Form 3160-3
(September 2001)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
MDA 701-04-0014

6. If Indian, Allottee or Tribe Name
JICARILLA APACHE NATION

1a. Type of Work: ☑ DRILL ☐ REENTER

2006 JUL 28 PM 4 28

RECEIVED

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

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

8. Lease Name and Well No.
JAECO 28-3 No. 8

2. Name of Operator
JICARILLA APACHE ENERGY CORP

9. API Well No.
30-039-30004

3a. Address
P.O. BOX 710 DULCE, NEW MEXICO 87528

3b. Phone No. *(include area code)*
505-759-3224

10. Field and Pool, or Exploratory
BASIN DK/BLANCO MV

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface 660' FSL & 660' FWL
At proposed prod. zone AS ABOVE

11. Sec., T., R., M., or Blk. and Survey or Area
M 10, T28N, R3W, NMPM

14. Distance in miles and direction from nearest town or post office*
27.5 MILES SW OF DULCE, NM

12. County or Parish
RIO ARRIBA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in lease 8863.50	17. Spacing Unit dedicated to this well SOUTH HALF - 320 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1446'	19. Proposed Depth 8380'	20. BLM/BIA Bond No. on file ON FILE
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7103' UGL	22. Approximate date work will start* NOVEMBER 1, 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)*	Date
	CHARLES NEELEY	7/26/06
Title: CONTRACT DRILLING ENGINEER		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date 3/15/07
Title: Acting AFM 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)*

RCVD MAR 19'07
OIL CONS. DIV.
DIST. 3

NOTIFY AZTEC OCD 24hrs
IN TIME TO WITNESS csg & cement

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

NMOCD

3/22/07

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South 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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30004	71599	BASIN DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
36388	JAECO 28-3	8

[7] OGRID No.	[8] Operator Name	[9] Elevation
11859	JICARILLA APACHE ENERGY CORP.	7103'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	10	28-N	3-W		660'	SOUTH	660'	WEST	RIO ARRIBA

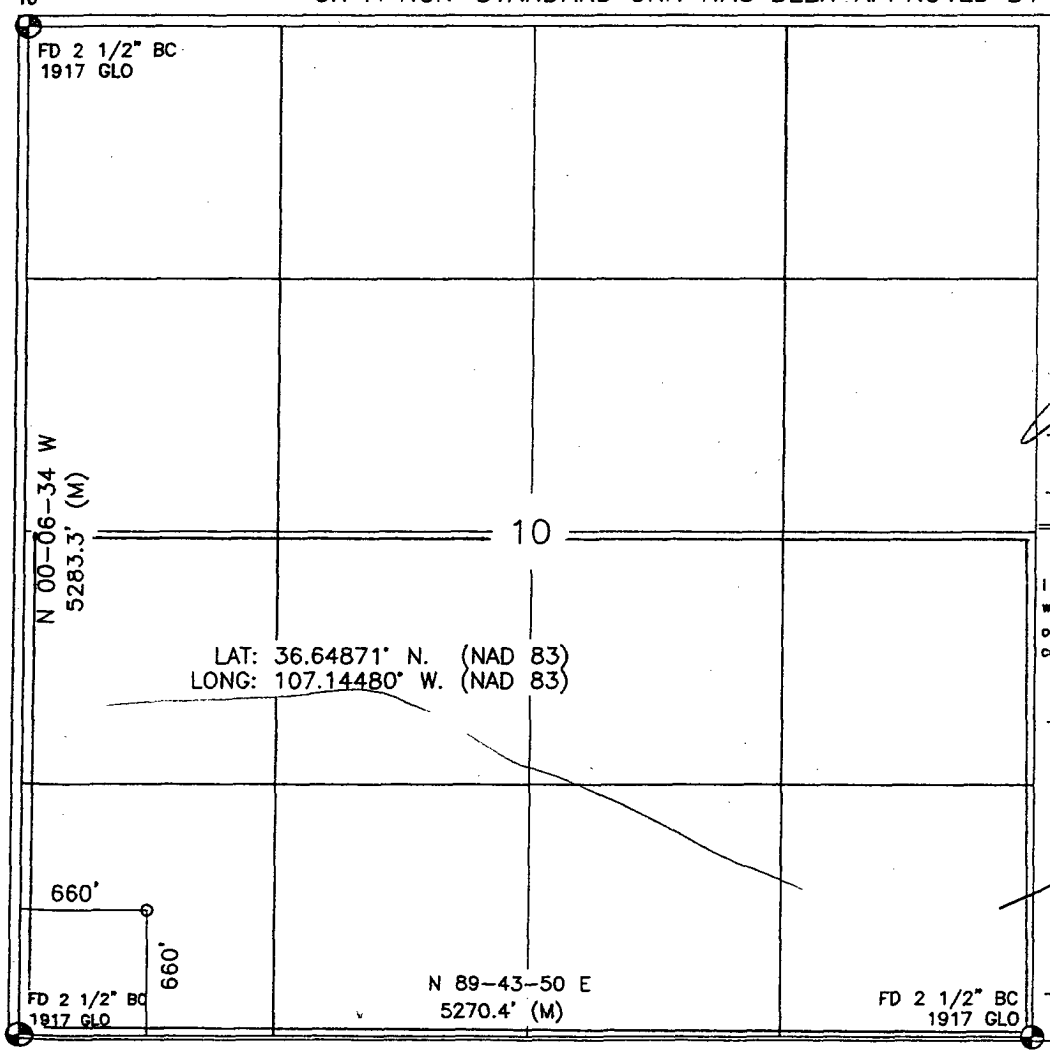
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
								RCVD MAR 19'07	

