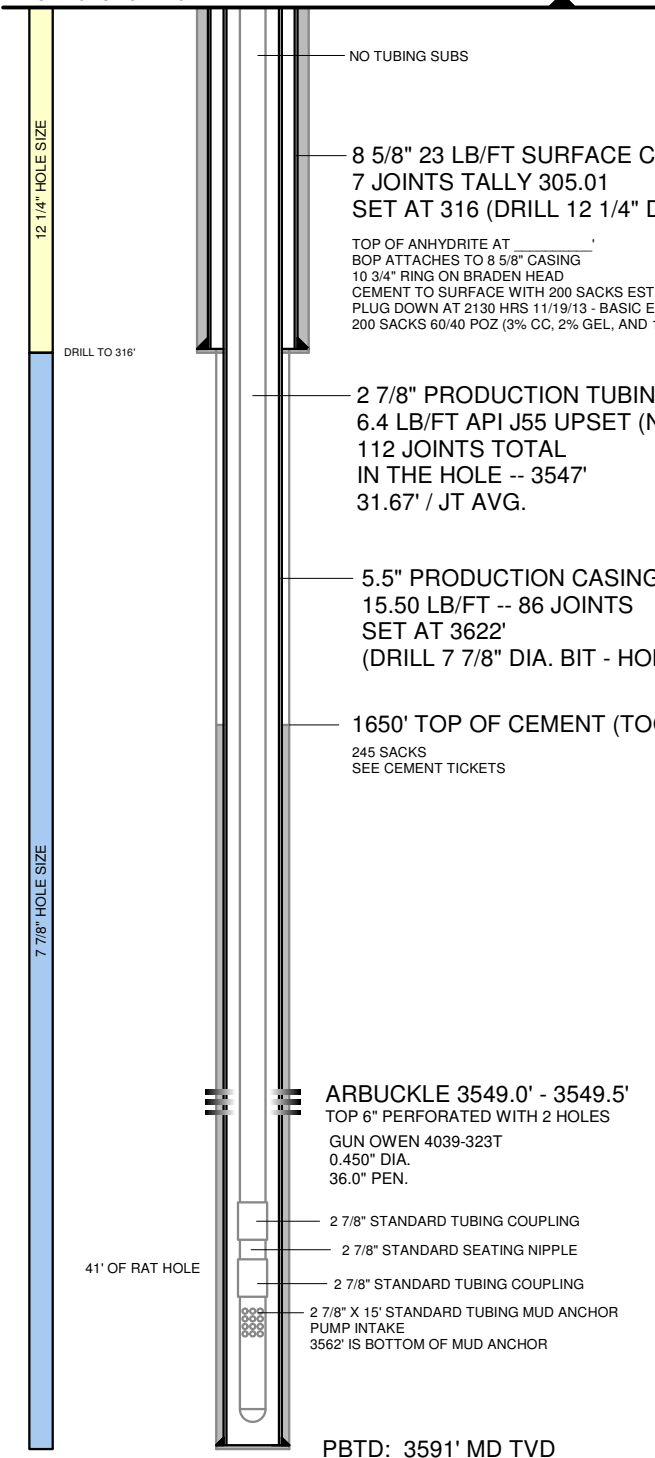
FIELD SERVICE ORDER NO.

SURFACE TEMP: 70 DEG F MAX

K.B.: 8'

G.L. ELEVATION 1215' (SHL)

5 1/2" X 2 7/8" TUBING HEAD  
SET TOP CLPG 12" AGL



NO TUBING SUBS

8 5/8" 23 LB/FT SURFACE CASING (NEW)  
7 JOINTS TALLY 305.01  
SET AT 316 (DRILL 12 1/4" DIA. BIT)

TOP OF ANHYDRITE AT \_\_\_\_\_  
BOP ATTACHES TO 8 5/8" CASING  
10 3/4" RING ON BRADEN HEAD  
CEMENT TO SURFACE WITH 200 SACKS EST. - CIRCULATED  
PLUG DOWN AT 2130 HRS 11/19/13 - BASIC ENERGY SERVICES  
200 SACKS 60/40 POZ (3% CC, 2% GEL, AND 1/2 LB CF)

2 7/8" PRODUCTION TUBING  
6.4 LB/FT API J55 UPSET (NEW)  
112 JOINTS TOTAL  
IN THE HOLE -- 3547'  
31.67' / JT AVG.

5.5" PRODUCTION CASING (NEW)  
15.50 LB/FT -- 86 JOINTS  
SET AT 3622'  
(DRILL 7 7/8" DIA. BIT - HOLE)

1650' TOP OF CEMENT (TOC)  
245 SACKS  
SEE CEMENT TICKETS

ARBUCKLE 3549.0' - 3549.5'  
TOP 6" PERFORATED WITH 2 HOLES  
GUN OWEN 4039-323T  
0.450" DIA.  
36.0" PEN.

