

Case No.

1022

Application, Transcript,
Small Exhibits, Etc.

CASE 1022: Vickers Petroleum Co., Inc.
Application for approval of an unorthodox
location 1345' FWL & 1345' FWL in Eddy Co.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 187
Artesia, New Mexico

January 19, 1956

The Vickers Petroleum Co., Inc.
Box 2240
Wichita 1, Kansas

Re: Oil and Gas Lease LC 029431
Proposed unorthodox locations

Attention: Mr. A. E. Collins

Gentlemen:

This will acknowledge receipt of your letter of January 16, stating therein your desire to drill an unorthodox five-spot well location in the center of the northeast quarter of section 30, T. 16 S., R. 31 E., N.M.P.M., Square Lake Field, Eddy County, New Mexico.

Office records confirm that Vickers Petroleum Company has drilled four wells, all located in the center of the respective 40-acre tracts comprising the northeast quarter 160-acres of said section 30. The Department does not object to the drilling of "five-spot" well locations, but does object to the drilling in the exact center of said tracts. Furthermore, the drilling of any "five-spot" well locations will be contingent upon approval of the unorthodox location, and/or locations, for the proration purposes by the New Mexico Oil Conservation Commission of the State of New Mexico.

It is suggested that you discuss the matter with the New Mexico Oil Conservation Commission and request an order approving the unorthodox "five-spot" well location. You should also locate the "five-spot" approximately twenty five feet out of the exact center, placing it in any one of the 40-acre tracts.

Your letter of January 16 will be forwarded to the Supervisor, U. S. Geological Survey, Roswell, New Mexico, for further attention should it be necessary to expedite the handling of the request.

Very truly yours,

John A. Frost
John A. Frost
District Engineer

JAF:mm

RECEIVED THE COMMISSION
OIL AND GAS
JAN 23 1956
CASE 1022

Worren
Letter 11 11 56

the Vickers Petroleum Co., Inc.



P. O. BOX 2240
Wichita 1, Kansas

REFINERY AT POTWIN, KANSAS

January 24, 1956

Application: Unorthodox Well Location
Square Lake Field
Eddy County, New Mexico

New Mexico Oil Conservation Commission
125 Mabry Hall, Capitol Building
Santa Fe, New Mexico

To The Honorable Commission:

The applicant, The Vickers Petroleum Company, Incorporated, states as follows:

1. That it is a Kansas Corporation with a permit to do business in the State of New Mexico.
2. That it is the present owner and holder of operating rights under the following lease, insofar as said lease embraces all the Northeast Quarter (NE/4) of Section 30, Township 16 South, Range 31 East, N.M.P.M., Eddy County, New Mexico.
 - a. United States Oil and Gas Lease, George Etz Lessee, Serial Number Las Cruces 029431, containing the above-described 160-acre tract and other lands.
3. That this 160-acre tract is within the boundaries of the Square Lake Field, as defined by the New Mexico Oil Conservation Commission.
4. That there is an existing producing well located in the center of each 40-acre legal subdivision of the above-described tract, now producing from the Grayburg and/or upper San Andres formations, at the approximate depth of 3000 feet, all of which is more particularly shown by the plat hereto attached.
5. That The Vickers Petroleum Co., Inc. desires to drill a five-spot producing well at a location approximately twenty-five (25) feet West and twenty-five (25) feet South of the center of the above-described quarter section.

the Vickers Petroleum Co., Inc.

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Page 2
January 24, 1956

6. That upon the basis of the geological and engineering data at hand, The Vickers Petroleum Co., Inc. is of the opinion that one (1) well in the center of each 40-acre unit will not sufficiently drain all the oil recoverable from each 40-acre tract; that the drilling of the five-spot location herein requested will be in the interest of conservation, will prevent waste and procure a greater ultimate recovery of oil which will not be produced without such additional well.
7. That no adjacent leaseholders or royalty owners will be adversely affected by this operation.
8. That it has approval of the United States Department of the Interior, Geological Survey, lessor of the above-mentioned lease, of this unorthodox location.
9. That the total allowable to be requested for the 40-acre tract on which the unorthodox location is drilled will not exceed the maximum allowable as established by the Commission for 40-acre proration units within the Square Lake Field.