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
S/320 Acres	N		OIL CONS. DIV. DIST. 3

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

[16]



[17] OPERATOR CERTIFICATION

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 — Date: 7-26-06

Printed Name: Charles Nieley

[18] SURVEYOR CERTIFICATION

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.

APRIL 18, 2006
Date of Survey

Signature and Seal of Professional Surveyor:

JOHN A. VUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South 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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30004	72319	BLANCO-MESAVERDE

[4] Property Code	[5] Property Name	[6] Well Number
36388	JAECO 28-3	8

[7] OGRID No.	[8] Operator Name	[9] Elevation
11859	JICARILLA APACHE ENERGY CORP.	7103'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	10	28-N	3-W		660'	SOUTH	660'	WEST	RIO ARRIBA

[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

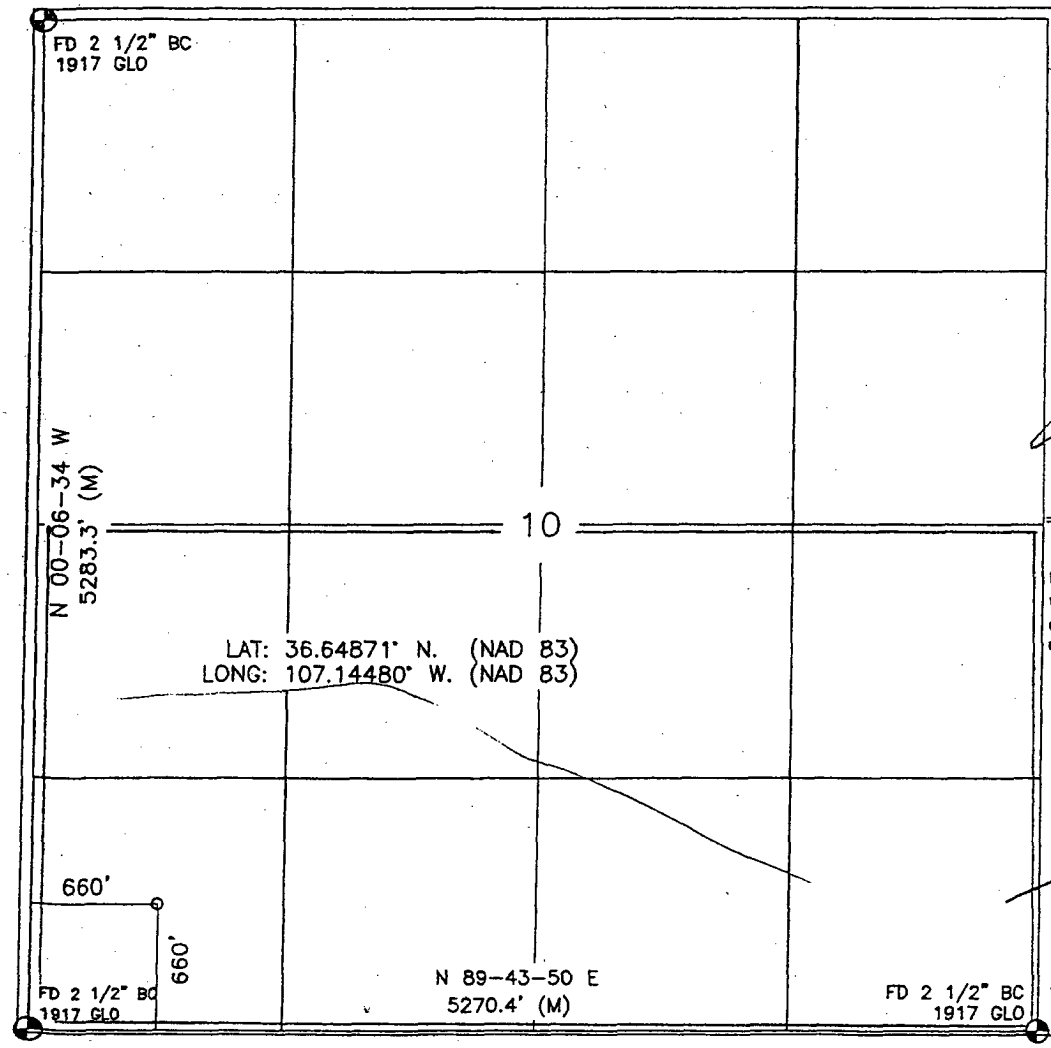
RCUD MAR 19 '07

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
S/320 Acres	N		

OIL CONS. DIV.
DIST. 3

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

[16]



[17] OPERATOR CERTIFICATION

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 — Date: 7-26-06

Printed Name: Charles Hurley

[18] SURVEYOR CERTIFICATION

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.

APRIL 18, 2006
Date of Survey

Signature and Seal of Professional Surveyor:

JOHN A. VUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

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. 30-039-30004
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: Jicarilla Apache MDA 701-04-0014
1. Type of Well: Oil Well ☐ Gas Well ☒ Other
8. Well Number: JAECO 28-3 No. 8
2. Name of Operator: Jicarilla Apache Energy Corp
9. OGRID Number: 11859
3. Address of Operator: P.O. Box 710, Dulce NM, 87528
10. Pool name or Wildcat: Basin Dakota/Blanco Mesaverde

4. Well Location
Unit Letter M : 660 feet from the South line and 660 feet from the West line
Section 10 Township 28 North Range 3 West NMPM Rio Arriba County New Mexico

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 7103' UGL

Pit or Below-grade Tank Application ☒ or Closure ☐

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-<1000'

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

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: Application for New Drilling Reserve Pit ☒		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.

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 [signature] TITLE Contract Drilling Engineer DATE 7-26-06

