CASE 5811: Coquina Oil Corporation for an offset allowable reduction, Eddy County, New Mexico

CASE NO.

5811

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

January 26, 1977

Mr. Tom Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 5811
ORDER NO. R-5360

Applicant:

Coquina Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Clarence Hinkle

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 5811
Order No. R-5360

APPLICATION OF COQUINA OIL
CORPORATION FOR AN OFFSET
ALLOWABLE REDUCTION, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 23, 1976, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 25th day of January, 1977, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant herein, Coquina Oil Corporation, is the owner and operator of the Yates Federal Well No. 1, located 1980 feet from the South line and 1980 feet from the West line of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat Field, Eddy County, New Mexico.

(3) That said well is daally completed and produces gas and condensate from the Strawn formation and from the Morrow formation, the S/2 of said Section 10 being dedicated to said well for each of said formations.

(4) That Monsanto Company is the owner and operator of the Cerf Federal Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat Field, Eddy County, New Mexico.

(5) That said well is dually completed and produces gas and condensate from the Strawn formation and from the Morrow formation, the N/2 of said Section 10 being dedicated to said well for both of said formations.

(6) That the applicant herein, Coquina Oil Corporation, seeks the reduction of the gas allowable assigned to the aforesaid Monsanto Cerf Federal Well No. 2, alleging that a portion of the acreage dedicated to said well is non-productive of gas from the Burton Flat-Strawn Gas Pool and the Burton Flat-Morrow Gas Pool.

(7) That the applicant bases its claim that a portion of the N/2 of the aforesaid Section 10 which is dedicated to the Cerf Federal Well No. 2 is non-productive "....upon the fact that a Strawn-Morrow dry hole was drilled in the acreage assigned to this well."

(8) That there was drilled in the N/2 of said Section 10 the Cerf Federal Well No. 1, a dual completion in the Strawn and Morrow formations, located 660 feet from the North line and 1980 feet from the West line of said Section 10, to which well the N/2 of said Section 10 was originally dedicated.

(9) That said well was completed in August, 1973, with a calculated absolute open flow potential of 1,600,000 cubic feet of gas per day from the Strawn formation and 1,400,000 cubic feet of gas per day from the Morrow formation.

(10) That said Cerf Federal Well No. 1 was taken off production in December, 1974, and put on a temporarily abandoned status after having produced a cumulative total of 74,676,000 cubic feet of gas and 3,424 barrels of condensate from the Strawn formation and 57,903,000 cubic feet of gas and 3,828 barrels of condensate from the Morrow formation.

(11) That an analysis of the logs of the said Cerf Federal Well No. 1 as well as the pressure data available from both the Strawn and Morrow formations in said well indicate the presence of hydrocarbons around the wellbore.

(12) That said well proved difficult to complete when it was originally drilled, and the evidence indicates that the well may have sustained reservoir damage during drilling and completion operations, or that mechanical problems exist which render the well incapable of sustaining commercial production despite the presence of hydrocarbons in the vicinity of the wellbore.

(13) That the Cerf Federal Well No. 2, being the replacement well for the Cerf Federal Well No. 1 on the N/2 of said Section 10, was of necessity drilled to enable Monsanto Company to recover the hydrocarbons underlying said N/2 of Section 10, and was drilled at a standard location on said spacing and proration unit.

(14) That to impose a reduction of allowable on said Cerf Federal Well No. 2, and to require it to produce at a lesser rate than the rate at which offsetting wells are permitted to produce, would impair Monsanto Company's correlative rights by depriving it of the opportunity to produce its just and equitable share of the gas in the subject pools.

(15) That the protection of correlative rights is a necessary adjunct to the prevention of waste.

(16) That in order to protect correlative rights and to prevent waste, the application of Coquina Oil Corporation for a reduction in the allowable of the Monsanto Company Cerf Federal Well No. 2 should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Coquina Oil Corporation for a reduction in the allowable of the Monsanto Company Cerf Federal Well No. 2, located in Unit F of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat-Strawn and Burton Flat-Morrow Gas Pools, Eddy County, New Mexico, be and the same is hereby denied.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S

dr/

Case 5811

COQUINA OIL CORPORATION
P. O. DRAWER 2980
MIDLAND, TEXAS 79701
(915) 682-6271

October 29, 1976

Monsanto Company
1330 Midland National Bank Tower
500 West Texas
Midland, Texas 79701

Attention: Mr. E. M. Scholl

RE: Burton Flat Field
Dual Strawn-Morrow Completion
Monsanto Company
Cerf Federal Com. #2
Sec. 10, T-21-S, R-27-E
Eddy County, New Mexico

Gentlemen:

This is in regard to your letter dated October 25, 1976, requesting a waiver of objection for a dual completion on the above subject well.

