



CONTINENTAL OIL COMPANY

P. O. BOX 460
HOBBS, NEW MEXICO

PRODUCTION DEPARTMENT
HOBBS DISTRICT
L. P. THOMPSON
DISTRICT MANAGER
G. C. JAMIESON
ASSISTANT DISTRICT MANAGER

1001 NORTH TURNER
TELEPHONE: EX 3-4141

June 17, 1965

WFA-216

11 - July 5

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

Attention of Mr. A. L. Porter, Jr., Secretary-Director

Gentlemen:

Re: Application to Convert MCA
Unit Well No. 200 to Water
Injection

We forward herewith an application, in triplicate,
requesting authority to convert MCA Unit Well No. 200 to water
injection.

Copies of this application, along with all pertinent
attachments, are being sent by certified mail to each offset
operator and to the New Mexico State Engineer.

Yours very truly,

GCJ-NKL
Enc.

Copies to: NMOCC - Hobbs USGS - Roswell RGP GW JWK

(By certified mail:) State Engineer's Office Carper Drilling Co.
P. O. Box 1079 Artesia, New Mexico
Santa Fe, New Mexico



CONTINENTAL OIL COMPANY

P. O. BOX 460
HOBBS, NEW MEXICO

PRODUCTION DEPARTMENT
HOBBS DISTRICT
L. P. THOMPSON
DISTRICT MANAGER
G. C. JAMIESON
ASSISTANT DISTRICT MANAGER

1001 NORTH TURNER
TELEPHONE: EX 3-4141

June 14, 1965

New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr. Secretary - Director

Gentlemen:

Re: Application of Continental
Oil Company for Administrative
Approval to Convert MCA Unit
Well No. 200 to a Water Injection
Well in the Maljamar Pool

Continental Oil Company respectfully requests administrative approval to convert MCA Unit Well No. 200, located in Unit P, Section 25, Township 17 South, Range 32 East, Lea County, New Mexico, from a shut-in water supply well to a water injection well in the Maljamar-Grayburg-San Andres Pool. The conversion of this well, in addition to the presently authorized injection wells, will create a 4-spot injection pattern in this area; MCA Unit No. 195 being authorized by order No. R-1075, and No. 197 being authorized by order No. R-841. MCA Unit No. 196 will be the enclosed producing well.

Order No. R-2403, dated December 31, 1962, approved the Continental Oil Company-operated MCA Unit secondary recovery project consisting of pressure maintenance by water and gas injection and set forth procedures for obtaining administrative approval for expansion of the MCA Unit secondary recovery project.

In support of this request and as required by Rule 701-B, the following data is attached:

1. A plat showing location of the proposed injection well and location of all wells within a radius of two miles from the injection well and formations from which wells are producing or have produced. Lessees of record are indicated on the plat.
2. A log of the proposed injection well - MCA Unit No. 200.
3. A diagrammatic sketch of the proposed injection well, including casing depths, cement tops, producing interval, and proposed tubing and packer setting depth.

At present, a total of approximately 850 BWPD is being injected into the Grayburg-San Andres formation through MCA Unit Wells No. 195 and No. 197. After MCA Unit No. 200 is converted to injection, it is proposed to inject a total of approximately 1350 BWPD in the three wells.

Water supply will be obtained from the MCA Unit Water Leases now furnishing water for the present MCA Unit Secondary Recovery project.

A copy of this letter with attached data is being forwarded by certified mail to the State Engineer's Office, Box 1079, Santa Fe, New Mexico, and to the offset operators.

Your consideration and approval of the proposed

New Mexico Oil Conservation Commission
Page 3

conversion of MCA Unit Well No. 200 to water injection is
respectfully requested.

Yours very truly,

A handwritten signature in cursive script, appearing to read "D. Thompson".

PT-NKL
Enc.

By Certified Mail:

cc: State Engineer
Box 1079
Santa Fe, New Mexico

Offset Operators:
Carper Drilling Company
Artesia, New Mexico

By Regular Mail

cc: NMOCC - Hobbs USGS - Roswell JWK GW RGP

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

Halliburton

PATENTED PROCESS

Oil Well Cementing Co.

WELL LOG

Company BARRY COCKLEMAN
 Well MILLER E-12 - MCA UNIT No. 200
 Field Maljamar
 County Lea State New Mexico
 Location _____

Company BARRY COCKLEMAN
 Well MILLER E-12
 Field Maljamar
 County Lea State New Mexico

All Depths Referred To Top Rotary Table Elevation _____ Ft.
 Log Begins At 3943' Ends At 4290' Ft.

HOLE DIMENSIONS

Casing Size 5 1/2" To 3943' Hole Size 4 3/4" To 4300'
 _____ To _____ To _____ To _____

MUD CHARACTERISTICS

Mud Impedance _____ Ohms Weight _____ Lbs. per Gal.
 Viscosity _____ Seconds Type Water

REMARKS

Temperature in degrees F.
Possible oil and/or gas 4170-4195; 4214-T.D.

