ATS-11-692

Form 3160-3
(August 2007)

EC

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No: NMLC029405B

6. If Indian, Allottee or Tribe Name

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

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: RUBY FEDERAL 53 <38653>

2. Name of Operator: CONOCOPHILLIPS COMPANY <217817>
Contact: BRIAN MAIORINO
E-Mail: brian d maiorino@conocophillips com

9. API Well No.: 30-025-40223

3a. Address: 3300 N "A" STREET BLDG 6
MIDLAND, TX 79705

3b. Phone No. (include area code): Ph: 432-688-6913

10. Field and Pool, or Exploratory: MALJAMAR;YESO West <44500>

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 330FSL 455FWL Unit M
At proposed prod. zone 330FSL 455FWL

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 17 T17S R32E Mer

14. Distance in miles and direction from nearest town or post office*: 4.5 MILES SOUTH OF MALJAMAR, NM

12. County or Parish: LEA

13. State: NM

15. Distance from proposed location to nearest property or lease line, ft (Also to nearest drig. unit line, if any)

16. No. of Acres in Lease: 1601.90 1441

17. Spacing Unit dedicated to this well: 40

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.: 328' FROM MCA #267 WELL

19. Proposed Depth: 6995 MD

20. BLM/BIA Bond No. on file: ES0085

21. Elevations (Show whether DF, KB, RT, GL, etc: 3983 GL

22. Approximate date work will start: 06/28/2011

23. Estimated duration

24. Attachments

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

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

25. Signature: (Electronic Submission)	Name (Printed/Typed): BRIAN MAIORINO Ph: 432-688-6913	Date: 05/27/2011
Title: AUTHORIZED REPRESENTATIVE		
Approved by (Signature): /s/ Don Peterson	Name (Printed/Typed)	Date: JUL 26 2011
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

Electronic Submission #109187 verified by the BLM Well Information System
For CONOCOPHILLIPS COMPANY, sent to the Carlsbad

Roswell Controlled Water Basin

KZ 08/09/2011

SEE ATTACHED FOR CONDITIONS OF APPROVAL

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

Approval Subject to General Requirements & Special Stipulations Attached

AUG 10 2011

Drilling Plan
ConocoPhillips Company
Ruby Federal 53
June 23, 2011

Maljamar Field
Lea County, New Mexico

1. Estimated tops of geological markers and estimated depths to water, oil, or gas formations:

The datum for these depths is RKB (which is 14' above Ground Level).

Formation Call	Formation Top FT MD	Thickness	Contents
Quaternary	Surface		Fresh Water
Rustler	705	167	Anhydrite
Salado (top of salt)	872	1003	Salt
Tansill (base of salt)	1875	157	Gas, Oil and Water
Yates	2032	344	Gas, Oil and Water
Seven Rivers	2376	623	Gas, Oil and Water
Queen	2999	419	Gas, Oil and Water
Grayburg	3418	379	Gas, Oil and Water
San Andres	3797	1476	Gas, Oil and Water
Glorieta	5273	81	Gas, Oil and Water
Paddock	5354	339	Gas, Oil and Water
Blinebry	5693	1066	Gas, Oil and Water
Tubb	6759		Gas, Oil and Water
Total Depth (minimum)	6904		155' below deepest estimated perforation
Total Depth (maximum)	6949		200' below deepest estimated perforation

Protection of fresh water will be accomplished by setting the surface casing 25' - 70' into the Rustler Anhydrite formation and **cementing** the surface casing from the casing shoe **to the surface of ground** in accordance with the provisions of Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

Protection of oil and gas resources will be accomplished by setting the production casing approximately 10' off bottom and cementing it in accordance with the provisions Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

2. Proposed casing program:

Type	Hole Size	Interval MD RKB (ft)		OD	Wt	Gr	Conn	Condition	Safety Factors Calculated per BLM Load Formulas		
	(in)	From	To	(inches)	(lb/ft)				Burst	Collapse	Tension Dry/Buoyant
Cond	20"	0	40' – 85' (30' – 75' BGL)	16"	0.5" wall	B	Line Pipe	New	NA	NA	NA
Alt. Cond	20"	0	40' – 85' (30' – 75' BGL)	13-3/8"	48#	H-40	PE	New	NA	NA	NA
Surf	12-1/4"	0	730'– 775'	8-5/8"	24#	J-55	STC	New	8.78	3.99	13.12 / 15.07
Prod	7-7/8"	0	6904' – 6949'	5-1/2"	17#	L-80	LTC	New	2.51	1.74	2.86 / 3.38

The casing will be suitable for H_2S Service. We propose to set the surface and production casing approximately 10' off bottom and to drill the hole to fit the casing string so that the cementing head is positioned at the floor for the cement job. A 45' uncertainty range for the casing set depths is presented to allow for running full joints of Range 3 casing and getting the cementing head down to the floor.

