

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1258742  
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: \_\_\_\_\_

1258742



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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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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 <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/15/2015
Job End Date:	5/16/2015
State:	Kansas
County:	Harper
API Number:	15-077-22138-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Hunt 3408 3-15H
Longitude:	-98.17126800
Latitude:	37.09302100
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,756
Total Base Water Volume (gal):	1,966,792
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Archer	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	94.91671	None
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	4.77022	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03794	None
			Methyl Alcohol	67-56-1	80.00000	0.00031	None
			thiourea-formaldehyde copolymer	68527-49-1	15.00000	0.00006	None
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.00002	None
AIC	Archer	Liquid Acid Iron Control					
			Acetic Acid	64-19-7	50.00000	0.00070	None
			Citric Acid	77-92-9	30.00000	0.00042	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
		Other Chemicals					
			Water	7732-18-5		0.02840	
			Aliphatic Hydrocarbon	64742-47-8		0.01420	
			Anionic Polymer	N/A		0.01420	
			Water	7732-18-5		0.00973	

		Polyol Ester	N/A		0.00237
		Oxyalkylated Alcohol	68002-97-1		0.00237
		Sodium Salt of Phosphate Ester	68131-72-6		0.00162
		Acrylic Polymer	28205-96-1		0.00162
		Water	7732-18-5		0.00049
		Polyglycol Ester	N/A		0.00047
		WATER	7732-18-5		0.00014
		TRADE SECRET	N/A		0.00009
		Alcohol Ethoxylate Surfactants	N/A		0.00006
		Tetrasodium Ethylenediaminetetraacetate	64-02-8		0.00005
		n-olefins	N/A		0.00003
		Propargyl Alcohol	107-19-7		0.00002
		METHANOL	67-56-1		0.00002
		ISOPROPANOL	67-63-0		0.00002
		Cinnamic Aldehyde	104-55-2		
		Water	7732-18-5		
		Surfactant	N/A		
		Buffer	N/A		
		Acetic Acid	64-19-7		

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

### Hunt 3408 3-15H Perforations

Stage #	Date	Type	Top Depth MD	Top Depth TVD	Bottom Depth MD	Bottom Depth TVD	Zone	Shot Density	Status	Wellbore	String Perforated	Fluid Type
20	5/16/15	Frac Sleeve	5,583.00	4,773.20	5,585.00	4,773.20	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
19	5/16/15	Frac Sleeve	5,820.00	4,766.20	5,822.00	4,766.10	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
18	5/16/15	Frac Sleeve	6,008.00	4,759.90	6,010.00	4,759.90	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
17	5/16/15	Frac Sleeve	6,199.00	4,754.00	6,201.00	4,753.90	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
16	5/16/15	Frac Sleeve	6,394.00	4,753.90	6,396.00	4,753.90	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
15	5/16/15	Frac Sleeve	6,621.00	4,751.80	6,623.00	4,751.80	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
14	5/16/15	Frac Sleeve	6,817.00	4,759.70	6,819.00	4,759.80	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
13	5/16/15	Frac Sleeve	7,006.00	4,762.80	7,008.00	4,762.80	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
12	5/16/15	Frac Sleeve	7,197.00	4,759.60	7,199.00	4,759.60	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
11	5/16/15	Frac Sleeve	7,393.00	4,752.40	7,395.00	4,752.40	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
10	5/16/15	Frac Sleeve	7,623.00	4,753.00	7,625.00	4,753.00	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
9	5/16/15	Frac Sleeve	7,818.00	4,756.10	7,820.00	4,756.10	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
8	5/16/15	Frac Sleeve	8,005.00	4,760.20	8,007.00	4,760.20	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
7	5/16/15	Frac Sleeve	8,189.00	4,762.40	8,191.00	4,762.40	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
6	5/16/15	Frac Sleeve	8,380.00	4,764.90	8,382.00	4,764.90	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
5	5/16/15	Frac Sleeve	8,620.00	4,768.40	8,622.00	4,768.40	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
4	5/16/15	Frac Sleeve	8,811.00	4,769.10	8,813.00	4,769.20	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
3	5/16/15	Frac Sleeve	9,004.00	4,769.30	9,006.00	4,769.30	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
2	5/15/15	Frac Sleeve	9,191.00	4,770.90	9,193.00	4,770.90	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water
1	5/15/15	P-Sleeve	9,368.00	4,766.20	9,370.00	4,766.10	Miss Lime - Upper	1	Active	Original Hole	Production Liner, 9,405ftKB	Fresh Water

