



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

November 23, 1998

RECEIVED  
NOV 25 1998  
OIL CON. DIV.  
DIST. 3

Cross Timbers Oil Company  
810 Houston Street - Suite 2000  
Fort Worth, Texas 76102-6298  
Attention: Edwin S. Ryan, Jr.

*Administrative Order NSL-4171*

Dear Mr. Ryan:

Reference is made to your application dated November 16, 1998 for authorization to drill the Ute Indians "A" Well No. 28 to test both the Undesignated Ute Dome-Dakota Pool and the Morrison formation at an unorthodox gas well location for both intervals 1300 feet from the South line and 2220 feet from the East line (Unit O) of Section 3, Township 31 North, Range 14 West, NMPM, as projected into the unsurveyed Ute Mountain Indian Reservation, San Juan County, New Mexico. The SE/4 of Section 3 is to be dedicated to this well to form a standard 160-acre, more or less, gas spacing and proration unit for both intervals.

It is our understanding that the subject well is to be drilled to a depth sufficient to test down to the Morrison formation; however, the shallower Dakota interval is the primary zone of interest.

This application has been duly filed under the provisions of Rule 104.F of the Rules and Regulations of the New Mexico Oil Conservation Division ("Division").

The geologic interpretation submitted with this application indicates that a well drilled at the proposed unorthodox gas well location will be at a more favorable geological position within the Dakota formation than a well drilled at a location considered to be standard for this 160-acre, more or less, unit.

By the authority granted me under the provisions of Division General Rule 104.F(2), the above-described unorthodox location in both the Undesignated Ute Dome-Dakota Pool and the Morrison formation for the Ute Indians "A" Well No. 28 is hereby approved.

Sincerely,

Lori Wrotenbery  
Director

LW/MES/kv

cc: New Mexico Oil Conservation Division - Aztec  
U. S. Bureau of Land Management - Durango



## Cross Timbers Oil Company

November 16, 1998

Bureau of Land Management  
San Juan Resource Area  
701 Camino Del Rio  
Durango, Colorado 81301  
Attention: Mr. Dan Rabinowitz

Re: Application for Unorthodox Location  
Ute Dome Dakota Pool and Morrison Sandstone  
Ute Indians A #28  
SE/4 Section 3-31N-14W  
San Juan County, New Mexico



Gentlemen:

Cross Timbers Operating Company hereby requests approval of the following unorthodox location:

Well Name:	Ute Indians A #28
Pool:	Ute Dome Dakota and Morrison Sandstone formation
Location:	1,300' FSL & 2,220' FEL
Acreage Dedication:	SE/4 Section 3-31N-14W, containing 160 acres, more or less
County/State:	San Juan County, New Mexico
Pool Rules:	790' from lease lines and quarter section lines

Attached is the following support and documentation for said application:

1. C-102 Plat
2. Geologic discussion
3. Copy of certified letter sent to offset operators/owners
  - A. Plat of offset operators
  - B. List of offset operators

We look forward to your approval and please call me at (817) 877-2336 with any questions.

Yours very truly,

Edwin S. Ryan, Jr.

TRIGON SHEET  
District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number	*Pool Code 86720	*Pool Name UTE DOME DAKOTA
*Property Code	*Property Name UTE INDIANS A	*Well Number 28
*OGRIID No. 167067	*Operator Name CROSS TIMBERS OPERATING COMPANY	*Elevation 6038'

<sup>10</sup> Surface Location

U. or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
0	3	31N	14W		1300	SOUTH	2220	EAST	SAN JUAN

<sup>11</sup> Bottom Hole Location If Different From Surface

U. or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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	4	3	2	1	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Gary L. Markestad Printed Name Vice-President / Production Title  Date
	<div>5280.00'</div> <div>5283.96'</div> <div>5282.64'</div> <div>1300'</div> <div>2220'</div>				
<div>RECEIVED NOV 19 1998 OIL CON. DIV.</div>					<sup>18</sup> 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.  OCTOBER 15, 1998 Date of Survey Signature and Seal of Professional Surveyor <div>NEALE C. EDWARDS NEW MEXICO 6857</div> Certificate No. 6857

