

Confidentiality Requested:

Yes No

## Kansas Corporation Commission Oil & Gas Conservation Division

1137980

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:	SecTwpS. R
Address 2:	Feet from
City: State: Zip:+	Feet from _ East / _ West Line of Section
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	□NE □NW □SE □SW
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxxxx) (e.gxxx.xxxxxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
☐ New Well ☐ Re-Entry ☐ Workover	Field Name:
□ Oil □ WSW □ SHOW   □ 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:	Producing Formation: Kelly Bushing: Total Vertical Depth: Plug Back Total Depth: Feet Multiple Stage Cementing Collar Used? Yes No  If yes, show depth set: Feet
Operator:	If Alternate II completion, cement circulated from:
Well Name:	feet depth to:w/sx cmt.
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 #:	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:
☐ ENHR         Permit #:           ☐ GSW         Permit #:	Operator Name:
GSW Permit #:	Lease Name: License #:
Spud Date or Date Reached TD Completion Date or Recompletion Date Recompletion Date	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 Approved by: Date:							

Page Two



Operator Name:				_ Lease I	Name: _			Well #:	
Sec Twp	S. R	East	West	County	:				
INSTRUCTIONS: Shopen and closed, flow and flow rates if gas to	ring and shut-in press o surface test, along v	ures, whe	ther shut-in pre chart(s). Attach	ssure reac extra shee	hed stati	c level, hydrosta space is neede	tic pressures, b d.	ottom hole temp	erature, fluid recov
Final Radioactivity Lo files must be submitte						ogs must be ema	alled to kcc-well-	logs@kcc.ks.go	v. Digital electronic
Drill Stem Tests Taker (Attach Additional		Y	es No			J	on (Top), Depth		Sample
Samples Sent to Geo	logical Survey	Y	es No		Nam	е		Тор	Datum
Cores Taken Electric Log Run			es  No						
List All E. Logs Run:									
				RECORD	Ne				
	0: 11.1					ermediate, product		" 0 1	T 15
Purpose of String	Size Hole Drilled		ze Casing t (In O.D.)	Weig Lbs.		Setting Depth	Type of Cement	# Sacks Used	Type and Percer Additives
			ADDITIONAL	CEMENTI	NG / SQL	JEEZE RECORD			
Purpose:	Depth Top Bottom	Туре	of Cement	# Sacks	Used		Type and	Percent Additives	
Perforate Protect Casing	Top Dottern								
Plug Back TD Plug Off Zone									
1 lug 0 li 20 lio									
Did you perform a hydrau	ulic fracturing treatment	on this well	?			Yes	No (If No, s	skip questions 2 a	nd 3)
Does the volume of the t			-		-			skip question 3)	
Was the hydraulic fractur	ing treatment informatio	n submitted	to the chemical of	disclosure re	gistry?	Yes	No (If No, i	ill out Page Three	of the ACO-1)
Shots Per Foot			RD - Bridge Plug Each Interval Perl				cture, Shot, Ceme	nt Squeeze Recor	rd Depth
						(* *			200
TUBING RECORD:	Size:	Set At:		Packer A	t·	Liner Run:			
		0017111				[	Yes N	o	
Date of First, Resumed	Production, SWD or EN	HR.	Producing Meth	nod:	g 🗌	Gas Lift (	Other (Explain)		
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Wat	er B	bls.	Gas-Oil Ratio	Gravity
DIODOCITI	01.05.040			4ETUOD 05	. 00145/	TION:		DDOD! ICT!	
DISPOSITION Solo	ON OF GAS:  Used on Lease		N Open Hole	∥ETHOD OF Perf.			mmingled	PRODUCTION	ON INTERVAL:
	bmit ACO-18.)		Other (Specify)		(Submit		mit ACO-4)		

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Brad 3508 3-12H
Doc ID	1137980

## All Electric Logs Run

Resistivity	
Porosity	
Boresight	
Mud Log	
Prizm Log	

Form	ACO1 - Well Completion
Operator	SandRidge Exploration and Production LLC
Well Name	Brad 3508 3-12H
Doc ID	1137980

## Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
5	9051-9250	4229 bbls water, 36 bbls acid, 75M lbs sd, 4439 TLTR	
5	8678-8963	4223 bbls water, 36 bbls acid, 75M lbs sd, 8639 TLTR	
5	8355-8608	4218 bbls water, 36 bbls acid, 75M lbs sd, 13065 TLTR	
5	7970-8239	4212 bbls water, 36 bbls acid, 75M lbsd sd, 17433 TLTR	
5	7589-7912	4206 bbls water, 36 bbls acid, 75M lbsd sd, 21799 TLTR	
5	7279-7530	4201 bbls water, 36 bbls acid, 75M lbsd sd, 26113 TLTR	
5	6873-7179	3442 bbls water, 36 bbls acid, 75M lbsd sd, 29540 TLTR	
5	6506-6758	4189 bbls water, 36 bbls acid, 75M lbsd sd, 33755 TLTR	
5	6303-6345	2364 bbls water, 36 bbls acid, 75M lbsd sd, 36086 TLTR	
5	5759-5803	2356 bbls water, 36 bbls acid, 75M lbsd sd, 38478 TLTR	

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



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

Sam Brownback, Governor

Mark Sievers, Chairman Thomas E. Wright, Commissioner Shari Feist Albrecht, Commissioner

May 06, 2013

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

Re: ACO1 API 15-077-21922-01-00 Brad 3508 3-12H NE/4 Sec.12-35S-08W Harper County, Kansas

### **Dear Production Department:**

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

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

Respectfully, Tiffany Golay

# Mid-Continent Conductor, Lic

P.O. Box 1570

Woodward, OK 73802

Phone: (580)254-5400 Fax: (580)254-3242

Bill To	
SandRidge Energy, Inc.	
Attn: Purchasing Mgr. 123 Robert S, Kerr Avenue	
Oklahoma City, OK. 73102	
Oklahoma City, Ok. 75102	

## Invoice -

Date	Invoice #
4/8/2013	1818

	Ordered By	Terms	Da	ate of Service	Lease	e Nar	me/Legal Desc.	Drilling Rig	
	Parker	Net 45		4/8/2013	Brad 3508	Brad 3508 3-12H, Harper Cnty, KS		Horizon 15	
	Item	Quantity					Description		
20" P Mous 16" P Cella 6' X 6 Mud Trans Grout Grout Trans Fence Weld Dirt F	e Hole ipe r Hole d' Tinhorn and Water port Truck - Conductor & Trucking Pump port Truck - Conductor Panels er & Materials demoval Plate		90 80 80 1 1 1 10 1 1 4 1 1	Drilled 90 ft. cor Furnished 90 ft. on Furnished 80 ft. mo Furnished 80 ft. on Drilled 6' X 6' ce Furnished and se Furnished mud at Furnished grout at Furnished grout at Furnished grout at Furnished safety Furnished welder Furnished labor at Furnished cover at Permits	of 20 inch coruse hole of 16 inch mo llar hole t 6' X 6' tinho and water of water to loo and trucking to bump of water to de netting around and materials and equipmen collates  AF We Co AN Co	cation cation isplaced down strong to loc isplaced down strong to loc isplaced down strong to local transfer in the strong transfer is th	n ation  ce cement down center of ductor holes  dirt removal	\$19,340	0.00
							Total	\$19,340.00	

