PELTO OIL COMPANY

WATERFLOOD FEASIBILITY AND UNITIZATION STUDY

PROPOSED

TWIN LAKES SAN ANDRES UNIT

CHAVES COUNTY, NEW MEXICO

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O B J E C T

The object of this report is to determine the feasibility of waterflooding the San Andres Formation in the Twin Lakes Field, Chaves County, New Mexico and to present a proposed waterflood and unitization plan which will expedite concerted action in the near term.

CONCLUSIONS

1. Based on waterflood susceptibility core tests, field water injectivity tests, and analog field waterflood performances, the Twin Lakes San Andres formation can be successfully waterflooded.
2. Remaining primary oil recovery at 4-1-86 to an assumed tract cut-off of 1 BOPD per well is estimated to be 1.0 million barrels. Ultimate moveable primary recovery is 4.8 million barrels, or 9.3 percent of the 51.5 million barrels of oil originally in place in proposed unit area.
3. Since April 1, 1986, the proposed unit area has been operated at an overall loss. Therefore, oil reserves under primary operations have very little to no current value except to maintain leases for inclusion into a waterflood unit.
4. Estimated secondary oil recovery potential is in the range of 2.9 to 4.8 million barrels, representing secondary/primary ratios of 0.6 to 1.0. Corresponding ultimate moveable primary plus secondary recoveries are 7.7 to 9.6 million barrels which are 14.9 to 18.6 percent of O.O.I.P.
5. An adequate quantity of compatible (Ogallala) source water rights and necessary pipeline rights of way have been acquired. The water is located about 27 miles southeast of Twin Lakes Field.
6. Total cost of the proposed waterflood project is estimated to be $8.3 million. This total consists of: (1) $1.1 million pre-unitization expenses to evaluate floodability of San Andres, acquire water and right-of-ways, and to design water source pipeline system and field facilities; and (2) $6.2 million to install a nominal 80-acre 5 spot waterflood and a water source

pipeline; and (3) $1.0 million future capital to install larger pumping units following waterflood response.

7. Waterflood economics, based on constant $15/BO and unescalated costs, show undiscounted profit increases over primary operations of $17.7 to $36.7 million (Sec./Pri. = 0.6 to 1.0) and $3.6 to $12.2 million increased profit discounted at 10%.

8. Unitization is the most efficient and economical method of enhancing remaining primary reserves and recovering secondary reserves in the Twin Lakes Field.

9. A single cost/revenue factor for unit participation should be based upon ultimate primary recoveries for both working and royalty interests.

10. Due to the advanced stage of primary depletion and marginal economics of continued non-unitized primary operations, unitization should proceed as rapidly as possible.

RECOMMENDATION

It is recommended that unitization proceed in the main part of Twin Lakes Field as quickly as possible to recover additional oil and maximize future net revenue. Declining oil production and prices, and high operating costs have seriously eroded operating profits. Unitization will be the most economical and efficient method to recover remaining primary and future secondary oil reserves.

HISTORY

The Twin Lakes field is located in the West Central portion of Chaves County, New Mexico, and is on the westerly portion of an east-west fairway of San Andres Fields starting with the giant Slaughter-Levelland Field 70 miles east in Texas (Figure #1). O'Brien C#2, originally drilled to the Siluro-Devonian formation, discovered the Twin Lakes San Andres field in November, 1964. The well was recompleted from the Devonian to the San Andres at a depth of 2684' and flowed 20 barrels per day of 21° API gravity, sour crude. Development on 40 acre spacing began in 1967 in the northwest section of the field and progressed slowly reaching 15 producers by the end of 1977 (See Figure 2 for field production performance).

The rate of development increased between 1978 and 1982, and primary production reached a peak of 86,000 BOPM, 60,000 MCFPM, and 21,000 BWPM from one hundred and six producers during 1981 (Figure #2). In March, 1986 116 wells produced 14,947 BOPM, 28,699 MCFPM and 22,047 BWPM. Forty-two producers were below their mid-1986 economic limit and are shut-in. Cumulative production as of March, 1986, was 3.983 million barrels oil, 4.128 billion cubic feet gas and 2.046 million barrels water.

A total of 169 wells have been drilled in the field with 19 being dry or completed in other than the San Andres reservoir. Five Devonian wells have been drilled in the field with one still producing.

Four 20-acre infill producers have been drilled. Citgo State #6 and #7 were drilled on the west side of the field in July, 1981 and June, 1982 respectively. O'Brien L#15 and L#16 were drilled on the east side of the field in December, 1984. These infill wells established

that the reservoir had been adequately drained, indicating good zone continuity.

Gamma ray - neutron porosity logs were run in over seventy-five percent of the wells and nineteen wells had compensated neutron-compensated density logs. Whole cores were taken in six wells throughout the field and were utilized in determining log-core petrophysical relationships. Drill cuttings were taken on several wells but only a few samples were available to Pelto for analysis.

In general, 4-1/2" production casings were set through the P_1 and P_2 pay zones and cemented with 200 sacks. Acid stimulations through perforations ranged from 4,000 - 10,000 gallons of 28% HCL and many wells responded by flowing initially.

GEOLOGY

Oil is produced from two major zones designated P_1 and P_2 in the San Andres formation in the Twin Lakes field as seen on Figure #3. These zones represent a major depositional cycle separated by dense anhydrite. Within each major cycle several minor cycles can be identified which represent relatively minor fluctuations in sea level. The boundaries between subzones are shaley limey dolomitic mudstones and anhydrite rich dolomitic mudstones. In certain areas of the field these zone boundaries are possible barriers to vertical fluid movements. San Andres Zone P_3 is not productive in the field.

Figure #4 is a structure map on top of zone P_1 and shows a structure strike essentially north-south with an eastward dip at 60 to 200 feet per mile. The east flank dip is relatively steep with the origin of its steepening not known. The downdip limits of the field have not been clearly established since a free water level has not yet been

encountered. Minor structural closure of 25 to 30 feet occurs on the western part of the field where production data indicates a small initial gas cap. Sub zone continuities are seen on dip cross section A-A' (Figure #5) and strike cross-section B-B' (Figure #6).

Examination of core samples and the limited ditch cuttings indicate a spectrum of rock types encountered in a tidal flat environment. Overall rock quality is skewed somewhat to the finer grain rocks of lower permeability. Stratigraphy consists of porous dolomite, anhydritic dolomite and dolomitic anhydrite. Figure #7 portrays schematically the distribution of the rocks in cross section form where the line of section is at right angles to the facies strike. A local facies strike in a northeast to southwest directions is inferred in order to explain the oil trapping mechanism. To the northwest, seals are formed by dense anhydritic dolomites and anhydrites. Toward the southeast these rocks grade into very fine grain sucrosic dolomites of increasing reservoir quality and then into fine and coarse grain sucrosic dolomites of excellent reservoir quality. Although this trend is systematic and predictable on a regional scale, local non-systematic variations on a field development scale are to be anticipated and have been encountered in the Twin Lakes field.

PETROPHYSICS

One hundred and twenty-six (75%) of the 169 wells drilled in the Twin Lakes Field have a resistivity and porosity log (Figure #8). Twenty-eight other wells have only cased hole porosity logs available, while fifteen wells have no log data available or only an uncalibrated cased hole neutron log. Most of the forty-three wells with poor log coverage are located on the west side of the field. Two cored wells, O'Brien L#16 and Citgo State #7 have complete log suites. A comparison of log calculated grain density with core measured grain density, supplemented by core description of dolomitic reservoir rock, indicates a dolomite interpretation should be used.

Porosity, permeability, and dolomite crystal size correlations for the San Andres formation of the Permian Basin are shown in Figure #9. The reservoir rocks of Twin Lakes field cover most of the permeability range and are on the lower-mid range of the porosity scale. Many of the high permeability values from Twin Lakes whole core analyses reflect fracturing (either insitu or induced by coring).

Porosity and water saturation cut off values used to define three categories of pay and one category of wet reservoir rock are shown in Figure #10. The pay categories represent ranges of rock quality corresponding to the three porosity-permeability trends shown on Figure #9. The permeability of dolomites with 8 percent porosity (lower end of pay category) can vary from 0.1 md. to 10. md. depending upon crystal size. Rocks in the lower end of probable pay category (5 percent porosity) can have permeabilities from 0.1 md. with very fine crystals and up to 4. to 5. md. with coarse crystals. The possible pay category at 3 percent porosity show a range of permeability from less than 0.1 md. up to 2. md.

Water saturation values were determined using cementation (m) and saturation (n) exponents equal to 2.0. Ten core sample measurements from 2 wells showed values ranging from 1.92 to 2.68 for (m) and 1.77 to 3.58 for (n). Formation water resistivity (Rw) of 0.045 ohm-meters at reservoir temperature of 90°F was measured. No free water level has been encountered in either the P_1 and P_2 zones, which is characteristic of a stratigraphic trap analogous to several San Andres fields.

The original gas cap which was indicated by well production performance, could not be determined from available logs on the western, updip side of the field due to poor log coverage in early development wells in this area. Only three wells with complete log suites (Citgo State #6, Citgo State #7, and O'Brien E #9) were drilled in the early 1980's when much of the gas in the original gas cap could have already been produced and some oil migration taken place. It is estimated that the original gas cap contained less than 5 percent of the hydrocarbon filled pore space within the proposed unit area.

Core permeability data from 5 wells are shown on Figure #11 along with Dykstra-Parsons coefficients of permeability variations. The possible values of permeability variations range from zero to one with a completely uniform system having a value of zero. These calculated variations range from 0.66 to 0.93 indicating very heterogeneous rocks. O'Brien K-3 porosity and permeability data from whole core and plug analyses along with core descriptions indicate that some of the samples had fractures (either insitu or induced by coring) which influenced measured permeability values. When these fractured rock data points were removed, the average permeability (at 50% probability) dropped from 11.5 to 4.7 md. The overall weighted core data porosity is 7.3 percent and air permeability is 1.77 md. from all 5 wells.

These high coefficients of permeability variations are not unusual for San Andres dolomites and are rarely used to influence waterflood performance predictions.

Figure #12 is a net pay isopach map of the proposed unit area. Well production performances, infill data, and work over experiences support that both P_1 and P_2 pay and probable pay categories are contributing to production, and in some cases the possible pay category is too. As can be seen there is a general blanket distribution of net pay punctuated by discrete thicks and thins. Such definition is impossible in the northwestern portions of the main field area due to lack of log data. The boundaries of the proposed flood area are defined by poor well recoveries reflecting low permeability and/or porosity (see Figure #14).

Since all wells do not have open hole logs, the following procedure was used to estimate original-oil-in-place. In wells with open hole logs, net pay, porosity, water saturations and original-oil-in-place values (barrels per acre) were determined. In wells with only calibrated logs through casing, gross pay thicknesses were determined using porosity cut-offs. These were reduced to net pay values by using net-to-gross pay ratios in offset open hole logged wells. Water saturations for cased hole porosities were determined from nearby open hole log porosity vs water saturation relationships. Then original-oil-in-place values for cased hole logged wells were calculated. Oil-in-place values (barrels per acre) were assumed in wells without logs or with uncalibrated casing logs. Total original-oil-in-place in the proposed unit area is estimated to be 51.484 million barrels from isopaching individual well oil-in-place values.

Average values for Zones $P_1 + P_2$ (pay + probable pay categories) are:

Unit Area = 4863.8 acres
Net h = 25.6 feet
porosity = 8.2 percent
water saturation = 25.3 percent
Original F.V.F = 1.15
Original-oil-in-place = 51.484 million barrels

Inclusion of the possible pay category increases this 51.5 million barrels in place to 62.3 million barrels (+21 percent).

PRIMARY PERFORMANCE

Figure #13 shows production history of oil, gas and water from the proposed waterflood unit area outlined on Figure #8. Cumulative production to 4/1/86 from the proposed unit area has been 3.819 million barrels oil (95.9% of field total), 4.047 billion cubic feet gas (98.0% of field total) and 1.736 million barrels water (84.8% of field total).

During the six years from 1967 to early 1973 monthly production averaged 1940 BOPM, 5290 MCFPM (GOR = 2730 CF/B), and 220 BWPM (10% water cut). During the next 5 years, to late 1978, the average monthly production increased to 3510 BOPM, 1410 BWPM (29% water cut) and the average gas oil ratio dropped to 1620 CF/B. The rate of development then accelerated to 1982 with production reaching a peak in November, 1981 of 82,847 BOPM, 58,574 MCFPM (GOR = 710 CF/B) and 16,530 BWPM (17% water cut). The initial producing gas oil ratios of down dip wells averaged 400 CF/B (estimated original solution GOR = 300 CF/B). In March, 1986 production had declined to 14,947 BOPM, 28,699 MCFPM (GOR = 1920 CF/B) and 22,047 BWPM (60% water cut).

The average producing gas oil ratio has steadily increased from a low of 610 CF/B in early 1981 to the current 1920 CF/B. The original bottom hole pressure is estimated to be 900 psig at +1250' datum. This

indicates an underpressured (0.33 psi/ft) accumulation. Reservoir pressures at datum, taken in 1985 in temporarily shut in producers, ranged from 69 to 862 psig. The lower pressures are in areas of large cumulative oil withdrawals, while the higher pressures are in tight fringe areas. Water production increased with accelerated development drilling and since early 1984 has been dropping. These data suggest mainly a solution gas drive producing mechanism with a slight gas cap expansion and some limited interstitial water production.

Figure #14 shows the distribution by well of the 3.983 million barrels of cumulative oil produced to 4/1/86. The proposed water flood unit area has produced 3.819 million barrels of oil or 95.9% of the field total. As can be seen there are wide variations in oil cumulatives which reflect time of drilling, reservoir quality and influence of gas cap.

Figure #15 shows cumulative gas production by well. Current producing GOR's from crestal wells above the +1400' P_1 datum average 8500 cubic feet per barrel, while the most down dip wells are producing around 1800 cubic feet per barrel.

Figure #16 reflects cumulative water production by well. The cumulative average water cut to date from wells within the proposed unit area is only 31 percent versus 67 percent from wells outside the unit area. There is an area of higher producing water cuts on the north and northeast portion of the proposed unit area. The source of this water is unknown; however, water production has declined with time which indicates no active water drive in this area.

Figure #17 illustrates how each tract's remaining primary oil reserves were consistently extrapolated. A combination of hyperbolic

and exponential declines were used to forecast remaining primary reserves. The hyperbolic curve which best fits early production decline histories is characterized by the exponent b = 1.5. This curve was fitted to the historical data of each tract and extrapolated into the future. The hyperbolic segment of the forecast was terminated at an instantaneous decline of 11% per year. Then an exponential decline of 11% per year (exhibited by older wells in Twin Lakes) was used for the remainder of the tract's producing life. A cut-off limit of 1 BOPD per well was assumed as a measure of ultimate moveable primary oil reflecting economics prior to the rapid drop in oil and gas prices starting in April, 1986. Based on these uniform assumptions, tract #29 on Figure #17 has cumulative oil production of 514.7M barrels to 4/1/86, primary reserves of 210.0 M barrels, and an ultimate primary recovery of 724.8 M barrels or 45.3 M barrels per well and 1139 barrels per acre.

The sum of individual tract predictions of remaining primary oil reserves total 1.002 million barrels for a total primary ultimate of 4.821 million barrels or 9.4% of original oil in place. Figure #18 shows the proposed unit area primary oil production history and forecast.

At current low oil and gas prices, the actual economic limit is approximately 4 BOPD per well. This higher cut-off results in a forecast of 0.391 million barrels of remaining primary oil reserves and a primary ultimate of 4.210 million barrels or 8.2% of original oil in place. (See Figure #19).

Table 1 lists pertinent geological, petrophysical, reservoir and production data for the proposed unit area.

SECONDARY PERFORMANCE

Moveable Oil

Waterflood susceptibility tests were run on Core samples taken in 1983 in Citgo State #7 and in 1985 in O'Brien L #16 cores (See Figure #20). Oil/water viscosity ratios of 11 and 3 were used in Citgo State #7 and O'Brien L #16 flooding tests respectively. In general these data show oil being moved with rapid water breakthrough and increasing water cuts. Recoveries of 41-52% of oil in place were obtained after 1.5 pore volumes of water throughput and producing water cuts of 96-98%. The capillary pressure curve on Sample #10 in Citgo State #7 shows it to be a poor rock type which explains its low oil recovery efficiency of 13.6%.

A slightly unfavorable average mobility ratio of 2.0 is calculated for the field from end point core relative permeability measurements and current insitu fluid viscosities.

Even though there is no convincing method to accurately relate core analyses saturations from conventional cores to insitu values of residual oil remaining after a waterflood, it appears, on a microscopic scale, that significant amounts of oil can be removed from these rocks by water injection.

Attempts were made to determine insitu residual oil saturations from drilling mud filtrate invasion during the initial open hole log run. The results of this log moveable oil technique were mixed. However, the moveable oil values (Sio-Sor) from waterflood core tests in Citgo State #7 and O'Brien L #16 compare favorably to the moveable oil ranges determined from logs.

The current average oil saturation of 61.3% presents a large secondary oil recovery potential.

Oil Saturation Calculation:

$$So = \left[1 - \frac{Np}{O.O.I.P.}\right] \times \frac{FVFn}{FVFo} \times \left[1 - Swc\right]$$

Where:
- Np = volume oil produced to 4/1/86 - MBO
- O.O.I.P. = Original stock tank barrels in place - MBO
- FVFn = 1.02 - Current formation volume factor
- FVFo = 1.15 - Original formation volume factor
- Swc = .253 - Average water saturation

Average current oil saturation:

$$So = \left[1 - \frac{3819}{51484}\right] \times \frac{1.02}{1.15} \times \left[1 - .253\right] = 0.613$$

Secondary Recovery Oil Volumes

Since the ratio of secondary recovery to primary ultimate is an industry accepted method of estimating water flood recoveries from comparable reservoirs, a review was made of analog San Andres fields under water flood. Three San Andres fields (Chaveroo, Flying M and Milnesand) having the same depositional environment, ranges of net pay, porosity and permeability and oil gravity as Twin Lakes were selected as analogs. Estimation of secondary to primary ratios of these analog fields varied from 0.6 to 1.4 with the low end reflecting inefficient injection patterns and rates. From this review a range of Secondary/Primary ultimate recovery ratios of 0.6 to 1.0 appear reasonable for the Twin Lakes Field.

Ultimate primary and secondary recovery estimates are shown below:

	Total Gross MMBLS Oil	Recovery Efficiency As % of 51.484 MMBOOIP In Unit Area
Cumulative Production to 4/1/86	3819	7.4
Primary Reserves @ 4/1/86 (1B/D/Well)	1002	1.9
Total Primary	4821	9.3
Secondary Reserves (Sec/Pri=1.0)	4821	9.3
Secondary Reserves (Sec/Pri=0.6)	2893	5.6

These total (Primary + Secondary) recovery efficiencies of 14.9% to 18.6% are believed to be reasonable low side and high side estimates. The low side estimate recognizes problematic reservoir discontinuities on 80-acre-five-spot spacing patterns and insitu fracturing.

Injectivity Tests

During January - July, 1986, water injectivity tests using field Santa Rosa compatible water were made in two T.A.'s wells scheduled for injectors in the proposed full scale waterflood. O'Brien L #3 took 42.4 MBLS water at an average rate of 555 BWPD with 0 psig tubing pressure. Prior to injection it had produced 53.7 MBO, 61.6 MMCF gas and 1.5 MBW.

O'Brien J #3 took 14.4 MBLS water at an average rate of 510 BWPD also on a vacuum. Prior to injection it had produced 60.7 MBO, 37.4 MMCF gas and 2.2 MBW.

These early injectivity profiles showed fair to good vertical sweeps, and no early responses were seen in offset wells. These tests indicate that the planned average water injection rates of 350 to 400 BPD per well during the approximate one year fill up period can reasonably be expected.

Oil Production Forecasts

The high recovery case (secondary/primary = 1.0) shown on Figure #21 portrays an assumed peak oil production of 48.6M barrels per month (1600 BPD) to be reached by 1991 assuming water injection begins July 1987. This peak is 60% of the primary peak of 2672 BOPD reached in 1981, and is only 8% of the anticipated unit water injection rate. The low recovery case (secondary/primary = 0.6) has a peak of 33.4 MB per month (1100 BPD) also reached in 1991, and is 41% of the primary production peak and 5% of the anticipated water injection rate. Because of the planned immediate full scale injection rates in primarily closed five-spot patterns in Twin Lakes, these peak oil rates are somewhat higher than observed in the analog fields.

FLOOD PATTERN

The design of this flood, based upon analog fields, is predominantly five-spot patterns as illustrated on Figure #22. The unit area encompasses wells with 95.9 percent of the field total oil cumulative and 95.5 percent of the field primary oil ultimate. The unit outline was drawn around forty-acre locations with a producer, around recommended and probable undrilled locations, and around some open undrilled spots to protect the unit. Dry holes and poor performing peripheral wells were excluded. The northern boundary follows a break in well performances in Sections 25 and 30 as seen on Figures #12 and #14.

The overall average primary oil recovery in the area north of the unit is estimated to be 162 barrels per acre versus 991 barrels per acre within in the unit area. Producing water cuts from the north area have been high, averaging 55 percent initially and 67% cumulative to 4/1/86.

The main portion of the field has a cumulative water cut of only 31 percent. Also, the drilled locations in the north area make it difficult to install efficient waterflooding patterns without excessive drilling. These facts lead to the conclusion that there is too high of a risk associated with waterflooding the north area of the Twin Lakes Field.

Consistent with analog performances, eighty-acre five-spot patterns were selected to provide maximum sweep efficiencies with the desired oil production and injection capacities at minimal costs. Also, they provide the flexibility for selective 20 acre infilling or converting to normal 9 spots if flood performance dictates. Injectors are arranged in a northeast to southwest direction in order to parallel natural formation fracture trends which might exist. Poor producers, eccentric drilling patterns, and the need to inject into the original gas cap to prevent oil migration result in irregular patterns on the west and southwest side of the main area. Three injectors are proposed to be drilled to complete four important five spots on the northeastern and eastern edges of the proposed unit. Four edge wells are shown as producers shut in for future utility as alternate producers or injectors as the need arises. The two injectors located outside the northern boundary are included to show the possibility of needing an injection line agreement.

WATER SOURCE

An adequate, dependable and compatible source of water is required in order to profitably waterflood the Twin Lakes Field. Dump or intermittent flooding with limited water has caused water flooding failures in some of the analog fields that were studied. Chemically incompatible water not only would retard injection and oil displacement but also would significantly increase operating costs.

Limited water flood susceptibility tests on cores indicate approximately 3.0 floodable pore volumes of water will need to be injected to effect removal of oil to economically irreducible saturation levels (98 to 99% producing water cuts). The floodable portion of the proposed unit area contains approximately 36.6 million barrels of floodable pore space. Assuming 75% injection efficiency, 146 million barrels of water would be injected over life.

Twin Lakes Field is unfortunately located in an area remote from required source water. An investigation of subsurface reservoirs, surface waters and commercial water sources over a forty to fifty mile radius revealed that the closest, acceptable source was the Ogallala formation in Lea County. The Santa Rosa formation under portions of the Twin Lakes Field was tested by Stevens Oil Company at three locations and proved adequate only for limited injectivity testing.

Pelto has acquired Ogallala water rights approximately 27 miles Southeast of the Twin Lakes Field (see Figure #23). Some 1030 acre-feet per year (21,892 BBls/day) have been appropriated for waterflooding purposes along with necessary pipeline easements and right-of-ways. This compatible source water alone would supply the 146 million barrels in +/- 18 years. Recycling of the produced water will reduce the volume

of source water required and/or provide increased water for injection as the flood matures.

On March 12, 1984 Stevens Oil Company filed application for permit to appropriate the Ogallala water. The application drew several protests, and protesting landowners would not grant necessary rights of way unless certain conditions were met. After intensive negotiation these issues were finally settled. The State Engineer granted the right to divert the source water in March 1985, and the New Mexico State Land Office granted right of easement in March 1986.

Two source water wells located in Section 24, T11S, R32E have been acquired and briefly tested at a combined rate of 45,000 barrels of water per day.

The water source system, designed by John West Engineering Company, is estimated to cost $1.5 million (see cost estimate - page 19). The field facilities are designed to treat and selectively inject produced water without surface mixing with source water.

FIELD FACILITIES

A preliminary design and cost estimate of the proposed Twin Lakes San Andres waterflood unit facilities has been made by West Texas Consultants, Inc. under Pelto's direction. These facilities include a new central battery, main injection station, five satellites for 58 producers (initially) and 58 injectors at an estimated total gross cost of $3.5 million. See Figure #24 and Figure #25 for production and injection system layouts.

The Central production facilities include a free water knockout, heater treater, storage tanks and a lease automatic custody transfer. Central injection facilities contain filters, storage tank and vertical

turbine pumps designed to deliver up to 22,000 BWPD (or 380 BWPD per injector) at 1200 psig. Initially, surface injection pressures are limited to 540 psig until such time as well fracturing gradients can be demonstrated to be higher than New Mexico State requirements of 0.2 psi/ft of depth. All materials are designed to withstand corrosive effects of produced fluids. Ogallala and produced waters are kept separate on the surface, and the system is capable of using either or both sources.

Each satellite is equipped with well production test facilities and separate manifolds to distribute water to each injector.

PROJECT COST ESTIMATES

The total cost of the proposed waterflood project is estimated to be $8.30 million. This total consists of $1.10 million pre-unitization expenses, $6.20 million initial installation capital, and $1.00 million future capital to install larger pumping units during peak well responses.

I. PRE-UNITIZATION EXPENSE: This is the summation of costs incurred and pre-paid for by Pelto prior to unitization for activities uniquely required to evaluate floodability of the San Andres reservoir, to acquire water rights and rights-of-way for a water source pipeline, to design the waterflood and facilities, and to determine the costs to install the waterflood. Pre-unitization expense will be further defined in the Unit Agreement and approved by unit working interests participants.

	8/8ths Costs M$	Date
1. Consultant and Legal Fees		
Source Water Acquisition	80	
Acquiring Rights-of-way & Surface Leases	21	
Petrophysical Analysis	75	
Geological Analysis	55	
Reservoir Analysis - Analog Fields	15	
Water Source System Design & Bid Preparation	103	
Facilities Design & Bid Preparation	108	
Surveying for Facilities & Water Source System	4	
Land Title, Division Orders & Unitization Procedures	2	
Subtotal	463	
2. Acquisition of Source Water		
Source water acquisition	42	
Water Source Pipeline Rights-of-way	90	
Water Source Facilities Surface Leases & Easements	2	
Field Central Facilities Surface Lease	0	
Subtotal	134	
3. Infill Drilling, Coring and Testing		
Drill and Complete O'Brien L-15 and L-16	360	
L-16 Coring and Core Analyses	28	
Convert J-3 and L-3 to Injectors	36	
Facilities, Water Source and Analysis for Injectivity Tests	48	
Bottom Hole Pressure Test Program	2	
Subtotal	474	
4. Total Costs Already Incurred (1,2,3 above)	1071	
Anticipated Additional Costs	29	
GRAND TOTAL PRE-UNITIZATION EXPENSES	$1100	1987

II. WATER FLOOD INSTALLATION: These expenditures will be authorized by AFE's after unitization.

1. Facilities	8/8ths Costs M$	Date
Central Injection Facilities	586	
Central Production Facilities	113	
Central Battery and Injection Station Site	158	
Satellite Trunk Lines	565	
Satellite Production and Injection Facilities	1,655	
Rebuild Electrical Distribution System	108	
State Taxes and Contingencies	315	
Subtotal	3,500	
2. Water Supply System		
Pipe	740	
Tank, Valves, Meters, Pumps, Motors	99	
Electrical Materials & Installation	153	
Construction	448	
Contingency	60	
Subtotal	1,500	
3. Convert 55 Wells to Injection	900	
4. Drill 3 Injectors	300	
Total Initial Capital	$6,200	1987

III. PURCHASE LARGER PUMPING UNITS: These future capital costs will be made during peak well responses

	300	1990
	350	1991
	350	1992
Subtotal	$1,000	

IV. GRAND TOTAL PROPOSED WATERFLOOD COSTS $8,300

OPERATING COSTS

Remaining primary direct field operating cost estimates, excluding overheads, were based on continuing non-unitized operations. Two cost categories, fixed and variable, were used. Fixed costs include labor, surface facilities repairs, road maintenance insurance, communications, etc. The variable category includes electric power, subsurface maintenance, prime mover repairs, salt water disposal, etc. Estimates for 1987:

Producer	$/Well/Month	Total $/Month
Fixed	625	
Variable	530	
	$1,155/w/mo. x 82 producers =	94,710

Under unitized secondary recovery operations there will be less labor costs, less surface facilities repairs, and lower salt water disposal costs resulting in the following average costs.

Producer	$/Well/Month		
Fixed	470		
Variable	480		
	$ 950/w/mo. x 58 producers =	55,100	
Injection			
Variable	$550/w/mo x 58 injectors =	31,900	
Water handling	=	15,400	
Subtotal		$102,400 =	$883/w/mo for total wells

Water handling is based upon 20,300 B/D (350 B/D/W x 58W) and $0.025/injected barrel for water source, injection plant and distribution system expenses.

For profitability purposes, the above costs were adjusted over life to account for reduced labor (wells shut in), and increased power and produced water handling costs with anticipated increasing oil and water volumes under secondary recovery operations.

ECONOMICS

Economic runs for the proposed unit area (see tables #2, thru #4) were made for continued primary alone and primary plus secondary. All cases shown have no future escalations of costs or oil/gas prices nor federal income tax burdens.