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
5398.0	86.90	182.40	4769.0	-528.3	872.0	0.00	0.00	684.4
5779.3	93.00	177.82	4769.3	-909.4	871.3	2.00	-36.93	1058.4
6014.3	93.00	177.82	4757.0	-1143.9	880.2	0.00	0.00	1290.3
6212.1	89.70	180.00	4752.4	-1341.5	884.0	2.00	146.53	1485.0
9436.0	89.70	180.00	4769.3	-4565.4	884.0	0.00	0.00	4650.2
								TD at 9436.0

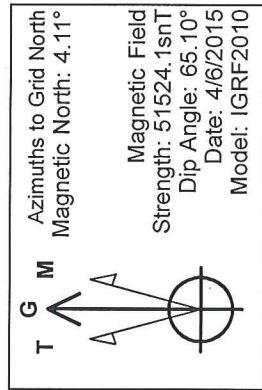
WELL DETAILS: Hunt 3408 3-15H		
Ground Level:	1387.0	
Northing	Easting	Longitude
155413.00	2095889.10	37° 5' 34.874 N 98° 10' 16.566 W

Project: Harper County (NAD-27)

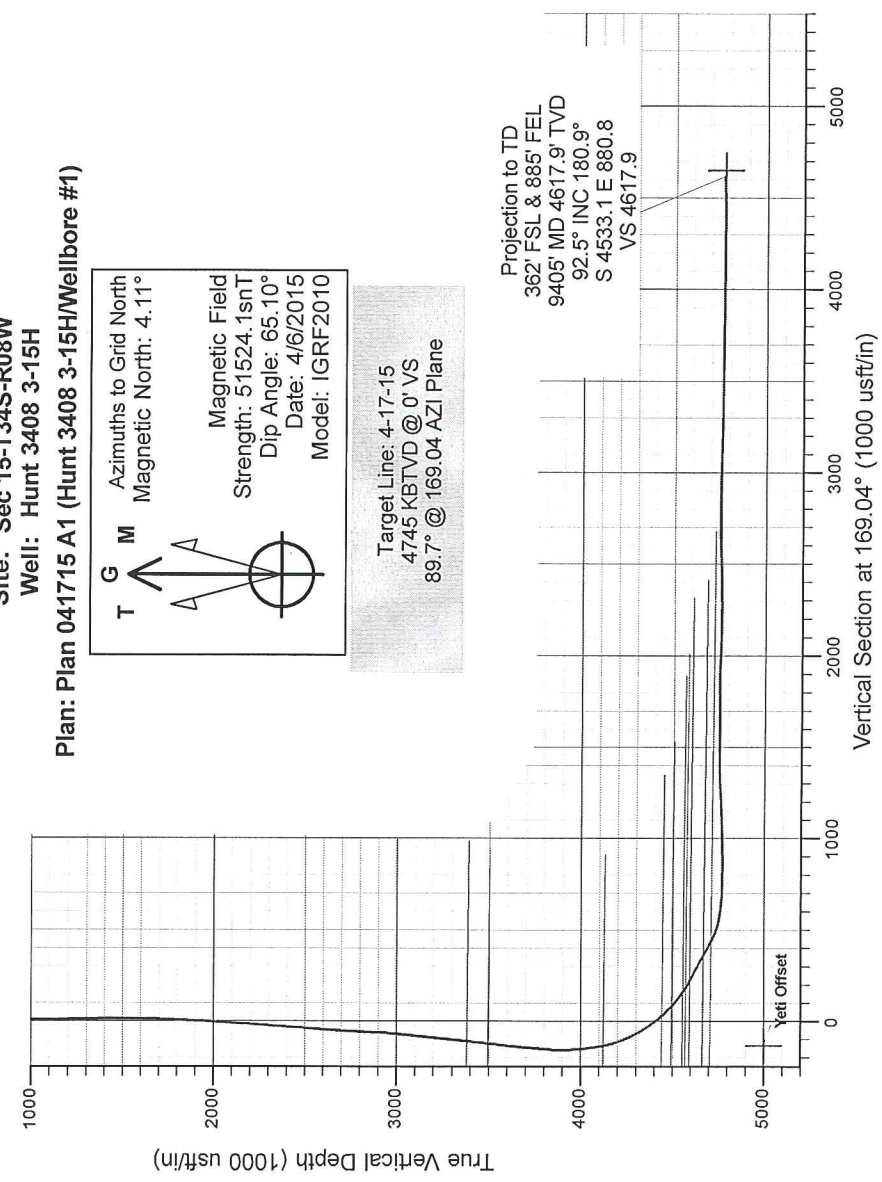
Site: Sec 15-T34S-R08W

Well: Hunt 3408 3-15H

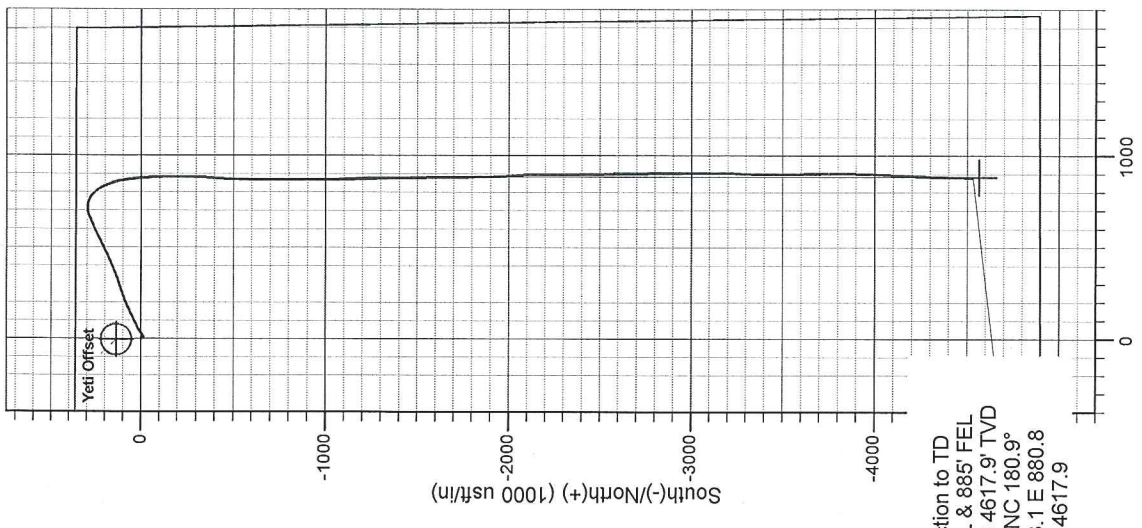
Plan: Plan 041715 A1 (Hunt 3408 3-15H/Wellbore #1)



Target Line: 4-17-15  
4745 KBTVD @ 0' VS  
89.7° @ 169.04 AZI Plane



Projection to TD  
362' FSL & 885' FEL  
9405' MD 4617.9' TVD  
92.5° INC 180.9°  
S 4533.1 E 880.8  
VS 4617.9



Projection to TD  
362' FSL & 885' FEL  
9405' MD 4617.9' TVD  
92.5° INC 180.9°  
S 4533.1 E 880.8  
VS 4617.9



# DrillRight

## Survey Report

<b>Company:</b> Sandridge Energy	<b>Local Co-ordinate Reference:</b> Well Hunt 3408 3-15H
<b>Project:</b> Harper County (NAD-27)	<b>TVD Reference:</b> KB @ 1406.0usft
<b>Site:</b> Sec 15-T34S-R08W	<b>MD Reference:</b> KB @ 1406.0usft
