



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1231022  
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: \_\_\_\_\_

1231022

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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)* \_\_\_\_\_

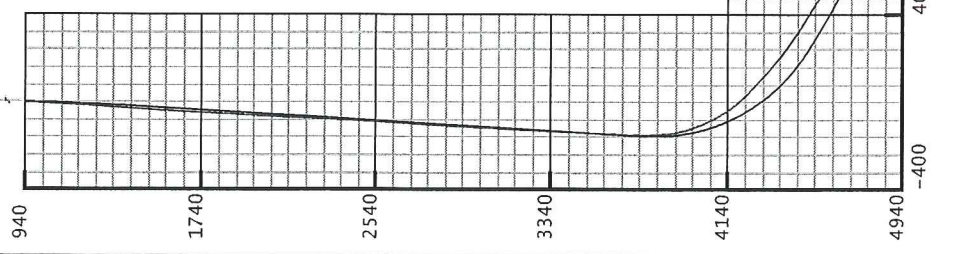
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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**Weatherford**  
 Hughes 3408 1-22H  
 Latshaw 36  
 Harper County, KS  
 X= 2094002.00'  
 Y= 145453.00'  
 Plan 4 vs Actual



**Plan Data for Hughes 3408 1-22H**

Plan Point Information:  
 DogLeg Severity Unit: °/100.00ft  
 Az (°) TVD (USft) +N/-S (USft) +E/-W (USft) VSec (USft) DLS Toolface (°) DLS (DLSU) (°)

MD Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	VSec (USft)	DLS Toolface (°)	DLS (DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
829.68	0.00	0.00	829.68	0.00	0.00	0.00	0.00
1392.18	11.25	251.00	1368.57	-17.92	-52.05	-15.99	2.00
3822.48	11.25	251.00	3771.88	-172.26	-500.29	-153.73	0.00
4732.15	60.00	357.25	4524.81	235.28	-615.19	257.77	7.00
4932.15	60.00	357.25	4624.81	408.29	-623.49	430.96	0.00
5212.15	88.00	357.25	4701.22	674.46	-636.26	697.43	10.00
5412.15	88.00	357.25	4708.20	874.11	-645.84	897.30	0.00
5503.00	90.60	358.25	4709.34	966.88	-649.48	990.13	3.00
9261.08	90.60	358.25	4670.00	4721.00	-764.00	4745.93	0.00

Target Set Information:  
 Name: Hughes 3408 1-22H TI  
 Name (USft) TVD Northing (USft) Easting (USft) Lat (°/'/'") Long (°/'/'")

PBHL 4670.00 150174.00 2093238.00 37°4'43.2" -98°10'49.5"

**Plan Data for Hughes 3408 1-22H**  
 Field: SandRidge Energy - Harper County, KS S MAD 27 US FT  
 Map Unit: USFT Vertical Reference Datum (VRD): Mean Sea Level  
 Projected Coordinate System: NAD27 / Kansas South

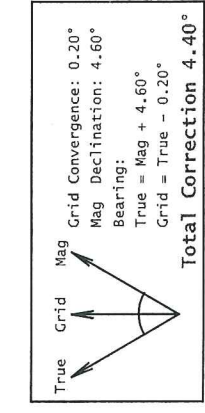
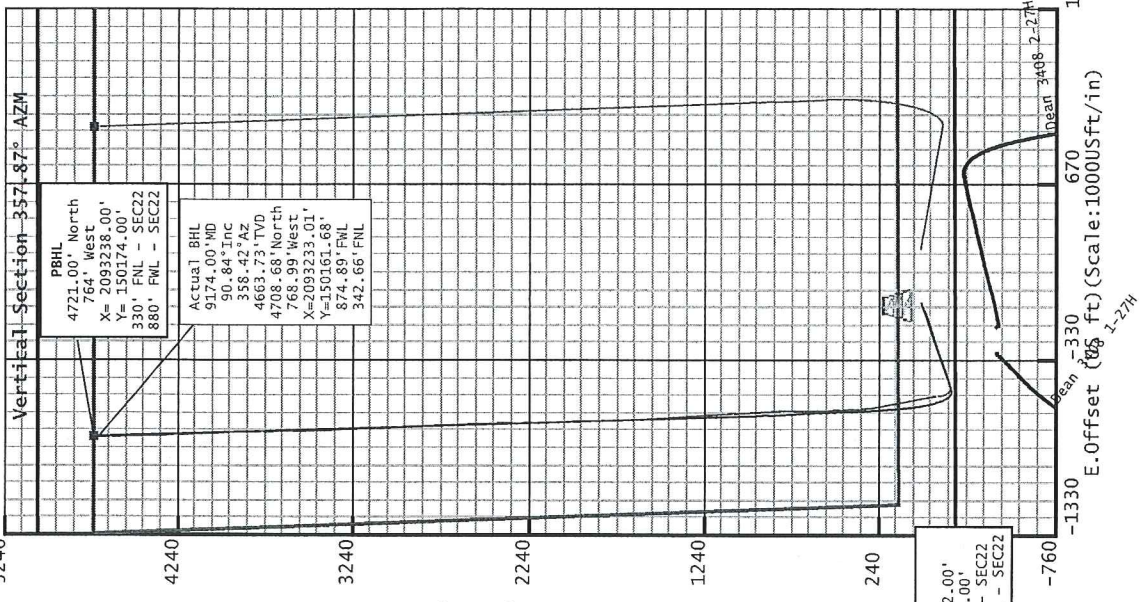
Well: Hughes 3408 1-22H  
 Type: Main-Well  
 File Number: \_\_\_\_\_  
 Plan Folder: P1 Plan: P4:VI  
 Vertical Section: Position offset of origin from Site centre:  
 +N/-S: 0.00USft  
 +E/-W: 0.00USft

