

Case Number.

4152

---

Application

Transcripts.

Small Exhibits

ETC.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

June 25, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Anadarko  
Production Company for an amend-  
ment of Order No. R-3628, Eddy  
County, New Mexico.

Case 4152

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

AUG 6 PM 1 42

MR. HATCH: Case 4152, application of Anadarko Production Company for an amendment of Order No. R-3628, Eddy County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, appearing for the Applicant, in association with Mr. Robert E. Anderson, member of the Texas Bar. I have one witness I would like to have sworn.

(Thereupon, Applicant's Exhibits 1 and 2 were marked for identification.)

CLARENCE STUMHOFFER

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Clarence Stumhoffer.

Q By whom are you employed and in what position?

A I am employed by Anadarko Production Company as Superintendent of the Second Recovery Division.

Q Where are you located?

A In Fort Worth, Texas.

Q Have you testified before the Oil Conservation Commission, and made your qualifications a matter of record?

A Yes, I have.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. UTZ: Yes, they are.

Q Mr. Stumhoffer, are you familiar with the application of Anadarko Production Company in Case 4152?

A Yes, I am.

Q What is proposed by Anadarko in this Case?

A In this Case, Anadarko proposes to request approval to amend Order No. R-3628, which authorized a waterflood development of Anadarko's Far West Loco Hills Sand Unit, a secondary recovery project in the Loco Hills field of Eddy County, New Mexico.

Q Do you also seek a procedure whereby additional injection wells may be approved by administrative procedure?

A Yes. In this Order, the OCC approved the reentry of two wells, and drilling of one well at an unorthodox location as injection wells.

Q Have you prepared a diagrammatic sketch of how these wells would be completed?

A Yes.

Q Refer to Exhibit 1. Would you discuss that exhibit?

A Exhibit 1 is a diagrammatic sketch of a typical

water injection completion in the Far West Loco Hills Sand Unit project, showing the proposed casing program, and the tubing and packer program, and the proposed method of completing the well for injection.

Q You will use an internally coated tubing, is that correct?

A Yes.

Q Set in a packer?

A Yes.

Q Do you fill the casing tubing annulus with fluid?

A Yes, we do.

Q Do you use a pressure gauge at the surface?

A No, we don't. But we leave it open to check for communication.

Q You leave it open?

A Yes.

Q And that is the type of completion you have used in other injection wells in this project, is that correct?

A Yes.

Q Have you found this a satisfactory completion for that purpose?

A Yes, sir.

Q Referring to Exhibit 2, would you identify that exhibit?

A Exhibit No. 2 is a map of the Far West Loco Hills

Sand Unit, and the area surrounding it, showing the development in the area.

Q Now, are the subject wells located in this map?

A Yes.

Q Would you identify them, please?

A The three wells that we propose to delete from the original Order are tract No. 1, Well No. 1, a proposed injection well that was prepared to drill. It is not shown on this plot. It has been removed from the plot, but it was at an unorthodox location, located 1,330 feet from the south line and 2,630 from the east line of Section 4. This was a proposed well to be drilled. It has been removed from the plot.

And then the other well that was proposed for recently as an injection well was tract 8, Well No. 1. We proposed to delete these three wells from the original Order and substitute for these three wells, three new injection wells at the following locations: On Tract 1, Well No. 29 to be drilled 2,460 from the north line, and 180 feet from the east line of Section 4, which is an unorthodox location.

On Tract 8, Well No. 34, to be drilled 1,980 from the south line, 1980 from the west line of section 4.

And on Tract 8, also, Well No. 35, to be drilled ten feet from the south line and 1,650 feet from the west

line of Section 4.

Q Has all this area been unitized?

A Yes, it has.

Q What is the reason for the change in the well locations?

A In the development that had been done to date along the common boundary between Andarko's Unit and the Eumont-West Loco Hills-Grayburg Sand Unit -- a part of our unit indicates that we have reached the productive limits, and we proposed to change this, make the proposed changes to obtain a more efficient waterflood pattern, and to obtain more recovery of water fluid oil.

Q You say reached productive limit. How is that determined?

A By the fact that we have drilled wells of the zone that we are waterflooding, which is the Loco Hills Sand. The wells we have drilled, with modern logs we have determined that the reservoir limits are near the western edge of the Far Western Hills Loco Sand Unit.

Q You feel that the proposed location will you give a better waterflood pattern?

A That's right.

Q For what reason do you need an administrative procedure whereby additional wells can be approved?

A We make this request to allow us to make

adjustments as we drill the wells along the western edge of this reservoir, to make adjustments in any locations as we find the sand to be thinning, and we wish to be able to request administrative approval to make changes in these locations.

Q Do you have anything further to add, Mr. Stumhoffer?

A No.

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

A Yes.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits 1 and 2.

MR. UTZ: Without objection, Exhibits 1 and 2 will be entered into the record of this Case.

(Thereupon, Applicant's Exhibits 1 and 2 were received in evidence.)