<b>Well:</b> Hunt 3408 3-15H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> EDM 5000.1 Single User Db

<b>Project</b> Harper County (NAD-27)		
<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b> Kansas South 1502		

<b>Site</b> Sec 15-T34S-R08W					
<b>Site Position:</b>		<b>Northing:</b>	150,503.00 usft	<b>Latitude:</b>	37° 4' 46.450 N
<b>From:</b> Map		<b>Easting:</b>	2,092,345.00 usft	<b>Longitude:</b>	98° 11' 0.512 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.19 °

<b>Well</b> Hunt 3408 3-15H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	155,413.00 usft	<b>Latitude:</b> 37° 5' 34.874 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	2,095,889.10 usft	<b>Longitude:</b> 98° 10' 16.566 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft	<b>Ground Level:</b> 1,387.0 usft

<b>Wellbore</b> Wellbore #1					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/6/2015	4.32	65.10	51,524

<b>Design</b> Wellbore #1					
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	169.04	

<b>Survey Program</b>		<b>Date</b> 4/20/2015
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>
100.0	5,180.0	Gyro Survey 041715 (Wellbore #1)
5,193.0	9,405.0	Drillright MWD Surveys (Wellbore #1)
		<b>Tool Name</b>
		GYD_DP_MS
		MWD
		<b>Description</b>
		Gyrodata gyro-compassing and drop
		MWD - Standard

