

ORIGINAL

PH/14

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

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

CONFIDENTIAL

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 32811  
Name: Osage Resources, L.L.C.  
Address 1: 6209 N. State Rd 61  
Address 2: \_\_\_\_\_  
City: Hutchinson State: KS Zip: 67502 + 8608  
Contact Person: Brooke C. Walter  
Phone: (620) 860-2224  
CONTRACTOR: License # 33132  
Name: Dan D Drilling  
Wellsite Geologist: Curtis Covey  
Purchaser: High Sierra

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 #: \_\_\_\_\_

2/18/2012    3/7/2012  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 007-23789-0100

Spot Description: \_\_\_\_\_  
SE NE SW Sec. 13 Twp. 33 S. R. 15  East  West  
1,830 Feet from  North /  South Line of Section  
2,538 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE     NW     SE     SW

County: Barber

Lease Name: Osage No. Well #: HC3

Field Name: Aetna Gas Area

Producing Formation: Mississippian

Elevation: Ground: 1831 Kelly Bushing: 1846

Total Depth: 9653 Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: 200 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 #: \_\_\_\_\_

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**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature: Brooke C. Walter  
Title: Geological Technician Date: 4/4/2012

KCC Office Use ONLY

- Letter of Confidentiality Received  
Date: 4-4-12 TO 4-4-14
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Contribution
- ALT  I  II  III Approved by: MS Date: 4-11-12

Operator Name: Osage Resources, L.L.C. Lease Name: Osage No. Well #: HC3  
 Sec. 13 Twp. 33 S. R. 15  East  West County: Barber

**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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: <b>Density/Neutron, Induction, Sonic, Geo-Perf,                  Geo Report</b>	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Name</td> <td style="width:20%;">Top</td> <td style="width:20%;">Datum</td> </tr> <tr> <td>Stark</td> <td>4630</td> <td>MSL</td> </tr> <tr> <td>BKC</td> <td>4715</td> <td>MSL</td> </tr> <tr> <td>Marmaton</td> <td>4765</td> <td>MSL</td> </tr> <tr> <td>Mississippian</td> <td>4883</td> <td>MSL</td> </tr> </table>	Name	Top	Datum	Stark	4630	MSL	BKC	4715	MSL	Marmaton	4765	MSL	Mississippian	4883	MSL
Name	Top	Datum														
Stark	4630	MSL														
BKC	4715	MSL														
Marmaton	4765	MSL														
Mississippian	4883	MSL														

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
Conductor Surface	26 17.5	20 13.375	90 54.5	41 200	4 yds grout Class C	NA 300	NA 3% CaCl, 1/4 #/sx celloflake
Intermediate	8.75	7	26	5504	AA2	200	0.25% defoamer, 10% salt, 0.5% CFR, 0.8% FLA-322 & 1/4#/sx celloflake
Production	6.125	4.5	11.6	9431	CP-100	20, 350	10% salt, 0.75% CFR, 0.25% defoamer, 0.1% WCA

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				

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

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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. _____		Producing Method: <input type="checkbox"/> Flowing <input 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 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 (Specify) _____	PRODUCTION INTERVAL: <b>CONFIDENTIAL</b>
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**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
Liberal, Kansas