Other Assumptions:

Working Interest:	1.000
Average Net Revenue Interest:	.812
Oil price:	$15.00/Bbl
Gas price:	$1.50/Mcf
Severance/Conservation taxes:	0.0375 x oil value + $0.163/Mcf
Advalorem/School taxes:	0.0443 x [oil + gas revenues]
Operating Costs:	As per previous discussion
Abandonment Costs:	None, assume offset by salvage
Project Investments:	As per previous discussion
As of Date:	1/1/87
Base discount rate:	10%

Results:

The economic run on table 2 shows the remaining primary oil forecast from Figure #19 which reflects tract cut-off of 4 BOPD per well (the current economic limit). This run shows an operating profit from continued primary production. However, the proposed unit area is currently being operated at an overall loss due to wells being produced below their economic limit in order to preserve leaseholds for inclusion into the waterflood unit.

Two remaining primary + secondary cases are shown. (1) Table #3 is a high recovery case with secondary oil volume equal to primary ultimate (Sec./Pri. = 1.0). Where primary ultimate ties to the forecast using tract cut-off of 1 BOPD per well. (2) Table #4 is a low recovery case with secondary oil volume equal to 60% of primary ultimate (Sec./Pri. = 0.6). Again primary ultimate ties to the forecast using tract cut-off of 1 BOPD per well.

Comparative Economics Summary:

	Continued Primary	Primary + Secondary Sec/Pri = 1.0	Primary + Secondary Sec/Pri = 0.6
Total gross oil reserves - MB	298	5,713	3,784
Total gross gas reserves - MMcf	652	1,932	1,826
Net oil reserves - MB	242	4,639	3,073
Net gas reserves - MMcf	530	1,569	1,483
Net equivalent bbls (6 Mcf/Be) MBe	330	4,900	3,320
Ultimate Capital - $M	0	8,300	8,300
Ultimate Capital - $/Be	0	1.69	2.50
Undiscounted payout - years	---	4.7	5.9
Undiscounted profit - M$	1,248	37,994	18,984
Discounted 10% profit - M$	1,069	13,282	4,678
Rate of Return - %	---	26.7	17.5
Undiscounted Profit Index	---	4.6	2.3

UNITIZATION PARAMETERS

Thirty-six individual tracts have been set up to form the proposed Twin Lakes (San Andres) Waterflood Unit as outlined on Figure #26. Parameters that are used in various units to determine participation are shown on Tables #5, 6 and 7.

Net pay and oil-in-place values were not determined by tract due to insufficient open hole log coverage and the lack of consistent correlation between well performance and net pay.

A forecast date of 4/1/86 was assumed in order to minimize effects of the early 1986 rapid drop in oil/gas prices on current production, revenue and estimated future reserves.

Working interest, royalty interest, and overriding royalty interest data were gathered from division orders. All production numbers are from New Mexico's Annual Production and monthly C-115 reports.

The following parameters are listed by tract and operator:

1. Acres
2. Current (3 months oil production) - 1/1/86 to 4/1/86
3. Current (3 months oil & gas Revenue) - 1/1/86 to 4/1/86 using weighted oil price of $16.98/BO and an average weighted gas price of 89¢/Mcf net after gas gathering fees.
4. Current (1 year oil production) - 4/1/85 to 4/1/86
5. Cumulative Oil Production to 4/1/86
6. Primary Reserves as of 4/1/86 - with tract cut-offs of 1 BOPD per well and 4 BOPD per well.
7. Primary Ultimate Recovery with tract cut-offs of 1 BOPD per well and 4 BOPD per well.

The use of acres in determining unit participation is not appropriate since the proposed unit area is essentially fully developed with only a few undrilled locations.

Since April 1, 1986, the proposed unit area has been operated at an overall loss. Therefore, remaining primary oil reserves have little to no current value except to maintain leases for inclusion into a waterflood unit. Tract current production effects the extrapolation used to determine remaining moveable primary oil reserves. These reserves, when added to cumulative production, give ultimate primary oil recovery for each tract which is the best measure of anticipated oil recovery under waterflood operations.

The most equitable formulae for determining working and royalty interests unit participation is a single cost/revenue factor based upon ultimate moveable primary oil recoveries.

Table #8 is a tract index showing each owner, the type and percentage of interest in each tract.

ACKNOWLEDGEMENTS

This report is the result of the efforts of many professional technical, clerical and drafting people. Pelto Oil Company wishes to express appreciation to those outside the company who have rendered special technical assistance.

TO:

1. J. Dennis Loren and John T. Kulha, Loren and Associates, Inc. for their petrophysical study.

2. Robert M. Sneider, Sneider Exploration, Inc., for his geological interpretations.

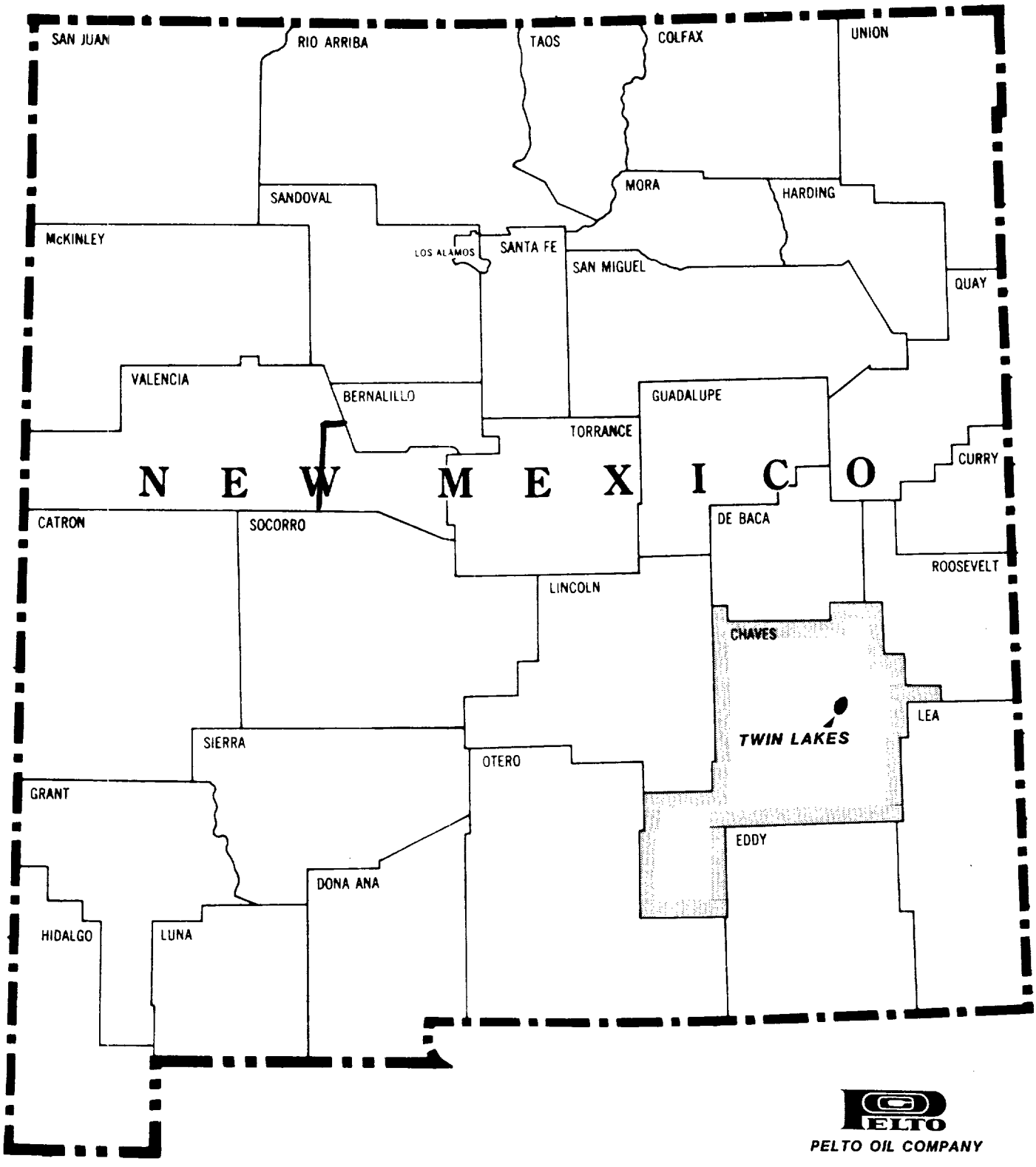
3. Russ Long, Williamson Petroleum Consultants, Inc. for his decline curve extrapolation technique and review of analog fields.

4. George Donaldson, Gruy Engineering Corporation, for his independent waterflood oil reserve determinations and review of analog fields.

5. Sherman E. Galloway, Hydrologist, for his studies of source waters.

6. Personnel of John West Engineering Company for their design and cost estimates of the source water delivery system.

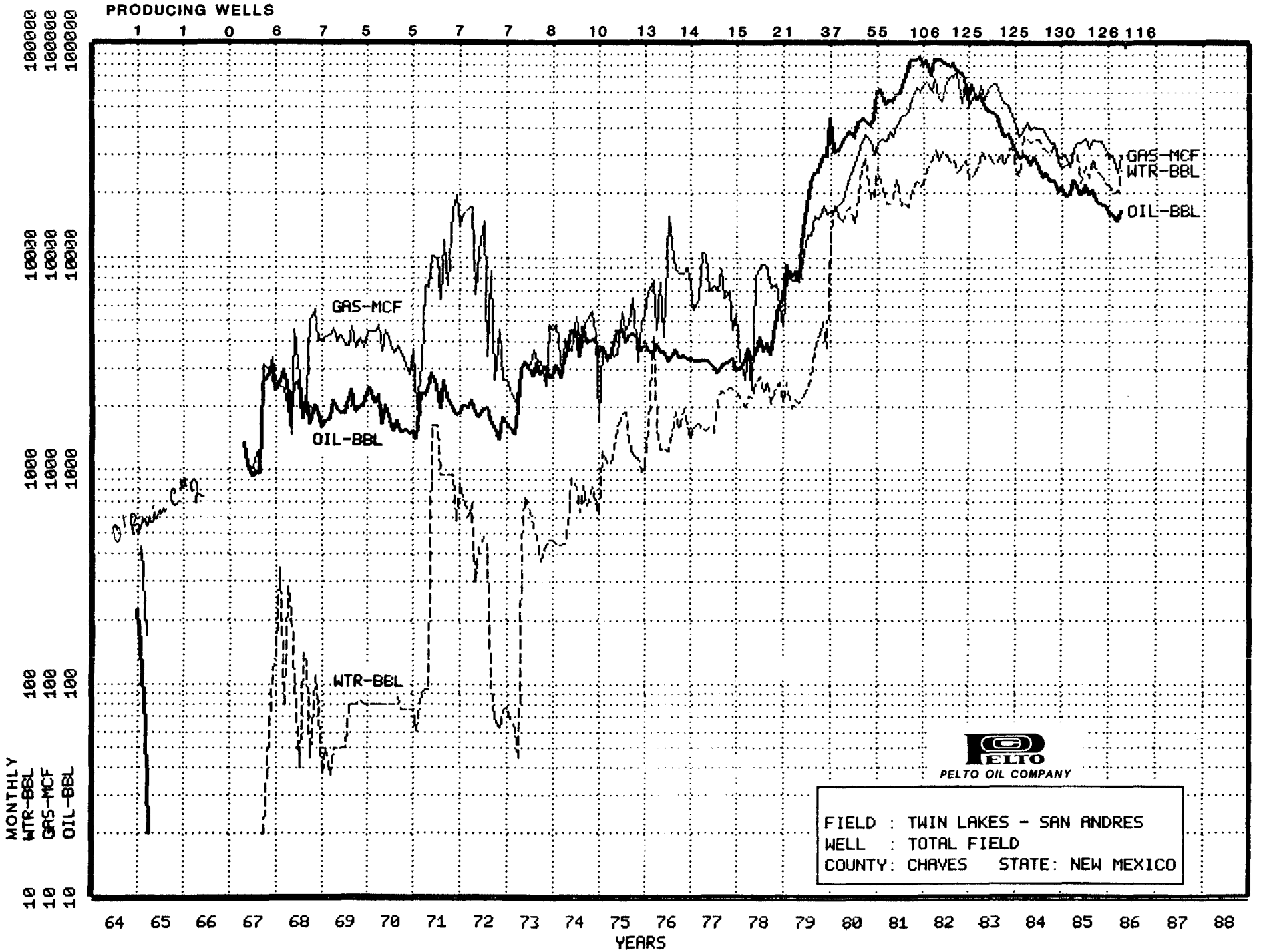
7. Personnel of West Texas Consultants, Inc. for their design and cost estimates of the field waterflood facilities.



PELTO OIL COMPANY

INDEX MAP

FIGURE 1



Same as Ex. 13

FIGURE 2

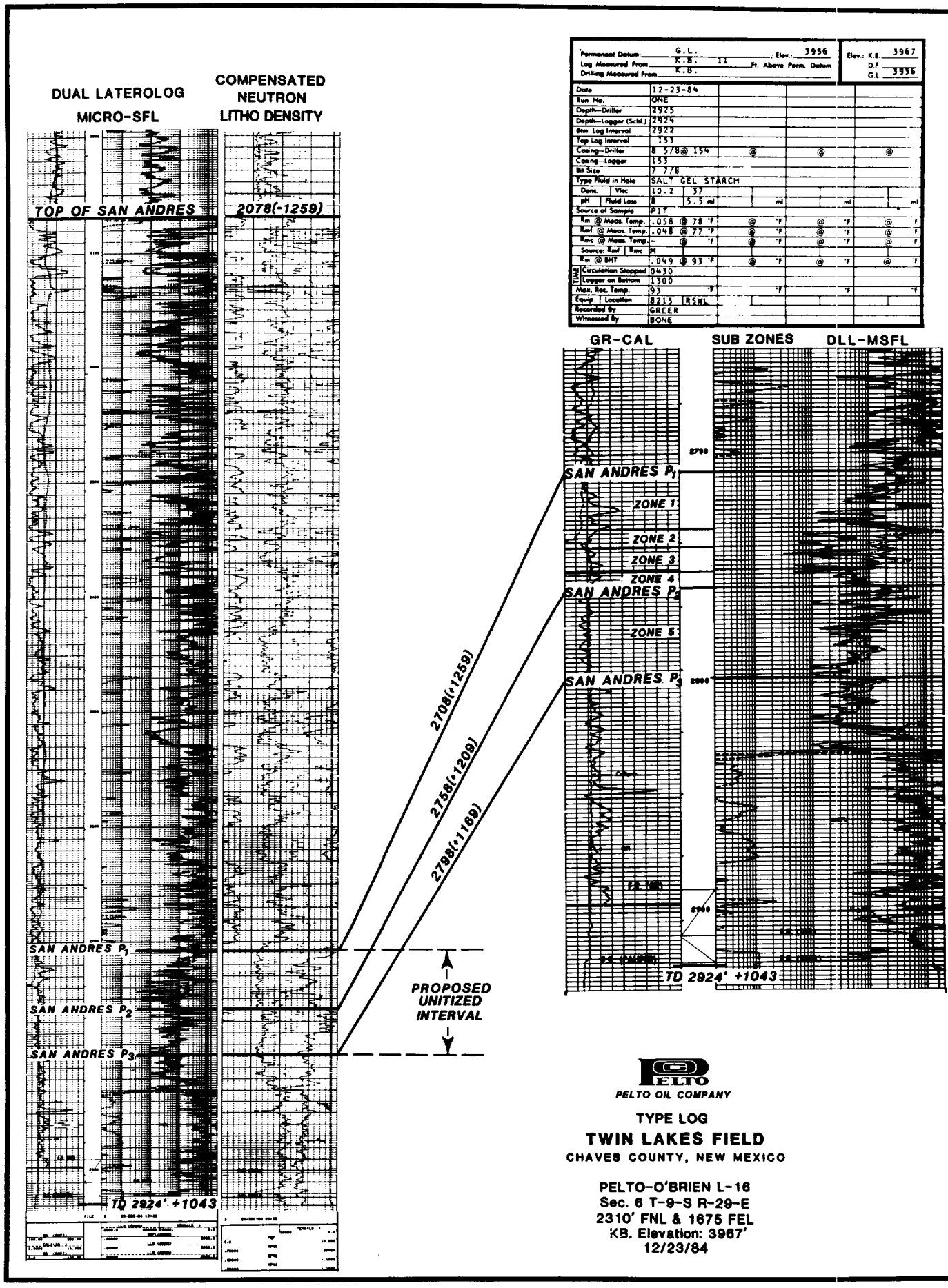

DUAL LATEROLOG
MICRO-SFL
COMPENSATED
NEUTRON
LITHO DENSITY
TOP OF SAN ANDRES
2078(-1259)
SAN ANDRES P1
SAN ANDRES P2
SAN ANDRES P3
TD 2924' +1043
Permanent Datum: G.L. Elev.: 3956
Log Measured From: K.B. 11 Ft. Above Perm. Datum
Drilling Measured From: K.B.
Elev.: K.B. 3967
D.F.
G.L. 3956
Date 12-23-84
Run No. ONE
Depth—Driller 2925
Depth—Logger (Schl.) 2924
Btm. Log Interval 2922
Top Log Interval 153
Casing—Driller 8 5/8@ 154
Casing—Logger 153
Bit Size 7 7/8
Type Fluid in Hole SALT GEL STARCH
Dens. Visc 10.2 37
pH Fluid Loss 8 5.5 ml
Source of Sample PIT
Rm @ Meas. Temp. .058 @ 78 °F
Rmf @ Meas. Temp. .048 @ 77 °F
Rmc @ Meas. Temp. - @ °F
Source: Rmf Rmc M
Rm @ BHT .049 @ 93 °F
TIME Circulation Stopped 0430
Logger on Bottom 1300
Max. Rec. Temp. 93 °F
Equip. Location 8215 RSWL
Recorded By GREER
Witnessed By BONE
GR-CAL
SUB ZONES
DLL-MSFL
SAN ANDRES P1
ZONE 1
ZONE 2
ZONE 3
ZONE 4
SAN ANDRES P2
ZONE 5
SAN ANDRES P3
2708(-1259)
2758(-1209)
2798(-1169)
PROPOSED
UNITIZED
INTERVAL
TD 2924' +1043
PELTO OIL COMPANY
TYPE LOG
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
PELTO-O'BRIEN L-16
Sec. 6 T-9-S R-29-E
2310' FNL & 1675 FEL
KB. Elevation: 3967'
12/23/84

FIGURE 3

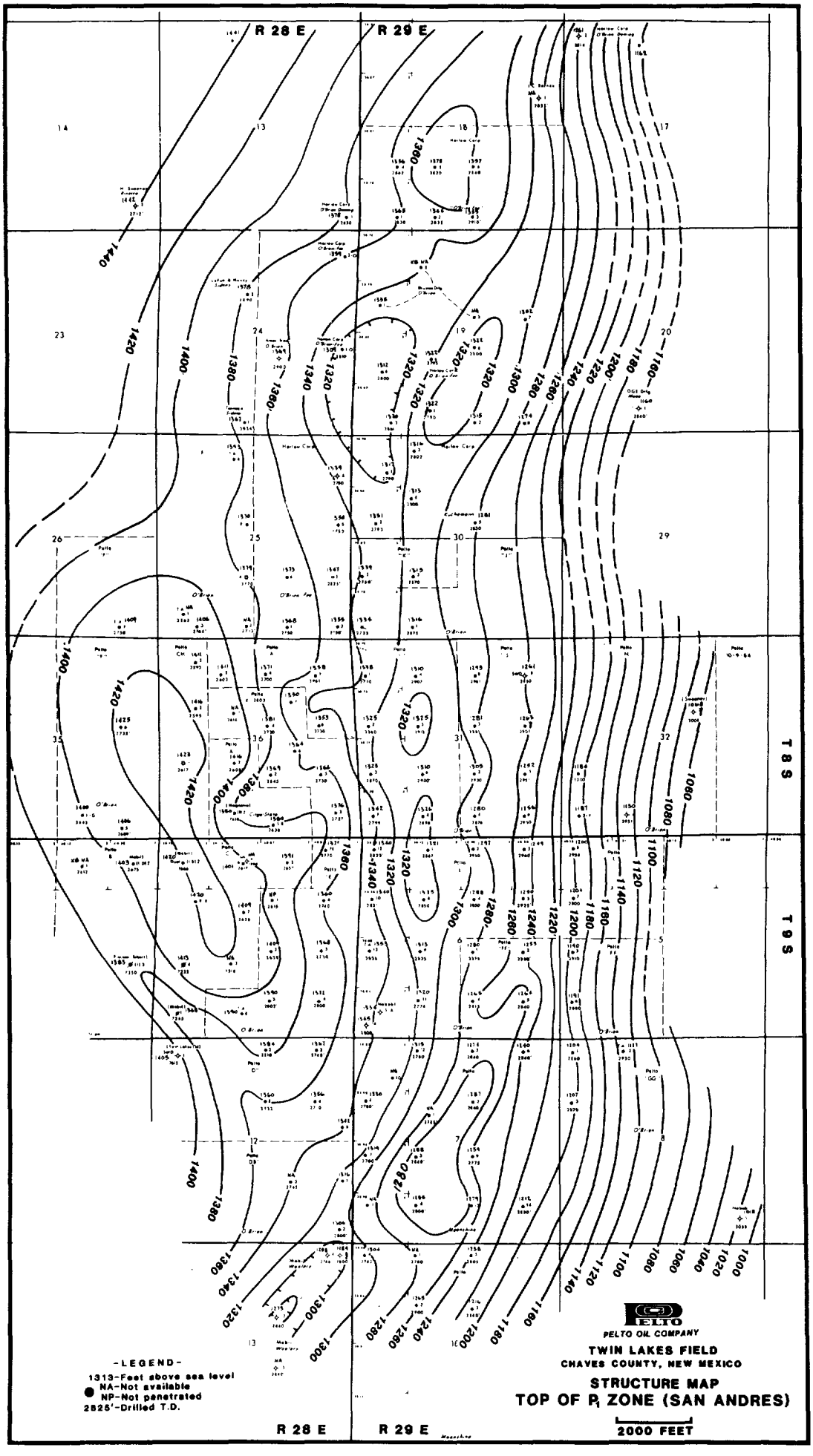
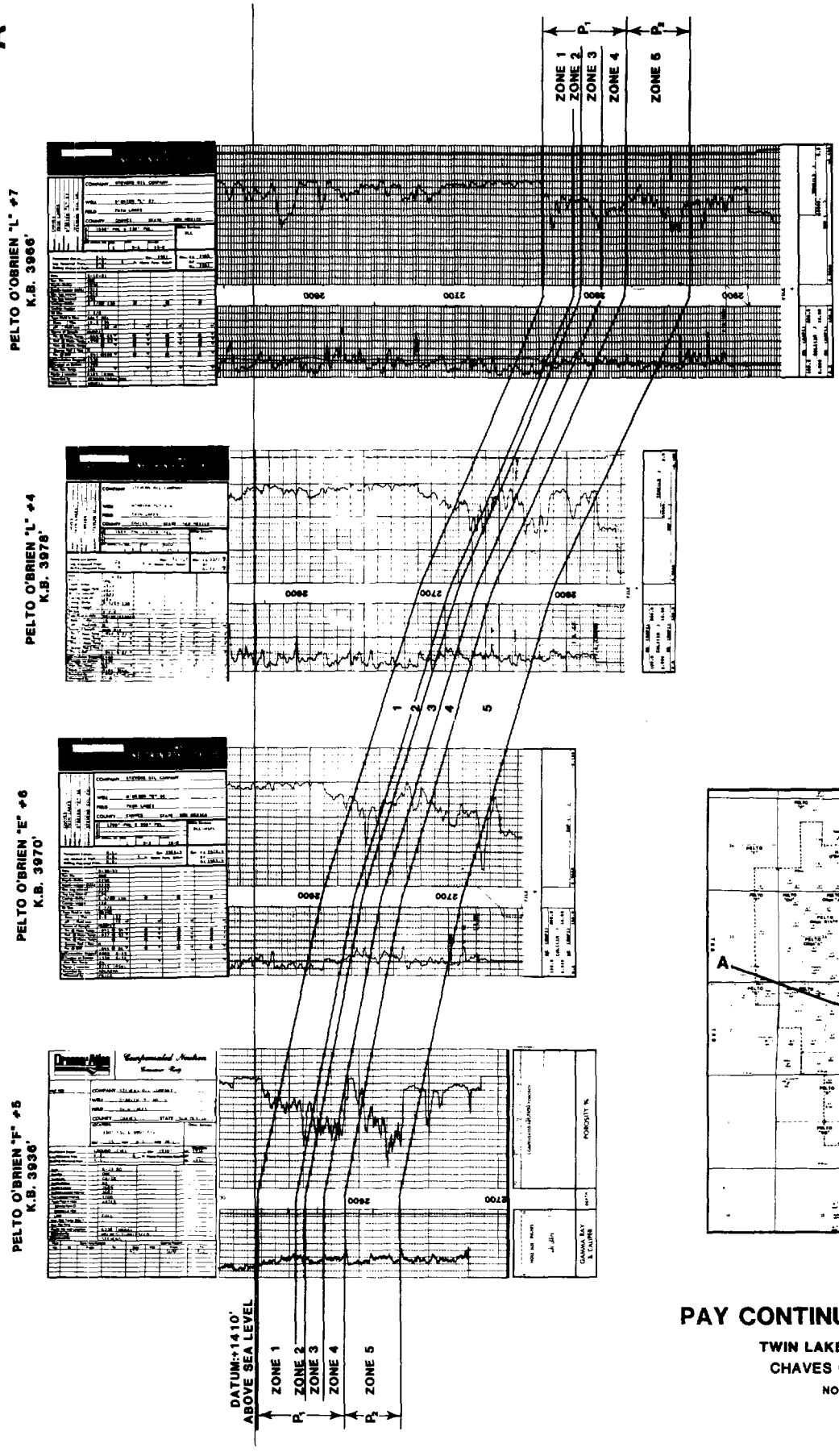
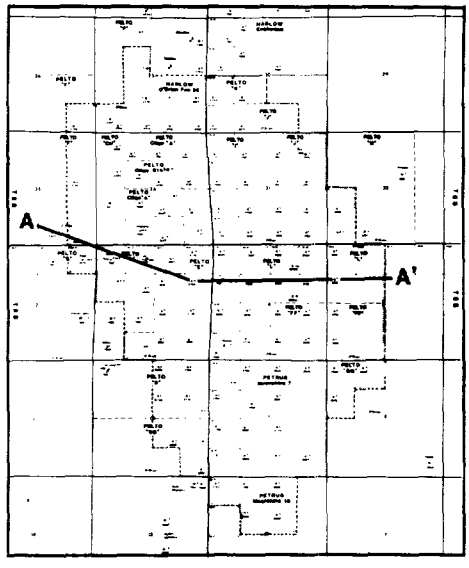

R 28 E
R 29 E
T 8 S
T 9 S
-LEGEND-
1313-Feet above sea level
NA-Not available
NP-Not penetrated
2825'-Drilled T.D.
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
STRUCTURE MAP
TOP OF Pr ZONE (SAN ANDRES)
2000 FEET

