CASE 1381: Kersey & Co. application for unit allowable, Red Lake Unit, Eddy County, N.M. + allowable

E-6

Case No.

1381

Application, Transcript,
Small Exhibits, Etc.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

February 14, 1958

COPY

Mr. R. L. Elliott
The Ibex Company
P.O. Box 752
Breckenridge, Texas

Dear Mr. Elliott:

We enclose two copies of Order R-1127 issued February 12, 1958, by the Oil Conservation Commission in Case 1381, which was heard on February 11th at Santa Fe.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

January 28, 1958

COPY

Mr. R. L. Elliott
The Ibex Company
P.O. Box 752
Breckenridge, Texas

Dear Mr. Elliott:

We enclose two copies of Emergency Order No. E-6 issued January 28, 1958, by the Oil Conservation Commission.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

Rec'd Mailed
1-29-58

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 2-11-58

CASE NO. 1381 HEARING DATE 2-11-58

My recommendations for an order in the above numbered case(s) are as follows:

1. Pilot flood created by R-568, 1-13-55.
2. Unit approved by R-938, 1-16-57,
3. 300 ~~40~~ acre waterflood by E-6, 1-28-58 & 2-11-58.
4. The application as amended at the hearing should be approved. The allowable assigned this project would be at present a maximum of 27 X Top unit allowable. This is based on: "A top. unit allowable for each 40 ac. tract on which there is an injection well which is being used as an injection well plus a top. unit allowable for each 40 ac. unit offsetting on which there is a producing well."
5. The expansion of the unit should be done administratively after each 40 ac. tract has been developed.
6. The ~~tract~~ approved for a maximum allowable equal to a ~~40~~ Top unit allowable are circled in red on applicants exhibit A.

Staff Member

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date _____

CASE NO. 1381 (Cont) HEARING DATE _____

My recommendations for an order in the above numbered case(s) are as follows:

7. The operator should nominate ~~each~~ each month on form C-127 a the amount of allowable the unit will actually produce that month.

Ernest A. L
By _____

8. Allowable to be restricted to the Red Lake-Grayburg (Premier) Pool only.

Staff Member

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. 789
Order No. R-568

THE MATTER OF THE APPLICATION OF
KERSEY AND COMPANY FOR PERMISSION
TO INSTITUTE A SECONDARY RECOVERY
PROGRAM BY WATER FLOODING THE GRAY-
BURG SAND OF THE RED LAKE OIL POOL OF
EDDY COUNTY, NEW MEXICO, SAID PROGRAM
TO CONSIST OF THE INJECTION OF WATER INTO
APPLICANTS THOMPSON-STATE WELLS NOS. 1,
2, 3 AND 4, (FORMERLY OWNED BY DELHI OIL
CORPORATION), ALL OF WHICH ARE LOCATED
IN SW/4 OF SECTION 20, TOWNSHIP 17 SOUTH,
RANGE 28 EAST, NMPM, AND THE DRILLING OF
A FIFTH WELL FOR RECOVERY PURPOSES TO
BE KNOWN AS KERSEY AND COMPANY'S THOMPSON-
STATE WELL NO. 5, TO BE LOCATED 1650 FEET
FROM THE WEST LINE AND 1000 FEET FROM THE
SOUTH LINE OF SECTION 20, TOWNSHIP 17 SOUTH,
RANGE 28 EAST, NMPM, IN A SO-CALLED "FIVE-
SPOT" LOCATION.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 17, 1954, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 13th day of January, 1955, the Commission, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being otherwise fully advised in the premises,

FINDS:

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

(2) That Kersey and Company is the owner of an oil and gas lease covering the SW/4 of Section 20, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the program proposed by petitioner to accomplish the recovery of oil through water injection will tend to prevent waste through the production of oil which might not otherwise be recovered, and should be approved upon the condition that said program be conducted in a workmanlike manner.

(4) That the proposed injection program can best be operated through the injection of water into applicant's Thompson-State Wells, 1, 2, 3 and 4 and the recovery of oil through a fifth well to be drilled as set out in the application.

(5) That a secondary recovery program through water injection is of an experimental nature in this particular pool, and periodic reports should be submitted to the Commission by the petitioner disclosing the progress of its program.

(6) That no objection has been entered to the granting of this application.

IT IS THEREFORE ORDERED:

1. That the application of Kersey and Company for permission to inject water into its Thompson-State Wells Nos. 1, 2, 3 and 4, all of which are located in the SW/4 of Section 20, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico, for the purpose of effecting the recovery of oil through water injection should be, and the same hereby is granted.

2. That permission is hereby granted to inject water into the Grayburg producing formation of the Red Lake Oil Pool of Eddy County, New Mexico, through said injection wells.

3. That permission is further granted for the drilling of a fifth well for recovery purposes, such well to be known as Kersey and Company's Thompson-State No. 5, and to be located 1650 feet from the west line and 1000 feet from the south line of Section 20, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico in the Red Lake Oil Pool, said well to be drilled to an approximate depth of 1900 feet subsurface to a sand member within the Grayburg section.

4. That the operator-applicant shall submit monthly reports to the Commission showing the monthly oil production and water production, and the amount of water injected into the reservoir through each injection well.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, JR , Chairman

E. S. WALKER, Member

S E A L

W. B. MACEY, Member and Secretary

ir

No. 4-58

DOCKET: EXAMINER HEARING FEBRUARY 11, 1958

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe,

The following case will be heard before Elvis A. Utz, Examiner:

CASE 1381: Application of Kersey and Company for a unit allowable for the Red Lake Unit in Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing a unit allowable equal to 35 times the top unit allowable for the Red Lake Unit in Township 17 South, Range 28 East, Red Lake Pool, Eddy County, New Mexico, said allowable to be produced in any proportion from the wells in the unit.

ir/

BRECKENRIDGE OFFICE
TELEPHONE 674
P. O. BOX 752

GRAHAM OFFICE
TELEPHONE 1492
P. O. BOX 1110

THE IBEX COMPANY

MANUFACTURERS OF NATURAL GASOLINE AND L. P. G. PRODUCTS
PRODUCERS OF OIL AND GAS

IBEX BUILDING
BRECKENRIDGE, TEXAS

January 24, 1958

Oil Conservation Commission
Capitol Building
Santa Fe, New Mexico

Gentlemen:

Attached hereto you will find an Application for Emergency Allowable on the Red Lake (Premier Sand) Unit, Eddy County, New Mexico, in triplicate.

It is respectfully requested that you give this matter your earliest possible attention and then notify me by collect telegram of your decision.

If there should be any further questions relative to this application or additional information which you feel you need prior to making the decision, please call me collect at Hickman 9-3355, Breckenridge, Texas.

Thank you very much for your courtesy in this matter.

Yours very truly,

THE IBEX COMPANY

BY: R. L. ELLIOTT, Attorney

RLE/dw
Enclosures
CC: Mr. Harold Kersey
P. O. Box 305
Artesia, New Mexico

Graham Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER CONCERNING
THE ALLOCATION OF A UNIT
ALLOWABLE FOR THE WELLS
IN THE RED LAKE UNIT AREA
IN EDDY COUNTY, NEW MEXICO.

EMERGENCY ORDER NO. E-6

NOW, on this 28th day of January, 1958, the Oil Conservation Commission of New Mexico, a quorum being present, having considered the application of Kersey and Company for an emergency order, and being fully advised in the premises,

FINDS:

(1) That the applicant, Kersey and Company, was authorized by Order No. R-568, dated January 13, 1955, to institute a pilot water flood project in Section 20, Township 17 South, Range 28 East, NMPM, Red Lake Pool, Eddy County, New Mexico.

(2) That the Commission, by Order No. R-938, dated January 16, 1957, approved the formation of the Red Lake Unit for purposes of secondary recovery in the Red Lake Pool which unit includes the above-referenced pilot water flood project and extensions thereto.