# Cement Report

Customer	Osage Resources LLC		Lease No.		Date	2-19-12	
Lease	Osage		Well #	HCS	Service Receipt	2597	
Casing	13 3/4 48	Depth	214		County	Barber	
					State	KS	
Job Type	242 Surface		Formation		Legal Description	25-JB 75	
<b>Pipe Data</b>				<b>Perforating Data</b>		<b>Cement Data</b>	
Casing size	13 3/4 48#		Tubing Size		<b>Shots/Ft</b>		<b>Lead</b>
Depth	214		Depth		From	To	
Volume	28615		Volume		From	To	<b>Tail in 300stk Class C</b> 1.34173-SK 6.356d-54 14.8#
Max Press	500		Max Press		From	To	
Well Connection	1 3/8		Annulus Vol.		From	To	
Plug Depth	184		Packer Depth		From	To	
Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log		
2030					Arrive On Location		
2045					Safety Meeting plus Up		
1235	1000		1.0	1.0	Pressure Test		
2030					Rig Run Casing		
1200					Circulate w/ RI5		
1230					Hook up to B35		
1240	100		72	4.0	Pump Lead out @ 14.8#		
100	300		27	3.5	Displace		
115					Shut in Well		
					Job Complete		
					Cement To Surface		
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Service Units	19870	27462	14355-11284				
Driver Names	F. Chumaz	Ebbert	Shawn		KCC		

*Self*  
Customer Representative

*Tony Dent*  
Station Manager

*Samuel Chumaz*  
Cementer

# BASIC

energy services, L.P.

## TREATMENT REPORT

Customer	OSAGE Resources	Lease No.		Date	2-29-12	
Lease	OSAGE	Well #	H C 3			
Field Order #	Station	Casing	Depth	County	State	
5907	Pratt	7"	5505	Barber	KS	
Type Job	Formation		Legal Description			
CNW-7" LS			25-33-15			

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft.				RATE	PRESS	ISIP
7"			2005	AA2 Cement				
Depth	Depth	From	To	Pre Pad	1-43 yield	Max		5 Min.
5505								
Volume	Volume	From	To	Pad		Min		10 Min.
2103								
Max Press	Max Press	From	To	Frac		Avg		15 Min.
2000								
Well Connection	Annulus Vol.	From	To			HHP Used		Annulus Pressure
P.C.								
Plug Depth	Packer Depth	From	To	Flush	203.76	Gas Volume		Total Load
5465								

Customer Representative	Jeff Dale	Station Manager	Dave Scott	Treater	Steve Orlando
Service Units	27283	19903/19905/19852/19860			
Driver Names	Orlando	Mitchell	Mccasney		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					On location - Safety meeting
					Run 142 JTS 7" 26# CSS
					Casing on Bottom
					Break Circ w/ris
6:00	450		12	6	Pump 12 bbl mud flush
6:02	400		5	6	H2O spacer
6:03	400		51	6	Mix 2005 AA2 @ 15#/gal
					Clear Pump + line
					Release Plug
6:20	0		0	7	Start H2O Displacement
6:53	600		170	6	Lift pressure
6:58	1000		200	5	Slow Rate
7:00	1700		209	4	Plug Down - Held
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					Job Complete
					Thanks, Steve KCC WICHITA
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					APR 04 2014



energy services, L.P.

**TREATMENT REPORT**

Customer Osage Resources, LLC	Lease No.	Date 3-10-12
Lease Osage	Well # HC3	
Field Order # 4313	Station Pratt, Kansas	Casing 11.6 LB
Type Job C.N.W. - Longstring (Hang Liner)	Depth 9,653 Ft.	County Barber
	Formation	State Kansas
		Legal Description 25-335-15W

PIPE DATA		PERFORATING DATA		CEMENT USED		TREATMENT RESUME	
Casing Size 11.6 LB	Tubing Size 5 1/2 13.3 LB	Shots/Ft. Drill Pipe	From	To	20 sacks Premium	RATE	PRESS
Depth 4,026	Depth 4,970 Feet	From	To	445	sacks Premium w/	11.758	Friction Reducer, .25% Defoam
Volume 12.3 Bbl.	Volume 37 Bbl.	From	To	18	Free Water Control,	108	Salt
Max Press	Max Press	From	To	15.6 LB	6.7 Gal., 5.43 Gal.	1.24	CU. FT./SF.
Well Connection 21502	Annulus Vol.	From	To				HHP Used
Plug Depth	Packer Depth	From	To	Flush	109 Bbl. Fresh Water		Annulus Pressure
							Total Load

