



KANSAS CORPORATION COMMISSION 1063610
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33711
Name: B-C Steel, LLC
Address 1: 209 N FRY ST
Address 2: _____
City: YATES CENTER State: KS Zip: 66783 + 1280
Contact Person: Bert Carlson
Phone: (620) 625-2999
CONTRACTOR: License # 33549
Name: Landmark Drilling, LLC
Wellsite Geologist: Mark Brecheisen
Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
 Gas D&A ENHR SIGW
 OG GSW Temp. Abd.
 CM (Coal Bed Methane)
 Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
 Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
 Commingled Permit #: _____
 Dual Completion Permit #: _____
 SWD Permit #: _____
 ENHR Permit #: _____
 GSW Permit #: _____

| | | |
|-----------------------------------|-----------------|---|
| 04/15/2011 | 4/19/2011 | 5/5/2011 |
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |

API No. 15 - 15-035-24400-00-00

Spot Description: _____
SW NE SW SW Sec. 20 Twp. 34 S. R. 7 East West
970 Feet from North / South Line of Section
985 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: Cowley

Lease Name: GAMMON Well #: 20-1

Field Name: Donelson West

Producing Formation: altamont

Elevation: Ground: 1306 Kelly Bushing: 1307

Total Depth: 2650 Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: 15 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: 450 ppm Fluid volume: 3000 bbls

Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: Deanna Garriso Date: 10/04/2011



1063610

Operator Name: B-C Steel, LLC Lease Name: GAMMON Well #: 20-1
 Sec. 20 Twp. 34 S. R. 7 East West County: Cowley

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

| Drill Stem Tests Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run: osage Cement Bond | <input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Top</th> <th style="text-align: left;">Datum</th> </tr> </thead> <tbody> <tr> <td>Altamont</td> <td>2685</td> <td>2691</td> </tr> <tr> <td>Layton</td> <td>2182</td> <td>2200</td> </tr> </tbody> </table> | Name | Top | Datum | Altamont | 2685 | 2691 | Layton | 2182 | 2200 |
|---|--|-------|-----|-------|----------|------|------|--------|------|------|
| Name | Top | Datum | | | | | | | | |
| Altamont | 2685 | 2691 | | | | | | | | |
| Layton | 2182 | 2200 | | | | | | | | |

| CASING RECORD <input checked="" 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 |
| Surface | 8.6250 | 7.8750 | 36 | 710 | quickset | 60 | kol-seal |
| longstring | 6.7500 | 4.500 | 11 | 2646 | quickset | 70 | kol-seal |
| | | | | | | | |

| ADDITIONAL CEMENTING / SQUEEZE RECORD | | | | |
|---|------------------|----------------|--------------|----------------------------|
| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| <input checked="" type="checkbox"/> Perforate | 470-470 | quickset | 1 | gel-15 |
| <input type="checkbox"/> Protect Casing | | | | |
| <input type="checkbox"/> Plug Back TD | 710-1020 | quickset | 1 | gel-15 |
| <input type="checkbox"/> Plug Off Zone | | | | |

| Shots Per Foot | PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i> | Depth |
|----------------|---|--|-------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | | | | |
|----------------|-------|---------|------------|---|
| TUBING RECORD: | Size: | Set At: | Packer At: | Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No |
|----------------|-------|---------|------------|---|

| | |
|---|--|
| Date of First, Resumed Production, SWD or ENHR. <u>5/29/2011</u> | Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> 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 checked="" 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) (Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____ | PRODUCTION INTERVAL: _____ _____ |
|--|--|--|

| | | | |
|-------------------|---------------|-----------|-----------------------|
| Customer | B.C. Steel | Stage | 11 |
| Customer Acct # | | County | Cowley County, Kansas |
| Well No. | Gammons #20-1 | Section | 20 |
| Mailing Address | | TWP | 34S |
| City & State | | RGE | 7E |
| Zip Code | | Formation | Altamont Lime |
| Dispatch Location | Bartlesville | Perfs | 2585-2591 |