## UTE INDIANS "A" #28 GEOLOGIC/GEOPHYSICAL SUMMARY

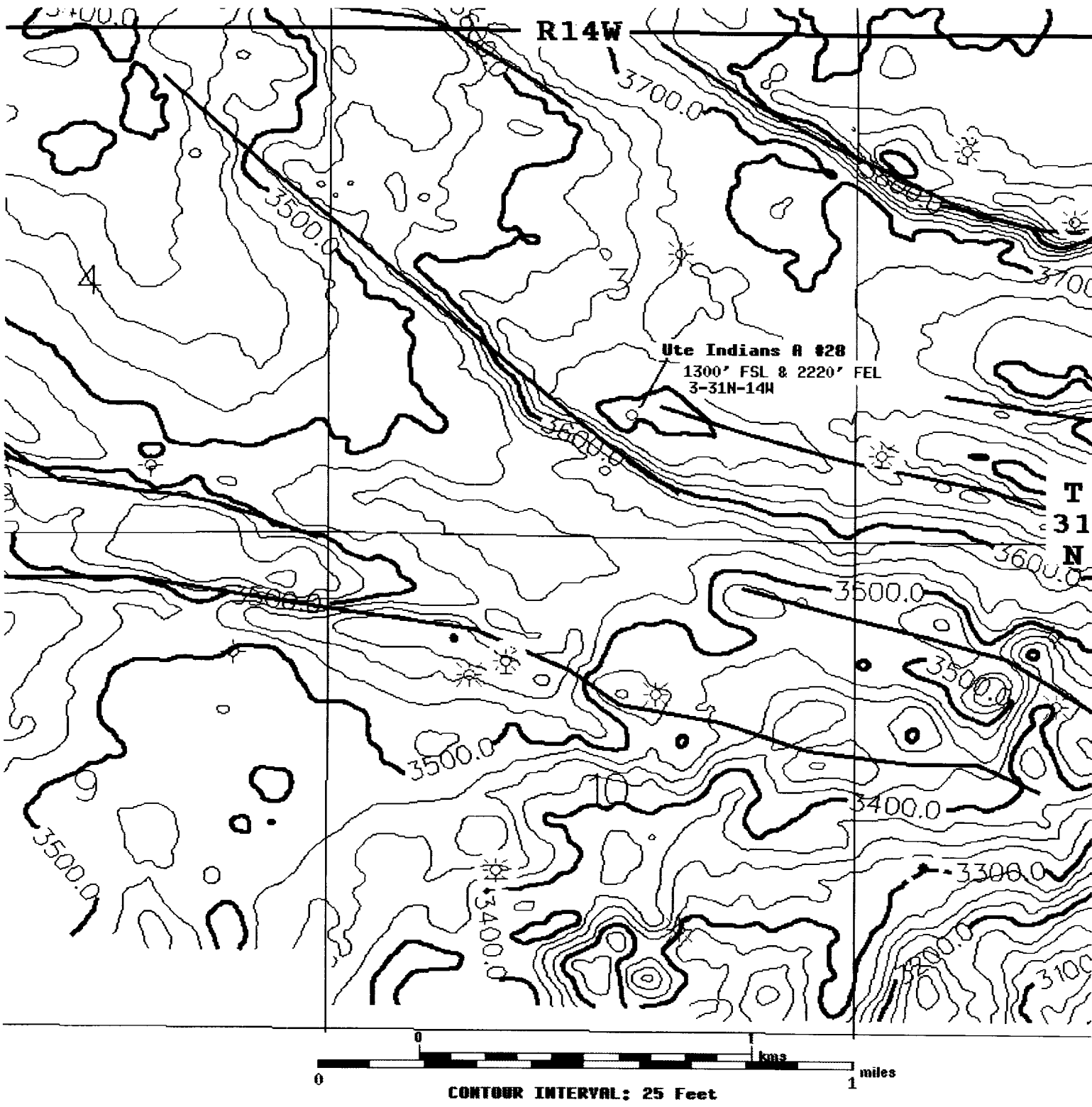
The Ute Indians "A" #28 is a proposed 2750 ft. Dakota/Morrison test to be located at approximately 1300' FSL, 2220' FEL of Sec. 3-T31N-R14W, San Juan County, New Mexico. There is currently no Dakota production in this section.

The Ute Dome Dakota Field is located on a broad semi-circular structure on the edge of the Four Corners Platform. On the southeast side of the structure the entire stratigraphic sections dips steeply to the southeast into the San Juan Basin. The southern portion of this structure is bisected at the Dakota level by several WNW-ESE trending normal faults. Vertical displacement along the faults can range up to 250 ft. The faults commonly form four-way structural closures which trap hydrocarbons migrating upward from mature source rocks in the basin.


The attached seismic structure map on the top of the Dakota Fm. was interpreted from a vibroseis 3-D seismic survey shot by Amoco in 1995, and reprocessed by Cross Timbers in 1998. The proposed Ute Indians "A" #28 is located on a small structural closure located between the northwestern terminus of a down-to-the-north normal fault and the southeastern terminus of a down-to-the-south normal fault. The closure is actually part of a larger fault-bounded structure which extends east-southeast into Sec. 2 and the northern part of Sec. 11. The fault-trapping mechanism on this feature has been proven by the completion of the Ute Indians "A" #25 well in the SW SW of Sec. 2 in a lower Dakota/Morrison sandstone which has been previously tested as water-bearing higher up on Ute Dome. Similarly, other Dakota sandstones which are normally wet have proven productive on the upthrown sides of other fault blocks in the field.

