



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1104393
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1104393

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	OSAGE Resources, LLC
Well Name	Osage 3313 18-07 HC
Doc ID	1104393

All Electric Logs Run

Mudlog
Geo Perf
Porosity
Sonic
Resistivity
Borehole Profile

Customer Osage Resources, LLC		Lease No.		Date 11-8-12	
Lease Osage 3313		Well # 18-07HC			
Field Order # 7298	Station Pratt, Kansas	Casing 13 7/8"	Depth 54.5Lb. 202 Feet	County Barber	State Kansas
Type Job C.N.W.-Conductor			Formation	Legal Description 18-335-13W	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 13 7/8"	Tubing Size 54.5Lb./ft.	Shots/Ft 250	Acid 250 sacks	Rate	Press	ISIP		
Depth 202 Feet	Depth	From	To	Max		5 Min.		
Volume 32.7 Bbl.	Volume	From	To	Min		10 Min.		
Max Press. 300 P.S.I.	Max Press	From	To	Avg		15 Min.		
Well Connection Wedge and Valve	Annulus Vol.	From	To	HHP Used		Annulus Pressure		
Plug Depth 202 Feet	Packer Depth	From	To	Flush 31 Bbl. Fresh Water	Gas Volume	Total Load		

Customer Representative Scott	Station Manager David Scott	Treater Clarence R. Messick
----------------------------------	--------------------------------	--------------------------------

Service Units	37,216	19,903	19,905	19,826	19,860				
Driver Names	Messick	Mattal	Lawrence						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
10:30					Trucks on location and hold safety meeting.
12:43					Dulte Drilling start to run 5 Joints new 54.5Lb/Ft. 13 7/8" casing.
1:30					Casing in well. Circulate for 15 minutes.
1:45	250			5	Start Fresh water Pre-Flush.
			10	5	Start Mixing 250 sacks commencement.
			62	5	Start Fresh water Displacement and
			93		Wash up pump truck on the plug.
2:05	300				Pump Plug Down. Shut in well.
					Circulated 10 sacks cement to the pit.
2:30					Job Complete.
					Thank You.
					Clarence, Mite, Mite

Customer Dango Resources	Lease No.	Date 11-17-12	
Lease OSAGE 3313 18-07 11c	Well #		
Field Order # 7501	Station Pint	Casing 7"	Depth
Type Job Cnw-7" L.S.	Formation	County Barber	State KS
		Legal Description 18-33-13	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft	150 shots	Acid	AA2 cement	RATE	PRESS	ISIP
Depth	Depth	From	To 1.43	Pre Pad		Max		5 Min.
Volume	Volume	From	To 2520	Pad	10% Salt	Min		10 Min.
Max Press	Max Press	From	To 520	Frac	320 FIA-322	Avg		15 Min.
Well Connection	Annulus Vol.	From	To 1/4" / 10k cells		170 WCA-1	HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush		Gas Volume		Total Load

Customer Representative	Station Manager Dave Scott	Treater Steve Orlando
Service Units 02283/19903/19905/19826/19860		
Driver Names Mattie Lawrence		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
9:00 AM					On location - Safety meeting
					Casing circulation
					Break Circ w/ Rig - No Circulation
4:12	300		0	5	Mix 150 shots AA2 cement
4:16	300		38	5	Shut Down - Release Plug
4:37	0		0	6	Start H ₂ O Displacement
5:07	600		170	5	Loss Pressure
5:12	900		170	4	Slow Rate
5:15 PM	1700		203	"	Plug Down - H ₂ O
					No Circulation This Job
					Job complete
					Thanks Steve

RECEIVED
NOV 21 2012

TAGE # 1

BASIC

energy services, L.P.