MR. KELLAHIN: That completes the direct testimony.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stumhoffer, what are you going to coat the tubing with?

A It will be plastic coated with the PVC liner.

Q Are these locations given in your application correct?



A Yes. The new locations?

Q Yes.

A Yes.

MR. UTZ: Any other questions?

THE WITNESS: They are the locations that we propose at this time. As we drill the new wells, and we find that we are getting -- we may have to move some of them in. This is the reason we are requesting permission to have administrative approval.

MR. UTZ: That could be taken care of at the time it happens, but for the purposes of writing this Order, these locations are what you want?

THE WITNESS: Right, this is what we want at the present time.

MR. UTZ: The Case will be taken under advisement.

I N D E XWITNESSPAGE

CLARENCE STUMHOFFER

Direct Examination by Mr. Kellahin

2

Cross Examination by Mr. Utz

7

EXHIBITSMARKEDADMITTED IN  
EVIDENCEApplicant's Exhibits  
1 and 2

2

7

STATE OF NEW MEXICO )  
 ) SS.  
 COUNTY OF BERNALILLO )

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

*Samuel R. Mortelette*

My Commission Expires:

December 2, 1972

I do hereby certify that the foregoing is  
 a complete record of the proceedings in  
 the hearing before the New Mexico Oil Conservation  
 Commission on June 25, 1969  
4152  
 signed by me on June 25, 1969  
Samuel R. Mortelette Secretary  
 New Mexico Oil Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

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

July 10, 1969

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Re: Case No. 4152  
Order No. R-3628-A  
Applicant:  
Anadarko Production Co.

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC

State Engineer x

Other \_\_\_\_\_



# OIL CONSERVATION COMMISSION

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

October 15, 1969

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

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

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Re: Case No. 4152  
Order No. R-3628-B  
Applicant:  
Anadarko Production Company

Dear Sir:

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

Very truly yours,

*A. L. Porter, Jr.*

A. L. PORTER, Jr.  
Secretary-Director

ALP/lr

Copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC           

Other                      State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE No. 4152  
Order No. R-3628-B

APPLICATION OF ANADARKO PRODUCTION  
COMPANY FOR AN AMENDMENT OF ORDER  
NO. R-3628, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to typographical error, Order (1) of Order No. R-3628-A, dated July 10, 1969, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That the phrase "Order No. R-2628" is hereby stricken from Order (1) of Order No. R-3628-A, and the phrase "Order No. R-3628" is hereby interlineated in lieu thereof.


(2) That the correction set forth above shall be effective nunc pro tunc as of July 10, 1969.

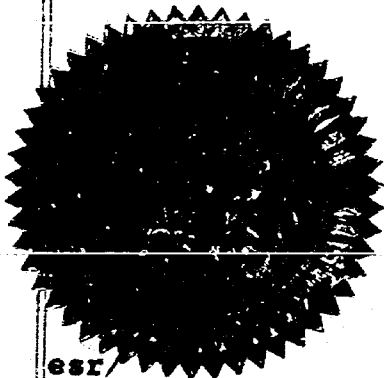
DONE at Santa Fe, New Mexico, on this 14th day of October, 1969.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

  
ALEX J. ARMJO, Member

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



esr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE No. 2656  
Order No. R-2405-A

APPLICATION OF WESTERN DEVELOPMENT  
COMPANY FOR A SECONDARY RECOVERY  
PROJECT, EAST MILLMAN QUEEN-GRAYBURG  
FIELD, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error and mistake, Order No. R-2405, dated December 31, 1962, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That the phrase "80-acre" is hereby stricken from Rule 5 of the Special Rules and Regulations for the Western Development Company East Millman Queen-Grayburg Pressure Maintenance Project, and the phrase "40-acre" is hereby interlineated in lieu thereof.

(2) That this order shall be effective nunc pro tunc as of December 31, 1962.

DONE at Santa Fe, New Mexico, on this 24th day of January, 1963.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

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

S E A L

esr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE No. 4152  
Order No. R-3628-A

APPLICATION OF ANADARKO PRODUCTION  
COMPANY FOR AN AMENDMENT OF ORDER  
NO. R-3628, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 25, 1969,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

Now, on this 10th day of July, 1969, 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, Anadarko Production Company, is the  
operator of the Anadarko Far West Loco Hills Waterflood Project,  
Loco Hills Pool, Eddy County, New Mexico, approved by Commission  
Order No. R-3628.

(3) That the applicant seeks the amendment of said Order  
No. R-3628 to delete from the water injection wells authorized  
for injection by said order the following three wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 1 located 2310' FNL and 330' FEL of Section 4  
Tract 8 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4  
Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of Sec-  
tion 4



-2-

CASE No. 4152  
Order No. R-3628-A

(4) That the applicant seeks to substitute in lieu of the above-described three wells the following:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 29 to be drilled 2460' FNL and 180' FEL of Section 4

Tract 8 - Well No. 34 to be drilled 1980' FSL and 1980' FWL of Section 4

Tract 8 - Well No. 35 to be drilled 10' FSL and 1650' FWL of Section 4

(5) That the applicant further seeks the amendment of said Order No. R-3628 to provide a procedure whereby the Secretary-Director of the Commission may authorize the substitution of other water injection wells at orthodox and unorthodox locations for those previously authorized in order to complete an efficient injection pattern.