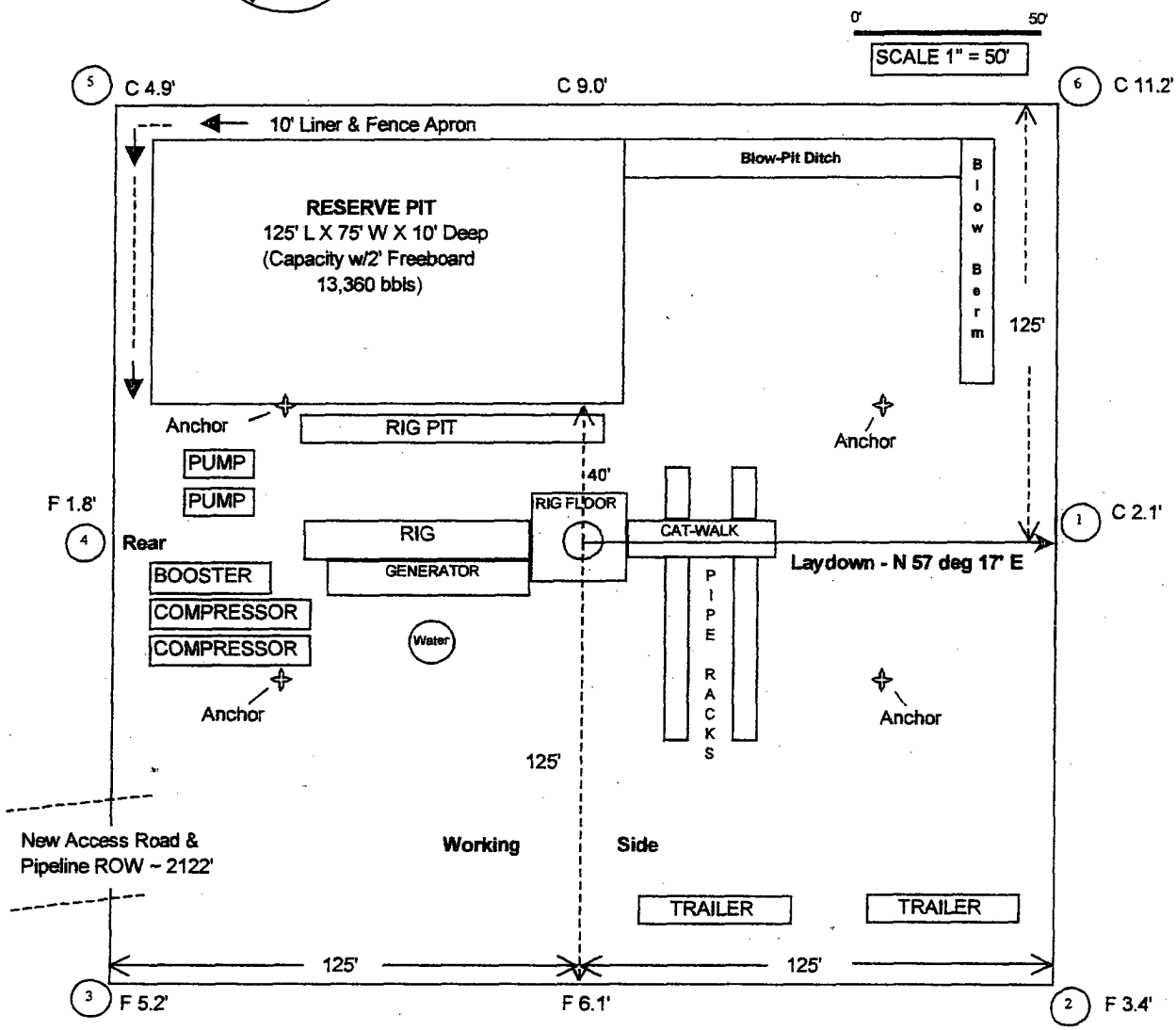
Type or print name Charles Neeley E-mail address: neelece@msn.com Telephone No. 505-486-0211

For State Use Only

APPROVED BY: [signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE MAR 22 2007

