

Confidentiality Requested:

Yes No

Kansas Corporation Commission Oil & Gas Conservation Division

1225704

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 #			API No. 15		
Name:			Spot Description:		
Address 1:			Sec	TwpS. R	East West
Address 2:			F6	eet from North /	South Line of Section
City:	State: Z	ip:+	Fe	eet from East /	West Line of Section
Contact Person:			Footages Calculated from I	Nearest Outside Section C	Corner:
Phone: ()			□ NE □ NW	V □SE □SW	
CONTRACTOR: License #			GPS Location: Lat:	, Long: _	
Name:				(e.g. xx.xxxxx)	(e.gxxx.xxxxx)
Wellsite Geologist:			Datum: NAD27	NAD83 WGS84	
Purchaser:			County:		
Designate Type of Completion:			Lease Name:	W	/ell #:
	e-Entry	Workover	Field Name:		
	_		Producing Formation:		
☐ Oil ☐ WSW ☐ D&A	☐ SWD	∐ SIOW □ SIGW	Elevation: Ground:	Kelly Bushing:	:
	GSW	Temp. Abd.	Total Vertical Depth:	Plug Back Total C	Depth:
CM (Coal Bed Methane)	dow	Temp. Abd.	Amount of Surface Pipe Se	et and Cemented at:	Feet
☐ Cathodic ☐ Other (Co	ore, Expl., etc.):		Multiple Stage Cementing	Collar Used? Yes	No
If Workover/Re-entry: Old Well I			If yes, show depth set:		Feet
Operator:			If Alternate II completion, c	cement circulated from:	
Well Name:			feet depth to:	w/	sx cmt.
Original Comp. Date:					
Deepening Re-perf	•	NHR Conv. to SWD	Drilling Fluid Managemer	nt Plan	
☐ Plug Back	Conv. to G		(Data must be collected from the		
Commingled	Pormit #:		Chloride content:	ppm Fluid volume	e: bbls
Dual Completion			Dewatering method used: _		
SWD			Location of fluid disposal if	hauled offsite	
☐ ENHR			1		
GSW	Permit #:		Operator Name:		
_ _			Lease Name:	License #:_	
Spud Date or Date R	eached TD	Completion Date or	Quarter Sec	TwpS. R	East _ West
Recompletion Date		Recompletion Date	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 Approved by: Date:



Operator Name:			Lease Name: _			Well #:		
Sec Twp	S. R	East West	County:					
open and closed, flow	ing and shut-in pressu	ormations penetrated. Eures, whether shut-in preith final chart(s). Attach	essure reached stati	c level, hydrosta	atic pressures, bott			
		tain Geophysical Data a r newer AND an image		gs must be ema	ailed to kcc-well-lo	gs@kcc.ks.go	v. Digital electronic log	
Drill Stem Tests Taken (Attach Additional S		Yes No			on (Top), Depth an		Sample	
Samples Sent to Geol	logical Survey	☐ Yes ☐ No	Nam	е		Тор	Datum	
Cores Taken Electric Log Run		Yes No						
List All E. Logs Run:								
		CASING	RECORD Ne	w Used				
		Report all strings set-			ion, 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 / SQL	JEEZE RECORD				
Purpose: Perforate Protect Casing Plug Back TD	Depth Top Bottom	Type of Cement	# Sacks Used	Sed Type and Percent Additives				
Plug Off Zone								
Does the volume of the to		n this well? aulic fracturing treatment ex submitted to the chemical (_	Yes ? Yes Yes	No (If No, ski	p questions 2 ar p question 3) out Page Three		
Shots Per Foot	PERFORATIO	N RECORD - Bridge Plug	s Set/Type		cture, Shot, Cement			
	Specify Fo	ootage of Each Interval Per	forated	(A	mount and Kind of Ma	terial Used)	Depth	
TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run:	Yes No			
Date of First, Resumed	Production, SWD or ENH	IR. Producing Meth		Gas Lift (Other (Explain)			
Estimated Production Per 24 Hours	Oil B	bls. Gas	Mcf Wate	er B	bls. G	as-Oil Ratio	Gravity	
DISPOSITIO	ON OF GAS:	Open Hole	METHOD OF COMPLE Perf. Dually (Submit A	Comp. Cor	mmingled	PRODUCTIO	ON INTERVAL:	
(If vented, Sub	omit ACO-18.)	Other (Specify)	(Submit)	100-3) (SUB	omit ACO-4)			

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Joseph 3405 2-1H
Doc ID	1225704

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Conductor	30	20	75	80	Edge Services 10 Sack Grout	8	none
Surface	12.25	9.63	36	500	Premium Plus (Class C)	365	2% Calcium Chloride, 1/4 pps Cello- Flake
Intermedia te	8.75	7	26	5375	50:50 Poz Premium, Premium, Premium Plus (Class C)	950	4% Gel, .2% FL- 17, .1% C- 51, .2% C- 20, .1% C- 37, .4% C- 41P

INVOICE



DATE	INVOICE#
6/19/2014	4873

BILL TO

SANDRIDGE ENERGY, INC. ATTN: PURCHASING MANAGER 123 ROBERT S. KERR AVENUE OKLAHOMA CITY, OK 73102 **REMIT TO**

EDGE SERVICES, INC. PO BOX 609 WOODWARD, OK 73802

COUNTY	STARTING D	WORK ORDER	RIG NUMBER	LEASE NAME	Terms
HARPER, KS	6/18/2014	3687	LARIAT 45	JOSEPH 3405 2-1H	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 WELDER AND MATERIALS
FURNISHED 8 YARDS OF 10 SACK GROUT FOR CONDUCTOR HOLE
FURNISHED 4 YARDS OF 10 SACK GROUT FOR MOUSE HOLE
DRILL MOUSE HOLE
FURNISHED 80' OF 16" CONDUCTOR PIPE

TOTAL BID \$17,000.00

Sales Tax (6.15%)

