

APPLICATION FOR AUTHORIZATION TO INJECT

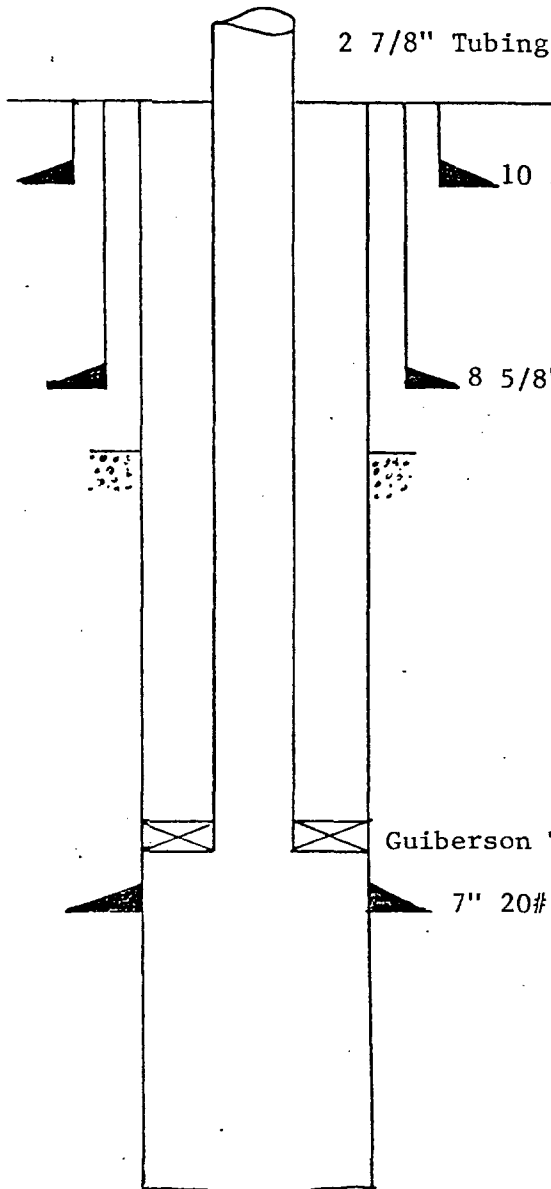
- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Conoco Inc.
Address: P. O. Box 460, Hobbs, N.M. 88240
Contact party: Hugh Ingram Phone: 393-4141
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project 485
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. *No Plugged wells within Area of Review.*
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: L. P. Thompson Title: Division Manager
Signature: [Signature] Date: 8-28-81
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

INJECTION WELL DATA SHEET

Conoco Inc. MCA Unit
OPERATOR LEASE
161 2615' FSL & 2615' FEL 30 17-S 32-E
WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE
Lea County, New Mexico

Schematic

(Proposed)

Tabular DataSurface CasingSize 10 3/4 @ 29' " Cemented with 10 sx.TOC sfc. feet determined by circ.Hole size N/AIntermediate CasingSize 8 5/8 @ 764' " Cemented with 25 sx.TOC N/A feet determined by Hole size N/ALong stringSize 7" @ 3637' " Cemented with 300 sx.TOC N/A feet determined by Hole size N/ATotal depth 4034'

Injection interval Open Hole

3637 feet to 4034 feet
(perforated or open-hole, indicate which)

Guiberson Tension Pkr. @ 3579'

7" 20# Csg. set @ 3637'

Tubing size 2 7/8" lined with plastic set in a
 (material)
Guiberson Tension packer at 3579 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg - San Andres
- Name of field or Pool (if applicable) Maljamar G-SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Producing oil well.
Shut-in 1974 due to excessive water production.
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. None



L. P. Thompson
Division Manager
Production Department
Hobbs Division
North American Production

Conoco Inc.
P.O. Box 460
726 E. Michigan
Hobbs, NM 88240
(505) 393-4141

August 28, 1981

New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Attention Mr. Dan Nutter

Gentlemen:

Convert MCA Unit Well No. 161 to Water Injection Well

Conoco Inc. respectfully requests authority to convert the MCA Unit Well No. 161 from a temporarily shut-in oil well to an active water injection well. The subject well is located 2615' FSL and 2615' FEL of Section 30, T-17S, R-32E, Lea County, New Mexico. By converting Well No. 161 to injection, it will become a replacement well for MCA Unit Well No. 166, which was shut-in following an unsuccessful attempt to repair a casing leak. Well No. 166 will be plugged and abandoned.

