

CASE 321: Appli. of NORTHERN  
MINERALS, INC. FOR POOL CREATION  
& SPECIAL POOL RULES, MCKINLEY CO.

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CASE No.

5321

Application,

Transcripts,

Small Exhibits

ETC.

Dockets Nos. 29-74 and 30-74 are tentatively set for hearing on October 2 and October 16, 1974. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 18, 1974

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas from seventeen prorated pools in Lea, Eddy, Roosevelt, and Chaves Counties, New Mexico, for October, 1974;
- (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for October, 1974;

CASE 5288: (Continued from the August 7, 1974, Examiner Hearing)

Application of Merrion & Bayless for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of hydrocarbon production from the top of the Gallup formation at 5434 feet to the base of the Dakota formation at 6570 feet in its Keeling Federal Well No. 1 located in Unit B of Section 20, Township 25 North, Range 8 West, Dufers Point-Dakota Pool, San Juan County, New Mexico.

CASE 5313: Application of El Paso Natural Gas Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Aztec-Pictured Cliffs and Blanco-Mesaverde production in the wellbore of its Ludwick Well No. 11 located in Unit B of Section 9, Township 30 North, Range 10 West, San Juan County, New Mexico.

CASE 5292: (Continued from the August 7, 1974, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit El Paso Natural Gas Company, United States Fidelity and Guaranty Co., and all other interested parties to appear and show cause why each of the following wells should not be plugged and abandoned in accordance with a Commission-approved plugging program:

EPNG Ludwick Well No. 11, located in Unit B, Section 19, Township 30 North, Range 10 West, San Juan County, New Mexico;

EPNG Rincon Unit Well No. 127, located in Unit A, Section 28, Township 27 North, Range 6 West, Rio Arriba County, New Mexico; and

EPNG Warren A Well No. 2, located in Unit A, Section 23, Township 28 North, Range 9 West, San Juan County, New Mexico.

- CASE 5316: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Benson-Montin-Greer Drilling Corporation and Hartford Accident and Indemnity Company and all other interested parties to appear and show cause why the Segal Well No. 1 located in Unit K of Section 10, Township 31 North, Range 13 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 5317: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit R & G Drilling Company, Inc., and all other interested parties to appear and show cause why the Marron Well No. 42 in Unit M of Section 22, Township 27 North, Range 8 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 5318: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit William C. Russell and United States Fidelity and Guaranty Company and all other interested parties to appear and show cause why the Marron Well No. 46 located in Unit K of Section 23, Township 27 North, Range 8 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 5326: Application of William C. Russell for directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the directional drilling of his Hammond Well No. 1, the surface location of which is 1800 feet from the North line and 1650 feet from the East line of Section 26, Township 27 North, Range 8 West, Largo-Chacra Pool, San Juan County, New Mexico.
- CASE 5328: Application of R & G Drilling Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blanco-Mesaverde and Basin-Dakota gas production in the wellbore of its Hammond Well No. 47, located in Unit K of Section 35, Township 27 North, Range 8 West, San Juan County, New Mexico.
- CASE 5312: Application of SEC Corporation for two non-standard carbon dioxide gas units, Harding County, New Mexico. Applicant, in the above-styled cause, seeks approval for two non-standard gas units in the South Bueyeros Carbon Dioxide Field, Harding County, New Mexico, the first comprising the W/2 NE/4, SE/4 NE/4, and NE/4 SE/4 of Section 32, Township 19 North, Range 30 East, to be dedicated to a well to be drilled in the approximate center of the SW/4 NE/4 of said Section 32; the second non-standard unit would comprise the SW/4 NE/4, N/2 SE/4 and SE/4 SE/4 of Section 5, Township 18 North, Range 30 East, and would be dedicated to a well in the approximate center of the NW/4 SE/4 of said Section 5.

- CASE 5314: Application of Gulf Oil Corporation for simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the simultaneous dedication of its W. A. Ramsay Wells Nos. 6, 7, and 20 located in Units H, N, and E, respectively, of Section 35, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to a standard 640-acre gas proration unit comprising all of said Section 35. Each of the aforesaid wells is at a non-standard location for a 640-acre unit in said pool.
- CASE 5315: Application of Texaco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinbry, Tubb-Drinkard, and Fusselman production in the wellbore of its G. L. Erwin "B" Federal Well No. 4 located in Unit O of Section 35, Township 24 South, Range 37 East, Justis Field, Lea County, New Mexico.
- CASE 5319: Application of Alan Ralston dba Apollo Oil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the NW/4 of Section 25, Township 25 South, Range 36 East, Lea County, New Mexico, to form a 160-acre non-standard gas proration unit to be dedicated to applicant's Brown Well No. 1 located 1980 feet from the North line and 2310 feet from the West line of said Section 25. Applicant further seeks the pooling of all mineral interests in the Jalmat Pool underlying the following 40-acre oil proration units in said Section 25: the NW/4 NW/4 to be dedicated to Brown Well No. 2 located 330 feet from the North line and 825 feet from the West line; the NE/4 NW/4 to be dedicated to Brown Well No. 3 located 365 feet from the North line and 1650 feet from the West line; the SE/4 NW/4 to be dedicated to Brown Well No. 4 located 1690 feet from the North line and 1870 feet from the West line; and the SW/4 NW/4 to be dedicated to Brown Well No. 5 located 1650 feet from the North line and 990 feet from the West line. Also to be considered will be the cost of reworking said wells and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the wells and a charge for risk involved in reworking said wells.
- CASE 5320: Application of Lively Exploration Company for a non-standard gas proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 341.33-acre non-standard gas proration unit comprising Lots 9, 10, 11, and 12 of Section 7, and Lots 1, 2, 3, and 4 and the E/2 W/2 of Section 18, Township 29 North, Range 8 West, Basin-Dakota Pool, San Juan County, New Mexico, to be dedicated to a well to be drilled at a standard location for said unit.

CASE 5321: Application of Northern Minerals, Inc. for pool creation and special pool rules, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Miguel Creek-Hospah Oil Pool in Township 16 North, Range 6 West, McKinley County, New Mexico, and for the promulgation of special pool rules therefor, including the elimination of the requirement for surface casing and authority to inject water through casing. Applicant is currently conducting waterflood operations in said pool pursuant to authority granted by Order No. R-4649 and seeks administrative provision for the drilling of additional injection and production wells at orthodox and unorthodox locations.

CASE 5322: Application of Phillips Petroleum Company for an exception to Rule 104-C-I, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Commission Rule 104-C-I to permit the production of its Santa Fe Wells Nos. 41 and 86, both of which are located in Unit C of Section 26, Township 17 South, Range 35 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, said wells being located closer than the required 330 feet apart.

