

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		2006 JUL 28 PM 4 23	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		RECEIVED	
2. Name of Operator JICARILLA APACHE ENERGY CORP		8. Lease Name and Well No. JAECO 28-3 No. 8B	
3a. Address P.O. BOX 710 DULCE, NEW MEXICO 87528		3b. Phone No. (include area code) 505-759-3224	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 660' FSL & 2360' FEL At proposed prod. zone AS ABOVE		9. API Well No. 30-039-30006	
14. Distance in miles and direction from nearest town or post office* 27.5 MILES SSW OF DULCE, NM		10. Field and Pool, or Exploratory BLANCO MESAVERDE	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		11. Sec., T., R., M., or Blk. and Survey or Area 010, T28N, R3W, NMPM	
16. No. of Acres in lease 8863.50		12. County or Parish RIO ARRIBA	
17. Spacing Unit dedicated to this well SOUTH HALF - 320 ACRES		13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1700'		20. BLM/BIA Bond No. on file ON FILE	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7163' UGL		22. Approximate date work will start* NOVEMBER 20, 2006	
		23. Estimated duration 15 DAYS	

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 	Name (Printed/Typed) CHARLES NEELEY	Date 7/26/06
Title CONTRACT DRILLING ENGINEER		
Approved by (Signature) 	Name (Printed/Typed)	Date 3/15/07
Title Acting ARM Minerals	Office	

Application approval 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.

Conditions of approval, if any, are attached.

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 reverse)

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

RCVD MAR19'07  
OIL CONS. DIV.  
DIST. 3

NOTIFY AZTEC OCD 24hrs  
IN TIME TO WITNESS CS9 f.c.m.x

3/22/07

NMOCD 80

**Certificate Number**

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. <b>30-039-30006</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Jicarilla Apache MDA 701-04-0014
8. Well Number JAECO 28-3 No. 8B
9. OGRID Number 11859
10. Pool name or Wildcat Blanco Mesaverde

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (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 <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator Jicarilla Apache Energy Corp	
3. Address of Operator P.O. Box 710, Dulce NM, 87528	
4. Well Location Unit Letter O : 660 feet from the South line and 2360 feet from the East line Section 10 Township 28 North Range 3 West NMPM Rio Arriba County New Mexico	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7163' UGL	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type Drilling Reserve Pit Depth to Groundwater <50 ft Distance from nearest fresh water well >1000 ft Distance from nearest surface water <200 ft	
Pit Liner Thickness: 15 mil Below-Grade Tank: Volume bbls; Construction Material Location Dirt	

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

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> OTHER: Application for New Drilling Reserve Pit <input checked="" type="checkbox"/>	<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>
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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.

Drilling reserve pit to be located approximately 40 feet from well head. Pit to be lined, constructed, operated and closed in accordance with NMOCD guidelines and BLM, BIA, Jicarilla Apache Oil & Gas Administration and JAECO procedures.

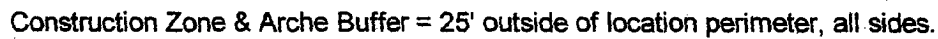
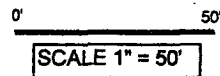
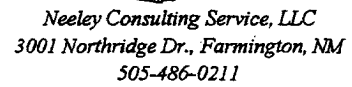
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Charles Neeley TITLE Contract Drilling Engineer DATE 7-26-06

Type or print name Charles Neeley E-mail address: neelece@msn.com Telephone No. 505-486-0211