Magnetic Parameters:  
 Model: Field Strength: Declination: Dip: Date:  
 BCGM 51575(nT) 4.60° 65.18° 2014-07-03

Hughes 3408 1-22H \_\_\_\_\_  
 Dean 3408 2-27H \_\_\_\_\_  
 Dean 3408 1-27H \_\_\_\_\_  
 Hughes 3408 2-22H \_\_\_\_\_  
 Aldo SWD 1-27\* \_\_\_\_\_  
 Hughes 3408 1-22H — Actual —

Proj to TD  
 X= 2094002.00'  
 Y= 145453.00'  
 200.00' FSI - SEC22  
 1470.00' FNL - SEC22

Planned By: Lando Hiler Date: 07/25/2014  
 Weatherford Drilling Services  
 6525 N. Meridian St., #201  
 Oklahoma City, OK 73116  
 +1.405.773.1100 Main  
 +1.405.773.1887 Fax



SHL  
 X= 2094002.00'  
 Y= 145453.00'  
 200.00' FSI - SEC22  
 1470.00' FNL - SEC22

# Hughes 3408 1-22H

**Field:** SandRidge Energy - Harper County, KS S NAD 27 US FT

**Map Units:** US ft  
**Vertical Reference Datum (VRD):** Mean Sea Level  
**Projected Coordinate System:** NAD27 / Kansas South

**Site:** Hughes 3408 1-22H

**Company Name:** SandRidge Energy  
**Units:** US ft  
**TVD Reference:** GL

**Position:**

<b>Northing:</b>	145453.00US ft	<b>Latitude:</b>	37° 3' 56.46"
<b>Easting:</b>	2094002.00US ft	<b>Longitude:</b>	-98° 10' 40.28"

**North Reference:** Grid      **Convergence Angle:** 0.20  
**Elevation above Mean Sea Level :** 1296.00US ft

**Comment :**

**Slot:** Hughes 3408 1-22H

**Position (Relative to Site centre)**

<b>+N/-S: 0.00US ft</b>	<b>Northing:</b>	145453.00US ft	<b>Latitude:</b>	37°3'56.46"
<b>+E/-W: 0.00US ft</b>	<b>Easting:</b>	2094002.00US ft	<b>Longitude:</b>	-98°10'40.28"
<b>Elevation above Mean Sea Level :</b>		1296.00US ft		

**Well:** Hughes 3408 1-22H

<b>Type:</b>	Main well	<b>Rig Height ( Drill Floor):</b>	20.00US ft	<b>Relative To Mean Sea Level:</b>	1316.00US ft
<b>File Number:</b>					
<b>Closure Distance:</b>	4771.06US ft	<b>Closure Azimuth:</b>	350.725°		
<b>Comment:</b>					

**Vertical Section:**

<b>Position of Origin (Relative to Site centre)</b>	<b>+N/-S: 0.00US ft</b>	<b>+E/-W: 0.00US ft</b>
<b>Vertical Section Azimuth:</b>	357.25°	

**Target Set:** Hughes 3408 1-22H T1

**Number of Targets:** 1  
**Target:** PBHL

**Position: (Relative to Site centre)**

<b>+N/-S: 4721.00</b>	<b>Northing:</b> 150174.00	<b>Latitude:</b> 37°4'43.17"
<b>+E/-W: -764.00</b>	<b>Easting:</b> 2093238.00	<b>Longitude:</b> -98°10'49.51"
<b>TVD (Drill Floor) :</b>	4670.00 US ft	
<b>SS :</b>	-3354.00 US ft	
<b>Shape:</b> Cuboid		
<b>Orientation</b>	<b>Inclination:</b> 0.00°	<b>Azimuth:</b> 0.00°
<b>Dimensions</b>	<b>Length:</b> 20.00	<b>Breadth:</b> 20.00 <b>Height:</b> 20.00