(3) That the aforementioned pilot water flood project has caused an increase in the producing capacity of the applicant's Stephens-Federal No. 3 Well located in the SE/4 of the NE/4 of said Section 20, to the extent that said well is now capable of producing considerably in excess of the daily top unit allowable for said well.

(4) That there is a possibility that waste will occur if the production from the said Stephens-Federal No. 3 Well is curtailed.

(5) That there are thirty-five (35) developed 40-acre proration units in the above-referenced Red Lake Unit.

(6) That the applicant proposes that the said Red Lake Unit be assigned a unit allowable of 300 barrels of oil per day to be produced from any well or wells in the unit in any proportion until such time as a permanent order can be entered in this matter, or for a period of fifteen (15) days, whichever date is earlier.

(7) That an emergency exists which requires the promulgation of an order without notice and hearing to eliminate the possibilities of waste occuring as a result of a curtailment of the production from the said Stephens-Federal Well No. 3.

(8) That the Red Lake Unit should be assigned a temporary unit allowable of 300 barrels of oil per day.

(9) That in the event the applicant fails to prove at a subsequent hearing on this matter that waste will in fact be caused if the production from the above-described pilot water flood project is curtailed, then any oil produced from said wells in excess of the normal unit allowable established for said wells by Allowable Orders Nos. A-98 and A-99 should be charged against future allowables for said wells.

IT IS THEREFORE ORDERED:

That the Red Lake Unit, located in Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico, more particularly described in Order No. R-938, dated January 16, 1957, be and the same is hereby granted a unit allowable of 300 barrels of oil per day which may be produced from any well or wells in the unit in any proportion until such time as a permanent order can be entered in this matter, or for a period of fifteen (15) days after the date of this order, whichever date is earlier.

PROVIDED HOWEVER,

That in the event the applicant fails to prove at a subsequent hearing on this matter that waste will in fact be caused if the production from the above-described pilot water flood project is curtailed, then any oil produced from said wells in excess of the normal unit allowable established for said wells by Allowable Orders Nos. A-98 and A-99 shall be charged against future allowables for said wells.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

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

ir/

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS
DL=Day Letter
NL=Night Letter
LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME

MAIN OFFICE OCC

1958 FEB 11 LA094 SSK117

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L RWA059 GOVT PD=ROSWELL NMEX 11 1153AMM=

:JACK COOLEY=

NMEX OIL CONSERVATION COMMISSION SANTA FE NMEX=

NO OBJECTIONS ARE OFFERED BY THIS OFFICE TO THE ASSIGNMENT OF A UNIT ALLOWABLE TO THE RED LAKE PREMIER SAND UNIT IN EDDY COUNTY NMEX=

=JAMES A KNAUF U S GEOLOGICAL SURVEY=

Case No. 1381

NEW MEXICO
OIL CONSERVATION COMMISSION
P. O. Box 871
Santa Fe, New Mexico

Date January 31, 1958

Mr. R. L. Elliott
The Ibex Company
P.O. Box 752
Breckenridge, Texas

Gentlemen:

Your application for the assignment of 35 top unit allowables to the Red Lake Unit

dated January 29, 1958, has been received, and has been tentatively scheduled for hearing before an examiner on February 11, 1958.

A copy of the docket will be forwarded to you as soon as the matter is advertised.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.,
Secretary-Director

ga

P.S. I note from your application that you request notification as soon as the Commission has reached a decision on the above-refere ced application. It may be that you have some misunderstanding in this regard. The decision on this application will not be made until after a formal hearing on the date shown above. Kersey and Company will be expected to appear and present evidence at the hearing.

BRECKENRIDGE OFFICE
TELEPHONE 674
P. O. BOX 752

GRAHAM OFFICE
TELEPHONE 1492
P. O. BOX 1110

THE IBEX COMPANY

MANUFACTURERS OF NATURAL GASOLINE AND L. P. G. PRODUCTS
PRODUCERS OF OIL AND GAS

IBEX BUILDING

BRECKENRIDGE, TEXAS

January 29, 1958

Oil Conservation Commission
Capitol Building
Santa Fe, New Mexico

Gentlemen:

Attached hereto you will find an Application for Permanent Allowable on the Red Lake (Premier Sand) Unit, Eddy County, New Mexico, in triplicate.

It is respectfully requested that you give this matter your earliest possible attention and then notify me by collect telegram of your decision.

If there should be any further questions relative to this application or additional information which you feel you need prior to making the decision, please call me collect at Hickman 9-3355, Breckenridge, Texas.

Thank you very much for your courtesy in this matter.

Yours very truly,

THE IBEX COMPANY

By R. L. Elliott
R. L. Elliott, Attorney

RLE:ea
enc
cc-Mr. Harold Kersey
P. O. Box 305
Artesia, New Mexico
cc-Nearburg & Ingram
127 South Richardson
Roswell, New Mexico
cc-Graham Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 1381
Order No. R-1127

APPLICATION OF KERSEY AND COMPANY
FOR THE ASSIGNMENT OF A UNIT ALLOWABLE
TO THE RED LAKE PREMIER SAND UNIT IN
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 11, 1958, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the New Mexico Oil Conservation Commission, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 12th day of February, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced and the recommendations of the Examiner, Elvis A. Utz, 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, Kersey and Company, was authorized by Order No. R-568 dated January 13, 1955, to institute a pilot water flood project in the Grayburg formation of the Red Lake Pool in Section 20, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the Commission by Order No. R-938 dated January 16, 1957, approved the formation of the Red Lake Premier Sand Unit for purposes of secondary recovery, which unit comprises the following described acreage

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM	
Section 19:	SE/4
Section 20:	NE/4 NW/4, S/2 NW/4, NE/4, and S/2
Section 21:	SW/4 NW/4, SW/4, and W/2 SE/4
Section 28:	NW/4, NW/4 NE/4, and NW/4 SW/4
Section 29:	N/2
Section 30:	NE/4

all in Eddy County, New Mexico.

(4) That Order No. R-938 also authorized the Commission to give administrative approval for any subsequent expansion of the initial pilot water flood project referred to above.

(5) That at the present time there are eleven authorized water injection wells within the limits of the Red Lake Premier Sand Unit, to-wit:

Lease	Well No.	Unit	Sec.	Twp.	Rge.
Thompson	1	K	20	17S	28E
Thompson	2	L	20	17S	28E
Thompson	3	N	20	17S	28E
Thompson	4	M	20	17S	28E
Hartley	4	I	20	17S	28E
Delhi-Reid	1	F	20	17S	28E
Welch-Reid	1	G	20	17S	28E
Welch-Stephens	2	H	20	17S	28E
Scannell-Shell	2	P	20	17S	28E
Welch	10	L	21	17S	28E
Welch	13	M	21	17S	28E

(3) That the injection of water into the Premier Sand of the Grayburg formation through the eleven wells described above has caused an increase in the producing capacity of the producing wells offsetting said injection project to the extent that certain of said wells are now capable of producing considerably in excess of the daily top unit allowable for said wells.

(7) That the preponderance of the evidence indicates that waste may occur if the production from the wells affected by the above-described water flood project is curtailed.

(8) That there are thirty-six "developed 40-acre proration units" in the above-described Red Lake Premier Sand Unit, a "developed 40-acre proration unit" being defined as a 40-acre tract on which there is at least one producing well or one authorized water injection well.

(9) That the original application in this case requested that the Red Lake Premier Sand Unit be assigned an allowable to be determined by multiplying the number of developed 40-acre proration units times the top unit allowable for the Red Lake Pool.

(10) That the applicant amended its application at the hearing in this case to limit the maximum allowable which may be assigned to the Red Lake Premier Sand Unit to an amount to be determined by multiplying the number of 40-acre tracts on which there is located an authorized injection well plus the number of developed 40-acre proration units which either directly or diagonally offset the 40-acre tracts on which said injection wells are located times the top unit allowable for the Red Lake Pool, said maximum unit allowable to be produced in any proportion from any well or wells in the Red Lake Premier Sand Unit.

