

STEPHENSON, CARPENTER, CROUT & OLMSTED

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Coronado Building, 141 E. Palace Avenue
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C. Mott Woolley
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Stephen J. Lauer
Michael S. Yesley

Lindsay A. Lovejoy, Jr.
Patricia J. Turner
Richard S. Mackenzie
Joseph E. Manges
Candace Kern
Rebecca Dempsey
Paula A. Johnson
Nicholas F. Persampieri
Dianne DeLayo
Grey W. Handy

December 22, 1986

Received
12/22/86
NMOCB

Case 9068

R. L. Stamets, Director
Oil Conservation Division
310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87501

Re: Etcheverry Protest to Sage
Energy, Lea County salt water
injection well application

Dear Mr. Stamets:

I am writing to enter the appearance of Stephenson, Carpenter, Crout & Olmsted on behalf of John Etcheverry ("Etcheverry"), with respect to Sage Energy Company's ("Sage"), application for the Oil Conservation Division's (the "Division"), authority for the injection of salt water into a well located in Lea County, New Mexico, and to formally object to Sage's application on behalf of Etcheverry.

Mr. Etcheverry learned of Sage's application through a legal notice published in a newspaper sometime between December 5 and 12. Although I have not seen a copy of Sage's application, I am informed that Sage's application requests authority for the injection of salt water produced in connection with oil production into State Well No. 1, Unit A, located in Section 31, Township 14, Range 34, Lea County, New Mexico. Our information in this regard may be incorrect. One of my associates went to your office to examine the application. However, the application could not be located.

Mr. Etcheverry is the owner of surface and mineral lands located near the lands on which Sage seeks to inject salt water. Mr. Etcheverry objects to the Division's approval of Sage's application on the grounds that Sage's injection of salt water into State Well No. 1 would cause salt water to flow through the hollow cavities of an underground geologic formation known as the San Andreas formation toward and through the subsurface mineral lands owned by Etcheverry, and would cause salt water to accumulate in and upon those subsurface lands. Such injection by Sage would constitute an intentional trespass on Etcheverry's subsurface lands, and the Division's authorization of such injection would constitute an unlawful taking of Etcheverry's property without compensation in violation of the Fifth and Fourteenth Amendments to the United States Constitution and Article II, Section 20 of the Constitution of the State

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Case 9068

R. L. Stamets, Director
Oil Conservation Division
310 Old Santa Fe Trail, Room 206
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Re: Etcheverry Protest to Sage
Energy, Lea County salt water
injection well application

Dear Mr. Stamets:

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Mr. Etcheverry learned of Sage's application through a legal notice published in a newspaper sometime between December 5 and 12. Although I have not seen a copy of Sage's application, I am informed that Sage's application requests authority for the injection of salt water produced in connection with oil production into State Well No. 1, Unit A, located in Section 31, Township 14, Range 34, Lea County, New Mexico. Our information in this regard may be incorrect. One of my associates went to your office to examine the application. However, the application could not be located.

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R.L. Stamets, Director
Oil Conservation Division
December 22, 1986
Page 2

Please notify us when the required hearing is to be held so that we may appear and be heard.

Respectfully submitted,



Michael R. Comeau
Attorney for John Etcheverry

MRC:cyc

cc: Michael Stogner
George G. Adams

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

January 13, 1987



GARPEY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 927-5800

Stephenson, Carpenter, Crout &
Olmsted
P. O. Box 669
Santa Fe, New Mexico 87504-0669

Attn: Michael R. Comeau
Attorney for John Etcheverry

Re: Division Case No. 9068

Dear Mr. Comeau:

Per my telephone conversation with Mr. Nicholas F. Persampieri with your firm on Monday January 12, 1987, and due to an oversight on our part, this case scheduled for hearing on January 21, 1987 is being continued to the Examiners Hearing set for February 4, 1987 at 8:15 a.m. in the Oil Conservation Division Conference Room, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico. To hopefully correct any such oversight in the future, you have been placed on our mailing list and will be receiving notices of hearing.

Sincerely

A handwritten signature in black ink, appearing to read "Michael E. Stogner".

