



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1090742  
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: \_\_\_\_\_



1090742

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> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Vornauf 2-18H
Doc ID	1090742

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
5	10074-10076	1059 bbls water, 120 bbls acid, 1179 TLTR	
5	9756-9759	3214 bbls water, 48 bbls acid, 55M lbs sd, 4441 TLTR	
5	9436-9440	3175 bbls water, 48 bbls acid, 55M lbs sd, 7664 TLTR	
5	9118-9121	3177 bbls water, 48 bbls acid, 55M lbs sd, 10889 TLTR	
5	8800-8803	3163 bbls water, 48 bbls acid, 55M lbs sd, 14100 TLTR	
5	8482-8485	3139 bbls water, 48 bbls acid, 55M lbs sd, 17286 TLTR	
5	8163-8166	3109 bbls water, 48 bbls acid, 55M lbs sd, 20442 TLTR	
5	7849-7852	3099 bbls water, 48 bbls acid, 55M lbs sd, 23588 TLTR	
5	7530-7534	3116 bbls water, 48 bbls acid, 55M lbs sd, 26752 TLTR	
5	7213-7217	3207 bbls water, 48 bbls acid, 55M lbs sd, 30007 TLTR	

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Vornauf 2-18H
Doc ID	1090742

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
5	6895-6898	3130 bbls water, 48 bbls acid, 55M lbs sd, 33185 TLTR	
5	6577-6581	3294 bbls water, 46 bbls acid, 55M lbs sd, 36525 TLTR	
5	6260-6263	3117 bbls water, 48 bbls acid, 55M lbs sd, 39690 TLTR	
5	5942-5946	3148 bbls water, 48 bbls acid, 55M lbs sd, 42886 TLTR	
5	5626-5630	3132 bbls water, 48 bbls acid, 55M lbs sd, 46066 TLTR	

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
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### Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Conductor	30	20	75	100	4500 PSI concrete	11	none
Surface	12.25	9.63	36	832	Extendace m and swiftcem systems	420	3% Calcium Chloride, .25 lbm Poly-E-Flake
Intermediate	8.75	7	26	5404	50/50 Poz Standard/Premium	290	.4% Halad(R)-9, 2 lbm Kol-Seal, 2% Bentonite
Liner	6.12	4.5	11.6	9999	na	0	na

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



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

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

August 15, 2012

Tiffany Golay  
SandRidge Exploration and Production LLC  
123 ROBERT S. KERR AVE  
OKLAHOMA CITY, OK 73102-6406

Re: ACO1  
API 15-077-21859-01-00  
Vornauf 2-18H  
NE/4 Sec.07-35S-07W  
Harper County, Kansas

Dear Production Department:

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

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

Respectfully,  
Tiffany Golay



123 Robert S. Kerr Ave.  
Oklahoma City, OK 73102

# Survey VORNAUF 2-18H

## Step #1 - Create a Deviation Survey

## Step

## #2 - Attach the survey "Description" to the Wellbore - Deviation Survey

### Wellbores - Step #2

Actual Deviation Survey	Wellbore Name
Vornauf 2-18H, Proposed? No	Original Hole

### Deviation Surveys - Step #1

Description	Date	VS Dir (°)	Comment
Vornauf 2-18H	7/12/2012		

### Tie-in Data

Azimuth North Type	Convergence (°)	Declination (°)	MD Tie In (ftKB)	Azimuth Tie In (°)	Inclination Tie In (°)	TVDTie In (ftKB)	NSTie In (ft)	EW Tie In (ft)
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### Survey Data