(11) That approval of the subject application will not impair correlative rights.

(12) That the subject application, as amended, should be approved.

(13) That the daily allowable for the wells in the Red Lake Premier Sand Unit for any given month should be assigned in accordance with the nominations of the unit operator as filed on Form C-127, provided that the total allowable for the Red Lake Premier Sand Unit should not exceed the maximum unit allowable derived in the manner set forth above.

IT IS THEREFORE ORDERED:

(1) That the wells in the Red Lake Premier Sand Unit be assigned an allowable equal to the nominations of the unit operator as filed on Form C-127;

PROVIDED HOWEVER, That in no event shall the total allowable assigned to the wells in the Red Lake Premier Sand Unit be greater than an amount to be determined by multiplying the number of 40-acre tracts on which there is located an authorized injection well plus the number of developed 40-acre proration units which either directly or diagonally offset the 40-acre tracts on which said injection wells are located times the top unit allowable for the Red Lake Pool;

PROVIDED FURTHER, That the allowable which is assigned to the Red Lake Premier Sand Unit may be produced from any well or wells in said unit in any proportion.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

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

ir/

APPLICATION FOR EMERGENCY ALLOWABLE
RED LAKE (PREMIER SAND) UNIT
EDDY COUNTY, NEW MEXICO

Oil Conservation Commission
Santa Fe, New Mexico

WHEREAS, on January 13, 1955, by Oil Conservation Commission Order No. R-568, permission was granted to Harold Kersey to inject water into the Red Lake Area on a particular five spot pattern, as more particularly set out in said order.

WHEREAS, on January 16, 1957, by Order No. R-938, the Oil Conservation Commission approved formation of the Red Lake Unit for secondary recovery operations by the injection of water into the Premier Sand Formation, and for the expansion of the pilot flood authorized under its order of January 13, 1955.

WHEREAS, the pilot water injection program as authorized by the above referred to orders was inaugurated and has progressed in an orderly fashion to include and result in a unit comprised of producing wells and injection wells, all as more particularly set out and described in Exhibit "A" attached hereto and made a part of this application the same as if included herein. Reference is herewith made to said Exhibit "A" for the production capacity of each well, as well as the amount of water which has been injected into the water injection wells as of January 15, 1958. The unit area consists of 1760 acres as shown on Exhibit "B" attached hereto and made a part of this application for all purposes. As shown on Exhibit "B", the unit area consists of forty-four (44) 40-acre tracts or units. Out of these forty-four (44) 40-acre tracts, (a) seven such tracts have two wells on them, either one producing well and one injection well or two producing wells, and (b) nine such tracts have neither a producing well nor an injection well on them as yet. There are at present eleven (11) water injection wells and thirty-one (31) producing wells, which result in thirty-five (35) producing 40-acre tracts, all as more particularly shown on Exhibit "B", reference to which is here made.

WHEREAS, there has been a sudden increase in production on the Stephens-Federal #3 in the Unit "H" of Section 20, capable of making 90 barrels or more of oil per day, and because of such circumstances has created an emergency for an increase in allowable to enable disposition of this waterflood oil from said 40-acre tract.

WHEREAS, a unit agreement and a unit operating agreement has been prepared, agreed upon and executed by parties holding sufficient interest in the Red Lake (Premier Sand) Unit covering lands in said unit to give reasonably effective control of operations therein. That said unit agreement and unit operating agreement will be presented to the Bureau of Land Management and the Commissioner of Public Lands within a few days and should soon thereafter be finally approved by the two agencies.

WHEREAS, there is included in the unit, as more specifically set out on Exhibit "B" attached hereto, reference to which is hereby made, thirty-five (35) 40-acre tracts on which there is at least one producing or one injection well, of which only one such 40-acre tract is producing sufficient oil to use up the present allowable.

IT IS, THEREFORE, respectfully requested that this Commission issue an order for an emergency allowable for the Red Lake Unit equivalent to 300 barrels of oil per day to be produced out of any well or wells in the unit in any proportion until such time as a permanent order can be entered, or for a period of 15 days, whichever occurs first.

Notification to the undersigned by collect telegram is respectfully requested immediately after this Commission has reached a decision on this application.

Respectfully yours,

KERSEY & COMPANY

BY: R. L. ELLIOTT, Attorney
Ibex Building
Breckenridge, Texas

E X H I B I T " A "

PRESENT OPERATIONAL DATA OF WELLS IN RED LAKE UNIT

Lease	Well No.	Unit	Sec.	Twp.	Rge.	Status	Present Oil Prod.	Daily Water Inj. bbls.	Cumulative Water Inj. bbls. to (1-15-58)
Thompson	#1	K	20	17	28	Injection	--	73	59,886
"	#2	L	"	"	"	"	--	144	75,632
"	#3	N	"	"	"	"	--	185	49,243
"	#4	M	"	"	"	"	--	151	103,280
"	#5	N	"	"	"	Producing	14	--	--
"	#6	K	"	"	"	"	13	--	--
Piatt	#1	A	30	17	28	Producing	1	--	--
Hartley	#1	I	20	17	28	Producing	1	--	--
"	#2	J	"	"	"	"	1	--	--
"	#3	J	"	"	"	"	1	--	--
"	#4	I	"	"	"	Injection	--	332	70,911
Delhi Reid	#1	F	"	"	"	Injection	--	241	58,691
"	#2	B	"	"	"	Producing	1	--	--
Welch Reid	#1	G	"	"	"	Injection	--	241	60,347
"	#2	A	"	"	"	Producing	1	--	--
Welch Stephens	#2	H	"	"	"	Injection	--	254	48,516
"	#3	H	"	"	"	Producing	90	--	--
Delhi Stephens	#1	P	19	17	28	Producing	2	--	--
Scannell	#1	O	20	17	28	Producing	1	--	--
"	#2	P	"	"	"	Injection	--	244	59,878
Tigner	#1	L	28	17	28	Producing	1	--	--
Welch	#10	L	21	17	28	Injection	--	224	47,194
"	#11	N	"	"	"	Producing	1	--	--
"	#19	N	"	"	"	"	1	--	--
"	#13	M	"	"	"	Injection	--	217	57,330
"	#12	D	28	17	28	Producing	1	--	--
"	#14	C	"	"	"	"	1	--	--
"	#15	E	"	"	"	"	1	--	--
"	#16	F	"	"	"	"	1	--	--
"	#18	O	21	17	28	"	0	--	--
Delhi	#1	K	21	17	28	Producing	1	--	--
"	#2	C	29	17	28	"	21	--	--
"	#3	D	"	"	"	"	1	--	--
"	#4	A	"	"	"	"	23	--	--
"	#5	B	"	"	"	"	4	--	--
"	#6	I	19	17	28	"	20	--	--
"	#9	O	"	"	"	"	1	--	--
"	#10	G	30	17	28	"	1	--	--
Williams A	#1	E	21	17	28	Producing	1	--	--
Williams A	#2	E	"	"	"	"	1	--	--
Williams B	#1	F	29	17	28	"	1	--	--
Williams B	#2	G	"	"	"	"	1	--	--
							209 bbls/day	2306	690,908

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 11, 1958

IN THE MATTER OF: Case No. 1381

TRANSCRIPT OF PROCEEDINGS

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

NEW MEXICO OIL CONSERVATION COMMISSION

Mabry Hall

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE Examiner February 11, 1958 TIME: 9:00 a.m.

NAME:	REPRESENTING:	LOCATION:
[illegible]	[illegible]	[illegible]
Robert H. Tinsley	The Ohio Co.	" "
Harold Kinney	Kinney Co.	[illegible]
[illegible]		[illegible]

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 11, 1958

IN THE MATTER OF:

Application of Kersey and Company for a unit allowable for the Red Lake Unit in Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing a unit allowable equal to 35 times the top unit allowable for the Red Lake Unit in Township 17 South, Range 28 East, Red Lake Pool, Eddy County, New Mexico, said allowable to be produced in any proportion from the wells in the unit. Case 1381

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The hearing will come to order. The first and only case on the docket today will be Case 1381.