(6) That approval of the aforesaid amendments will afford the applicant the opportunity to produce its just and equitable share of the oil and gas in the Loco Hills Pool, and will otherwise prevent waste and protect correlative rights, provided said injection wells are drilled no closer than 330 feet to the outer boundary of its Far West Loco Hills Sand Unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary.

IT IS THEREFORE ORDERED:

(1) That Order No. R-2628, dated December 16, 1968, is hereby amended by deleting from the water injection wells authorized for the Anadarko Far West Loco Hills Waterflood Project, Eddy County, New Mexico, the following three wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 1 located 2310' FNL and 330' FEL of Section 4

Tract 8 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4

Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of Section 4

(2) That said Order No. R-3628 is hereby further amended by substituting in lieu of the three wells described in Order (1) above

-3-

CASE No. 4152

Order No. R-3628-A

the following three water injection wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 29 to be drilled 2460' FNL and 180' FEL of  
Section 4

Tract 8 - Well No. 34 to be drilled 1980' FSL and 1980' FWL of  
Section 4

Tract 8 - Well No. 35 to be drilled 10' FSL and 1650' FWL of  
Section 4

(3) That Order (2) of Order No. R-3628 is hereby amended to  
read in its entirety as follows:

"(2) That the Anadarko Far West Loco Hills Waterflood Project  
shall be governed by the provisions of Rules 701, 702, and 703 of  
the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commis-  
sion may approve the substitution of other water injection wells  
at orthodox and unorthodox locations for those previously autho-  
rized in order to complete an efficient injection pattern; provided  
said wells are drilled no closer than 330 feet to the outer boundary  
of the Far West Loco Hills Sand Unit nor closer than 10 feet to any  
quarter-quarter section or subdivision inner boundary, and provided  
that the application therefor has been filed in accordance with Rule  
701 B of the Commission Rules and Regulations, and provided further,  
that a copy of the application has been sent to all offset opera-  
tors, if any there be, and no such operator has objected within  
15 days."

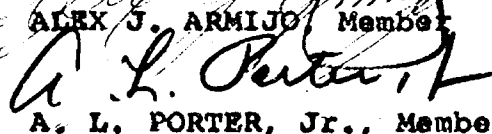
(4) That jurisdiction of this cause is retained for the  
entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

  
ALEX J. ARMIJO, Member

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



esr

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

July 11, 1969

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

C Reference is made to Commission Order No. R-3628-A, recently entered in Case No. 4152, amending Order No. R-3628, which order approved the Anadarko Far West Loco Hills Waterflood Project.

O Injection into each of the three substitute wells authorized by Order No. R-3628-A shall be through internally plastic-coated tubing which shall be set in a packer located as near as practicable to the uppermost perforation.

P As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project, as revised, will be eligible to receive under the provisions of Rule 701-E-3 is 990 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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

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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

-2-

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

July 11, 1969

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

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/ir

cc: Oil Conservation Commission offices in Hobbs and Artesia, N.M.  
U. S. Geological Survey - Artesia, New Mexico  
Mr. D. E. Gray, State Engineer Office, Santa Fe, New Mexico

C  
O  
P  
Y

3.43

4152

Heard 6-25-69

Rec. 6-30-69

Grant Quadarko an Amend-  
ment to R-3628 to delete  
these wells from the order

Tract I # ~~28~~ 1 H Sec 4.

✓ 8 # ~~28~~ 1 H - -

✓ 8 # ~~28~~ 9 N - -

and Amend by adding the  
following wells.

Tract I # 29, 2460' N, 180' E. Sec. 4.

✓ 8 # 34, 1980' S, 1980' W - -

✓ 8 # 35, 10' S, 1650' W - -

Copy of R-3628 Attached.

Add Admin. <sup>Superseded</sup> for  
a the injection well changes or  
additions.

200

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. 3989  
Order No. R-3628

APPLICATION OF ANADARKO PRODUCTION  
COMPANY FOR A WATERFLOOD PROJECT,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 11, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 16th day of December, 1968, 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, Anadarko Production Company, seeks permission to institute a waterflood project in its Far West Loco Hills Sand Unit Area, Loco Hills Pool, by the injection of water into the Grayburg formation through 10 injection wells in Sections 4, 9, and 16, Township 18 South, Range 29 East, NMPM, Eddy County, New Mexico.

