W. Thomas Kellahin Karen Aubrey

Jason Kellahin Of Counsel KELLAHIN, KELLAHIN AND AUBREY Attorneys at Low El Patio - 117 North Guadalupe Post Office Box 2265 Santa Fe, New Mexico 87504-2265

Telephone 982-4285 Area Code 505

April 4, 1988

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APR 5 1988

OIL CONSERVATION DIVISION

Mr. William J. LeMay Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 85701

"Hand Delivered"

Case 9364

Re: Anadarko Petroleum Corporation Increase Injection Pressure in Ballard GSA Unit Waterflood

Dear Mr. LeMay:

On behalf of Anadarko Petroleum Corporation, please set the enclosed application to increase the injection limitation pressure in the Foster San Andres Pool for the next available examiner's hearing now scheduled for April 27, 1988.

The following is suggested as a possible advertisement for this case:

7773

Application of Anadarko Production Company for Amendment to Division Order R-7000 to increase the injection pressure limitation for the Ballard GSA Waterflood Project, Eddy County, New Mexico. Applicant, in the above styled cause, seeks an order increasing the surface injection limitation pressure to 450 psi above the formation parting pressure as determined from step-rate tests for ten injection wells in the Grayburg formation of the Loco Hills Pool within the project area being a portion of Sections 4, 6, 7, 17, and all of Section 8 and 5 of T18S, R29E, Eddy County, New Mexico.

By copy of this letter, and enclosed application, we are notifying all interested parties that they have the right to appear at the hearing either in support of or

## KELLAHIN, KELLAHIN & AUBREY

Mr. William J. LeMay April 4, 1988 Page 2

opposition to the application. Should they desire further information they may contact the undersigned or Mr. John H. Beaird, Anadarko Petroleum Company, (713) 875-0858.

Very trul Thomas **Ke**llahin

WTK:ca Enc.

- cc: Mr. John H. Beaird Anadarko Production Company P. 0. 1330 Houston, Texas 77251
  - All interested parties in Exhibit C

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

RECEIVED

APR 5 1988

OIL CONSERVATION DIVISION

CASE: 9364

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IN THE MATTER OF THE APPLICATION OF ANADARKO PETROLEUM CORPORATION FOR AMENDMENT OF ORDER R-7000 TO INCREASE THE INJECTION PRESSURE LIMITATION FOR THE BALLARD GSA WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO.

### APPLICATION

Comes now ANDARDKO PETROLEUM CORPORATION, by and through its attorneys, Kellahin, Kellahin & Aubrey, and applies to the New Mexico Oil Conservation Division for an order amending Order R-7000 for the Ballard GSA Waterflood Project, Eddy County, New Mexico, to increase the injection limitation pressure to 450 psi above the formation parting pressure as determined from step-rate tests for injection wells set for on Exhibit A attached hereto, and in support thereof would show:

(1) Applicant is the operator of the Ballard GSAWaterflood, Eddy County, New Mexico as shown on Exhibit"B" attached hereto.

(2) The Applicant, Anadarko Production Company obtained authority by Division Order R-7000 (1985 expansion) to expand its Ballard GSA Unit Waterflood

-1-

project by the completion for injection or conversion to water injection of ten wells located as shown on Exhibits A and B, all in Township 18 South, Range 29 East, Loco Hills Pool, Eddy County, New Mexico.

(3) Decline curve analysis indicates that 237 MBO may be recovered as a result of the injection wells added to the Ballard GB-SA Unit under Order R-7000 (1982 expansion).

(4) Temperature logs from injection wells operated under Order No. 4-4493A (1973 project, no surface injection pressure limit) and Order No. R-7000 (1982 expansion, 1550 psi maximum surface injection pressure, ± .65 psi/ft) indicate that all injected water is being contained within the Grayburg formation.

(5) The 1985 expansion area has shown no response to injection under Order No. R-7773 (.2 psi/ft maximum surface injection pressure). The continuation of the pressure limitation imposed under this order will result in a loss of 250 MBO of secondary oil.

(6) Injection conducted at 450 psi above the parting pressure of the formation will create a fracture that will not propagate outside of the vertical limits of the Grayburg formation.

(7) The improved injectivity from increased pressure limitations will allow for the timely completion of waterflood operations in the Ballard GB-SA Unit and

-2-

result in an additional 250 MBO being recovered from the 1985 expansion area.

(8) That a new pressure limitation of 450 psi above the formation parting pressure as determined by step-rate tests is requested for the Ballard GS-SA Unit wells operated under Order R-7773 and as tabulated on Exhibit A attached hereto.

(9) That attached hereto as Exhibit "C" is a list of the names and addresses of all interested parties to whom applicant has sent notice of the hearing of this application in accordance with the requirements of Rule 1207(4).

(10) That approval of this application will prevent waste, protect correlative rights, and will not constitute a risk to fresh water sources.

WHEREFORE, applicant requests that this matter be set for hearing and that after notice and hearing the application be granted as requested.

Respectfully submitted,

W. Thomas Kellahin, Esq. Kellahin, Kellahin & Aubrey P. O. Box 2265 Santa Fe, New Mexico 87504

# EXHIBIT "A"

ELL	LOCATION	PRESSURE LIMIT (CURRENT) <u>PSIG</u>	
#10-9 #26-4 #5-9 #5-14 #8-4 #9-2 #10-1 #11-1 #13-2	1980'FNL & 1310' FWL, Sec 4 800' FSL & 1310' FWL, Sec 4 Unit Letter H, Section 8 Unit Letter P, Section 8 Unit Letter B, Section 5 Unit Letter F, Section 5 Unit Letter H, Section 5 Unit Letter H, Section 6 Unit Letter D, Section 5	895 1290 1032 925 737 770 520 475 750	1345 1550 1482 1375 1187 1220 970 925
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Proposed Injection Wells pressure i	ncreases
	Production Company Midland Division
	BALLARD GB-SA UNIT
	EDDY COUNTY, NEW MEXICO
Exhibit B	LAND PLAT
	M.O. Bridges
	Dratted By

LE. U.L. CASE NO.

BE. UNL CASE NO. 8381

### MAILING LIST

Smith & Watson Mrs. H. G. Watson 920 South Roselawn Avenue Artesia, New Mexico 88210 Bogle Farms, Inc. P. O. Box 441 Artesia, New Mexico 88210 Attn: Mr. Millard Derrick United States Bureau of Land Management P. O. Box 1397 Roswell, New Mexico 88201 Gordon M. Cone P. O. Drawer 1509 Lovington, New Mexico 88260 J. C. Thompson & J. C. Thompson, Jr. 4500 Republic National Bank Tower Dallas, Texas 75201 Depco, Inc. 110 16th Street Denver, Colorado 80202 Marbob Energy Corp. P. O. Box 304 Artesia, New Mexico 88210 Kersey and Company 808 W. Grand Avenue Artesia, New Mexico 88210 Cities Service Oil & Gas Company 6 Desta Drive Suite 6002 Midland, Texas 79702 Conoco Inc P. O. Box 460 Hobbs, New Mexico 88240 Sell-Rasmussen Operating, Inc P. O. Box 5061 Midland, Texas 79704