

SEP 29 2009

Form 3160-5  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007**SUNDRY NOTICES AND REPORTS ON WELLS***Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE- Other instructions on reverse side.**1 Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other2 Name of Operator  
**BOPCO, L. P.**3a Address  
**P. O. Box 2760 Midland, TX 79702**3b Phone No (include area code)  
**432-683-2277**

4 Location of Well (Footage, Sec., T., R., M., or Survey Description)

**Surface: NWSW, UL L, 1595' FSL, 1096' FWL, Lat N32.34534, Lon W103.83939, Sec 36, T22S, R30  
BHL: 2160 FSL, 330 FWL, Sec 35-R22S-R30E, Lat N32.347286, Lon W103.859231, Sec 35, T22S, R30E**5 Lease Serial No  
**NM 02952A**

6 If Indian, Allottee or Tribe Name

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

8 Well Name and No  
**James Ranch Unit #106H**9 API Well No  
**30-015-37063**10 Field and Pool, or Exploratory Area  
**Quahada Ridge SE (Delaware)**11 County or Parish, State  
**Eddy County, NM****12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompletable horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

**BOPCO L.P. requests approval to extend the lateral in this well approximately 700'.****BOPCO, L.P. also requests approval to change the casing plan to include 7" casing set thru the curve and cement circulated to the surface. A 6-1/8" hole will then be drilled to TD and 4-1/2" OD liner installed with hydraulic packers for isolation in the lateral. Top of liner at approximately 6600'. TD of lateral will be 13,329' MD.****SEE ATTACHED FOR  
CONDITIONS OF APPROVAL****BOPCO L.P. Bond # on file: COB00050**14 I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)**Annette Childers**Title **Regulatory Clerk**

Signature

*Annette Childers*

Date

*9-11-09***THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice 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.

Title

Office

Date

**SEP 11 2009****WESLEY W. INGRAM**  
PETROLEUM ENGINEER

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.

(Instructions on page 2)

**DISTRICT IV**  
1220 St. Francis Dr., Santa Fe, NM 87505

Form C-102  
Revised October 12, 2005

**Submit to Appropriate District Office**  
**State Lease - 4 Copies**  
**Fee Lease - 3 Copies**

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

# WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
		50443	Quahada Ridge, SE (Delaware)
Property Code	Property Name		Well Number
	JAMES RANCH UNIT		106H
OGRID No.	Operator Name		Elevation
260737	BOPCO, L.P.		3296'

### Surface Location

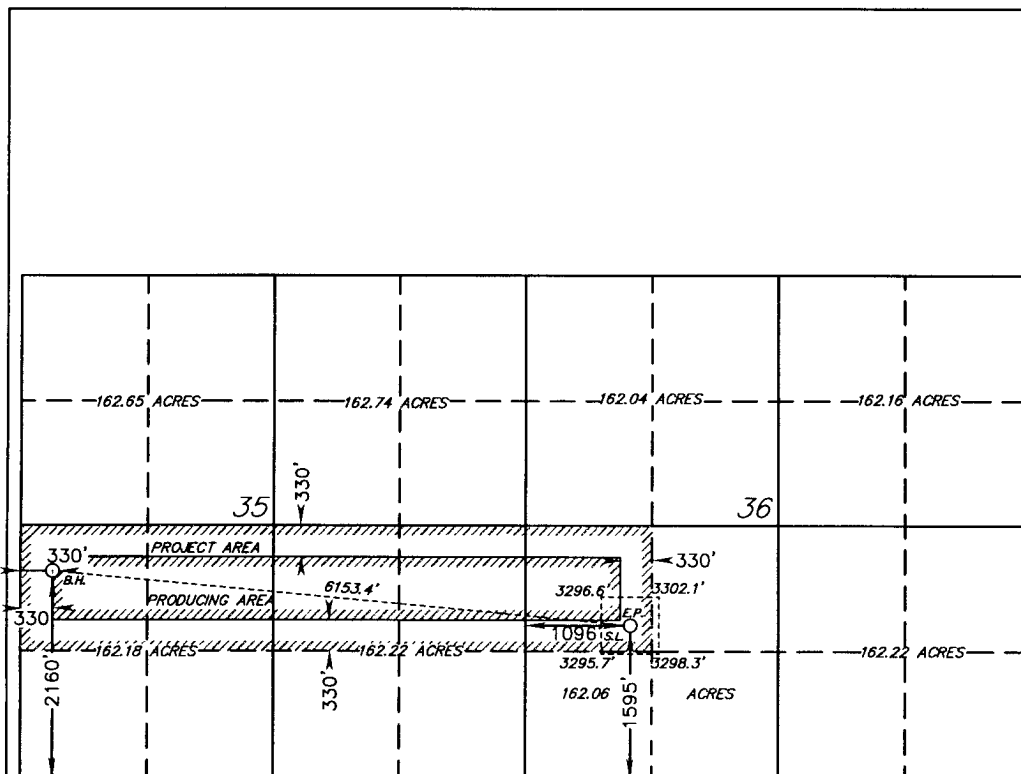
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	36	22 S	30 E		1595	SOUTH	1096	WEST	EDDY

## Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	35	22 S	30 E		2160	SOUTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
200	N		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



**BOTTOM HOLE LOCATION**  
**LAT - N32°20'50.32"**  
**LONG - W103°51'33.23"**  
**SPC- N.: 490407.803**  
**E.: 687747.830**  
**(NAD-83)**

SURFACE LOCATION  
LAT - N32°20'44.57"  
LONG - W103°50'21.82"  
SPC- N.: 489854.073  
E.: 693876.291  
(NAD-83)

DELAWARE ENTRY POINT  
LAT - N32°20'44.57"  
LONG - W103°50'21.82"  
SPC- N.: 489854.073  
E.: 693876.291  
(NAD-83)

## OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Eng. Ahmed Date 9/11/09

Gary E. Gerhard  
Printed Name

### SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

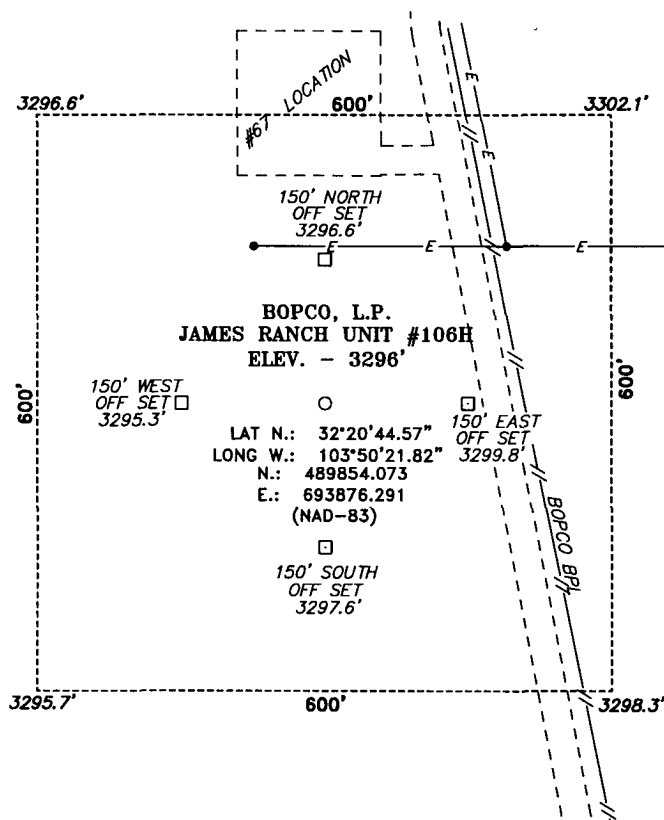
JANUARY 13, 1999  
 Date Surveyed  
 Signature of Surveyor  
 Professional Surveyor  
 NEW MEXICO  
 7977  
 W. O. [unclear]  
 13-1999

Certificate No. Gary L. Jones 7977

## BASIN SURVEYS

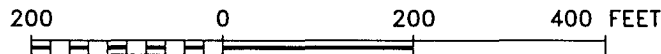
SCALE - 1" = 2000'

SECTION 36, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



**DIRECTIONS TO LOCATION:**

FROM THE JUNCTION OF STATE HWY 128 AND WPP ROAD, GO NORTH ON WPP ROAD 0.4 MILES TO LEASE ROAD, ON LEASE ROAD GO 0.3 WEST TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.3 MILES TO LEASE ROAD, ON LEASE ROAD GO WEST 0.2 MILES TO LEASE ROAD, GO NORTH TO PROPOSED LOCATION.



SCALE: 1" = 200'