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
1,064	0.7	222.03	Baker Hughes INTEQ	MWD	1,064	5	-4.90	-4.41	0.07
1,526	0.3	162.99	Baker Hughes INTEQ	MWD	1,526	8	-8.33	-5.93	0.13
1,994	0.3	181.56	Baker Hughes INTEQ	MWD	1,994	11	-10.97	-5.56	0.02
2,469	0.3	191.00	Baker Hughes INTEQ	MWD	2,469	13	-13.47	-5.82	0.01
2,944	0.6	102.26	Baker Hughes INTEQ	MWD	2,944	15	-15.19	-3.58	0.14
3,418	0.6	30.33	Baker Hughes INTEQ	MWD	3,418	14	-13.62	0.12	0.15
3,914	0.5	339.26	Baker Hughes INTEQ	MWD	3,914	9	-9.39	0.64	0.10
3,964	0.8	265.02	Baker Hughes INTEQ	MWD	3,964	9	-9.22	0.23	1.59
3,996	3.3	209.87	Baker Hughes INTEQ	MWD	3,996	10	-10.03	-0.44	9.09
4,028	6.5	196.17	Baker Hughes INTEQ	MWD	4,028	13	-12.56	-1.40	10.54
4,059	8.9	196.90	Baker Hughes INTEQ	MWD	4,058	16	-16.53	-2.59	7.88
4,091	11.6	196.33	Baker Hughes INTEQ	MWD	4,090	22	-22.00	-4.21	8.54
4,123	13.6	193.20	Baker Hughes INTEQ	MWD	4,121	29	-28.75	-5.98	6.34
4,154	15.0	190.85	Baker Hughes INTEQ	MWD	4,151	36	-36.23	-7.56	5.07
4,186	16.8	189.32	Baker Hughes INTEQ	MWD	4,182	45	-44.85	-9.09	5.65
4,218	18.9	186.33	Baker Hughes INTEQ	MWD	4,212	54	-54.57	-10.41	7.36
4,249	21.6	185.00	Baker Hughes INTEQ	MWD	4,242	65	-65.25	-11.46	8.61
4,281	23.9	182.32	Baker Hughes INTEQ	MWD	4,271	77	-77.58	-12.24	7.85
4,312	26.0	181.06	Baker Hughes INTEQ	MWD	4,299	90	-90.65	-12.62	7.21
4,344	28.1	181.67	Baker Hughes INTEQ	MWD	4,328	105	-105.19	-12.97	6.37
4,376	30.1	181.70	Baker Hughes INTEQ	MWD	4,356	121	-120.73	-13.42	6.38
4,408	32.0	180.70	Baker Hughes INTEQ	MWD	4,383	137	-137.22	-13.77	6.09
4,439	33.7	178.84	Baker Hughes INTEQ	MWD	4,409	154	-154.02	-13.69	6.32
4,471	35.4	178.37	Baker Hughes INTEQ	MWD	4,435	172	-172.14	-13.25	5.41
4,502	37.2	178.25	Baker Hughes INTEQ	MWD	4,460	190	-190.47	-12.71	5.91
4,534	38.6	178.49	Baker Hughes INTEQ	MWD	4,486	210	-210.12	-12.15	4.52
4,534	37.2	178.25	Baker Hughes INTEQ	MWD	4,486	210	-210.12	-12.15	4.52
4,566	40.1	178.99	Baker Hughes INTEQ	MWD	4,511	230	-230.10	-11.67	9.24
4,598	42.4	179.46	Baker Hughes INTEQ	MWD	4,535	251	-251.20	-11.39	7.22
4,629	43.7	179.11	Baker Hughes INTEQ	MWD	4,557	272	-272.36	-11.12	4.30
4,661	45.6	178.97	Baker Hughes INTEQ	MWD	4,580	295	-294.84	-10.75	5.76
4,693	48.3	178.80	Baker Hughes INTEQ	MWD	4,602	318	-318.21	-10.29	8.73
4,738	50.7	177.87	Baker Hughes INTEQ	MWD	4,631	352	-352.42	-9.29	5.41
4,788	50.7	177.48	Baker Hughes INTEQ	MWD	4,663	391	-391.07	-7.72	0.61
4,833	50.2	176.49	Baker Hughes INTEQ	MWD	4,692	426	-425.73	-5.90	2.00
4,874	49.9	175.92	Baker Hughes INTEQ	MWD	4,718	457	-457.09	-3.82	1.38
4,915	49.9	175.45	Baker Hughes INTEQ	MWD	4,744	488	-488.37	-1.46	0.89
4,946	52.8	176.65	Baker Hughes INTEQ	MWD	4,764	512	-512.53	0.20	9.80
4,946	52.8	176.65	Baker Hughes INTEQ	MWD	4,764	512	-512.53	0.20	9.80
4,976	55.3	178.69	Baker Hughes INTEQ	MWD	4,781	537	-536.80	1.19	9.93
5,010	58.2	179.29	Baker Hughes INTEQ	MWD	4,800	565	-565.22	1.68	8.60
5,042	61.7	178.64	Baker Hughes INTEQ	MWD	4,816	593	-592.92	2.19	11.23
5,073	65.1	178.72	Baker Hughes INTEQ	MWD	4,830	621	-620.63	2.83	10.87
5,105	68.7	179.36	Baker Hughes INTEQ	MWD	4,842	650	-650.05	3.32	11.21
5,137	72.0	180.12	Baker Hughes INTEQ	MWD	4,853	680	-680.18	3.45	10.77