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

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

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

-2-

CASE No. 3989  
Order No. R-3628

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to institute a waterflood project in its Far West Loco Hills Sand Unit Area, Loco Hills Pool, by the injection of water into the Grayburg formation through the following-described wells in Township 18 South, Range 29 East, NMPM, Eddy County, New Mexico:

*Deleter*  
✓ Tract 1 - Well No. 1 located 2310' FNL and 330' FEL of Section 4  
✓ Tract 6 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4  
✓ Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of Section 4  
Tract 8 - Well No. 8 to be drilled 10' FSL and 2630' FEL of Section 4  
Tract 9 - Well No. 5 located 1650' FNL and 330' FWL of Section 9  
Tract 10 - Well No. 2 located 1650' FSL and 2310' FWL of Section 9  
Tract 10 - Well No. 3 to be drilled 1330' FSL and 10' FWL of Section 9  
Tract 2 - Well No. 3 to be drilled 330' FNL and 1980' FEL of Section 16  
Tract 5 - Well No. 1 located 660' FNL and 660' FWL of Section 16  
Tract 4 - Well No. 1 located 1650' FNL and 2310' FWL of Section 16

(2) That the subject waterflood project is hereby designated the Anadarko Far West Loco Hills Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

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

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

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

S E A L

esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 25, 1969

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel G. Nutter, Alternate Examiner:

CASE 4151: Application of Northern Natural Gas Company for the suspension of certain provisions of Rules 14 (A) and 15 (A) of Order No. R-1670, as amended, of the General Rules and Regulations for the prorated gas pools of Southeastern New Mexico. Applicant, in the above-styled cause, seeks suspension, for a period of one year from July 1, 1969, of those provisions of Rules 14 (A) and 15 (A) of the General Rules and Regulations for the prorated gas pools of Southeastern New Mexico promulgated by Order No. R-1670, as amended, that provide, respectively, for the cancellation of unproduced allowable and the shutting-in of over-produced wells. Applicant seeks said suspension for the Blinebry, Eumont, Jalmat, Monument-McKee, and Tubb Gas Pools.

CASE 4152: Application of Anadarko Production Company for an amendment of Order No. R-3628, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3628, which authorized the institution of a waterflood project in the Loco Hills Sand Unit Area, Loco Hills Pool, by the injection of water through certain wells located in Township 18 South, Range 29 East, Eddy County, New Mexico. Applicant seeks to delete 3 injection wells located or to be located in Section 4 of said Township and Range and to substitute in lieu thereof the following 3 wells in said Section 4;

A well to be drilled 2460 feet from the North line and 180 feet from the East line;

A well to be drilled 1980 feet from the South and West lines;

A well to be drilled 10 feet from the South line and 1650 feet from the West line.

Applicant further seeks a procedure whereby other injection wells may be substituted administratively for those previously authorized in order to have an efficient injection pattern.

CASE 4141: (Readvertised)  
Application of McCasland Disposal System for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the



Seven Rivers formation in the intervals from approximately 3756 feet to 3851 feet and from approximately 3918 feet to 3939 feet, respectively, in the Getty Oil Company J. H. Day Wells Nos. 1 and 2, both located in the NW/4 of Section 6, Township 22 South, Range 36 East, Jalmat Field, Lea County, New Mexico.

CASE 4153: Application of Amerada Petroleum Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp and Pennsylvanian formations in the interval from approximately 9508 feet to 10,000 feet in its L. W. Ward Well No. 5 located in Unit J of Section 11, Township 13 South, Range 38 East, Bronco-Wolfcamp Pool, Lea County, New Mexico.

CASE 4107: (Continued from the April 23, 1969 Examiner Hearing) Application of Coastal States Gas Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the West Sawyer-San Andres Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units.

CASE 4144: (Continued from the June 4, 1969, Examiner Hearing) Application of Sam G. Dunn Oil Operations for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 1910 feet to 1950 feet in its E. Faircloth "C" Well No. 1 located in Unit N of Section 32, Township 7 South, Range 27 East, Acme-San Andres Pool, Chaves County, New Mexico.

CASE 4154: Application of Pan American Petroleum Corporation for a pool creation and discovery allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Blinebry oil pool for its State "C" Tract 11 Well No. 3 located in the NW/4 SE/4 of Section 2, Township 21 South, Range 36 East, Lea County, New Mexico, and for the assignment of an oil discovery allowable in the amount of approximately 28,510 barrels to said well.

CASE 4155: Application of Pan American Petroleum Corporation for an exception to Order No. R-3221, as amended, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, after January 1, 1969. Said

(Case 4155 continued)

exception would be for the applicant's wells located in Sections 28 and 33, Township 19 South, Range 32 East, Lusk Field, Lea County, New Mexico. Applicant seeks authority to dispose of salt water produced by said wells in unlined surface pits in said sections.

CASE 4156:

Application of Jack L. McClellan for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil or gas or both, on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for applicant's wells located in the SE/4 and NE/4, respectively, of Section 13 and 24, Township 15 South, Range 29 East, Sulimar-Queen Pool, Chaves County, New Mexico. Applicant, seeks authority to dispose of salt water produced by said wells in unlined surface pits located in said quarter sections.

