

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1240106  
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: \_\_\_\_\_

1240106

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](mailto: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:  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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**INVOICE**

DATE	INVOICE #
10/14/2014	5178

<b>BILL TO</b>
SANDRIDGE ENERGY, INC. ATTN: PURCHASING MANAGER 123 ROBERT S. KERR AVENUE OKLAHOMA CITY, OK 73102

<b>REMIT TO</b>
EDGE SERVICES, INC. PO BOX 609 WOODWARD, OK 73802

COUNTY	STARTING D...	WORK ORDER	RIG NUMBER	LEASE NAME	Terms
HARPER	10/11/2014	3794	HWD #14	HUNT 3408 1-15H	Due on rec...

Description
DRILLED 100' OF 30" CONDUCTOR HOLE DRILLED 6' OF 76" HOLE FURNISHED AND SET 6' X 6' TINHORN CELLAR FURNISHED 100' OF 20" CONDUCTOR PIPE FURNISHED MUD, WATER, AND TRUCKING FURNISHED WELDER AND MATERIALS FURNISHED 10 YARDS OF 10 SACK GROUT FOR CONDUCTOR HOLE FURNISHED GROUT PUMP  TOTAL BID \$15,250.00
AFE Number: <u>DC 14310</u> Well Name: <u>Hunt 3408 1-15H</u> Code: <u>850.010</u> Amount: <u>\$15,473.73</u> Co. Man: <u>John Fortune</u> Co. Man Sig.: <u>[Signature]</u> Notes: _____

Sales Tax (6.5%)	\$223.73
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<b>TOTAL</b>	\$15,473.73
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# ALLIED OIL & GAS SERVICES, LLC 063938

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
great bend

10-18-14 DATE	SEC. 10	TWP. 34	RANGE 8	CALLED OUT	ON LOCATION 5:30 am	JOB START 12:30 pm	JOB FINISH 1:30 pm
LEASE <u>Hunt 3408</u>		WELL # <u>1-15 H</u>		LOCATION <u>Anthony Ln to 80th St</u>		COUNTY <u>Hasper</u>	STATE <u>Ka</u>
OLD OR <input checked="" type="checkbox"/> NEW (Circle one)				<u>40th 1/2 E</u>			

CONTRACTOR HL D 14  
 TYPE OF JOB surface  
 HOLE SIZE 12 1/4 T.D. 745  
 CASING SIZE 9 5/8 36# DEPTH 748  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT 44.86  
 CEMENT LEFT IN CSG. 44.86  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT H2O 54.37

EQUIPMENT

PUMP TRUCK # <u>517</u>	CEMENTER <u>Charles King</u>
BULK TRUCK # <u>544</u>	HELPER <u>Ben Newell</u>
BULK TRUCK # _____	DRIVER <u>Kevin Weighouse</u>
BULK TRUCK # _____	DRIVER _____

OWNER Name

CEMENT AMOUNT ORDERED 230 m 65135 67 gal  
27 cc 1/4 flr 150 m class A 27 cc 1/4 flr

COMMON <u>150 m</u>	@ <u>17.90</u>	<u>2685.00</u>
POZMIX _____	@ _____	_____
GEL _____	@ _____	_____
CHLORIDE <u>10 m</u>	@ <u>64</u>	<u>640</u>
ASC _____	@ _____	_____
<u>allied light weight 230 m</u>	@ <u>16.50</u>	<u>3795</u>
<u>flr seal 96 lb</u>	@ <u>2.97</u>	<u>285.12</u>
Materials Total		<u>7405.12</u>
Disc 28.1415%		<u>2083.92</u>
Service		_____
HANDLING <u>419.85</u>	@ <u>2.48</u>	<u>1041.23</u>
MILEAGE <u>221.76</u>	@ <u>2.60</u>	<u>1826.57</u>

REMARKS:

Rig Ran 748' 9 5/8 cas Broke csg w/ Rig  
mad pump 5801 H2O min 280 m  
65135 67 gal 27 cc 1/4 flr mix 150 m  
class A 27 cc 1/4 flr shut down Release  
plug displac 54.37 BBI H2O plug  
did float did cement did

DEPTH OF JOB <u>748</u>	_____	_____
PUMP TRUCK CHARGE _____	_____	<u>2058.50</u>
EXTRA FOOTAGE _____	@ _____	_____
MILEAGE <u>40</u>	@ <u>7.70</u>	<u>308</u>
MANIFOLD _____	@ _____	<u>275</u>
LVM <u>40</u>	@ <u>4.40</u>	<u>176</u>
wait time <u>2 hrs</u>	@ <u>440</u>	<u>880</u>

CHARGE TO: sandridge energy  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TOTAL 6615.30  
 Disc 28.1415% 1801.64

PLUG & FLOAT EQUIPMENT

<u>Rubber plug</u>	_____	<u>184.96</u>
AFE Number: <u>DC 14310</u>	@ _____	_____
Well Name: <u>HUNT 34081576</u>	@ _____	_____
Code: <u>870-360</u>	@ _____	_____
Amount: <u>10207.70</u>	@ _____	_____
Co. Man: <u>SPANE, MASON</u>	_____	_____
Co. Man Sig.: <u>[Signature]</u>	TOTAL	<u>184.96</u>
Notes: _____	Disc 28.1415%	<u>52.02</u>

Thank you!  
 To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

TOTAL CHARGES 14205.28  
 DISCOUNT 3997.58 (28.1415)%  
\$ 10207.70 IF PAID IN 30 DAYS

# ALLIED OIL & GAS SERVICES, LLC 063674

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
MEDICINE LODGE

DATE <u>10-28-14</u>	SEC. <u>10</u>	TWP. <u>34S</u>	RANGE <u>8W</u>	CALLED OUT <u>700</u>	ON LOCATION <u>1000</u>	JOB START	JOB FINISH
LEASE <u>HUNT 3408</u>			WELL # <u>1-15H</u>	LOCATION <u>80<sup>th</sup> S TO 40<sup>th</sup> E, N 1W TO</u>		COUNTY <u>HARPER</u>	STATE <u>KS</u>
OLD OR <input checked="" type="radio"/> NEW (Circle one)							

