

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1241264  
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: \_\_\_\_\_

1241264

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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**INVOICE**

DATE	INVOICE #
10/27/2014	5207

<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, KS	10/24/2014	3812	LATSHAW 27	RANDY 3508 1-3H	Due on rec..

Description

DRILLED 80' OF 30" CONDUCTOR HOLE  
 DRILLED 6' OF 76" HOLE  
 FURNISHED AND SET 6' X 6' TINHORN CELLAR  
 FURNISHED 80' OF 20" CONDUCTOR PIPE  
 FURNISHED MUD, WATER, AND TRUCKING  
 FURNISHED WELDER AND MATERIALS  
 FURNISHED 8 YARDS OF 10 SACK GROUT FOR CONDUCTOR HOLE  
 FURNISHED 4 YARDS OF 10 SACK GROUT FOR MOUSE HOLE  
 FURNISHED GROUT PUMP  
 DRILL MOUSE HOLE  
 FURNISHED 85' OF 18" CONDUCTOR PIPE FOR MOUSEHOLE

TOTAL BID \$20,250.00

Job Number: DC 14217  
 Well Name: RANDY 3508 1-3H  
 Code: 850-010  
 Amount: 20,491.51  
 Co. Man: John Fortune  
 Co. Man Sig.: [Signature]  
 Notes: \_\_\_\_\_

Sales Tax (6.15%)	\$241.51
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<b>TOTAL</b>	<b>\$20,491.51</b>
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7303 N. Highway 81  
Duncan, OK 73533

# Invoice

Date:	Invoice #:
11/9/2014	0000017806

Phone # (580) 255-3111

Bill To
Sandridge Exploration & Production 123 Robert S Kerr Ave Oklahoma City, OK 73102-6406

Description of Work
HARPER,COUNTY KS AFE DC14217 API 15-077-22108-01-00
Job Type: Surface (New Well Only)

Field Receipt	Terms	Service Date	Due Date	AFE No	Lease/Well Name
SOK4438	Net 30	11/5/2014	12/9/2014	AFE DC14217	RANDY 3508 1-3H

Item	Description	U/M	Qty	Price Each	Amount	Disc %	Disc Amt	Net Amount
ML001	Pickup Mileage	UNTML	100	4.26	426.00	60.00%	-255.60	170.40
ML002	Pump Truck/Heavy Vehicle Mileage	UNTML	100	7.32	732.00	60.00%	-439.20	292.80
ML003	Bulk Cement Delivery/Return	MILE	1,178	2.95	3,475.10	60.00%	-2,085.06	1,390.04
MX001	Bulk Material Mixing Service Charge	SCF	516	3.27	1,687.32	60.00%	-1,012.39	674.93
CC001	Pump Charge 0-1000'	4-HRS	1	2,038.61	2,038.61	60.00%	-1,223.17	815.44
CC015	Pump Charge Additional Hours	UNITHRS	5	588.06	2,940.30	35.00%	-1,029.11	1,911.19
ML014	Fuel Surcharge *	JOB	1	653.40	653.40	100.00%	-653.40	0.00
AE014	Environmental Fee*	JOB	1	228.69	228.69	100.00%	-228.69	0.00
PC003	Employee/Supervisor Retention/perdiem	PR/MAN	5	1,306.80	6,534.00	90.00%	-5,880.60	653.40
JM001	Data Acquisition System	JOB	1	1,437.48	1,437.48	60.00%	-862.49	574.99
AE002	Cement Head with manifold	JOB	1	1,176.12	1,176.12	60.00%	-705.67	470.45
AE003	Circulation Equipment( 40' of equipment)	JOB	1	1,633.50	1,633.50	60.00%	-980.10	653.40
CL017	9 5/8" Top Rubber Plug	EACH	1	338.80	338.80	35.00%	-118.58	220.22
CP001	C (Premium Plus Cement) (94 lbs/ft3)	94SACK	490	30.80	15,092.02	53.00%	-7,998.77	7,093.25
CP010	Cello Flake	LBS	123	4.20	516.60	53.00%	-273.80	242.80
CP018	Calcium Chloride	LBS	921	1.22	1,123.62	53.00%	-595.52	528.10
CP031	Sugar	LBS	50	3.39	169.50	0.00%	0.00	169.50

Contact: Sandridge Exploration & Production	Subtotal Amount	*****
	Sales Tax	*****
	Discount Amount	*****
	Payment/Credit Amount	*****
	Total Net Amount	*****

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 4478</b>	TICKET DATE <b>11/14/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Sandridge Exploration &amp; Production</b>	CUSTOMER REP <b>Jerry Bias</b>	
LEASE NAME <b>Randy 3508</b>	Well No. <b>1-3H</b>	JOB TYPE <b>Intermediate</b>	EMPLOYEE NAME <b>ROGER I.</b>	

EMP NAME					
<b>STEPHEN RODRIGUEZ</b>					
<b>ROGER IBARRA</b>					
<b>HAROLD HAYDEN</b>					
<b>CHRIS LOONEY</b>					

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

Date	Called Out <b>11/13/2014</b>	On Location <b>11/13/2014</b>	Job Started <b>11/13/2014</b>	Job Completed <b>11/14/2014</b>
Time	<b>1900</b>	<b>2130</b>	<b>2200</b>	<b>1145</b>

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Va	0	IR
Centralizers	0	IR
Top Plug	1	IR
HEAD	1	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing	NEW	26#	7"		Surface	5,573
Liner						
Liner						
Tubing			0			
Drill Pipe						
Open Hole				8 7/8"	Surface	5,564
Perforations						
Perforations						
Perforations						

Materials			
Mud Type	WBM	Density	Lb/Gal
Disp. Fluid	Fresh Water	8.33	8.33
Spacer type	Fresh Water BBL.	20	8.33
Spacer type	Caustic BBL.	10	8.40
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	
11/13		11/14		Intermediate
Total	0.0	Total	0.0	

Pressures		
MAX	5,000 PSI	AVG. 500
Average Rates in BPM		
MAX	8 BPM	AVG 6
Cement Left in Pipe		
Feet	43	Reason SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	245	50/50 POZ PREMIUM	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.3% C-20 - 0.1% C-37 - 0.2% X-Air	6.93	1.43	13.60
2	90	Premium	0.2% FL-17 - 0.1% C-51 - 0.15% C-20 - 0.2% X-Air	5.19	1.19	15.60
3	0	0		0	0.00	0.00