The proposed average daily injection rate into this closed system well is 500 barrels of produced water per day, with a maximum of 1000 barrels water per day. Proposed average injection pressure is 2000 psi surface pressure, with a maximum 2100 psi. Injection will be confined to the producing zone. There are no known sources of underground drinking water in the area of this application.

During recompletion procedures, we plan to acidize with 3000 gallons of MOD 202 acid and 1000# rock salt dissolved in 1000 gallons 10 ppg brine containing 30# guar gum. Spot 300 gallons acid 3900' - 3690', pump at rate of 3-5 BPM as follows: 700 gallons acid, 500 gallons diverting agent, 1000 gallons acid, 500 gallons diverting agent, 1000 gallons acid, overflush acid out of tubing with 5 barrels treated fresh water.

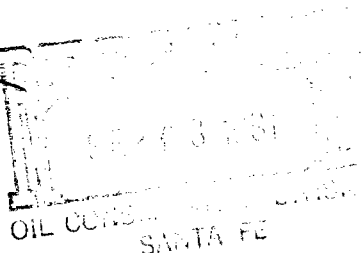
This application is consistent with operations being conducted in the MCA Unit and administrative approval is requested.

Very truly yours,

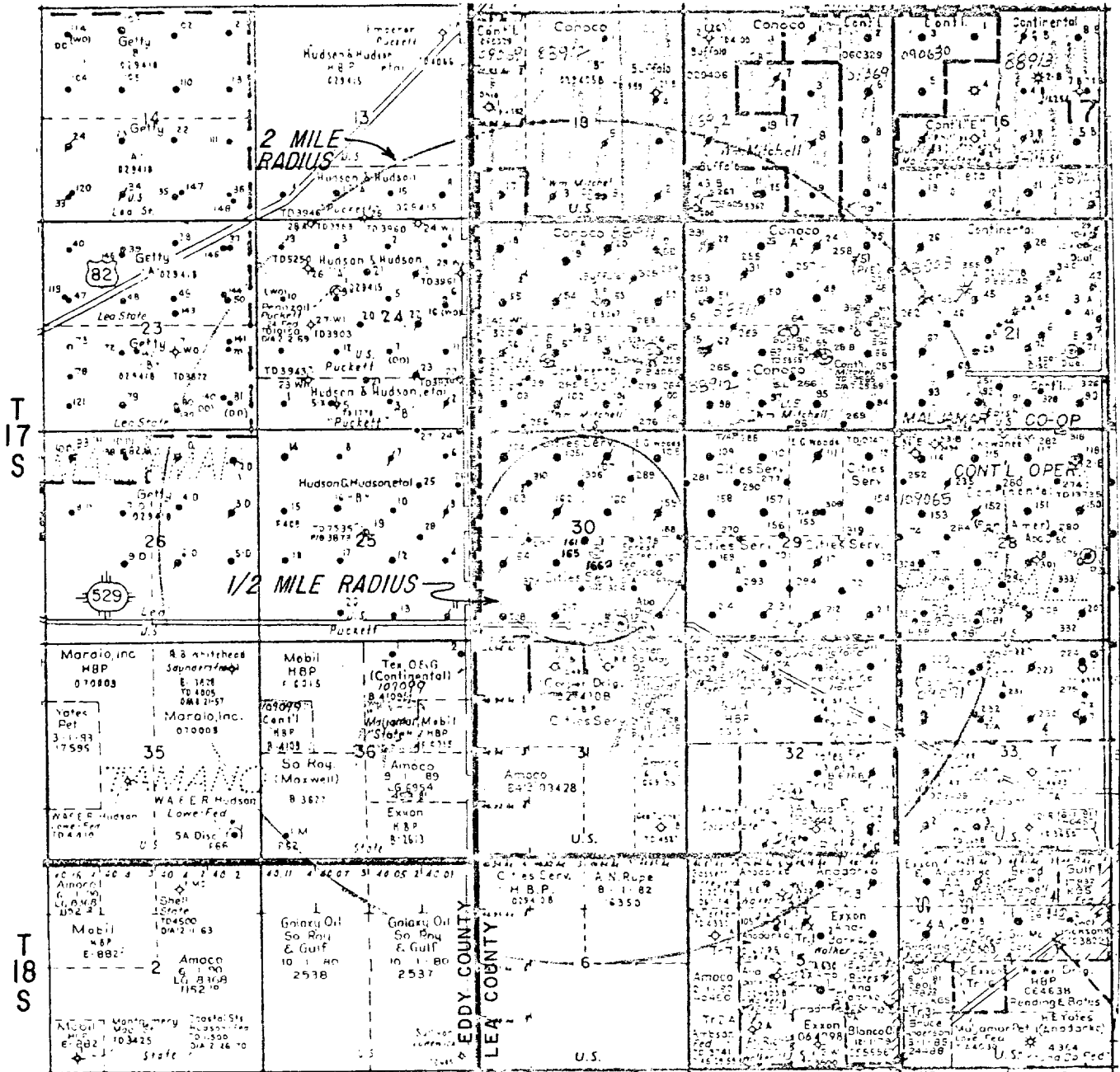
L. P. Thompson

HAI:rej

(See Engrain)
dict. 8/28/81



R-32-E



WELLS IN AREA OF REVIEW - MCA UNIT NO. 161