CASE 4157:

Application of Texaco Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Eunice-Monument Unit Area comprising 1516 acres, more or less, of State and fee lands in Township 20 South, Ranges 36 and 37 East, Lea County, New Mexico.

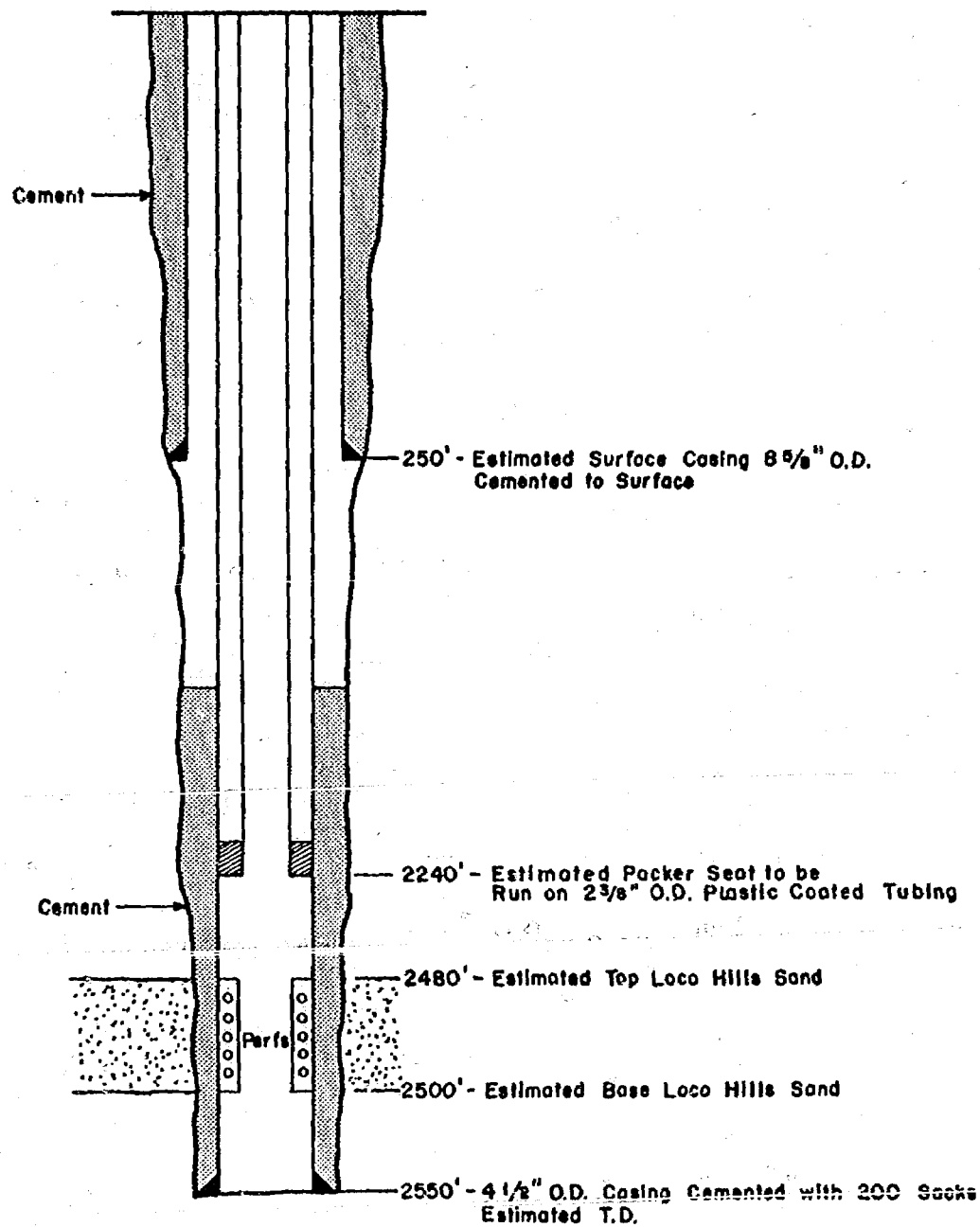
CASE 4158:

Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Eunice-Monument Unit Area by the injection of water into the Grayburg and San Andres formations through 18 wells located in Section 24, Township 20 South, Range 36 East, and in Sections 19, 20, 21, 29 and 30, Township 20 South, Range 37 East, Eunice-Monument (Grayburg-San Andres) Pools, Lea County, New Mexico.

CASE 4159:

Application of Southwestern Natural Gas Company, Inc. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill at an unorthodox oil well location 2310 feet from the North line and 1980 feet from the West line of Section 27, Township 15 South, Range 32 East, North Anderson Ranch-Wolfcamp Pool, Lea County, New Mexico.

