

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF  
GREAT WESTERN DRILLING COMPANY FOR APPROVAL  
OF A WATERFLOOD PROJECT FOR ITS  
SOUTH CARTER (SAN ANDRES) UNIT AND TO QUALIFY  
SAID PROJECT FOR THE RECOVERED OIL TAX RATE  
PURSUANT TO THE "NEW MEXICO ENHANCED  
OIL RECOVERY ACT," LEA COUNTY, NEW MEXICO

CASE NO \_\_\_\_\_

A P P L I C A T I O N

Comes now GREAT WESTERN DRILLING COMPANY, by its attorneys, Kellahin & Kellahin, and pursuant to the New Mexico "Enhanced Oil Recovery Act" and Division Rule 701 applies to the New Mexico Oil Conservation Division for authority to institute a waterflood project in its South Carter (San Andres) Unit by the injection of water into the San Andres formation, South Carter-San Andres Pool, Lea County, New Mexico and to qualify said project for the recovered oil tax rate for enhanced oil recovery projects and in support states:

(1) Great Western Drilling Company ("Great Western") is the proposed operator of the South Carter (San Andres) Unit ("Unit"), a secondary recovery project for an area comprising 624 acres, more or less, being located in portions of Sections 5-8, T18S, R39E, NMPM., Lea County, New Mexico as shown on Exhibit "A"

(2) Within the Unit, the initial waterflood project area will consist of 624 acres, more or less.

(3) The working interest owners within the Unit have voluntarily agreed upon a waterflood plan the objective of which is to successfully recover an estimated additional 1,300 million barrels of oil from the South Carter-San Andres Pool.

(4) The remaining secondary oil potential from the pool within the Unit area will not be recovered in the absence of waterflood operations on a unit basis.

(5) The South Carter ( San Andres) Unit Waterflood Project will be developed on a 40-acre "irregular" injection pattern involving 1 new producing well, the conversion of 5 existing wells to water injection and the use of 5 producers all as shown on Exhibit "A".

(6) The five (5) injection wells are all identified and located as set forth on Exhibit "B".

(7) Great Western anticipates that the success of the waterflood project will require that the Division provide administrative procedures to authorize Great Western to exceed the 0.2 psi per foot of depth Division guideline.

(8) Great Western requests an administrative procedure be established for the waterflood project area to allow for the amendment of the location of either injection or producing wells in the event such changes in location, either standard or unorthodox, are deemed necessary by the operator.

(9) Enclosed with this application is the completed Division Form C-108 with attachments for this project.

(10) As of January 1, 1994, the cumulative primary oil recovery from the Project has been 2,229 million barrels of oil.

(11) The Project is currently producing at a rate of 60 BOPD and 60 BWPD from 9 active producers. Approximately 378 million barrels of recoverable primary oil reserves remain under the current mode of operations.

NMOCD Application of  
Great Western Drilling Company  
Page 3

(12) Great Western seeks to recover additional oil from the Project Area by means of a significant change in the process used for the displacement of crude oil by a 20-acre infill drilling, reworking, establishment of water injection and initiation of 40-acre irregular injection pattern for the Unit.

(13) The estimated amount of recoverable oil attributable to a Positive Production Response from the Expanded Use of enhanced oil recovery technology for this EOR Project is 1,300 million barrels of additional oil.

(14) In accordance with Division Order R-9708, the following is submitted:

a. Operator's name and address:

Great Western Drilling Company  
P. O. Box 1659  
Midland, Texas 79702

b. Description of the Project Area:

(1) Within the Unit boundary is an initial Project Area as outlined on Exhibit "A"

(2) Description of the Project Area:

T18S, R39E  
Sec 5: all of irregular section except  
N/2N/2 equivalent  
Sec 6: SE/4SE/4  
Sec 7: NE/4NE/4  
Sec 8: N/2 equivalent of irregular section

(3) Total acres in the Project Area:

624 acres, more or less

(4) Name of the subject Pool and formation:

San Andres formation of the South  
Carter-San Andres Pool

c. Status of operations in the project area:

(1) unit name:

South Carter (San Andres) Unit

(2) September 19, 1994

(3) N/A

d. Method of recovery to be used:

(1) injected fluids: water

(2) Pending OCD hearing.

(3) September 19, 1994

e. Description of the Project Area:

(1) a list of producing wells:  
See Exhibit "C"

(2) a list of injection wells:  
See Exhibit "B"

(3) Capital cost of additional facilities:  
\$451,000.

(4) Total Project Costs:  
\$955,000.