<u>Well Name & No.</u>	<u>Type</u>	<u>G-SA Prod/ Inj. Interval</u>	<u>Casing</u>		<u>Cement</u>		<u>Date Drilled</u>	<u>Location</u>	<u>TD/PBD</u>	<u>Record of Completion</u>
			<u>Size</u>	<u>Depth</u>	<u>Sacks</u>	<u>TOC</u>				
MCA Unit No. 104	Inj	3580' - 3940'	8 5/8"	807'	50	N/A	7-03-42	660' FNL & 660' FWL of Sec. 30, T-17S, R-32E	3980'	9-02-42
			7"	3445'	100					
MCA Unit No. 105	Oil	3456' - 3957'	8"	830'	50	N/A	11-03-74	660' FNL & 1980' FWL of Sec. 30, T-17S, R-32E	3957'	1-19-43
			7"	3456'	100					
MCA Unit No. 106	Oil	3557' - 3975'	10 3/4"	60'	60	N/A	4-27-49	50' FNL & 2635' FWL of Sec. 30, T-17S, R-32E	3975'/3889'	7-11-49
			7"	3564'	250					
MCA Unit No. 107	Inj	3414' - 3976'	8"	878'	50	N/A	9-27-40	660' FNL & 1980' FWL of Sec. 30, T-17S, R-32E	4010'	11-22-40
			7"	3414'	100					
MCA Unit No. 108	Oil	3440' - 3963'	8 5/8"	900'	50	N/A	5-15-40	660' FNL & 660' FWL of Sec. 30, T-17S, R-32E	3963'	7-24-40
			7"	3440'	150					
MCA Unit No. 289	Oil	3675' - 3993'	8 5/8"	700'	200	2200'	5-29-70	1165' FNL & 1345' FWL of Sec. 30, T-17S, R-32E	4025'/4013'	6-21-71
			5 1/2"	4025'	150					
MCA Unit No. 306	Oil	3683' - 3974'	8 5/8"	745'	200	2150'	3-27-72	1295' FNL & 2615' FWL of Sec. 30, T-17S, R-32E	4020'/4007'	4-21-72
			5 1/2"	4020'	150					