\$158.79

TOTAL

\$17,158.79

JOB SUM	MARY		PROJECT NUMBE SOK	3870	TICKET DATE	06/23/14	
COUNTY SIBILE COMPANY Harper Kansas dridge Explore		dua	CUSTOMER REP	ude Ha	llmark		
LEASE NAME Well No. JOB TYPE		duc	EMPLOYEE NAME				
Joseph 3405 2-1H Surfac	е		R	DBERT	BURRIS		
Robert Burris RJ STONEHOCKER		T T					
CODY BONITZ							
Vontray Watkins							
Randall Irvin		L					
Form. NameType:	ICa	lled Out	On Location	n I	Job Started	Hob Co	mpleted
Packer Type Set At 0	Date	6/22/2014	6/22/2		6/23/014		3/2014
Bottom Hole Temp. 80 Pressure							
Retainer Depth Tools and Accessories 517	Time	16:30	18:45 Well D		24:00	12	2:30
Type and Size Qty Make		New/Used	Weight		de From	То	Max. Allow
Auto Fill Tube 0 IR	Casing		36#	95/4"	Surface	523	1,500
Insert Float Va 0 IR	Liner						
Centralizers 0 IR Top Plug 0 IR	Liner Tubing			0			
HEAD 0 IR	Drill Pipe		 	-			
Limit clamp 0 IR	Open Hole			121/4"	Surface	517	Shots/Ft.
Weld-A 0 IR	Perforation						
Texas Pattern Guide Shoe 0 IR Cement Basket 0 IR	Perforation Perforation						
Materials	Hours On		Operating	Hours	Descri	tion of Job	
Mud Type WBM Density 9 1b/Gall	Date 6/22	Hours 5.0	Date 6/23	Hours 1.5			
Disp. Fluid Fresh Water Density 8.33 Lb/Gal Spacer type resh Wate BBL. 10 8.33	Guillace						
Spacer type Fresh Wate BBL. 10 8.33 Spacer type BBL.	6/23	12.0			—		
Acid Type Gal %							
Acid Type Gal. %							
Surfactant Gal. In Surfactant Gal. In Gal.							
Fluid Loss Gal/Lb In							
Gelling Agent Gal/Lb In							
Fric. Red.	Total	17.0	Total	1.5			
	Total	17.0	iolai	1.3			
Perfpac BallsQty.				essures			
Other	MAX	2000 PSI	AVG. Average				
Other	MAX	6 BPM		2 BF			
Other	77.0			Left in P			
Other	Feet	48 FT	Reason	SHOE J	OINT		
Stage Sacks Cement	Additives	ent Data			W/Rd	ı. Yield	Lbs/Gal
1 0 0					0 0.00		0.00
2 195 Premium Plus (Class C) 2% Calcium Chlor	ride - ¼pps Ce	llo-Flake			6.32	1.32	14.80
3 170 Premium Plus (Class C) *2% Calcium Chlo	ride on side t	o use if necessa	ary		*6.32	*1.32	*14.8
	Summa	arv	*				
Preflush Type:		Preflush:	BBI	10.0		Fresh	Water
	1,500 PSI NO/FULL	Load & Bkdn:		N/A			N/A
	URFACE	Excess /Retur Calc. TOC:	II DDI	13 SURF			37 36.00
Average Bump Plug PSI:	1,800	Final Circ.	PSI:	1,30	0 Disp:Bl		
ISIP 5 Min 10 Min 15 Mi	n	Cement Slumy		87.0			
		Total Volume	BBI	133.0	JU		
011		///.					
CUSTOMER REPRESENTATIVE Clase	1 11.	Men					
SOSTOMENTAL NEGENTATIVE	n gr		SIGNATURE				•

	.10	OB SUMN	//AR	Y			3902	T	TICKET DATE	07/04/14	3
Harper	Kansas	COMPANY Sandridge Explora			1	CUSTOMER REP	Bill Tor	bet	t		
Joseph 3405		JOS TYPE Intermedia				EMPLOYEE NAM		4-4-0.54(0-0			***************************************
EMP NAME	2-111	memeu	ate				Aithui	Jet	Zai		
Arthur Setzer	Er	ic Parsons						I			
Jared Green											
Donald Brown David Settlemier	-	×		+				\dashv			
Form, Name	Type:										
TOTTI, INDITE				Called	Out	IOn Location		Job	Started	Job Co	ompleted
Packer Type	Set At 55 Press		Date	7/	3/2014	7/3/20)14		7/3/2014	7/	4/2014
Bottom Hole Temp. 1 Retainer Depth		ure Depth 5375	Time	0	100	8:00a	m		12:07pm	0.4	400
	Accessori		Timo			Well [12107 PIN		,,,,
Type and Size	Qty	Make			New/Used			ade	From	To	Max. Allow
Auto Fill Tube Insert Float Va	0	IR IR	Casing			26#	7"	-	Surface	5,375	5,000
Centralizers	0	İR	D V To	ol @		+	-	\dashv		604	
Top Plug	0	IR	Tubing				0				
HEAD	0	IR	Drill Pi				83/4"				
Limit clamp Weld-A	1 0	IR IR	Open F Perfora				874	\dashv	Surface	5,369	Shots/Ft.
Texas Pattern Guide Shoe		İR	Perfora					十			
Cement Basket	0	IR	Perfora		-17	0		\Box		P C I	
Mud Type WBM	erials Density	9 Lb/Gall	Hours Date		Hours	Operating Date	Hours	5		tion of Job)
Disp. Fluid Fresh Water	Density	8.33 Lb/Gal	7/3		16.0	7/3	5.0		Interme	and the same of	
Spacer type Fesh Wate BI	BL. 20 BL.	8.33	714	-	4.0	7/4	4.0	_	D V Too	1@604	
	al.	-%	-	\dashv		-		\dashv	1st Stan	e Displ. 20	4
Acid Type G	al.	%									
	al al.	-ln		_				-	2nd Stag	ge Displ. 23	3
	al/Lb	-in	-	-				\dashv			
Gelling Agent G	al/Lb	ln									
	al/Lb	ln	Total		20.0	Tatal	0.0	=			
	al/Lb	_In	Total		20.0	Total	9.0				
Perfpac Balls	Qty.					Pre	essures	Total Control			
Other			MAX	5.	000 PSI	AVG. Average	10 Potos in				
Other			MAX	8	BPM	AVERAGE			IVI		j
Other					10.10		Left in F				
Other			Feet		44	Reason	SHOE	101	NT		
			0.	ment	Data						
Stage Sacks Cen	nent	T	Additive		Data				W/Rq.	. Yield	Lbs/Gal
1 250 50/50 POZ	PREMIUM	4% Gel - 0.2% FL-	17 - 0.1%	C-51 - 0).4% C-41	P	6.93	1.43	13.60
	nium	0.2% FL-17 - 0.1% 2% Calcium Chlor		% C-20	- 0.4% C-4	1P			5.19	1.19	15.60
3 600 Premium Pr	us (Class C)	2% Calcium Chior	ide						6.32	1.32	14.80
			Sur	nmary						200 20 20	
Preflush Breakdown	Type: MAXII	MIIM 5	,000 PSI		eflush:	BBI ; Gal - BBI	30.0 N//		Type:		pacer
DI GARGOWII	Lost F	Returns-I N	O/FULL	TEx	cess /Retu		N/A	A	Pad:Bb	so Bhl	N/A 204 / 23
Avorago	Actual	TOC	620	Ca	lc. TOC:		5,00		Actual [Disp.	
Average 5 Min	Bump 10 Mir	Plug PSI: 15 Mir	620 n		ial Circ. ment Slurr	PSI: v BBI	160		Disp:Bb		
- """					tal Volume		138.				
		0	11 4	\mathcal{O}	11						
CUSTOMER REPRE	ESENTATI	VE	11 10	The	17	AIX(I)					
					0	SIGNATURE					