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 20994 Drawn By: J. SMALL

Date: 01-08-2009 Disk: 20994 JMS

**BOPCO, L.P.**

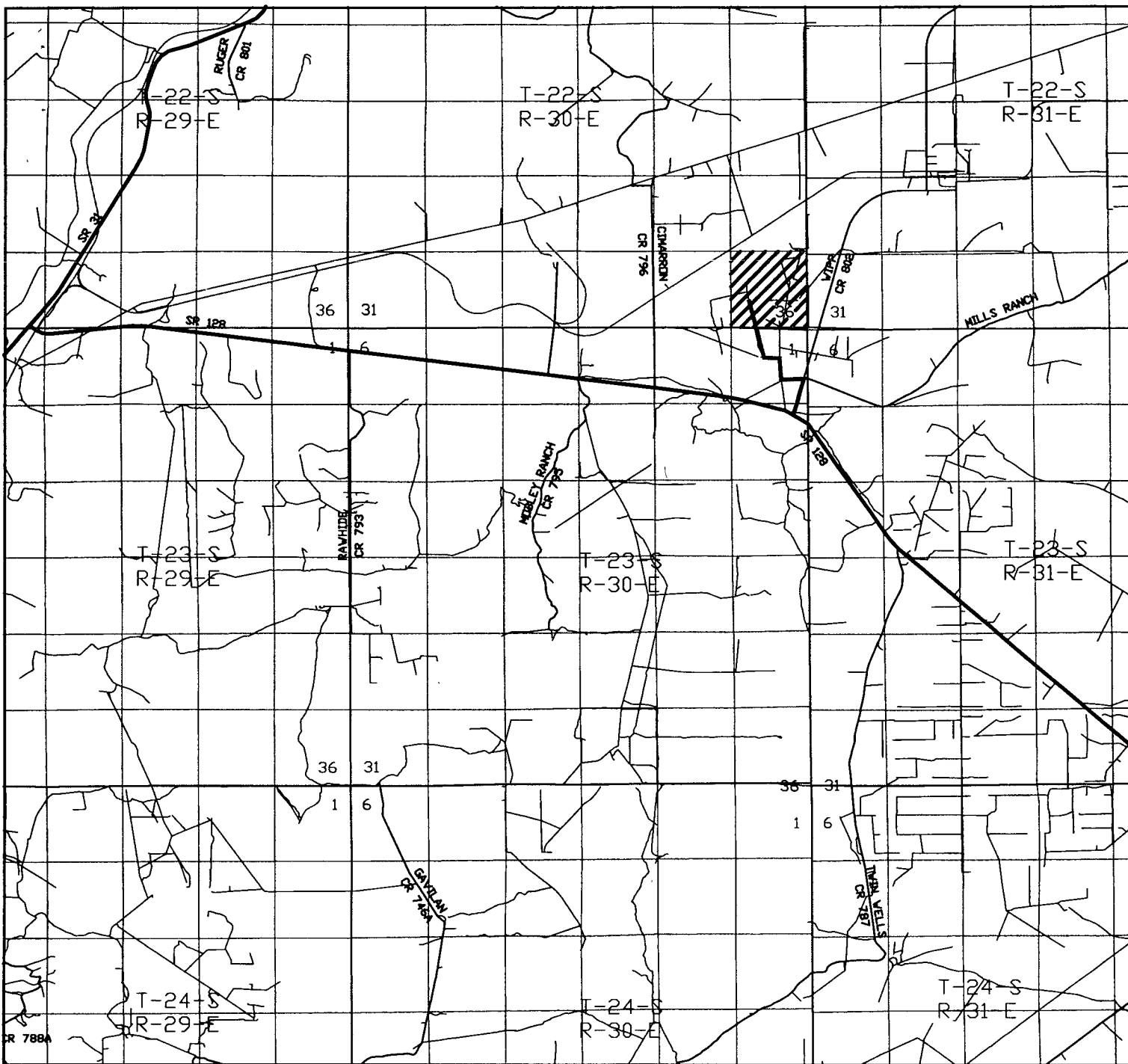
REF: JAMES RANCH UNIT #106H / WELL PAD AND TOPO

THE JAMES RANCH UNIT #106H LOCATED 1595'

FROM THE SOUTH LINE AND 1096' FROM THE WEST LINE OF  
SECTION 36, TOWNSHIP 22 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-05-2009 Sheet 1 of 1 Sheets





# JAMES RANCH UNIT #106H

1595' FSL and 1096' FWL

Section 36, Township 22 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 20994