WELLS IN AREA OF REVIEW - MCA UNIT NO. 161

<u>Well Name & No.</u>	<u>Type</u>	<u>G-SA Prod/ Inj. Interval</u>	<u>Casing</u>		<u>Cement</u>		<u>Date Drilled</u>	<u>Location</u>	<u>TD/PBD</u>	<u>Record of Completion</u>
			<u>Size</u>	<u>Depth</u>	<u>Sacks</u>	<u>TOC</u>				
MCA Unit No. 310	Oil	3647' - 3940'	8 5/8"	700'	350'	2600'	5-24-72	1295' FNL & 1365' FWL of Sec. 30, T-17S, R-32E	4025' / 3970'	6-08-72
			5 1/2"	4025'	150'					
MCA Unit No. 163	Oil	3455' - 4027'	8"	870'	50'	N/A	3-24-45	1980' FNL & 660' FWL of Sec. 30, T-17S, R-32E	4027' / 3979'	7-05-45
			7"	3455'	100'					
MCA Unit No. 162	Inj	3407' - 3978'	8 5/8"	885'	50'	N/A	3-20-47	1980' FNL & 1980' FWL of Sec. 30, T-17S, R-32E	3978'	8-30-47
			7"	3407'	100'					
MCA Unit No. 160	Oil	3450' - 3994'	8"	925'	50'	N/A	12-08-40	1980' FNL & 1980' FEL of Sec. 30, T-17S, R-32E	4023' / 3994'	2-22-41
			5 1/2"	3450'	100'					
MCA Unit No. 159	Inj	3405' - 3995'	8 5/8"	912'	50'	800'	8-01-40	1980' FNL & 660' FEL of Sec. 30, T-17S, R-32E	3995'	10-11-40
			7"	3405'	150'					
MCA Unit No. 168	Oil	3676' - 3981'	8 5/8"	973'	50'	N/A	4-04-50	2615' FSL & 140' FEL of Sec. 30, T-17S, R-32E	3995' / 3884'	6-20-50
			7"	3676'	300'					
MCA Unit No. 278	Oil	3710' - 3985'	8 5/8"	750'	200'	2400'	11-28-71	2615' FNL & 1345' FEL of Sec. 30, T-17S, R-32E	4040' / 4034'	12-16-71
			5 1/2"	4040'	150'					

WELLS IN AREA OF REVIEW - MCA UNIT NO. 161

<u>Well Name & No.</u>	<u>Type</u>	<u>G-SA Prod/ Inj. Interval</u>	<u>Casing</u>		<u>Cement</u>		<u>Date Drilled</u>	<u>Location</u>	<u>TD/PBD</u>	<u>Record of Completion</u>
			<u>Size</u>	<u>Depth</u>	<u>Sacks</u>	<u>TOC</u>				
MCA Unit No. 297	Oil	3684' - 3808'	8 5/8"	750'	200	2300'	8-20-71	2615' FNL & 1375' FWL of Sec. 30, T-17S, R-32E	4030/4004	9-09-71
			5 1/2"	4030'	100					
MCA Unit No. 164	Inj	3511' - 3985'	8"	919'	50	N/A	4-15-45	1980' FSL & 660' FWL of Sec. 30, T-17S, R-32E	3985'	7-16-45
			7"	3511'	100					
MCA Unit No. 165	Oil	3579' - 3965'	8 5/8"	874'	50	N/A	2-26-47	1980' FSL & 1980' FWL of Sec. 30, T-17S, R-32E	3965'	4-26-74
			7"	3579'	100					
MCA Unit No. 166	Inj	3412' - 4066'	8"	865'	50	2100'	5-17-41	1980' FSL & 1980' FWL of Sec. 30, T-17S, R-32E	4066'	7-12-41
			7"	3412'	100					
MCA Unit No. 167	Oil	3465' - 4003'	8"	975'	50	N/A	12-09-40	1980' FSL & 660' FWL of Sec. 30, T-17S, R-32E	4003'	2-03-41
			7"	3465'	100					
MCA Unit No. 295	Oil	3865' - 4082'	8 5/8"	800'	300	2190'	11-17-71	1345' FSL & 25' FWL of Sec. 30, T-17S, R-32E	4160/4125	12-28-71
			5 1/2"	4160'	150					
MCA Unit No. 304	Oil	3811' - 3933'	8 5/8"	899'	325	N/A	1-01-72	1345' FSL & 1295' FWL of Sec. 30, T-17S, R-32E	4175/4136	1-13-72
			5 1/2"	4175'	150					

