



## RESERVOIR CHARACTERISTICS OF BELL LAKE-BONE SPRING

Lithologic description of Bone Spring Lime, taken from core descriptions in Bell Lake No. 2, Section 30, Township 23 South, Range 34 East.

Limestone, brown to gray-brown and dark brown; some shaly limestone and thin laminae of black micaceous shale; very finely crystalline with some crypto crystalline and medium crystalline; slightly fossiliferous in general with one six foot zone of coquina-like lime. Traces of pyrite, biotite, with some calcite and black chert inclusions. Scattered vertical calcite-filled veinlets and tight fractures. Porosity is reported as very fine pin-point porosity with some medium to large vugs.

### RESERVOIR DATA

<u>Parameter</u>	<u>Value</u>	<u>Basis</u>
Porosity	3.35%	Log Calculation
Interstitial Water Sat.	25%	Log Calculation
Reservoir Volume Factor	1.54	Empirical Curves
Solution GOR	1049 Ft <sup>3</sup> /Bbl.	Production Data
Crude Gravity	40°	Production Data
Net Effective Pay	74' Average	Log Measurement
Recovery Efficiency	15%	Estimated

*Pen.*

*Lo.*

BELL LAKE-BONE SPRING LIME  
OIL & GAS FIELD COMMISSION

REPORT NO. 4

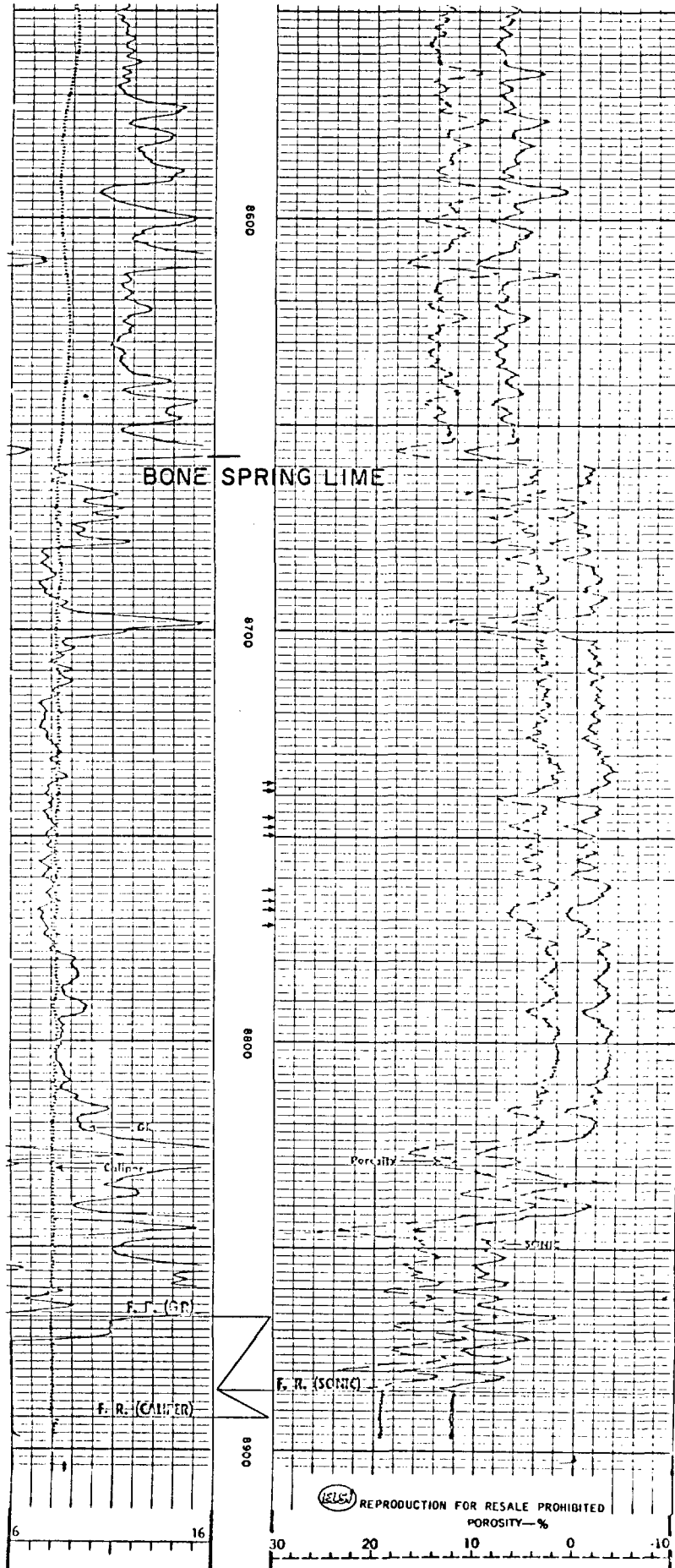
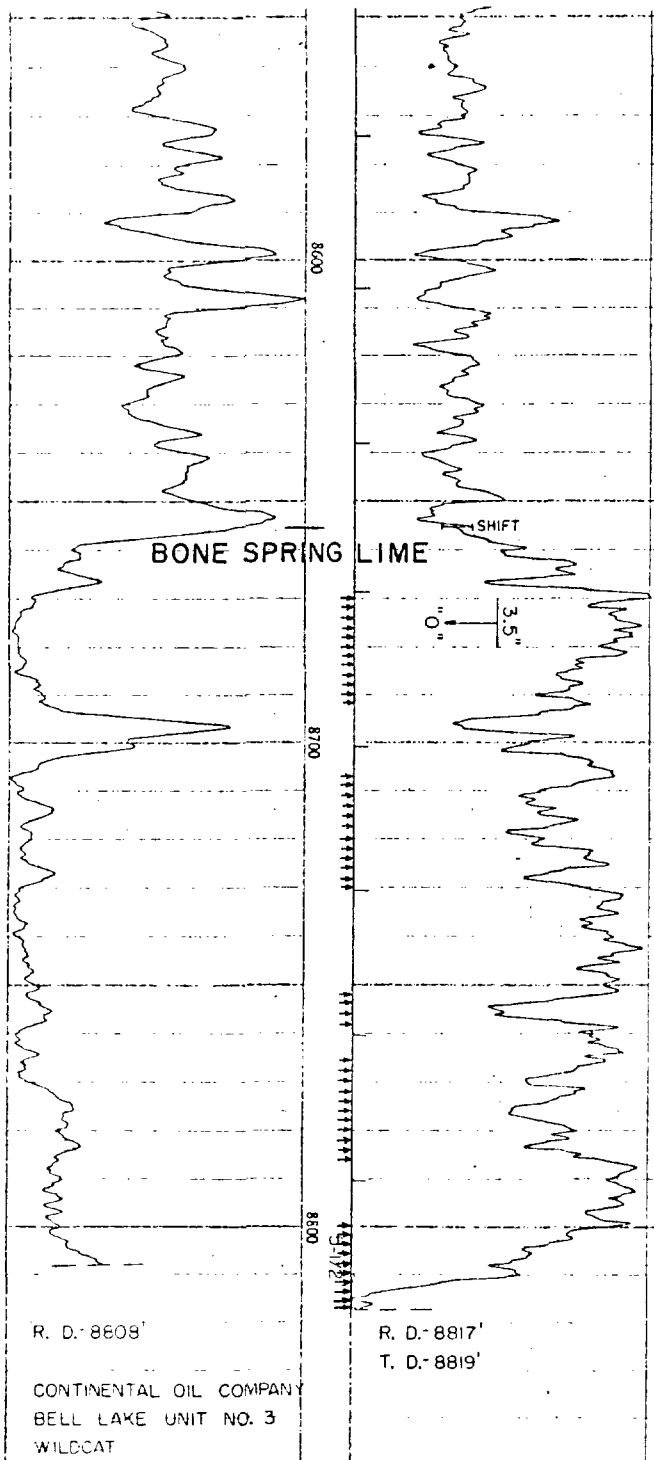
CITY NO. 4937