Michael E. Stogner
Engineer

MES/et

xc: Nicholas F. Persampieri
Sage Energy Company
John Etcheverry

KELLAHIN, KELLAHIN AND AUBREY

Attorneys at Law

El Patio - 117 North Guadalupe

Post Office Box 2265

Santa Fe, New Mexico 87504-2265

Telephone 982-4285

Area Code 505

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

March 20, 1987

Mr. Michael E. Stogner
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

RECEIVED

MAR 23 1987

Re: Sage Energy Company
SWD Application
Case 9068

OIL CONSERVATION DIVISION

Dear Mr. Stogner:

On behalf of the applicant, Sage Energy Company, I have prepared and enclosed a proposed order for entry in the referenced case which you heard on February 4, 1987.

Very truly yours,



W. Thomas Kellahin

WTK:ca
Enc.

cc: Mr. Jay Hardy
Sage Energy Company
P. O. Drawer 3068
Midland, Texas 79702

J. W. Neal, Esq.
P. O. Box 278
Hobbs, New Mexico 88241

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted

KELLAHIN, KELLAHIN AND AUBREY
Attorneys at Law

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

March 20, 1987

Mr. Michael E. Stogner
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

RECEIVED

MAR 23 1987

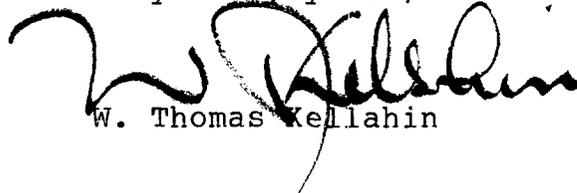
Re: Sage Energy Company
SWD Application
Case 9068

OIL CONSERVATION DIVISION

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Very truly yours,


W. Thomas Kellahin

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Enc.

cc: Mr. Jay Hardy
Sage Energy Company
P. O. Drawer 3068
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J. W. Neal, Esq.
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Hobbs, New Mexico 88241

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted
P. O. Box 669
Santa Fe, New Mexico 87504

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 9068

APPLICATION OF SAGE ENERGY
COMPANY FOR SALT WATER DISPOSAL,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 4, 1987, at Santa Fe, New Mexico, before Examiner Michael G. Stogner.

NOW, on this ____ day of March, 1987, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) The applicant, Sage Energy Company, is the owner and operator of the New Mexico State No. 1 well, located 550 feet FNL and 650 feet FEL, Unit A, Section 31, T14S, R34E, Lea County, New Mexico.

(3) The applicant proposes to utilize said well to dispose of produced salt water into the Pennsylvanian (Bough "C") in the West Tres Papalotes-Pennsylvanian Pool with injection into perforated intervals from approximately 10,401 feet to 10,410 feet.

Case No. 9068
Order No. R-

(4) The injection should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 10,361 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) Sage Energy proposes to utilize the subject well for the disposal of water produced from the same formation and from wells located in the area operated by Sage Energy in Sections 30 and 31 of T14S, R34E, NMPM.

(6) Sage Energy proposes that the maximum daily rate and volume of fluids to be injected into the disposal well shall be not greater than 200 BWPD and at a pressure not to exceed 0.2 psi per foot of depth.

(7) John Etcheverry, a surface owner and mineral owner of property in the area, including the SW/4 of Section 29, T14S, R34E, NMPM, has appeared in opposition to the application of Sage Energy.

(8) John Etcheverry objected on the basis that the Bough C produced water that was to be reinjected into the subject disposal well might migrate onto or under the SW/4 of Section 29 thereby affecting his surface and mineral interest.

(9) In support of his position, John Etcheverry provided a hydrologist who determined that there would be a 100 lbs pressure change at the end of a five year period at a point approximately 792 feet from the disposal well and supported that opinion by assuming that there were no fluid withdrawals from the reservoir and that there was an injection of 200 barrels of water a day at the proposed disposal well.

(10) The calculation presented on behalf of John Etcheverry failed to take into consideration the fluid properties of the reservoir, the historical production and depletion of that reservoir and the affect continuing fluid and gas withdrawals would have upon the migration of the disposal water.

