



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1231706
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: _____

1231706

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <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> _____	PRODUCTION INTERVAL: _____ _____
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INVOICE

DATE	INVOICE #
7/31/2014	4995

BILL TO
SANBRIDGE ENERGY, INC. ATTN: PURCHASING MANAGER 133 ROBERT S. KERR AVENUE OKLAHOMA CITY, OK 73102

REMIT TO
EDGE SERVICES, INC. PO BOX 609 WOODWARD, OK 75802

COUNTY	STARTING D...	WORK ORDER	WELL NUMBER	LEASE NAME	Terms
HARPER, KS	7/31/2014	3912	LATSHAW 27	ALICE 3306 1-1214	Due on rec...

Description

DRILLED 40' OF 30" CONDUCTOR HOLE
 DRILLED 6' OF 16" HOLE
 FURNISHED AND SET 6" X 6" TRESTLE CELLAR
 FURNISHED 40' OF 20" CONDUCTOR PIPE
 FURNISHED MUD, WATER, AND TRUCKING
 FURNISHED WELDER AND MATERIALS
 FURNISHED 4 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 40' OF 16" CONDUCTOR PIPE

TOTAL BID \$19,000.00

AFE Number: DC 13088
 Well Name: ALICE 3306 1-1214
 Code: 850-010
 Amount: 19,158.79
 Co. Man: John Fortman
 Co. Man Sig.: [Signature]
 Notes: _____

Sales Tax (6.15%)	\$138.79
TOTAL	\$19,158.79



7303 N. Highway 81
Duncan, OK 73533

Invoice

Date:	Invoice #:
8/7/2014	0000015246

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 DC13088
Job Type: Surface (New Well Only)

Field Receipt	Terms	Service Date	Duc Date	AFE No	Lease/Well Name
SOK4031	Net 30	8/6/2014	9/6/2014	AFE DC13088	ALICE 3306 1-12H

Item	Description	U/M	Qty	Price Each	Amount	Disc %	Disc Amt	Net Amount
ML001	Pickup Mileage	UNTMIL	100	4.26	426.00	60.00%	-255.60	170.40
ML002	Pump Truck/Heavy Vehicle Mileage	UNTMIL	100	7.32	732.00	60.00%	-439.20	292.80
ML003	Bulk Cement Delivery/Return	MILE	775	2.95	2,286.25	60.00%	-1,371.75	914.50
MX001	Bulk Material Mixing Service Charge	SCF	357	3.27	1,167.39	60.00%	-700.43	466.96
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	UNTHRS	3	588.06	1,764.18	35.00%	-617.46	1,146.72
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	JOB	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
AE003	Circulation Equipment(40' of equipment)	JOB	1	1,633.50	1,633.50	60.00%	-980.10	653.40
AE002	Cement Head with manifold	JOB	1	1,176.12	1,176.12	60.00%	-705.67	470.45
CL017	9 5/8" Top Rubber Plug	EACH	1	338.80	338.80	35.00%	-118.58	220.22
CSB006	O-Tex Lite Premium Plus	SACK	160	29.81	4,769.60	53.00%	-2,527.89	2,241.71
CP001	C (Premium Plus Cement) (94 lbs/ft3)	94SACK	165	30.80	5,082.01	53.00%	-2,693.47	2,388.54
CP010	Cello Flake	LBS	81	4.20	340.20	53.00%	-180.31	159.89
CP018	Calcium Chloride	LBS	589	1.22	718.58	53.00%	-380.85	337.73
CP009	CF-41 (Foam Preventer)	GAL	4	86.06	344.24	53.00%	-182.45	161.79
CP033	CF-41P (Powder Defoamer)	LBS	58	5.42	314.36	53.00%	-166.61	147.75
CP031	Sugar	LBS	100	3.39	339.00	0.00%	0.00	339.00

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

JOB SUMMARY			PROJECT NUMBER SOK 4059	TICKET DATE 08/13/14
COUNTY Harper	State Kansas	COMPANY Sandridge Exploration & Production	CUSTOMER REP Vince Brown	
LEASE NAME Alice 3306	Well No. 1-12H	JOB TYPE Intermediate	EMPLOYEE NAME Arthur Setzer	

EMP NAME	Arthur Setzer	0					
Jared Green							
Frank Reeves							
David Settlemier							

Form. Name _____ Type: _____
Packer Type _____ Set At **0**
Bottom Hole Temp. **155** Pressure _____
Retainer Depth _____ Total Depth **5532**

Date	Called Out 8/12/2014	On Location 8/12/2014	Job Started 8/13/2014	Job Completed 8/13/2014
Time	1800	2200	0642	0900

Tools and Accessories

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float V ₂	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		26#	7"		Surface	5,449	5,000
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			8 1/2"		Surface	5,532	Shots/Ft.
Perforations							
Perforations							

Materials

Mud Type	WBM	Density	9	Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33	Lb/Gal
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	
8/12	2.0	8/13	2.0	Intermediate
8/13	9.0			
Total		11.0	Total	
			2.0	

Perfpac Balls _____ Qty. _____
Other _____
Other _____
Other _____
Other _____

Pressures

MAX	5,000 PSI	AVG.	1250
MAX	8 BPM	Average Rates in BPM	AVG 8
Feet	85	Cement Left in Pipe	Reason SHOE JOINT