Run No. 2 File No. _____
 Date April 16, 1943 Operator T.S. Morris

B

Potential-Millivolts		Impedance-Ohms	
-170	-60	Z	1.1 2.2
			3.3 4.4
DETAIL		LOG	
		Casing 3943'	



CONTINENTAL OIL COMPANY

P. O. BOX 460

HOBBS, NEW MEXICO

July 6, 1965

PRODUCTION DEPARTMENT
HOBBS DISTRICT

L. P. THOMPSON
DISTRICT MANAGER
G. C. JAMIESON
ASSISTANT DISTRICT MANAGER

MAIN OFFICE 000

65 JUL 23 AM 7 23

1965 JUL 12 AM 9:13

STATE ENGINEER OFFICE
SANTA FE, N.M.

Irby

1001 NORTH TURNER
TELEPHONE: EX 3-4141

State Engineer Office
State Capitol
Santa Fe, New Mexico

Attention: Mr. Frank E. Irby, Chief, Water Rights Division

Gentlemen:

Please refer to your letter of June 21, 1965, requesting certain data in regard to converting MCA Unit Well No. 200 to water injection.

A four spot injection pattern consists of a producing well and three water injection wells which serve it. If the injection wells are connected on a map by straight lines, a triangle will be formed with the producing well in the center of the triangle. In the subject case, MCA Unit Nos. 195 and 197, already on water injection, and the proposed conversion of MCA Unit No. 200 will serve as the water injection wells for the element of reservoir bounded by these three wells. MCA Unit No. 196, a producing well, will serve the proposed pattern. This configuration of wells does not conform to a uniform pattern because the distance from the producing well to each injection well is not uniform. It is, however, considered to be a prudent proposition because it will utilize MCA Unit No. 200 which is currently out of service; is estimated to recover additional oil which is otherwise unrecoverable; and is not considered to impair correlative rights.

The perforations at 1048 feet and 1080 feet in the 4 1/2 inch casing of MCA Unit No. 200 were used to circulate water to the surface. It is believed that these perforations are adequately sealed. However, they will be subjected to a 100 psi pressure gradient while squeezing the perforations. The 1048 foot perforation will be pressure tested after-

