

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>BIA #11</b>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name <b>JICARILLA APACHE</b>
2. Name of Operator <b>ELM RIDGE RESOURCES, INC.</b>		7. If Unit or CA Agreement, Name and No. <b>N/A</b>
3a. Address <b>P. O. BOX 189 FARMINGTON, NM 87499</b>	3b. Phone No. (include area code) <b>(505) 632-3476</b>	8. Lease Name and Well No. <b>JICARILLA APACHE B 16 E</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>1070' FSL &amp; 1450' FEL</b> At proposed prod. zone <b>SAME</b>		9. API Well No. <b>30-039- 27725</b>
14. Distance in miles and direction from nearest town or post office* <b>7 AIR MILES NORTHEAST OF COUNSELORS</b>		10. Field and Pool, or Exploratory <b>OTERO GALLUP &amp; BASIN DAKOTA</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>1,070'</b>	16. No. of Acres in lease <b>2,560</b>	11. Sec., T., R., M., or Blk. and Survey or Area <b>29-24n-5w NMPM</b>
17. Spacing Unit dedicated to this well <b>160</b> <b>OTERO GALLUP SWSE = 40 ACRES</b> <b>BASIN DAKOTA: S2 = 320 ACRES</b>	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>274'</b>	12. County or Parish <b>RIO ARRIBA</b>
19. Proposed Depth <b>6,900'</b>	20. BLM/BIA Bond No. on file <b>#886441C (BIA - NATION WIDE)</b>	13. State <b>NM</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>6,595' GL</b>	22. Approximate date work will start* <b>UPON APPROVAL</b>	23. Estimated duration <b>4 WEEKS</b>

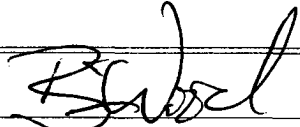
24. Attachments

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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification.   |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

Comments

cc: BIA, BLM (&OCD), Elm (D & F), Nation

25. Signature 	Name (Printed/Typed) <b>BRIAN WOOD</b>	Date <b>8-10-03</b>
Title <b>CONSULTANT</b>	PHONE: <b>505 466-8120</b>	FAX: <b>505 466-9682</b>
Approved by (Signature) <b>/s/ David R. Sitzler</b>	Name (Printed/Typed) <b>DAVID R. SITZLER</b>	Date <b>MAY 5 2004</b>
Title <b>Assistant Field Manager</b>	Office <b>OTERO GALLUP</b>	

Application approval does not warrant or certify the 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.



State of New Mexico  
Energy, Minerals & Mining Resources Department  
OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

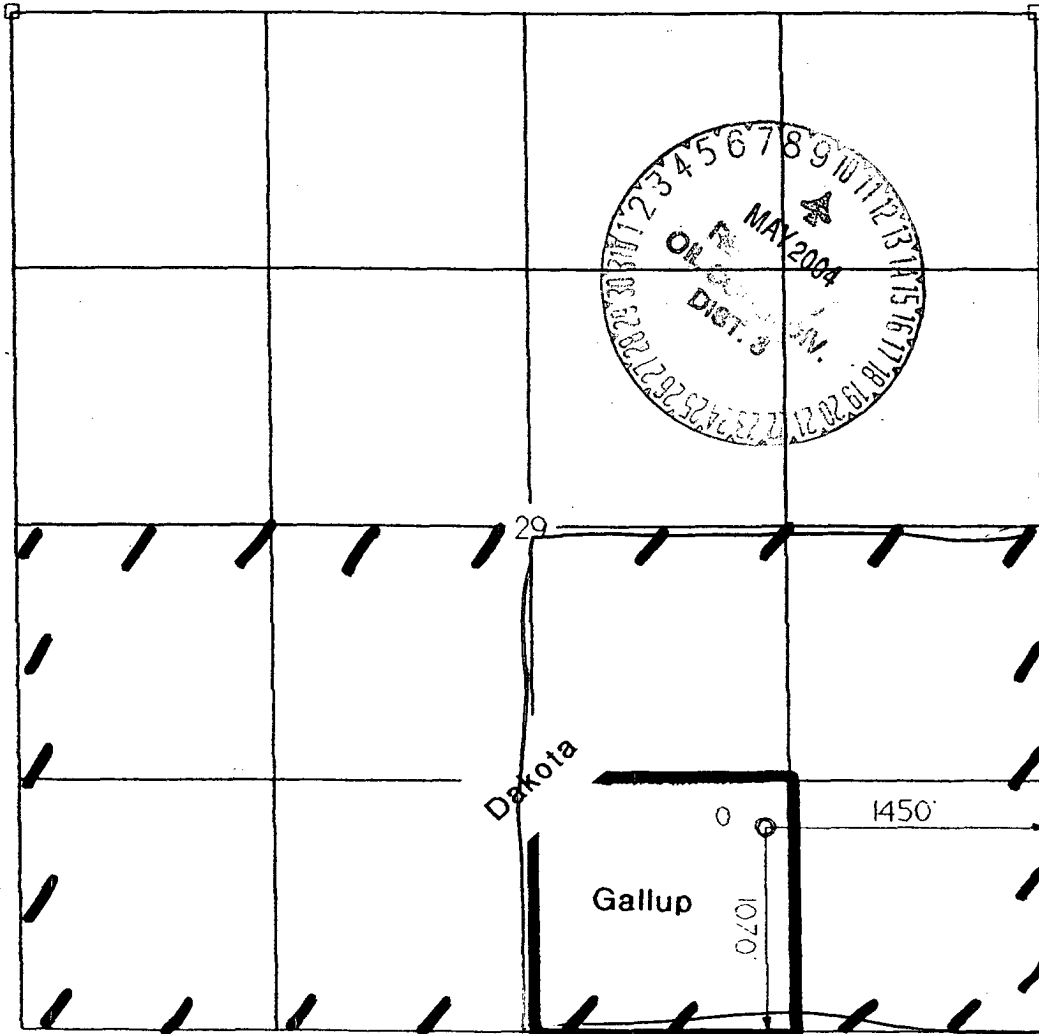
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number <b>30039-27725</b>	Pool Code <b>97232</b> <del>48450</del> & 71599	Pool Name <b>WC Basin Marcos</b> <del>OTERO GALLUP</del> & BASIN DAKOTA
Property Code <b>19026</b>	Property Name Jicarilla Apache B	Well Number 16E
OGRI No. <b>149052</b>	Operator Name ELM RIDGE RESOURCES	Elevation 6595'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from>	North/South	Feet from>	East/West	County
0	29	24 N.	5 W.		1070'	SOUTH	1450'	EAST	RIO ARriba

Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from>	North/South	Feet from>	East/West	County
Dedication <b>160 &amp; 320</b>		Joint ?		Consolidation		Order No.			

NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



<b>OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature <i>B. Wood</i>	
Printed Name	<b>BRIAN WOOD</b>
Title	<b>CONSULTANT</b>
Date	<b>AUG. 10, 2003</b>
<b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location 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 <b>21 NOVEMBER 2002</b>	
Signature and Seal of Professional Surveyor	



Elm Ridge Resources, Inc.  
Jicarilla Apache B 16 E  
1070' FSL & 1450' FEL  
Sec. 29, T. 24 N., R. 5 W.  
Rio Arriba County, New Mexico

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## Drilling Program

### 1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
San Jose	000'	12'	+6,595'
Kirtland-Fruitland	1,815'	1,827'	+4,780'
Pictured Cliffs Ss	2,170'	2,182'	+4,425'
Lewis Shale	2,295'	2,307'	+4,300'
Pt. Lookout Ss	4,345'	4,357'	+2,250'
Mancos Shale	4,545'	4,557'	+2,050'
Gallup Ss	5,445'	5,457'	+1,150'
Greenhorn	6,345'	6,357'	+250'
Dakota	6,620'	6,632'	-25'
Total Depth (TD)*	6,900'	6,912'	-305'

\* all elevations reflect the ungraded ground level of 6,595'

### 2. NOTABLE ZONES

#### Oil & Gas Zones

Ojo Alamo  
Pictured Cliffs  
Gallup  
Dakota

#### Water Zones

San Jose  
Ojo Alamo

#### Coal Zones

Fruitland

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.



### 3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 3,000 psi model is on PAGE 3. A  $\geq 3,000$  psi BOP and choke manifold system will be installed and tested to 2,000 psi before drilling surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place.