# Schlumberger

### Service Order for i-District Job 968661

<b>Customer Nar</b>	me:	Person Takin	ıg Call:	Location:		Order Date:	Job Number:	
SANDRIDGE E				El Reno, OK	WS	15-Apr-13	968661	
- FOR ELECTI INVOICING O	RONIC					17:23		
Service Order	Number:	Service Line:		Supervisor:	-	Legal Location	n:	
COLVICE CITACI	Cementing El Reno		Super viceri		SEC 12-35S-			
Well Name an	ne and Number: Pad/Platform:		Field:		County:	State/Prov:		
BRAD -3508-,						HARPER	KS	
3-12H								
Well Master N	umber:	API/UWI:		Rig Name:		Well Age:	Sales Engineer:	
0631458790		15077219220	100	HORIZON #	15			
Job Type:		Time Well Re	ady:	Deviation:		Hole Size:	Well MD:	
Cementing El F	Reno –						800 ft	
Surface								
Well TVD:		BHP:		BHST:		внст:	Treat Down:	
800 ft				89 °F	NO IZIEO	80 °F	Casing	
Packer Type:		Packer Depth:		MIN/MAX DE		HHP on Location:	Max Allowed	
					LEAD: 11.9-12.9 PPG		Pressure:	
				TAIL: 14.3-15.3 PPG			5000 psi	
Max Allowed A	Ann Pressure:	J			Job Stage Description:		FTL Ticket/Quote Number :	
0 . (7.1.				9 5/8" SURF	ACE	C1YQ-0011		
Casing/Tubi						Service Inst		
String Type	Depth	Size	Weight	Grade	Thread	services and	pment, materials,	
Casing	800 ft	9.625 in	36 lb/ft	J-55			nt 9 5/8" surface	
							ient specifications.	
						odoling por or	ioni opodinoationo.	
						Pump 270 sk	s Lead Slurry @	
							0 sks Tail Slurry @	
							p top plug and	
						displace per	customer	
						requirements	<b>5.</b>	

### **Client Contact**

Name	Voice	Fax	Email	Title	Company	Notes
Israel	281-617-4654					

#### Notes:

TOC: Surface -- volumes based on 12.25" OH + 15-% XS

Equipment: 9 5/8" HM and QC (8RD and BTC), top and bottom plugs (please bring wooden and rubber top plugs), air hoses, water hoses, mud hoses (contingency), washup hoses (contingency), D110, D047

Get the field ticket stamped if applicable.

### Directions:

From Medford Okla go west on hwy 11 16.5 miles turn north on hwy 132 to state line go north on hwy 179 1.7 miles turn west on SW-90-rd 4.5 miles turn south on SW-50 0.4 miles turn west on lease rd 0.3 miles into location

	Materials Materials										
Name	Description	Quantity	Density								
LEAD SLURRY	270 SKS 35:65 Poz:C LEAD @ 12.4 PPG	96.66 bbl	12.40 lb/gal								
TAIL SLURRY	170 SKS Class C TAIL @ 14.8 PPG	40.27 bbl	14.80 lb/gal								

### Fluid Systems:

riulu Systen	115.					
	Harris A. L. Lak	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LEAD SLI	JRRY		
270 SKS 35:	65 Poz:C LE	AD @ 1	2.4 PPG			
Sacks Of:	Cement		Total Blend/Cem:		23,490.98	lb
Sack Weight:	87.00	lb	Sacks Blend/Cem:		270.01	sks
Yield:	2.01	ft3/sk	Final Fluid Density:		12.40	lb/gal
Mix Water:	11.12	ft3/sk	Total Mix Water:	85.00	m3	
Code	Conc		Design	Total by de	sign	Load out with excess
D903	61.000 lb/sk		WTSK	16,470.69	) lb	16,470.69 lb
D035	26.000 lb/sk		WTSK	7,020.29	lb	7,020.29 lb
D020	6.000 %		BWOB	1,409.46	lb	1,409.46 lb
S001	2.000 %		BWOB	469.82 I	b	469.82 lb
D130	0.125 lb/sk		WTSK	33.75 lb	)	33.75 lb

			TAIL SLU	RRY		
170 SKS Cla	ss C TAIL @	14.8 P	PG			
Sacks Of:	Cement		Total Blend/Cem:		15,980.75	lb
Sack Weight:	94.00	lb	Sacks Blend/Cem:		170.01	sks
Yield:	1.33	ft3/sk	Final Fluid Density:		14.80	lb/gal
Mix Water:	6.35	ft3/sk	Total Mix Water:	30.58	m3	
Code	Conc		Design	Total by design	Load	l out with excess
D903	94.000 lb/sk		WTSK	15,980.75 lb		15,980.75 lb
			WTSK	21.25 lb	t	21.25 lb