FIGURE 4



INDEX MAP

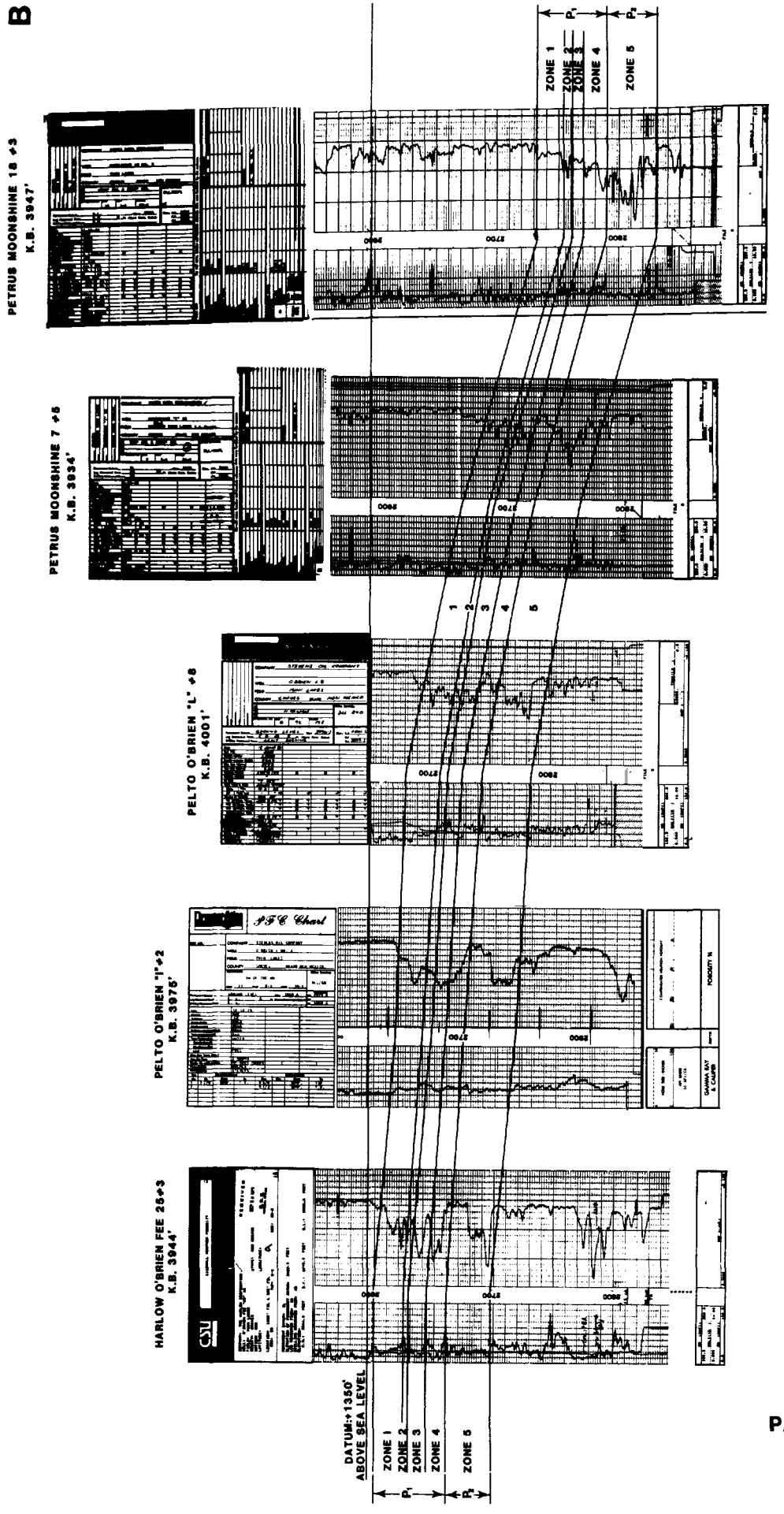


PELTO OIL COMPANY

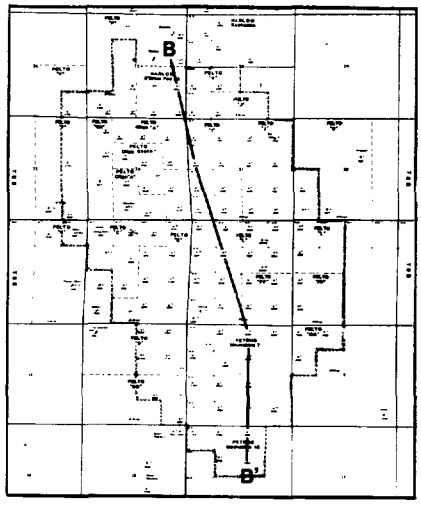
PAY CONTINUITY CROSS SECTION

TWIN LAKES (SAN ANDRES) FIELD
CHAVES COUNTY, NEW MEXICO
NO HORIZONTAL SCALE

FIGURE 5



INDEX MAP



PELTO OIL COMPANY

PAY CONTINUITY CROSS SECTION

TWIN LAKES (SAN ANDRES) FIELD

CHAVES COUNTY, NEW MEXICO

NO HORIZONTAL SCALE

FIGURE 6

PELTO OIL COMPANY

SCHEMATIC CROSS SECTION

TWIN LAKES FIELD

CHAVES COUNTY, NEW MEXICO

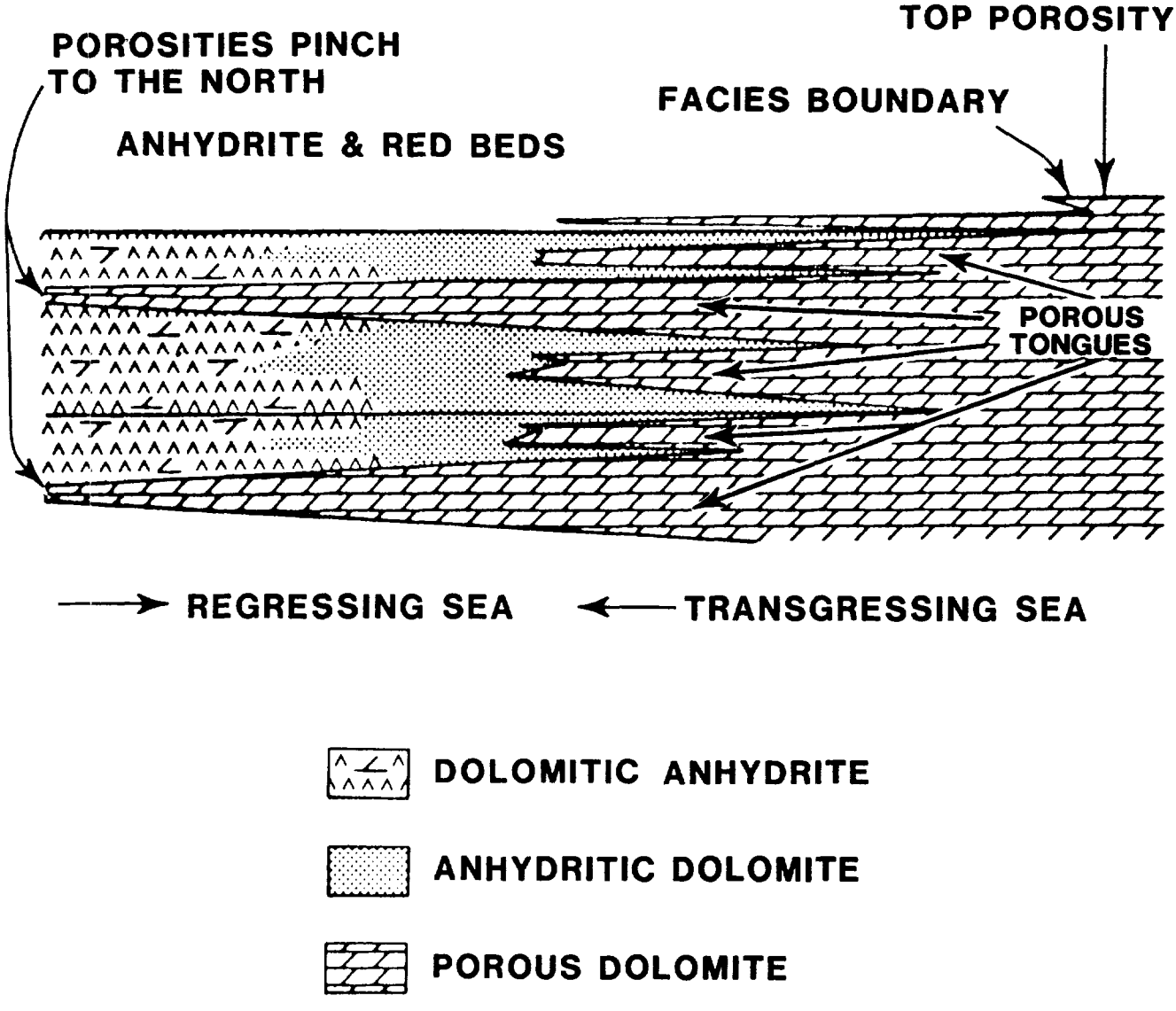


FIGURE 7

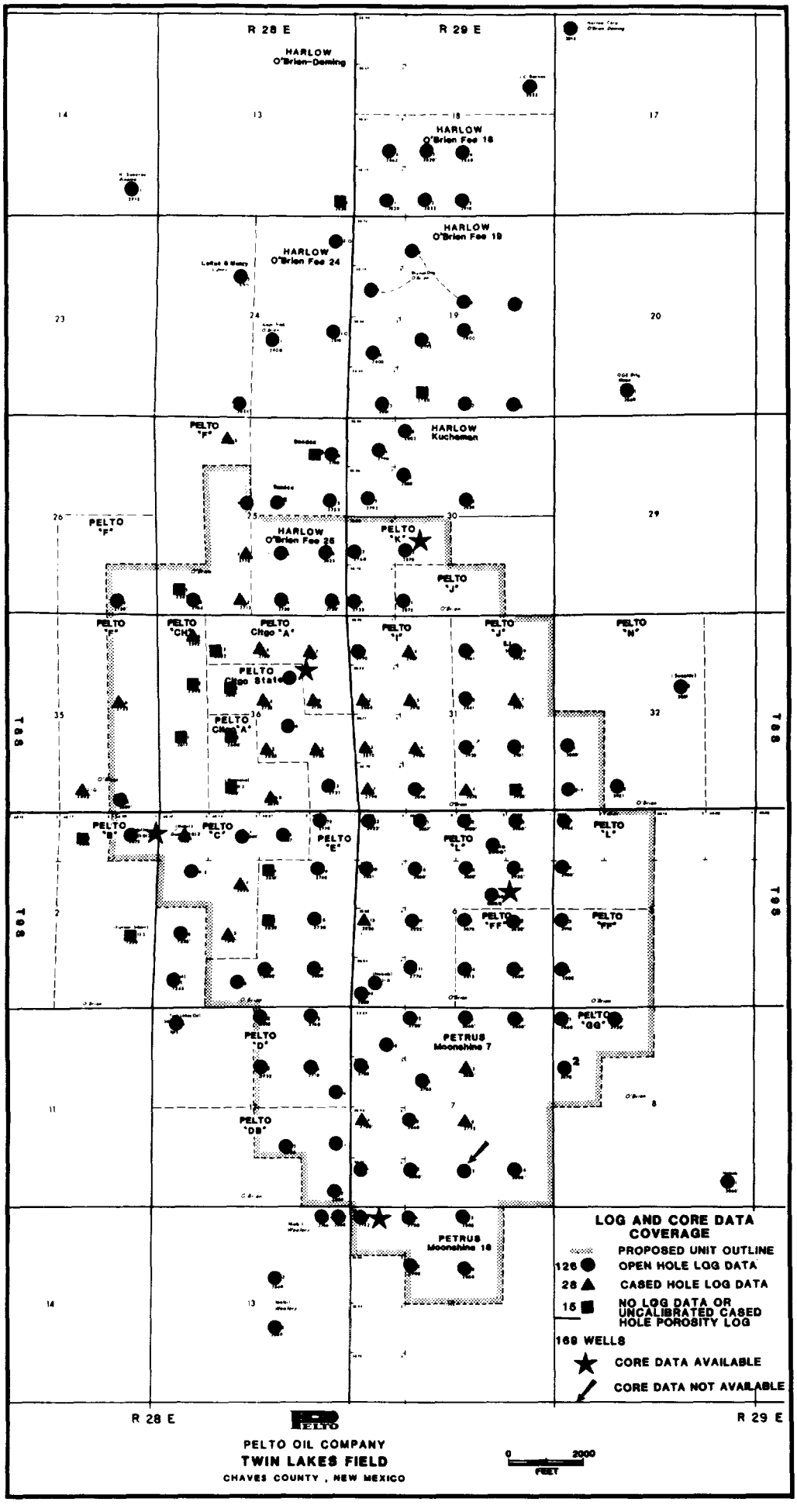

R 28 E
R 29 E
HARLOW O'Brien-Deming
HARLOW O'Brien Fee 18
HARLOW O'Brien Fee 24
HARLOW O'Brien Fee 19
HARLOW Kuchaman
HARLOW O'Brien Fee 25
PELTO "F"
PELTO "K"
PELTO "J"
PELTO "CH"
PELTO Citgo "A"
PELTO Citgo State
PELTO "I"
PELTO "N"
PELTO "B"
PELTO "C"
PELTO "E"
PELTO "L"
PELTO "FF"
PELTO "GG"
PELTO "D"
PELTO "DB"
PETRUS Moonshine 7
PETRUS Moonshine 18
T8S
T9S
LOG AND CORE DATA COVERAGE
PROPOSED UNIT OUTLINE
126 OPEN HOLE LOG DATA
28 CASED HOLE LOG DATA
15 NO LOG DATA OR UNCALIBRATED CASED HOLE POROSITY LOG
169 WELLS
CORE DATA AVAILABLE
CORE DATA NOT AVAILABLE
PELTO
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0 2000
FEET

FIGURE 8

PELTO OIL COMPANY

TWIN LAKES FIELD

CHAVES COUNTY, NEW MEXICO

POROSITY-PERMEABILITY RELATIONSHIP FOR VARIOUS DOLOMITE PORE NETWORKS

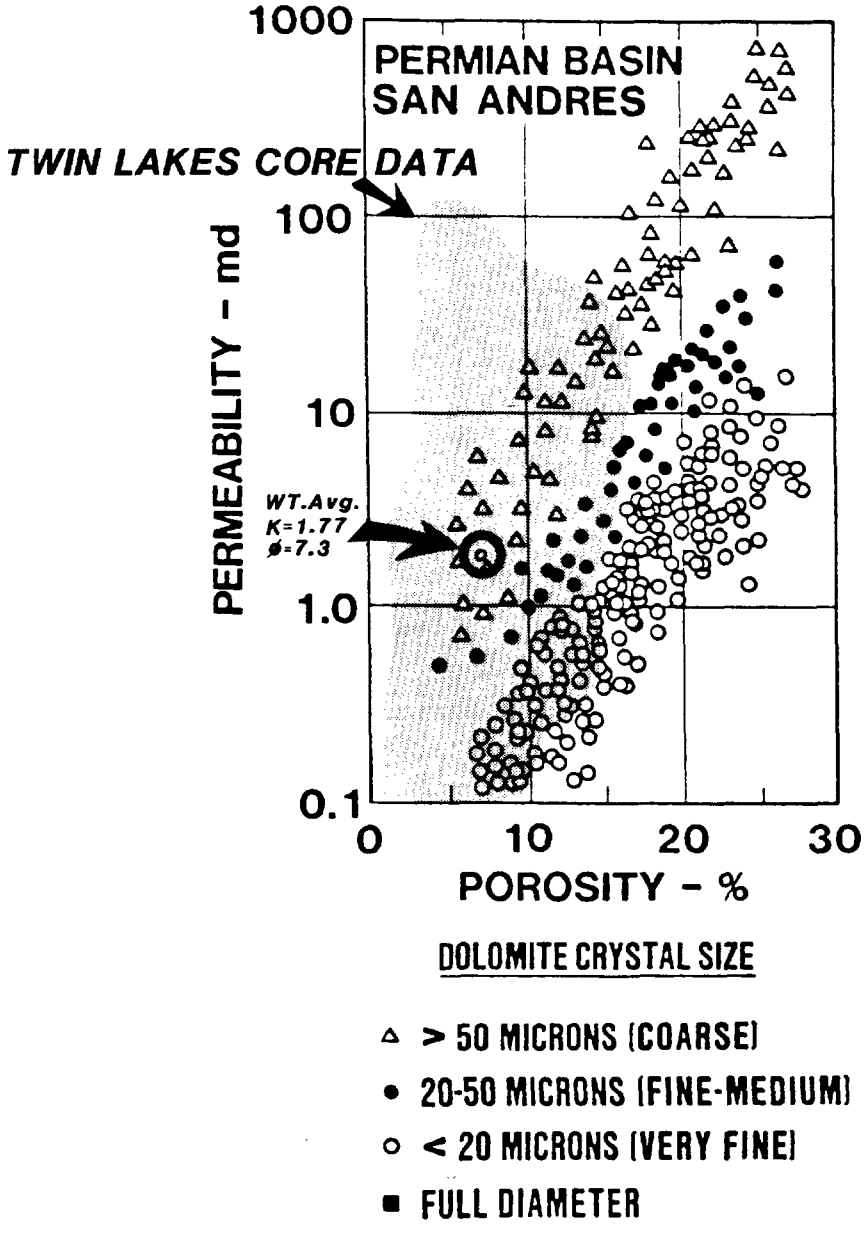


FIGURE 9

PELTO OIL COMPANY

TWIN LAKES FIELD

CHAVES COUNTY, NEW MEXICO

PAY CATEGORY DEFINITIONS

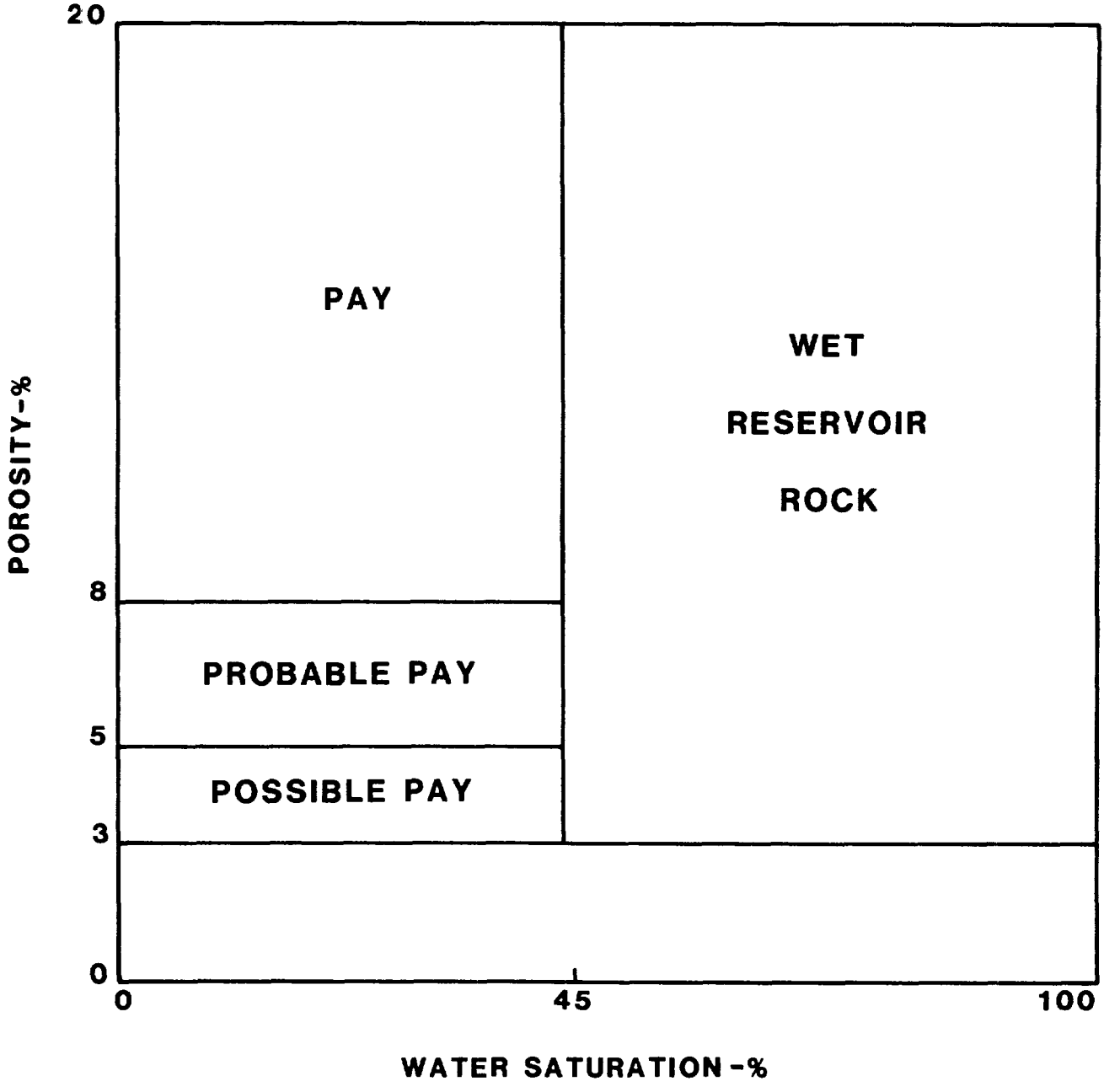
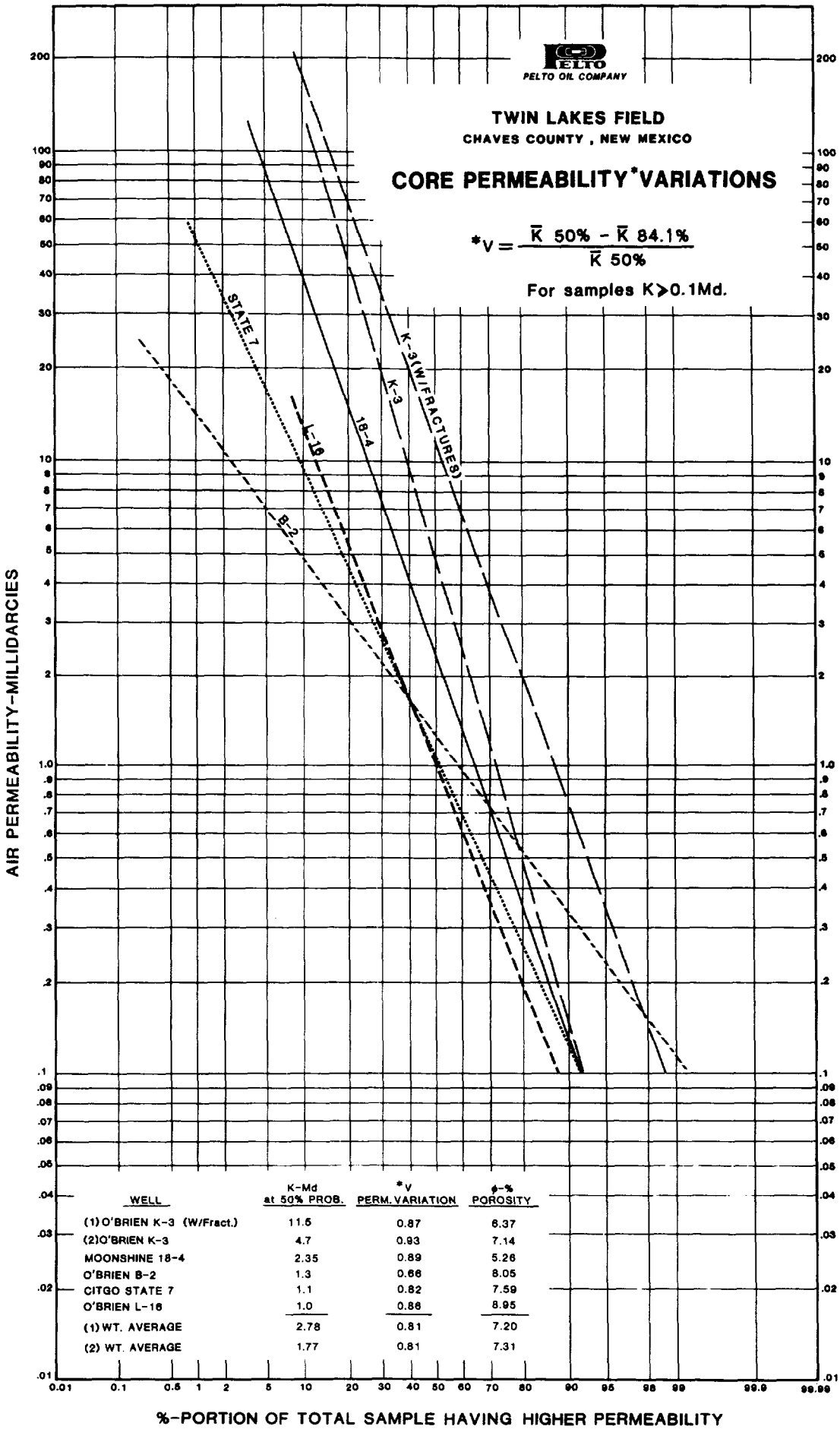


FIGURE 10



WELL	K-Md at 50% PROB.	*V PERM. VARIATION	φ-% POROSITY
(1) O'BRIEN K-3 (W/Fract.)	11.5	0.87	8.37
(2) O'BRIEN K-3	4.7	0.93	7.14
MOONSHINE 18-4	2.35	0.89	5.26
O'BRIEN B-2	1.3	0.66	8.05
CITGO STATE 7	1.1	0.82	7.59
O'BRIEN L-16	1.0	0.86	8.95
(1) WT. AVERAGE	2.78	0.81	7.20
(2) WT. AVERAGE	1.77	0.81	7.31

FIGURE 11

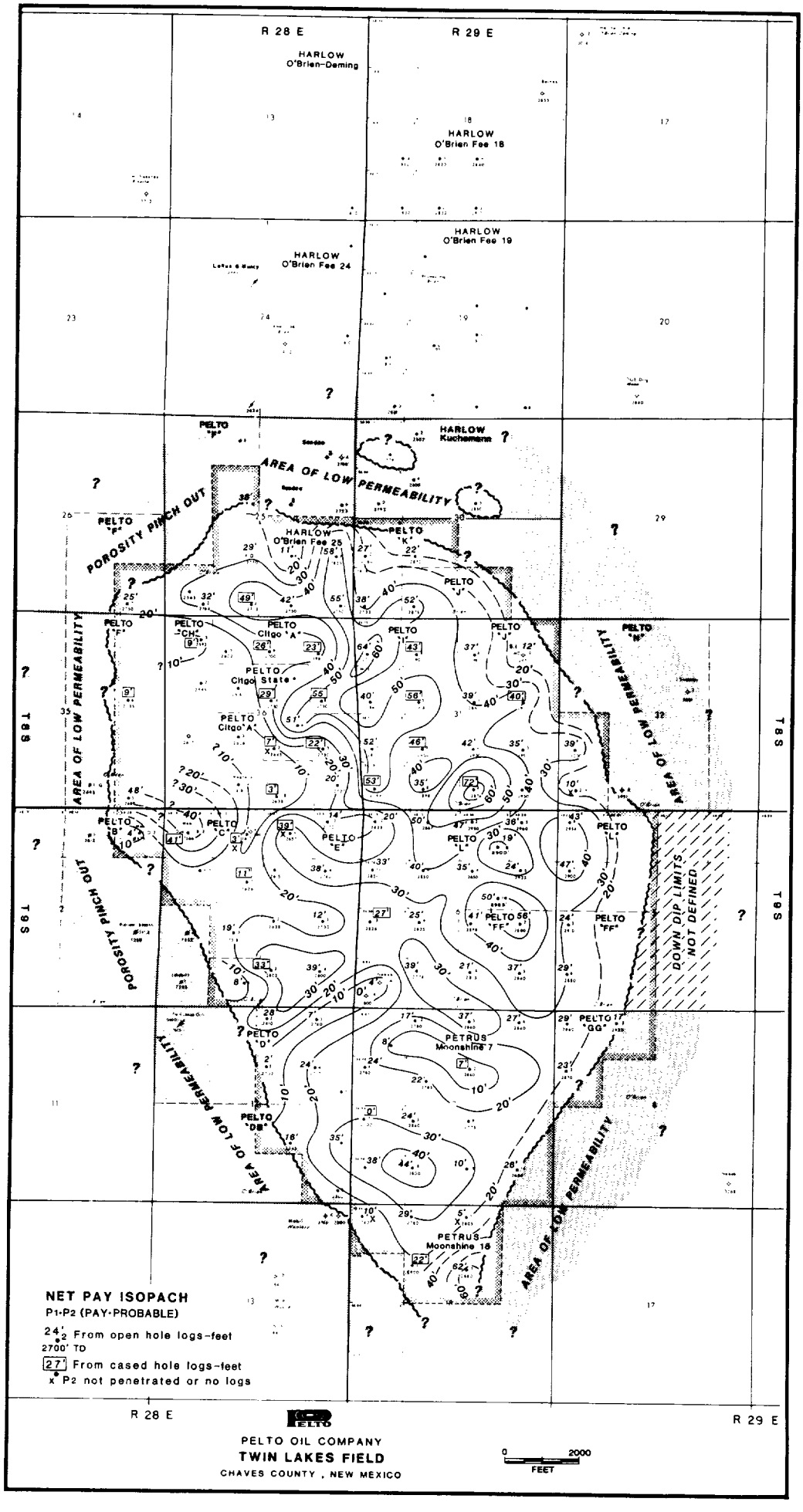

R 28 E
R 29 E
HARLOW O'Brien-Deming
HARLOW O'Brien Fee 18
HARLOW O'Brien Fee 19
HARLOW O'Brien Fee 24
HARLOW O'Brien Fee 25
HARLOW Kuchenmeister
PELTO "P"
PELTO "F"
PELTO "CH"
PELTO Citgo "A"
PELTO Citgo State
PELTO Citgo "A"
PELTO "K"
PELTO "J"
PELTO "B"
PELTO "C"
PELTO "E"
PELTO "FF"
PELTO 56 "FF"
PELTO "GG"
PELTO "D"
PELTO "DB"
PETRUS Moonshine 7
PETRUS Moonshine 18
AREA OF LOW PERMEABILITY
POROSITY PINCH OUT
DOWN DIP LIMITS NOT DEFINED
T8S
T9S
NET PAY ISOPACH
P1-P2 (PAY-PROBABLE)
From open hole logs-feet
2700' TD
From cased hole logs-feet
P2 not penetrated or no logs
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0 2000
FEET

FIGURE 12

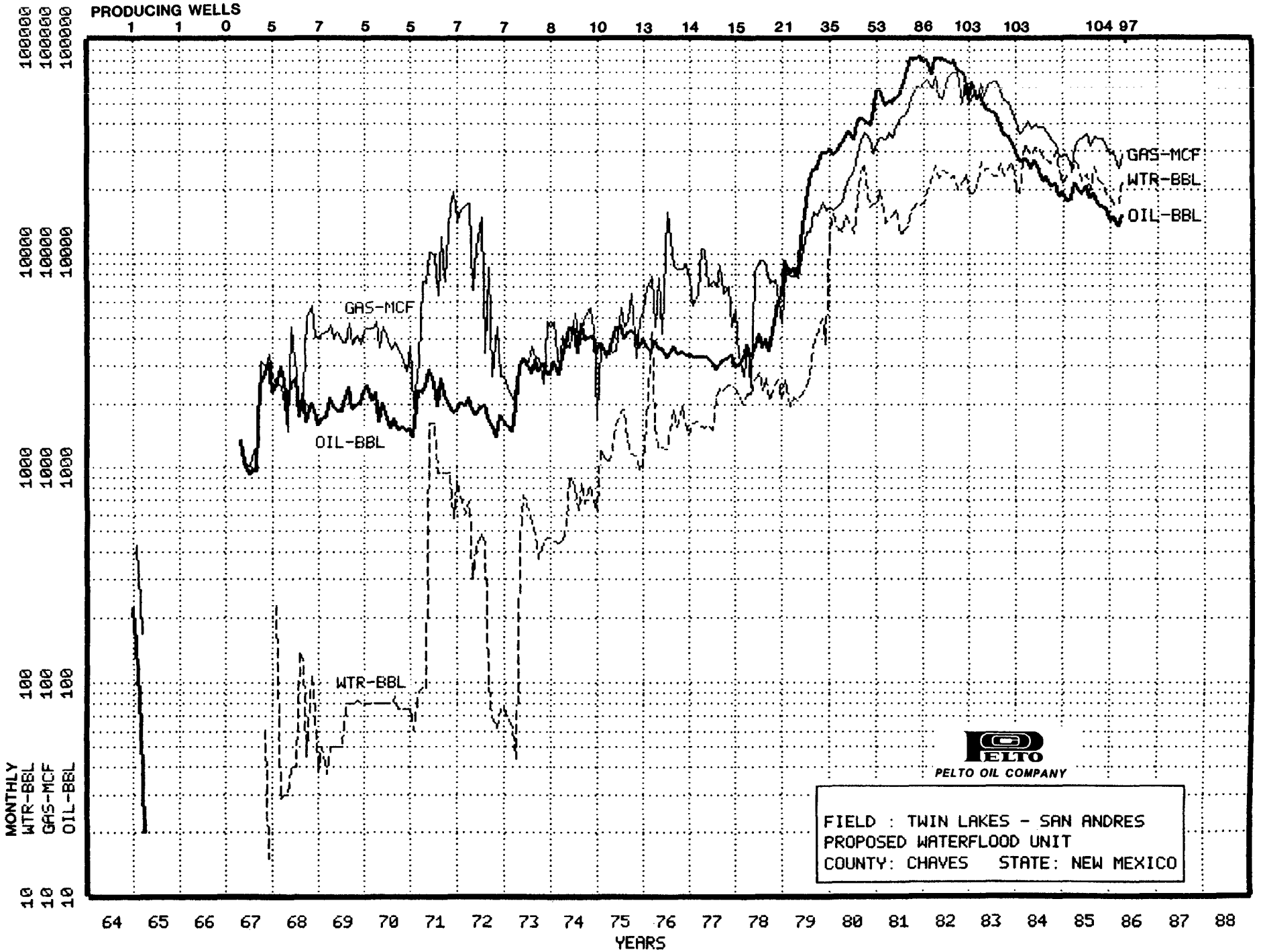

PRODUCING WELLS
1 1 0 5 7 5 5 7 7 8 10 13 14 15 21 35 53 86 103 103 104 97
MONTHLY
WTR-BBL
GAS-MCF
OIL-BBL
100000
10000
1000
100
10
GAS-MCF
OIL-BBL
WTR-BBL
GAS-MCF
WTR-BBL
OIL-BBL
PELTO OIL COMPANY
FIELD : TWIN LAKES - SAN ANDRES
PROPOSED WATERFLOOD UNIT
COUNTY: CHAVES STATE: NEW MEXICO
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
YEARS