**Wellpath created using minimum curvature**

**Survey**

<b>Name</b>	Definitive Survey	<b>Company</b>	
<b>Magnetic Parameters:</b>			
<b>Model:</b> BGGM	<b>Field Strength:</b> 51575.2 nT	<b>Declination:</b> 4.60 °	<b>Dip:</b> 65.18 ° <b>Date:</b> 03/Jul/2014 (dd/mmm/yyyy)

**Survey Tool Ranges:**

Survey Tool	Start MD (US ft)	End MD (US ft)	Source Survey
Inc Only 3deg_WFTR	0	793	SRE Rig Svy
MWD	793	9174	WFT MWD SVY

**Survey Points:** (Relative to Site Centre, TVD Relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Comment
0	0	0	0	0	0	0	0	2
250	0.3	263.48	250	-0.07	-0.65	-0.04	0.12	Frist Rig Svy
500	0.6	263.48	499.99	-0.3	-2.6	-0.17	0.12	
793	1.1	263.48	792.96	-0.79	-6.92	-0.46	0.17	Last Rig Svy
862	0.7	263.48	861.95	-0.91	-8	-0.53	0.58	Frist WFT MWD Svy
954	3.35	243.68	953.88	-2.17	-10.96	-1.64	2.94	
1044	5.7	242.3	1043.6	-5.41	-17.28	-4.58	2.61	
1136	7.16	243.12	1135.02	-10.13	-26.44	-8.85	1.59	
1227	8.64	240.79	1225.15	-16.03	-37.46	-14.22	1.66	
1317	10.27	242.09	1313.92	-23.08	-50.46	-20.64	1.83	
1408	10.79	245.81	1403.39	-30.37	-65.39	-27.2	0.94	
1503	10.07	249.84	1496.82	-36.88	-81.3	-32.94	1.08	