In consideration of the foregoing statement the applicant respectfully requests the Commission, acting through and as a result of an Examiner Hearing, to approve the unorthodox location as hereinabove applied for.

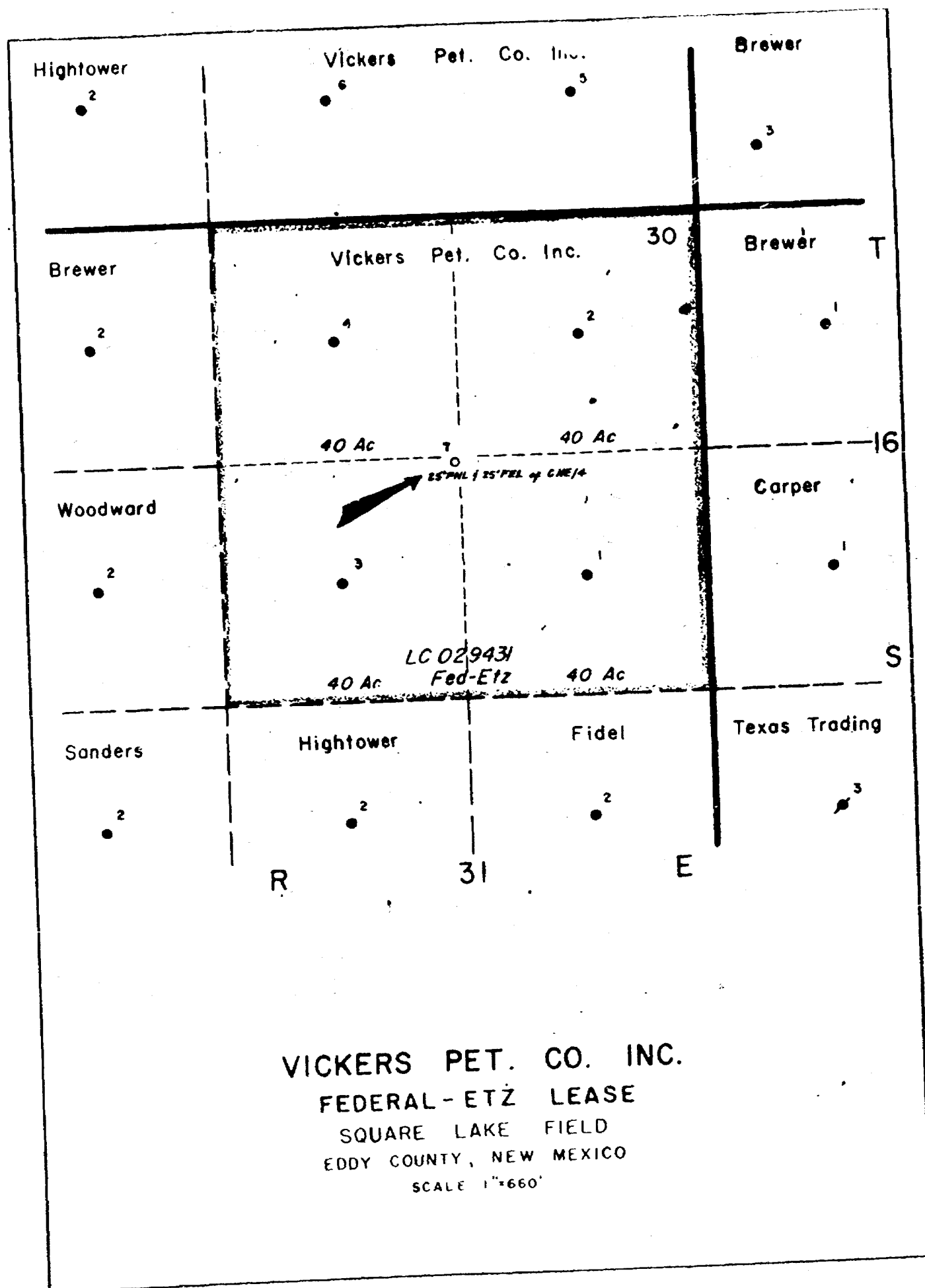
Respectfully submitted,

The Vickers Petroleum Co., Inc.