| Code | Vehicles, Equipment and Mileage | Quantity | Unit | Price per Unit | |
|------|---------------------------------|----------|---------|----------------|--------------|
| 5102 | 2250 HP PUMP | 1 | PER JOB | 3275.00 | \$ 3,275.00 |
| 5106 | BLENDER TRUCK (0-20 BPM) | 1 | PER JOB | 1050.00 | \$ 1,050.00 |
| 5116 | IRON TRUCK | 1 | PER JOB | 250.00 | \$ 250.00 |
| 5107 | FLOW METERED CHEMICAL PUMP | 1 | PER JOB | 125.00 | \$ 125.00 |
| 0 | NITROGEN SERVICES | 1 | 0 | 0.00 | \$ 22,080.00 |
| 5111 | FRAC VAN | 1 | PER JOB | 725.00 | \$ 725.00 |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |

| | | | | | |
|------------------------|--|--|--|----|-----------|
| SUBTOTAL | | | | \$ | 27,505.00 |
| 40% EQUIPMENT DISCOUNT | | | | \$ | 11,002.00 |
| EQUIPMENT TOTAL | | | | \$ | 16,503.00 |

| Chemical Treatment and Water | | | | | |
|------------------------------|---|--------|---------|-------|--------------|
| 1205 | BACHCIDE | 2 | GALLONS | 30.00 | \$ 60.00 |
| 1213 | FOAMER (FA-410) | 37 | GALLONS | 43.00 | \$ 1,591.00 |
| 1275 | 15% HCL ACID (CHARGE FOR INHIBITOR IN ADDITION) | 16,000 | GALLONS | 1.70 | \$ 27,200.00 |
| 1202 | ACID INHIBITOR (AI-260) | 10 | GALLONS | 46.00 | \$ 460.00 |
| 1214 | IRON CONTROL (SP-950) | 20 | GALLONS | 40.00 | \$ 800.00 |
| 1219B | STIMFLO (FBA) | 10 | GALLONS | 50.00 | \$ 500.00 |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |
| 0 | | | 0 | 0.00 | \$ - |

| | | | | | |
|------------|--|--|---|--------|-----------|
| SAND TOTAL | | | | \$ | 30,611.00 |
| Sand | | | | | |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |

| Water and Chemical Transport | | | | | |
|------------------------------|------------------------|---|---------------|----------|-------------|
| 5310A | ACID TRANSPORT | 8 | /HR | \$140.00 | \$ 1,120.00 |
| #VALUE! | WATER TRANSPORT (FRAC) | 6 | /HR FROM CAMP | \$112.00 | \$ 672.00 |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |

| | | | | | |
|------------------|-------------------|---|-------------------|----------|-----------|
| TRANSPORT TOTAL | | | | \$ | 1,792.00 |
| Frac Valves | | | | | |
| 5604 | 3 INCH FRAC VALVE | 1 | PER WELL (3 DAYS) | \$100.00 | \$ 100.00 |
| FRAC VALVE TOTAL | | | | \$ | 100.00 |

| Miscellaneous Costs | | | | | |
|---------------------|--|--|---|--------|------|
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |
| 0 | | | 0 | \$0.00 | \$ - |
| MISC. TOTAL | | | | \$ | - |

| | | | | | |
|-------------------------------------|--|--|--|-----|--------------------|
| SUB TOTAL | | | | | 60,008.00 |
| 40% EQUIPMENT DISCOUNT (FROM ABOVE) | | | | | 11,002.00 |
| DISCOUNT | | | | 15% | MATERIALS DISCOUNT |
| (GOOD IF PAID WITHIN 30 DAYS) | | | | | 4,875.45 |
| SALES TAX | | | | | |
| DISCOUNTED TOTAL | | | | \$ | 44,130.55 |

CUSTOMER or AGENTS SIGNATURE BCE COWS FOREMAN [Signature]

CUSTOMER or AGENT (PLEASE PRINT) _____ DATE 8-15-11

I acknowledge that the payment terms, unless specifically amended in writing on the front of this form or in the customer's account records at our office, and conditions of service on the back of this form are in effect for services identified on this form.