CONTRACTOR AWD OWNER J ANDRIOTE

TYPE OF JOB INTERMEDIATE  
 HOLE SIZE 8 3/4 T.D. 5277 CEMENT  
 CASING SIZE 7 DEPTH 5227 AMOUNT ORDERED LCAM = 50/50 POR A + 28 GEL +  
 TUBING SIZE DEPTH 42 FL-160 + 16 C-51 TAIL = A + 82 FL-160 + 22 CO-  
 DRILL PIPE DEPTH 31

TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG. 42'  
 PERFS.  
 DISPLACEMENT 198.5

EQUIPMENT			
PUMP TRUCK	CEMENTER <u>COY PRICE</u>	COMMON	<u>160 @ 17.98 1790.00</u>
<u>548/545</u>	HELPER <u>JUSTIN BOWGE</u>	POZMIX	<u>190 @ 14.40 2592.00</u>
BULK TRUCK		GEL	<u>@</u>
<u>904/1987</u>	DRIVER <u>ANDREW ENBLES</u>	CHLORIDE	<u>@</u>
BULK TRUCK		ASC	<u>@</u>
#	DRIVER	SUPGRUSH	<u>30 @ 58.70 1761.00</u>
		FL-160	<u>137 @ 18.90 2589.30</u>
		SAS1	<u>16 @ 17.55 280.80</u>
		CA-31	<u>19 @ 10.30 195.70</u>
			<u>@</u>
			<u>@</u>
			<u>@</u>
		HANDLING	<u>@</u>
		MILEAGE	<u>@</u>

REMARKS:

3000 = 2762.14

TOTAL 9,208.80

A/E Number: DC14310  
 Well Name: Hunt 3408 1-15H  
 Code: 830.370  
 Amount: 16522  
 Co. Man: Doug Langley  
 Co. Man Sig: Doug Langley  
 Notes:

CHARGE TO: \_\_\_\_\_  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

### SERVICE

DEPTH OF JOB	<u>5277</u>		
PUMP TRUCK CHARGE	<u>2099.35</u>		
EXTRA FOOTAGE	<u>@</u>		
MILEAGE	<u>40 @ 4.40 176.00</u>		
MANIFOLD	<u>1 @ 275.00 275.00</u>		
MILEAGE	<u>40 @ 7.70 209.00</u>		
HANDLING	<u>289.49 @ 2.48 717.92</u>		
DRYAGE	<u>499.84 @ 2.60 1299.58</u>		
CIRC IRON	<u>1 @ 450.00 450.00</u>		
ADDITIONAL HR	<u>2 @ 440.00 880.00</u>		
		TOTAL	<u>7265.75</u>

3000 = 2161.72

### PLUG & FLOAT EQUIPMENT

TOP PLUG	<u>1 @ 99.45 99.45</u>		
	<u>@</u>		
	<u>@</u>		
	<u>@</u>		
	<u>@</u>		

3000 = 2092.3

TOTAL 99.45

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 14,514.00

PRINTED NAME \_\_\_\_\_

DISCOUNT 11,559.80 IF PAID IN 30 DAYS

SIGNATURE \_\_\_\_\_

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/7/2014
Job End Date:	12/8/2014
State:	Kansas
County:	Harper
API Number:	15-077-22103-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Hunt 3408 1-15H
Longitude:	-98.17815000
Latitude:	37.09459000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,734
Total Base Water Volume (gal):	2,496,900
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	95.82363	None
Sand (Proppant)	Archer	Proppant	Silica Substrate	NA	100.00000	3.00109	None
C102	Bosque Disposal Systems, LLC	Oxidizer	Chlorine Dioxide	10049-04-4	15.00000	0.27157	
Hydrochloric Acid (15%)	Archer	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.12319	None
AFR101	Archer	Friction Reducer	Water	7732-18-5	60.00000	0.03991	None
			Aliphatic Hydrocarbon	64742-47-8	30.00000	0.01996	None
			Anionic Polymer	NA	30.00000	0.01996	None
			Oxyalkylated Alcohol	68002-97-1	5.00000	0.00333	None
			Polyol Ester	NA	5.00000	0.00333	None
			Polyglycol Ester	NA	1.00000	0.00067	None
			Tetrasodium Ethylenediaminetetraacetate	64-02-8	0.10000	0.00007	None
SCI-1	Archer	Liquid Scale Inhibitor	Water	7732-18-5	90.00000	0.00843	None

			Sodium Salt of Phosphate Ester	68131-72-6	15.00000	0.00141	None
			Acrylic Polymer	28205-96-1	15.00000	0.00141	None
AHIB 160	Archer	Corrosion Inhibitor					
			Methyl Alcohol	67-56-1	80.00000	0.00115	None
			Alcohol Ethoxylate Surfactants	NA	15.00000	0.00022	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					
			Acetic Acid	64-19-7		0.00256	
			Water	7732-18-5		0.00179	
			Citric Acid	77-92-9		0.00154	
			thiourea-formaldehyde copolymer	68527-49-1		0.00022	
			n-olefins	NA		0.00011	
			Propargyl Alcohol	107-19-7		0.00009	

\* 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)



9) Frac the MISSISSIPPI (Stage 1) as follows using the chemical concentrations below:

	Surfactant (gpt)	ClO <sub>2</sub> (ppm)	Scale Inhibitor (gpt)
Archer/Baker	0	2-3	0.1

NOTE: Pump FR as required to obtain minimum rate of 75 bpm. DO NOT EXCEED 0.75 gal/1000 concentration of FR without prior discussion with engineer.