1597	11.26	250.02	1589.2	-42.85	-97.64	-38.12	1.27
1691	11.01	253.11	1681.43	-48.59	-114.86	-43.03	0.69
1786	10.56	252.37	1774.75	-53.86	-131.83	-47.48	0.5
1881	10.9	251.33	1868.09	-59.37	-148.64	-52.18	0.41
1975	10.17	251.26	1960.51	-64.89	-164.92	-56.91	0.78
2070	10.71	253.71	2053.93	-70.06	-181.33	-61.28	0.74
2165	10.2	253.32	2147.35	-74.95	-197.86	-65.38	0.54
2259	10.89	251.48	2239.77	-80.16	-214.26	-69.8	0.82
2353	11.64	252.79	2331.96	-85.78	-231.73	-74.58	0.84
2447	10.53	253.27	2424.2	-91.06	-249.02	-79.02	1.18
2542	10.17	251.7	2517.65	-96.19	-265.3	-83.37	0.48
2636	11	251.47	2610.05	-101.65	-281.68	-88.03	0.88
2731	12.07	249.62	2703.13	-107.99	-299.58	-93.51	1.19
2825	11.94	251.03	2795.08	-114.57	-317.99	-99.2	0.34
2920	11.99	251.97	2888.02	-120.82	-336.67	-104.55	0.21
3015	10.64	253.68	2981.17	-126.34	-354.47	-109.21	1.46
3109	9.58	250.05	3073.71	-131.45	-370.15	-113.56	1.32
3203	11.27	248.57	3166.15	-137.47	-386.05	-118.81	1.82
3297	10.71	254.69	3258.43	-143.14	-403.03	-123.65	1.38
3391	9.09	252.3	3351.03	-147.7	-418.53	-127.47	1.78
3486	9.52	251.82	3444.78	-152.43	-433.14	-131.5	0.46
3580	11.4	252.12	3537.21	-157.71	-449.37	-135.99	2
3674	10.29	253.99	3629.53	-162.88	-466.28	-140.34	1.24
3763	9.79	251.71	3717.17	-167.45	-481.11	-144.19	0.72
3863	9.9	282.14	3815.76	-168.31	-497.6	-144.26	5.14
3894	10.84	299.35	3846.26	-166.32	-502.74	-142.03	10.4
3926	11.82	311.78	3877.64	-162.66	-507.81	-138.13	8.2
3957	14.49	320.1	3907.83	-157.57	-512.67	-132.81	10.54
3989	17.2	327.75	3938.62	-150.49	-517.76	-125.5	10.68
4021	19.62	335.29	3968.98	-141.61	-522.53	-116.4	10.6
4052	21.9	340.79	3997.97	-131.42	-526.61	-106.02	9.67
4083	23.69	346.92	4026.55	-119.89	-529.92	-94.35	9.59
4115	25.49	349.35	4055.65	-106.86	-532.65	-81.2	6.45
4147	27.37	351.33	4084.3	-92.82	-535.03	-67.07	6.49
4178	30.47	352.47	4111.43	-77.98	-537.14	-52.14	10.16
4210	33.24	352.45	4138.61	-61.24	-539.35	-35.31	8.66
4241	36.62	351.89	4164.02	-43.66	-541.78	-17.64	10.95
4273	40.61	350.28	4189.02	-23.93	-544.88	2.21	12.86
4305	43.8	349.61	4212.72	-2.77	-548.64	23.53	10.07
4336	45.33	349.27	4234.81	18.61	-552.63	45.08	5
4368	46.47	348.94	4257.08	41.18	-556.97	67.83	3.64
4399	47.42	349.04	4278.24	63.41	-561.3	90.24	3.07
4430	48.43	349.06	4299.01	86.01	-565.67	113.02	3.26
4462	48.98	349.06	4320.13	109.61	-570.23	136.82	1.72
4494	49.26	349.47	4341.07	133.38	-574.74	160.78	1.31
4525	50.3	349.68	4361.09	156.66	-579.02	184.23	3.39
4557	51.95	349.5	4381.17	181.16	-583.52	208.92	5.17
4589	53.22	349.66	4400.62	206.16	-588.12	234.11	3.99
4622	54.14	349.29	4420.16	232.3	-592.97	260.46	2.93
4654	55.23	349.52	4438.66	257.97	-597.77	286.32	3.46
4685	56.54	350.33	4456.05	283.24	-602.26	311.78	4.75
4717	57.62	353.01	4473.44	309.81	-606.15	338.51	7.8
4749	58.35	355.86	4490.41	336.81	-608.78	365.6	7.89
4781	58.94	357.24	4507.06	364.09	-610.42	392.93	4.12
4812	59.21	357.72	4522.99	390.65	-611.59	419.52	1.59
4843	59.24	357.55	4538.85	417.27	-612.69	446.15	0.48
4874	59.3	357.6	4554.69	443.89	-613.82	472.8	0.24
4907	60.21	357.3	4571.31	472.37	-615.09	501.31	2.87
4938	60.34	356.76	4586.68	499.25	-616.48	528.23	1.57
4970	60.19	356.69	4602.56	526.99	-618.07	556.01	0.51
5001	60.3	356.36	4617.94	553.86	-619.7	582.92	0.99
5033	63.01	357.42	4633.13	581.98	-621.22	611.08	8.96
5064	66.48	358.49	4646.36	609.99	-622.22	639.11	11.62
5096	70.4	359.06	4658.11	639.74	-622.85	668.86	12.36
5127	73.25	0.46	4667.78	669.19	-622.97	698.28	10.15
5158	74.5	1.64	4676.39	698.96	-622.43	727.99	5.44
5190	76.94	1.75	4684.29	729.96	-621.51	758.91	7.63
5222	80.65	0.61	4690.5	761.34	-620.87	790.22	12.11
5253	83.83	359.06	4694.69	792.05	-620.96	820.9	11.39
5271	85.8	358.14	4696.32	809.97	-621.39	838.82	12.07
5374	87.69	356.54	4702.16	912.68	-626.17	941.65	2.4
5406	87.34	356.39	4703.55	944.59	-628.14	973.61	1.19
5437	87.9	356.59	4704.84	975.51	-630.04	1004.58	1.92
5468	88.04	356.88	4705.94	1006.44	-631.8	1035.56	1.04
5500	88.32	357.07	4706.95	1038.37	-633.49	1067.55	1.06
5531	89.16	356.63	4707.63	1069.32	-635.19	1098.54	3.06
5563	90.7	356.99	4707.67	1101.27	-636.97	1130.53	4.94
5594	90.7	356.66	4707.3	1132.22	-638.69	1161.53	1.06
5689	89.93	356.19	4706.77	1227.03	-644.61	1256.52	0.95
5783	90.56	356.06	4706.37	1320.82	-650.96	1350.5	0.68
5878	89.93	356.7	4705.96	1415.62	-656.96	1445.49	0.95
5972	89.09	356.31	4706.77	1509.45	-662.69	1539.47	0.99
6067	90.77	356.97	4706.88	1604.28	-668.26	1634.46	1.9
6161	92.1	358.18	4704.53	1698.16	-672.24	1728.43	1.91
6256	91.33	358.45	4701.69	1793.08	-675.03	1823.37	0.86
6349	90.56	358.59	4700.15	1886.03	-677.43	1916.33	0.84
6444	90.21	358	4699.52	1980.99	-680.26	2011.32	0.72