For State Use Only

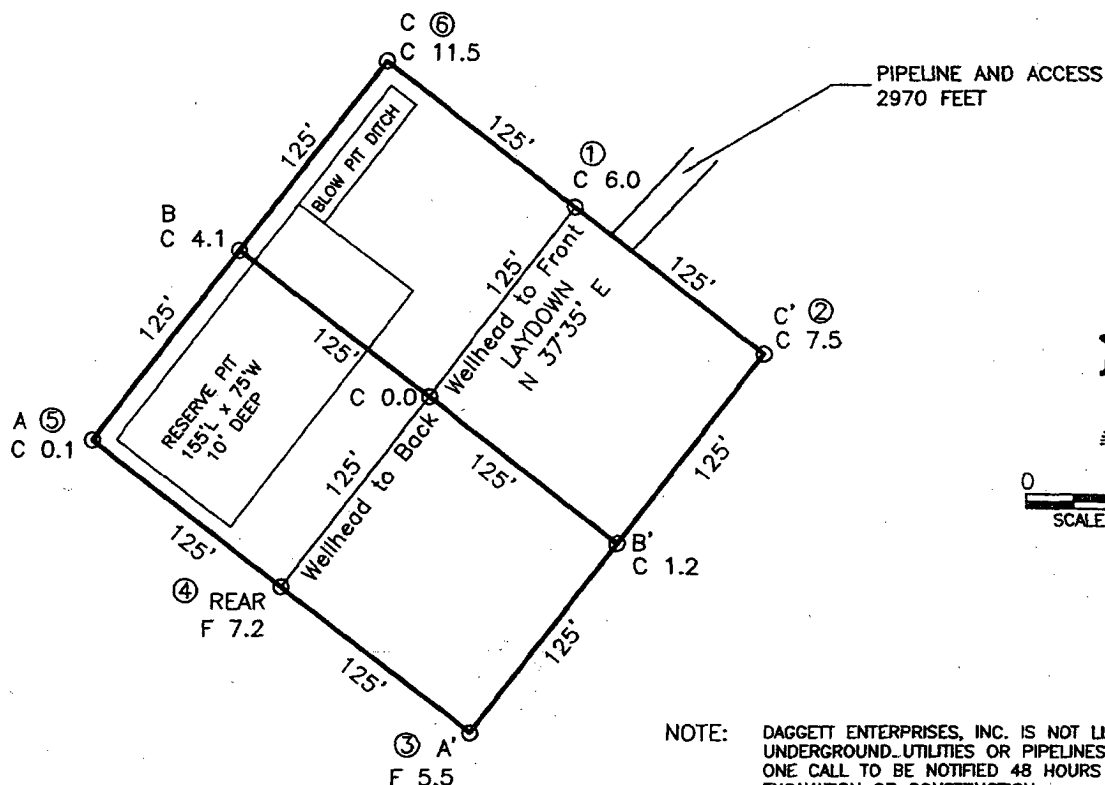
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 43 DATE MAR 22 2007  
Conditions of Approval (if any):



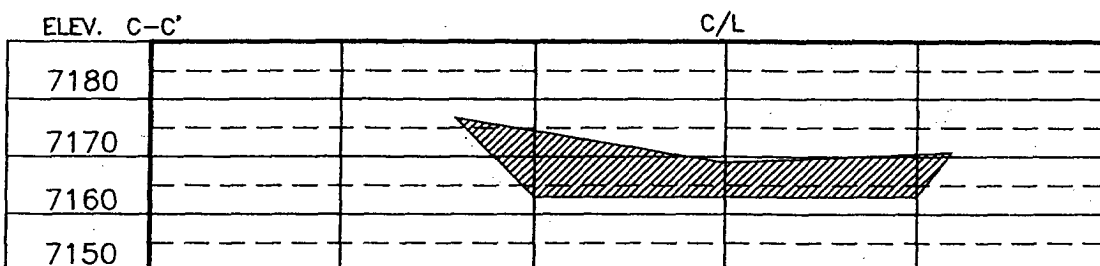
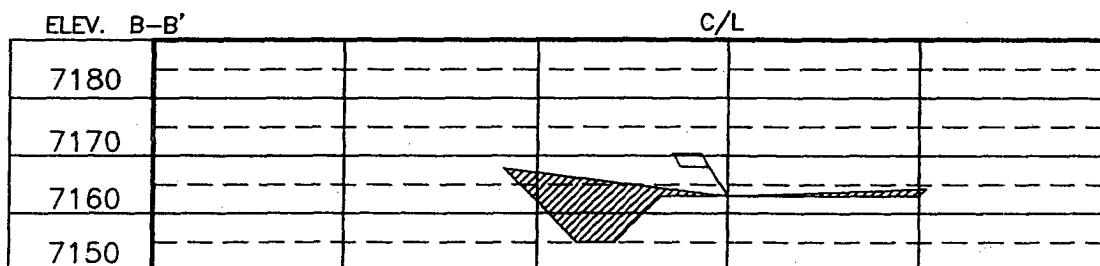
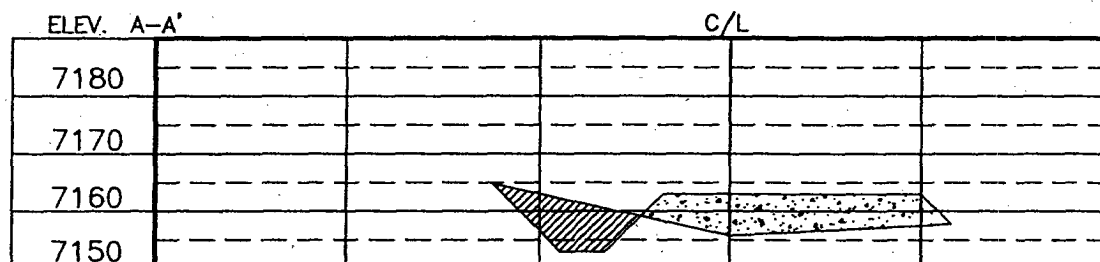
Elevation: 7163' UGL