Owner Continental Oil Co

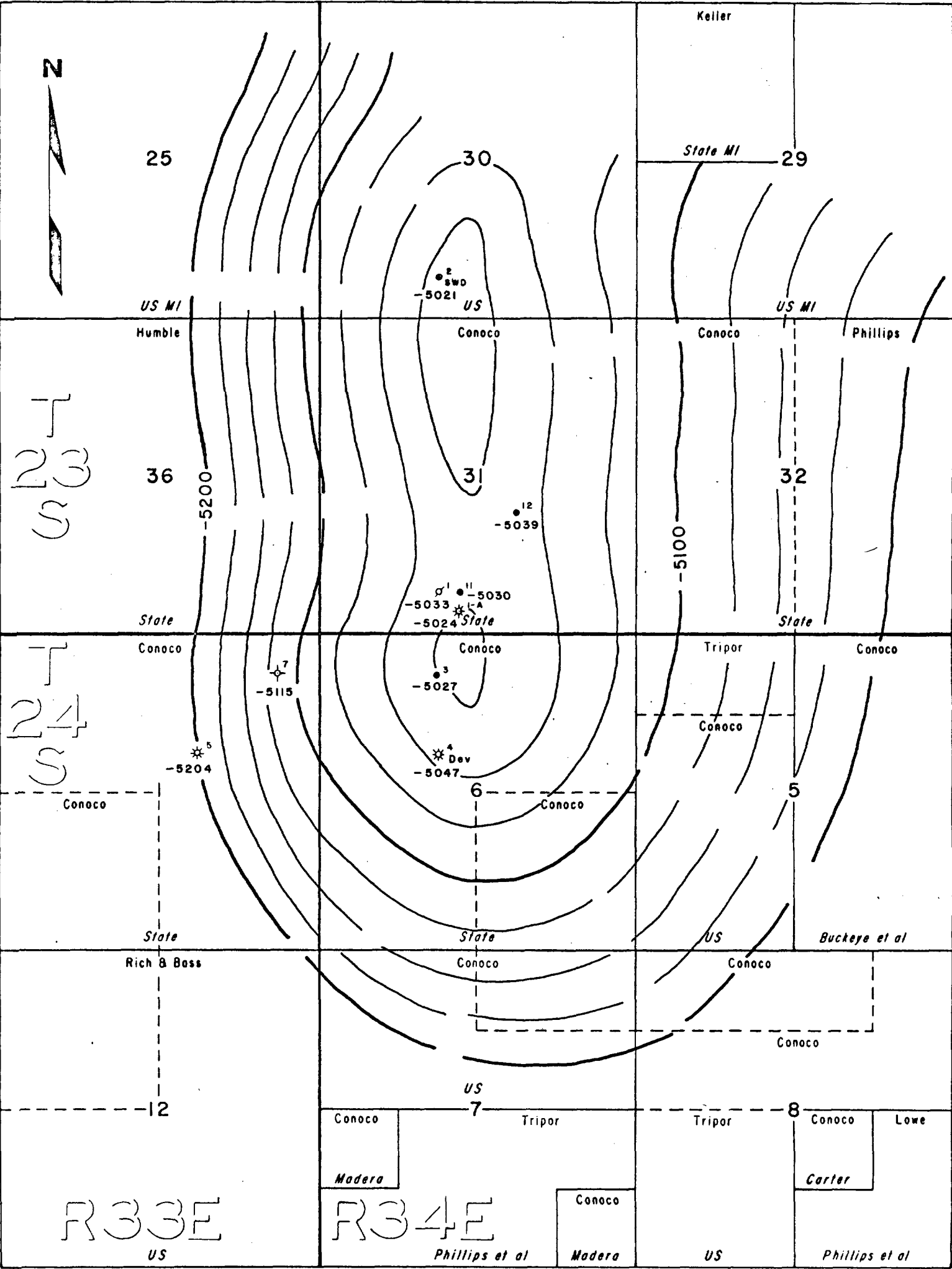
Headed by April 11, 1973

CONTINENTAL OIL COMPANY  
 BELL LAKE UNIT NO. 3  
 660' FS & 3300' FEL  
 Sec. 6-T24S-R34E  
 Elev., KB-3629

CONTINENTAL OIL COMPANY  
 BELL LAKE STATE NO. 11  
 790' FS & 2265' FWL  
 Sec. 31-T23S-R34E  
 Elev., KB-3629



OFFICE EXAMINER USE  
 OIL COMPANY DISCUSSION  
 NO. 3  
 4937  
 Continental Oil Co.  
 April 11, 1973



