

DATE IN 4-19-10	SUSPENSE	ENGINEER DB	LOGGED IN 4-19-10	TYPE NSL	PTGW APP NO. 1010942009
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



*Approach Op.*

*Dora Spill #4*

**ADMINISTRATIVE APPLICATION CHECKLIST**

*30-039-30854*

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

*6185*

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication  
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify \_\_\_\_\_

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☒ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners  
 [B] ☐ Offset Operators, Leaseholders or Surface Owner  
 [C] ☐ Application is One Which Requires Published Legal Notice  
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,  
 [F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

*J. Scott Hall*

*J. I. Hall*

*ATTORNEY*

*4.16.2010*

Print or Type Name

Signature

Title

Date

*SHALLEMONTAND.COM*

e-mail Address



**MONTGOMERY  
& ANDREWS**  
LAW FIRM

J. SCOTT HALL

Cell: (505) 670-7362

Email: shall@montand.com

Reply To: Santa Fe Office

www.montand.com

RECEIVED OOD

2010 APR 16 P 2: 26

April 16, 2010

Mr. Mark E. Fesmire, Director  
New Mexico Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: Approach Operating LLC  
Request for Administrative Approval, Unorthodox Well Location  
WC Tierra Amarilla Mancos Oil Pool (97767)

Dora Spill No. 4  
API No. 30-39-30854  
359' FSL and 1374' FWL (N)  
Projected Section 32, T28N, R4E  
Rio Arriba County, New Mexico

Dear Mr. Fesmire:

On behalf of Approach Operating LLC, ("Approach") and pursuant to Division Rule 19.15.15.13 and the applicable statewide rules governing oil well locations (Rule 19.15.15.19.A), we request administrative approval for an unorthodox well location for the Approach Dora Spill No. 4 Well at the surface and bottom-hole locations reflected above.

This straight-hole well will be drilled to a depth sufficient to test the Mancos Shale formation within the boundaries of the WC Tierra Amarilla Mancos Oil Pool and is defined as a wildcat under the Division's rules. The statewide rules for wildcat oil wells currently provide that wells shall be drilled no closer than 330' to the outer boundary of a standard 40-acre spacing unit. The C-101 along with the C-102 plat showing the SE/SW spacing unit and the proposed unorthodox surface and bottom hole locations for the Dora Spill No. 4 are attached as Exhibit A.

Approach seeks an exception from the applicable well location rules for the Dora Spill No. 4 Well for the following reason: (1) The well is located in an unsurveyed area within the Tierra Amarilla land grant. The section/township/range

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**REPLY TO:**

325 Paseo de Peralta  
Santa Fe, New Mexico 87501  
Telephone (505) 982-3873 • Fax (505) 982-4289

Post Office Box 2307  
Santa Fe, New Mexico 87504-2307

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6301 Indian School Road NE, Suite 400  
Albuquerque, New Mexico 87110  
Telephone (505) 884-4200 • Fax (505) 888-8929

Post Office Box 36210  
Albuquerque, New Mexico 87176-6210

Mr. Mark E. Fesmire, Director  
April 16, 2010  
Page 2

description of the location is based on unofficial, projected township and section lines from an adjoining survey and therefore, it is not possible to state the proximity to actual section lines or quarter-quarter subdivisions boundaries with certainty. However, the location descriptions by latitude/longitude and by reference to the New Mexico State Plane Coordinate System referenced on the C-102 are accurate. (2) The well has also been located in conformance with the Design and Operational Standards for Oil and Gas Development of Rio Arriba County Ordinance No. 2009-01. Among other matters, these standards take into consideration terrain limitations, access roads, proximity to water features, and compatibility with existing land uses. Many of these matters are demonstrated by the enclosed aerial photo of the Dora Spill No. 4 Well (Exhibit "B").


The location for this well is not located closer than 660' to any existing well or a well that is known to be planned. Approach Operating LLC's affiliate company, Approach Oil and Gas Inc., owns or controls 100% of the leasehold working interest in each of the adjoining spacing units and Approach Operating would be the operator of each of those units. Further, the mineral interest ownership underlying the SE/SW of projected Section 32 and each of the surrounding spacing units is identical. Consequently, no further notice is indicated under the Division's rules (See Rule 19.15.4.12.A.2).

The Division's Administrative Application Checklist is enclosed.

Thank you for your consideration of this request. Should more information be required, please do not hesitate to contact me.

Very truly yours,

MONTGOMERY & ANDREWS, P. A.