123 Robert S. Kerr Ave.  
Oklahoma City, OK 73102

## Survey VORNAUF 2-18H

Step #1 - Create a Deviation Survey

Step

#2 - Attach the survey "Description" to the Wellbore - Deviation Survey

**Survey Data**

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (*/100ft)
5,169	74.6	180.23	Baker Hughes INTEQ	MWD	4,862	711	-710.83	3.36	8.13
5,200	77.2	180.38	Baker Hughes INTEQ	MWD	4,870	741	-740.89	3.20	8.24
5,232	79.8	180.32	Baker Hughes INTEQ	MWD	4,876	772	-772.24	3.01	8.16
5,264	82.2	180.48	Baker Hughes INTEQ	MWD	4,881	804	-803.85	2.78	7.67
5,295	84.1	180.32	Baker Hughes INTEQ	MWD	4,885	835	-834.63	2.57	6.15
5,327	85.2	180.21	Baker Hughes INTEQ	MWD	4,888	866	-866.48	2.42	3.24
5,359	87.5	180.02	Baker Hughes INTEQ	MWD	4,890	898	-898.42	2.36	7.34
5,427	89.6	181.11	Baker Hughes INTEQ	MWD	4,892	966	-966.39	1.69	3.44
5,491	89.8	181.19	Baker Hughes INTEQ	MWD	4,892	1,030	-1,030.37	0.40	0.31
5,554	89.2	181.33	Baker Hughes INTEQ	MWD	4,893	1,093	-1,093.35	-0.98	0.90
5,618	89.3	181.10	Baker Hughes INTEQ	MWD	4,893	1,157	-1,157.33	-2.34	0.39
5,681	88.9	181.37	Baker Hughes INTEQ	MWD	4,894	1,220	-1,220.31	-3.70	0.78
5,744	88.6	181.00	Baker Hughes INTEQ	MWD	4,896	1,283	-1,283.28	-5.00	0.70
5,808	88.5	181.11	Baker Hughes INTEQ	MWD	4,897	1,347	-1,347.25	-6.18	0.24
5,903	90.0	179.62	Baker Hughes INTEQ	MWD	4,899	1,442	-1,442.24	-6.78	2.18
5,998	89.5	179.55	Baker Hughes INTEQ	MWD	4,899	1,537	-1,537.23	-6.09	0.49
6,093	89.6	178.26	Baker Hughes INTEQ	MWD	4,900	1,632	-1,632.21	-4.28	1.36
6,188	89.9	179.44	Baker Hughes INTEQ	MWD	4,900	1,727	-1,727.19	-2.37	1.28
6,283	90.3	180.22	Baker Hughes INTEQ	MWD	4,900	1,822	-1,822.19	-2.09	0.91
6,378	90.1	180.36	Baker Hughes INTEQ	MWD	4,900	1,917	-1,917.19	-2.57	0.25
6,473	89.6	180.77	Baker Hughes INTEQ	MWD	4,900	2,012	-2,012.18	-3.51	0.66
6,568	89.2	179.81	Baker Hughes INTEQ	MWD	4,901	2,107	-2,107.17	-3.99	1.09
6,663	89.4	179.61	Baker Hughes INTEQ	MWD	4,902	2,202	-2,202.16	-3.51	0.31
6,758	88.4	179.81	Baker Hughes INTEQ	MWD	4,904	2,297	-2,297.14	-3.03	1.08