Cement Data

Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
1	265	50/50 POZ PREMIUM	4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.2% C-20 - 0.1% C-37 - 0.4% C-41P	6.93	1.43	13.60
2	120	Premium	0.2% FL-17 - 0.1% C-51 - 0.1% C-20 - 0.4% C-41P	5.19	1.19	15.60
3	0	0		0	0.00	0.00

Summary

Preflush Breakdown	Type: _____	MAXIMUM _____	5,000 PSI	Preflush: BBI _____	30.00	Type: _____	Gel Spacer
	Lost Returns-l	NO/FULL		Load & Bkdn: Gal - BBI	N/A	Pad:Bbl -Gal	N/A
	Actual TOC	2,125		Excess /Return BBI	N/A	Calc.Disp Bbl	205
Average	Bump Plug PSI:	1,900		Calc. TOC:	2,125	Actual Disp.	205.00
ISIP _____	5 Min. _____	10 Min. _____	15 Min. _____	Final Circ. PSI:	1,250	Disp:Bbl	205.00
				Cement Slurry BBI	92.0		
				Total Volume BBI	327.00		

CUSTOMER REPRESENTATIVE _____ SIGNATURE _____

STAGE 1								
P-Sleeve @ 9,089'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	70	12189	290					4.1
Slickwater	70	9200	219	40/70	0.25	Garnet	2300	3.1
Slickwater	70	2300	55	40/70	0.50	Garnet	1150	0.8
Slickwater	70	3150	75					1.1
Slickwater	70	6900	164	40/70	0.50	Genoa	3450	2.3
Slickwater	70	3150	75					1.1
Slickwater	70	9067	216	40/70	0.75	Genoa	6800	3.1
Slickwater	70	3150	75					1.1
Slickwater	70	5700	136	40/70	1.00	Genoa	5700	1.9
Slickwater	70	3150	75					1.1
Slickwater	70	3400	81	40/70	1.00	Garnet	3400	1.2
Slickwater	70	8017	191					2.7
TOTAL		70,123	1,670				22,800	24.5

STAGE 2								
Port @ 8,989'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	70	15389	366					5.2
Slickwater	70	11600	276	40/70	0.25	Garnet	2900	3.9
Slickwater	70	2900	69	40/70	0.50	Garnet	1450	1.0
Slickwater	70	3150	75					1.1
Slickwater	70	8700	207	40/70	0.50	Genoa	4350	3.0
Slickwater	70	3150	75					1.1
Slickwater	70	11467	273	40/70	0.75	Genoa	8600	3.9
Slickwater	70	3150	75					1.1
Slickwater	70	7200	171	40/70	1.00	Genoa	7200	2.4
Slickwater	70	3150	75					1.1
Slickwater	70	4300	102	40/70	1.00	Garnet	4300	1.5
Slickwater	70	7952	189					2.7
TOTAL		82,858	1,973				28,800	28.8

STAGE 3								
Port @ 8,845'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	80	10667	254					3.2
Slickwater	80	8000	190	40/70	0.25	Garnet	2000	2.4
Slickwater	80	2000	48	40/70	0.50	Garnet	1000	0.6
Slickwater	80	3150	75					0.9
Slickwater	80	6000	143	40/70	0.50	Genoa	3000	1.8
Slickwater	80	3150	75					0.9
Slickwater	80	8000	190	40/70	0.75	Genoa	6000	2.4
Slickwater	80	3150	75					0.9
Slickwater	80	5000	119	40/70	1.00	Genoa	5000	1.5
Slickwater	80	3150	75					0.9
Slickwater	80	3000	71	40/70	1.00	Garnet	3000	0.9
Slickwater	80	7858	187					2.3
TOTAL		63,875	1,521				20,000	19.7

STAGE 4								
Port @ 8,749 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	80	15111	360					4.5
Slickwater	80	11200	267	40/70	0.25	Garnet	2800	3.3
Slickwater	80	2850	68	40/70	0.50	Garnet	1425	0.8
Slickwater	80	3150	75					0.9
Slickwater	80	8550	204	40/70	0.50	Genoa	4275	2.5
Slickwater	80	3150	75					0.9
Slickwater	80	11333	270	40/70	0.75	Genoa	8500	3.4
Slickwater	80	3150	75					0.9
Slickwater	80	7100	169	40/70	1.00	Genoa	7100	2.1
Slickwater	80	3150	75					0.9
Slickwater	80	4300	102	40/70	1.00	Garnet	4300	1.3
Slickwater	80	7796	186					2.3
TOTAL		81,590	1,943				28,400	25.0

STAGE 5								
Port @ 8,603 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	90	10489	250					2.8
Slickwater	90	8000	190	40/70	0.25	Garnet	2000	2.1
Slickwater	90	1950	46	40/70	0.50	Garnet	975	0.5
Slickwater	90	3150	75					0.8
Slickwater	90	5850	139	40/70	0.50	Genoa	2925	1.5
Slickwater	90	3150	75					0.8
Slickwater	90	7867	187	40/70	0.75	Genoa	5900	2.1
Slickwater	90	3150	75					0.8
Slickwater	90	4900	117	40/70	1.00	Genoa	4900	1.3
Slickwater	90	3150	75					0.8
Slickwater	90	2900	69	40/70	1.00	Garnet	2900	0.8
Slickwater	90	7701	183					2.0
TOTAL		63,007	1,500				19,600	17.4

