

Cage No.

4255

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Application, Transcripts,

Small Exhibits, Etc.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Roswell, New Mexico  
November 19, 1969

REGULAR HEARING

IN THE MATTER OF:

Application of Kincaid & Watson  
Drilling Company for a unit  
agreement, Eddy County, New Mexico.

Case No. 4254

Application of Kincaid & Watson  
Drilling Company for a waterflood  
project, Eddy County, New Mexico.

Case No. 4255

BEFORE: A. L. Porter, Examiner.

TRANSCRIPT OF HEARING

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS  
1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



MR. PORTER: Case 4254.

MR. HATCH: Case 4254. Application of Kincaid & Watson Drilling Company for a unit agreement, Eddy County, New Mexico.

Are you planning on combining 4255?

MR. HINKLE: Yes.

MR. HATCH: Shall we call Case 4255 to save time?

MR. PORTER: Mr. Hinkle, before we get under way with that case, I would like to have just a moment here.

We will take about a five-minute recess.

(Whereupon, a short recess was taken.)

MR. PORTER: The hearing will come to order, please.

MR. HINKLE: Case No. 4254 has just been called, which is the application of Kincaid & Watson for approval of unit agreement. The next case, 4255, is a companion case in that it's an application of approval for a waterflood project which is co-extensive with the unit agreement.

I would like to move at this time that Case No. 4255 be consolidated with Case 4254 for purposes of

taking testimony.

MR. PORTER: Cases 4254 and 4255 will be consolidated for the purpose of taking testimony.

MR. HINKLE: We have one witness, Mr. Robert Fitting.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 3 were marked for identification.)

ROBERT FITTING

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name and your residence.

A My name is Robert D. Fitting. I live in Midland, Texas. I am a consulting petroleum engineer and geologist.

Q You are a graduate petroleum engineer?

A Yes, sir, from Stanford University.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A Yes, sir, I have.

Q Your qualifications as an engineer are a

matter of record with the Commission?

A Yes, sir.

MR. PORTER: The Commission accepts the witness as qualified.

Q (By Mr. Hinkle) Are you familiar with the application of Kincaid and Watson Drilling Company in Cases 4254 and 4255?

A Yes, sir, I am.

Q What is Kincaid and Watson Drilling Company seeking to accomplish with these applications?

A They are seeking to waterflood the northern part of the East Red Lake Queen Field.

Q And also for approval of the waterflood project?

A Approval of the waterflood project and also a unit agreement for the area.

Q Have you made a study of this area?

A Yes, sir, I have. The East Red Lake Queen Field is separated in two parts. There is a northern part that is separated from the southern part by two wells shown on Exhibit 1, the map.

They are Kincaid and Watson labeled Leonard Wells, that are certainly dry holes. The producing

wells to the north appear to be in the same separate reservoir.

Q Have you prepared or has there been prepared under your direction certain exhibits for introduction in this case?

A Yes, sir, there has. Exhibit 1 is an area map of the Red Lake East Field Area showing the unit outline with the proposed injection wells, the initial injection wells in red and the three additional wells that will be placed on injection shown as dashed triangles.

The unit outline is shown as well as the other wells drilled to the Queen Sand within a radius of two and one half miles from the center of the unit.

Q You made mention of the fact that the portion which is in the proposed unit area is separated from the other portion of the Red Lake Pool.

A Yes, sir.

Q Will you explain that?

A We made a study on Exhibit 2, which is a book of the material presented to the Commission on this hearing. On page thirty-one is a structure map of

the Queen horizon and it has very little characteristics other than being a monocline of limited area.

We attempted a net pay correlation and it was impossible with the information that we had to determine an equitable distribution of pay earth from the electric logs or from the sample logs of the wells that were drilled in the area.

Q Refer to the structural map, which is the last page of Exhibit No. 2, and explain that to the Commission.

A It's a Queen Sand structure map with all of the available points taken primarily from electric logs. It shows a monocline; no anticlinal structure. This, in my opinion, is a stratographic trap.

Q In other words, there's no structural condition to determine the boundaries of the unit particularly?

A No, sir. It appears to be controlled to the east by a change in facies from a sand to a shale and by permeability differences to the west.

Q Now, I believe you have testified to start with four injection wells?

A Yes, sir.

Q And you contemplate that there may be three

additional injection wells; is that right?

A That is correct.

Q Now, refer to the diagrammatic sketch, which is typical of the manner in which the injection wells will be completed, which is the third from the last of Exhibit 1.

A On page 29 is a diagrammatic sketch of the injection wells program. It shows the surface casing with the number of sacks of cement, where the oil string was set and the number of sacks used in each one of the initially proposed injection wells.

The two-inch tubing will be plastic lined and a packer set above the perforated interval. The intervals and the packer depths are shown on the diagrammatic sketch.

Q Now, the next exhibit in Exhibit No. 2 -- that is from the next to the last -- is a reduction decline curve. Would you explain that to the Commission?

A The production from all of the wells in the unit area were collected from the state records and each one of them -- the individual leases are shown from page 13 through 27.

These were combined into a field total on a



per well per month production basis starting with page ten and going through twelve is the field production. This field production was plotted with the left hand column, the oil production per well per month and time along the basis.

This decline graph clearly indicates that the field is in the last stages of primary depletion and that without real conservation as far as spending money, these are non-economic wells at the preset time.

Q Now, have the working interest owners who have acreage within the proposed unit area agreed upon a participating formula?

A Yes, sir. Several meetings were held and a study was made of the reservoir. It was decided that it was impossible to use any geological definitions of net pay and that the most factual basis that could be used was the number of wells with the estimated ultimate oil recovery if each of the tracts as determined from decline graph analysis, the cumulative oil recovery of the individual wells and the acres that were assigned to these individual wells.

From this study it was determined that the most equitable way to divide the unit participation was

on the basis of seventy-five percent of the cumulative oil recovery and twenty-five percent of the unit acres or wells which, of course, were the same so that they had complete agreement from all of the operators as to this participation formula.

Q Are you familiar with the formal unit agreement which is proposed to be used in this case and copies of which have been filed with the application?

A Yes, sir.

Q Who is designated as the unit operator?

A Kincaid and Watson Drilling Company.

Q Is the formal unit agreement substantially the same form as heretofore been used and approved where all state lands are involved?

A Yes, sir.

Q Do you know whether or not the Commission of public lands has approved the formal unit agreement in this case?

A Yes, sir. Exhibit 3 is a letter from Mr. Bilberry stating that he approved the form and content of the unit agreement.

Q Now, is Kincaid and Watson seeking approval of a project allowable in this case?

A Yes, sir. It would be much easier to operate and produce the unit if we did have a unit allowable and we so request.

Q That is in accord with Rule 701 of the Commission?

A Yes, sir.

Q What is the status of the execution of the unit agreement by the various working interest owners?

A As I understand from Mr. Watson this morning that at least seventy-five percent of the unit has already signed and agreed to it.

Q All of the working interest owners have, through your meetings you have testified to, formally agreed to commit their interest to the unit agreement?

A One hundred percent of the operators and interest owners have agreed to the proposal of the water injection and the unit by letter ballot.

The percentage signing that I spoke of was the signing of the formal agreement. We anticipate no trouble in getting all of the interest owners to sign.

Q Have you made any calculations as to the recovery you anticipate through water injection, secondary recovery?

A We attempted a volumetric study of the reservoir and tried to make a material balance, but it was extremely difficult to come up with figures we thought were accurate. We had but one core analysis that was of the pay zone and unfortunately this well was drilled at a later time in the life of the reservoir, which never proved to be a good producer; but, it did give us some basis for comparing. But, still, it was not considered good enough to use so that as an arbitrary figure, we used an amount equivalent to the primary oil recovery.

Q And that is shown in Exhibit No. 2 to be 222,500 barrels?

A Yes, sir. It's interesting to note that the field to date has produced 223,439 barrels -- not to date, this is to the end of June of 1969, 223,439. The differences in the 222,500 to that figure is that we assumed an economic limit in the primary production where we believe most of the operators are operating at a loss at the present time.

Q Do you know whether or not Kincaid and Watson is seeking administrative approval or would like to have the right by the order of approval to have administrative approval in the future of additional

injection wells?

A Yes, sir. We propose only the three additional and we believe that that should adequately waterflood the area.

Q In your opinion, if the unit agreement is approved will it be in the interest of conservation and prevention of waste?

A Yes, sir, it will.

Q Will it tend to protect correlative rights?

A Yes, sir.

MR. HINKLE: We would like to introduce into evidence Exhibits 1 through 3.

MR. PORTER: No objection? Exhibits 1, 2 and 3 will be admitted.

MR. HINKLE: That's all we have.

MR. PORTER: Does anyone have a question of Mr. Fitting?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Fitting, again, what was the percentage of working interest ownership that has been committed to the unit to date?

A The commitment by letter ballot was one hundred

percent on the creation of the unit and the participation formula. The agreements have only recently been circulated and I am told by Mr. Watson that seventy-five percent of the unit has been returned as of today.

Q But, the participation formula was stated in the letter of agreement to unitize?

A Yes, sir.

Q So, you do have one hundred percent of agreement to the formula?

A That is correct.

Q Now, with respect to the mechanical construction of the well as depicted on Exhibit 29, I see that each well would have a packer installed and that injection would be through tubing.

A Correct.

Q Is it your proposal to use plastic lined tubing on these wells?

A It will be plastic lined as shown on page three, item six. What we propose to do is clean them out and then circulate hot water and equip the tubing and the packer with plastic coating before we use it.

Q Now, the annulus then between the tubing and the casing can be loaded with an inert fluid, can it not?

A Yes, sir.

Q Would you be agreeable to equipping that annulus with a pressure gauge at the surface to detect leakage?

A I would prefer it that way; yes, sir.

Q And the primary production to date has been 223,400 barrels. I believe as you stated on page three of Exhibit No. 2, you estimate that approximately the same amount of secondary oil would be recovered from the waterflood?

A Correct.

MR. NUTTER: Thank you. That's all.

MR. PORTER: Does anyone else have a question of Mr. Fitting? He may be excused.

(Witness excused.)

MR. PORTER: Does anyone have any further testimony to offer or any comment on the case? Cases 4254 and 4255 will be taken under advisement.

Call Case 4256.

I N D E X

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E X H I B I T S

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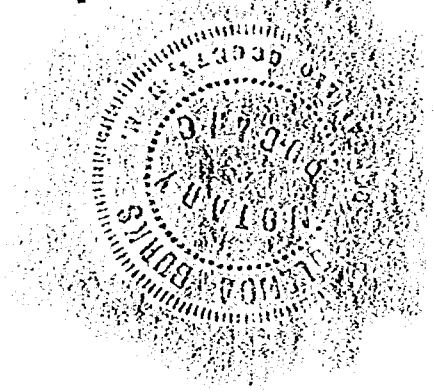
STATE OF NEW MEXICO    )  
                                  ) ss  
COUNTY OF BERNALILLO )

I, GLENDA BURKS, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Glenda Burks  
Notary Public

My Commission Expires:

March 12, 1973





# OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX. J. ARMIJO  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

November 24, 1969

Mr. Clarence Hinkle  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Re: Case No. 4255  
Order No. R-3881  
Applicant:  
Kincaid & Watson

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

Very truly yours,  
A. L. Carter, Jr.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC           X            
 Artesia OCC           X            
 Aztec OCC                             
 State Engineer           X          

**Other** \_\_\_\_\_

OIL CONSERVATION COMMISSION

P. O. BOX 2080

SANTA FE, NEW MEXICO 87501

November 25, 1969

C  
Mr. Clarence Hinkle  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Dear Sir:

O  
Reference is made to Commission Order No. R-3881, recently entered in Case No. 4253, approving the Kincaid & Watson East Red Lake Unit Waterflood Project.