CASE 5323: Application of Cities Service Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests of Pennsylvanian age, or older, underlying the E/2 of Section 32, Township 21 South, Range 27 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location for said unit. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5324: Application of Cities Service Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests of Pennsylvanian age, or older, underlying the E/2 of Section 18, Township 22 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico, to be dedicated to applicant's Tracy "B" Well No. 1, the surface location of which is 2045 feet from the South line and 479 feet from the East line of said Section 18. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5325: Application of Cities Service Oil Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill its Tracy "B" Well No. 1, the surface location of which is 2045 feet from the South line and 479 feet from the East line of Section 18, Township 22 South, Range 27 East, South

(Case 5325 continued from Page 4)

Carlsbad Field, Eddy County, New Mexico, in such a manner as to bottom said well in the Morrow formation at an orthodox location within 165 feet of a point 2145 feet from the North line and 825 feet from the East line of said Section 18. Applicant further seeks approval for the unorthodox location of said well in the Strawn formation, in the event production is therein encountered, within a 100-foot radius of a point 2600 feet from the North line and 675 feet from the East line of said Section 18. The E/2 of said Section 18 would be dedicated to the well for both formations.

CASE 5327: Application of Cities Service Oil Company for an unorthodox location and gas injection, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Empire-Abo Unit Well No. 111 to be drilled at a point 990 feet from the South line and 1880 feet from the West line of Section 35, Township 17 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico. This well is to be used as a gas injection well and, in exception to the provisions of Order No. R-4808, is located 1140 feet from the outer boundary of the Citgo Empire-Abo Unit Boundary, rather than the required 1650 feet from the outer boundary.

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE NO. 5321  
Order No. R-4875-A

APPLICATION OF NORTHERN MINERALS, INC.  
FOR POOL CREATION, SPECIAL POOL RULES,  
AND AN ADMINISTRATIVE PROCEDURE FOR  
WATERFLOOD EXPANSION, MCKINLEY COUNTY,  
NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that Order No. R-4875, dated October 22, 1974, does not correctly state the intended order of the Commission in one particular.

IT IS THEREFORE ORDERED:

(1) That paragraph (1) on Page 2 of Order No. R-4875, dated October 22, 1974, is hereby corrected to read in its entirety as follows:

(1) That a new pool in McKinley County, New Mexico, classified as an oil pool for Gallup production, is hereby created and designated as the Miguel Creek-Gallup Oil Pool consisting of the following described area:

TOWNSHIP 16 NORTH, RANGE 6 WEST, NMPM  
Section 29: SE/4 NW/4 and SW/4 NE/4

(2) That this order shall be effective nunc pro tunc as of October 22, 1974.

DONE at Santa Fe, New Mexico, this 29th day of October, 1974.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

SEAL  
jr/



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. 5321  
Order No. R-4875

APPLICATION OF NORTHERN MINERALS, INC.  
FOR POOL CREATION, SPECIAL POOL RULES,  
AND AN ADMINISTRATIVE PROCEDURE FOR  
WATERFLOOD EXPANSION, MCKINLEY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 18, 1974, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 22nd day of October, 1974, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, 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, Northern Minerals, Inc., seeks the creation of a new oil pool for Gallup production in McKinley County, New Mexico, and the promulgation of special rules and regulations governing said pool to permit the drilling of wells therein without the requirement for the setting and cementing of surface casing.

(3) That in its SFPRR Well No. 6Y, located 2013 feet from the North line and 2003 feet from the East line of Section 29, Township 16 North, Range 6 West, McKinley County, New Mexico, applicant has discovered a separate and common source of supply which should be designated the Miguel Creek-Gallup Oil Pool, that the vertical limits should be the Gallup formation and the horizontal limits of said pool should be the SE/4 NW/4 and the SW/4 NE/4 of said Section 29.

(4) That the evidence presented indicates that there is currently no water-, oil-, or gas-bearing strata above the Gallup pay zone in said pool which would necessitate protection by the setting and cementing of surface casing.

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CASE NO. 5321  
Order No. R-4875

(5) That the application for such special pool rules should be approved provided that the supervisor of the Commission's district office at Aztec should be authorized to require the setting and cementing of surface casing if the conditions outlined in Finding No. (4) above substantially change.

(6) That by Commission Order No. R-4649 dated November 6, 1973, applicant was authorized a pilot waterflood project being the Northern Minerals McKinley Gallup Waterflood Project in said Miguel Creek-Gallup reservoir.

(7) That the applicant seeks the establishment of administrative procedures whereby said project may be expanded by the drilling of additional injection and producing wells at orthodox and unorthodox locations and the conversion of wells to water injection through casing without tubing.

(8) That such administrative procedures should be approved in order to permit the applicant necessary flexibility to expeditiously drill wells at unorthodox locations necessitated by topographic conditions; to permit the waterflood project to be developed in the most efficient pattern; and to permit the applicant to complete injection wells without the expense of unnecessary physical equipment provided that the conditions set out in Finding No. (4) above exist relative to such wells.

(9) That the applicant should file periodic analyses of the injected waters.

(10) That Commission Order No. R-4649 should be superseded and a new order entered authorizing applicant's waterflood project in said Miguel Creek-Gallup Oil Pool.

IT IS THEREFORE ORDERED:

(1) That a new pool in McKinley County, New Mexico, classified as an oil pool for Gallup production, is hereby created and designated as the Miguel Creek-Gallup Oil Pool consisting of the following described area.

(2) That wells may be drilled and completed in said pool without surface casing.

PROVIDED HOWEVER, that the supervisor of the Commission's district office at Aztec may require the use of surface casing when, in his judgment, the use of such casing is necessary to protect water-, oil-, or gas-bearing strata.

(3) That the applicant, Northern Minerals, Inc., is hereby authorized to institute a waterflood project in the Miguel Creek-Gallup Oil Pool by the injection of water into the Gallup formation in the open-hole interval from 734 feet to 744 feet through the casing of its Santa Fe Pacific Well No. 6-Y, located 2013 feet from the North line and 2003 feet from the East line of

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CASE NO. 5321

Order No. R-4875

Section 29, Township 16 North, Range 6 West, NMPM, McKinley County, New Mexico.

PROVIDED HOWEVER, that injection pressure shall not exceed 750 psi.

(4) That the operator shall immediately notify the supervisor of the Commission's Aztec district office of the failure of the casing, in the injection well or the leakage of water or oil from or around any producing, injection, or any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(5) That the subject waterflood project is hereby designated the Northern Minerals McKinley Gallup Waterflood Project and shall be governed by the provisions of Rule 701, 702, and 703 of the Commission Rules and Regulations.