STAGE 7								
Port @ 8,404 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	7571	180					1.8
TOTAL		63,588	1,514				20,000	15.9

STAGE 6								
Port @ 8,504 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	90	10667	254					2.8
Slickwater	90	8000	190	40/70	0.25	Garnet	2000	2.1
Slickwater	90	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	90	3150	75					0.8
Slickwater	90	6000	143	40/70	0.50	Genoa	3000	1.6
Slickwater	90	3150	75					0.8
Slickwater	90	8000	190	40/70	0.75	Genoa	6000	2.1
Slickwater	90	3150	75					0.8
Slickwater	90	5000	119	40/70	1.00	Genoa	5000	1.3
Slickwater	90	3150	75					0.8
Slickwater	90	3000	71	40/70	1.00	Garnet	3000	0.8
Slickwater	90	7636	182					2.0
TOTAL		63,653	1,516				20,000	17.5

STAGE 8								
Port @ 8,305 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15544	370					3.7
Slickwater	100	11600	276	40/70	0.25	Garnet	2900	2.8
Slickwater	100	2900	69	40/70	0.50	Garnet	1450	0.7
Slickwater	100	3150	75					0.8
Slickwater	100	8700	207	40/70	0.50	Genoa	4350	2.1
Slickwater	100	3150	75					0.8
Slickwater	100	11733	279	40/70	0.75	Genoa	8800	2.8
Slickwater	100	3150	75					0.8
Slickwater	100	7300	174	40/70	1.00	Genoa	7300	1.7
Slickwater	100	3150	75					0.8
Slickwater	100	4400	105	40/70	1.00	Garnet	4400	1.0
Slickwater	100	7507	179					1.8
TOTAL		83,034	1,977				29,200	20.5

STAGE 9								
Port @ 8,159'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	7412	176					1.8
TOTAL		63,429	1,510				20,000	15.8

STAGE 10								
Port @ 8,063'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10167	242					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7600	181	40/70	0.75	Genoa	5700	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4800	114	40/70	1.00	Genoa	4800	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	7349	175					1.7
TOTAL		61,366	1,461				19,100	15.3

STAGE 11								
Port @ 7,963 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	7284	173					1.7
TOTAL		63,301	1,507				20,000	15.8

STAGE 12								
Port @ 7,868 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15111	360					3.6
Slickwater	100	11200	267	40/70	0.25	Garnet	2800	2.7
Slickwater	100	2850	68	40/70	0.50	Garnet	1425	0.7
Slickwater	100	3150	75					0.8
Slickwater	100	8550	204	40/70	0.50	Genoa	4275	2.0
Slickwater	100	3150	75					0.8
Slickwater	100	11333	270	40/70	0.75	Genoa	8500	2.7
Slickwater	100	3150	75					0.8
Slickwater	100	7100	169	40/70	1.00	Genoa	7100	1.7
Slickwater	100	3150	75					0.8
Slickwater	100	4300	102	40/70	1.00	Garnet	4300	1.0
Slickwater	100	7222	172					1.7
TOTAL		81,016	1,929				28,400	20.0

STAGE 13								
Port @ 7,722'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	7127	170					1.7
TOTAL		63,144	1,503				20,000	15.7

STAGE 14								
Port @ 7,625'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10211	243					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7733	184	40/70	0.75	Genoa	5800	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4800	114	40/70	1.00	Genoa	4800	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	7064	168					1.7
TOTAL		61,258	1,459				19,200	15.3

STAGE 15								
Port @ 7,525'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6999	167					1.7
TOTAL		63,016	1,500				20,000	15.7

STAGE 16								
Port @ 7,426'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10622	253					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7867	187	40/70	0.75	Genoa	5900	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6934	165					1.7
TOTAL		62,773	1,495				19,900	15.7

STAGE 17								
Port @ 7,328 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10311	246					2.5
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1950	46	40/70	0.50	Garnet	975	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5850	139	40/70	0.50	Genoa	2925	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7733	184	40/70	0.75	Genoa	5800	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4900	117	40/70	1.00	Genoa	4900	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	6871	164					1.6
TOTAL		61,465	1,463				19,400	15.3

STAGE 18								
Port @ 7,235 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	9678	230					2.3
Slickwater	100	7200	171	40/70	0.25	Garnet	1800	1.7
Slickwater	100	1800	43	40/70	0.50	Garnet	900	0.4
Slickwater	100	3150	75					0.8
Slickwater	100	5400	129	40/70	0.50	Genoa	2700	1.3
Slickwater	100	3150	75					0.8
Slickwater	100	7333	175	40/70	0.75	Genoa	5500	1.7
Slickwater	100	3150	75					0.8
Slickwater	100	4600	110	40/70	1.00	Genoa	4600	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2700	64	40/70	1.00	Garnet	2700	0.6
Slickwater	100	6810	162					1.6
TOTAL		58,871	1,402				18,200	14.7

