

LAW OFFICES

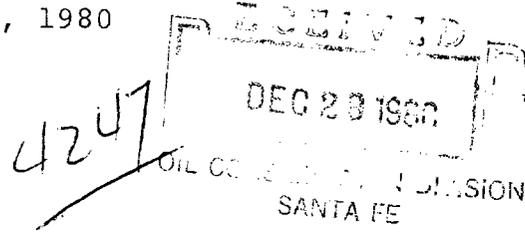
HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON

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(505) 396-5303

F. L. HEIDEL
OF COUNSEL

December 22, 1980



U. S. Geological Survey
Post Office Box 26124
Albuquerque, New Mexico 87125

Attention: Mr. Armando Lopez

Re: Amendment to the Unit Agreement
For The Development and Operation
of the North Shugart Queen Unit
Area, Eddy County, New Mexico

Gentlemen:

Marks & Garner Production Co., as Operator of the North Shugart Queen Unit Area, desires to amend Paragraph 8 on Page 3 of the Plan of Operations for the above captioned area, a photocopy of which original Plan is attached hereto and made a part hereof by reference. The proposed amendment would delete the aforesaid Paragraph 8 in its entirety and substitute in lieu thereof a new Paragraph 8 as follows:

8. The water used for injection purposes will be brine water produced from the unit area and adjacent areas instead of fresh water purchased from the Double Eagle Water Company (the fresh water now being owned by the City of Carlsbad), except that brine water may be supplemented from purchased fresh water only to the extent a sufficient quantity of brine water may not be available for injection purposes.

The above requested change is consistent with the terms of the language contained on Page 14, Article XI of the Unit Agreement For The Development and Operation of the North Shugart Queen Unit Area, Eddy County, New Mexico, which Agreement was approved on June 30, 1970, by the U. S. Geological Survey under GS Contract No. 14-08-0001-11582.

On behalf of Marks & Garner Production Co., we request your review and approval of the foregoing proposed amendment to

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U. S. Geological Survey

the Plan of Operations for the above captioned unit area. Your earliest attention to the foregoing request will be appreciated by all concerned.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS
& HARRINGTON

By C. Gene Amberson
Attorneys for Marks & Garner Production Co.

CGS:lt
Enclosure

cc: ~~Mr.~~ Joe D. Ramey
Marks & Garner Production Co.

Regional Oil and Gas Supervisor
United States Geological Survey
Federal Building
Roswell, New Mexico 88201

Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Re: Unit Agreement for the Development
and Operation of the North Shugart
Queen Unit Area, Eddy County

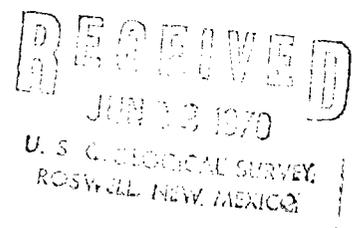
PLAN OF OPERATIONS

The undersigned, as operator under the proposed Unit Agreement for the Development and Operation of the North Shugart Queen Unit Area, has filed with the Supervisor for final approval said unit agreement. Article XI of the unit agreement provides that the unit operator shall file with the Supervisor and the Commission concurrently with the filing of the unit agreement for final approval the initial plan of operation, and the following plan is filed in compliance therewith.

On November 5, 1969 a hearing was held before the Oil Conservation Commission in Case No. 4247 pursuant to which Order R-3870 was issued by the Commission on November 10, 1969 approving the unit agreement. At the same hearing before the Commission evidence was presented with respect to the waterflood project to be instituted pursuant to the unit agreement and on November 10, 1969 the Commission issued Order R-3871 in Case No. 4248 approving the waterflood project as a conservation measure, and authorized the undersigned as unit operator to institute the waterflood project by the injection of water into the Queen formation through 9 wells, which are specifically described in the order, copies of which order have been filed with the copies of the unit agreement which have been filed for approval.

The undersigned as unit operator proposes to inaugurate the waterflood project starting immediately after the effective date of the unit agreement through the following procedure:

1. The J. J. Travis No. 1 A. A. Littlefield (Tract 3) located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 20, Township 18 South, Range 31 East, which is producing from the Queen sand, will be converted as the first water injection well.