MR. COOLEY: Case 1381: Application of Kersey and Company for a unit allowable for the Red Lake Unit in Eddy County, New Mexico.

MR. UTZ: Are there appearances?

MR. ELLIOTT: Mr. Examiner, I would like to introduce myself as R. L. Elliott, attorney for Kersey and Company and other operators relative to the Red Lake Unit, and at this time I would like to introduce as the first witness Mr. Robert H. Vick.

MR. COOLEY: Will there be any other witnesses?

MR. ELLIOTT: I don't believe it will be necessary for any

other witnesses, unless you want Mr. Kersey for something after we get through.

(Witness sworn.)

MR. UTZ: Let the record show that we asked for other appearances, and there were none. You may proceed.

ROBERT H. VICK

called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. ELLIOTT:

Q State your name.

A Robert H. Vick.

Q Your address?

A The Ibex Company, Breckenridge, Texas.

MR. ELLIOTT: Will the Examiner accept Mr. Vick as an expert from previous appearances, or would you like me to qualify him?

MR. UTZ: No, sir, Mr. Vick's qualifications are acceptable and have been approved before.

Q (By Mr. Elliott) Mr. Vick, application for a permanent allowable in the Red Lake Premier Sand Unit has been made to the Commission and being heard this morning for setting such allowable. As set forth in the application under ExhibitsA and B, certain 40-acre tracts or 40-acre units are shown as being included in this Red Lake Unit, and certain information with reference to the

production and water injectivity. I wish you would explain to the Examiner in general the units that are set up in this particular unit, stating just what 40 acres have producing wells and which ones have injection wells and which have both, or none.

A Well, as stated in our application for our requested allowable, the Red Lake Premier Sand Unit is composed of forty-four 40-acre tracts or units. Out of these forty-four 40-acre tracts, seven such tracts have two wells, either one producing well and one injection well, or two producing wells. Nine such tracts have neither a producing well nor an injection well as yet on them, and there are at present eleven water injection wells and thirteen producing wells, which result in thirty-five producing 40-acre tracts as shown on Exhibit B.

MR. PORTER: How many producing wells did you say?

A Thirty-five producing 40-acre tracts, now there are seven such tracts have two wells on them of the thirty-five, thirty-one producing wells.

MR. PORTER: Thank you.

MR. COOLEY: Would you repeat that? Did you say thirty-one producing wells?

A Eleven water injection wells and thirty-one producing wells at the present.

Q (By Mr. Elliott) This results in how many producing 40-acre units?

A Thirty-five producing 40-acre units in the overall Red Lak

Unit.

Q In other words, there are thirty-five 40-acre producing units within the unit as set up?

A Yes, sir.

Q Would you tell the Examiner a little of the history of the injection of water into these wells in this unit, to give him some idea how much water has been injected and what the injectivity rate is in the past and at present?

A Well, the original pilot flood consisted of four injection wells on the Thompson lease, which is the westernmost portion of the presently developed water flood area, four injection wells and one producing well, one center producing well. Water injection commenced approximately June or July of '55 and some, approximately in January, they obtained their first production increase on the center producer, and we have been all the interim time trying to form the overall 1760 acre unit before we commence expansion of the project, and that's nearing its final completion stages right now, but we have gone ahead and expanded the pilot flood to include seven more injection wells which are shown on Exhibit B; and these injection wells currently, of the new ones, currently have forty to forty-five thousand barrels of water cumulative and they are taking water at approximately three hundred to three hundred fifty barrels per day.

MR. PORTER: Per well?

A Yes, sir, that is, and we have just realized some production

increases and yes at the approximate end of our fillup period. This three hundred to three hundred fifty barrels per day will probably come down in the near future to something more in line, to two hundred to two hundred fifty barrels per day per injection well. Our cumulative injection total into the overall project, the old pilot and the new, has amounted to 690,000 barrels of water, approximately, to January the 15th, 1958.

Q (By Mr. Elliott) Will you please refer to Exhibit A of the application. Are you familiar with the contents set out in such exhibit?

A Yes, sir.

Q Did you prepare the information that is shown there?

A Yes, sir, with the aid of Mr. Kersey, who is the present operator of the project in the field.

Q Of your own knowledge and from the knowledge that you acquired from Mr. Kersey, is it your opinion that the facts set out in Exhibit A are true and correct?

A Yes, sir, approximately. Only one point might need clarifying a little bit, the 209 barrels per day of actual production which we list as present oil production from the total number of wells is approximately 185 barrels, instead of 209 barrels.

Q Where is the discrepancy?

A On the Welch Stephens No. 3 in Unit H, Section 20, Township 17, Range 28. We list the producing, or the production capacity of that well as ninety barrels, and it was in the process of being

pumped down after the initial production increase, and we estimated at ninety barrels, and in reality it turned out about sixty barrels.

Q Such well is actually making sixty barrels per day, then?

A Yes, sir.

Q Is it continuing to make that?

A Yes, sir.

Q With that correction, then, you would say that Exhibit A is correct in all detail?

A Yes, sir.

Q I --

A (Interrupting) Now it might be pointed out that there are certain other production increases that have transpired since we prepared this statement, which are considered normal for the flood project, but there are other production increases.

Q Would you give the Examiner the benefit of this information, please?

A Along the Hartley No. 1 and No. 2 Wells in Section 20, Township 17, Range 28, the production on this exhibit is listed as one barrel each for the Hartley No. 1 and No. 2, and that total production is approximately forty barrels of oil.

Q Per day?

A Yes, sir.

MR. UTZ: Would you give us those wells again? Are we still on Exhibit A?

A On Exhibit A.

MR. KERSEY: It is twenty barrels, No. 1 is 5 and No. 2 is 15.

MR. UTZ: Which wells were those?

A The Hartley No. 1 and No. 2 in Units I and J of 20, 17, 28.

Q Would you please state the present production on those two wells again?

A Mr. Kersey states that No. 1 is producing five barrels against one on our original report, and the No. 2 Well is producing fifteen barrels per day instead of the one barrel per day.

MR. PORTER: Is that a very recent development?

MR. KERSEY: Yes, it is within the past week.

Q Are there any other new developments since this application was filed?

A To my knowledge, no.

Q Then with the three changes on this exhibit to show the Hartley No. 1 as producing five, Hartley No. 2 producing fifteen, and the Welch-Stephens No. 3 sixty in lieu of ninety, then Exhibit A is correct and up to date?

A Yes, sir, I believe so.

MR. PORTER: What would the last total be, do you have that please?

MR. KERSEY: That would be twelve barrels off of that, one hundred ninety-seven.

Q Is that what you get, Mr. Vick?

A Well, now, it is definitely hard to state an exact figure

for that, Mr. Porter.

MR. PORTER: Yes, sir, I understand.

A Mr. Kersey says some of the other wells are up a barrel or two in different places.

MR. PORTER: I recognize that that is a fast changing situation.

MR. ELLIOTT: At this time I would like to have introduced as part of this record Exhibit A of the application as changed by these three factors.

MR. UTZ: Do you have copies of those exhibits that you want to enter, or would you like for us to use the ones that you have already filed?

MR. ELLIOTT: Would that be permissible?

MR. UTZ: It will be permissible. I will make the changes.

MR. ELLIOTT: I have some thermofax copies here.

MR. UTZ: I think we should have a little more clarification on the amount of oil here. As I understood your testimony, Mr. Vick, you said that the Stephens No. 3 went from ninety to sixty barrels, and corrected that to sixty barrels a day?

A Well, I tried to explain here, the ninety barrels as we had projected it here on this Exhibit A was an assumption. The well had, the fluid level had built up in the well and we had to move a larger pump unit on the well to enable us to pump it down, and when we did get it pumped down, it levelled off at sixty barrels instead of our anticipated ninety.

