



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1216240  
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: \_\_\_\_\_

1216240

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# Mid-Continent Conductor, LLC

# Invoice

Date	Invoice #
4/3/2014	2565

P.O. Box 1570  
Woodward, OK 73802  
Phone: (580)254-5400  
Fax: (580)254-3242

Bill To
SandRidge Energy, Inc. Attn: Purchasing Mgr. 123 Robert S. Kerr Avenue Oklahoma City, OK. 73102

4-24-14  
*[Signature]*

Ordered By	Terms	Date of Service	Lease Name/Legal Desc.	Drilling Rig
Carl Miller	Net 30	4/3/2014	Dean 3408 1-27H, Harper Cnty, KS	Unit 9

Item	Quantity	Description
Conductor Hole	90	Drilled 90 ft. conductor hole.
20" Pipe	90	Furnished 90 ft. of 20 inch conductor pipe.
Mouse Hole	80	Drilled 80 ft. mouse hole.
16" Pipe	80	Furnished 80 ft. of 16 inch mouse hole pipe.
Cellar Hole	1	Drilled 6x6 cellar hole.
6' X 6' Tinhorn	1	Furnished and set 6x6 tinhorn.
Mud and Water	1	Furnished mud and water.
Transport Truck - Conductor	1	Transport mud and water to location.
Grout & Trucking	13	Furnished 13 yards of grout and trucking to location.
Grout Pump	1	Furnished grout pump.
Fence Panels	1	Furnished and set safety panels around holes.
Welder & Materials	1	Furnished welder and materials.
Dirt Removal	1	Labor and equipment for dirt removal.
Cover Plate	1	Furnished cover plates.
Permits	1	Permits

AFE Number: DC 13714

Well Name: DEAN 3408 1-27H

Code: 850 010

Amount: 18700.00

Co. Man: DON L. Wright

Co. Man Sig: *[Signature]*

Notes: \_\_\_\_\_

<b>Subtotal</b>	\$18,700.00
<b>Sales Tax (0.0%)</b>	\$0.00
<b>Total</b>	<b>\$18,700.00</b>

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 3649</b>	TICKET DATE <b>04/21/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Bridge Exploration &amp; Produc</b>	CUSTOMER REP <b>Don Waight</b>	
LEASE NAME <b>Dean 3408</b>	Well No. <b>1-27H</b>	JOB TYPE <b>Surface</b>	EMPLOYEE NAME <b>Barry Barkley</b>	

EMP NAME	Barry Barkley	0					
	Mike Hall						
	Danny Tewell						
	Cheryl Newton						

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
Packer Type \_\_\_\_\_ Set At \_\_\_\_\_ 0  
Bottom Hole Temp. 80 Pressure \_\_\_\_\_  
Retainer Depth \_\_\_\_\_ Total Depth 779

Date	Called Out 4/20/2014	On Location 4/20/2014	Job Started 4/21/2014	Job Completed 4/21/2014
Time	20:30	20:30	00:29	2:15

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Valve	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

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		36#	9 1/4"		Surface	779	1,500
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			12 1/4"		Surface	772	Shots/Ft.
Perforations							
Perforations							
Perforations							

**Materials**

Mud Type	WBM	Density	9	Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33	Lb/Gal
Spacer type	resh Wate BBL.		10	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	
4/20	6.0	4/20	1.0	Surface
Total	6.0	Total	1.0	

<b>Pressures</b>			
MAX	1,500 PSI	AVG.	300
<b>Average Rates in BPM</b>			
MAX	5.5	AVG	5
<b>Cement Left in Pipe</b>			
Feet	37	Reason	SHOE JOINT

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	230	TEX Lite Premium Plus 65	(6% Gel) 2% Calcium Chloride - 1/2pps Cello-Flake - .4% C-41P	11.11	2.01	12.40
2	180	Premium Plus (Class C)	2% Calcium Chloride - 1/2pps Cello-Flake	6.32	1.32	14.80
3	0	0		0	0.00	0.00