(6) The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations in the Northern Minerals McKinley Gallup Waterflood Project as may be necessary to complete an efficient production and injection pattern or for reasons of topography, provided said wells are drilled no closer than 330 feet to any lease line nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

(a) A plat showing the location of proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.

(b) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, and depth.

(c) A letter stating that all offset operators, if any there be, to the proposed well have been furnished a complete copy of the application and the date of notification.

(d) If injection is to be through casing, an analysis of the water to be injected.

(e) A statement as to the existence or non-existence of water-, oil-, or gas-bearing strata above the Gallup pay zone.

The Secretary-Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received

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CASE NO. 5321  
Order No. R-4875

from all offset operators. The Secretary-Director may approve injection through casing without tubing in the proposed well if the waters to be injected are non-corrosive and of like quality to ground waters occurring above the Gallup pay, if any, or if there are no water-, oil-, or gas-bearing zones above the Gallup pay zone.

(7) That the operator shall file annual analyses of waters injected through casing in wells in said project upon a change of source of injected water including the reinjection of produced water.

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

(9) That Commission Order No. R-4649 is hereby superseded.

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

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

SEAL

jr/

## **OIL CONSERVATION COMMISSION**

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

• August 30, 1974

**L. R. TRUJILLO**  
**CHAIRMAN**

**LAND COMMISSIONER**  
**ALEX J. ARMJO**  
**MEMBER**

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

Mr. Lloyd Davidson  
Northern Minerals, Inc.  
P. O. Box 2182  
Santa Fe, New Mexico 87501

Dear Mr. Davidson:

Your request for permission to convert your SFPRR Well No. 8 to an injection well, dated August 28, 1974, has been received and reviewed.

It should be noted that on October 3, 1973, the Oil Conservation Commission, at a public hearing, considered your application for a waterflood project in Case 5072. Subsequently Order No. R-4649 authorized institution of such a project by injection of water into the Gallup formation through the casing of your SFPRR Well No. 6-Y. One of the provisions stipulated that this authorization would be for a six-month period only, at which time injection through casing would terminate. On June 20, 1974, you requested a six-month extension of this order. At that time you were given permission to continue injecting water through the casing of your Well No. 6-Y until such time as another hearing could be held to consider elimination of the requirements for injection of water through tubing set in a packer. This hearing is scheduled for September 18, 1974, and the subject matter will be considered by Case 5321.

In view of the foregoing, it has been determined that you should be granted permission to convert your Well No. 8 to an injection well and inject water through the casing into the Hospah Sand as requested. Furthermore, such authorization is only for the period from date of this letter until Case 5321 has been heard and a decision pertaining thereto has been reached.

Yours truly,

CARL ULVOG  
Senior Geologist

CU/og



## OIL CONSERVATION COMMISSION

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

October 30, 1974

**L. R. TRUJILLO**  
**CHAIRMAN**

**LAND COMMISSIONER**  
**ALEX J. ARMJO**  
**MEMBER**

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

Mr. Lloyd Davidson, President  
Northern Minerals, Inc.  
Post Office Box 2182  
Santa Fe, New Mexico

Re: CASE NO. 5321  
ORDER NO. R-4875-A  
Applicant:  
  
Northern Minerals, Inc.

Dear Sir:

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

Very truly yours,

N. L. Porter, Jr.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC	<u>x</u>
Artesia OCC	
Aztec OCC	<u>x</u>

Other \_\_\_\_\_



# OIL CONSERVATION COMMISSION

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

**I. R. TRUJILLO**  
**CHAIRMAN**

**LAND COMMISSIONER**  
**ALEX J. ARMUJO**  
**MEMBER**

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

**October 22, 1974**

Mr. Lloyd Davidson, President  
Northern Minerals, Inc.  
Post Office Box 2182  
Santa Fe, New Mexico

Re: CASE NO. 5321  
ORDER NO. R-4875  
Applicant:  
**Northern Minerals, Inc.**

Dear Sir:

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

Very truly yours,

N. L. Porter, Jr.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC	x
Artesia OCC	
Aztec OCC	x

Other \_\_\_\_\_

## **OIL CONSERVATION COMMISSION**

**STATE OF NEW MEXICO**  
**1000 RIO BRAZOS ROAD - AZTEC**  
**87410**

**I. R. TRUJILLO**  
CHAIRMAN  
**LAND COMMISSIONER**  
**ALEX J. ARMIJO**  
MEMBER  
**STATE GEOLOGIST**  
**A. L. PORTER, JR.**  
SECRETARY - DIRECTOR

September 20, 1974

Mr. R. L. Stamets  
New Mexico Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Re: Case No. 5321  
Heard September 18, 1974

Dear Mr. Stamets:

The name of the new pool to be created by this case was proposed to be the Miguel Creek-Hospah Oil Pool.

We object to the term Hospah as part of the pool name because:

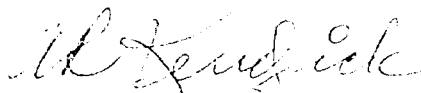
1. it is known in the San Juan Basin as a geographical definition,
2. it can be confused easily with the Hosta formation which is yet non-productive,
3. at Hospah we now have the confusion of pools named Hospah Upper Sand and Hospah Lower Sand, and
4. the productive interval is part of the Gallup series.

We do not object to the pool being known as the Miguel Creek-Gallup Oil Pool.

The horizontal limits by the current development as testified are units F & G of Section 29-16N-6W. We do not object to this 80 acres as the horizontal limit of the pool.

If there are questions please contact us.

Yours very truly;



A. R. Kendrick  
Engineer, District #3

cc: Northern Minerals, Inc.  
Santa Fe, N.M.

ARK/bk



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 18, 1974

EXAMINER HEARING

IN THE MATTER OF:

Application of Northern Minerals,  
Inc. for pool creation and special  
pool rules, McKinley County, New  
Mexico

Case No. 5321

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission:	William Carr, Esq. Legal Counsel for the Commission State Land Office Building Santa Fe, New Mexico
For the Applicant:	Mr. Aloys Davidson

I N D E X

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MARK E. WEIDLER

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MR. STAMETS: Case 5321.

MR. CARR: Case 5321. Application of Northern Minerals, Inc. for pool creation and special pool rules, McKinley County, New Mexico.

MR. DAVIDSON: I am Lloyd Davidson, representing Northern Minerals. I have with us a geologist from Farmington, Mark Weidler.

First of all, we would like to suggest that this field be given the name of Miguel Creek. I found no conflict in the name in that regard.

We also are requesting in this Hearing that we be permitted to drill these wells at unorthodox locations without in each case having to get specific administrative approval, and in that connection, the topography plays an important part. We have a map here which shows the wells that we have drilled. It also shows, and Mr. Weidler will indicate, where the locations would fall if we followed the normal location procedure. We have a situation here where we have Chico Creek running right through the little field, and we have also a mountainous condition there.