# Schlumberger

### Service Order for i-District Job 969402

- FOR ELECTRONIC INVOICING O  Service Order Number: Service Line: Cementing El Reno  Well Name and Number: Pad/Platform: Field: County: State/Prov HARPER KS 3-12H  Well Master Number: API/UWI: Rig Name: Well Age: Sales Engi 0631458790 15077219220100 HORIZON #15  Job Type: Time Well Ready: Deviation: Hole Size: Well MD: Cementing El Reno – Intermediate  Well TVD: BHP: BHST: BHCT: Treat Down Casing  Packer Type: Packer Depth: Well Head Connection: HHP on Location: Pressure: 5000 psi  Max Allowed Ann Pressure: Job Stage Description: 7" Intermediate  Expected on Location: 26- Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00  Arrive from Job: 27-Apr-13 11:00	FOR ELECTRONIC   INVOICING O   Service Order Number:   Service Line:   Cementing El Reno   Service Order Number:   Cementing El Reno   Service Unit:   Cementing El Reno   Service Unit:   Cementing El Reno   Service Unit:   State/Prov:   HARPER   KS   Sales Engine   Sales En	15:22	Customer Na		Person	Taking Call	:	Locatio			Order Date:	Job Number:
Service Order Number:   Cementing El Reno   Supervisor:   Legal Location:	Service Order Number:	Service Cine: Cementing El Reno  Well Name and Number: BRAD -3508-, 3-12H  Well Master Number: API/UWI: Diameter North State Prov: BRAD -3508-, 3-12H  Well Master Number: API/UWI: Diameter North State Prov: BRAD -3508-, 3-12H  Well Master Number: API/UWI: Diameter North State Prov: BRAD -3508-, 3-12H  Well Master Number: API/UWI: Diameter North State Prov: BRAD -3508-, 3-12H  Well Master Number: API/UWI: Diameter North State Prov: BRAD -3508-, 3-12H  Well Age: Sales Engine Mell Age: API/UWI: Deviation: Hole Size: Well MD: Well Mobiner: BHCT: Deviation: Deviation: BHCT: Deviation: Deviati	- FOR ELECT	RONIC				El Reno	o, OK WS		16-Apr-13 15:22	969402
Cementing El Reno   Cementing El Reno   County:   State/Prov.   County:   County:	Cementing El Reno   Field:   County:   State/Prov:   MARPER   KS   State/Prov:   HARPER   KS   State/Prov:   Mak Allower   Mak Allower   Mell Ready:   Deviation:   Hole Size:   Well MD:   Casing   Max Allower	Cementing El Reno   Pad/Platform:   Field:   County:   State/Prov:   HARPER   KS			Service	Line:		Superv	isor:		Legal Locati	on:
Well Name and Number: BRAD -3508-, 3-12HPad/Platform:Field:County: HARPERState/Prov 	Well Name and Number:         Pad/Platform:         Field:         County:         State/Prov:           BRAD -3508-, 3-12H         API/UWI:         Rig Name:         Well Age:         Sales Engine           0631458790         15077219220100         HORIZON #15         Well Age:         Sales Engine           0631458790         Time Well Ready:         Deviation:         Hole Size:         Well MD:           Cementing El Reno – Intermediate         BHP:         BHST:         BHCT:         Treat Down:           Casing         Packer Depth:         Well Head Connection:         HHP on Max Allowed         Acaing           Packer Type:         Packer Depth:         Well Head Connection:         HHP on Max Allowed         Acaing           Max Allowed Ann Pressure:         Job Stage Description:         FTL Ticket/Quote Number:         FTL Ticket/Quote Number:           Expected on Location: 26- Apr-13 23:00         Ready to Pump:         Job Start Date:         Job End Date:         27-Apr-13 11:00           Leave for Job: 26-Apr-13 23:00         Arrive from Job: 27-Apr-13 11:00         Service Instructions:         Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,         Service and personnel to safely cement 7" intermediate casing per customer specifications,           Total Interval: 0         Diameter:	Well Name and Number:       Pad/Platform:       Field:       County:       State/Prov:         BRAD -3508-, 3-12H       API/UWI:       Rig Name:       Well Age:       Sales Engine         Well Master Number:       API/UWI:       Rig Name:       Well Age:       Sales Engine         0631458790       15077219220100       HORIZON #15       Hole Size:       Well MD:         Cementing EI Reno –       Intermediate       BHCT:       Treat Down:       Casing         Packer Type:       Packer Depth:       Well Head Connection:       HHP on Max Allowed Location:       Pressure:         Packer Type:       Packer Depth:       Well Head Connection:       FTL Ticket/Quote Number:       FTL Ticket/Quote Number:         Max Allowed Ann Pressure:       Job Stage Description:       FTL Ticket/Quote Number:       FTL Ticket/Quote Number:         Expected on Location: 26-       Ready to Pump:       Job Start Date:       Job End Date:         Apr-13 23:00       27-Apr-13 11:00         Leave for Job: 26-Apr-13 23:00       Arrive from Job: 27-Apr-13 11:00         Casing/Tubing       Service Instructions:         String Type       Depth       Size       Weight       Frade       Provide equipment, material services and personnel to safely cement 7" intermediat casing per customer specifications,			Cementi	ng El Reno						
Well Master Number:   API/UWI:   Rig Name:   Well Age:   Sales Engine	Well Master Number:   API/UWI:   Rig Name:   Well Age:   Sales Engine	Sales Engine	Well Name ar	nd Number:				Field:				
Well Master Number: 0631458790API/UWI: 15077219220100Rig Name: HORIZON #15Well Age:Sales EngingJob Type: Cementing El Reno – IntermediateTime Well Ready:Deviation:Hole Size:Well MD:Well TVD:BHP:BHST:BHCT:Treat Down CasingPacker Type:Packer Depth:Well Head Connection:HHP on Max Allown Location: Pressure: 5000 psiMax Allowed Ann Pressure:Job Stage Description: 7" IntermediateFTL Ticket/Quote NumberExpected on Location: 26- Apr-13 23:00Ready to Pump: 26-Apr-13 23:00Job End Date: 27-Apr-13 11:00Leave for Job: 26-Apr-13 23:00Arrive from Job: 27-Apr-13 11:00	Well Master Number: 0631458790   15077219220100   HORIZON #15   HORIZON #15   Hole Size: Well MD:	Well Master Number: 0631458790									HARPER	KS
Deviation:   Deviation:   Hole Size:   Well MD:   Cementing El Reno -   Intermediate   Deviation:   BHP:   BHST:   BHCT:   Treat Down Casing   Packer Type:   Packer Depth:   Well Head Connection:   HHP on Max Allow Location:   Pressure:   5000 psi   Max Allowed Ann Pressure:   Job Stage Description:   FTL Ticket/Quote Number   T" Intermediate   Description:   Apr-13 23:00   Arrive from Job: 27-Apr-13 11:00   Arrive from Job: 27-Apr-13 23:00   Arrive from Job: 27-Apr-13 23:00   Arrive from Job: 27-Ap	Deviation:   Deviation:   Horizon #15   Horizon #15   Horizon #15   Deviation:   Horizon #15   Horizon #15   Horizon #15   Deviation:   Horizon #15   Hori	Deviation   Devi		T	A DIVINAVI	-		Dia Na			Mall Age	Colon Engineer
Deviation:   Deviation:   Hole Size:   Well MD:   Cementing El Reno –   Intermediate     Packer Type:   Packer Depth:   Well Head Connection:   HHP on Location:   Pressure:   5000 psi	Deviation:   Deviation:   Hole Size:   Well MD:	Deviation:   Deviation:   Hole Size:   Well MD:		number:		-		0			well Age:	Sales Eligiliee
Cementing El Reno – Intermediate  Well TVD: BHP: BHST: BHCT: Treat Down Casing  Packer Type: Packer Depth: Well Head Connection: HHP on Location: Pressure: 5000 psi  Max Allowed Ann Pressure: T'' Intermediate  Expected on Location: 26- Apr-13 23:00 Leave for Job: 26-Apr-13 23:00  Arrive from Job: 27-Apr-13 11:00	Cementing El Reno – Intermediate  Well TVD: BHP: BHST: BHCT: Casing  Packer Type: Packer Depth: Well Head Connection: HHP on Max Allowed Pressure: 5000 psi  Max Allowed Ann Pressure: Job Stage Description: 7" Intermediate  Expected on Location: 26- Apr-13 23:00 Leave for Job: 26-Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00  Casing/Tubing String Type Depth Size Weight Grade Thread Service Instructions: Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Top Bottom SPF No of Shots Formation Name  Coiled Tubing  Diameter: Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Cementing El Reno – Intermediate  Well TVD: BHP: BHST: BHST: BHCT: Treat Down: Casing Packer Type: Packer Depth: Well Head Connection: HHP on Max Allowed Location: Pressure: 5000 psi Max Allowed Ann Pressure: T' Intermediate  Expected on Location: 26- Apr-13 23:00 Leave for Job: 26-Apr-13 23:00  Casing/Tubing String Type Depth Casing String Type Depth Size Weight Grade Thread Casing Formation Name Total Interval: 0  Diameter:  BHCT: Treat Down: Casing Max Allowed Pressure: 5000 psi FTL Ticket/Quote Number: Total Face of Thread Provide equipment, material services and personnel to safely cement 7" intermediate casing per customer specifications, Pump 30 bbl gel water, 250			1274-08100000 00 101 10100100	ACCUSE OF SCHOOL		V 63 (C 100) - 102	PROPERTY DATE STREET		Hole Size:	Well MD:
Packer Type:  Packer Depth:  Well Head Connection:  HHP on Location:  Pressure: 5000 psi  Max Allowed Ann Pressure:  Job Stage Description: 7" Intermediate  Expected on Location: 26- Apr-13 23:00  Leave for Job: 26-Apr-13 23:00  Casing  Max Allowed Ann Pressure: 5000 psi  FTL Ticket/Quote Number  Job End Date: 26-Apr-13 23:00  Arrive from Job: 27-Apr-13 11:00	Packer Type: Packer Depth: Well Head Connection: HHP on Max Allowed Pressure: 5000 psi  Max Allowed Ann Pressure: Job Stage Description: 7" Intermediate Expected on Location: 26- Apr-13 23:00 Leave for Job: 26-Apr-13 23:00  Casing/Tubing String Type Depth Size Weight Grade Thread Provide equipment, materials services and personnel to safely cement 7" intermediate  Perforations Top Bottom SPF No of Shots Formation Name  Casing Casing Casing Physical Casing Service Instructions: Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Packer Type: Packer Depth: Well Head Connection: HHP on Location: Pressure: 5000 psi  Max Allowed Ann Pressure: Job Stage Description: 7" Intermediate Expected on Location: 26- Apr-13 23:00 Leave for Job: 26-Apr-13 23:00  Casing/Tubing String Type Depth Size Weight Casing Formation Name  Total Interval: 0  Well Head Connection: HHP on Max Allowed Pressure: 5000 psi  FTL Ticket/Quote Number: FTL Ticket/Quote Number: 7" Intermediate Provide Ready to Pump: Job Start Date: 26-Apr-13 23:00 27-Apr-13 11:00  Service Instructions: Provide equipment, material services and personnel to safely cement 7" intermediat casing per customer specifications, Pump 30 bbl gel water, 250	Cementing EI	Reno –		<b>-</b>						
Location: Pressure: 5000 psi  Max Allowed Ann Pressure: Job Stage Description: 7" Intermediate  Expected on Location: 26- Apr-13 23:00  Leave for Job: 26-Apr-13 23:00  Location: Pressure: 5000 psi  Job Stage Description: 7" Intermediate  Job Start Date: 26-Apr-13 23:00  Arrive from Job: 27-Apr-13 11:00	Location: Pressure: 5000 psi	Location: Pressure: 5000 psi	Well TVD:	Man 4 v - Francisco	BHP:			BHST:			внст:	
Max Allowed Ann Pressure:  Job Stage Description: 7" Intermediate  Expected on Location: 26- Apr-13 23:00  Leave for Job: 26-Apr-13 23:00  Job Start Date: 26-Apr-13 23:00  Arrive from Job: 27-Apr-13 11:00	Max Allowed Ann Pressure:    Job Stage Description: 7" Intermediate	Max Allowed Ann Pressure:    Job Stage Description:   FTL Ticket/Quote Number :	Packer Type:		Packer I	Depth:		Well He	ead Connectio	n:	10.7 (0.6 (0.7))	Pressure:
Apr-13 23:00 26-Apr-13 23:00 27-Apr-13 11:00  Leave for Job: 26-Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00	Apr-13 23:00 27-Apr-13 11:00  Leave for Job: 26-Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00  Casing/Tubing String Type Depth Size Weight Grade Thread Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Top Bottom SPF No of Shots Formation Name Specifications,  Total Interval: 0 Diameter:  Coiled Tubing 26-Apr-13 23:00 27-Apr-13 11:00  Service Instructions: Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Apr-13 23:00 27-Apr-13 11:00  Leave for Job: 26-Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00  Casing/Tubing String Type Depth Size Weight Grade Thread Casing 5488 ft 7 in 26 lb/ft P-110  Perforations Top Bottom SPF No of Shots Formation Name  Diameter: Provide equipment, material services and personnel to safely cement 7" intermediat casing per customer specifications,  Pump 30 bbl gel water, 250	Max Allowed	Ann Pressure:						n:	FTL Ticket/G	
Leave for Job: 26-Apr-13 23:00 Arrive from Job: 27-Apr-13 11:00	Leave for Job: 26-Apr-13 23:00  Arrive from Job: 27-Apr-13 11:00  Casing/Tubing  String Type Depth Size Weight Grade Thread Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Top Bottom SPF No of Shots Formation Name Specifications,  Total Interval: 0 Diameter:  Coiled Tubing  Arrive from Job: 27-Apr-13 11:00  Service Instructions: Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Casing/Tubing String Type Depth Size Weight Grade Thread Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Top Bottom SPF No of Shots Formation Name  Diameter:  Arrive from Job: 27-Apr-13 11:00  Service Instructions: Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Pump 30 bbl gel water, 250	Expected on	Location: 26-	Ready to	o Pump:		Job Sta	rt Date:		Job End Dat	e:
	Casing/Tubing  String Type Depth Size Weight Grade Thread Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Top Bottom SPF No of Shots Formation Name Specifications,  Total Interval: 0 Diameter:  Coiled Tubing  Service Instructions:  Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Casing/Tubing  String Type Depth Size Weight Grade Thread Provide equipment, material services and personnel to safely cement 7" intermediat casing per customer specifications,  Top Bottom SPF No of Shots Formation Name  Total Interval: 0 Diameter: Provide equipment, material services and personnel to safely cement 7" intermediat casing per customer specifications,										:00
Casing/Tubing Service Instructions:	String Type Depth Size Weight Grade Thread  Casing 5488 ft 7 in 26 lb/ft P-110  Perforations  Top Bottom SPF No of Shots Formation Name  Total Interval: 0 Diameter:  Coiled Tubing  Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	String Type Depth Size Weight Grade Thread Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Top Bottom SPF No of Shots Formation Name  Total Interval: 0 Diameter: Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Pump 30 bbl gel water, 250	Leave for Job	26-Apr-13 23:	:00			Arrive f	rom Job: 27-A	pr-13 11:00	)	
Odding/Tability	String Type Depth Size Weight Grade Thread  Casing 5488 ft 7 in 26 lb/ft P-110  Perforations  Top Bottom SPF No of Shots Formation Name  Total Interval: 0 Diameter:  Coiled Tubing  Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Provide equipment, materials services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	String Type Depth Size Weight Grade Thread Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Top Bottom SPF No of Shots Formation Name  Total Interval: 0 Diameter: Provide equipment, material services and personnel to safely cement 7" intermedial casing per customer specifications,  Pump 30 bbl gel water, 250	Casing/Tuh	ina		****					Service Ins	structions:
	Casing 5488 ft 7 in 26 lb/ft P-110 services and personnel to safely cement 7" intermediate casing per customer specifications,  Top Bottom SPF No of Shots Formation Name specifications,  Total Interval: 0 Diameter:  Coiled Tubing 5488 ft 7 in 26 lb/ft P-110 services and personnel to safely cement 7" intermediate casing per customer specifications,  Pump 30 bbl gel water, 250 s 50:50 Poz:H Lead @ 13.6 pp	Casing 5488 ft 7 in 26 lb/ft P-110 services and personnel to safely cement 7" intermedial casing per customer specifications,  Total Interval: 0 Diameter: P-110  Services and personnel to safely cement 7" intermedial casing per customer specifications,  Pump 30 bbl gel water, 250			Size	We	iaht	Grade	Thread			
Casing 5488 ft 7 in 26 lb/ft P-110 services and personnel to	Top Bottom SPF No of Shots Formation Name specifications,  Total Interval: 0 Diameter: Pump 30 bbl gel water, 250 s  Coiled Tubing 50:50 Poz:H Lead @ 13.6 pp	Top Bottom SPF No of Shots Formation Name specifications,  Total Interval: 0 Diameter: Casing per customer specifications,  Pump 30 bbl gel water, 250		THE RESERVE AND PERSONS ASSESSED.	L. L. Harris H. W. L. L. C.	ACTIVITIES THE RESERVE	In the second section of the second					
	Top Bottom SPF No of Shots Formation Name specifications,  Total Interval: 0 Diameter: Pump 30 bbl gel water, 250 s  Coiled Tubing 50:50 Poz:H Lead @ 13.6 pp	Top Bottom SPF No of Shots Formation Name specifications,  Total Interval: 0 Diameter: Pump 30 bbl gel water, 250	Perforations	5		******	5077 9070					
Casing per customer	Total Interval: 0 Diameter: Pump 30 bbl gel water, 250 s Coiled Tubing 50:50 Poz:H Lead @ 13.6 pp	Total Interval: 0 Diameter: Pump 30 bbl gel water, 250			SPF	用量系统	No of	Shots	Formation Na	me		
Specifications,	Coiled Tubing 50:50 Poz:H Lead @ 13.6 pp	Tump of but get making and									specification	113,
Turn of bot get mater, 20	100 1 01 117 70 45 0	Coiled Tubing 50:50 Poz:H Lead @ 13.6 p	Total Interval	: 0		Dia	meter:					
	Size Thickness Length String ID Real ID 100 sks Class H Tail @ 15.6		Coiled Tubi	ng								
Size Thickness Length String ID Reel ID 100 sks Class H Tail @ 15	Cito Ittiotation Longiti	Cito Intitional Longiti	Size	Thickne	SS	Length		String ID	Reel ID			
是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们	ppg, drop top piug and dispia	110										
Top Bottom SPF No of Shots Formation Name specifications  Total Interval: 0 Diameter: Pump 30 bbl of Society Specifications  Coiled Tubing 50:50 Poz:H L	Timokinoso   Longar	Size Thickness Length String ID Reel ID 100 sks Class ppg, drop top	Top  Total Interval  Coiled Tubi	Bottom : 0 ng		Dia	meter:		Marie de la companya	me	Pump 30 bb 50:50 Poz:H 100 sks Cla ppg, drop to	ns ol ( ol ( ol (
ppg, drop top plug and dis	per customer request.											
ppg, drop top plug and dis per customer request.	per customer request.											· · · · · · · · · · · · · · · · · · ·
		Client Contact	Client Conta	act					Title	Comp	ony Al	
per customer request.	Client Contact Name Voice Fax Email Title Company Notes	Name Voice Fax Email Title Company Notes			Fax		Email		Title	Comp	arry in	otes