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.45	123.94	100.0	-0.2	0.3	0.3	0.45	0.45	0.00	
<b>First Gyro Survey</b>										
150.0	0.49	130.96	150.0	-0.5	0.7	0.6	0.14	0.08	14.04	
200.0	0.44	140.50	200.0	-0.8	0.9	0.9	0.18	-0.10	19.08	
250.0	0.46	136.99	250.0	-1.1	1.2	1.3	0.07	0.04	-7.02	
300.0	0.42	140.79	300.0	-1.3	1.4	1.6	0.10	-0.08	7.60	
350.0	0.47	146.08	350.0	-1.7	1.7	1.9	0.13	0.10	10.58	
400.0	0.52	157.36	400.0	-2.0	1.9	2.4	0.22	0.10	22.56	
450.0	0.57	159.97	450.0	-2.5	2.1	2.8	0.11	0.10	5.22	



# DrillRight

## Survey Report

<b>Company:</b>	Sandridge Energy	<b>Local Co-ordinate Reference:</b>	Well Hunt 3408 3-15H
<b>Project:</b>	Harper County (NAD-27)	<b>TVD Reference:</b>	KB @ 1406.0usft
<b>Site:</b>	Sec 15-T34S-R08W	<b>MD Reference:</b>	KB @ 1406.0usft
<b>Well:</b>	Hunt 3408 3-15H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
500.0	0.57	163.17	500.0	-2.9	2.2	3.3	0.06	0.00	6.40	
550.0	0.54	166.09	550.0	-3.4	2.3	3.8	0.08	-0.06	5.84	
600.0	0.56	168.83	600.0	-3.9	2.4	4.3	0.07	0.04	5.48	
650.0	0.56	168.98	650.0	-4.4	2.5	4.8	0.00	0.00	0.30	
700.0	0.63	167.43	700.0	-4.9	2.6	5.3	0.14	0.14	-3.10	
750.0	0.67	167.43	750.0	-5.4	2.8	5.9	0.08	0.08	0.00	
800.0	0.67	165.85	800.0	-6.0	2.9	6.4	0.04	0.00	-3.16	
850.0	0.68	168.35	850.0	-6.6	3.0	7.0	0.06	0.02	5.00	
900.0	0.65	168.45	900.0	-7.1	3.1	7.6	0.06	-0.06	0.20	
950.0	0.61	169.13	950.0	-7.7	3.3	8.2	0.08	-0.08	1.36	
1,000.0	0.59	168.75	1,000.0	-8.2	3.4	8.7	0.04	-0.04	-0.76	
1,050.0	0.62	167.44	1,050.0	-8.7	3.5	9.2	0.07	0.06	-2.62	
1,100.0	0.68	168.32	1,099.9	-9.3	3.6	9.8	0.12	0.12	1.76	
1,150.0	0.79	161.63	1,149.9	-9.9	3.8	10.4	0.28	0.22	-13.38	
1,200.0	0.82	159.75	1,199.9	-10.5	4.0	11.1	0.08	0.06	-3.76	