**PROPOSED  
FAR WEST LOCO HILLS SAND UNIT  
WELL NUMBER 8-8**



**BEFORE EXAMINER UTZ**

**OIL CONSERVATION COMMISSION**

*app.* EXHIBIT NO. 1

CASE NO. 4152



**ANADARKO  
PRODUCTION COMPANY**

FAR WEST LOCO HILLS SAND UNIT  
LOCO HILLS FIELD  
EDDY COUNTY, NEW MEXICO  
DIAGRAMMATIC SKETCH  
OF  
PROPOSED COMPLETION  
OF  
TYPICAL WATER INJECTION WELL  
TO BE DRILLED

EXHIBIT I

JASON W. KELLAHIN  
ROBERT E. FOX

KELLAHIN AND FOX  
ATTORNEYS AT LAW  
54½ EAST SAN FRANCISCO STREET  
POST OFFICE BOX 1769  
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315  
AREA CODE 505

May 28, 1969

*Case 4152*

MAIN OFFICE 000

'69 MAY 29 AM 8 50

Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico

Gentlemen:

Enclosed is the application of Anadarko Production  
Company for approval of changes in the Far West  
Loco Hills Sand Unit waterflood, Eddy County, New  
Mexico.

It is requested that this application be set for  
hearing at the earliest possible hearing.

Yours very truly,

*Jason Kallahin*  
JASON W. KELLAHIN

jwk;peg  
Enc. as stated

DOCKET MAILED

Date *6-12-69*

MAIN OFFICE 000

'69 MAY 29 AM 8 50

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

APPLICATION OF ANADARKO PRODUCTION )  
COMPANY, AS OPERATOR OF THE FAR WEST )  
LOCO HILLS SAND UNIT, ORIGINALLY )  
AUTHORIZED BY ORDER NO. R-3627, FOR )  
AUTHORITY TO DELETE CERTAIN WATER )  
INJECTION WELLS ORIGINALLY AUTHORIZED )  
BY ORDER NO. R-3628, TO DRILL OTHER )  
WATER INJECTION WELLS AND TO ACT UPON )  
ADMINISTRATIVE APPROVAL OF PROPOSED )  
FUTURE CHANGES IN LOCATIONS OF WATER )  
INJECTION WELLS, ALL WITHIN THE )  
BOUNDARIES OF THE FAR WEST LOCO HILLS )  
SAND UNIT, EDDY COUNTY, NEW MEXICO. )

Case No. 415-2

A P P L I C A T I O N

COMES NOW Anadarko Production Company, in its capacity as  
Operator of the Far West Loco Hills Sand Unit, Eddy County, New  
Mexico, hereinafter referred to as "Applicant", and makes its  
application for authority to delete certain water injection  
wells originally authorized by Order No. R-3628 dated  
December 16, 1968, to drill other water injection wells at the  
locations hereinafter specified and hereafter to act upon  
administrative approval of proposed changes in locations of  
water injection wells as may be indicated by changing reservoir  
conditions during the course of the waterflood project, and in  
support of this application states:

1. Order No. R-3628 authorized Applicant to institute  
a waterflood project in Applicant's Far West Loco Hills Sand  
Unit, Loco Hills Pool, Eddy County, New Mexico, by the injection  
of water into the Grayburg formation through ten (10) existing  
or proposed wells in Township 18 South, Range 29 East, NMPM,  
among which authorized water injection wells are the following:

Tract 1 - Well No. 1 located 2310' FNL and 330' FEL of Section 4;  
Tract 8 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4;  
Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of  
Section 4.

2. Reservoir conditions which have developed since the initiation of the waterflood indicate that a more efficient flood can be obtained and a greater degree of ultimate recovery of the hydrocarbons in place may be achieved by the deletion of the foregoing three (3) water injection wells from Applicant's plan of operations and the substitution therefor of the following three (3) injection wells:

Tract 1 - Well No. 29 to be drilled 2460' FNL and 180' FEL of  
Section 4;  
Tract 8 - Well No. 34 to be drilled 1980' FSL and 1980' FWL of  
Section 4;  
Tract 8 - Well No. 35 to be drilled 10' FSL and 1650' FWL of  
Section 4;

all of which substitute injection wells will be completed as indicated by the diagramatic sketch of proposed completion of a typical water injection well to be drilled, attached hereto as Exhibit I.

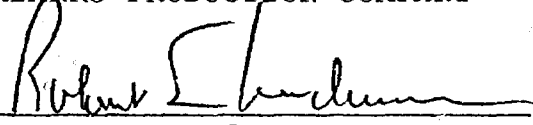
3. Attached hereto, as required by Rule 701 B 1, is a map of the Unit Area, marked Exhibit II, showing the locations of the proposed injection wells, the locations of all other wells within a radius of the two miles therefrom, the formation from which said wells are producing or have produced and the names of the lessees in the area shown by said map.