Customer Representative Jeff Dale	Station Manager David Scott	Treater Clarence R. Messick
Service Units 37,216	19,903	19,905
19,960	19,918	14,355
14,284		
Driver Names Messick	Mahtal	McClaskey
		LIBERAL

Time P.M.	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
3:00					Cementer and pump truck on location. Liner in well upon arrival and Drilling rig broke down.
5:00					Cement on location and hold safety meeting.
7:00					Drilling rig finish running Drill pipe. Liner in well. Circulate with rig for
					Rig up Weatherford plug container.
11:54		4,000			Pressure Test <del>and</del> and set liner hanger.
11:58	1,000			5	start Mud Flush.
			12	5	start Fresh water spacer.
12:03	800		24	5	Start mixing scavenger cement.
	1,400		24	5	start mixing 445 <sup>350</sup> sacks premium cement
12:58			122		stop pumping. Shut in well. Wash pump and lines. Release Top Dart. Open Well.
1:02	200			5	Start sugar water Displacement.
	700		10	5	Start 28KCL Displacement. Release liner Plug.
1:14	2,200		37		Land 1 <sup>st</sup> Dart and pressure up and <del>start</del> <del>start</del>
	800		109		Land Liner plug. <b>RECEIVED</b>
					Open release. No returns <b>APR 05 2012</b>
1:32	1,800				Pressure up and Burst Disk. <b>KCC WICHITA</b>
				5	Pump sugar water out of Liner. <b>CONFIDENTIAL</b>
			10		Hook up well to rig <b>CONFIDENTIAL</b> pump truck.
2:45					Job Complete.

25

Osage  
HC3

Lat 37.1437977  
Long -98.8975122

681'

Miss. 5,462'

Osage  
107



Lat 37.1308476  
Long -98.8973391

438'