6,853	89.3	179.53	Baker Hughes INTEQ	MWD	4,906	2,392	-2,392.12	-2.48	1.01
6,949	90.5	179.11	Baker Hughes INTEQ	MWD	4,906	2,488	-2,488.11	-1.34	1.32
7,044	89.9	179.43	Baker Hughes INTEQ	MWD	4,906	2,583	-2,583.11	-0.13	0.70
7,139	89.3	179.06	Baker Hughes INTEQ	MWD	4,907	2,678	-2,678.09	1.12	0.81
7,193	90.2	179.11	Baker Hughes INTEQ	MWD	4,907	2,732	-2,732.09	1.98	1.78
7,257	91.5	179.36	Baker Hughes INTEQ	MWD	4,906	2,796	-2,796.07	2.84	2.05
7,352	91.8	179.24	Baker Hughes INTEQ	MWD	4,903	2,891	-2,891.03	4.00	0.29
7,447	92.3	178.66	Baker Hughes INTEQ	MWD	4,900	2,986	-2,985.95	5.74	0.82
7,542	91.7	179.04	Baker Hughes INTEQ	MWD	4,896	3,081	-3,080.87	7.64	0.74
7,637	91.9	179.20	Baker Hughes INTEQ	MWD	4,893	3,176	-3,175.81	9.10	0.31
7,732	89.8	178.81	Baker Hughes INTEQ	MWD	4,892	3,271	-3,270.78	10.75	2.34
7,828	89.2	179.41	Baker Hughes INTEQ	MWD	4,893	3,367	-3,366.77	12.24	0.88
7,923	89.2	179.52	Baker Hughes INTEQ	MWD	4,894	3,462	-3,461.75	13.13	0.12
8,018	91.5	180.78	Baker Hughes INTEQ	MWD	4,894	3,557	-3,556.74	12.88	2.81
8,113	91.1	180.82	Baker Hughes INTEQ	MWD	4,892	3,652	-3,651.71	11.56	0.49
8,208	91.1	180.82	Baker Hughes INTEQ	MWD	4,890	3,746	-3,746.68	10.20	0.00
8,303	90.3	179.85	Baker Hughes INTEQ	MWD	4,889	3,841	-3,841.67	9.64	1.30
8,398	90.7	181.25	Baker Hughes INTEQ	MWD	4,888	3,936	-3,936.66	8.73	1.51
8,493	90.9	180.55	Baker Hughes INTEQ	MWD	4,886	4,031	-4,031.64	7.24	0.79
8,588	88.6	180.07	Baker Hughes INTEQ	MWD	4,887	4,126	-4,126.63	6.72	2.46
8,683	88.4	178.53	Baker Hughes INTEQ	MWD	4,889	4,221	-4,221.59	7.88	1.63
8,778	90.4	177.05	Baker Hughes INTEQ	MWD	4,890	4,316	-4,316.51	11.55	2.58
8,873	90.6	180.43	Baker Hughes INTEQ	MWD	4,889	4,411	-4,411.47	13.63	3.56
8,968	90.9	179.58	Baker Hughes INTEQ	MWD	4,888	4,506	-4,506.46	13.63	0.96
9,063	87.6	179.30	Baker Hughes INTEQ	MWD	4,889	4,601	-4,601.43	14.55	3.50
9,158	88.3	179.08	Baker Hughes INTEQ	MWD	4,893	4,696	-4,696.36	15.90	0.82
9,253	90.2	179.27	Baker Hughes INTEQ	MWD	4,894	4,791	-4,791.34	17.26	1.92
9,348	91.0	179.27	Baker Hughes INTEQ	MWD	4,893	4,886	-4,886.33	18.47	0.92