(5) Estimated total net value (after recovery of project investments, operating costs, taxes and expenses) of the additional production that will be recovered as a result of this Project:

An additional 1,300 million barrels of oil with an undiscounted net present value of \$5,752,000 dollars

(6) Anticipated date of commencement of injection:

as soon as practicable after  
OCD approval, if granted.

(7) the type of fluid to be injected and the anticipated volumes:

water injected at forecasted  
rates presented in C-108

(8) Explanation of changes in technology:

(a) See C-108 for proposed well status

(b) See C-108 for summary of changes in technology and the process to be used for displacement of oil

f. Production data:

See Exhibit "D"

NMOCD Application of  
Great Western Drilling Company  
Page 6

(15) In accordance with Division notice requirements, copies of the application have been sent to those parties listed on Exhibit "E" notifying them of this application and of the Applicant's requests that this matter be set on the Division Examiner's docket now scheduled for October 13, 1994.

Wherefore, Applicant requests that this application be set for hearing and that after said hearing, the Division enter its order approving this application.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', written in a cursive style.

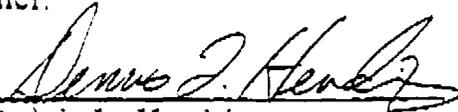
W. Thomas Kellahin  
KELLAHIN & KELLAHIN  
P.O. Box 2265  
Santa Fe, New Mexico 87504  
(505) 982-4285

ATTORNEYS FOR APPLICANT

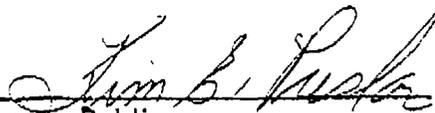
CERTIFICATION

STATE OF TEXAS            )  
                                          ) SS.  
COUNTY OF MIDLAND )

I, Dennis L. Hendrix, having been first duly sworn, state that I am a petroleum engineer, a duly authorized representative of Great Western Drilling Company, have knowledge of the facts herein and therefor certify that the facts set forth in this Application are true and accurate to the best of my own knowledge and belief.

  
Dennis L. Hendrix

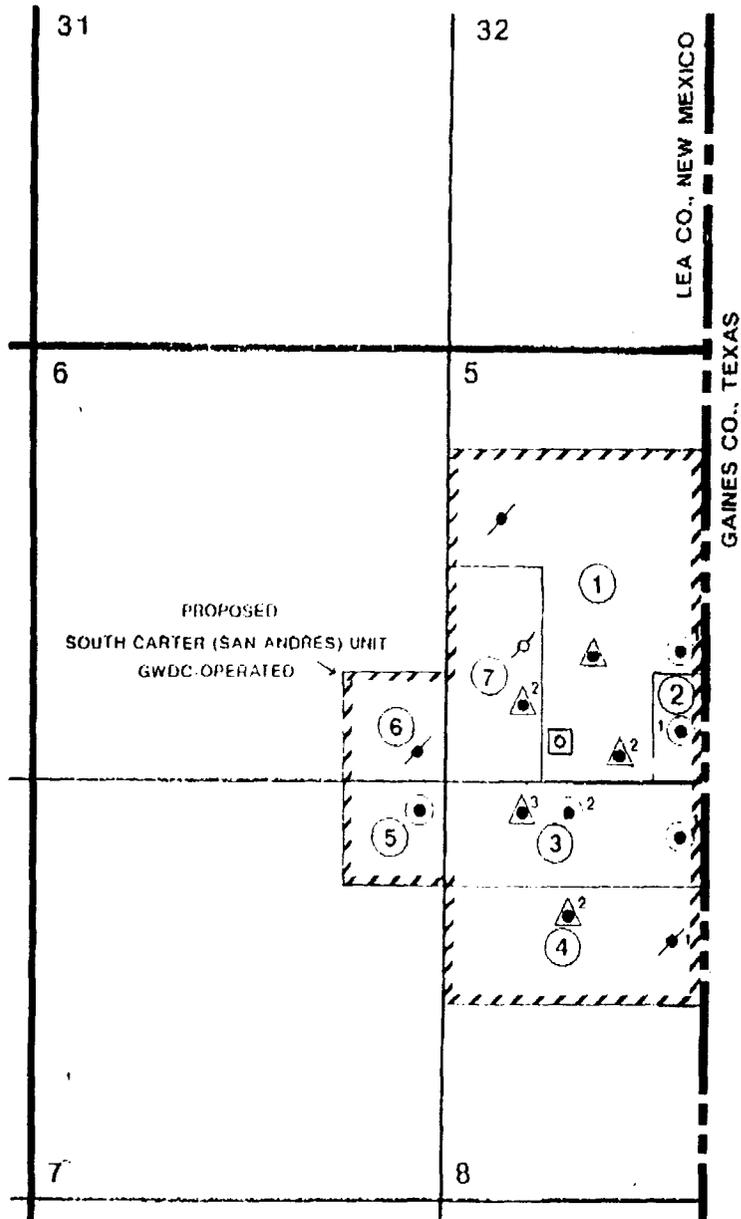
The foregoing certificate was acknowledged before me this 16th day of September, 1994 by Dennis L. Hendrix.