By A. E. Collins
A. E. Collins

AEC:bb

Attachment



BEFORE THE
OIL CONSERVATION COMMISSION
Hobbs, New Mexico
March 1, 1956

IN THE MATTER OF:

Case No. 1022

TRANSCRIPT OF PROCEEDINGS

NEW MEXICO OIL CONSERVATION COMMISSION
MABRY HALL - STATE CAPITOL
SANTA FE, NEW MEXICO

REGISTER

HEARING DATE March 1, 1956 TIME: 10:00 a.m.

NAME:	REPRESENTING:	LOCATION
Chas N. Hume	W. Marine Oil Co	Midland, Tex.
AT Sunde	-	-
Jack M. Campbell	Campbell + Russell	Roswell, N.M.
JO. J. Russell	The Ohio Oil Co	Houston
D. K. Spillman Jr	"	"
Clyde Altan	"	Hobbs
John A. Weideman	Continental Oil Co.	Roswell, N.M.
J. M. M. Cagne	Shell Oil Co.	Hobbs
R. F. Montgomery	OCC	Hobbs
C. W. Luedel	OCC	Hobbs
M. A. Colligan	W. Isher Oil Co	Midland, Tex.
John A. Ditch	Worth Well Surveys	Odeessa, Tex.
S. O. Seaman	Sinclair O & G.	Ft Worth, Tex.
Layton A. Webb	Sinclair O & G Co	Ft Worth, Tex.
A. H. Lundy	"	Roswell
R. D. Deane	Humble Oil & Refining Co.	Midland, Tex.
C. M. Burrows	Gulf Oil Corp.	Hobbs

BEFORE THE
OIL CONSERVATION COMMISSION
March 1, 1956
Hobbs, New Mexico

Application of Vickers Petroleum Company, Inc., for an order approving the drilling of a well as a "five-spot" unorthodox location within the boundaries of the Square Lake Oil Pool as an exception to Rule 104 (c) of the Statewide Rules and Regulations of the New Mexico Oil Conservation Commission.

Applicant, in the above-styled cause, seeks approval of the drilling of a well as a "five-spot" unorthodox location within the boundaries of the Square Lake Oil Pool; said location to be at a site 1345 feet South of the North line and 1345 feet West of the East line of Section 30, Township 16 South, Range 31 East, Eddy County, New Mexico.

Case No. 1022

BEFORE:

Warren W. Mankin, Examiner

TRANSCRIPT OF HEARING

EXAMINER MANKIN: The hearing will come to order. The first case on the docket today is Case 1022, the application of Vickers for an order approving the drilling of a well as a "five-spot" unorthodox location in exception to Rule 104 (c). Proceed.

MR. CAMPBELL: Mr. Examiner, I am Jack M. Campbell, Campbell and Russell of Roswell, New Mexico, appearing on behalf of the applicant, Vickers Petroleum Company, Inc. We have one witness, Mr. Phillips, who should be sworn .

CHARLES M. PHILLIPS

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

DIRECT EXAMINATION

By MR. CAMPBELL:

Q. State your name please.

A. Charles M. Phillips

Q. And where do you live, Mr. Phillips ?

A. In Midland.

Q. By whom are you employed?

A. I am in a consulting firm, Berry and Phillips, representing Vickers here.

Q. In what capacity are you employed there?

A. Consultant Petroleum Engineer.

Q. You have never testified before this Commission have you?

A. No, sir.

Q. Would you please give a brief statement of your educational and professional background?

A. I graduated from Texas A & M in 47 as a petroleum engineer. I worked for Core Laboratories for possibly six months and Standard Oil Company of Texas for approximately five years. Then I went with Robert W. Harrison Company in Houston, Consulting Engineers, and I was with them until September when I came out to Midland and I opened up Berry and Phillips.