Equipment: 7" HM and QC (8RD and BTC), top and bottom plugs, water hoses, mud hoses (contingency), air hoses, washup hoses, D110, D047, B306

GET FIELD TICKET STAMPED.

### Directions:

From Medford Okla go west on hwy 11 16.5 miles turn north on hwy 132 to state line go north on hwy 179 1.7 miles turn west on SW-90-rd 4.5 miles turn south on SW-50 0.4 miles turn west on lease rd 0.3 miles into location

		Materials		
Name	Code	Description	Quantity	Density
GEL WATER		30 BBL GELLED WATER	30.00 bbl	8.32 lb/gal
LEAD SLURRY		250 SKS 50:50 POZ:H @ 13.6 PPG	362.50 ft3	13.60 lb/gal
TAIL SLURRY		100 SKS CLASS H @ 15.6 PPG	119.00 ft3	15.60 lb/gal

## Fluid Systems:

		GEL WATER			
30 BBL GELLED	WATER				
Sacks Of:		Total			
		Blend/Co			
Sack Weight:		Dry Blen Code:	iu		
Yield:		Final Flu	ıid	8.32	lb/gal
rieia.		Density:		0.32	ib/gai
Mix Water:		Base Flu Den:	iid		
Mix Fluid:		Volume:		30.00	bbl
Mix Water Den:		Base Flu	ıid		
Sacks		Vol:			
Sacks Blend/Cem:		Acid Vol	ume:		
Total Mix		Acid Cor	201		
Water:		ACIU COI	16.		
Total Mix Fluid:					
				ad out	
Code	Conc	Design	Total by		d out with
			design		excess
B306	0.200 gal/bbl	BVOWashVO	6.00 gal	(	6.00 gal

250 SKS 50:50 P	OZ:H @ 13.6 P	Charles and Control	SLURR				
			Total				
Sacks Of:	Cement		Blend/C	Cem:	21,000	0.00	lb
Sack Weight:	84.00	lb	Dry Blei Code:	nd			
Yield:	1.45	ft3/sk	Final Fl Density		13	3.60	lb/gal
Mix Water:	6.87	gal/sk	Base Fl Den:	uid			
Mix Fluid:			Volume				
Mix Water Den:			Base FI Vol:	uid			
Sacks Blend/Cem:	250.00	sks	Acid Vo	lume:			
Total Mix Water:	6.50	m3	Acid Co	nc:			
Total Mix Fluid:							
					Load Exc		
Code	Conc	De	sign	Total desi	CONTRACTOR OF THE PARTY OF		d out with
D909	47.000 lb/sk	W	TSK	11,750.		11	,750.00 lb

WTSK

**BWOB** 

**BWOB** 

**BWOB** 

WTSK

9,250.00 lb

840.00 lb

126.00 lb

21.00 lb

500.00 lb

9,250.00 lb

840.00 lb

126.00 lb

21.00 lb

500.00 lb

37.000 lb/sk

4.000 %

0.600 %

0.100 %

2.000 lb/sk

D035

D020

D112

D065

D042

D079	0.200 %	BWOB	42.00 lb	42.00 lb
D013	0.180 %	BWOB	37.80 lb	37.80 lb

100 SKS CLASS	H @ 15.6 PPG		SLURRY			
Sacks Of:	Cement		Total Blend/C	Cem:	9,400.00	lb
Sack Weight:	94.00	lb	Dry Blei Code:	nd		
Yield:	1.19	ft3/sk	Final Fla Density		15.60	lb/gal
Mix Water:	5.32	gal/sk	Base Fl Den:	uid		
Mix Fluid:			Volume	7		
Mix Water Den:			Base Fl Vol:	uid		
Sacks Blend/Cem:	100.00	sks	Acid Vo	lume:		
Total Mix Water:	2.01	m3	Acid Co	nc:		
Total Mix Fluid:						
					Load out Excess	
Code	Conc	De	sign	Total by design	A STATE OF THE PARTY OF THE PAR	nd out wit excess
D909	94.000 lb/sk	W	TSK	9,400.00	lb 9,	400.00 lb

BWOC

9.40 lb

9.40 lb

C

D013

0.100 %

Resources										
Personnel	Equipment 1	Equipment 2	Assignment	Note						
Charles Jacobs			26-Apr-13 23:00 - 27-Apr-13 11:00							
James Flick	2TRA27543	2CPF29504	26-Apr-13 23:00 - 27-Apr-13 11:00							
Zachary Verser			26-Apr-13 23:00 - 27-Apr-13 11:00							
Justin Voegeli			26-Apr-13 23:00 - 27-Apr-13 11:00							