Case No. 9068
Order No. R-

(11) The data presented on behalf of John Etcheverry was speculative, failed to take into consideration actual reservoir conditions and cannot be relied upon to determine any impact upon the Etcheverry interests.

(12) That there is insufficient evidence to demonstrate any adverse affect upon the correlative rights of Mr. Etcheverry by the approval of the Sage Energy Application.

(13) The nearest "Bough C" producing well to the subject disposal well is the Sage Energy New Mexico State No. 3 well located approximately 150 feet to the south of the disposal well. The producing well produces approximately 32 barrels of oil per day and 45 barrels of water per day.

(14) The water produced from the New Mexico #3 well is part of the Bough C produced water to be reinjected into the disposal well.

(15) The evidence presented by Sage Energy demonstrates that there are no known fractures or permeability orientations in the pool which would cause permature water breakthrough from the SWD well to the New Mexico State No. 3 well.

(16) The evidence further demonstrates that the reservoir is near depletion, contains a high gas saturation and the subject SWD well produced over 200,000 barrels of oil.

(17) From the foregoing, it is reasonable to conclude that the subject SWD well, at the proposed disposal rates will eventually act like an injection well and will cause water to move oil towards the New Mexico State No. 3 well resulting in the recovery of oil that might not otherwise be recovered.

(18) Because the rate of reservoir withdrawals will continue to exceed the rate of disposal of produced water into the disposal well, and because of the removal of some 250,000 barrels of produced oil from the reservoir, the rate at which the injected water will migrate towards the producing well is extremely small.

(19) Accordingly, the injection and recycling of the produced water as proposed will not cause the premature and irregular encroachment of water into the

Case No. 9068

Order No. R-

producing wells, will not cause the drowning by water of a formation capable of producing oil and will not reduce the total ultimate recovery of hydrocarbons from the pool.

(20) In the absence of the disposal well, economic waste will occur because the subject producing wells will have to be prematurely abandoned leaving otherwise producible oil unproduced.

(21) The evidence demonstrates that the disposal water should remain confined to the disposal interval and should not migrate into shallower fresh water sand or onto the surface.

(22) There is no acceptable technical data to support Mr. Etcheverry's contention that the disposal of produced water, as requested by the application, will adversely impact Mr. Etcheverry's interest in Section 29.

(23) Mr. Etcheverry's correlative rights are not violated nor is his ability to produce oil from the Bough C underlying his tract deminished because of the displacement of oil with water by the disposal well.

(24) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(25) The injection well or system should be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 2080 psi.

(26) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Abo formation.

(27) The operator should give advance notification to the supervisor of the Division's Hobbs district office of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

Case No. 9068
Order No. R-

(28) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(29) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Sage Energy Corporation is hereby authorized to utilize its New Mexico State No. 1 Well, located 550' FNL and 560' FEL, Unit A, Section 31, T24S, R34E, Lea County, New Mexico, to dispose of produced salt water into the Pennsylvanian formation ("Bough C") injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 10,361 feet, with injection into the perforated interval from approximately 10,401 to 10,410 feet.

PROVIDED HOWEVER THAT, the tubing shall be plastic-lined; the casing-tubing annulus shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing or packer.

PROVIDED FURTHER THAT, prior to commencing injection operations, the casing in the subject well shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's district office at Hobbs.

(2) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 2080 psi.

(3) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Pennsylvanian formation.

(4) The operator shall notify the supervisor of the Division's Hobbs district office in advance of the date and time of the installation of disposal equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

Case No. 9068
Order No. R-

(5) The operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

(7) Jurisdiction of this cause is retained for the entry of such further order as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

STEPHENSON, CARPENTER, CROUT & OLMSTED

Attorneys at Law

Coronado Building, 141 E. Palace Avenue

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Paula A. Johnson
Nicholas F. Persampieri
Dianne DeLayo
Grey W. Handy*

April 6, 1987

HAND DELIVERED

Mr. Michael E. Stogner
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Re: Sage Energy Co. Salt Water Disposal Application
Case No. 9068

Dear Mr. Stogner:

Please find enclosed a proposed Order in the above-referenced case, which I am submitting on behalf of John Etcheverry.

