case 223

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

APPLICATION FOR APPROVAL OF SECONDARY RECOVERY PROGRAM

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Comes now Cooperative Producing Association, a New Mexico corporation, and hereby makes application for approval of a Secondary Recovery Program and in support thereof states:

1. That the Applicant is the owner of that certain Oil and Gas Lease from the State of New Mexico bearing No. B-9676, embracing all of Section 31, Twp. 12 S., Rge. 32 E., together with thirteen oil wells thereon, and said section is situated in the Caprock Field. Applicant is the owner of eight oil and gas wells known as its State "A", four of which wells are situated in the SW¼ of said Section 31, and four of which wells are situated in NE¼ of said Section 31; and that the Applicant is the owner of five wells known as its State "B", one of which is situated in the NE¼NW¼ of said Section 31, and the other four wells being situated in the SE¼ of said Section 31. That said oil wells produce from the Artesia Red Sand at a depth of 3,000 to 3,200 feet.

2. That there has been a constant decline in production from said wells, and that Applicant has had competent petroleum engineers make a survey of said field. That the present indicated decline for the five wells described above in State "A" is 3.25 per cent per month and that said decline is 4.15 per cent for the wells described above in State "G". That by reason of said decline in production, some Secondary Recovery Program is absolutely essential for the future life of said field, and that said operations must be commenced at the earliest possible date before all reservoir energy is depleted. That said engineers estimate that a Secondary Recovery Program could result in the recovery of an additional 20 to 30 percent of the oil in place.

3. That said petroleum engineers state that water or gas injection in said field is not feasible since the same are not available in sufficient quantities and said engineers have recommended an air injection program as the most feasible secondary recovery method, and the Applicant desires to undertake the same and states that the material facts and details of said program are as follows:

a. That the intake well shall be Applicant's No. 2, State "A" situated in the NE corner of the NE¼ of the SW¼ of said Section 31, and that there is attached hereto and marked Exhibit "A", a plat of said Section 31 reflecting the location of said intake well and the proposed compressor station together with a showing as to the names of all offset operators within one-half mile of said intake well.

b. That wells from said Section 31 in said Caprock Field are producing from the Artesia Red Sand. That the name, description and depth of the formations to be affected by said injection are as follows: The Artesia Red Sand is approximately 3,000 feet to 3,050 feet in depth in the Caprock Field. The thickness averages 25 feet consistently over the field. The top 12 feet is a loose, poorly cemented sand. The next 6 feet is hard, highly cemented and has a low permeability. This portion contains very little saturation of oil and gas. The next 6 feet to 7 feet or the bottom section has some cementation, some porosity and saturation. The permeability is high enough to obtain some production of oil and gas from this

section. The air will be injected into the total 25 feet of this sand body or the Artesia Red Sand.

c. That there is attached hereto and marked Exhibit "B" a log of such information as is available on the proposed intake well, and that said proposed intake well is cased with 236 feet of 8-5/8" casing as surface pipe and with 2,986 feet of 5-1/2", 15 pound seamless casing as the production string. This casing will be tested to 500 pounds prior to the air injection.

d. That air is to be the material used for injection and the estimated daily rate is a maximum of 200,000 cubic feet with a maximum of 5,000 barrels of water being slugged intermediately from two weeks after thirty days.

e. That the name and address of the Applicant and proposed operator of said Secondary Recovery Program is Cooperative Producing Association, Attention J. O. Denton, Jr., P. O. Box 978, Levelland, Texas. That the personnel in charge of plant operations in the field is Mr. Paul Holloway, Superintendent, P. O. Box 86, Tatum, New Mexico.