2 7/8" STANDARD TUBING COUPLING  
2 7/8" STANDARD SEATING NIPPLE  
2 7/8" STANDARD TUBING COUPLING  
2 7/8" X 15' STANDARD TUBING MUD ANCHOR  
PUMP INTAKE  
3562' IS BOTTOM OF MUD ANCHOR

PBTD: 3591' MD TVD  
RTD: 3633' MD TVD.  
LTD: 3626' MD TVD  
DOWNHOLE TEMP: 125 DEG F

DOWN HOLE SUCKER ROD PUMP:  
2.00" INSERT PUMP  
PUMP LENGTH: 16' (NICARD AND SS)  
BOTTOM HOLD DOWN TYPE  
TRAVELING BARREL  
2' X 7/8" PONY ROD ON TOP OF PUMP  
8' GAS SEPARATOR ON THE BOTTOM  
PUMP INTAKE DEPTH: 3555'  
PUMP IS SETTING BELOW THE PERFORATIONS  
GAS IS VENTING AT WELL HEAD (TUBING/CASING)

NOTES:

PUMPING UNIT: C - 160 -190 - 74 (74" SURFACE STROKE)  
CONVENTIONAL PARKERSBURG UNIT  
30 HP ELECTRIC MOTOR WITH 50 HP SPOCC VFD  
VFD INSTALLED  
RUN TIME: 24 HRS PER DAY  
1.25" X 16' POLISHED ROD WITH LINER ASSEMBLY (16')  
2' PONY ROD ON TOP (7/8" GRADE D) (2')  
1.50" X 8' HARD LINED POLISHED ROD LINER WITH SEAL (8')  
54 - 7/8" GRADE D SUCKER RODS ON TOP (1350')  
83 - 3/4" GRADE D SUCKER RODS ON BOTTOM (2075')  
2 - 1.50" X 25' SINKER BAR ON TOP OF PUMP (50')  
ONE 2' X 7/8" GRADE D PONY ROD ON BOTTOM (TOP OF PUMP) (2')  
SPEED RANGE: 4 (7.7) TO 14.4 SPM  
MAX. SPEED: 14.4 SPM  
MAX. DISPLACEMENT: 475 BPD (2.00" BORE PUMP)  
MAX. DISPLACEMENT: 900 BPD (2.75" BORE PUMP W/TUBING ANCHOR)

TUBULARS

| PURPOSE SIZE  | CONDUCTOR 13 3/8" | SURFACE 8 5/8" | INTERMEDIATE | PRODUCTION 5 1/2" | PROD. TUBING 2 7/8" |
|---------------|-------------------|----------------|--------------|-------------------|---------------------|
| WEIGHT        | NONE              | 2,946 PSIG     | NONE         | 15.5 LB/FT        | 6.40 LB/FT          |
| GRADE         | NONE              | J-55           | NONE         | J-55              | J-55                |
| BURST         | NONE              | 24.0 LB/FT     | NONE         | 4,812 PSIG        | 7,265 PSIG          |
| COLLAPSE      | NONE              | 381,395 LBF    | NONE         | 4,043 PSIG        | 7,676 PSIG          |
| YIELD         | NONE              | 1,434 PSIG     | NONE         | 248,274 LBF       | 99,661 LBF          |
| CAPACITY      | NONE              | 0.064 BBL/FT   | NONE         | 0.024 BBL/FT      | 0.006 BBL/FT        |
| THICKNESS     | NONE              | 0.2640"        | NONE         | 0.2750"           | 0.2170"             |
| ID            | NONE              | 8.0970"        | NONE         | 4.9500"           | 2.4410"             |
| DRIFT ID      | NONE              | 7.9720"        | NONE         | 4.8250"           | 2.3470"             |
| AREA          | NONE              | 51.49 IN2      | NONE         | 19.42 IN2         | 4.68 IN2            |
| SETTING DEPTH | NONE              | 305'           | NONE         | 3,622'            | 3547' TO PUMP       |
| LENGTH        | NONE              | 305'           | NONE         | 3,622'            | NEED 3591'          |
| FOB           | NONE              | CHASE, KS      | NONE         | CHASE, KS         | CHASE, KS           |
| COST          | NONE              | \$ _____ / FT  | NONE         | \$ _____ / FT     | \$ _____ / FT       |

|              |                |
|--------------|----------------|
| DATE         | 09/20/2013     |
| APPROVED BY  | B. KELSO       |
| AFE          | TBD            |
| API No.      | 15035245380000 |
| GL ELEVATION | 1215'          |
| KB           | 8'             |
| KB ELEVATION | 1223'          |
| RIG          | FOSSIL #2      |

**BOGNER A #1**  
COWLEY COUNTY, KANSAS  
22-T33S-R05E  
SHL: 1825 FSL, 3145 FEL  
VERTICAL WELLBORE  
ALBRIGHT FIELD

