

## Permit Comments

**Operator: RB OPERATING COMPANY , 227588****Well: SOUTH CULEBRA BLUFF 23 #014****30 - 015 - 33607**

User Name	Comment	Comment Date
BARRANT	Operator to submit mud/casing and cementing data prior to approval.	8/30/2004
BARRANT	Operator to submit h2s contingency plan per NMOCD Rule 118 providing conditions in area warrant. Please submit letter of statement if area does not meet requirments of rule.	8/30/2004
VBARTON	Operator must submit documentation to satisfy Rule 50.	9/7/2004

## DRILLING PROGRAM

WELL: RB Production Company, SCB 23-14  
FIELD: East Loving Delaware  
CATEGORY: Development  
STATE: New Mexico  
COUNTY: Eddy  
LOCATION: 990' FSL & 1650' FWL, Sec. 23, T-23-S, R-28-E  
ELEVATION (G.L.): 3006'

1. ESTIMATED FORMATION TOPS:

Salt	570'
Delaware	2640'
Cherry Canyon	3510'
Brushy Canyon	4705'
Bone Springs	6265'
Total Depth	6500'

There are no potential drilling problems.

Estimate Time to Drill and Evaluate: 10 days

Hole Size:

0' - 570' ----- 12-1/4"  
570' - 6500' ----- 7-7/8"

2. ESTIMATED DEPTH AT WHICH WATER, OIL OR GAS ARE EXPECTED TO BE ENCOUNTERED:

Water:	160' to 180'	
Oil, Gas:	Delaware	2640'
	Cherry Canyon	3700'
	Lower Brushy Canyon	5965'

3. BOP & ACCESSORY EQUIPMENT:

0 - 570': None  
570' - 6500'

1 set-10" double ram 3000# W.P. BOP's  
3000# W.P. choke manifold

Wellhead Equipment:

8-5/8" sow X 11" 2000 psi casing head Larkin Model 92 or equivalent  
5-1/2" sow X 2-7/8" 2000 psi tubing head Larkin Model R or equivalent  
5000# single master valve

4. CASING PROGRAM:

Conductor Casing:

No conductor pipe will be used

Surface Casing:

0' - 570' ----- 8-5/8", 24#, J-55, ST&C

Production Casing:

0' - 6500' ----- 5-1/2", 15.5# & 17#, J-55, LT&C

ACCESSORY EQUIPMENT:

Surface Casing:

1-8-5/8" Texas Pattern Shoe  
1-8-5/8" Insert Float Collar  
1-8-5/8" x 12-1/4" Centralizer 3-5' above slips  
1-8-5/8" x 12-1/4" Centralizer next two joints  
1-8-5/8" Stop Ring

Note: Run shoe and insert collar 1 joint apart

Production Casing:

1-5-1/2" Float Shoe  
1-5-1/2" Float Collar  
2-5-1/2" Stop Rings

1-5-1/2" x 7-7/8" Centralizer 3 - 5' above shoe  
1-5-1/2" x 7-7/8" Centralizer around next collar  
1-5-1/2" x 7-7/8" Centralizer immediately below float collar  
1-5-1/2" x 7-7/8" Centralizer around next 2 collars  
1-5-1/2" x 7-7/8" Centralizer alternating collars for next 10 joints (5 centralizers)

Note: Run float shoe and float collar 2 joints apart

1-5-1/2" x 7-7/8" DV Tool @ 3350'  
1-5-1/2" x 7-7/8" Centralizer 1 joint above and below DV Tool

5. CEMENTING PROGRAM:

Surfing Casing: (based on 100% excess) (circulated to surface)

Spacer: 10 bbls water

Lead Slurry:

350 sx. Class "C" + .25 pps Cello-Seal  
Slurry Weight ----- 14.81 ppg  
Slurry Yield ----- 1.33 cu. ft. /sx.  
Water Ratio ----- 6.32 gal/sx.

Production Casing:

1st Stage

Lead Slurry:

600 sx 50:50 POZ (Base "C") + 2% Gel + 0.40% TF-4 +  
57% water + 0.3% CF-2 + 10 pps Gilsonite  
Slurry Weight ----- 13.62 ppg  
Slurry Yield ----- 1.33 cu. ft. /sx.  
Water Ratio ----- 5.75 gal/sx.