Summary							
Preflush Breakdown	<b>10</b>	Type: <b>Caustic</b>	Preflush: <b>BBI</b>	<b>30.00</b>	Type: <b>Gel Spacer</b>	<b>N/A</b>	<b>N/A</b>
		<b>MAXIMUM</b>	Load & Bkdn: <b>Gal - BBI</b>	<b>N/A</b>	Pad:Bbl -Gal	<b>N/A</b>	<b>212</b>
		<b>Lost Returns</b>	Excess /Return <b>BBI</b>	<b>N/A</b>	Calc. Disp Bbl	<b>212.00</b>	
		<b>Actual TOC</b>	Calc. TOC:		Actual Disp.	<b>212.00</b>	
Average ISIP	<b>5 Min.</b>	<b>Bump Plug PSI:</b>	Final Circ. <b>PSI:</b>	<b>81.0</b>	Disp:Bbl		
	<b>10 Min</b>	<b>15 Min</b>	Cement Slurry <b>BBI</b>	<b>323.00</b>			
			Total Volume <b>BBI</b>				

CUSTOMER REPRESENTATIVE *JOB* SIGNATURE \_\_\_\_\_

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 4527</b>	TICKET DATE <b>11/23/14</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Bridge Exploration &amp; Produc</b>	CUSTOMER REP <b>Vince Brown</b>	
LEASE NAME <b>Randy 3508</b>	Well No. <b>1-3H</b>	JOB TYPE <b>Misc Pumping</b>	EMPLOYEE NAME <b>B.RODRIGUEZ</b>	

EMP NAME <b>B. RODRIGUEZ</b>					
<b>S.STROMER</b>					
<b>0.00</b>					
<b>0.00</b>					

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

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

Bottom Hole Temp. **150** Pressure \_\_\_\_\_

Retainer Depth \_\_\_\_\_ Total Depth **0**

Date	Called Out	On Location	Job Started	Job Completed
	<b>11/23/2014</b>	<b>11/23/2014</b>	<b>11/23/2014</b>	<b>11/23/2014</b>
Time	<b>0700</b>	<b>1230</b>	<b>1430</b>	<b>1530</b>

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

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing		<b>11.6#</b>	<b>4 1/2"</b>		Surface	<b>0</b>
Liner						
Liner			<b>4"</b>			
Tubing						
Drill Pipe						
Open Hole			<b>6 1/8"</b>		Surface	<b>9,847'</b>
Perforations						Shots/Ft.
Perforations						
Perforations						

Materials			
Mud Type	WBM	Density	Lb/Gal
Disp. Fluid	<b>Fresh Water</b>	<b>8.33</b>	<b>Lb/Gal</b>
Spacer type	<b>resh Water</b>	<b>10</b>	<b>8.33</b>
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>11/23</b>	<b>4.0</b>	<b>11/23</b>	<b>1.0</b>	<b>Misc Pumping</b>
<b>Total</b>	<b>4.0</b>	<b>Total</b>	<b>1.0</b>	

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

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Pressures		
MAX	<b>1,500 PSI</b>	AVG. <b>2400</b>
Average Rates in BPM		
MAX	<b>6 BPM</b>	AVG <b>5</b>
Cement Left in Pipe		
Feet		Reason <b>SHOE JOINT</b>

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

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

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



# Directional Survey Report

Company Name: SandRidge Energy  
 Well Name: Randy 3508 1-3H  
 Rig ID: Latshaw 27  
 API/UWI: 15-077-22108-01-00  
 Field: Mississippi Lime  
 Location: Sec 34, 34S-8W  
 State/Prov: Kansas  
 County: Harper Co.

Survey Company: DrillRight Technology, Inc.  
 Job Number: DR1411223  
 Start Date: 11/25/2014  
 End Date: 11/30/2014  
 Declination: 4.17  
 Proposed Azimuth: 186.87  
 North Reference: Grid