1,250.0	0.85	160.41	1,249.9	-11.2	4.2	11.8	0.06	0.06	1.32	
1,300.0	0.92	173.28	1,299.9	-12.0	4.4	12.6	0.42	0.14	25.74	
1,350.0	1.03	174.46	1,349.9	-12.8	4.5	13.4	0.22	0.22	2.36	
1,400.0	0.97	178.70	1,399.9	-13.7	4.5	14.3	0.19	-0.12	8.48	
1,450.0	0.90	181.72	1,449.9	-14.5	4.5	15.1	0.17	-0.14	6.04	
1,500.0	0.64	109.87	1,499.9	-15.0	4.8	15.6	1.86	-0.52	-143.70	
1,550.0	1.74	69.91	1,549.9	-14.8	5.8	15.7	2.63	2.20	-79.92	
1,600.0	3.16	61.51	1,599.8	-13.9	7.7	15.1	2.92	2.84	-16.80	
1,650.0	3.87	59.14	1,649.8	-12.4	10.4	14.1	1.45	1.42	-4.74	
1,700.0	5.35	56.54	1,699.6	-10.2	13.7	12.7	2.99	2.96	-5.20	
1,750.0	5.33	54.17	1,749.4	-7.6	17.6	10.8	0.44	-0.04	-4.74	
1,800.0	7.11	59.74	1,799.1	-4.7	22.1	8.8	3.75	3.56	11.14	
1,850.0	7.30	61.13	1,848.7	-1.6	27.6	6.8	0.52	0.38	2.78	
1,900.0	9.18	61.13	1,898.2	1.9	33.9	4.6	3.76	3.76	0.00	
1,950.0	9.26	61.26	1,947.5	5.7	40.9	2.1	0.17	0.16	0.26	
2,000.0	10.60	62.08	1,996.8	9.8	48.5	-0.4	2.69	2.68	1.64	
2,050.0	11.01	61.12	2,045.9	14.3	56.7	-3.2	0.90	0.82	-1.92	
2,100.0	11.74	60.09	2,094.9	19.1	65.3	-6.4	1.52	1.46	-2.06	
2,150.0	12.53	61.42	2,143.8	24.3	74.5	-9.7	1.68	1.58	2.66	
2,200.0	13.69	62.06	2,192.5	29.6	84.5	-13.0	2.34	2.32	1.28	
2,250.0	15.51	64.06	2,240.9	35.3	95.7	-16.5	3.78	3.64	4.00	
2,300.0	15.09	61.82	2,289.1	41.3	107.5	-20.1	1.45	-0.84	-4.48	
2,350.0	16.62	65.34	2,337.2	47.4	119.7	-23.8	3.61	3.06	7.04	
2,400.0	16.48	64.34	2,385.1	53.4	132.6	-27.3	0.63	-0.28	-2.00	
2,450.0	18.10	64.81	2,432.9	59.8	146.0	-31.0	3.25	3.24	0.94	
2,500.0	17.37	63.70	2,480.5	66.4	159.7	-34.9	1.61	-1.46	-2.22	
2,550.0	18.27	64.63	2,528.1	73.1	173.5	-38.8	1.89	1.80	1.86	
2,600.0	17.28	65.40	2,575.7	79.5	187.3	-42.5	2.04	-1.98	1.54	