P  
Initial injection shall be through the four authorized water injection wells, each of which shall be equipped with a string of plastic-coated tubing set in a packer. Packers shall be located as close as practicable to the uppermost perforation. The casing-tubing annulus of each injection well shall be loaded with an inert fluid and shall be equipped with a pressure gauge at the surface.

Y  
As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 546 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

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November 25, 1969

Mr. Clarence Hinkle  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

C  
O  
P  
Y  
promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/esr

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

Oil Conservation Commission  
Drawer DD  
Artesia, New Mexico 88210

Mr. D. E. Gray  
State Engineer Office  
Santa Fe, New Mexico 87501

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 4255  
Order No. R-3881

APPLICATION OF KINCAID & WATSON DRILLING  
COMPANY FOR A WATERFLOOD PROJECT, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 19, 1969, at Roswell, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 24th day of November, 1969, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Kincaid & Watson Drilling Company, seeks permission to institute a waterflood project in the East Red Lake Unit Area, East Red Lake Queen-Grayburg Pool, by the injection of water into the Queen formation through four injection wells in Section 36, Township 16 South, Range 28 East and Sections 1 and 2, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the applicant further seeks an administrative procedure whereby said project could be expanded to include additional injection wells in said project as may be necessary in order to complete an efficient injection pattern; that said administrative procedure should provide for administrative

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CASE No. 4255

Order No. R-3881

approval for conversion to water injection in exception to the well response requirements of Rule 701 E-5 of the Commission Rules and Regulations.

(4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(5) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations, provided however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Kincaid & Watson Drilling Company, is hereby authorized to institute a waterflood project in the East Red Lake Unit Area, East Red Lake Queen-Grayburg Pool, by the injection of water into the Queen formation through the following-described wells in Eddy County, New Mexico:

TOWNSHIP 16 SOUTH, RANGE 28 EAST, NMPM

Injection wells:

General Western Petroleum Corp. State Well No. 2 -  
Unit L - Section 36

General Western Petroleum Corp. State Well No. 3 -  
Unit N - Section 36

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM

Injection wells:

Kincaid & Watson Drilling Co. Atlantic State "A"  
Well No. 1 - Unit D - Section 1

Kincaid & Watson Drilling Co. Resler & Sheldon State  
Well No. 1 - Unit H - Section 2

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CASE No. 4255  
Order No. R-3881

(2) That the subject waterflood project is hereby designated the East Red Lake Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the East Red Lake Unit Waterflood Project to include such additional injection wells in said project as may be necessary to complete an efficient water injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

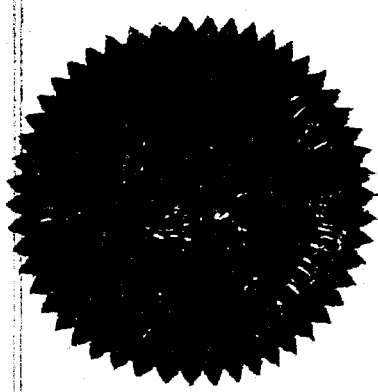
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

  
ALEX J. ARMIJO, Member

  
A. L. PORTER, Jr., Member & Secretary



esr/

DOCKET: REGULAR HEARING - WEDNESDAY - NOVEMBER 19, 1969

OIL CONSERVATION COMMISSION - 9 A.M. - ROSWELL INN, 1815 NORTH MAIN  
ROSWELL, NEW MEXICO

- ALLOWABLE: (1) Consideration of the oil allowable for December, 1969.
- (2) Consideration of the allowable production of gas for December, 1969, from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico, and also presentation of purchaser's nominations for said pools for the six-month period beginning January 1, 1970. Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico, for December, 1969.

CASE 4252: The application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in test at some period during the 1970 test season other than immediately following the 7-day deliverability flow test; further to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required. The above exceptions would be for the 1970 annual deliverability test season only and would be applicable to all wells in San Juan, Rio Arriba, McKinley, and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

CASE 4253: Application of Rice Engineering & Operating, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres and Paddock formations in the perforated interval from 5030 feet to 6995 feet in its Vacuum SWD Well No. H-35, located in Unit H of Section 35, Township 17 South, Range 35 East, Vacuum Field, Lea County, New Mexico.

CASE 4254: Application of Kincaid & Watson Drilling Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Red Lake Unit Area comprising 518 acres, more or less, of State lands in Sections 35 and 36 of Township 16 South, Range 28 East and Sections 1 and 2 of Township 17 South, Range 28 East, East Red Lake Queen-Grayburg Pool, Eddy County, New Mexico.



CASE 4255: Application of Kincaid & Watson Drilling Company for a water-flood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a water-flood project in the East Red Lake Unit Area by the injection of water into the Penrose sand of the Queen formation through 4 wells located in Section 36, Township 16 South, Range 28 East and Sections 1 and 2, Township 17 South, Range 28 East, East Red Lake Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4256: Application of Southwestern Natural Gas, Inc. for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its T. P. State "4" Well No. 1 located in Unit O of Section 4, Township 11 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Inbe Permo-Pennsylvanian Pool and the disposal of produced salt water through the intermediate-production casing annulus into the San Andres, Glorieta, Tubb, and Abo formations in the open-hole interval from 4150 feet to 8500 feet.

CASE 4257: Application of Sohio Petroleum Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the open-hole interval from 4920 feet to 4995 feet in its Phillips Lea SWD Well No. 4 located in Unit M of Section 31, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

CASE 4258: Southeastern nomenclature case calling for an order for the creation and extension of certain pools in Lea, Chaves, and Eddy Counties, New Mexico.

(a) Create a new pool in Lea County, New Mexico, classified as an oil pool for Montoya production and designated as the Loop 18-Montoya Pool. The discovery well is the Gulf Oil Corporation Harry Leonard NCT-E No. 5 located in Unit H of Section 16, Township 21 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM  
SECTION 16: NE/4

(b) Extend the North Baum-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM  
SECTION 26: NW/4

(c) Extend the Double L-Queen Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM  
SECTION 36: SE/4 SE/4

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM  
SECTION 1: E/2 E/2

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM  
SECTION 6: SW/4

(d) Extend the Hardy-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM  
SECTION 2: Lots 9, 10, 15 and 16

(e) Extend the Hobbs-Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM  
SECTION 28: SW/4  
SECTION 30: NE/4

(f) Extend the Lea-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM  
SECTION 14: NE/4

(g) Extend the West Sawyer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM  
SECTION 33: SE/4 and E/2 SW/4

(h) Extend the Shugart Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM  
SECTION 25: E/2 NW/4

(i) Extend the Spencer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 36 EAST, NMPM  
SECTION 24: N/2 SW/4

(j) Extend the Sulimar-Queen Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM  
SECTION 25: NW/4 NW/4

(k) Extend the Tulk-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 32 EAST, NMPM  
SECTION 35: NW/4

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

*App.*..... Exhibit No. *2*.....  
Case No. *4254-4255*

KINCAID & WATSON DRILLING COMPANY  
WATERFLOOD UNIT  
RED LAKE (QUEEN, GRAYBURG), EAST FIELD  
EDDY COUNTY, NEW MEXICO

ENTIRE RESERVOIR

Name of Field: Red Lake (Queen, Grayburg), East Field

Location: Townships 16-South and 17-South, Ranges 28-East and 29-East, Eddy County, New Mexico

Name of Formation: Queen Sand

Composition of Pay: Fine-grained tan-to-gray sand innerbedded with red silt and shale

Type of Structure: Monoclinial - Stratigraphic Trap

Type of Drive: Solution Gas

Original Bottom Hole Pressure: 800 psi (Estimated)

Current Bottom Hole Pressure: 50 psi (Estimated)

Depletion Status of Reservoir: At or near total primary oil depletion

PROJECT AREA

Leases: General Western Petroleum Corporation - State Lease  
SW/4 Section 36, Township 16-South, Range 28-East  
(160 Acres)

Kincaid & Watson Drilling Company - Kincaid State Lease  
SE/4 of SE/4 of Section 35, Township 16-South, Range 28-East (40 Acres)

Kincaid & Watson Drilling Company - Atlantic State "A" Lease  
Lots 1 & 2 (N/2 of NW/4) of Section 1, Township 17-South, Range 28-East (79.04 Acres)

Kincaid & Watson Drilling Company - Resler & Sheldon State Lease  
Lots 1 & 2 (N/2 of NE/4), S/2 of NE/4 of Section 2, Township 17-South, Range 28-East (158.64 Acres)

McCoy & Stevens - Atlantic State Lease  
S/2 of NW/4 of Section 1, Township 17-South, Range  
28-East (80 Acres)

Total Acres - 517.68

Local Structure: See Map

Average Depth to Top of Pay: 1600'

Net Effective Pay Thickness: 12' to 18'

Estimated Average Porosity: 14.28%

Estimated Average Permeability: 11.45 md.

Average Water Saturation: 35.16%

Gravity of Crude: 30°

Primary Production History:

1. Date First Well Completed & Number of Present Wells

General Western-State - October 1959	4 Wells
Kincaid & Watson-Kincaid State - October 1959	1 Well
Kincaid & Watson-Atlantic State "A" - July 1959	2 Wells
Kincaid & Watson-Resler & Sheldon State - March 1959	4 Wells
McCoy & Stevens-Atlantic State - September 1960	2 Wells
	13 Wells
2. See tabulation of Production History and Production Performance Graph
3. Average Current Daily Per Well Production

Oil:	1.32 barrels
Water:	Nil
Gas:	Too small to measure
Monthly Average Gas-Oil Ratio:	Unknown
4. Stage of Primary Depletion of Project Area: 99 Per Cent

Planned Injection:

1. Type of Injection Fluid: Water

2. Source of Injected Water: Santa Rosa Water Wells located in the NE/4 of Section 2, Township 17-South, Range 28-East
3. Probably a 5-Spot Pattern, depending on Pilot Waterflood results
4. Maximum Injection Pressure: 2000 psi
5. Estimated Maximum Per Well Rate of Injection: 400 barrels
6. The producing wells converted to injection service will be cleaned out, circulated with hot water, equipped with plastic coated injection tubing and packer (see Diagrammatic Sketch)

Results Expected:

1. Estimated Original Oil in Place: 890,000 barrels
2. Estimated Primary Oil Recovery: 222,500 barrels
3. Estimated Additional Oil Recovery by Secondary Oil Recovery means: 222,500 barrels

WATERFLOOD UNIT  
EAST RED LAKE (QUEEN) FIELD  
EDDY COUNTY, NEW MEXICO

The purpose of this report is to present the results of a geological and engineering study made with the objective of developing a secondary oil recovery program for the North Part of the East Red Lake (Queen) Field, Eddy County, New Mexico. The following is a discussion of the area and of the Secondary Oil Recovery Program.

FIELD DISCUSSION

The North Part of the East Red Lake (Queen) Field, located in North Central Eddy County, Sections 35 and 36, Township 16-South and Sections 1 and 2, Township 17-South, all in Range 28-East, has been developed with 16 producing oil wells, 1 shut-in gas well, and 5 dry holes. The waterflood area wells have a cumulative oil and ultimate primary recovery to July 1, 1969 of 223,439 barrels. All wells are currently considered producing at or below the economic producing limits. The estimated maximum secondary oil recovery producible by a complete alternate injection to producing well water injection pattern is 222,500 barrels.

