

ATS-11-860

OCD Hobbs

HOBBS OCD

Form 3160-3  
(August 2007)

## Split Estate

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

DEC 06 2011

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

RECEIVED

5. Lease Serial No.  
LC-005525 NM 125054

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.  
Coogan Federal #2

9. API Well No.

30-025- 40362

10. Field and Pool, or Exploratory  
Wantz;Abo (62700)11. Sec., T. R. M. or Blk. and Survey or Area  
Sec 1, T21S, R37E Lot 1312. County or Parish  
Lea13. State  
NM1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator SandRidge Exploration &amp; Production, LLC

3a. Address 123 Robert S. Kerr Ave.

3b. Phone No. (include area code)  
(405) 429-5500

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 3630' FSL, 990' FWL

At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office\*  
appx 5 miles NE of Eunice, NM15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any) 990'16. No. of acres in lease  
1571.3817. Spacing Unit dedicated to this well  
40 acres18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft. appx 170'19. Proposed Depth  
7900'20. BLM/BIA Bond No. on file  
Nationwide B005997 / Statewide B006211  
Nm B-0054821. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3516 GR22. Approximate date work will start\*  
08/15/201123. Estimated duration  
15 days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature Name (Printed/Typed)  
Linda GuthrieDate  
1/28/11Title  
Regulatory Manager

Email: lguthrie@sandridgeenergy.com

Approved by (Signature) /s/ Don Peterson

Name (Printed/Typed)

Date  
DEC 1 2011Title  
FIELD MANAGEROffice  
CARLSBAD FIELD OFFICEApplication approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

\*(Instructions on page 2)

Capitan Controlled Water Basin

K 01/11/12

Approval Subject to General Requirements  
& Special Stipulations AttachedSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

JAN 23 2012 dm

## DRILLING PROGRAM

DEC 06 2011

SandRidge Exploration and Production, LLP  
**COOGAN FEDERAL #2**

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Surface Location: 3630' FLS, 990' FWL, Unit E, Lot 13, Sec 1, T21S, R37E, Lea County, New Mexico

Bottom Hole Location: same

## 1. Geologic Name of Surface Formation:

Quaternary

## 2. Estimated Tops of Geological Markers &amp; Depths of Anticipated Fresh Water, Oil or Gas:

a. Ogallala	100'	Water
b. Rustler	1497'	Barren
c. Top of Salt	1500'	
d. Tansil	2698'	Barren
e. Base of Salt	2700'	
f. Yates	2803'	Oil / Gas
g. Seven Rivers	3048'	Barren
h. Queen	3612'	Barren
i. San Andres	4170'	Oil
j. Glorieta	5469'	Oil
k. Blinbry	5896'	Oil
l. Tubb	6388'	Oil
m. Drinkard	6577'	Oil
n. Abo	7002'	Oil
o. Total Depth	7900'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 8-5/8" casing @ 1525' and circulating cement back to the surface. The Abo intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement to surface.

## 3. Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17	0-80'	14	0-80'	50#		
12 -1/4"	80-1525'	8-5/8"	0-1525'	24#	STC	J-55
7-7/8"	1525-7900'	5-1/2"	0-7900'	17#	LTC	J-55
		4 1/2"		11.0		L-80

## Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
8-5/8"	1.95	4.20	10.68
5-1/2"	1.52	1.20	2.03

Casing load assumptions for **new 8-5/8", J-55, 24# casing**:

Collapse: Fluid inside casing is evacuated. A full column of 9 ppg fluid is present in the annulus.  
Burst: Fluid in the annulus is evacuated and a full column of 9 ppg fluid is present in the casing.  
Tension: All fluid inside wellbore is evacuated

Casing load assumptions for **new 5-1/2", J-55, 17# casing**:

Collapse: Fluid inside casing is evacuated. A full column of 10 ppg fluid is present in the annulus.  
Burst: Surface treating pressures will not exceed 4200 psi exposure to the casing.  
Tension: All fluid inside wellbore is evacuated

#### 4. Cement Program:

*a. 14" Conductor*

Ready-mix concrete

*b. 8-5/8" Surface*

Lead: **500 sacks (100% excess)** Class C (65:35) Poz Cement ECONOCEM™ System +3% lbm/sk Poly-E-Flake, 12.8 ppg, Yield: 1.86 ft<sup>3</sup>/sk, Mixing Fluid: 9.94 gal/sk.