STAGE 1								
Port @ 9,548'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	80	9678	230					3
Slickwater	80	5600	133	40/70	0.25	Genoa	1400	2
Slickwater	80	3800	90	40/70	0.50	Genoa	1900	1
Slickwater	80	4200	100					1
Slickwater	80	3733	89	40/70	0.75	Genoa	2800	1
Slickwater	80	4200	100					1
Slickwater	80	3300	79	40/70	1.00	Genoa	3300	1
Slickwater	80	15234	363					4.5
<b>TOTAL</b>		<b>50,495</b>	<b>1,202</b>				<b>9,400</b>	<b>15.7</b>

Frac the MISSISSIPPI (Stage 2) as follows:

Drop 2.000" ball. Reduce rate to 5-10bpm as +/- 210 bbls (50 bbls before ball seats).

STAGE 2								
Port @ 9,410'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	85	16533	394					5
Slickwater	85	12800	305	40/70	0.25	Genoa	3200	4
Slickwater	85							0
Slickwater	85	8400	200	40/70	0.50	Genoa	4200	2
Slickwater	85	4743	113					1
Slickwater	85	8400	200	40/70	0.75	Genoa	6300	2
Slickwater	85	4743	113					1
Slickwater	85	7400	176	40/70	1.00	Genoa	7400	2
Slickwater	85	15144	361					4.2
<b>TOTAL</b>		<b>78,915</b>	<b>1,879</b>				<b>21,100</b>	<b>22.8</b>

Frac the MISSISSIPPI (Stage 3) as follows:

Drop 2.063" ball. Reduce rate to 5-10bpm as +/- 208 bbls (50 bbls before ball seats).

STAGE 3								
Port @ 9,268'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	90	17033	406					5
Slickwater	90	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	90	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	90	5088	121					1
Slickwater	90	8800	210	40/70	0.75	Genoa	6600	2
Slickwater	90	5088	121					1
Slickwater	90	7700	183	40/70	1.00	Genoa	7700	2
Slickwater	90	15052	358					4.0
<b>TOTAL</b>		<b>81,510</b>	<b>1,941</b>				<b>22,000</b>	<b>22.3</b>

Frac the MISSISSIPPI (Stage 4) as follows:  
 Drop 2.125" ball. Reduce rate to 5-10bpm as +/- 206 bbls (50 bbls before ball seats).

STAGE 4								
Port @ 9,127 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	95	16533	394					4
Slickwater	95	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	95	4805	114					1
Slickwater	95	8400	200	40/70	0.50	Genoa	4200	2
Slickwater	95	4805	114					1
Slickwater	95	8400	200	40/70	0.75	Genoa	6300	2
Slickwater	95	4805	114					1
Slickwater	95	7400	176	40/70	1.00	Genoa	7400	2
Slickwater	95	14960	356					3.7
<b>TOTAL</b>		<b>83,658</b>	<b>1,992</b>				<b>21,100</b>	<b>21.7</b>

Frac the MISSISSIPPI (Stage 5) as follows:  
 Drop 2.188" ball. Reduce rate to 5-10bpm as +/- 203 bbls (50 bbls before ball seats).

STAGE 5								
Port @ 8,981 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	100	17033	406					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5346	127					1
Slickwater	100	8800	210	40/70	0.75	Genoa	6600	2
Slickwater	100	5346	127					1
Slickwater	100	7700	183	40/70	1.00	Genoa	7700	2
Slickwater	100	14865	354					3.5
<b>TOTAL</b>		<b>81,840</b>	<b>1,949</b>				<b>22,000</b>	<b>20.2</b>

Frac the MISSISSIPPI (Stage 6) as follows:  
 Drop 2.250" ball. Reduce rate to 5-10bpm as +/- 201 bbls (50 bbls before ball seats).

STAGE 6								
Port @ 8,846 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	100	15511	369					4
Slickwater	100	11600	276	40/70	0.25	Genoa	2900	3
Slickwater	100	7800	186	40/70	0.50	Genoa	3900	2
Slickwater	100	4200	100					1
Slickwater	100	7733	184	40/70	0.75	Genoa	5800	2
Slickwater	100	4200	100					1
Slickwater	100	6800	162	40/70	1.00	Genoa	6800	2
Slickwater	100	14777	352					3.5
<b>TOTAL</b>		<b>73,372</b>	<b>1,747</b>				<b>19,400</b>	<b>18.2</b>



Frac the MISSISSIPPI (Stage 7) as follows:  
 Drop 2.313" ball. Reduce rate to 5-10bpm as +/- 199 bbls (50 bbls before ball seats).

STAGE 7								
Port @ 8,710 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16533	394					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8400	200	40/70	0.50	Genoa	4200	2
Slickwater	100	4895	117					1
Slickwater	100	8400	200	40/70	0.75	Genoa	6300	2
Slickwater	100	4895	117					1
Slickwater	100	7400	176	40/70	1.00	Genoa	7400	2
Slickwater	100	14689	350					3.5
<b>TOTAL</b>		<b>78,763</b>	<b>1,875</b>				<b>21,100</b>	<b>19.5</b>

Frac the MISSISSIPPI (Stage 8) as follows:  
 Drop 2.375" ball. Reduce rate to 5-10bpm as +/- 197 bbls (50 bbls before ball seats).

STAGE 8								
Port @ 8,569 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	4929	117					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	4929	117					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	14597	348					3.5
<b>TOTAL</b>		<b>79,317</b>	<b>1,888</b>				<b>21,400</b>	<b>19.6</b>

Frac the MISSISSIPPI (Stage 9) as follows:  
 Drop 2.438" ball. Reduce rate to 5-10bpm as +/- 195 bbls (50 bbls before ball seats).