FIGURE 13

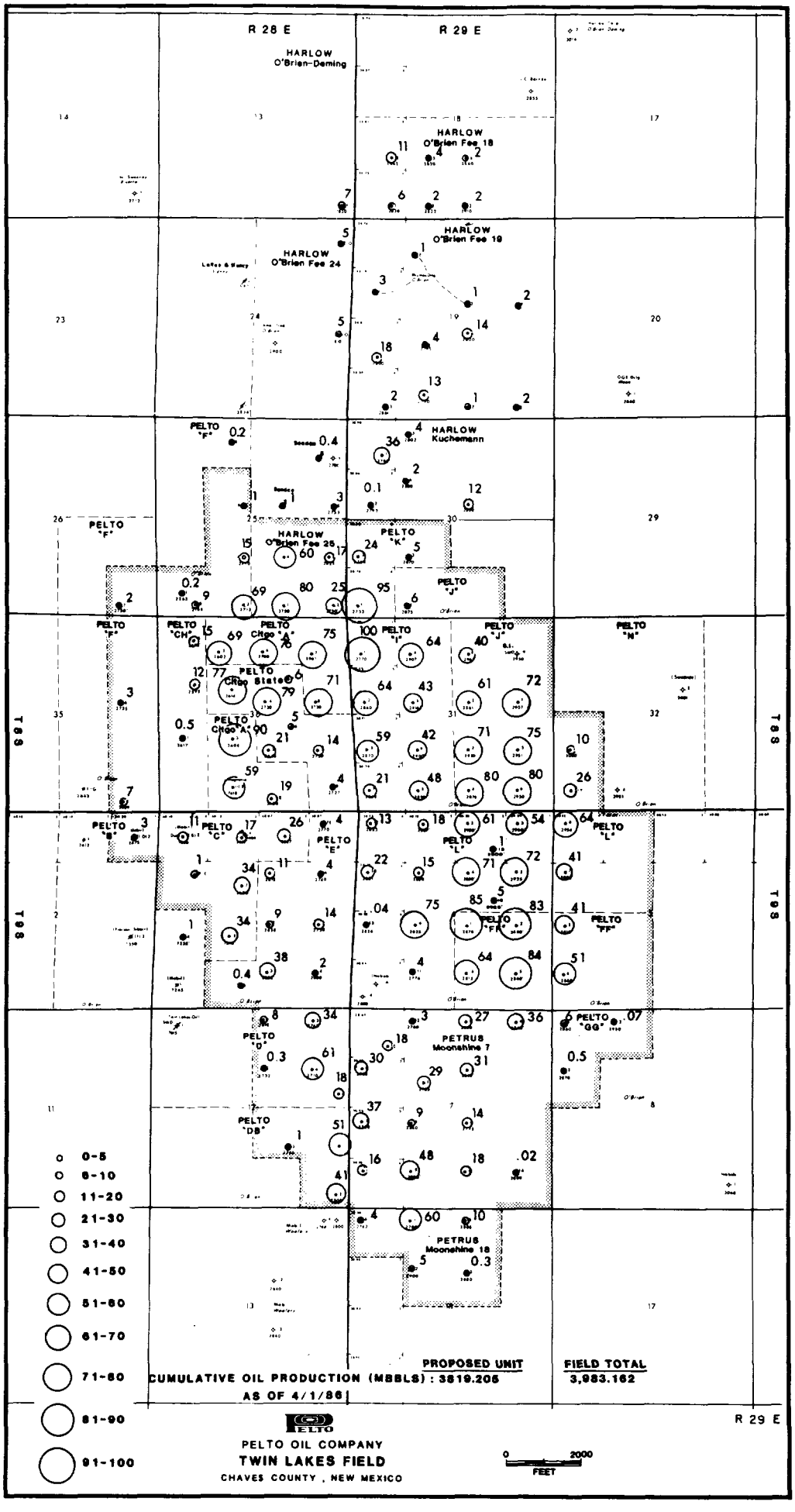

R 28 E
R 29 E
T 6 S
HARLOW O'Brien-Deming
HARLOW O'Brien Fee 18
HARLOW O'Brien Fee 19
HARLOW O'Brien Fee 24
HARLOW O'Brien Fee 25
HARLOW Kuchemann
PELTO "F"
PELTO "K"
PELTO "J"
PELTO "CH"
PELTO Chgo "A"
PELTO Chgo State
PELTO "I"
PELTO "N"
PELTO "B"
PELTO "C"
PELTO "E"
PELTO "L"
PELTO "FF"
PELTO "D"
PELTO "DB"
PELTO "GG"
PETRUS Moonshine 7
PETRUS Moonshine 18
0-5
6-10
11-20
21-30
31-40
41-50
51-60
61-70
71-80
81-90
91-100
PROPOSED UNIT
FIELD TOTAL
3,983.162
CUMULATIVE OIL PRODUCTION (MBBLS) : 3819.205
AS OF 4/1/86
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0 2000
FEET

FIGURE 14

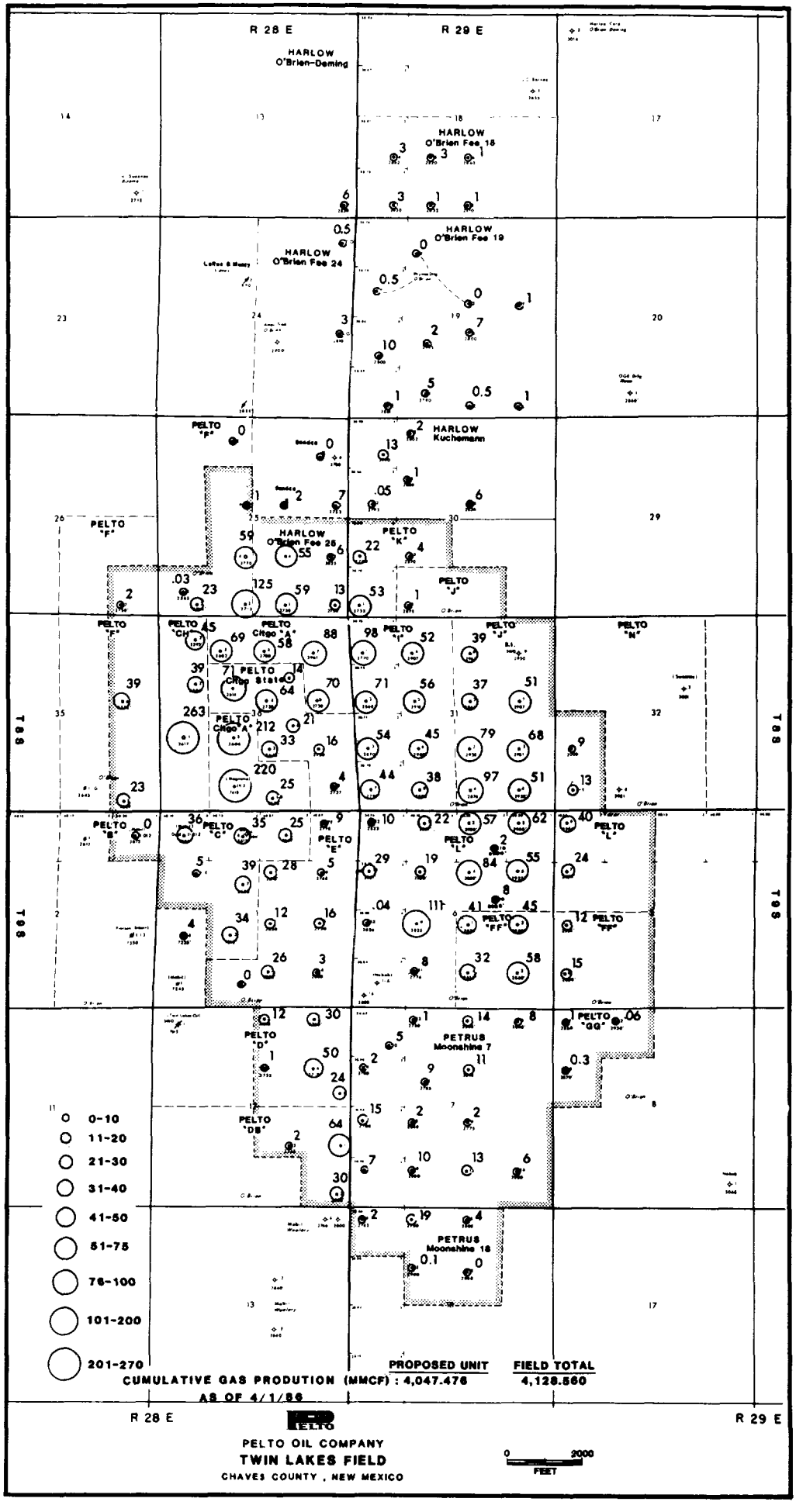

R 28 E
R 29 E
HARLOW
O'Brien-Deming
HARLOW
O'Brien Fee 18
HARLOW
O'Brien Fee 24
HARLOW
O'Brien Fee 19
HARLOW
Kuchemann
HARLOW
O'Brien Fee 25
PELTO
"F"
PELTO
"K"
PELTO
"J"
PELTO
"N"
PELTO
"A"
PELTO
"I"
PELTO
"B"
PELTO
"C"
PELTO
"E"
PELTO
"L"
PELTO
"FF"
PELTO
"D"
PELTO
"DB"
PELTO
"GG"
PETRUS
Moonshine 7
PETRUS
Moonshine 18
T 8 S
0-10
11-20
21-30
31-40
41-50
51-75
76-100
101-200
201-270
CUMULATIVE GAS PRODUTION (MMCF) : 4,047.476
AS OF 4/1/86
PROPOSED UNIT
FIELD TOTAL
4,128.560
R 28 E
R 29 E
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY , NEW MEXICO
0
2000
FEET

FIGURE 15

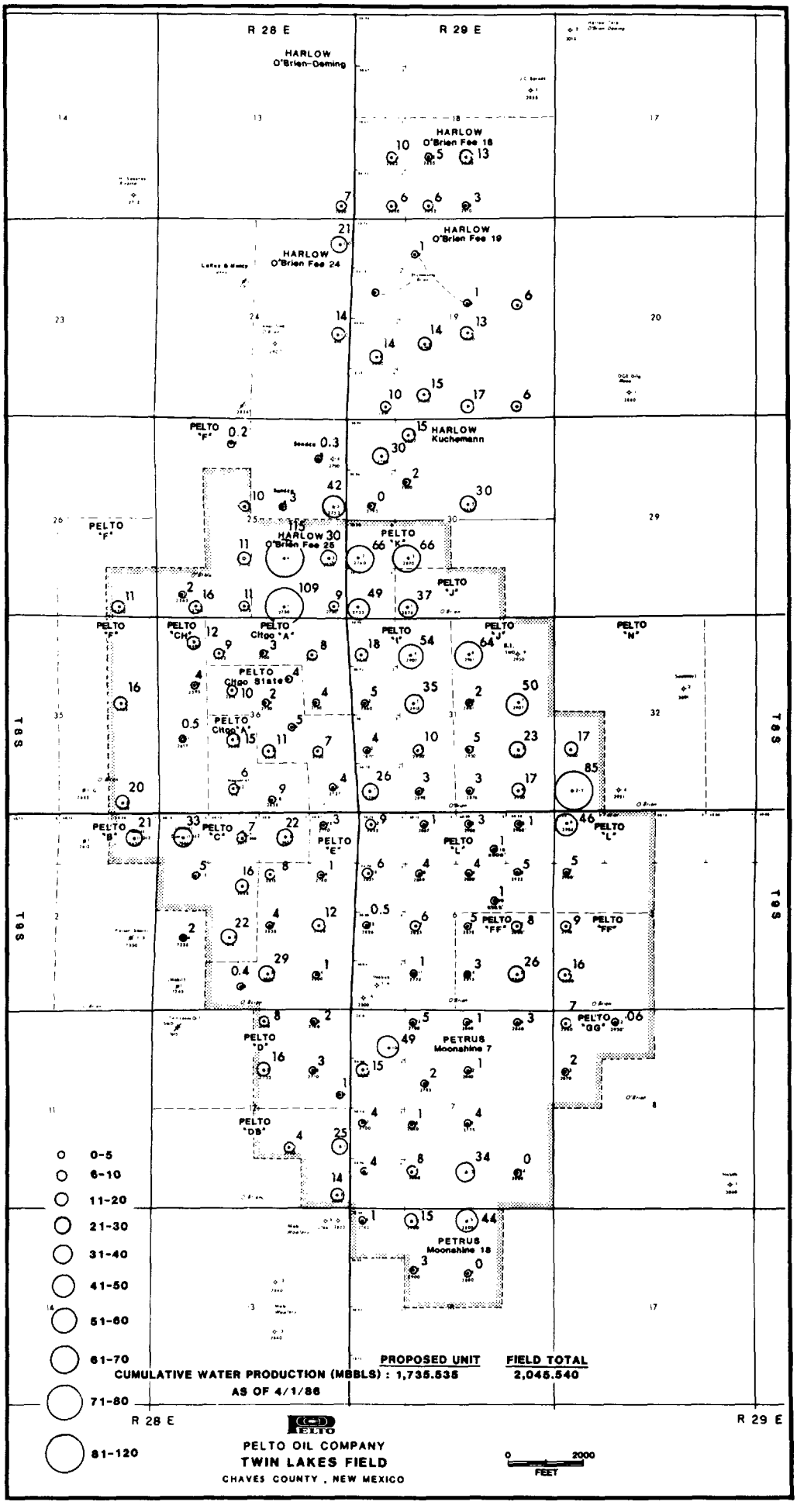

R 28 E
R 29 E
HARLOW O'Brien-Deming
HARLOW O'Brien Fee 18
HARLOW O'Brien Fee 19
HARLOW O'Brien Fee 24
HARLOW Kuchemann
HARLOW O'Brien Fee 25
PELTO "F"
PELTO "K"
PELTO "J"
PELTO "N"
PELTO "CH"
PELTO Chas "A"
PELTO Chas State
PELTO "I"
PELTO "H"
PELTO "B"
PELTO "C"
PELTO "E"
PELTO "L"
PELTO "FF"
PELTO "GG"
PELTO "D"
PELTO "DB"
PETRUS Moonshine 7
PETRUS Moonshine 18
T 8 S
T 9 S
0-5
6-10
11-20
21-30
31-40
41-50
51-60
61-70
71-80
81-120
PROPOSED UNIT
FIELD TOTAL
CUMULATIVE WATER PRODUCTION (MBBLS) : 1,735.535
2,045.540
AS OF 4/1/86
R 28 E
R 29 E
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY , NEW MEXICO
0
2000
FEET

FIGURE 16

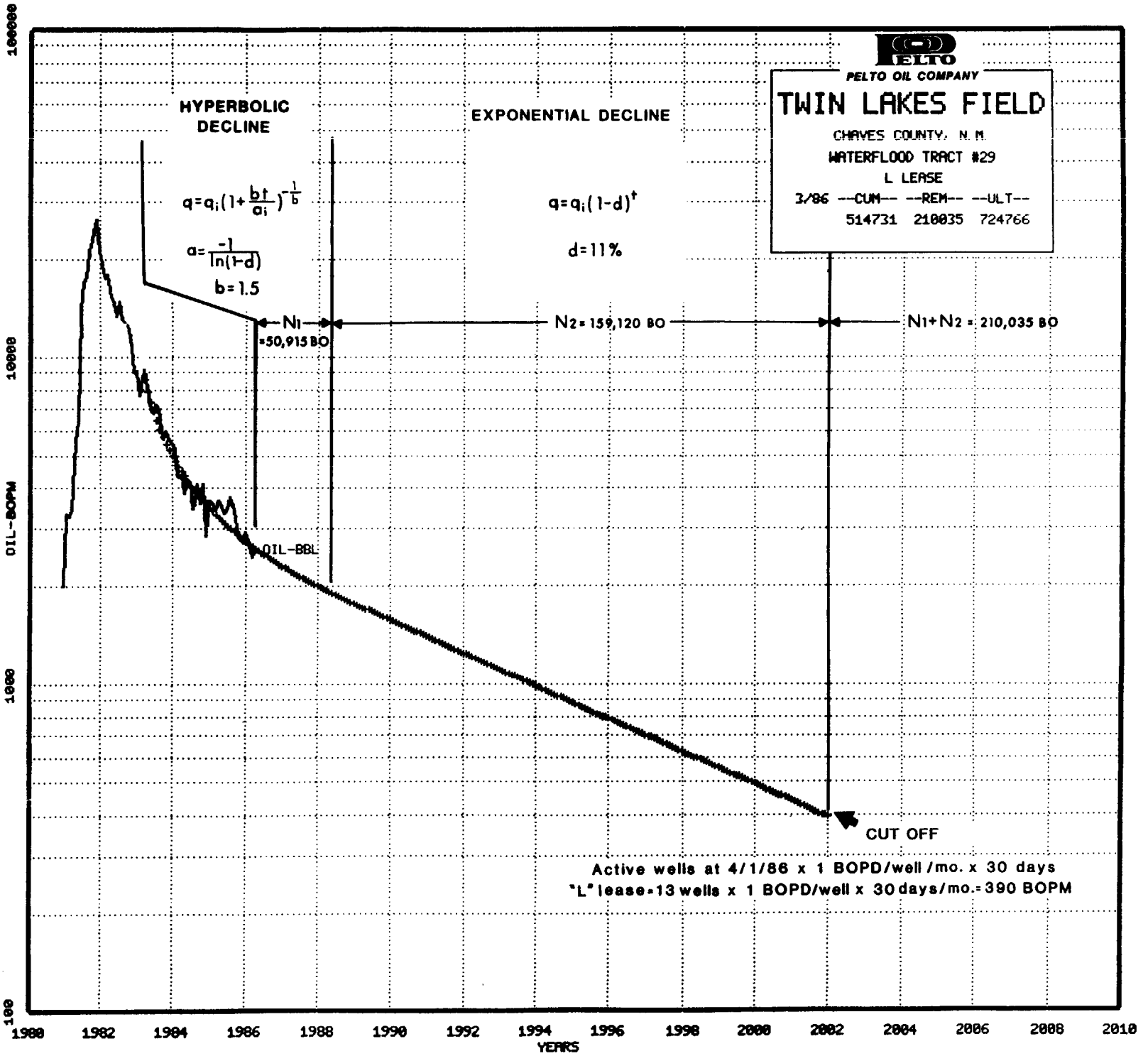

PELTO
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, N.M.
WATERFLOOD TRACT #29
L LEASE
3/86 --CUM-- --REM-- --ULT--
514731 210035 724766
HYPERBOLIC DECLINE
EXPONENTIAL DECLINE
$q=q_i(1+\frac{bt}{a_i})^{-\frac{1}{b}}$
$a=\frac{-1}{\ln(1-d)}$
b=1.5
$q=q_i(1-d)^t$
d=11%
N1 =50,915 BO
N2 = 159,120 BO
N1+N2 = 210,035 BO
OIL-BBL
CUT OFF
Active wells at 4/1/86 x 1 BOPD/well/mo. x 30 days
"L" lease=13 wells x 1 BOPD/well x 30 days/mo.=390 BOPM
OIL-BOPM
100000
10000
1000
100
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010
YEARS

FIGURE 17

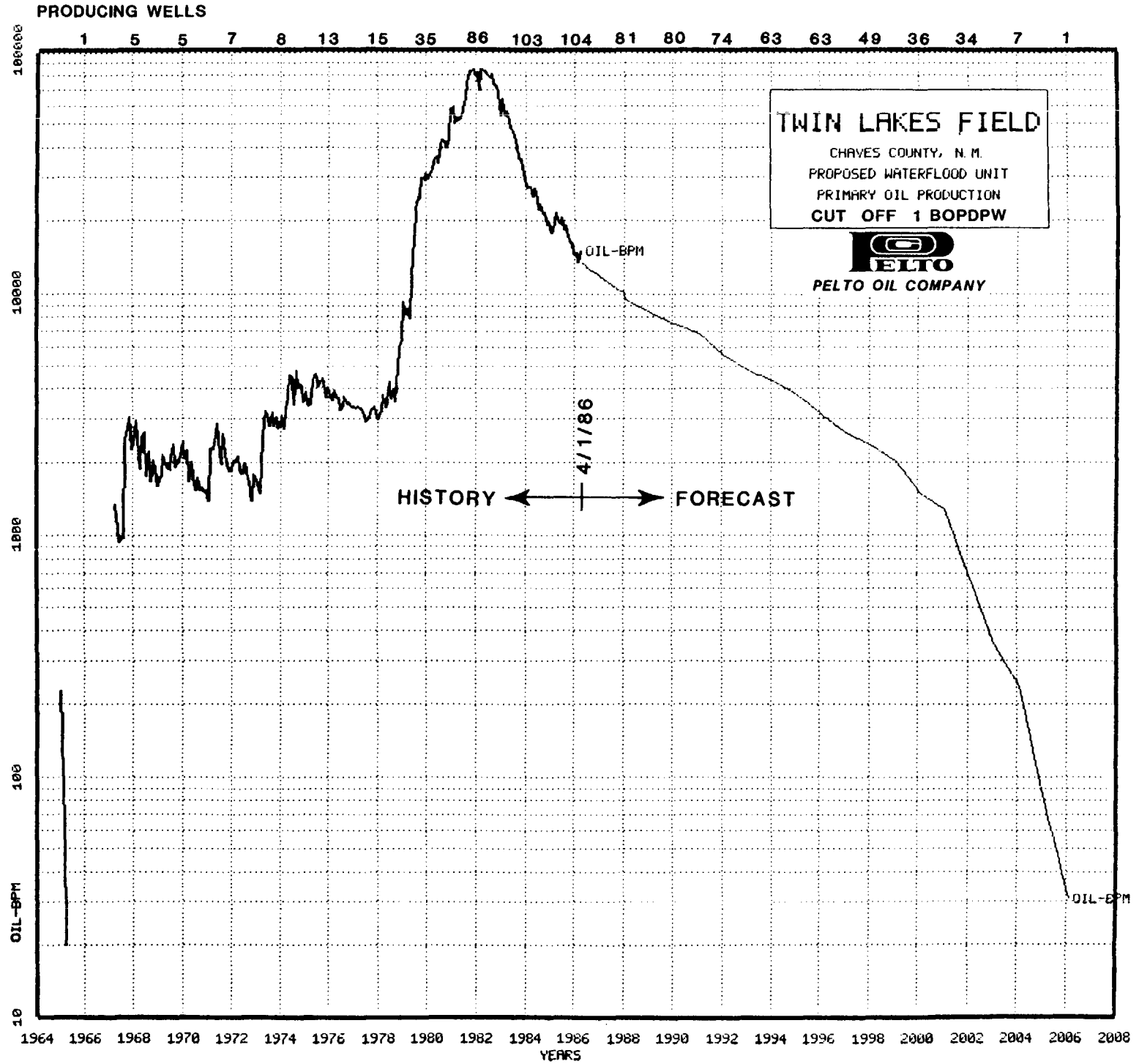

PRODUCING WELLS
1 5 5 7 8 13 15 35 86 103 104 81 80 74 63 63 49 36 34 7 1
TWIN LAKES FIELD
CHAVES COUNTY, N.M.
PROPOSED WATERFLOOD UNIT
PRIMARY OIL PRODUCTION
CUT OFF 1 BOPDPW
PELTO OIL COMPANY
OIL-BPM
4/1/86
HISTORY
FORECAST
OIL-BPM
OIL-BPM
100000
10000
1000
100
10
1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008
YEARS

FIGURE 18

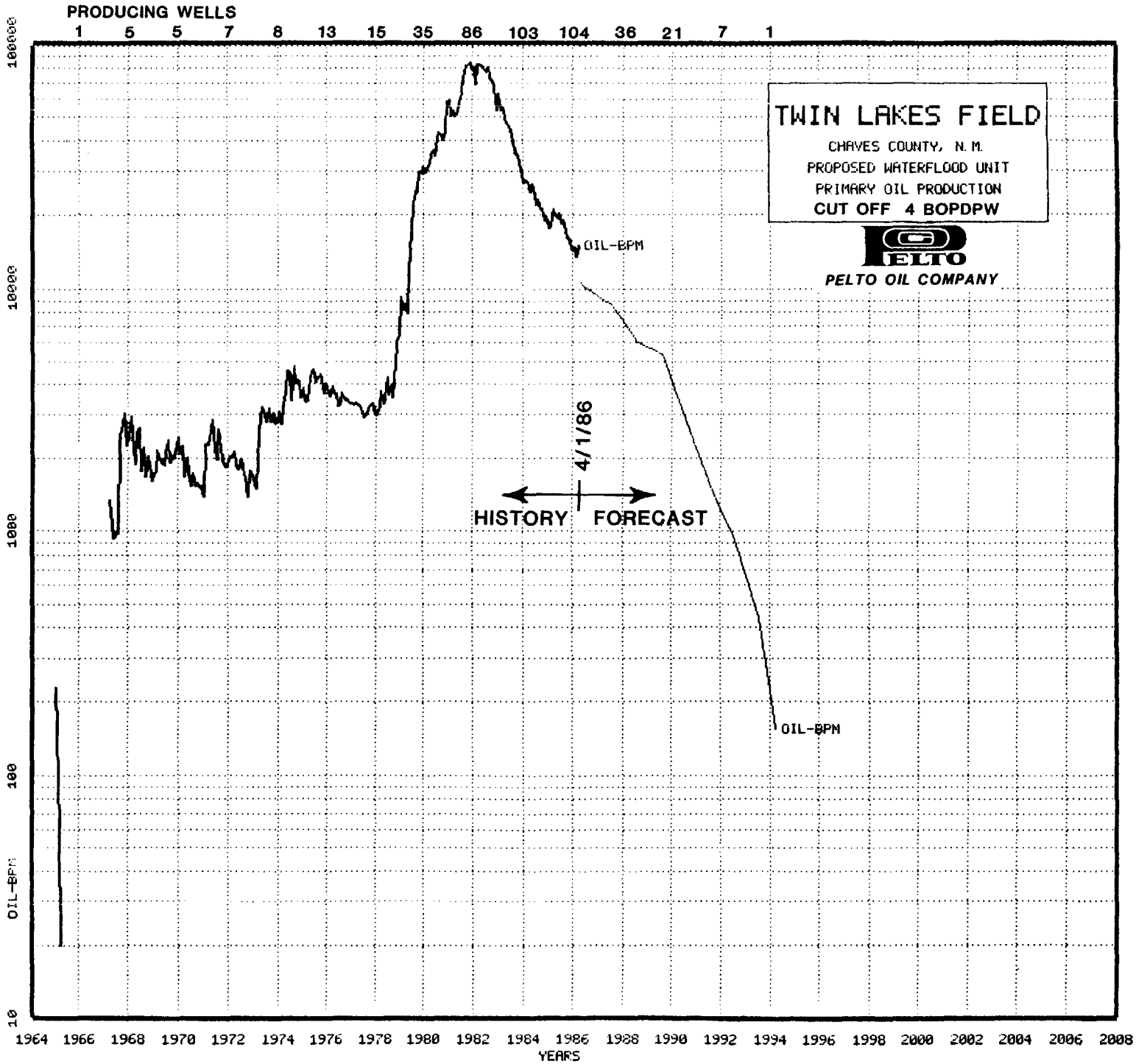

PRODUCING WELLS
1 5 5 7 8 13 15 35 86 103 104 36 21 7 1
TWIN LAKES FIELD
CHAVES COUNTY, N.M.
PROPOSED WATERFLOOD UNIT
PRIMARY OIL PRODUCTION
CUT OFF 4 BOPDPW
PELTO
PELTO OIL COMPANY
OIL-BPM
4/1/86
HISTORY
FORECAST
OIL-BPM
OIL-BPM
10
100
1000
10000
100000
1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008
YEARS