Tail: **270 sacks (100% excess)** Class C Cement Halcem™ System+ 2% Calcium Chloride+ 0.125 lbm/sk Poly-E-Flake, 14.8 ppg, Yield: 1.35 ft<sup>3</sup>/sk, Mixing Fluid 6.37 gal/sk. **TOC @ surface.**

*c. <sup>4 1/2"</sup>5-1/2" Production*

Lead: **385 sacks (25% excess)** Class H (50:50) Poz EXTENDACEM™ System + 5 #/sk Gilsonite, 12.2 ppg, Yield 2.26 ft<sup>3</sup>/sk, Mixing fluid: 12.07 gal/sk.

Tail: **650 sacks (25% excess)** Class H (50:50) Poz Versacem™ System + 0.3% Halad®-9 + 3% Salt + 5 lbm/sk Gilsonite, 14.4 ppg, Yield: 1.25 ft<sup>3</sup>/sk, Mixing fluid: 5.06 gal/sk. **TOC @ surface.**

**Final volumes will be determined using caliper log and 25% excess.**

#### 5. Pressure Control Equipment:

BOP DESIGN: The BOP system used to drill the production hole will consist of an 11" 3M Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 3M system prior to drilling out the surface casing shoe.

The pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These tests will be logged into the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 3000 psi WP.

## 6. MUD PROGRAM SUMMARY:

DEPTH	HOLE SIZE	CASING SIZE	MUD WT.	VISCOSITY	FLUID LOSS
0 - <del>1,525'</del> 1,580	12-1/4"	8-5/8"	8.6 - 9.4	31 - 33	NC
<del>1,525'</del> - 4,100'	7-7/8"	---	9.7-9.8	28 - 29	NC
4,100' - 6,300	7-7/8"	---	9.8-9.9	30 - 31	15 - 10 cc
6,300' - 7,880	7- 7/8"	<del>5-1/2"</del> 4 1/2"	9.9-10	32 - 38	10 - 6 cc

### Interval Discussion:

INTERVAL	DAYS	WEIGHT	VISCOSITY	API FILTRATE	LCM	pH
0 - <del>1,525'</del>	1	8.6 -9.4 lbs/gal	31 -33 sec/qt	NC	NC	As needed

Spud in with fresh water allowing native solids to build and maintain viscosity @ 31 – 33 sec./qt. Circulate through closed loop system. Utilize all available solids control equipment and dilution with fresh water to control viscosity, mud weight, and volume. Add 1 sack of Paper every other connection through this interval to help clean hole and/or more Paper as needed for seepage losses. Although lost circulation is not anticipated drilling this interval, ample supply of fibrous LCM will be on location. Approximately 100' from surface TD, mix 15 sacks of yellow starch @ 5 min./sx to help condition hole for running surface casing. Use pre-mix to build viscous PHPA pill and sweep the hole with +/- 10 Bbl. of same prior to tripping out to run 8-5/8" surface casing.

**Materials to be Utilized:** PHPA, Paper, Starch & Fibrous LCM if required

INTERVAL	DAYS	WEIGHT	VISCOSITY	API FILTRATE	LCM	pH
<del>1,525'</del> - 4,100'	1	9.7-9.8 lbs/gal	28 -29 sec/qt	NC	As needed	10.0 – 10.5

Drill below surface casing with 9.7-9.8 lb/gal Brine circulating closed loop system. Build viscous PHPA pills in pre-mix and use to sweep hole for additional cleaning as needed. Mix Paper as required to control seepage losses. Use Lime to control and maintain 10 – 10.5 pH throughout this interval. Use all available solids control equipment and if needed, drip non-ionic PHPA below flow line to help maintain clear Brine. Severe lost circulation is not anticipated drilling this interval but sufficient fibrous material will be on location to combat same should it occur.

