



KANSAS CORPORATION COMMISSION 1059805
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) 313-4395
CONTRACTOR: License # 33493
Name: American Eagle Drilling LLC
Wellsite Geologist: Jim Musgrove
Purchaser: Coffeyville Resources

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 #: _____
06/02/2011 06/08/2011 07/11/2011
Spud Date or Date Reached TD Completion Date or
Recompletion Date Recompletion Date

API No. 15 - 15-167-23674-00-00

Spot Description: _____
SW NE SW NW Sec. 10 Twp. 14 S. R. 14 East West
1669 Feet from North / South Line of Section
980 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: Russell
Lease Name: Boxberger Solomon Well #: 14
Field Name: Hall-Gurney

Producing Formation: Lansing- Kansas City
Elevation: Ground: 1839 Kelly Bushing: 1844
Total Depth: 3350 Plug Back Total Depth: 3307
Amount of Surface Pipe Set and Cemented at: 864 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: 200 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 Gertler Date: 09/12/2011



1059805

Operator Name: Empire Energy E&P, LLC Lease Name: Boxberger Solomon Well #: 14
 Sec. 10 Twp. 14 S. R. 14 East West County: Russell

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: Attached	<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 type="checkbox"/> New <input checked="" 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	24	864	common	320	2% gel, 3% CC
Production	7.875	5.5	14	3348	AA-2	200	10% est, 75% gas block, 8% FLA, 3%

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input checked="" type="checkbox"/> Plug Off Zone	2991-3000	common	80	3% CaCl
-	-	-	-	-

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
Attached	Attached	Attached	Attached

TUBING RECORD: Size: <u>2 7/8", 6.5 #, J-55</u> Set At: <u>3190</u> Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or ENHR. <u>07/17/2011</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. <u>4</u>	Gas Mcf _____
	Water Bbls. <u>230</u>	Gas-Oil Ratio _____
		Gravity <u>36</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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>3015 - 3182</u>
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Form	ACO1 - Well Completion
Operator	Empire Energy E&P, LLC
Well Name	Boxberger Solomon 14
Doc ID	1059805

All Electric Logs Run

Dual Induction
Compensated Neutron/Density
Micro
Sonic

Form	ACO1 - Well Completion
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Doc ID	1059805

Tops

Anhydrite	831	+1014
Grand Haven	2366	-521
1st Tarkio Sand	2377	-532
2nd Tarkio Sand	2403	-558
Topeka	2699	-854
Heebner	2931	-1086
Toronto	2950	-1105
Lansing	2991	-1146
Base Kansas City	3194	-1349
Reagan Sand	3251	-1406
Granite Wash	3311	-1466

Form	ACO1 - Well Completion
Operator	Empire Energy E&P, LLC
Well Name	Boxberger Solomon 14
Doc ID	1059805

Perforations

3	2991-2992, 2995-2996, 2998-3000	200 gals. acid, 80 sks. cement	2991-3000
4	3015-3017	100 gals. acid	3015-3017
5	3031-3038, 3042-3048	1100 gals. acid	3031-3048
5	3078-3080	550 gals. acid	3078-3080
5	3088-3096, 3110-3112, 3120-3124	600 gals. acid	3088-3124
5	3139-3141	550 gals. acid	3139-3141
5	3155-3157, 3161-3163	450 gals. acid	3155-3163
5	3172-3173, 3178-3182	450 gals. acid	3172-3182
3	3252-3258, Set CIBP		3245

QUALITY OILWELL CEMENTING, INC.

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 5018

Date	6/3/11	Sec.	10	Twp.	14	Range	14	County	Russell	State	KS	On Location	Finish	6:00 AM
Lease	Box 2401 Solomons			Well No.	14			Location	Russell, 1 S, 3/4 W, Sinto					
Contractor	American Edge Drilling Rig #3							Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Type Job	Surface							Charge To	EMPIRE ENERGY					
Hole Size	12 1/4"			T.D.	868'			Street						
Csg.	8 5/8" 24#			Depth	867'			City						
Tbg. Size								State						
Tool								The above was done to satisfaction and supervision of owner agent or contractor.						
Cement Left in Csg.	32'			Shoe Joint	32'			Cement Amount Ordered	320 sxc Com 30/cc 20/gel					
Meas Line				Displace	53 Bbls.									