123 Robert S. Kerr Ave.  
Oklahoma City, OK 73102

## Survey VORNAUF 2-18H

**Step #1 - Create a Deviation Survey**

**Step**

**#2 - Attach the survey "Description" to the Wellbore - Deviation Survey**

**Survey Data**

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
9,443	90.8	177.87	Baker Hughes INTEQ	MWD	4,892	4,981	-4,981.28	20.84	1.49
9,538	93.0	177.95	Baker Hughes INTEQ	MWD	4,888	5,076	-5,076.16	24.31	2.33
9,633	90.1	176.28	Baker Hughes INTEQ	MWD	4,886	5,171	-5,170.99	29.09	3.60
9,728	89.7	176.16	Baker Hughes INTEQ	MWD	4,886	5,266	-5,265.78	35.35	0.38
9,823	91.7	175.57	Baker Hughes INTEQ	MWD	4,885	5,361	-5,360.52	42.20	2.13
9,918	92.4	176.49	Baker Hughes INTEQ	MWD	4,882	5,455	-5,455.23	48.77	1.22
10,013	92.1	175.73	Baker Hughes INTEQ	MWD	4,878	5,550	-5,549.94	55.21	0.85
10,108	91.3	176.71	Baker Hughes INTEQ	MWD	4,875	5,645	-5,644.69	61.47	1.36
10,172	89.8	177.33	Baker Hughes INTEQ	MWD	4,874	5,709	-5,708.60	64.80	2.51
10,235	88.7	177.13	Baker Hughes INTEQ	MWD	4,875	5,772	-5,771.52	67.84	1.79
10,298	88.5	176.56	Baker Hughes INTEQ	MWD	4,877	5,835	-5,834.41	71.31	0.94
10,393	88.8	176.66	Baker Hughes INTEQ	MWD	4,879	5,930	-5,929.21	76.93	0.27
10,488	88.4	176.90	Baker Hughes INTEQ	MWD	4,881	6,025	-6,024.04	82.26	0.42
10,583	90.0	178.22	Baker Hughes INTEQ	MWD	4,883	6,120	-6,118.94	86.30	2.13
10,678	90.5	179.18	Baker Hughes INTEQ	MWD	4,882	6,215	-6,213.91	88.46	1.15
10,742	89.5	178.88	Baker Hughes INTEQ	MWD	4,882	6,279	-6,277.90	89.54	1.66
10,837	89.5	179.77	Baker Hughes INTEQ	MWD	4,883	6,374	-6,372.89	90.66	0.94
10,900	89.7	179.57	Baker Hughes INTEQ	MWD	4,884	6,437	-6,435.88	91.02	0.50
10,964	89.9	179.60	Baker Hughes INTEQ	MWD	4,884	6,501	-6,499.88	91.49	0.25
11,027	88.8	179.04	Baker Hughes INTEQ	MWD	4,885	6,564	-6,562.87	92.24	1.89
11,122	89.1	179.06	Baker Hughes INTEQ	MWD	4,886	6,659	-6,657.84	93.81	0.28
11,217	89.5	179.16	Baker Hughes INTEQ	MWD	4,887	6,753	-6,752.83	95.29	0.46
11,312	90.4	179.52	Baker Hughes INTEQ	MWD	4,888	6,848	-6,847.82	96.38	0.99
11,408	91.0	180.22	Baker Hughes INTEQ	MWD	4,886	6,944	-6,943.81	96.60	0.95
11,471	90.3	180.37	Baker Hughes INTEQ	MWD	4,886	7,007	-7,006.80	96.27	1.07
11,534	90.2	180.95	Baker Hughes INTEQ	MWD	4,885	7,070	-7,069.80	95.55	0.94
11,629	91.9	181.29	Baker Hughes INTEQ	MWD	4,884	7,165	-7,164.76	93.69	1.75
11,693	90.3	182.04	Baker Hughes INTEQ	MWD	4,882	7,229	-7,228.72	91.83	2.63



\*\*\*Conductor, Rat and Mouse Hole Drilling Services\*\*\*

Ticket

Date: 7/7/2012

Company:

Sandridge

Drill Rig: Unit 310	Location: Harper County	Lease Name: Vornaus 2-18 H	DC12033
100' of 30" Drilled Conductor Hole 100' of 20" Conductor Pipe (1/250 wall) 82ppf 6'x6' Cellar Trench W/Protective Ring Drill & Install cellar 75' of 20" Drilled Moushole 75' of 16" Moushole Pipe Mobilization of Equipment & Road Permitting Fee Welding Services for Pipe & Lids Provided Equipment & Labor for Dirt Removal Provided Personal to Facilitate Diggtess(One Call) Provide Metal for Lids(1 for the Conductor and 2 for the Mouse hole pipe) 11 Yards of 4500PSI concrete Poured down the back side of Conductor Pipe		AFE Number: DC12033 Well Name: Vornaus 2-18 H Code: 830.035 Amount: \$ 199.50 Co. Man: <i>[Signature]</i> Co. Man Sig.: <i>[Signature]</i> Notes:	
Comments: Thank You For Your Business If a caving formation and (or) water is found addition fee(s) will be add to cover the cost of tank trucks, vacuum trucks, and cement pump trucks. Prices figured on non-rocky soil conditions, if rock is present then there will be a surcharge.			Total \$19,950.00