Directional	Measured	Sub-Sea	Vertical	True Vert	Northings (+)	Eastings (+)	Vert	DLS				
Survey Calculations	Depth (ft)	Incl (deg)	Azim. (fl)	Depth (ft)	Southings (-) (ft)	Westings (-)	Section (ft)	deg/100' (deg)	FNL	FSL	FWL	FEL
SHL	0	0.00	0.00	0.00		0.00	0.00	0.00	5204	5464	4210	1090
BHL	9170	90.03	358.52	4450.11	4293.66	1612.19	4585.26	6.33	681	4615	4576	680
Miss Entry Top Perf	4682	48.29 50.83	48.08 388.58	4314.20 4477.55		1570.85 1827.37	374.46 -3993.10	2.86 259.05	5128 9850	168 -4555	4477 4672	761 546
Bottom Perf	0	90.03	358.52	4454.91	-4873.28	1849.03	-3986.76	172.08	9851	-4556	4694	524
Survey Points	SW Corner NE Corner	r XY Coord r XY Coord r XY Coord r XY Coord	X 2198074 2198444 2203470 2203639	Y 173029 162269 173010 162368		Surface XY	X 2202463	Y 167810	East L South L	ine slope ine slope	m -0.0035211 -0.0158805 0.0190568 -0.0343866	
	Measured	Sub-Sea,	Vertical	True Vert	Northings (+)	Eastings (+)	Vert	DLS				
	Depth	Incl.	Azim.	Depth	Southings (-)	Westings (-)	Section	deg/100'	EAU	FOI. I	F14.0	T
	(ft) 0	(deg) 0,0	(ft) O	(ft)	(ft)	(ft)	(ft)	(deg)	FNL 5204	FSL 5464	FWL 4210	FEL 1090
	957	0.40	242.00	956.99	-1.57	-2.95	2.99	0.04	5205	5463	4207	1093
	1048 1140	3.20 6.00	231.10 212.40	1047.94 1139.64	-3.31 -8.98	-5.21 -9.78	5.71	3.09	5207	5461	4204	1095
	1231	5.80	205.30	1230.16	-17.16	-14.29	12.99 22.26	3.41 0.83	5213 5221	5456 5448	4199 4195	1100 1104
	1322	12.60	199,20	1319.94	-30.70	-19.53	36.34	7.54	5234	5434	4189	1110
	1414	17.70	199.90	1408.71	-53.34	-27.59	59.47	5.55	5257	5412	4180	1118
	1505 1597	21.70 21.10	201.00 199.10	1494.37 1580.02	-82.07 -113.59	-38.33 -49.85	89,10 121,47	4.42 1.00	5286 5317	5383 5352	4168 4156	1129 1141
	1688	23.70	197.80	1664.15	-146,49	-60,80	154.63	2.91	5350	5319	4144	1153
	1779	22.80	197.20	1747.76	-180.74	-71.60	188.82	1.02	5385	5285	4132	1164
	1870 1961	22.00 22.50	198.50 198.80	1831.89 1916.12	-213.75 - 246.40	-82.22 -93.24	221.88 254.87	1.03 0.56	5418 5450	5252 5220	4120 4108	1175 1187
	2053	20.60	193.70	2001.69	-278.79	-102.75	286.79	2.90	5483	5188	4097	1197
	2144	21.10	201.60	2086.75	-309.58	-112.57	317.57	3.14	5514	5157	4086	1207
	2235 2326	21.20 24.90	201.60 201.50	2171.62 2255.34	-340.11 -373.24	-124.66 -137.74	349.46 384.05	0.11 4.07	5544 5577	5127 5094	4073 4059	1220 1233
	2418	25.60	200.80	2338.55	-409.84	-151.89	422.08	0.83	5614	5057	4044	1248
	2509	24.00	198.90	2421.15	-445.73	-164.87	458.85	1.97	5650	5022	4029	1262
	2600 2692	23.60 23.20	200.00 199.70	2504.42 2588.85	-480.35 -514.72	-177.09 -189.50	494.16 529.36	0.66 0.45	5685 5719	4987 4953	4016 4002	1274 1287
	2783	22.70	198.60	2672.65	-548.24	-201.14	563,43	0.72	5752	4920	3990	1299
	2875	21.40	196.20	2757.92	-581.18	-211.49	596,28	1.72	5785	4887	3978	1310
	2966 3057	23.10 24.60	201.00 200.40	2842.14 2925.37	-613.79 -648.21	-222.52 -235.52	629.25 664.84	2.73 1.67	5818 5853	4855 4821	3966 3952	1322 1335
	3149	24.20	199.20	3009.15	-683.97	-248.39	701.44	0.69	5888	4785	3938	1349
	3240 3332	23.50 21.90	198.90	3092.38	-718.74	-260.40	736,75	0.78	5923	4751	3924	1361
	3425	19.80	202,30 202,40	3177.26 3264.16	-751.98 -782,59	-272,85 -285,44	771.05 803.30	2.25 2.26	5956 5987	4718 4687	3911 3897	1374 1387
	3516	21.80	202,30	3349,23	-812.47	-297.72	834.77	2.20	6017	4658	3884	1400
	3607 3699	24.20 23.30	202.00 199.20	3432.99 3517.20	-845.40 -880.07	-311.12 -324.17	869.38 905.20	2.64 1.57	6050 6085	4625 4591	3869 3855	1414 1428
	3790	22.00	201.70	3601.18	-912.90	-336,39	939.04	1.78	6118	4558	3842	1440
	3881	24.90	201.90	3684.66	-946.52	-349.84	974.24	3.19	6151	4525	3827	1454
	3973 4064	25.90 24.50	203.00 199.80	3767.76 3850.10	-982,99 -1019.04	-364.91 -379.07	1012.70 1050.28	1.20 2.15	6188 6224	4488 4453	3811 3795	1470 1485
	4094	24.30	197.60	3877.42	-1030.77	-383.04	1062.15	3.10	6236	4441	3793	1489
	4125	23.70	197.30	3905.74	-1042.80	-386.82	1074.15	1.98	6248	4429	3787	1493
	4155 4186	22,90 23,80	197.90 198.60	3933,30 3961,76	-1054.11 -1065.78	-390.41 -394.26	1085,44 1097.18	2.78 3.04	6259 6271	4418 4406	3783 3779	1497 1501
	4216	25.70	198.80	3989.00	-1077.67	-398.28	1109.21	6.34	6283	4394	3774	1505
	4247	27.60	199,60	4016.71	-1090.80	-402.86	1122.56	6.24	6296	4381	3769	1510
	4277 4307	29.50 32.00	199.30 200.30	4043.06 4068.84	-1104.32 -1118.75	-407.63 -412.83	1136.35 1151.12	6.35 8.51	6309 6324	4368 4354	3764 3758	1515 1520
	4338	33,80	200.30	4094.86	-1134.54	-418.67	1167.38	5.81	6340	4338	3752	1526
	4368	35.50	199.80	4119.54	-1150.56	-424.52	1183.82	5.75	6356	4322	3745	1532
	4399 4429	37.70 40.10	200.80 201.90	4144.43 4167.77	-1167.89 -1185.43	-430.93 -437.79	1201.67 1219.94	7.35 8.33	6373 6391	4305 4287	3738 3731	1539 1546
	4459	42.50	202.00	4190.31	-1203.79	-445.19	1239.20	8.00	6409	4269	3723	1554
	4490	44.50	201.20	4212.80	-1223.63	-453.04	1259.92	6.69	6429	4249	3714	1562
	4520 4551	47.00 50.00	201.50 201.60	4233,73 4254.27	-1243.65 -1265.24	-460.87 -469.39	1280.76 1303.30	8.37 9.68	6449 6470	4230 4208	3706 3697	1570 1579
	4581	52.80	200.80	4272.98	-1287.09	-477.87	1326.03	9.56	6492	4186	3687	1588
	4612	55.80	200.30	4291.07	-1310.66	-486.70	1350.36	9.77	6516	4163	3678	1597
	4642 4673	59.20 62.90	200.70 201.50	4307.19 4322.19	-1334.36 -1359.66	-495.56 -505.32	1374.80 1401.09	11.39 12.15	6540 6565	4139 4114	3668 3657	1606 1616
	4703	66.60	201.20	4334.98	-1384.92	-515.20	1427.40	12.13	6590	4089	3647	1627
	4733	70.40	200.70	4345.98	-1410.99	-525.17	1454.43	12.76	6616	4063	3636	1637
	4764 4794	73.80 76.60	200.50 200.20	4355.50 4363.17	-1438.59 -1465.78	-535.55 -545.64	1482.94 1510.95	10.99 9.38	6644 6671	4036 4009	3625 3613	1648 1658
	4825	79.50	199.50	4369.58	-1494.31	-545.64	1510.95	9.38	6700	3981	3613 3602	1669
	4855	81.90	198.70	4374.43	-1522.28	-565.62	1568.58	8.42	6728	3953	3592	1679
	4886 4916	83.50 83.80	197.20 196.40	4378.37 4381.69	-1551,53 -1580,07	-575.09 -583.71	1597.91	7.05	6757	3924	3581	1689
	4947	84.10	196.10	4384.96	-1580.07 -1609.67	-583.71 -592.33	1626.17 1655.29	2.83 1.37	6786 6815	3895 3866	3571 3562	1698 1707
Top of Tangent	4977	84.60	196,00	4387.91	-1638.36	-600,58	1683.46	1.70	6844	3838	3553	1716