BEFORE ENGINEER LITZ  
OIL CONSERVATION COMMISSION  
WELL NO. 2  
CASE NO. 4937  
Submitted by Continental Oil Co  
Hearing Date April 11, 1973

**conoco**

PRODUCTION DEPARTMENTHOBBS DIVISION

LEA COUNTY, NEW MEXICO  
STRUCTURE  
TOP-BONE SPRING LIME  
CI: 25'  
SCALE  
0'1000'2000'

NGC 1-73Exhibit 2ERW

Case 4937

Heard 4-11-73

Rec. 4-24-73

Grant Cont. Special Pool  
Rules for the Bell Lake-Lone  
Spring pool.

1. 160 Acre spacing.
2. 160 from  $\frac{1}{4}$  sec. Boundary. & 330 from  
 $\frac{1}{4}$  sec. boundary
3. Grandfather wells drilled before  
4-1-73.
4. 158-162 - is old unit @ 470 bbls/day  
allowable.

Use old order for this spacing

Thos. J. [Signature]

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 11, 1973

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

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The following cases will be heard before Elvis A. Utz, Examiner, or Richard L. Stamets, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for May, 1973 from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico.
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico for May, 1973.

CASE 4927: (Continued from the March 28, 1973, Examiner Hearing)

Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 12,000 feet to 12,010 feet in its Federal "D" Well No. 2 located in Unit J of Section 31, Township 9 South, Range 36 East, West Crossroads-Devonian Pool, Lea County, New Mexico.

CASE 4434: (Reopened)

In the matter of Case 4434 being reopened pursuant to the provisions of Order No. R-4058, which order established special rules and regulations for the La Rica-Morrow Gas Pool, Lea County, New Mexico, including a provision for 640-acre proration units. All interested parties may appear and show cause why said pool should not be developed on 320-acre units.

CASE 4928: (Continued from the March 28, 1973, Examiner Hearing)

Application of Union Oil Company of California for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying all of Section 11, Township 21 South, Range 25 East, Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to the Atlantic Richfield Oil Company Pure-Federal Well No. 11 located in Unit K of said Section 11. Applicant further seeks a provision for the payment of proper costs to be borne by applicant for such well and the related well equipment, a provision for allocation of actual operating costs, and the establishment of charges for supervision of such well and the designation of an operator thereof; and for such other relief as proper. Also to be considered will be the risk involved in drilling the subject well.

- CASE 4932: Application of Atlantic Richfield Company for a non-standard proration unit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 340.94-acre non-standard gas proration unit comprising the W/2 of Section 11, Township 21 South, Range 25 East, Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to its Pure Federal Well No. 1 located in Unit K of said Section 11.
- CASE 4933: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation through the perforated interval from 4280 feet to 4288 feet in its R. T. Wilson Federal Well No. 5 located in Unit J of Section 24, Township 26 South, Range 31 East, North Mason-Delaware Pool, Lea County, New Mexico.
- CASE 4934: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open-hole interval from 12,172 feet to 12,581 feet of its U. D. Sawyer Well No. 3 located in Unit I of Section 34, Township 9 South, Range 36 East, Crossroads-Devonian Pool, Lea County, New Mexico.
- CASE 4935: Application of Texaco Inc. for dissolution of a unit and approval of another unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the dissolution of the State "JD" Unit Area approved by Commission Order No. R-3886 and the approval of the Rhodes Yates Unit Area comprising 520 acres, more or less, of State and Federal lands in Township 26 South, Range 37 East, Lea County, New Mexico.
- CASE 4936: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Rhodes Yates Unit Area by the injection of water into the Yates-Seven Rivers formations through seven injection wells located in Sections 21, 27 and 28, Township 26 South, Range 37 East, Rhodes-Yates Pool, Lea County, New Mexico.
- CASE 4923: (Continued and Readvertised)
- Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 360-acre non-standard gas proration unit comprising Lots 14, 15, and 16 and the SE/4 and E/2 SW/4 of Section 4, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Meyer B-4 Well No. 4 located in Unit S of said Section 4.