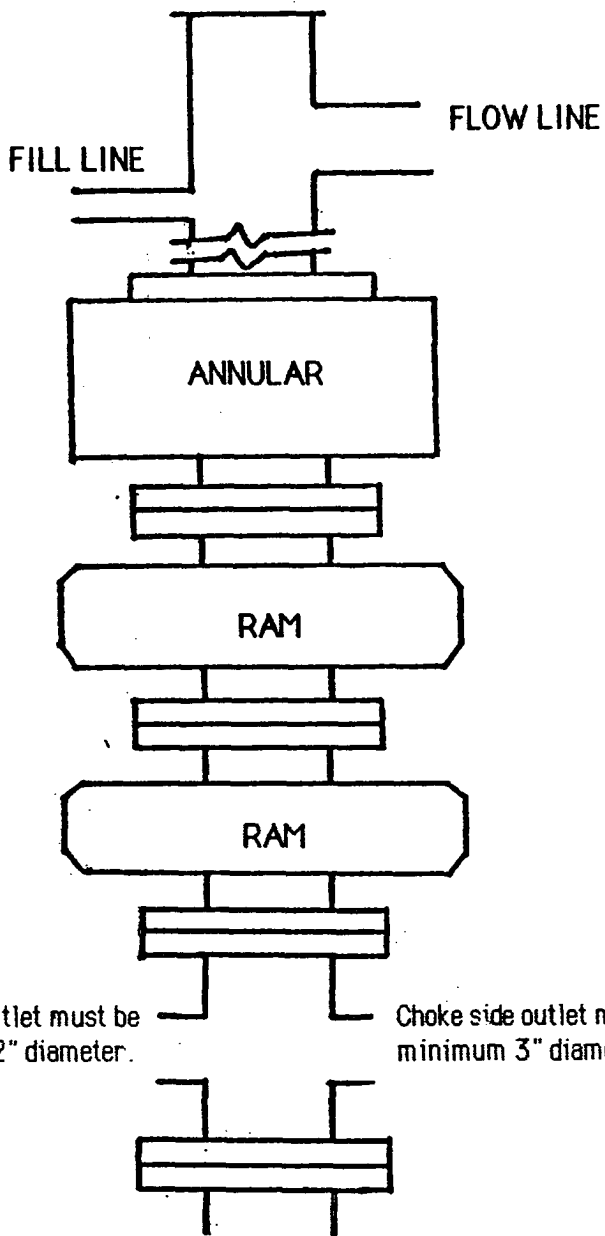
### 4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>GL Setting Depth</u>
12-1/4"	8-5/8"	24	K-55	S T & C	New	350'
7-7/8"	4-1/2"	10.5	J-55	L T & C	New	6,900'

Surface casing will be cemented to the surface with  $\approx 290$  cubic feet ( $\approx 246$  sacks) Class B with 1/4#/sk Flocele + 2% CaCl<sub>2</sub>. Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess. Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter. Thread lock the guide shoe and bottom of float collar only. Use API casing dope.

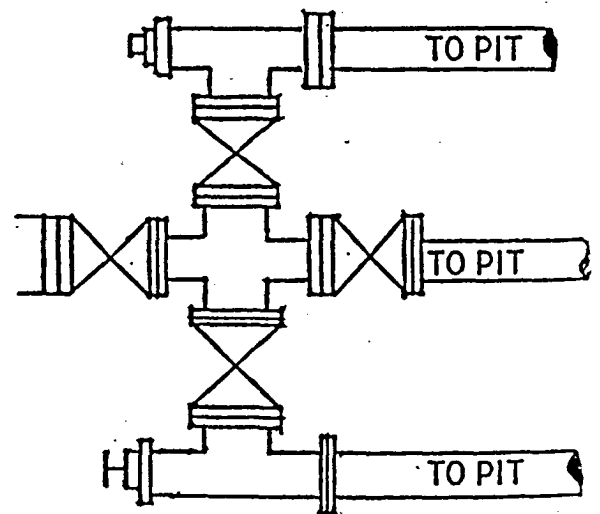
Production casing will be cemented to surface in 2 stages. Set stage tool @  $\approx 4,750'$ . Volume  $\geq 75\%$  excess, but caliper log will be used to determine actual volume needed. Centralizers will be installed on middle of the shoe joint and on every joint thereafter (total of  $\approx 30$  centralizers). Thread lock the guide shoe, bottom of float collar, and bottom of stage tool only. Use API casing dope.





TYPICAL BOP STACK  
& CHOKES MANIFOLD

There will be at least 2 chokes and 2 choke line valves (3" minimum). The choke line will be 3" in diameter. There will be a pressure gauge on the choke manifold.



Kill line will be minimum 2" diameter and have 2 valves, one of which shall be a minimum 2" check valve.

Upper kelly cock will have handle available.  
Safety valve and subs will fit all drill string connections in use.  
All BOPE connections subjected to well pressure will be flanged, welded, or clamped.



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Jicarilla Apache B 16 E  
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First stage volume will be  $\approx 1,337$  cubic feet. First stage will consist of  $\approx 330$  sacks Halliburton Lite with 65/35 poz mix + 1/4 pound per sack Flocele + 2%  $\text{CaCl}_2$  (yield = 1.87 cubic feet per sack & weight = 12.7 pounds per gallon) followed by  $\approx 610$  sacks Class B + 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack & weight = 15.2 pounds per gallon).

Second stage volume will be  $\approx 2,004$  cubic feet. Second stage will consist of  $\approx 1,040$  sacks of Halliburton Lite with 65/35 poz mix + 1/4 pound per sack Flocele + 2%  $\text{CaCl}_2$  (yield = 1.87 cubic feet per sack & weight = 12.7 pounds per gallon) followed by  $\approx 50$  sacks Class B + 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack & weight = 15.2 pounds per gallon)..