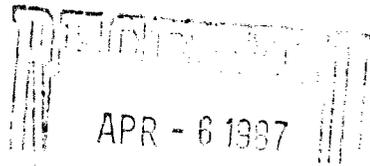
Sincerely,

Nicholas F. Persampieri

Nicholas F. Persampieri

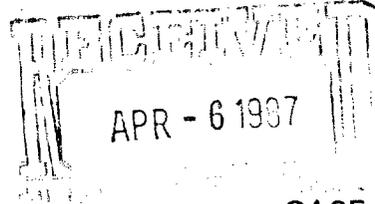
NFP:cyc
Enclosure

cc: Mr. Jay Hardy, w/enc.
J. W. Neal, Esq., w/enc.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:



CASE NO. 9068

APPLICATION OF SAGE ENERGY
COMPANY FOR SALT WATER DISPOSAL,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m., on February 4, 1987, at Santa Fe, New Mexico, before Examiner Michael G. Stogner.

NOW, on this _____ day of April, 1987, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

1. The Division has jurisdiction of this cause and the subject matter thereof.
2. The applicant, Sage Energy Company ("Sage"), is the owner of New Mexico State No. 1 well, located in Unit A of Section 31, Township 14 South, Range 34 East, Lea County, New Mexico.
3. The applicant seeks the Division's authority to utilize said well to dispose of produced salt water into the Pennsylvanian (Bough "C") formation in the West Tres Papalotes-Pennsylvanian Pool, at an injection interval of 10,401 to 10,410 feet.

4. John Etcheverry ("Etcheverry"), the owner of surface and subsurface mineral lands in the vicinity of the proposed injection well, including the SW/4 of Section 29, Township 14 South, Range 34 East, Lea County, New Mexico, has appeared in opposition to the application of Sage.

5. Etcheverry objected to the application of Sage on the grounds that the injection of salt water into New Mexico State No. 1 well as proposed by Sage would force salt water to migrate towards and through and to accumulate in and upon Etcheverry's subsurface mineral lands, resulting in an unlawful trespass upon those lands.

6. Etcheverry further objected to the application of Sage on the grounds that the Division's authorization of the proposed injection would constitute an unlawful taking of Etcheverry's property without compensation, in violation of the Fifth and Fourteenth Amendments to the United States Constitution and Article II, Section 20 of the Constitution of the State of New Mexico.

7. In support of his objection, Etcheverry presented the testimony of John W. Shomaker, a geo-hydrologist who testified that the injection of salt water into New Mexico State No. 1 well as proposed by Sage would cause a continuing increase in the pressure of the reservoir into which the salt water was injected at a location within the mineral lands owned by Etcheverry in the SW/4 of Section 29, Township 14 South, Range 34 East, Lea County, New Mexico.

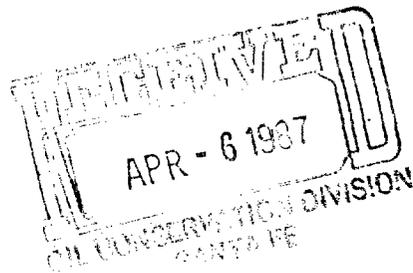
8. Based upon the evidence presented, there is a substantial probability that the injection of salt water into New Mexico State No. 1 well as proposed by Sage would cause salt water to flow toward and under and to accumulate in and upon subsurface mineral lands owned by Etcheverry. This invasion of salt water would constitute an underground trespass.

IT IS THEREFORE ORDERED:

That Sage Energy Company's application for authorization to inject salt water into the New Mexico State No. 1 well is hereby denied.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

By William J. Lemay, Director



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

April 10, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Mr. Thomas Kellahin
Kellahin, Kellahin & Aubrey
Attorneys at Law
P. O. Box 2265
Santa Fe, New Mexico

Re: CASE NO. 8023
ORDER NO. R-8423

Applicant:

Sage Energy Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced
Division order recently entered in the subject case.