**Materials to be Utilized:** PHPA, Paper, Lime, & Fibrous LCM if required

INTERVAL	DAYS	WEIGHT	VISCOSITY	API FILTRATE	LCM	pH
4,100'– 6,300'	1	9.8-9.9 lbs/gal	30 -31 sec/qt	15 -10 cc	As needed	10.0 – 10.5

At 4,100', reduce fluid loss to 15cc with addition of starch @ 6-8 mins./sk. Continue additions of Lime as needed to control pH. Further reduce fluid loss to 10cc by 6,300' with continued starch additions. Sweep hole as required with viscous PHPA sweeps from premix. Add Paper to sweeps as needed for seepage. Severe lost circulation is not anticipated while drilling this interval but sufficient quantities of fibrous LCM will be on location. Small amounts of Defoamer may be required while drilling this interval. Continue to use all available mechanical solids control and non-ionic PHPA dripped below shaker for additional solids control.

**Materials to be Utilized:** PHPA, Paper, Lime, Starch; Defoamer & Fibrous LCM if required

INTERVAL	DAYS	WEIGHT	VISCOSITY	API FILTRATE	LCM	pH
6,300'– Total Depth	2	9.9-10.0 lbs/gal	32 -38 sec/qt	10 - 6 cc	As needed	10.0 – 10.5

At 6,300' mud up to 32 -34 sec./qt. viscosity with Salt Gel. Continue additions of Lime to control pH. Maintain fluid loss at 10.0 cc with Starch until 6,900'. At 6,900', further reduce fluid loss to 6 cc with additional Starch prior to topping the ABO. Moderate loss of circulation is possible in this interval. Use Paper for seepage losses and fibrous LCM for more severe losses. At 7,600', raise viscosity to 38 sec./qt. with Salt Gel and maintain to TD. At TD, sweep hole with 5 Bbl. viscous PHPA pill and circulate completely out of hole prior to tripping.

**Materials to be Utilized:** PHPA, Paper, Lime, Salt Gel, Starch; Defoamer & Fibrous LCM if required. Mud products for weight addition and fluid loss control will be on location at all times.

**7. Auxiliary Well Control and Monitoring Equipment:**

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

- c. Hydrogen Sulfide detection equipment will be in operation prior to spud and throughout the entire drilling process until total depth is reached. Breathing equipment will be on location prior to spud and until total depth is reached.

**8. Logging, Coring, and Testing Program:**

Gamma Ray / Neutron : surface to TD (7900')

Spectral Gamma Ray / Density / Resistivity : surface casing to TD (7900')

