Permit Comments

Operator: RB OPERATING COMPANY , 227588

Well: SOUTH CULEBRA BLUFF 23 #010

30-015-33606

User Name	Comment	Comment Date
BARRANT	Operator to submit detailed mud/casing and cementing program prior to approval.	8/30/2004
BARRANT	Operator to submit h2s contengency plan if conditions of area meets NMOCD Rule 118 PVH. Please submit letter of statement if plan is not required per rule.	8/30/2004
VBARTON	Operator must submit documentation to satisfy Rule 50.	9/7/2004

DRILLING PROGRAM

WELL:	RB Production Company, SCB 23-10
FIELD:	East Loving Delaware
CATEGORY:	Development
STATE:	New Mexico
COUNTY:	Eddy
LOCATION:	330' FSL & 330' FEL, Sec. 23, T-23-S, R-28-E
ELEVATION (G.L.):	2995'

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% CaCl2 + 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

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

Form C-103
May 27, 2004

WELL API NO.

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

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.)

7. Lease Name or Unit Agreement Name: South Culebra Bluff 23

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

8. Well Number: ~~010~~

2. Name of Operator: RB OPERATING COMPANY

9. OGRID Number: 227588

3. Address of Operator: 777 Main Street Fort Worth, TX 76102

10. Pool name or Wildcat: Loving; Brushy Canyon, Eas

4. Well Location
Unit Letter P : 330 feet from the South line and 330 feet from the East line
Section 23 Township 23S Range 28E NMPM County Eddy

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: mil Below-Grade Tank: Volume bbls; Construction Material

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	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.

Accepted for record - NMOCD

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 [signature] TITLE District Engineer DATE 9-8-04

Type or print name Michael K. McGinnis E-mail address: mmcginnis@rangeresources.com Telephone No 817/810-1909

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):