FIGURE 19

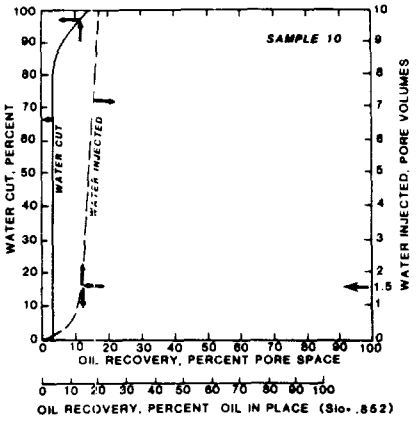
PELTO OIL COMPANY

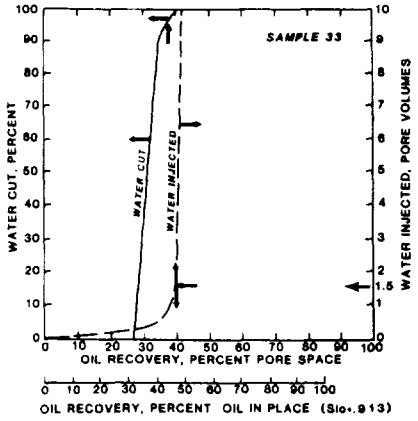
TWIN LAKES FIELD

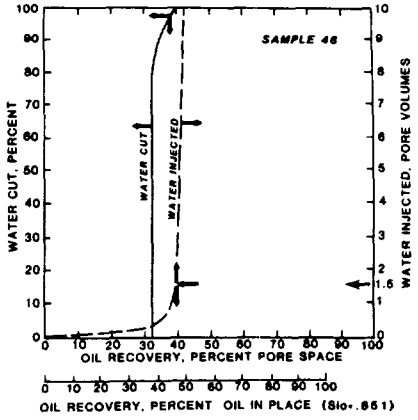
CHAVES COUNTY, NEW MEXICO

WATER FLOOD SUSCEPTIBILITY TESTS

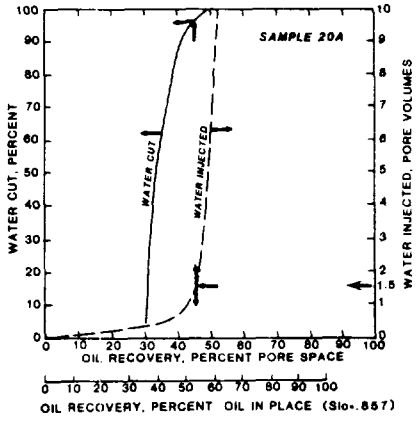
SAN ANDRES FORMATION

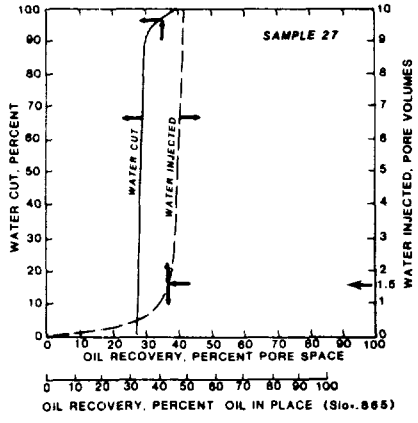


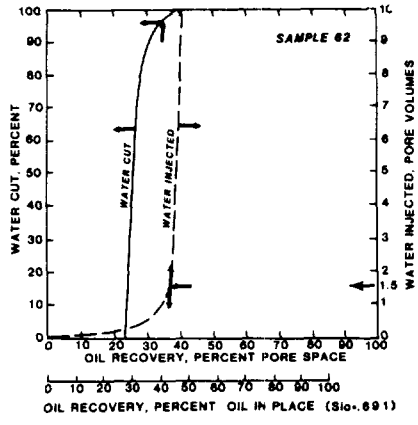




CITGO STATE 7







O'BRIEN L-16

	SAMPLE	DEPTH	ø	K (air)	AT 1.5 PORE VOLUMES INJECTED		
					% RECOVERY EFFICIENCY		PROD WATER
	NO.	FEET	%	Md.	PORE SPACE	OIL IN PLACE (Sio)	CUT %
CITGO STATE 7	10	2605	10.3	2.5	11.6	13.6 (.852)	98
CITGO STATE 7	33	2628	12.9	11.0	39.4	43.2 (.913)	98
CITGO STATE 7	46	2641	17.6	53.0	39.5	46.4 (.851)	98
O'BRIEN L-16	20A	2721	15.8	13.0	44.6	52.0 (.857)	96
O'BRIEN L-16	27	2738	7.6	0.86	35.2	40.7 (.865)	96
O'BRIEN L-16	62	2795	11.7	0.41	35.6	51.5 (.691)	98

FIGURE 20

PELTO OIL COMPANY

TWIN LAKES FIELD

CHAVES COUNTY, NEW MEXICO

PROPOSED WATERFLOOD UNIT
OIL FORECASTS

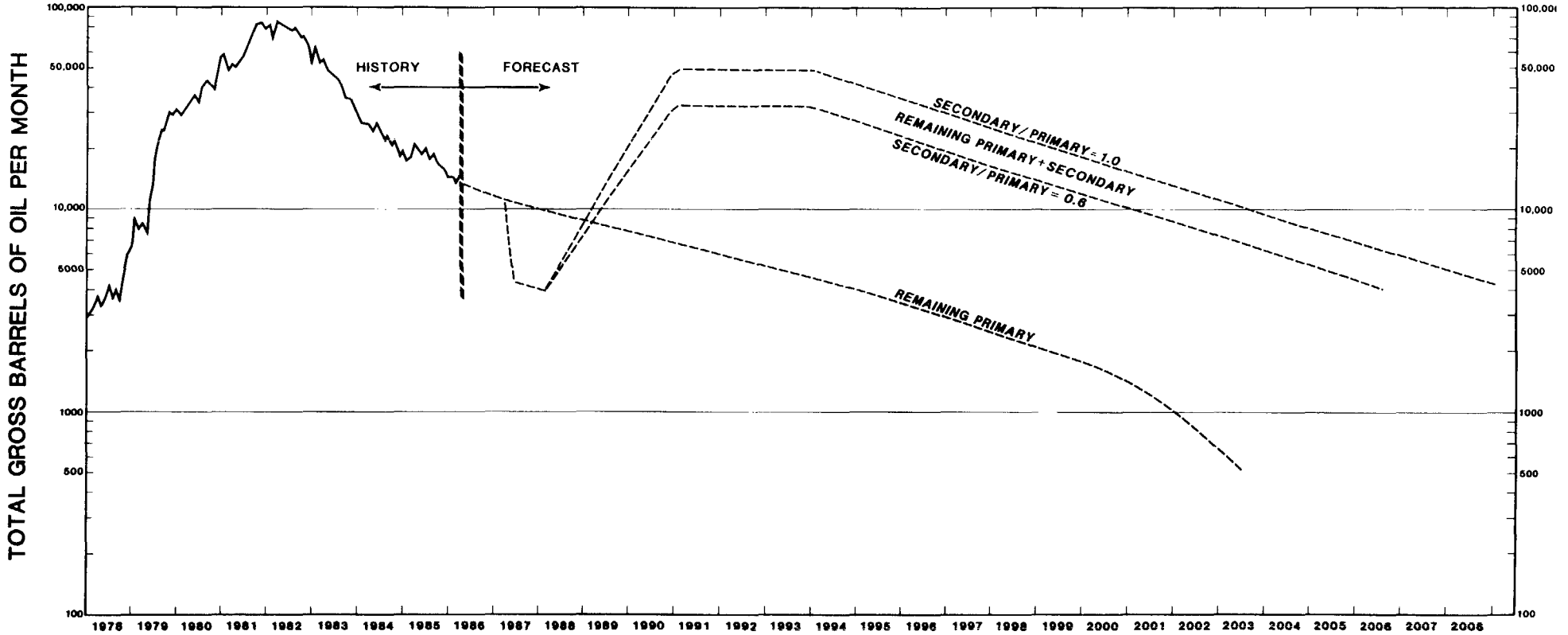


FIGURE 21

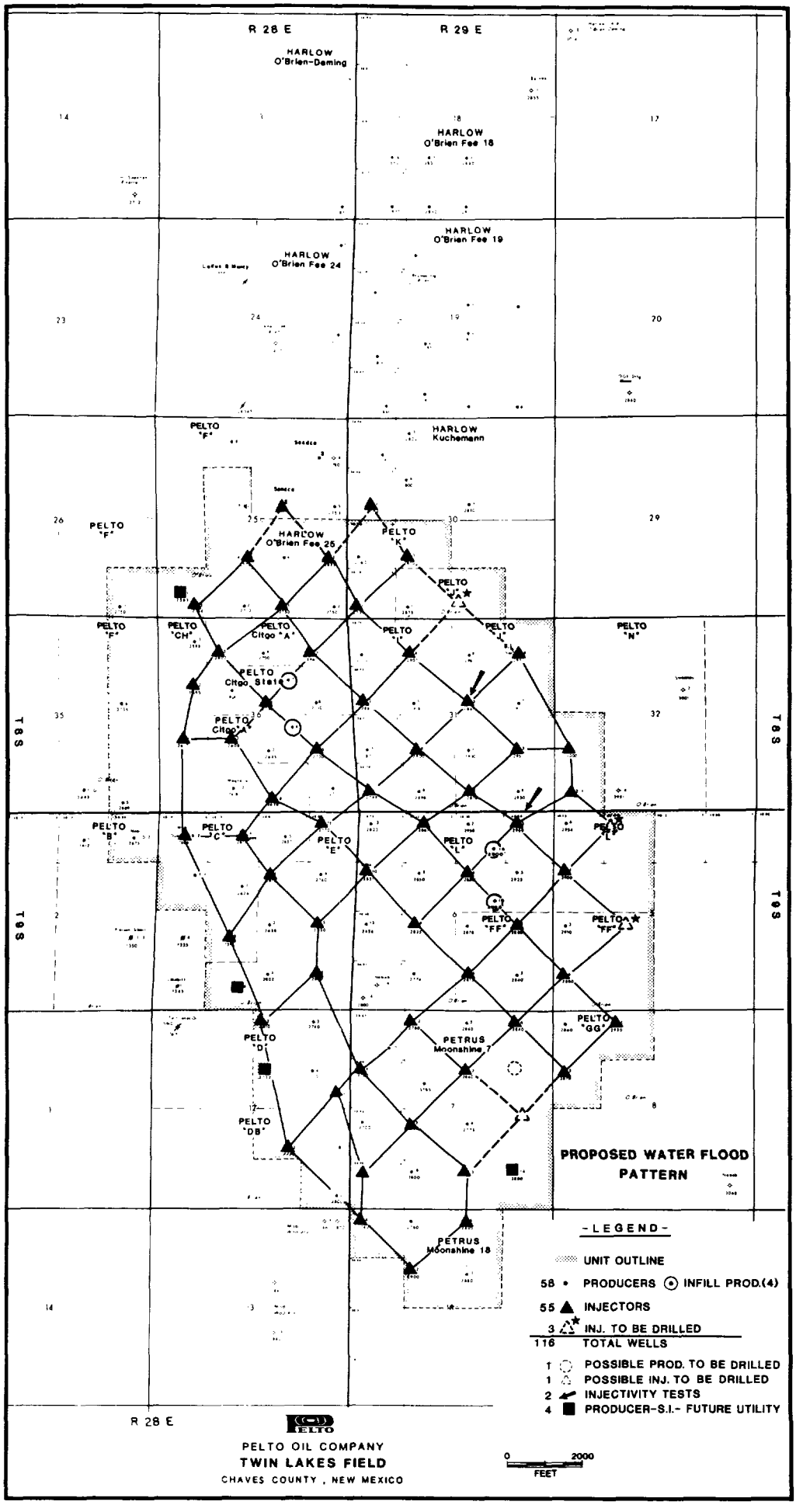

R 28 E
R 29 E
HARLOW
O'Brien-Daming
HARLOW
O'Brien Fee 18
HARLOW
O'Brien Fee 19
HARLOW
O'Brien Fee 24
HARLOW
Kuchemann
HARLOW
O'Brien Fee 25
PELTO
"F"
PELTO
"K"
PELTO
"CH"
PELTO
Citgo "A"
PELTO
Citgo State
PELTO
"L"
PELTO
"N"
PELTO
"B"
PELTO
"C"
PELTO
"E"
PELTO
"FF"
PELTO
"GG"
PELTO
"D"
PELTO
"DB"
PETRUS
Moonshine 7
PETRUS
Moonshine 18
T8S
T9S
PROPOSED WATER FLOOD
PATTERN
-LEGEND-
UNIT OUTLINE
58 • PRODUCERS ⊙ INFILL PROD.(4)
55 ▲ INJECTORS
3 INJ. TO BE DRILLED
116 TOTAL WELLS
1 POSSIBLE PROD. TO BE DRILLED
1 POSSIBLE INJ. TO BE DRILLED
2 INJECTIVITY TESTS
4 PRODUCER-S.I.- FUTURE UTILITY
R 28 E
PELTO
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0
2000
FEET

FIGURE 22

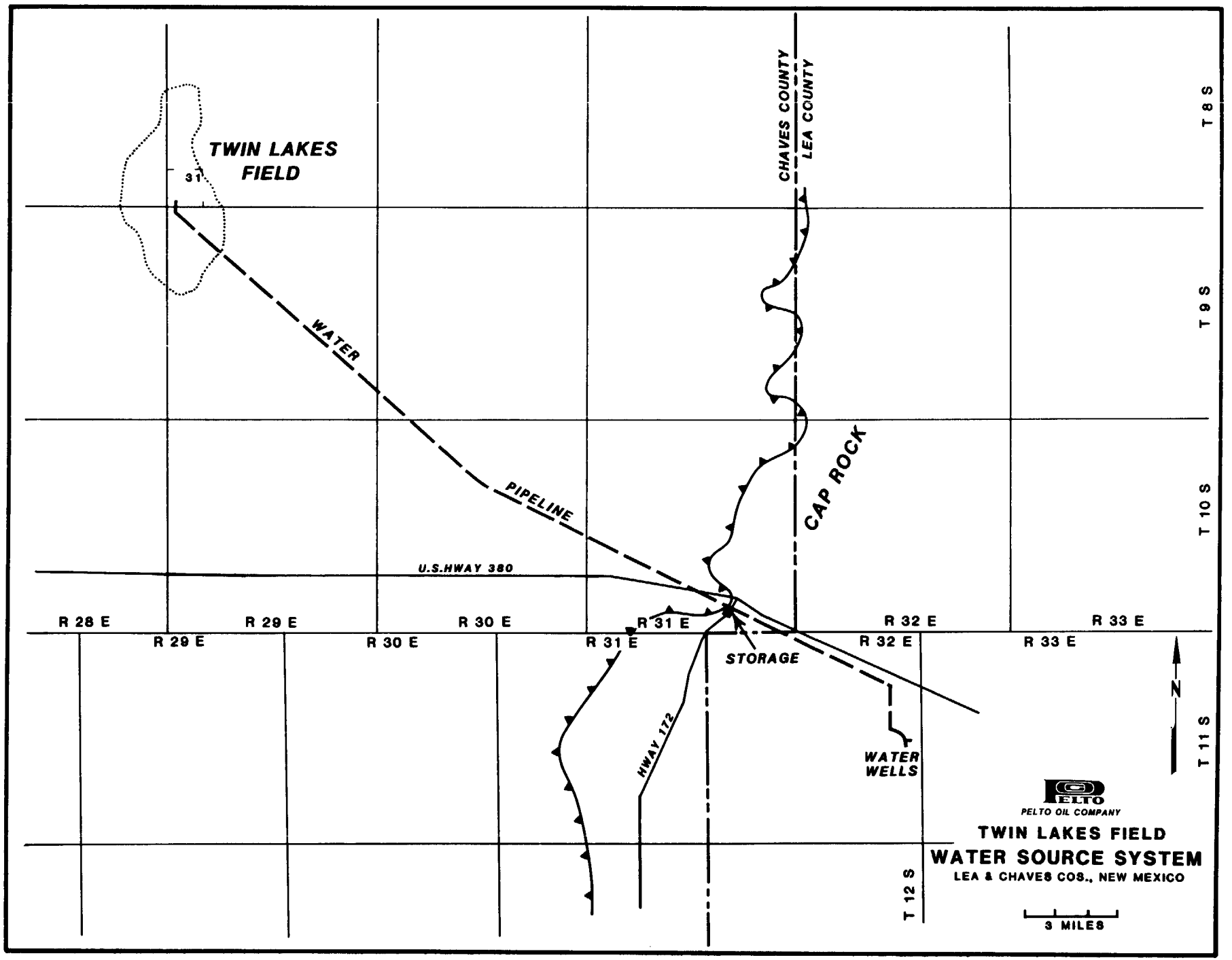

TWIN LAKES FIELD
31
WATER
PIPELINE
U.S.HWAY 380
CHAVES COUNTY
LEA COUNTY
CAP ROCK
STORAGE
HWAY 172
WATER WELLS
R 28 E
R 29 E
R 30 E
R 31 E
R 32 E
R 33 E
T 8 S
T 9 S
T 10 S
T 11 S
T 12 S
N
PELTO OIL COMPANY
TWIN LAKES FIELD
WATER SOURCE SYSTEM
LEA & CHAVES COS., NEW MEXICO
3 MILES

FIGURE 23

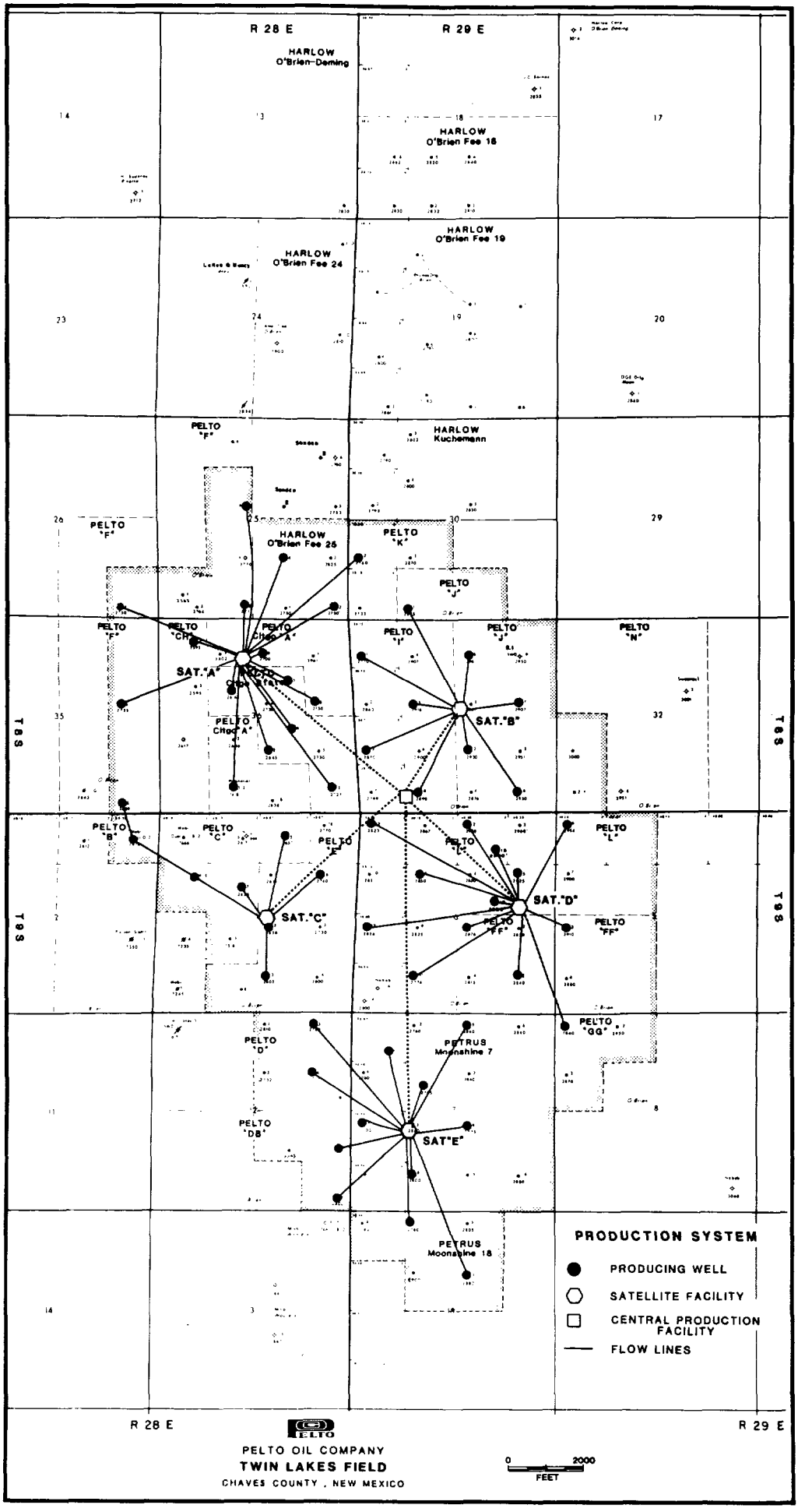

R 28 E
R 29 E
HARLOW O'Brien-Deming
HARLOW O'Brien Fee 18
HARLOW O'Brien Fee 19
HARLOW O'Brien Fee 24
HARLOW Kuchemann
HARLOW O'Brien Fee 25
PELTO "F"
PELTO "K"
PELTO "J"
PELTO "N"
PELTO "CH"
PELTO Chco "A"
SAT."A"
SAT."B"
PELTO "B"
PELTO "C"
PELTO "E"
PELTO "L"
SAT."C"
SAT."D"
PELTO "FF"
PELTO "GG"
PELTO "D"
PELTO "D8"
PETRUS Moonshine 7
SAT"E"
PETRUS Moonshine 18
T 8 S
PRODUCTION SYSTEM
PRODUCING WELL
SATELLITE FACILITY
CENTRAL PRODUCTION FACILITY
FLOW LINES
PELTO
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0 2000
FEET

FIGURE 24

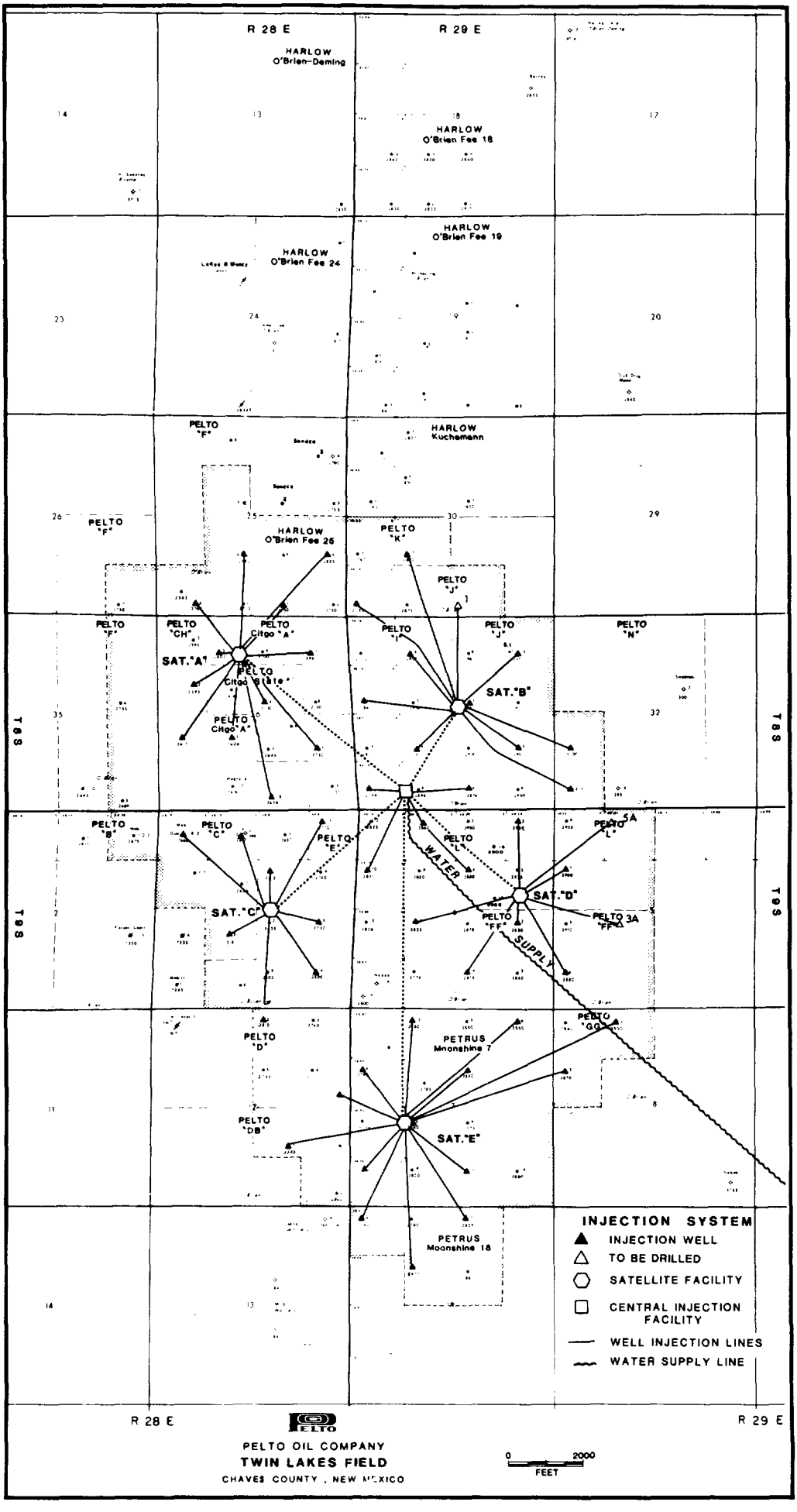

R 28 E
R 29 E
HARLOW
O'Brien-Deming
HARLOW
O'Brien Fee 18
HARLOW
O'Brien Fee 19
HARLOW
O'Brien Fee 24
HARLOW
Kuchamann
HARLOW
O'Brien Fee 25
PELTO
"F"
PELTO
"CH"
PELTO
Citgo "A"
PELTO
Citgo "B"
PELTO
"K"
PELTO
"J"
PELTO
"N"
SAT."A"
SAT."B"
T 9 S
PELTO
"B"
PELTO
"C"
PELTO
"E"
PELTO
"L"
PELTO
"L" 5A
SAT."C"
SAT."D"
WATER
SUPPLY
PELTO
"FF"
PELTO 3A
"FF"
PELTO
"GG"
PELTO
"D"
PELTO
"DB"
PETRUS
Moonshine 7
SAT."E"
PETRUS
Moonshine 18
INJECTION SYSTEM
INJECTION WELL
TO BE DRILLED
SATELLITE FACILITY
CENTRAL INJECTION FACILITY
WELL INJECTION LINES
WATER SUPPLY LINE
R 28 E
R 29 E
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0
2000
FEET

FIGURE 25

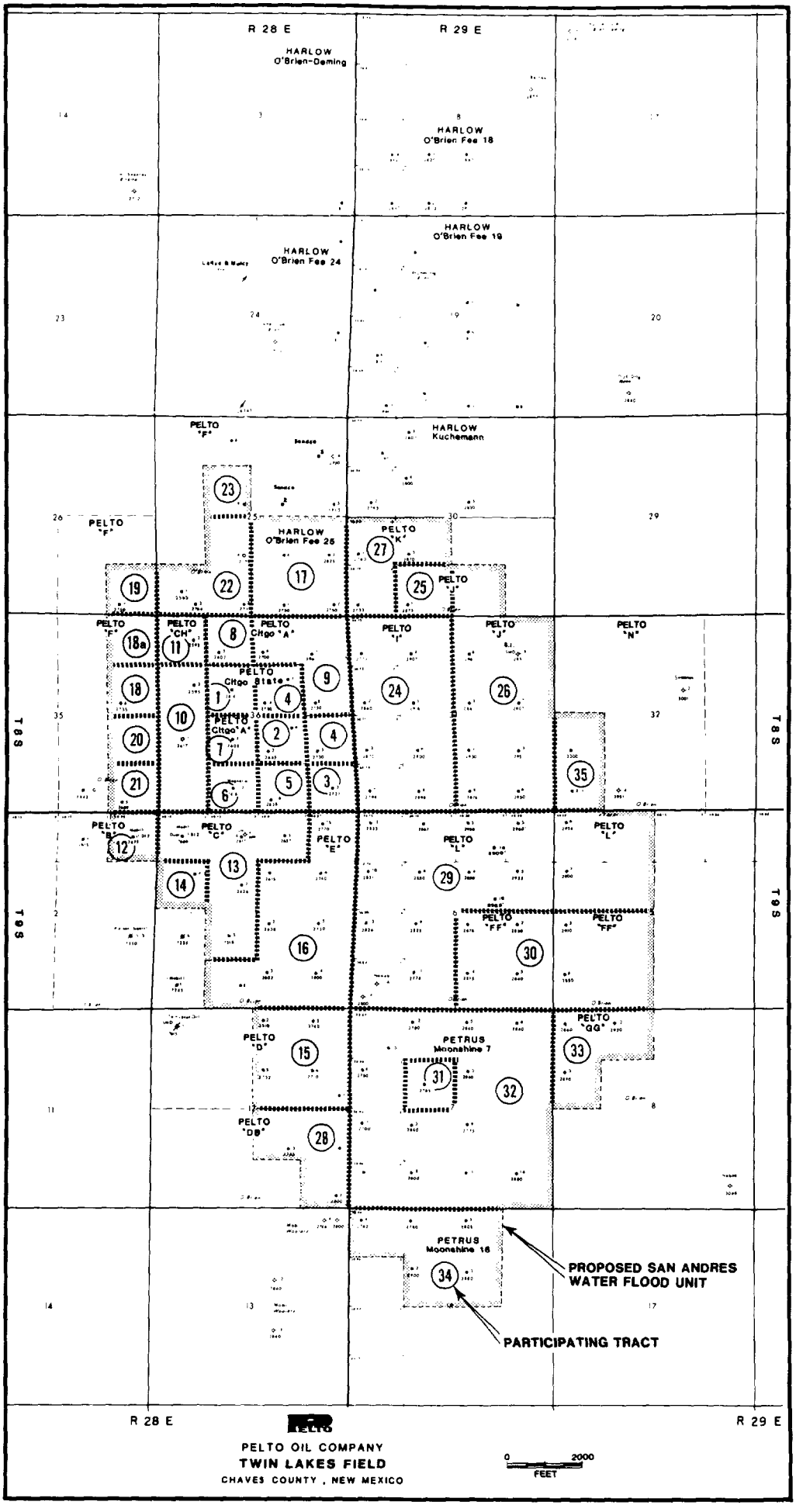

R 28 E
R 29 E
HARLOW
O'Brien-Deming
HARLOW
O'Brien Fee 18
HARLOW
O'Brien Fee 19
HARLOW
O'Brien Fee 24
HARLOW
Kuchemann
HARLOW
O'Brien Fee 25
PELTO
"F"
PELTO
"K"
PELTO
"J"
PELTO
"CH"
PELTO
Citgo "A"
PELTO
"I"
PELTO
"N"
PELTO
Citgo State
PELTO
Citgo "A"
PELTO
"B"
PELTO
"C"
PELTO
"E"
PELTO
"L"
PELTO
"FF"
PELTO
"GG"
PELTO
"D"
PETRUS
Moonshine 7
PELTO
"DB"
PETRUS
Moonshine 16
T8S
T9S
PROPOSED SAN ANDRES
WATER FLOOD UNIT
PARTICIPATING TRACT
PELTO
PELTO OIL COMPANY
TWIN LAKES FIELD
CHAVES COUNTY, NEW MEXICO
0
2000
FEET

FIGURE 26

TWIN LAKES FIELD
PROPOSED UNIT AREA
GEOLOGICAL - PETROPHYSICAL - RESERVOIR DATA

1. Reservoir:	San Andres	1.
2. Zones:	P-1 + P-2	2.
3. Rock Type	Dolomite	3.
4. Average depth (Bottom P2) - feet	2,736	4.
5. Proposed Unit Area - Acres	4,863.8	5.
6. Average P_1 + P_2 (Pay + Probable)		6.
6a. Net pay - feet	25.6	6a.
6b. Saturation exponent - n	2.0	6b.
6c. Cementation exponent - m	2.0	6c.
6d. Porosity - %	8.2	6d.
6e. Water Saturation - %	25.3	6e.
6f. Core permeability (air) - Md	1.77	6f.
7. Net reservoir volume - Acre-ft	124,518	7.
8. Pore volume (7758 x Ø x Ac-ft) - Bbls	79,212,872	8.
9. Original oil in place - Stock tank Bbls	51,484,000	9.
10. Estimated original G.O.C.-(P_1 zone) above sea level - ft	+ 1400	10.
11. Estimated free water level - above sea level - ft	None	11.
12. Original reservoir pressure - psia	915	12.
13. Oil saturation pressure - psia	915	13.
14. Current reservoir pressure - psia	115 est.	14.
15. Oil gravity - °API	21-25 (Sour)	15.
16. Reservoir temperature - °F	90	16.
17. Original solution GOR - CF/B	300	17.
18. Current solution GOR - CF/B	50	18.
19. Gas gravity	0.9	19.
20. Original formation volume factor	1.15	20.
21. Current formation volume factor	1.02	21.
22. Oil viscosity at original pressure - Cp	4.1	22.
23. Oil viscosity at current pressure - Cp	8.3	23.
24. Formation water resistivity at 90°F - ohm meters	.045	24.
25. Formation water - ppm NaCl	155,000	25.
26. Formation water specific gravity	1.15	26.
27. Oil compressibility - vol/vol/psi	6.5×10^{-6}	27.
28. Rock compressibility - vol/vol/psi	5.2×10^{-6}	28.
29. Water compressibility - vol/vol/psi	3.3×10^{-6}	29.
30. Cumulative production to 4-1-86		30.
30a. Oil - MBBLS	3819.2	30a.
30b. Gas - MMCF	4047.5	30b.
30c. Water - MMBLS	1735.5	30c.
31. Average current production (J-F-M 1986)		31.
31a. BOPD	477	31a.
31b. MCF/D	916	31b.
31c. BWPD	618	31c.
32. Current number of producing wells	97	32.