MR. STAMETS: Mr. Davidson, you are an owner in Northern Minerals, Inc., is that right?

MR. DAVIDSON: Yes, sir.

MR. STAMETS: And Mr. Weidler probably should be sworn at this time if he will be testifying.

Are there any other appearances in this case?

(Witness sworn.)

MARK E. WEIDLER

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

BY MR. CARR:

Q Mr. Weidler, will you state your full name for the record, please?

A Mark E. Weidler. I am a consulting geologist in Farmington, New Mexico.

Q Mr. Weidler, have you ever testified before the Oil Commission and had your credentials made a matter of record?

A Yes, I have.

Q Are you familiar with the Application in this case?

A Yes, I am.

MR. CARR: Mr. Examiner, is Mr. Weidler qualified in this matter?

MR. STAMETS: Yes.

MR. CARR: At this point, Mr. Davidson, would you like to go into what the substance of your Application is with Mr. Weidler? Is that how you would like to do it, Mr. Examiner?

MR. STAMETS: Yes.

DIRECT EXAMINATION

BY MR. DAVIDSON:

Q You have drawn this map, have you not, Mr. Weidler?

A Yes.

Q What does this map indicate?

A The map is an enlarged plat of Section 29, Township 16 North, 6 West, McKinley County in which Northern Minerals has undertaken development of an oil field approximately one year ago for which Miguel Creek is being proposed. The purpose of the illustration or exhibit is to provide the Examiner with a reference plat which shows the location of the wells drilled to date by Northern Minerals in the southeast quarter of the northeast quarter of Section 29, and I will point out those wells. The original discovery well was the Santa Fe Pacific No. 6 which was plugged and abandoned because it was carried through the Gallup Zone and we didn't want to have

WEIDLER-DIRECT

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any problems with water, so we plugged it with cement and came back and drilled a 40-foot offset called the No. 6-Y. We produced a small amount of oil for a short period of time from the No. 6-Y and subsequently converted it to an injection well which was approved by the Commission at a hearing in October of '73.

Subsequent to that it was the Santa Fe Pacific No. 7 and No. 8 and No. 11 which were completed as producing wells from the Hospah-Gallup Zone at a depth of approximately 750 feet. An additional well was a water supply well drilled about 137 feet northwest of the No. 6-Y and it is completed in the massive Gallup Zone as a source well for water for injection in this shallow water project.

The most recent well drilled is the Santa Fe Pacific No. 15 which is located in the southeast southeast, northwest of Section 29 at an unorthodox location which was approved by the Commission.

I have indicated on the plat the proposed pattern of development that we are considering for this field which is a development on a 10-acre pattern, with the ultimate plan being to produce from alternate acre locations and inject in alternate 10-acre locations which

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which would provide a five-spot pattern, and as a result of this plan, we are requesting approval of the Commission for the conversion of the Santa Fe Pacific No. 8 to an injection well as part of this proceeding today, and we ultimately expect to have alternate 10-acre locations being injection wells and the other alternates being producing wells which, if carried out on a systematic basis, would provide a five-spot pattern of flooding, providing for injection wells around each producing well which we feel would provide the most economic and efficient means of stimulating the production from this shallow, low pressure zone.

The map also shows the Chico Arroyo and there is a companion arroyo which comes in from the southeast and a rimrock to the northwest, and these topographic features will provide some problems in the systematic development. As you can see, several locations fall very close to the arroyo, and if the field is to extend to this distance, we will, of necessity, have to be modifying the normal locations to unorthodox locations to allow drilling equipment and operating equipment to have reasonable access.

Q All right, Mr. Weidler, I think that covers our

WEIDLER-DIRECT

Page.....8

position with respect to the request for the drilling of the well at an unorthodox location with administrative approval.

Now, to the matter of the second point that is requested, and that is elimination of surface pipe. Have you had, in the drilling of these wells, any shallow water zones that you have encountered?

A No, the principal water aquifers in this area are the point lookout sandstone and the Gallup. The point lookout occurs as a rimrock around Miguel Creek dome and is not involved in the major portion of the field, and hence, is not a factor in the consideration of aquifer protection. The massive Gallup is below the producing zone, and hence, is not an essential issue. The other sands in the section are the Hospah sands which crossed out at the surface in the immediate area of development. The Hospah sandstone underlies immediately the surface in this area and extends to a depth varying from approximately 200 to 250 feet as a fairly massive sand. To date, we have encountered no flows of water, and to our knowledge, it is not used as a water supply for either domestic or commercial use in the immediate area. The only other intervening sand between the surface and the producing



WEIDLER-DIRECT

zone is what we call the Dalton Sand, which I will show you on electric logs is a thin sand that is impermeable and to our knowledge has not been used.

MR. CARR: Mr. Weidler, for purposes of the record, the location map to which you have been referring is Applicant's Exhibit No. 1, is that correct?

THE WITNESS: Yes.

MR. CARR: Now, is it your intention to offer a copy of the log as an exhibit also?

THE WITNESS: Yes, we can.

MR. CARR: Then that should be marked as Exhibit No. 2.

(Whereupon, a discussion was held off the record.)

THE WITNESS: The surface area is underlined by the Hosoah sand which I mentioned before, and extends to a depth of 200 to 250 feet. and it would be this unit here, and to our knowledge, there is no -- the sand does not carry an Artesian flow anywhere in the area and it is not used for domestic or commercial sources of water, to our knowledge in the immediate area.

The only other sand intervening between the surface and the producing horizon, the Hosoah sand, is a

thin, relatively impermeable sand, the Dalton Sand, which we have cored at a couple of locations in the immediate area. It is a very shaley-type sand and we feel quite sure it does not represent a ground water aquifer.

It is our practice, in the completions of the wells in this area to run casing -- drill through the zone, the Hospah zone of interest -- run casing to the top of the zone using a cement basket as a cement retainer, and circulate the cement to the surface, thereby insuring cement-lined casing from the top of the pay zone to the ground surface. We have found that we have had -- experienced no problems thus far in the year of operation following this procedure. It has been our experience that the utilization of one or two joints of larger surface casing does not in any way help the operation or the protection of any other zones.

BY MR. DAVIDSON:

Q Now, Mr. Weidler, going to the third request made, I believe that the initial injection well was completed without the use of tubing. Can you give us some background and history on how that well has performed since it has been used as an injection well?

A Yes. The initial injection well was the Santa Fe

WEIDLER-DIRECT

Page.....11.....