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	Northing	Easting	DLS	Build	Turn
Tiein	5,412.00	85.80	179.00	4,792.81	-591.19	89.06	576.29	-591.19	89.06	0.00	0.00	0.00
1	5,553.00	88.80	187.80	4,799.46	-731.63	80.70	716.72	-731.63	80.70	6.59	2.13	6.24
2	5,649.00	89.00	188.60	4,801.31	-826.63	67.01	812.68	-826.63	67.01	0.86	0.21	0.83
3	5,744.00	89.40	187.60	4,802.63	-920.67	53.63	907.65	-920.67	53.63	1.13	0.42	-1.05
4	5,839.00	88.10	191.80	4,804.71	-1,014.27	37.63	1,002.48	-1,014.27	37.63	4.63	-1.37	4.42
5	5,934.00	89.80	196.80	4,806.45	-1,106.28	14.18	1,096.64	-1,106.28	14.18	5.56	1.79	5.26
6	6,029.00	89.80	202.30	4,806.78	-1,195.77	-17.60	1,189.28	-1,195.77	-17.60	5.79	0.00	5.79
7	6,125.00	90.50	206.90	4,806.53	-1,283.03	-57.55	1,280.70	-1,283.03	-57.55	4.85	0.73	4.79
8	6,220.00	89.80	209.00	4,806.28	-1,366.94	-102.08	1,369.34	-1,366.94	-102.08	2.33	-0.74	2.21
9	6,314.00	89.80	209.60	4,806.61	-1,448.91	-148.08	1,456.22	-1,448.91	-148.08	0.64	0.00	0.64
10	6,409.00	90.20	210.40	4,806.61	-1,531.19	-195.58	1,543.59	-1,531.19	-195.58	0.94	0.42	0.84
11	6,503.00	91.10	209.30	4,805.54	-1,612.71	-242.36	1,630.12	-1,612.71	-242.36	1.51	0.96	-1.17
12	6,598.00	91.50	209.20	4,803.39	-1,695.57	-288.77	1,717.94	-1,695.57	-288.77	0.43	0.42	-0.11
13	6,692.00	91.40	209.50	4,801.01	-1,777.48	-334.82	1,804.77	-1,777.48	-334.82	0.34	-0.11	0.32
14	6,787.00	91.70	209.30	4,798.44	-1,860.22	-381.44	1,892.49	-1,860.22	-381.44	0.38	0.32	-0.21
15	6,882.00	90.50	206.30	4,796.61	-1,944.23	-425.74	1,981.19	-1,944.23	-425.74	3.40	-1.26	-3.16
16	6,973.00	90.10	205.40	4,796.14	-2,026.12	-465.41	2,067.24	-2,026.12	-465.41	1.08	-0.44	-0.99
17	7,064.00	90.10	201.30	4,795.98	-2,109.65	-501.47	2,154.48	-2,109.65	-501.47	4.51	0.00	-4.51
18	7,155.00	89.40	199.70	4,796.38	-2,194.88	-533.34	2,242.92	-2,194.88	-533.34	1.92	-0.77	-1.76
19	7,246.00	89.60	197.80	4,797.17	-2,281.04	-562.59	2,331.96	-2,281.04	-562.59	2.10	0.22	-2.09
20	7,337.00	89.00	194.00	4,798.28	-2,368.54	-587.51	2,421.81	-2,368.54	-587.51	4.23	-0.66	-4.18
21	7,429.00	89.30	190.20	4,799.65	-2,458.47	-606.79	2,513.40	-2,458.47	-606.79	4.14	0.33	-4.13
22	7,520.00	89.70	185.80	4,800.44	-2,548.56	-619.45	2,604.36	-2,548.56	-619.45	4.85	0.44	-4.84
23	7,611.00	90.40	183.90	4,800.36	-2,639.23	-627.15	2,695.29	-2,639.23	-627.15	2.23	0.77	-2.09
24	7,704.00	91.00	183.80	4,799.23	-2,732.01	-633.39	2,788.16	-2,732.01	-633.39	0.65	0.65	-0.11
25	7,796.00	91.30	180.70	4,797.38	-2,823.91	-637.00	2,879.83	-2,823.91	-637.00	3.38	0.33	-3.37
26	7,887.00	88.80	179.50	4,797.30	-2,914.90	-637.16	2,970.19	-2,914.90	-637.16	3.05	-2.75	-1.32
27	7,978.00	89.30	179.40	4,798.81	-3,005.88	-636.29	3,060.41	-3,005.88	-636.29	0.56	0.55	-0.11
28	8,070.00	89.80	179.50	4,799.53	-3,097.87	-635.40	3,151.64	-3,097.87	-635.40	0.55	0.54	0.11
29	8,159.00	90.50	179.00	4,799.30	-3,186.87	-634.24	3,239.85	-3,186.87	-634.24	0.97	0.79	-0.56
30	8,250.00	88.80	180.20	4,799.85	-3,277.86	-633.60	3,330.11	-3,277.86	-633.60	2.29	-1.87	1.32
31	8,345.00	89.00	180.10	4,801.68	-3,372.84	-633.85	3,424.44	-3,372.84	-633.85	0.24	0.21	-0.11
32	8,439.00	89.00	179.30	4,803.32	-3,466.82	-633.36	3,517.69	-3,466.82	-633.36	0.85	0.00	-0.85
33	8,534.00	89.00	179.10	4,804.98	-3,561.80	-632.03	3,611.83	-3,561.80	-632.03	0.21	0.00	-0.21
34	8,628.00	89.50	178.80	4,806.21	-3,655.77	-630.31	3,704.92	-3,655.77	-630.31	0.62	0.53	-0.32
35	8,723.00	90.70	179.60	4,806.04	-3,750.76	-628.98	3,799.07	-3,750.76	-628.98	1.52	1.26	0.84
36	8,817.00	90.80	178.80	4,804.81	-3,844.74	-627.67	3,892.22	-3,844.74	-627.67	0.86	0.11	-0.85
37	8,912.00	91.20	178.70	4,803.15	-3,939.71	-625.60	3,986.25	-3,939.71	-625.60	0.43	0.42	-0.11
38	9,006.00	90.80	178.90	4,801.51	-4,033.67	-623.63	4,079.31	-4,033.67	-623.63	0.48	-0.43	0.21
39	9,101.00	89.00	180.00	4,801.68	-4,128.66	-622.72	4,173.51	-4,128.66	-622.72	2.22	-1.89	1.16
40	9,196.00	90.00	179.80	4,802.51	-4,223.66	-622.55	4,267.80	-4,223.66	-622.55	1.07	1.05	-0.21
41	9,290.00	88.30	180.60	4,803.90	-4,317.64	-622.88	4,361.15	-4,317.64	-622.88	2.00	-1.81	0.85
42	9,385.00	88.80	180.40	4,806.31	-4,412.61	-623.71	4,455.53	-4,412.61	-623.71	0.57	0.53	-0.21
43	9,480.00	89.00	179.60	4,808.13	-4,507.59	-623.71	4,549.83	-4,507.59	-623.71	0.87	0.21	-0.84
44	9,574.00	90.50	179.80	4,808.54	-4,601.58	-623.22	4,643.09	-4,601.58	-623.22	1.61	1.60	0.21
45	9,670.00	90.30	180.50	4,807.87	-4,697.58	-623.47	4,738.43	-4,697.58	-623.47	0.76	-0.21	0.73
46	9,764.00	88.70	180.20	4,808.69	-4,791.57	-624.04	4,831.82	-4,791.57	-624.04	1.73	-1.70	-0.32
47	9,859.00	89.10	179.60	4,810.51	-4,886.55	-623.88	4,926.10	-4,886.55	-623.88	0.76	0.42	-0.63
48	9,954.00	89.60	180.10	4,811.59	-4,981.55	-623.63	5,020.38	-4,981.55	-623.63	0.74	0.53	0.53
49	10,048.00	89.80	179.60	4,812.08	-5,075.55	-623.38	5,113.67	-5,075.55	-623.38	0.57	0.21	-0.53



Svy	Depth	Inc	Azm	TVD	NS	EW	VS	Northing	Easting	DLS	Build	Turn
50	10,110.00	90.30	179.20	4,812.03	-5,137.54	-622.73	5,175.14	-5,137.54	-622.73	1.03	0.81	-0.65
PTB	10,160.00	90.70	179.00	4,811.59	-5,187.53	-621.95	5,224.68	-5,187.53	-621.95	0.89	0.80	-0.40

STAGE 1 - Lat #2								
Port @ 10,076 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	60	24213	577					9.6
Slickwater	60	18160	432	40/70	White	0.25	4540	7.2
Slickwater	60	9240	220					3.7
Slickwater	60	18160	432	40/70	White	0.50	9080	7.2
Slickwater	60	9240	220					3.7
Slickwater	60	18160	432	40/70	White	0.75	13620	7.2
Slickwater	60	9240	220					3.7
Slickwater	60	18160	432	40/70	White	1.00	18160	7.2
Slickwater	60	8593	205					3.4
<b>TOTAL</b>		<b>133,917</b>	<b>3,188</b>				<b>45,400</b>	<b>53.7</b>

Frac the MISSISSIPPI (Stage 2) as follows:  
 Drop 1.688" ball. Reduce rate to 5-10 bpm at +/- 102 bbls (50 bbls before ball seats).