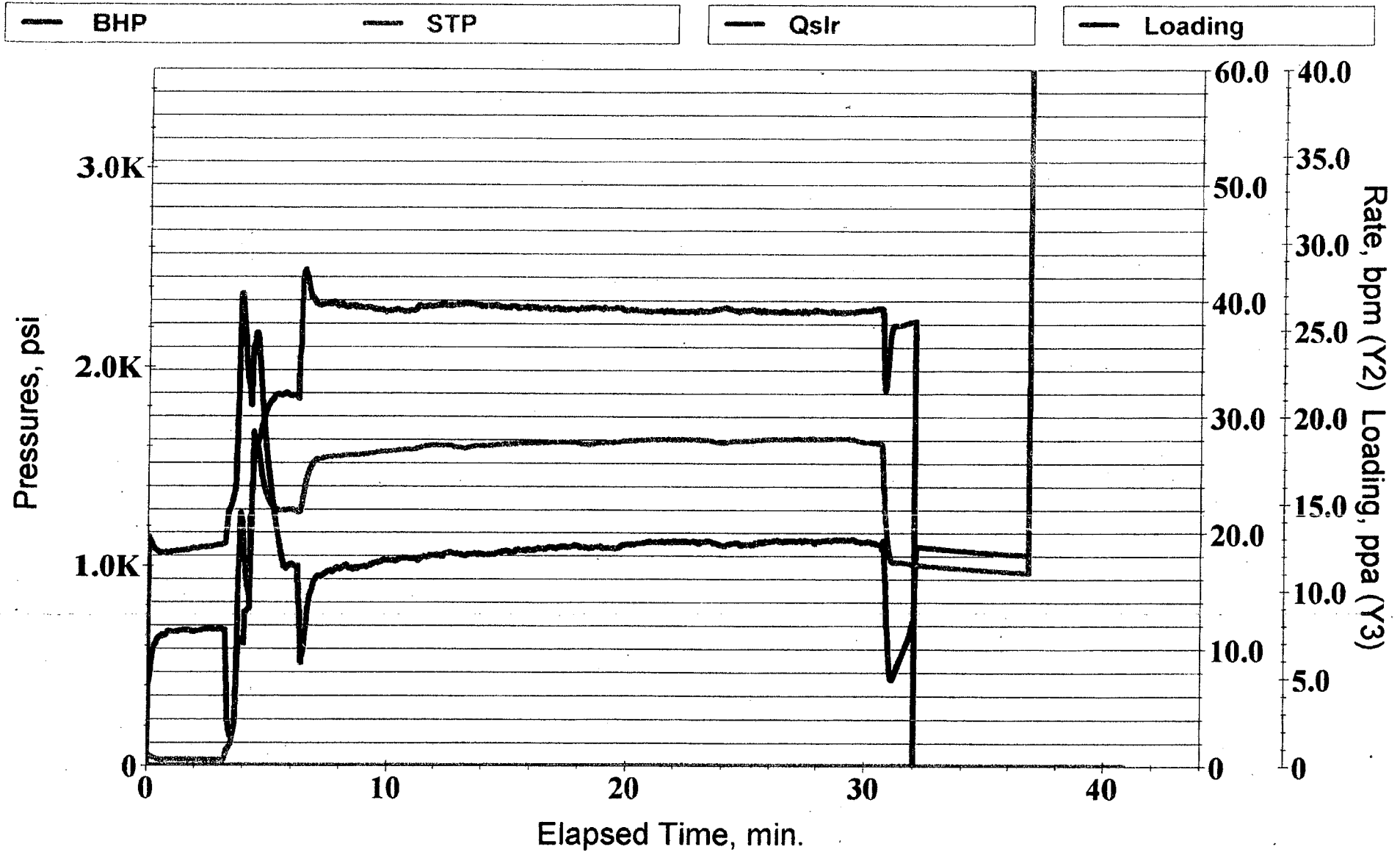
Code
331

CurrentJobRpt.RPT

FINAL JOB TOTAL REPORT

| STAGE # | CARRIER | | FLA . . . SOLIDS | | | WEIGHT | | SLURRY | | | JOB AVERAGES | | SOLIDS |
|---------|---------|----------|------------------|--------|----------|--------|----------|--------|----------|----------|--------------|---------|--------|
| | PUMPED | DESIGNED | PUMPED | PUMPED | DESIGNED | PUMPED | DESIGNED | PUMPED | DESIGNED | SLR-RATE | STP | BHP | |
| | BBLs | BBLs | gal | ppa | ppa | LBS | LBS | BBLs | BBLs | bpm | psi | psi | |
| 1 | 74.8 | 66.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 137.9 | 66.7 | 19.6 | 649.76 | 1233.01 | 0.00 |
| 2 | 7.1 | 8.3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.8 | 8.3 | 39.6 | 1540.81 | 957.16 | 0.00 |
| 3 | 68.0 | 66.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 184.9 | 66.7 | 39.3 | 1573.01 | 1017.12 | 0.00 |
| 4 | 10.1 | 8.3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.4 | 8.3 | 39.6 | 1600.67 | 1060.17 | 0.00 |
| 5 | 68.5 | 66.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 178.8 | 66.7 | 39.4 | 1609.16 | 1072.11 | 0.00 |
| 6 | 9.3 | 8.3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24.2 | 8.3 | 39.3 | 1618.72 | 1097.36 | 0.00 |
| 7 | 73.7 | 66.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 191.3 | 66.7 | 39.2 | 1626.82 | 1107.64 | 0.00 |
| 8 | 10.5 | 8.3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 27.4 | 8.3 | 39.1 | 1629.20 | 1119.20 | 0.00 |
| 9 | 83.0 | 66.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 215.0 | 66.7 | 39.1 | 1632.65 | 1119.01 | 0.00 |
| 10 | 23.7 | 50.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 109.6 | 50.0 | 38.2 | 8467.85 | 8711.61 | 0.00 |
| FracJob | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| TotlJob | 428.7 | 416.7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1115.2 | 416.7 | 34.8 | 3684.54 | 3587.45 | 0.00 |
| ##### | | | | | | | | | | | | | |

B.C. Steel Gammon #20-1.dat Gammon #20-1 Altamont Lime



Geological Report

Gammon #20-1
SW, NE, SW, SW Quarter, Sec. 20; T34S; R7E
970' FSL; 985' FWL
Cowley County, KS
API #15-035-24400-00

Operator: B-C Steel, LLC., C/O Bert Carlson, 209 North Fry, Yates Center, KS.
66783.

Drilling Contractor: Landmark Drilling Company. Mud Rotary Rig #2.