TREATMENT REPORT

Customer <i>OSAGE RESOURCES LLC</i>	Lease No. <i>OSAGE 3313 18-07 HC</i>	Date <i>11-30-12</i>
Lease <i>01165</i>	Well # <i>PRATIKS</i>	
Field Order # <i>01165</i>	Station <i>PRATIKS</i>	Casing <i>4 1/2</i>
		Depth <i>11,804</i>
Type Job <i>CNW - 4 1/2 LAMER</i>	Formation <i>TA - 11,917</i>	County <i>BARBER</i>
		State <i>KS</i>
		Legal Description <i>18-33-13</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <i>4 1/2</i>	Tubing Size <i>4 1/2</i>	Shots/Ft		Acid <i>30 SK H' SCAVENGER</i>	RATE	PRESS	ISIP	
Depth <i>11,804</i>	Depth	From	To	Pre Pad <i>970 SK H' TAIL</i>	Max		5 Min.	
Volume	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	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative *SCOTT* Station Manager *SCOTT* Treater *H. GUNDLEY*

Service Units <i>87586</i>	<i>19907</i>	<i>19889</i>	<i>19843</i>	<i>19903</i>	<i>19905</i>	<i>19960</i>	<i>21010</i>	<i>20959</i>	<i>19918</i>	<i>19831-1986</i>
Driver Names <i>KEVIN KEVIN</i>	<i>MAITAL</i>	<i>EDMUNDO</i>	<i>YOUNG</i>	<i>DAVE</i>	<i>M. LAWREN</i>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>0530</i>					<i>ONLOCATION - SAFETY MEETING</i>
					<i>11,804' - BOTTOM OF 4 1/2 LAMER</i>
					<i>4938' - TOP OF 4 1/2 LAMER</i>
					<i>2794' OF 4" S.P. - .010590</i>
					<i>2122' OF 4" HWDP - .006460</i>
					<i>HOOK UP TO 4" DP</i>
<i>0750</i>					<i>BREAK CIRC WITH H2O</i>
	<i>1200</i>	<i>2-500</i>	<i>80</i>	<i>2</i>	<i>PUMP 80 bbl H2O</i>
					<i>HOOK UP W/ WINTERFORD CEMENT HEAD</i>
<i>0910</i>		<i>1800</i>	<i>12</i>	<i>2</i>	<i>PUMP 12 bbl. MUD FEEL 3H</i>
			<i>5</i>	<i>2</i>	<i>PUMP 5 bbl H2O</i>
			<i>10</i>	<i>2</i>	<i>PUMP 30 SK SCAVENGER CEMENT</i>
	<i>1500</i>		<i>215</i>	<i>3</i>	<i>PUMP 970 SK TAIL CEMENT</i>
					<i>LAST CIRC WHILE PUMPING</i>
					<i>LAST 200 SK TAIL CEMENT</i>
<i>1025</i>					<i>WASH LINE CLEAN</i>
					<i>DROP D.P. PLUG</i>
<i>1030</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>START DESP. w/ 10 H/SUGAR H2O</i>
	<i>2800</i>		<i>38</i>	<i>2</i>	<i>SLOW DOWN FOR DP PLUG</i>
					<i>TO LAND ON TOP OF LAMER</i>
<i>1044</i>	<i>4000</i>		<i>43</i>	<i>1</i>	<i>STOP PLUG - RELEASE LAMER PLUG</i>
					<i>NEXT PAGE</i>

Customer <i>USAGE PROPERTIES LLC</i>	Lease No.	Date <i>11-30-12</i>
Lease <i>3313 18-07 H#</i>	Well #	
Field Order # <i>0165</i>	Station <i>FLAT, KS</i>	Casing <i>4 1/2</i>
Type Job <i>CMW - 4 1/2" LAMER</i>	Depth <i>1804</i>	County <i>BARBER</i>
	Formation <i>TD-11917</i>	State <i>KS</i>
		Legal Description <i>18-33-13</i>

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth	Depth	From	To	Pre Pad	Max		5 Min.
Volume	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	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative	Station Manager	Treater
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Service Units								
Driver Names								