STAGE 9								
Port @ 8,428 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	15867	378					4
Slickwater	100	12000	286	40/70	0.25	Genoa	3000	3
Slickwater	100	8000	190	40/70	0.50	Genoa	4000	2
Slickwater	100	4277	102					1
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	2
Slickwater	100	4277	102					1
Slickwater	100	7000	167	40/70	1.00	Genoa	7000	2
Slickwater	100	14505	345					3.5
<b>TOTAL</b>		<b>74,677</b>	<b>1,778</b>				<b>20,000</b>	<b>18.5</b>

Frac the MISSISSIPPI (Stage 10) as follows:

Drop 2.500" ball. Reduce rate to 5-10bpm as +/- 193 bbls (50 bbls before ball seats).

STAGE 10								
Port @ 8,289 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	17033	406					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5300	126					1
Slickwater	100	8800	210	40/70	0.75	Genoa	6600	2
Slickwater	100	5300	126					1
Slickwater	100	7700	183	40/70	1.00	Genoa	7700	2
Slickwater	100	14415	343					3.4
<b>TOTAL</b>		<b>81,298</b>	<b>1,936</b>				<b>22,000</b>	<b>20.1</b>

Frac the MISSISSIPPI (Stage 11) as follows:

Drop 2.563" ball. Reduce rate to 5-10bpm as +/- 191 bbls (50 bbls before ball seats).

STAGE 11								
Port @ 8,149 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16533	394					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8400	200	40/70	0.50	Genoa	4200	2
Slickwater	100	4821	115					1
Slickwater	100	8400	200	40/70	0.75	Genoa	6300	2
Slickwater	100	4821	115					1
Slickwater	100	7400	176	40/70	1.00	Genoa	7400	2
Slickwater	100	14323	341					3.4
<b>TOTAL</b>		<b>78,249</b>	<b>1,863</b>				<b>21,100</b>	<b>19.3</b>

Frac the MISSISSIPPI (Stage 12) as follows:

Drop 2.625" ball. Reduce rate to 5-10bpm as +/- 188 bbls (50 bbls before ball seats).

STAGE 12								
Port @ 8,006 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5247	125					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	5247	125					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	14230	339					3.4
<b>TOTAL</b>		<b>79,587</b>	<b>1,895</b>				<b>21,400</b>	<b>19.7</b>



Frac the MISSISSIPPI (Stage 13) as follows:

Drop 2.688" ball. Reduce rate to 5-10bpm as +/- 186 bbls (50 bbls before ball seats).

STAGE 13								
Port @ 7,863'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5083	121					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	5083	121					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	14137	337					3.4
<b>TOTAL</b>		<b>79,163</b>	<b>1,885</b>				<b>21,400</b>	<b>19.6</b>

Frac the MISSISSIPPI (Stage 14) as follows:

Drop 2.750" ball. Reduce rate to 5-10bpm as +/- 184 bbls (50 bbls before ball seats).

STAGE 14								
Port @ 7,719'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16756	399					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5402	129					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5402	129					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	14044	334					3.3
<b>TOTAL</b>		<b>80,020</b>	<b>1,905</b>				<b>21,600</b>	<b>19.8</b>

Frac the MISSISSIPPI (Stage 15) as follows:

Drop 2.813" ball. Reduce rate to 5-10bpm as +/- 182 bbls (50 bbls before ball seats).

STAGE 15								
Port @ 7,575'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5341	127					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	5341	127					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	13950	332					3.3
<b>TOTAL</b>		<b>79,493</b>	<b>1,893</b>				<b>21,400</b>	<b>19.6</b>

Frac the MISSISSIPPI (Stage 16) as follows:  
 Drop 2.875" ball. Reduce rate to 5-10bpm as +/- 179 bbls (50 bbls before ball seats).

STAGE 16								
Port @ 7,433 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16756	399					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5464	130					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5464	130					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13857	330					3.3
<b>TOTAL</b>		<b>79,958</b>	<b>1,904</b>				<b>21,600</b>	<b>19.8</b>

Frac the MISSISSIPPI (Stage 17) as follows:  
 Drop 2.938" ball. Reduce rate to 5-10bpm as +/- 177 bbls (50 bbls before ball seats).

STAGE 17								
Port @ 7,288 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16956	404					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5425	129					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5425	129					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13763	328					3.3
<b>TOTAL</b>		<b>80,585</b>	<b>1,919</b>				<b>21,800</b>	<b>19.9</b>

Frac the MISSISSIPPI (Stage 18) as follows:  
 Drop 3.000" ball. Reduce rate to 5-10bpm as +/- 175 bbls (50 bbls before ball seats).

STAGE 18								
Port @ 7,145 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5434	129					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	5434	129					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	13670	325					3.3
<b>TOTAL</b>		<b>79,400</b>	<b>1,890</b>				<b>21,400</b>	<b>19.6</b>

Frac the MISSISSIPPI (Stage 19) as follows:  
 Drop 3.063" ball. Reduce rate to 5-10bpm as +/- 173 bbls (50 bbls before ball seats).

STAGE 19								
Port @ 7,001 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16956	404					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5487	131					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5487	131					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13576	323					3.2
<b>TOTAL</b>		<b>80,523</b>	<b>1,917</b>				<b>21,800</b>	<b>19.9</b>

Frac the MISSISSIPPI (Stage 20) as follows:  
 Drop 3.125" ball. Reduce rate to 5-10bpm as +/- 201 bbls (50 bbls before ball seats).

STAGE 20								
Port @ 6,854 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	17033	406					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5611	134					1
Slickwater	100	8800	210	40/70	0.75	Genoa	6600	2
Slickwater	100	5611	134					1
Slickwater	100	7700	183	40/70	1.00	Genoa	7700	2
Slickwater	100	13480	321					3.2
<b>TOTAL</b>		<b>80,987</b>	<b>1,928</b>				<b>22,000</b>	<b>20.0</b>

Frac the MISSISSIPPI (Stage 21) as follows:  
 Drop 3.188" ball. Reduce rate to 5-10bpm as +/- 199 bbls (50 bbls before ball seats).