Directional	Measured	Sub-Sea	Vertical	True Vert	Northings (+)	Eastings (+)	Vert	DLS				
Survey	Depth	Incl.	Azim.	Depth	Southings (-)	Westings (-)	Section	deg/100'				
Calculations	(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	FNL	FSL	FWL	FEL
SHL	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5084	204	3315	1980
BHL	9321	88.70	358.20	4792.93	4750.20	-26.27	4750.27	0.00	334	4954	3316	1976
Miss Entry	4986	68.70	1.00	4789.64	426.91	-17.16	427.01	8.15	4657	631	3301	1994
Top Perf	5682	90.20	1.42	4858.66	1113.83	0.83	1113.81	1.37	3970	1317	3322	1972
Bottom Perf	9250	88.48	358.25	4791.21	4679.26	-24.07	4679.32	1.35	404	4883	3318	1974

Survey Points

X Y
NW Corner XY Coord 2103336 132131
SW Corner XY Coord 2103366 126840
NE Corner XY Coord 2108627 132172
SE Corner XY Coord 2108661 126887

X Y Surface XY 2106680 127073 

	Measured	Sub-Sea	Vertical	True Vert	Northings (+)	Eastings (+)	Vert	DLS				
	Depth	Incl.	Azim.	Depth	Southings (-)	Westings (-)	Section	deg/100'				
	(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	FNL	FSL	FWL	FEL
	0	0.0	0	0	0	0	0	the state of the s	5084	204	3315	1980
	240	0.20	166,60	240.00	0	0	-0.41	0.08	5084	203	3315	1980
	487 757	0.10 0.30	166,60 166,60	487.00 757.00	-1 -2	0	-1.04 -1.96	0.04 0.07	5085 5086	203 202	3316 3316	1980 1979
	859	0.20	166.60	859.00	-2	1	-2.39	0.10	5086	201	3316	1979
	1317	1.00	187.30	1316.97	-7	0	-7.13	0.18	5091	196	3316	1980
	1789	0.70	168.90	1788.92	-14	0	-14.04	0.09	5098	190	3316	1980
	2264	0.70	192.20	2263.88	-20	0	-19.73	0.06	5104	184	3315	1980
	2741	0.60	183.70	2740.85	-25	-1	-25.06	0.03	5109	179	3315	1981
	3215 3688	0.80 0.60	152.80 130.80	3214.82 3687.78	-30 -35	1 4	-30.49 -35.07	0.09 0.07	5114 5119	173 169	3316 3319	1979 1976
	4069	0.40	133.10	4068.77	-37	7	-37,29	0.05	5121	166	3322	1973
	4101	0.20	88.60	4100.77	-37	7	-37.37	0.92	5121	166	3322	1973
	4132	1.60	338.50	4131.76	-37	7	-36.97	5.42	5121	167	3322	1973
	4165	4.00	344.20	4164.72	-35	6	-35.43	7.31	5119	168	3321	1974
	4197 4228	6.60 9.20	350.60 352.70	4196.58 4227.29	-32 -28	6 5	-32.53 -28.31	8.32 8.44	5116 5112	171 175	3321 3320	1974 1975
	4260	11.70	350.40	4258.75	-23	4	-22.57	7.92	5106	181	3319	1976
	4292	14.40	348.20	4289.92	-15	3	-15.47	8.58	5099	188	3318	1977
	4323	17.60	348.00	4319.72	-7	1	-7.10	10.32	5091	196	3316	1979
	4355	19.80	348.60	4350.03	3	-1	2.96	6.90	5081	207	3314	1981
	4387	22.80	350,50	4379.84	14	-3	14.41	9.62	5070	218	3312	1983
	4418 4449	25.70 27.50	352.70 353.80	4408.10 4435.82	27 41	-5 -7	27.01 40.81	9.80 6.02	5057 5043	231 244	3310 3309	1985 1986
	4481	29.00	355.70	4464.01	56	-8	55.90	5.46	5028	260	3308	1987
	4513	31.00	357.60	4491.72	72	-9	71.87	6.92	5012	275	3307	1988
	4544	32.50	358.00	4518.08	88	-10	88.18	4.89	4996	292	3306	1989
	4576	34.50	357.40	4544.76	106	-10	105.83	6.34	4978	309	3306	1989
	4607	37.20	356.30	4569.89	124	-11	123.96	8.95	4960	328	3305	1990
	4639 4670	40.00 43.40	355.60 356.50	4594.89 4618.04	144 164	-13 -14	143.88 164.46	8.86 11.14	4940 4919	347 368	3303 3302	1992 1993
	4702	46.90	356,60	4640.60	187	-15	187.11	10.94	4897	391	3301	1994
	4734	50.20	357.40	4661.78	211	-17	211.06	10.48	4873	415	3300	1995
	4765	52.50	358.40	4681.14	235	-18	235.26	7.84	4849	439	3299	1996
	4797	55.10	359.00	4700.04	261	-18	261.08	8.26	4823	465	3299	1996
	4828	57.70	359.70	4717.19	287	-18	286.89	8.60	4797	491	3298	1996
	4860 4891	59.70 61.10	0.20 0.70	4733.82 4749.13	314 341	-18 -18	314.24 341.19	6.39 4.73	4770 4743	518 545	3299 3299	1996 1996
	4923	63.20	0.60	4764.08	369	-18	369.47	6.57	4714	573	3299	1995
	4954	66.10	0.80	4777.35	397	-18	397.48	9.37	4686	601	3300	1995
	4986	68.70	1.00	4789.64	427	-17	427.01	8.15	4657	631	3301	1994
	5017	70.50	1.30	4800.45	456	-17	456.06	5.88	4628	660	3301	1993
	5049 5081	72.70 74.70	1.00 0.90	4810.55 4819.53	486 517	-16 -15	486.41	6.93	4597 4567	690	3302 3303	1993 1992
	5112	76.40	1.00	4827.27	547	-15 -15	517.11 547.12	6.26 5.49	4537	721 751	3303	1992
	5144	77.80	1.10	4834.41	578	-14	578.31	4.39	4506	782	3304	1990
	5175	79.00	1.40	4840.64	609	-14	608.66	3.99	4475	812	3305	1990
	5207	80.30	1.80	4846.39	640	-13	640.12	4.24	4444	844	3306	1989
	5238	82.00	2.00	4851.16	671	-12	670.73	5.52	4413	874	3307	1987
	5270 5302	83.60 84.90	2.00 2.00	4855.17 4858.38	702 734	-11 -10	702.45 734.26	5.00 4.06	4381 4350	906 938	3309 3310	1986 1985
	5333	86.20	1.50	4860.78	765	-9	765.14	4.49	4319	969	3311	1984
Top of Tangent	5365	87.90	1.30	4862.43	797	-8	797.08	5.35	4287	1001	3312	1983
@ 5353'	5396	88.60	1.40	4863,38	828	-7	828.05	2.28	4256	1032	3313	1982
	5428	89.60	1.30	4863.88	860	-6	860.04	3.14	4224	1064	3314	1981
	5460 5492	90.50	1.50	4863.85	892	-6 -5	892.02	2.88	4192	1096	3315	1980
Btm of Tangent	5523	91.40 92.40	1.60 1.90	4863.32 4862.29	924 955	-5 -4	924.00 954.96	2.83 3.37	4160 4129	1128 1159	3316 3317	1979 1977
@ 5553'	5656	92.10	1.90	4861.04	987	-3	986.91	0.94	4097	1191	3318	1976
	5587	91.50	1.70	4860.03	1019	-2	1018.87	1.98	4065	1222	3319	1975
	5679	90.20	1.40	4858.67	1111	1	1110.81	1.45	3973	1314	3322	1972
	5710	90.20	1.60	4858.56	1142	2	1141.79	0.65	3942	1345	3323	1971
	5742 5773	89.20	2.00	4858.73	1174	3	1173.77	3.37	3910	1377	3325	1970
	5805	89.10 88.90	2.30 1.90	4859.19 4859.74	1205 1237	4 5	1204.73 1236.70	1.02 1.40	3879 3847	1408 1440	3326 3327	1968 1967
	5000	55.50	1.50	1000.17	1201	J	1200.70	1.40	0041	1-140	5521	1007