Sincerely,

Florene Davidson

FLORENE DAVIDSON
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other J. W. Neal, Michael R. Comeau

THE OIL AND GAS FIELDS OF SOUTHEASTERN NEW MEXICO

1966 Supplement

A SYMPOSIUM

Edward E. Kinney, CPG

Frank L. Schatz

Co-Chairmen

Published by the

ROSWELL GEOLOGICAL SOCIETY

(A New Mexico Corporation)

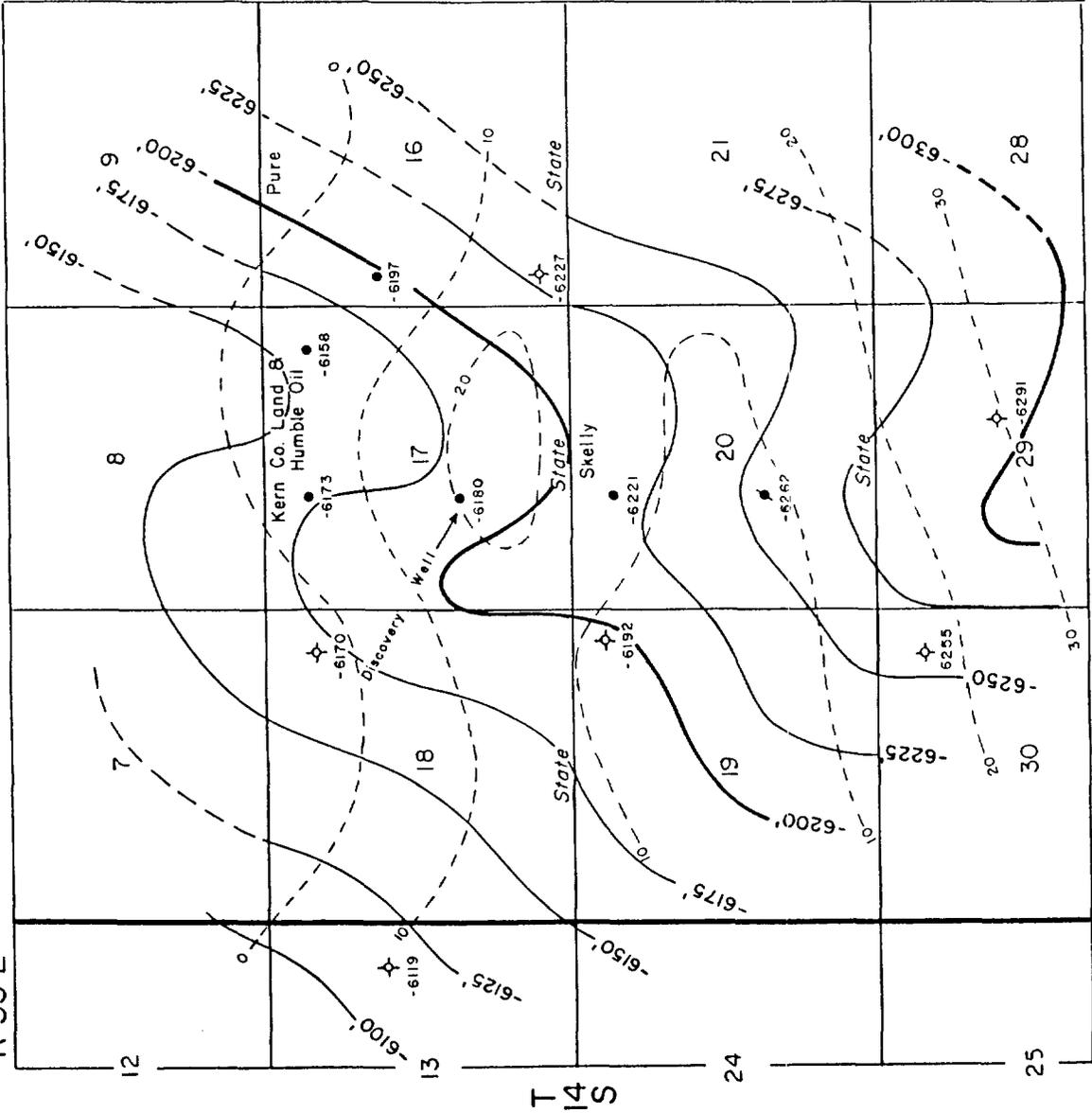
Roswell, New Mexico, U.S.A.