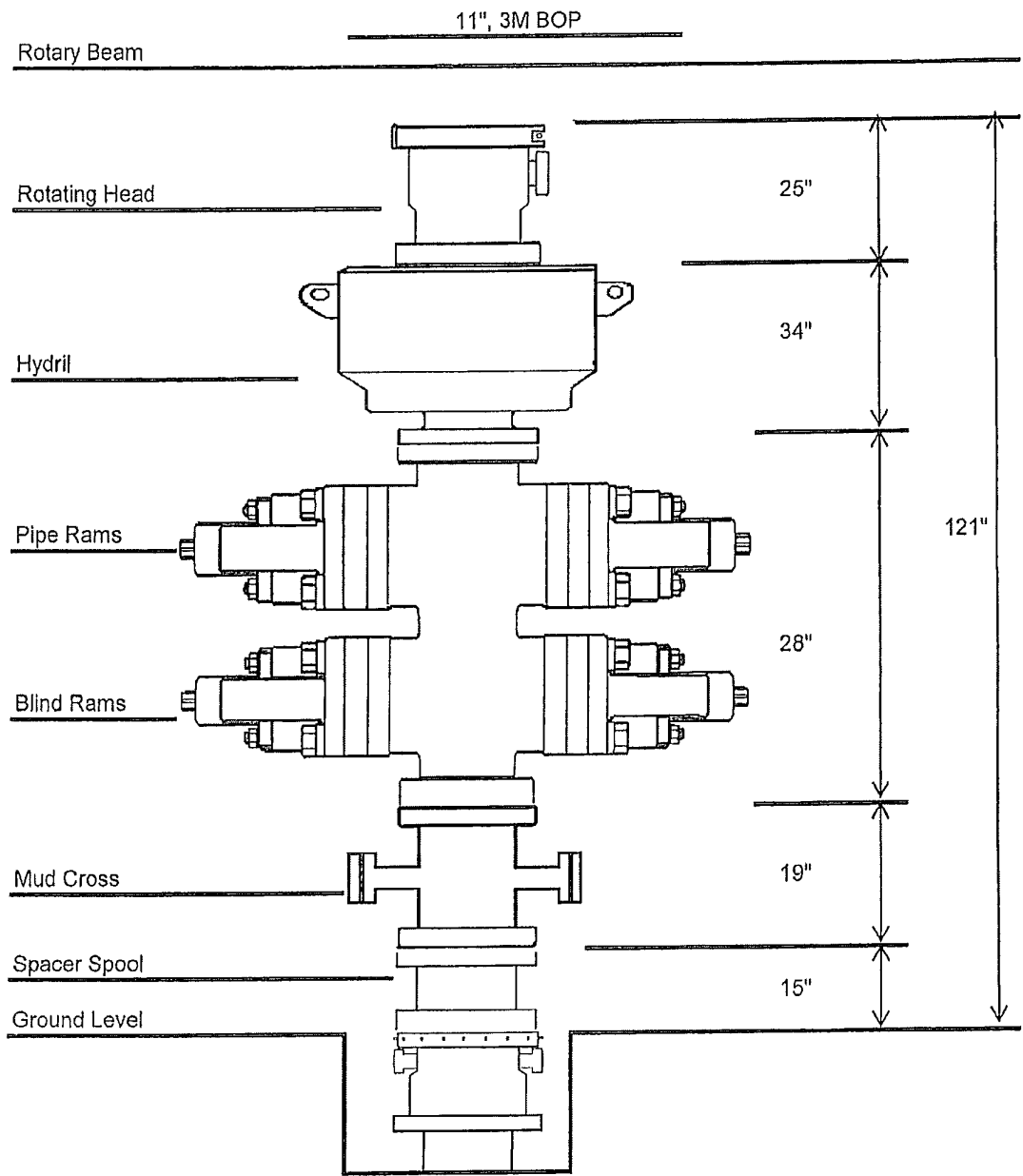
**9. Potential Hazards:**

No abnormal pressures or temperatures are expected. Estimated BHP 3,204 psi and estimated BHT 115 degrees. If H2S is encountered, the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. H2S monitoring equipment will be on location 24/7 during drilling operations.

**10. Anticipated Starting Date and Duration of Operations:**

- a. Location construction will begin after the BLM and NMOCD have approved the APD. Anticipated spud date will be as soon after approval as rig is available. Move in operations and drilling is expected to take 15 days.
- b. If production casing is run, an additional 30 days will be required to complete well and construct surface facilities and/or lay flow lines in order to place the well on production.