Conditions of Approval (if any):

Neeley Consulting Service, LLC
3001 Northridge Dr., Farmington, NM
505-486-0211



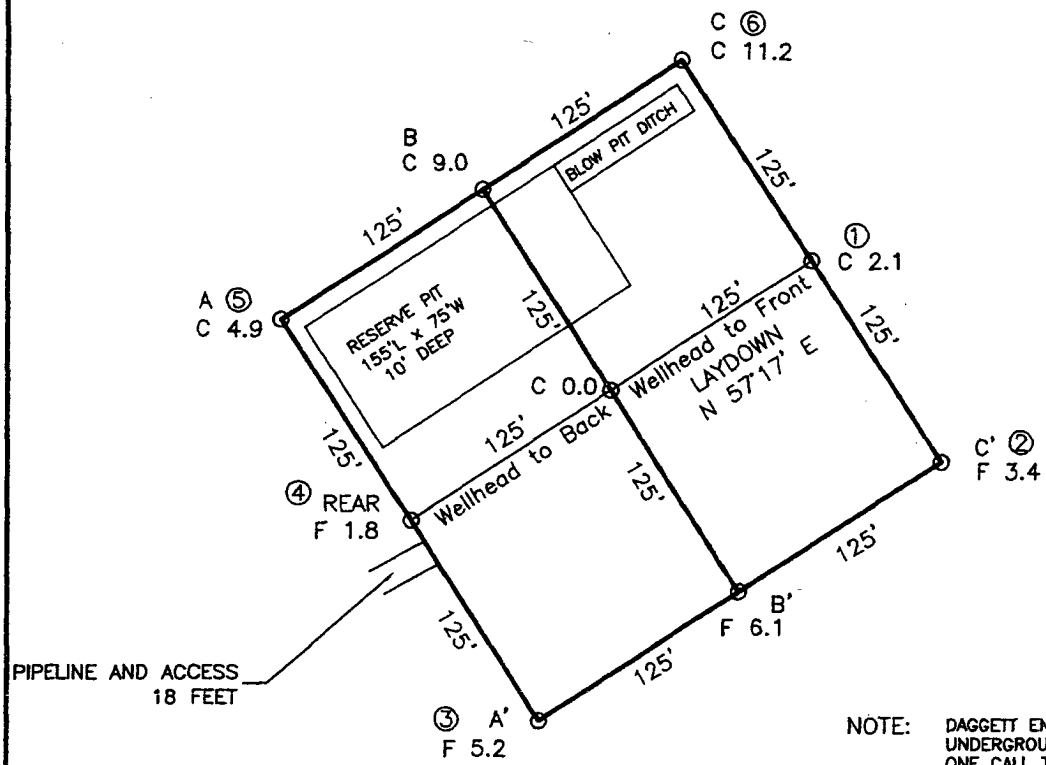
Construction Zone & Arche Buffer = 25' outside of location perimeter, all sides.