1967

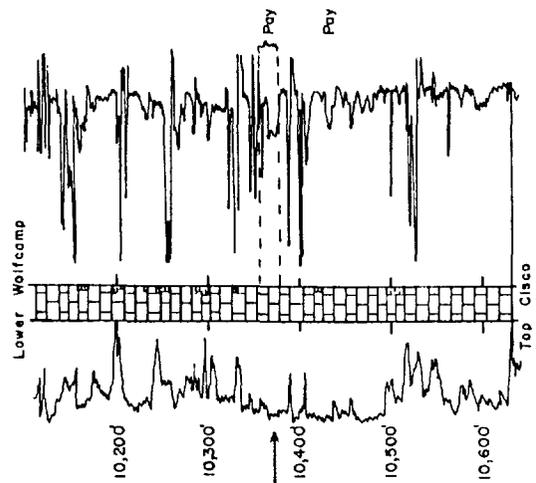
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R 34 E

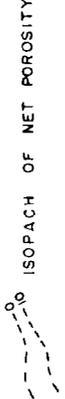
R 33 E



TYPE LOG
 AVERAGE ELEVATION 4160'
 SCALE 1" = 200'



LEGEND



EAST SAUNDERS FIELD
 LEA COUNTY, NEW MEXICO
 STRUCTURAL CONTOURS ON
 TOP OF PAY ZONE



H. D. RAISH
 SEPTEMBER 1966

THE OIL AND GAS FIELDS OF SOUTHEASTERN NEW MEXICO

**1977 Supplement
A SYMPOSIUM**

General Chairman: Edward K. David

Vice-Chairman: Jack L. Ahlen

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Editing Chairman: Kay C. Havenor

Budget Chairman: Gerald E. Harrington

Field Selection Chairman: William J. LeMay

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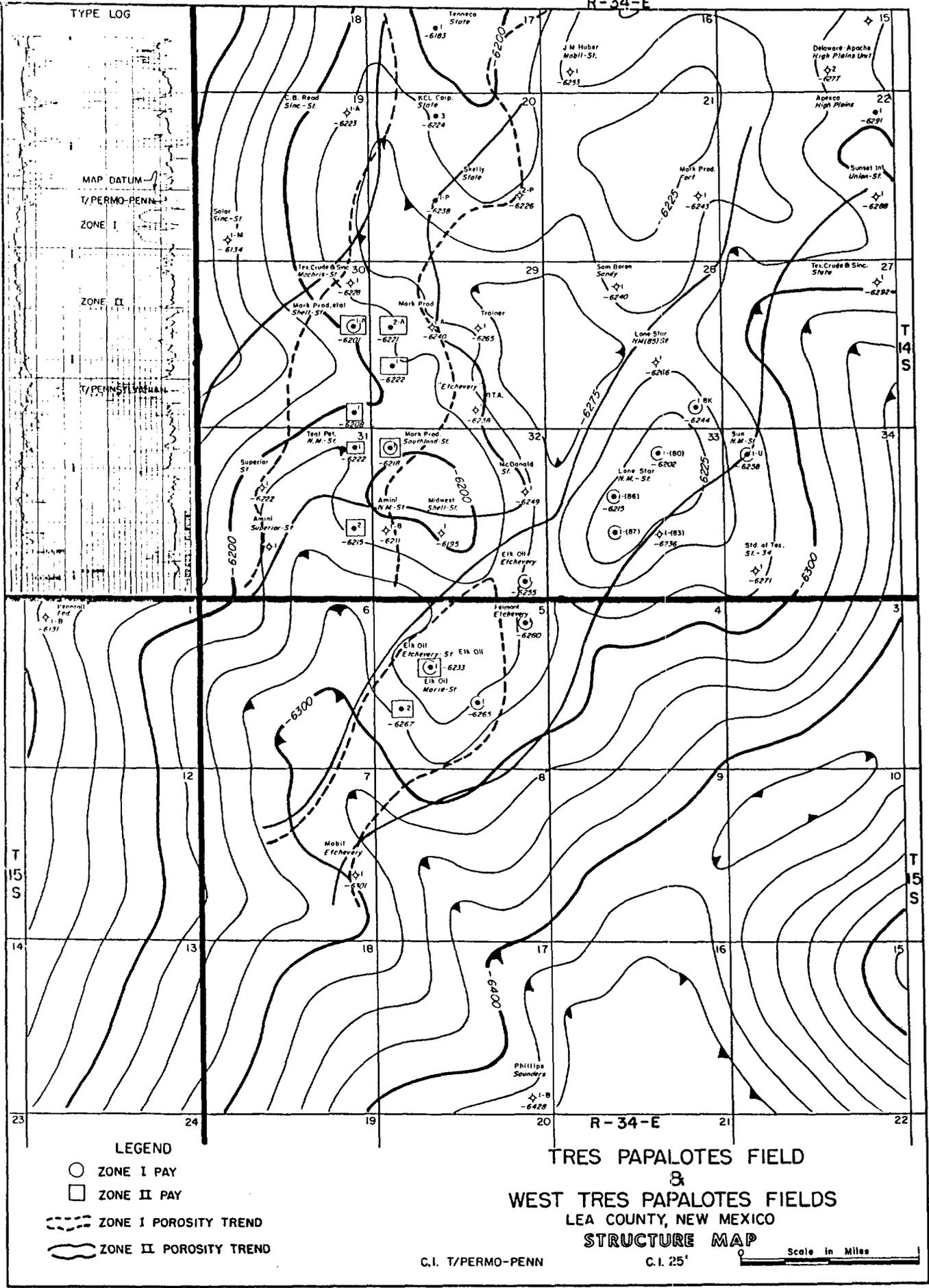
(A New Mexico Corporation)