STAGE 2 - Lat #2								
Port @ 9,888 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	60	15040	358					6.0
Slickwater	60	11280	269	40/70	White	0.25	2820	4.5
Slickwater	60	4410	105					1.8
Slickwater	60	11280	269	40/70	White	0.50	5640	4.5
Slickwater	60	4410	105					1.8
Slickwater	60	11280	269	40/70	White	0.75	8460	4.5
Slickwater	60	4410	105					1.8
Slickwater	60	11280	269	40/70	White	1.00	11280	4.5
Slickwater	60	8471	202					3.4
<b>TOTAL</b>		<b>82,611</b>	<b>1,967</b>				<b>28,200</b>	<b>33.4</b>

Frac the MISSISSIPPI (Stage 3) as follows:  
 Drop 1.750" ball. Reduce rate to 5-10 bpm at +/- 99 bbls (50 bbls before ball seats).

STAGE 3 - Lat #2								
Port @ 9,743 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	500	12					0.6
Slickwater	60	10667	254					4.2
Slickwater	60	8000	190	40/70	White	0.25	2000	3.2
Slickwater	60	3150	75					1.3
Slickwater	60	8000	190	40/70	White	0.50	4000	3.2
Slickwater	60	3150	75					1.3
Slickwater	60	8000	190	40/70	White	0.75	6000	3.2
Slickwater	60	3150	75					1.3
Slickwater	60	8000	190	40/70	White	1.00	8000	3.2
Slickwater	60	8377	199					3.3
<b>TOTAL</b>		<b>60,993</b>	<b>1,452</b>				<b>20,000</b>	<b>24.6</b>

Frac the MISSISSIPPI (Stage 4) as follows:  
 Drop 1.813" ball. Reduce rate to 5-10 bpm at +/- 98 bbls (50 bbls before ball seats).

STAGE 4 - Lat #2								
Port @ 9,643'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	500	12					0.6
Slickwater	60	10453	249					4.1
Slickwater	60	7840	187	40/70	White	0.25	1960	3.1
Slickwater	60	3150	75					1.3
Slickwater	60	7840	187	40/70	White	0.50	3920	3.1
Slickwater	60	3150	75					1.3
Slickwater	60	7840	187	40/70	White	0.75	5880	3.1
Slickwater	60	3150	75					1.3
Slickwater	60	7840	187	40/70	White	1.00	7840	3.1
Slickwater	60	8311	198					3.3
<b>TOTAL</b>		<b>60,075</b>	<b>1,430</b>				<b>19,600</b>	<b>24.2</b>

Frac the MISSISSIPPI (Stage 5) as follows:  
 Drop 1.875" ball. Reduce rate to 5-10 bpm at +/- 95 bbls (50 bbls before ball seats).

STAGE 5 - Lat #2								
Port @ 9,452'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	60	20480	488					8.1
Slickwater	60	15360	366	40/70	White	0.25	3840	6.1
Slickwater	60	7350	175					2.9
Slickwater	60	15360	366	40/70	White	0.50	7680	6.1
Slickwater	60	7350	175					2.9
Slickwater	60	15360	366	40/70	White	0.75	11520	6.1
Slickwater	60	7350	175					2.9
Slickwater	60	15360	366	40/70	White	1.00	15360	6.1
Slickwater	60	8187	195					3.2
<b>TOTAL</b>		<b>112,407</b>	<b>2,676</b>				<b>38,400</b>	<b>44.8</b>

Frac the MISSISSIPPI (Stage 6) as follows:  
 Drop 1.938" ball. Reduce rate to 5-10 bpm at +/- 93 bbls (50 bbls before ball seats).

STAGE 6 - Lat #2								
Port @ 9,307'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	70	15253	363					5.2
Slickwater	70	11440	272	40/70	White	0.25	2860	3.9
Slickwater	70	4620	110					1.6
Slickwater	70	11440	272	40/70	White	0.50	5720	3.9
Slickwater	70	4620	110					1.6
Slickwater	70	11440	272	40/70	White	0.75	8580	3.9
Slickwater	70	4620	110					1.6
Slickwater	70	11440	272	40/70	White	1.00	11440	3.9
Slickwater	70	8093	193					2.8
<b>TOTAL</b>		<b>83,216</b>	<b>1,981</b>				<b>28,600</b>	<b>28.5</b>

Frac the MISSISSIPPI (Stage 7) as follows:  
 Drop 2.000" ball. Reduce rate to 5-10 bpm at +/- 90 bbls (50 bbls before ball seats).

STAGE 7 - Lat #2								
Port @ 9,164 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	70	15573	371					5.3
Slickwater	70	11680	278	40/70	White	0.25	2920	4.0
Slickwater	70	4830	115					1.6
Slickwater	70	11680	278	40/70	White	0.50	5840	4.0
Slickwater	70	4830	115					1.6
Slickwater	70	11680	278	40/70	White	0.75	8760	4.0
Slickwater	70	4830	115					1.6
Slickwater	70	11680	278	40/70	White	1.00	11680	4.0
Slickwater	70	8000	190					2.7
<b>TOTAL</b>		<b>85,033</b>	<b>2,025</b>				<b>29,200</b>	<b>29.1</b>

Frac the MISSISSIPPI (Stage 8) as follows:  
 Drop 2.063" ball. Reduce rate to 5-10 bpm at +/- 88 bbls (50 bbls before ball seats).

STAGE 8 - Lat #2								
Port @ 9,020 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	70	15253	363					5.2
Slickwater	70	11440	272	40/70	White	0.25	2860	3.9
Slickwater	70	4830	115					1.6
Slickwater	70	11440	272	40/70	White	0.50	5720	3.9
Slickwater	70	4830	115					1.6
Slickwater	70	11440	272	40/70	White	0.75	8580	3.9
Slickwater	70	4830	115					1.6
Slickwater	70	11440	272	40/70	White	1.00	11440	3.9
Slickwater	70	7906	188					2.7
<b>TOTAL</b>		<b>83,659</b>	<b>1,992</b>				<b>28,600</b>	<b>28.7</b>

Frac the MISSISSIPPI (Stage 9) as follows:  
 Drop 2.125" ball. Reduce rate to 5-10 bpm at +/- 87 bbls (50 bbls before ball seats).