Q. And since that time have you been doing consulting work in West Texas?

A. Yes, sir.

Q. New Mexico?

A. Yes, sir.

Q. Have you testified before the Railroad Commission of Texas in your professional capacity?

A. Yes, sir.

Q. Mr. Phillips, have you been consulted by Vickers Petroleum Company in connection with their application for a "five-spot" location in the Square Lake Field, Eddy County, New Mexico?

A. Yes, sir.

Q. I hand you what has been marked as Vickers Exhibit No. 1 and ask you to state what that is.

A. That is a plat showing the lease on which they desire the "five-spot" well to be drilled.

Q. How many wells are presently situated on that lease?

A. There are six wells now on the lease. The application states four, but that four has been referred to the northeast quarter of that section. The lease includes two 40-acre units in the adjoining section to the north.

Q. And that lease is a federal lease, Las Cruces No. 029431, is that correct?

A. Yes, sir.

Q. What does that plat reflect as to the location of the proposed fifth well, Mr. Phillips?

A. The proposed fifth well in this northeast quarter of the section containing 160 acres is 25 feet from the North line and 25 feet from the East line of the center of that northeast quarter.

Q. Then it is actually situated in the southwest quarter of the northeast quarter of the section, is that correct?

A. Thats right. The same 40 acres as Well No. 3.

Q. Now you have testified that that is a federal lease. I hand you what has been identified as Vickers Exhibit No. 2, and ask you to state what that is?

A. That is a photostatic copy of a letter from the Department of Geological Survey giving their approval to this well.

Q. Now, in connection with the consulting work that you have done on this area in this application, have you made a study of the well data concerning the six wells on this lease and including of course the four wells now situated within the quarter section involved?

A. Yes, sir. That was Exhibit 3, I summarized on Exhibit 3 the well data.

Q. I hand you what has been identified as Vickers Exhibit 3 and ask you to state what that is?

A. That is a well data table giving the pertinent information on the wells, the locations, the completion date, where the pipe is set, what it is producing from and the approximate estimated current producing capacity of these wells.

Q. Were those figures obtained from the records of Vickers Petroleum Company in connection with the drilling and operation of those wells?

A. Yes, sir.

Q. I now hand you what has been marked as Vickers Exhibit No. 4 and ask you to state what that is.

A. Well, that is a plot of bottom-hole pressures, first--accumulated production from this lease.

Q. And was that prepared by you or under your supervision?

A. Yes, sir.

Q. Was it prepared from well data furnished you by Vickers Petroleum Company?

A. Yes, sir.

Q. Now, Mr. Phillips in connection with your study of the well data and your interpretation as reflected on Exhibit No. 4, will you state for the Examiner, what the reason is for the application for a fifth well on that 160-acre tract?

A. The six wells have declined considerably and are only making a little over 10 or 11 barrels a day at the present time on an average of less than two barrels per well which is very close to the economic limit and in order to continue producing this lease, something has to be done and Vickers believes that the best thing is to drill a new well and frac it if necessary. The wells that are currently on the lease are all completed open hole and have been shot with nitroglycerin and Vickers does not believe, and I agree with them, that attempting to frac a well that has been completed open hole and has been shot with nitroglycerin is not too desirable. Also, if you will note from Exhibit 4, the bottom-hole pressure on April of 1955 was 322 pounds, which was a fairly good bottom-hole pressure for this depth and yet the wells are making less than two barrels per day each and to me that indicates that the formation is very tight and that is probably not draining in any great area. Also, as you will note from the curve, this curve has a very odd shape. It curves down for awhile and then it flattens out. To me that indicates also a tight reservoir and limited radius of drainage and indicates that the radius of drainage has increased during this time shown by the dash interval and as I visualize it at a higher economic radius the drainage area was very limited and you may be draining a little more area now at these lower rates and the tight parts of the reservoir are feeding into the more permeable parts very slowly.