STAGE 21								
Port @ 6,709 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16956	404					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5551	132					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5551	132					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13386	319					3.2
<b>TOTAL</b>		<b>80,459</b>	<b>1,916</b>				<b>21,800</b>	<b>19.9</b>



Frac the MISSISSIPPI (Stage 22) as follows:

Drop 3.250" ball. Reduce rate to 5-10bpm as +/- 197 bbls (50 bbls before ball seats).

STAGE 22								
Port @ 6,566 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16756	399					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5652	135					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5652	135					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13293	316					3.2
<b>TOTAL</b>		<b>79,770</b>	<b>1,899</b>				<b>21,600</b>	<b>19.7</b>

Frac the MISSISSIPPI (Stage 23) as follows:

Drop 3.313" ball. Reduce rate to 5-10bpm as +/- 195 bbls (50 bbls before ball seats).

STAGE 23								
Port @ 6,467 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	12722	303					3
Slickwater	100	8800	210	40/70	0.25	Genoa	2200	2
Slickwater	100	5800	138	40/70	0.50	Genoa	2900	1
Slickwater	100	4200	100					1
Slickwater	100	5867	140	40/70	0.75	Genoa	4400	1
Slickwater	100	4200	100					1
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1
Slickwater	100	13229	315					3.1
<b>TOTAL</b>		<b>60,667</b>	<b>1,444</b>				<b>14,600</b>	<b>15.2</b>

Frac the MISSISSIPPI (Stage 24) as follows:

Drop 3.375" ball. Reduce rate to 5-10bpm as +/- 193 bbls (50 bbls before ball seats).

STAGE 24								
Port @ 6,276 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	20989	500					5
Slickwater	100	17200	410	40/70	0.25	Genoa	4300	4
Slickwater	100	11600	276	40/70	0.50	Genoa	5800	3
Slickwater	100	9479	226					2
Slickwater	100	11467	273	40/70	0.75	Genoa	8600	3
Slickwater	100	9479	226					2
Slickwater	100	10100	240	40/70	1.00	Genoa	10100	2
Slickwater	100	13104	312					3.1
<b>TOTAL</b>		<b>104,167</b>	<b>2,480</b>				<b>28,800</b>	<b>25.5</b>

Frac the MISSISSIPPI (Stage 25) as follows:

Drop 3.438" ball. Reduce rate to 5-10bpm as +/- 201 bbls (50 bbls before ball seats).

STAGE 25								
Port @ 6,130'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	100	16956	404					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5676	135					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5676	135					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	13009	310					3.1
<b>TOTAL</b>		<b>80,334</b>	<b>1,913</b>				<b>21,800</b>	<b>19.8</b>

Frac the MISSISSIPPI (Stage 26) as follows:

Drop 3.500" ball. Reduce rate to 5-10bpm as +/- 199 bbls (50 bbls before ball seats).

STAGE 26								
Port @ 5,984'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	100	17033	406					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5800	138					1
Slickwater	100	8800	210	40/70	0.75	Genoa	6600	2
Slickwater	100	5800	138					1
Slickwater	100	7700	183	40/70	1.00	Genoa	7700	2
Slickwater	100	12914	307					3.1
<b>TOTAL</b>		<b>80,798</b>	<b>1,924</b>				<b>22,000</b>	<b>20.0</b>

Frac the MISSISSIPPI (Stage 27) as follows:

Drop 3.563" ball. Reduce rate to 5-10bpm as +/- 197 bbls (50 bbls before ball seats).

STAGE 27								
Port @ 5,839'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					1
Slickwater	100	16956	404					4
Slickwater	100	13200	314	40/70	0.25	Genoa	3300	3
Slickwater	100	8800	210	40/70	0.50	Genoa	4400	2
Slickwater	100	5739	137					1
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2
Slickwater	100	5739	137					1
Slickwater	100	7600	181	40/70	1.00	Genoa	7600	2
Slickwater	100	12820	305					3.1
<b>TOTAL</b>		<b>80,271</b>	<b>1,911</b>				<b>21,800</b>	<b>19.8</b>



Frac the MISSISSIPPI (Stage 28) as follows:  
 Drop 3.625" ball. Reduce rate to 5-10bpm as +/- 195 bbls (50 bbls before ball seats).

STAGE 28								
Port @ 5,699 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	15867	378					4
Slickwater	100	12000	286	40/70	0.25	Genoa	3000	3
Slickwater	100	8000	190	40/70	0.50	Genoa	4000	2
Slickwater	100	4870	116					1
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	2
Slickwater	100	4870	116					1
Slickwater	100	7000	167	40/70	1.00	Genoa	7000	2
Slickwater	100	12729	303					3.0
<b>TOTAL</b>		<b>74,084</b>	<b>1,764</b>				<b>20,000</b>	<b>18.4</b>

Frac the MISSISSIPPI (Stage 29) as follows:  
 Drop 3.688" ball. Reduce rate to 5-10bpm as +/- 193 bbls (50 bbls before ball seats).

STAGE 29								
Port @ 5,565 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	16678	397					4
Slickwater	100	12800	305	40/70	0.25	Genoa	3200	3
Slickwater	100	8600	205	40/70	0.50	Genoa	4300	2
Slickwater	100	5777	138					1
Slickwater	100	8533	203	40/70	0.75	Genoa	6400	2
Slickwater	100	5777	138					1
Slickwater	100	7500	179	40/70	1.00	Genoa	7500	2
Slickwater	100	12641	301					3.0
<b>TOTAL</b>		<b>79,057</b>	<b>1,882</b>				<b>21,400</b>	<b>19.5</b>

Frac the MISSISSIPPI (Stage 30) as follows:  
 Drop 3.750" ball. Reduce rate to 5-10bpm as +/- 201 bbls (50 bbls before ball seats).