Depth Incl. Depth Incl. Depth Southings On On On On On On On O		Measured	Sub-Sea	Vertical	True Vert	Northings (+)	Eastings (+)	Vert	DLS	1			
\$\frac{1}{2} \text{ \$0.98}		Depth		Azim.	Depth								
*** Shore @ 5373	@ F000I												
**************************************	@ 2023.												
Bim of Tangent	7" Shoe @ 5373												
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			STA	GE 1 - Lat	#2			
			Port @	9,109	I.			
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCI acid	20	750	18					0.9
Slickwater	100	18800	448					4.5
Slickwater	100	12800	305	40/70	Garnet	0.25	3200	3.0
Slickwater	100	6000	143					1.4
Slickwater	100	12800	305	40/70	White	0.50	6400	3.0
Slickwater .	100	6000	143					1.4
Slickwater	100	12800	305	40/70	White	0.75	9600	3.0
Slickwater	100	6000	143					1.4
Slickwater	100	6400	152	40/70	White	1.00	6400	1.5
Slickwater	100	6000	143					1.4
Slickwater	100	6400	152	40/70	Garnet	1.00	6400	1.5
Slickwater	100	8030	191	X X 0				1.9
ΤΟΤΔΙ		102.780	2.447				32.000	25.2

Frac the MISSISSIPPI (Stage 2) as follows:

Drop 2.125" ball. Reduce rate to 5-10bpm as +/- 88 bbls (50 bbls before ball seats).

			STA	GE 2 - Lat	#2			
			Port @	8,967	1			
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, Ibs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	17260	411					4.1
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	5900	140					1.4
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	5900	140					1.4
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	5900	140					1.4
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	5900	140					1.4
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	7938	189					1.9
TOTAL	_	94,988	2,262				28,400	23.3

Frac the MISSISSIPPI (Stage 3) as follows:

Drop 2.188" ball. Reduce rate to 5-10bpm as +/- 86 bbls (50 bbls before ball seats).

NOTE: Pump FR as required to obtain minimum rate of 70 bpm. DO NOT EXCEED 0.75 gal/1000 concentration of FR without prior discussion with engineer. $\dot{}$

			STAC	GE 3 - Lat	#2			
			Port @	8,824				
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, Ibs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	17560	418					4.2
Slickwater	100	11760	280	40/70	Garnet	0.25	2940	2.8
Slickwater	100	5800	138					
Slickwater	100	11760	280	40/70	White	0.50	5880	2.8
Slickwater	100	5800	138					
Slickwater	100	11760	280	40/70	White	0.75	8820	2.8
Slickwater	100	5800	138					
Slickwater	100	5880	140	40/70	White	1.00	5880	1.4
Slickwater	100	5800	138					
Slickwater	100	5880	140	40/70	Garnet	1.00	5880	1.4
Slickwater	100	7844	187					1.9
TOTAL		96.394	2.295				29,400	18.1



Frac the MISSISSIPPI (Stage 4) as follows:

Drop 2.250" ball. Reduce rate to 5-10bpm as +/- 84 bbls (50 bbls before ball seats).