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Casing Design (Safety) Factors – BLM Criteria:

Joint Strength Design (Safety) Factor: SFt
SFt = Fj / Wt;
Where
- Fj is the rated pipe Joint Strength in pounds (lbs)
- Wt is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor SFT = 1.6 dry or 1.8 bouyant

Collapse Design (Safety) Factor: SFc
SFc = Pc / (MW x .052 x Ls)
Where
- Pc is the rated pipe Collapse Pressure in pounds per square inch (psi)
- MW is mud weight in pounds per gallon (ppg)
- Ls is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor SFc = 1.125

Burst Design (Safety) Factor: SFb
SFb = Pi / BHP
Where
- Pi is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (psi)
- BHP is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor SFb = 1.0

Joint Strength Design (Safety) Factors – BLM Criteria
Surface Casing:
- SFj Dry = 244,000 lbs / (775 ft x 24 lb/ft) = 244,000 lbs / 18,600 lbs = 13.12 Dry
- SFj Bouyant = 244,000 lbs / (775 ft x 24 lb/ft) [1-(8.5/65.5)] = 244,000 lbs / 16,186 lbs = 15.07 Bouyant

Production Casing:
- SFj Dry = 338,000 lbs / (6949 ft x 17 lb/ft) = 338,000 lbs / 118,133 lbs = 2.86 Dry
- SFj Bouyant = 338,000 lbs / (6949 ft x 17 lb/ft) [1-(10.0/65.5)] = 338,000 lbs / 100,097 lbs = 3.38 Bouyant

Collapse Design (Safety) Factors – BLM Criteria
Surface Casing:
SFc = 1370 psi / (8.5 ppg x .052 x 775 ft) = 1370 psi / 342 psi = 3.99
Production Casing:
SFc = 6290 psi / (10 ppg x .052 x 6949 ft) = 6290 psi / 3613 psi = 1.74

Burst Design (Safety) Factors – BLM Criteria
Surface Casing:
SFb = 2950 psi / (8.33 ppg x .052 x 775 ft) = 2950 psi / 335 psi = 8.78
Production Casing:
SFb = 7740 psi / (8.55 ppg x .052 x 6949 ft) = 7740 psi / 3089 psi = 2.51 based on est. reservoir pressure data

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Casing Design (Safety) Factors – Additional ConocoPhillips Criteria:

ConocoPhillips casing design policy establishes Corporate Minimum Design Factors (see table below) and requires that service life load cases be considered and provided for in the casing design.

ConocoPhillips Corporate Criteria for Minimum Design Factors

	Burst	Collapse	Axial
Casing Design Factors	1.15	1.05	1.4

Surface Casing:

The maximum internal (burst) load on the Surface Casing occurs when the surface casing is tested to 1500 psi. We will pressure up to 1600 psi and let the pressure settle for 1 minute after shutting down the pump. Then we will begin the 30 minute test period. Therefore the maximum pressure that the surface casing will be exposed to will be 1600 psi.

Surface Casing Burst Design Factor
DF Burst = Burst Rating / Maximum Pressure During Casing Pressure Test = 2950 psi / 1600 psi = 1.84

The maximum collapse load on the Surface Casing occurs when we release the pressure after bumping the plug on the surface casing cement job.

Surface Casing Collapse Design Factor
DF Collapse = Collapse Rating / (Cement Column Hydrostatic Pressure – Displacement Fluid Hydrostatic Pressure)
DF Collapse = 1370 psi / {[(300 ft x .052 x 14.8 ppg) + (475 ft x .052 x 13.6 ppg)] – (775 ft x .052 x 8.33 ppg)}
DF Collapse = 1370 psi / 231 psi
DF Collapse = 5.93

The maximum axial load on the Surface Casing would occur if we were to get the surface casing stuck and pull on it to try to get it unstuck.

Surface Casing Axial (Tension) Maximum Allowable Hook Load Case:
Maximum Allowable Hookload = Joint Strength Rating / Axial Design Factor
Maximum Allowable Hookload = 244,000 / 1.4
Maxium Allowable Hookload = 174,286

Overpull Margin = Maximum Allowable Hook Load - Air Wt of the String
Overpull Margin = 174,286 lbs - (775' x 24 lb/ft)
Overpull Margin = 174,286 lbs - 18,600 lbs
Overpull Margin = 155,686 lbs

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Production Casing:

The maximum internal (burst) load would occur in the fracture stimulation either during fracture initiation or screen out.

The Maximum Allowable Working Pressure (MAWP) that we would impose in the fracture stimulation load case is the pressure that would result in a 1.15 burst design factor at surface.

For this well
MAWP for the Fracture Stimulation = Minimum Internal Yeild / 1.15
MAWP for the Fracture Stimulation = 7740 psi / 1.15
MAWP for the Fracture Stimulation = 6730 psi

A pressure relief valve and pump truck kill settings will also be used to prevent overpressuring the production casing in the event of a screen out.