STAGE 30								
Port @ 5,465 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	ime, min
15% HCl acid	20	750	18					1
Slickwater	100	29200	695					7
Slickwater	100	25600	610	40/70	0.25	Genoa	6400	6
Slickwater	100	17200	410	40/70	0.50	Genoa	8600	4
Slickwater	100	17131	408					4
Slickwater	100	17200	410	40/70	0.75	Genoa	12900	4
Slickwater	100	17131	408					4
Slickwater	100	15000	357	40/70	1.00	Genoa	15000	4
Slickwater	100	12576	299					3.0
<b>TOTAL</b>		<b>151,787</b>	<b>3,614</b>				<b>42,900</b>	<b>36.9</b>

**TOTAL FRAC JOB VOLUMES: 57,933 bbls 651,700 lbs, Prop**

- 10) Suck manifold and iron dry with vacuum truck. RDMO frac crew. ND wellhead isolation tool. Transfer bottoms to 2 frac tanks.
- 11) Tie flowline to B-Section and open well to flowback immediately. Keep line laid from B-Section and open to flowback tanks until production tree is installed. Send flowback reports to, KSFlowback@sandridgeenergy.com at the following times: 5 am, 1 pm, and 9 pm.

Directional Survey Calculations	Measured Depth (ft)	Sub-Sea Incl. (deg)	Vertical Azim. (ft)	True Vert Depth (ft)	Northings (+) Southings (-) (ft)	Eastings (+) Westings (-) (ft)	Vert Section (ft)	DLS deg/100' (deg)				
									FNL	FSL	FWL	FEL
SHL	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-201	5476	1558	3706
BHL	9567	89.51	178.93	4735.85	-5143.49	-610.27	5143.49	-1.02	4944	333	924	4387
Miss Entry	5061	68.76	181.73	4660.95	-645.37	-629.62	645.37	8.52	446	4831	925	4345
Top Port	5464	89.58	178.72	4711.24	-1043.04	-630.25	1043.04	3.43	844	4434	923	4351
Bottom Port	9548	89.51	178.89	4735.68	-5124.50	-610.69	5124.50	-0.60	4925	352	924	4387

Survey Points	NW Corner XY Coord	X	Y	Surface XY	X	Y	m					
							North Line slope	East Line slope	South Line slope	West Line slope		
		2092321	155784				-0.0022788					
	SW Corner XY Coord	2092345	150503		2093878	155981	-0.0136856					
	NE Corner XY Coord	2097587	155772				0.0015055					
	SE Corner XY Coord	2097659	150511				-0.0045446					