J. Scott Hall

Attorneys for Approach Operating LLC

JSH:kw

Enclosures:

Exhibit A C-102

Exhibit B Aerial Photo

Administrative Application Checklist

cc: Steve Hayden, NMOCD-Aztec  
Approach Operating LLC

Rio Arriba County Planning and Zoning Dept.

00175403

District I  
1625 N. French Dr., Hobbs, NM 88240

District II  
1301 W. Grand Avenue, Artesia, NM 88210

District III  
1000 Rio Brazos Road, 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-101  
June 16, 2008

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Approach Operating, LLC 6500 West Freeway, Suite 800 Fort Worth, TX 76116		<sup>2</sup> OGRID Number 248343
<sup>3</sup> Property Code 37930	<sup>4</sup> Property Name Dora Spill	<sup>5</sup> API Number 30-39-30854
<sup>9</sup> Proposed Pool 1 WC; Mancos		<sup>10</sup> Proposed Pool 2

**7 Surface Location**

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	28N	04E		359	SOUTH	1374	WEST	RIO ARRIBA

**8 Proposed 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

**Additional Well Information**

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code O	<sup>13</sup> Cable/Rotary ROTARY	<sup>14</sup> Lease Type Code P	<sup>15</sup> Ground Level Elevation 7255 50'
<sup>16</sup> Multiple	<sup>17</sup> Proposed Depth 2000' **	<sup>18</sup> Formation GRANEROS	<sup>19</sup> Contractor TBD	<sup>20</sup> Spud Date On receipt of all required approvals

**21 Proposed Casing and Cement Program**

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	9 5/8"	36.0 #	350'	210	Surface
8 3/4"	4 1/2"	10.5 #	2000'	500	Surface

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

- (1) Shafco 11" Double Ram 3000# LWS
- (1) Grant 11" rotating head, 3000#
- (1) 5000# choke manifold
- (1) Koomcy 3 station 3000# w/air hydraulic pump
- (4) 10 gallon bottles

\*\* The proposed depth is 100' below the base of the Mancos Shale or 2000', whichever depth is achieved first.

*See attached conditions of approval*

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Brice A. Morgan*

Printed name: Brice A. Morgan

Title: Landman

E-mail Address: bmorgan@approachresources.com

Date: 11-23-09

Phone: 817-989-9000

**OIL CONSERVATION DIVISION**

Approved by:

Title:

Approval Date: NOV 30 2009

Expiration Date: 11/30/2011

Conditions of Approval Attached ☒ HOLD C104 FOR NGL

NOV 30 2009

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South 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  
☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number <b>30-039-35854</b>	<sup>2</sup> Pool Code <b>97767</b>	<sup>3</sup> Pool Name <b>W.C. Tierra Amarilla Mancos oil Pool</b>
<sup>4</sup> Property Code <b>37930</b>	<sup>5</sup> Property Name <b>Dora Spill Property</b>	<sup>6</sup> Well Number <b><del>Dora Spill</del> #4</b>
<sup>7</sup> OGRID No. <b>248323</b>	<sup>8</sup> Operator Name <b>Approach Operating LLC</b>	<sup>9</sup> Elevation <b><del>7250.96</del> 7255.5'</b>

**10 Surface Location**

UL or lot no.	Section <b>**32</b>	Township <b>**28N</b>	Range <b>**04E</b>	Lot Idn	Feet from the <b>359</b>	North/South line <b>South</b>	Feet from the <b>1374</b>	East/West line <b>West</b>	County <b>Rio Arriba</b>
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**11 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
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<sup>13</sup> Dedicated Acres <b>40</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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.

\*\*Projection within the Tierra Amarilla Grant provided by Approach Operating, LLC.

<div><p>16</p><p>1374'</p><p>359'</p><p>Dora Spill #4</p></div>	<b>17 OPERATOR CERTIFICATION</b> 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 or has a right to drill this well at this 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: <i>[Signature]</i> Date: <b>11-23-09</b>  Printed Name: <b>Bruce A. Morgan</b>	
	<b>18 SURVEYOR CERTIFICATION</b> 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.  Signature: <i>[Signature]</i> Date of Survey: <b>11/13/2009</b>  Signature and Seal of Professional Surveyor:  Certificate Number: _____	

Latitude - 36.60979 North

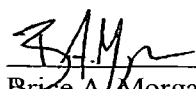
Longitude - -106.53989 West

Latitude, longitude & distances from projected section lines provided by Approach Operating, LLC.

### **Operator Certification Statement**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and condition under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 23rd day of November, 2009.