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

			STA	GE 4 - Lat	#2			
			Port @	8,677	1			
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, mir
15% HCl acid	20	750	18					0.9
Slickwater	100	16740	399					4.0
Slickwater	100	11040	263	40/70	Garnet	0.25	2760	2.6
Slickwater	100	5700	136					1.4
Slickwater	100	11040	263	40/70	White	0.50	5520	2.6
Slickwater	100	5700	136					1.4
Slickwater	100	11040	263	40/70	White	0.75	8280	2.6
Slickwater	100	5700	136					1.4
Slickwater	100	5520	131	40/70	White	1.00	5520	1.3
Slickwater	100	5700	136					1.4
Slickwater	100	5520	131	40/70	Garnet	1.00	5520	1.3
Slickwater	100	7749	184					1.8
TOTAL		92,199	2,195				27,600	22.7

Frac the MISSISSIPPI (Stage 5) as follows:

Drop 2.313" ball. Reduce rate to 5-10bpm as +/- 82 bbls (50 bbls before ball seats).

			STA	GE 5 - Lat	#2			
			Port @	8,539				
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCI acid	20	750	18					0.9
Slickwater	100	16960	404					4.0
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	5600	133					1.3
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	5600	133					1.3
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	5600	133					1.3
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	5600	133					1.3
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	7659	182					1.8
TOTAL		93,209	2,219				28,400	22.9

Frac the MISSISSIPPI (Stage 6) as follows:

Drop 2.375" ball. Reduce rate to 5-10bpm as +/- 80 bbls (50 bbls before ball seats).

			STAC	3E 6 - Lat	#2			
			Port @	8,396				
Fluid	Rate	Vol, gal	Vol, bbl	Prop	Prop Type	Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16940	403					4.0
Slickwater	100	11440	272	40/70	Garnet	0.25	2860	2.7
Slickwater	100	5500	131					
Slickwater	100	11440	272	40/70	White	0.50	5720	2.7
Slickwater	100	5500	131					
Slickwater	100	11440	272	40/70	White	0.75	8580	2.7
Slickwater	100	5500	131					
Slickwater	100	5720	136	40/70	White	1.00	5720	1.4
Slickwater	100	5500	131					
Slickwater	100	5720	136	40/70	Garnet	1.00	5720	1.4
Slickwater	100	7566	180					1.8
ተለተለ፤	_	93.016	2 215				28,600	17.6



Frac the MISSISSIPPI (Stage 7) as follows: Drop 2.438" ball. Reduce rate to 5-10bpm as \pm 1- 78 bbls (50 bbls before ball seats).

			STAC	3E 7 - Lat#	2			
		Por	rt @	8,260 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCI acid	20	750	18					0.9
Slickwater	100	16760	399					4.0
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	5400	129					1.3
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	5400	129					1.3
Slickwater .	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	5400	129					1.3
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	5400	129					1.3
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	7477	178					1.8
TOTAL		92,027	2,191				28,400	22.6

Frac the MISSISSIPPI (Stage 8) as follows: Drop 2.500" ball. Reduce rate to 5-10bpm as \pm 1-75 bbls (50 bbls before ball seats).

			STA	GE 8 - Lat #	‡ 2			
			Port @	8,114 '				
Fluid -	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16580	395					3.9
Slickwater	100	11280	269	40/70	Garnet	0.25	2820	2.7
Slickwater	100	5300	126					1.3
Slickwater	100	11280	269	40/70	White	0.50	5640	2.7
Slickwater	100	5300	126					1.3
Slickwater	100	11280	269	40/70	White	0.75	8460	2.7
Slickwater	100	5300	126					1.3
Slickwater	100	5640	134	40/70	White	1.00	5640	1.3
Slickwater	100	5300	126					1.3
Slickwater	100	5640	134	40/70	Garnet	1.00	5640	1.3
Slickwater	100	7382	176					1.8
TOTAL ·		91,032	2,167				28,200	22.4

Frac the MISSISSIPPI (Stage 9) as follows:

Drop 2.563" ball. Reduce rate to 5-10bpm as +/- 73 bbls (50 bbls before ball seats).

			STA	GE 9 - Lat #	12			
			Port @	7,972 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16880	402					4.0
Slickwater	100	11680	278	40/70	Garnet	0.25	2920	2.8
Slickwater	100	5200	124					1.2
Slickwater	100	11680	278	40/70	White	0.50	5840	2.8
Slickwater	100	5200	124					1.2
Slickwater	100	11680	278	40/70	White	0.75	8760	2.8
Slickwater	100	5200	124					1.2
Slickwater	100	5840	139	40/70	White	1.00	5840	1.4
Slickwater	100	5200	124					1.2
Slickwater	100	5840	139	40/70	Garnet	1.00	5840	1.4
Slickwater	100	7290	174					1.7
TOTAL		92,440	2,201				29,200	22.7



Frac the MISSISSIPPI (Stage 10) as follows: Drop 2.625" ball. Reduce rate to 5-10bpm as \pm 1-71 bbls (50 bbls before ball seats).

			STAG	E 10 - Lat	#2			
			Port @	7,828				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, mir
15% HCI acid	20	750	18					0.9
Slickwater	100	16620	396					4.0
Slickwater	100	11520	274	40/70	Garnet	0.25	2880	2.7
Slickwater	100	5100	121					1.2
Slickwater	100	11520	274	40/70	White	0.50	5760	2.7
Slickwater	100	5100	121					1.2
Slickwater	100	11520	274	40/70	White	0.75	8640	2.7
Slickwater	100	5100	121					1.2
Slickwater	100	5760	137	40/70	White	1.00	5760	1.4
Slickwater	100	5100	121					1.2
Slickwater	100	5760	137	40/70	Garnet	1.00	5760	1.4
Slickwater	100	7196	171				×	1.7
TOTAL		91.046	2.168				28,800	22.4

Frac the MISSISSIPPI (Stage 11) as follows: Drop 2.688" ball. Reduce rate to 5-10bpm as $\pm l$ - 69 bbls (50 bbls before ball seats).

			STAG	E 11 - Lat	#2			
			Port @	7,681				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16780	400					4.0
Slickwater	100	11680	278	40/70	Garnet	0.25	2920	2.8
Slickwater	100	5100	121					1.2
Slickwater	100	11680	278	40/70	White	0.50	5840	2.8
Slickwater	100	5100	121					1.2
Slickwater	100	11680	278	40/70	White	0.75	8760	2.8
Slickwater	100	5100	121					1.2
Slickwater	100	5840	139	40/70	White	1.00	5840	1.4
Slickwater	100	5100	121					1.2
Slickwater	100	5840	139	40/70	Garnet	1.00	5840	1.4
Slickwater	100	7100	169					1.7
TOTAL	=	91,750	2,185				29,200	22.6

Frac the MISSISSIPPI (Stage 12) as follows: Drop 2.750" ball. Reduce rate to 5-10bpm as +/- 66 bbls (50 bbls before ball seats).