TABLE 1

TWIN LAKES (SAN ANDRES) FIELD
CHAVES COUNTY, NEW MEXICO

REM. PRIMARY (C.O. = 4 B/D/W)
SEC CASE @ $15/BBL & $1.50/MCF
W.I. = 100%, N.R.I. = 81.2%

FILE: TWINE
FILE: TLSECDAT
PROJ: 4

RESERVES AND ECONOMICS

AS OF DATE: 1/1/1987

-END- MO-YR	GROSS OIL & COND PROD MBBLS	GROSS GAS PRODUCTION MMCF	NET OIL & COND PROD MBBLS	NET GAS PRODUCTION MMCF	NET OIL & COND PRICE $/BBL	NET GAS PRICE $/MCF	NET OIL & COND SALES M$	NET GAS SALES M$	TOTAL NET SALES M$
12-87	101.183	222.603	82.161	180.754	15.000	1.500	1232.409	271.130	1503.540
12-88	71.354	156.979	57.939	127.467	15.000	1.500	869.092	191.200	1060.292
12-89	63.162	138.956	51.288	112.832	15.000	1.500	769.313	169.248	938.561
12-90	32.798	72.156	26.632	58.591	15.000	1.500	399.480	87.886	487.366
12-91	18.037	37.878	14.646	30.757	15.000	1.500	219.691	46.135	265.826
12-92	11.381	23.900	9.241	19.407	15.000	1.500	138.621	29.110	167.731
12-93									
12-94									
12-95									
12-96									
12-97									
12-98									
12-99									
12 0									
12 -1									
12 -2									
12 -3									
12 -4									
12 -5									
12 -6									
S TOT	297.915	652.472	241.907	529.807	15.000	1.500	3628.605	794.711	4423.316
AFTER	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL	297.915	652.472	241.907	529.807	15.000	1.500	3628.605	794.711	4423.316

-END- MO-YR	TOTAL NET SALES M$	NET PROD. TAXES M$	NET ADVAL. TAXES M$	NET OPER EXPENSE M$	NET TOTAL EXPENSE M$	TOTAL INVESTMENT M$	FUTURE NET PROFIT M$	CUMULATIVE PROFIT M$	CUM. PROFIT DISCOUNT M$
12-87	1503.540	75.678	63.183	861.420	1000.281	.000	503.258	503.258	478.919
12-88	1060.292	53.368	44.556	635.040	732.964	.000	327.328	830.586	760.781
12-89	938.561	47.241	39.441	587.520	674.202	.000	264.360	1094.946	966.763
12-90	487.366	24.531	20.480	352.800	397.811	.000	89.554	1184.500	1029.902
12-91	265.826	13.252	11.176	201.600	226.028	.000	39.798	1224.298	1055.292
12-92	167.731	8.362	7.052	128.520	143.934	.000	23.797	1248.095	1069.029
12-93									
12-94									
12-95									
12-96									
12-97									
12-98									
12-99									
12 0									
12 -1									
12 -2									
12 -3									
12 -4									
12 -5									
12 -6									
S TOT	4423.316	222.431	185.889	2766.900	3175.220	.000	1248.095	1248.095	1069.029
AFTER	.000	.000	.000	.000	.000	.000	.000	1248.095	1069.029
TOTAL	4423.316	222.431	185.889	2766.900	3175.220	.000	1248.095	1248.095	1069.029

	OIL	GAS
GROSS WELLS-1987	49	0
GROSS RES., MB, MMCF	297.915	652.472
NET RES., MB, MMCF	241.907	529.807
NET REVENUE, M$	3628.605	794.711
INITIAL PRICE, $/B, $/MCF	15.00	1.50
	BPO	APO
WORKING INTEREST	100.0000	100.0000
NET REVENUE INTEREST	81.2000	81.2000
REVERSION @ YEAR	.000	

NET RESERVES, MBE	330.208
INVESTMENT/BE	.00
LIFE, YEARS	6.00
BASE DISCOUNT %	10.00
PAYOUT DISCOUNTED, YEARS	.00
PAYOUT UNDISCOUNTED, YEARS	.00
PROFIT INDEX, UNDISC.	.000
PROFIT INDEX, DISC.	.000
P.V. INVESTMENTS, M$	.000
RATE OF RETURN %	N.A.

P.W. %	P.W., M$
5.00	1152.974
10.00	1069.029
15.00	994.629
20.00	928.414
25.00	869.200
30.00	816.137
35.00	768.369
50.00	650.540
60.00	588.433
70.00	536.166

DEFINE: PROFIT = REVENUE - EXPENSES - CAPITAL

PROFITABILITY INDEX = PROFIT / CAPITAL

TABLE 2

TWIN LAKES (SAN ANDRES) UNIT
CHAVES COUNTY, NEW MEXICO
REMAINING PRIMARY + SECONDARY
SECONDARY/PRIMARY = 1.0
S.E.C. @ $15/BBL & $1.50/MCF
W.I. = 100%, N.R.I. = 81.2%

FILE: TWINI
FILE: TLSECDAT
PROJ: 2

RESERVES AND ECONOMICS

AS OF DATE: 1/1/1987

-END- MO-YR	GROSS OIL & COND PROD —MBBLS—	GROSS GAS PRODUCTION —MMCF—	NET OIL & COND PROD —MBBLS—	NET GAS PRODUCTION —MMCF—	NET OIL & COND PRICE —$/BBL—	NET GAS PRICE —$/MCF—	NET OIL & COND SALES —M$—	NET GAS SALES —M$—	TOTAL NET SALES —M$—
12-87	77.079	169.574	62.588	137.694	15.000	1.500	938.822	206.541	1145.363
12-88	69.050	124.290	56.069	100.923	15.000	1.500	841.029	151.385	992.414
12-89	166.700	233.380	135.360	189.505	15.000	1.500	2030.406	284.257	2314.663
12-90	401.600	281.120	326.099	228.269	15.000	1.500	4891.488	342.404	5233.892
12-91	579.600	260.820	470.635	211.786	15.000	1.500	7059.528	317.679	7377.206
12-92	579.600	202.860	470.635	164.722	15.000	1.500	7059.528	247.083	7306.613
12-93	579.600	144.900	470.635	117.659	15.000	1.500	7059.528	176.488	7236.018
12-94	534.957	106.991	434.385	86.877	15.000	1.500	6515.780	130.315	6646.095
12-95	454.720	68.208	369.233	55.385	15.000	1.500	5538.488	83.077	5621.565
12-96	386.517	57.978	313.852	47.078	15.000	1.500	4707.779	70.617	4778.396
12-97	328.544	49.282	266.778	40.017	15.000	1.500	4001.666	60.025	4061.692
12-98	279.266	41.890	226.764	34.015	15.000	1.500	3401.463	51.022	3452.485
12-99	237.380	35.607	192.752	28.913	15.000	1.500	2891.283	43.369	2934.652
12 0	201.775	30.266	163.842	24.576	15.000	1.500	2457.624	36.864	2494.488
12 -1	171.511	25.727	139.267	20.890	15.000	1.500	2089.009	31.335	2120.344
12 -2	145.787	21.868	118.379	17.757	15.000	1.500	1775.681	26.635	1802.317
12 -3	123.920	18.588	100.623	15.093	15.000	1.500	1509.350	22.640	1531.990
12 -4	105.334	15.800	85.531	12.830	15.000	1.500	1282.965	19.244	1302.209
12 -5	89.535	13.430	72.702	10.905	15.000	1.500	1090.535	16.358	1106.893
12 -6	76.106	11.416	61.798	9.270	15.000	1.500	926.967	13.905	940.872
S TOT	5588.581	1913.995	4537.928	1554.164	15.000	1.500	68068.910	2331.246	70400.170
AFTER	123.988	18.060	100.678	14.665	15.000	1.500	1510.176	21.997	1532.173
TOTAL	5712.569	1932.055	4638.607	1568.829	15.000	1.500	69579.090	2353.243	71932.340

-END- MO-YR	TOTAL NET SALES —M$—	NET PROD. TAXES —M$—	NET ADVAL. TAXES —M$—	NET OPER EXPENSE —M$—	NET TOTAL EXPENSE —M$—	TOTAL INVESTMENT —M$—	FUTURE NET PROFIT —M$—	CUMULATIVE PROFIT —M$—	CUM. PROFIT DISCOUNT —M$—
12-87	1145.363	57.650	48.131	1047.819	1153.600	7300.000	-7308.237	-7308.237	-7167.707
12-88	992.414	47.989	41.791	1229.238	1319.018	.000	-326.604	-7634.841	-7448.945
12-89	2314.663	107.029	97.688	1229.238	1433.955	.000	880.708	-6754.133	-6762.722
12-90	5233.892	220.639	221.836	1270.998	1713.473	300.000	3220.419	-3533.714	-4502.940
12-91	7377.206	299.253	313.199	1284.918	1897.371	350.000	5129.836	1596.122	-1241.635
12-92	7306.613	291.582	310.415	1298.838	1900.835	350.000	5055.776	6651.898	1666.635
12-93	7236.018	283.911	307.631	1312.758	1904.299	.000	5331.716	11983.610	4451.638
12-94	6646.095	258.503	282.651	1326.678	1867.832	.000	4778.263	16761.880	6710.086
12-95	5621.565	216.721	239.164	1270.555	1726.440	.000	3895.124	20657.000	8375.961
12-96	4778.396	184.215	203.292	1151.553	1539.061	.000	3239.335	23896.340	9629.559
12-97	4061.692	156.585	172.801	1041.144	1370.530	.000	2691.162	26587.500	10571.930
12-98	3452.485	133.099	146.883	959.549	1239.531	.000	2212.954	28800.450	11273.130
12-99	2934.652	113.136	124.852	863.775	1101.763	.000	1832.889	30633.340	11798.640
12 0	2494.488	96.167	106.126	726.781	929.074	.000	1565.414	32198.750	12204.760
12 -1	2120.344	81.743	90.208	651.320	823.271	.000	1297.073	33495.830	12509.250
12 -2	1802.317	69.482	76.678	566.065	712.225	.000	1090.091	34585.920	12740.800
12 -3	1531.990	59.061	65.177	515.758	639.996	.000	891.994	35477.910	12912.250
12 -4	1302.209	50.202	55.401	480.410	586.014	.000	716.195	36194.110	13036.810
12 -5	1106.893	42.673	47.092	430.503	520.267	.000	586.625	36780.730	13129.130
12 -6	940.872	36.272	40.029	389.988	466.289	.000	474.583	37255.320	13196.710
S TOT	70400.170	2805.913	2991.045	19047.890	24844.840	8300.000	37255.320	37255.320	13196.710
AFTER	1532.173	59.022	65.187	718.807	843.016	.000	689.157	37944.470	13281.790
TOTAL	71932.340	2864.935	3056.232	19766.700	25687.860	8300.000	37944.470	37944.470	13281.790

	PROD.	INJ.	GAS
GROSS WELLS MID-1987	58	58	0
GROSS RES., MB, MMCF	5712.569		1932.055
NET RES., MB, MMCF	4638.608		1568.826
NET REVENUE, M$	69579.080		2353.245
INITIAL PRICE, $/B, $/MCF	15.00		1.50
	BPD		APD
WORKING INTEREST	100.0000		100.0000
NET REVENUE INTEREST	81.2000		81.2000
REVERSION @ YEAR	.000		

		P.W. %	P.W., M$
NET RESERVES, MBE	4900.079		
INVESTMENT/BE	1.69	5.00	22647.770
LIFE, YEARS	22.17	10.00	13281.790
BASE DISCOUNT %	10.00	15.00	7299.198
PAYOUT DISCOUNTED, YEARS	5.43	20.00	3341.975
PAYOUT UNDISCOUNTED, YEARS	4.69	25.00	647.726
PROFIT INDEX, UNDISC.	4.572	30.00	-1224.743
PROFIT INDEX, DISC.	1.696	35.00	-2550.186
P.V. INVESTMENTS, M$	7829.077	50.00	-4688.968
RATE OF RETURN %	26.73	60.00	-5318.419
		70.00	-5644.241

DEFINE: PROFIT = REVENUE - EXPENSES - CAPITAL

PROFITABILITY INDEX = PROFIT / CAPITAL

TABLE 3

TWIN LAKES (SAN ANDRES) UNIT
CHAVES COUNTY, NEW MEXICO
REMAINING PRIMARY + SECONDARY
SECONDARY/PRIMARY = 0.6
S.E.C. @ $15/BBL & $1.50/MCF
W.I. = 100%, N.R.I. = 81.2%

FILE: TWINI
FILE: TLSECDAT
PROJ: 3

RESERVES AND ECONOMICS

AS OF DATE: 1/1/1987

-END- MO-YR	GROSS OIL & COND PROD MBBLS	GROSS GAS PRODUCTION MMCF	NET OIL & COND PROD MBBLS	NET GAS PRODUCTION MMCF	NET OIL & COND PRICE $/BBL	NET GAS PRICE $/MCF	NET OIL & COND SALES M$	NET GAS SALES M$	TOTAL NET SALES M$
12-87	77.095	169.574	62.601	137.694	15.000	1.500	939.017	206.541	1145.558
12-88	63.800	114.840	51.806	93.250	15.000	1.500	777.084	139.875	916.959
12-89	132.500	185.500	107.590	150.626	15.000	1.500	1613.850	225.939	1839.789
12-90	278.900	237.005	226.467	192.448	15.000	1.500	3397.002	288.672	3685.674
12-91	386.400	231.840	313.757	188.254	15.000	1.500	4706.352	282.381	4988.733
12-92	386.400	193.200	313.757	156.878	15.000	1.500	4706.352	235.318	4941.670
12-93	386.400	164.220	313.757	133.347	15.000	1.500	4706.352	200.020	4906.372
12-94	356.636	135.522	289.589	110.044	15.000	1.500	4343.828	165.066	4508.893
12-95	303.140	98.521	246.150	79.999	15.000	1.500	3692.243	119.999	3812.241
12-96	257.668	77.300	209.226	62.768	15.000	1.500	3138.397	94.151	3232.548
12-97	219.017	54.754	177.842	44.468	15.000	1.500	2667.629	66.690	2734.320
12-98	186.164	41.887	151.165	34.012	15.000	1.500	2267.478	51.018	2318.497
12-99	158.239	31.648	128.490	25.698	15.000	1.500	1927.351	38.547	1965.898
12 0	134.503	23.538	109.216	19.113	15.000	1.500	1638.243	28.669	1666.912
12 -1	114.327	17.149	92.833	13.925	15.000	1.500	1392.502	20.887	1413.390
12 -2	97.178	14.576	78.908	11.836	15.000	1.500	1183.623	17.754	1201.377
12 -3	82.601	12.390	67.072	10.061	15.000	1.500	1006.077	15.091	1021.167
12 -4	70.210	10.532	57.011	8.552	15.000	1.500	855.162	12.828	867.990
12 -5	59.679	8.952	48.459	7.269	15.000	1.500	726.886	10.904	737.789
12 -6	33.190	3.319	26.950	2.695	15.000	1.500	404.256	4.043	408.299
S TOT	3784.047	1826.267	3072.646	1482.929	15.000	1.500	46089.680	2224.394	48314.070
AFTER	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL	3784.047	1826.267	3072.646	1482.929	15.000	1.500	46089.680	2224.394	48314.070

-END- MO-YR	TOTAL NET SALES M$	NET PROD. TAXES M$	NET ADVAL. TAXES M$	NET OPER EXPENSE M$	NET TOTAL EXPENSE M$	TOTAL INVESTMENT M$	FUTURE NET PROFIT M$	CUMULATIVE PROFIT M$	CUM. PROFIT DISCOUNT M$
12-87	1145.558	57.657	48.140	1047.819	1153.616	7300.000	-7308.058	-7308.058	-7167.537
12-88	916.959	44.340	38.613	1229.238	1312.192	.000	-395.233	-7703.290	-7507.871
12-89	1839.789	85.071	77.646	1229.238	1391.956	.000	447.833	-7255.457	-7158.931
12-90	3685.674	158.757	156.066	1270.998	1585.821	300.000	1799.854	-5455.603	-5900.708
12-91	4988.733	207.174	211.584	1277.958	1696.716	350.000	2942.017	-2513.586	-4035.154
12-92	4941.670	202.059	209.728	1284.918	1696.705	350.000	2894.965	381.379	-2374.251
12-93	4906.372	198.224	208.336	1291.878	1698.437	.000	3207.935	3589.314	-698.597
12-94	4508.893	180.831	191.517	1199.589	1571.936	.000	2936.957	6526.271	689.557
12-95	3812.241	151.499	161.988	1075.066	1388.553	.000	2423.688	8949.959	1726.125
12-96	3232.548	127.921	137.380	942.744	1208.045	.000	2024.503	10974.460	2509.592
12-97	2734.320	107.283	116.246	832.095	1055.625	.000	1678.695	12653.160	3097.427
12-98	2318.497	90.574	98.586	751.548	940.708	.000	1377.788	14030.950	3533.991
12-99	1965.898	76.464	83.607	651.606	811.678	.000	1154.220	15185.170	3864.919
12 0	1666.912	64.550	70.905	576.339	711.793	.000	955.119	16140.280	4112.710
12 -1	1413.390	54.489	60.131	514.991	629.611	.000	783.779	16924.060	4296.703
12 -2	1201.377	46.315	51.111	471.690	569.117	.000	632.260	17556.320	4431.006
12 -3	1021.167	39.368	43.445	424.263	507.075	.000	514.092	18070.410	4529.819
12 -4	867.990	33.463	36.928	386.629	457.019	.000	410.971	18481.380	4601.295
12 -5	737.789	28.443	31.389	348.995	408.827	.000	328.963	18810.350	4653.065
12 -6	408.299	15.599	17.377	202.048	235.024	.000	173.275	18983.620	4678.149
S TOT	48314.070	1970.081	2050.722	17009.650	21030.450	8300.000	18983.620	18983.620	4678.149
AFTER	.000	.000	.000	.000	.000	.000	.000	18983.620	4678.149
TOTAL	48314.070	1970.081	2050.722	17009.650	21030.450	8300.000	18983.620	18983.620	4678.149

	PROD.	INJ.	GAS
GROSS WELLS MID-1987	58	58	0
GROSS RES., MB, MMCF	3784.047		1826.267
NET RES., MB, MMCF	3072.645		1482.928
NET REVENUE, M$	46089.710		2224.390
INITIAL PRICE, $/B, $/MCF	15.00		1.50
	BPO		APO
WORKING INTEREST	100.0000		100.0000
NET REVENUE INTEREST	81.2000		81.2000
REVERSION @ YEAR	.000		

		P.W. %	P.W., M$
NET RESERVES, MBE	3319.799		
INVESTMENT/BE	2.50	5.00	10149.340
LIFE, YEARS	19.67	10.00	4678.148
BASE DISCOUNT %	10.00	15.00	1174.106
PAYOUT DISCOUNTED, YEARS	7.50	20.00	-1134.461
PAYOUT UNDISCOUNTED, YEARS	5.87	25.00	-2691.842
PROFIT INDEX, UNDISC.	2.287	30.00	-3759.405
PROFIT INDEX, DISC.	.598	35.00	-4501.317
P.V. INVESTMENTS, M$	7829.077	50.00	-5640.106
RATE OF RETURN %	17.54	60.00	-5933.817
		70.00	-6053.577

DEFINE: PROFIT = REVENUE - EXPENSES - CAPITAL

PROFITABILITY INDEX = PROFIT / CAPITAL

TABLE 4

TWIN LAKES
WORKING INTEREST OWNERS PARAMETERS
PROPOSED TWIN LAKES UNIT

OWNER	ACRES FRACTION	OIL PROD 1/86-4/86 FRACTION	OIL & GAS REVENUE 1/86-4/86 FRACTION	OIL PROD 4/85-4/86 FRACTION	CUM OIL PROD TO 4/1/86 FRACTION	1 BOPD PER WELL CUT OFF		4 BOPD PER WELL CUT OFF	
						PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION	PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION
ADAMS & MCGAHEY	0.00160368	0.00135186	0.00129342	0.00096061	0.00233001	0.00098211	0.00204985	0.00000000	0.00211348
ADAMS, J W	0.00080184	0.00067593	0.00064671	0.00048030	0.00116500	0.00049105	0.00102492	0.00000000	0.00105674
ADAMS, JW & JUNE ADAMS EST	0.00160368	0.00135186	0.00129342	0.00096061	0.00233001	0.00098211	0.00204985	0.00000000	0.00211348
EDWARDS & LEACH OIL CO	0.01424808	0.01201077	0.01149150	0.00853464	0.02070121	0.00872565	0.01821213	0.00000000	0.01877744
COLUMBIA GAS	0.00528905	0.00572961	0.00570168	0.00615775	0.00713458	0.00634664	0.00697080	0.01106420	0.00749976
HARBERT ENERGY	0.00956248	0.00188321	0.00221262	0.00171198	0.02081497	0.00010284	0.01650999	0.00000000	0.01888057
HARLOW CORP	0.00505004	0.00489260	0.00479096	0.00451979	0.00706230	0.00464648	0.00656017	0.00553210	0.00692010
NABOB PROD CO	0.00400920	0.00337965	0.00323354	0.00240152	0.00582502	0.00245527	0.00512462	0.00000000	0.00528370
NRM OPERATING CO LTD PTSP	0.00822400	0.00693263	0.00663290	0.00492620	0.01194875	0.00503645	0.01051205	0.00000000	0.01083835
PETRUS	0.03268587	0.04127393	0.03921904	0.04079881	0.01996491	0.04294138	0.02474053	0.03313904	0.02118921
PELTO OIL CO	0.71691089	0.68651763	0.69194460	0.69475465	0.69732995	0.68807342	0.69540597	0.69822313	0.69741276
STROECKER, W G	0.04582429	0.04896582	0.04922698	0.04982870	0.04927938	0.05007377	0.04944449	0.05389508	0.04970833
SUN	0.03268587	0.04127393	0.03921904	0.04079881	0.01996491	0.04294138	0.02474053	0.03313904	0.02118921
TENNECO	0.05275215	0.07513167	0.07325159	0.07399939	0.05122469	0.07869889	0.05693515	0.08797588	0.05464003
TRINIDAD PETROLEUM CORP	0.00842752	0.00156985	0.00262904	0.00135961	0.01700013	0.00000000	0.01346671	0.00000000	0.01542025
TXO	0.00991505	0.01319676	0.01306341	0.01299516	0.01171687	0.01242149	0.01186331	0.01774696	0.01227724
WEEKS, MARION	0.04582429	0.04896582	0.04922698	0.04982870	0.04927938	0.05007370	0.04944449	0.05389508	0.04970833
WINTHER, B & R	0.00458243	0.00489658	0.00492269	0.00498287	0.00492794	0.00500737	0.00494445	0.00538950	0.00497076
	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000