MR. UTZ: I'm just trying to get a correct figure for your Exhibit A here. You had two hundred nine barrels?

A Yes.

MR. UTZ: And you added eighteen barrels on the Hartley 1 and 2.

A Yes, sir.

MR. UTZ: And you took thirty barrels off your ninety?

A Yes, sir.

MR. UTZ: So you actually lost twelve barrels, is that correct?

A Yes, sir.

MR. UTZ: One hundred ninety-seven. Is there objection to the entrance of Exhibits A and B -- is that the way you designated them?

MR. ELLIOTT: Well, I haven't introduced anything but A yet. I am going to introduce B.

MR. UTZ: Is there objection to the entrance of Exhibit A? If not, it will be so admitted.

Q (By Mr. Elliott) Mr. Vick, on this Exhibit A, before we leave it, we show only one well capable of making more than its allowable on the 40-acre unit, or maximum allowable for the 40-acre unit?

A Yes, sir.

Q Is it your opinion that the flood is progressing in a uniform and foreseeable manner to show other 40-acre units will at most any time possibly exceed the maximum for 40-acre unit?

A Yes, sir, as stated a few moments ago, the Hartley No. 1 and No. 2 Wells which are inside producers, possibly the production increase being realized there will definitely be above the thirty-five barrels per day, or the top unit allowable for a 40-acre tract.

Q Mr. Vick, I should like to now refer you to Exhibit B of the application, which is the plat showing the perimeter and the tracts included in the Red Lake Unit Area. Did you prepare this plat?

A Yes, sir.

Q As shown on said plat, are all of the wells shown to be producing wells, and all of the wells shown to be water injection wells correct?

A Yes, sir, as far as my knowledge goes they are correct.

Q Is the dotted line showing the unit boundary correct?

A Yes, sir.

Q And this unit would result in forty-four 40-acre units?

A Yes, sir.

Q Of which thirty-five of these units are now producing?

A Yes, sir.

MR. ELLIOTT: Mr. Examiner, I should now like to have you enter as an exhibit in this hearing the Exhibit B of the application.

MR. UTZ: Is there objection to the entrance of this Exhibit? If not, it will be accepted.

Q Mr. Vick, according to the application, this particular unit was originally approved by this Commission on January 13, 1955,

for an injection of water in a five-spot pattern on the Thompson lease, I believe, is that correct?

A Yes, sir.

Q And then as this water flood progressed and the unit was put together, you had another hearing to set up this Red Lake Unit?

A Yes.

Q And the Commission approved the Red Lake Unit as set out in Exhibit B, which has been introduced, by order of January 16, 1957?

A Yes.

Q And that this thing has now progressed to the point that the purpose of this hearing is to get a unit allowable set for the production of oil from such unit?

A Yes, sir, that's correct.

Q Are you familiar with the unit agreement and the unit operating agreement which has been prepared?

A Yes, sir.

Q Has this unit agreement and unit operating agreement been signed by all necessary parties?

A Yes, sir, as far as working interests are concerned, and royalty interests, it's my understanding that it is in the final submission form to the United States Geological Survey and Commissioner of Public Land for final approval.

Q This unit agreement is limited to the Red Lake Premier Sand?

A Yes, sir.

Q And includes both State and Federal acreage?

A Yes, sir.

Q Do you know of your own personal knowledge that Mr. Jack Campbell presented the signed unit and unit operating agreements to the Land Commissioner and to the United States Geological Survey for approval?

A I'm not sure. It's my understanding that he has.

Q And is it your understanding that the State has approved the Unit?

A Yes, sir. That's my understanding.

Q And that the United States Geological Survey has tentatively approved the agreement?

A Yes, sir.

MR. ELLIOTT: If it might be permissible, I would like to get into the record at this time the contents of the conversation which I had with the United States Geological Survey before this hearing.

MR. UTZ: You may proceed.

MR. ELLIOTT: Mr. Cooley and myself talked to Mr. James Knauff with the United States Geological Survey in Roswell as to the approval or disapproval of the Red Lake Unit agreement and operating agreement, and he advised us that as far as they were concerned, the unit had been approved, but that it must be forwarded to Washington for final approval; and that he was aware of this hearing for setting a unit allowable for the Red Lake Unit, and that he had no objection to this Commission setting a unit

allowable for the unit, and he advised Mr. Cooley and myself that he would forward a telegram this date to show that they had no opposition to the setting of a unit allowable.

MR. COOLEY: Would you like to request, Mr. Elliott, that the telegram when received be included in the record of this case?

MR. ELLIOTT: Yes, I should like to request that upon the receipt of the telegram from Mr. Knauff that the same be entered in the minutes as an exhibit of this hearing.

MR. COOLEY: It doesn't necessarily need to be an exhibit. Just make it a part of the record.

MR. ELLIOTT: All right, make it a part of the record.

MR. UTZ: Any objection? If no objection, it will be made a part of the record in this case.

Q (By Mr. Elliott) Mr. Vick, is it your opinion that a unit allowable be set for this Red Lake Unit to such an extent as to be able to produce and sell all the oil resulting from this water injection, or if not, that permanent damage might result because of having to hold back on the water injection?

A Yes, sir, that's my definite opinion as a water flooding engineer, that the injection rates that we have set up are comparable to normal water flooding operations, and that it's definitely desirable that we be in a position to produce all of the oil as it comes into the producing wells so affected by our injection wells on the project.

Q In other words, it is your opinion that the rate of injection

that you have now set up is the most economical and efficient method of water injection into this particular sand, and that any interruption of such injection might cause permanent damage to the ultimate recovery of oil?

A That's correct, yes, sir.

MR. ELLIOTT: I believe that's all I have.

(Discussion off the record.)

Q (By Mr. Elliott) Mr. Vick, at this hearing we are trying to determine the unit allowable which would be sufficient to take care of the oil which may be produced because of water injection. What is your opinion as to the allowable that would be required to handle this production?

A Well, we would like to recommend that it be set up on an appropriation basis, more or less, from our point of view of recommending our allowable for the succeeding month, or the next producing month, in line; in making an approximation from our production curves and our daily operation during the month of the amount of allowable that we would need for the affected tracts or for just the affected tracts for, on a unit basis, but sending in our supplements or appropriation notices from our production curves on an actual well test basis, or something along that line.

Q Would it be your recommendation that the thirty-five developed or producing tracts be set up for a top allowable; in other words, have the Commission to grant a permanent allowable equivalent to the maximum allowable for thirty-five 40-acre tracts, and then

nominate each month under Rule 1126 of the Conservation Laws as to the actual amount of oil that you think will be produced?

A Yes, sir. I believe that would be, definitely a maximum allowable set up along that line, should be definitely adequate for the production from the unit operations, considering our rate of development and expansion of the overall unit and the present response, that that type of allowable would be adequate.

Q In other words, it's your opinion that the production will never get to the point that it would be more than the amount of the top allowable that would be applicable to thirty-five producing units?

A Yes, sir.

MR. ELLIOTT: Mr. Examiner, as set up by Mr. Vicks' testimony, and requested in the application, we would like the record to show that it is our recommendation, and respectfully request of the Commission that an allowable, permanent allowable be set for the unit equivalent to the top allowable of thirty-five 40-acre producing tracts, and that Mr. Kersey, the operator, will nominate each month under Form 127 as to actual amount of production that he estimates will be needed for the following month.

MR. UTZ: I believe the record will show your statement, it will be a part of the record, at least. Do you have anything further?

MR. ELLIOTT: I believe that's all I have.

MR. UTZ: Are there questions of the witness?

MR. COOLEY: Yes, Mr. Examiner.

MR. UTZ: Mr. Cooley.

CROSS EXAMINATION

By MR. COOLEY:

Q Mr. Vick, do you have knowledge whether the operator of the Red Lake Premier Sand Unit has plans to drill any of the nine undrilled 40-acre tracts contained in the unit?