STAGE 9 - Lat #2								
Port @ 8,921 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	70	10560	251					3.6
Slickwater	70	7920	189	40/70	White	0.25	1980	2.7
Slickwater	70	3150	75					1.1
Slickwater	70	7920	189	40/70	White	0.50	3960	2.7
Slickwater	70	3150	75					1.1
Slickwater	70	7920	189	40/70	White	0.75	5940	2.7
Slickwater	70	3150	75					1.1
Slickwater	70	7920	189	40/70	White	1.00	7920	2.7
Slickwater	70	7841	187					2.7
<b>TOTAL</b>		<b>59,781</b>	<b>1,423</b>				<b>19,800</b>	<b>20.5</b>

Frac the MISSISSIPPI (Stage 10) as follows:  
 Drop 2.188" ball. Reduce rate to 5-10 bpm at +/- 84 bbls (50 bbls before ball seats).

STAGE 10 - Lat #2								
Port @ 8,732 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	70	29973	714					10.2
Slickwater	70	22480	535	40/70	White	0.25	5620	7.6
Slickwater	70	12390	295					4.2
Slickwater	70	22480	535	40/70	White	0.50	11240	7.6
Slickwater	70	12390	295					4.2
Slickwater	70	22480	535	40/70	White	0.75	16860	7.6
Slickwater	70	12390	295					4.2
Slickwater	70	22480	535	40/70	White	1.00	22480	7.6
Slickwater	70	7718	184					2.6
<b>TOTAL</b>		<b>166,032</b>	<b>3,929</b>				<b>56,200</b>	<b>56.3</b>

Frac the MISSISSIPPI (Stage 11) as follows:  
 Drop 2.250" ball. Reduce rate to 5-10 bpm at +/- 81 bbls (50 bbls before ball seats).

STAGE 11 - Lat #2								
Port @ 8,543 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	80	10133	241					3.0
Slickwater	80	7600	181	40/70	White	0.25	1900	2.3
Slickwater	80	3150	75					0.9
Slickwater	80	7600	181	40/70	White	0.50	3800	2.3
Slickwater	80	3150	75					0.9
Slickwater	80	7600	181	40/70	White	0.75	5700	2.3
Slickwater	80	3150	75					0.9
Slickwater	80	7600	181	40/70	White	1.00	7600	2.3
Slickwater	80	7595	181					2.3
<b>TOTAL</b>		<b>57,829</b>	<b>1,377</b>				<b>19,000</b>	<b>17.4</b>

Frac the MISSISSIPPI (Stage 12) as follows:  
 Drop 2.313" ball. Reduce rate to 5-10 bpm at +/- 79 bbls (50 bbls before ball seats).

STAGE 12 - Lat #2								
Port @ 8,446 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	80	15147	361					4.5
Slickwater	80	11360	270	40/70	White	0.25	2840	3.4
Slickwater	80	4830	115					1.4
Slickwater	80	11360	270	40/70	White	0.50	5680	3.4
Slickwater	80	4830	115					1.4
Slickwater	80	11360	270	40/70	White	0.75	8520	3.4
Slickwater	80	4830	115					1.4
Slickwater	80	11360	270	40/70	White	1.00	11360	3.4
Slickwater	80	7532	179					2.2
<b>TOTAL</b>		<b>82,859</b>	<b>1,973</b>				<b>28,400</b>	<b>24.9</b>

Frac the MISSISSIPPI (Stage 13) as follows:  
 Drop 2.375" ball. Reduce rate to 5-10 bpm at +/- 76 bbls (50 bbls before ball seats).

STAGE 13 - Lat #2								
Port @ 8,216'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	80	19947	475					5.9
Slickwater	80	14960	356	40/70	White	0.25	3740	4.5
Slickwater	80	7140	170					2.1
Slickwater	80	14960	356	40/70	White	0.50	7480	4.5
Slickwater	80	7140	170					2.1
Slickwater	80	14960	356	40/70	White	0.75	11220	4.5
Slickwater	80	7140	170					2.1
Slickwater	80	14960	356	40/70	White	1.00	14960	4.5
Slickwater	80	7382	176					2.2
<b>TOTAL</b>		<b>108,839</b>	<b>2,591</b>				<b>37,400</b>	<b>32.6</b>

Frac the MISSISSIPPI (Stage 14) as follows:  
 Drop 2.438" ball. Reduce rate to 5-10 bpm at +/- 74 bbls (50 bbls before ball seats).

STAGE 14 - Lat #2								
Port @ 8,074'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	80	14720	350					4.4
Slickwater	80	11040	263	40/70	White	0.25	2760	3.3
Slickwater	80	4830	115					1.4
Slickwater	80	11040	263	40/70	White	0.50	5520	3.3
Slickwater	80	4830	115					1.4
Slickwater	80	11040	263	40/70	White	0.75	8280	3.3
Slickwater	80	4830	115					1.4
Slickwater	80	11040	263	40/70	White	1.00	11040	3.3
Slickwater	80	7290	174					2.2
<b>TOTAL</b>		<b>80,910</b>	<b>1,926</b>				<b>27,600</b>	<b>24.3</b>

Frac the MISSISSIPPI (Stage 15) as follows:  
 Drop 2.500" ball. Reduce rate to 5-10 bpm at +/- 72 bbls (50 bbls before ball seats).

STAGE 15 - Lat #2								
Port @ 7,979'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	80	10667	254					3.2
Slickwater	80	8000	190	40/70	White	0.25	2000	2.4
Slickwater	80	3150	75					0.9
Slickwater	80	8000	190	40/70	White	0.50	4000	2.4
Slickwater	80	3150	75					0.9
Slickwater	80	8000	190	40/70	White	0.75	6000	2.4
Slickwater	80	3150	75					0.9
Slickwater	80	8000	190	40/70	White	1.00	8000	2.4
Slickwater	80	7228	172					2.2
<b>TOTAL</b>		<b>59,595</b>	<b>1,419</b>				<b>20,000</b>	<b>18.0</b>

Frac the MISSISSIPPI (Stage 16) as follows:  
 Drop 2.563" ball. Reduce rate to 5-10 bpm at +/- 70 bbls (50 bbls before ball seats).