EQUIPMENT

Pumptrk	9	No.	Cement Helper	Paul	Common	320
Bulktrk	12	No.	Driver	Neate	Poz. Mix	
Bulktrk	PV	No.	Driver	Rocky	Gel.	10

JOB SERVICES & REMARKS

Remarks:	Calcium 11
Rat Hole	Hulls
Mouse Hole	Salt
Centralizers	Flowseal
Baskets	Kol-Seal
D/V or Port Collar	Mud CLR 48
Est. Circ.	CFL-117 or CD110 CAF 38
Mix 320 sxc	Sand
Displace	Handling 331
Land Plug	Mileage 8 5/8"
Cement Circulated	FLOAT EQUIPMENT
	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	1 Baffle Plate, Rubber Plug
	Head + Manifold
	Pumptrk Charge Long Surface
	Mileage 2

Thank You!!

Tax

Discount

Total Charge

X Signature

Bradford Baker



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

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

FIELD SERVICE TICKET
1718 00010 A

DATE _____ TICKET NO. _____

DATE OF JOB <i>10/21/11</i> DISTRICT <i>KANSAS</i>		NEW WELL <input type="checkbox"/> OLD WELL <input checked="" type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <i>Supco Energy F & P LLC</i>		LEASE <i>Box 1000 - 1000</i>		WELL NO. <i>14</i>					
ADDRESS		COUNTY <i>Russell</i>		STATE <i>Ks</i>					
CITY		STATE		SERVICE CREW <i>Worthen & Co. Inc.</i>					
AUTHORIZED BY		JOB TYPE: <i>CONV. 5/2 K.S.</i>							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
<i>13443</i>	<i>2 1/2</i>						<i>10/21/11</i>		<i>7:30</i>
<i>19809 19242</i>	<i>6 1/2</i>					ARRIVED AT JOB		AM	<i>7:30</i>
<i>19232 15362</i>	<i>2 1/2</i>					START OPERATION		AM	<i>4:00</i>
						FINISH OPERATION		AM	
						RELEASED		AM	
						MILES FROM STATION TO WELL			<i>15 mi.</i>

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
<i>CP105</i>	<i>AA7 Cement</i>	<i>S</i>	<i>205</i>		<i>\$ 3400 00</i>
<i>CP103</i>	<i>60/40 P2</i>	<i>SK</i>	<i>50</i>		<i>\$ 600 00</i>
<i>CC105</i>	<i>DE 10000</i>	<i>lb</i>	<i>38</i>		<i>\$ 150 00</i>
<i>CC111</i>	<i>SALT</i>	<i>lb</i>	<i>916</i>		<i>\$ 458 00</i>
<i>CC112</i>	<i>602 BULK</i>	<i>lb</i>	<i>141</i>		<i>\$ 726 15</i>
<i>CC124</i>	<i>110-222</i>	<i>lb</i>	<i>44</i>		<i>\$ 700 00</i>
<i>CC101</i>	<i>6.15000</i>	<i>lb</i>	<i>1000</i>		<i>\$ 670 00</i>
<i>CF107</i>	<i>1 inch down pipe & Baffle 5/8</i>	<i>EA</i>	<i>1</i>		<i>\$ 400 00</i>
<i>CF1251</i>	<i>2 1/4 Full Flt Khop 5/8</i>	<i>EA</i>	<i>1</i>		<i>\$ 360 00</i>
<i>CF1651</i>	<i>7.60000 5/8</i>	<i>EA</i>	<i>110</i>		<i>\$ 1100 00</i>
<i>CF1901</i>	<i>Basket 5/8</i>	<i>EA</i>	<i>2</i>		<i>\$ 580 00</i>
<i>F120</i>	<i>Perk up mileage charge</i>	<i>mi.</i>	<i>70</i>		<i>\$ 315 70</i>
<i>F101</i>	<i>10000 5/8 10000</i>	<i>mi.</i>	<i>100</i>		<i>\$ 1050 00</i>
<i>F113</i>	<i>Bulk 601 charge</i>	<i>mi.</i>	<i>866</i>		<i>\$ 1336 00</i>
<i>CF1004</i>	<i>Disti Charge 2500 4000</i>	<i>mi.</i>	<i>1</i>		<i>\$ 2160 00</i>
<i>CF1005</i>	<i>Bond of 5000 1000</i>	<i>mi.</i>	<i>250</i>		<i>\$ 350 00</i>
SUB TOTAL					<i>30</i>

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
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. _____



