



KANSAS CORPORATION COMMISSION 1065073  
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 # 34506  
Name: Empire Energy E&P, LLC  
Address 1: 17 ARENTZEN BLVD, STE 203  
Address 2: \_\_\_\_\_  
City: CHARLEROL State: PA Zip: 15022 + \_\_\_\_\_  
Contact Person: Rob Kramer  
Phone: ( 316 ) 712-2345  
CONTRACTOR: License # 33493  
Name: American Eagle Drilling LLC  
Wellsite Geologist: James Musgrove  
Purchaser: Coffeyville Resources

Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SLOW  
 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 #: \_\_\_\_\_

07/01/2011	07/18/2011	08/01/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-051-26165-00-00

Spot Description: \_\_\_\_\_  
S2 S2 N2 Sec. 18 Twp. 11 S. R. 17  East  West  
2310 Feet from  North /  South Line of Section  
2640 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW

County: Ellis  
Lease Name: CARMICHAEL-KOLLMAN W. UNIT Well #: 4

Field Name: Bemis - Shutts  
Producing Formation: Arbuckle

Elevation: Ground: 1880 Kelly Bushing: 1887  
Total Depth: 3538 Plug Back Total Depth: 3483  
Amount of Surface Pipe Set and Cemented at: 1142 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: 16000 ppm Fluid volume: 220 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 Garrison Date: 10/14/2011



1065073

Operator Name: Empire Energy E&P, LLC Lease Name: CARMICHAEL-KOLLMAN W. UNIT Well #: 4  
 Sec. 18 Twp. 11 S. R. 17  East  West County: Ellis

**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: <b>Attached</b>	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum Attached Attached Attached
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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	12.25	8.625	23	1142	common	450	3% CaCl <sub>2</sub> , 2% gel
Production	7.875	5.5	14	3532	common	225	10% NaCl, 2% gel, 5#/sk gilsonite, 1/4 #

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate				
___ Protect Casing	-			
___ Plug Back TD				
___ Plug Off Zone	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth
4	3434-3435		

TUBING RECORD: Size: <u>2.875</u> Set At: <u>3483</u> Packer At: <u> </u> Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR: <u>08/03/2011</u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
Estimated Production Per 24 Hours	Oil Bbls. <u>7</u> Gas Mcf <u> </u> Water Bbls. <u>108</u> Gas-Oil Ratio <u> </u> Gravity <u>31</u>

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 checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: <u>3434</u> <u>3435</u>
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Form	ACO1 - Well Completion
Operator	Empire Energy E&P, LLC
Well Name	CARMICHAEL-KOLLMAN W. UNIT 4
Doc ID	1065073

All Electric Logs Run

Dual Induction	
Dual Compensated Porosity	
Microresistivity	
Borehole Compensated Sonic	
Cement Bond Log	

Form	ACO1 - Well Completion
Operator	Empire Energy E&P, LLC
Well Name	CARMICHAEL-KOLLMAN W. UNIT 4
Doc ID	1065073

Tops

Name	Top	Datum
Anhydrite	1131	756
Base Anhydrite	1167	720
Topeka	2827	-940
Heebner	3054	-1167
Toronto	3076	-1189
Lansing	3098	-1211
Base Kansas City	3332	-1445
1st Simpson	3350	-1463
2nd Simpson	3365	-1478
Arbuckle	3386	-1499



PO BOX 31 Russell, KS 67665

# INVOICE

Invoice Number: 128006

Invoice Date: Jul 19, 2011

Page: 1

Voice: (785) 483-3887  
Fax: (785) 483-5566

**Bill To:**  
Empire Energy  
c/o Randy Weigel  
P O Box 187  
Plainville, KS 67663

Customer ID	Well Name# or Customer P.O.	Payment Terms	
EmpiEne	CrnmchIKlImnWUn#4 <i>AFE</i>	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-01	Russell	Jul 14, 2011	8/18/11