Q. Then that would indicate that if the wells presently on the 160-acre tract are draining the center of the 160 acres, it is being done at a very slow rate.

And all of the presently existing wells are approaching the marginal stage are they not?

A. Thats right.

Q. Is it your opinion that if this application is granted and you are permitted to drill a fifth well, that it will recover oil that otherwise might not be recovered by the four wells now on the tract?

A. Yes, sir. I believe it would.

Q. Do you believe that the drilling of this well and the granting of an allowable to it would adversely effect the correlative rights of operators offsetting this 160-acre quarter section?

A. No, sir, I don't. It is located right in the center and any drainage that would have taken place would had to of been done by the wells now on the lease.

Q. If this unorthodox location is approved and you obtain a producing well, are you willing to have the allowable for that well charged against the normal 40-acre unit allowable for the SW/4 NE/4 of the section?

A. Yes, sir.

Q. In other words you are not seeking any additional allowable for this 160-acre tract?

A. Thats right. It was in this manner that the Wells No. 3 and 7 in this 40-acre would be treated just as one well they would be entitled to a normal unit allowable if they could make it.

Q. I believe thats all. Do you have something else that you-----

A. I understand that there have been other applications of this type granted in this field.

Q. I believe thats all.

MR. MANKIN: That is a question which I was going to ask you Mr. Phillips, I believe there has been similar applications in this immediate area or in this same field, the Square Lake Field, where similar situations exists.

A. Yes, I believe that is true.

MR. CAMPBELL: If the Examiner please, I was going to call that to the attention of the Examiner, in Order No. R-648 in June of 1955, the Texas Trading Company received approval for a "five-spot" location in Section 29. I believe the SW/4 of Section 29, Township 16 South, Range 31 East, in the same oil pool. Do you have anything further you want to add?

A. No, sir.

Q. I have no more questions.

MR. RIEDER: Mr. Phillips, what was the-----which well did you use for your bottom-hole pressure information or is this-----

A. Thats the arithmetic average of at least five wells, no at least four wells for each survey and sometimes five and six.

MR. RIEDER: What was the range of those pressures or were they----

A. They range from----well, I will put it this way, that the range--- the average, just looking at it here appears to be approximately 30 or 40%. In other words, there was a range, 30 to 40% around the average on the individual wells, which also might indicate there is limited drainage because if there was good drainage then they would all have the same pressure.

MR. RIEDER: You have not plotted the wells individually?

A. No , sir.

MR. MANKIN: Any other questions of the witness?

Q. I would like to have the record show that I offered Exhibits 1, 2, 3 and 4 in evidence.

MR. MANKIN: Is there objection to entering these in evidence? If not they will be so entered. If there is nothing further, the witness may be excused and we will take the case under advisement.

STATE OF NEW MEXICO)
COUNTY OF SANTA FE) ss

I, Joan Hadley, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Hobbs, New Mexico, is a true and correct record, to the best of my knowledge.

Memo

3/8/86

From

Wron

Re: Case # 1022

To
JWG

OK to go ahead
and write approval
similar to order
R-648 attached.

W

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

April 11, 1956

C
O
P
Y

Mr. Jack M. Campbell
Campbell & Russell
J. P. White Building
Roswell, New Mexico

Dear Sir:

In behalf of your client, Vickers Petroleum Company, Inc., we enclose two copies of Order R-775 issued March 29, 1956, by the Oil Conservation Commission in Case 1022, which was heard on March 1st at Hobbs, New Mexico.