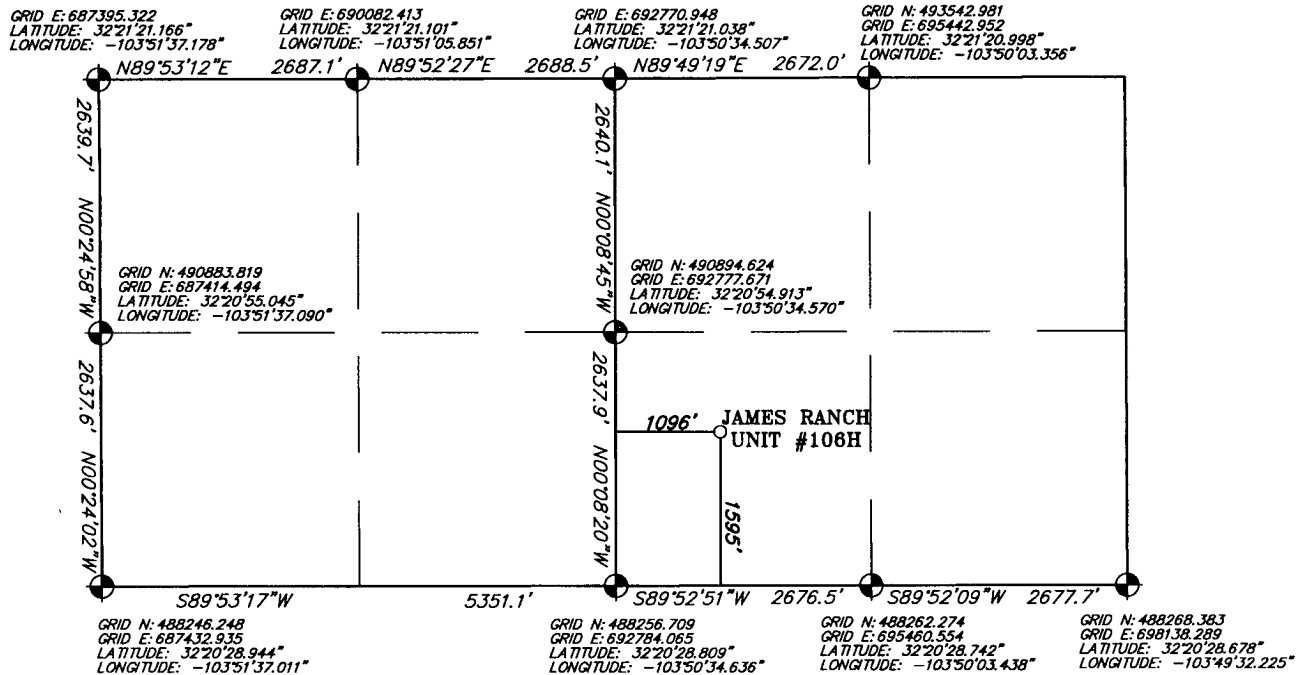
Survey Date: 01-05-2009

Scale: 1" = 2000'

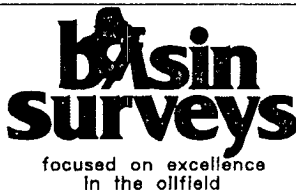
Date: 01-08-2009

BOPCO, L.P.

SECTION 36, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



JAMES RANCH UNIT #106H  
1595' FSL and 1096' FWL  
Section 36, Township 22 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
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basinsurveys.com

W.O. Number: JMS 20994

Survey Date: 01-05-2009

Scale: 1" = 2000'

Date: 01-08-2009

BOPCO, L.P.

Surface casing to be set into the Rustler below all fresh water sands.

7" casing will be set at approximately 7600' (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. Cement will be circulated to surface.

Production casing will be 4-1/2" run with Baler hydraulic packers. Top of 4-1/2" liner will be approximately 200' above KOP ( $\pm 6600'$ ).

Drilling procedure, BOP diagram, and anticipated tops attached.

This well is located within the R111 Potash area.

The surface location is unorthodox and bottom hole location is orthodox.

BOPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a subsidiary of BOPCO, L.P., 201 Mail Street, Ft. Worth, TX, 76102. Bond No. COB000050 (Nationwide).

## EIGHT POINT DRILLING PROGRAM BOPCO, L.P.

### NAME OF WELL: James Ranch Unit #106H

LEGAL DESCRIPTION - SURFACE: 1595' FSL, 1096' FWL, Section 36, T22S, R30E, Eddy County, NM.  
BHL: 2160' FSL, 330' FWL, Section 35, T22S, R30E, Eddy County, New Mexico.

### POINT 1: ESTIMATED FORMATION TOPS

(See No. 2 Below)

### POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3315' (estimated)  
GL 3296'

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUB-SEA TOP	BEARING
	TVD	MD		
T/Rustler	225'	225'	+ 3090'	Barren
B/Rustler	550'	550'	+ 2765'	Barren
T/Salt	659'	659'	+ 2656'	Barren
B/Salt	3533'	3533'	- 218'	Barren
T/Lamar Lime	3774'	3774'	- 459'	Barren
T/Ramsey	3822'	3822'	- 507'	Oil/Gas
T/Lower Cherry Canyon	5944'	5944'	- 2629'	Oil/Gas
KOP (Kick Off Point)	6812'	6812'	- 3497'	N/A
T/Brushy Canyon "U" Sand	7220'	7300'	- 3905'	Oil/Gas
EOC Target	7290'	7550'	- 3975'	Oil/Gas
TD (end of lateral)	7235'	13,329'	- 3920'	Oil/Gas

### POINT 3: CASING PROGRAM

TYPE	INTERVALS (MD)	Hole Size	PURPOSE	CONDITION
20"	0' - 60'	24"	Conductor	Contractor Discretion
13-3/8", 48#, H-40, ST&C	0' - 550'	17-1/2"	Surface	New
9-5/8", 36#, J-55, 8RD, LT&C	0' - 3308'	12-1/4"	Intermediate	New
7", 26#, N-80, LT&C	0' - 7617'	8-3/4"	Production	New
4-1/2", 11.6#, P110, LTC	7617' - 13,329'	6-1/8"	Production	New

### CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, ST&C	16.10	2.85	3.49
9-5/8", 36#, J-55, LT&C	4.03	1.30	1.13
7", 26#, N-80, LT&C	3.04	1.51	2.99
4-1/2", 11.6#, P110, LTC	6.10	2.11	1.90



## DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

### SURFACE CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

### PROTECTIVE CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (10 ppg).
Collapse	<p>A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.</p> <p>In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.</p>
Burst	A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

### PRODUCTION CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (3529 psig) on top of the maximum anticipated packer fluid gradient. Backup on production strings will be formation pore pressure. The effects of tension on burst will not be utilized.

#### POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)

The blowout preventer for 12-1/4" intermediate hole will consist of Annular with mud cross, and choke manifold & chokes as per Diagram 1 (3000 psi WP). The BOP stack, choke, kill lines, kelly cocks, inside BOP, etc. when installed on the surface casinghead will be hydro-tested to 250 psig & 2000 psig with independent tester. The BOPE as per Diagram 2, when rigged up on the intermediate casing will be tested to 3000 psig by independent tester. In addition to the high pressure test, a low pressure (250 psig) test will be required.

These tests will be performed:

- a) Upon installation
- b) After any component changes
- c) Fifteen days after a previous test
- d) As required by well conditions

A function test to insure that the preventers are operating correctly will be performed on each trip.

#### POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - 550'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
550' - 3808'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
3808' - 7600'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
7600' - 13,329'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0

**NOTE:** May increase vis for logging purposes only.

#### POINT 6: TECHNICAL STAGES OF OPERATION

##### A) TESTING

None anticipated.

##### B) LOGGING

Run #1: GR with MWD during drilling of build and horizontal portions of 8-3/4" and 6-1/8" openhole.

Run #2: Drill pipe conveyed GR-NL-Density-Caliper, TD to 250' above the curve.

Run #3: GRNL will be run during completion operations from Top of Delaware to surface.

##### C) CONVENTIONAL CORING

None anticipated.

## D) CEMENT

<u>INTERVAL</u>	<u>AMOUNT SXS</u>	<u>FT OF FILL</u>	<u>TYPE</u>	<u>GALS/SX</u>	<u>PPG</u>	<u>FT<sup>3</sup>/SX</u>
<b>SURFACE:</b>						
Lead: 0 – 250' (100% excess Circ to surface)	290	250	EconoCem-HLC + 2.7 #/sk Salt	10.25	12.8	1.88
Tail: 250' – 550' (100% excess)	310	300	HalCem-C + 2% CaCl <sub>2</sub>	6.39	14.8	1.35
<b>INTERMEDIATE:</b>						
Lead: 0' – 3308' (100% excess Circ to surface)	750	3308	EconoCem-C + 0.125 pps Poly-e-flake	16.62	11.5	2.78
Tail: 3308' – 3808' (100% excess)	260	500	HalCem-C + 1% CaCl <sub>2</sub>	6.36	14.8	1.34
<b>2<sup>nd</sup> INTERMEDIATE:</b>						
Stage 1:						
Lead: 5000' – 6610' (50% excess)	200	1610	Halco Tuned Lite	14.4	9.7	2.00
Tail: 6610' – 7617' (50% excess)	200	1007	HalcoCem Premium Plus-acid Soluble	11.34	15	1.20
DV Tool @ 5,000'						
Stage 2:						
Lead: 0' – 4900' (50% excess)	400	4900	EconoCem-C	14.4	9.7	3.13
Tail: 4900' – 5000' (50% excess)	50	100	Class "C" Neat	6.34	14.8	1.34

## E) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with an 8-3/4" bit to a TVD of approximately 6812' at which point a directional hole will be kicked off and drilled at an azimuth of 275.16°, building angle at 12.00°/100' to a max angle of 90.56° at a TVD of 7290' (MD 7567'). At this depth 7" casing will be installed and cement circulated to surface in two stages with DV Tool at approximately 5000'. A 6-1/8" openhole will be drilled thru lateral to MD of 13,329', 4-1/2" casing will be installed in the lateral using Baker hydraulic packers to isolate pay intervals in Brushy Canyon Sand.

## POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3138 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 3815'-7125' TVD. No H<sub>2</sub>S is anticipated.