A Yes, sir. It's currently under a continuous, more or less a continuous stage of investigation and development;as our responses continue from the present water flood, we will be drilling outside wells from time to time, and also completing some of the inside patterns that we have water going into now. I have reference to the area on Exhibit B, this location right here.

Q That won't do for the record.

A Specifically a location in the northeast 330,out of the northeast corner of Unit H, or I mean of Unit P, in Section 20, 17, 28.

MR. UTZ: Would that not be a 330 - 990 location?

A It would be a 330.

MR. UTZ: 990 south and east from Section 20?

A Yes, sir.

Q (By Mr. Cooley) That unit already has an injection well in it, does it not?

A Yes, sir.

Q Then maybe we had better clarify this other point before

we proceed any further on this line of questioning. You stated in your direct testimony that there are thirty-five producing units. I don't believe you meant that in its literal sense, did you? Are there not only thirty-one producing oil wells?

A Well, we consider it as such, Mr. Cooley, as a developed 40-acre tract.

Q That is the distinction I wanted to draw here. There are thirty-five developed 40-acre units?

A Yes, sir.

Q The definition of a developed 40-acre unit being in your understanding that the unit contains at least one producing well or one injection well?

A Yes, sir.

Q But there are only thirty-one, or possibly less, I do not know, producing units, maybe less --

A (Interrupting) Actually thirty-one producing wells.

Q Thirty-one producing wells, and do you have a calculation of how many producing 40-acre tracts there are?

A Well, there would be some twenty-eight or twenty-nine. We don't have that figure, but several of the tracts do have, 40-acre tracts do have two producing wells on them at the present time.

Q So there would be something less than thirty-one producing 40-acre tracts?

A Yes, sir.

Q But thirty-five developed 40-acre tracts as we have defined

that term?

A Yes, sir.

Q Now back to my first question. Do you have knowledge whether the unit operator plans to drill any of the nine undrilled or undeveloped 40-acre tracts to which you have testified?

A Not immediately, but definitely they're under consideration for sometime in the future.

Q They are under consideration for sometime in the future. There are forty-four 40-acre tracts in the unit?

A Yes, sir.

Q Nine of which are not --

A (Interrupting) Presently drilled.

Q -- not developed in any fashion to date?

A Yes, sir.

Q In the event that any of the nine undeveloped units were subsequently developed, would the operator then seek the allowable benefit from that unit?

A Yes,sir, we would need,possibly need that stipulation.

Q Would it not be then more proper to request that, rather than thirty-five times top unit allowable, that the number of developed 40-acre tracts within the unit times top allowable, which would allow you the latitude for subsequent development of undrilled tracts?

A Yes, sir, that would be definitely the most appropriate way of putting it, I believe.

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Q Now, I believe your Exhibit A shows that there are eleven injection wells within the unit area?

A Yes, sir.

Q Are all of these injection wells presently being used?

A Yes, sir.

Q Order R-968 authorized the injection of water into the Thompson wells No. 1, 2, 3, and 4; and Order R-938 authorized subsequent expansion of the pilot water flood, subject to approval of the Oil Conservation Commission, provided the information required by paragraph B of Rule 701 was supplied. Have the seven additional injection wells been approved by the Commission?

A They were submitted on an exhibit similar to the Exhibit B attached there, and I believe you submitted those, didn't you, Harold?

MR. KERSEY: At the hearing at Hobbs, I believe we submitted that plat with these present injection wells and also the proposed additional injection wells that we'll have later.

MR. COOLEY: Off the record here.

(Discussion off the record.)

MR. COOLEY: Let's go back on the record.

Q (By Mr. Cooley) Mr. Vick, the Red Lake Oil Pool has as its vertical limits the Grayburg and the San Andres formations; it is my understanding that under this present injection program you are injecting only into the Grayburg formation?

A Yes, sir, that is correct.

Q Order R-568 authorized injection into the Grayburg producing formation or horizon, and R-938 authorized injection into the water of the Premier Sand of the Red Lake Pool. Would you clarify whether or not these two horizons are one and the same?

A It's our understanding geologically that the Grayburg section is composed of several intervals and our geologists consider the Premier Sand section as the lowermost, lying on top of the San Andres in the immediately lower section of the Grayburg.

Q I realize that the Premier Sand does not comprise the entire Grayburg formation but is it the only productive horizon or zone in this area?

A In the Red Lake Pool.

Q In the Red Lake Pool, the Premier Sand is the productive sand in the Grayburg formation?

A To my knowledge, yes, sir.

Q Would you say, Mr. Vick, that the productive capacity of the wells in the general area here involved has fallen to the point where they would be considered in the stripper stage were it not for water injection?

A Yes, sir, definitely. They were at the economic limit at the time that secondary recovery measures were installed.

Q What do you mean by "economic limit"?

A The point where any profit ceases to be realized from normal operation or day to day operation of the producing properties.

Q Were it not for the institution of some type of secondary

program, the economics of the wells would dictate that the wells be plugged and abandoned?

A Yes, sir, that is correct.

Q Then if any additional oil is to be obtained from the Red Lake Pool in this area, it must be as a result of secondary recovery operations?

A Yes, sir.

Q Mr. Vick, you testified that you felt that the curtailment of production from the wells affected by the injection of water in this area might possibly result in waste, is that correct?

A That's correct, yes, sir.

Q Do you also feel that the rate of development within the unit area as outlined on Exhibit B can be so controlled as to keep the total production from the unit within the limits of the allowable formula that you have proposed, that being the number of developed 40-acre tracts times top unit allowable?

A Yes, sir, that's my opinion. I might say that our projected rate of development is such that it will be in stages from this area toward the edges of the outlined unit, the timing on it will be in response to the way that the outside row of producers reacts to the water injection, and in order to maintain some balance we have a period of time that we can wait for this production to come up on the outside row, and then come in at a little bit later date and start our injection into the next outside row; but it has to be on a definite time basis because you have to maintain some

semblance of balance on your injection wells to keep from carrying a high water production from your initial injection wells while your outside wells are still driving oil.

Q As a further clarification of that matter, by staging the subsequent development of this water flood,will the peaks of production from any group of producing wells be staggered so that all of your production will not be obtained or all of your wells will not peak at the same time?

A That is correct. It will definitely have a levelling effect on your peak production of this time interval which we will put these outside rows of injection wells on.

Q Will the production from the wells in the center, or the wells which you might expect to be your highest producers in the initial stages -- let me ask you how will it be shared throughout the unit?

A Well, relatively, the inside wells will be higher than the outside wells on a theoretical basis.

Q The production from those wells will be higher?

A Yes, sir.

Q The revenues, how will it be shared?

A The unit participation formula is set up on a cumulative production factor, and an acreage factor, and a well factor, which was included to derive the participation percentages for each of the various interests in the Red Lake Unit, and that was set up initially and won't vary any, but each unit will share according t

this percentage in the overall production from, no matter which well it comes from.

Q Let me ask this question first. Will an undrilled 40-acre tract have any share of the production?

A Yes, sir, on the twenty-five percent acreage factor which was included in the formula, participation formula, it would have, it would be very nominal but it would be actually a participation.

Q And this participation will be from the very first day of distribution of unit funds?

A Well, actually, when the unit goes into effect.

Q When the unit goes into effect?

A Yes, sir.

Q Everyone will then commence sharing, it will not be staged out?

A No, sir.

Q What will be the disposition of production from the time you first got a kick on any of these wells; your present production, for instance, which is prior to formal approval of the unit, how will the present production be allocated?

A According to the -- well, actually, the present ownership, Mr. Cooley --

Q (Interrupting) Just a minute. In accordance with the terms of the leases?

A Yes, sir. Now it was our hopes and our feeling that this unit agreement will actually be in effect a considerable length of

time before these last responses that we have obtained there, but we had some difficulty in getting signatures on the total unit agreement and it has held us up just that long.