36

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**Osage  
Resources**

ACO-1 Plat Map

Osage No. HC3  
Barber County, KS

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By: Brooke C. Waller

MAP PROJECTION

Datum: WGS 1984

April 10, 2012



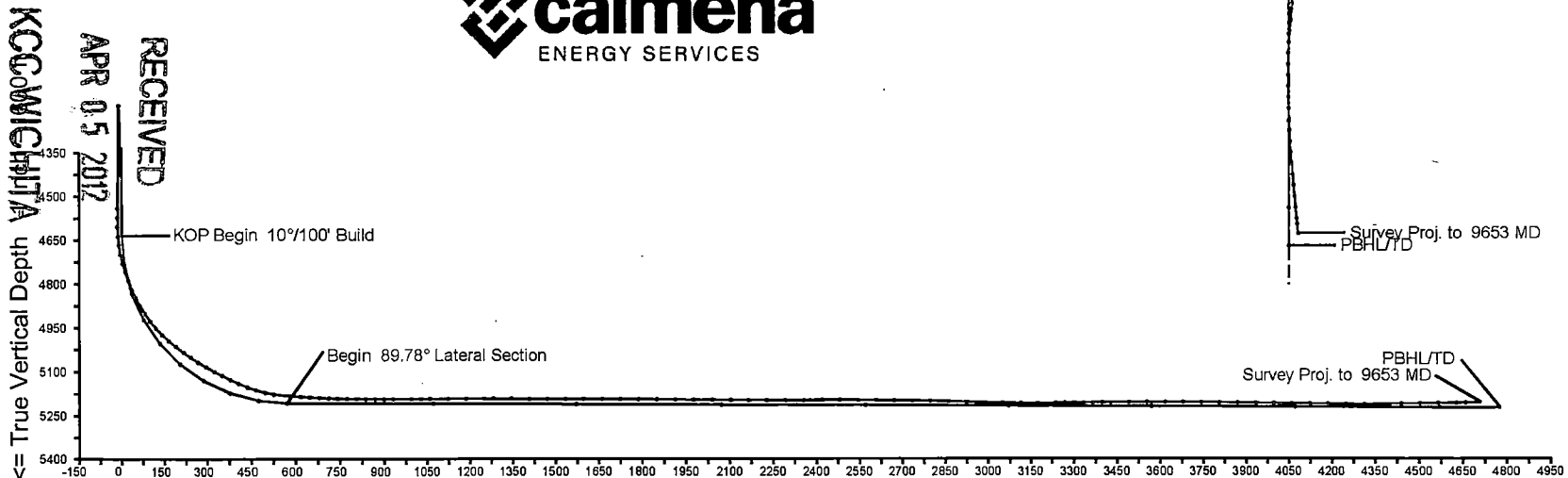
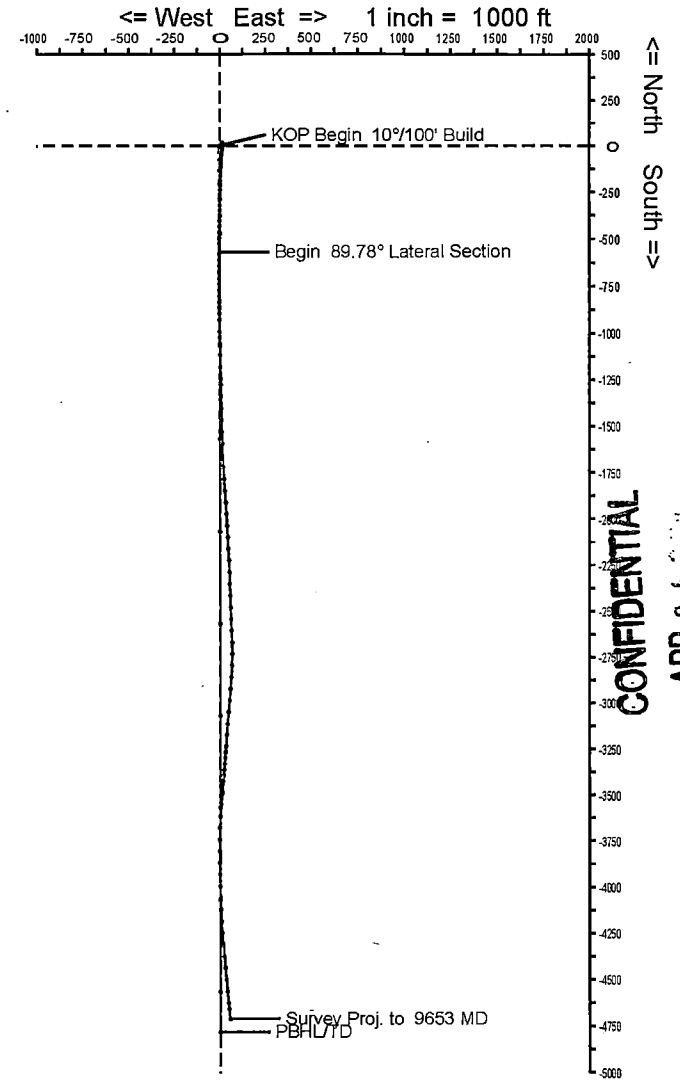
**Osage Resources**

Osage HC3

Barber County, Kansas

WELL PROFILE DATA rev1							
MD	Inc.	Azi.	TVD	N-S	E-W	DLS	Comment
4636	0.00	180.00	4636	0	0	0.00	KOP Begin 10°/100' Build
5534	89.78	180.00	5209	-571	0	10.00	Begin 89.78° Lateral Section
9748	89.78	180.00	5225	-4785	0	0.00	PBHL/TD

WELL PROFILE DATA svys							
MD	Inc.	Azi.	TVD	N-S	E-W	DLS	Comment
9653	91.30	173.50	5207	-4713	56	0.00	Survey Proj. to 9653 MD