STAGE 16 - Lat #2								
Port @ 7,834 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	90	20053	477					5.3
Slickwater	90	15040	358	40/70	White	0.25	3760	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	0.50	7520	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	0.75	11280	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	1.00	15040	4.0
Slickwater	90	7134	170					1.9
<b>TOTAL</b>		<b>110,277</b>	<b>2,626</b>				<b>37,600</b>	<b>29.4</b>

Frac the MISSISSIPPI (Stage 17) as follows:  
 Drop 2.625" ball. Reduce rate to 5-10 bpm at +/- 67 bbls (50 bbls before ball seats).

STAGE 17 - Lat #2								
Port @ 7,648 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	90	20053	477					5.3
Slickwater	90	15040	358	40/70	White	0.25	3760	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	0.50	7520	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	0.75	11280	4.0
Slickwater	90	7560	180					2.0
Slickwater	90	15040	358	40/70	White	1.00	15040	4.0
Slickwater	90	7013	167					1.9
<b>TOTAL</b>		<b>110,156</b>	<b>2,623</b>				<b>37,600</b>	<b>29.4</b>

Frac the MISSISSIPPI (Stage 18) as follows:  
 Drop 2.688" ball. Reduce rate to 5-10 bpm at +/- 65 bbls (50 bbls before ball seats).

STAGE 18 - Lat #2								
Port @ 7,503 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	90	10240	244					2.7
Slickwater	90	7680	183	40/70	White	0.25	1920	2.0
Slickwater	90	3150	75					0.8
Slickwater	90	7680	183	40/70	White	0.50	3840	2.0
Slickwater	90	3150	75					0.8
Slickwater	90	7680	183	40/70	White	0.75	5760	2.0
Slickwater	90	3150	75					0.8
Slickwater	90	7680	183	40/70	White	1.00	7680	2.0
Slickwater	90	6918	165					1.8
<b>TOTAL</b>		<b>57,578</b>	<b>1,371</b>				<b>19,200</b>	<b>15.5</b>



Frac the MISSISSIPPI (Stage 19) as follows:  
 Drop 2.750" ball. Reduce rate to 5-10 bpm at +/- 63 bbls (50 bbls before ball seats).

STAGE 19 - Lat #2								
Port @ 7,361'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	90	15467	368					4.1
Slickwater	90	11600	276	40/70	White	0.25	2900	3.1
Slickwater	90	5250	125					1.4
Slickwater	90	11600	276	40/70	White	0.50	5800	3.1
Slickwater	90	5250	125					1.4
Slickwater	90	11600	276	40/70	White	0.75	8700	3.1
Slickwater	90	5250	125					1.4
Slickwater	90	11600	276	40/70	White	1.00	11600	3.1
Slickwater	90	6826	163					1.8
<b>TOTAL</b>		<b>84,693</b>	<b>2,016</b>				<b>29,000</b>	<b>22.6</b>

Frac the MISSISSIPPI (Stage 20) as follows:  
 Drop 2.813" ball. Reduce rate to 5-10 bpm at +/- 60 bbls (50 bbls before ball seats).

STAGE 20 - Lat #2								
Port @ 7,180'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	19307	460					4.8
Slickwater	96	14480	345	40/70	White	0.25	3620	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14480	345	40/70	White	0.50	7240	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14480	345	40/70	White	0.75	10860	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14480	345	40/70	White	1.00	14480	3.6
Slickwater	96	6708	160					1.7
<b>TOTAL</b>		<b>105,605</b>	<b>2,514</b>				<b>36,200</b>	<b>26.4</b>

Frac the MISSISSIPPI (Stage 21) as follows:  
 Drop 2.875" ball. Reduce rate to 5-10 bpm at +/- 58 bbls (50 bbls before ball seats).

STAGE 21 - Lat #2								
Port @ 7,038'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	14507	345					3.6
Slickwater	96	10880	259	40/70	White	0.25	2720	2.7
Slickwater	96	4830	115					1.2
Slickwater	96	10880	259	40/70	White	0.50	5440	2.7
Slickwater	96	4830	115					1.2
Slickwater	96	10880	259	40/70	White	0.75	8160	2.7
Slickwater	96	4830	115					1.2
Slickwater	96	10880	259	40/70	White	1.00	10880	2.7
Slickwater	96	6616	158					1.6
<b>TOTAL</b>		<b>79,382</b>	<b>1,890</b>				<b>27,200</b>	<b>19.9</b>





Frac the MISSISSIPPI (Stage 22) as follows:  
 Drop 2.938" ball. Reduce rate to 5-10 bpm at +/- 56 bbls (50 bbls before ball seats).

STAGE 22 - Lat #2								
Port @ 6,953 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	9387	223					2.3
Slickwater	96	7040	168	40/70	White	0.25	1760	1.7
Slickwater	96	3150	75					0.8
Slickwater	96	7040	168	40/70	White	0.50	3520	1.7
Slickwater	96	3150	75					0.8
Slickwater	96	7040	168	40/70	White	0.75	5280	1.7
Slickwater	96	3150	75					0.8
Slickwater	96	7040	168	40/70	White	1.00	7040	1.7
Slickwater	96	6560	156					1.6
<b>TOTAL</b>		<b>53,807</b>	<b>1,281</b>				<b>17,600</b>	<b>13.6</b>

Frac the MISSISSIPPI (Stage 23) as follows:  
 Drop 3.000" ball. Reduce rate to 5-10 bpm at +/- 54 bbls (50 bbls before ball seats).

STAGE 23 - Lat #2								
Port @ 6,821 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	19200	457					4.8
Slickwater	96	14400	343	40/70	White	0.25	3600	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14400	343	40/70	White	0.50	7200	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14400	343	40/70	White	0.75	10800	3.6
Slickwater	96	7140	170					1.8
Slickwater	96	14400	343	40/70	White	1.00	14400	3.6
Slickwater	96	6474	154					1.6
<b>TOTAL</b>		<b>104,944</b>	<b>2,499</b>				<b>36,000</b>	<b>26.3</b>

Frac the MISSISSIPPI (Stage 24) as follows:  
 Drop 3.063" ball. Reduce rate to 5-10 bpm at +/- 52 bbls (50 bbls before ball seats).

STAGE 24 - Lat #2								
Port @ 6,678 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	15040	358					3.7
Slickwater	96	11280	269	40/70	White	0.25	2820	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11280	269	40/70	White	0.50	5640	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11280	269	40/70	White	0.75	8460	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11280	269	40/70	White	1.00	11280	2.8
Slickwater	96	6381	152					1.6
<b>TOTAL</b>		<b>82,541</b>	<b>1,965</b>				<b>28,200</b>	<b>20.7</b>

Frac the MISSISSIPPI (Stage 25) as follows:  
 Drop 3.125" ball. Reduce rate to 5-10 bpm at +/- 49 bbls (50 bbls before ball seats).