4. Applicant alleges that changing conditions within the reservoir during the conduct of waterflood operations now authorized may require adjustments in the locations of injection

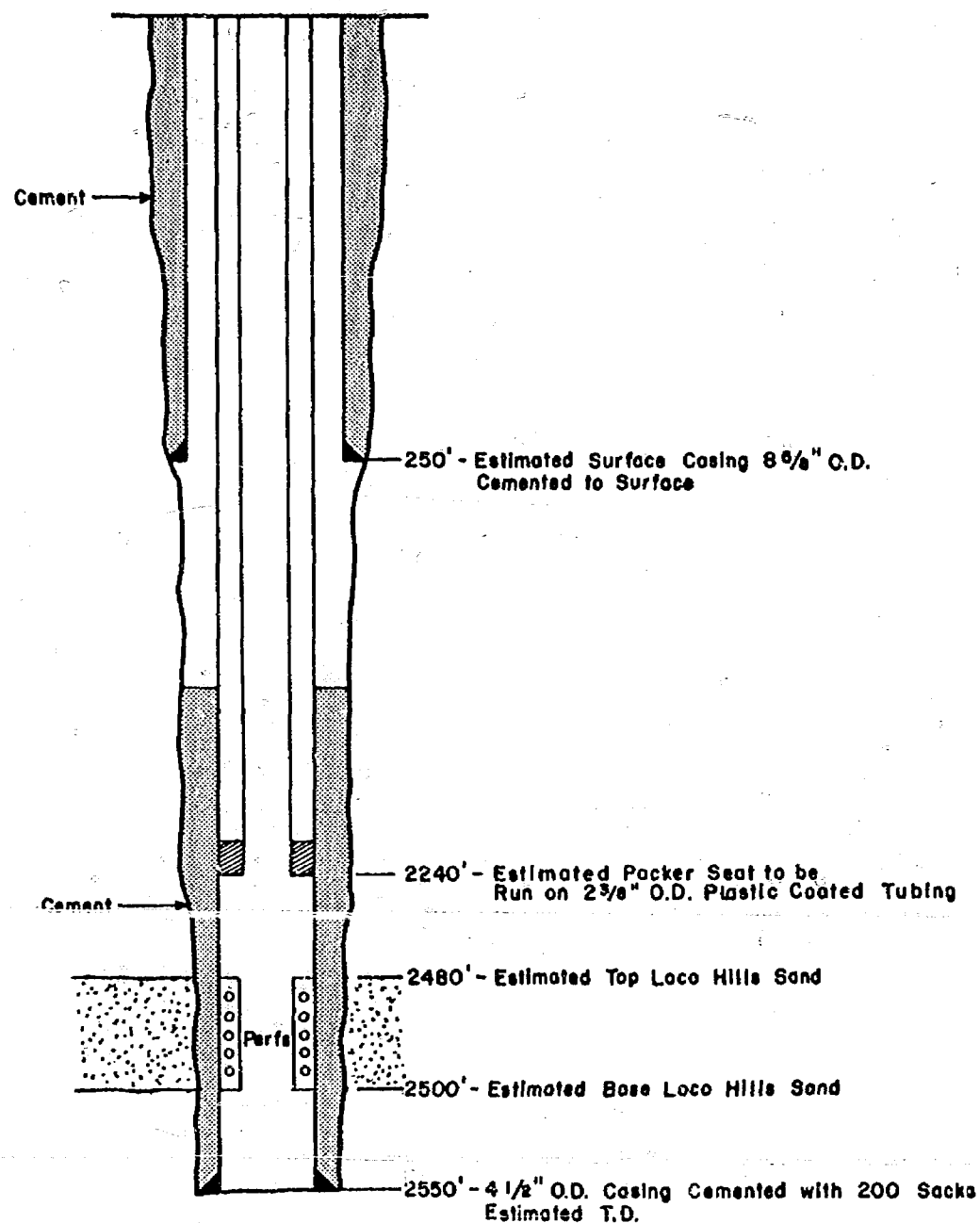
wells heretofore drilled or completed or to be drilled pursuant to the order hereby sought. Further, Applicant alleges that such adjustments, if required, will not alter the general plan of operations now authorized and requests that Applicant be permitted, upon administrative approval only without the necessity of a hearing before an examiner, to make such adjustments in the locations of water injection wells within the Far West Loco Hills Sand Unit as sound engineering practices may require.

WHEREFOR, Applicant requests a hearing before an examiner and requests that after hearing thereon, the order herein sought be entered by the Commission.

ANADARKO PRODUCTION COMPANY

By   
Robert E. Anderson, Attorney  
Post Office Box 9317  
Fort Worth, Texas 76107

**PROPOSED  
FAR WEST LOCO HILLS SAND UNIT  
WELL NUMBER 3-8**



**ANADARKO  
PRODUCTION COMPANY**

FAR WEST LOCO HILLS SAND UNIT  
LOCO HILLS FIELD  
EDDY COUNTY, NEW MEXICO  
DIAGRAMMATIC SKETCH  
OF  
PROPOSED COMPLETION  
OF  
TYPICAL WATER INJECTION WELL  
TO BE DRILLED

EXHIBIT I



DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE No. 4152

Order No. R-3628-B

APPLICATION OF ANADARKO PRODUCTION  
COMPANY FOR AN AMENDMENT OF ORDER  
NO. R-3628, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to typographical error, Order (1) of Order No. R-3628-A, dated July 10, 1969, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That the phrase "Order No. R-2628" is hereby stricken from Order (1) of Order No. R-3628-A, and the phrase "Order No. R-3628" is hereby interlineated in lieu thereof.