Quantity	Item	Description	Unit Price	Amount
270.00	MAT	Class A Common	16.25	4,387.50
180.00	MAT	Pozmix	8.50	1,530.00
7.00	MAT	Gel	21.25	148.75
14.00	MAT	Chloride	58.20	814.80
471.00	SER	Handling	2.25	1,059.75
30.00	SER	Mileage 471 sx @ .11 per sk per mi	51.81	1,554.30
1.00	SER	Surface	1,925.00	1,925.00
60.00	SER	Pump truck Mileage	7.00	420.00
60.00	SER	Light Vehicle Mileage	4.00	240.00
1.00	EQP	8.5/8 Baffle Plate	84.00	84.00
1.00	EQP	8.5/8 Solid Rubber Plug	79.00	79.00
1.00	CEMENTER	Shane Poche		
1.00	CEMENTER	Heath Long		
1.00	CEMENTER	Glenn Ginther		
1.00	OPER ASSIST	Woody O'Neil		
1.00	EQUIP OPER	Ron Bennett		
1.00	OPER ASSIST	Walter Keith		

APPROVED AUG 08 2011  
*Randy Weigel*  
RSK 9208

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

**\$ 3112.91**

ONLY IF PAID ON OR BEFORE  
**Aug 13, 2011**

Subtotal	12,243.10
Sales Tax	443.78
Total Invoice Amount	12,686.88
Payment/Credit Applied	
<b>TOTAL</b>	<b>12,686.88</b>

RECEIVED AUG 08 2011

# ALLIED CEMENTING CO., LLC. 039660

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

SERVICE POINT:

*Russell KS*

DATE <u>7-14-2011</u>	SEC. <u>18</u>	TWP. <u>11 S</u>	RANGE <u>17 W</u>	CALLED OUT	ON LOCATION	JOB START <u>17:00</u>	JOB FINISH <u>7:30 PM</u>
CONTRACTOR <u>CARMICHAEL WEST UNITE</u>		LOCATION <u>Hay Sks. N. To Rur RD.</u>		COUNTY <u>ELLIS</u>	STATE <u>KANSAS</u>		
LEASE <u>KOILMAN</u>		WELL # <u>4</u>		OLD OR NEW (Circle one) <u>NEW</u>			
3 1/2 E 1/2 S INT							

CONTRACTOR American Eagle Rig #  
 TYPE OF JOB LONG SURFACE  
 HOLE SIZE 12 1/4 T.D. 1145  
 CASING SIZE 8 5/8 Now DEPTH 1142  
 TUBING SIZE #CSG. DEPTH  
 DRILL PIPE DEPTH  
 TOOL BAFFLE Plate DEPTH 1100  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT 42.31  
 CEMENT LEFT IN CSG. 42.31  
 PERFS.  
 DISPLACEMENT 70 BBL  
 EQUIPMENT  
 PUMP TRUCK CEMENTER GLENN  
 # 417 HELPER Woody  
 BULK TRUCK  
 # 423 DRIVER RON - WALTER  
 BULK TRUCK  
 # DRIVER

OWNER  
 CEMENT AMOUNT ORDERED 450 60 30cc  
2% GEL  
 CHLORIDE 14 @ 58.20 814.80  
 POZMIX 180 @ 8.50 1530.00  
 GEL 17 @ 21.25 361.25  
 HANDLING 471 @ 2.25 1059.75  
 MILEAGE 11.56/mi 1557.36  
 TOTAL 9495.10

REMARKS:

Ron 27 JTS New 23 # 8 5/8 CSG.  
Set @ 1142. Received Circulation  
& Mixed 450 SX 60 3%CC, 2%GEL  
Release TRP. & Displace 70 BBL H<sub>2</sub>O  
LAND Plug @ 1100ft & Shut in

SERVICE

DEPTH OF JOB  
 PUMP TRUCK CHARGE 1925.00  
 EXTRA FOOTAGE @  
 MILEAGE 60 @ 7.00 420.00  
 MANIFOLD @  
CUT 60 @ 4.00 240  
 TOTAL 2585.00