Lariat 17 BOP



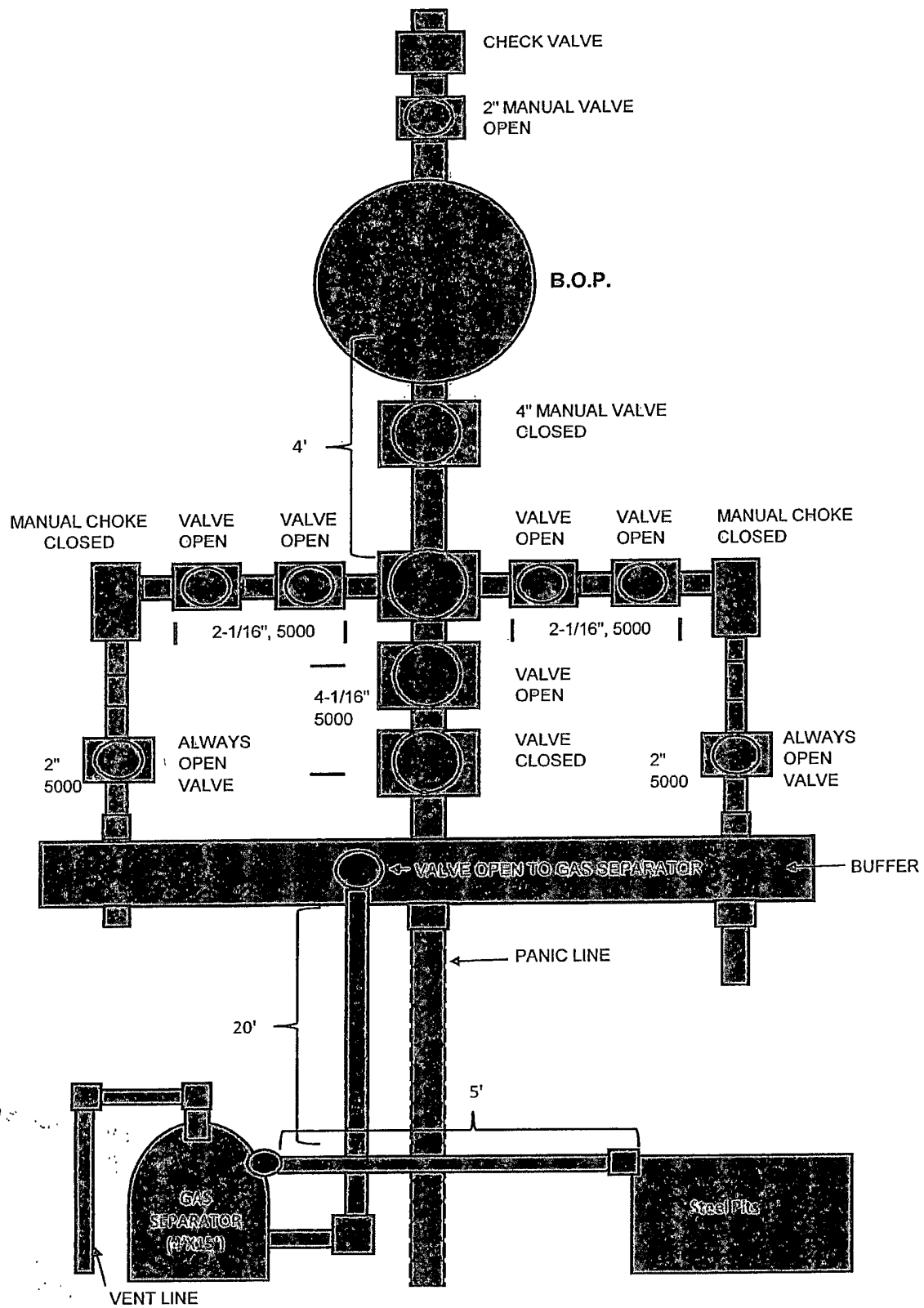
Attachment to Exhibit #1  
NOTES REGARDING BLOWOUT PREVENTERS  
SandRidge Exploration and Production, LLC  
**Coogan Federal Well #2**

Location: 3630' FSL, 990' FWL, Section 1,T21S, R37E, Lea County, New Mexico

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum of 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a Kelly cock attached to the Kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operations.
10. Hydraulic floor control for blowout preventer will be location as near in proximity to the driller's controls as practical.
11. All BOP equipment will meet API standards and include a minimum 40-gallon accumulator having two independent means of power to initiate closing operations.