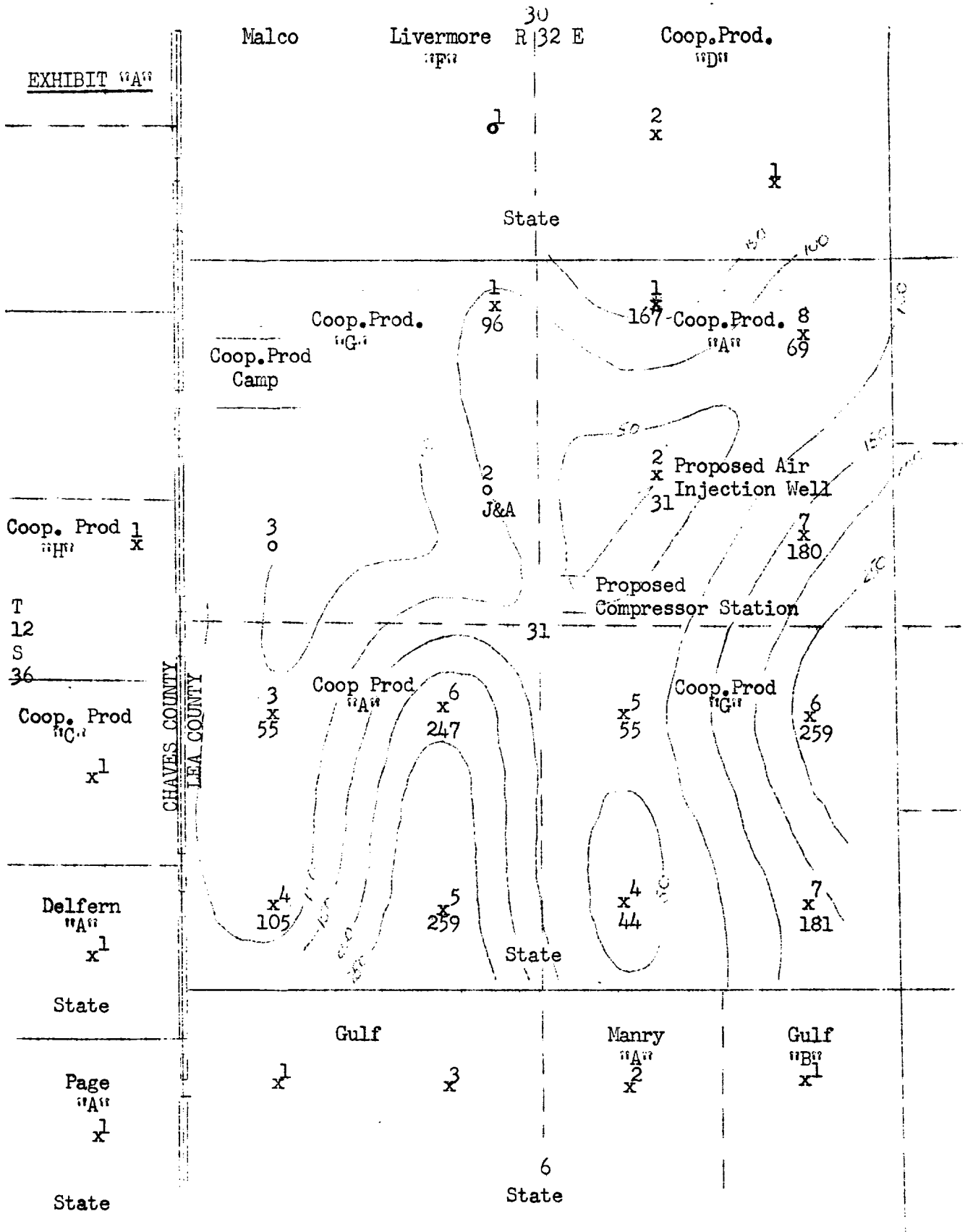
4. That siad Secondary Recovery Program will promote conservation and will prevent waste and is consistent with good oil field practice.

WHEREFORE, Applicant requests that it be granted permission to conduct the above program.