The maximum collapse load on the production casing occurs with the well pumped off on production. We plan to cement the production casing to surface, and therefore the external pressure profile on the production casing should be equal to the pore pressure of the horizons on the outside of the casing which we estimate to be 8.55 ppg gradient.

DF Collapse = Collapse Rating / Maximum Possible Pore Pressure
DF Collapse = 6290 / (8.55 ppg x .052 x 6949 ft) = 6290 psi / 3089 psi = 2.03

The maximum axial load on the Production Casing would occur if we were to get the Production Casing stuck and pull on it to try to get it unstuck.

Production Casing Axial (Tension) Maximum Hook Load Case:
Maximum Allowable Hookload = Joint Strength Rating / Axial Design Factor
Maximum Allowable Hookload = 338,000 lbs / 1.4
Maximum Allowable Hookload = 241,428 lbs

Overpull Margin = Maximum Allowable Hook Load - Air Wt of the String
Overpull Margin = 241,428 lbs - (6949' x 17 lb/ft)
Overpull Margin = 241,428 lbs - 118,133 lbs
Overpull Margin = 123,295 lbs

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3. Proposed cementing program:

16" or 13-3/8" Conductor:

Cement to surface with rat hole mix, ready mix or Class C Neat cement.

(Note: The gravel used in the cement is not to exceed 3/8" dia)

TOC at surface.

8-5/8" Surface Casing:

The intention for the cementing program for the Surface Casing is to:
- Place the Tail Slurry from the casing shoe to 300' above the casing shoe,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

Lead Slurry								
Volume (sx) & Recipe & Excess %	Top (ft MD)	Bottom (ft MD)	Length (ft)	Density (ppg)	Yield (cuft/sx)	Mix Wtr gal/sx	Compressive Strengths @ 90 deg F by UCA Method	
350 sx Class C + 4% bentonite + 2% CaCl2 + 0.125% Polyflake + 0.2% Antifoam Excess = 157%	Surface	475	475	13.6	1.71	8.923	Time 2 hrs 15 min 7 hrs 52 min 24 hrs 48 hrs 72 hrs	Strength 50 psi 500 psi 1173 psi 1542 psi 1739 psi

Tail Slurry								
Volume (sx) & Recipe & Excess %	Top (ft MD)	Bottom (ft MD)	Length (ft)	Density (ppg)	Yield (cuft/sx)	Mix Wtr gal/sx	Compressive Strengths @ 90 deg F by UCA Method	
210 sx Class C + 1% CaCl2 Excess = 100%	475	775	300	14.8	1.34	6.371	Time 2 hrs 36 min 5 hrs 17 min 24 hrs 48 hrs 72 hrs	Strength 50 psi 500 psi 2026 psi 2572 psi 2846 psi

Displacement: Fresh Water

Note: In accordance with the Pecos District Conditions of Approval, we will Wait on Cement (WOC) for a period of not less than 18 hrs after placement or until at least 500 psi compressive strength has been reached in both the Lead Slurry and Tail Slurry cements on the Surface Casing, whichever is greater.

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5-1/2" Production Casing Cementing Program:

The intention for the cementing program for the Production Casing is to:

- Place the Tail Slurry from the casing shoe to a point approximately 200' above the top of the Paddock,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water.

Lead Slurry								
Volume (sx) & Recipe & Excess %	Top (ft MD)	Bottom (ft MD)	Length (ft)	Density (ppg)	Yield (cuft/sx)	Mix Wtr gal/sx	Compressive Strengths @ 113 deg F by Crush Method	
965 sx 50% Class C 50% POZ + 10% bentonite + 8 lb/sx Salt + 0.4% Fluid Loss Additive + 0.125%LCM if needed	Surface	5154	5154	11.8	2.51	14.64	Time 12 hrs 24 hrs 48 hrs 72 hrs 116 hrs	Strength 93psi 234 psi 382 psi 468 psi 584 psi
Excess = 10% or more if needed based on caliper if available. Estimated average hole size = 10.88"								

Tail Slurry								
Volume (sx) & Recipe & Excess %	Top (ft MD)	Bottom (ft MD)	Length (ft)	Density (ppg)	Yield (cuft/sx)	Mix Wtr gal/sx	Compressive Strengths @ 107 deg F by Crush Method	
400 sx 50% Class H 50% POZ + 0 2% Fluid Loss Additive + 0.3% Dispersant + 0.15% Retarder + 0.2% Antifoam	5154	6949	1795	16.4	1.07	4.357	Time 6 hrs 16 min 8 hrs 13 min 24 hrs 48 hrs 72 hrs	Strength 50 psi 500 psi 2570 psi 3273 psi 3561 psi
Excess = 10% or more if needed based on caliper if available. Estimated average hole size = 8.2" Note: This compressive strength data is from a pilot test for an MCA well and will be updated for 115 BHST.								

Displacement: Fresh Water with approximately 250 ppm gluteraldehyde biocide.