Wellsite Geologist: Mark Brecheisen.

Dates Drilled: April 15th, 2011 to April 18th, 2011.

Size Hole: 7 7/8"

Total Depth: 2650'; RTD 2654'

Elevation: 1307'

Drilling Fluid: Freshwater bentonite and additives.

Surface Casing: 450' of 8-5/8" casing cemented with 250 sx of cement to surface.

Formation Tops: Formation tops were picked from the electric logs.

Field Name: Donelson West.

Status: Oil Well.

Oil Shows: Altamont Limestone @2585'-2591'.

Gas Shows: Layton Sandstone @2182'-2200', 60 unit gas kick on hot wire.
Altamont Limestone @2585'-2591', 450 unit gas kick on hot wire.

Water Encountered: No appreciable water encountered upon drilling.

On Location: April 15th, 2011, 1:00 pm. Left location after TD and logging @4:30 am.
April 19th, 2011.

START @ 9.00

0'-1000': Samples not examined.

1000'-1108': (Topeka Limestone Section) Limestone, pale yellowish brown to moderate olive brown, fine to medium crystalline, mottled in part, hard, fairly dense, glauconitic in part. No visible porosity or staining present. Few traces of black bitumen on few sample surfaces. Interbedded shale present, medium to dark gray with dusky green, red and black shale scattered throughout, soft, greasy. Traces of pyrite present. Traces of interbedded sandstone present, very light gray to moderate brown, very fine grained, well-sorted with sub-angular to well rounded grains, fairly friable, glauconitic in part, micritic to clean. Overall, 20% mottled to even, variegated mineral fluorescence. No petroliferous odor/show.

1900 12:00
1200 9 AM

1108'-1129': Shale, medium gray to black, soft, greasy, fissile and carbonaceous in part. Limestone present, pale yellowish brown to olive gray, fine crystalline, fairly friable, mottled, no visible staining present. Trace sandstone present. Overall, 30% even, dull, yellow mineral fluorescence. No petroliferous odor/show.

1200

1129'-1154': Elgin Sandstone, off-white to very light gray, very fine to medium grained, fair sorting with sub-angular to well-rounded grains, very friable. Lots of unconsolidated sand grains in sample, very clean, poorly cemented, no staining present. Traces of medium dark gray shale present. Less than 3% even, dull mineral fluorescence. No petroliferous odor/show.