Very truly yours,

A. L. Porter, Jr.
Acting Secretary - Director

ALP:brp
Encls.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE NEW MEXICO

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

CASE NO. 1022
Order No. R-775

THE APPLICATION OF VICKERS
PETROLEUM COMPANY, INC., FOR
APPROVAL OF THE DRILLING OF A
PROPOSED WELL AS A "FIVE-SPOT"
LOCATION WITHIN THE BOUNDARIES
OF THE SQUARE LAKE OIL POOL AS
AN EXCEPTION TO RULE 104 (c) OF THE
RULES AND REGULATIONS OF THE COM-
MISSION; SAID LOCATION TO BE 1345
FEET FROM THE NORTH LINE AND 1345
FEET FROM THE EAST LINE OF SECTION 30,
TOWNSHIP 16 SOUTH, RANGE 31 EAST,
NMPM, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10 o'clock a.m., on
March 1, 1956, at Hobbs, New Mexico, before Warren W. Mankin,
Examiner duly appointed by the Oil Conservation Commission of New
Mexico, in accordance with Rule 1214 of Order No. R-681.

NOW, on this 29th day of March 1956, the Commission, a
quorum being present, having considered the evidence adduced at said
hearing, and the recommendations of Warren W. Mankin, Examiner, and
being fully advised in the premises,

FINDS:

- (1) That due notice of the time and place of hearing
and the purpose thereof having been given as required by law, the
Commission has jurisdiction of this cause and the subject matter
thereof.
- (2) That petitioner is the owner of the operating rights
of a Federal oil and gas lease which includes among other lands the
NE/4 of Section 30, Township 16 South, Range 31 East, NMPM, Eddy
County, New Mexico, which lease is known as the George Eitz Lease.
- (3) That there are four producing oil wells at standard
locations on the aforesaid quarter section on the aforesaid lease,
which wells are producing from the Grayburg and/or upper San Andres
formations of the Square Lake Oil Pool.
- (4) That the four existing wells on the aforesaid portion
of this lease are not sufficient to recover all the recoverable oil
under this tract, and that the drilling of the "five-spot" location
as proposed in applicant's petition would be in the interests of
conservation, would prevent waste and would enable applicant to
recover substantial quantities of oil which would otherwise not be
produced.

(5) That adjacent leasehold interests have not objected to the drilling of such additional location, and will not be adversely affected by the provisions of this order.

IT IS THEREFORE ORDERED:

(1) That the application of Vickers Petroleum Company, Inc., be and the same hereby is approved, and that applicant is hereby granted permission to drill an unorthodox "five-spot" location 1345 feet from the North line and 1345 feet from the East line of Section 30, Township 16 South, Range 31 East, NMPM, Eddy County, New Mexico in the Square Lake Pool.

(2) That applicant shall not receive additional allowable by virtue of the drilling of said "five-spot" location, and that applicant shall produce only that allowable granted the 40-acre unit described as the SW/4 NE/4 of said Section 30 as ordered by the Commission under the provisions of Commission Rule 805.

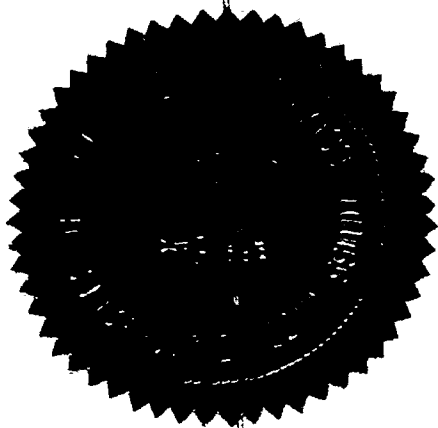
DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