Proposal for Option to Adjust Production Casing Cement Volumes:
The production casing cement volumes presented above are estimates based on data from previous wells. We propose an option to adjust these volumes based on the caliper log data for each well if available. Also, if no caliper log is available for any particular well, we would propose an option to possibly increase the production casing cement volumes to account for any uncertainty in regard to the hole volume.

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4. Pressure Control Equipment:

The blowout preventer equipment (BOP) will conform to the requirements for a 2M System as described in Onshore Oil and Gas Order No. 2. However we will substitute higher rated BOP equipment and use additional equipment not required for a 2M System.

Our BOP equipment will be:
- Rotating Head
- Annular BOP, 11" 3M
- Blind Ram, 11" 3M
- Pipe Ram, 11" 3M

The blowout preventer equipment will be installed after running and cementing the surface casing and installing the wellhead on the surface casing.

Testing of the BOP equipment will be as follows:

- The appropriate BLM office shall be notified a minimum 4 hours in advance for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- 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.
- 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.
- Ram type preventers and associated equipment shall be tested to approved stack working pressure of 3000 psi. The Annular type preventer will be tested to 50 percent of rated working pressure, and therefore will be tested to 1500 psi. The above tests will be performed:
    - When initially installed
    - Whenever any seal subject to test pressure is broken
    - Following related repairs, and
    - At 30 day intervals
- Annular preventers, if used, will be functionally operated at least weekly.
- Pipe and Blind rams shall be activated each trip, but not more than once per day.
- All of the above described tests will be recorded in the drilling log.

A diagram of the proposed BOPs and choke manifold is attached.

The Working Pressure Requirement for the BOP equipment is calculated per Onshore Order 2 as follows:
- Reservoir Pressure = 3000 psi at deepest estimated perforation depth of 6749' MD (8.55 ppg gradient)
- Bottom Hole Pressure = 8.55 ppg x .052 x 6949' = 3089 psi
- Required Working Pressure for the BOP Eqpt = 3089 psi - (.22 psi/ft x 6949') = 1560 psi

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5. Proposed Wellhead Program:

The wellhead equipment will be suitable for H_2S service.

We propose to use a Woodgroup S95 11" 5M casing head and T-S95 7-1/16" 10M Tubing Head, Material Class DD-NL, Temperature Class P.

We also propose that we have the option to use the following standard / conventional wellhead as an option:

- Casing Head: 8-5/8" Slip on and Weld x 11" 5M Casing Head, API 6A, Material Class DD-NL, Temperature Class P, installed on 8-5/8" surface casing.
- Tubing Head: 11" 5M x 7-1/6" 10M Tubing Head, API 6A, Material Class DD-NL, Temperature Class P, installed after setting 5-1/2" production casing

6. Proposed Mud System

The mud systems that are proposed for use are as follows:

DEPTH	TYPE	Density ppg	FV sec/qt	API Fluid Loss cc/30 min	pH
0 – Surface Casing Point	Fresh Water or Fresh Water Native Mud	8.5 – 9.0	28 – 40	N.C.	N.C.
Surface Casing Point to TD	Brine (Saturated $NaCl_2$)	10	29	N.C.	10 - 11
Conversion to Mud at TD	Brine Based Mud ($NaCl_2$)	10	34 – 45	5 – 10	10 - 11

12-1/4" hole from surface of ground to surface casing point: The circulating media will be either a native mud or fresh water with high viscosity sweeps. The mud components will be:

- Fresh Water
- Bentonite (if needed)
- Lime
- Soda Ash
- Starch (if needed)
- Drilling Paper
- Other loss of circulation material if needed (nut plug or fiberous material)
- Soap sticks (if needed)

7-7/8" hole from the surface casing shoe to TD: The circulating media will be 10 ppg saturated $NaCl_2$ brine and will be converted to a mud with starch, attapulgite, lime, and asphalt for additional fluid loss control if needed upon reaching Total Depth (TD). The mud components will be:

- Brine (approximately 10 lb/gal density, saturated $NaCl_2$)
- Attapulgite
- Lime
- Starch
- Asphalt (if needed for additional fluid loss control)
- Drilling Paper, Walnut Hulls, and Fiberous LCM material such as BaroSeal if needed
- Soap Sticks if needed
- Lease crude oil or diesel with Pipe-Lax or EZ-Spot as a spotting fluid if needed in the event of differential sticking

Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. The gases shall be piped into the flare system.

Sufficient quantities of mud additives shall be maintained on location to scavenge and/or neutralize H2S. We will inject into our flow stream while circulating from the corrosion trailer we have from Baroid ~10 gpd BaraScav L, SI-430, Baracor 100, and DA3-20 to scavenge H2S and to protect the tubulars from corrosion. No barite or other weighting material will be on location.

