Form 3160-3
(September 2001)

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Bureau of Land Management
Farmington Field Office

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.	701-99-0014
6. If Indian, Allottee or Tribe Name	Jicarilla Apache Tribe
7. If Unit or CA Agreement, Name and No.	Joint Venture Agreement
8. Lease Name and Well No.	JVA 4B
9. API Well No.	30039 30799
10. Field and Pool, or Exploratory	Blanco Mesa Verde
11. Sec., T., R., M., or Blk. and Survey or Area	Sec 20, T27N, R2W, NMPM
12. County or Parish	Rio Arriba
13. State	NM

1a. Type of Work: ☑ DRILL ☐ REENTER

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

2. Name of Operator
Jicarilla Apache Energy Corporation

3a. Address
P.O. Box 710, Dulce, New Mexico 87528

3b. Phone No. *(include area code)*
575-759-3224

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface 446' FNL & 2245' FEL
At proposed prod. zone A/A

14. Distance in miles and direction from nearest town or post office*
Approximately 30 miles South of Dulce, NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 3035'

16. No. of Acres in lease
4653

17. Spacing Unit dedicated to this well
RCVD DEC 1'11
East 1/2 of 20-27N-2W

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1759' NW of JVA 4

19. Proposed Depth
~~6340'~~ 6525'

20. BLM/BIA Bond No. on file
OIL CONS. DIV.
CD @ BIA

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7294' UGL

22. Approximate date work will start*
November 1, 2009

23. Estimated duration
15 Drilling Days DIST. 3

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 8/3/2009
Title Agent/PE		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date 11/23/11
Title AFM	Office FFO	

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)*

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

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

NMOCD

DEC 05 2011

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

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

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Farmington Field Office

Form C-102
Revised June 10, 2003
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
30-039-30799	72319	Blanco-Mesaverde

[4] Property Code	[5] Property Name	[6] Well Number
5415	Apache JVA	4B

[7] OGRID No.	[8] Operator Name	[9] Elevation
11859	Jicarilla Apache Energy Corporation	7294' GL

[10] Surface Location

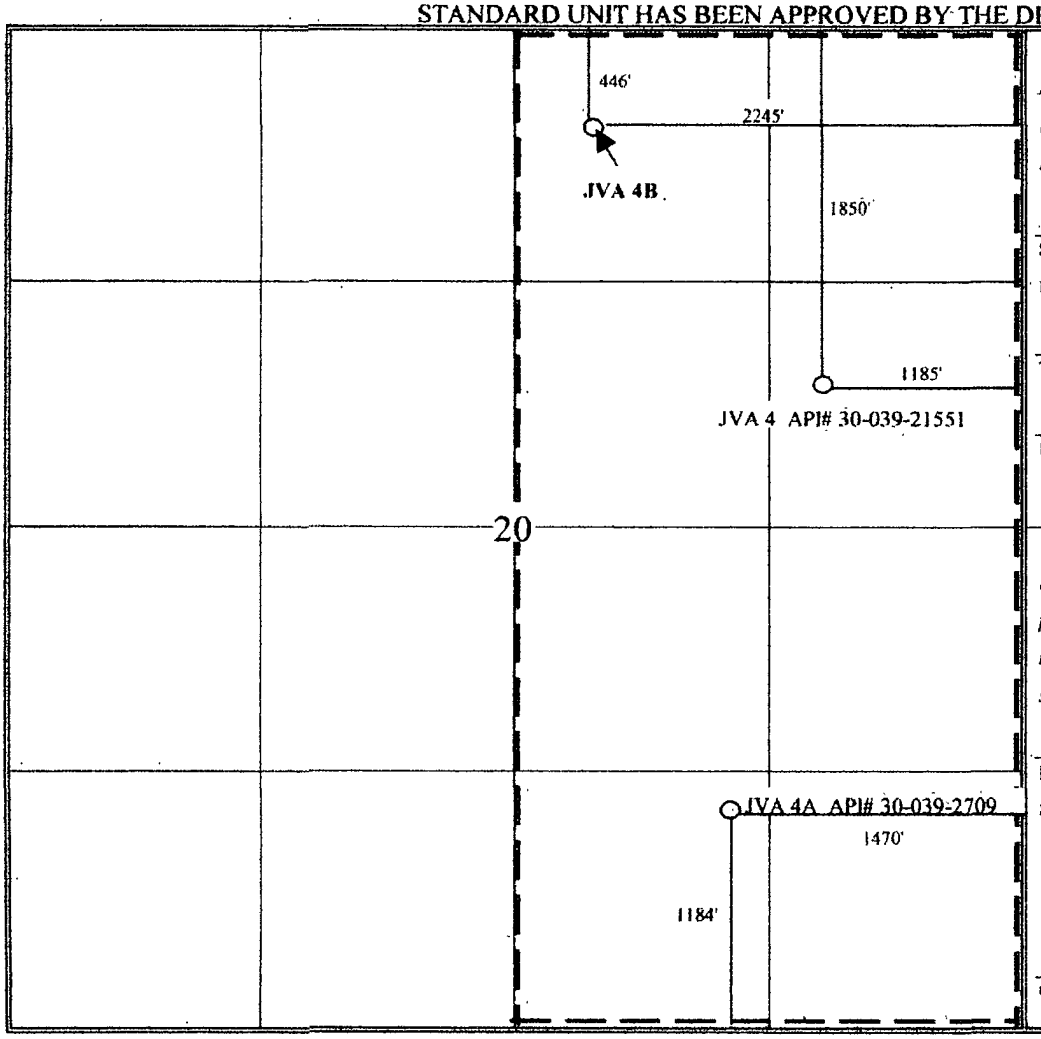
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	20	27N	2W		446	North	2245	East	Rio Arriba