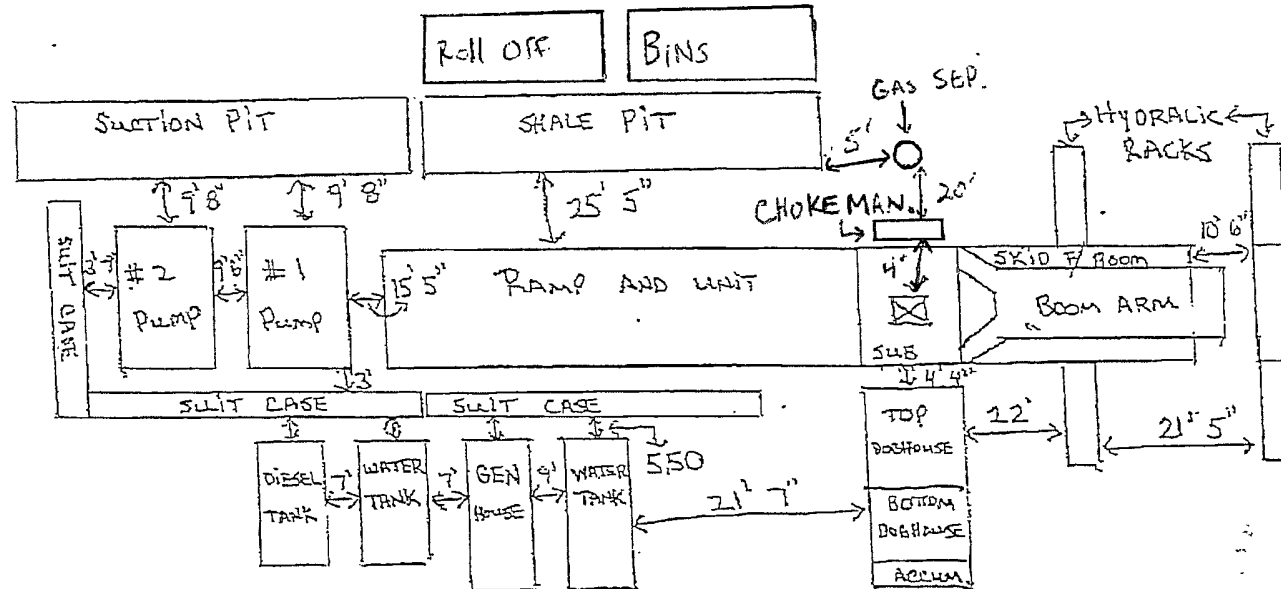
# Lariat 17 choke Manifold



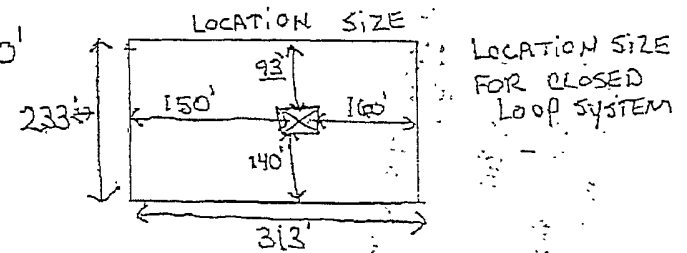
# LARIAT SERVICES, INC.

RIG #17

TYPICAL LOCATION FOOTPRINT



CENTER OF HOLE TO BACK OF STEEL PITS 40'  
 CENTER OF HOLE TO END OF ACCUMULATOR 61'  
 CENTER OF HOLE TO END OF UNIT RAMP 58'  
 CENTER OF HOLE TO BACK OF LAST PIPE RACK - 48'  
 CENTER OF HOLE TO END OF BOOM - 44'  
 CENTER OF HOLE TO END OF SKID FOR ROOM - 34'



# Lariat Services, Inc. – Rig #17 Inventory

**APPROXIMATE AGE:**

Built 2005

**POWERED DRAW WORKS:**

Rt 400 Single Drum Drawworks Lebus Grooved for 1 1/8" Line 42" x 10" Brakes with 424-400,000# Tension Torque Brake.

Powered by 630 HP Series 60 Detroit Engine with an Allison 6061 Transmission to 500 HP Right Angle Gear Box.

**MAST & SUBSTRUCTURE:**

International Derrick Service 67' 500,000 GNC Mast Mounted on a 3 Axle Carrier with Boatskid 12' Substructure with Pipe Handling Boom Arm.

**POWERED PUMPS:**

(1) RSF-1000 Powered by Detroit Series 2000 Diesel Engine.

(1) EMSCO DB-550 Powered by Caterpillar 3406 Diesel Engine.