CASE 4937: Application of Continental Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Bell Lake-Bone Spring Pool, Lea County, New Mexico, including a provision for 160-acre proration units.

CASE 4683: (Reopened)

In the matter of Case 4683 being reopened pursuant to the provisions of Order No. R-4286, which order established special rules and regulations for the West Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre units.

CASE 4938: Application of Hanson Oil Corporation for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 990 feet from the South line and 1650 feet from the West line of Section 2, Township 9 South, Range 33 East, Vada-Pennsylvanian Pool, Lea County, New Mexico.

CASE 4939: Application of Penroc Oil Corporation for compulsory pooling, a non-standard proration unit, an unorthodox gas well location, and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Atoka and Morrow formations underlying the E/2 W/2 and the W/2 E/2 of Section 11, Township 24 South, Range 34 East, Antelope Ridge Gas Field extension, Lea County, New Mexico, to form a 320-acre non-standard gas proration unit in said pools to be dedicated to a well to be drilled at an unorthodox location 660 feet from the North line and 1980 feet from the West line of said Section 11. Also to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. Applicant further seeks authority to dually complete said well in the above-named formations.

CASE 4940: Application of Pennzoil Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to dually complete its Mobil 12-Federal Well No. 1 located in Unit B of Section 12, Township 23 South, Range 26 East, Eddy County, New Mexico, in such a manner as to produce gas from the South Carlsbad-Canyon Pool extension and from the South Carlsbad-Morrow Gas Pool through parallel strings of tubing.

CASE 4941: Application of Pennzoil Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing gas well at an unorthodox location 1980 feet from the North line and 660 feet from the East line of Section 13, Township 18 South, Range 25 East, West Atoka-Morrow Gas Pool, Eddy County, New Mexico, the N/2 of said Section 13 to be dedicated to said well.



CASE 4497: (Reopened)

Application of Twinlakes Oil Company for the reinstatement of pool rules, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the reinstatement of the special pool rules for the Twin Lakes-San Andres Pool, Chaves County, New Mexico, as promulgated by Order No. R-4102, provided however, that the limiting gas-oil ratio would be 2000 to one.

CASE 4942: Application of Texas West Oil & Gas Corporation for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State "2" Com Well No. 1 at a point 2310 feet from the North line and 660 feet from the West line of Section 2, Township 24 South, Range 34 East, Antelope Ridge-Atoka Gas Pool extension, Lea County, New Mexico, the N/2 of said Section 2 being dedicated to the well.

CASE 4943: Application of M. W. Staples for an unorthodox oil well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce oil from his Vanderverter Well No. 2 located 1310 feet from the North line and 1330 feet from the East line of Section 20, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico. Said well was drilled as an injection well at said location pursuant to authority granted by Order No. R-3341.

Keller	
State MI	29



..... PROPOSED INITIAL BONE SPRING  
PARTICIPATING AREA

	
PRODUCTION DEPARTMENT	HOBBS DIVISION
BELL LAKE UNIT LEA COUNTY, NEW MEXICO  BONE SPRING PARTICIPATING AREA  EXHIBIT I	
SCALE 	
VTL I-73	67W

SPECIAL RULES AND REGULATIONS  
FOR THE  
BELL LAKE BONE-SPRING

RULE 1. Each well completed or recompleted in the Bell Lake Bone-Spring Pool or in the Bone Spring formation within one mile of said pool and not nearer to nor within the limits of another designated Bone Spring Pool, shall be spaced, drilled, operated and prorated in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Bell Lake Bone-Spring Pool shall be located on a unit containing 160 acres, more or less, which consists of a single governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. Each well completed or recompleted in the Bell Lake Bone Spring Oil Pool shall be located not closer than 660 feet to the outer boundary of the quarter-section and not closer than 330 feet to the quarter-quarter section inner boundary. Any well which was completed in the Bell Lake Bone Spring Pool or was drilling to the Bone Spring formation within one mile of said pool on April 1, 1973, is hereby granted an exception to the well location requirements of this rule.