Respectfully submitted,

By: W. E. Bondurant, Jr.,
A member of Hervey, Dow & Hinkle,
Attorneys for Applicant
Roswell, New Mexico

LEA COUNTY OPERATORS COMMITTEE
HOBBS, NEW MEXICO
May 18, 1950



March 16, 1950
BOTTOM HOLE PRESSURE MAP
Special Survey
Contour Interval 50psig
-1400 foot Datum

COOP. PROD. ASSOC.
EXPERIMENTAL
AIR INJECTION AREA
CAPROCK FIELD
LEA COUNTY, NEW MEXICO
Scale: 1" = 1000'

Prepared By: Fitting, Fitting and Jones

EXHIBIT B

(The log of the proposed in-put well, being State "A"-2 in Section 31, Twp. 12 S., Rge. 32 E., N. M. P. M.)

From	To	Thickness In Feet	Formation
		Ground Elevation 4387	
0	164	164	Caliche, Shale
164	253	89	Sand, Shale
253	1395	1142	Red Bed & Shells, Top Anhydrite-1390'
1395	1418	23	Anhydrite & Shale
1418	1520	102	Anhydrite - Top of Salt 1520'
1520	2030	510	Anhydrite & Salt
2030	2205	175	Anhydrite & Red Rock - Base of Salt 2140'
2205	2850	645	Anhydrite Salt & Shale - Yates 2250'
2850	2970	120	Anhydrite
2970	3000	30	Anhydrite & Shale
		Cable Tool Elevation 4390'	
2993	2997	4	Anhydrite
2997	3024	27	Anhydrite & Red Bed
3024	3026	2	Sand-Show of oil-Top of Red Sand 3024 (Corrects to 3031' Rotary)
3026	3028	2	Sand-Free Oil
3028	3030	2	Sand & Shale
3030	3034	4	Sand
	3034		Total Depth -(Corrects to 3041 Rotary) Tested for 8 Hrs. Making 6 Gallons per Hr. Shot with 30 Qts. 3023-3034 May 31. Tested 10 Barrels Per Hr. on Swab Test.

LEA COUNTY OPERATORS COMMITTEE
HOBBS, NEW MEXICO
MAY 18, 1950

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

APPLICATION FOR APPROVAL OF SECONDARY RECOVERY PROGRAM

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Comes now Cooperative Producing Association, a New Mexico corporation, and hereby makes application for approval of a Secondary Recovery Program and in support thereof states:

1. That the Applicant is the owner of that certain Oil and Gas Lease from the State of New Mexico bearing No. B-9676, embracing all of Section 31, Twp. 12 S., Rge. 32 E., together with thirteen oil wells thereon, and said section is situated in the Caprock Field. Applicant is the owner of eight oil and gas wells known as its State "A", four of which wells are situated in the SW¼ of said Section 31, and four of which wells are situated in NE¼ of said Section 31; and that the Applicant is the owner of five wells known as its State "B", one of which is situated in the NE¼NW¼ of said Section 31, and the other four wells being situated in the SE¼ of said Section 31. That said oil wells produce from the Artesia Red Sand at a depth of 3,000 to 3,200 feet.

2. That there has been a constant decline in production from said wells, and that Applicant has had competent petroleum engineers make a survey of said field. That the present indicated decline for the five wells described above in State "A" is 3.25 per cent per month and that said decline is 4.15 per cent for the wells described above in State "G". That by reason of said decline in production,

some Secondary Recovery Program is absolutely essential for the future life of said field, and that said operations must be commenced at the earliest possible date before all reservoir energy is depleted. That said engineers estimate that a Secondary Recovery Program could result in the recovery of an additional 20 to 30 per cent of the oil in place.