JICARILLA APACHE ENERGY CORP.  
 JAECO 28-3 No. 8B, 660 FSL 2360 FEL  
 SECTION 10, T28N, R3W, N.M.P.M., RIO ARRIBA COUNTY, N. M.  
 GROUND ELEVATION: 7163', DATE: APRIL 18, 2006

LAT. = 36.64874° N.  
 LONG. = 107.13713° W  
 NAD 83



NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.



NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

DATE	REVISION BY	<b>Daggett Enterprises, Inc.</b> Surveying and Oil Field Services P. O. Box 15068 • Farmington, NM 87401 Phone (505) 326-1772 • Fax (505) 326-8019 NEW MEXICO L.S. No. 14831 COPIES: JAECO04CFB DATE: 05/23/08
DATE	REVISION BY	
DATE	REVISION BY	
DATE	REVISION BY	

UPON BY: A.G.  
 ROW#: JAECO04

**Jicarilla Apache Energy Corp**  
**JAECO 28-3 No. 8B**  
660' FSL & 2360' FEL  
Section 10, T28N, R3W, NMPM  
Rio Arriba County, New Mexico

**TEN POINT DRILLING PLAN**

1. **Surface Formation:** San Jose

2. **Surface Elevation:** 7163' UGL

Est KB, ft: 7175

3. **Estimated Formation Tops:**

Formation	Top MD (KB), ft	Top Subsea, ft	Rock Type	Comments
San Jose	Surface	Surface	Sandstone & Shale	Sticking
Nacimiento	2266	4909	Shale & Sandstone	Bit balling, sticking & LC
Ojo Alamo	3411	3764	Sandstone	Gauge Hole
Kirtland	3555	3620	Shale w/Sandstone	
Fruitland	3653	3522	Coal, Shale, Sandstone	Gas, Water
Pictured Cliffs	3715	3460	Sandstone, Shale, Coal	Gas - Mud Loss
Lower PC	3901	3274	Sandstone & Shale	Gas - Mud Loss
Lewis	4161	3014	Shale	
Huerfano	4561	2614	Shale	Bentonite
Cliff House	5799	1376	Sandstone	Gas
Menefee	5812	1363	Coal, Shale, Sandstone	Gas & Oil
Pt. Lookout	6065	1110	Sandstone & Shale	Gas
Mancos	6271	904	Shale	
Total Depth:	6346	829		

4. **Casing and Cementing Program:**

Drill a 12 1/4" Hole to 320'. A string of new 9 5/8" 36# J-55 or K-55 ST&C casing will be set and cemented to the surface in a single stage with 180 sacks (212.5 cf) of Class "B" cement (yield = 1.18 cf/sk) containing 2% CaCl<sub>2</sub> and 1/4 lb/sack cellophane flake. Slurry volume assumes 100% excess over calculated hole volume. Clearance between couplings and hole is 1.625". If cement does not circulate to surface, cement will be topped off using 1" pipe down the 12 1/4" by 9 5/8" annulus.

Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8 or 100,000 lb overpull whichever is greater.