The Road to Excellence Starts with Safety

<b>Sold To #:</b> 305021	<b>Ship To #:</b> 2939737	<b>Quote #:</b>	<b>Sales Order #:</b> 9672895
<b>Customer:</b> SANDRIDGE ENERGY INC EBUSINESS		<b>Customer Rep:</b> Edwards, Tripp	
<b>Well Name:</b> Vornauf		<b>Well #:</b> 2-18H	<b>API/UWI #:</b>
<b>Field:</b>	<b>City (SAP):</b> ANTHONY	<b>County/Parish:</b> Harper	<b>State:</b> Kansas
<b>Legal Description:</b> Section 07 Township 35S Range 07W			
<b>Contractor:</b> Unit Drilling *		<b>Rig/Platform Name/Num:</b> 310	
<b>Job Purpose:</b> Cement Surface Casing			
<b>Well Type:</b> Development Well		<b>Job Type:</b> Cement Surface Casing	
<b>Sales Person:</b> NGUYEN, VINH		<b>Srvc Supervisor:</b> LEACH, CLIFFORD	<b>MBU ID Emp #:</b> 475738

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
FINDLEY, GARED A	6	520137	LEACH, CLIFFORD Alfred	6	475738	MALMGREN, AARON M	6	514066
MILLER, ARNOLD Ray	6	520488	TAVAI, MASON T	6	423521			

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way

### Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
7-17-12	6							

**TOTAL** Total is the sum of each column separately

### Job

### Job Times

Formation Name	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
					17 - Jul - 2012	12:00	CST
<b>Form Type</b>			BHST	<b>On Location</b>	17 - Jul - 2012	17:00	CST
<b>Job depth MD</b>	1000. ft		<b>Job Depth TVD</b>	<b>Job Started</b>	17 - Jul - 2012	21:02	CST
<b>Water Depth</b>			<b>Wk Ht Above Floor</b>	<b>Job Completed</b>	17 - Jul - 2012	21:52	CST
<b>Perforation Depth (MD)</b>	<b>From</b>		<b>To</b>	<b>Departed Loc</b>	17 - Jul - 2012	23:00	CST

### Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
12.25" Open Hole				12.25				.	850.		
9.625" Surface Casing	Unknown		9.625	8.921	36.	LTC	J-55	.	850.		

### Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug		1	
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container		1	
Stage Tool										Centralizers			

### Miscellaneous Materials

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty	

### Fluid Data

Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

### Stage/Plug #: 1

# HALLIBURTON

## Cementing Job Summary

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk	
1	Fresh Water		10	bbl	8.33	.0	.0	.0		
2	Halliburton Light Standard	EXTENDACEM (TM) SYSTEM (452981)	220	sacks	12.4	2.12	11.68		11.68	
	3 %	CALCIUM CHLORIDE, PELLET, 50 LB (101509387)								
	0.25 lbm	POLY-E-FLAKE (101216940)								
	11.676 Gal	FRESH WATER								
3	Standard	SWIFTCEM (TM) SYSTEM (452990)	200	sacks	15.6	1.2	5.32		5.32	
	2 %	CALCIUM CHLORIDE, PELLET, 50 LB (101509387)								
	0.125 lbm	POLY-E-FLAKE (101216940)								
	5.319 Gal	FRESH WATER								
4	Displacement		61	bbl	8.33	.0	.0	.0		
Calculated Values		Pressures			Volumes					
Displacement	61	Shut In: Instant		Lost Returns		Cement Slurry		Pad		
Top Of Cement		5 Min		Cement Returns		Actual Displacement	61	Treatment		
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job		
Rates										
Circulating		Mixing	5	Displacement	7	Avg. Job	6			
Cement Left In Pipe	Amount	46.39 ft	Reason	Shoe Joint						
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID			
The Information Stated Herein Is Correct				Customer Representative Signature						

The Road to Excellence Starts with Safety

Sold To #: 305021	Ship To #: 2939737	Quote #:	Sales Order #: 9687487
Customer: SANDRIDGE ENERGY INC EBUSINESS		Customer Rep: Edwards, Tripp	
Well Name: Vornauf	Well #: 2-18H	API/UWI #: 15-077-21859	
Field:	City (SAP): ANTHONY	County/Parish: Harper	State: Kansas
Legal Description: Section 7 Township 35S Range 7W			
Contractor: Unit Drilling *		Rig/Platform Name/Num: Unit 310	
Job Purpose: Cement Intermediate Casing			
Well Type: Development Well		Job Type: Cement Intermediate Casing	
Sales Person: NGUYEN, VINH		Srvc Supervisor: JOHNSON, ROBERT	MBU ID Emp #: 418417