TABLE 5

TWIN LAKES TRACT UNITIZATION PARAMETERS
PROPOSED TWIN LAKES UNIT

TRACT #	WELL(S)	ACRES		OIL PROD 1/86-4/86		OIL & GAS REVENUE JAN, FEB, MAR, 1986		OIL PROD 4/85-4/86		CUM PROD @ 4/1/86		1 BOPD PER WELL CUT OFF				4 BOPD PER WELL CUT OFF			
												PRIMARY RESERVES @4/1/86		ULTIMATE PRIMARY		PRIMARY RESERVES @4/1/86		ULTIMATE PRIMARY	
		ACRES	FRACTION	MBO	FRACTION	$	FRACTION	MBO	FRACTION	MBO	FRACTION	MBO	FRACTION	MBO	FRACTION	MBO	FRACTION	MBO	FRACTION
1	CITGO STATE #1	40.00	0.0082240	0.055	0.0012817	1252	0.0015627	0.286	0.0014124	77.232	0.0202220	0.000	0.0000000	77.232	0.0160189	0.000	0.0000000	77.232	0.0183427
2	CITGO STATE #2 & #6	40.00	0.0082240	0.220	0.0051267	4538	0.0056640	0.894	0.0044151	26.703	0.0069918	1.116	0.0011137	27.819	0.0057700	0.000	0.0000000	26.703	0.0063420
3	CITGO STATE #3	40.00	0.0082240	0.028	0.0006525	590	0.0007364	0.130	0.0006420	4.227	0.0011068	0.000	0.0000000	4.227	0.0008767	0.000	0.0000000	4.227	0.0010039
4	CITGO STATE #4,5,7	80.00	0.0164480	0.356	0.0082959	6987	0.0087207	1.870	0.0092351	99.772	0.0261238	5.644	0.0056322	105.416	0.0218646	0.000	0.0000000	99.772	0.0236960
5	CITGO A STATE #1	40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.000	0.0000000	19.307	0.0050552	0.000	0.0000000	19.307	0.0040045	0.000	0.0000000	19.307	0.0045854
6	CITGO A STATE #2	40.00	0.0082240	0.081	0.0018875	2929	0.0036558	0.313	0.0015458	58.843	0.0154071	0.000	0.0000000	58.843	0.0122048	0.000	0.0000000	58.843	0.0139753
7	CITGO A STATE #3	40.00	0.0082240	0.059	0.0013749	1511	0.0018859	0.215	0.0010618	89.810	0.0235154	0.000	0.0000000	89.810	0.0186278	0.000	0.0000000	89.810	0.0213300
8	CITGO A STATE #5	40.00	0.0082240	0.096	0.0022371	1961	0.0024476	0.402	0.0019853	69.393	0.0181695	0.217	0.0002165	69.610	0.0144380	0.000	0.0000000	69.393	0.0164810
9	CITGO A STATE #6,7,8	120.00	0.0246720	0.633	0.0147508	12123	0.0151311	2.657	0.0131217	221.888	0.0580980	7.848	0.0078316	229.736	0.0476502	0.000	0.0000000	221.888	0.0526988
10	STATE CH #1 & #2	120.00	0.0246720	0.023	0.0005360	3560	0.0044434	0.477	0.0023557	12.766	0.0033426	0.000	0.0000000	12.766	0.0026478	0.000	0.0000000	12.766	0.0030319
11	STATE CH #3	40.00	0.0082240	0.145	0.0033789	3698	0.0046156	0.459	0.0022668	14.711	0.0038518	0.217	0.0002165	14.928	0.0030963	0.000	0.0000000	14.711	0.0034939
12	B #2	40.20	0.0082651	0.071	0.0016545	1206	0.0015052	0.158	0.0007803	2.697	0.0007062	0.000	0.0000000	2.697	0.0005594	0.000	0.0000000	2.697	0.0006405
13	C #2,3,5,6,7	200.39	0.0412001	0.603	0.0140517	13010	0.0162382	2.758	0.0136205	120.336	0.0315081	8.659	0.0086409	128.995	0.0267552	0.000	0.0000000	120.336	0.0285800
14	E #9	40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.000	0.0000000	0.570	0.0001492	0.000	0.0000000	0.570	0.0001182	0.000	0.0000000	0.570	0.0001354
15	D #2,3,4,5,6	160.00	0.0328960	2.876	0.0670193	52552	0.0655919	13.443	0.0663888	122.203	0.0319970	81.811	0.0816400	204.014	0.0423152	44.644	0.1140953	166.847	0.0396265
16	E #1 THRU #8	320.07	0.0658063	1.248	0.0290821	24068	0.0300401	5.510	0.0272114	82.642	0.0216385	22.211	0.0221646	104.853	0.0217479	0.000	0.0000000	82.642	0.0196276
17	FEE 25 #1 THRU 4	160.00	0.0328960	1.190	0.0277305	21257	0.0265316	3.990	0.0197048	182.539	0.0477950	20.188	0.0201458	202.727	0.0420482	0.000	0.0000000	182.539	0.0433534
18	F #6	40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.021	0.0001037	2.839	0.0007433	0.000	0.0000000	2.839	0.0005888	0.000	0.0000000	2.839	0.0006743
18A		40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000
19	F #7	40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.000	0.0000000	1.670	0.0004373	0.000	0.0000000	1.670	0.0003464	0.000	0.0000000	1.670	0.0003966
20		40.00	0.0082240	0.000	0.0000000	0	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000	0.000	0.0000000
21	F #5	40.00	0.0082240	0.044	0.0010253	1461	0.0018235	0.550	0.0027162	6.781	0.0017755	0.000	0.0000000	6.781	0.0014065	0.000	0.0000000	6.781	0.0016105
22	F #1 THRU #4	120.00	0.0246720	0.821	0.0191317	18692	0.0233301	4.886	0.0241297	92.656	0.0242605	20.362	0.0203195	113.018	0.0234414	0.000	0.0000000	92.656	0.0220060
23	F #9	40.00	0.0082240	0.045	0.0010486	764	0.0009536	0.197	0.0009729	0.989	0.0002590	0.000	0.0000000	0.989	0.0002051	0.000	0.0000000	0.989	0.0002349
24	I #1 THRU #8	314.88	0.0647392	2.730	0.0636171	53717	0.0670460	14.059	0.0694309	441.118	0.1155000	59.204	0.0590803	500.322	0.1037733	0.000	0.0000000	441.118	0.1047664
25	J #1	40.00	0.0082240	0.107	0.0024934	1855	0.0023153	1.371	0.0067707	6.303	0.0016503	1.428	0.0014250	7.731	0.0016035	0.000	0.0000000	6.303	0.0014970
26	J #2 THRU #9-SWD	360.00	0.0740159	4.980	0.1160487	94567	0.1180323	22.112	0.1092010	480.209	0.1257353	113.473	0.1132359	593.682	0.1231374	57.570	0.1471299	537.779	0.1277236
27	K #1,2,3	117.60	0.0241785	1.124	0.0261925	20883	0.0260648	5.700	0.0281497	124.564	0.0326152	29.074	0.0290132	153.638	0.0318665	19.791	0.0505792	144.355	0.0342846
28	DB #1,2,3	120.00	0.0246720	1.709	0.0398248	31457	0.0392626	7.384	0.0364662	93.337	0.0244389	32.467	0.0323992	125.804	0.0260934	13.946	0.0356414	107.283	0.0254799
29	L LEASE	636.13	0.1307881	7.634	0.1778948	141602	0.1767383	36.341	0.1794715	514.731	0.1347744	210.035	0.2095961	724.766	0.1503259	89.230	0.2280423	603.981	0.1434419
30	FF #1 THRU #6	320.00	0.0657919	5.972	0.1391653	106777	0.1332720	29.591	0.1461363	408.039	0.1068387	153.044	0.1527242	561.083	0.1163759	97.811	0.2499725	505.850	0.1201404
31	MOONSHINE 7 #1	40.00	0.0082240	0.466	0.0108592	8513	0.0106254	1.957	0.0096647	28.837	0.0075505	11.863	0.0118382	40.700	0.0084417	2.585	0.0066064	31.422	0.0074628
32	MOONSHINE 7 #2-#14	595.69	0.1224737	6.201	0.1445017	108960	0.1359967	28.395	0.1402298	288.336	0.0754963	144.601	0.1442988	432.937	0.0897968	34.507	0.0881885	322.843	0.0766758
33	GG #1,2,3	120.00	0.0246720	0.344	0.0080162	5841	0.0072904	1.581	0.0078078	7.053	0.0018467	3.228	0.0032213	10.281	0.0021324	0.000	0.0000000	7.053	0.0016751
34	MOONSHINE 18 #1-#5	198.86	0.0408856	2.624	0.0611470	47274	0.0590043	13.056	0.0644776	79.882	0.0209159	69.082	0.0689376	148.964	0.0308971	31.203	0.0797445	111.085	0.0263829
35	N #1 & #2Y	80.00	0.0164480	0.428	0.0099737	7591	0.0094746	1.726	0.0085239	36.222	0.0094842	6.322	0.0063088	42.544	0.0088242	0.000	0.0000000	36.222	0.0086028
TOTALS		4863.82	1.0000000	42.913	1.0000000	801196	1.0000000	202.489	1.0000000	3819.205	1.0000000	1002.094	1.0000000	4821.299	1.0000000	391.287	1.0000000	4210.492	1.0000000

TABLE 2

TWIN LAKES
WORKING INTEREST OWNERS PARAMETERS
PROPOSED TWIN LAKES UNIT

								1 BOPD PER WELL CUT OFF		4 BOPD PER WELL CUT OFF	
OWNER	TRACT #	TRACT WI FRACTION	ACRES FRACTION	OIL PROD 1/86-4/86 FRACTION	OIL & GAS REVENUE 1/86-4/86 FRACTION	OIL PROD 4/85-4/86 FRACTION	CUM OIL PROD TO 4/1/86 FRACTION	PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION	PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION
ADAMS & MCGAHEY	17	0.04875000	0.00160368	0.00135186	0.00129342	0.00096061	0.00233001	0.00098211	0.00204985	0.00000000	0.00211348
ADAMS, J W	17	0.02437500	0.00080184	0.00067593	0.00064671	0.00048030	0.00116500	0.00049105	0.00102492	0.00000000	0.00105674
ADAMS, JW & JUNE ADAMS EST	17	0.04875000	0.00160368	0.00135186	0.00129342	0.00096061	0.00233001	0.00098211	0.00204985	0.00000000	0.00211348
EDWARDS & LEACH OIL CO	17	0.43312500	0.01424808	0.01201077	0.01149150	0.00853464	0.02070121	0.00872565	0.01821213	0.00000000	0.01877744
COLUMBIA GAS	27	0.21875000	0.00528905	0.00572961	0.00570168	0.00615775	0.00713458	0.00634664	0.00697080	0.01106420	0.00749976
HARBERT ENERGY	8	0.47500000	0.00390640	0.00106262	0.00116261	0.00094302	0.00863051	0.00010284	0.00685805	0.00000000	0.00782848
HARBERT ENERGY	7	0.27510130	0.00226243	0.00037824	0.00051881	0.00029210	0.00646912	0.00000000	0.00512453	0.00000000	0.00586791
HARBERT ENERGY	3	0.13755060	0.00113122	0.00008975	0.00010129	0.00008831	0.00015224	0.00000000	0.00012059	0.00000000	0.00013809
HARBERT ENERGY	1	0.27510130	0.00226243	0.00035260	0.00042990	0.00038855	0.00556310	0.00000000	0.00440682	0.00000000	0.00504610
TOTAL			0.00956248	0.00188321	0.00221262	0.00171198	0.02081497	0.00010284	0.01650999	0.00000000	0.01888057
HARLOW CORP	17	0.07312500	0.00240552	0.00202779	0.00194012	0.00144091	0.00349501	0.00147316	0.00307477	0.00000000	0.00317022
HARLOW CORP	27	0.10937500	0.00264452	0.00286480	0.00285084	0.00307887	0.00356729	0.00317332	0.00348540	0.00553210	0.00374988
TOTAL			0.00505004	0.00489260	0.00479096	0.00451979	0.00706230	0.00464648	0.00656017	0.00553210	0.00692010
NABOB PROD CO	17	0.12187500	0.00400920	0.00337965	0.00323354	0.00240152	0.00582502	0.00245527	0.00512462	0.00000000	0.00528370
NRM OPERATING CO LTD PTSP	17	0.25000000	0.00822400	0.00693263	0.00663290	0.00492620	0.01194875	0.00503645	0.01051205	0.00000000	0.01083835
PETRUS	31	0.25000000	0.00205600	0.00271480	0.00263633	0.00241618	0.00188763	0.00295955	0.00211043	0.00165160	0.00186570
PETRUS	32	0.18750000	0.02296382	0.02709407	0.02549938	0.02629309	0.01415556	0.02705603	0.01683690	0.01653534	0.01437671
PETRUS	34	0.18750000	0.00766605	0.01146506	0.01106331	0.01208955	0.00392173	0.01292580	0.00579321	0.01495209	0.00494679
TOTAL			0.03268587	0.04127393	0.03921904	0.04079881	0.01996491	0.04294138	0.02474053	0.03313904	0.02118921
PELTO OIL CO	9	0.84250000	0.02078616	0.01242755	0.01274795	0.01105503	0.04894757	0.00659812	0.04014529	0.00000000	0.04439874
PELTO OIL CO	8	0.52500000	0.00431760	0.00117448	0.00128499	0.00104228	0.00953899	0.00011366	0.00757995	0.00000000	0.00865253
PELTO OIL CO	7	0.51500000	0.00423536	0.00070807	0.00097124	0.00054683	0.01211043	0.00000000	0.00959332	0.00000000	0.01098495
PELTO OIL CO	6	0.50000000	0.00411200	0.00094375	0.00182790	0.00077290	0.00770355	0.00000000	0.00610240	0.00000000	0.00698765
PELTO OIL CO	5	1.00000000	0.00822400	0.00000000	0.00000000	0.00000000	0.00505520	0.00000000	0.00400450	0.00000000	0.00458540
PELTO OIL CO	4	0.84250000	0.01385744	0.00698930	0.00734719	0.00778057	0.02200930	0.00474513	0.01842093	0.00000000	0.01996388
PELTO OIL CO	35	0.73718750	0.01212526	0.00735249	0.00698456	0.00628371	0.00699163	0.00465077	0.00650509	0.00000000	0.00634188
PELTO OIL CO	34	0.50000000	0.02044280	0.03057350	0.02950215	0.03223880	0.01045795	0.03446880	0.01544855	0.03987225	0.01319145
PELTO OIL CO	33	0.78984375	0.01948702	0.00633155	0.00575828	0.00616694	0.00145860	0.00254432	0.00168426	0.00000000	0.00132307
PELTO OIL CO	32	0.50000000	0.06123685	0.07225085	0.06799835	0.07011490	0.03774815	0.07214940	0.04489840	0.04409425	0.03833790
PELTO OIL CO	31	0.50000000	0.00411200	0.00542960	0.00531270	0.00483235	0.00377525	0.00591910	0.00422085	0.00330320	0.00373140
PELTO OIL CO	30	0.78984375	0.05196532	0.10991884	0.10526406	0.11542484	0.08438588	0.12062825	0.09191878	0.19743922	0.09489214
PELTO OIL CO	3	0.75750000	0.00622968	0.00049427	0.00055782	0.00048631	0.00083840	0.00000000	0.00066410	0.00000000	0.00076045
PELTO OIL CO	29	0.78984375	0.10330216	0.14050910	0.13959564	0.14175444	0.10645072	0.16554817	0.11873397	0.18011779	0.11329669
PELTO OIL CO	28	0.57921880	0.01429049	0.02306727	0.02274164	0.02112191	0.01415547	0.01876623	0.01511379	0.02064417	0.01475844
PELTO OIL CO	27	0.39898430	0.00964684	0.01045040	0.01039945	0.01123129	0.01301295	0.01157581	0.01271423	0.02018031	0.01367902
PELTO OIL CO	26	0.73718750	0.05456360	0.08554965	0.08701194	0.08050161	0.09269049	0.08347609	0.09077535	0.10846232	0.09415624
PELTO OIL CO	25	0.84250000	0.00692872	0.00210069	0.00195064	0.00570431	0.00139038	0.00120056	0.00135095	0.00000000	0.00126122
PELTO OIL CO	24	0.84250000	0.05454278	0.05359741	0.05648626	0.05849553	0.09730875	0.04977515	0.08742901	0.00000000	0.08826569
PELTO OIL CO	23	0.84250000	0.00692872	0.00088345	0.00080341	0.00081967	0.00021821	0.00000000	0.00017280	0.00000000	0.00019790
PELTO OIL CO	22	0.84250000	0.02078616	0.01611846	0.01965561	0.02032927	0.02043947	0.01711918	0.01974938	0.00000000	0.01854006
PELTO OIL CO	21	0.84250000	0.00692872	0.00086382	0.00153630	0.00228840	0.00149586	0.00000000	0.00118498	0.00000000	0.00135685
PELTO OIL CO	20	0.84250000	0.00692872	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
PELTO OIL CO	2	1.00000000	0.00822400	0.00512670	0.00566400	0.00441510	0.00699180	0.00111370	0.00577000	0.00000000	0.00634200
PELTO OIL CO	19	0.84250000	0.00692872	0.00000000	0.00000000	0.00000000	0.00036843	0.00000000	0.00029184	0.00000000	0.00033414
PELTO OIL CO	18A	0.84250000	0.00692872	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
PELTO OIL CO	18	0.84250000	0.00692872	0.00000000	0.00000000	0.00008737	0.00062623	0.00000000	0.00049606	0.00000000	0.00056810
PELTO OIL CO	16	0.84250000	0.05544181	0.02450167	0.02530878	0.02292560	0.01823044	0.01867368	0.01832261	0.00000000	0.01653625
PELTO OIL CO	15	0.73718750	0.04850052	0.04940579	0.04835353	0.04894099	0.02358779	0.06018399	0.03119424	0.08410963	0.02921216
PELTO OIL CO	14	0.84250000	0.00692872	0.00000000	0.00000000	0.00000000	0.00012570	0.00000000	0.00009958	0.00000000	0.00011407
PELTO OIL CO	13	1.00000000	0.04120010	0.01405170	0.01623820	0.01362050	0.03150810	0.00864090	0.02675520	0.00000000	0.02858000
PELTO OIL CO	12	1.00000000	0.00826510	0.00165450	0.00150520	0.00078030	0.00070620	0.00000000	0.00055940	0.00000000	0.00064050
PELTO OIL CO	11	0.84250000	0.00692872	0.00284672	0.00388864	0.00190978	0.00324514	0.00018240	0.00260863	0.00000000	0.00294361
PELTO OIL CO	10	1.00000000	0.02467200	0.00053600	0.00444340	0.00235570	0.00334260	0.00000000	0.00264780	0.00000000	0.00303190

TABLE 7a

TWIN LAKES
WORKING INTEREST OWNERS PARAMETERS
PROPOSED TWIN LAKES UNIT

OWNER	TRACT #	TRACT WI FRACTION	ACRES FRACTION	OIL PROD 1/86-4/86 FRACTION	OIL & GAS REVENUE 1/86-4/86 FRACTION	OIL PROD 4/85-4/86 FRACTION	CUM OIL PROD TO 4/1/86 FRACTION	1 BOPD PER WELL CUT OFF		4 BOPD PER WELL CUT OFF	
								PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION	PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION
PELTO OIL CO	1	0.51500000	0.00423536	0.00066008	0.00080479	0.00072739	0.01041433	0.00000000	0.00824973	0.00000000	0.00944649
TOTAL			0.71691089	0.68651763	0.69194460	0.69475465	0.69732995	0.68807342	0.69540597	0.69822313	0.69741276
STROECKER, W G	9	0.07500000	0.00185040	0.00110631	0.00113483	0.00098413	0.00435735	0.00058737	0.00357376	0.00000000	0.00395241
STROECKER, W G	4	0.07500000	0.00123360	0.00062219	0.00065405	0.00069263	0.00195929	0.00042242	0.00163985	0.00000000	0.00177720
STROECKER, W G	35	0.06562500	0.00107940	0.00065452	0.00062177	0.00055938	0.00062240	0.00041402	0.00057909	0.00000000	0.00056456
STROECKER, W G	33	0.07031250	0.00173475	0.00056364	0.00051261	0.00054899	0.00012985	0.00022650	0.00014993	0.00000000	0.00011778
STROECKER, W G	30	0.07031250	0.00462599	0.00978506	0.00937069	0.01027521	0.00751210	0.01073842	0.00818268	0.00000000	0.00844737
STROECKER, W G	29	0.07031250	0.00919604	0.01250823	0.01242691	0.01261909	0.00947632	0.01473723	0.01056979	0.00000000	0.01008576
STROECKER, W G	28	0.05156250	0.00127215	0.00205347	0.00202448	0.00188029	0.00126013	0.00167058	0.00134544	0.00000000	0.00131381
STROECKER, W G	27	0.02578130	0.00062335	0.00067528	0.00067198	0.00072574	0.00084086	0.00074800	0.00082156	0.00000000	0.00088390
STROECKER, W G	26	0.06562500	0.00485729	0.00761570	0.00774587	0.00716632	0.00825138	0.00743111	0.00808089	0.00000000	0.00838186
STROECKER, W G	25	0.07500000	0.00061680	0.00018701	0.00017365	0.00050780	0.00012377	0.00010688	0.00012026	0.00000000	0.00011228
STROECKER, W G	24	0.07500000	0.00485544	0.00477128	0.00502845	0.00520732	0.00866250	0.00443102	0.00778300	0.00000000	0.00785748
STROECKER, W G	23	0.07500000	0.00061680	0.00007865	0.00007152	0.00007297	0.00001943	0.00000000	0.00001538	0.00000000	0.00001762
STROECKER, W G	22	0.07500000	0.00185040	0.00143488	0.00174976	0.00180973	0.00181954	0.00152396	0.00175811	0.00000000	0.00165045
STROECKER, W G	21	0.07500000	0.00061680	0.00007690	0.00013676	0.00020372	0.00013316	0.00000000	0.00010549	0.00000000	0.00012079
STROECKER, W G	20	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.01603422	0.00000000
STROECKER, W G	19	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00003280	0.00000000	0.00002598	0.01757619	0.00002974
STROECKER, W G	18A	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
STROECKER, W G	18	0.07500000	0.00061680	0.00000000	0.00000000	0.00000078	0.00005575	0.00000000	0.00004416	0.00748750	0.00005057
STROECKER, W G	16	0.07500000	0.00493547	0.00218116	0.00225301	0.00204086	0.00162289	0.00166235	0.00163109	0.00965540	0.00147207
STROECKER, W G	15	0.06562500	0.00215880	0.00439814	0.00430447	0.00435677	0.00209980	0.00535763	0.00277694	0.00000000	0.00260049
STROECKER, W G	14	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00001119	0.00000000	0.00000886	0.00183776	0.00001016
STROECKER, W G	11	0.07500000	0.00061680	0.00025342	0.00034617	0.00017001	0.00028888	0.00001624	0.00023222	0.00130400	0.00026204
TOTAL			0.04582429	0.04896582	0.04922698	0.04982870	0.04927938	0.05007370	0.04944449	0.05389508	0.04970833
SUN	32	0.18750000	0.02296382	0.02709407	0.02549938	0.02629309	0.01415556	0.02705603	0.01683690	0.01653534	0.01437671
SUN	31	0.25000000	0.00205600	0.00271480	0.00265635	0.00241618	0.00188763	0.00295955	0.00211043	0.00165160	0.00186570
SUN	34	0.18750000	0.00766605	0.01146506	0.01106331	0.01208955	0.00392173	0.01292580	0.00579321	0.01495209	0.00494679
TOTAL			0.03268587	0.04127393	0.03921904	0.04079881	0.01996491	0.04294138	0.02474053	0.03313904	0.02118921
TENNECO	28	0.12500000	0.00308400	0.00497810	0.00490783	0.00455828	0.00305486	0.00404990	0.00326168	0.00445518	0.00318499
TENNECO	15	0.12500000	0.00411200	0.00837741	0.00819899	0.00829860	0.00399963	0.01020500	0.00528940	0.01426191	0.00495331
TENNECO	26	0.12500000	0.00925199	0.01450609	0.01475404	0.01365013	0.01571691	0.01415449	0.01539218	0.01839124	0.01596545
TENNECO	32	0.12500000	0.01530921	0.01806271	0.01699959	0.01752873	0.00943704	0.01803735	0.01122460	0.01102356	0.00958448
TENNECO	34	0.12500000	0.00511070	0.00764338	0.00737554	0.00805970	0.00261449	0.00861720	0.00386214	0.00996806	0.00329786
TENNECO	35	0.12500000	0.00205600	0.00124671	0.00118433	0.00106549	0.00118553	0.00078860	0.00110303	0.00000000	0.00107535
TENNECO	29	0.06250000	0.00817426	0.01111843	0.01104614	0.01121697	0.00842340	0.01309976	0.00939537	0.01425264	0.00896512
TENNECO	30	0.06250000	0.00411199	0.00869783	0.00832950	0.00913352	0.00667742	0.00954526	0.00727349	0.01562328	0.00750878
TENNECO	33	0.06250000	0.00154200	0.00050101	0.00045565	0.00048799	0.00011542	0.00020133	0.00013328	0.00000000	0.00010469
TOTAL			0.05275215	0.07513167	0.07325159	0.07399939	0.05122469	0.07869889	0.05693515	0.08797588	0.05464003
TRINIDAD PETROLEUM CORP	6	0.50000000	0.00411200	0.00094375	0.00182790	0.00077290	0.00770355	0.00000000	0.00610240	0.00000000	0.00698765
TRINIDAD PETROLEUM CORP	1	0.20989870	0.00172621	0.00026903	0.00032801	0.00029646	0.00424457	0.00000000	0.00336235	0.00000000	0.00385011
TRINIDAD PETROLEUM CORP	7	0.20989870	0.00172621	0.00028859	0.00039585	0.00022287	0.00493585	0.00000000	0.00390995	0.00000000	0.00447714
TRINIDAD PETROLEUM CORP	3	0.10494940	0.00086310	0.00006848	0.00007728	0.00006738	0.00011616	0.00000000	0.00009201	0.00000000	0.00010536
TOTAL			0.00842752	0.00156985	0.00262904	0.00135961	0.01700013	0.00000000	0.01346671	0.00000000	0.01542026
TXO	27	0.21875000	0.00528905	0.00572961	0.00570168	0.00615775	0.00713458	0.00634664	0.00697080	0.01106420	0.00749976
TXO	28	0.18750000	0.00462600	0.00746715	0.00736174	0.00683741	0.00458229	0.00607485	0.00489251	0.00668276	0.00477748
TOTAL			0.00991505	0.01319676	0.01306341	0.01299516	0.01171687	0.01242149	0.01186331	0.01774696	0.01227724
WEEKS, MARION	9	0.07500000	0.00185040	0.00110631	0.00113483	0.00098413	0.00435735	0.00058737	0.00357376	0.00000000	0.00395241
WEEKS, MARION	4	0.07500000	0.00123360	0.00062219	0.00065405	0.00069263	0.00195929	0.00042242	0.00163985	0.00000000	0.00177720
WEEKS, MARION	35	0.06562500	0.00107940	0.00065452	0.00062177	0.00055938	0.00062240	0.00041402	0.00057909	0.00000000	0.00056456
WEEKS, MARION	33	0.07031250	0.00173475	0.00056364	0.00051261	0.00054899	0.00012985	0.00022650	0.00014993	0.00000000	0.00011778
WEEKS, MARION	30	0.07031250	0.00462599	0.00978506	0.00937069	0.01027521	0.00751210	0.01073842	0.00818268	0.01757619	0.00844737
WEEKS, MARION	29	0.07031250	0.00919604	0.01250823	0.01242691	0.01261909	0.00947632	0.01473723	0.01056979	0.01603422	0.01008576
WEEKS, MARION	28	0.05156250	0.00127215	0.00205347	0.00202448	0.00188029	0.00126013	0.00167058	0.00134544	0.00183776	0.00131381

TABLE 7b

TWIN LAKES
WORKING INTEREST OWNERS PARAMETERS
PROPOSED TWIN LAKES UNIT

OWNER	TRACT #	TRACT WI FRACTION	ACRES FRACTION	OIL PROD 1/86-4/86 FRACTION	OIL & GAS REVENUE 1/86-4/86 FRACTION	OIL PROD 4/85-4/86 FRACTION	CUM OIL PROD TO 4/1/86 FRACTION	1 BOPD PER WELL CUT OFF		4 BOPD PER WELL CUT OFF	
								PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION	PRIMARY RESERVES AS OF 4/1/86 FRACTION	PRIMARY ULTIMATE FRACTION
WEEKS, MARION	27	0.02578130	0.00062335	0.00067528	0.00067198	0.00072574	0.00084086	0.00074800	0.00082156	0.00130400	0.00088390
WEEKS, MARION	26	0.06562500	0.00485729	0.00761570	0.00774587	0.00716632	0.00825138	0.00743111	0.00808089	0.00965540	0.00838186
WEEKS, MARION	25	0.07500000	0.00061680	0.00018701	0.00017365	0.00050780	0.00012377	0.00010688	0.00012026	0.00000000	0.00011228
WEEKS, MARION	24	0.07500000	0.00485544	0.00477128	0.00502845	0.00520732	0.00866250	0.00443102	0.00778300	0.00000000	0.00785748
WEEKS, MARION	23	0.07500000	0.00061680	0.00007865	0.00007152	0.00007297	0.00001943	0.00000000	0.00001538	0.00000000	0.00001762
WEEKS, MARION	22	0.07500000	0.00185040	0.00143488	0.00174976	0.00180973	0.00181954	0.00152396	0.00175811	0.00000000	0.00165045
WEEKS, MARION	21	0.07500000	0.00061680	0.00007690	0.00013676	0.00020372	0.00013316	0.00000000	0.00010549	0.00000000	0.00012079
WEEKS, MARION	20	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
WEEKS, MARION	19	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00003280	0.00000000	0.00002598	0.00000000	0.00002974
WEEKS, MARION	18A	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
WEEKS, MARION	18	0.07500000	0.00061680	0.00000000	0.00000000	0.00000778	0.00005575	0.00000000	0.00004416	0.00000000	0.00005057
WEEKS, MARION	16	0.07500000	0.00493547	0.00218116	0.00225301	0.00204086	0.00162289	0.00166235	0.00163109	0.00000000	0.00147207
WEEKS, MARION	15	0.06562500	0.00215880	0.00439814	0.00430447	0.00435677	0.00209980	0.00535763	0.00277694	0.00748750	0.00260049
WEEKS, MARION	14	0.07500000	0.00061680	0.00000000	0.00000000	0.00000000	0.00001119	0.00000000	0.00000886	0.00000000	0.00001016
WEEKS, MARION	11	0.07500000	0.00061680	0.00025342	0.00034617	0.00017001	0.00028888	0.00001624	0.00023222	0.00000000	0.00026204
TOTAL			0.04582429	0.04896582	0.04922698	0.04982870	0.04927938	0.05007370	0.04944449	0.05389508	0.04970833
WINTHER, B & R	9	0.00750000	0.00018504	0.00011063	0.00011348	0.00009841	0.00043574	0.00005874	0.00035738	0.00000000	0.00039524
WINTHER, B & R	4	0.00750000	0.00012336	0.00006222	0.00006541	0.00006926	0.00019593	0.00004224	0.00016398	0.00000000	0.00017772
WINTHER, B & R	35	0.00656250	0.00010794	0.00006545	0.00006218	0.00005594	0.00006224	0.00004140	0.00005791	0.00000000	0.00005646
WINTHER, B & R	33	0.00703125	0.00017348	0.00005636	0.00005126	0.00005490	0.00001298	0.00002265	0.00001499	0.00000000	0.00001178
WINTHER, B & R	30	0.00703125	0.00046260	0.00097851	0.00093707	0.00102752	0.00075121	0.00107384	0.00081827	0.00175762	0.00084474
WINTHER, B & R	29	0.00703125	0.00091960	0.00125082	0.00124269	0.00126191	0.00094763	0.00147372	0.00105698	0.00160342	0.00100858
WINTHER, B & R	28	0.00515620	0.00012721	0.00020534	0.00020245	0.00018803	0.00012601	0.00016706	0.00013454	0.00018377	0.00013138
WINTHER, B & R	27	0.00257810	0.00006233	0.00006753	0.00006720	0.00007257	0.00008409	0.00007480	0.00008216	0.00013040	0.00008839
WINTHER, B & R	26	0.00656250	0.00048573	0.00076157	0.00077459	0.00071663	0.00082514	0.00074311	0.00080809	0.00096554	0.00083819
WINTHER, B & R	25	0.00750000	0.00006168	0.00001870	0.00001736	0.00005078	0.00001238	0.00001069	0.00001203	0.00000000	0.00001123
WINTHER, B & R	24	0.00750000	0.00048554	0.00047713	0.00050284	0.00052073	0.00086625	0.00044310	0.00078330	0.00000000	0.00078575
WINTHER, B & R	23	0.00750000	0.00006168	0.00000786	0.00000715	0.00000730	0.00000194	0.00000000	0.00000154	0.00000000	0.00000176
WINTHER, B & R	22	0.00750000	0.00018504	0.00014349	0.00017498	0.00018097	0.00018195	0.00015240	0.00017581	0.00000000	0.00016505
WINTHER, B & R	21	0.00750000	0.00006168	0.00000769	0.00001368	0.00002037	0.00001332	0.00000000	0.00001055	0.00000000	0.00001208
WINTHER, B & R	20	0.00750000	0.00006168	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
WINTHER, B & R	19	0.00750000	0.00006168	0.00000000	0.00000000	0.00000000	0.00000328	0.00000000	0.00000260	0.00000000	0.00000297
WINTHER, B & R	18A	0.00750000	0.00006168	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
WINTHER, B & R	18	0.00750000	0.00006168	0.00000000	0.00000000	0.00000078	0.00000557	0.00000000	0.00000442	0.00000000	0.00000506
WINTHER, B & R	16	0.00750000	0.00049355	0.00021812	0.00022530	0.00020409	0.00016229	0.00016623	0.00016311	0.00000000	0.00014721
WINTHER, B & R	15	0.00656250	0.00021588	0.00043981	0.00043045	0.00043568	0.00020998	0.00053576	0.00027769	0.00074875	0.00026005
WINTHER, B & R	14	0.00750000	0.00006168	0.00000000	0.00000000	0.00000000	0.00000112	0.00000000	0.00000089	0.00000000	0.00000102
WINTHER, B & R	11	0.00750000	0.00006168	0.00002534	0.00003462	0.00001700	0.00002889	0.00000162	0.00002322	0.00000000	0.00002620
TOTAL			0.00458243	0.00489658	0.00492269	0.00498287	0.00492794	0.00500737	0.00494445	0.00538950	0.00497083
			1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000	1.00000000