Hole Dia	OD	Casing Data			Collapse (psi)	Burst (psi)	Jt. Strength (Lbs.)
		Wt/FT	Grade	Thread			
12 1/4"	9 5/8"	36	J-55	STC	2,020	3,520	394,000
		36	K-55	STC	2,020	3,950	452,000

**WOC 12 HOURS.** Nipple up 11" 2000# BOPE. Install proper size test plug, calibrated test guage and recorder. Pressure test BOPE at 250 psi for 5 minutes and 2000 psi for 10 minutes. Pull test plug, drill wiper plug, float collar and cement to within 10' of casing shoe. Close pipe rams and pressure test surface casing to 1500 psi for 30 minutes.

**Drilling Plan**  
**Jicarilla Apache Energy Corporation**  
**JAECO 28-3 No. 8B**

**4. Casing and Cementing Program: Continued**

Drill an 8 3/4" hole to 4231' feet, approximately 70' feet into the Lewis Shale.

Run Induction and Compensated density/neutron logs from 4231' to the surface casing shoe.

A string of new 7" 20#, J-55, STC Intermediate casing will be set at 4231' with a mechanical DV tool set at 2321', 55' below Nacimiento top. Stage 1 ( 4231' - 2321', 1910' ) will be cemented with 173 sacks (324.6 cf) of 35/65 Poz/B + 6% Gel + 5#/sk Gilsonite and 1/4 #/sk cellophane flake mixed at 12.1 ppg, yield 1.88 cf/sk. Followed by 149 sacks (188.1 cf) Class B with 5#/sk Gilsonite, 1/4#/sk cellophane flake and mixed at 15.2 ppg, yield 1.26 cf/sk.

**Circulate and WOC between stages for four ( 4 ) hours.** Stage 2 ( 2321' - surface ) will be cemented with 284 sacks ( 538.8 cf ) of 35/65 Poz/B + 6% Gel + 10#/sk Gilsonite and 1/4 #/sk cellophane flake mixed at 12.5 ppg, yield 1.90 cf/sk. Followed by 50 sks (63cf) Class B with 5#/sk Gilsonite and 1/4 #/sk cellophane flake, mixed at 15.2 ppg, yield 1.26 cf/sk. Slurry volumes assume a 75% excess over gauge hole volume for stage 1 and 83% over gauge volume for stage 2 (consistent with our experience in the area). Cement volume is subject to change after review of open hole caliper logs.

Clearance between couplings and hole is 1.094 ". Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8 or 100,000 lb over pull, whichever is greater.

Hole Dia	Casing Data				Collapse (psi)	Burst (psi)	Jt. Strength (Lbs.)
	OD	Wt/FT	Grade	Thread			
8.75"	7.0"	20	J-55	STC	2,270	3,740	234,000

**WOC 12 Hours:** Nipple up BOP, tag cement & drill out DV, pressure test casing to 500 psi, drill out float collar and cement to within 10' of casing shoe, close pipe rams and pressure test casing/BOPE to 2000 psi for 30 minutes.

Air drill a 6 1/4" hole from 4231' to 6346' TD, approximately 75' feet into the Upper Mancos.

Run Dual Induction and Compensated density/neutron logs from TD to the intermediate casing.

A new 4 1/2" 10.5#, J-55, STC production liner will be run from 6346' TD to a minimum overlap of 120 feet inside the 7" intermediate casing (6346' - 4111', 2235'). This string will be cemented in a single stage with 10 bbls POZ spacer w/4% gel, .2% Halad 9, .15# Fe & 3% KCl mixed at 11.0 ppg followed by 260 sacks (343.5 cf) 50/50 Poz/H containing 2% Gel, 5#/sk Gilsonite, 1/4 #/sk Flocele, 4% H-9 and 0.2% HR-5, mixed at 13.5 ppg, yield 1.32 cf/sk. Slurry volume assumes a 50% excess over gauge hole volume. Cement volume is subject to change after review of the open hole caliper log. Clearance between couplings and hole is 1.25". Safety factors utilized in the design of this casing string were burst = 1.1; collapse = 1.125; and tension = 1.8 or 100,000 lb overpull, whichever is greater.

Hole Dia	Casing Data				Collapse (psi)	Burst (psi)	Jt Strength (Lbs.)
	OD	Wt/FT	Grade	Thread			
6.25"	4.5"	10.5	J-55	STC	4,010	4,790	132,000

**Drilling Plan**  
**Jicarilla Apache Energy Corporation**  
**JAECO 28-3 No. 8B**

**4. Casing and Cementing Program: Continued**

**Bits:** 12 1/4" surface hole - MT class 115 or 116 to ~320 feet.  
8 3/4" intermediate hole - TCI class 447 to ~4231'.  
6 1/4" production hole - Air hammer and bit - to TD

**Centralizers:**

Surface string: 3 - 9 5/8" X 12 1/4": One centralizer run in middle of shoe joint with lock ring and one centralizer each on the next two joints of casing.