WELLS IN AREA OF REVIEW - MCA UNIT NO. 161

<u>Well Name & No.</u>	<u>Type</u>	<u>G-SA Prod/ Inj. Interval</u>	<u>Casing</u>		<u>Cement</u>		<u>Date Drilled</u>	<u>Location</u>
			<u>Size</u>	<u>Depth</u>	<u>Sacks</u>	<u>TOC</u>		
MCA Unit No. 305	Oil	3811' - 4023'	8 5/8"	787'	200	2050'	5-16-72	1345' FSL & 2615' FWL of Sec. 30, T-17S, R-32E
			5 1/2"	4100'	150			
MCA Unit No. 323	Oil	3797' - 4000'	8 5/8"	800'	200	2200'	9-20-72	1345' FSL & 1480' FWL of Sec. 30, T-17S, R-32E
			5 1/2"	4080'	150			
MCA Unit No. 218	Oil	N/A	8 5/8"	1018'	50	N/A	7-24-49	660' FSL & 660' FWL of Sec. 30, T-17S, R-32E
			7"	3524'	100			
MCA Unit No. 217	Inj	3581' - 4033'	8 5/8"	995'	50	2100'	11-16-49	660' FSL & 1980' FWL of Sec. 30, T-17S, R-32E
			7"	3581'	100			
MCA Unit No. 216	Oil	3607' - 4090'	8 5/8"	908'	50	N/A	11-01-49	660' FSL & 1980' FWL of Sec. 30, T-17S, R-32E
			7"	3607'	100			
MCA Unit No. 215	Inj	3707' - 4045'	8 5/8"	845'	50	1100'	5-14-47	660' FSL & 660' FWL of Sec. 30, T-17S, R-32E
			7"	3707'				

NOTE: Surface casing in all of the wells are set at shallow depth and cement circulated to surface



Gamma Ray Neutron

FILE NO.

COMPANY CONTINENTAL OIL COMPANY

WELL M.C.A. UNIT NO. 161

FIELD MALJAMAR

COUNTY LEA STATE NEW MEXICO

LOCATION:

2615'FSL & 2615'FEL

SEC 30 TWP 17-S RGE 32-E

Other Services

CALIPER

Permanent Datum GROUND LEVEL Elev.

Log Measured from D. E. 3 Ft. Above Permanent Datum

Drilling Measured from D. F.

Elevations:

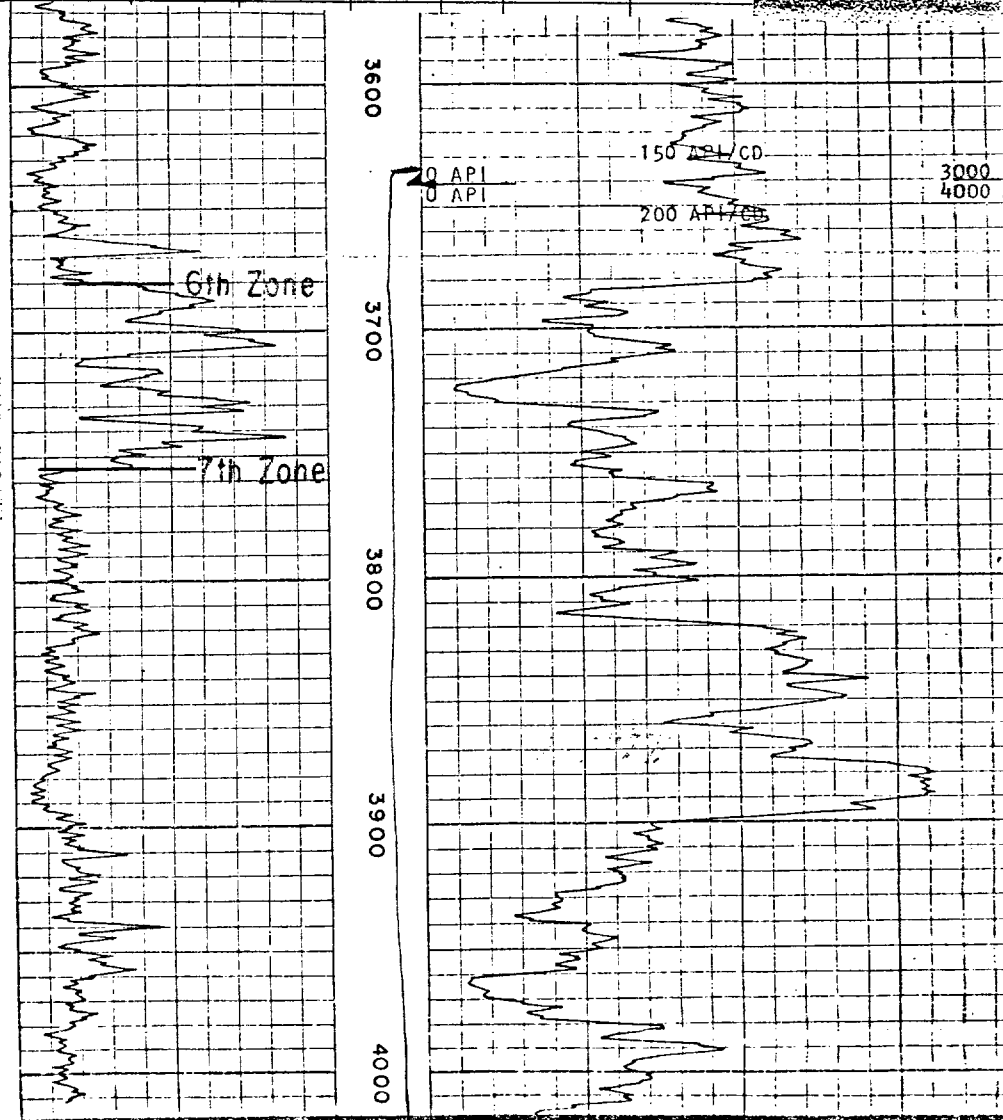
KB

DF

GL

Date	10-10-71	10-10-71
Run No.	ONE	ONE
Type Log	G/R-N/TN	CALIPER
Depth-Driller	4015	4015
Depth-Logger	4019	4020
Bottom Logged Interval	4018	4019
Top Logged Interval	3500	3550
Type Fluid in Hole	WATER	WATER
Salinity Ppm Cl.		
Density Lb./Gal.		
Level	3300	3300
Max. Rec. Temp. Deg. F		
Opr. Rig Time	3 1/2 HOURS	1 HOUR
Recorded By	TURNBULL	TURNBULL
Witnessed By	MR. MC GINNIS	MR. MC GINNIS

Run No.	Bore Hole Record			Casing Record			
	Bit	From	To	Size	Wgt.	From	To
1				7"		SURE	3641
1	6 1/8"	3641	4020				



MCA UNIT WELL No. 161

Sec. 30, T. 17. S. R. 32 E

Lea County, New Mexico

Adapters—Material

Size

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
3 1/2	50'	Nitro	100 Qts	5-18	3690-3740	Total Depth
2 1/2	45'	"	45 "	5-18	3740-3785	4034'
3 1/2	30'	"	60 "	5-18	3785-3815	
3 1/2	60'	"	120 "	5-17	3915-3975	

TOOLS USED

Rotary tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

Well was first put to producing _____, 19____ Put to producing _____, 19____

The production for the first 24 hours was _____ barrels of fluid of which _____ % was oil; _____ % emulsion; _____ % water; and _____ % sediment. Gravity, °Bé. _____

If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. _____

EMPLOYEES

_____, Driller _____, Driller

_____, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	85	85	Surface sand & red bed
85	720	635	Red beds & red rock
720	865	145	Anhydrite
865	890	25	Red rock
890	910	20	Anhydrite & red rock
910	935	25	Red rock & salt stringers
935	1880	945	Salt
1880	2385	505	Anhydrite
2385	2395	10	Gray sand
2395	2430	35	Sandy Anhydrite
2430	2972	542	Anhydrite
2972	3002	30	Anhydrite & red rock
3002	3024	22	Red sand
3024	3087	63	Anhydrite
3087	3133	46	Lime
3133	3197	64	Anhydrite
3197	3290	93	" & red rock
3290	3350	60	Lime
3350	3375	25	Anhydrite
3375	3719	344	Lime
3719	3735	16	Sand
3735	4034	299	Lime
		4034'	