**Approach Operating, LLC**

  
\_\_\_\_\_  
Brice A. Morgan  
Landman

APPROACH OPERATING, LLC  
OPERATIONS PLAN  
DORA SPILL NO. 4

I.     Location:     LAT : 36.60979 N                             Date: 11-23-09  
                      LONG : -106.53989 W  
                      Rio Arriba County, New Mexico

Field: Wildcat   Elev: 7255.50'  
Surface: Fee

II.     Drilling  
       A. Contractor: TBD  
       B. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with air or air/mist.

C. Minimum Blowout Control Specifications: (See attached BOP System Schematic)

Double ram type 3000 psi working pressure BOP with a rotating head. See the attached Exhibit # 1 for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi.

The blind ram will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All check of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

No over pressured zones are expected in this well. No H2S zones expected, but compliance packs will be on location.

III.    Logging program: Induction / GR and density logs at TD.

IV.    Materials

A. Casing Program:

Hole Size	Depth	Casing Size	Wt & Grade
12-1/4"	350'	9-5/8"	36# J-55
8-3/4"	2000'	4-1/2"	10.5# J-55

B. Float Equipment (See attached "Generic Well Schematic")

- a. Surface Casing: Notched collar on bottom and 3 centralizers on the bottom 3 joints.
- b. Production Casing: 4-1/2" whirler type cement nosed guide shoe and a float collar on top of the shoe joint. Centralized with bow spring centralizers

V. Cementing:

- Surface Casing: 9-5/8" 32.3 lb/ft H-40 set to 350'. *Circulate cement to surface*

Cement 0-350'

Fluid 1: Water Based Spacer

Water

lbm/gal

Fluid Density: 8.330

Fluid Volume: 10 bbl

Fluid 2: Lead Cement

Premium Cement

lbm/gal

Fluid Weight 15.600

94 lbm/sk Premium Cement (Cement)

Slurry Yield: 1.180 ft<sup>3</sup>/sk

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Total Mixing Fluid: 5.238

Gal/sk

2 % Calcium Chloride (Accelerator)

Top of Fluid: 0 ft

Calculated Fill: 350 ft

Volume: 42.139 bbl

Proposed Sacks: 210 sks

Fluid 3: Water Based Spacer

Water Displacement

lbm/gal

Fluid Density: 8.330

Fluid Volume:

23.966 bbl

- Production Casing: 4-1/2" 10.5 lb/ft J-55 casing set to TD  
*Circulate cement to surface*

Cement

Fluid Instructions

Fluid 1: Water Based Spacer

Water

lbm/gal

Fluid Density: 8.330



Fluid Volume: 20 bbl

Fluid 2: Lead Cement

50/50 Poz Premium

0.4 % Halad(R)-344 (Low Fluid Loss Control)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Gal/sk

5 lbm/sk Gilsonite (Lost Circulation Additive)

Fluid Weight 13 lbm/gal

Slurry Yield: 1.436 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.193

Top of Fluid: 0 ft

Calculated Fill: 3500 ft

Volume: 156.266 bbl

Proposed Sacks: 500 sks

Fluid 3: Water Based Spacer

Water Displacement

lbm/gal

Fluid Density: 8.330

Fluid Volume: 31.197 bbl

- The wells will have 40' of 14" conductor set. Then a 12-1/4" hole will be drilled to about 350' when 9-5/8" surface casing will be set and cemented. We will drill out with a 8-3/4" bit using

### MULTI-POINT SURFACE USE PLAN

1. Existing Roads and New Roads:

Existing roads vary in condition, but all are drivable by pickup. Initially, Approach will crown and ditch these roads while providing for drainage via ditch relief and rolling water bars placed at a maximum 300 feet apart. During the initial phase of construction and drilling, roads will be developed using native materials and rock where necessary to prevent rutting or stormwater run-on from eroding road bed. Roads will be less than 25 feet wide with an additional 7.5 feet on each side for ditching. Rolling water bars will be installed with at least half their height in the cut and skewed to drain. If the well is to be abandoned, the road will be left in a condition that is at minimum comparable to the existing condition or is reclaimed. Maintenance will be conducted as necessary during all of Approach's operations. Roads will be kept in a serviceable condition that provides the land owner and the Approach with reasonable and emergency access.

2. Location of Existing Wells:

There are no existing wells in the vicinity of the Dora Spill No. 4. See attached aerial photo.

3. Location of Production Facilities:

In the event of production, production facilities will be located on the drill pad. The actual placement of this equipment will be determined when the well's production characteristics can be evaluated after completion.