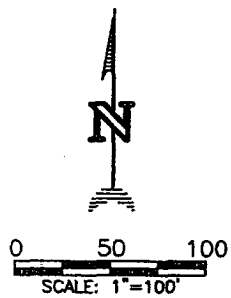
JAECO

Wellsite Layout Plat with Cut & Fills
JAECO 28-3 No. 8
660' FSL & 660' FWL
Sec 10, T28N, R3W, NMPM
Rio Arriba Co., New Mexico
Elevation: 7103' UGL

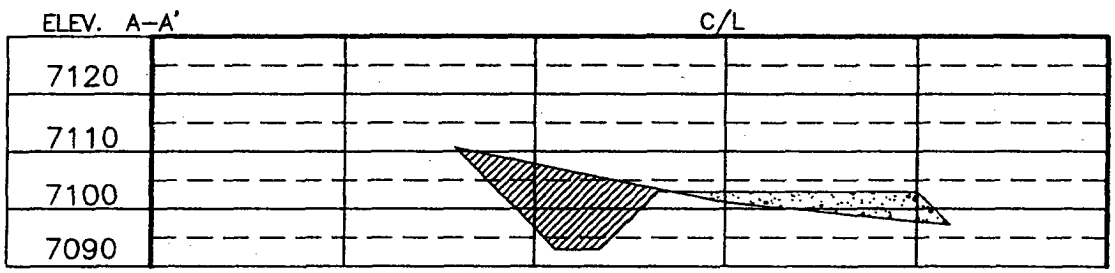
JICARILLA APACHE ENERGY CORP.
JAECO 28-3 No. 8, 660 FSL 660 FWL
SECTION 10, T28N, R3W, N.M.P.M., RIO ARRIBA COUNTY, N. M.
GROUND ELEVATION: 7103', DATE: APRIL 18, 2006

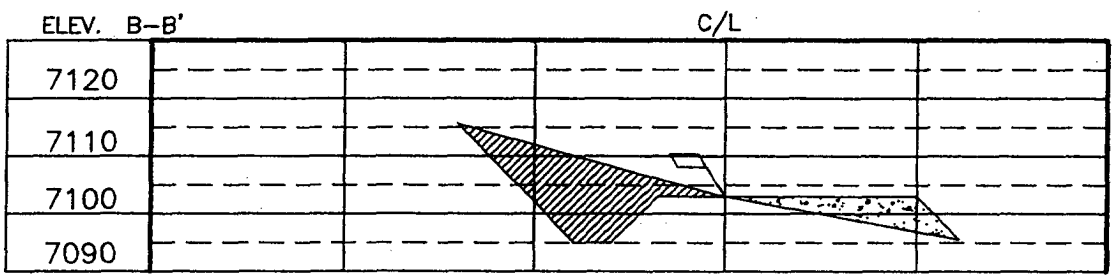
LAT. = 36.64871° N.
LONG. = 107.14480° W
NAD 83

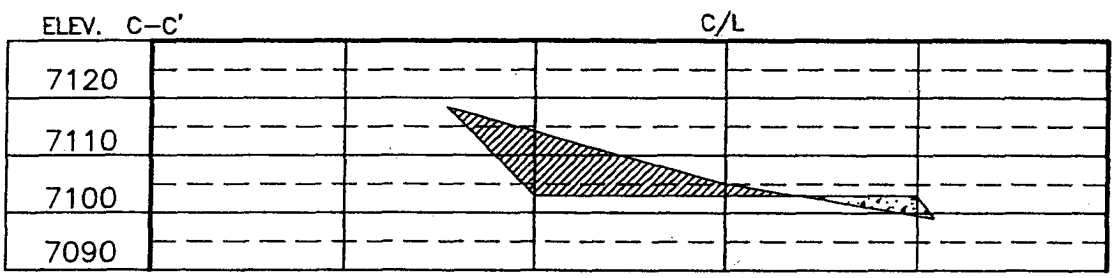




NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.