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
APPLEBEE, SCOTT J	26	521237	CRAWFORD, ANDREW B	26	480612	JOHNSON, ROBERT David	26	418417
PARAMORE, MARTY Steven	26	429352						

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way

### Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
07/23/2012	4	0	07/24/2012	11.5	3.5			
TOTAL			Total is the sum of each column separately					

### Job

### Job Times

Formation Name	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
				On Location	23 - Jul - 2012	12:30	CST
Form Type			BHST	On Location	23 - Jul - 2012	19:00	CST
Job depth MD	5405. ft		Job Depth TVD	5405. ft	Job Started	24 - Jul - 2012	08:11
Water Depth			Wk Ht Above Floor	5. ft	Job Completed	24 - Jul - 2012	09:17
Perforation Depth (MD)	From		To		Departed Loc	24 - Jul - 2012	11:30
							CST

### Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
8.75" Open Hole				8.75				850.	5325.		
7" Intermediate Casing	Unknown		7.	6.276	26.	LTC	P-110	.	5325.		
9.625" Surface Casing	Unknown		9.625	8.921	36.	LTC	J-55	.	850.		

### Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug	7	1	5W
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container	7	1	QL
Stage Tool										Centralizers			

### Miscellaneous Materials

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty	

### Fluid Data

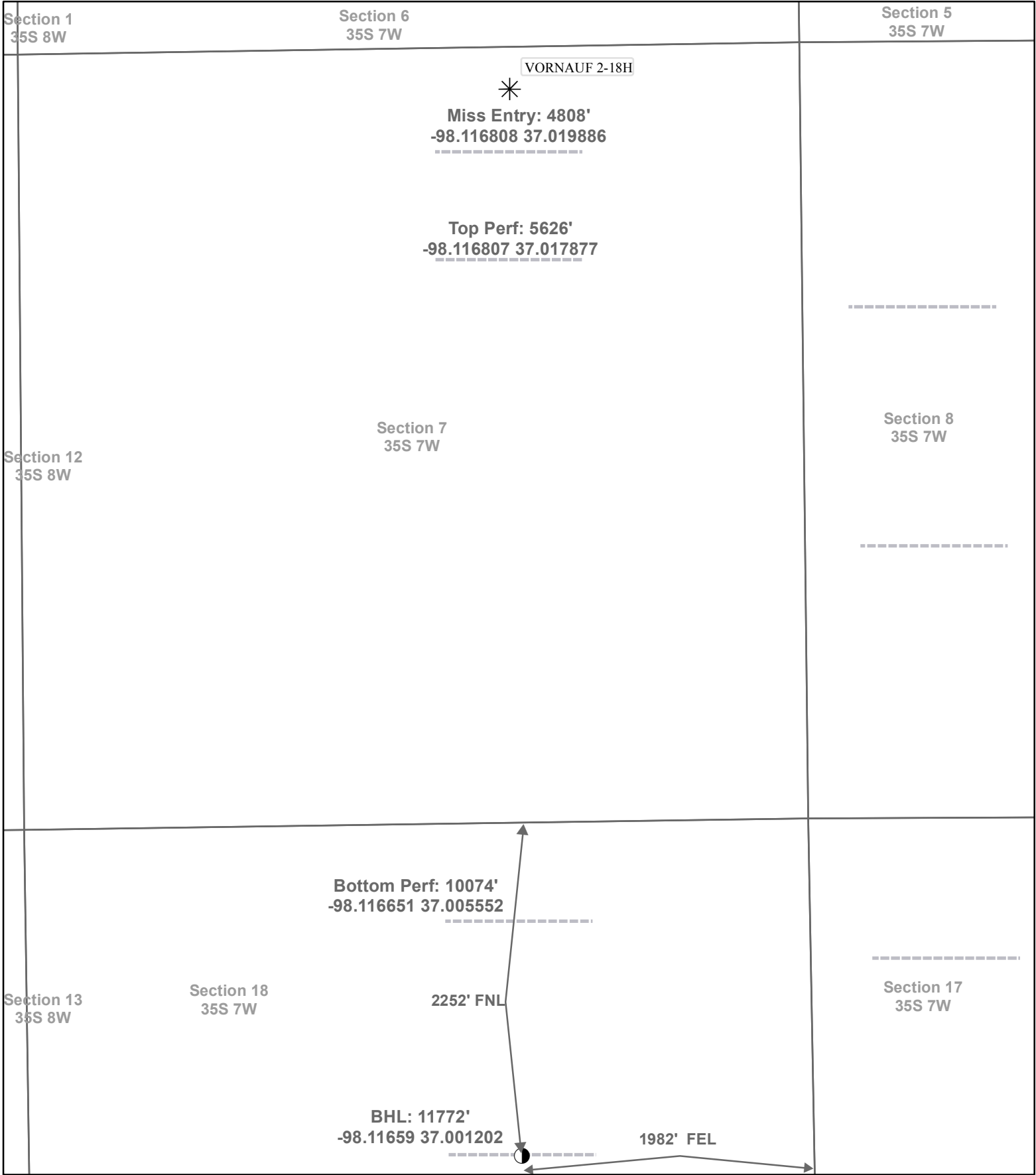
#### Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