Roswell, New Mexico, U.S.A.

1977

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R-34-E



ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Author: David A. Metts
 Affiliation: Independent Geologist
 Date: August 1976

Field Name: Tres Papalotes West
 Location: T-14-S, R-34-E, Sec. 29, 30, 31, 32
 County & State: Lea County, New Mexico

Discovery Well: Mark Production Company #1 Etcheverry, SW/4 Section 29, T-14-S, R-34-E.

Exploration Method Leading to Discovery:

Subsurface geology

Pay Zone: Permo-Penn

Formation Name: Bursum

Depth & Datum Discovery Well: TD 10535' Pay 10398 (-6242)

Lithology Description:

Limestone-coarse crystalline, white to tan.

Approximate average pay: 100 gross 30 net Productive Area 1120 acres

Type Trap: Stratigraphic-algal mound porosity development on southeast plunging anticline.

Reservoir Data:

_____ % Porosity, _____ Md Permeability, _____ % Sw, _____ % So

Oil: 41.2° API gravity, greenish-brown

Gas:

Water: _____ Na+K, 20,500 Ca, 330 Mg, 109,500 Cl, 3,200 SO₄, 214 CO₂, or HCO₃, 10 Fe

Specific Gravity 1.124 Resistivity 0.061 ohms @ 72 °F

Initial Field Pressure: 3880 psi @ 10,415 datum Reservoir Temp. 148 °F

Type of Drive:

Solution gas

Normal Completion Practices:

Casing set through pay, perforated and acidized with 500 to 2500 gallons 15% HCL.

Type completion:

Flowing

Normal Well Spacing 160 Acres

Deepest Horizon Penetrated & Depth:

Top Pennsylvanian 10,700'

Other Producing Formations in Field:

None

Production Data:

YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN M M C F		YEAR	TYPE	No. of wells @ yr. end		PRODUCTION OIL IN BARRELS GAS IN M M C F	
		Prod.	S.I. or Abd.	ANNUAL	CUMULATIVE			Prod.	S.I. or Abd.	ANNUAL	CUMULATIVE
72	OIL	5		258,464	265,435		OIL				
	GAS			199	199		GAS				
73	OIL	7		191,606	553,448		OIL				
	GAS			204	403		GAS				
74	OIL	7		123,879	677,327		OIL				
	GAS			195	600		GAS				
75	OIL	7		78,197	755,524		OIL				
	GAS			135	735		GAS				