Reservoir Characteristics

The oil pay occurs within the Penrose Sand interval of the Seven Rivers-Queen section and is composed of a fine-grained tan-to-gray sand innerbedded with red silt and shale. The accumulation is a stratigraphic-type trap, occurring on the flank of an easterly dipping monocline. The



eastern producing limits of the oil reservoir occur when the sand, through a facies change, grades into shale or siltstone and the limits of the reservoir are considered to have been completely defined. Average core data from the one well cored in the Unit Area is as follows:

Cored Interval: 1543-79(36')	Average Porosity: 14.28%
Feet of Core Recovered: 33.5'	Average Permeability: 11.45 md.
Feet of Sand Analyzed: 12.5'	Average Oil Saturation: 22.61%
Feet of Net Sand: 10.5'	Average Water Saturation: 35.16%

The primary producing energy of the reservoir is considered solution gas drive.

A study has been made of available sample and electric logs from producing wells and dry holes in the general area. This investigation was conducted in an attempt to prepare net and gross isopachous maps of the Unit Area. These efforts proved non-productive as the gross pay interval, although from 12' to 18' in thickness, lacks sufficient character to differentiate between producing wells and dry holes and net pay determinations cannot be readily confirmed from the radioactive well survey logs. An analysis of the per well cumulative oil recoveries in relation to the probable net pay thickness was made but this evidence was considered non-uniform and inconclusive. The conclusion was made that gross acre-feet of pay as a unitization parameter could not be reasonably used. All parameters must, therefore, be based on producing performance, acreage and cumulative oil recovery (see attached tabulation).

#### Production History

The area discovery was the Kincaid & Watson Drilling Company, Resler & Sheldon State #1 completed in March 1959 and the last producing

well was drilled in March 1964. The per well cumulative oil production to January 1, 1967 ranges from a low for the last well drilled of 551 barrels to a high of 30,640 barrels (see attached plat of Unit Area). The reservoir is in the last stage of primary energy depletion with only three of the leases in January of 1967 producing in excess of 40 barrels of oil per well per month (see attached lease production history).

#### SECONDARY RECOVERY OPERATIONS

It is apparent that before secondary oil recovery operations can be commenced, a Unit must be created of the North Part of the East Red Lake Field. In view of the minimum recoveries anticipated by secondary oil recovery waterflood operations, the following plan of operation is considered the best method to effect the greatest recovery of secondary oil per investment dollar. The size of the program will be kept at a minimum until the degree of floodability of the reservoir is known.

##### Injection Pattern

Four wells have been selected for the initial water injection (see attached plat). These wells should provide the maximum amount of oil stimulation with a limited number of input wells. The injectors divide the Unit Area and should permit expansion to a full-scale five-spot injection pattern when the degree of stimulation dictates. The recommended pattern places injection wells within 1900' of every producing well and the resultant flood efficiency is assumed at 55 per cent of that attainable with a complete five-spot pattern. The injection water required for the initial four wells is approximately 780,000 barrels

with 1,365,000 barrels for the total input wells on expansion.

#### Water Injection System

The proposed water injection station is equipped with a single Triplex injection pump, tank and building. The injection lines are planned as 2" Line Pipe, cement lined, coated and wrapped. The producing wells converted to injection service will be cleaned out, circulated with hot water, and equipped with plastic coated injection tubing and packer. All produced water will be re-injected and all flow lines will be cement or plastic lined. The designed injection plant operating pressure is 2000 psi with a probable wellhead injection pressure of an average of 1100 psi at an input rate of 300 to 400 barrels of water per day.

#### Water Supply System

The injection water supply will be obtained from present water wells located in the NE/4 of Section 2, Township 17-South, Range 28-East. It is anticipated the Unit owners will purchase three of the present Santa Rosa water wells from the Double Eagle Water Company and all of the present surface equipment necessary to produce the wells will be included in the sale.

Enclosed is a copy of the basic and final tabulation of the unitization parameters used by the Operators to develop a participation formula for this Unit.

SUMMARY  
EAST RED LAKE (QUEEN) FIELD UNIT  
EDDY COUNTY, NEW MEXICO

PERCENTAGE PARTICIPATION PARAMETERS

Unit Tract No.	Operator & Lease	No. Wells Per Cent	Estimated Oil Recovery, Per Cent	Cumulative Oil Recovery, Per Cent	Estimated Future Oil Recovery, Per Cent	Unit Acres, Per Cent	Producing Rate, Per Cent
1	<u>General Western Petroleum Corp.</u> State	30.770	29.57	29.184637	36.52	30.907124	33.96
2	<u>Kincaid &amp; Watson Drilling Co.</u> Kincaid State	7.690	4.42	4.602858	1.12	7.726781	5.03
4	<u>Kincaid &amp; Watson Drilling Co. &amp; Pearson-Sibert Oil Co. of Texas</u> Atlantic State "A"	15.385	20.40	20.653877	15.85	15.268119	17.60
3	Resler & Sheldon State	30.770	26.23	27.260332	7.92	30.644414	18.54
5	<u>McCoy &amp; Stevens</u> Atlantic State	15.385	19.38	18.298296	38.59	15.453562	24.87

PARTICIPATION FORMULA

Unit Tract No.	Operator and Lease	75% Cumulative Recovery 25% Unit Acres or Wells
1	<u>General Western Petroleum Corp.</u> State	29.615259
2	<u>Kincaid &amp; Watson Drilling Co.</u> Kincaid State	5.383838
4	<u>Kincaid &amp; Watson Drilling Co. &amp; Pearson-Sibert Oil Co. of Texas</u> Atlantic State "A"	19.307438
3	Resler & Sheldon State	28.106353
5	<u>McCoy &amp; Stevens</u> Atlantic State	17.587112

PARTICIPATION PARAMETERS  
EAST RED LAKE (QUEEN) FIELD UNIT  
EDDY COUNTY, NEW MEXICO

Unit Tract No.	Operator & Lease	Wells		Estimated Ultimate Oil Recovery		Cumulative Oil Recovery to 12-1-66		Estimated Future Oil Recovery From 12-1-66		Unit Acres		Current Producing Rate 6-1-66 to 12-1-66	
		No.	Per Cent	Bbls.	Per Cent	Bbls.	Per Cent	Bbls.	Per Cent	Acres	Per Cent	Bbls.	Per Cent
1	General Western Petroleum Corp. State	4	30.770	64,602	29.57	60,362	29.184637	4,240	36.52	160.00	30.907124	1,689	33.96
2	Kincaid & Watson Drilling Co. Kincaid State	1	7.690	9,650	4.42	9,520	4.602858	130	1.12	40.00	7.726781	250	5.03
4	Kincaid & Watson Drilling Co. & Pearson-Sibert Oil Co. of Texas Atlantic State "A"	2	15.385	44,558	20.40	42,718	20.653877	1,840	15.85	79.04	15.268119	875	17.60
3	Resler & Sheldon St.	4	30.770	57,302	26.23	56,382	27.260332	920	7.92	158.64	30.644414	922	18.54
5	McCoy & Stevens Atlantic State	2	15.385	42,326	19.38	37,846	18.298296	4,480	38.59	80.00	15.453562	1,237	24.87
TOTAL -		13	100.000	218,438	100.00	206,828	100.000000	11,610	100.00	517.68	100.000000	4,973	100.00

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: Red Lake (Queen, Grayburg)  
 Lease: East Red Lake Unit      County: Eddy, New Mexico  
 East

	No.	Bbl.	Per		No.	Bbl.	Per
	Wells	Prod.	Well		Wells	Prod.	Well
			Prod.				Prod.
Year: <u>1959</u>				Year: <u>1960</u>			
Jan.				Jan.	8	5547	693
Feb.				Feb.	10	6631	663
Mar.	1	182	182	Mar.	10	6050	605
Apr.	1	196	196	Apr.	10	5173	518
May	1	155	155	May	10	5047	505
June	1	190	190	June	10	4232	423
July	2	969	485	July	10	4922	492
Aug.	2	1477	739	Aug.	10	4596	460
Sept.	3	2441	814	Sept.	11	4428	403
Oct.	5	3344	669	Oct.	11	4349	395
Nov.	6	5857	976	Nov.	12	3542	295
Dec.	7	6117	874	Dec.	12	4087	341
Year Total:		20,928		Year Total:		58,609	
Cum. Total:		20,928		Cum. Total:		79,537	

## Year: 1961

Jan.	12	4972	414
Feb.	12	4214	351
Mar.	12	4275	356
Apr.	12	3966	330
May	12	3340	278
June	12	3410	284
July	12	3254	271
Aug.	12	2534	211
Sept.	12	2391	199
Oct.	12	2318	193
Nov.	12	2403	200
Dec.	12	2536	211

Year Total: 39,613  
 Cum. Total: 119,150

## Year: 1962

Jan.	12	2518	210
Feb.	12	2234	186
Mar.	12	2478	206
Apr.	12	1899	158
May	12	2552	213
June	12	2604	217
July	12	2965	247
Aug.	12	2199	183
Sept.	12	1942	162
Oct.	12	3291	274
Nov.	12	2538	211
Dec.	12	2471	206

Year Total: 29,691  
 Cum. Total: 148,841

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.

Field: Red Lake (Queen, Grayburg)  
East

Lease: East Red Lake Unit

County: Eddy, New Mexico

	No.	Bbl.	Per
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>
Year: <u>1963</u>			
Jan.	12	2411	201
Feb.	12	1925	160
Mar.	12	2638	220
Apr.	12	2081	173
May	12	2046	170
June	12	2088	174
July	12	1534	128
Aug.	12	1655	138
Sept.	12	1601	133
Oct.	12	1227	102
Nov.	12	1413	118
Dec.	12	1267	106

Year Total: 21,886  
Cum. Total: 170,727

	No.	Bbl.	Per
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>
Year: <u>1964</u>			
Jan.	12	1560	130
Feb.	12	1380	115
Mar.	12	1109	92
Apr.	12	1397	116
May	13	1572	121
June	13	1361	105
July	13	1279	98
Aug.	13	1005	77
Sept.	13	1171	90
Oct.	13	1178	91
Nov.	13	1012	78
Dec.	13	1101	85

Year Total: 15,125  
Cum. Total: 185,852

Year: <u>1965</u>			
Jan.	13	1003	77
Feb.	13	901	69
Mar.	13	1014	78
Apr.	13	884	68
May	13	854	66
June	13	979	75
July	13	1068	82
Aug.	13	1095	84
Sept.	13	951	73
Oct.	13	981	75
Nov.	13	971	75
Dec.	13	951	73

Year Total: 11,652  
Cum. Total: 197,504

Year: <u>1966</u>			
Jan.	13	962	74
Feb.	13	916	70
Mar.	13	997	77
Apr.	13	867	67
May	13	819	63
June	13	756	58
July	13	875	67
Aug.	13	942	72
Sept.	13	807	62
Oct.	13	855	66
Nov.	13	738	57
Dec.	13	799	61

Year Total: 10,333  
Cum. Total: 207,837

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: Red Lake (Queen, Grayburg)  
 Lease: East Red Lake Unit                      County: Eddy, New Mexico