**TOP HEAD DRIVE AND POWER UNIT:**

Top Drive system XK250-24K Powered by Detroit Series 60 / 350 HP @ 1200 RPM with Sunstrawn Hydraulic Pump.

Maximum Circulating Pressure 5000 PSI with Torque Capacity of 24,000 Ft. lbs. Max. RPM 150.

**CROWN AND TRAVELING CARRIER FOR TOP HEAD DRIVE:**

Crown is Designed for 8 Line String Up. Consisting of (8) 20" x 1 1/8" Sheaves. Banjo Sheaves are 1 1/8" X 250 Ton.

**WELL CONTROL EQUIPMENT:**

Koomey 8 Bottle 5 Station Accumulator.

5000 # Choke Manifold.

11" x 3000 # Double Shaffer B.O.P.

**GENERATOR HOUSE:**

10' x 48' Skid Mounted House.

(2) 380 KW Marathon Generators Powered by (2) Detroit Series 60 550 HP Diesel Engines.

Sullivan Palettek Rotary Screw Compressor.

**MUD SYSTEM:**

(2) 10' W x 5' H x 40' L with 10' Porch on Each End 400 BBL Each with (4) 5" x 6" Centrifugal Pumps with 50 HP, Electric motors, Linear Shale Shaker. (2) Cone Desander (12) Cone Desilter and Mud Hopper.

**TOOLPUSHER'S HOUSE:**

8' W x 40' L Idle Time Trailer.

**TOP DOGHOUSE:**

8' W x 20' L with 4' Porch.

**BOTTOM DOG HOUSE:**

25' L x 8' W with 5 Station Accumulator Mounted on Front.

**WATER TANK:**

8' W x 8' H x 40' L with Lubster Mounted on One End with (2) 2" X 3" Centrifugal Pumps with 20 HP Electric Motors.

Water Tank 500 BBL Cap.

**HANDLING TOOLS AND AUXILIARY EQUIPMENT:**

OWI 1000 Hydraulic Wireline Machine.

U.S. Oil Tools.

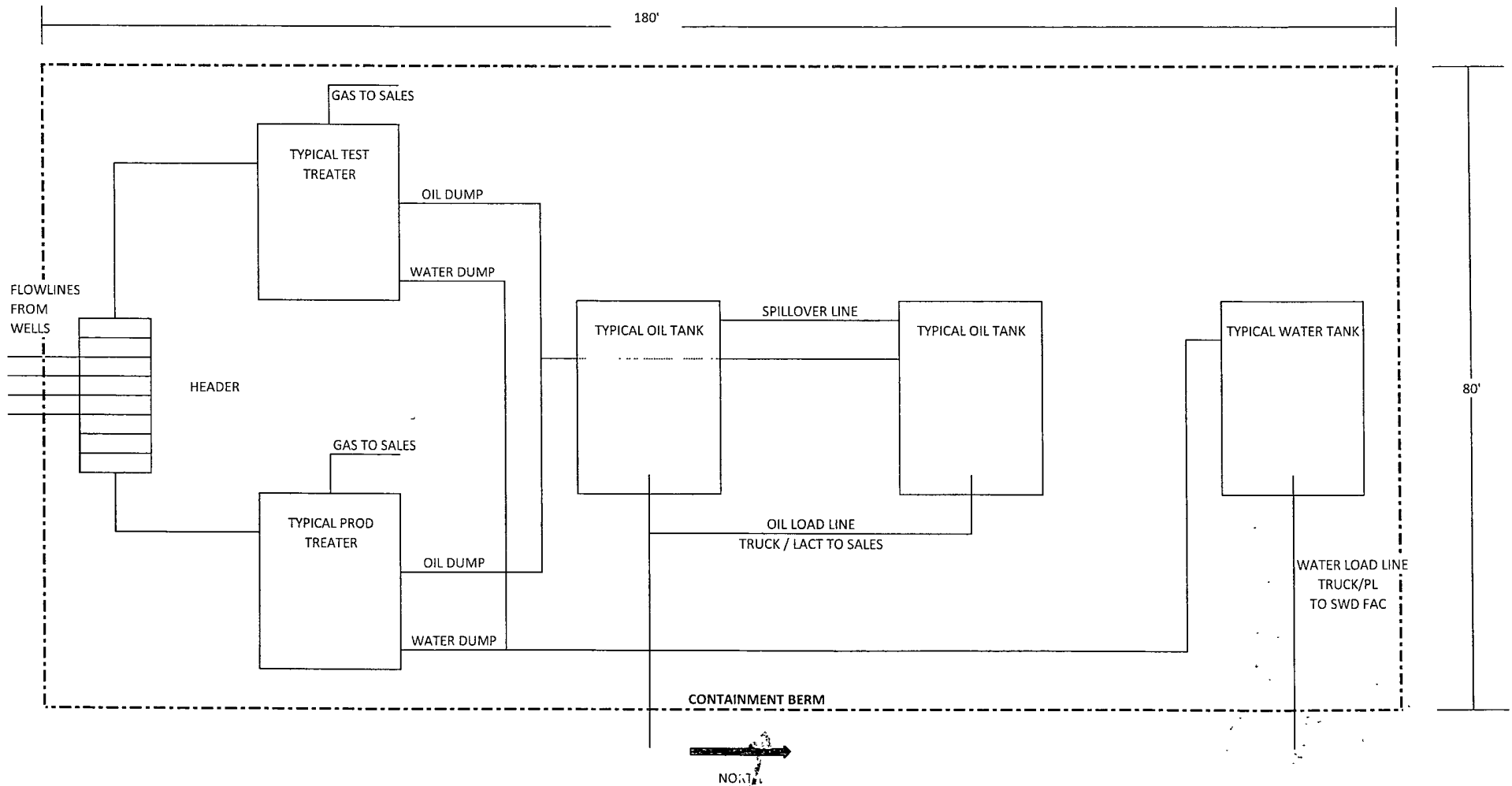
Air Slips.