Intermediate string: 4 - 7" X 8 3/4" turbolizers will be spaced such that one is just below the Basal Fruitland Coal, three (3) across the Fruitland/Kirtland and one (1) into the Ojo Alamo. One centralizer will be run on the 1st jt of casing, the PC will be centralized, a centralizer will be run above and one centralizer will be run below the DV tool.

Production string: 7 - 4 1/2" X 6 1/4" bow spring centralizers will be run across all prospective pays; provided well control conditions permit.

**Float Equipment:**

Surface string: Texas pattern guide shoe w/insert float (1 jt above shoe).

Intermediate string: Cement nose guide shoe, float collar and DV tool with 2 cement baskets below DV tool.

Production string: Cement nose float shoe and a float collar (1 jt above shoe).

**5. Pressure Control Equipment:**

A 2,000 psi BOP well control system will be utilized. BOP's and choke manifold will be installed and pressure tested to a minimum of 2000 psig before drilling out of surface casing. Pipe rams will be operated daily. Pipe and blind rams will be operated on each trip. BOP's, intermediate casing and choke manifold will be pressure tested to 2000 psi prior to drill out of the 7" intermediate casing shoe.

7" & 4 1/2" casing rams will be installed prior to running intermediate and production casing, respectfully.

A full opening internal blowout preventor or drill pipe safety valve (capable of fitting all connections) will be on the rig floor at all times.

An upper kelly cock will be utilized. The handle will be available on rig floor at all times.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

**6. Mud Program:**

The well will be spudded and drilled to surface casing depth with a high viscosity slurry of bentonite, lime and fresh water. A fresh water, low solids, non-dispersed mud system will be utilized to drill the well from surface casing to intermediate casing depth. Air will be used to drill from intermediate casing depth to total TD; Mud circulating equipment, water, and mud materials (not mixed) sufficient to maintain the capacity of the hole and circulating pits will be in place and operational during air drilling operations.

Sufficient mud materials will be on location at all times to maintain mud properties and to control any lost circulation problem or unforeseen abnormal pressures.

Mud volume markers will be in place and visually monitored and recorded on a routine basis.



**Drilling Plan**  
**Jicarilla Apache Energy Corporation**  
**JAECO 28-3 No. 8B**

6. **Mud Program:** Continued

**Mud Property Guidelines:**

Interval (ft)	Weight (ppg)	Vis (sec/qt)	pH	Fluid Loss (cc/30 min)
0 - 320'	8.6 - 9.2	40 - 35	9 - 9.5	No Control
320' - 4231'	8.6 - 9.2	30 - 35	8.0 - 8.5	< 10
4231' - TD	Air	Air	Air	Air

Note: Raise mud viscosity to 45 - 60 for logging. Thin mud viscosity to 40 - 45 to run casing.  
Lost Circulation: may occur anywhere from the Nacimiento formation to intermediate depth.  
Have a minimum of 10% LCM in mud prior to running and cementing intermediate casing.  
Mud pH will be maintained with lime at the recommended levels to assure drill pipe corrosion protection.

7. **Auxiliary Equipment:**

All applicable equipment defined in Onshore Order No. 2 will be in place and operational during **Air Drilling Operations**.

8. **Logging Program:**

Dual Induction with GR and Neutron / Density logs will be run from TD to surface casing shoe.

**Coring and Drill Stem Testing Program:**

No cores or drill stem tests are planned

9. **Abnormal Pressure and/or Temperature:**

Although not expected, abnormal pressures are possible in the Fruitland formation.  
Abnormal temperatures are not expected.