Vertical Section on 180 deg azimuth with reference 0.00 N, 0.00 E

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**Calmena Energy Services**

Company: Osage Resources  
 Well: Osage HC3  
 Location: Barber County, Kansas

Date: 14-Mar-2012  
 Surveys  
 Page 1  
 Job#: 6341

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.00° Az (feet)	Comments
<b>Surface Location</b>								
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1173.00	0.80	91.60	1172.96	-0.23	8.19	0.07	0.23	
1665.00	0.30	73.90	1664.94	0.03	12.86	0.11	-0.03	
2171.00	0.10	224.00	2170.94	0.08	13.82	0.08	-0.08	
2675.00	0.60	12.00	2674.93	2.35	14.07	0.14	-2.35	
3180.00	0.70	309.80	3179.90	6.91	12.25	0.13	-6.91	
3685.00	0.30	6.10	3684.88	10.20	10.02	0.12	-10.20	
4189.00	0.30	38.00	4188.88	12.55	10.97	0.03	-12.55	
4543.00	0.90	348.60	4542.86	16.00	10.99	0.21	-16.00	
4575.00	0.50	328.70	4574.86	16.37	10.87	1.44	-16.37	
4606.00	1.30	190.40	4605.85	16.14	10.73	5.50	-16.14	
4638.00	4.70	172.90	4637.81	14.48	10.83	10.88	-14.48	
4669.00	8.60	171.80	4668.59	10.93	11.32	12.59	-10.93	
4701.00	12.20	175.60	4700.06	5.18	11.92	11.45	-5.18	
4733.00	15.40	180.10	4731.13	-2.44	12.17	10.54	2.44	
4764.00	18.60	184.90	4760.78	-11.48	11.74	11.26	11.48	
4796.00	21.30	186.90	4790.85	-22.34	10.61	8.70	22.34	
4828.00	24.20	187.40	4820.36	-34.62	9.06	9.08	34.62	
4859.00	26.80	187.10	4848.34	-47.85	7.38	8.40	47.85	
4890.00	30.00	185.60	4875.60	-62.51	5.76	10.58	62.51	
4922.00	33.70	183.70	4902.78	-79.33	4.41	11.98	79.33	
4954.00	37.90	182.70	4928.73	-98.02	3.37	13.25	98.02	
4985.00	41.90	181.90	4952.51	-117.88	2.58	13.01	117.88	
5016.00	46.30	181.10	4974.76	-139.44	2.02	14.31	139.44	
5048.00	50.10	181.40	4996.09	-163.29	1.50	11.90	163.29	
5080.00	53.10	181.70	5015.96	-188.35	0.82	9.40	188.35	
5112.00	54.90	181.80	5034.77	-214.23	0.03	5.63	214.23	
5143.00	56.20	181.00	5052.31	-239.78	-0.60	4.70	239.78	
5174.00	57.80	180.40	5069.19	-265.78	-0.91	5.41	265.78	
5206.00	60.60	180.00	5085.58	-293.26	-1.01	8.82	293.26	