  
Notary Public

My Commission Expires:  
12/16/97



SEAL



**LEGEND**

- UNIT PRODUCER
- ◻ PRODUCER TO BE DRILLED
- ▲ INJECTOR
- TRACT NUMBER
- ⊗ TEMPORARILY ABANDONED TO BE MADE A PRODUCER OR P&A
- ⊘ PLUGGED PRODUCER

GREAT WESTERN DRILLING COMPANY

**SOUTH CARTER (SAN ANDRES) UNIT**

Lea County, New Mexico

2000 1000 0 2000 4000

Scale in Feet

**PROPOSED SOUTH CARTER (S/A) UNIT**

Wells Proposed For Conversion To Injectors

Lease Name	Well No.	Type	Location	Casing Size (Inches)	Casing Depth (Feet)	Cement Used (Sacks)	TOC	Total Depth (Feet)	Site Hole (Inches)	Tubing & Depth	Packer & Depth	Perforations	Completion Date
Effie Carter	#2	Inj	330 FSL & 2310 FWL Sec 5, 18S, 39E Lee County, NM	8 5/8	548	500	Circ	5210	11	2 3/8" Duoline 10 PVC-lined tbg. @ 5079'	Guiberson Model G6 Pkr. @ 5084'	5129-5210° OH	9/1/57
		5 1/2		5129	100	4748' Calc	7 7/8						
Effie Carter	#3	Inj	1980 FWL & 1650 FSL Sec 5, 18S, 39E Lee County, NM	8 5/8	478	500	Circ	5235	11	2 3/8" Duoline 10 PVC-lined tbg. @ 5044'	Guiberson Model G6 Pkr. @ 5049'	5094-5235° OH	10/27/57
		5 1/2		5094	100	4713' Calc	7 7/8						
Dune-Johnson	#2	Inj	990 FSL & 990 FWL Sec 5, 18S, 39E Lee County, NM	8 5/8	344	200	Circ	5246	11	2 3/8" Duoline 10 PVC-lined tbg. @ 5047'	Guiberson Model G6 Pkr. @ 5052'	5097-5246° OH	4/2/58
		5 1/2		5097	200	4335' Calc	7 7/8						
McQueen	#2	Inj	1650 FNL & 2310 FWL Sec 8, 18S, 39E Lee County, NM	8 5/8	571	500	Circ	5270	11 1/4	2 3/8" Duoline 10 PVC-lined tbg. @ 4982'	Guiberson Model G6 Pkr. @ 4987'	5095-5270° OH	10/10/57
		5 1/2		5095	100	4714' Calc	7 7/8						
Sylvester Johnson	#3	Inj	330 FNL & 990 FWL Sec 8, 18S, 39E Lee County, NM	8 5/8	336	225	Circ	5233	11	2 3/8" Duoline 10 PVC-lined tbg. @ 5058'	Guiberson Model G0 Pkr. @ 5063'	5108-5233° OH	8/31/53
		5 1/2		5108	100	4727' Calc	7 7/8						