STAGE 19								
Port @ 7,139'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10167	242					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7600	181	40/70	0.75	Genoa	5700	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4800	114	40/70	1.00	Genoa	4800	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	6747	161					1.6
TOTAL		60,764	1,447				19,100	15.2

STAGE 20								
Port @ 7,044'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15544	370					3.7
Slickwater	100	11600	276	40/70	0.25	Garnet	2900	2.8
Slickwater	100	2900	69	40/70	0.50	Garnet	1450	0.7
Slickwater	100	4500	107					1.1
Slickwater	100	8700	207	40/70	0.50	Genoa	4350	2.1
Slickwater	100	4500	107					1.1
Slickwater	100	11733	279	40/70	0.75	Genoa	8800	2.8
Slickwater	100	4500	107					1.1
Slickwater	100	7300	174	40/70	1.00	Genoa	7300	1.7
Slickwater	100	4500	107					1.1
Slickwater	100	4400	105	40/70	1.00	Garnet	4400	1.0
Slickwater	100	6686	159					1.6
TOTAL		87,613	2,086				29,200	21.6

STAGE 21								
Port @ 6,898 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6591	157					1.6
TOTAL		62,608	1,491				20,000	15.6

STAGE 22								
Port @ 6,803 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10167	242					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7600	181	40/70	0.75	Genoa	5700	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4800	114	40/70	1.00	Genoa	4800	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	6529	155					1.6
TOTAL		60,546	1,442				19,100	15.1

STAGE 23								
Port @ 6,703 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6464	154					1.5
TOTAL		62,481	1,488				20,000	15.6

STAGE 24								
Port @ 6,603 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10311	246					2.5
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1950	46	40/70	0.50	Garnet	975	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5850	139	40/70	0.50	Genoa	2925	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7733	184	40/70	0.75	Genoa	5800	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4900	117	40/70	1.00	Genoa	4900	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	6399	152					1.5
TOTAL		60,993	1,452				19,400	15.2

STAGE 25								
Port @ 6,509 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10211	243					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7733	184	40/70	0.75	Genoa	5800	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4800	114	40/70	1.00	Genoa	4800	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2900	69	40/70	1.00	Garnet	2900	0.7
Slickwater	100	6337	151					1.5
TOTAL		60,531	1,441				19,200	15.1

STAGE 26								
Port @ 6,409 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10744	256					2.6
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8133	194	40/70	0.75	Genoa	6100	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6272	149					1.5
TOTAL		62,599	1,490				20,200	15.6

STAGE 27								
Port @ 6,309 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6207	148					1.5
TOTAL		62,224	1,482				20,000	15.5

STAGE 28								
Port @ 6,208 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10744	256					2.6
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8133	194	40/70	0.75	Genoa	6100	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6141	146					1.5
TOTAL		62,468	1,487				20,200	15.6

STAGE 29								
Port @ 6,107 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10744	256					2.6
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8133	194	40/70	0.75	Genoa	6100	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6076	145					1.4
TOTAL		62,403	1,486				20,200	15.6

STAGE 30								
Port @ 6,006 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10744	256					2.6
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8133	194	40/70	0.75	Genoa	6100	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	6010	143					1.4
TOTAL		62,337	1,484				20,200	15.6

STAGE 31								
Port @ 5,906 '								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10744	256					2.6
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8133	194	40/70	0.75	Genoa	6100	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5100	121	40/70	1.00	Genoa	5100	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	5945	142					1.4
TOTAL		62,272	1,483				20,200	15.5

STAGE 32								
Port @ 5,805'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10667	254					2.5
Slickwater	100	8000	190	40/70	0.25	Garnet	2000	1.9
Slickwater	100	2000	48	40/70	0.50	Garnet	1000	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6000	143	40/70	0.50	Genoa	3000	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	8000	190	40/70	0.75	Genoa	6000	1.9
Slickwater	100	3150	75					0.8
Slickwater	100	5000	119	40/70	1.00	Genoa	5000	1.2
Slickwater	100	3150	75					0.8
Slickwater	100	3000	71	40/70	1.00	Garnet	3000	0.7
Slickwater	100	5879	140					1.4
TOTAL		61,896	1,474				20,000	15.5

STAGE 33								
Port @ 5,711'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10056	239					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7467	178	40/70	0.75	Genoa	5600	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4700	112	40/70	1.00	Genoa	4700	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2800	67	40/70	1.00	Garnet	2800	0.7
Slickwater	100	5818	139					1.4
TOTAL		59,391	1,414				18,800	14.9

STAGE 33								
Port @ 5,711'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	10056	239					2.4
Slickwater	100	7600	181	40/70	0.25	Garnet	1900	1.8
Slickwater	100	1900	45	40/70	0.50	Garnet	950	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	5700	136	40/70	0.50	Genoa	2850	1.4
Slickwater	100	3150	75					0.8
Slickwater	100	7467	178	40/70	0.75	Genoa	5600	1.8
Slickwater	100	3150	75					0.8
Slickwater	100	4700	112	40/70	1.00	Genoa	4700	1.1
Slickwater	100	3150	75					0.8
Slickwater	100	2800	67	40/70	1.00	Garnet	2800	0.7
Slickwater	100	5818	139					1.4
TOTAL		59,391	1,414				18,800	14.9