**Summary**

Preflush	10.00	Type:	Fresh Water
Breakdown	MAXIMUM	1,500 PSI	Load & Bkdn: Gal - BBI
	Lost Returns-I	NO/FULL	Excess /Return BBI
	Actual TOC	SURFACE	Calc. TOC:
Average	Bump Plug PSI:	900	Final Circ. PSI:
ISP	5 Min.	10 Min.	15 Min.
			Cement Slurry BBI
			Total Volume BBI
			124.6
			189.90

CUSTOMER REPRESENTATIVE \_\_\_\_\_  
Don Waight  
SIGNATURE

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 3669</b>	TICKET DATE <b>04/27/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Sandridge Exploration &amp; Production</b>	CUSTOMER REP <b>Ron Hagood</b>	
LEASE NAME <b>Dean 3408</b>	Well No. <b>1-27H</b>	JOB TYPE <b>Intermediate</b>	EMPLOYEE NAME <b>ROBERT BURRIS</b>	

EMP NAME	<b>Robert Burris</b>	<b>0</b>							
	<b>Mike Hall</b>								
	<b>Cheryl Newton</b>								
	<b>RJ STONEHOCKER</b>								

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At **0**  
 Bottom Hole Temp. **155** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **5564**

Date	Called Out <b>4/27/2014</b>	On Location <b>4/27/2014</b>	Job Started <b>4/27/2014</b>	Job Completed <b>4/27/2014</b>
Time	<b>02:30</b>	<b>05:00</b>	<b>09:09</b>	<b>11:15</b>

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

New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing	26#	7"		Surface	5,565	5,000
Liner						
Liner						
Tubing		0				
Drill Pipe						
Open Hole			8 1/2"	Surface	5,564	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	GAL	BBL.	<b>30</b> 8.60
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	
4/27	6.0	4/27	1.2	Intermediate
Total	6.0	Total	1.2	

Pressures			
MAX	5,000 PSI	AVG.	725 PSI
Average Rates in BPM			
MAX	8 BPM	AVG	5 BPM
Cement Left in Pipe			
Feet	0 FT	Reason	SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	240	50/50 POZ PREMIUM	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.2% C-20 - 0.1% C-37 - 0.4% C-41P	6.93	1.43	13.60
2	100	Premium	0.2% FL-17 - 0.1% C-51 - 0.1% C-20 - 0.4% C-41P	5.19	1.19	15.60
3	0	0		0	0.00	0.00

Summary					
Preflush Breakdown	Type: _____	MAXIMUM _____	5,000 PSI	Preflush: BBI _____	30.00
	Lost Returns-N _____	NO/FULL _____		Load & Bkdn: Gal - BBI _____	N/A
	Actual TOC _____		3.269	Excess /Return BBI _____	N/A
Average	Bump Plug PSI: _____		1.450	Calc. TOC: _____	3.269
ISP _____	5 Min. _____	10 Min _____	15 Min _____	Final Circ. PSI: _____	900
				Cement Slurry BBI _____	82.0
				Total Volume BBI _____	324.00

CUSTOMER REPRESENTATIVE *Ron Hagood* SIGNATURE

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 3681</b>	TICKET DATE <b>05/01/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Bridge Exploration &amp; Produc</b>	CUSTOMER REP <b>Ronnie Hagood</b>	
LEASE NAME <b>Dean 3408</b>	Well No. <b>1-27H</b>	JOB TYPE <b>Misc Pumping</b>	EMPLOYEE NAME <b>Barry Barkley</b>	

EMP NAME <b>Barry Barkley</b>									
<b>Jared Green</b>									
<b>Cody Bonitz</b>									
<b>0.00</b>									

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At \_\_\_\_\_ 0  
 Bottom Hole Temp. **150** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **7887**

	Called Out	On Location	Job Started	Job Completed
Date	<b>5/1/2014</b>	<b>5/1/2014</b>	<b>5/1/2014</b>	<b>5/1/2014</b>
Time	<b>13:30</b>	<b>15:00</b>	<b>17:16</b>	<b>20:00</b>

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float V <sub>2</sub>	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

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		<b>11.6#</b>	<b>4 1/2"</b>		Surface	<b>7,887</b>	<b>1,500</b>
Liner							
Liner							
Tubing			<b>4"</b>				
Drill Pipe							
Open Hole			<b>6 1/8"</b>		Surface	<b>7,887</b>	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials			
Mud Type	WBM	Density	Lb/Gal
Disp. Fluid	Fresh Water	<b>8.33</b>	
Spacer type	BBL.		
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	