3. That said petroleum engineers state that water or gas injection in said field is not feasible since the same are not available in sufficient quantities and said engineers have recommended an air injection program as the most feasible secondary recovery method, and the Applicant desires to undertake the same and states that the material facts and details of said program are as follows:

a. That the intake well shall be Applicant's No. 2, State "A" situated in the NE corner of the NE¼ of the SW¼ of said Section 31, and that there is attached hereto and marked Exhibit "A", a plat of said Section 31 reflecting the location of said intake well and the proposed compressor station together with a showing as to the names of all offset operators within one-half mile of said intake well.

b. That wells from said Section 31 in said Caprock Field are producing from the Artesia Red Sand. That the name, description and depth of the formations to be affected by said injection are as follows: The Artesia Red Sand is approximately 3,000 feet to 3,050 feet in depth in the Caprock Field. The thickness averages 25 feet consistently over the field. The top 12 feet is a loose, poorly cemented sand. The next 6 feet is hard, highly cemented and has a low permeability. This portion contains very little saturation of oil and gas. The

next 6 feet to 7 feet or the bottom section has some cementation, some porosity and saturation. The permeability is high enough to obtain some production of oil and gas from this section. The air will be injected into the total 25 feet of this sand body or the Artesia Red Sand.

c. That there is attached hereto and marked Exhibit "B" a log of such information as is available on the proposed intake well, and that said proposed intake well is cased with 236 feet of 8-5/8" casing as surface pipe and with 2,986 feet of 5-1/2", 15 pound seamless casing as the production string. This casing will be tested to 500 pounds prior to the air injection.

d. That air is to be the material used for injection and the estimated daily rate is a maximum of 200,000 cubic feet with a maximum of 5,000 barrels of water being slugged intermediately from two weeks after thirty days.

e. That the name and address of the Applicant and proposed operator of said Secondary Recovery Program is Cooperative Producing Association, Attention J. O. Denton, Jr., P. O. Box 978, Levelland, Texas. That the personnel in charge of plant operations in the field is Mr. Paul Holloway, Superintendent, P. O. Box 86, Tatum, New Mexico.

4. That said Secondary Recovery Program will promote conservation and will prevent waste and is consistant with good oil field practice.

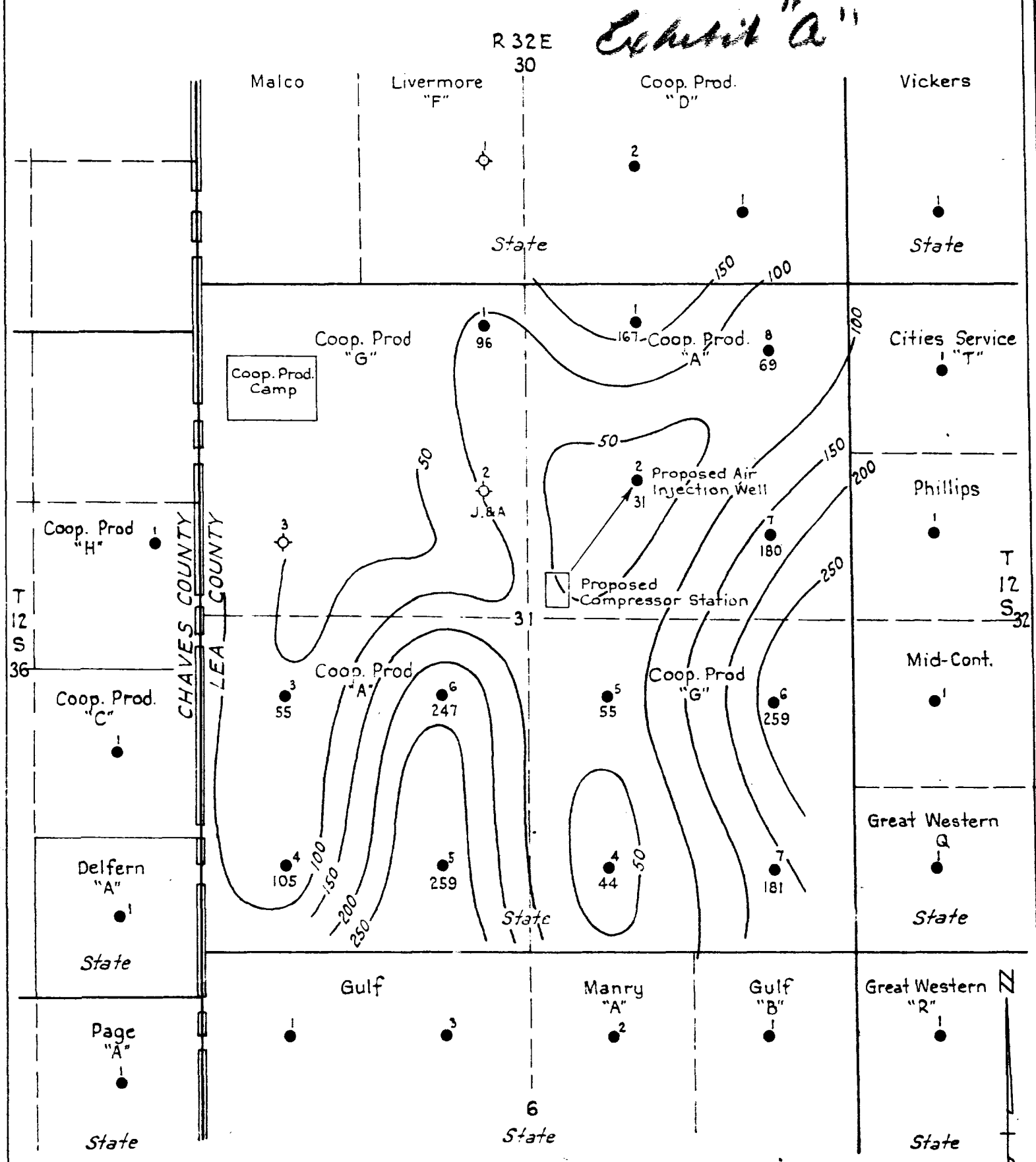
WHEREFORE, Applicant requests that it be granted permission to conduct the above program.