6538	89.93	357.91	4699.4	2074.93	-683.61	2105.31	0.31
6633	91.47	358.1	4698.24	2169.86	-686.92	2200.29	1.63
6727	90.35	359.17	4696.75	2263.82	-689.16	2294.25	1.65
6821	89.23	359.54	4697.09	2357.81	-690.21	2388.18	1.25
6915	92.17	359.04	4695.94	2451.78	-691.38	2482.11	3.17
7009	91.81	357.97	4692.68	2545.69	-693.83	2576.02	1.2
7102	90.98	357.7	4690.41	2638.6	-697.34	2668.99	0.94
7196	90	357.74	4689.61	2732.52	-701.08	2762.98	1.04
7291	89.37	357.04	4690.13	2827.42	-705.41	2857.98	0.99
7385	91.33	357.82	4689.56	2921.32	-709.62	2951.97	2.24
7479	90.14	357.33	4688.35	3015.22	-713.6	3045.96	1.37
7573	91.82	358.26	4686.75	3109.14	-717.22	3139.94	2.04
7668	91.05	357.41	4684.37	3204.04	-720.8	3234.9	1.21
7762	90.35	357.1	4683.22	3297.92	-725.3	3328.9	0.81
7856	90.21	356.83	4682.76	3391.79	-730.28	3422.89	0.32
7950	92.45	358.6	4680.58	3485.68	-734.03	3516.86	3.04
8044	92.24	359.52	4676.73	3579.59	-735.57	3610.73	1
8138	92.24	359.58	4673.06	3673.51	-736.31	3704.58	0.06
8233	90.98	359.08	4670.39	3768.47	-737.42	3799.48	1.43
8328	90.98	358.84	4668.76	3863.44	-739.14	3894.42	0.25
8423	89.3	357.18	4668.53	3958.37	-742.44	3989.41	2.49
8518	89.02	357.74	4669.92	4053.27	-746.65	4084.4	0.66
8612	89.09	356.9	4671.47	4147.15	-751.04	4178.38	0.9
8705	88.67	357.47	4673.29	4240.02	-755.61	4271.36	0.76
8800	91.47	358.5	4673.18	4334.95	-758.95	4366.35	3.14
8895	92.31	358.79	4670.04	4429.87	-761.2	4461.27	0.94
8990	91.4	358.46	4666.97	4524.79	-763.47	4556.19	1.02
9084	90.91	357.99	4665.07	4618.73	-766.39	4650.15	0.72
9116	90.84	358.42	4664.58	4650.71	-767.39	4682.15	1.36
9174	90.84	358.42	4663.73	4708.68	-768.99	4740.13	0

Last WFT MWD Svy  
Proj. to TD

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 3975</b>	TICKET DATE <b>07/26/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Bridge Exploration &amp; Produc</b>	CUSTOMER REP <b>0</b>	
LEASE NAME <b>Hughes 3408</b>	Well No. <b>1-22H</b>	JOB TYPE <b>Surface</b>	EMPLOYEE NAME <b>Rocky Anthis</b>	

EMP NAME					
<b>Rocky Anthis</b>	<b>0</b>				
<b>Louis Arney</b>					
<b>Roy Morris</b>					
<b>Chris Looney</b>					

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_

Packer Type \_\_\_\_\_ Set At **0**

Bottom Hole Temp. **90** Pressure \_\_\_\_\_

Retainer Depth \_\_\_\_\_ Total Depth **800**

Date	Called Out <b>7/26/2014</b>	On Location <b>7/26/2014</b>	Job Started <b>7/26/2014</b>	Job Completed <b>7/26/2014</b>
Time	<b>4:00</b>	<b>7:00</b>	<b>10:00</b>	<b>1400</b>

Tools and Accessories		
Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Va	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data							
	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		36#	9 1/2"		Surface	793	1,500
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			12 1/4"		Surface	798	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials			
Mud Type	WBM	Density	<b>9</b> Lb/Gal
Disp. Fluid	Fresh Water	Density	<b>8.33</b> Lb/Gal
Spacer type	Fresh Water	BBL.	<b>10</b> 8.33
Spacer type	BBL.		
Acid Type	Gal.	%	
Acid Type	Gal.	%	
Surfactant	Gal.	In	
NE Agent	Gal.	In	
Fluid Loss	Gal/Lb	In	
Gelling Agent	Gal/Lb	In	
Fric. Red.	Gal/Lb	In	
MISC.	Gal/Lb	In	
Perfpac Balls	Qty.		
Other			
Other			
Other			
Other			
Other			