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
<b>5/1</b>	<b>5.0</b>	<b>5/1</b>	<b>3.0</b>	Misc Pumping
Total	<b>5.0</b>	Total	<b>3.0</b>	

Perfpac Balls \_\_\_\_\_ Qty. \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_

Pressures			
MAX	AVG	MAX	AVG
<b>2500 PSI</b>	<b>200</b>	Average Rates in BPM	
<b>6 BPM</b>	<b>2.5</b>	Cement Left in Pipe	
Feet	Reason		

Cement Data				
Stage	Sacks	Cement	Additives	
<b>1</b>	<b>0</b>	<b>0</b>		0 0.00 0.00 0.00
<b>2</b>	<b>0</b>	<b>0</b>		0 0.00 0.00 0.00
<b>3</b>	<b>0</b>	<b>0</b>		0 0.00 0.00 0.00

Summary			
Preflush Breakdown	Type: <b>MAXIMUM</b>	<b>2,500</b>	Preflush: BBI <b>34.00</b> Type: <b>h20</b>
	Lost Returns-l		Load & Bkdn: Gal - BBI <b>N/A</b> Pad: Bbl -Gal <b>N/A</b>
	Actual TOC		Excess /Return BBI
Average	Bump Plug PSI:		Calc. TOC:
5 Min.	10 Min.	15 Min.	Final Circ. PSI:
			Cement Slurry BBI
			Total Volume BBI <b>34.00</b>

CUSTOMER REPRESENTATIVE *Ronnie Hagood* SIGNATURE

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/24/2014
Job End Date:	5/24/2014
State:	Kansas
County:	Harper
API Number:	15-077-22026-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Dean 3408 1-27H
Longitude:	-98.17885650
Latitude:	37.06451550
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,725
Total Base Water Volume (gal):	1,585,895
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
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	54.74968	None
Water	Archer	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	29.31099	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	2.10124	None
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.06604	None
			Methyl Alcohol	67-56-1	80.00000	0.01707	None
			thiourea-formaldehyde copolymer	68527-49-1	15.00000	0.00320	None
AIC	Archer	Liquid Acid Iron Control					
			Acetic Acid	64-19-7	50.00000	0.03815	None
			Citric Acid	77-92-9	30.00000	0.02289	None
Chemflush	Archer	Enviro-Friendly Chemical Flush					
			Hydrotreated Petroleum Distillate	64742-47-8	99.00000	0.02228	None
			Alcohol Ethoxylate Surfactants	NA	10.00000	0.00225	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		0.60333
		WATER	7732-18-5		0.39624
		Aliphatic Hydrocarbon	64742-47-8		0.30167
		Anionic Polymer	N/A		0.30167
		TRADE SECRET	N/A		0.26416
		Water	7732-18-5		0.13045
		ISOPROPANOL	67-63-0		0.06604
		METHANOL	67-56-1		0.06604
		Polyol Ester	N/A		0.05028
		Oxyalkylated Alcohol	68002-97-1		0.05028
		Water	7732-18-5		0.02671
		Sodium Salt of Phosphate Ester	68131-72-6		0.02174
		Acrylic Polymer	28205-96-1		0.02174
		Polyglycol Ester	N/A		0.01006
		Alcohol Ethoxylate Surfactants	N/A		0.00320
		n-olefins	N/A		0.00171
		Propargyl Alcohol	107-19-7		0.00128
		Tetrasodium Ethylenediaminetetraacetate	64-02-8		0.00101
		Surfactant	N/A		
		Water	7732-18-5		
		Cinnamic Aldehyde	104-55-2		
		Acetic Acid	64-19-7		
		Buffer	N/A		

\* 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)

Location Kansas Installation Harper County, KS  
 Field Sec 27 - 34S - 8W Well Dean 3408 1-27H

### Installation Data

Name	Latitude	Longitude	Northing	Easting
Harper County, KS	N37 3 52.25	W98 10 43.89	145027.00	2093711.00
Coordinate System	Kansas State Planes, Southern Zone			