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7. **Logging, Coring, and Testing Program:**
   a. No drill stem tests will be done
   b. No mud logging is planned, but might possibly be done if it is determined that this data is needed;
   c. No whole cores are planned
   d. The open hole electrical logging program is planned to be as follows:
      - Total Depth to 2500': Resistivity, Density, and Gamma Ray.
      - Total Depth to surface Casing Shoe: Caliper
      - Total Depth to surface, Gamma Ray and Neutron
      - Formation pressure data (XPT) on electric line if needed (optional)
      - Rotary Sidewall Cores on electric line if needed (optional)
      - BHC Sonic if needed (optional)
      - Spectral Gamma Ray if needed (optional)

8. **Abnormal Pressures and Temperatures:**

- No abnormal pressures are expected to be encountered, however it is possible that waterflows or CO_2 flows may occur due to old waterflood and CO_2 flood fluids from MCA that may have gotten out of zone and charged up in places above the reservoir. We have not seen any such waterflows or CO_2 flows in any horizons above the Rustler Anhydrite. We did have a waterflow of 3 bbl/hr on the offset well Tourmaline State # 1 at the depth of 1387' MD. The total amount that was gained from this waterflow was 60 bbls after which the waterflow quit flowing. Frac tanks will be on location to hold any such water if a waterflow occurs and vacuum trucks will be used to haul any such water to disposal.

- The expected maximum bottom hole temperature is 115 degrees F.

- The expected bottom hole pressure (BHP) is 3000 psi at the estimated deepest perforation depth of 6749' MD, (8.55 ppg gradient). The rathole drilled below that depth to planned TD of 6949' is expected to be consistent with that gradient.
  - Reservoir Pressure = 3000 psi at deepest estimated perforation depth of 6749' MD (8.55 ppg gradient)
  - Bottom Hole Pressure = 8.55 ppg x .052 x 6949' = 3089 psi
  - Required Working Pressure for the BOP Eqpt = 3089 psi - (.22 psi/ft x 6949') = 1560 psi ✓

- The estimated H_2S concentrations and ROE calculations for the gas in the zones to be penetrated are presented in the table below for the various producing horizons in this area:

FORMATION / ZONE	H2S (PPM)	Gas Rate (MCFD)	ROE 100 PPM	ROE 500 PPM
Grayburg / San Andres (from MCA)	14000	38	59	27
Yeso Group	400	433	34	15

ConocoPhillips will comply with the provisions of Oil and Gas Order # 6, Hydrogen Sulfide Operations and will provide H_2S monitoring equipment which will be rigged up, tested, and operational prior to drilling out from surface casing. All persons arriving on location will have H_2S certification & training that occurred within the last year. Each occurrence of H_2S gas at surface is to be noted on the daily reports and any occurrence of H_2S in excess of 100 ppm will be reported to the authorized officer as soon as possible but no later than the next business day per the provisions of Oil and Gas Order # 6, Hydrogen Sulfide Operations. Also, ConocoPhillips will provide an H_2S Contingency Plan (please see copy attached) and will keep this plan updated and posted at the wellsite during drilling operations. All equipment that has the potential to be exposed to H_2S will be suitable for H_2S service.

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9. **Anticipated starting date and duration of operations:**

Road and location construction will begin after the BLM and NMOCD have approved the APD and will take into account any closure stipulations that may be attached or specified in order to avoid operations in any closure period. Also, rig availability may impact our schedule. With consideration of these limiting factors, we would intend / plan to drill this well within two years after receiving approval of the APD.

Attachments:

- Attachment # 1 .... Proposed Casing and Cementing Program
- Attachment # 2 .... Diagram of Choke Manifold Equipment (Excerpted 54 FR 39528, Sept 27, 1989)
- Attachment # 3 .... BOP and Choke Manifold Schematic – 2M System (Figure 3-1, Appendix G, from BLM)
- Attachment # 4 .... BOP and Choke Manifold Schematic – 2M System (Figure 3-1A, Appendix G, from BLM)

Contact Information:

Program prepared by:
Steven O. Moore
Staff Drilling Engineer, ConocoPhillips Company
Phone (832) 486-2459
Cell (281) 467-7596
Date: June 23, 2011