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

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

FIELD SERVICE TICKET
1718 03300 A

DATE _____ TICKET NO. 223 172

DATE OF JOB <u>1-21-11</u> DISTRICT <u>KANSAS</u>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <u>EMERIC ENERGY P & S LLC</u>		LEASE <u>Bombardier Solon</u>		WELL NO. <u>14</u>					
ADDRESS		COUNTY <u>Russell</u>		STATE <u>Ks</u>					
CITY STATE		SERVICE CREW <u>North Louisa Kinster</u>							
AUTHORIZED BY		JOB TYPE:							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
<u>35447 PU</u>	<u>2 1/2</u>					<u>in-B</u>			<u>2:30</u>
<u>19849-19342</u>	<u>2 1/2</u>								<u>7:00</u>
<u>14832 19062</u>	<u>2 1/2</u>								<u>11:30</u>
									<u>1:20</u>
						MILES FROM STATION TO WELL			<u>2.5</u>

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
<u>CE 300</u>	<u>1 hr of service charge</u>	<u>EA</u>	<u>1</u>		<u>\$ 275 00</u>
<u>CE 500</u>	<u>Plus container</u>	<u>Sub</u>	<u>1</u>		<u>\$ 250 00</u>
<u>5003</u>	<u>Service supplied for first hr. work</u>	<u>EA</u>	<u>1</u>		<u>\$ 175 00</u>
<u>CE 200</u>	<u>CS-16 CCL Sub</u>	<u>gal</u>	<u>5</u>		<u>\$ 175 00</u>
<u>CE 302</u>	<u>Derrick Charge 10' dia</u>	<u>EA</u>	<u>1</u>		<u>\$ 300 00</u>

CHEMICAL / ACID DATA:			

SUB TOTAL		<u>11,636.40</u>
SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
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.

BASIC

energy services, L.P.

TREATMENT REPORT

Customer Energie Energy FLD	Lease No.	Date 6-3-11
Lease 3000 Berber - Solomon	Well # 14	
Field Order # 039120	Station Drott	Casing 5 1/2"
		Depth 3348'
Type Job 5 1/2" Long String	Formation LW 3350	County Russell
		State KS
		Legal Description 10-14-14

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 5 1/2"	Tubing Size	Shots/Ft		Acid 200 KCL	RATE	PRESS	ISIP	
Depth 3348'	Depth	From	To	Pre Pad			5 Min.	
Volume 17 1/2	Volume	From	To	Pad 20 20 SKS NA-2 @	Min		10 Min.	
Max Press 1500'	Max Press	From	To	Frac 30 SKS 60/40	Avg		15 Min.	
Well Connection PL	Annulus Vol.	From	To	Flush 20 SKS 60/40 Por	HHP Used		Annulus Pressure	
Plug Depth 2900'	Packer Depth	From	To	Flush 20 SKS KCL	Gas Volume		Total Load	

Customer Representative Rick Boon	Station Manager Scotty	Treater Allen
--------------------------------------	---------------------------	------------------

Service Units	28443	19889	19842	19832	19862				
Driver Names	Allen	Keevan	Lesley	JR	Hunter				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
4:50 am					inplace discuss station station plan to be
					Laying down collars
6:00					out of hole lay down Kelly.
					Ris up to Run 5 1/2" casing
					1383.98 of 14 1/2 1917.98 15.5"
7:30					Shoe Joint 41.00' w/ note fill
					Float shoe + L.D. Baffle in collar
					CON-1-3-5-7-9-11-13-15-17-19
					Bracket Pin #4 Pin #10
9:00					run case down to 3348' - 10' up.
10:15	300#		5	4	run w/ Rig. + Rotate.
					START MIX 20SKS 60/40 Por 2%
			48	5	opL @ 12.5" w/ Branch water.
					START MIX 200SKS NA-2 @ 15.3"
					Finish mix - mt. washout P.L.
	200#			6	Drop L.D. Plug. start Disp
	500#				Caught L.F. w/ 40 Bils and
	800#			5	some plugging action during
					Disp.
11:00	1500#		79	4 1/2	Plug Down
	10#				Release - OIC
12:30					Plug Rat hole w/ 20SKS 60/40 Por

10244 NE Hiway 61 • P.O. Box 8613 • Pratt, KS 67124-8613 • (620) 672-1201 • Fax (620) 672-5383

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
Solomon Boxberger #14
1669' FNL & 980' FWL
Section 10-14s-14w
Russell County, Kansas
Page 1