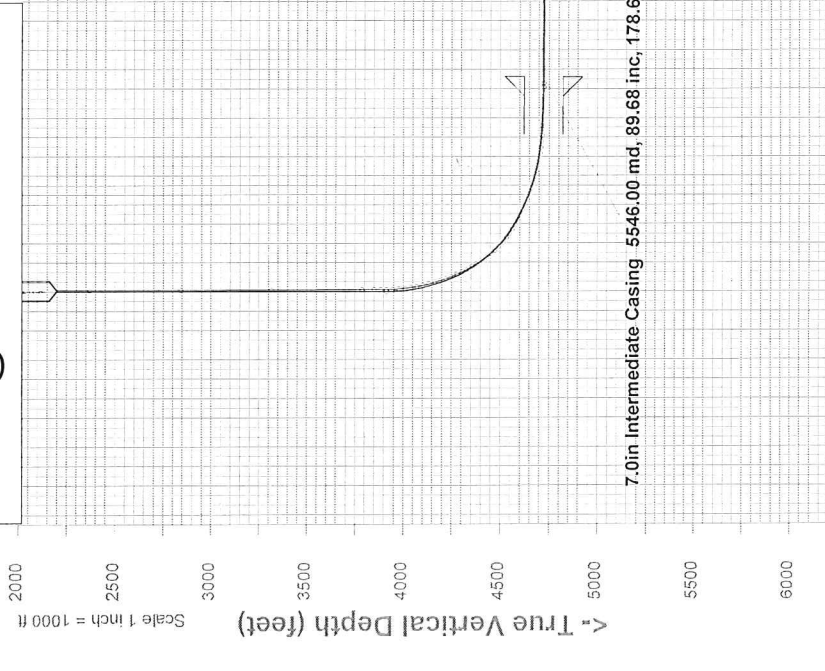
### Slot Data

Name	North [ft]	East [ft]	Longitude	Northing	Easting
Dean 3408 1-27H	0.00 N	0.00 E	W98 10 43.89	145027.00	2093711.00

### Elevation Data

Slot - Mean Sea Level [ft]	Mean Sea Level - Mudline/Ground level [ft]	Slot - Mudline/Ground level [ft]
1311.00	-1293.00	18.00

Target Line: 04-15-14  
 TGT: 4720' KBTVD @ 0' VS  
 89.8° @ 187.43 AZI Plane



### WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
KOP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
Target KOP w/ 8° BRN	3911.87	0.00	-134.52	3911.87	0.00	0.00	0.00	-0.00
Target Build w/ 8° BRN	4661.87	60.00	-134.52	4532.12	-251.08	-255.33	8.00	283.54
Target 200' Tangent Se	5303.98	88.00	180.00	4716.36	-804.47	-468.01	8.00	860.75
Target Build w/ 8°	5503.98	88.00	180.00	4723.34	-1004.35	-468.01	0.00	1056.76
Target Landing Point	5526.48	89.80	180.00	4723.77	-1026.84	-468.01	8.00	1081.04
T.D. & Target PBHL Dean	7901.50	89.80	180.00	4732.00	-3401.85	-467.98	0.00	3433.89