Pacific No. 6-Y which is shown at this location and it is shown as an injection well. We started injecting the water in that well after approval from the State, from the Commission last year, and since that time, we have injected approximately 60,000 barrels of water through that well at pressures ranging from 400 to 680 pounds and have experienced no difficulty in the injections and have had no indications of dramatic pressure changes which would suggest leakage. We have had no surface evidence, and we feel that with the procedure we followed of cementing on top of the zone and circulating the cement to surface, we minimize the chances of any casing failure or leaks developing. It has been our experience here that so far that the injection and down-casing is safe and effective means of so doing. We have minimum friction loss. We have not experienced any problems and we don't expect to experience any problems with injecting these.

Q Now, as respects the well known as the No. 3 Well, the Commission gave temporary approval for the completion of that well as an injection well. Has it been completed as such a well?

A Yes. Approximately a week ago, we made a conversion and laid an injection line from the injection pump

which is located adjacent to 6-Y. We laid a two-inch line pipe line to that well and commenced injection approximately a week ago, and we have introduced approximately 1500 barrels of water thus far with pressures averaging about 550 pounds, the minimum being approximately 450 and the maximum being 650. It has taken the water readily and, in fact, easier than the original 6-Y, and I think this will make a very good injection well. No problems thus far.

Q Now, then, to the next point, that is, as to the permission to drill additional injection wells and inject water into these wells. What, based upon your geological study of this area, do you now think will be the minimum or approximate outline in acreage of this field?

A It is very difficult to establish at this time. The drilling that has been conducted by Northern Minerals has been in the immediate area of the exhibit, and I feel that the field will develop laterally and to the north primarily. We are located on the anticlinal feature plunging to the north which was illustrated in the exhibit that we had at our last hearing.

Do we need to re-introduce that, Mr. Stamets?

MR. CARR: I think you can just express an

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CASE 5321

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opinion on it.

MR. STAMETS: I think that would be adequate.

THE WITNESS: I believe the field will encompass parts of Section 29, illustrated before you, portions of the adjacent section to the east, Section 28, and the section to the north, which is Section 20, and could encompass, when ultimately developed, 1200 to 2000 acres. That is just a judgement figure because the critical limits of the field have not been defined by the drilling done to date.

BY MR. DAVIDSON:

Q If I understand it correctly, your plan of development of this field is to drill two injection wells on each 40-acre tract?

A Yes. As mentioned previously, we propose to develop the flood on a systematic basis, utilizing 10-acre locations, two of which, the diagonals will be producing wells, diagonals with the injection wells which will provide on a completely developed basis, a five-spot pattern of injection around each producing well which we feel will provide the most efficient flood and probably the most economic flood in terms of density of wells.

Q So, if the field covers 1200 acres, that is

WEIDLER-DIRECT

30 40-acre tracts or meaning that you would have 60 injection wells?

A Yes.

Q Meaning that you would have 60 hearings if we did not have some sort of administrative approval for the injection wells?

A Yes, sir.

Q Now, then, I would like to pass this map to you and you may mark it Exhibit 3, if you will.

What does this plat show, Mr. Weiler? The yellow is the Northern Minerals acreage, and it shows that there are no other offsetting lease owners?

A That is correct, to the presently developed area and the area in which we expect the primary field to develop, which would be this area through here. All of the leasehold interest through the producing zone is under lease to Northern Minerals, Incorporated.

MR. DAVIDSON: I think that covers our case.

MR. STAMETS: Are there questions of this witness?

CROSS EXAMINATION

BY MR. KENDRICK:

Q Mr. Weidler, on Exhibit 2, you referred to the Dalton Sand. Would you please identify the depth of the

Dalton Sand on the log you are referring to?

A The Dalton Sand, in Exhibit 2, which is the electric log for the Santa Fe Pacific No. 8 Well, curves at a depth of 483 feet and is approximately 20 feet thick, and within the area that we have drilled thus far, we have found that thickness to be very consistent, and where we have quoted it, we have found it to be a very fine grade of shaley sand, which does not appear to me to be an aquifer.

Q Now, in your request for wells to be drilled at non-standard locations, have you considered the current Rule 104 allows drilling wells at locations as close as 330 feet to the boundaries of 40-acre tracts at its closest point and 30 feet to each other 40-acre tract?

A Yes, and on Exhibit 1, I have illustrated those locations as being 330 feet from each of the corners of the respective 40's, the point being that there appears that there may be as many as 6 wells, or perhaps more in the enlarged area that the location of wells could be affected by surface draining conditions that might go beyond the normal limits of locations.

Q The location of wells in the 40-acre tracts on this Exhibit 1, from well to well, is that --

A (Interrupting) 660 feet.

Q Rule 104 will now allow you to drill as close as 330 feet to another well within that 40?

A Yes.

Q Would that allow you enough flexibility, or do you need closer or further latitude than that for drilling within these tracts?

MR. DAVIDSON: Well, I haven't been sworn to testify, but I will ask you this: Mr. Weidler, is the location of the No. 15 well 2805 feet from the east line and 2405 feet from the north line?

THE WITNESS: Yes, it is.

MR. DAVIDSON: Did you find it necessary to put the location of that well at that point in order to adequately drain or attempt to drain that 40-acre unit inasmuch as Chico Creek occupies most of the rest of the 40 acres?

THE WITNESS: Yes, sir.

MR. DAVIDSON: I think that comes out to about 165 feet from the east line of that 40, Mr. Kendrick, and about 100 feet from the south line.

MR. KENDRICK: It is closer to the east line on the 40 than the south line, according to the plot?



MR. DAVIDSON: Yes.

BY MR. KENDRICK:

Q Could you live with footage spaces such as some of the other pools like the Chaco Wash Pool where the locations are allowed to be as close as 165 feet to the outer boundary of the 40-acre tracts and as close as 330 feet to another producing well?

A I believe we could. Yes, we could, sir.

Q When you request for injection down the casing only with only one string of tubular goods for injection wells, is the injected water from your source well corrosive fluid?

A To our knowledge, no. We have experienced no problem with corrosion. The water from the Gallup is very fairly soft water and fairly low in solids and an analysis of that water was provided to the Commission at our last hearing, and there are no ions there that indicate a high degree of corrosiveness.

MR. KENDRICK: I believe that is all the questions I have.

MR. STAMETS: Mr. Arnold?

CROSS EXAMINATION

BY MR. ARNOLD:

Q Mr. Weidler, the pumper out on that lease was actually drinking that water, wasn't he?

A Yes. We use the same water that is injected as a domestic water supply.

Q So you wouldn't class that as a particularly hard water?

A No, it is very soft water, very soft.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Weidler, which well, again, is the source well?

A The source well is this well located over here on my exhibit.

Q What is the depth of that well?

A That well went to the massive Gallup to a depth of 905 feet.

Q How about the produced water, what is the quality of it?