Coquina Oil Corporation does not have any objection to a dual completion on this well but does object to this well being assigned a top allowable for either the Strawn or Morrow zones. This objection is based upon the fact that a Strawn-Morrow dry hole was drilled in the acreage assigned to this well. It is our opinion that both the Strawn and Morrow allowables should be reduced and by this letter request that the New Mexico Oil Conservation Commission set up a hearing date to determine this allowable.

Again, we have no objection to the dual well as long as the allowables are restricted.

Yours very truly,

COQUINA OIL CORPORATION

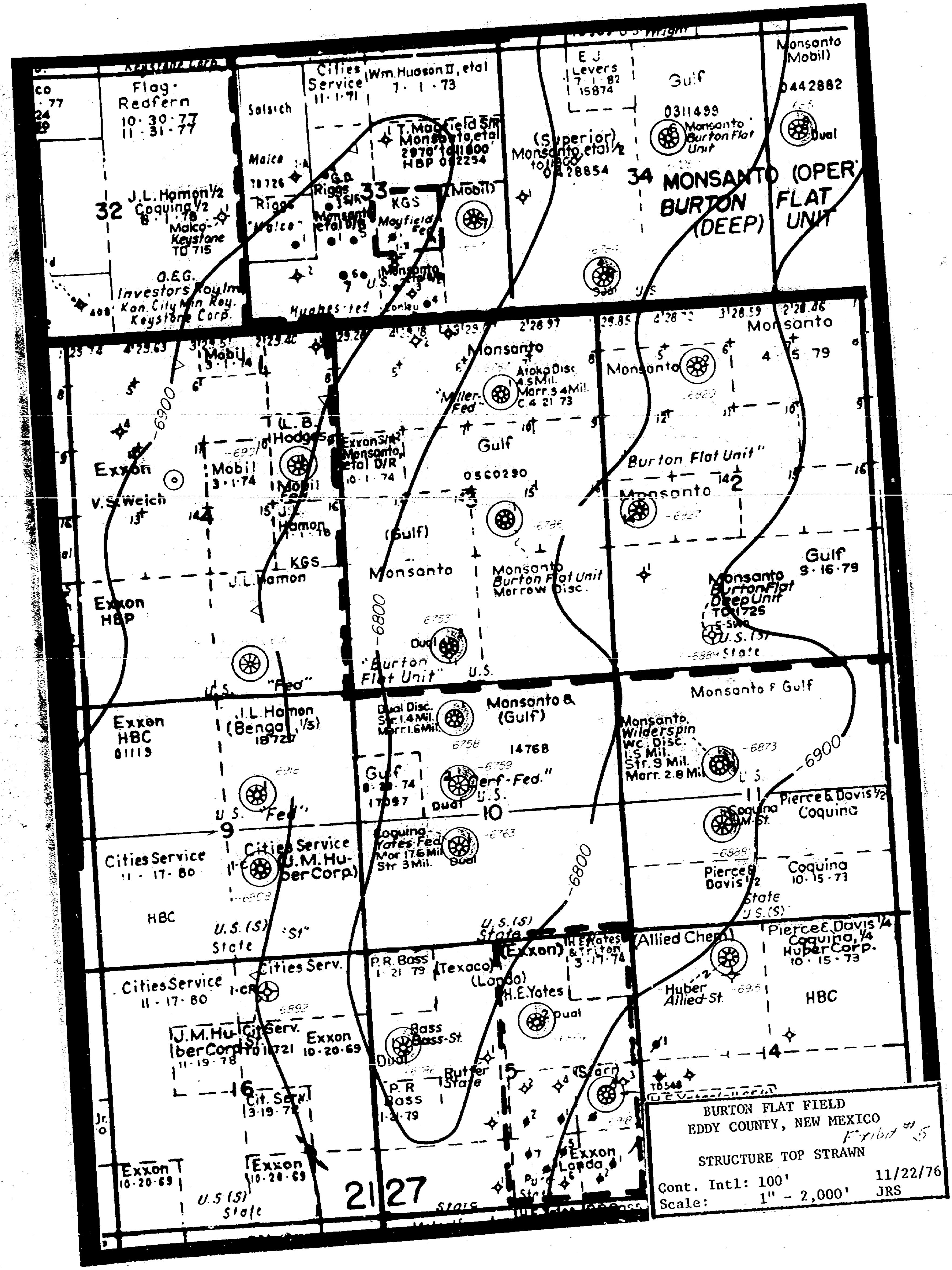
D. C. Radtke

D. C. Radtke

DCR/jdc

cc: Mr. Tom Kellihan, P. O. Box 1769, Santa Fe, NM 87501
NMOCC, P. O. Drawer 2088, Santa Fe, NM 87501
J. L. Hamon, P. O. Box 663, Dallas, Texas 75221
Cities Service Oil Co., P. O. Box 1919, Midland, TX. 79701