CONTINENTAL OIL COMPANY
PRODUCTION RESEARCH DIVISION

Report No. 809-64-107

Page 5

WATER ANALYSIS REPORT

1966 JUL 12 AM 9:13
STATE ENGINEER OFFICE
SANTA FE, N.M.

Company Continental Oil Company

Well MCA Central Pump Station

Field Maljamar

State New Mexico County Lea

Sample Source _____

Date 10-15-64 No. W-6080

Formation _____

Depth _____

Date Collected 9-64

Requested By _____

Specific Gravity at 60° F. 1.000

Resistivity at 73 °F. 23.7 Ohm-Meters

pH 7.7

PPM

Total Dissolved Salts 339

Hydrogen Sulfide 0

Chlorides 42

Sulfates 24

Carbonates 0

Bicarbonates 181

Free Hydroxyl _____

Langelier Index _____ Indicates _____

Sodium 32

Potassium _____

Magnesium 8

Calcium 52

Iron (Total) 0 (Dissolved) 0

Suspended Solids8

WATER ANALYSIS PATTERN
SCALE MEQ/UNIT

Na

Ca

Mg

Fe

Cl

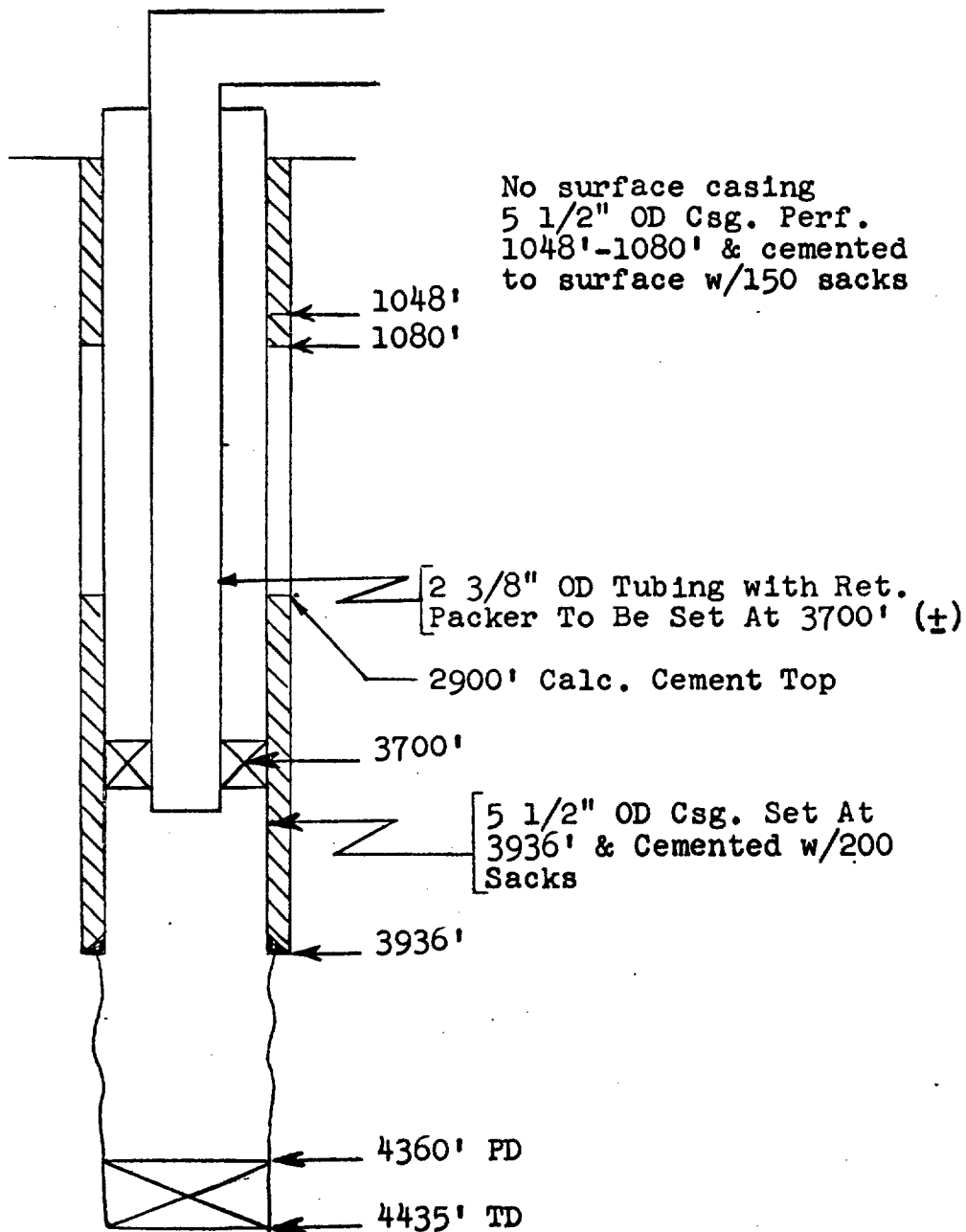
HCO₃

SO₄

CO₃

Remarks:

MCA UNIT
 WATER INJECTION WELL DATA
 WELL - MCA UNIT NO. 200
 ELEV. - D.F. - 4000'



65 JUN 23

June 21, 1965

Mr. L. P. Thompson
District Manager
Continental Oil Co.
Box 460
Hobbs, N. M.

Dear Mr. Thompson:

Reference is made to your application which seeks administrative approval to convert your MCA Unit Well No. 200 to water injection in the Maljamar pool. The application states that the authorization of this well for an injector will create a four spot injection pattern in this area. I am not familiar with the four spot pattern and request that you explain this to me. The diagrammatic sketch of your MCA Unit Well No. 200 shows perforations in the 5½ inch casing between depth 1048 feet and 1080 feet. Please advise me as to what method of sealing these perforations will be used.

The application states that water supply will be obtained from the MCA Unit Water leases. Please state specifically the source of the water to be used and the analysis of the water in its natural state and the treatment of the water, if treatment is necessary. I have discussed your application briefly with Mr. Ramey, District Supervisor at Hobbs for the Oil Conservation Commission and he requested that I ask you to send the same information, which I am requesting, to the Oil Conservation Commission.

FEI/ma
cc-Mr. Joe Ramey
Oil Conservation Commission

Yours truly,

S. E. Reynolds
State Engineer

By:
Frank E. Irby
Chief, Water Rights Div.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

July 22, 1965

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

MAILED 000
'65 JUL 23 AM 7 23

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Continental Oil Company which seeks administrative approval to convert their MCA well No. 200 to water injection in the Maljamar pool.

By letter of June 21, 1965, I requested additional information concerning this matter and forwarded copies of that letter to your office and to Mr. Joe Ramey.

Under date of June 6, 1965, Mr. Jamieson replied to my above mentioned letter. Although, he sent a copy to Mr. Ramey at Hobbs, he does not indicate that a copy was sent to your office. I am forwarding a copy of Mr. Jamieson's letter for your information.

This office offers no objection to the granting of the application provided the well is completed in the manner shown on the diagrammatic sketch and the 5½ inch casing is successfully tested at 300 PSI in excess of the maximum injection pressure.

Yours truly,

FEI/ma
encl.
cc-Continental Oil Co.
F. H. Hennighausen

S. E. Reynolds
State Engineer

By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Div.