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
7/26	7.0	7/26	2.0	Surface
Total	7.0	Total	2.0	

Pressures			
MAX	2000 PSI	AVG.	150
Average Rates in BPM			
MAX	6 BPM	AVG	4'
Cement Left in Pipe		SHOE JOINT	
Feet	46	Reason	SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	220	TEX Lite Premium Plus 65	(6% Gel) 2% Calcium Chloride - 1/2pps Cello-Flake - .4% C-41P	11.11	2.01	12.40
2	160	Premium Plus (Class C)	2% Calcium Chloride - 1/2pps Cello-Flake	6.32	1.32	14.80
3	*100	Premium Plus (Class C)	*2% Calcium Chloride on side to use if necessary	*6.32	*1.32	*14.8

Summary								
Preflush		Type:		Preflush:	BBI	<b>10.00</b>	Type:	Fresh Water
Breakdown		MAXIMUM	<b>1,500 PSI</b>	Load & Bkdn:	Gal - BBI	<b>N/A</b>	Pad:Bbl -Gal	<b>N/A</b>
		Lost Returns-	<b>NO/FULL</b>	Excess /Return	BBI	<b>28</b>	Calc.Disp Bbl	<b>58</b>
		Actual TOC	<b>SURFACE</b>	Calc. TOC:		<b>SURFACE</b>	Actual Disp.	<b>58.00</b>
Average		Bump Plug PSI:	<b>700</b>	Final Circ.	PSI:	<b>250</b>	Disp:Bbl	<b>58.00</b>
ISIP	5 Min. <b>700</b>	10 Min	<b>15 Min</b>	Cement Slurry	BBI	<b>116.4</b>		
				Total Volume	BBI	<b>184.37</b>		

CUSTOMER REPRESENTATIVE \_\_\_\_\_ SIGNATURE \_\_\_\_\_

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<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 4019</b>	TICKET DATE <b>08/03/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Sandridge Exploration &amp; Production</b>	CUSTOMER REP <b>0</b>	
LEASE NAME <b>HUGHES 3408</b>	Well No. <b>1-22H</b>	JOB TYPE <b>Intermediate</b>	EMPLOYEE NAME <b>Bryan Douglas</b>	

EMP NAME	Bryan Douglas	Frank Reeves			
Jared Green					
Cheryl Newton					
Donnie Brown					

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At **0**  
 Bottom Hole Temp. **155** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **5330**

	Called Out	On Location	Job Started	Job Completed
Date	<b>8/2/2014</b>	<b>8/2/2014</b>	<b>8/3/2014</b>	<b>8/3/2014</b>
Time	<b>2100</b>	<b>2400</b>	<b>0100</b>	<b>0400</b>

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Val	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing		26#	7"		Surface	
Liner						
Liner			0			
Tubing						
Drill Pipe						
Open Hole			8 1/2"		Surface	5,330
Perforations						Shots/Ft.
Perforations						
Perforations						

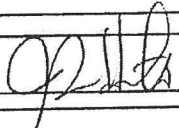
Materials			
Mud Type	WBM	Density	<b>9</b> Lb/Gal
Disp. Fluid	Fresh Water	Density	<b>8.33</b> Lb/Gal
Spacer type	Gel	BBL.	<b>30</b> 8.33
Spacer type		BBL.	
Acid Type		Gal.	%
Acid Type		Gal.	%
Surfactant		Gal.	ln
NE Agent		Gal.	ln
Fluid Loss		Gal/Lb	ln
Gelling Agent		Gal/Lb	ln
Fric. Red.		Gal/Lb	ln
MISC.		Gal/Lb	ln
Perfpac Balls		Qty.	
Other			
Other			
Other			
Other			

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
<b>8/2</b>	<b>4.0</b>	<b>8/3</b>	<b>3.0</b>	Intermediate
				1 BBL BACK
Total	<b>4.0</b>	Total	<b>3.0</b>	

Pressures			
MAX	<b>5,000 PSI</b>	AVG.	<b>200</b>
Average Rates in BPM			
MAX	<b>8 BPM</b>	AVG	<b>5</b>
Cement Left in Pipe			
Feet	<b>45</b>	Reason	<b>SHOE JOINT</b>

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
<b>1</b>	<b>140</b>	<b>50/50 POZ PREMIUM</b>	<b>4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.2% C-20 - 0.1% C-37 - 0.4% C-41P</b>	<b>6.93</b>	<b>1.43</b>	<b>13.60</b>
<b>2</b>	<b>190</b>	<b>Premium</b>	<b>0.2% FL-17 - 0.1% C-51 - 0.1% C-20 - 0.4% C-41P</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>
<b>3</b>	<b>0</b>	<b>0</b>				