[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

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

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



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Printed Name
Charles Neeley

Title and E-mail Address
Agent/PE neelece@acrnet.com

Date
May 12, 2004

[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

Date of Survey

Signature and Seal of Professional Surveyor

CECIL B. TULLIS
NEW MEXICO
9672
REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

April 11, 2005

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

Jicarilla Apache Energy Corporation
c/o Neeley Consulting Services, LLC
3001 Northridge Drive – Los Amigos Bldg.
Farmington, New Mexico 87401

Attention: **Charles Neeley**
neelece@acrnet.com

Administrative Order NSL-5192

Dear Mr. Neeley:

Reference is made to the following: **(i)** your application (***administrative application reference No. pMES0-509950495***) on behalf of the operator Jicarilla Apache Energy Corporation ("JAECO"), dated May 19, 2004, but was not submitted to the New Mexico Oil Conservation Division "(Division") in Santa Fe, New Mexico until March 28, 2005; and **(ii)** the Division's records in Santa Fe: all concerning JAECO's request for an exception to the well location requirements provided within the "*Special Rules for the Blanco-Mesaverde Pool,*" as promulgated by Division Order No. R-10987-A, issued in Case No. 12069 and dated February 1, 1999, as amended by Division Order No. R-10987-A (1), dated December 2, 2002. The E/2 of Section 20, Township 27 North, Range 2 West, NMPM, Rio Arriba County, New Mexico, being a standard 320-acre stand-up gas spacing and proration unit ("GPU") for the Blanco-Mesaverde Pool (**72319**) is to be dedicated to this well.

This application has been duly filed under the provisions of Division Rules 104.F and 605.B and the applicable rules governing the Blanco-Mesaverde Pool.

By the authority granted me under the provisions of Division Rule 104.F (2), the following described well to be drilled at an unorthodox gas well location in Section 20 is hereby approved:

JVA Well No. 4-B
446' FNL & 2245' FEL (Unit B).

Further, the aforementioned well and spacing unit will be subject to all existing rules, regulations, policies, and procedures applicable to prorated gas pools in Northwest, New Mexico.

Sincerely,

Mark E. Fesmire, P. E.
Director

MEF/ms

cc: New Mexico Oil Conservation Division – Aztec
U. S. Bureau of Land Management – Albuquerque

Jicarilla Apache Energy Corp
JAECO Apache JVA 4B
446' FNL & 2245' FEL
Section 20, T27N, R2W, NMPM
Rio Arriba County, New Mexico

TEN POINT DRILLING PLAN

1. **Surface Formation**: San Jose

2. **Surface Elevation:** 7294' UGL Est **KB**, ft: 7306

3. **Estimated Formation Tops**:

Formation	Top MD (KB), ft	Top Subsea, ft	Rock Type	Comments
San Jose	Surface	Surface	Sandstone & Shale	Sticking
Nacimiento	1655	5651	Shale & Sandstone	Bit ballling, sticking & LC
Ojo Alamo	3309	3997	Sandstone	Gauge Hole
Kirtland	3457	3849	Shale w/Sandstone	
Fruitland	3620	3686	Coal, Shale, Sandstone	Gas, Water
Pictured Cliffs	3672	3634	Sandstone, Shale, Coal	Gas - Mud Loss
Lower PC	3834	3472	Sandstone & Shale	Gas - Mud Loss
Lewis	3952	3354	Shale	
Huerfanito	4326	2980	Shale	Bentonite
Cliff House	5680	1626	Sandstone	Gas
Menefee	5734	1572	Coal, Shale, Sandstone	Gas & Oil
Pt. Lookout	6026	1280	Sandstone & Shale	Gas
Mancos	6210	1096	Shale	
Total Depth:	6525	781		

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.
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

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.

4. Casing and Cementing Program: Continued

Drill an 8 3/4" hole to 4120' feet, approximately 40' feet into the Lewis Shale.

Run Induction and Compensated density/neutron logs from 4120' to the surface casing shoe.

A string of new 7" 20#, J-55, STC Intermediate casing will be set at 4120' with a mechanical DV tool set at 1710', 55' below Nacimiento top. Stage 1 (4120' - 1710', 2410') will be cemented with 225 sacks (423 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 110 sacks (139 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 (8) hours.** Stage 2 (1710'- surface) will be cemented with 235 sacks (447 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 and type is subject to change after review of open hole and 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"	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 1500 psi for 30 minutes.

Air drill a 6 1/8" hole from 4120' to 6525' TD, or 500' feet below top of Pt Lookout Sd.

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

A new 4 ½" 10.5#, J-55, STC production liner will be run from 6525' TD to a minimum overlap of 120 feet inside the 7" intermediate casing (6525' - 4000', 2525'). 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 280 sacks (369.6 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	Casing Data				Collapse	Burst	Jt Strength
Dia	OD	Wt/FT	Grade	Thread	(psi)	(psi)	(Lbs.)
6.25"	4.5"	10.5	J-55	STC	4,010	4,790	132,000

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 ~4120'.
6 1/8" 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 liner: None

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.
baskets below DV tool.
Production liner: 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 ½" casing rams will be installed prior to running intermediate casing and production liner, 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.

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' - 4120	8.6 – 9.2	30 – 45	8.0 - 8.5	< 10
4094' – 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.

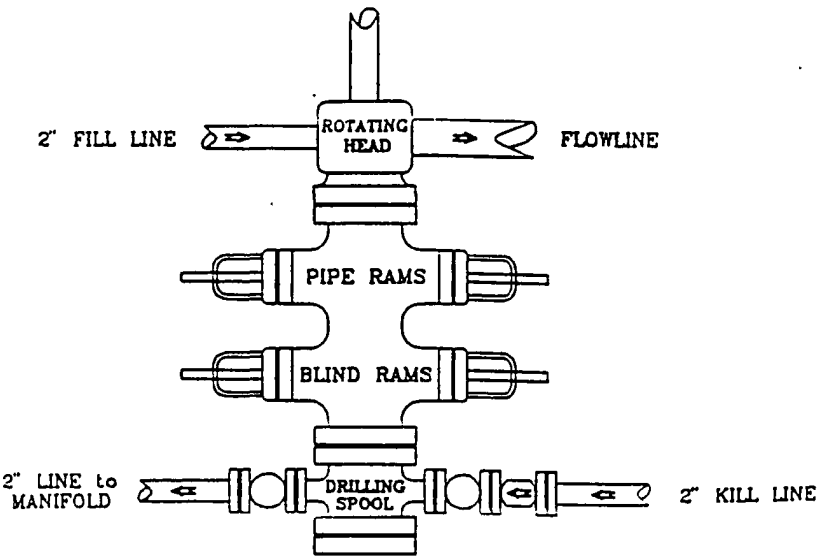
Estimated Bottom Hole, Pressure: 1600 psig BHT: 135 deg F

10. **Anticipated Starting Date:** November 1, 2009

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

PRESSURE CONTROL

Wellhead Assembly



Preventer and Spools are to have a 6" Bore or larger and a 2000 PSI or higher Pressure Rating

Choke Manifold