RULE 4. For good cause shown, the Secretary-Director of the Commission may grant exception to the requirements of Rule 2 without notice and hearing when the application is for a non-standard unit comprising less than 160 acres. All operators offsetting the proposed non-standard unit shall be notified of the application by registered mail, and the application shall state that such notice has been furnished. The Secretary-Director of the Commission may approve the application if, after a period of 30 days, no offset operator has entered an objection to the formation of such non-standard unit.

The allowable assigned to any such non-standard unit shall bear the same ratio to a standard allowable in the Bell Lake Bone Spring Pool as the acreage in such non-standard unit bears to 160 acres.

RULE 5. A 160 acre proration unit (158 through 162 acres) in the Bell Lake Bone Spring Pool shall be assigned a Depth Bracket Allowable of 470 barrels for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO. <u>6</u>	
CASE NO.	<u>4937</u>
Submitted by	<u>Continental Oil Co.</u>
Hearing Date	<u>April 11, 1973</u>



L. P. Thompson  
Division Manager  
Production Department  
Hobbs Division

Western Hemisphere Petroleum Division  
Continental Oil Company  
P.O. Box 460  
1001 North Turner  
Hobbs, New Mexico 88240  
(505) 393-4141

*Case 4937*

February 8, 1973

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attention Mr. A. L. Porter, Jr.  
Secretary Director

Gentlemen:

Application for Promulgation of Special Pool Rules - Bell Lake Bone Spring  
Oil Pool

Attached is our application, in triplicate, for special pool rules for the Bell Lake Bone Spring Oil Pool. Please set this matter for hearing on your next Examiner Docket. We are in the process of gathering reservoir data and it is possible that we will not be ready to present testimony until after the first week in March. We will advise you at a later date if a continuance of this hearing will be necessary.

Yours very truly,

SIGNED: L. P. THOMPSON

rw  
Enc  
Copy + enc:  
RLA: GAD: JMK:

DOCKET MAILED

Date 3/28/73

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF THE NEW MEXICO

IN THE MATTER OF THE APPLICATION OF  
CONTINENTAL OIL COMPANY FOR PROMULGATION  
OF TEMPORARY POOL RULES FOR THE BELL  
LAKE BONE SPRING OIL POOL INCLUDING  
PROVISIONS FOR 160-ACRE DRILLING AND  
SPACING UNITS FOR SAID POOL LOCATED  
IN SECTION 31, TOWNSHIP 23 SOUTH, RANGE  
34 EAST, AND SECTION 6, TOWNSHIP 24  
SOUTH, RANGE 34 EAST, LEA COUNTY, NEW  
MEXICO

*Case 4937*

A P P L I C A T I O N

Applicant, Continental Oil Company, hereby requests promulgation of special pool rules for the Bell Lake Bone Spring Oil Pool including provisions for 160-acre drilling and spacing units for said pool and in support thereof would show:

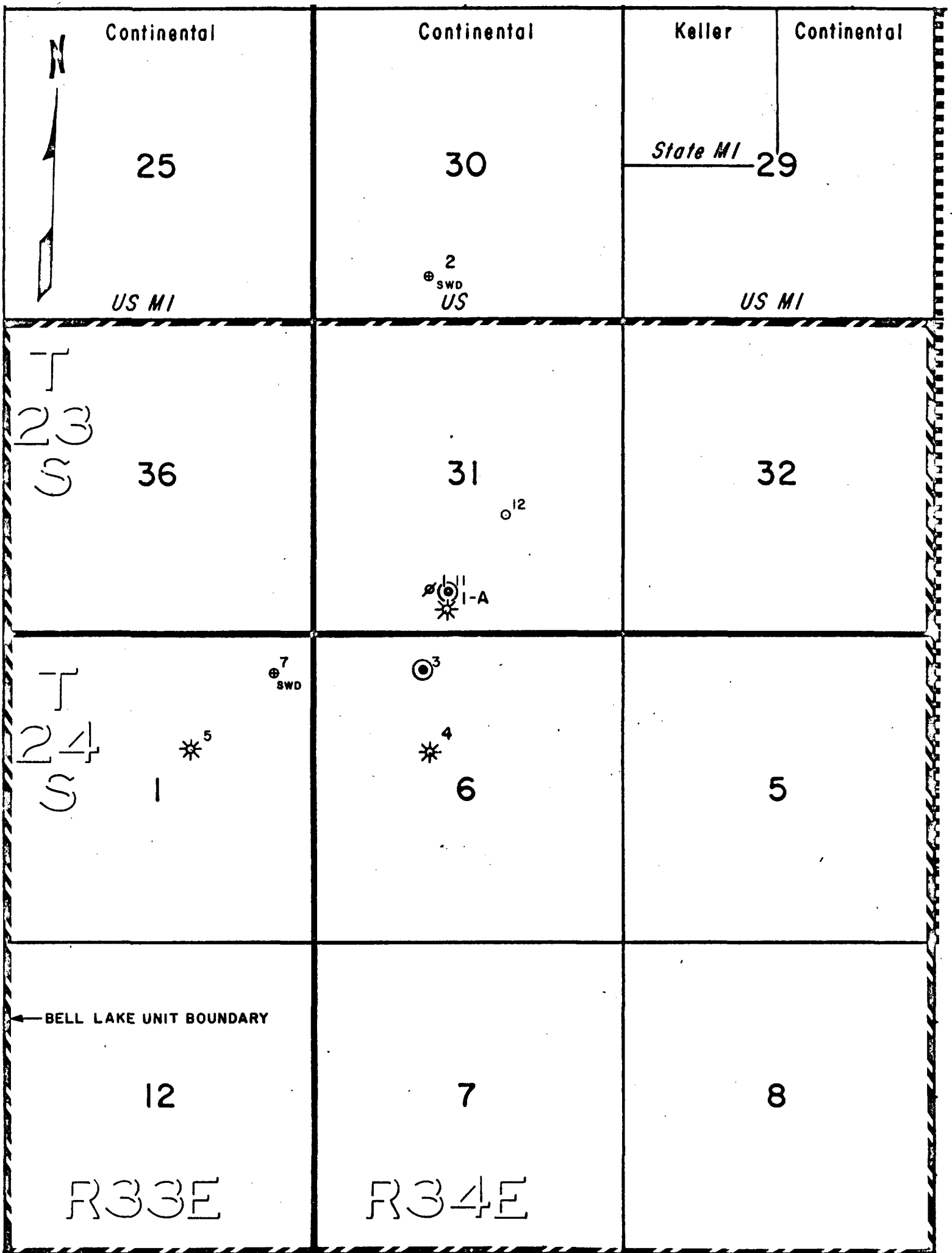
1. Applicant is the Operator of the Bell Lake Unit comprising certain lands in Townships 22, 23, and 24 South, Ranges 33 and 34 East, Lea County, New Mexico.
2. Applicant drilled and completed on September 9, 1955, its Bell Lake Unit Well No. 3 at a location 660' FSL and 3300' FEL of Section 6, Township 24 South, Range 34 East, with an initial potential of 53 barrels oil, 2 barrels water per day.
3. Applicant drilled and completed on November 30, 1972, its confirmation Bell Lake Unit Well No. 11 located 790' FSL and 2065' FWL of Section 31, Township 23 South, Range 34 East, with an initial potential of 123 barrels oil, 90 barrels water.
4. The information gained from the discovery well and the confirmation well indicate that development of the pool is economically feasible on 160-acre spacing and that wells in the reservoir can economically and efficiently drain proration units of that size.
5. The promulgation of special pool rules including provision for 160-acre drilling and spacing units is in the interest of preventing waste and the protection of correlative rights.

WHEREFORE, Applicant respectfully requests that this matter be set for hearing before the Commission's duly appointed Examiner and that upon hearing, an order be entered promulgating and establishing temporary special pool rules for the Bell Lake Bone Spring Oil Pool as described above.

Respectfully submitted,  
CONTINENTAL OIL COMPANY

**SIGNED: L. P. THOMPSON**  
L. P. Thompson  
Division Manager

rw



● BONE SPRING COMPLETION

<b>CONOCO</b>	
PRODUCTION DEPARTMENT	HOBBS DIVISION
LEA COUNTY, NEW MEXICO BELL LAKE UNIT BONE SPRING FORMATION	
SCALE 0' 1000' 2000'	
VTL 2-73	ERW

Case 4937