Summary								
Preflush	<b>10</b>	Type:	Gel	Preflush:	BBI	<b>30.00</b>	Type:	Gel Spacer
Breakdown		MAXIMUM	<b>5,000 PSI</b>	Load & Bkdn:	Gal - BBI	<b>N/A</b>	Pad:Bbl -Gal	<b>N/A</b>
		Lost Returns-N	<b>NO/FULL</b>	Excess /Return	BBI	<b>N/A</b>	Calc. Disp Bbl	<b>202</b>
		Actual TOC	<b>2,560</b>	Calc. TOC:		<b>2,560</b>	Actual Disp.	<b>201.67</b>
Average		Bump Plug PSI:	<b>1,500</b>	Final Circ.	PSI:	<b>600</b>	Disp:Bbl	<b>201.67</b>
IS:P	<b>5 Min.</b>	10 Min.		Cement Slurry:	BBI	<b>75.9</b>		
		15 Min.		Total Volume	BBI	<b>307.60</b>		

CUSTOMER REPRESENTATIVE  SIGNATURE

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 4047</b>	TICKET DATE <b>08/09/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Bridge Exploration &amp; Produc</b>	CUSTOMER REP <b>JT Hunter</b>	
LEASE NAME <b>Hughes 3408</b>	Well No. <b>1-22H</b>	JOB TYPE <b>Misc Pumping</b>	EMPLOYEE NAME <b>Arthur Setzer</b>	

EMP NAME <b>Arthur Setzer</b>	<b>10</b>				
<b>Jared Green</b>					
<b>Frank Reeves</b>					
<b>0.00</b>					

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At **0**  
 Bottom Hole Temp. **150** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **9300**

Date	Called Out <b>8/8/2014</b>	On Location <b>8/9/2014</b>	Job Started <b>8/9/2014</b>	Job Completed <b>8/9/2014</b>
Time	<b>2000</b>	<b>0200</b>	<b>0350</b>	<b>0600</b>

Tools and Accessories		
Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Vc	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing		11.6#	4 1/2"		Surface	9,300
Liner						
Liner						
Tubing			4"			
Drill Pipe						
Open Hole			6 1/8"		Surface	9,300
Perforations						Shots/Ft.
Perforations						
Perforations						


Materials			
Mud Type	WBM	Density	<b>9</b> Lb/Gal
Disp. Fluid	Fresh Water	Density	<b>8.33</b> Lb/Gal
Spacer type	resh Water	BBL	<b>10</b> 8.33
Spacer type	BBL		
Acid Type	Gal.	%	
Acid Type	Gal.	%	
Surfactant	Gal.	In	
NE Agent	Gal.	In	
Fluid Loss	Gal/Lb	In	
Gelling Agent	Gal/Lb	In	
Fric. Red.	Gal/Lb	In	
MISC.	Gal/Lb	In	
Perfpac Balls	Qty.		
Other			
Other			
Other			
Other			

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
8/9	4.0	8/9	2.0	Misc Pumping
Total	4.0	Total	2.0	

Pressures	
MAX	1,500 PSI
AVG.	10000
Average Rates in BPM	
MAX	6 BPM
AVG	
Cement Left in Pipe	
Feet	Reason SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	0	0		0	0.00	0.00
2	0	0		0	0.00	0.00
3	0	0		0	0.00	0.00

Summary			
Preflush Breakdown	Type: <b>MAXIMUM</b>	1,500 PSI	Preflush: BBI
	Lost Returns: <b>NO/FULL</b>		Load & Bkdn: Gal - BBI
	Actual TOC: <b>SURFACE</b>		Excess /Return BBI
Average .SIP	Bump Plug PSI:	5 Min. _____ 10 Min. _____ 15 Min. _____	Calc. TOC: <b>SURFACE</b>
			Final Circ. PSI: _____
			Cement Slurry BBI _____
			Total Volume BBI <b>10.00</b>
			Type: <b>0</b>
			Pad:Bbl -Gal <b>N/A</b>
			Calc. Disp Bbl _____
			Actual Disp. <b>4.00</b>
			Disp:Bbl _____

CUSTOMER REPRESENTATIVE  J. T. Hunter  
 SIGNATURE

# Hughes 3408 1-22H

## Perforations

(2 shots per foot)