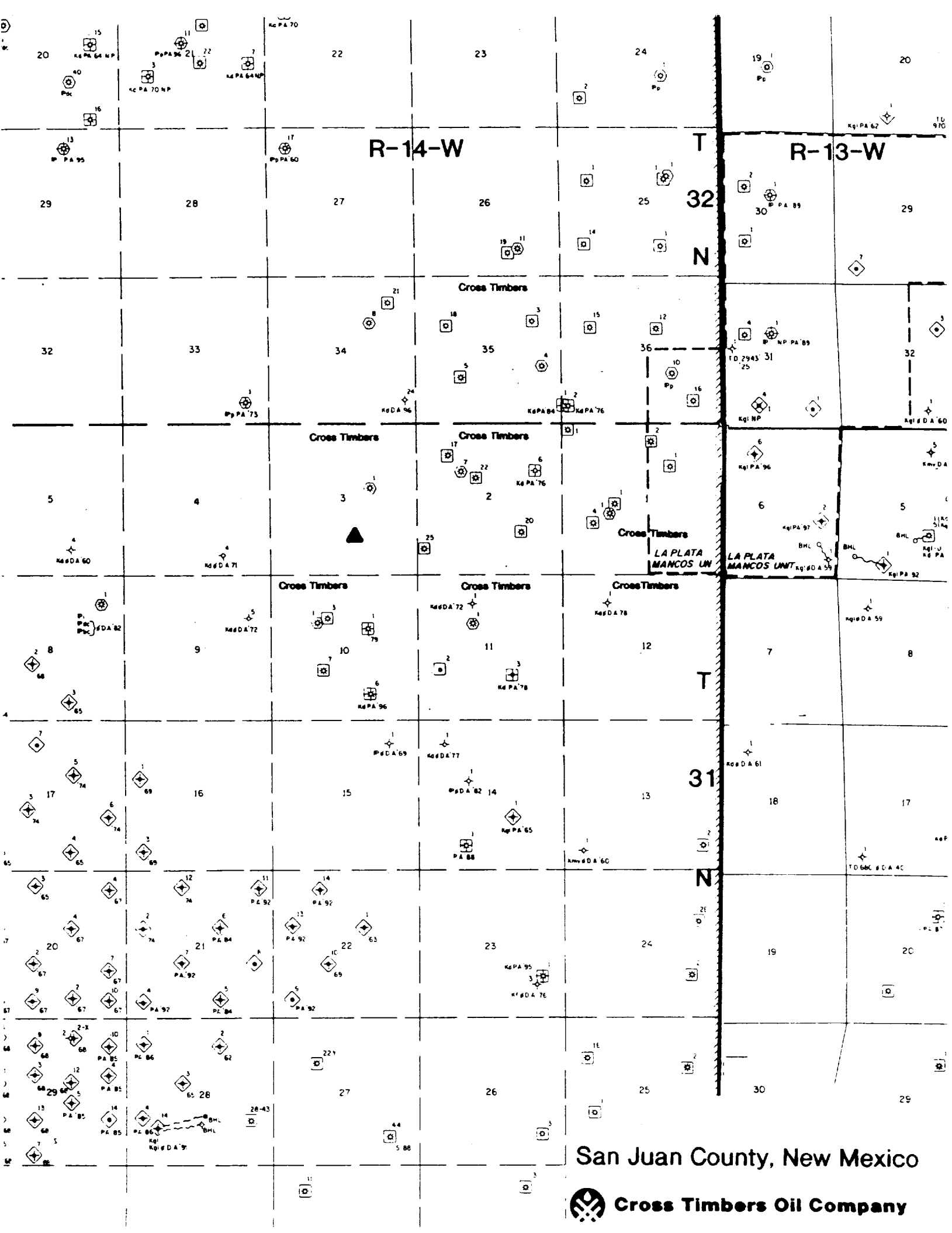
The placement of the proposed well in an unorthodox location is based on a combination of defining the highest structural point at the Dakota level from the seismic data and finding a topographically suitable spot where a location can be built relatively inexpensively and without unnecessary damage to the environment.

*Gary K. Burch*  
*Nov. 11, 1998*



- ↑  
N
- Down-to-North Fault
- Down-to-South Fault
- Active Dakota Producing Well

 <b>Cross Timbers Oil Company</b>	
<b>UTE DOME FIELD</b> San Juan County, New Mexico	
<b>STRUCTURE: Top of Dakota</b>	
<b>November, 1998</b>	<b>GKB/MSV</b>



## OFFSET OPERATORS/OWNERS

Cross Timbers Oil Company, Applicant, is the only offset operator.