CHARGE TO: EMPIRE ENERGY EXP, LLC  
 STREET  
 CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 5/8 Baffle Plate 84.00  
11 Solid Rubber Plug @ 79.00  
 TOTAL 163.00

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

SALES TAX (If Any)  
 TOTAL CHARGES 17,298.10  
 DISCOUNT 50/20 IF PAID IN 30 DAYS

PRINTED NAME  
 SIGNATURE Todd E. [Signature]



PO BOX 31 Russell, KS 67665

# INVOICE

Invoice Number: 127938

Invoice Date: Jul 18, 2011

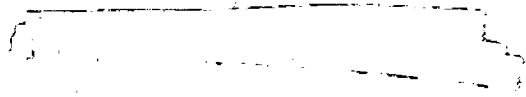
Page: 1

Voice: (785) 483-3887

Fax: (785) 483-5566

**Bill To:**

Empire Energy  
c/o Randy Weigel  
P O Box 187  
Plainville, KS 67663



Customer ID	Well Name# or Customer P.O.	Payment Terms	
EmpiEne	CKWV #4 <i>AFE</i>	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-02	Russell	Jul 18, 2011	8/17/11

Quantity	Item	Description	Unit Price	Amount
261.00	MAT	Class A Common	16.25	4,241.25
24.00	MAT	Pozmix	8.50	204.00
6.00	MAT	Gel	21.25	127.50
10.00	MAT	Salt	23.95	239.50
71.00	MAT	Flo Seal	2.70	191.70
1,425.00	MAT	Gilsonite	0.89	1,268.25
331.00	SER	Handling	2.25	744.75
30.00	SER	Mileage 331 sx @ .11 per sk per mi	36.41	1,092.30
1.00	SER	Long String	2,125.00	2,125.00
60.00	SER	Pump Truck Mileage	7.00	420.00
60.00	SER	Light Vehicle Mileage	4.00	240.00
10.00	EQP	5.5 Turbo Centralizer	60.00	600.00
2.00	EQP	5.5 Basket	236.00	472.00
1.00	EQP	5.5 Latch Down Plug	194.00	194.00
1.00	EQP	5.5 Float Shoe	245.00	245.00
1.00	CEMENTER	Bill Leikam		
1.00	OPER ASSIST	Mark Radkle		
1.00	OPER ASSIST	Walter Keith		
1.00	OPER ASSIST	Tony Pfannenstiel		

*9208  
RSK*

APPROVED AUG 08 2011

*Randy Weigel*

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ *2481.05*

ONLY IF PAID ON OR BEFORE  
Aug 12, 2011

Subtotal	12,405.25
Sales Tax	490.34
Total Invoice Amount	12,895.59
Payment/Credit Applied	
<b>TOTAL</b>	<b>12,895.59</b>

RECEIVED AUG 08 2011

# ALLIED CEMENTING CO., LLC. 039754

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

SERVICE POINT: Russell

DATE <u>7-78-11</u>	SEC. <u>16</u>	TWP. <u>11</u>	RANGE <u>17</u>	CALLED OUT	ON LOCATION	JOB START <u>11:45 AM</u>	JOB FINISH <u>12:45 AM</u>
LEASE <u>CKWV</u>	WELL # <u>4</u>	LOCATION <u>HAYS 2N 3E</u>				COUNTY <u>Cherokee</u>	STATE <u>KN</u>
OLD OR NEW (Circle one)							