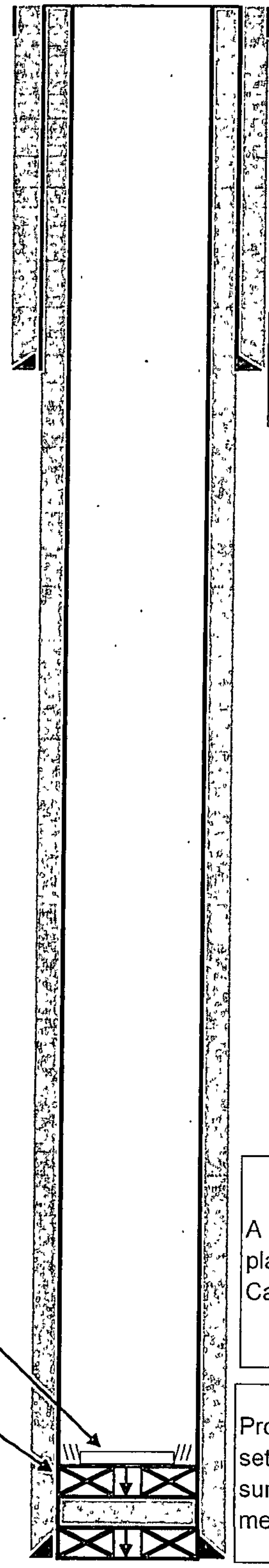
TMM
7/11/2011

ConocoPhillips

Attachment # 1

Proposed Casing & Cementing Program

Datum: RKB (14' above ground level)



Conductor: 13-3/8" 48# H-40 casing or 16" x ½" wall Grade B Line Pipe Set 30' to 85' below ground level (44' to 99' MD RKB) and cemented to surface.

Surface Casing: 8-5/8" 24# J-55 ST&C set 25' to 70' into the Rustler formation and cemented to surface.

A Single-Stage cement job is pumped placing cement from the Production Casing shoe to surface.

Cement Wiper Plug

Float Shoe, one joint of casing, and Float Collar

Production casing: 5-1/2" 17# L-80 LT&C set 10' above TD and cemented to surface with single-stage cementing method.