(2) Braden Hydraulic 3/8" Line Winches.

## Lariat Services, Inc. – Rig #17 Inventory

(1) 450 Gallon Day Tank on Unit.  
(1) 450 Gallon Hydraulic Tank.  
(3) Suitcases (1) 32' x 3' x 1" – (1) 40' x 3' x 1" - (1) 34' x 3' x 2".  
(1) Diesel Tank Skid Mounted 38' L x 7' (Tank is 6' x 6' x 14").  
(1) Junk Box 5' x 8" x 20'.  
(1) Auto-Drill Automatic Driller.  
Type "D" Weight Indicator with E-80 Sensor.  
Deadline Anchor Hercules Type HA 118T.  
Crown Protection System.  
(1) Pre-Mix Pit 7' W x 7' H x 28' L with 5" x 6" Mixing Pump 100 HP  
Electric Motor.  
(1) 500 BBL Storage Tank.

SANDRIDGE ENERGY COMPANY  
TYPICAL WELL PRODUCTION TANK BATTERY  
COOGAN FEDERAL #2





HOBBS OCD

July 22, 2011

DEC 06 2011

RECEIVED

Bureau of Land Management  
620 E Greene St.  
Carlsbad NM 88220

Re: SandRidge's Proposed Coogan Federal #2  
Section 1, T21S, R37E  
Lea County, New Mexico

Gentlemen:

SandRidge Exploration and Production, LLC ("SandRidge") is currently in the process of negotiating a Surface Use Agreement with Mr. Paige McNeill, the surface owner under SandRidge's proposed Coogan Federal #2. Due to on-going schedule conflicts, SandRidge and Mr. McNeill have been unable to convene and execute a final Surface Use Agreement for the area, although we fully expect to have this accomplished and submitted to you in the next few weeks.

Should you have any questions or need any additional information, please do not hesitate to contact me at (405) 429-6085. You may also contact the surface owner, Mr. Paige McNeill at 575-393-3399, to verify the above stated facts.

Best regards,

A handwritten signature in cursive script, reading "Linda Guthrie".

Linda Guthrie  
Regulatory Manager

**energy** to go further