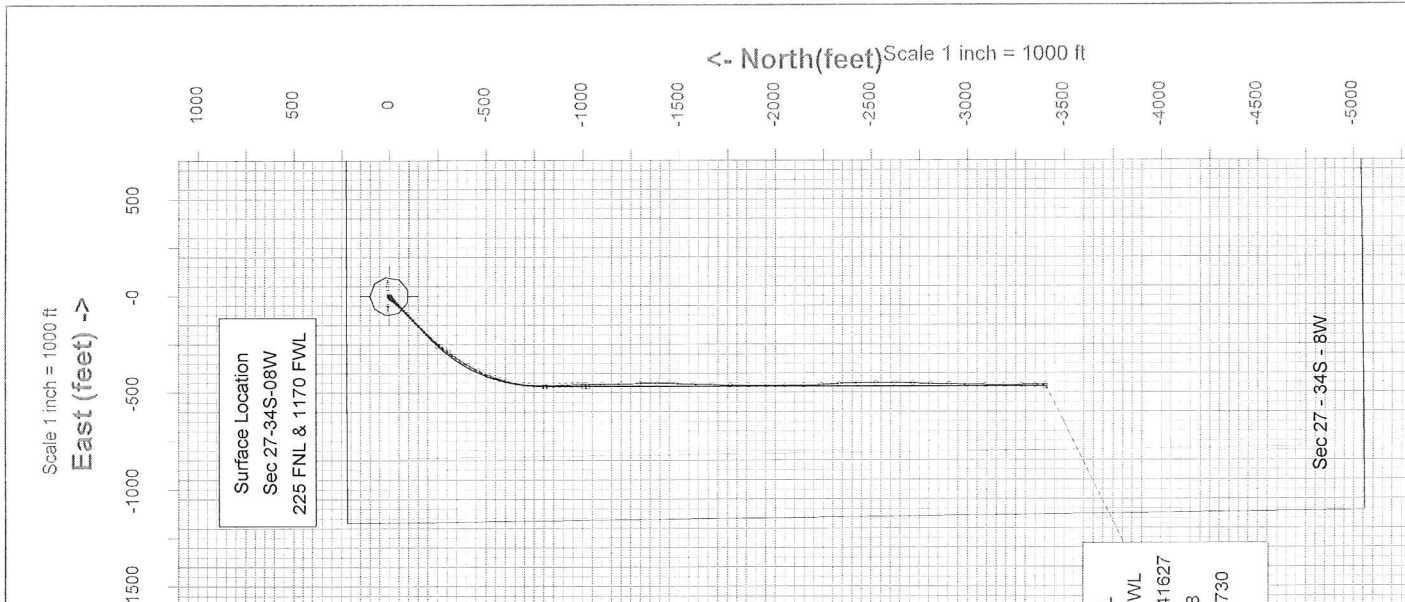
### TARGET DATA

MD	Inc	Azi	TVD	North	East	Name	Position
3911.87	0.00	-134.52	3911.87	0.00	0.00	KOP w/ 8° BRN	2093711.00 East : 145027.00 North
4661.87	60.00	-134.52	4532.12	-251.08	-255.33	Build w/ 8° BRN	2093455.66 East : 144775.91 North
5303.98	88.00	180.00	4716.36	-804.47	-468.01	200' Tangent Section	2093242.96 East : 144222.49 North
5503.98	88.00	180.00	4723.34	-1004.35	-468.01	Build w/ 8°	2093242.96 East : 144022.61 North
5526.48	89.80	180.00	4723.77	-1026.84	-468.01	Landing Point	2093242.96 East : 144000.11 North
7901.50	89.80	180.00	4732.00	-3401.85	-467.98	PBHL Dean 3408 1-27H	2093243.00 East : 141825.00 North



16-Apr-2014  
 IGRF Model [1900.0-2015.0] Dip: 65.12 deg; Field: 51628.9 nT  
 Magnetic North is 4.45 deg East of True North  
 GRID North is 0.20 deg East of True North  
 To correct azimuth from True to GRID subtract 0.20 deg  
 To correct azimuth from Magnetic to GRID add 4.25 deg  
 Created by: admin  
 Date Plotted: 13-May-2014  
 Plot reference is Dean 3408 1-27H (PW3).  
 Ref Wellpath is Dean 3408 1-27H (PWPH1).  
 Coordinates are in feet reference Dean 3408 1-27H.  
 True Vertical Depths are reference Dean 3408 1-27H.  
 Measured Depths are reference Slot.  
 Plot North is aligned to GRID North.