STAGE 35								
Port @ 5,510'								
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop type	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	11556	275					2.8
Slickwater	100	8800	210	40/70	0.25	Garnet	2200	2.1
Slickwater	100	2150	51	40/70	0.50	Garnet	1075	0.5
Slickwater	100	3150	75					0.8
Slickwater	100	6450	154	40/70	0.50	Genoa	3225	1.5
Slickwater	100	3150	75					0.8
Slickwater	100	8667	206	40/70	0.75	Genoa	6500	2.1
Slickwater	100	3150	75					0.8
Slickwater	100	5400	129	40/70	1.00	Genoa	5400	1.3
Slickwater	100	3150	75					0.8
Slickwater	100	3200	76	40/70	1.00	Garnet	3200	0.8
Slickwater	100	5687	135					1.4
TOTAL		65,260	1,554				21,600	16.3

STAGE 36							
Top perf @ 4,968'							
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	1500	36				1.8
Slickwater	60	168000	4000				66.7
TOTAL		169,500	4,036				68.5

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	250	5046	1500	3768
BHL	9152	90.30	180.80	4405.58	-4742.27	-1011.52	4848.93	0.00	4967	332	439	4848
Miss Entry	4920	72.25	180.89	4369.63	-516.04	-997.03	710.54	7.63	741	4558	497	4772
Top Perf	4968	76.06	180.09	4382.57	-562.24	-997.49	755.84	8.29	787	4512	496	4774
Bottom Perf	9152	90.30	180.80	4405.58	-4742.27	-1011.52	4848.93	0.00	4967	332	439	4848

Survey Points		X	Y	Surface XY		X	Y	m				
NW Corner XY Coord		2166074	193442					North Line slope	0.0252612			
SW Corner XY Coord		2166129	188143					East Line slope	-0.0143858			
NE Corner XY Coord		2171339	193575					South Line slope	0.0281877			
SE Corner XY Coord		2171415	188292					West Line slope	-0.0103793			