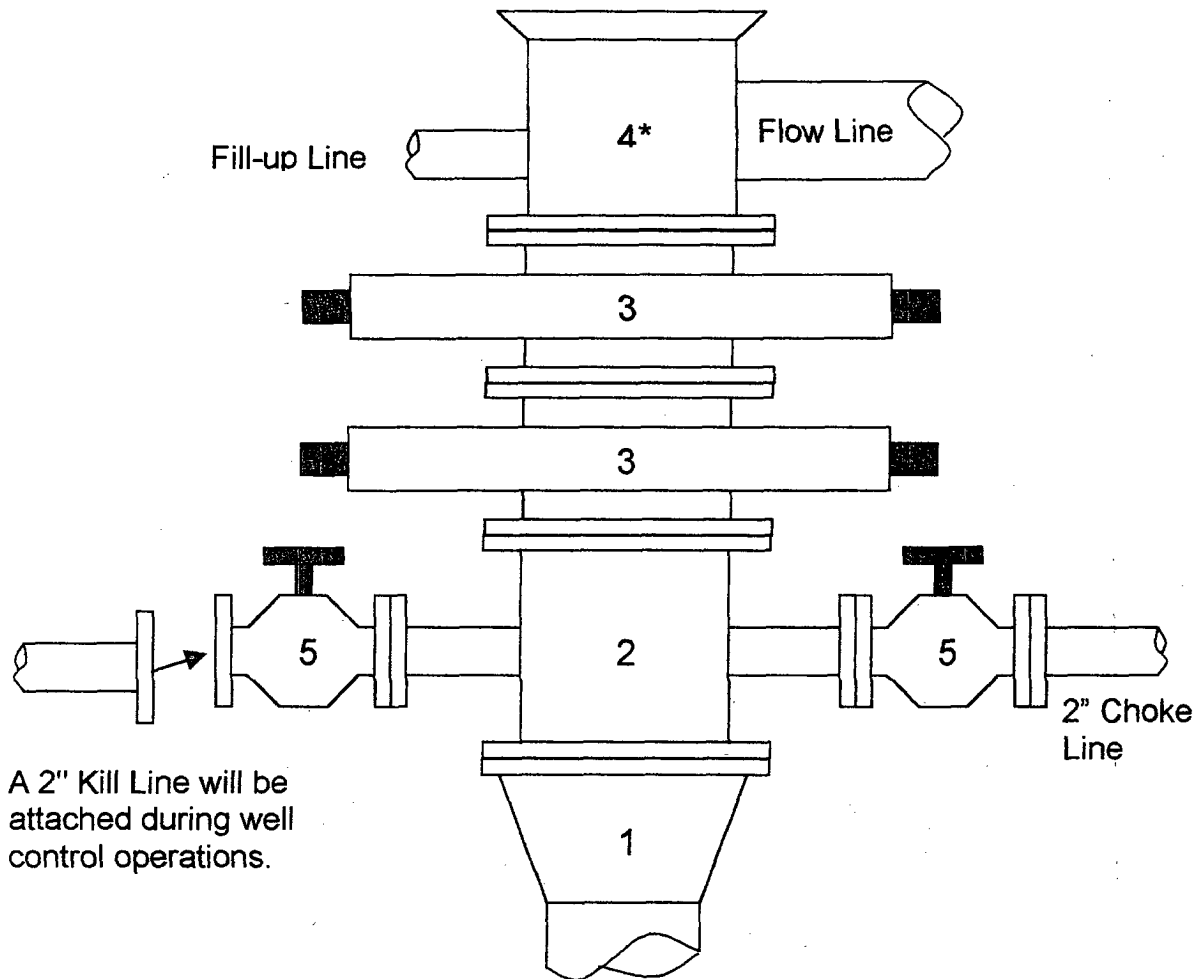
**Estimated Bottom Hole, Pressure:** 1970 psig      **BHT:** 140 deg F

10. **Anticipated Starting Date:** November 20, 2006

**Duration of Operations:** It is estimated a total of 15 days will be required for drilling operations.

# JAECO 28-3 No. 8B

2000 psi BOP Stack  
Minimum Requirements



A 2" Kill Line will be attached during well control operations.

## Components

- 1 - Wellhead 9-5/8" (2M)
- 2 - Drilling spool 11" (2M)
- 3 - A double or two single rams with blinds on bottom 11" (2M)
- 4 - Bell nipple\*
- 5 - 2" Manual valves (2M)

\*Note: A Rotating Head will replace the Bell nipple during air drilling operations.

All line and valve sizes listed are minimum requirements.

# JAECO 28-3 No. 8B

## 2000 psi Choke Manifold Minimum Requirements