Discussed this w/ Tom Kellahin 11/1
He agrees w/ me that we can go ahead & approve the dual subject to a later hrg to determine the allowable. I told him that unless we hear otherwise we will set the allowable case for 11/23 dsm


BURTON FLAT FIELD
EDDY COUNTY, NEW MEXICO
Exhibit #5
STRUCTURE TOP STRAWN
Cont. Intl: 100'
11/22/76
Scale: 1" - 2,000'
JRS
MONSANTO (OPER)
BURTON FLAT UNIT
(DEEP)
"Burton Flat Unit"
32
33
34
9
10
6
5
4
21 27
-6900
-6800
Exxon
Gulf
Monsanto
Cities Service
Mobil
Pierce & Davis
Coquina
HBC
U.S.
State

WOLFCAMP
STRAWN
ATOKA
MORROW

Salsich
Cities Service 11-1-71
Wm. Hudson II, etal 7-1-73
E.J. Levers 7-1-82 15874
Gulf 0311499 Monsanto Burton Flat Unit
Monsanto (Mobil) 0442882 Dual
T. Mayfield Sm Monsanto, etal 2970' to 11800' HBP 062254
(Superior) Monsanto, etal to 11800 0428854
Maico 18726
G.D. Riggs T.S/R
Riggs "Maico"
Monsanto etal D/G
KGS Mayfield Fed
(Mobil)
Maico-Keystone TD 715
O.E.G. Investors Roy Inv. Kan. City Min. Roy. Keystone Corp.
Hughes-ted
Conley
U.S.
33
34
MONSANTO (OPER.) BURTON FLAT (DEEP) UNIT

Mobil 3-1-74
Monsanto
Atoka Disc 4.5 Mil. Morr. 5.4 Mil. C.4 21 73
"Miller-Fed"
Monsanto
4-15-79
T.L.B. Hodges
Exxon
V.S. Welch
Mobil 3-1-74
Mobil Fed.
J.L. Hamon 1-1-78
Exxon S/R2 Monsanto, etal D/R 10-1-74
Gulf 0550290
"Burton Flat Unit"
KGS
J.L. Hamon
Exxon HBP
"Fed"
Monsanto
Monsanto Burton Flat Unit Morrow Disc.
(Gulf)
Monsanto
Gulf 9-16-79
Monsanto Burton Flat Deep Unit TD 11725
S-SWD
U.S. (S) State
"Burton Flat Unit"
U.S.
U.S.
4
3
2

Exxon HBC 01119
J.L. Hamon (Bengal 1/s) 18727
U.S. "Fed"
Dual Disc. Str. 1.4 Mil. Morr. 1.6 Mil.
Monsanto & (Gulf) 14768
Gulf 8-29-74 17097
"Fed."
U.S.
Dual
Monsanto & Gulf
Monsanto, Wilderspin wc. Disc. 1.5 Mil. Str. 9 Mil. Morr. 2.8 Mil.
U.S.
9
10
11
Cities Service 11-17-80
Cities Service (J.M. Huber Corp.)
HBC
U.S. (S) State "St"
Coquina-Yates-Fed Mor. 17.6 Mil. Str. 3 Mil.
Dual
Coquina M-St.
Pierce & Davis 1/2 Coquina
Pierce & Davis 1/2
Coquina 10-15-73
State
U.S. (S)
U.S. (S) State

Cities Service 11-17-80
Cities Serv. 1-CR
J.M. Huber Corp. 11-19-78
Cit. Serv. TD 11721
Exxon 10-20-69
Cit. Serv. 3-19-78
Exxon 10-20-69
Exxon 10-30-69
U.S (S) State
16
21
27
P.R. Bass 1-21-79
(Texaco) (Londo)
(Exxon)
H.E. Yates & Triton 3-17-74
H.E. Yates
Dual
Bass Bass-St.
Dual
Butler State
P.R. Boss 1-21-79
(Stark)
Exxon Londa
Pure
State
15
(Allied Chem.)
Huber Allied-St.
Pierce & Davis 1/4 Coquina, 1/4 Huber Corp. 10-15-73
HBC
Jr. O