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	250	5046	1500	3768
685	0.9	51.9	684.97	3.32	4.23	-4.12	0.13	247	5049	1504	3764
1138	1.2	137.4	1137.92	2.02	10.24	-4.09	0.32	248	5048	1510	3758
1229	1.9	274.1	1228.90	1.43	9.38	-3.33	3.18	249	5047	1509	3759
1324	5.4	287.7	1323.70	2.90	3.55	-3.57	3.77	247	5049	1503	3764
1418	5.4	284.8	1417.28	5.38	-4.94	-4.24	0.29	244	5052	1495	3773
1512	5.2	281.8	1510.88	7.38	-13.38	-4.46	0.36	242	5054	1486	3781
1606	4.8	278.1	1604.52	8.80	-21.45	-4.19	0.55	241	5056	1478	3789
1701	7.5	283.3	1698.97	10.79	-31.42	-4.08	2.90	238	5058	1468	3799
1796	10.1	288	1792.84	14.79	-45.38	-5.12	2.84	234	5062	1455	3813
1890	13.1	289.6	1884.91	20.91	-63.25	-7.42	3.21	227	5069	1437	3831
1984	15.3	286.5	1976.03	28.01	-85.18	-9.84	2.48	220	5077	1415	3853
2079	18	282.3	2067.05	34.70	-111.55	-10.95	3.11	212	5084	1389	3879
2173	18.6	283.2	2156.29	41.21	-140.33	-11.39	0.71	205	5091	1360	3908
2268	20	285.2	2245.95	48.93	-170.76	-12.67	1.63	197	5100	1330	3938
2363	21.5	286.4	2334.79	58.11	-203.14	-14.97	1.64	187	5110	1297	3970
2457	22.4	284.5	2421.97	67.46	-237.01	-17.14	1.22	176	5120	1263	4004
2552	25.2	284.3	2508.89	76.99	-274.14	-18.80	2.95	166	5131	1226	4041
2646	28.1	284.7	2592.89	87.55	-314.95	-20.72	3.09	154	5143	1186	4082
2741	26	283.2	2677.49	97.98	-356.87	-22.29	2.32	143	5154	1144	4123
2836	25.1	283.3	2763.20	107.37	-396.75	-23.25	0.95	133	5165	1104	4163
2931	25.1	283.7	2849.23	116.78	-435.94	-24.38	0.18	122	5175	1065	4202
3026	27.2	288.9	2934.52	128.59	-476.07	-27.66	3.27	109	5188	1025	4242
3121	29.1	286	3018.28	141.99	-518.82	-31.96	2.46	95	5203	982	4285
3216	24.8	283.2	3102.95	152.91	-560.44	-34.06	4.72	83	5215	941	4326
3311	25.6	281.3	3188.90	161.49	-599.97	-34.30	1.20	73	5225	902	4366
3406	27.7	281.3	3273.81	169.83	-641.75	-33.85	2.21	64	5234	860	4407
3501	26	283.7	3358.56	179.09	-683.64	-34.28	2.12	54	5245	818	4449
3596	24.9	279.6	3415.45	184.58	-710.13	-34.18	3.30	47	5251	792	4475
3691	24.6	278.6	3444.52	186.70	-723.36	-33.52	1.61	45	5253	778	4489
3627	23.6	277.1	3472.81	188.43	-735.90	-32.63	3.78	43	5255	766	4501
3659	25	276.7	3501.98	190.01	-748.97	-31.48	4.41	41	5257	753	4514
3691	27.2	275.9	3530.71	191.55	-762.97	-30.11	6.96	39	5259	739	4528
3723	28.9	274.6	3558.95	192.92	-777.95	-28.36	5.65	37	5261	724	4543
3754	29.9	270.3	3585.96	193.56	-793.14	-25.85	7.53	36	5262	709	4558
3786	30.3	265	3613.85	192.90	-809.17	-21.90	8.40	37	5262	693	4574
3817	30.7	259.5	3640.37	190.78	-824.74	-16.61	9.09	38	5260	677	4590
3849	30.2	253.7	3667.96	187.03	-840.50	-9.69	9.31	42	5257	661	4606
3881	29.7	248.2	3695.69	181.82	-855.59	-1.49	8.72	47	5252	646	4621
3912	29.4	242.3	3722.67	175.43	-869.46	7.62	9.43	53	5246	632	4635
3944	28.8	236.8	3750.63	167.56	-882.87	18.09	8.56	60	5239	619	4648
3975	29	231.5	3777.78	158.79	-895.00	29.17	8.29	69	5230	606	4661
4007	29.9	225.8	3805.65	148.40	-906.79	41.77	9.19	79	5220	595	4673
4038	30.8	219.7	3832.40	136.91	-917.40	55.21	10.35	90	5209	584	4683
4070	31	217.9	3859.86	124.10	-927.69	69.86	2.96	102	5196	573	4694
4101	30.5	212.9	3886.51	111.19	-936.87	84.38	8.40	115	5184	564	4703
4133	30.5	207.9	3914.09	97.20	-945.09	99.77	7.93	129	5170	556	4712
4164	31.3	203.5	3940.69	82.86	-951.98	115.23	7.73	143	5156	549	4719
4196	33.1	199.2	3967.77	66.98	-958.17	132.04	9.10	159	5140	542	4725
4228	34.8	196.2	3994.32	49.95	-963.59	149.81	7.46	176	5123	537	4731
4260	35.8	193.3	4020.43	32.08	-968.29	168.28	6.10	193	5106	532	4736
4291	38	192.5	4045.22	13.93	-972.44	186.89	7.26	211	5088	528	4740
4323	41.1	191.7	4069.89	-5.99	-976.71	207.26	9.82	231	5068	523	4745
4354	44.8	191	4092.58	-26.69	-980.86	228.38	12.03	252	5047	519	4749
4386	49	189.1	4114.44	-49.70	-984.92	251.72	13.82	275	5024	514	4754
4418	52.3	186.3	4134.73	-74.21	-988.22	276.39	12.33	299	5000	511	4757
4450	55.6	184.8	4153.56	-99.96	-990.72	302.10	10.99	325	4974	508	4760
4481	59	183.5	4170.31	-125.97	-992.60	327.94	11.52	351	4948	506	4762
4513	61.1	182.1	4186.28	-153.66	-993.95	355.32	7.58	378	4921	504	4764
4544	61.4	181.7	4201.19	-180.83	-994.85	382.08	1.49	406	4893	503	4765
4639	60.4	180.4	4247.39	-263.82	-996.38	463.61	1.59	489	4810	501	4768
4670	60.2	180.1	4262.75	-290.75	-996.50	489.98	1.06	516	4784	500	4769
4702	59.8	179.5	4278.75	-318.46	-996.40	517.08	2.05	543	4756	500	4769
4733	59.8	179.1	4294.35	-345.25	-996.07	543.22	1.12	570	4729	500	4769
4765	61.9	179.8	4309.93	-373.19	-995.81	570.51	6.83	598	4701	500	4769
4796	64.7	180.1	4323.86	-400.88	-995.78	597.60	9.07	626	4673	500	4770
4828	66.9	180.6	4336.98	-430.07	-995.96	626.20	7.02	655	4644	499	4770

