Form 3160-3 SUBMIT IN TRIPLICATE*

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: 701900001

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Jicarilla Apache Tribe

1a. TYPE OF WORK: DRILL ☑ DEEPEN ☐ 02 MAY 31 PM 12:37

7. UNIT AGREEMENT NAME: Joint Venture Agreement

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER SINGLE ZONE ☑ MULTIPLE ZONE ☐

8. FARM OR LEASE NAME, WELL NO.: Apache JVA #4A

2. NAME OF OPERATOR: *Jicarilla Apache Energy Corporation*

9. API WELL NO.: 30-039-27409

3. ADDRESS AND TELEPHONE NO.: P.O. Box 710, Dulce, New Mexico 87528 Mr. Jesse Evans (505)759-3224

10. FIELD AND POOL, OR WILDCAT: Blanco Mesa Verde

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1184' FSL & 1470' FEL, Sec 20, T27N, R2W, NMPM
At proposed prod. zone: A/A

11. SEC., T., R., M., OR BLK AND SURVEY OR AREA: Sec 20, T27N, R2W, NMPM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 16.0 miles NNW of Lindrith, New Mexico

12. COUNTY: Rio Arriba

13. STATE: New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1184'

16. NO. OF ACRES IN LEASE:

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2265'

19. PROPOSED DEPTH: 6275'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 7319' GL

22. APPROX. DATE WORK WILL START*:

23. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	J-55, 9 5/8"	36	320'	170 sks (201cf) - Circ to surface
8 3/4"	J-55, 7"	20	4035'	545 sks (967.6 cf) - 2 stg - circ to surface
6 1/4"	J-55, 4 1/2"	10.5	6275'	232 sks (308.6 cf) to 3915'(liner top)

Jicarilla Energy Corporation will spud this well in the San Jose formation. A 12 1/4" hole will be drilled to 320' using a fresh water base gel mud. 9 5/8" surface casing will be run and cemented with sufficient volume to circulate cement to surface. WOC 12 hours. Nipple up 11" 2000# BOPE and test to a minimum of 600 psi for 15 minutes. A 8 3/4" hole will be drilled approximately 40' into the Lewis Shale formation using a fresh water non-dispersed mud system. 7.0" intermediate casing will be run and cemented in 2-stages with sufficient volume to circulate to surface. WOC 12 hours. Nipple up and test BOPE to 1500 psi for 15 minutes. Drill a 6 1/4" hole to TD using air/air mist. Run Induction and Density/Neutron logs at TD. All potential zones will be analyzed from intermediate casing to total depth, and if potentially comercial, a 4 1/2" production liner will be set to TD with at least 120' overlap into intermediate casing. The liner will be cemented with sufficient cement volume to circulate to the liner top. Release drilling rig. Move in completion unit. Run cased hole correlation logs. Pressure test casing to 3000 psi for 15 minutes. Perforate selected Mesa Verde intervals and fracture stimulate, if necessary.

Surface: Jicarilla Apache Reservation.

AFMSS

Adjud	Amy
Engr	BO
Geol	MH
Surf	BO
Appvl	RWK

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED [signature] TITLE Agent DATE 5/23/02

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

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:

APPROVED [signature] TITLE Assist Field Mgr DATE 22 May 03

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 August 15, 2000
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
30-039-27409	72319	Blanco Mesa Verde

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

[7] OGRID No.	[8] Operator Name	[9] Elevation
11859	Jicarilla Apache Energy Corporation	7319' GL