# HALLIBURTON

## Cementing Job Summary

1	Fresh Water		10.00	bbl	8.33	.0	.0	.0	
2	50/50 Poz - Standard	ECONOCEM (TM) SYSTEM (452992)	110.0	sacks	13.6	1.54	7.36		7.36
	0.4 %	HALAD(R)-9, 50 LB (100001617)							
	2 lbm	KOL-SEAL, 50 LB BAG (100064232)							
	2 %	BENTONITE, BULK (100003682)							
	7.356 Gal	FRESH WATER							
3	Premium	HALCEM (TM) SYSTEM (452986)	180.0	sacks	15.6	1.19	5.08		5.08
	0.4 %	HALAD(R)-9, 50 LB (100001617)							
	2 lbm	KOL-SEAL, 50 LB BAG (100064232)							
	5.076 Gal	FRESH WATER							
4	Displacement		203.00	bbl	8.33	.0	.0	.0	
<b>Calculated Values</b>		<b>Pressures</b>		<b>Volumes</b>					
Displacement	203	Shut In: Instant		Lost Returns	0	Cement Slurry	68	Pad	
Top Of Cement	2989	5 Min		Cement Returns	0	Actual Displacement	203	Treatment	
Frac Gradient		15 Min		Spacers	10	Load and Breakdown		Total Job	
<b>Rates</b>									
Circulating	4	Mixing	4	Displacement	6	Avg. Job	5		
Cement Left In Pipe	Amount	42 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID		
<b>The Information Stated Herein Is Correct</b>				Customer Representative Signature					



**Actual Bottom-Hole Location of Vornauf 2-18H**  
 Harper County, Kansas  
 T&R: 35S 7W  
 Section: 18, 1982' FEL & 2252' FNL  
 Long/Lat: -98.11659 37.001202  
 1 in = 864 ft

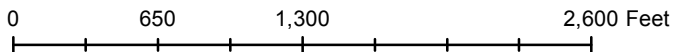


● Actual BH Location

\* SandRidge Wells

--- Perf

□ Sections



Draftsman:

Aaron Birk

Draft Date: 10/26/2012

Drawing Name/Number:

Addendum\_Vornauf\_2-18H .mxd

Coordinate System:

NAD 1927 State Plane  
 Kansas South FIPS: 1502

Logo

Back to Well Completion

# Vornauf 2-18H (1090742)

**Actions**

View PDF
Delete
Edit
Certify & Submit
Request Confidentiality

**Attachments**

Two Year Confidentiality OPERATOR	View PDF Delete
Directional Survey OPERATOR	View PDF Delete
Cement Reports OPERATOR	View PDF Delete
As Drilled Plat OPERATOR	View PDF Delete

Add Attachment

**Remarks**

Remarks to KCC
----------------

Add Remark

**Remarks**

Tiffany Golay 10/30/012 10:50 am	Fluid Mgmt Info: 12000 bbls soilfarmed by Blackrock Services in Oklahoma
Tiffany Golay 10/23/012 02:10 pm	Cement Information: Conductor was set with 11 yds of concrete and Liner was set using packers instead of cement
Tiffany Golay 08/15/012 11:20 am	TMD@ 11,772' MD