STAGE 25 - Lat #2								
Port @ 6,490'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	20160	480					5.0
Slickwater	96	15120	360	40/70	White	0.25	3780	3.8
Slickwater	96	7770	185					1.9
Slickwater	96	15120	360	40/70	White	0.50	7560	3.8
Slickwater	96	7770	185					1.9
Slickwater	96	15120	360	40/70	White	0.75	11340	3.8
Slickwater	96	7770	185					1.9
Slickwater	96	15120	360	40/70	White	1.00	15120	3.8
Slickwater	96	6259	149					1.6
<b>TOTAL</b>		<b>110,459</b>	<b>2,630</b>				<b>37,800</b>	<b>27.6</b>

Frac the MISSISSIPPI (Stage 26) as follows:  
 Drop 3.250" ball. Reduce rate to 5-10 bpm at +/- 47 bbls (50 bbls before ball seats).

STAGE 26 - Lat #2								
Port @ 6,347'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	19520	465					4.8
Slickwater	96	14640	349	40/70	White	0.25	3660	3.6
Slickwater	96	7350	175					1.8
Slickwater	96	14640	349	40/70	White	0.50	7320	3.6
Slickwater	96	7350	175					1.8
Slickwater	96	14640	349	40/70	White	0.75	10980	3.6
Slickwater	96	7350	175					1.8
Slickwater	96	14640	349	40/70	White	1.00	14640	3.6
Slickwater	96	6166	147					1.5
<b>TOTAL</b>		<b>106,546</b>	<b>2,537</b>				<b>36,600</b>	<b>26.7</b>

Frac the MISSISSIPPI (Stage 27) as follows:  
 Drop 3.375" ball. Reduce rate to 5-10 bpm at +/- 44 bbls (50 bbls before ball seats).

STAGE 27 - Lat #2								
Port @ 6,164'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	10560	251					2.6
Slickwater	96	7920	189	40/70	White	0.25	1980	2.0
Slickwater	96	3150	75					0.8
Slickwater	96	7920	189	40/70	White	0.50	3960	2.0
Slickwater	96	3150	75					0.8
Slickwater	96	7920	189	40/70	White	0.75	5940	2.0
Slickwater	96	3150	75					0.8
Slickwater	96	7920	189	40/70	White	1.00	7920	2.0
Slickwater	96	6047	144					1.5
<b>TOTAL</b>		<b>57,987</b>	<b>1,381</b>				<b>19,800</b>	<b>14.6</b>

Frac the MISSISSIPPI (Stage 28) as follows:  
 Drop 3.500" ball. Reduce rate to 5-10 bpm at +/- 42 bbls (50 bbls before ball seats).

STAGE 28 - Lat #2								
Port @ 6,018'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	15573	371					3.9
Slickwater	96	11680	278	40/70	White	0.25	2920	2.9
Slickwater	96	5670	135					1.4
Slickwater	96	11680	278	40/70	White	0.50	5840	2.9
Slickwater	96	5670	135					1.4
Slickwater	96	11680	278	40/70	White	0.75	8760	2.9
Slickwater	96	5670	135					1.4
Slickwater	96	11680	278	40/70	White	1.00	11680	2.9
Slickwater	96	5952	142					1.5
<b>TOTAL</b>		<b>85,505</b>	<b>2,036</b>				<b>29,200</b>	<b>21.4</b>

Frac the MISSISSIPPI (Stage 29) as follows:  
 Drop 3.625" ball. Reduce rate to 5-10 bpm at +/- 40 bbls (50 bbls before ball seats).

STAGE 29 - Lat #2								
Port @ 5,879'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	14827	353					3.7
Slickwater	96	11120	265	40/70	White	0.25	2780	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11120	265	40/70	White	0.50	5560	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11120	265	40/70	White	0.75	8340	2.8
Slickwater	96	5250	125					1.3
Slickwater	96	11120	265	40/70	White	1.00	11120	2.8
Slickwater	96	5861	140					1.5
<b>TOTAL</b>		<b>81,168</b>	<b>1,933</b>				<b>27,800</b>	<b>20.4</b>

Frac the MISSISSIPPI (Stage 30) as follows:  
 Drop 3.750" ball. Reduce rate to 5-10 bpm at +/- 37 bbls (50 bbls before ball seats).