Respectfully submitted,

By W. E. Bondurant, Jr.

W. E. Bondurant, Jr.,
A member of Hervey, Dow & Hinkle,
Attorneys for Applicant,
Roswell, New Mexico

Exhibit "A"



MARCH 16, 1950
BOTTOM HOLE PRESSURE MAP
SPECIAL SURVEY
CONTOUR INTERVAL 50psig
+1400 foot Datum

COOP. PROD. ASSOC.
EXPERIMENTAL
AIR INJECTION AREA
CAPROCK FIELD
LEA COUNTY, NEW MEXICO
SCALE: 1"=1000'

PREPARED BY: FITTING, FITTING & JONES

EXHIBIT B

(The log of the proposed in-put well, being State "A"-2 in Section 31, Twp. 12 S., Rge. 32 E., N.M.P.M.)

From	To	Thickness In Feet	Formation
		Ground Elevation 4387	
0	164	164	Caliche, Shale
164	253	89	Sand, Shale
253	1395	1142	Red Bed & Shells, Top Anhydrite -1390'
1395	1418	23	Anhydrite & Shale
1418	1520	102	Anhydrite - Top of Salt 1520'
1520	2030	510	Anhydrite & Salt
2030	2205	175	Anhydrite & Red Rock - Base of Salt 2140'
2205	2850	645	Anhydrite Salt & Shale - Yates 2250'
2850	2970	120	Anhydrite
2970	3000	30	Anhydrite & Shale
		Cable Tool Elevation 4390'	
2993	2997	4	Anhydrite
2997	3024	27	Anhydrite & Red Bed
3024	3026	2	Sand-Show of oil- Top of Red Sand 3024 (Corrects to 3031' Rotary)
3026	3028	2	Sand-Free Oil
3028	3030	2	Sand & Shale
3030	3034	4	Sand
	3034		Total Depth - Corrects to 3041 Rotary) Tested for 8 Hrs. Making 6 Gallons per Hr. Shot with 30 Qts. 3023-3034 May 31. Tested 10 Barrels Per Hr. on Swab Test.