Schematic prepared by:
Steven O. Moore, Drilling Engineer
22-June-2011

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Attachment # 3

2000 psi System

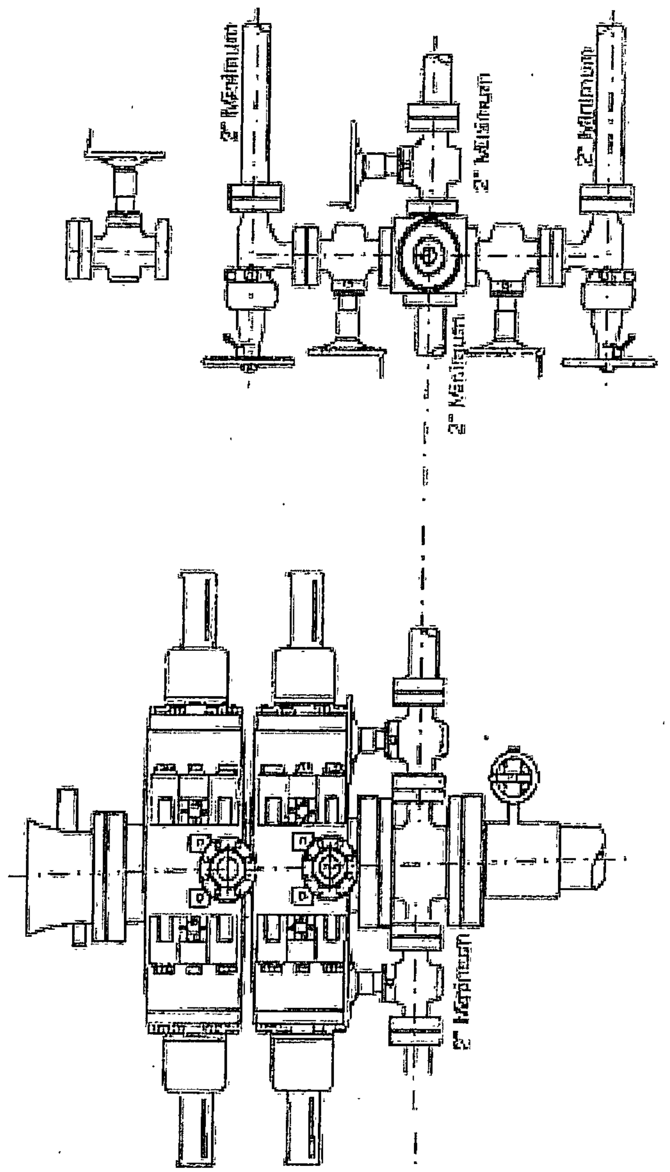

Figure 3-1

Appendix G

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Attachment # 4

2000 psi System

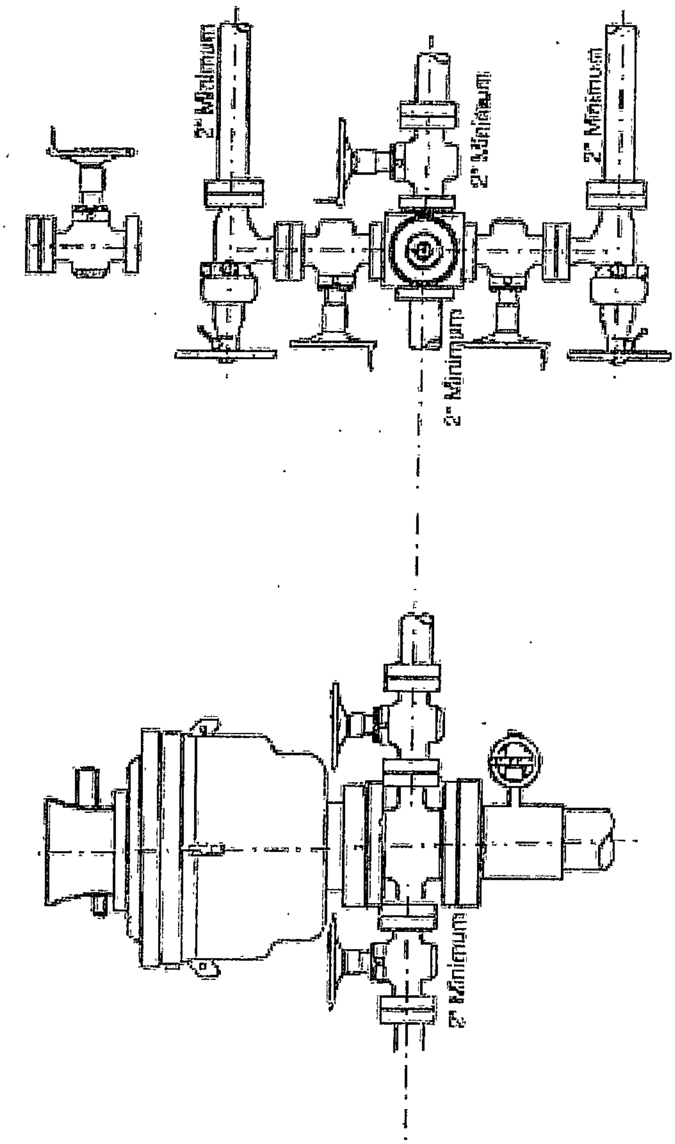

Figure 3-1A

Appendix G

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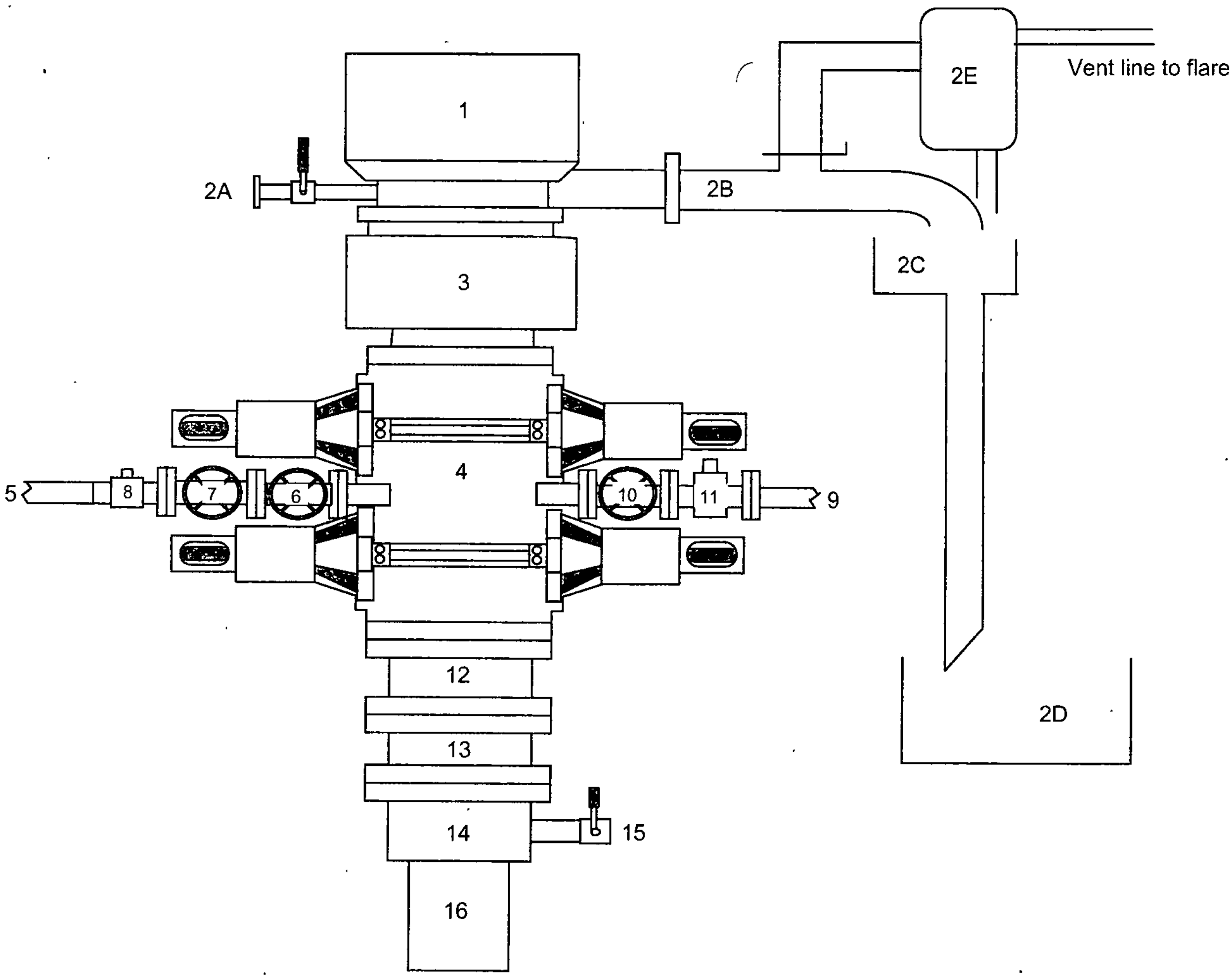
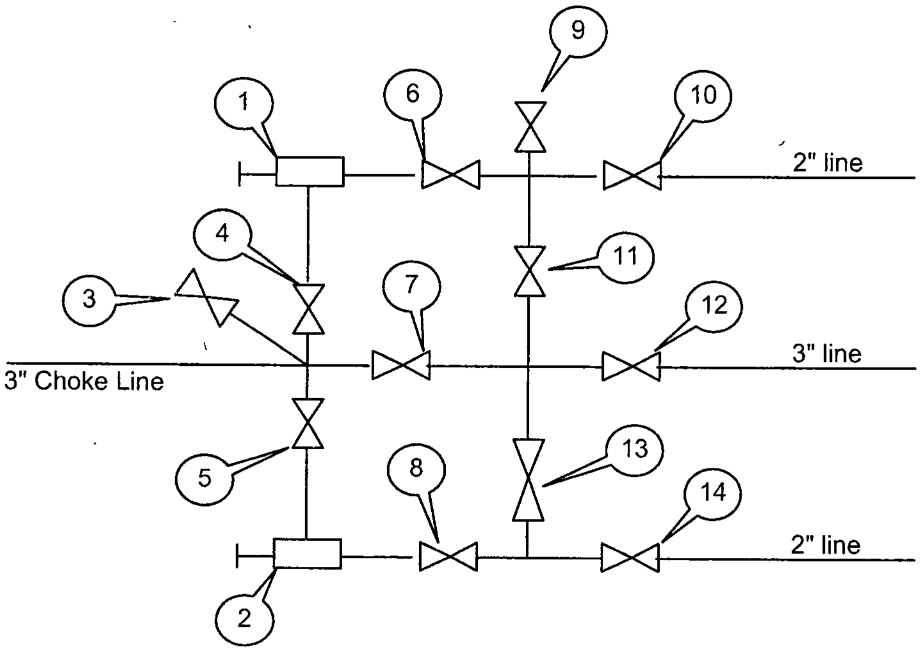
BLOWOUT PREVENTER ARRANGEMENT