[10] Surface Location

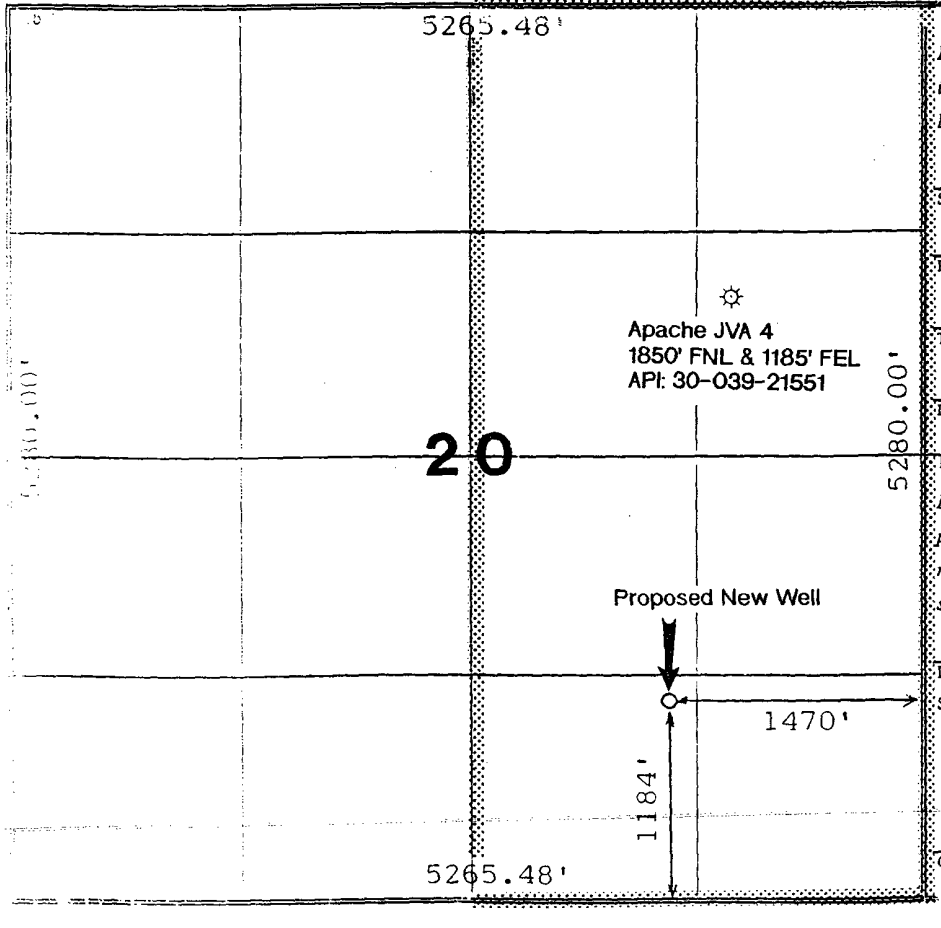
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	20	27N	2W		1184	South	1470	East	Rio Arriba

[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	Infill		

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

Charles Neeley
Printed Name

Agent
Title

05/21/02
Date

[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.

May 9, 2002
Date of Survey

Signature and Seal of Professional Surveyor

DOUGLAS CRITCHFIELD REGISTERED SURVEYOR NEW MEXICO

Certificate Number

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT--" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other
2. Name of Operator: ***Jicarilla Apache Energy Corporation***
3. Address and Telephone No.: ***P.O. Box 710, Dulce, New Mexico 87528 Mr. Jesse Evans (505)759-3224***
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 1184' FSL & 1470' FEL, Sec 20, T27N, R2W, NMPM

5. Lease Designation and Serial No.: 701900001
6. If Indian, Allottee or Tribe Name: Jicarilla Apache Tribe
7. If Unit or CA, Agreement Designation: Joint Venture Agreement 5415
8. Well Name and No.: Apache JVA #4A
9. API Well No.: ~~Not yet assigned~~ 30-039-27409
10. Field and Pool, or Exploratory Area: Blanco Mesa Verde
11. County or Parish, State: Rio Arriba, New Mexico

12. **CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION	
☑ Notice of Intent	☐ Abandonment	☑ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☐ Dispose Water

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinennt dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Due to habitat & forestry concerns discussed during the onsite conducted on 7-16-02, JAECO proposses to change their APD - Surface Use Plan to reroute their proposed Pipeline ROW through primarily sagebrush habitat vs forest.

Attached is the udated Surface Use Plan including Vicinity Map, Area Map and Wellsite Layout with Cut & Fills. Archaeological & EA surveys were conducted on the proposed pipeline ROW by Velarde Energy Service on 7-25-02.

Your concurrence with this proposal is appreciated.

Waiting on Surface concurrence

AFMSS

Adjud	AMJ
Engr	
Geol	
Surf	
Appvl	

14. I hereby certify the foregoing is true and correct

Signed Brenda Hurley Title Agent - PMCI Date 7-29-02

(This space for Federal or State office use)

Approved by _____ Title Division of Multi-Resources Date MAR 27 2003
Conditions of approval, if any:

Jicarilla Apache Energy Corp
Apache JVA 4A
1184' FSL & 1470' FEL
Section 20, T27N, R2W, NMPM
Rio Arriba County, New Mexico