Tail Slurry:

150 sx. Class "C" + 0.2% TF-4 + .3% CF-14 + 56% water  
Slurry Weight ----- 14.78 ppg  
Slurry Yield ----- 1.33 cu. ft. /sx  
Water Ratio ----- 6.32 gal/sx.

2nd Stage (DV Tool @ 3350') (based on 100% excess)Lead Slurry:

820 sx. 35:65 Poz "C" + 6 % Gel + 10 % salt + 105% water

Slurry Weight ----- 12.67 ppg

Slurry Yield ----- 2.03 cu. ft. /sx.

Water Ratio ----- 10.97 gal/sx.

Tail Slurry:100 sx. Class "C" + 0.2% CaCl<sub>2</sub> + 56% water

Slurry Weight ----- 14.78 ppg

Slurry Yield ----- 1.33 cu.ft./sx

Water Ratio ----- 6.32 gal/sx.

6. MUD PROGRAM:

Specifications	0 - 570'	570' - 6000'	6000' - 6350'
Mud wt (ppg)	8.6 - 9.0	9.0 - 10.0	10.0
Vis (sec)	36 - 45	28 - 31	34 - 38
WL (ml)	N/C	N/C	15 or less
Type System	Gel-Fresh	Gel-Brine	Gel-Brine

Close Mud System:

A closed mud system will be used. Drill cuttings will be contained on site in steel tanks. They will be trucked to a commercial disposal facility for proper disposal. Water and drilling fluids will be hauled to a commercial disposal facility.

Casing Test:

Before drilling out test surface casing to 1000 psi.

7. No abnormal pressures or temperatures are anticipated.
8. Review of available geologic and production information in this pool indicate that there will be no hydrogen sulfide encountered from the surface to a TD at the base of the Delaware formation.

Submit 3 Copies To Appropriate District Office  
 District I  
 1625 N. French Dr., Hobbs, NM 88240  
 District II  
 1301 W. Grand Ave., Artesia, NM 88210  
 District III  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 District IV  
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
 Energy, Minerals and Natural Resources

Form C-103  
 May 27, 2004

OIL CONSERVATION DIVISION  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

WELL API NO.

5. Indicate Type of Lease

STATE ☐ FEE ☒

6. State Oil &amp; Gas Lease No.

7. Lease Name or Unit Agreement Name

South Culebra Bluff 23

8. Well Number 014

9. OGRID Number

227588

10. Pool name or Wildcat

Loving; Brushy Canyon, East

SUNDRY NOTICES AND REPORTS ON WELLS  
 (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

RB OPERATING COMPANY

3. Address of Operator

777 Main Street Fort Worth, TX 76102

4. Well Location

Unit Letter N : 990 feet from the South line and 1650 feet from the West line  
 Section 23 Township 23S Range 28E NMPM County Rty

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type \_\_\_\_\_ Depth to Groundwater \_\_\_\_\_ Distance from nearest fresh water well \_\_\_\_\_ Distance from nearest surface water \_\_\_\_\_

Pit Liner Thickness: \_\_\_\_\_ msl Below-Grade Tank: Volume \_\_\_\_\_ bbls; Construction Material \_\_\_\_\_

## 12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

## NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
 TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
 PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

## SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
 COMMENCE DRILLING OPNS. ☐ P AND A ☐  
 CASING/CEMENT JOB ☐

OTHER: ☒OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

No earthen pits to be used for the drilling of this well. A closed loop mud system will be utilized with all cuttings being caught in steel tanks and hauled to approved disposal site. All water and drilling fluids will also be hauled to disposal.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Michael K. McGinnisTITLE District EngineerDATE 9-8-04

Type or print name Michael K. McGinnis  
 For State Use Only

E-mail address: mmcginnis@range  
resources.com

Telephone No 817/810-1909

APPROVED BY: \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

Conditions of Approval (if any): \_\_\_\_\_

Accepted for record - NMOCD