Perforations			
Date	Top (ftKB)	Btm (ftKB)	Zone
8/31/2014	5,564.0	5,566.0	Miss Lime, Original Hole
8/31/2014	5,712.0	5,714.0	Miss Lime, Original Hole
8/31/2014	5,860.0	5,862.0	Miss Lime, Original Hole
8/31/2014	6,004.0	6,006.0	Miss Lime, Original Hole
8/31/2014	6,148.0	6,150.0	Miss Lime, Original Hole
8/31/2014	6,343.0	6,345.0	Miss Lime, Original Hole
8/31/2014	6,532.0	6,534.0	Miss Lime, Original Hole
8/31/2014	6,722.0	6,724.0	Miss Lime, Original Hole
8/31/2014	6,916.0	6,918.0	Miss Lime, Original Hole
8/30/2014	7,111.0	7,113.0	Miss Lime, Original Hole
8/30/2014	7,306.0	7,308.0	Miss Lime, Original Hole
8/30/2014	7,494.0	7,496.0	Miss Lime, Original Hole
8/30/2014	7,688.0	7,690.0	Miss Lime, Original Hole
8/30/2014	7,881.0	7,883.0	Miss Lime, Original Hole
8/30/2014	8,074.0	8,076.0	Miss Lime, Original Hole
8/30/2014	8,269.0	8,271.0	Miss Lime, Original Hole
8/30/2014	8,464.0	8,466.0	Miss Lime, Original Hole
8/30/2014	8,660.0	8,662.0	Miss Lime, Original Hole
8/30/2014	8,856.0	8,858.0	Miss Lime, Original Hole
8/30/2014	9,051.0	9,053.0	Miss Lime, Original Hole

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/30/2014
Job End Date:	9/30/2014
State:	Kansas
County:	Harper
API Number:	15-077-22073-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Hughes 3408 #1-22H
Longitude:	-98.17785510
Latitude:	37.06568400
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,663
Total Base Water Volume (gal):	2,236,332
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	Well Operator	Carrier/Base Fluid	Water	7732-18-5	100.00000	95.14074	None
40/70 Premium Preferred Sand	CAF	Proppant, Scouring, Fill	Crystalline Silica (quartz)	14808-60-7	100.00000	2.71356	None
40/70 Resin Coated Sand	CAF	Proppant, Scouring, Fill	Crystalline Silica (quartz)	14808-60-7	97.00000	1.26508	None
15% Unihibited HCl Acid	CAF	Etching, Dissolving, Cleaning	Water	7732-18-5	85.00000	0.62198	None
			Hydrochloric Acid	7647-01-0	15.00000	0.10976	None
			Water	7732-18-5	24.00000	0.00015	None
			Methanol	67-56-1	9.00000	0.00005	None
			Tar Bases-quinoline derivs-benzyl chloride/quaternized	72480-70-7	8.40000	0.00005	None
			Triethyl Phosphate	78-40-0	8.40000	0.00005	None
			2-Butoxyethanol	111-76-2	8.40000	0.00005	None
			Cinnamaldehyde	104-55-2	8.40000	0.00005	None
			Ethoxylated Nonylphenol	68412-54-4	8.40000	0.00005	None
			N-Dimethylformamide	68-12-2	8.40000	0.00005	None

			Ethylene Glycol	107-21-1	8.40000	0.00005	None
			Isopropyl Alcohol	67-63-0	8.40000	0.00005	None
Iron Control, Sodium Erythorbate	CAF	Iron Control					
			Water	7732-18-5	55.50000	0.02486	None
			Methanol	67-56-1	12.70000	0.00571	None
			Dinanylphenyl Polyoxyethylene	201602-88-2	9.10000	0.00407	None
			Poly(ethylene Oxide)	25322-68-3	9.10000	0.00407	None
			Nonylphenol Polyethylene Glycol Ether	127087-87-0	9.10000	0.00407	None
			Isopropanol	67-63-0	4.60000	0.00204	None
			Sodium Erythorbate	6381-77-7	100.00000	0.00024	None
			Water	7732-18-5	54.50000	0.00018	None
			Isopropanol	67-63-0	13.60000	0.00004	None
			Polyglycol Ethers	52624-57-4	13.60000	0.00004	None
			Methanol	67-56-1	9.00000	0.00003	None
			Glycol Ether EB	111-76-2	9.00000	0.00003	None
FR-986, Cationic Friction Reducer	CAF	Friction Reducer					
			Water	7732-18-5	50.00000	0.00489	None
			Phosphoric Acid	7664-38-2	16.80000	0.00164	None
			Hydrochloric Acid	7647-01-0	16.80000	0.00164	None
			Petroleum Hydrotreated Light Distillate	64742-47-8	2.50000	0.00135	None
			Ethylene Glycol	107-21-1	12.70000	0.00124	None
			Methanol	67-56-1	3.60000	0.00036	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.

\* 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)