Measured	Sub-Sea	Vertical	True Vert	Marthings (1)	Coolings (1)	1/2-4	DIO I				
Depth	Incl.	Azim.	Depth	Northings (+) Southings (-)	Eastings (+) Westings (-)	Vert Section	DLS deg/100'				
(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	FNL	FSL	FWL	FEL
5867	89.70	1.80	4860.50	1299	7	1298.65	1.30	3785	1502	3330	1965
5962	90.20	2.00	4860.58	1394	10	1393.57	0.57	3690	1597	3333	1961
6057	90.40	2.20	4860.09	1489	14	1488.49	0.30	3595	1692	3337	1957
6152	89.80	0.90	4859.92	1584	16	1583.43	1.51	3500	1787	3340	1954
6247	89.80	0.80	4860.25	1679	18	1678.41	0.11	3405	1882	3342	1951
6342 6436	90.80	0.60	4859.76	1774	19	1773.39	1.07	3311	1977	3344	1950
6531	90.70 90.80	0.30 359.40	4858.52 4857.28	1868	19	1867.37	0.34	3217	2071	3345	1948
6626	92.20	358,90	4854.79	1963 2057	19 18	1962.36 2057.32	0.95 1.56	3122 3027	2166	3346	1948
6721	92.50	359.10	4850.90	2152	16	2152.24	0.38	2932	2261 2356	3345 3344	1949 1950
6816	92.60	359.10	4846.67	2247	15	2247.14	0.11	2837	2451	3343	1951
6910	93.10	359.30	4842.00	2341	13	2341.02	0.57	2743	2545	3342	1951
7004	93.40	359.70	4836.67	2435	12	2434.87	0.53	2649	2638	3342	1952
7099	93.60	359.90	4830.87	2530	12	2529.69	0.30	2554	2733	3342	1951
7193	92.20	359.60	4826.11	2624	12	2623.57	1.52	2460	2827	3342	1951
7288	91.40	359.50	4823.13	2719	11	2718.52	0.85	2365	2922	3342	1951
7382	92.00	0.30	4820.34	2813	11	2812.48	1.06	2271	3016	3342	1951
7477 7572	90.30 90.20	359.60 358.90	4818.44	2908	11	2907.45	1.94	2176	3111	3343	1950
7667	89.60	358.80	4818.02 4818.19	3003 3098	9	3002.45	0.74	2081	3206	3342	1951
7762	90.70	358.70	4817.94	3193	6	3097.44 3192.42	0.64 1.16	1986 1891	3301	3340	1952
7856	91.40	359.00	4816.22	3286	4	3286.40	0.81	1797	3396 3490	3339 3338	1954 1955
7951	92.20	359.10	4813.23	3381	2	3381.35	0.85	1703	3585	3337	1956
8046	92.40	359.10	4809.42	3476	1	3476.27	0.21	1608	3680	3336	1957
8140	91.60	359,20	4806.14	3570	-1	3570.20	0.86	1514	3774	3335	1958
8234	91.60	358.90	4803.51	3664	-2	3664.16	0.32	1420	3868	3334	1959
8353	92.60	359.70	4799.15	3783	-4	3783.08	1.08	1301	3987	3333	1959
8448	93.50	359.70	4794.10	3878	-4	3877.94	0.95	1206	4082	3333	1959
8543	92.40	0.00	4789.21	3973	-5	3972.81	1.20	1111	4176	3333	1959
8637 8732	91.50	359.10	4786.01	4067	-5	4066.76	1.35	1017	4270	3333	1959
8827	89.70 88.70	358.40 358.10	4785.02 4786.34	4162	-7	4161.74	2.03	922	4365	3332	1960
8923	93.10	358.90	4784.83	4257 4353	-10 -13	4256.70 4352.64	1.10 4.66	827	4460	3329	1963
9018	89.10	357.90	4783.01	4448	-15 -15	4447.58	4.34	731 636	4556 4651	3327 3325	1965 1967
9113	87.30	357.40	4786.00	4542	-19	4542.47	1.97	541	4746	3322	1970
9207	87.90	358.40	4789.93	4636	-23	4636.35	1.24	447	4840	3319	1973
9266	88.70	358.20	4791.68	4695	-25	4695.30	1.40	388	4899	3317	1974
9321	88.70	358.20	4792.93	4750	-26	4750.27	0.00	334	4954	3316	1976
								5084	204	3315	1980
								5084	204	3315	1980
								5084	204	3315	1980
								5084	204	3315	1980
								5084	204	3315	1980
								5084	204	3315	1980
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								5084	204	3315	1980
								5084	204	3315	1980

## **Hydraulic Fracturing Fluid Product Component Information Disclosure**

5/11/2013
5/21/2013
Kansas
Harper
15-077-21922-01-00
SandRidge Energy
Brad 3508 3-12H
-98.13460000
37.01500000
NAD27
NO
4,792
1,566,936
0







## **Hydraulic Fracturing Fluid Composition:**

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Additive	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Ingredients shown abo	ove are subject to 29 CF	FR 1910.1200(i) and app	pear on Material Safety Data She	ets (MSDS). Ingredie	nts shown below are	Non-MSDS.	
HCL 15, Slickwater		Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Water (Including Mix Water Supplied by Client)*	NA		94.96818	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Crystalline silica	14808-60-7	95.80569	4.82077	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Hydrogen chloride	7647-01-0	3.13379	0.15769	

	<b>1</b> 0		T				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		rigent, i repping rigent	Distillates (petroleum),	64742-47-8	0.30404	0.01530	
				04742-47-0	0.50404	0.01330	
LIOL 45 Olivers to a	Oaldanahaanaa	O a mana i a sa I a la la la la la la com	hydrotreated light				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Acrylamide/ammonium acrylate	26100-47-0	0.23165	0.01166	
			copolymer	Γ	0.20.00	0.01.00	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,	copolymor				
TOE 15, Olickwater	Ochlamberger	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Ammonium chloride	12125-02-9	0.14478	0.00729	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
TOL TO, Ollokwatel	Comamberger	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Polyethylene glycol monohexyl	31726-34-8	0.10516	0.00529	
			ether				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Sorbitan monooleate	1338-43-8	0.02896	0.00146	
			Dorbitari monooleate	1330-43-0	0.02090	0.00140	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		rigorit, riopping rigorit	Ethoxylated oleic acid	9004-96-0	0.02896	0.00146	
1101 45 0" 1	Oaklassk	Dame de la latina	Zaroxyratou ororo aolu	0007 00 0	0.02090	0.00140	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
		.g.m,oppggom	Trisodium ortho phosphate	7601-54-9	0.02511	0.00126	
1101 45 0" 1	Oaklassk	Democratical Latter	marana orano prioopriato		0.02911	0.00120	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent		the state of the s			