## 5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 350'	Fresh water gel	9.0	50	NC	9
350' - TD'	Fresh water gel	9.0	38-50	6.0	9

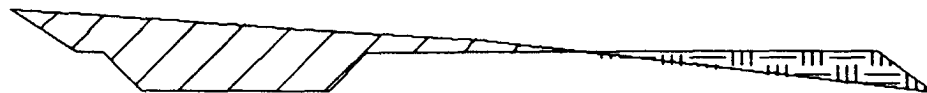
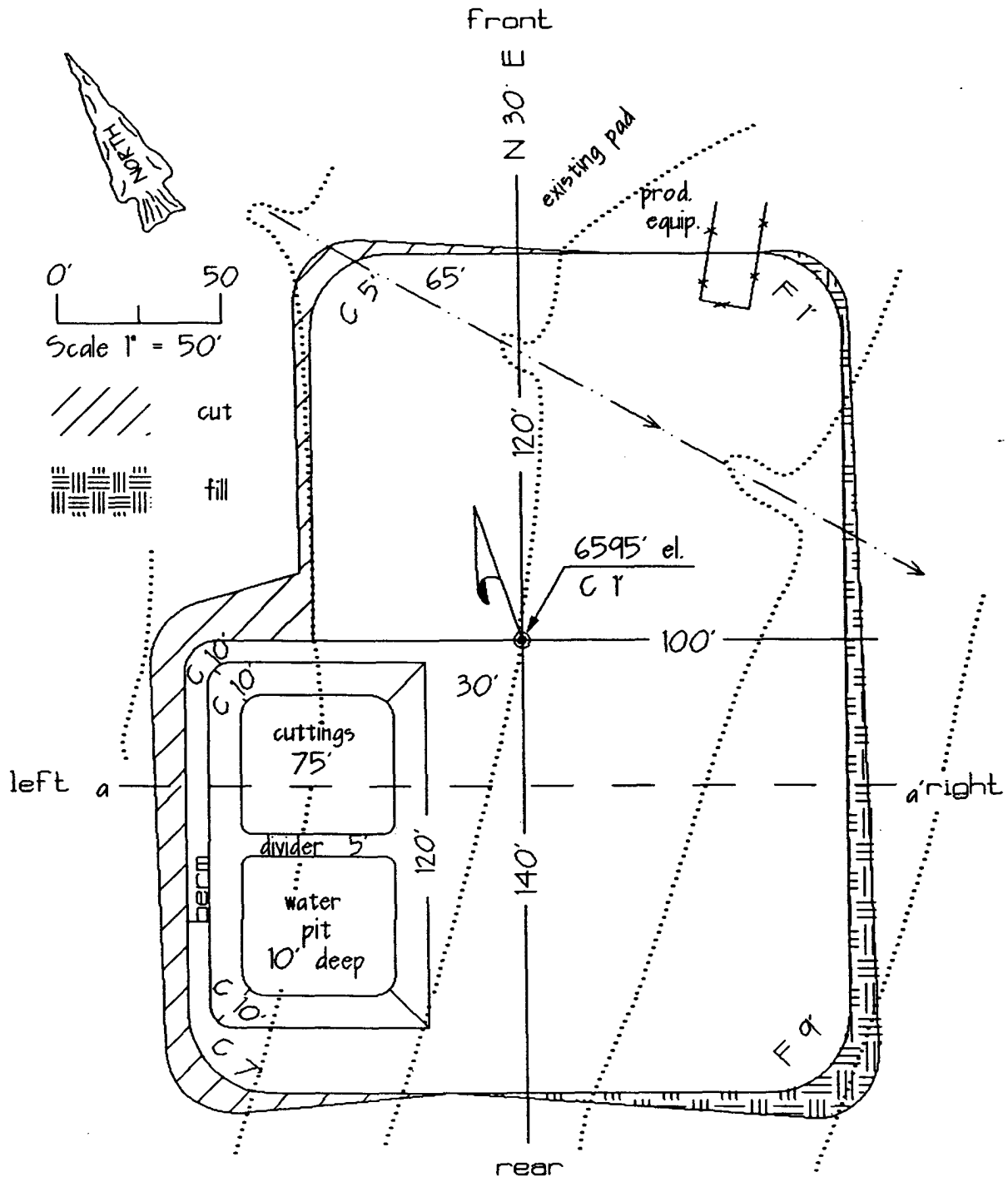
Sufficient material to maintain mud properties, control lost circulation, and contain a blowout will be available at the well site while drilling. Mud will be checked hourly by rig personnel. Material to soak up possible oil or fuel spills will be on site.

## 6. CORING, TESTING, & LOGGING

No cores or drill stem tests are planned. DIL/GR logs will be run from TD to surface. CNL/FDC logs may be run over selected segments. Samples will be collected every 10' from  $\approx 4,000'$  to TD. Samples will be collected every 30' elsewhere.



Jicarilla Apache B # 16 E  
well pad & section



a

Cross section

a'