Q Can you identify the wells for me, please, from which you are getting the response at the present time?

A Well, from Exhibit B, we're presently having a response on the Hartley No. 1 and 2, which are in I and G, Units I and G of Section 20.

Q Those are State Leases?

A Yes, sir. We presently have an increase on Stephens-Federal No. 3, which is in Unit H of Section 20.

Q As the name implies, that is a Federal lease?

A Yes, sir. And we presently have a slight increase on No. 12 of Unit D in Section 28, which is the Welch State Red Lake.

Q How much of an increase do you have on that one?

A That is approximately a barrel or two or three, Harold?

MR. KERSEY: Yes, about two barrels, approximately.

A Right straight across the bottom there, the No. 4 Piatt State Delhi in Unit A of Section 29 had a slight response, two or three barrels; and the No. 2 and No. 5 Wells in Unit B and C of the same Section 29 had slight increases. The No. 3 - Yates State Delhi in Unit D of Section 29, approximately what is that, Harold?

MR. KERSEY: It is approximately three or four barrels now.

A And the Well No. 6 - Delhi State in Unit J of Section 19, 17, 28, is making approximitely twenty barrels; the Thompson State

No. 5 and No. 6 in Unit J and Unit M of Section 20, 17, 28, are producing approximately thirty-five barrels total between the two. We can go back to Exhibit A, I was taking them from Exhibit B, some of the names might be a little bit different.

Q I don't believe it is necessary, Mr. Vick. I was just trying to get some idea of what the impact,prior to final approval of this unit agreement, is going to be on the rights of the various operators throughout the unit, especially the royalty owners. Back to this formula set out in the unit agreement. You did tell us a cumulative production factor?

A Yes, sir.

Q Does that include the primary recovery of the well?

A Yes, sir, that was the primary recovery to the date that working up the unit agreement was commenced, I believe it was.

Q Why was that criterion used, Mr. Vick?

A Well, in old depleted fields such as this, we feel and it is more or less an accepted engineering fact that the actual oil in place or left in place is in direct proportion to the cumulative primary production.

Q The higher the primary production, the greater the amount of oil still in place?

A Still in place, yes, sir.

Q And the wells which were converted to injection wells also have this cumulative figure?

A Yes, sir, they were taken, or the unit participation was

on 40-acre tracts, and whether that tract had two producing wells with a cumulative of so much, or whether it had one with the same cumulative, it was still the same participation factor.

Q And production during secondary recovery has no bearing on how they share in the proceeds from the unit?

A That's correct, no bearing whatsoever.

MR. ELLIOTT: What is that question?

MR. COOLEY: Does the production since injection of water or the cutoff date have any bearing whatsoever on the amount of participation?

MR. ELLIOTT: You mean up to the time the unit is approved?

MR. COOLEY: Yes, sir.

MR. ELLIOTT: All right.

MR. COOLEY: To and beyond that.

A After unit approval it would have no bearing on which well it was taken from, each interest would share according to his participation factor.

Q Will production subject to the injection of water and prior to the approval be added on to the cumulative production figure?

A No, sir.

Q You have already made a cutoff date for cumulative production for all wells?

A Yes. If it extends over too long a period of time, we will, can come in and recalculate the cumulative production figure to a new date and set it up on the same basis but on a cumulative

production figure, but we feel that it would be along that line, it would be hard to satisfy various interests in dividing this secondary recovery production.

Q In any calculation after the date that the injection wells would be converted, it would be?

A Yes, sir.

Q Because they haven't had an opportunity to produce any more even though they might have, they have been converted to water injection wells?

A Along that same line, we had the same discussion develop in the Caprock Unit agreement, and initially it was their point of view that the actual secondary recovery produced oil due to the water flood in the Caprock Field would be taken off of their future participation on some month to month basis or something, but if one operator's tract had produced a considerable amount of secondary oil, then he would be more or less penalized on future secondary oil until such a time as that secondary oil were allocated back to the various, into other overall participation.

Q No such provision has been made in this?

A No, sir, as yet not.

MR. COOLEY: I believe that's all the questions I have.

MR. UTZ: Mr. Porter.

By MR. PORTER:

Q Mr. Vick, most of these wells in this unit 10 to 12 years old?

A Yes, I do not recall exactly. I believe 19 and 44 to 47, something like that, was the initial production.

Q Of course, the vertical limits of the Red Lake Pool have been defined as Grayburg-San Andres. Do you know whether or not these particular wells were completed in both these formations?

A To my knowledge, in the interpretation of our geological department, they are only in the Premier portion.

Q. Premier of the Grayburg?

A Yes, sir.

MR. PORTER: Thank you.

MR. UTZ: Any other questions of Mr. Vick? Mr. Nutter.

By MR. NUTTER:

Q Mr. Vick, if the injection well in this unit agreement should receive top allowable wells and all -- or if the 40-acre tracts with injection wells should receive top normal unit allowable, and if all of the offsetting 40-acre tracts which are developed should receive a top normal unit allowable, will sufficient allowable be assigned to this area to enable you to produce the producing wells without waste or without having to curtail?

A It's my opinion, Mr. Nutter, that it could be, since we do have approximately some four hundred acres under development right now, that that would be sufficient to care for the production.

Q Is that the producing 40-acre tracts that are offsetting the injection program?

A I see. Well, it's my opinion that that would be adequate.

Q How many injection tracts are there?

A There are eleven injection wells, presently.

Q How many producing wells or how many developed 40-acre tracts offset those eleven injection tracts?

A I believe according to our previous count, wasn't it sixteen?

Q There are sixteen?

A Yes, sir.

Q Which gives you a total of twenty-seven tracts either injection or offsetting producing tracts?

A Yes, sir.

Q You think that the total allowable derived from a normal unit allowable times those twenty-seven forty-acre tracts would be sufficient for the unit?

A I believe it would be adequate, yes, sir.

Q Another thing, Mr. Vick, I think you stated there were thirty-five developed 40-acre tracts. I count thirty-six on the Exhibit B. What is the cause for that difference in total developed tracts?

A I don't know, Mr. Nutter, unless it was --

MR. NUTTER: Off the record.

(Discussion off the record.)

MR. UTZ: We are now back on the record. Would you care to answer that question, Mr. Vick?

A After a recalculation, we would like to state that the discrepancy in our total number of producing or developed tracts

was in error, the correct need is thirty-six instead of thirty-five.

MR. COOLEY: Which well was it that you omitted?

A The omission was --

MR. COOLEY: (Interrupting) Refer to Exhibit B.

A Referring to Exhibit B, the Staley Oil Company Well No. 1 in Unit H, Section 30, 17, 28.

MR. NUTTER: Mr. Vick, is that Staley Well No. 1 also sometimes referred to as the Scannell Well No. 1?

A Yes, sir.

MR. COOLEY: Is that well committed to the Unit agreement?

A Yes, sir, it has been. It was used in deriving the participation formula and was included in the unit calculation.

MR. COOLEY: The owners of the well have signed the unit agreement and it is committed?

A Yes, sir.

MR. COOLEY: Is it presently being operated by the unit operators?

A No, sir, by the owners of the lease.

MR. UTZ: Does that not give us two Scannell No. 1's?

A I believe we refer to this, to the 80-acre lease in Section 20, as the Shell State Scannell No. 1 and 2 wells, in O and B.

MR. ELLIOTT: Mr. Examiner, with your permission I would like to amend our application to show that a request for the following allowable be made for the Red Lake Unit; that is, that we be

allowed to receive top allowable for each 40-acre tract on which a water injection well is located, plus a top allowable for each 40-acre tract either directly offsetting or diagonally offsetting the 40-acre tracts on which water injection wells are located.

MR. NUTTER: Do you mean each developed 40-acre tract, Mr. Elliott, directly or diagonally offsetting an injection tract?

MR. ELLIOTT: That is correct.

MR. NUTTER: Thank you.