CONTRACTOR <u>American Eagle</u>		OWNER
TYPE OF JOB <u>Long string</u>		
HOLE SIZE <u>7 7/8</u>	TD	CEMENT
CASING SIZE <u>5 1/2</u>	DEPTH	AMOUNT ORDERED
TUBING SIZE	DEPTH	<u>60# 6940 4% gel 5" 6il 516 Flo</u>
DRILL PIPE	DEPTH	<u>225 #10 Com 10% Salt 5" 6il 2% gel 4" 7A</u>
TOOL	DEPTH	
PRES. MAX	MINIMUM	COMMON <u>261</u> @ <u>16.25</u> <u>4241.25</u>
MEAS. LINE	SHOE JOINT	POZMIX <u>24</u> @ <u>8.50</u> <u>204.00</u>
CEMENT LEFT IN CSG. <u>43.23</u>		GEL <u>6</u> @ <u>21.25</u> <u>127.50</u>
PERFS.		CHLORIDE @
DISPLACEMENT <u>85.25 bbls</u>		ASC @
EQUIPMENT		<u>Salt 10</u> @ <u>23.95</u> <u>239.50</u>
		<u>Flo sand 71 lbs</u> @ <u>2.70</u> <u>191.70</u>
		<u>Gilsonite 1425 lbs</u> @ <u>.89</u> <u>1268.25</u>
PUMP TRUCK CEMENTER <u>Bill</u>		
# <u>366</u> HELPER <u>Todd TWS</u>		
BULK TRUCK		
# <u>473</u> DRIVER <u>Mark R. - walter</u>		
BULK TRUCK		
# <u>460</u> DRIVER <u>Tony</u>		
		HANDLING <u>331</u> @ <u>2.25</u> <u>744.75</u>
		MILEAGE <u>331 x .11 x 30</u> <u>1092.30</u>
		TOTAL <u>8109.25</u>

REMARKS:

Pipe out 3538  
Shoe 43.73  
Present 3494.07  
Cement 30 plus 6940 11% gel 5" 6il  
5 1/2" 5" 6il follow w/ 225 #10 Com 10% salt  
5" 6il 29100  
pump plus w/ 85.25 bbls of water  
30% Kothide  
and plus 1500 #

CHARGE TO: Empire Energy E&P LLC  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB		
PUMP TRUCK CHARGE		<u>2125.00</u>
EXTRA FOOTAGE	@	
MILEAGE <u>60</u>	@	<u>7.00</u> <u>420.00</u>
MANIFOLD	@	
<u>LVM 60</u>	@	<u>4.00</u> <u>240.00</u>
	@	<u>275.00</u>
		TOTAL <u>2785.00</u>

PLUG & FLOAT EQUIPMENT

<u>10-Turbo Centrifizer--w</u>	@	<u>60.00</u>	<u>600.00</u>
<u>2-Baskets</u>	w	@	<u>236.00</u> <u>472.00</u>
<u>1-Latchdown</u>	I	@	<u>194.00</u> <u>194.00</u>
<u>1-Float shoe</u>	w	@	<u>245.00</u> <u>245.00</u>
	@		
		TOTAL	<u>1511.00</u>

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

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES \_\_\_\_\_  
DISCOUNT 20 IF PAID IN 30 DAYS

PRINTED NAME \_\_\_\_\_

SIGNATURE Ruby Papp



**JAMES C. MUSGROVE**

Petroleum Geologist  
212 Main Street  
P.O. Box 215  
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 587-3444

Empire Energy E & P, LLC  
Carmichael-Kollman W Unit #4  
S/2-S/2-N/2, 2310' FNL & 2640' FEL  
Section 18-11s-17w  
Ellis County, Kansas  
Page 1

**5 1/2" Production Casing Set**

**Contractor:** American Eagle Drilling Company (Rig #3)  
**Commenced:** July 12, 2011  
**Completed:** July 18, 2011  
**Elevation:** 1887' K.B; 1885 D.F; 1880' G.L.  
**Casing program:** Surface; 8 5/8" @ 1140'  
Production; 5 1/2" @ 3549'  
**Sample:** Samples saved and examined 2800' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 2800 ft to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** None.  
**Electric Log:** By Log Tech; Dual Induction, Dual Compensated Porosity Log, Micro and Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1131	+756
Base Anhydrite	1167	+720
Topeka	2827	-940
Heebner	3054	-1167
Toronto	3076	-1189
Lansing	3098	-1211
Base Kansas City	3332	-1445
1 <sup>st</sup> Simpson Dolomite	3350	-1463
2 <sup>nd</sup> Simpson Dolomite	3365	-1478
Arbuckle	3386	-1499
Rotary Total Depth	3540	-1653
Log Total Depth	3538	-1651

(All tops and zones corrected to Electric Log measurements).

**SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.**

**TOPEKA SECTION**

3011-3026' Limestone; gray, white and tan, finely crystalline, fossiliferous, chalky, fair porosity, brown and light brown stain, trace of free oil and questionable odor in fresh samples.

**TORONTO SECTION**

3076-3086' Limestone; cream, tan, finely crystalline, chalky, poor visible porosity, trace poor stain, no show of free oil, trace iron pyrite, plus gray chert.

**LANSING SECTION**

3098-3112' Limestone; gray and white, chalky, poor porosity, trace spotty stain, no show of free oil and no odor in fresh samples.

3128-3144' Limestone; white, cream, oolitic, fossiliferous, chalky, poor to fair porosity, brown stain, show of free oil and faint odor in fresh samples.

3150-3160' Limestone; white/gray, fossiliferous, chalky, spotty brown and black stain, no show of free oil and no odor in fresh samples.

3174-3180' Limestone; white, gray, finely crystalline, fossiliferous in part, trace stain, no show of free oil and no odor in fresh samples.

3188-3196' Limestone; white, cream, finely crystalline, oomoldic, fair porosity, brown and dark brown stain, trace of free oil and faint odor samples broken.

3230-3240' Limestone; gray, white, finely crystalline, poor visible porosity, chalky in part.

3255-3267' Limestone; tan, finely crystalline, oolitic, few fossiliferous to sub oomoldic, poor visible porosity, trace stain, trace of free oil and no odor in fresh samples.

3271-3280' Limestone; white/cream, tan, finely crystalline, chalky, few granular, poorly developed porosity, no shows.

3298-3314' Limestone; gray, oolitic, chalky, no shows.

**SIMPSON SECTION**

3350-3355' Dolomite; yellow and tan, fine to medium crystalline, poor visible porosity, no shows.

**2<sup>ND</sup> SIMPSON DOLOMITE SECTION**

3365-3371 Dolomite; yellow and green tinted, finely crystalline, sucrosic, no shows.

**ARBUCKLE SECTION**

3386-3390' Dolomite; tan, sucrosic, fair porosity, brown stain, show of free oil and odor in fresh samples.

3390-3400' Dolomite; as above.

3400-3410' Dolomite; brown, finely crystalline, few medium crystalline, sucrosic, good brown stain and saturation, fair to good show of free oil and good odor in fresh samples.

3410-3420' Dolomite; as above, few with good vuggy porosity.

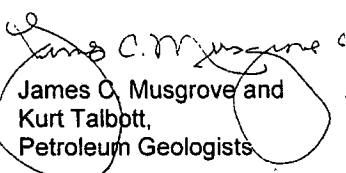
- 3420-3430' Dolomite; cream and gray, finely crystalline, sucrosic, fair porosity, fair stain and saturation, show of free oil and fair odor in fresh samples.
- 3430-3446' Dolomite; tan/brown, fine and medium crystalline, few oomoldic, fair porosity, brown stain, show of free oil and fair to good odor in fresh samples.
- 3450-3470' Dolomite; as above, decreasing stain, trace of free oil (black), plus white chert.
- 3470-3500' Dolomite; cream, white, finely crystalline, slightly cherty, poor stain, (black and gray) plus dolomite, white, fine and medium crystalline, fair porosity, no show.
- 3500-3520' Dolomite; as above, gray, pink slightly cherty, plus white chert.
- 3520-3540' Dolomite; as above, plus white chalk.

Rotary Total Depth 3540  
Log Total Depth 3538

**Recommendations:**

5 1/2" production casing was set and cemented at 3539'.

Respectfully submitted;

  
James C. Musgrove and  
Kurt Talbott,  
Petroleum Geologists

  
KURT  
Talbott