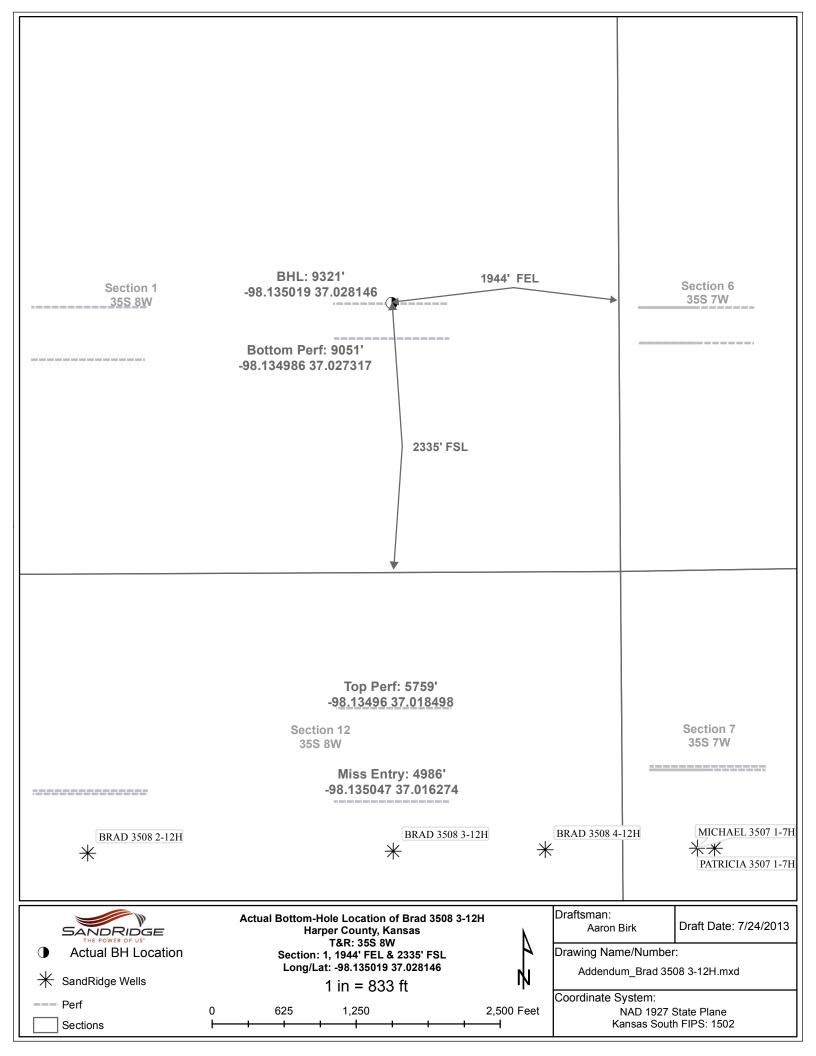
			Sodium erythorbate	6381-77-7	0.02381	0.00120	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Methanol	67-56-1	0.01265	0.00064	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Glutaraldehyde	111-30-8	0.01076	0.00054	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			Fatty acids, tall-oil	61790-12-3	0.00921	0.00046	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent	Sorbitol Tetraoleate	61723-83-9	0.00869	0.00044	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent	Thiourea, polymer with	68527-49-1	0.00758	0.00038	
			formaldehyde and 1- phenylethanone				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor, Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent	Sodium sulfocyanate	540-72-7	0.00753	0.00038	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,	Dodiam Sunocyanate	V-7V-1 Z-1	0.00755	0.00036	
Hot 19, Slickwater	Gerilatibetger	Friction Reducer, Scale Inhibitor, Biocide, Surfactant, Acid, Iron Control Agent, Propping Agent					
			2-Propenoic acid, ammonium salt	10604-69-0	0.00709	0.00036	

HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		Agent, Fropping Agent	Ethane-1,2-diol	107-21-1	0.00715	0.00036	
			Ethane-1,2-dioi	107-21-1	0.00715	0.00036	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
		/ tgorit; i ropping / tgorit	Alcohols, C10-C16, ethoxylated	68002-97-1	0.00579	0.00029	
	<u></u>		Alcohols, 610-610, ethoxylated	00002-37-1	0.00979	0.00023	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Dicoco dimethyl quaternary	61789-77-3	0.00461	0.00023	
			ammonium chloride				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
,		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		Agent, Propping Agent	Alcohols, C12-C14, ethoxylated	C0420 F0 0	0.00434	0.00022	
			Alcohols, C12-C14, ethoxylated	00439-50-9	0.00434	0.00022	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Alcohols, C12-C16, ethoxylated	68551-12-2	0.00434	0.00022	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,	11 1 1, 1 1 1, 1 1 y 1 1 1 y 1 1 1 y 1 1 1 1				
HCL 15, Slickwater	Schlumberger						
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
	<u> </u>		C14 alpha olefin ethoxylate	84133-50-6	0.00434	0.00022	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		Agent, Fropping Agent	Alcohols, C14-15, ethoxylated	68951-67-7	0.00353	0.00018	
	1		(7EO)	00001-01-1	0.00333	0.00010	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,	, ,				
TIOL 13, Silckwater	Contamberger	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent		107.10.7	2 22	2.25:-	
			Prop-2-yn-1-ol	107-19-7	0.00235	0.00012	

HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
TOE 15, Olickwater	Ochidinocigoi	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Alkyl(c12-16) dimethylbenzyl	68424-85-1	0.00192	0.00010	
			ammonium chloride				
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
· ·	, and the second	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		Agent, Propping Agent	Alkenes, C>10 a-	64743-02-8	0.00157	0.00008	
			Alkenes, C>10 a-	04743-02-8	0.00157	0.00008	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		rigoni, i ropping rigoni	2-propenamid	79-06-1	0.00130	0.00007	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
	o a manna o ngo n	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent	Propan-2-ol	67-63-0	0.00092	0.00005	
1101 45 01 1			1 торап-2-оі	07-03-0	0.00092	0.00003	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
		Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant ,					
		Acid, Iron Control					
		Agent, Propping Agent					
			Potassium hydroxide	1310-58-3	0.00021	0.00001	
HCL 15, Slickwater	Schlumberger	Corrosion Inhibitor,					
	Ţ,	Friction Reducer,					
		Scale Inhibitor,					
		Biocide, Surfactant,					
		Acid, Iron Control					
		Agent, Propping Agent					
		Agent, Fropping Agent	Ethanol	64-17-5	0.00023	0.00001	
			Luianoi	p4-17-5	0.00023	0.00001	

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)

<sup>\*</sup> 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%



## Remarks

Tiffany Golay 07/15/013 09:45 Well was completed using an open hole packer system. Conductor am