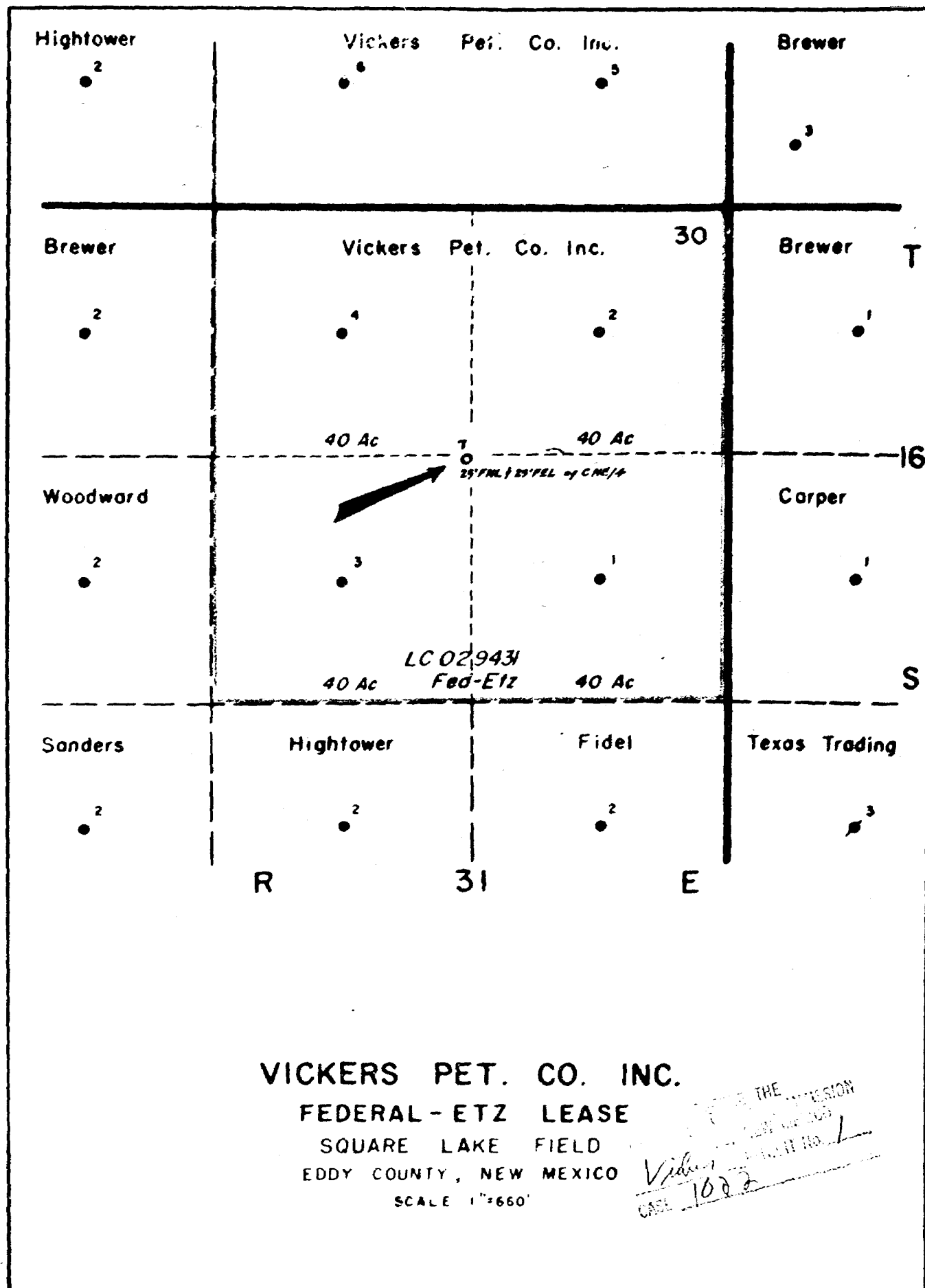
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John F. Simmes
JOHN F. SIMMES, Chairman

E. S. Walker
E. S. WALKER, Member

W. B. Macey
W. B. MACEY, Member and Secretary





March 1, 1956

THE VICKERS PETROLEUM CO., INC.