2. Immediately following the conversion of the well referred to above, the J. J. Travis No. 3 Keohane Federal (Tract 5) located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 21, which is now completed in both the Queen sand and the Penrose formation, will be reconditioned or worked over by squeezing or other effective methods to shut off the Penrose formation, all in a manner consistent with good operating practices and so as to confine the injection of water to the Queen formation.

3. As soon as practicable after the conversion of the wells referred to above, the Mark Production Company No. 1 Texaco Federal (Tract 6) located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 21, which is now completed in the Penrose formation, will also be worked over so as to shut off or squeeze off the Penrose formation and the well will be perforated in the Queen Sand. This well will be used as a producing well.

4. Immediately following the conversion of the wells set forth above into injection and producing wells, water will be injected into the No. 1 Littlefield and No. 3 Keohane wells. The rate of injection will depend upon the amount of injection pressure encountered. It is contemplated that the rate of injection initially will be kept fairly low in order not to by-pass the oil in the reservoir.

5. As soon as the wells referred to in Paragraphs 1 and 2 above have been converted to injection wells and the injection of water has been started, the J. J. Travis Kenwood Federal No. 2 (Tract 1) located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21 and the J. J. Travis Kenwood Federal No. 4 (Tract 1) located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21 will be converted to injection wells and water will be injected into said wells as soon as practicable after conversion.

6. After a reasonable trial period and when some response has been received from the injection of water in the 4 wells above referred to, it is contemplated that the Chambers & Kennedy Kenwood No. 2 Gulf Federal (Tract 4) and the Shugart No. 1-B Federal (Tract 4) and the No. 3 Kenwood (Tract 1) and the No. 2 Keohane (Tract 5) will also be converted into injection wells and water injection started at rates consistent with experience gained by injection of water into the other wells.

7. It is anticipated that injection rates may run from 500 to 600 pounds pressure at the initial stage of the flood and as more water is injected it is anticipated that injection pressures will increase to as high as 1600 or 1800 pounds; however, in no case will the injection pressure exceed the breakdown pressure of formations.

8. The water used for injection purposes will be purchased from the Double Eagle Water Company whose water line goes through the approximate center of the unit, and fresh water from this source will be used for injection purposes.

9. A centrally located pump house will be built with all facilities installed that are necessary to effectively flood the unit area.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "J. J. Travis", is written above a horizontal line.

J. J. Travis



90 JUN 27 1970
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1852
Roswell, New Mexico 88201

IN REPLY REFER TO:

July 27, 1970

Hinkle, Bondurant, Cox & Eaton
600 Hinkle Building
Roswell, New Mexico 88201

Attention: Mr. Clarence E. Hinkle

Gentlemen:

Your letter of July 23, 1970, transmits one copy of a "Certificate of Effective Date" for the North Shugart Queen unit agreement, No. 14-08-0001-11582. Such instrument is filed pursuant to Article XXI of the unit agreement to formally confirm the effective date of the agreement as July 1, 1970. The "Certificate of Effective Date" is hereby accepted for the record and copies thereof are being furnished to the appropriate Federal offices.

Sincerely yours,

(ORIG. SGD) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor

cc:
Washington (w/attachment)
BLM, Santa Fe (w/attachment)
Artesia (w/attachment)
NMOCC, Santa FE (ltr only) ✓
Accounts



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Denver 1857
Roswell, New Mexico 88201

IN REPLY REFER TO:

4247

AM 8 18
JUL 1 1970

June 30, 1970

Hinkle, Boudurant, Cox & Esten
600 Hinkle Building
Roswell, New Mexico 88201

Attention: Mr. Clarence E. Hinkle

Gentlemen:

The North Shugart Queen unit agreement, Eddy County, New Mexico, was approved on June 30, 1970, effective July 1, 1970, and has been designated No. 14-08-0001-11582. Please furnish this office with a certificate of effectiveness pursuant to Article XXI of the unit agreement.

Enclosed are four approved copies of the unit agreement for your records. Please furnish the New Mexico Oil Conservation Commission and all other interested principals with appropriate evidence of this approval.

Sincerely yours,

(ORIG. S.F.) CARL C. TRAYWICK
CARL C. TRAYWICK
Acting Oil and Gas Supervisor

cc:
Washington (w/cy agreement)
BLM, Santa Fe (w/cy agreement)
Artesia (w/cy agreement)
NMOCC, Santa Fe ✓
BEC, Roswell