A The produced water is very close in chemical constituent to the water injected. The producing zone is the next sand superjacent to the massive Gallup which is a water supply zone and I suspect that, geologically, if you take it back to the in-take area that it is very

closely related water zones.

Q Are you currently returning the produced water to the injection wells?

A No, we are not at present, but we are trying to lay a plan by which we can return the produced water to injection wells. We find them both compatible.

MR. DAVIDSON: What is your plan on that?

THE WITNESS: What we expect to do is take the separator water directly from the tank we are producing in from, and take it back to a separate tank through a minimum of filtering, and with no planned chemical treatment, feed it to the suction side of the injection pump again.

BY MR. STAMETS:

Q Do you have any objection to running an annual analysis on that produced water?

A No, none at all. We would be more than pleased to

Q Would you propose on these non-standard locations to stay at least 330 feet away from a lease owned by any other operator?

A Yes, I believe we can abide by that.

Q Are these wells drilled with cable or rotary?

A Rotary tools. They are all drilled with rotary

tools.

Q It makes it a little more difficult to pick up a stray water sand?

A Yes, but we -- our experience here has been -- we usually drill with essentially clear water. We don't add -- really mud up until we get up close to the zone of interest for coring purposes, and were there significant aquifers, I think we would have encountered a water flow or some indication of volume gain in that.

Q You would report any such aquifer found to the District Office of the Commission?

A Yes, we will.

MR. STAMETS: Are there any other questions of this witness?

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Weidler, will the granting of this Application, in your opinion, be in the interest of the prevention of waste and protection of correlative rights?

A Yes, I believe it would.

Q Were Exhibits 1, 2 and 3 prepared by you or under your direction and supervision?

A Yes, they were.

MR. CARR: Mr. Davidson, is it your intention that these exhibits be made a part of the permanent record of this case?

MR. DAVIDSON: Yes.

MR. STAMETS: These exhibits will be admitted into evidence.

(Whereupon, Applicant's Exhibits Nos. 1, 2 and 3 were marked for identification, and were admitted into evidence.)

MR. STAMETS: Are there any other questions of the witness, or is there anything further in this case? Mr. Kendrick?

MR. KENDRICK: I have advertised a case coming up on October 2nd, the Mangus Pool and Arroyo Chico Pool. I have no objection to the name being Miguel Creek Pool, but I would prefer that the formation be referred to as Gallup rather than Hospah because Hospah is a geographic location rather than a formation location as far as we have been operating in the San Juan Basin.

MR. DAVIDSON: May I say something? I don't care what we call it and I don't care what we call the producing sand, Mr. Kendrick, but I've got a farmer out in Tenneco that specifies that this is the Hospah Sand,

and I would prefer to call it Gallup-Hospah or Hospah Sand or Hospah-Gallup, but I would very much like to keep that Hospah in there.

MR. KENDRICK: In the interest of brevity, we would prefer one name. If the Examiner will rule it Hospah, that is fine with us. The Miguel Creek, we have no objection to that. Between the time I put my advertisement out and the docket came in, they crossed in the mail.

MR. STAMETS: Is there anything further in this case? We will take the case under advisement.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard Z. [Signature]  
COURT REPORTER

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 532  
heard by me on 9-18, 1974  
Richard L. Stark Examiner  
New Mexico Oil Conservation Commission

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BRUCE KING  
GOVERNOR  
LARRY KEHOE  
SECRETARY

STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION

October 21, 1980

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-2434

Zenith Energy Corporation  
Box 1038  
Kilgore, Texas 75662

Attention: Mr. Gary L. Blanks

Gentlemen:

This office has no objection to your resuming water-flood operations in the Miguel Creek Gallup Pool. However, before the project can be expanded it will be necessary that you make proper application as provided in Division Rule 701.

Yours very truly,

JOE D. RAMEY  
Director

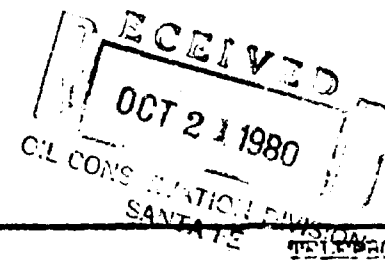
JDR/fd

cc: OCD Aztec



# Zenith Energy

C O R P O R A T I O N



TELEPHONE 214-983-1726

P.O. Box 1038  
Kilgore, Texas 75662

October 17, 1980

Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. Ramey, Division Director

Gentlemen:

As requested in our meeting on October 10, 1980, Zenith Energy requests resumption of the waterflood in the ~~San~~ Miguel Creek Field by administrative approval. The rules and regulations were set forth by the Commission on September 18, 1974 Case #5321, Order #RL4875.

Zenith Energy wishes to resume injection into S.F.P.R.R. #6Y. Also Zenith would like to expand the waterflood injection into S.F.P.R.R. #24. The booklet that was left with you during our meeting contains all the information for making application for additional wells in the waterflood. Also Forms C101, C102, C103, C104 and C105 have been filed with the Division office in Aztec.

We certainly appreciate your attention to this matter. If you have any further questions, feel free to contact me at our Kilgore office.

Very truly yours,

ZENITH ENERGY CORPORATION

*Gary L. Blanks*

Gary L. Blanks  
Vice President of Exploration & Development

GLB/dsl

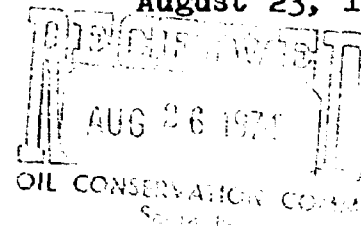
# Northern Minerals, Inc.

TELEPHONE (505) 983-9689

LLOYD DAVIDSON  
President

P. O. Box 2182  
SANTA FE, NEW MEXICO 87501

August 23, 1974



Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Dear Sir:

Northern Minerals, Inc., has discovered Hospah sand oil production in Section 29, T16N-R6W, McKinley County, New Mexico. The field is being water-flooded. Water is being taken from the Massive Gallup and injected into the Hospah sand. Permission was granted for the pilot injection operations in case number 5072.

Northern Minerals owns a lease on all off-setting tracts to the present production. Northern Minerals wishes to request that a hearing be held in connection with this field to consider issuing field rules on the following matters.

1. Field name. Northern Minerals suggests the name "Miguel Creek".
2. Elimination of surface pipe. The two shallow water zones in this area are the Point Lookout and Massive Gallup. Wells in this field spud below the Point Lookout and do not penetrate the Massive Gallup. Hence, there is no need for surface pipe to protect water zones.
3. Permission to eliminate tubing in injection wells and to allow injection through casing. Northern Minerals in it's pilot operation in this field has injected through casing for many months with good results and wishes to continue this practice.
4. Permission to drill additional injection wells and inject water without having a hearing on each such well.
5. Permission to drill development wells at unorthodox locations (because of the topographical situation) without getting special permission for each well. Two water-ways course through this field. See accompanying map. Arroyo Chico and Miguel Creek. Many of the future wells will have to be drilled at unorthodox locations in order not to drill in the beds of these water-ways.