			STAG	E 12 - Lat	#2			
			Port @	7,534 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16680	397					4.0
Slickwater	100	11680	278	40/70	Garnet	0.25	2920	2.8
Slickwater	100	5000	119					1.2
Slickwater	100	11680	278	40/70	White	0.50	5840	2.8
Slickwater	100	5000	119					1.2
Slickwater	100	11680	278	40/70	White	0.75	8760	2.8
Slickwater	100	5000	119					1.2
Slickwater	100	5840	139	40/70	White	1.00	5840	1.4
Slickwater	100	5000	119					1.2
Slickwater	100	5840	139	40/70	Garnet	1.00	5840	1.4
Slickwater	100	7005	167					1.7
TOTAL	=	91.155	2.170				29,200	22.4



Frac the MISSISSIPPI (Stage 13) as follows: Drop 2.813" ball. Reduce rate to 5-10bpm as $\pm l$ - 64 bbls (50 bbls before ball seats).

			STAG	E 13 - Lat	#2			
			Port @	7,388 '	1			
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	16740	399					4.0
Slickwater	100	11840	282	40/70	Garnet	0.25	2960	2.8
Slickwater	100	4900	117					1.2
Slickwater	100	11840	282	40/70	White	0.50	5920	2.8
Slickwater	100	4900	117					1.2
Slickwater	100	11840	282	40/70	White	0.75	8880	2.8
Slickwater	100	4900	117					1.2
Slickwater	100	5920	141	40/70	White	1.00	5920	1.4
Slickwater	100	4900	117					1.2
Slickwater .	100	5920	141	40/70	Garnet	1.00	5920	1.4
Slickwater	100	6910	165					1.6
TOTAL		91,360	2,175				29,600	22.5

Frac the MISSISSIPPI (Stage 14) as follows: Drop 2.875" ball. Reduce rate to 5-10bpm as $\pm l$ - 62 bbls (50 bbls before ball seats).

			STAG	E 14 - Lat	#2			
			Port @	7,245				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	12400	295					3.0
Slickwater	100	7600	181	40/70	Garnet	0.25	1900	1,8
Slickwater ·	100	4800	114					1.1
Slickwater	100	7600	181	40/70	White	0.50	3800	1.8
Slickwater	100	4800	114					1.1
Slickwater	100	7600	181	40/70	White	0.75	5700	1.8
Slickwater	100	4800	114					1.1
Slickwater	100	3800	90	40/70	White	1.00	3800	0.9
Slickwater	100	4800	114					1.1
Slickwater	100	3800	90	40/70	Garnet	1.00	3800	0.9
Slickwater	100	6816	162					1.6
TOTAL		69,566	1,656				19,000	17.3

Frac the MISSISSIPPI (Stage 15) as follows: Drop 2.938" ball. Reduce rate to 5-10bpm as +/- 60 bbls (50 bbls before ball seats).

			STAG	E 15 - Lat	#2			
			Port @	7,145 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15980	380					3.8
Slickwater	100	11280	269	40/70	Garnet	0.25	2820	2.7
Slickwater	100	4700	112					1.1
Slickwater	100	11280	269	40/70	White	0.50	5640	2.7
Slickwater	100	4700	112					1.1
Slickwater	100	11280	269	40/70	White	0.75	8460	2.7
Slickwater	100	4700	112					1.1
Slickwater	100	5640	134	40/70	White	1.00	5640	1.3
Slickwater ·	100	4700	112					1.1
Slickwater	100	5640	134	40/70	Garnet	1.00	5640	1.3
Slickwater	100	6751	161					1.6
TOTAL		87.401	2.081				28,200	21.5



Frac the MISSISSIPPI (Stage 16) as follows: Drop 3.000" ball. Reduce rate to 5-10bpm as +/- 58 bbls (50 bbls before ball seats).

			STAG	E 16 - Lat	#2			
			Port @	7,005				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	Time, min
15% HCI acid	20	750	18					0.9
Slickwater	100	16120	384					3.8
Slickwater	100	11520	274	40/70	Garnet	0.25	2880	2.7
Slickwater	100	4600	110					1.1
Slickwater	100	11520	274	40/70	White	0.50	5760	2.7
Slickwater	100	4600	110					1.1
Slickwater	100	11520	274	40/70	White	0.75	8640	2.7
Slickwater	100	4600	110					1.1
Slickwater	100	5760	137	40/70	White	1.00	5760	1.4
Slickwater	100	4600	110					1.1
Slickwater	100	5760	137	40/70	Garnet	1.00	5760	1.4
Slickwater	100	6660	159					1.6
TOTAL		88,010	2,095				28,800	21.7

Frac the MISSISSIPPI (Stage 17) as follows: Drop 3.063" ball. Reduce rate to 5-10bpm as +/- 56 bbls (50 bbls before ball seats).

			STAG	E 17 - Lat	#2			
			Port @	6,863 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15860	378					3.8
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	4500	107					1.1
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	4500	107					1.1
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	4500	107					1.1
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	4500	107					1.1
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	6568	156					1.6
TOTAL		85.868	2.044				28,400	20.4

Frac the MISSISSIPPI (Stage 18) as follows: Drop 3.125" ball. Reduce rate to 5-10bpm as $\pm l$ - 54 bbls (50 bbls before ball seats).

			STAG	E 18 - Lat #	‡ 2			
		Port @		6,719 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	
15% HCl acid	20	750	18					0.9
Slickwater	100	12400	295					3.0
Slickwater	100	8000	190	40/70	Garnet	0.25	2000	1.9
Slickwater	100	4400	105					1.0
Slickwater	100	8000	190	40/70	White	0.50	4000	1.9
Slickwater	100	4400	105					1.0
Slickwater	100	8000	190	40/70	White	0.75	6000	1.9
Slickwater	100	4400	105					1.0
Slickwater	100	4000	95	40/70	White	1.00	4000	1.0
Slickwater	100	4400	105					1.0
Slickwater	100	4000	95	40/70	Garnet	1.00	4000	1.0
Slickwater	100	6474	154					1.5
TOTAL	-	69,224	1,648				20,000	17.2



Frac the MISSISSIPPI (Stage 19) as follows:

Drop 3.188" ball. Reduce rate to 5-10bpm as +/- 52 bbls (50 bbls before ball seats).