# DrillRight Survey Report

<b>Company:</b>	Sandridge Energy	<b>Local Co-ordinate Reference:</b>	Well Hunt 3408 3-15H
<b>Project:</b>	Harper County (NAD-27)	<b>TVD Reference:</b>	KB @ 1406.0usft
<b>Site:</b>	Sec 15-T34S-R08W	<b>MD Reference:</b>	KB @ 1406.0usft
<b>Well:</b>	Hunt 3408 3-15H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,650.0	16.75	66.82	2,623.5	85.5	200.7	-45.8	1.35	-1.06	2.84
2,700.0	18.36	69.29	2,671.2	91.1	214.7	-48.6	3.55	3.22	4.94
2,750.0	18.88	69.93	2,718.6	96.7	229.7	-51.2	1.12	1.04	1.28
2,800.0	21.03	72.01	2,765.6	102.2	245.8	-53.6	4.53	4.30	4.16
2,850.0	22.22	72.16	2,812.0	107.9	263.3	-55.8	2.38	2.38	0.30
2,900.0	25.38	73.33	2,857.8	113.8	282.6	-58.0	6.39	6.32	2.34
2,950.0	25.33	72.14	2,903.0	120.2	303.0	-60.4	1.02	-0.10	-2.38
3,000.0	26.90	68.84	2,947.9	127.6	323.8	-63.7	4.28	3.14	-6.60
3,050.0	25.65	68.19	2,992.7	135.7	344.4	-67.7	2.57	-2.50	-1.30
3,100.0	24.22	67.77	3,038.0	143.6	363.9	-71.8	2.88	-2.86	-0.84
3,150.0	23.58	65.97	3,083.7	151.5	382.5	-76.0	1.94	-1.28	-3.60
3,200.0	23.62	64.76	3,129.6	159.9	400.7	-80.8	0.97	0.08	-2.42
3,250.0	24.90	65.62	3,175.1	168.5	419.4	-85.7	2.66	2.56	1.72
3,300.0	24.39	65.14	3,220.6	177.2	438.3	-90.6	1.10	-1.02	-0.96
3,350.0	24.02	64.52	3,266.2	185.9	456.9	-95.6	0.90	-0.74	-1.24
3,400.0	23.85	64.06	3,311.9	194.7	475.2	-100.8	0.50	-0.34	-0.92
3,450.0	25.19	65.30	3,357.4	203.5	493.9	-105.9	2.87	2.68	2.48
3,500.0	23.60	64.04	3,402.9	212.4	512.6	-111.1	3.35	-3.18	-2.52
3,550.0	22.66	63.65	3,448.9	221.0	530.2	-116.2	1.90	-1.88	-0.78
3,600.0	21.45	61.99	3,495.2	229.6	546.9	-121.4	2.72	-2.42	-3.32
3,650.0	22.47	62.73	3,541.6	238.3	563.5	-126.8	2.11	2.04	1.48
3,700.0	22.72	63.93	3,587.8	246.9	580.7	-132.0	1.05	0.50	2.40
3,750.0	23.10	65.28	3,633.8	255.2	598.2	-136.9	1.30	0.76	2.70
3,800.0	22.08	65.98	3,680.0	263.2	615.7	-141.3	2.11	-2.04	1.40
3,850.0	20.49	65.92	3,726.6	270.6	632.3	-145.4	3.18	-3.18	-0.12
3,900.0	21.06	67.59	3,773.3	277.6	648.6	-149.2	1.64	1.14	3.34
3,950.0	20.70	65.88	3,820.0	284.6	665.0	-153.0	1.42	-0.72	-3.42
4,000.0	22.40	71.14	3,866.6	291.3	682.1	-156.3	5.14	3.40	10.52
4,050.0	21.82	81.46	3,912.9	295.7	700.3	-157.2	7.85	-1.16	20.64
4,100.0	20.55	91.79	3,959.5	296.9	718.2	-154.9	7.87	-2.54	20.66
4,150.0	16.60	101.15	4,006.9	295.2	734.0	-150.3	9.87	-7.90	18.72
4,200.0	15.96	109.82	4,054.9	291.5	747.5	-144.1	5.02	-1.28	17.34
4,250.0	16.22	116.73	4,103.0	286.0	760.2	-136.3	3.86	0.52	13.82
4,300.0	18.62	123.84	4,150.7	278.4	773.1	-126.4	6.41	4.80	14.22
4,350.0	23.51	129.64	4,197.3	267.6	787.4	-113.0	10.62	9.78	11.60
4,400.0	27.05	137.66	4,242.5	252.8	802.7	-95.6	9.84	7.08	16.04
4,450.0	29.02	146.21	4,286.7	234.3	817.2	-74.7	8.94	3.94	17.10
4,500.0	31.75	153.57	4,329.8	212.5	829.8	-50.9	9.22	5.46	14.72
4,550.0	35.43	157.82	4,371.5	187.3	841.1	-23.9	8.73	7.36	8.50
4,600.0	38.43	161.53	4,411.5	159.1	851.5	5.7	7.47	6.00	7.42
4,650.0	41.91	165.06	4,449.7	128.2	860.7	37.8	8.32	6.96	7.06
4,700.0	45.69	169.02	4,485.8	94.5	868.4	72.3	9.34	7.56	7.92
4,750.0	49.95	171.29	4,519.3	58.0	874.8	109.4	9.16	8.52	4.54