FORMATION RECORD—Continued

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P.O.
Hobbs, New Mexico 8824

LEGAL NOTICE

August 31, 1981

CONVERT WELL TO WATER INJECTION

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Conoco Inc., 726 E.
Michigan, P.O. Box 460,
Hobbs, New Mexico, Mr. L.
P. Thompson, Division
Manager of Production,
intends for the purpose of
secondary recovery, to
convert from shut-in oil well
to water injection well its
MCA Unit Well No. 161,
located 2615' FSL and 2615'
FEL of Section 30, T-17S, R-
32E, Lea County, New
Mexico, being a total depth
of 4034' in the Grayburg-San
Andres Formation. Operator
plans to inject produced
water at a rate of ap-
proximately 500 barrels per
day with surface pressure of
about 2000 psi. Any ob-
jections to this intent or
requests for hearing must be
filed with the New Mexico
Oil Conservation Division,
P.O. Box 2088, Santa Fe,
New Mexico 87501 within 15
days from date of this
publication.

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L. P. Thompson
Division Manager
Production Department
Hobbs Division
North American Production

Conoco Inc.
P.O. Box 460
726 E. Michigan
Hobbs, NM 88240
(505) 393-4141

August 26, 1981

MAILED VIA CERTIFIED MAIL

9-1-81

JD

Cities Service Oil Company
P.O. Box 1919
Midland, Texas 79701

Gentlemen:

Convert to Water Injection, MCA Unit Well No. 161, Section 30, T-17S,
R-32E, Lea County, New Mexico

Conoco Inc. plans to convert the subject well from a shut-in oil well to a water injection well to replace Well No. 166 which is shut-in following an unsuccessful attempt to repair a casing leak.

Attached for your information and file is a copy of our Application to the New Mexico Oil Conservation Division.

Very truly yours,

HAI:rej
Enc



L. P. Thompson
Division Manager
Production Department
Hobbs Division
North American Production

Conoco Inc.
P.O. Box 460
726 E. Michigan
Hobbs, NM 88240
(505) 393-4141

August 26, 1981

MAILED VIA CERTIFIED MAIL
9-1-81
JD

United States Geological Survey
P.O. Box 26124
Albuquerque, New Mexico 87125

Attention Gene Daniels

Gentlemen:

Convert to Water Injection, MCA Unit Well No. 161, Section 30, T-17S,
R-32E, Lea County, New Mexico

Conoco Inc. plans to convert the subject well from a shut-in oil well to a water injection well to replace Well No. 166 which is shut-in following an unsuccessful attempt to repair a casing leak.

Attached for your information and file is a copy of our Application to the New Mexico Oil Conservation Division.

Very truly yours,

HAI:rej
Enc



BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

Copy to: DLW, MLW, RLD, LB

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

August 12, 1980

Conoco Production Dept.
P. O. Box 460
Hobbs, New Mexico 88240

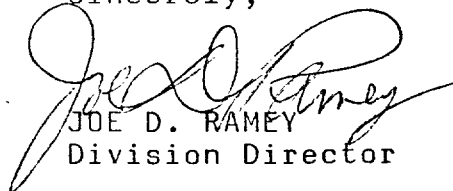
Attention: Hugh Ingram

Gentlemen:

Pertinent to your request for increased injection pressures in the MCA unit, wells numbers 309, 298, 255, 61, 263, 291, and 106, your request to inject at surface pressures not to exceed 2100 psi is granted under the following conditions:

- (1) Before initiation of higher injection pressures, a Bradenhead test of these wells and all offset wells in Sections 19, 20, and 30 of Township 17 South, Range 32 East shall be performed and
- (2) Every 60 days thereafter commencing increased pressures, Bradenhead tests of all subject and offset wells will be conducted with results submitted to the Hobbs district office of the OCD.

Sincerely,


JOE D. RAMEY
Division Director

JDR/MH/og

MCA #256

FRACTURE GRADIENT TEST
PRESSURE AND RATE VS. TIME
PERFORATIONS: 3539'-45'
TEST RUN: JUNE 20, 1979

SCALE

Time: Each Major Div. - 15 min.
Pressure: Each Major Div. -
250 psig
Rate: Each Major Div. - 50 BPD