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
		<i>3100</i>	<i>44</i>		<i>CONTINUE DISPLACEMENT</i>
					<i>NO CALCULATION</i>
<i>1110</i>		<i>2000</i>	<i>140</i>	<i>2</i>	<i>140 bbl - SLOW RATE</i>
		<i>2000</i>	<i>145</i>	<i>1</i>	<i>145 bbl - SLOW RATE</i>
<i>1115</i>		<i>2600</i>	<i>150 1/2</i>	<i>1</i>	<i>150.5 bbl - LAMINAR FLOW</i>
					<i>RELEASE - NO FLOW BACK</i>
					<i>PSI UP TO BURST ASIC</i>
<i>1118</i>		<i>2800</i>		<i>1</i>	<i>BURST - 2800 PSI</i>
		<i>2200</i>	<i>10</i>	<i>2</i>	<i>RAMP 10 bbl SLOWLY H2O</i>
					<i>SHUT DOWN</i>
					<i>RELEASE S.P. OFF LAMER</i>
					<i>CALCULATE HOLE CLEAN</i>
<i>1145</i>		<i>1250</i>	<i>150</i>	<i>4</i>	<i>WITH 150 bbl H2O</i>
					<i>DET NOT CIRC. MEMENT</i>
<i>1300</i>					<i>JOB COMPLETE - HOVER</i>

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

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

Sam Brownback, Governor

December 13, 2012

Brooke Walter
OSAGE Resources, LLC
6209 N Old K61 Hwy
HUTCHINSON, KS 67502-8608

Re: ACO1
API 15-007-23963-01-00
Osage 3313_1807HC
NW/4 Sec.18-33S-13W
Barber County, Kansas

Dear Production Department:

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

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

Respectfully,
Brooke Walter

T33S-R14W

Toe - 355'

T33S-R13W

7

F.W.STORM
#1



Osage
3313 18-07 HC

Prod Fm - 455'



18



Confidential

Osage 3313 18-07 HC ACO1 Map

Schematic

Barber County, KS

Copyright 2012

By: Brooke Waller

December 13, 2012

T33S-R15W

Osage
124

24

Toe - 1573'

Osage
110

CLINE-MILLS B

1

Osage
109

Osage
115 SWD

Prod Fm - 391'