GEORGE ETZ LEASE

SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

WELL DATA

Well No.	1	2	3	4	5	6
Location (all in 16S-31E Eddy Co., N.M.)	SE NE Sec. 30	NE NE Sec. 30	SW NE Sec. 30	NW NE Sec. 30	SE SE Sec. 19	SW SE Sec. 19
Completion Date	1-21-44	4-5-44	6-4-44	7-8-44	9-19-44	10-16-44
Elevation (Tubing Flange)	3,859'	3,868'	3,833'	3,843'	3,873'	3,852'
Tubing Size & Depth of Perforations	2" @ 3,095	2" @ 3,091	2" @ 3,058	2" @ 3,050	2" @ 3,104	2" @ 3,054
Packer	None	American Pkr. @	None	None	American Pkr. @	American Pkr. Set-
Depth		2,910'			2,924'	Depth Unknown
Casing Size & Depth	5 1/2" @ 3,100'	5 1/2" @ 3,062'	5 1/2" @ 3,020'	5 1/2" @ 3,004'	5 1/2" @ 3,065'	5 1/2" @ 3,015'
Total Depth	3,326'	3,316'	3,164'	3,147'	3,338'	3,161'
Producing Formation	San Andres & Grayburg	San Andres & Grayburg	Grayburg	Grayburg	San Andres & Grayburg	Grayburg
Top of Grayburg	2,857	2,867	2,820	2,810	2,860	2,812
Estimated Producing Capacity - BOPD	4	4	2	2	2	2
Pumping Or Flowing	P	F	F	F	F	F

FILED THE
OIL AND GAS COMMISSION
SANTA FE, N.M.
Vickers
CASE 1082

CASE NO. 1022

Application: Unorthodox Well Location
Square Lake Field
Eddy County, New Mexico

New Mexico Oil Conservation Commission
125 Mabry Hall, Capitol Building
Santa Fe, New Mexico

To The Honorable Commission:

The applicant, The Vickers Petroleum Company, Incorporated, states as follows:

1. That it is a Kansas Corporation with a permit to do business in the State of New Mexico.
- ✓ 2. That it is the present owner and holder of operating rights under the following lease, insofar as said lease embraces all the Northeast Quarter (NE/4) of Section 30, Township 16 South, Range 31 East, N.M.P.M., Eddy County, New Mexico.
 - ✓ a. United States Oil and Gas Lease, George Etz Lessee, Serial Number Las Cruces 029431, containing the above-described 160-acre tract and other lands.
- ✓ 3. That this 160-acre tract is within the boundaries of the Square Lake Field, as defined by the New Mexico Oil Conservation Commission.
- ✓ 4. That there is an existing producing well located in the center of each 40-acre legal subdivision of the above-described tract, now producing from the Grayburg and/or upper San Andres formations, at the approximate depth of 3000 feet, all of which is more particularly shown by the plat hereto attached.
- ✓ 5. That The Vickers Petroleum Co., Inc. desires to drill a five-spot producing well at a location approximately twenty-five (25) feet West and twenty-five (25) feet South of the center of the above-described quarter section.
- ✓ 6. That upon the basis of the geological and engineering data at hand, The Vickers Petroleum Co., Inc. is of the opinion that one (1) well in the center of each 40-acre unit will not sufficiently drain all the oil recoverable from each 40-acre tract; that the drilling of the five-spot location herein requested will be in the interest of conservation, will prevent waste and procure a greater ultimate recovery of oil which will not be produced without such additional well.
7. That no adjacent leaseholders or royalty owners will be adversely affected by this operation.
8. That it has approval of the United States Department of the Interior, Geological Survey, lessor of the above-mentioned lease, of this unorthodox location.
9. That the total allowable to be requested for the 40-acre tract on which the unorthodox location is drilled will not exceed the maximum allowable as established by the Commission for 40-acre proration units within the Square Lake Field.

In consideration of the foregoing statement the applicant respectfully requests the Commission, acting through and as a result of an Examiner Hearing, to approve the unorthodox location as hereinabove applied for.

Respectfully submitted,

The Vickers Petroleum Company, Inc.

/s/ By A. E. Collins
A. E. Collins

Note: The above-mentioned plat is on file
in the office of the New Mexico Oil
Conservation Commission, Santa Fe,
New Mexico

Distributed by:
New Mexico Oil and Gas Engineering Committee
Hobbs, New Mexico
February 17, 1956