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.

Daggett Enterprises, Inc.
Surveying and Oil Field Services
P. O. Box 15068 • Farmington, NM 87401
Phone (505) 326-1772 • Fax (505) 326-6019
NEW MEXICO L.S. No. 14831

REVISION: | DATE: | REVISED BY:
DRAWN BY: A.G. | DISK#: JAEO03CFB | DATE: 05/19/06
ROW#: JAEO03

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

TEN POINT DRILLING PLAN

1. **Surface Formation**: San Jose

2. **Surface Elevation:** 7103' UGL Est **KB**, ft: 7115

3. **Estimated Formation Tops**:

Formation	Top MD (KB), ft	Top Subsea, ft	Rock Type	Comments
San Jose	Surface	Surface	Sandstone & Shale	Sticking
Nacimiento	2251	4864	Shale & Sandstone	Bit balllling, sticking & LC
Ojo Alamo	3396	3719	Sandstone	Gauge Hole
Kirtland	3540	3575	Shale w/Sandstone	
Fruitland	3638	3477	Coal, Shale, Sandstone	Gas, Water
Pictured Cliffs	3700	3415	Sandstone, Shale, Coal	Gas - Mud Loss
Lower PC	3886	3229	Sandstone & Shale	Gas - Mud Loss
Lewis	4146	2969	Shale	
Huerfanito	4546	2569	Shale	Bentonite
Cliff House	5784	1331	Sandstone	Gas
Menefee	5797	1318	Coal, Shale, Sandstone	Gas & Oil
Pt. Lookout	6050	1065	Sandstone & Shale	Gas
Mancos Shale	6256	859	Shale	Shale
Gallup Formation	7120	-5	Limy Siltstone, Shale	Gas, Oil
Lower Mancos	7850	-735	Shale	Sloughing Shale
Greenhorn Limestone	8025	-910	Limestone	Gas, Oil
Graneros Shale	8090	-975	Shale	Gas, Oil, Water
Dakota	8237	-1122	Hard Sandstone, Shale	Gas, Oil, Water
Burro Canyon	8385	-1270	Sandstone	Gas, Water - **TD. Avoid**
Morrison Formation	8463	-1348	Shale, Sandstone	**Wet Burro Canyon !**
Total Depth:	**8380**	-1265		

TD Note: Onsite Pick when Black/Brown Cuttings Start.

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% $CaCl_2$ 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. Run survey for TOC
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 OD	Wt/FT	Grade	Thread	Collapse (psi)	Burst (psi)	Jt. Strength (Lbs.)
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

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

4. Casing and Cementing Program: Continued

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.

Drill an 8 3/4" hole to 4216' feet, approximately 70' feet into the Lewis Shale.

Run Induction and Compensated density/neutron logs from 4216' to the surface casing shoe.

A string of new 7" 23#, N-80, LTC Intermediate casing will be set at 4216' with a mechanical DV tool set at 2306', 55' below Nacimiento top. Stage 1 (4216' - 2306', 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, ¼#/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 (2306'- surface) will be cemented with 281 sacks (534.6 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 (consistant 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	Casing Data				Collapse	Burst	Jt. Strength
Dia	OD	Wt/FT	Grade	Thread	(psi)	(psi)	(Lbs.)
8.75"	7.0"	23	N-80	LTC	3,830	6,340	442,000

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 4274' to 8380' TD, approximately 75' feet into the Burro Canyon.

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

A new 4 ½" 11.6 #, N-80, LTC production liner will be run from 8380' TD to a minimum overlap of 120 feet inside the 7" intermediate casing (8380' - 4096', 4284'). 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 499 sacks (658.9 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.

4. Casing and Cementing Program: Continued

Hole Dia	Casing Data OD	Wt/FT	Grade	Thread	Collapse (psi)	Burst (psi)	Jt Strength (Lbs.)
6.25"	4.5"	11.6	N-80	LTC	6,350	7,780	223,000

Bits: 12 1/4" surface hole - MT class 115 or 116 to ~320 feet.
8 3/4" intermediate hole - TCI class 447 to ~4216'.
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 ¾" 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 2000 psig before drilling out of surface casing. Pipe rams will be operated daily. Pipe and blind rams will be operated on each trip. BOPE, intermediate casing and choke manifold will be pressure tested to 2000 psi prior to drill out of the 7" intermediate casing shoe.
7" & 4 ½" 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 in use) 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

6. **Mud Program:** Continued

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.