25

Osage
HC3

Osage
3315 25-03 HC

Osage
HC1



Confidential

Osage 3315 25-03 HC ACO1 Map

Schematic

Barber County, KS

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By: Brooke Waller

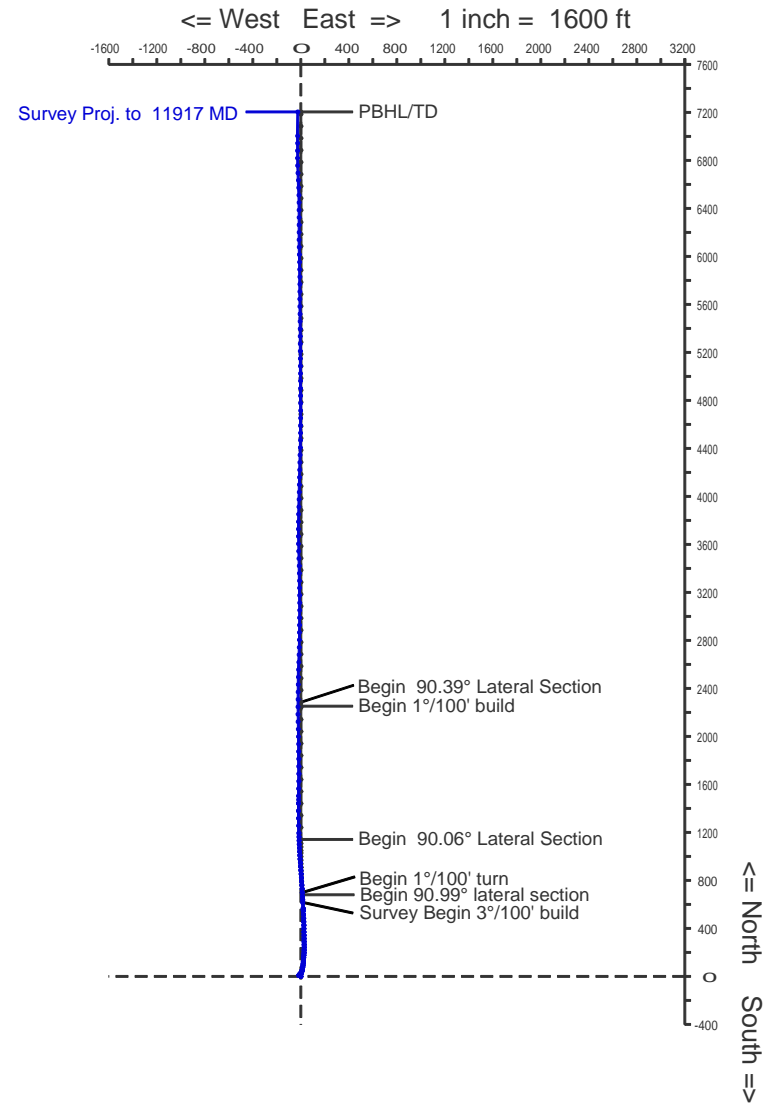
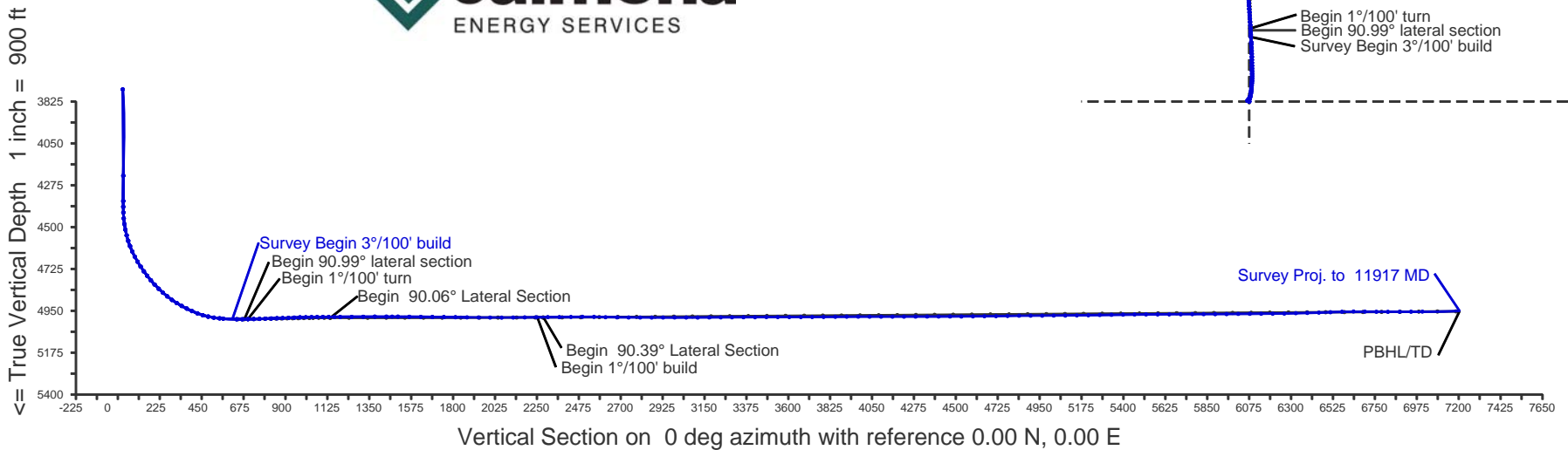
December 13, 2012