	<u>No.</u>	<u>Bbl.</u>	<u>Per</u>		<u>No.</u>	<u>Bbl.</u>	<u>Per</u>
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1967</u>				Year: <u>1968</u>			
Jan.	13	727	56	Jan.	13	419	32
Feb.	13	640	49	Feb.	13	418	32
Mar.	13	689	53	Mar.	13	541	42
Apr.	13	711	55	Apr.	13	531	41
May	13	638	49	May	13	478	37
June	13	614	47	June	13	405	31
July	13	533	41	July	13	424	33
Aug.	13	592	46	Aug.	13	586	45
Sept.	13	580	45	Sept.	13	446	34
Oct.	13	468	36	Oct.	13	457	35
Nov.	13	444	34	Nov.	13	453	35
Dec.	13	568	44	Dec.	13	528	41
Year Total:		7,204		Year Total:		5,686	
Cum. Total:		215,041		Cum. Total:		220,727	

## Year: 1969

Jan.	13	494	38
Feb.	13	395	30
Mar.	13	475	37
Apr.	13	396	30
May	13	418	32
June	13	534	41
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total  
to 7-1-69                      2,712

Cum. Total  
to 7-1-69                      223,439



# OIL PRODUCTION

Operator: General Western Petr. Corp.      Field: East Red Lake (Queen)

Lease: State

County: Eddy, New Mexico

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1959</u>			

Jan.			
Feb.			
Mar.			
April			
May			
June			
July			
Aug.			
Sept.			
Oct.	1	285	285
Nov.	2	2157	1079
Dec.	2	2083	1042

Year Total: 4,525  
Cum. Total: 4,525

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1960</u>			

Jan.	3	2068	689
Feb.	4	2698	675
Mar.	4	2366	592
April	4	1532	383
May	4	1399	350
June	4	1643	411
July	4	1520	380
Aug.	4	1291	323
Sept.	4	1181	295
Oct.	4	1443	361
Nov.	4	772	193
Dec.	4	831	208

Year Total: 18,744  
Cum. Total: 23,269

Year: 1961

Jan.	4	840	210
Feb.	4	784	196
Mar.	4	1188	297
April	4	1010	253
May	4	904	226
June	4	936	234
July	4	781	195
Aug.	4	699	175
Sept.	4	710	178
Oct.	4	826	207
Nov.	4	725	181
Dec.	4	702	176

Year Total: 10,105  
Cum. Total 33,374

Year: 1962

Jan.	4	861	215
Feb.	4	842	211
Mar.	4	912	228
April	4	572	143
May	4	883	221
June	4	882	221
July	4	710	178
Aug.	4	663	166
Sept.	4	555	139
Oct.	4	796	199
Nov.	4	650	163
Dec.	4	540	137

Year Total: 8,866  
Cum. Total: 42,240

# OIL PRODUCTION

Operator: General Western Petr. Corp.      Field: East Red Lake (Queen)

Lease:      State      County: Eddy, New Mexico

	<u>No.</u>	<u>Bbls.</u>	<u>Per</u>		<u>No.</u>	<u>Bbls.</u>	<u>Per</u>
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1963</u>				Year: <u>1964</u>			
Jan.	4	707	177	Jan.	4	405	101
Feb.	4	561	140	Feb.	4	403	101
Mar.	4	676	169	Mar.	4	393	98
April	4	612	153	April	4	371	93
May	4	574	144	May	4	366	92
June	4	563	141	June	4	339	85
July	4	527	132	July	4	318	80
Aug.	4	509	127	Aug.	4	294	74
Sept.	4	453	113	Sept.	4	304	76
Oct.	4	504	126	Oct.	4	266	67
Nov.	4	440	110	Nov.	4	211	53
Dec.	4	454	114	Dec.	4	250	63
Year Total:		6,580		Year Total:		3,920	
Cum. Total		48,820		Cum. Total:		52,740	
Year: <u>1965</u>				Year: <u>1966</u>			
Jan.	4	202	51	Jan.	4	374	94
Feb.	4	218	54	Feb.	4	366	92
Mar.	4	228	57	Mar.	4	366	92
April	4	221	55	April	4	336	84
May	4	192	48	May	4	341	85
June	4	380	95	June	4	324	81
July	4	547	137	July	4	292	73
Aug.	4	514	129	Aug.	4	300	75
Sept.	4	443	111	Sept.	4	276	69
Oct.	4	432	108	Oct.	4	279	70
Nov.	4	399	100	Nov.	4	218	55
Dec.	4	374	94	Dec.	4	261	65
Year Total:		4,150		Year Total:		3,733	
Cum. Total:		56,890		Cum. Total:		60,623	

# OIL PRODUCTION

Operator: General Western Petr. Corp.      Field: East Red Lake (Queen)

Lease: State      County: Eddy, New Mexico

	<u>No.</u>	<u>Bbl.</u>	<u>Per</u>		<u>No.</u>	<u>Bbl.</u>	<u>Per</u>
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1967</u>				Year: <u>1968</u>			
Jan.	4	226	57	Jan.	4	157	39
Feb.	4	181	45	Feb.	4	124	31
Mar.	4	210	53	Mar.	4	170	43
April	4	191	48	April	4	191	48
May	4	203	51	May	4	179	45
June	4	188	47	June	4	169	42
July	4	196	49	July	4	121	30
Aug.	4	195	49	Aug.	4	184	46
Sept.	4	198	50	Sept.	4	147	37
Oct.	4	181	45	Oct.	4	146	37
Nov.	4	186	47	Nov.	4	138	35
Dec.	4	158	40	Dec.	4	136	34
Year Total		2,313		Year Total:		1,862	
Cum. Total		62,936		Cum. Total:		64,798	

Year: <u>1969</u>			
Jan.	4	138	35
Feb.	4	115	29
Mar.	4	131	33
April	4	119	30
May	4	107	27
June	4	240	60
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total  
to 7-1-69      850

Cum. Total  
to 7-1-69      65,648

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.

Field: East Red Lake (Queen)

Lease: Atlantic State "A"

County: Eddy, New Mexico

	No.	Bbl.	Per		No.	Bbl.	Per
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1959</u>				Year: <u>1960</u>			
Jan.				Jan.	2	1537	768
Feb.				Feb.	2	1184	592
Mar.				Mar.	2	1010	505
April				April	2	1257	628
May				May	2	1264	632
June				June	2	1184	592
July	1	912	912	July	2	1098	549
Aug.	1	1052	1052	Aug.	2	1155	577
Sept.	1	1165	1165	Sept.	2	925	462
Oct.	1	1084	1084	Oct.	2	575	287
Nov.	1	1019	1019	Nov.	2	406	203
Dec.	2	1479	739	Dec.	2	702	351
Year Total:		6,711		Year Total:		12,297	
Cum. Total		6,711		Cum. Total:		19,008	
Year: <u>1961</u>				Year: <u>1962</u>			
Jan.	2	684	342	Jan.	2	536	268
Feb.	2	596	298	Feb.	2	423	211
Mar.	2	613	306	Mar.	2	516	258
April	2	595	297	April	2	328	164
May	2	494	247	May	2	362	181
June	2	591	295	June	2	417	208
July	2	533	266	July	2	643	321
Aug.	2	473	236	Aug.	2	330	165
Sept.	2	378	189	Sept.	2	394	197
Oct.	2	310	155	Oct.	2	822	411
Nov.	2	671	335	Nov.	2	628	314
Dec.	2	609	304	Dec.	2	655	328
Year Total		6,547		Year Total:		6,054	
Cum. Total		25,555		Cum. Total		31,609	

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)

Lease: Atlantic State "A"      County: Eddy, New Mexico

	<u>No.</u>	<u>Bbl.</u>	<u>Per</u>		<u>No.</u>	<u>Bbl.</u>	<u>Per</u>
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1963</u>				Year: <u>1964</u>			
Jan.	2	648	324	Jan.	2	376	188
Feb.	2	480	240	Feb.	2	254	127
Mar.	2	620	310	Mar.	2	235	118
April	2	412	206	April	2	396	198
May	2	521	261	May	2	440	220
June	2	498	249	June	2	277	139
July	2	256	128	July	2	233	117
Aug.	2	315	158	Aug.	2	250	125
Sept.	2	189	95	Sept.	2	209	105
Oct.	2	354	177	Oct.	2	188	94
Nov.	2	470	235	Nov.	2	187	94
Dec.	2	249	125	Dec.	2	182	91

Year Total: 5,012  
Cum. Total 36,621

Year Total: 3,227  
Cum. Total 39,848

Year: <u>1965</u>				Year: <u>1966</u>			
Jan.	2	200	100	Jan.	2	135	68
Feb.	2	132	66	Feb.	2	134	67
Mar.	2	168	84	Mar.	2	78	39
April	2	130	65	April	2	107	54
May	2	142	71	May	2	40	20
June	2	157	79	June	2	67	34
July	2	115	58	July	2	140	70
Aug.	2	135	68	Aug.	2	192	96
Sept.	2	151	76	Sept.	2	154	77
Oct.	2	111	56	Oct.	2	165	82
Nov.	2	137	69	Nov.	2	157	79
Dec.	2	133	66	Dec.	2	164	82

Year Total: 1,711  
Cum. Total 41,559

Year Total: 1,533  
Cum. Total 43,092

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)

Lease: Atlantic State "A"      County: Eddy, New Mexico

	No. <u>Wells</u>	Bbl. <u>Prod.</u>	Per Well <u>Prod.</u>		No. <u>Wells</u>	Bbl. <u>Prod.</u>	Per Well <u>Prod.</u>
Year: <u>1967</u>				Year: <u>1968</u>			
Jan.	2	157	79	Jan.	2	102	51
Feb.	2	158	79	Feb.	2	121	6
Mar.	2	114	57	Mar.	2	90	45
April	2	146	73	April	2	104	52
May	2	94	47	May	2	121	61
June	2	124	62	June	2	40	20
July	2	112	56	July	2	49	25
Aug.	2	62	31	Aug.	2	91	46
Sept.	2	70	35	Sept.	2	77	39
Oct.	2	28	14	Oct.	2	59	30
Nov.	2	76	38	Nov.	2	118	59
Dec.	2	129	64	Dec.	2	96	48
Year Total:		1,270		Year Total:		1,068	
Cum. Total		44,362		Cum. Total		45,430	

## Year: 1969

Jan.	2	100	50
Feb.	2	73	37
Mar.	2	85	43
Apr.	2	68	34
May	2	62	31
June	2	67	33
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total  
to 7-1-69      455

Cum Total  
to 7-1-69      45,885

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)

Lease: Kincaid State      County: Eddy, New Mexico

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>		<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1959</u>				Year: <u>1960</u>			
Jan.				Jan.	1	403	403
Feb.				Feb.	1	532	532
Mar.				Mar.	1	409	409
April				April	1	358	358
May				May	1	322	322
June				June	1	264	264
July				July	1	210	210
Aug.				Aug.	1	231	231
Sept.				Sept.	1	358	358
Oct.	1	200	200	Oct.	1	241	241
Nov.	1	1028	1028	Nov.	1	226	226
Dec.	1	824	824	Dec.	1	227	227
Year Total:		2,052		Year Total:		3,781	
Cum. Total		2,052		Cum. Total		5,833	

## Year: 1961

Jan.	1	187	187
Feb.	1	162	162
Mar.	1	153	153
April	1	138	138
May	1	154	154
June	1	154	154
July	1	106	106
Aug.	1	16	16
Sept.	1	99	99
Oct.	1	41	41
Nov.	1	6	6
Dec.	1	76	76

Year Total: 1,292  
Cum. Total 7,125

## Year: 1962

Jan.	1	178	178
Feb.	1	74	74
Mar.	1	122	122
April	1	71	71
May	1	66	66
June	1	5	5
July	1	0	0
Aug.	1	5	5
Sept.	1	89	89
Oct.	1	99	99
Nov.	1	78	78
Dec.	1	97	97

Year Total: 884  
Cum. Total: 8,009

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg Co.