Very truly yours,

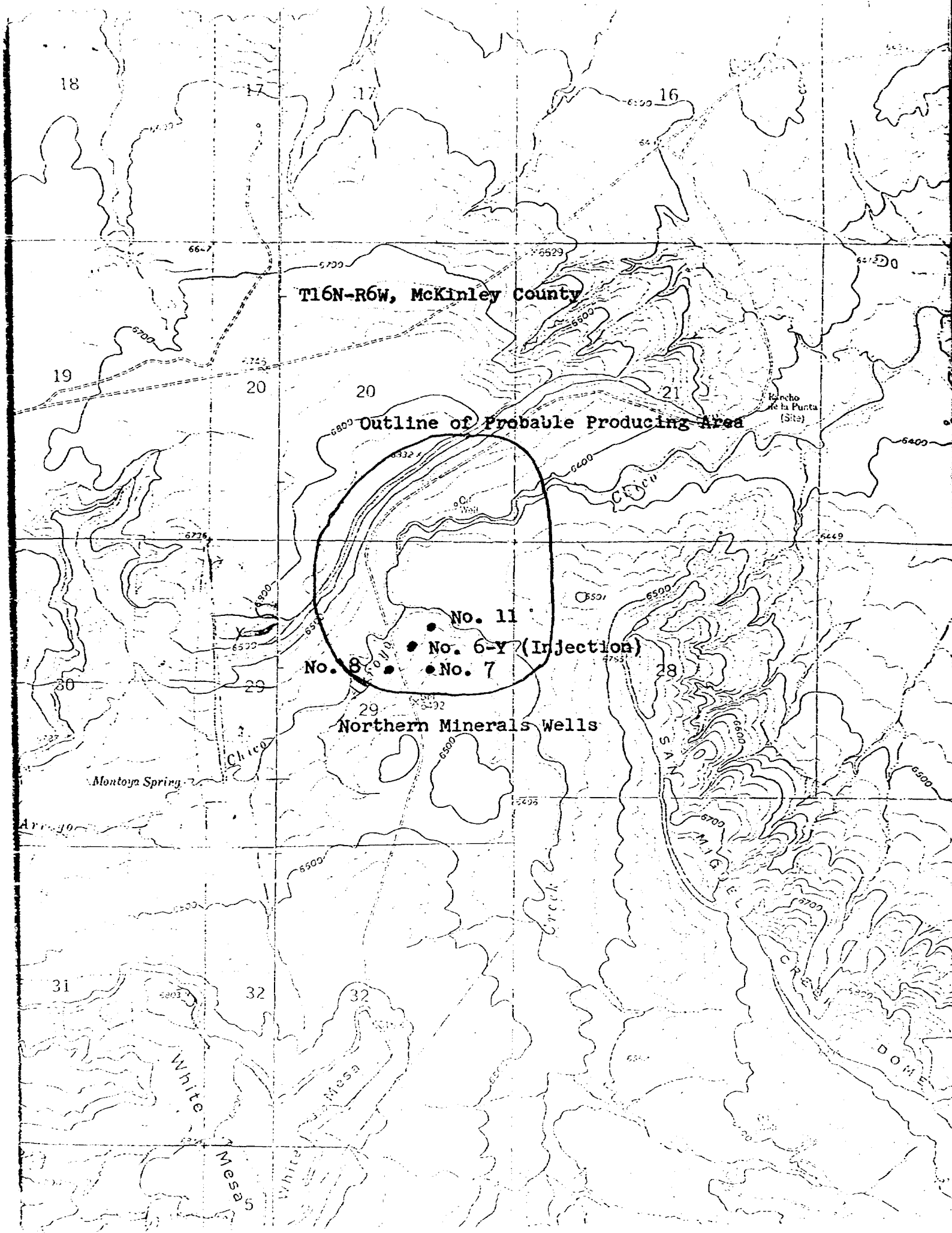
DOCKET MAIL

Northern Minerals, Inc.

cc: Mr. Emery Arnold  
Oil Conservation Commission  
Aztec, New Mexico

Date 9-6-74

*Lloyd Davidson*  
By: Lloyd Davidson, President



T16N-R6W, McKinley County

Outline of Probable Producing Area

No. 11  
No. 6-Y (Injection)  
No. 7  
No. 8

Northern Minerals Wells

Montoya Spring

Chico

White Mesa

White Mesa

San Miguel

Dome

ROUGH DRAFT

dr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE NO. 5321  
Order No. R-4875-A

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APPLICATION OF NORTHERN MINERALS, INC.  
FOR POOL CREATION, SPECIAL POOL RULES,  
AND AN ADMINISTRATIVE PROCEDURE FOR  
WATERFLOOD EXPANSION, MCKINLEY COUNTY,  
NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that Order No. R-4875, dated  
October 22, 1974, does not correctly state the intended order  
of the Commission in one particular,

IT IS THEREFORE ORDERED:

(1) That paragraph (1) on Page 2 of Order No. R-4875,  
dated October 22, 1974, is hereby corrected to read in its  
entirety as follows:

(1) That a new pool in McKinley County, New  
Mexico, classified as an oil pool for Gallup produc-  
tion, is hereby created and designated as the Miguel  
Creek-Gallup Oil Pool consisting of the following  
described area:

TOWNSHIP 16 NORTH, RANGE 6 WEST, NMPM  
Section 29: SE/4 NW/4 and SW/4 NE/4

(2) That this order shall be effective nunc pro tunc as of  
October 22, 1974.

DONE at Santa Fe, New Mexico, this \_\_\_\_\_ day of \_\_\_\_\_,  
1974.

jr/RLS

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. 5321

Order No. R-4875

APPLICATION OF NORTHERN MINERALS, INC.  
FOR POOL CREATION, SPECIAL POOL RULES,  
AND AN ADMINISTRATIVE PROCEDURE FOR  
WATERFLOOD EXPANSION, MCKINLEY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 18, 1974, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 10th day of October, 1974, the Commission, a quorum being present, having considered the testimony, the record and the recommendations of the Examiner, 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, Northern Minerals, Inc., seeks the creation of a new oil pool for Gallup production in McKinley County, New Mexico, and the promulgation of special rules and regulations governing said pool to permit the drilling of wells therein without the requirement for the setting and cementing of ~~a string of~~ surface casing.