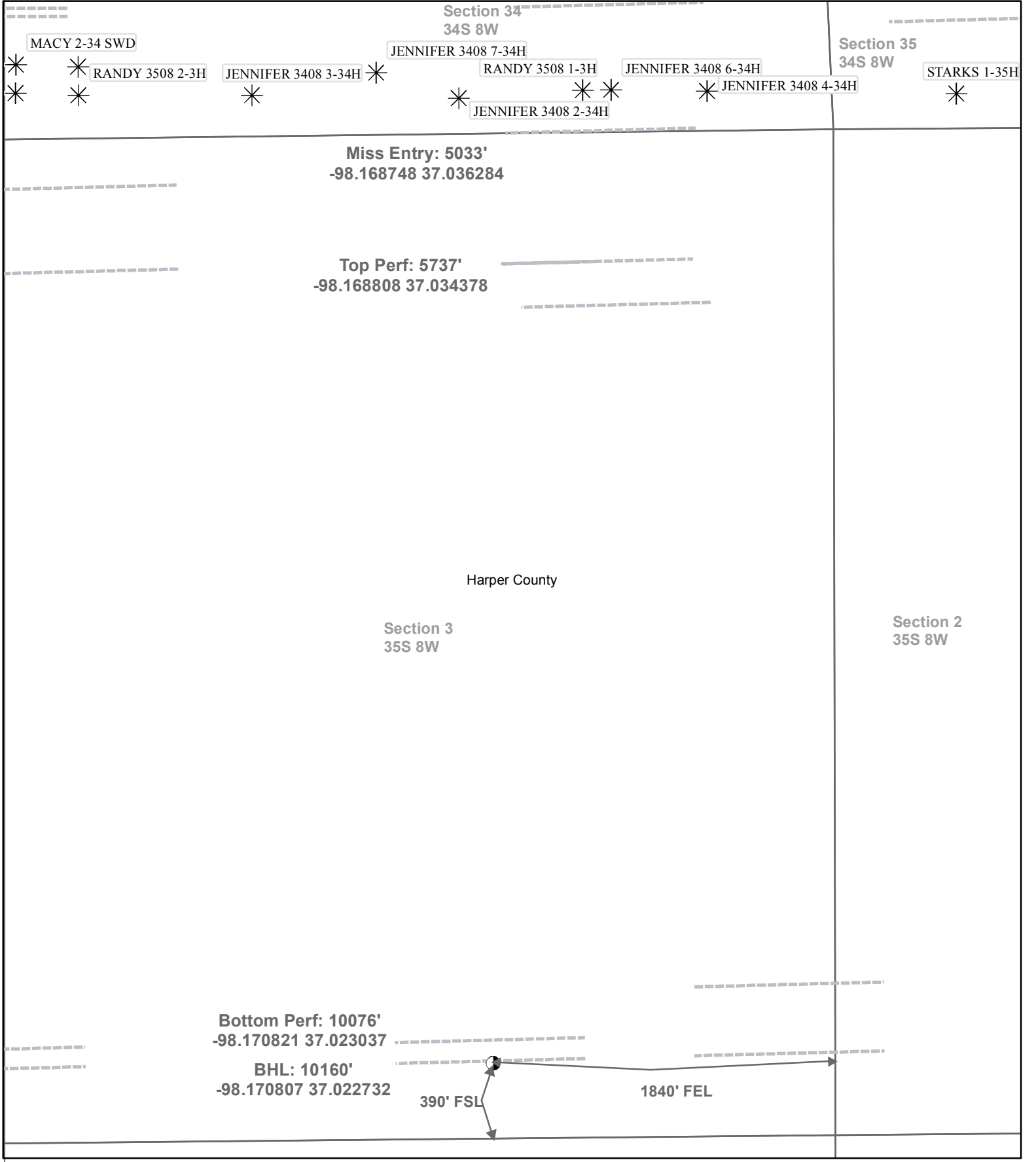
STAGE 30 - Lat #2								
Port @ 5,737'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	250	6					0.3
Slickwater	96	20160	480					5.0
Slickwater	96	15120	360	40/70	White	0.25	3780	3.8
Slickwater	96	7980	190					2.0
Slickwater	96	15120	360	40/70	White	0.50	7560	3.8
Slickwater	96	7980	190					2.0
Slickwater	96	15120	360	40/70	White	0.75	11340	3.8
Slickwater	96	7980	190					2.0
Slickwater	96	15120	360	40/70	White	1.00	15120	3.8
Slickwater	96	5769	137					1.4
<b>TOTAL</b>		<b>110,599</b>	<b>2,633</b>				<b>37,800</b>	<b>27.7</b>

Lat #2	Fluid (bbls)	Total White Proppant (#)
<b>Totals</b>	<b>63,286</b>	<b>904,000</b>

7) Suck manifold and iron dry with vacuum truck. RDMO frac crew.

Verify that plug catcher is free of debris prior to establishing circulation with coil. Open well to flowback tank on a 64/64" choke. Send flowback reports to KSFlowback@sandridgeenergy.com at the following times: 5 am, 1 pm, and 9 pm.

Minimize haul off of flowback/drill out water by rigging up transfer pump and line to move water from flowback tanks to production tanks/SWD line.



**Actual Bottom-Hole Location of Randy 3508 1-3H 2L**  
 T&R: 35S 8W  
 Section: 3, 1840' FEL & 390' FSL  
 -98.170807 37.022732

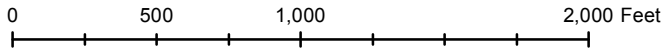
1 in = 667 ft

● Actual BH Location

\* SandRidge Wells

--- Perf

□ Sections



Draftsman: Dory Deines	Draft Date: 2/3/2015
Drawing Name/Number: Addendum_Randy 3508 1-3H 2L.mxd	
Coordinate System: NAD 1927 State Plane Kansas South FIPS: 1502	

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/2/2014
Job End Date:	11/4/2014
State:	Kansas
County:	Harper
API Number:	15-077-22108-02-00
Operator Name:	SandRidge Energy
Well Name and Number:	Randy 3508 #1-3H 2L
Longitude:	-98.16872000
Latitude:	37.03685000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,812
Total Base Water Volume (gal):	2,706,102
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Well Operator	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	95.38999	None
40/70 Preferred Sand	CAF	Proppant, Scouring, Fill					
			Crystalline Silica (quartz)	14808-60-7	100.00000	3.87454	None
15% Uninhibited HCl Acid	CAF	Etching, Dissolving, Cleaning					
			Water	7732-18-5	85.00000	0.32210	None
			Hydrochloric Acid	7647-01-0	15.00000	0.05684	None
C102	Bosque Disposal Systems, LLC	Oxidizer					
			Chlorine Dioxide	10049-04-4	15.00000	0.27308	
SI-2	CAF	Scale Inhibitor					
			Water	7732-18-5	50.00000	0.00490	None
			Hydrochloric Acid	7647-01-0	16.80000	0.00165	None
			Phosphoric Acid	7664-38-2	16.80000	0.00165	None
			Ethylene Glycol	107-21-1	12.70000	0.00125	None
			Methanol	67-56-1	3.60000	0.00036	None
FR-1	CAF	Friction Reducer					
			Petroleum Hydrotreated Light Distillate	64742-47-8	2.50000	0.00183	None

CIA-1	CAF	Acid Corrosion Inhibitor					
			Water	7732-18-5	24.00000	0.00008	None
			Methanol	67-56-1	9.00000	0.00003	None
			Ethylene Glycol	107-21-1	8.40000	0.00003	None
			N-Dimethylformamide	68-12-2	8.40000	0.00003	None
			Ethoxylated Nonylphenol	68412-54-4	8.40000	0.00003	None
			Isopropyl Alcohol	67-63-0	8.40000	0.00003	None
			2-Butoxyethanol	111-76-2	8.40000	0.00003	None
			Cinnamaldehyde	104-55-2	8.40000	0.00003	None
			Tar Bases-quinoline derivs-benzyl chloride/quaternized	72480-70-7	8.40000	0.00003	None
			Triethyl Phosphate	78-40-0	8.40000	0.00003	None
NE-1	CAF	Non Emulsifier					
			Water	7732-18-5	54.50000	0.00009	None
			Polyglycol Ethers	52624-57-4	13.60000	0.00002	None
			Methanol	67-56-1	9.00000	0.00002	None
			Glycol Ether EB	111-76-2	9.00000	0.00002	None
IC-3	CAF	Iron Control					
			Sodium Erythorbate	6381-77-7	100.00000	0.00012	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

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

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

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

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