**PROPOSED SOUTH CARTER (S/A) UNIT**  
 New Mexico Wells Within Area of Review

Lease Name	Well No.	Type	Location	Casing Size (Inches)	Casing Depth (Feet)	Cement Used (Sacks)	TQC	Total Depth (Feet)	Hole Size (Inches)	Perfs/OH	Compl Date
Burton Federal	#1	Oil Active	660 FSL & 330 FEL Sec 5, 18S, 39E Lea County, NM	8 5/8 5 1/2	265 5105	275 100	Circ. 4724' Calc	5220	11 7 7/8	5105-5220' OH	8/7/57
Effie Carter	#1	Oil Active	330 FEL & 1650 FSL Sec 5, 18S, 39E Lea County, NM	8 5/8 5 1/2	367 5168	350 100	Circ 4787' Calc	5185	11 7 7/8	5168-5185' OH	4/19/57
Sylvester Johnson	#1	Oil Active	660 FNL & 330 FEL Sec 8, 18S, 39E Lea County, NM	8 5/8 5 1/2	369 5176	350 100	Circ 4795' Calc	5184	11 7 7/8	5176-5184' OH 5059-5158'	3/27/57 6/29/67
Carter	#1A	Oil Active	330 FNL & 330 FEL Sec 7, 18S, 39E Lea County, NM	8 5/8 5 1/2	340 5075	300 100	Circ 4694' Calc	5230	11 7 7/8	5075-5230' OH	2/27/69
Sylvester Johnson	#2	Oil Active	1650 FWL & 330 FNL Sec 8, 18S, 39E Lea County, NM	8 5/8 5 1/2	530 5122	480 100	Circ 4741' Calc	5232	11 7 7/8	5122-5232' OH	4/22/58

**GREAT WESTERN DRILLING COMPANY  
PROPOSED SOUTH CARTER (S/A) UNIT  
CUM DATA & CURRENT PRODUCTION**

Lease Name	#Wells/Status	Cum Prod.	Est. Remaining	Current Prod.
		1/1/1994 (BO)	Primary 1/94 (BO)	5/94 (BOPD)
Burton Federal	1-Prod.	175,600	17,761	8
Carter, Effie	3-Prod.	771,138	95,471	16
Johnson, Sylvester	3-Prod.	786,265	260,776	30
McQuein	1-Prod.	209,706	4,765	5
Johnson, S.P. #2	1-SI	147,971	0	0
Johnson, S.P. #1SWD	1-SI	51,406	0	0
Carter "A"	1-Prod.	59,027	0	1
Johnson "A"	1-P&A'd	27,056	0	0
Carter, B & N #1	1-P&A'd	1,123	0	0
<b>TOTALS</b>		<b>2,229,292</b>	<b>318,775</b>	<b>60</b>

Exhibit "D" to application

NOTICE LIST FOR  
SURFACE OWNERS AND LEASEHOLD OFFSET OPERATORS  
SOUTH CARTER (SAN ANDRES) UNIT  
LEA COUNTY, NEW MEXICO

Ronald G. Parker  
Star Rt. C, Box 451  
Hobbs, NM 88240

USA

Bureau of Land Management  
P.O. Box 27115  
Santa Fe, NM 87502

Bar Four Dairy  
4128 E. Rose Road  
Hobbs, NM 88240

Charlsiea Taylor  
P.O. Box 54  
Hobbs, NM 88240

Trustees of the Charles and  
Beverly Overton Revocable  
Trust U/T/A dated 12/15/93  
P.O. Box 32  
Yeso, NM 88136

Powhatan Carter, Jr. and Beverly  
T. Carter, Co-Trustees of the  
Powhatan and Beverly T. Carter  
Revocable Trust U/T/A dated  
9/25/81  
P.O. Box 328  
Fort Sumner, NM 88119

First National Bank at Lubbock,  
Trustee of the Jack B. Boren, Jr.  
Childrens Trust and as agent for  
Jack B. Boren, Jr.  
P.O. Box 1241  
Lubbock, TX 79408

Jamie E. Jennings, attorney-in-  
fact for Herbert E. Ware, Jr.,  
as Trustee for the Peggy P.  
Jennings Trust  
1910 Pacific Avenue, Suite 1815  
Dallas, TX 75201

Jeannine Hooper Byron  
P.O. Box 1562  
Roswell, NM 88201

Jimmy Joe Hooper, and wife,  
Lynne C. Hooper  
P.O. Box 2126  
Roswell, NM 88201

Jerry Lee Hooper, and wife,  
Margaret A. Hooper  
P.O. Box 2126  
Roswell, NM 88201

June D. Speight  
P.O. Drawer 1687  
Lovington, NM 88260

Anderson Carter, II  
c/o Anderson Carter  
P.O. Box 998  
Las Cruces, NM 88004

Stuart Carter  
209 South 5th Street  
P.O. Box 725  
Lovington, NM 88260

Rodney Carter  
P.O. Box 328  
Fort Sumner, NM 88119

Mildred Golden Turner  
P.O. Box 2482  
Roswell, NM 88202

Phillip William Turner  
P.O. Box 30192  
Substation D  
Albuquerque, NM 87901

Meridian Oil Production,  
Inc.  
3300 North A Street  
Midland, TX 79705

American Exploration  
511 W. Ohio Ave.  
Midland, TX 79701