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' - 4216	8.6 – 9.2	30 – 35	8.0 - 8.5	< 10
4216' – 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.

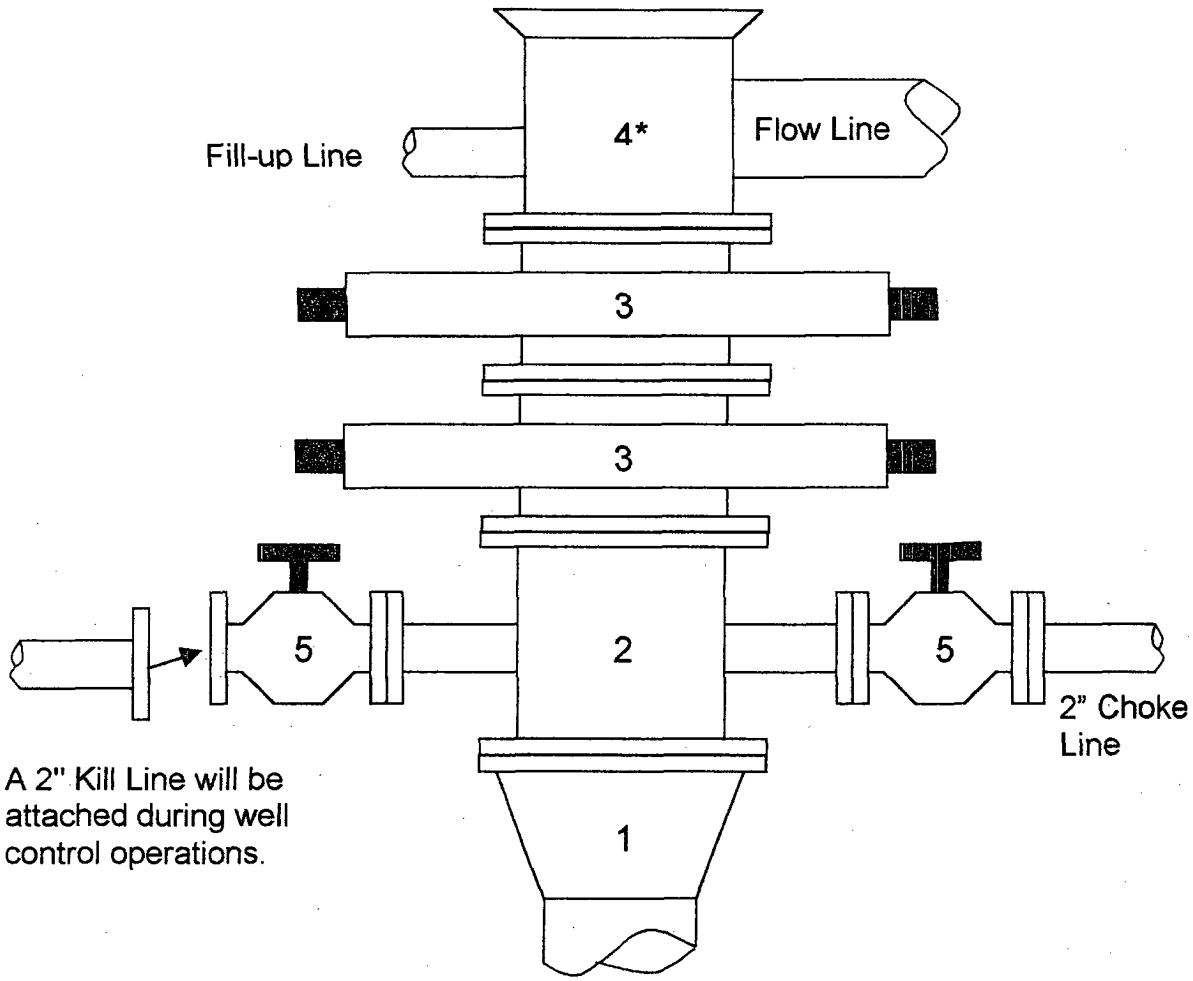
Estimated Bottom Hole, Pressure: 2300 psig BHT: 180 deg F

10. **Anticipated Starting Date:** November 1, 2006

Duration of Operations: It is estimated a total of 18 days will be required for drilling operations.