Osage Resources

Osage No. 3313 18-07 HC

WELL PROFILE DATA rev2							
MD	Inc.	Azi.	TVD	N/S	E/W	DLS	Comment 11-17-2012
5325	89.04	356.50	4994	615	16	0.00	Survey Begin 3°/100' build
5390	90.99	356.50	4994	680	12	3.00	Begin 90.99° lateral section
5409	90.99	356.50	4994	699	11	0.00	Begin 1°/100' turn
5852	90.06	0.00	4987	1141	-0	1.00	Begin 90.06° Lateral Section
6963	90.06	0.00	4986	2253	0	0.00	Begin 1°/100' build
6996	90.39	360.00	4986	2285	0	1.00	Begin 90.39° Lateral Section
11914	90.39	360.00	4953	7204	0	0.00	PBHL/TD

WELL PROFILE DATA svys							
MD	Inc.	Azi.	TVD	N/S	E/W	DLS	Comment 11-28-2012
11917	91.00	0.40	4950	7204	-26	0.00	Survey Proj. to 11917 MD



Calmena Energy Services

Company: Osage Resources
 Well: Osage No. 3313 18-07 HC
 Location:

Date: 28-Nov-2012
 Surveys
 Page 1
 Job# : 6883

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 0.00° Az (feet)	Comments
Surface Location								N 37.17471 W 98.7817 RKB=1876
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
510.00	0.60	305.10	509.99	1.54	-2.18	0.12	1.54	
974.00	0.80	317.60	973.96	5.32	-6.36	0.05	5.32	
1441.00	0.60	277.40	1440.92	8.05	-10.98	0.11	8.05	
1910.00	0.50	252.70	1909.90	7.75	-15.37	0.05	7.75	
2373.00	0.70	20.00	2372.89	9.81	-16.33	0.23	9.81	
2832.00	0.50	33.00	2831.87	14.13	-14.28	0.05	14.13	
3296.00	1.50	48.00	3295.79	19.89	-8.66	0.22	19.89	
3760.00	0.80	36.40	3759.69	26.56	-2.23	0.16	26.56	
4224.00	0.50	84.00	4223.67	29.38	1.71	0.13	29.38	
4360.00	0.50	104.60	4359.66	29.29	2.87	0.13	29.29	
4391.00	0.60	78.90	4390.66	29.29	3.16	0.85	29.29	
4422.00	2.50	29.70	4421.65	29.91	3.66	6.96	29.91	
4453.00	5.70	18.40	4452.57	31.95	4.48	10.60	31.95	
4484.00	8.20	17.40	4483.33	35.53	5.62	8.07	35.53	
4515.00	11.50	16.00	4513.87	40.61	7.14	10.67	40.61	
4546.00	14.60	15.30	4544.07	47.35	9.02	10.01	47.35	
4577.00	18.10	13.20	4573.81	55.81	11.15	11.45	55.81	
4607.00	21.20	10.50	4602.06	65.68	13.20	10.76	65.68	
4638.00	24.50	7.90	4630.63	77.56	15.11	11.13	77.56	
4669.00	27.80	6.80	4658.45	91.11	16.85	10.76	91.11	
4700.00	30.70	5.40	4685.49	106.17	18.45	9.61	106.17	
4731.00	32.90	5.60	4711.84	122.43	20.02	7.10	122.43	
4762.00	35.80	5.10	4737.43	139.84	21.65	9.40	139.84	
4792.00	38.20	4.70	4761.39	157.83	23.19	8.04	157.83	
4823.00	40.10	4.00	4785.43	177.35	24.67	6.29	177.35	
4854.00	42.60	2.60	4808.70	197.79	25.84	8.60	197.79	
4885.00	45.50	1.20	4830.98	219.33	26.55	9.87	219.33	
4916.00	48.40	0.30	4852.14	241.98	26.84	9.59	241.98	
4947.00	51.20	359.40	4872.14	265.65	26.77	9.30	265.65	

Calmena Energy Services

Company: Osage Resources
 Well: Osage No. 3313 18-07 HC
 Location:

Date: 28-Nov-2012
 Surveys
 Page 2
 Job# : 6883

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 0.00° Az (feet)	Comments
4978.00	54.40	359.60	4890.88	290.34	26.56	10.34	290.34	
5009.00	58.50	358.90	4908.01	316.17	26.22	13.36	316.17	
5040.00	61.20	358.90	4923.58	342.97	25.70	8.71	342.97	
5071.00	63.50	359.30	4937.97	370.42	25.27	7.51	370.42	
5102.00	66.10	358.90	4951.16	398.46	24.83	8.47	398.46	
5133.00	68.90	359.30	4963.03	427.10	24.38	9.11	427.10	
5163.00	72.80	358.60	4972.87	455.43	23.86	13.19	455.43	
5194.00	77.30	358.00	4980.86	485.36	22.97	14.64	485.36	
5225.00	81.70	357.20	4986.51	515.80	21.69	14.42	515.80	
5256.00	84.60	356.50	4990.21	546.53	20.00	9.62	546.53	
5276.00	85.40	356.50	4991.95	566.42	18.79	4.00	566.42	
5348.00	89.50	357.10	4995.15	638.22	14.77	5.75	638.22	
5378.00	90.60	356.90	4995.13	668.18	13.20	3.73	668.18	
5409.00	91.10	356.80	4994.67	699.13	11.50	1.64	699.13	
5440.00	91.40	356.60	4993.99	730.07	9.72	1.16	730.07	
5471.00	91.90	356.60	4993.10	761.00	7.88	1.61	761.00	
5503.00	92.00	356.20	4992.01	792.92	5.87	1.29	792.92	
5534.00	92.00	356.20	4990.93	823.83	3.82	0.00	823.83	
5565.00	92.20	355.90	4989.79	854.74	1.68	1.16	854.74	
5596.00	91.60	356.00	4988.76	885.64	-0.51	1.96	885.64	
5627.00	92.10	356.00	4987.76	916.55	-2.67	1.61	916.55	
5658.00	92.70	355.90	4986.46	947.45	-4.86	1.96	947.45	
5689.00	92.30	355.90	4985.11	978.34	-7.07	1.29	978.34	
5720.00	91.60	356.20	4984.06	1009.25	-9.20	2.46	1009.25	
5751.00	91.30	356.00	4983.27	1040.17	-11.31	1.16	1040.17	
5781.00	90.70	357.50	4982.75	1070.11	-13.01	5.38	1070.11	
5812.00	90.30	358.00	4982.48	1101.09	-14.23	2.07	1101.09	
5843.00	89.50	358.70	4982.53	1132.07	-15.12	3.43	1132.07	
5874.00	89.40	358.30	4982.83	1163.06	-15.93	1.33	1163.06	
5905.00	89.80	358.50	4983.05	1194.05	-16.80	1.44	1194.05	