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Calmena Energy Services

Company: Osage Resources  
 Well: Osage HC3  
 Location: Barber County, Kansas

Date:14-Mar-2012  
 Surveys  
 Page 2  
 Job# : 6341

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.00° Az (feet)	Comments
5238.00	63.40	180.30	5100.60	-321.52	-1.08	8.79	321.52	
5269.00	63.80	180.50	5114.38	-349.28	-1.28	1.41	349.28	
5301.00	63.60	180.90	5128.56	-377.97	-1.63	1.28	377.97	
5332.00	65.50	181.30	5141.88	-405.95	-2.16	6.24	405.95	
5364.00	69.30	181.30	5154.18	-435.48	-2.83	11.88	435.48	
5396.00	72.60	181.30	5164.62	-465.72	-3.52	10.31	465.72	
5428.00	77.10	180.80	5172.98	-496.59	-4.09	14.14	496.59	
5459.00	81.60	181.00	5178.71	-527.05	-4.56	14.53	527.05	
5516.00	87.10	179.80	5184.32	-583.75	-4.96	9.87	583.75	
5548.00	86.00	180.00	5186.24	-615.69	-4.90	3.49	615.69	
5579.00	86.10	179.90	5188.38	-646.61	-4.87	0.46	646.61	
5611.00	86.90	180.20	5190.33	-678.55	-4.90	2.67	678.55	
5643.00	87.60	179.80	5191.87	-710.52	-4.90	2.52	710.52	
5674.00	88.20	179.70	5193.00	-741.50	-4.77	1.96	741.50	
5706.00	88.70	179.60	5193.87	-773.48	-4.57	1.59	773.48	
5738.00	88.80	179.40	5194.57	-805.47	-4.29	0.70	805.47	
5769.00	89.70	179.50	5194.97	-836.47	-3.99	2.92	836.47	
5801.00	90.00	179.30	5195.06	-868.47	-3.66	1.13	868.47	
5832.00	90.00	179.30	5195.06	-899.47	-3.28	0.00	899.47	
5864.00	90.10	179.50	5195.03	-931.46	-2.95	0.70	931.46	
5927.00	90.20	178.80	5194.86	-994.46	-2.01	1.12	994.46	
5959.00	90.60	179.00	5194.64	-1026.45	-1.40	1.40	1026.45	
5991.00	90.70	179.00	5194.28	-1058.44	-0.84	0.31	1058.44	
6054.00	89.60	178.80	5194.11	-1121.43	0.37	1.77	1121.43	
6117.00	89.80	178.60	5194.44	-1184.41	1.80	0.45	1184.41	
6180.00	90.60	178.70	5194.22	-1247.39	3.28	1.28	1247.39	
6212.00	90.50	178.80	5193.92	-1279.39	3.98	0.44	1279.39	
6276.00	88.40	178.60	5194.53	-1343.36	5.43	3.30	1343.36	
6339.00	89.30	178.90	5195.79	-1406.33	6.81	1.51	1406.33	
6402.00	90.70	178.90	5195.79	-1469.32	8.02	2.22	1469.32	

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**Calmena Energy Services**

Company: Osage Resources  
 Well: Osage HC3  
 Location: Barber County, Kansas

Date:14-Mar-2012  
 Surveys  
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 Job# : 6341

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 180.00° Az (feet)	Comments
6466.00	90.90	179.00	5194.90	-1533.30	9.19	0.35	1533.30	
6529.00	90.30	179.00	5194.24	-1596.29	10.29	0.95	1596.29	
6593.00	89.70	177.30	5194.24	-1660.25	12.36	2.82	1660.25	
6656.00	89.20	176.00	5194.85	-1723.14	16.04	2.21	1723.14	
6719.00	89.80	175.30	5195.40	-1785.96	20.82	1.46	1785.96	
6782.00	90.00	175.70	5195.50	-1848.76	25.76	0.71	1848.76	
6846.00	89.00	176.00	5196.06	-1912.59	30.39	1.63	1912.59	
6909.00	89.20	176.30	5197.05	-1975.44	34.62	0.57	1975.44	
6972.00	89.70	176.70	5197.66	-2038.32	38.46	1.02	2038.32	
7035.00	89.30	176.20	5198.21	-2101.20	42.37	1.02	2101.20	
7098.00	89.80	176.90	5198.70	-2164.08	46.16	1.37	2164.08	
7161.00	90.00	177.50	5198.81	-2227.01	49.23	1.00	2227.01	
7225.00	89.70	177.80	5198.98	-2290.95	51.86	0.66	2290.95	
7288.00	90.40	178.30	5198.92	-2353.91	54.00	1.37	2353.91	
7352.00	90.40	178.20	5198.48	-2417.88	55.96	0.16	2417.88	
7415.00	89.60	177.40	5198.48	-2480.84	58.37	1.80	2480.84	
7479.00	89.50	178.10	5198.98	-2544.78	60.89	1.10	2544.78	
7542.00	89.40	177.80	5199.59	-2607.74	63.14	0.50	2607.74	
7606.00	89.40	178.20	5200.26	-2671.70	65.37	0.62	2671.70	
7669.00	89.40	181.00	5200.92	-2734.69	65.81	4.44	2734.69	
7732.00	89.60	181.90	5201.47	-2797.66	64.22	1.46	2797.66	
7795.00	87.60	184.30	5203.00	-2860.54	60.82	4.96	2860.54	
7858.00	87.60	184.70	5205.64	-2923.29	55.88	0.63	2923.29	
7922.00	88.80	184.70	5207.65	-2987.05	50.64	1.88	2987.05	
7985.00	89.60	184.50	5208.53	-3049.84	45.58	1.31	3049.84	
8049.00	89.50	184.50	5209.04	-3113.64	40.56	0.16	3113.64	
8112.00	90.10	184.60	5209.26	-3176.44	35.56	0.97	3176.44	
8173.00	90.40	184.30	5208.99	-3237.25	30.83	0.70	3237.25	
8205.00	91.00	184.30	5208.60	-3269.16	28.43	1.88	3269.16	
8237.00	91.30	184.00	5207.96	-3301.07	26.12	1.33	3301.07	