**POINT 8: OTHER PERTINENT INFORMATION****A) Auxiliary Equipment**


Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

**B) Anticipated Starting Date**

Upon approval

26 days drilling operations

14 days completion operations

  
\_\_\_\_\_  
Gary E. Gerhard

GEG/mac  
September 11, 2009

# McVay Rig #7,5

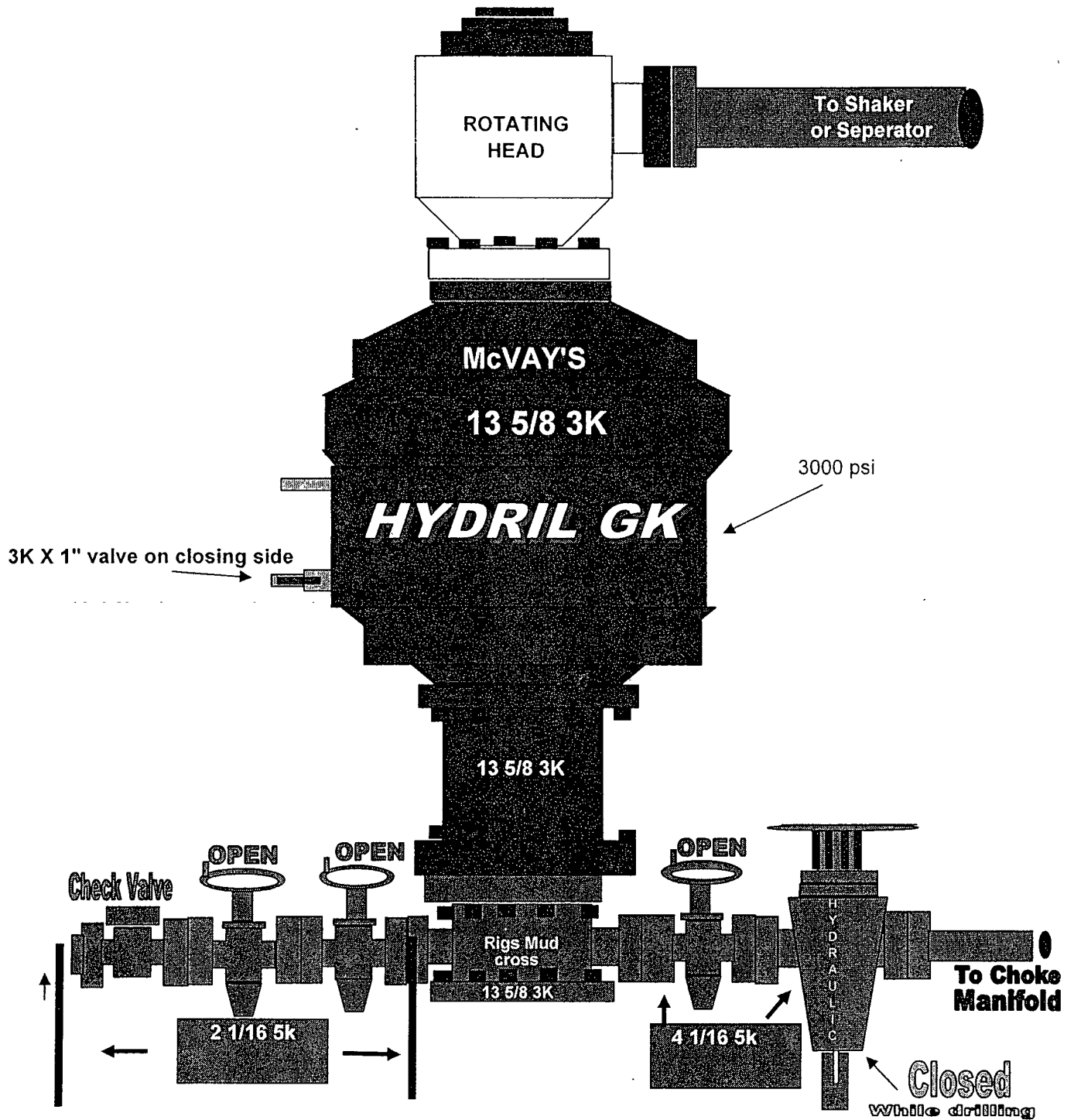


Diagram #1

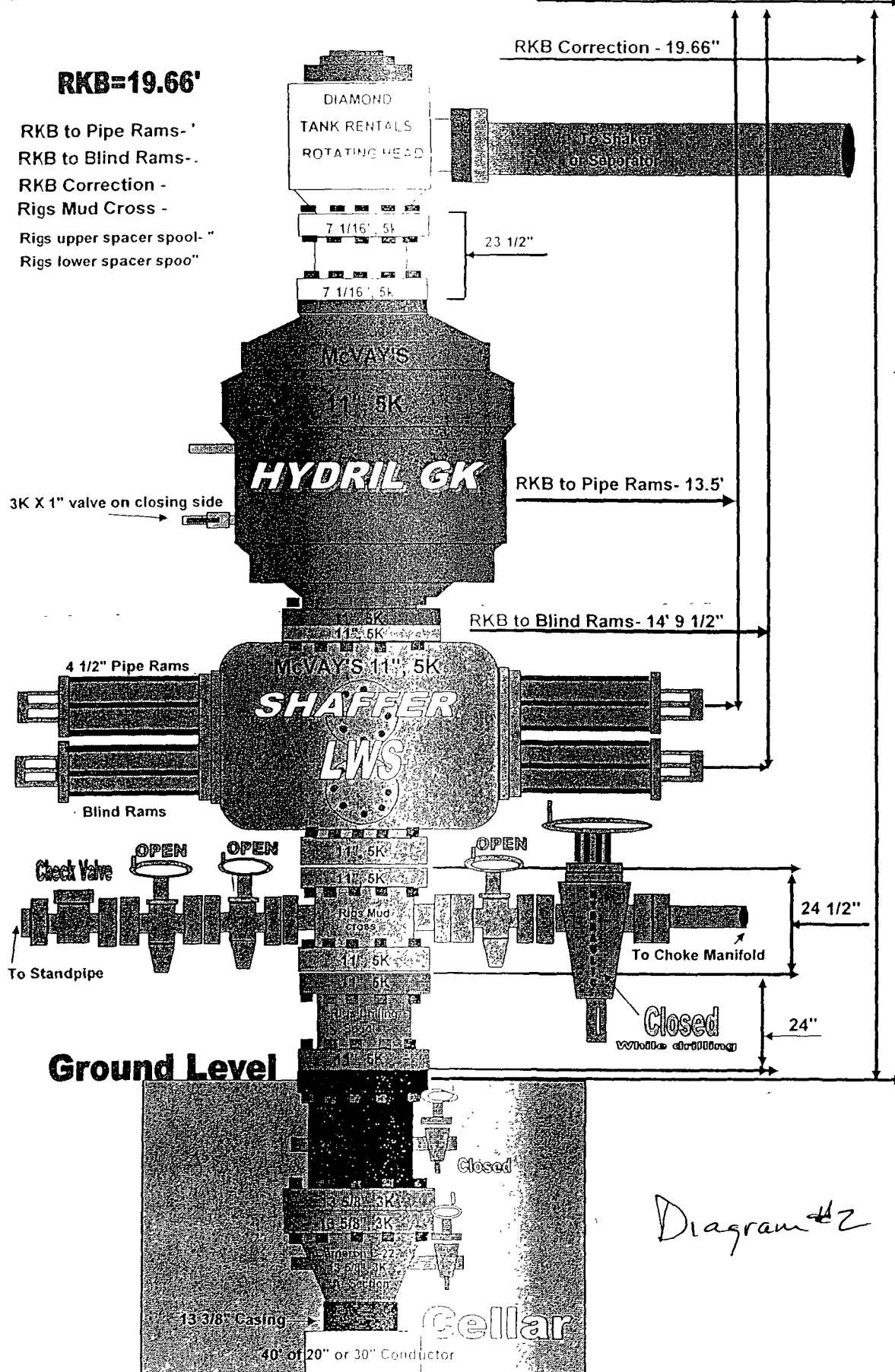
McVay #7,5

This Stack is for 7 7/8" or 8 3/4" hole.