Measured Depth (ft)	Sub-Sea Incl. (deg)	Vertical Azim. (deg)	True Vert Depth (ft)	Northings (+) Southings (-) (ft)	Eastings (+) Westings (-) (ft)	Vert Section (ft)	DLS deg/100' (deg)				
								FNL	FSL	FWL	FEL
0	0.0	0	0	0	0	0	0	-201	5476	1558	3706
825	1.11	88.88	824.95	0.16	7.99	-0.16	0.13	-201	5476	1566	3698
916	0.93	85.35	915.93	0.23	9.61	-0.23	0.21	-201	5476	1568	3697
1191	0.82	62.85	1190.90	1.31	13.58	-1.31	0.13	-202	5477	1571	3693
1403	0.99	65.67	1402.88	2.76	16.60	-2.76	0.08	-203	5478	1575	3690
1478	0.62	59.11	1477.87	3.23	17.54	-3.23	0.51	-204	5479	1575	3689
1565	1.91	312.72	1564.85	4.46	16.88	-4.46	2.49	-205	5480	1575	3689
1653	3.5	302.87	1652.75	6.91	13.54	-6.91	1.88	-207	5483	1571	3693
1740	4.69	300.76	1739.53	10.17	8.26	-10.17	1.38	-211	5486	1566	3698
1828	6.31	298.62	1827.12	14.33	0.92	-14.33	1.86	-215	5490	1559	3705
1915	7.99	293.62	1913.44	19.04	-8.82	-19.04	2.06	-220	5495	1549	3715
2002	9.66	287.68	1999.41	23.68	-21.31	-23.68	2.18	-224	5499	1537	3727
2090	11.97	280.33	2085.85	27.56	-37.33	-27.56	3.05	-228	5503	1521	3743
2177	13.69	278.19	2170.67	30.65	-56.40	-30.65	2.05	-231	5506	1502	3762
2265	13.33	276.29	2256.24	33.24	-76.79	-33.24	0.65	-234	5509	1481	3782
2352	14.72	272	2340.64	34.73	-97.80	-34.73	1.99	-235	5511	1460	3803
2438	14.28	272.59	2423.90	35.59	-119.32	-35.59	0.54	-236	5511	1439	3825
2525	13.64	273.71	2508.33	36.74	-140.27	-36.74	0.80	-237	5513	1418	3846
2613	12.77	274.11	2594.01	38.10	-160.33	-38.10	0.99	-238	5514	1398	3866
2700	12.49	274.51	2678.90	39.53	-179.30	-39.53	0.34	-240	5515	1379	3885
2787	13.56	275.21	2763.66	41.20	-198.83	-41.20	1.24	-241	5517	1359	3904
2875	15	275.76	2848.94	43.28	-220.44	-43.28	1.64	-243	5519	1338	3926
2962	16.25	276.23	2932.72	45.73	-243.74	-45.73	1.44	-246	5522	1314	3949
3049	15.55	276.65	3016.39	48.40	-267.43	-48.40	0.82	-248	5524	1291	3973
3137	14.48	276.2	3101.39	50.96	-290.08	-50.96	1.22	-251	5527	1268	3996
3224	14.32	275.51	3185.65	53.16	-311.60	-53.16	0.27	-253	5529	1247	4017
3311	14.29	275.62	3269.96	55.25	-333.00	-55.25	0.05	-255	5531	1225	4038
3398	15.65	275.25	3354.00	57.37	-355.37	-57.37	1.57	-257	5534	1203	4061
3486	13.97	273.38	3439.08	59.09	-377.80	-59.09	1.98	-259	5535	1180	4083
3573	13.5	272.63	3523.59	60.17	-398.42	-60.17	0.58	-260	5536	1160	4104
3660	14.23	274.15	3608.05	61.41	-419.23	-61.41	0.94	-261	5538	1139	4125
3748	11.59	271.4	3693.82	62.41	-438.86	-62.41	3.08	-262	5539	1119	4144
3791	10.24	269.34	3736.04	62.47	-447.00	-62.47	3.27	-262	5539	1111	4152
3835	9.38	265.23	3779.40	62.13	-454.49	-62.13	2.52	-262	5539	1104	4160
3879	8.96	250.63	3822.84	60.69	-461.29	-60.69	5.36	-260	5537	1097	4167
3923	11.13	236.03	3866.17	57.18	-468.05	-57.18	7.57	-257	5534	1090	4173
3965	12.52	229.66	3907.28	51.97	-474.88	-51.97	4.54	-251	5528	1083	4180
4008	14.36	221.63	3949.11	44.97	-481.98	-44.97	6.09	-244	5521	1076	4188
4052	16.28	220.8	3991.54	36.22	-489.63	-36.22	4.39	-236	5513	1068	4195
4096	18.54	215.92	4033.53	25.88	-497.77	-25.88	6.11	-225	5502	1060	4204
4139	21.04	212.14	4073.98	13.81	-505.89	-13.81	6.53	-213	5490	1052	4212
4183	24.35	208.29	4114.57	-0.87	-514.39	0.87	8.24	-199	5476	1044	4221
4227	28.4	205.75	4153.99	-18.29	-523.24	18.29	9.55	-181	5458	1035	4230
4270	32.72	202.68	4191.01	-38.24	-532.17	38.24	10.68	-161	5438	1026	4239
4314	35.4	201.07	4227.46	-61.10	-541.34	61.10	6.43	-138	5415	1016	4248
4358	35.75	200.43	4263.24	-85.04	-550.40	85.04	1.16	-114	5391	1007	4258
4401	38.23	198.72	4297.59	-109.42	-559.06	109.42	6.24	-90	5367	998	4267
4445	41.45	198.32	4331.37	-136.14	-568.01	136.14	7.34	-63	5340	989	4276
4489	44.46	196.43	4363.57	-164.76	-576.95	164.76	7.44	-34	5312	980	4285
4532	46.71	194.87	4393.66	-194.33	-585.23	194.33	5.84	-5	5282	972	4294
4576	49.62	192.03	4423.01	-226.21	-592.83	226.21	8.18	27	5250	964	4302
4620	53.01	189.84	4450.51	-259.93	-599.33	259.93	8.63	61	5217	957	4309
4663	56.48	187.61	4475.33	-294.63	-604.64	294.63	9.11	95	5182	952	4315
4707	59.75	184.84	4498.57	-331.76	-608.67	331.76	9.15	133	5145	948	4319
4751	62.08	183.86	4519.96	-370.10	-611.59	370.10	5.64	171	5107	945	4323
4838	62.21	184.19	4560.61	-446.83	-616.99	446.83	0.37	248	5030	939	4329
4882	61.84	184.34	4581.25	-485.58	-619.88	485.58	0.89	286	4991	936	4333
4925	61.83	184.64	4601.54	-523.37	-622.84	523.37	0.62	324	4953	933	4336
4969	61.8	184.25	4622.33	-562.04	-625.85	562.04	0.78	363	4915	929	4340
5013	64.71	182.3	4642.13	-601.26	-628.08	601.26	7.71	402	4875	927	4342
5058	68.3	181.82	4659.27	-640.66	-629.50	640.66	8.41	442	4836	925	4344
5100	72.37	181.01	4674.07	-682.07	-630.52	682.07	9.41	483	4795	924	4346
5144	77.17	180.55	4685.63	-724.51	-631.09	724.51	10.96	525	4752	924	4347
5187	81.79	180.24	4693.47	-766.78	-631.39	766.78	10.77	568	4710	923	4348
5287	86.78	179.91	4703.43	-866.25	-631.51	866.25	5.00	667	4610	922	4350