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MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 0.00° Az (feet)	Comments
5967.00	90.90	358.50	4982.67	1256.02	-18.42	1.77	1256.02	
6029.00	90.70	359.00	4981.80	1318.00	-19.77	0.87	1318.00	
6091.00	90.40	359.70	4981.21	1380.00	-20.48	1.23	1380.00	
6153.00	89.70	1.00	4981.15	1441.99	-20.10	2.38	1441.99	
6215.00	90.00	1.00	4981.31	1503.98	-19.02	0.48	1503.98	
6276.00	89.00	1.00	4981.85	1564.97	-17.95	1.64	1564.97	
6338.00	89.60	0.60	4982.60	1626.96	-17.09	1.16	1626.96	
6400.00	90.00	359.90	4982.82	1688.96	-16.82	1.30	1688.96	
6462.00	89.00	0.10	4983.36	1750.96	-16.82	1.64	1750.96	
6524.00	89.20	359.60	4984.34	1812.95	-16.98	0.87	1812.95	
6586.00	89.80	359.00	4984.88	1874.94	-17.74	1.37	1874.94	
6648.00	89.20	358.90	4985.42	1936.93	-18.87	0.98	1936.93	
6710.00	89.40	358.50	4986.17	1998.91	-20.28	0.72	1998.91	
6772.00	90.00	358.30	4986.50	2060.88	-22.01	1.02	2060.88	
6834.00	90.90	358.20	4986.01	2122.85	-23.90	1.46	2122.85	
6896.00	90.80	0.30	4985.09	2184.83	-24.71	3.39	2184.83	
6958.00	90.80	0.30	4984.23	2246.83	-24.39	0.00	2246.83	
7020.00	90.20	0.60	4983.69	2308.82	-23.90	1.08	2308.82	
7082.00	90.50	0.60	4983.31	2370.82	-23.25	0.48	2370.82	
7144.00	90.40	1.30	4982.82	2432.81	-22.23	1.14	2432.81	
7206.00	91.10	0.80	4982.01	2494.79	-21.09	1.39	2494.79	
7268.00	88.30	2.00	4982.33	2556.76	-19.57	4.91	2556.76	
7330.00	88.70	2.20	4983.96	2618.70	-17.30	0.72	2618.70	
7392.00	89.30	1.70	4985.04	2680.66	-15.19	1.26	2680.66	
7454.00	90.00	1.10	4985.42	2742.63	-13.68	1.49	2742.63	
7516.00	89.40	0.60	4985.74	2804.63	-12.76	1.26	2804.63	
7578.00	90.00	0.40	4986.07	2866.62	-12.22	1.02	2866.62	
7639.00	90.80	0.30	4985.64	2927.62	-11.85	1.32	2927.62	
7701.00	89.60	1.00	4985.42	2989.61	-11.14	2.24	2989.61	
7763.00	89.50	0.30	4985.91	3051.61	-10.44	1.14	3051.61	

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7825.00	90.30	359.90	4986.02	3113.61	-10.33	1.44	3113.61	
7887.00	91.00	359.70	4985.32	3175.60	-10.55	1.17	3175.60	
7949.00	89.80	359.60	4984.88	3237.60	-10.93	1.94	3237.60	
8009.00	90.60	359.40	4984.67	3297.59	-11.45	1.37	3297.59	
8071.00	90.20	358.70	4984.24	3359.58	-12.48	1.30	3359.58	
8133.00	90.20	358.00	4984.02	3421.56	-14.26	1.13	3421.56	
8194.00	90.70	357.80	4983.55	3482.51	-16.50	0.88	3482.51	
8255.00	89.60	358.20	4983.39	3543.48	-18.63	1.92	3543.48	
8317.00	89.80	359.00	4983.71	3605.46	-20.14	1.33	3605.46	
8379.00	90.70	359.40	4983.44	3667.45	-21.01	1.59	3667.45	
8440.00	90.00	0.60	4983.07	3728.45	-21.01	2.28	3728.45	
8501.00	90.80	0.60	4982.64	3789.44	-20.37	1.31	3789.44	
8564.00	90.40	1.70	4981.98	3852.42	-19.10	1.86	3852.42	
8625.00	91.10	2.00	4981.18	3913.39	-17.14	1.25	3913.39	
8687.00	89.40	1.50	4980.91	3975.35	-15.24	2.86	3975.35	
8748.00	89.90	1.30	4981.29	4036.33	-13.75	0.88	4036.33	
8810.00	90.20	0.80	4981.23	4098.32	-12.62	0.94	4098.32	
8871.00	89.90	1.30	4981.18	4159.31	-11.50	0.96	4159.31	
8933.00	90.30	1.10	4981.07	4221.30	-10.20	0.72	4221.30	
8995.00	90.20	1.10	4980.80	4283.29	-9.01	0.16	4283.29	
9057.00	90.10	2.40	4980.64	4345.26	-7.12	2.10	4345.26	
9119.00	90.60	1.50	4980.26	4407.22	-5.01	1.66	4407.22	
9180.00	89.80	0.80	4980.05	4468.21	-3.78	1.74	4468.21	
9241.00	90.00	0.40	4980.15	4529.20	-3.14	0.73	4529.20	
9303.00	91.20	0.30	4979.50	4591.20	-2.76	1.94	4591.20	
9365.00	90.00	0.10	4978.85	4653.19	-2.55	1.96	4653.19	
9427.00	90.60	0.10	4978.53	4715.19	-2.44	0.97	4715.19	
9489.00	91.50	359.70	4977.39	4777.18	-2.55	1.59	4777.18	
9551.00	91.00	359.90	4976.04	4839.16	-2.76	0.87	4839.16	
9613.00	89.60	359.70	4975.72	4901.16	-2.98	2.28	4901.16	