1154'-1179': Shale, medium gray to black with traces of red shale present, soft, greasy, carbonaceous and fissile in part. Traces of interbedded limestone present. Sandstone laminae present, off-white to very light gray, very fine to fine grained, well sorted, with sub-angular to well-rounded grains, fairly friable, glauconitic in part, very clean, lots of unconsolidated sand grains present in sample, calcite cemented, no visible stain present. 3% even, dull mineral fluorescence. No petroliferous odor/show.

1400 10:00

1179'-1208': Sandstone, off-white to very light gray, very fine to fine grained, well sorted with sub-angular to well-rounded grains, very friable, very clean, glauconitic in part. No visible staining present. Traces of shale and limestone present. Overall, trace of even, dull mineral fluorescence. No petroliferous odor/show.

1208'-1242': Shale, medium dark gray to black, soft, greasy, carbonaceous in part. Sandstone present from 1218'-1224', very light gray, very fine grained, well sorted with sub-angular to well-rounded grains, fair friability, no staining present, traces of limestone present. 5% even, dull yellow mineral fluorescence. No petroliferous odor/show.

1242'-1260': Sandstone, very light gray, very fine grained, well sorted with sub-angular to well-rounded grains. Sample mostly unconsolidated sand grains. No visible staining present. Traces of limestone and shale present. Overall, 5% even, variegated yellow mineral fluorescence. No petroliferous odor/show.

1260'-1330': Shale, medium gray to dark gray with traces of red and black shale present, soft, greasy, fissile in part. Traces of pyrite present. Limestone partings and sandstone laminae present. No visible staining present. Overall, 10% even, medium bright, yellow mineral fluorescence. No petroliferous odor show.

Top of Oread Limestone @1330'(-23')

- 1330'-1334': Limestone, pale yellowish brown to olive gray, fine crystalline, mottled in part, fairly friable, few traces of pinpoint porosity present. No visible staining present. 5% even, medium bright, yellow mineral fluorescence. No petroliferous odor/show.
- 1334'-1346': Shale, medium dark to dark gray with traces of black shale present, soft, greasy to gritty, fissile and carbonaceous in part. Trace amount of pyrite present. No fluorescence.
- 1346'-1348': Limestone, pale yellowish brown, fine crystalline, mottled in part, fairly friable, no visible staining present. 5% even, medium bright, yellow mineral fluorescence. No petroliferous odor/show.
- 1348'-1468': Shale, medium dark gray and red with traces of black shale present, soft and greasy to silty/sandy, carbonaceous in part. Scattered limestone and sandstone partings present throughout section. Traces of black bitumen on few limestone samples, presenting itself in mottled patches. No cut to these samples. Overall, less than 3% even, variegated, yellow mineral fluorescence. No petroliferous odor/show.

Base of the Shawnee Group/Top of the Douglas Group @1468'(-161')

- 1468'-1480': Limestone, pale yellowish brown to olive gray, fine crystalline, mottled in part, fairly friable, no visible staining present. Shale partings present, medium dark gray and red with traces of black shale present, soft and greasy to silty. Traces of sandstone present. 12% even, variegated, yellow mineral fluorescence. No petroliferous odor/show.
- 1480'-1498': Sandstone, very light gray, very fine grained, well sorted with sub-angular to well rounded grains, very friable, very clean, glauconitic in part, no visible staining present. Shale partings present, medium dark gray and red. Trace limestone present. Less than 5% even, very dull, bluish yellow mineral fluorescence. No petroliferous odor/show.
- 1498'-1576': Shale, medium dark gray and red with traces of dark gray and black shale present. Traces of pyrite present. Interbedded sandstone present, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, very friable, very clean. Traces of black bitumen on few rock samples, no cut. Interbedded limestone present, pale yellowish brown to moderate yellowish brown, fine crystalline, mottled and fossiliferous in part, fairly friable. No visible staining present throughout this interval. Overall, trace of very dull, bluish yellow mineral fluorescence present. No petroliferous odor/show.
- 1576'-1636': Shale, medium dark gray to dark gray with red shale present, soft, greasy. Few scattered traces of limestone and sandstone present. No fluorescence. No petroliferous odor/show.
- 1613'- Swivel problem—stopped drilling on Saturday April 16th, 2011 @ 12:45 pm. Resumed drilling @ 7:39 pm on April 16th, 2011.