Measured Depth (ft)	Sub-Sea Incl. (deg)	Vertical Azim. (deg)	True Vert Depth (ft)	Northings (+) Southings (-) (ft)	Eastings (+) Westings (-) (ft)	Vert Section (ft)	DLS deg/100' (deg)	FNL	FSL	FWL	FEL
5374	86.71	179.89	4708.37	-953.11	-631.36	953.11	0.08	754	4524	922	4351
5462	89.58	178.72	4711.22	-1041.04	-630.29	1041.04	3.52	842	4436	923	4351
5536	89.44	178.81	4711.85	-1115.02	-628.70	1115.02	0.22	916	4362	924	4350
5627	89.23	178.02	4712.91	-1205.98	-626.18	1205.98	0.90	1007	4271	926	4349
5718	89.51	177.64	4713.91	-1296.91	-622.74	1296.91	0.52	1098	4180	929	4347
5809	88.11	176.25	4715.80	-1387.76	-617.89	1387.76	2.17	1189	4089	934	4343
5901	89.65	177.53	4717.60	-1479.60	-612.90	1479.60	2.18	1280	3997	938	4339
5992	89.44	177.53	4718.32	-1570.51	-608.98	1570.51	0.23	1371	3906	942	4337
6083	87.9	177.36	4720.43	-1661.39	-604.92	1661.39	1.70	1462	3815	945	4334
6174	90.21	179.69	4721.93	-1752.34	-602.58	1752.34	3.61	1553	3724	947	4333
6265	87.55	177.32	4723.71	-1843.28	-600.21	1843.28	3.91	1644	3633	949	4332
6356	91.61	180	4724.38	-1934.22	-598.08	1934.22	5.35	1735	3542	951	4331
6447	91.96	182.45	4721.54	-2025.15	-600.03	2025.15	2.72	1826	3451	949	4334
6538	91.68	181.33	4718.65	-2116.05	-603.03	2116.05	1.27	1917	3361	945	4338
6629	90.35	179.58	4717.04	-2207.03	-603.75	2207.03	2.42	2008	3270	944	4340
6720	89.51	178.66	4717.15	-2298.02	-602.35	2298.02	1.37	2099	3179	945	4340
6811	90.28	180.92	4717.32	-2389.01	-602.02	2389.01	2.62	2190	3088	945	4341
6917	89.51	180.84	4717.51	-2495.00	-603.65	2495.00	0.73	2296	2982	943	4344
7004	90.84	182.33	4717.25	-2581.96	-606.05	2581.96	2.30	2383	2895	940	4348
7091	89.86	181.54	4716.71	-2668.91	-608.99	2668.91	1.45	2470	2808	937	4352
7179	89.44	181.72	4717.25	-2756.87	-611.49	2756.87	0.52	2558	2720	934	4355
7266	89.93	182.19	4717.73	-2843.82	-614.46	2843.82	0.78	2645	2633	931	4360
7354	91.4	182.08	4716.71	-2931.75	-617.74	2931.75	1.68	2733	2545	927	4364
7441	91.68	180.41	4714.37	-3018.69	-619.63	3018.69	1.95	2820	2458	925	4367
7528	91.12	179.91	4712.25	-3105.66	-619.87	3105.66	0.86	2907	2371	924	4369
7615	91.47	179.65	4710.28	-3192.64	-619.54	3192.64	0.50	2994	2284	924	4369
7703	91.26	179.46	4708.18	-3280.61	-618.85	3280.61	0.32	3081	2196	924	4370
7790	90.77	179.59	4706.64	-3367.60	-618.13	3367.60	0.58	3168	2109	924	4370
7875	91.19	179.77	4705.19	-3452.58	-617.66	3452.58	0.54	3253	2024	925	4371
7963	91.82	179.58	4702.88	-3540.55	-617.16	3540.55	0.75	3341	1936	925	4372
8050	91.26	179.72	4700.54	-3627.52	-616.63	3627.52	0.66	3428	1849	925	4372
8138	89.51	179.27	4699.95	-3715.51	-615.85	3715.51	2.05	3516	1761	925	4373
8225	88.11	179.06	4701.75	-3802.48	-614.58	3802.48	1.63	3603	1674	926	4373
8313	87.34	178.98	4705.25	-3890.39	-613.08	3890.39	0.88	3691	1586	927	4372
8400	86.29	179.35	4710.08	-3977.25	-611.81	3977.25	1.28	3778	1499	928	4372
8487	86.36	178.94	4715.66	-4064.06	-610.52	4064.06	0.48	3865	1413	929	4372
8575	89.16	180.25	4719.10	-4151.98	-609.90	4151.98	3.51	3953	1325	929	4373
8662	90.42	181.19	4719.42	-4238.97	-610.99	4238.97	1.81	4040	1238	928	4375
8750	88.25	181.58	4720.44	-4326.93	-613.12	4326.93	2.51	4128	1150	925	4378
8837	88.46	181.93	4722.93	-4413.86	-615.78	4413.86	0.47	4215	1063	922	4382
8924	89.79	180.85	4724.26	-4500.82	-617.89	4500.82	1.97	4302	976	920	4386
9012	90.28	181.58	4724.21	-4588.80	-619.76	4588.80	1.00	4390	888	917	4389
9099	88.67	179.88	4725.01	-4675.78	-620.87	4675.78	2.69	4477	801	916	4391
9186	87.69	178.95	4727.77	-4762.73	-619.98	4762.73	1.55	4564	714	916	4391
9274	88.6	178.27	4730.62	-4850.66	-617.84	4850.66	1.29	4652	626	918	4390
9361	88.18	178.28	4733.06	-4937.58	-615.23	4937.58	0.48	4738	539	920	4389
9449	89.51	178.66	4734.84	-5025.53	-612.88	5025.53	1.57	4826	451	922	4388



Section 9  
34S 8W

Section 10  
34S 8W

DUSENBURY 3408 2-10H HUNT 3408 1-15H

YETI SWD 3408 2-15



YETI SWD 3408 1-15

HUNT 3408 2-15H

HUNT 3408 3-15H

Miss Entry: 5061'

-98.180627 37.092827

Top Perf: 5465'

-98.180597 37.091746

Harper County

Section 16  
34S 8W

Section 15  
34S 8W

Bottom Perf: 9548'

-98.180206 37.080648

BHL: 9570'

-98.180203 37.080596

924' FWL

333' FSL

Section 21  
34S 8W

Section 22  
34S 8W



Actual Bottom-Hole Location of Hunt 3408 1-15H

T&R: 34S 8W

Section: 15, 924' FWL & 333' FSL

-98.180203 37.080596

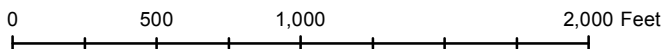
1 in = 667 ft

● Actual BH Location

\* SandRidge Wells

--- Perf

□ Sections



Draftsman:

Dory Deines

Draft Date: 1/22/2015

Drawing Name/Number:

Addendum\_Hunt 3408 1-15H.mxd

Coordinate System:

NAD 1927 State Plane  
Kansas South FIPS: 1502