(2) That the correction set forth above shall be effective nunc pro tunc as of July 10, 1969.

DONE at Santa Fe, New Mexico, on this \_\_\_\_\_ day of October, 1969.

DRAFT

GMH/esr  
July 3, 1969

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. 4152

Order No. R-3628-A

APPLICATION OF ANADARKO PRODUCTION  
COMPANY FOR AN AMENDMENT OF ORDER  
NO. R-3628, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 25, 1969,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this \_\_\_\_\_ day of July, 1969, 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, Anadarko Production Company, is the  
operator of the Anadarko Far West Loco Hills Waterflood Project,  
Loco Hills Pool, Eddy County, New Mexico, approved by Commission  
Order No. R-3628.

(3) That the applicant seeks the amendment of said Order  
No. R-3628 to delete from the water injection wells authorized  
for injection by said order the following three wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 1 located 2310' FNL and <sup>330</sup>~~300~~' FEL of Section 4  
Tract 8 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4  
Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of Sec-  
tion 4

(4) That the applicant ~~also~~ seeks to substitute in lieu of the above-described three wells the following:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 29 to be drilled 2460' FNL and 180' FEL of Section 4

Tract 8 - Well No. 34 to be drilled 1980' FSL and 1980' FWL of Section 4

Tract 8 - Well No. 35 to be drilled 10' FSL and 1650' FWL of Section 4

(5) That the applicant further seeks the amendment of said Order No. R-3628 to provide a procedure whereby the Secretary-Director of the Commission may authorize the substitution of other water injection wells at orthodox or unorthodox locations for those previously authorized in order to complete an efficient injection pattern.

(6) That approval of the aforesaid amendments will afford the applicant the opportunity to produce its just and equitable share of the oil and gas in the Loco Hills Pool, and will otherwise prevent waste and protect correlative rights, provided said injection wells are drilled no closer than 330 feet to the outer boundary of its Far West Loco Hills Sand Unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary.

IT IS THEREFORE ORDERED:

(1) That Order No. R-3628, dated December 16, 1968, is hereby amended by deleting from the water injection wells authorized for the Anadarko Far West Loco Hills Waterflood Project, Eddy County, New Mexico, the following three wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 1 located 2310' FNL and 330' FEL of Section 4

Tract 8 - Well No. 1 located 2310' FSL and 1650' FWL of Section 4

Tract 8 - Well No. 9 to be drilled 1330' FSL and 2630' FEL of Section 4

(2) That said Order No. R-3628 is hereby further amended by substituting in lieu of the three wells described in Order (1) above

the following three water injection wells:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM

Tract 1 - Well No. 29 to be drilled 2460' FNL and 180' FEL of  
Section 4

Tract 8 - Well No. 34 to be drilled 1980' FSL and 1980' FWL of  
Section 4

Tract 8 - Well No. 35 to be drilled 10' FSL and 1650' FWL of  
Section 4

(3) That Order (2) of Order No. R-3628 is hereby amended to  
read in its entirety as follows:

"(2) That the Anadarko Far West Loco Hills Waterflood Project  
shall be governed by the provisions of Rules 701, 702, and 703 of  
the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commis-  
sion may approve the substitution of other water injection wells  
at orthodox and unorthodox locations for those previously autho-  
rized in order to complete an efficient injection pattern, provided  
said wells are drilled no closer than 330 feet to the outer  
boundary of the Far West Loco Hills Sand Unit nor closer than  
10 feet to any quarter-quarter section or subdivision inner  
boundary, and provided that the application therefor has been  
filed in accordance with Rule 701 B of the Commission Rules and  
Regulations, and provided further, that a copy of the application  
has been sent to all offset operators, if any there be, and no  
such operator has objected within 15 days."

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

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

ROUGH DRAFT FOR WATERFLOOD LETTERS

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Dear Sir:

*Reference is made to*  
Commission Order No. R-3628-A entered in Case No. 4152, approving the *amending Order No R 3628 which*  
Waterflood Project.

*each of*  
injection into the three substitute wells  
authorized by Order No. R-3628-A shall be  
through internally plastic-coated tubing  
which shall be set in a packer located  
as near as practicable to the uppermost  
perforation. *as revised*

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 896 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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

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

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

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

cc: OCC: Hobbs X  
Artesia X  
Aztec  
USGS Artesia

~~Mr. Frank Irby~~, State Engineer Office, Santa Fe, New Mexico

Mr. D. E. Gray

CASE 4153: Application of AMERADA  
FOR SALT WATER DISPOSAL, LEA  
COUNTY, NEW MEXICO.