5 1/2" Production Casing Set

Contractor: American Eagle Drilling Company (Rig #3)
Commenced: June 2, 2011
Completed: June 7, 2011
Elevation: 1845' K.B; 1843 D.F; 1840' G.L.
Casing program: Surface; 8 5/8" @ 867'
Production; 5 1/2" @ 3349'
Sample: Samples saved and examined 2300' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2300 ft to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Drill Stem Tests: None.
Electric Log: By Superior Well Services; Dual Induction, Compensated Neutron/Density, Micro and Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	831	+1014
Grand Haven	2366	-521
1 st Tarkio Sand	2377	-532
Dover	2393	-548
2 nd Tarkio Sand	2403	-558
Tarkio Lime	2437	-592
Willard Shale	2457	-612
Elmont	2497	-652
Scranton Shale	2575	-730
Howard	2639	-794
Severy Shale	2681	-836
Topeka	2699	-854
Heebner	2931	-1086
Toronto	2950	-1105
Lansing	2991	-1146
Base Kansas City	3194	-1349
Reagan Sand	3251	-1406
Granite Wash	3311	-1466
Rotary Total Depth	3350	-1505
Log Total Depth	3344	-1499

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

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

TOPEKA SECTION

- 2736-2742' Limestone; gray, chalky, trace black stain, no show of free oil and no odor in fresh samples.
- 2828-2846' Limestone; white, granular, scattered pinpoint porosity, golden brown stain, trace of free oil and no odor in fresh samples.
- 2853-2870' Limestone; gray, white, fossiliferous/oolitic, fair porosity, golden brown and brown stain, trace free oil and faint odor in fresh samples.
- 2880-2908' Limestone; as above, granular, chalky, spotty brown stain, trace of free oil and questionable odor in fresh samples.

TORONTO SECTION

- 2950-2964' Limestone; gray and cream, finely crystalline, scattered porosity, pinpoint, light brown stain, trace of free oil and no odor in fresh samples.

LANSING SECTION

- 2991-3002' Limestone; white, cream, slightly fossiliferous, scattered porosity, brown stain/saturation, show of free oil and questionable odor in fresh samples.
- 3012-3018' Limestone; white, finely crystalline, finely oolitic, chalky, brown stain, weak show of free oil and no odor in fresh samples.
- 3030-3048' Limestone; gray, brown, sub oomoldic, fossiliferous, dark brown stain, trace of free oil and faint odor in fresh samples.
- 3062-3068' Limestone; white, fossiliferous, chalky, poor visible porosity, questionable stain, no show of free oil and no odor in fresh samples.
- 3075-3083' Limestone; gray/tan, oolitic, sub oomoldic, chalky, trace stain, poor show of free oil and no odor in fresh samples.
- 3087-3106' Limestone; cream, oolitic, oomoldic, good oomoldic and vuggy type porosity, fair stain, show of free oil and odor in fresh samples.
- 3137-3148' Limestone; white, gray, sub oomoldic, fossiliferous, porosity, poor stain.
- 3151-3168' Limestone; white, highly oolitic, chalky, fair porosity, golden brown stain, show of free oil and faint odor in fresh samples.
- 3176-3182' Limestone; gray and white, oolitic, sub oomoldic, chalky increasingly cherty, poor visible porosity, fair stain and saturation, show of free oil and odor in fresh samples.

MARMATON SECTION

- 3210-3224' Limestone; gray and white, finely crystalline, fossiliferous, chalky, cherty, poor visible porosity, no shows.

REAGAN SECTION

- 3251-3266' Sand; white, clear, very fine grained, sub rounded, good sorting, friable, fair to good intergranular porosity, golden brown stain and saturation, show of free oil and fair odor in fresh samples.
- 3266-3294' Sand; clear, pink, very fine grained, sub rounded, friable, fair porosity, trace stain, show of free oil and questionable odor in fresh samples.
- 3294-3311' Sand; as above, fair to good porosity, few medium and coarse grained, gray and brown stain, show of free oil and strong odor in fresh samples.

GRANITE WASH SECTION

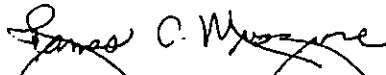
- 3311-3350' Granite; pink and red, gray and white to clear angular quartz, sub rounded, loose quartz grains and varied colored micas.

Rotary Total Depth 3350 (-1505)
Log Total Depth 3344 (-1499)

Recommendations:

5 ½" production casing was set and cemented at 3349'.

Respectfully submitted;


James C. Musgrove,
Petroleum Geologist