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
4859	68.1	180.6	4348.84	-458.71	-996.26	654.28	3.87	683	4616	499	4771
4891	70	180.8	4360.28	-488.59	-996.63	683.60	5.97	713	4586	498	4772
4922	72.4	180.9	4370.27	-517.93	-997.06	712.40	7.75	743	4556	497	4772
4954	75.1	180.7	4379.23	-548.65	-997.49	742.54	8.46	773	4526	497	4773
4986	77.3	179.3	4386.86	-579.72	-997.49	772.95	8.08	804	4495	496	4774
5017	78.9	179.5	4393.25	-610.05	-997.17	802.56	5.20	835	4464	496	4774
5049	81.6	179.8	4398.67	-641.58	-998.98	833.38	8.49	866	4433	496	4774
5081	84.4	179.6	4402.57	-673.34	-996.81	864.42	8.77	898	4401	496	4774
5113	86.5	180.4	4405.11	-705.24	-996.81	895.63	7.02	930	4369	496	4775
5207	87.7	181.9	4409.86	-799.10	-988.70	987.86	2.04	1024	4275	493	4776
5302	88.1	181.5	4413.34	-893.99	-1001.51	1081.29	0.60	1119	4180	489	4782
5397	88.5	181.4	4416.16	-988.92	-1003.92	1174.68	0.43	1213	4086	486	4786
5437	88.8	182.2	4417.11	-1028.89	-1005.17	1214.04	2.14	1253	4046	484	4788
5474	88.9	182.1	4417.85	-1065.85	-1006.56	1250.50	0.38	1290	4009	482	4790
5504	89.5	181.5	4418.27	-1095.83	-1007.50	1280.03	2.83	1320	3979	481	4791
5565	89.7	181.4	4418.69	-1156.81	-1009.05	1340.02	0.37	1381	3918	479	4794
5656	90.8	180.9	4418.30	-1247.79	-1010.87	1429.42	1.33	1472	3827	476	4797
5748	89.4	180	4418.13	-1339.79	-1011.60	1519.59	1.81	1564	3735	474	4799
5839	89.7	180.4	4418.85	-1430.78	-1011.91	1608.69	0.55	1655	3644	473	4800
5930	88.3	179.8	4420.44	-1521.77	-1012.07	1697.75	1.67	1746	3553	472	4802
6022	89.9	180.2	4421.88	-1613.75	-1012.07	1787.76	1.79	1838	3461	471	4803
6113	89.1	179.4	4422.68	-1704.75	-1011.75	1876.74	1.24	1929	3370	470	4804
6204	90	178.1	4423.39	-1795.72	-1009.77	1965.35	1.74	2020	3279	471	4804
6294	89.9	177.6	4423.47	-1885.65	-1006.39	2052.65	0.57	2110	3189	474	4801
6385	89.9	178	4423.63	-1976.59	-1002.90	2140.91	0.44	2201	3098	476	4799
6476	90.4	179.3	4423.39	-2067.56	-1000.76	2229.49	1.53	2292	3007	478	4798
6567	88.6	180.4	4424.18	-2158.55	-1000.52	2318.47	2.32	2383	2916	477	4800
6657	89.7	180.6	4425.52	-2248.54	-1001.30	2406.69	1.24	2473	2826	475	4802
6753	88.9	179.4	4426.69	-2344.53	-1001.30	2500.61	1.50	2569	2730	474	4803
6848	90.5	179.8	4427.19	-2439.52	-1000.64	2593.43	1.74	2664	2635	474	4804
6944	90.9	179.3	4426.02	-2535.51	-999.89	2687.20	0.67	2760	2539	474	4804
7039	90.1	178.7	4425.19	-2630.49	-998.23	2779.80	1.05	2855	2444	474	4804
7133	91.2	179.1	4424.12	-2724.46	-996.42	2871.38	1.25	2949	2350	475	4804
7228	90.7	178.8	4422.55	-2819.43	-994.66	2963.95	0.61	3044	2255	476	4803
7323	90.9	178	4421.22	-2914.39	-992.03	3056.32	0.87	3139	2160	478	4802
7417	90.5	178	4420.07	-3008.32	-988.75	3147.56	0.43	3233	2066	480	4800
7512	91	178.9	4418.83	-3103.28	-986.18	3239.94	1.08	3328	1971	481	4799
7606	89.4	177.4	4418.50	-3197.22	-983.15	3331.24	2.33	3422	1877	483	4797
7700	90.1	177.9	4418.91	-3291.14	-979.29	3422.35	0.92	3516	1783	486	4795
7795	90.3	179.9	4418.58	-3386.12	-977.47	3514.91	2.12	3611	1688	487	4794
7889	90.5	181.1	4417.92	-3480.11	-978.29	3607.05	1.29	3705	1594	485	4796
7983	90.6	180.5	4417.02	-3574.10	-979.60	3699.29	0.65	3799	1500	483	4799
8077	88.6	180.6	4417.68	-3668.09	-980.50	3791.44	2.13	3893	1406	481	4801
8171	88.6	180.7	4419.97	-3762.05	-981.57	3883.61	0.11	3987	1312	479	4804
8266	89.3	182.2	4421.71	-3857.00	-983.97	3977.01	1.74	4082	1217	476	4807
8355	90.40	181.90	4421.95	-3945.94	-987.16	4064.70	1.28	4171	1128	472	4812
8386	91.20	182.50	4421.51	-3976.92	-988.35	4095.25	3.23	4202	1097	470	4814
8481	92.00	182.00	4418.86	-4071.81	-992.07	4188.87	0.99	4297	1002	465	4819
8575	92.50	182.30	4415.17	-4165.67	-995.60	4281.44	0.62	4390	909	461	4823
8670	92.40	181.80	4411.11	-4260.52	-998.99	4374.95	0.54	4485	814	457	4828
8764	91.50	182.40	4407.91	-4354	-1002	4467.53	1.15	4579	720	452	4833
8827	90.70	181.50	4406.70	-4417	-1005	4529.57	1.91	4642	657	449	4836
8859	90.90	181.40	4406.26	-4449	-1005	4561.03	0.70	4674	625	448	4837
8891	90.50	181.30	4405.86	-4481	-1006	4592.49	1.29	4706	593	447	4839
8954	89.80	181.40	4405.70	-4544	-1008	4654.42	1.12	4769	530	445	4841
9048	89.90	181.30	4405.95	-4638	-1010	4746.83	0.15	4863	436	442	4845
9099	90.30	180.80	4405.86	-4689	-1011	4796.92	1.26	4914	385	440	4846
9152	90.30	180.80	4405.58	-4742	-1012	4848.93	0.00	4967	332	439	4848