			STAG	E 19 - Lat	#2			
			Port @	6,620 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	Time, min
15% HCI acid	20	750	18					0.9
Slickwater ·	100	15760	375					3.8
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	4400	105					1.0
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	4400	105					1.0
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	4400	105					1.0
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	4400	105					1.0
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	6410	153					1.5
TOTAL		85,960	2,047				28,400	21.2

Frac the MISSISSIPPI (Stage 20) as follows: Drop 3.250" ball. Reduce rate to 5-10bpm as $\pm l$ - 50 bbls (50 bbls before ball seats).

			STAG	E 20 - Lat	#2			
			Port @	6,481				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	11820	281					2.8
Slickwater	100	7520	179	40/70	Garnet	0.25	1880	1.8
Slickwater	100	4300	102					1.0
Slickwater	100	7520	179	40/70	White	0.50	3760	1.8
Slickwater	100	4300	102					1.0
Slickwater	100	7520	179	40/70	White	0.75	5640	1.8
Slickwater ·	100	4300	102					1.0
Slickwater	100	3760	90	40/70	White	1.00	3760	0.9
Slickwater	100	4300	102					1.0
Slickwater	100	3760	90	40/70	Garnet	1.00	3760	0.9
Slickwater	100	6319	150					1.5
TOTAL		66.169	1.575				18,800	16.5

Frac the MISSISSIPPI (Stage 21) as follows:

Drop 3.313" ball. Reduce rate to 5-10bpm as +/- 47 bbls (50 bbls before ball seats).

			STAG	E 21 - Lat	#2			
			Port @	6,292 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid ·	20	750	18					0.9
Slickwater	100	23060	549					5.5
Slickwater	100	18960	451	40/70	Garnet	0.25	4740	4.5
Slickwater	100	4100	98					1.0
Slickwater	100	18960	451	40/70	White	0.50	9480	4.5
Slickwater	100	4100	98					1.0
Slickwater	100	18960	451	40/70	White	0.75	14220	4.5
Slickwater	100	4100	98					1.0
Slickwater	100	9480	226	40/70	White	1.00	9480	2.3
Slickwater	100	4100	98					1.0
Slickwater	100	9480	226	40/70	Garnet	1.00	9480	2.3
Slickwater	100	6196	148					1.5
TOTAL		122,246	2,911				47,400	29.8



Frac the MISSISSIPPI (Stage 22) as follows: Drop 3.375" ball. Reduce rate to 5-10bpm as $\pm l$ - 45 bbls (50 bbls before ball seats).

			STAG	E 22 - Lat	¥2			
			Port @	6,147 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15540	370					3.7
Slickwater	100	11440	272	40/70	Garnet	0.25	2860	2.7
Slickwater	100	4100	98					1.0
Slickwater	100	11440	272	40/70	White	0.50	5720	2.7
Slickwater	100	4100	98					1.0
Slickwater	100	11440	272	40/70	White	0.75	8580	2.7
Slickwater	100	4100	98					1.0
Slickwater	100	5720	136	40/70	White	1.00	5720	1.4
Slickwater	100	4100	98					1.0
Slickwater	100	5720	136	40/70	Garnet	1.00	5720	1.4
Slickwater	100	6102	145					1.5
TOTAL		84,552	2,013			N. Control of the Con	28,600	20.8

Frac the MISSISSIPPI (Stage 23) as follows: Drop 3.438" ball. Reduce rate to 5-10bpm as +/- 43 bbls (50 bbls before ball seats).

			STAG	E 23 - Lat	#2			
			Port @	6,005				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, Ibs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	11760	280					2.8
Slickwater	100	7760	185	40/70	Garnet	0.25	1940	1.8
Slickwater	100	4000	95					1.0
Slickwater	100	7760	185	40/70	White	0.50	3880	1.8
Slickwater	100	4000	95					1.0
Slickwater	100	7760	185	40/70	White	0.75	5820	1.8
Slickwater	100	4000	95					1.0
Slickwater	100	3880	92	40/70	White	1.00	3880	0.9
Slickwater	100	4000	95					1.0
Slickwater	100	3880	92	40/70	Garnet	1.00	3880	0.9
Slickwater	100	6009	143					1.4
TOTAL	=	65,559	1,561				19,400	16.3

Frac the MISSISSIPPI (Stage 24) as follows: Drop 3.500" ball. Reduce rate to 5-10bpm as +/- 41 bbls (50 bbls before ball seats).

			STAG	E 24 - Lat	#2			
			Port @	5,907 '				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15260	363					3.6
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	3900	93					0.9
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater	100	3900	93					0.9
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	3900	93					0.9
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	3900	93					0.9
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	5945	142					1.4
TOTAL		82,995	1,976				28,400	20.5



Frac the MISSISSIPPI (Stage 25) as follows: Drop 3.563" ball. Reduce rate to 5-10bpm as \pm 1- 39 bbls (50 bbls before ball seats).

			STAG	E 25 - Lat	#2			
			Port @	5,765				
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	15160	361					3.6
Slickwater	100	11360	270	40/70	Garnet	0.25	2840	2.7
Slickwater	100	3800	90					0.9
Slickwater	100	11360	270	40/70	White	0.50	5680	2.7
Slickwater ·	100	3800	90					0.9
Slickwater	100	11360	270	40/70	White	0.75	8520	2.7
Slickwater	100	3800	90					0.9
Slickwater	100	5680	135	40/70	White	1.00	5680	1.4
Slickwater	100	3800	90			V		0.9
Slickwater	100	5680	135	40/70	Garnet	1.00	5680	1.4
Slickwater	100	5853	139					1.4
TOTAL	J	82,403	1,962				28,400	20.3

Frac the MISSISSIPPI (Stage 26) as follows: Drop 3.688" ball. Reduce rate to 5-10bpm as +I- 37 bbls (50 bbls before ball seats).