# DrillRight

## Survey Report

<b>Company:</b>	Sandridge Energy	<b>Local Co-ordinate Reference:</b>	Well Hunt 3408 3-15H
<b>Project:</b>	Harper County (NAD-27)	<b>TVD Reference:</b>	KB @ 1406.0usft
<b>Site:</b>	Sec 15-T34S-R08W	<b>MD Reference:</b>	KB @ 1406.0usft
<b>Well:</b>	Hunt 3408 3-15H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,800.0	54.33	173.92	4,550.0	18.9	879.8	148.7	9.69	8.76	5.26	
4,850.0	58.38	177.30	4,577.7	-22.6	883.0	190.1	9.86	8.10	6.76	
4,897.8	63.18	179.68	4,601.0	-64.3	884.0	231.2	10.96	10.06	4.99	
<b>Yeti Offset</b>										
4,900.0	63.41	179.79	4,602.0	-66.3	884.0	233.1	10.96	10.10	4.76	
4,950.0	63.09	180.30	4,624.5	-110.9	884.0	277.0	1.11	-0.64	1.02	
5,000.0	62.08	180.05	4,647.5	-155.3	883.9	320.5	2.07	-2.02	-0.50	
5,050.0	61.18	179.70	4,671.3	-199.3	884.0	363.7	1.90	-1.80	-0.70	
5,100.0	61.21	179.64	4,695.4	-243.1	884.2	406.8	0.12	0.06	-0.12	
5,150.0	65.23	181.47	4,717.9	-287.7	883.8	450.5	8.68	8.04	3.66	
5,180.0	67.39	182.16	4,730.0	-315.2	882.9	477.3	7.50	7.20	2.30	
<b>Last Gyro Survey</b>										
5,193.0	70.20	182.20	4,734.7	-327.3	882.4	489.1	21.62	21.62	0.31	
<b>First Drillright MWD Survey</b>										
5,223.0	73.40	182.80	4,744.0	-355.8	881.2	516.8	10.83	10.67	2.00	
5,254.0	76.70	183.00	4,752.0	-385.7	879.7	545.9	10.66	10.65	0.65	
5,284.0	80.40	183.50	4,758.0	-415.0	878.0	574.4	12.44	12.33	1.67	
5,310.0	83.50	183.40	4,761.6	-440.7	876.5	599.3	11.93	11.92	-0.38	
5,398.0	86.90	182.40	4,769.0	-528.3	872.0	684.4	4.03	3.86	-1.14	
5,493.0	88.80	180.60	4,772.6	-623.2	869.6	777.1	2.75	2.00	-1.89	
5,588.0	90.50	180.20	4,773.1	-718.2	868.9	870.3	1.84	1.79	-0.42	
5,682.0	91.40	179.90	4,771.6	-812.2	868.8	962.5	1.01	0.96	-0.32	
5,775.0	92.70	179.80	4,768.3	-905.1	869.0	1,053.8	1.40	1.40	-0.11	
5,867.0	92.30	179.20	4,764.2	-997.0	869.9	1,144.2	0.78	-0.43	-0.65	
5,960.0	91.40	178.20	4,761.2	-1,089.9	872.0	1,235.8	1.45	-0.97	-1.08	
6,053.0	92.10	178.10	4,758.4	-1,182.9	875.0	1,327.6	0.76	0.75	-0.11	
6,146.0	91.70	178.90	4,755.3	-1,275.8	877.4	1,419.3	0.96	-0.43	0.86	
6,237.0	90.90	179.50	4,753.3	-1,366.7	878.7	1,508.8	1.10	-0.88	0.66	
6,329.0	89.20	179.30	4,753.2	-1,458.7	879.6	1,599.3	1.86	-1.85	-0.22	
6,421.0	89.60	179.00	4,754.1	-1,550.7	881.0	1,689.9	0.54	0.43	-0.33	
6,514.0	91.70	179.20	4,753.1	-1,643.7	882.5	1,781.5	2.27	2.26	0.22	
6,606.0	90.00	179.80	4,751.7	-1,735.7	883.3	1,871.9	1.96	-1.85	0.65	
6,697.0	86.90	178.30	4,754.2	-1,826.6	884.8	1,961.5	3.78	-3.41	-1.65	
6,789.0	87.60	178.00	4,758.6	-1,918.5	887.7	2,052.2	0.83	0.76	-0.33	
6,882.0	88.40	176.40	4,761.8	-2,011.3	892.3	2,144.2	1.92	0.86	-1.72	
6,974.0	90.20	179.00	4,763.0	-2,103.2	896.0	2,235.2	3.44	1.96	2.83	
7,065.0	90.70	179.80	4,762.3	-2,194.2	896.9	2,324.7	1.04	0.55	0.88	
7,160.0	91.30	179.50	4,760.6	-2,289.2	897.5	2,418.0	0.71	0.63	-0.32	
7,255.0	92.40	179.00	4,757.5	-2,384.1	898.7	2,511.5	1.27	1.16	-0.53	
7,350.0	92.20	179.10	4,753.7	-2,479.0	900.3	2,605.0	0.24	-0.21	0.11	
7,445.0	90.00	178.10	4,751.9	-2,574.0	902.6	2,698.6	2.54	-2.32	-1.05	
7,539.0	89.60	180.10	4,752.2	-2,667.9	904.1	2,791.2	2.17	-0.43	2.13	
7,634.0	89.30	179.80	4,753.1	-2,762.9	904.2	2,884.4	0.45	-0.32	-0.32	
7,729.0	88.80	179.30	4,754.7	-2,857.9	904.9	2,977.8	0.74	-0.53	-0.53	