TABLE 7c

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
1	CITGO STATE 1	POC	WI	0.51500000	0.45062500
		TRINIDAD PETROLEUM CORP	WI	0.20989870	0.17933350
		HARBERT ENERGY CORP, AGENT	WI	0.27510130	0.23504150
		COMM. OF PUBLIC LANDS	RI		0.12500000
		H LEE HARVARD	OR		0.01000000
		(BORN BY TRINIDAD & HARBERT ONLY)		1.00000000	1.00000000
2	CITGO STATE 2 & 6	POC	WI	1.00000000	0.79296880
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.08203120
				1.00000000	1.00000000
3	CITGO STATE 3	POC	WI	0.75750000	0.58706250
		TRINIDAD PETROLEUM CORP	WI	0.10494940	0.08133580
		HARBERT ENERGY CORP, AGENT	WI	0.13755060	0.10660170
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.10000000
				1.00000000	1.00000000
4	CITGO STATE 4,5,7	POC	WI	0.84250000	0.65293750
		W G STROECKER	WI	0.07500000	0.05812500
		MARION WEEKS	WI	0.07500000	0.05812500
		B & R WINTHER	WI	0.00750000	0.00581250
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.10000000
				1.00000000	1.00000000
5	CITGO A STATE 1	POC	WI	1.00000000	0.79296880
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.05203120
		ROBERT L HAYNIE	OR		0.00500000
		LEN MAYER	OR		0.00500000
		GEORGE E CONLEY	OR		0.02000000
				1.00000000	1.00000000
6	CITGO A STATE 2	POC	WI	0.50000000	0.42250000
		TRINIDAD PETROLEUM CORP	WI	0.50000000	0.42250000
		COMM. OF PUBLIC LANDS	RI		0.12500000
		ROBERT L HAYNIE	OR		0.00500000
		LEN MAYER	OR		0.00500000
		GEORGE E CONLEY	OR		0.02000000
				1.00000000	1.00000000
7	CITGO A STATE 3	POC	WI	0.51500000	0.43517500
		TRINIDAD PETROLEUM CORP	WI	0.20989870	0.17736440
		HARBERT ENERGY CORP, AGENT	WI	0.27510130	0.23246060
		COMM. OF PUBLIC LANDS	RI		0.12500000
		ROBERT L HAYNIE	OR		0.00500000
		LEN MAYER	OR		0.00500000
		GEORGE E CONLEY	OR		0.02000000
				1.00000000	1.00000000
8	CITGO A STATE 5	POC	WI	0.52500000	0.44362500
		HARBERT ENERGY CORP, AGENT	WI	0.47500000	0.39137500
		COMM. OF PUBLIC LANDS	RI		0.12500000
		ROBERT L HAYNIE	OR		0.00500000
		LEN MAYER	OR		0.00500000
		GEORGE E CONLEY	OR		0.02000000
		H LEE HARVARD	OR		0.01000000
		(BORN BY HARBERT ONLY)		1.00000000	1.00000000
9	CITGO A STATE 6,7,8	POC	WI	0.84250000	0.65293750
		W G STROECKER	WI	0.07500000	0.05812500
		MARION WEEKS	WI	0.07500000	0.05812500
		B & R WINTHER	WI	0.00750000	0.00581250
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.07000000
		ROBERT L HAYNIE	OR		0.00500000
		LEN MAYER	OR		0.00500000
		GEORGE E CONLEY	OR		0.02000000
				1.00000000	1.00000000

TABLE 8a

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
10	STATE CH 1 & 2	POC	WI	1.00000000	0.80531250
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.05468750
		ROBERT L HAYNIE	OR		0.00250000
		LEN MAYER	OR		0.00250000
		GEORGE E CONLEY	OR		0.01000000
				1.00000000	1.00000000
11	STATE CH 3	POC	WI	0.84250000	0.67847580
		W G STROECKER	WI	0.07500000	0.06039840
		MARION WEEKS	WI	0.07500000	0.06039840
		B & R WINTHER	WI	0.00750000	0.00603990
		COMM. OF PUBLIC LANDS	RI		0.12500000
		CITIES SERVICE	OR		0.05468750
		ROBERT L HAYNIE	OR		0.00250000
		LEN MAYER	OR		0.00250000
		GEORGE E CONLEY	OR		0.01000000
				1.00000000	1.00000000
12	O'BRIEN B 2	POC	WI	1.00000000	0.85937500
		MARSHALL & WINSTON	RI		0.00585940
		MOON CO.	RI		0.08203130
		J T WYMAN TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00146480
		MURRAY C MCKINNON TRUST	RI		0.00146480
		EM NOMINEE PTSP CO	RI		0.02343750
		FRATES SEELIGSON	NPRI		0.01171870
				1.00000000	1.00000000
13	O'BRIEN C #2,3,5,6,7	POC	WI	1.00000000	0.84765620
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO.	RI		0.08203120
		J T WYMAN TRUST	RI		0.00195310
		P W PARKER TRUST	RI		0.00195310
		FRANCISCA WINSTON EST TRUST	RI		0.00390630
		F S WINSTON MARITAL TRUST	RI		0.00195310
		CHARLES A KELLY	RI		0.00097650
		MURRAY C MCKINNON TRUST	RI		0.00097660
		EM NOMINEE PTSP CO	RI		0.01562500
		BARBARA SWEENEY	OR		0.02734380
		FRATES SEELIGSON	NPRI		0.01171880
				1.00000000	1.00000000
14	O'BRIEN E #9	POC	WI	0.84250000	0.73718750
		W G STROECKER	WI	0.07500000	0.06562500
		MARION WEEKS	WI	0.07500000	0.06562500
		B & R WINTHER	WI	0.00750000	0.00656250
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO.	RI		0.08203120
		J T WYMAN TRUST	RI		0.00195310
		P W PARKER TRUST	RI		0.00195310
		F S WINSTON MARITAL TRUST	RI		0.00195310
		CHARLES A KELLY	RI		0.00097650
		MURRAY C MCKINNON TRUST	RI		0.00097660
		EM NOMINEE PTSP CO	RI		0.01562500
		FRANCISCA WINSTON EST TRUST	RI		0.00390630
		FRATES SEELIGSON	NPRI		0.01171880
				1.00000000	1.00000000
15	O'BRIEN D #2 - #6	POC	WI	0.73718750	0.59238280
		TENNECO	WI	0.12500000	0.12500000
		W G STROECKER	WI	0.06562500	0.05273440
		MARION WEEKS	WI	0.06562500	0.05273440
		B & R WINTHER	WI	0.00656250	0.00527340
		MARSHALL & WINSTON	RI		0.00781250
		MOON CO.	RI		0.12304680
		J T WYMAN TRUST	RI		0.00390630
		P W PARKER TRUST	RI		0.00390630
		FRANCISCA WINSTON EST TRUST	RI		0.00781250
		F S WINSTON MARITAL TRUST	RI		0.00390630

TABLE 8b

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		CHARLES A KELLY	RI		0.00195310
		MURRAY C MCKINNON TRUST	RI		0.00195310
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
16	O'BRIEN E #1 - #8	POC	WI	0.84250000	0.73718750
		W G STROECKER	WI	0.07500000	0.06562500
		MARION WEEKS	WI	0.07500000	0.06562500
		B & R WINTHER	WI	0.00750000	0.00656250
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO.	RI		0.08203120
		J T WYMAN TRUST	RI		0.00195310
		P W PARKER TRUST	RI		0.00195310
		F S WINSTON MARITAL TRUST	RI		0.00195310
		CHARLES A KELLY	RI		0.00097650
		MURRAY C MCKINNON TRUST	RI		0.00097660
		EM NOMINEE PTSP CO	RI		0.01562500
		FRANCISCA WINSTON EST TRUST	RI		0.00390630
		FRATES SEELIGSON	NPRI		0.01171880
				1.00000000	1.00000000
17	O'BRIEN FEE 25 #1-#4	HARLOW CORP	WI	0.07312500	0.06032810
		EDWARDS & LEACH OIL CO	WI	0.43312500	0.34092270
		ADAMS & MCGAHEY	WI	0.04875000	0.04021870
		JW ADAMS & JUNE ADAMS EST	WI	0.04875000	0.04021870
		JW ADAMS	WI	0.02437500	0.02010940
		NABOB PROD CO	WI	0.12187500	0.10054690
		NRM OPERATING CO, LTD PTSP	WI	0.25000000	0.19406250
		MOON CO	RI		0.08203120
		EM NOMINEE PTSP CO	RI		0.02500000
		MARSHALL & WINSTON	RI		0.00585940
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		J T WYMAN TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00146480
		MURRAY C MCKINNON TRUST	RI		0.00146480
		W V HARLOW, JR	OR		0.01312500
		HARLOW CORP	OR		0.02437500
		AVIVA LTD PTSP	OR		0.00796320
		C H KIMBRO	OR		0.00750000
		J E ABRAM	OR		0.00011090
		SALLY FIELDMAN	OR		0.00221710
		JACK W FLECK	OR		0.00055350
		WM J HARBECK	OR		0.00027710
		ROBERT T JACKSON	OR		0.00027710
		JACKIE H JOHNSON	OR		0.00011090
		JOHN G LEONDUKAIS	OR		0.00044340
		RALPH E LOWENBERG	OR		0.00027710
		DAVID L PETERSON	OR		0.00044340
		CHARLES I PETSCHEK	OR		0.00088680
		LEE S SCHLESSMAN	OR		0.00027710
		ROBERT REX SILVERSTONE	OR		0.00055420
		H PETER STERN	OR		0.00033250
		JOHN E WALSH, JR	OR		0.00044340
		DONALD S WOODS	OR		0.00001850
		TANIA C WHITMAN TRUST	OR		0.00055420
		1029 PLUS ONE INVESTORS	OR		0.00027710
		MILDRED MILLER	OR		0.00011090
		DAVID E WYMAN, JR	OR		0.00027710
		FRATES SEELIGSON	NPRI		0.01171880
				1.00000000	1.00000000
18	O'BRIEN F #6	POC	WI	0.84250000	0.62660930
		W G STROECKER	WI	0.07500000	0.05578110
		MARION WEEKS	WI	0.07500000	0.05578110
		B & R WINTHER	WI	0.00750000	0.00557810
		MARSHALL & WINSTON	RI		0.00468760
		MOON CO.	RI		0.09843750
		J T WYMAN TRUST	RI		0.00234380
		P W PARKER TRUST	RI		0.00234380
		F S WINSTON MARITAL TRUST	RI		0.00234380
		CHARLES A KELLY	RI		0.00117190

TABLE 8c

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		MURRAY C MCKINNON TRUST	RI		0.00117190
		FRANCISCA WINSTON EST TRUST	RI		0.00468760
		FRATES SEELIGSON	NPRI		0.01406250
		TENNECO (UV INDUSTRIES)	UNLEASED		0.12500000
				1.00000000	1.00000000
18A		POC	WI	0.84250000	0.53709370
		W G STROECKER	WI	0.07500000	0.04781250
		MARION WEEKS	WI	0.07500000	0.04781250
		B & R WINTHER	WI	0.00750000	0.00478130
		MOON CO	RI		0.09843750
		FRATES SEELIGSON	NPRI		0.01406250
		TENNECO (UV INDUSTRIES)	UNLEASED		0.12500000
		FRANCISCA WINSTON EST TRUST	UNLEASED		0.03125000
		F S WINSTON MARITAL TRUST	UNLEASED		0.01562500
		CHARLES A KELLEY	UNLEASED		0.00781250
		P W PARKER TRUST	UNLEASED		0.01562500
		J T WYMAN TRUST	UNLEASED		0.01562500
		MARSHALL & WINSTON	UNLEASED		0.03125000
		MURRAY C MCKINNON TRUST	UNLEASED		0.00781250
				1.00000000	1.00000000
19	O'BRIEN F #7	POC	WI	0.84250000	0.62660930
		W G STROECKER	WI	0.07500000	0.05578110
		MARION WEEKS	WI	0.07500000	0.05578110
		B & R WINTHER	WI	0.00750000	0.00557810
		MARSHALL & WINSTON	RI		0.00468760
		MOON CO.	RI		0.09843750
		J T WYMAN TRUST	RI		0.00234380
		P W PARKER TRUST	RI		0.00234380
		F S WINSTON MARITAL TRUST	RI		0.00234380
		CHARLES A KELLY	RI		0.00117190
		MURRAY C MCKINNON TRUST	RI		0.00117190
		FRANCISCA WINSTON EST TRUST	RI		0.00468760
		FRATES SEELIGSON	NPRI		0.01406250
		TENNECO (UV INDUSTRIES)	UNLEASED		0.12500000
				1.00000000	1.00000000
20		POC	WI	0.84250000	0.59896490
		W G STROECKER	WI	0.07500000	0.05332030
		MARION WEEKS	WI	0.07500000	0.05332030
		B & R WINTHER	WI	0.00750000	0.00533200
		MOON CO	RI		0.12304690
		TENNECO (UV INDUSTRIES)	RI		0.02343750
		FRATES SEELIGSON	NPRI		0.01757810
		FRANCISCA WINSTON EST TRUST	UNLEASED		0.03125000
		F S WINSTON MARITAL TRUST	UNLEASED		0.01562500
		CHARLES A KELLEY	UNLEASED		0.00781250
		P W PARKER TRUST	UNLEASED		0.01562500
		J T WYMAN TRUST	UNLEASED		0.01562500
		MARSHALL & WINSTON	UNLEASED		0.03125000
		MURRAY C MCKINNON TRUST	UNLEASED		0.00781250
				1.00000000	1.00000000
21	O'BRIEN F #5	POC	WI	0.84250000	0.71217570
		W G STROECKER	WI	0.07500000	0.06339830
		MARION WEEKS	WI	0.07500000	0.06339830
		B & R WINTHER	WI	0.00750000	0.00633980
		MARSHALL & WINSTON	RI		0.00468760
		MOON CO.	RI		0.09843750
		J T WYMAN TRUST	RI		0.00234380
		P W PARKER TRUST	RI		0.00234380
		F S WINSTON MARITAL TRUST	RI		0.00234380
		CHARLES A KELLY	RI		0.00117190
		MURRAY C MCKINNON TRUST	RI		0.00117190
		FRANCISCA WINSTON EST TRUST	RI		0.00468760
		TENNECO (UV INDUSTRIES)	RI		0.02343750
		FRATES SEELIGSON	NPRI		0.01406250
				1.00000000	1.00000000
22	O'BRIEN F #1 - 4	POC	WI	0.84250000	0.71217570
		W G STROECKER	WI	0.07500000	0.06339830
		MARION WEEKS	WI	0.07500000	0.06339830

TABLE 8d

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		B & R WINTHER	WI	0.00750000	0.00633980
		MARSHALL & WINSTON	RI		0.00468760
		MOON CO.	RI		0.09843750
		J T WYMAN TRUST	RI		0.00234380
		P W PARKER TRUST	RI		0.00234380
		F S WINSTON MARITAL TRUST	RI		0.00234380
		CHARLES A KELLY	RI		0.00117190
		MURRAY C MCKINNON TRUST	RI		0.00117190
		FRANCISCA WINSTON EST TRUST	RI		0.00468760
		EM NOMINEE PTSP CO	RI		0.02343750
		FRATES SEELIGSON	NPRI		0.01406250
				1.00000000	1.00000000
23	O'BRIEN F #9	POC	WI	0.84250000	0.67794930
		W G STROECKER	WI	0.07500000	0.06035150
		MARION WEEKS	WI	0.07500000	0.06035150
		B & R WINTHER	WI	0.00750000	0.00603520
		MOON CO	RI		0.12304690
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLEY	RI		0.00146480
		P W PARKER TRUST	RI		0.00292970
		J T WYMAN TRUST	RI		0.00292970
		MARSHALL & WINSTON	RI		0.00585940
		MURRAY C MCKINNON TRUST	RI		0.00146480
		TENNECO	RI		0.03125000
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
24	O'BRIEN I #1 - 8	POC	WI	0.84250000	0.68453120
		W G STROECKER	WI	0.07500000	0.06093750
		MARION WEEKS	WI	0.07500000	0.06093750
		B & R WINTHER	WI	0.00750000	0.00609380
		MARSHALL & WINSTON	RI		0.00585940
		TENNECO	RI		0.02343750
		MOON CO	RI		0.12304690
		J T WYMAN TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00146480
		MURRAY C MCKINNON TRUST	RI		0.00146480
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
25	O'BRIEN J 1	POC	WI	0.84250000	0.68453120
		W G STROECKER	WI	0.07500000	0.06093750
		MARION WEEKS	WI	0.07500000	0.06093750
		B & R WINTHER	WI	0.00750000	0.00609380
		MARSHALL & WINSTON	RI		0.00585940
		TENNECO	RI		0.02343750
		MOON CO	RI		0.12304690
		J T WYMAN TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00146480
		MURRAY C MCKINNON TRUST	RI		0.00146480
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
26	O'BRIEN J 2-8	POC	WI	0.73718750	0.59896490
		TENNECO	WI	0.12500000	0.12500000
		W G STROECKER	WI	0.06562500	0.05332030
		MARION WEEKS	WI	0.06562500	0.05332030
		B & R WINTHER	WI	0.00656250	0.00533200
		MARSHALL & WINSTON	RI		0.00585940
		MOON CO	RI		0.12304690
		J T WYMAN TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00146480

TABLE 8e

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		MURRAY C MCKINNON TRUST	RI		0.00146480
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
27	O'BRIEN K #1 - #3	POC	WI	0.39898430	0.29480770
		TXO	WI	0.21875000	0.17773440
		W G STROECKER	WI	0.02578130	0.01930660
		MARION WEEKS	WI	0.02578130	0.01930660
		B & R WINTHER	WI	0.00257810	0.00193070
		HARLOW CORP	WI	0.10937500	0.07792970
		COLUMBIA GAS	WI	0.21875000	0.17773440
		MARSHALL & WINSTON	RI		0.00292970
		MOON CO	RI		0.10048840
		J T WYMAN TRUST	RI		0.00146480
		P W PARKER TRUST	RI		0.00146480
		FRANCISCA WINSTON EST TRUST	RI		0.00292970
		F S WINSTON MARITAL TRUST	RI		0.00146480
		CHARLES A KELLY	RI		0.00073240
		MURRAY C MCKINNON TRUST	RI		0.00073240
		TENNECO	RI		0.01171880
		J M HUBER CORP	OR		0.04375000
		FRATES SEELIGSON	NPRI		0.01435550
		NANCY E CARLOCK	NPRI		0.00117180
		VICTOR E CARLOCK	NPRI		0.00117180
		BEATRICE P B STONE	NPRI		0.00520830
		GROVER S STONE, JR	NPRI		0.00138890
		STEVEN L STONE	NPRI		0.00138890
		SANDRA J STONE	NPRI		0.00138890
		MARGARET E B DANIELS	NPRI		0.00520830
		DIANNE E DANIELS	NPRI		0.00138890
		JUNE A D GROTHE	NPRI		0.00138890
		CHARLES W DANIELS	NPRI		0.00138890
		JOHN D BRISCOE	NPRI		0.02812500
				1.00000000	1.00000000
28	O'BRIEN DB #1 - #3	POC	WI	0.57921880	0.37517580
		TXO	WI	0.18750000	0.15234370
		W G STROECKER	WI	0.05156250	0.03339840
		MARION WEEKS	WI	0.05156250	0.03339840
		B & R WINTHER	WI	0.00515620	0.00333980
		TENNECO	WI	0.12500000	0.11875000
		MARSHALL & WINSTON	RI		0.00781250
		TENNECO	RI		0.00625000
		MOON CO	RI		0.12304690
		J T WYMAN TRUST	RI		0.00390630
		P W PARKER TRUST	RI		0.00390630
		FRANCISCA WINSTON EST TRUST	RI		0.00781250
		F S WINSTON MARITAL TRUST	RI		0.00390630
		CHARLES A KELLY	RI		0.00195310
		MURRAY C MCKINNON TRUST	RI		0.00195310
		J M HUBER CORP	OR		0.07031250
		COLUMBIA GAS	OR		0.03515630
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
29	O'BRIEN L LEASE	POC	WI	0.78984375	0.64051390
		TENNECO	WI	0.06250000	0.06250000
		W G STROECKER	WI	0.07031250	0.05701900
		MARION WEEKS	WI	0.07031250	0.05701900
		B & R WINTHER	WI	0.00703125	0.00570200
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO	RI		0.10048820
		J T WYMAN TRUST	RI		0.00146480
		P W PARKER TRUST	RI		0.00146480
		CHARLES A KELLY	RI		0.00097660
		MURRAY C MCKINNON TRUST	RI		0.00097660
		FRANCISCA WINSTON EST TRUST	RI		0.00292970
		F S WINSTON MARITAL TRUST	RI		0.00146480
		BEATRICE P B STONE	NPRI		0.00520830
		GROVER S STONE, JR	NPRI		0.00138890
		STEVEN L STONE	NPRI		0.00138890
		SANDRA J STONE	NPRI		0.00138890
		MARGARET E B DANIELS	NPRI		0.00520830

TABLE 8f

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		DIANNE E DANIELS	NPRI		0.00138890
		JUNE A D GROTHE	NPRI		0.00138890
		CHARLES W DANIELS	NPRI		0.00138890
		JOHN D BRISCOE	NPRI		0.02812500
		NANCY E CARLOCK	NPRI		0.00117190
		VICTOR E CARLOCK	NPRI		0.00117190
		FRATES SEELIGSON	NPRI		0.01435550
				1.00000000	1.00000000
30	O'BRIEN FF #1 - #6	POC	WI	0.78984375	0.63845700
		TENNECO	WI	0.06250000	0.06250000
		W G STROECKER	WI	0.07031250	0.05683590
		MARION WEEKS	WI	0.07031250	0.05683590
		B & R WINTHER	WI	0.00703125	0.00568360
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO.	RI		0.10048840
		J T WYMAN TRUST	RI		0.00195310
		P W PARKER TRUST	RI		0.00195310
		FRANCISCA WINSTON EST TRUST	RI		0.00390630
		F S WINSTON MARITAL TRUST	RI		0.00195310
		CHARLES A KELLY	RI		0.00097660
		MURRAY C MCKINNON TRUST	RI		0.00097660
		BEATRICE P B STONE	NPRI		0.00520830
		GROVER S STONE, JR	NPRI		0.00138890
		STEVEN L STONE	NPRI		0.00138890
		SANDRA J STONE	NPRI		0.00138890
		MARGARET E B DANIELS	NPRI		0.00520830
		DIANNE E DANIELS	NPRI		0.00138890
		JUNE A D GROTHE	NPRI		0.00138890
		CHARLES W DANIELS	NPRI		0.00138890
		FRATES SEELIGSON	NPRI		0.01435550
		JOHN D BRISCOE	NPRI		0.02812500
		NANCY E CARLOCK	NPRI		0.00117180
		VICTOR E CARLOCK	NPRI		0.00117180
				1.00000000	1.00000000
31	MOONSHINE 7 #1	POC	WI	0.50000000	0.38609380
		PETRUS	WI	0.25000000	0.19468750
		SUN	WI	0.25000000	0.19468750
		MOON CO	RI		0.12304680
		FRANCISCA WINSTON EST TRUST	RI		0.00781250
		TENNECO	RI		0.02968750
		MURRAY C MCKINNON TRUST	RI		0.00195310
		MARSHALL & WINSTON	RI		0.00781250
		F S WINSTON MARITAL TRUST	RI		0.00390630
		CHARLES A KELLY	RI		0.00195310
		P W PARKER TRUST	RI		0.00390630
		J T WYMAN TRUST	RI		0.00390630
		DAVID I MILLER	OR		0.00750000
		WILLIAM O DEWITT	OR		0.00093750
		J T HOWARD	OR		0.00260410
		DONALD R WATTS	OR		0.00520830
		TENNECO	OR(PP)		0.00156250
		POC	OR		0.00515640
		FRATES SEELIGSON	NPRI		0.01757800
				1.00000000	1.00000000
32	MOONSHINE 7 #2-14	POC	WI	0.50000000	0.38671870
		TENNECO	WI	0.12500000	0.08750000
		PETRUS	WI	0.18750000	0.14812500
		SUN	WI	0.18750000	0.14812500
		MOON CO	RI		0.12304690
		FRANCISCA WINSTON EST TRUST	RI		0.00781250
		F S WINSTON MARITAL TRUST	RI		0.00390630
		CHARLES A KELLY	RI		0.00195310
		P W PARKER TRUST	RI		0.00390630
		J T WYMAN TRUST	RI		0.00390630
		MARSHALL & WINSTON	RI		0.00781250
		MURRAY C MCKINNON TRUST	RI		0.00195310
		TENNECO	RI		0.03750000
		DAVID I MILLER	OR		0.00750000
		WILLIAM O DEWITT	OR		0.00093750
		J T HOWARD	OR		0.00260420

TWIN LAKES DIVISION OF INTEREST
PROPOSED TWIN LAKES UNIT

TRACT #	LEASE/WELLS	OWNER	TYPE	GROSS WI	NET INTEREST
		DONALD R WATTS	OR		0.00520830
		POC	OR		0.00390620
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000
33	O'BRIEN GG #1 - #3	POC	WI	0.78984375	0.63845700
		TENNECO	WI	0.06250000	0.06250000
		W G STROECKER	WI	0.07031250	0.05683590
		MARION WEEKS	WI	0.07031250	0.05683590
		B & R WINTHER	WI	0.00703125	0.00568360
		MARSHALL & WINSTON	RI		0.00390630
		MOON CO	RI		0.10048840
		J T WYMAN TRUST	RI		0.00195310
		P W PARKER TRUST	RI		0.00195310
		FRANCISCA WINSTON EST TRUST	RI		0.00390630
		MURRAY C MCKINNON TRUST	RI		0.00097660
		F S WINSTON MARITAL TRUST	RI		0.00195310
		CHARLES A KELLEY	RI		0.00097660
		BEATRICE P B STONE	NPRI		0.00520830
		GROVER S STONE, JR	NPRI		0.00138890
		STEVEN L STONE	NPRI		0.00138890
		SANDRA J STONE	NPRI		0.00138890
		MARGARET E B DANIELS	NPRI		0.00520830
		DIANNE E DANIELS	NPRI		0.00138890
		JUNE A D GROTHE	NPRI		0.00138890
		CHARLES W DANIELS	NPRI		0.00138890
		JOHN D BRISCOE	NPRI		0.02812500
		NANCY E CARLOCK	NPRI		0.00117180
		VICTOR E CARLOCK	NPRI		0.00117180
		FRATES SEELIGSON	NPRI		0.01435550
				1.00000000	1.00000000
34	MOONSHINE 18 #1-5	POC	WI	0.50000000	0.38671870
		PETRUS	WI	0.18750000	0.14812510
		SUN	WI	0.18750000	0.14812500
		TENNECO	WI	0.12500000	0.12500000
		MOON CO	RI		0.12304690
		MURRAY C MCKINNON TRUST	RI		0.00195310
		FRANCISCA WINSTON EST TRUST	RI		0.00781250
		F S WINSTON MARITAL TRUST	RI		0.00390620
		MARSHALL & WINSTON	RI		0.00781250
		CHARLES A KELLY	RI		0.00195310
		P W PARKER TRUST	RI		0.00390630
		J T WYMAN TRUST	RI		0.00390630
		DAVID I MILLER	OR		0.00750000
		WILLIAM O DEWITT	OR		0.00093750
		J T HOWARD	OR		0.00260420
		DONALD R WATTS	OR		0.00520830
		POC	OR		0.00390630
		FRATES SEELIGSON	NPRI		0.01757800
				1.00000000	1.00000000
35	O'BRIEN N #1 & #2Y	POC	WI	0.73718750	0.59649650
		TENNECO	WI	0.12500000	0.12500000
		W G STROECKER	WI	0.06562500	0.05310060
		MARION WEEKS	WI	0.06562500	0.05310060
		B & R WINTHER	WI	0.00656250	0.00531010
		MARSHALL & WINSTON	RI		0.00781260
		MOON CO	RI		0.12304680
		J T WYMAN TRUST	RI		0.00292970
		P W PARKER TRUST	RI		0.00292970
		FRANCISCA WINSTON EST TRUST	RI		0.00585940
		F S WINSTON MARITAL TRUST	RI		0.00292970
		CHARLES A KELLY	RI		0.00195310
		MURRAY C MCKINNON TRUST	RI		0.00195310
		FRATES SEELIGSON	NPRI		0.01757810
				1.00000000	1.00000000