Field: East Red Lake (Queen)

Lease: Kincaid State

County: Eddy, New Mexico

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1963</u>			
Jan.	1	97	97
Feb.	1	100	100
Mar.	1	95	95
April	1	97	97
May	1	90	90
June	1	90	90
July	1	5	5
Aug.	1	5	5
Sept.	1	5	5
Oct.	1	8	8
Nov.	1	70	70
Dec.	1	38	38

Year Total: 700  
Cum. Total: 8,709

Year: 1965

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Jan.	1	30	30
Feb.	1	31	31
Mar.	1	33	33
April	1	25	25
May	1	19	19
June	1	9	9
July	1	4	4
Aug.	1	17	17
Sept.	1	15	15
Oct.	1	-	-
Nov.	1	-	-
Dec.	1	14	14

Year Total: 197  
Cum. Total: 9,189

Year: 1964

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Jan.	1	25	25
Feb.	1	35	35
Mar.	1	28	28
April	1	21	21
May	1	22	22
June	1	19	19
July	1	11	11
Aug.	1	16	16
Sept.	1	14	14
Oct.	1	22	22
Nov.	1	34	34
Dec.	1	36	36

Year Total: 283  
Cum. Total: 8,992

Year: 1966

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Jan.	1	13	13
Feb.	1	25	25
Mar.	1	8	8
April	1	17	17
May	1	18	18
June	1	14	14
July	1	58	58
Aug.	1	59	59
Sept.	1	43	43
Oct.	1	41	41
Nov.	1	35	35
Dec.	1	37	37

Year Total: 368  
Cum. Total: 9,557



# OIL PRODUCTION

Operator: Kincaid Watson Drlg. Co.

Field: East Red Lake (Queen)

Lease: Kincaid State

County: Eddy, New Mexico

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1967</u>			
Jan.	1	29	29
Feb.	1	35	35
Mar.	1	43	43
April	1	12	12
May	1	10	10
June	1	12	12
July	1	10	10
Aug.	1	11	11
Sept.	1	5	5
Oct.	1	18	18
Nov.	1	11	11
Dec.	1	20	20

Year Total: 216  
Cum. Total: 9,773

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1968</u>			
Jan.	1	25	25
Feb.	1	18	18
Mar.	1	21	21
April	1	6	6
May	1	7	7
June	1	5	5
July	1	13	13
Aug.	1	8	8
Sept.	1	17	17
Oct.	1	17	17
Nov.	1	21	21
Dec.	1	19	19

Year Total: 177  
Cum. Total: 9,950

Year: 1969

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Jan.	1	23	23
Feb.	1	18	18
Mar.	1	23	23
Apr.	1	14	14
May	1	18	18
June	1	16	16
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total  
to 7-1-69 112

Cum. Total  
to 7-1-69 10,062

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)  
 Lease: Resler & Sheldon State      County: Eddy, New Mexico

	No. <u>Wells</u>	Bbl. <u>Prod.</u>	Per Well <u>Prod.</u>
Year: <u>1959</u>			
Jan.			
Feb.			
Mar.	1	182	182
April	1	196	196
May	1	155	155
June	1	190	190
July	1	57	57
Aug.	1	425	425
Sept.	2	1276	638
Oct.	2	1775	887
Nov.	2	1653	826
Dec.	2	1731	865

Year Total: 7,640  
 Cum. Total: 7,640

Year: 1961

	No.	Bbl.	Per
Jan.	3	1108	369
Feb.	3	960	320
Mar.	3	846	282
April	3	805	268
May	3	412	137
June	3	779	260
July	3	980	327
Aug.	3	666	222
Sept.	3	663	221
Oct.	3	743	248
Nov.	3	590	197
Dec.	3	663	221

Year Total: 9,215  
 Cum. Total: 36,066

Year: 1960

	No. <u>Wells</u>	Bbl. <u>Prod.</u>	Per Well <u>Prod.</u>
Jan.	2	1539	769
Feb.	3	2217	739
Mar.	3	2265	755
April	3	2031	677
May	3	2062	687
June	3	1141	380
July	3	2094	698
Aug.	3	1919	640
Sept.	3	1210	403
Oct.	3	1066	355
Nov.	3	657	219
Dec.	3	1010	337

Year Total: 19,211  
 Cum. Total: 26,851

Year: 1962

	No.	Bbl.	Per
Jan.	3	574	191
Feb.	3	530	177
Mar.	3	541	180
April	3	537	179
May	3	535	178
June	3	483	161
July	3	764	255
Aug.	3	669	223
Sept.	3	572	191
Oct.	3	778	259
Nov.	3	649	216
Dec.	3	510	170

Year Total: 7,142  
 Cum. Total: 43,208

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)

Lease: Resler & Sheldon State      County: Eddy, New Mexico

	No. Wells	Bbl. Prod.	Per Well Prod.		No. Wells	Bbl. Prod.	Per Well Prod.
Year: <u>1963</u>				Year: <u>1964</u>			
Jan.	3	439	146	Jan.	3	437	146
Feb.	3	381	127	Feb.	3	334	111
Mar.	3	699	233	Mar.	3	237	79
April	3	523	174	April	3	271	90
May	3	405	135	May	4	404	101
June	3	499	166	June	4	403	101
July	3	641	214	July	4	366	92
Aug.	3	573	191	Aug.	4	127	32
Sept.	3	413	138	Sept.	4	310	76
Oct.	3	92	30	Oct.	4	354	89
Nov.	3	73	24	Nov.	4	251	63
Dec.	3	133	41	Dec.	4	315	79

Year Total: 4,871  
Cum. Total: 48,079

Year Total: 3,809  
Cum. Total: 51,888

## Year: 1965

Jan.	4	266	67
Feb.	4	254	63
Mar.	4	278	64
April	4	237	59
May	4	234	59
June	4	183	46
July	4	191	48
Aug.	4	196	49
Sept.	4	132	33
Oct.	4	201	50
Nov.	4	201	50
Dec.	4	179	44

Year Total: 2,552  
Cum. Total: 54,440

## Year: 1966

Jan.	4	178	45
Feb.	4	187	47
Mar.	4	299	75
April	4	161	40
May	4	195	49
June	4	134	36
July	4	160	40
Aug.	4	182	45
Sept.	4	148	37
Oct.	4	162	40
Nov.	4	136	34
Dec.	4	147	37

Year Total: 2,089  
Cum. Total: 56,529

# OIL PRODUCTION

Operator: Kincaid & Watson Drlg. Co.      Field: East Red Lake (Queen)

Lease: Resler & Sheldon State      County: Eddy, New Mexico

	No.	Bbl.	Per		No.	Bbl.	Per
	<u>Wells</u>	<u>Prod.</u>	<u>Well</u>		<u>Wells</u>	<u>Prod.</u>	<u>Well</u>
			<u>Prod.</u>				<u>Prod.</u>
Year: <u>1967</u>				Year: <u>1968</u>			
Jan.	4	120	30	Jan.	4	15	4
Feb.	4	98	25	Feb.	4	52	13
Mar.	4	87	22	Mar.	4	80	20
April	4	143	36	April	4	54	14
May	4	143	36	May	4	40	10
June	4	111	28	June	4	81	20
July	4	62	16	July	4	40	10
Aug.	4	145	36	Aug.	4	93	23
Sept.	4	146	37	Sept.	4	51	13
Oct.	4	69	17	Oct.	4	37	9
Nov.	4	20	5	Nov.	4	20	5
Dec.	4	55	14	Dec.	4	82	21

Year Total: 1,199  
Cum. Total: 57,728

Year Total: 645  
Cum. Total: 58,373

## Year: 1969

Jan.	4	50	12
Feb.	4	27	7
Mar.	4	32	8
April	4	13	3
May	4	53	13
June	4	32	8
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total: 207  
to 7-1-69

Cum. Total: 58,580  
to 7-1-69

# OIL PRODUCTION

Operator: McCoy & Stevens

Field: East Red Lake (Queen)

Lease: Atlantic State

County: Eddy

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1960</u>			
Jan.			
Feb.			
Mar.			
April			
May			
June			
July			
Aug.			
Sept.	1	754	754
Oct.	1	1024	1024
Nov.	2	1481	741
Dec.	2	1317	659

Year Total: 4,576  
Cum. Total: 4,576

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1961</u>			
Jan.	2	2153	1077
Feb.	2	1712	856
Mar.	2	1475	738
April	2	1418	709
May	2	1279	640
June	2	1047	524
July	2	854	427
Aug.	2	680	340
Sept.	2	541	270
Oct.	2	398	199
Nov.	2	411	206
Dec.	2	486	243

Year Total: 12,454  
Cum. Total: 17,030

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1962</u>			
Jan.	2	369	185
Feb.	2	365	183
Mar.	2	387	194
April	2	391	196
May	2	706	353
June	2	817	409
July	2	848	424
Aug.	2	532	266
Sept.	2	332	166
Oct.	2	796	398
Nov.	2	533	267
Dec.	2	669	335

Year Total: 6,745  
Cum. Total: 23,775

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1963</u>			
Jan.	2	520	260
Feb.	2	403	202
Mar.	2	548	274
April	2	437	219
May	2	456	228
June	2	438	219
July	2	105	53
Aug.	2	253	127
Sept.	2	376	188
Oct.	2	434	217
Nov.	2	360	180
Dec.	2	393	197

Year Total: 4,723  
Cum. Total: 28,498

# OIL PRODUCTION

Operator: McCoy & Stevens

Field: East Red Lake (Queen)

Lease: Atlantic-State

County: Eddy, New Mexico

	No. Wells	Bbl. Prod.	Per Well Prod.		No. Wells	Bbl. Prod.	Per Well Prod.
Year: <u>1964</u>				Year: <u>1965</u>			
Jan.	2	317	159	Jan.	2	305	152
Feb.	2	354	177	Feb.	2	266	133
Mar.	2	216	108	Mar.	2	307	154
April	2	338	169	April	2	271	136
May	2	340	170	May	2	267	134
June	2	323	162	June	2	250	125
July	2	351	176	July	2	211	106
Aug.	2	318	159	Aug.	2	233	117
Sept.	2	334	167	Sept.	2	210	105
Oct.	2	348	174	Oct.	2	237	119
Nov.	2	329	165	Nov.	2	234	117
Dec.	2	318	159	Dec.	2	251	126
Year Total:		3,886		Year Total		3,042	
Cum. Total:		32,384		Cum. Total		35,426	

Year: <u>1966</u>				Year: <u>1967</u>			
Jan.	2	262	131	Jan.	2	195	98
Feb.	2	204	102	Feb.	2	168	84
Mar.	2	246	123	Mar.	2	235	118
April	2	246	123	April	2	219	110
May	2	225	113	May	2	188	94
June	2	217	109	June	2	179	90
July	2	225	113	July	2	153	77
Aug.	2	209	105	Aug.	2	179	90
Sept.	2	186	93	Sept.	2	161	81
Oct.	2	208	104	Oct.	2	172	86
Nov.	2	192	96	Nov.	2	151	76
Dec.	2	190	95	Dec.	2	206	103
Year Total:		2,610		Year Total:		2,206	
Cum. Total:		38,036		Cum. Total:		40,242	