# Rotary Table

**RKB=19.66'**

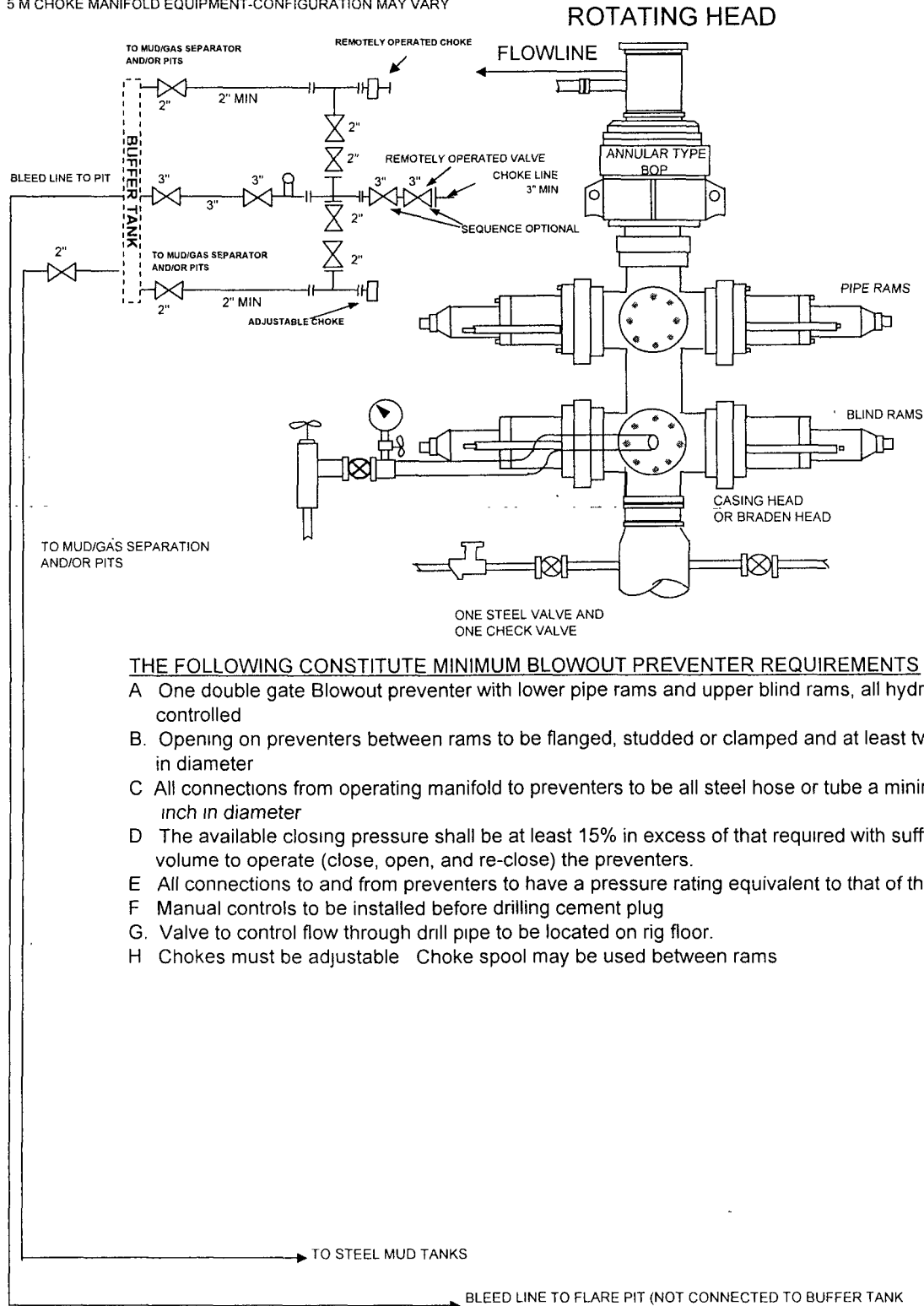
- RKB to Pipe Rams-
- RKB to Blind Rams-
- RKB Correction -
- Rigs Mud Cross -
- Rigs upper spacer spool-
- Rigs lower spacer spool-



# BOPCO, L. P.

## 5-M WP BOPE WITH 5-M WP ANNULAR

5 M CHOKE MANIFOLD EQUIPMENT-CONFIGURATION MAY VARY



### THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

- A One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled
- B. Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter
- C All connections from operating manifold to preventers to be all steel hose or tube a minimum of one inch in diameter
- D The available closing pressure shall be at least 15% in excess of that required with sufficient volume to operate (close, open, and re-close) the preventers.
- E All connections to and from preventers to have a pressure rating equivalent to that of the BOPs.
- F Manual controls to be installed before drilling cement plug
- G. Valve to control flow through drill pipe to be located on rig floor.
- H Chokes must be adjustable Choke spool may be used between rams

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NM02952A
WELL NAME & NO.:	James Ranch Unit # 106H
SURFACE HOLE FOOTAGE:	1595' FSL & 1096' FWL – Section 36
BOTTOM HOLE FOOTAGE:	2160' FSL & 0330' FWL – Section 35
LOCATION:	Section 36, T. 22 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

### I. DRILLING

#### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.



4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

## **B. CASING**

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**R-111-P potash/WIPP**

**High cave/karst.**

**Possible water flows in the Salado Group and Castile formation.**

**Possible lost circulation and water flows in the Delaware and Bone Spring formations.**

1. **The 13-3/8 inch surface casing shall be set at approximately 550 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is encountered at a shallower depth, the casing is to be set a minimum of 25 feet above the salt.**
  - a. **If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.**
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. **Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.**

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**
3. The minimum required fill of cement behind the **7** inch production casing is:
  - a. First stage to DV tool, cement shall:
    - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.
  - b. Second stage above DV tool, cement shall:
    - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**
4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
  - ☒ No cement required. Operator using Baker hydraulic packers with liner top approximately 200' above KOP.
5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8" intermediate casing shoe shall be **3000 (3M) psi.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

#### **D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

#### **E. WIPP Requirements**

**The proposed well is located more than 330' of the WIPP Land Withdrawal Area boundary. As a result, BOPCO, L. P. is requested, but not required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Powers Agreement. Any future entry into the well for purposes of completing additional drilling will require supplemental information.**

**BOPCO, L. P. can email the required information to Ms. Susan McCauslin at [susan.mccauslin@wipp.ws](mailto:susan.mccauslin@wipp.ws) or fax to her attention at 575-234-7061.**

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