TEN POINT DRILLING PROGRAM

1. **Surface Formation:** San Jose

2. **Surface Elevation:** 7319 ' GL

3. **Estimated Formation Tops:**

Formation	Top - feet	Expected Production
Nacimiento	1855'	
Ojo Alamo	3345'	
Kirtland	3545'	
Fruitland	3635'	
Pictured Cliffs	3825'	GAS
Lewis	3995'	
Cliff House	5655'	GAS
Menefee	5715'	GAS
Pt. Lookout	6005'	GAS
Upper Mancos	6175'	
TOTAL DEPTH	6275'	

4. **Casing and Cementing Program:**

Drill a 12 1/4" Hole to 320'. A string of 9⅝" 36# J-55 or K-55 ST&C casing will be set and cemented to the surface in a single stage with 170 sacks (201 cf) of Class "B" cement (yield = 1.18 cf/sk) containing 3% $CaCl_2$ and 1/4 lb/sack cellophane flake. Slurry volume assumes 100% excess over calculated hole volume. If cement does not circulate to surface, cement will be topped off using 1" pipe down the 12¼" by 9⅝" annulus. Clearance between couplings and hole is 1.625". Prior to drilling out the shoe, casing and BOPE will be tested to a minimum of 600 psig. 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.

WOC 12 HOURS. Nipple up 11" 2000# BOPE. Pressure test surface casing and BOPE to 600 psi for 15 minutes.

Drill an 8 3/4" hole to 4035' feet, approximately 40' feet into the Lewis Shale.

Run Induction and Compensated density/neutron logs from 4035' to surface casing shoe.

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

A string of 7" 20#, J-55 Intermediate casing will be set at 4035' with a mechanical DV tool set at 1900', 55' below Nacimiento top. **Stage 1** (4035' - 1900') will be cemented with 210 sacks (418 cf) of 35/65 Poz/B + 6% Gel + 5#/sk Gilsonite and 1/4 #/sk cellophane flake mixed at 12.1 ppg, yield 1.99 cf/sk. Followed by 100 sacks (121 cf) Class B with 5#/sk Gilsonite, ¼#/sk cellophane flake and 2% CaCl2 mixed at 15.4ppg, yield 1.21 cf/sk. **Circulate and WOC between stages for four (4) hours**. **Stage 2** (1900'- surface) will be cemented with 185 sacks (368 cf) of 35/65 Poz/B + 6% Gel + 5#/sk Gilsonite and 1/4 #/sk cellophane flake mixed at 12.1 ppg, yield 1.99 cf/sk. Followed by 50 sks (60.5cf) Class B with 5#/sk Gilsonite and 1/4 #/sk cellophane flake, mixed at 15.4 ppg, yield 1.21cf/sk.
Slurry volumes assume a 70% excess over gauge hole volume for stage 1 and 50% over gauge volume for stage 2.
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

WOC 12 HOURS. Nipple up 11" 2000# BOPE. Pressure test intermediate casing and BOPE to 1500 psi for 15 minutes.

Air drill a 6 1/4" hole from 4025' to 6275' TD, approximately 100' feet into the Upper Mancos.

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

A 4 ½" 10.5#, J-55 production liner will be run from 6275' TD to a minimum overlap of 120 feet inside the 7" intermediate casing. This string will be cemented in a single stage with 232 sacks 50/50 Poz/H containing 5#/sk Gilsonite, 1/4 #/sk Flocele, 0..4% Hallad 334 and 0.2% CFR2, mixed at 13.7 ppg, yield 1.33 cf/sk. Slurry volume assumes a 30% 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.

Bits: 12 1/4" surface hole - MT class 115 or 116 to ~320 feet.
8 3/4" intermediate hole - TCI class 447 to ~4035'.
6 1/4" production hole – Air hammer and bit - to TD

Centralizers:
Surface string: 3 - 9⅝" X 12¼": One centralizers run in middle of shoe joint with lock ring and two centralizers spaced evenly between shoe joint and 100'.

Intermediate string: 5 – 7" X 8 ¾" turbolizers will be spaced such that one is just below the Basal Fruitland Coal, three (3) across the Fruitland and one (1) into the Ojo Alamo. One centralizer will be run on the 1st jt of casing, a centralizer will be run above and one centralizer will be run below the DV tool.

Production string: 7 - 4 ½" 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.

Production string: Cement nose float shoe, 1 jt of 4 ½" csg, float collar.

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 600 psig before drilling out of surface casing. The operating condition of the BOP will then be checked daily.

BOP's, intermediate casing and choke manifold will be pressure tested to 1500 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) will be on the rig floor at all times.