## DrillRight Survey Report

<b>Company:</b>	Sandridge Energy	<b>Local Co-ordinate Reference:</b>	Well Hunt 3408 3-15H
<b>Project:</b>	Harper County (NAD-27)	<b>TVD Reference:</b>	KB @ 1406.0usft
<b>Site:</b>	Sec 15-T34S-R08W	<b>MD Reference:</b>	KB @ 1406.0usft
<b>Well:</b>	Hunt 3408 3-15H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,823.0	89.40	180.30	4,756.2	-2,951.9	905.3	3,070.2	1.24	0.64	1.06	
7,918.0	88.10	180.10	4,758.3	-3,046.9	904.9	3,163.4	1.38	-1.37	-0.21	
8,013.0	89.50	179.50	4,760.2	-3,141.9	905.3	3,256.7	1.60	1.47	-0.63	
8,107.0	89.50	181.60	4,761.1	-3,235.8	904.4	3,348.8	2.23	0.00	2.23	
8,202.0	88.50	182.20	4,762.7	-3,330.8	901.2	3,441.4	1.23	-1.05	0.63	
8,297.0	89.90	180.30	4,764.0	-3,425.7	899.1	3,534.2	2.48	1.47	-2.00	
8,392.0	88.80	179.10	4,765.1	-3,520.7	899.6	3,627.6	1.71	-1.16	-1.26	
8,486.0	89.20	178.20	4,766.8	-3,614.7	901.9	3,720.2	1.05	0.43	-0.96	
8,581.0	89.30	181.00	4,768.0	-3,709.7	902.5	3,813.6	2.95	0.11	2.95	
8,675.0	89.80	179.10	4,768.7	-3,803.7	902.4	3,905.9	2.09	0.53	-2.02	
8,770.0	89.90	180.60	4,769.0	-3,898.7	902.7	3,999.2	1.58	0.11	1.58	
8,864.0	89.40	182.50	4,769.6	-3,992.6	900.1	4,090.9	2.09	-0.53	2.02	
8,959.0	90.70	182.80	4,769.5	-4,087.5	895.7	4,183.3	1.40	1.37	0.32	
9,054.0	88.80	182.70	4,769.9	-4,182.4	891.2	4,275.5	2.00	-2.00	-0.11	
9,149.0	89.90	182.10	4,771.0	-4,277.3	887.2	4,368.0	1.32	1.16	-0.63	
9,243.0	91.00	181.60	4,770.2	-4,371.3	884.2	4,459.6	1.29	1.17	-0.53	
9,337.0	92.30	181.20	4,767.5	-4,465.2	881.9	4,551.4	1.45	1.38	-0.43	
9,355.0	92.50	180.90	4,766.8	-4,483.2	881.6	4,569.0	2.00	1.11	-1.67	
<b>Last Drillright MWD Survey</b>										
9,405.0	92.50	180.90	4,764.6	-4,533.1	880.8	4,617.9	0.00	0.00	0.00	
<b>Projection to TD - PBHL Hunt 3-15H</b>										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.0	100.0	-0.2	0.3	First Gyro Survey
5,180.0	4,730.0	-315.2	882.9	Last Gyro Survey
5,193.0	4,734.7	-327.3	882.4	First Drillright MWD Survey
9,355.0	4,766.8	-4,483.2	881.6	Last Drillright MWD Survey
9,405.0	4,764.6	-4,533.1	880.8	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_





SandRidge Energy  
Hunt #3408 3-15H  
Harper County, KS.

## 1.0 Executive Summary

Allied Oil & Gas Services would like to thank you, for the award of the provision of cementing products and services on the well Hunt #3408 3-15H Surface Casing

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 2000 psi. After a successful test we began the job by pumping 10 bbls of preflush spacer. We then mixed and pumped the following cements:

84 Bbls (255 sacks) of 13.2 ppg Lead slurry:  
Allied Multy Density Cement - 1.85 Yield  
2% cc  
.25# Floseal

32 Bbls (150 sacks) of 15.6 ppg Tail slurry:  
Class A - 1.20 Yield  
2%cc  
.25# Floseal

The top plug was then released and displaced with 56 of fresh water. The plug bumped and pressured up to 900 psi. Pressure was released and floats held.

All real time data is shown on the graph in the attachment section.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.





SandRidge Energy  
 Hunt 3408 3-15H  
 Harper County, KS

1.0 Executive Summary

Allied Oil & Gas Services would like to thank you for the award of the provision of cementing products and services on the well Hunt 3408 3-15H intermediate casing.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 3000 psi. After a successful test we began the job by pumping 30 bbls of spacer. We then mixed and pumped the following cements:

48.62 bbl	195 Sacks of 13.6 ppg
50/50 Poz:A Slurry -	1.4 Yield

2.0% Gel  
 0.4% FL-160  
 0.1% SA-51

21.02 bbl	100 Sacks of 15.6 ppg
Class A Slurry -	1.18 Yield

0.8% FL-160  
 0.2% CD-31

The top plug was then released and displaced with 202 Bbls of fresh water. The plug bumped and pressured up to 1400 psi. Pressure was released and floats held with .5 bbl back to the truck. Well maintained circulation throughout the job.

All real time data can be review in the chart section of the report.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.