Projected BHL  
 1650 FSL 670 FWL  
 X= 2093253 Y= 141627  
 S 3400 W 458  
 MD 7887 TVD 4730  
 VS 3431



Vertical Section (feet) ->  
 Scale 1 inch = 1000 ft  
 Azimuth 187.83 with reference 0.00 N, 0.00 E from Dean 3408 1-27H



# Survey Report

DRT Job # : DR1404080

Company:	Sandridge	<b>Customer Rep</b>	<b>Position</b>	<b>Directional Driller</b>	<b>MWD Operator</b>
Well Name:	Dean 3408 1-27H			John Sartori	Jerry Wilkins
Legals:	Sec: 27 Township: 34S			Bill Wright	
County/State:	Harper KS				
Rig Name:	Unit 9				

## Dean 1-27H Surveys

Type	M Depth	Incl.	Azimuth	TVD	North	East	V Section	Dogleg	B Rate	T Rate	Clos Azi	Clos Dist
TieInPoint	0	0	0	0	0	0	0	0	0	0	0	0
Survey	810	0.3	172.1	810	-2.1	0.29	2.04	0.04	0.04	21.25	172.14	2.12
Survey	1054	0.8	191.8	1053.98	-4.4	0.03	4.35	0.22	0.2	8.07	179.61	4.4
Survey	1421	0.5	282.9	1420.96	-6.55	-2.05	6.77	0.26	0.08	24.82	197.38	6.86
Survey	1895	0.1	20.3	1894.96	-5.7	-3.93	6.18	0.11	0.08	20.55	214.59	6.92
Survey	2369	0.6	273.6	2368.95	-5.16	-6.26	5.96	0.13	0.11	22.51	230.5	8.11
Survey	2842	0.4	152.9	2841.94	-6.47	-7.98	7.5	0.18	0.04	25.52	230.97	10.27
Survey	3315	0.5	255.1	3314.93	-8.47	-9.22	9.65	0.15	0.02	21.61	227.43	12.52
Survey	3788	0.2	133.6	3787.92	-9.57	-10.62	10.93	0.13	0.06	25.69	227.98	14.3
Survey	3851	0.2	46.5	3850.92	-9.57	-10.46	10.91	0.44	0	138.25	227.54	14.18
Survey	3883	0	127.6	3882.92	-9.53	-10.42	10.86	0.63	0.63	253.44	227.55	14.12
Survey	3914	1.6	221.3	3913.91	-9.86	-10.71	11.23	5.16	5.16	302.26	227.37	14.56
Survey	3946	3.7	218.1	3945.88	-11	-11.64	12.48	6.58	6.56	10	226.62	16.02
Survey	3977	5.8	221.4	3976.77	-12.97	-13.29	14.66	6.83	6.77	10.65	225.7	18.57
Survey	4009	8	221.1	4008.53	-15.86	-15.82	17.87	6.88	6.88	0.94	224.93	22.4
Survey	4041	10.3	221.6	4040.13	-19.68	-19.19	22.11	7.19	7.19	1.56	224.28	27.49
Survey	4072	12.1	221.9	4070.53	-24.17	-23.2	27.11	5.81	5.81	0.97	223.83	33.5
Survey	4104	14.1	221.3	4101.7	-29.59	-28.01	33.13	6.26	6.25	1.88	223.43	40.74
Survey	4135	16.8	222.9	4131.58	-35.71	-33.55	39.95	8.82	8.71	5.16	223.21	49
Survey	4168	19.5	225.8	4162.93	-43.05	-40.75	48.2	8.63	8.18	8.79	223.43	59.28
Survey	4199	22.5	227.6	4191.87	-50.66	-48.84	56.84	9.9	9.68	5.81	223.95	70.37
Survey	4231	25.2	226.4	4221.13	-59.49	-58.3	66.88	8.57	8.44	3.75	224.42	83.29
Survey	4262	27.4	225.6	4248.92	-69.03	-68.18	77.67	7.19	7.1	2.58	224.65	97.02
Survey	4294	29.9	225.9	4277	-79.73	-79.17	89.77	7.83	7.81	0.94	224.8	112.36
Survey	4325	32.5	226.9	4303.52	-90.8	-90.8	102.32	8.55	8.39	3.23	225	128.41
Survey	4356	34.6	226.6	4329.35	-102.54	-103.27	115.65	6.8	6.77	0.97	225.2	145.53
Survey	4388	36.7	226.9	4355.35	-115.32	-116.86	130.17	6.59	6.56	0.94	225.38	164.18
Survey	4419	38.5	225.6	4379.91	-128.4	-130.52	144.98	6.34	5.81	4.19	225.47	183.09
Survey	4451	40.7	224.8	4404.57	-142.78	-144.99	161.2	7.06	6.88	2.5	225.44	203.49
Survey	4482	43.3	224.8	4427.6	-157.49	-159.6	177.76	8.39	8.39	0	225.38	224.22
Survey	4514	45.9	224.6	4450.39	-173.46	-175.41	195.74	8.14	8.13	0.63	225.32	246.69