1 -2-  
2 CASE NO. 5321  
3 Order No. R-

4 (3) That in its SPPRR Well No. 6Y, located 2013 feet from  
5 the North line and 2003 feet from the ~~West~~ <sup>East</sup> line of Section 29,  
6 Township 16 North, Range 6 West, McKinley County, New Mexico,  
7 applicant has discovered a separate and common source of supply  
8 which should be designated the Miguel Creek-Gallup Oil Pool, that  
9 the vertical limits should be the Gallup formation and the horizon-  
10 tal limits of said pool should be the SE/4 NW/4 and the SW/4 NE/4  
11 of said Section 29.

12 (4) That the evidence presented indicates that there is  
13 currently no ~~water-bearing~~ <sup>water-, oil-,</sup> or gas-bearing strata above the Gallup  
14 pay zone in said pool which would necessitate protection by  
15 the setting and cementing of surface casing.

16 (5) That the application for such special pool rules should  
17 be approved provided that the supervisor of the Commission's  
18 district office at Aztec should be authorized to require the  
19 setting and cementing of surface casing if the conditions outlined  
20 in finding No. (4) above substantially change.

21 (6) That by Commission Order No. R 4649 dated November 6,  
22 1973, applicant was authorized ~~to~~ <sup>project being the</sup> a pilot waterflood <sup>in</sup> Northern  
23 Minerals McKinley Gallup Waterflood Project, in ~~the~~ <sup>said</sup> Miguel Creek-  
24 Gallup reservoir.

25 (7) That the applicant seeks the establishment of administra-  
26 tive procedures whereby said project may be expanded by the  
27 drilling of additional injection and producing wells at orthodox  
28 and unorthodox locations and the conversion of wells to water  
29 injection through casing without tubing.

30 (8) That such administrative procedures should be approved  
31 in order to permit the applicant necessary flexibility to expeditious-  
32 ly drill wells at unorthodox locations necessitated by topographic  
conditions; to permit the waterflood project to be developed in the

1 -3-  
2 CASE NO. 5321  
3 Order No. R-

4 most efficient pattern; and to permit the applicant to complete  
5 injection wells without the expense of unnecessary physical equip-  
6 ment provided that the conditions set out in Finding No. (4)  
7 above ~~are extant~~ <sup>exist</sup> relative to such wells.

8 (9) That the applicant should file periodic analyses of the  
9 injected waters.

10 (10) ~~That~~ Commission Order No. R-4649 should be superseded  
11 and a new order ~~written~~ <sup>entered</sup> authorizing applicant's waterflood project  
12 in said Miguel Creek-Gallup Oil Pool.

13 IT IS THEREFORE ORDERED:

14 (1) That a new pool in McKinley County, New Mexico, classi-  
15 fied as an oil pool for Gallup production, is hereby created and  
16 designated as the Miguel Creek-Gallup Oil Pool consisting of the  
17 following described area.

18 (2) That wells may be drilled and completed in said pool  
19 without surface casing.

20 PROVIDED HOWEVER, that the supervisor of the Commission's  
21 district office at Aztec may require the use of surface casing  
22 when, in his judgement, the use of such casing is necessary to  
23 protect water-, oil- or gas-bearing strata.

24 (3) That the applicant, Northern Minerals, Inc., is hereby  
25 authorized to institute a waterflood project in the Miguel Creek-  
26 Gallup Oil Pool by the injection of water into the Gallup formation  
27 in the open-hole interval from 734 feet to 744 feet through the  
28 casing of its Santa Fe Pacific Well No. 6-Y, located 2013 feet  
29 from the North line and 2003 feet from the East line of Section 29,  
30 Township 16 North, Range 6 West, NMPM, McKinley County, New Mexico

31 PROVIDED HOWEVER, that injection pressure shall not exceed  
32 750 psi.

1 -4-

2 CASE NO. 5321

3 Order No. R-

4 (4) That the operator shall immediately notify the super-  
5 visor of the Commission's Aztec district office of the failure of  
6 the casing, in the injection well or the leakage of water or oil  
7 from or around any producing, <sup>injection,</sup> or any plugged and abandoned well  
8 within the project area and shall take such timely steps as may  
9 be necessary or required to correct such failure or leakage.

10 (5) That the subject waterflood project is hereby designated  
11 the Northern Minerals McKinley Gallup Waterflood Project and shall  
12 be governed by the provisions of Rule 701, 702, and 703 of the  
13 Commission Rules and Regulations.

14 (6) The Secretary-Director of the Commission is hereby  
15 authorized to approve such additional producing wells and injection  
16 wells at orthodox and unorthodox locations in the Northern Minerals  
17 McKinley Gallup Waterflood Project as may be necessary to complete  
18 an efficient production and injection pattern or for reasons of  
19 topography, provided said wells are drilled no closer than 330  
20 feet to any lease line nor closer than 10 feet to any quarter-  
21 quarter section or subdivision inner boundary. To obtain such  
22 approval, the project operator shall file proper application with  
23 the Commission, which application, if it seeks authorization to  
24 convert additional wells to injection or to drill additional  
25 production or injection wells shall include the following:

26 (a) A plat showing the location of proposed well, all  
27 wells within the project area, and offset operators, locating  
28 wells which offset the project area.

29 (b) A schematic drawing of the proposed well which fully  
30 describes the casing, tubing, perforated interval, and depth.  
31  
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4 (c) A letter stating that all offset operators, if any, <sup>there be,</sup> to  
5 the proposed well have been furnished a complete copy of the  
6 application and the date of notification.

7 (d) If injection is to be through casing, an analysis of the  
8 water to be injected.

9 (e) A statement as to the ~~existence~~<sup>existence</sup> or non-~~existence~~<sup>existence</sup> of  
10 water-, oil-, or gas-bearing strata above the Gallup pay zone.

11 The Secretary-Director may approve the proposed well if,  
12 within 20 days after receiving the application, no objection to  
13 the proposal is received. The Secretary-Director may grant  
14 immediate approval, provided waivers of objection are received  
15 from all offset operators. The Secretary-Director may approve  
16 injection through casing without tubing in the proposed well if  
17 the waters to be injected are non-corrosive <sup>any</sup> of like quality to  
18 ground waters occurring above the Gallup pay, <sup>any,</sup> or if there are  
19 no water-, oil-, or gas-bearing zones above the Gallup pay zone.

20 (7) That the operator shall file ~~an~~ annual analyses of  
21 waters injected through casing in wells in said project upon a  
22 change ~~of~~<sup>at</sup> source of injected water including the reinjection of  
23 produced water.

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

28 ~~10~~ That jurisdiction of this cause is retained for the  
29 entry of such further orders as the Commission may deem necessary.

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

32 { (9) That Commission Order No. R-4649 is hereby  
superseded