MR. UTZ: Is there objection to the amendment of the application?

MR. COOLEY: In view of the fact that the amendment is a restriction of the authority requested in the scope of the hearing as advertised, the Commission has no objection to this amendment.

MR. UTZ: The amendment is so ordered. Any other questions of the witness?

By MR. UTZ:

Q Mr. Vick, I believe I understood in your direct testimony that there were injection wells which you were now injecting around 300 barrels a day, and that you thought the injection rate would drop to around 200 after fillup? A Yes, sir.

Q Is that correct?

A Yes, sir, in those ranges.

Q Let me ask you this question. Why will it be necessary to drop your injection rate to 200?

A Well, it's a process of actually, no action on our part,

it's controlled by the reservoir. The reservoir will take a certain volume of water at a certain pressure, unless your pressure is increased as your void space fills up and the water front from your injection wells radiates out, it takes an increased amount of pressure to push the same volume through; or if you aren't in a position or you can't increase your pressure due to your overburden of the formation in your water injection well, your breakdown pressure, then you have to accept this decrease in water volume, that comes about normally from your formation. At the same pressure your volume as it extends away from the well is just gradually decreased to some, what we call our steady injection rate after fillup.

Q Then it is a matter of injection pressure rather than rate of injection?

A Yes, sir, in this instance.

Q You don't feel that by dropping your rate of injection 100 barrels per day there would be any loss of oil in the reservoir?

A No, sir. Well, there might possibly be some on a theoretical basis, but again here we are controlled by our maximum injection pressure that we can apply to the sand face. When we exceed that, we get a breakthrough of water and subsequent decrease in efficiency of the overall water flooding program. When we are confined to this condition, we have to accept the decrease in injection volume as normal.

Q Is there a decrease in injection volume common to all wate

flood projects?

A Yes, sir, at a constant pressure, it's very normal.

Q Mr. Vick, how far from an injection well do you believe that there would be response in a producing well?

A Well, it would depend primarily on your permeability profile and your permeability range. The higher the permeability, assuming one constant pressure on your injection well, the greater the permeability, the farther out you could extend your actual water flood front.

Q What is the greatest distance in this Red Lake project that you have detected response at the present time?

A We are encountering a production increase on one certain producing well approximately 1320 feet from the nearest injection well.

Q Then the original purpose in your requesting allowable for all developed 40-acre tracts in the unit was actually an effort to transfer allowables from those wells not affected by the water flood to wells affected by the water flood, so that you would not have to restrict your production, is that a correct statement?

A Yes, sir, that is correct.

Q I believe you consider this a secondary recovery project, do you not?

A Yes, sir.

Q Would you have a definition of your own for a secondary recovery project?

A Well, briefly, a project that is installed at somewhere near the economic limit on primary production on a property where the bottomhole pressure is completely gone, or is in the near region of being; all of your bottomhole energy more or less has been dissipated, all of these facts coming in together place you at your economic limit, no energy in the reservoir to produce the oil to the well bore, and unless something externally is applied.

Q Would you consider economics entirely, or would you consider bottomhole pressure as a criterion for determining the difference between a secondary recovery project and primary recovery, or --

A (Interrupting) I feel that from an engineering standpoint, it is your engineering aspects, your bottomhole pressure and such, but they all definitely tie in with the economics. You may have a shallow zone that is not costing you much to produce; therefore you can produce it to the lower limit. On a deeper zone, you would be restricted to a higher figure of your daily production as to your economic limit.

Q You would tie the two together?

A Yes, sir, definitely.

Q Would you have any opinion as to what the lowest economic limit would be in the wells in the nature of the Red Lake Pool?

A We feel that with Mr. Kersey operating the properties presently, we have a very -- what we call an economical operator, and that has enabled us or him to produce the wells down to a barrel or in some cases a half a barrel and still with his reduced

overhead and reduced operating expenses to continue to produce the wells at that rate with no profit, but with no loss in actual operation.

Q By using economics, then, we get into the matter as to who is operating the well?

A Yes.

Q How cheaply he can operate.

MR. UTZ: Any other questions? Mr. Porter.

MR. PORTER: May I direct a question to you, Mr. Kersey? There have been a number of these wells that have been down to one barrel for several years?

MR. KERSEY: That's right.

MR. PORTER: I have wondered how you have done it.

MR. KERSEY: In some it is kind of hard, you just kind of have to balance out.

MR. UTZ: Any other questions in this case? The witness may be dismissed.

(Witness excused.)

MR. UTZ: Any statements to be made?

MR. KERSEY: Mr. Vick is employed by the Ibex Company and myself as a water flood operator on this project. I ascribe to all the remarks he has made, and they meet with my approval.

MR. UTZ: Any further statements? If not, the case will be taken under advisement.

The hearing is adjourned.

C E R T I F I C A T E

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 3rd day of March, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley.
NOTARY PUBLIC

My commission expires:

June 19, 1959.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1381, heard by me on Feb. 11, 1958.
New Mexico Oil Conservation Commission

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-5691 5-9546

EXHIBIT "A"

PRESENT OPERATIONAL DATA OF WELLS IN RED LAKE UNIT

Lease	Well No.	Unit	Sec.	Twp.	Rge.	Status	Present Oil Prod.	Daily Water Inj. Bbls.	Cumulative Water Inj. Bbls. to (1-15-58)
Thompson	#1	K	20	17	28	Injection	--	73	59,886
"	#2	L	"	"	"	"	--	144	75,632
"	#3	N	"	"	"	"	--	185	49,243
"	#4	M	"	"	"	"	--	151	103,280
"	#5	N	"	"	"	Producing	14	--	--
"	#6	K	"	"	"	"	13	--	--
Piatt	#1	A	30	17	28	Producing	1	--	--
Hartley	#1	I	20	17	28	Producing	1 5 15	--	--
"	#2	J	"	"	"	"	1	--	--
"	#3	J	"	"	"	"	1	--	--
"	#4	I	"	"	"	Injection	--	332	70,911
Delhi Reid	#1	F	"	"	"	Injection	--	241	58,691
" "	#2	B	"	"	"	Producing	1	--	--
Welch Reid	#1	G	"	"	"	Injection	--	241	60,347
" "	#2	A	"	"	"	Producing	1	--	--
Welch Stephens	#2	H	"	"	"	Injection	60	254	48,516
" "	#3	P	"	"	"	Producing	90	--	--
Delhi Stephens	#1	P	19	17	28	Producing	2	--	--
Scannell	#1	O	20	17	28	Producing	1	--	--
"	#2	P	"	"	"	Injection	--	244	59,878
"	#7	H	30	"	28				
Tigner	#1	L	28	17	28	Producing	1	--	--
Welch	#10	L	21	17	28	Injection	--	224	47,194
"	#11	N	"	"	"	Producing	1	--	--
"	#19	N	"	"	"	"	1	--	--
"	#13	M	"	"	"	Injection	--	217	57,330
"	#12	D	28	17	28	Producing	1	--	--
"	#14	C	"	"	"	"	1	----	--
"	#15	E	"	"	"	"	1	--	--
"	#16	F	"	"	"	"	1	--	--
"	#18	O	21	17	28	"	0	--	--
Delhi	#1	K	21	17	28	Producing	1	--	--
"	#2	C	29	17	28	"	21	--	--
"	#3	D	"	"	"	"	1	--	--
"	#4	A	"	"	"	"	23	--	--
"	#5	B	"	"	"	"	4	--	--
"	#6	I	19	17	28	"	20	--	--
"	#9	O	"	"	"	"	1	--	--
"	#10	G	30	17	28	"	1	--	--
Williams A	#1	E	21	17	28	Producing	1	--	--
Williams A	#2	E	"	"	"	"	1	--	--
Williams B	#1	F	29	17	28	"	1	--	--
Williams B	#2	G	"	"	"	"	1	--	--
							209 bbls/day 187	2306	690,908

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. A
CASE 1581