* ALICE 3306 2-12H Section 1
 * STEWART 3306 2-1H 33S 6W * STEWART 3306 3-1H

ALICE 3306 1-12H

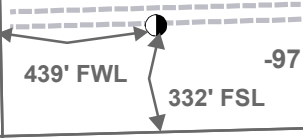
Miss Entry: 4920'
 -97.928466 37.194487
 Top Perf: 4968'
 -97.928464 37.194361

Section 12
 33S 6W
 Harper County

Section 11
 33S 6W

Bottom Perf: 9089'
 -97.928221 37.183138

BHL: 9152'
 -97.928219 37.182993



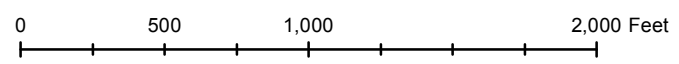
Section 14
 33S 6W

Section 13
 33S 6W



Actual Bottom-Hole Location of Alice 3306 1-12H
 T&R: 33S 6W
 Section: 12, 439' FWL & 332' FSL
 -97.928219 37.182993

1 in = 667 ft



- Actual BH Location
- SandRidge Wells
- Perf
- Sections

Draftsman: Dory Deines	Draft Date: 11/13/2014
Drawing Name/Number: Addendum_Alice 3306 1-12H.mxd	
Coordinate System: NAD 1927 State Plane Kansas South FIPS: 1502	

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/12/2014
Job End Date:	9/13/2014
State:	Kansas
County:	Harper
API Number:	15-077-22081-01-00
Operator Name:	SandRidge Energy
Well Name and Number:	Alice 3306 #1-12H
Longitude:	-97.92471089
Latitude:	37.19592436
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,429
Total Base Water Volume (gal):	2,625,504
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	95.21242	None
40/70 Premium Preferred Sand	CAF	Proppant, Scouring, Fill	Crystalline Silica (quartz)	14808-60-7	100.00000	2.25522	None
15% Uninhibited HCl Acid	CAF	Etching, Dissolving, Cleaning	Water	7732-18-5	85.00000	0.96096	None
			Hydrochloric Acid	7647-01-0	15.00000	0.16958	None
			Water	7732-18-5	24.00000	0.00022	None
			Methanol	67-56-1	9.00000	0.00008	None
			Triethyl Phosphate	78-40-0	8.40000	0.00008	None
			Isopropyl Alcohol	67-63-0	8.40000	0.00008	None
			N-Dimethylformamide	68-12-2	8.40000	0.00008	None
			Tar Bases-quinoline derivs-benzyl chloride/quaternized	72480-70-7	8.40000	0.00008	None
			Ethylene Glycol	107-21-1	8.40000	0.00008	None
			2-Butoxyethanol	111-76-2	8.40000	0.00008	None
			Ethoxylated Nonylphenol	68412-54-4	8.40000	0.00008	None
			Cinnamaldehyde	104-55-2	8.40000	0.00008	None

40/70 Resin Coated Sand	CAF	Proppant, Scouring, Fill					
			Crystalline Silica (quartz)	14808-60-7	97.00000	0.97997	None
C102	Bosque Disposal Systems, LLC	Oxidizer					
			Chlorine Dioxide	10049-04-4	15.00000	0.26648	
Iron Control, Sodium Erythorbate	CAF	Iron Control					
			Water	7732-18-5	55.50000	0.02382	None
			Methanol	67-56-1	12.70000	0.00547	None
			Poly(ethylene Oxide)	25322-68-3	9.10000	0.00391	None
			Dinanylphenyl Polyoxyethylene	201602-88-2	9.10000	0.00391	None
			Nonylphenal Polyethylene Glycol Ether	127087-87-0	9.10000	0.00391	None
			Isopropanol	67-63-0	4.60000	0.00195	None
			Sodium Erythorbate	6381-77-7	100.00000	0.00038	None
			Water	7732-18-5	54.50000	0.00028	None
			Polyglycol Ethers	52624-57-4	13.60000	0.00007	None
			Isopropanol	67-63-0	13.60000	0.00007	None
			Glycol Ether EB	111-76-2	9.00000	0.00005	None
			Methanol	67-56-1	9.00000	0.00005	None
FR-986, Cationic Friction Reducer	CAF	Friction Reducer					
			Water	7732-18-5	50.00000	0.00448	None
			Petroleum Hydrotreated Light Distillate	64742-47-8	2.50000	0.00178	None
			Phosphoric Acid	7664-38-2	16.80000	0.00151	None
			Hydrochloric Acid	7647-01-0	16.80000	0.00151	None
			Ethylene Glycol	107-21-1	12.70000	0.00114	None
			Methanol	67-56-1	3.60000	0.00033	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)