JAECO 28-3 No. 8

2000 psi BOP Stack
Minimum Requirements

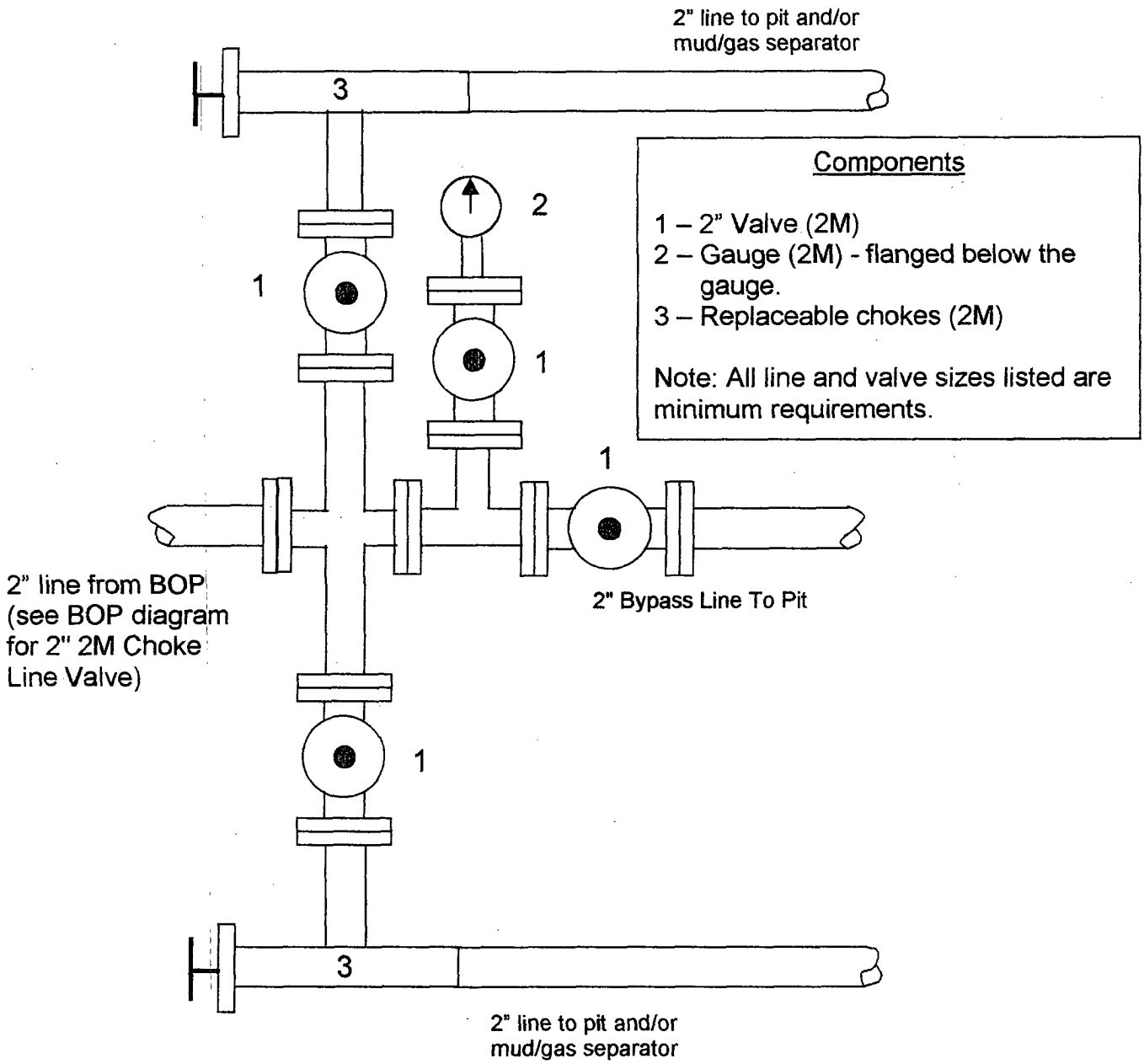


Components

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. 8

2000 psi Choke Manifold
Minimum Requirements



Components

1 – 2" Valve (2M)
2 – Gauge (2M) - flanged below the gauge.
3 – Replaceable chokes (2M)

Note: All line and valve sizes listed are minimum requirements.