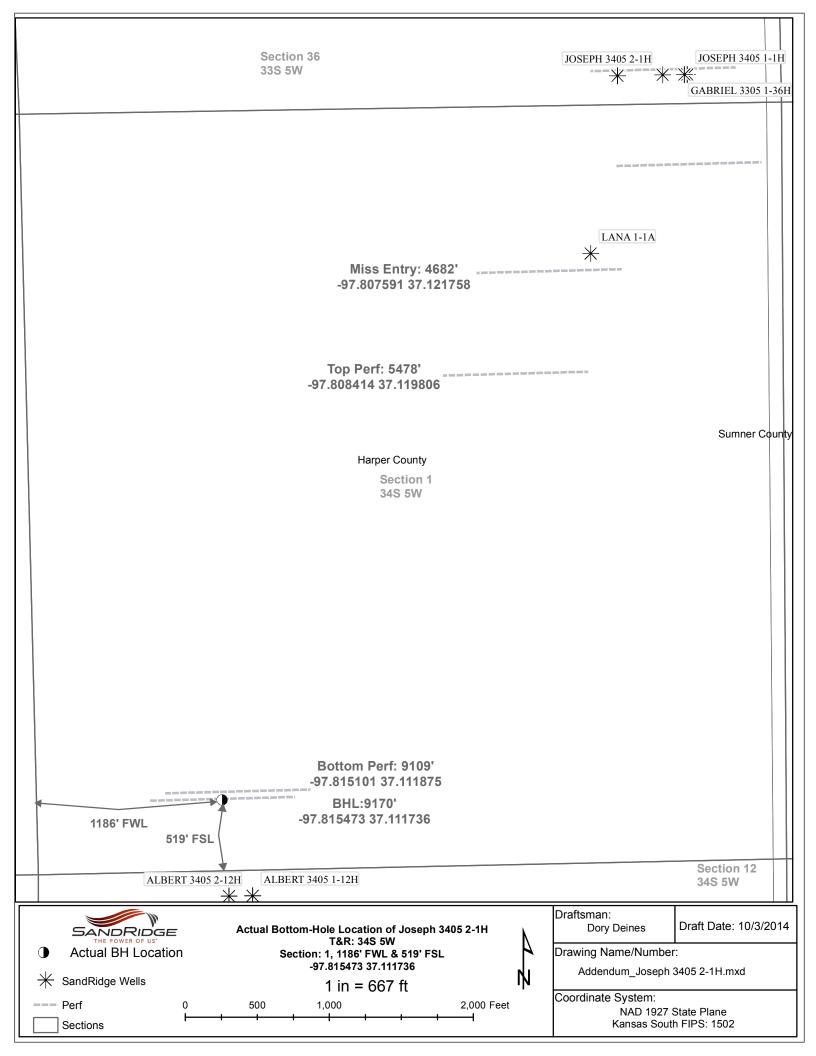
STAGE 26 - Lat #2								
			Port @	5,662	!			
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, min
15% HCl acid	20	750	18					0.9
Slickwater	100	11700	279					2.8
Slickwater	100	8000	190	40/70	Garnet	0.25	2000	1.9
Slickwater	100	3700	88					0.9
Slickwater	100	8000	190	40/70	White	0.50	4000	1.9
Slickwater	100	3700	88	10-79-20-30E				0.9
Slickwater	100	8000	190	40/70	White	0.75	6000	1.9
Slickwater	100	3700	88					0.9
Slickwater	100	4000	95	40/70	White	1.00	4000	1.0
Slickwater	100	3700	88					0.9
Slickwater	100	4000	95	40/70	Garnet	1.00	4000	1.0
Slickwater ·	100	5786	138					1.4
TOTAL		65,036	1,548		•		20,000	16.2

Frac the MISSISSIPPI (Stage 27) as follows: Drop 3.750" ball. Reduce rate to 5-10bpm as $\pm l$ - 34 bbls (50 bbls before ball seats).

			STAG	E 27 - Lat	#2			
			Port @	5,478	!			
Fluid	Rate	Vol, gal	Vol, bbl	Prop		Prop Con	Prop, lbs	Time, mir
15% HCI acid	20	750	18					0.9
Slickwater	100	18400	438					4.4
Slickwater	100	14800	352	40/70	Garnet	0.25	3700	3.5
Slickwater	100	3600	86					0.9
Slickwater ·	100	14800	352	40/70	White	0.50	7400	3.5
Slickwater	100	3600	86					0.9
Slickwater	100	14800	352	40/70	White	0.75	11100	3.5
Slickwater	100	3600	86					0.9
Slickwater	100	7400	176	40/70	White	1.00	7400	1.8
Slickwater	100	3600	86					0.9
Slickwater	100	7400	176	40/70	Garnet	1.00	7400	1.8
Slickwater	100	5666	135					1.3
ΤΟΤΔΙ		98,416	2.343				37,000	24.1

	Fluid (bbls)	Total White Proppant (#)	Total Garnet (#)	
Totals	31,808	530,460	227,340	

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



Hydraulic Fracturing Fluid Product Component Information Disclosure

8/24/2014	Job Start Date:
8/25/2014	Job End Date:
Kansas	State:
Harper	County:
15-077-22060-01-00	API Number:
SandRidge Energy	Operator Name:
Joseph 3405 2-1H	Well Name and Number:
-97.80559874	Longitude:
37.12545923	Latitude:
NAD27	Datum:
NO	Federal/Tribal Well:
4,405	True Vertical Depth:
2,424,954	Total Base Water Volume (gal):
0	Total Base Non Water Volume:







Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Archer	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	93.24343	None
Sand (Proppant)	Archer	Proppant					
			Silica Substrate	NA	100.00000	3.34359	None
Hydrochloric Acid (15%)	Archer	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000		
			NONYL PHENOL, 4 MOL	104-40-5	10.00000	0.00439	None
C102	Bosque Disposal Systems, LLC	Oxidizer					
			Chlorine Dioxide	10049-04-4	15.00000	0.27346	
Chemflush	Archer	Enviro-Friendly Chemical Flush					
			Hydrotreated Petroleum Distillate	64742-47-8	99.00000		
			Alcohol Ethoxylate Surfactants	NA	10.00000	0.00038	None
Ingredients shown ab	oove are subject to 29 C		ppear on Material Safety Data She	eets (MSDS). Ingredie	nts shown below are	Non-MSDS.	
		Other Chemicals					
			Water	7732-18-5		0.03935	
			WATER	7732-18-5		0.02636	
			Aliphatic Hydrocarbon	64742-47-8		0.01967	
			Anionic Polymer	N/A		0.01967	

	TRADE SECRET	N/A	0.01758	
	Water	7732-18-5	0.00970	
	ISOPROPANOL	67-63-0	0.00439	
	METHANOL	67-56-1	0.00439	
	Oxyalkylated Alcohol	68002-97-1	0.00328	
	Polyol Ester	N/A	0.00328	
	Acrylic Polymer	28205-96-1	0.00162	
	Sodium Salt of Phosphate Ester	68131-72-6	0.00162	
	Polyglycol Ester	N/A	0.00066	
	Tetrasodium Ethylenediaminetetraacetate	64-02-8	0.00007	
		64-19-7		
	Cinnamic Aldehyde	104-55-2		
	n-olefins	N/A		
	Water	7732-18-5		
	Propargyl Alcohol	107-19-7		
	Buffer	N/A		
		N/A		
	Alcohol Ethoxylate Surfactants	N/A		
	Water	7732-18-5		

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)

^{*} 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%