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**Calmena Energy Services**

Company: Osage Resources  
 Well: Osage HC3  
 Location: Barber County, Kansas

Date: 14-Mar-2012  
 Surveys  
 Page 4  
 Job#: 6341

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 180.00° Az (feet)	Comments
8268.00	90.60	184.80	5207.44	-3331.98	23.74	3.43	3331.98	
8300.00	90.20	184.80	5207.22	-3363.86	21.06	1.25	3363.86	
8332.00	90.50	184.70	5207.02	-3395.75	18.41	0.99	3395.75	
8363.00	90.70	184.60	5206.70	-3426.65	15.90	0.72	3426.65	
8427.00	90.20	184.70	5206.20	-3490.44	10.71	0.80	3490.44	
8490.00	90.50	184.60	5205.81	-3553.23	5.60	0.50	3553.23	
8554.00	90.30	184.20	5205.36	-3617.04	0.69	0.70	3617.04	
8617.00	88.60	180.80	5205.97	-3679.96	-2.05	6.03	3679.96	
8680.00	89.00	180.50	5207.29	-3742.94	-2.77	0.79	3742.94	
8744.00	89.40	179.90	5208.18	-3806.94	-2.99	1.13	3806.94	
8807.00	89.70	179.40	5208.68	-3869.93	-2.61	0.93	3869.93	
8871.00	89.10	178.30	5209.35	-3933.92	-1.32	1.96	3933.92	
8934.00	89.00	178.90	5210.39	-3996.89	0.22	0.97	3996.89	
8997.00	89.00	177.70	5211.49	-4059.85	2.08	1.90	4059.85	
9061.00	89.90	178.50	5212.11	-4123.81	4.21	1.88	4123.81	
9124.00	89.20	177.90	5212.60	-4186.78	6.19	1.46	4186.78	
9187.00	89.50	176.10	5213.31	-4249.68	9.48	2.90	4249.68	
9251.00	89.00	173.70	5214.15	-4313.42	15.17	3.83	4313.42	
9314.00	91.40	174.00	5213.93	-4376.05	21.92	3.84	4376.05	
9377.00	92.10	174.30	5212.01	-4438.69	28.34	1.21	4438.69	
9441.00	90.80	175.10	5210.39	-4502.40	34.25	2.38	4502.40	
9504.00	90.90	175.00	5209.46	-4565.16	39.68	0.22	4565.16	
9567.00	90.70	173.70	5208.58	-4627.84	45.88	2.09	4627.84	
9599.00	91.30	173.50	5208.02	-4659.64	49.45	1.98	4659.64	
9653.00	91.30	173.50	5206.79	-4713.28	55.56	0.00	4713.28	Survey projected

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