Survey	4545	48	223.1	4471.55	-189.8	-191.09	214.06	7.64	6.77	4.84	225.19	269.33
Survey	4577	50.7	221.4	4492.39	-207.78	-207.41	234.1	9.35	8.44	5.31	224.95	293.58
Survey	4608	53.5	219.9	4511.43	-226.34	-223.34	254.66	9.81	9.03	4.84	224.62	317.98
Survey	4640	56.4	219.1	4529.81	-246.55	-240	276.95	9.29	9.06	2.5	224.23	344.07
Survey	4671	59.3	218.6	4546.3	-266.99	-256.46	299.44	9.45	9.35	1.61	223.85	370.21
Survey	4703	62	218.4	4561.99	-288.82	-273.82	323.43	8.46	8.44	0.62	223.47	397.99
Survey	4734	63.9	218.4	4576.08	-310.45	-290.97	347.2	6.13	6.13	0	223.14	425.49
Survey	4767	65.7	217.1	4590.13	-334.06	-309.24	373.07	6.52	5.45	3.94	222.79	455.22
Survey	4798	67.1	215.1	4602.55	-357.01	-325.98	398.09	7.44	4.52	6.45	222.4	483.45
Survey	4830	67.4	212.4	4614.92	-381.55	-342.37	424.64	7.84	0.94	8.44	221.9	512.64
Survey	4861	68.5	209.6	4626.56	-406.17	-357.16	451.04	9.09	3.55	9.03	221.33	540.87
Survey	4893	69.9	208.1	4637.93	-432.38	-371.6	478.97	6.19	4.38	4.69	220.68	570.12
Survey	4924	70.3	206.1	4648.48	-458.32	-384.87	506.48	6.2	1.29	6.45	220.02	598.48
Survey	4956	71.9	204.3	4658.85	-485.71	-397.76	535.37	7.3	5	5.62	219.31	627.8
Survey	4988	73.3	201.8	4668.42	-513.81	-409.71	564.84	8.64	4.37	7.81	218.57	657.16
Survey	5020	75	199.6	4677.16	-542.6	-420.59	594.84	8.48	5.31	6.88	217.78	686.52
Survey	5051	76.5	197.1	4684.79	-571.12	-430.04	624.38	9.19	4.84	8.06	216.98	714.92
Survey	5082	78.1	194.6	4691.6	-600.21	-438.3	654.33	9.41	5.16	8.06	216.14	743.21
Survey	5114	79.8	192.6	4697.74	-630.73	-445.68	685.57	8.11	5.31	6.25	215.25	772.3
Survey	5146	81.5	190.1	4702.94	-661.68	-451.89	717.07	9.36	5.31	7.81	214.33	801.26
Survey	5177	83.1	187.9	4707.09	-692.02	-456.7	747.79	8.72	5.16	7.1	213.42	829.14
Survey	5209	84.2	184.9	4710.63	-723.62	-460.24	779.57	9.93	3.44	9.38	212.46	857.58
Survey	5240	85.4	182.4	4713.44	-754.43	-462.2	810.36	8.92	3.87	8.06	211.49	884.76
Survey	5272	86.9	180.4	4715.59	-786.35	-462.98	842.09	7.8	4.69	6.25	210.49	912.52
Survey	5303	87.9	179.8	4717	-817.31	-463.03	872.77	3.76	3.23	1.94	209.53	939.36
Survey	5335	88	178.9	4718.14	-849.29	-462.67	904.4	2.83	0.31	2.81	208.58	967.14
Survey	5367	88	178.4	4719.26	-881.26	-461.92	935.97	1.56	0	1.56	207.66	994.98
Survey	5398	88.3	178.4	4720.26	-912.23	-461.05	966.54	0.97	0.97	0	206.81	1022.12
Survey	5430	88.6	178.4	4721.12	-944.21	-460.16	998.1	0.94	0.94	0	205.98	1050.37
Survey	5461	88.9	178.1	4721.8	-975.19	-459.21	1028.66	1.37	0.97	0.97	205.22	1077.9
Survey	5493	89.1	177.8	4722.35	-1007.16	-458.07	1060.17	1.13	0.63	0.94	204.46	1106.44
Survey	5508	89.4	177.4	4722.55	-1022.15	-457.44	1074.94	3.33	2	2.67	204.11	1119.84
Survey	5588	90	180.1	4722.97	-1102.12	-455.7	1153.93	3.46	0.75	3.37	202.46	1192.62
Survey	5683	90.2	178.9	4722.8	-1197.12	-454.87	1247.93	1.28	0.21	1.26	200.81	1280.63
Survey	5777	90.2	178.1	4722.48	-1291.08	-452.41	1340.68	0.85	0	0.85	199.31	1368.05
Survey	5872	90.6	180.9	4721.81	-1386.07	-451.58	1434.67	2.98	0.42	2.95	198.05	1457.78
Survey	5967	90.3	181.1	4721.07	-1481.05	-453.23	1528.99	0.38	0.32	0.21	197.02	1548.85