Item	Description
1	Rotating Head (11")
2A	Fill up Line and Valve
2B	Flow Line (8")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3000 psi)
4	Double Ram BOP (11", 3000 psi, with Blind Rams in Upper Set and Pipe Rams in Lower Set)
5	Kill Line (2" Flexible Hose, 3000 psi WP)
6	Kill Line Valve, Inner (2-1/6" 3000 / 5000 psi WP)
7	Kill Line Valve, Outer (2-1/16", 3000 / 5000 psi WP)
8	Kill Line Check Valve (2-1/16", 3000 / 5000 psi WP
9	Choke Line (3" Steel Line, 3000 psi WP)
10	Choke Line Valve, Inner (3-1/8", 3000 psi WP)
11	Choke Line Valve, Outer, (Hydraulically operated, 3-1/8", 3000 psi WP
12	Spacer Spool (11" 3M x 3M)
13	Spacer Spool (11 3M x 5M)
14	Casing Head (11" 5M)
15	Ball Valve and Threaded Nipple on Casing Head Outlet, 2" 5M
16	Surface Casing

Drawn by: Steven O. Moore, Chief Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company, 12-July-2011

CHOKE MANIFOLD ARRANGEMENT



Item	Description
1	Manual Adjustable Choke, 2-1/16", 5M
2	Manual Adjustable Choke, 2-1/16", 5M
3	Gate Valve, 2-1/16" 5M
4	Gate Valve, 2-1/16" 5M
5	Gate Valve, 2-1/16" 5M
6	Gate Valve, 2-1/16" 5M
7	Gate Valve, 3-1/8" 3M
8	Gate Valve, 2-1/16" 5M
9	Gate Valve, 2-1/16" 5M
10	Gate Valve, 2-1/16" 5M
11	Gate Valve, 2-1/16" 5M
12	Gate Valve, 3-1/8" 3M
13	Gate Valve, 2-1/16" 5M
14	Gate Valve, 2-1/16" 5M

Drawn by:
Steven O. Moore
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Date: 12-July-2011