# OIL PRODUCTION

Operator: McCoy & Stevens

Field: East Red Lake (Queen)

Lease: Atlantic State

County: Eddy, New Mexico

	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1968</u>			
Jan.	2	120	60
Feb.	2	103	52
Mar.	2	180	90
April	2	176	88
May	2	131	66
June	2	110	55
July	2	201	101
Aug.	2	210	105
Sept.	2	154	77
Oct.	2	198	99
Nov.	2	156	78
Dec.	2	195	98

Year Total: 1,934  
Cum. Total: 42,176

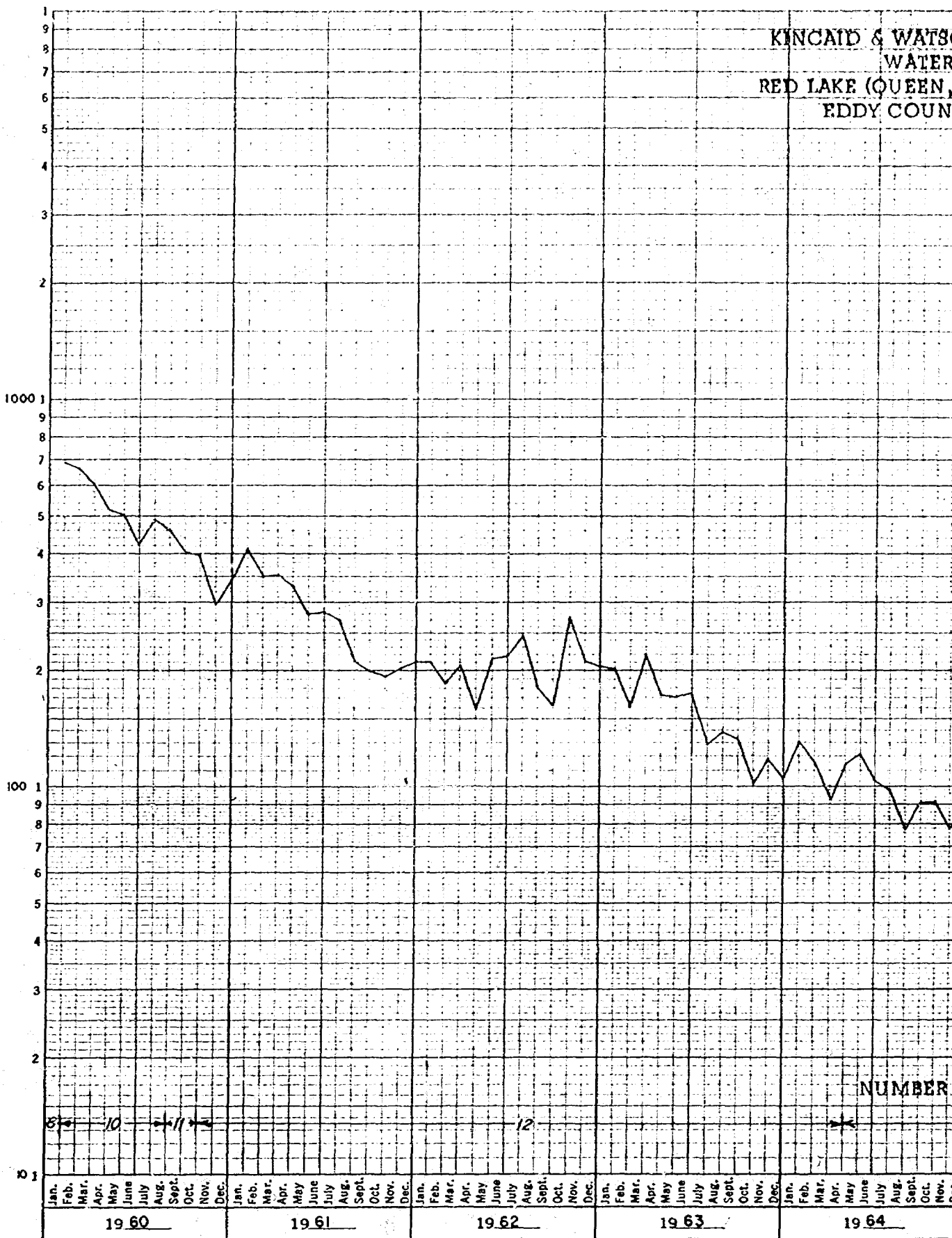
	<u>No.</u> <u>Wells</u>	<u>Bbl.</u> <u>Prod.</u>	<u>Per</u> <u>Well</u> <u>Prod.</u>
Year: <u>1969</u>			
Jan.	2	183	92
Feb.	2	162	81
Mar.	2	204	102
April	2	182	91
May	2	178	89
June	2	179	90
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

Year Total: 1,088  
to 7-1-69

Cum. Total: 43,264  
to 7-1-69

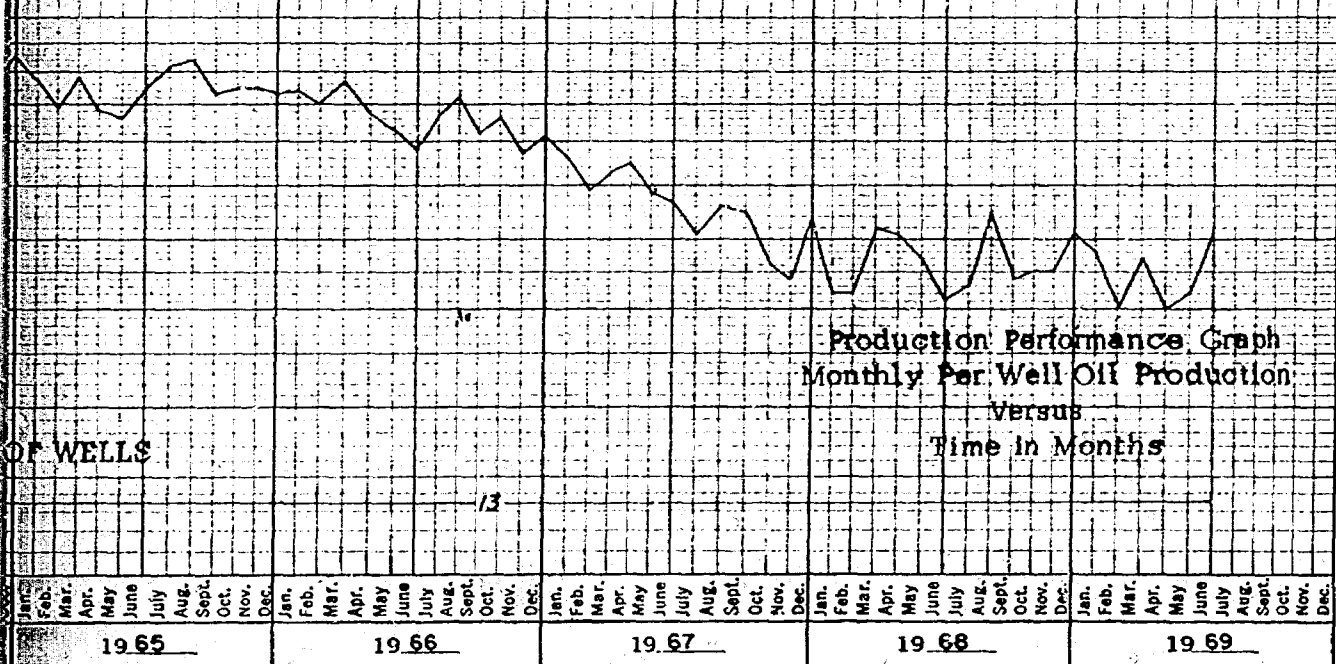
**K&E** 10 YEARS BY MONTHS 47 6743  
 X 3 LOG CYCLES  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