Survey	6062	88.3	181.1	4722.23	-1576.02	-455.06	1623.32	2.11	2.11	0	196.11	1640.4
Survey	6156	88.3	181.8	4725.02	-1669.95	-457.44	1716.7	0.74	0	0.74	195.32	1731.47
Survey	6251	89.5	181.3	4726.84	-1764.89	-460.01	1811.1	1.37	1.26	0.53	194.61	1823.85
Survey	6346	89.3	180.4	4727.83	-1859.87	-461.42	1905.39	0.97	0.21	0.95	193.93	1916.25
Survey	6441	90.3	181.1	4728.17	-1954.86	-462.66	1999.66	1.28	1.05	0.74	193.32	2008.86
Survey	6536	89.2	179.8	4728.58	-2049.85	-463.41	2093.87	1.79	1.16	1.37	192.74	2101.58
Survey	6631	88	177.9	4730.91	-2144.8	-461.5	2187.68	2.36	1.26	2	192.14	2193.89
Survey	6726	89.5	177.4	4732.98	-2239.69	-457.61	2281.15	1.66	1.58	0.53	191.55	2285.96
Survey	6821	90.6	177.3	4732.9	-2334.59	-453.21	2374.57	1.16	1.16	0.11	190.99	2378.17
Survey	6916	91.1	178.6	4731.49	-2429.52	-449.82	2468.15	1.47	0.53	1.37	190.49	2470.81
Survey	7011	91.3	180.1	4729.5	-2524.49	-448.74	2562.09	1.59	0.21	1.58	190.08	2564.06
Survey	7106	91.1	180.6	4727.51	-2619.47	-449.32	2656.26	0.57	0.21	0.53	189.73	2657.73
Survey	7201	90.8	181.1	4725.93	-2714.45	-450.73	2750.55	0.61	0.32	0.53	189.43	2751.62
Survey	7296	89.8	181.9	4725.44	-2809.41	-453.22	2844.96	1.35	1.05	0.84	189.16	2845.73
Survey	7390	89.2	181.8	4726.26	-2903.36	-456.25	2938.45	0.65	0.64	0.11	188.93	2938.99
Survey	7484	88.4	181.1	4728.23	-2997.31	-458.63	3031.85	1.13	0.85	0.74	188.7	3032.2
Survey	7579	89.1	180.6	4730.3	-3092.27	-460.04	3126.11	0.91	0.74	0.53	188.46	3126.3
Survey	7674	89.4	180.1	4731.54	-3187.26	-460.62	3220.3	0.61	0.32	0.53	188.22	3220.37
Survey	7768	90.1	179.3	4731.95	-3281.26	-460.13	3313.35	1.13	0.74	0.85	187.98	3313.36
Survey	7837	90.8	178.8	4731.41	-3350.24	-458.98	3381.53	1.25	1.01	0.72	187.8	3381.53
PrjCalcPnt	7887	90.8	178.8	4730.71	-3400.22	-457.93	3430.91	0	0	0	187.67	3430.92