4. Water Supply:

Water for drilling and completion will be purchased from local sources.

5. Methods of Handling Waste Disposal:

- a. The drill cuttings, fluids and completion fluids will be placed in the above ground steel tanks. All cuttings and fluids will be disposed of at a NMOCD permitted facility. Upon completion, the pad will be leveled, contoured and reseeded with the appropriate seed mixture.
- b. All garbage and trash will be placed in a metal trash basket. It will be hauled off and dumped in an NMOCD permitted facility upon completion of operations.
- c. Portable toilets will be provided and maintained during drilling operations.

6. Ancillary Facilities:

Ancillary facilities are to be based on well productivity.

7. Well Site Layout:

The well site will encompass an area of 200'X 275'.

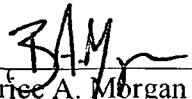
8. Plans for Restoration of Surface:

When the well is abandoned the location and access road will be cleaned and restored to the original topographical contours as much as possible. The area will be reseeded with appropriate seed mixture.

If the well is productive, areas not used in production will be contoured and seeded with stipulated seed mixture. Production equipment will be painted to blend with the natural color of the landscape.

9. Lessee's or Operator's Representative:

Brice A. Morgan  
Approach Operating, LLC  
6500 West Freeway, Suite 800  
Fort Worth, Texas 76116  
Phone: (817) 989-9000

  
\_\_\_\_\_  
Brice A. Morgan  
Landman

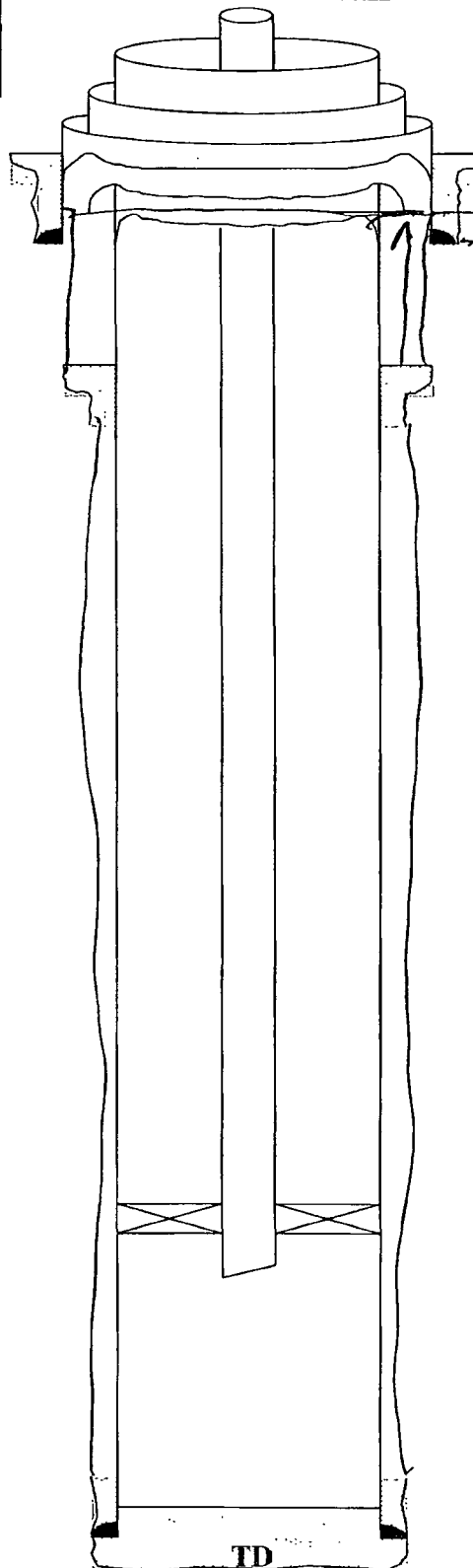
Generic Well Schematic

Approach Operating, LLC  
Rio Arriba Well

Rio Arriba Co., NM

TOC Surface Casing @ Surface

TOC Prodn Csg @ TBD



Surface Csg 9 5/8" @ 350'