OIL, BARRELS PER WELL PER MONTH

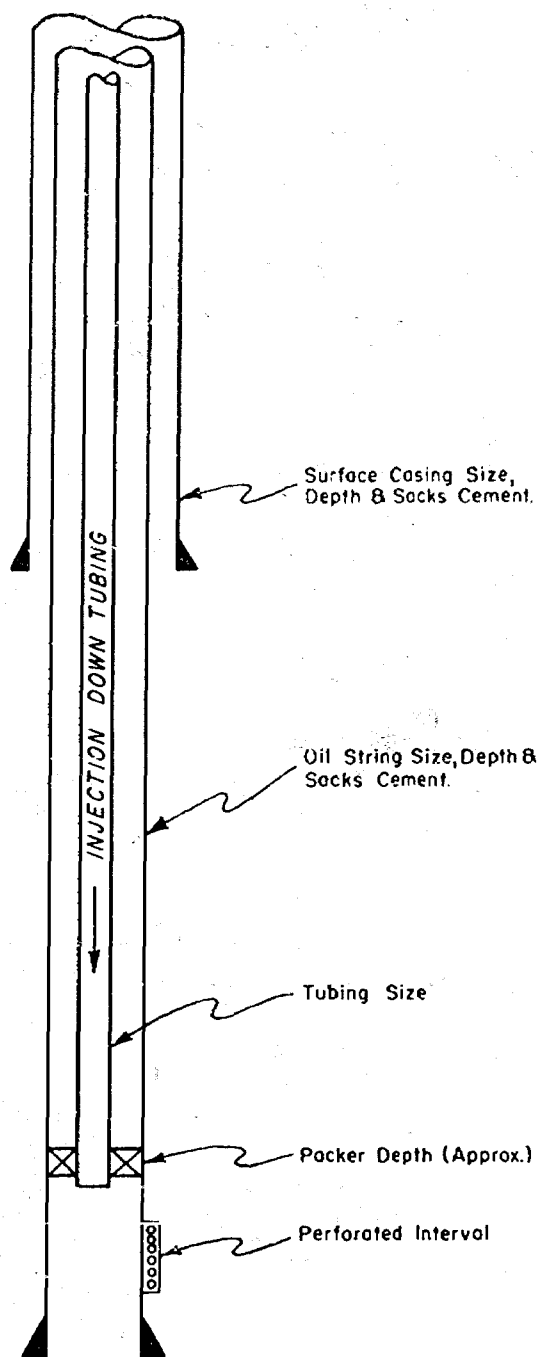




N DRILLING COMPANY  
 OOD UNIT  
 GRAYBURG), EAST FIELD  
 , NEW MEXICO

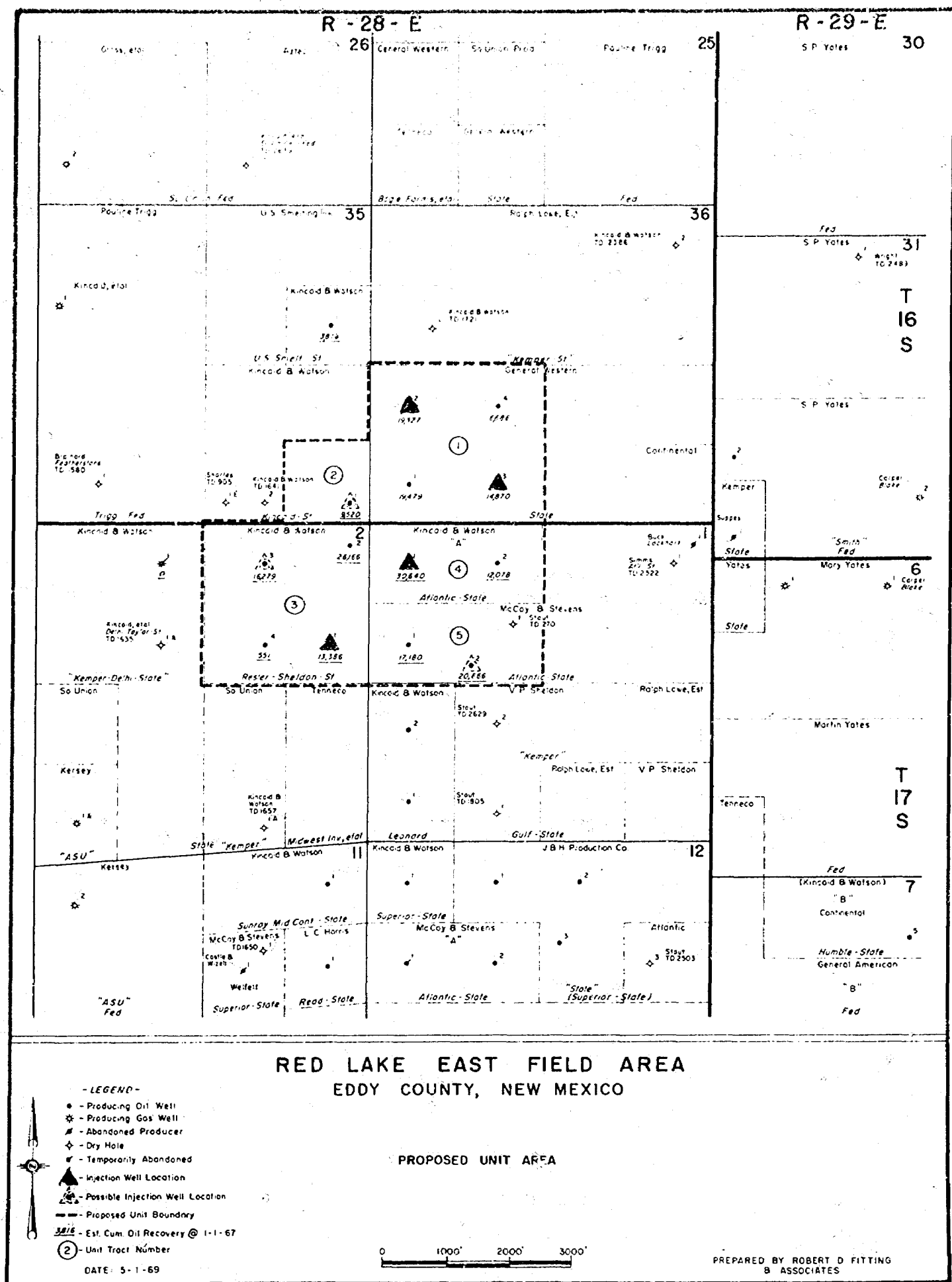


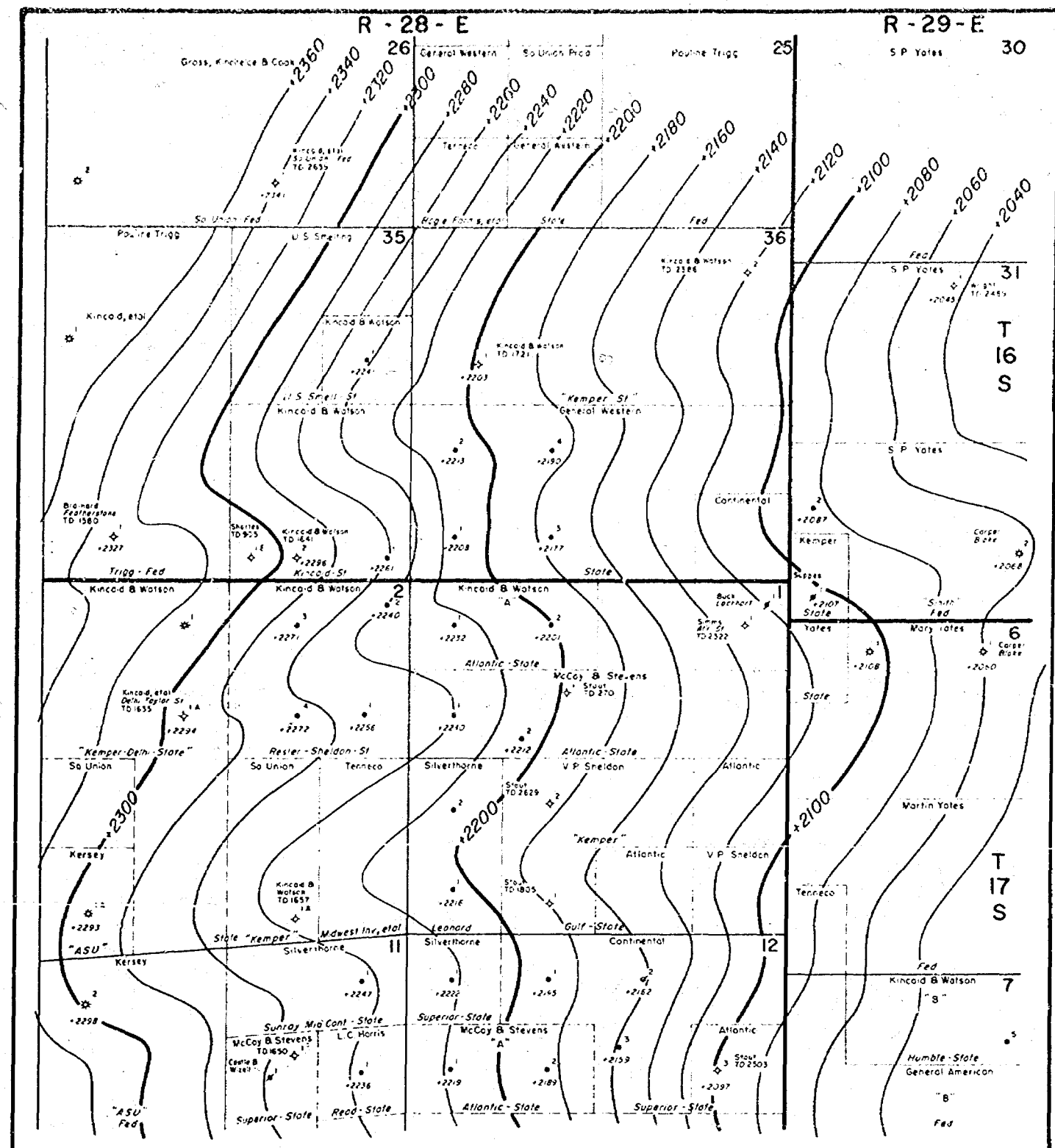
TRACT & WELL NO.			
TRACT 1-2	TRACT 1-3	TRACT 3-1	TRACT 4-1
8 5/8" - 255'	8 5/8" - 349'	8 5/8" - 501'	8 5/8" - 493'
150 Sx.	100 Sx.	50 Sx.	50 Sx.
4 1/2" - 1679'	4 1/2" - 1700'	4 1/2" - 1640'	5 1/2" - 1680'
150 Sx.	100 Sx.	100 Sx.	100 Sx.
2"	2"	2"	2"
1630'	1650'	1560'	1610'
1631 - 1643'	1650 - 1658'	1564 - 1572'	1612 - 1626'



DIAGRAMMATIC SKETCH  
INJECTION WELL COMPLETION DATA

EAST RED LAKE (Queen) UNIT  
Eddy County, New Mexico





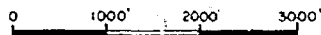
# RED LAKE EAST FIELD AREA EDDY COUNTY, NEW MEXICO

## - LEGEND -

- - Producing Oil Well
- ★ - Producing Gas Well
- ✕ - Abandoned Producer
- ◇ - Dry Hole
- ◻ - Temporarily Abandoned

QUEEN STRUCTURE MAP  
CONTOUR INTERVAL = 20'

DATE: 5-1-69



PREPARED BY ROBERT D FITTING  
& ASSOCIATES

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF KINCAID & WATSON  
DRILLING COMPANY FOR APPROVAL OF  
A WATERFLOOD PROJECT FOR THE EAST  
RED LAKE UNIT AREA COMPRISING  
517.68 ACRES OF STATE LANDS IN  
TOWNSHIPS 16 AND 17 SOUTH, RANGE  
28 EAST, EDDY COUNTY, NEW MEXICO  
BY THE INJECTION OF WATER INTO  
WELLS COMPLETED IN THE PENROSE  
SAND OF THE QUEEN FORMATION

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Comes Kincaid & Watson Drilling Company, a New Mexico corporation, with offices at Artesia, New Mexico, acting by and through the undersigned attorneys, and hereby makes application for approval of a waterflood project for the East Red Lake Unit Area comprising 517.68 acres of lands of the State of New Mexico more particularly described as follows:

Township 16 South, Range 28 East

Section 35 - SE $\frac{1}{4}$ SE $\frac{1}{4}$

Section 36 - SW $\frac{1}{4}$

Township 17 South, Range 28 East

Section 1 - Lots 3 and 4 (N $\frac{1}{2}$ NW $\frac{1}{4}$ ), S $\frac{1}{2}$ NW $\frac{1}{4}$

Section 2 - Lots 1 and 2 (N $\frac{1}{2}$ NE $\frac{1}{4}$ ), S $\frac{1}{2}$ NE $\frac{1}{4}$

by the injection of water into 4 wells completed in the Penrose Sand of the Queen formation underlying the above described area, and in support thereof respectfully shows:

1. That applicant is the unit operator of the proposed unit agreement for the development and operation of the East Red Lake Unit Area, Eddy County, New Mexico, and has made application to the

Oil Conservation Commission for approval of said unit agreement as required by applicable rules and regulations.

2. Applicant seeks approval of a secondary recovery project covering all of the lands within the proposed East Red Lake Unit Area. There is attached hereto as Exhibit "A" a plat showing the location of all the wells within the proposed unit area and surrounding area and the 4 wells which applicant proposes to convert to injection wells. The 4 injection wells consist of the following:

General Western Petroleum Corporation State 2-L  
in Section 36, Township 16 South, Range 28 East;

General Western Petroleum Corporation State 3-N  
in Section 36, Township 16 South, Range 28 East;

Kincaid & Watson Drilling Company Atlantic A State 1-D  
in Section 1, Township 17 South, Range 28 East;

Kincaid & Watson Drilling Company Resler & Sheldon  
1-H in Section 2, Township 17 South, Range 28 East.

Exhibit "A" also shows by broken line triangles additional wells which might possibly be converted to injection wells in the future depending upon the success of the waterflood project.

3. There is also attached hereto as Exhibit "B" a typical diagrammatic sketch of the proposed method of conversion of the producing wells into injection wells. There are also filed herewith copies of electrical logs of Kincaid & Watson Drilling Company Atlantic A State 1-D and Resler & Sheldon 1-H wells referred to above. Applicant has been unable to locate electrical logs of the other two proposed injection wells.

4. Applicant proposes to purchase fresh water for injection purposes from the Kewanee owned water supply system located in the NE $\frac{1}{4}$  Section 2, Township 17 South, Range 28 East. Applicant will be unable to determine the quantities of water which will be injected until injection pressures and other information has been obtained.