Top of Iatan Limestone @1636'(-329') Top of the Pedee/Lansing Groups (undifferentiated)

- 1636'-1644': Limestone, dark yellowish brown, fine crystalline, mottled, hard, sucrosic, no visible porosity or staining present. 10% even, very dull, bluish yellow mineral fluorescence. No petroliferous odor/show.
- 1644'-1672': Shale, medium-dark to dark gray, with red shale present, soft, greasy. Interbedded sandstone present, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, fairly friable, slightly micritic. No fluorescence. No petroliferous odor/show.
- 1672'-1707': Stalnaker Sandstone, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, good to excellent friability, argillaceous in part, no visible staining present. Trace limestone and shale partings present. No fluorescence. No petroliferous odor/show.
- 1707'-1725': Shale, medium to medium-dark gray and red. Traces of thinly banded vitrain coal present. Traces of interbedded sandstone and limestone present. Trace, even, medium bright yellow mineral fluorescence. No petroliferous odor/show.
- 1725'-1758': Shale, medium to medium-dark gray and red, soft, greasy, silty in part. Interbedded sandstone and limestone present. Trace of even, medium bright yellow mineral fluorescence. No petroliferous odor/show.
- 1758'-1910': Shale, medium dark gray and red, soft, greasy to silty/sandy in part. Traces of interbedded sandstone and limestone present. Overall, no visible staining present. No fluorescence. No petroliferous odor/show.
- 1910'-1928': Perry Sandstone, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, good friability, clean, no visible oil stain present. Few minor shale partings present. No fluorescence. No petroliferous odor/show.
- 1928'-1938': Shale, medium dark gray to dark gray and red, soft, greasy.
- 1938'-1960': Sandstone, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, very friable, clean, no oil stain present. Some pinpoint traces of black bitumen on few rock samples. Traces of interbedded medium dark to dark gray shale present. No fluorescence. No petroliferous odor/show.
- 1960'-1976': Shale, medium to medium dark gray and red, soft, greasy, silty/sandy in part. Few scattered sandstone laminae present. No fluorescence. No petroliferous odor/show.
- 1976'-1980': Limestone, olive gray, fine crystalline, very hard, dense, dolomitic, no visible porosity. Trace of even, very dull, bluish yellow mineral fluorescence. No petroliferous odor/show.

Base of the Lansing Group/Top of the Kansas City Group @1980' (-637')

- 1980'-1998': Shale, medium dark gray and red. Interbedded sandstone present, very light to light gray, fine grained, well-sorted with sub-angular to well-rounded grains, fairly

friable, glauconitic in part, no oil staining present. No fluorescence. No petroliferous odor/show.

1998'-2180': Shale, medium dark gray and red, soft and greasy. Traces of black shale present, carbonaceous and pyritic in part. Interbedded limestone and sandstone scattered throughout interval. No fluorescence. No petroliferous odor/show.

Top of Iola Limestone @2180'(-873')

2180'-2182': Limestone, moderate yellowish brown, fine to medium crystalline, mottled, fairly friable, no visible porosity or staining present. No fluorescence. No petroliferous odor/show.

2182'-2200': Cottage Grove/Upper Layton Sandstone, very light gray, very fine grained, well-sorted with sub-angular to sub-rounded grains, excellent friability, glauconitic, micaceous in part. Traces of black bitumen on few sample surfaces. No fluorescence. No petroliferous odor/show. A brief 60 unit gas kick was observed when drilling this interval. The electric logs show no real clear indications of gas, so I would not recommend completion in this zone.

2200'-2231': Shale, medium dark to dark gray and red. Traces of black, carbonaceous shale present. Interbedded limestone and sandstone present. No fluorescence.

2231'-2292': Lower Layton Sandstone, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, excellent friability, glauconitic in part. Black bitumen on several sample surfaces. No light brown oil stain present. Traces of black shale and pyrite present. Traces of limestone present. No fluorescence. No petroliferous odor/show. No gas indication.

2292'-2388': Shale, medium dark to dark gray with traces of pyrite present, soft, greasy to silty/sandy. Scattered sandstone and limestone laminae throughout section. No fluorescence. No petroliferous odor/show.

2388'-2390': Limestone, pale yellowish brown to dark brown, fine to medium crystalline, mottled in part, very hard, dense, slightly dolomitic, very fossiliferous, no visible porosity. No fluorescence. No petroliferous odor/show.