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MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 0.00° Az (feet)	Comments
9675.00	90.10	359.70	4975.88	4963.16	-3.31	0.81	4963.16	
9737.00	90.80	359.60	4975.39	5025.16	-3.68	1.14	5025.16	
9799.00	89.90	359.20	4975.01	5087.15	-4.33	1.59	5087.15	
9861.00	90.90	359.70	4974.58	5149.15	-4.93	1.80	5149.15	
9923.00	91.20	359.60	4973.44	5211.13	-5.31	0.51	5211.13	
9984.00	91.00	359.90	4972.27	5272.12	-5.57	0.59	5272.12	
10047.00	91.20	359.40	4971.06	5335.11	-5.96	0.85	5335.11	
10109.00	90.50	359.70	4970.14	5397.10	-6.44	1.23	5397.10	
10171.00	91.10	359.70	4969.28	5459.09	-6.77	0.97	5459.09	
10233.00	89.60	359.00	4968.90	5521.09	-7.47	2.67	5521.09	
10295.00	89.90	358.30	4969.17	5583.07	-8.93	1.23	5583.07	
10357.00	90.40	1.00	4969.01	5645.06	-9.31	4.43	5645.06	
10419.00	90.90	0.40	4968.30	5707.05	-8.55	1.26	5707.05	
10481.00	90.10	359.70	4967.76	5769.05	-8.50	1.71	5769.05	
10542.00	89.70	359.40	4967.87	5830.05	-8.98	0.82	5830.05	
10604.00	90.20	359.00	4967.92	5892.04	-9.85	1.03	5892.04	
10665.00	90.90	358.30	4967.34	5953.02	-11.28	1.62	5953.02	
10728.00	90.70	358.50	4966.46	6015.99	-13.04	0.45	6015.99	
10790.00	90.50	358.90	4965.81	6077.97	-14.45	0.72	6077.97	
10851.00	90.10	359.90	4965.49	6138.96	-15.09	1.77	6138.96	
10913.00	90.30	0.60	4965.27	6200.96	-14.82	1.17	6200.96	
10975.00	91.30	359.70	4964.41	6262.95	-14.65	2.17	6262.95	
11037.00	91.90	359.60	4962.68	6324.93	-15.03	0.98	6324.93	
11099.00	91.10	359.90	4961.05	6386.91	-15.30	1.38	6386.91	
11161.00	92.00	359.60	4959.38	6448.88	-15.57	1.53	6448.88	
11223.00	92.30	358.90	4957.05	6510.83	-16.38	1.23	6510.83	
11285.00	92.20	357.60	4954.62	6572.75	-18.28	2.10	6572.75	
11347.00	90.00	357.10	4953.43	6634.67	-21.14	3.64	6634.67	
11408.00	88.70	356.60	4954.12	6695.58	-24.49	2.28	6695.58	
11470.00	89.50	358.20	4955.09	6757.50	-27.31	2.88	6757.50	

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MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 0.00° Az (feet)	Comments
11532.00	90.10	359.70	4955.31	6819.49	-28.44	2.61	6819.49	
11594.00	90.50	1.10	4954.98	6881.48	-28.01	2.35	6881.48	
11656.00	90.20	359.90	4954.60	6943.48	-27.47	2.00	6943.48	
11717.00	91.00	0.40	4953.97	7004.48	-27.31	1.55	7004.48	
11917.00	91.00	0.40	4950.48	7204.44	-25.91	0.00	7204.44	Survey projected