5. Applicant seeks to have assigned to the East Red Lake Unit Area a maximum project allowable in accordance with Rule 701 of the Commission.

6. Applicant believes that the proposed waterflood project is in the interest of conservation and the prevention of waste and will promote the greatest ultimate recovery of oil and gas from the project area and tend to protect correlative rights.

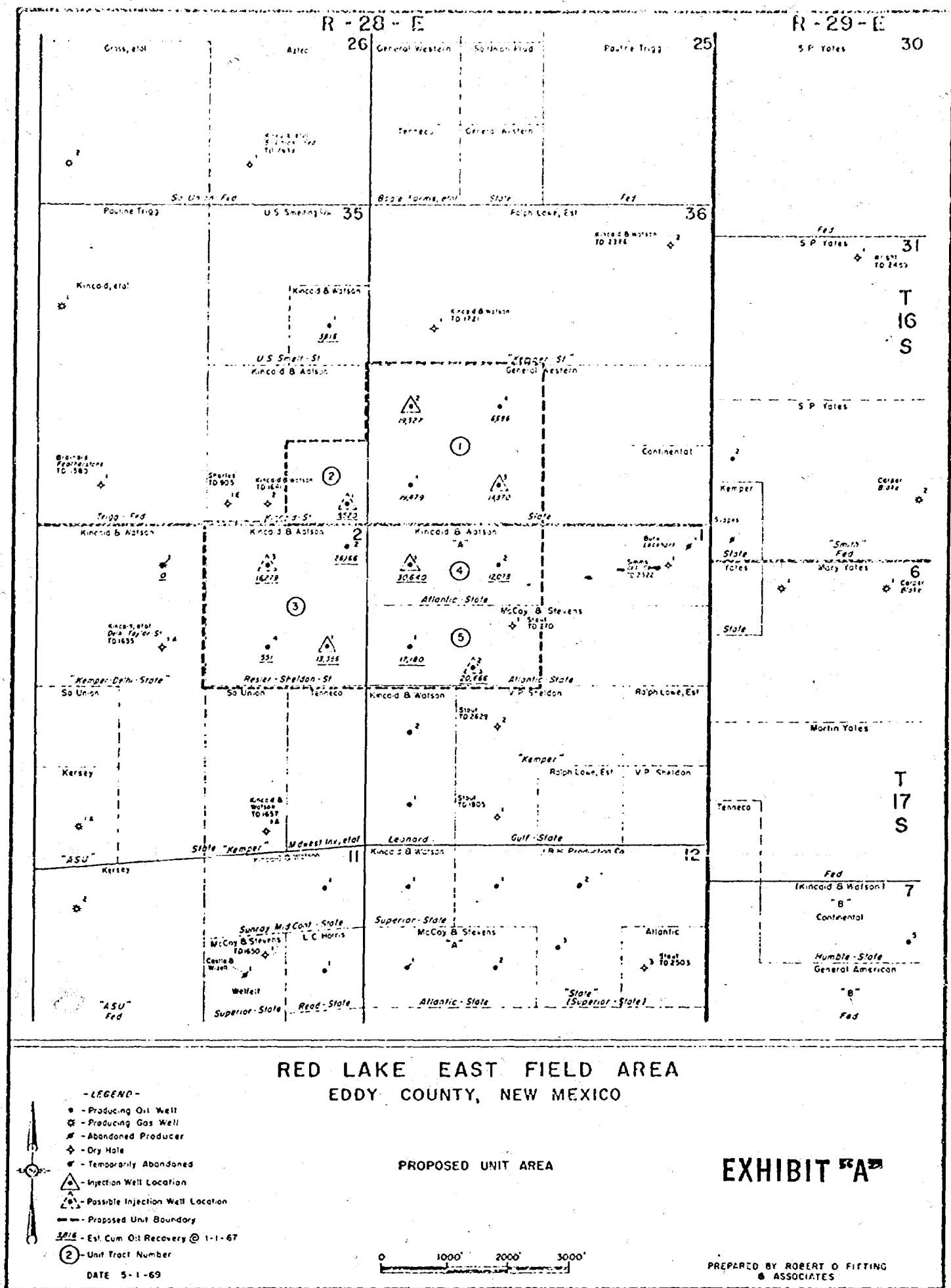
Applicant requests that this matter be set down for hearing as soon as possible.

Respectfully submitted,

KINCAID & WATSON DRILLING COMPANY

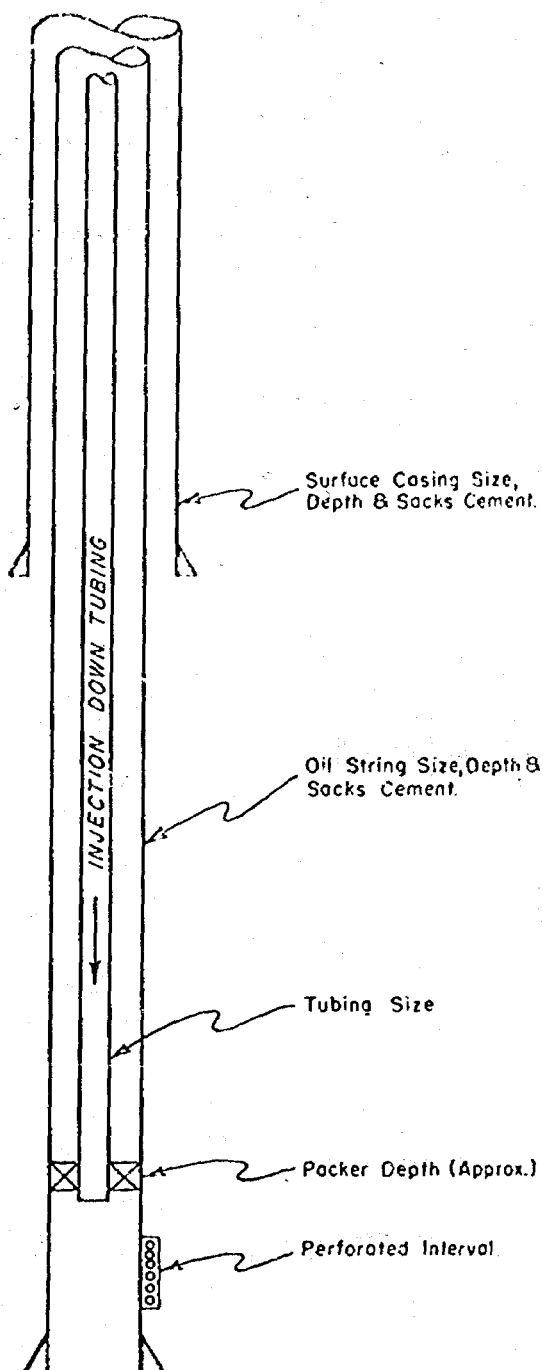
By 

Member of the Firm of  
HINKLE, BONDURANT & CHRISTY  
Box 10  
Roswell, New Mexico 88201





TRACT & WELL NO.			
TRACT 1- <sup>2</sup>	TRACT 1- <sup>3</sup>	TRACT 3- <sup>4</sup>	TRACT 4- <sup>5</sup>
8 <sup>5</sup> / <sub>8</sub> " - 255'	8 <sup>5</sup> / <sub>8</sub> " - 349'	8 <sup>5</sup> / <sub>8</sub> " - 501'	8 <sup>5</sup> / <sub>8</sub> " - 493'
150 Sx.	100 Sx.	50 Sx.	50 Sx.
4 <sup>1</sup> / <sub>2</sub> " - 1679'	4 <sup>1</sup> / <sub>2</sub> " - 1700'	4 <sup>1</sup> / <sub>2</sub> " - 1640'	5 <sup>1</sup> / <sub>2</sub> " - 1680'
150 Sx.	100 Sx.	100 Sx.	100 Sx.
2"	2"	2"	2"
1630'	1650'	1560'	1610'
1631 - 1643'	1650 - 1658'	1564 - 1572'	1612 - 1626'



DIAGRAMMATIC SKETCH  
INJECTION WELL COMPLETION DATA

EAST RED LAKE (Queen) UNIT  
Eddy County, New Mexico

EXHIBIT "B"

ROUGH DRAFT FOR WATERFLOOD LETTERS

Mr. Clarence Hinkle  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Dear Sir:

*Reference is made to* Commission Order No. R-3881, *recently* entered in Case No. 4255, approving the *Kinnard & Watson East & West Lake Unit* Waterflood Project.

*Initial injection shall be through the three four authorized water injection wells, each of which shall be equipped with a string of plastic coated tubing set in a packer. Packers shall be located as close as practicable to the uppermost perforation. The casing-tubing annulus of each injection well shall be loaded with an inert fluid and shall be equipped with a pressure gauge at the surface.*

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 546 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

cc: OCC: Hobbs X  
Artesia X  
Aztec       

USGS       

Mr. Frank Irby, State Engineer Office, Santa Fe, New Mexico  
Mr. D. E. Gray

BEST AVAILABLE COPY

BEST AVAILABLE COPY

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(SEE UNDER)

is hereby authorized to institute a waterflood project in the  
East Red Lake Unit Area, Queen-Grayburg Pool,  
 by the injection of water into the Queen formation  
 through the following-described wells in Eddy County, New Mexico:  
Township  
~~North, South, Range~~ ~~West, East, NMPM~~  
~~County, New Mexico~~

Township 16 South, Range 28 East, NMPM

Injection wells:

General Western Petroleum Corp. State Well No. 2 - Unit L - Section 36  
General Western Petroleum Corp. State Well No. 3 - Unit H - Section 36

Township 17 South, Range 28 East, NMPM

Injection wells:

Kincaid & Watson Drilling Co. Atlantic State Well No. 1 - Unit D - Section 1  
Kincaid & Watson Drilling Co. Atlantic State Well No. 1 - Unit H - Section 2

(2) That the subject waterflood project is hereby designated the East Red Lake Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the East Red Lake Unit Waterflood Project to include such additional ~~lands and~~ injection wells in ~~said~~ the area of the project as may be necessary to complete an efficient water injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(SEE UNDER)

entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 4255

Order No. R-3881

APPLICATION OF KINCAID & WATSON DRILLING COMPANY  
FOR A WATERFLOOD PROJECT, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 19, 1969,  
at Roswell, New Mexico, before the Oil Conservation Commission of  
New Mexico, hereinafter referred to as the "Commission."

NOW, on this \_\_\_\_\_ day of November, 1969, the Commission, a  
quorum being present, having considered the testimony presented  
and the exhibits received at said hearing, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Kincaid & Watson Drilling Company,  
seeks permission to institute a waterflood project in the \_\_\_\_\_  
East Red Lake Unit Area, East Red Lake  
Queen-Grayburg Pool, by  
the injection of water into the Queen formation  
through four injection wells in Section 36, Township 16 South,  
Range 28 East and Sections 1 and 2, Township 17 South, Range  
28 East, NMPM, Eddy County, New Mexico.

(3) That the applicant further seeks an administrative  
procedure whereby said project could be expanded to include  
additional ~~injection wells~~ injection wells in ~~the area of the~~ said  
project as may be necessary in order to complete an efficient  
injection pattern; that said administrative procedure should  
provide for administrative approval for conversion to water  
injection in exception to the well response requirements of  
Rule 701 E-5 of the Commission Rules and Regulations.

(SEE UNDER)

the recovery of otherwise unrecoverable oil, thereby preventing  
waste.

DOCKET MAILED

11-7-69