2390'-2398': Sandstone, light to medium gray, very fine grained, well sorted with sub-angular to well-rounded grains, calcareous, argillaceous in part, glauconitic in part, poor to fair friability. Traces of black bitumen on some sample surfaces. No fluorescence. No petroliferous odor/show.

2398'-2421': Shale, medium to medium dark gray, soft and greasy to silty/sandy. No fluorescence.

2421'-2478': Shale, medium dark to dark gray, fissile in part, gritty texture, calcareous in part. No fluorescence.

6-11-01
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241' - 242' - 243' - 244' - 245' - 246' - 247' - 248' - 249' - 250' - 251' - 252' - 253' - 254' - 255' - 256' - 257' - 258' - 259' - 260' - 261' - 262' - 263' - 264' - 265' - 266' - 267' - 268' - 269' - 270' - 271' - 272' - 273' - 274' - 275' - 276' - 277' - 278' - 279' - 280' - 281' - 282' - 283' - 284' - 285' - 286' - 287' - 288' - 289' - 290' - 291' - 292' - 293' - 294' - 295' - 296' - 297' - 298' - 299' - 300'

Base of the Kansas City Group @2478'(-1171')

2478'-2482': Shale, black, carbonaceous, calcareous in part. Vitrain coal present, thinly banded with many conchoidal fractures, pyrite veins present on surface of some coal samples. Fair petroliferous odor in sample/shale would bare a very slight cut in acetone test. No real saturation to samples. Overall, no fluorescence. Fair petroliferous odor/no show.

2482'-2500': Shale, dark gray, soft, greasy. Traces of limestone and sandstone present. No fluorescence. No petroliferous odor/show.

Top of the Lenapah Limestone@2500'(-1193')

2500'-2512': Limestone, pale yellowish brown to olive gray, fine to medium crystalline, mottled in part, very fossiliferous, hard dense, sucrosic, no visible porosity or staining present. Dark gray to black shale present, fissile and carbonaceous in part. Trace pyrite present. No fluorescence. Very slight petroliferous odor/no show.

2512'-2575': Shale, medium to medium-dark gray, silty to sandy, fairly hard, micaceous in part. Traces of dark gray and black shale present. Trace pyrite present. Scattered sandstone laminae present. No fluorescence.

- Bit Trip@2571' @ 12:57 pm, April 18th, 2011. Resumed drilling @ 4:30 pm April 18th, 2011.

Top of Altamont Limestone @2575'(-1268')

2575'-2602': Limestone, pale yellowish-brown to olive gray, fine to coarse crystalline, mottled in part, very hard, dense, sucrosic, fossiliferous in part. A drilling break was encountered from 2585'-2591' a description of that interval is as follows:

- Limestone, pale yellowish brown to light brown, fine crystalline, good friability. Pinpoint and vugular porosity observed in samples with light brown oil stain. Saturation good. Gas bubbles and oil observed popping out on surface of freshly broken sample faces. Samples exhibited a fast, even, good to strong, milky blue cut. Good residual oil show to tray after cut. Oil cut was visible in dimple tray under white light after hydrochloric acid cut. 40-45% mottled to even, bright yellow hydrocarbon fluorescence. Strong petroliferous odor/good oil show.

It should be noted the hot wire alarm went off at 2589'. It showed a 450 unit gas kick that lasted several minutes. When I stepped out of the geotrailer, I could immediately smell oil. I proceeded to the pits and observed a slight oil sheen on them. Scooped samples directly out of shale shaker, and they exhibited a very strong oil odor. The decision was made to drill to 2595' to get through the drilling break, and then circulate for one hour examining 30 and 60 minute samples respectively. The 30 and 60 minute circulation samples showed very few samples with oil staining present. Conclusion—the total time elapsed to drill from 2585' to 2595' allowed the samples with the oil show to already circulate to the surface before the 30 and 60 minute tests.

2602'-2650': Peru Sandstone, very light gray, very fine grained, well-sorted with sub-angular to well-rounded grains, excellent friability, glauconitic. Traces of black bitumen on

5' in and from sample

*Oil in the hole
5 to 6' below
part of the*

few sample surfaces. Traces of dark gray shale present. No fluorescence. No petroliferous odor/show.

TD 2650' @ 10:20 pm, Monday, April 18th, 2011.
RTD @ 2654'

(Mark D. Brecheisen)