TOC 250' or higher  
350' for production  
Hole Size 12 1/4"  
C & P

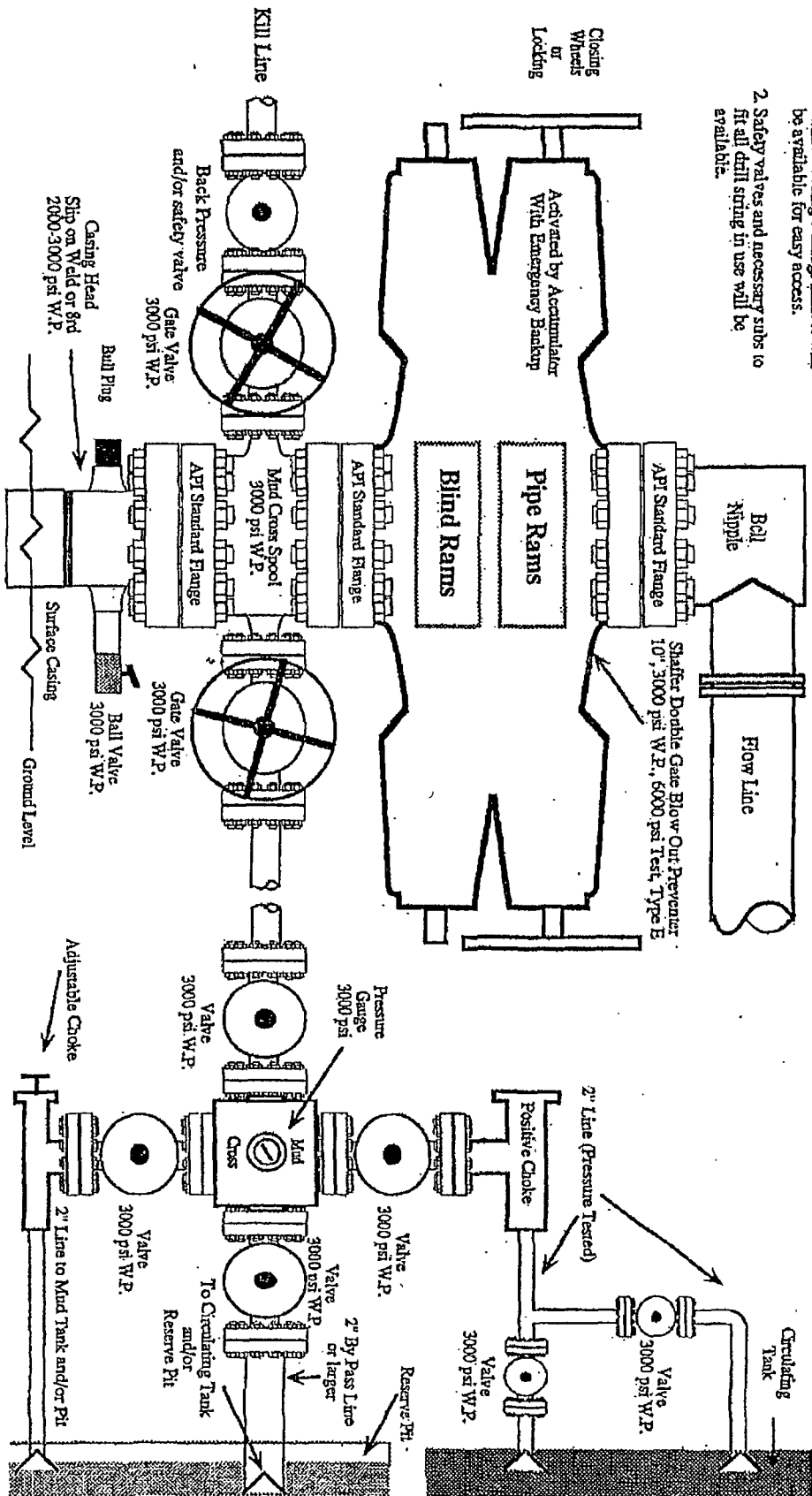
Hole Size 8 3/4"

Production Csg 4 1/2" @ TD

TD

# 2,000 PSI BOP SYSTEM

- Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.
2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.

### WC Tierra Amarillo Mancos Conditions of Approval

In the Tierra Amarilla area of interest the first good aquifer appears to be the uppermost sand of the Dakota Formation known as the Two Wells Member. The regulatory definition of the vertical limits of the Basin Dakota gas pool includes the Graneros Formation.

Because the depth to the Dakota Formation may vary due to topographic and structural changes from one site to another the TD for the wells assigned to the WC Tierra Amarilla Mancos Oil Pool (97767) is to be limited to the base of the Greenhorn Member of the Mancos Formation or shallower.

This will provide a good barrier between the upper Dakota Formation aquifer and perfed and stimulated zones in the Mancos.

Cement volume for the production casing appears to be inadequate to circulate to surface. Please include enough cement to circulate hole, plus 50% excess. If cement does not circulate, a CBL will be required to show cement top and quality prior to completion.