BURTON FLAT FIELD
EDDY COUNTY, NEW MEXICO

LOCATION PLAT #1

Nov. 22, 1976

CERF FEDERAL WELL NO. 1

STRAWN

MONTH/YEAR	CONDENSATE (BBL)	CUMULATIVE CONDENSATE (BBL)	GAS SALES (MCF)	CUMULATIVE GAS SALES (MCF)
12/73	894	894	15,373	15,373
1/74	875	1769	21,465	36,838
2/74	659	2428	14,660	51,498
3/74	397	2825	8,449	59,947
4/74	253	3078	5,594	65,541
5/74	167	3245	4,903	70,444
6/74	0	3245	411	70,855
7/74	0	3245	0	70,855
8/74	0	3245	0	70,855
9/74	0	3245	0	70,855
10/74	24	3269	1,326	72,181
11/74	128	3397	2,257	74,438
12/74	27	3424	238	74,676
1/75	0	3424	0	74,676
2/75	0	3424	0	74,676
3/75	0	3424	0	74,676
4/75	0	3424	0	74,676
5/75	0	3424	0	74,676
6/75	0	3424	0	74,676
7/75	0	3424	0	74,676
8/75	0	3424	0	74,676
9/75	0	3424	0	74,676
10/75	0	3424	0	74,676
11/75	0	3424	0	74,676
12/75	0	3424	0	74,676
1/76	0	3424	0	74,676
2/76	0	3424	0	74,676
3/76	0	3424	0	74,676
4/76	0	3424	0	74,676
5/76	0	3424	0	74,676
6/76	0	3424	0	74,676
7/76	0	3424	0	74,676
8/76	0	3424	0	74,676
9/76	0	3424	0	74,676
10/76	0	3424	0	74,676

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Monsanto EXHIBIT NO. 2
CASE NO. 5811

CERF FEDERAL WELL NO. 1

MORROW

MONTH/YEAR	CONDENSATE (BBL)	CUMULATIVE CONDENSATE (BBL)	GAS SALES MCF	CUMULATIVE GAS SALES (MCF)
12/73	6	6	12,638	12,638
1/74	5	11	9,685	22,323
2/74	0	11	4,806	27,129
3/74	0	11	7,143	34,272
4/74	0	11	3,522	37,794
5/74	0	11	5,448	43,242
6/74	0	11	523	43,765
7/74	0	11	0	43,765
8/74	0	11	0	43,765
9/74	0	11	0	43,765
10/74	22	33	3,948	47,713
11/74	26	59	6,362	54,075
12/74	0	59	3,828	57,903
1/75	0	59	0	57,903
2/75	0	59	0	57,903
3/75	0	59	0	57,903
4/75	0	59	0	57,903
5/75	0	59	0	57,903
6/75	0	59	0	57,903
7/75	0	59	0	57,903
8/75	0	59	0	57,903
9/75	0	59	0	57,903
10/75	0	59	0	57,903
11/75	0	59	0	57,903
12/75	0	59	0	57,903
1/76	0	59	0	57,903
2/76	0	59	0	57,903
3/76	0	59	0	57,903
4/76	0	59	0	57,903
5/76	0	59	0	57,903
6/76	0	59	0	57,903
7/76	0	59	0	57,903
8/76	0	59	0	57,903
9/76	0	59	0	57,903
10/76				

Docket No. 33-76

Dockets Nos. 34-76 and 1-77 are tentatively set for hearing on December 15, 1976 and January 5, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - WEDNESDAY - DECEMBER 1, 1976

9 A.M. OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 5719: Application of La Rue and Muncy for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earthen pits, produced salt water from its McClay Federal Wells Nos. 9 and 10, located in Units G and F, respectively, of Section 33, Township 18 South, Range 30 East, North Benson Queen-Grayburg Pool, Eddy County, New Mexico.

Upon application of La Rue and Muncy, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 5720: Application of Harvey E. Yates for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earther pits, produced salt water from his State Wells Nos. 1, 2, 3, 4, and 6 located in Units G, B, A, J, and H, respectively, of Section 32, Township 18 South, Range 30 East, North Benson Queen-Grayburg Pool, Eddy County, New Mexico.

Upon application of Harvey E. Yates, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 5721: Application of H&S Oil Company for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earthen pits, produced salt water from its McClay Well No. 7, located in Unit C of Section 33, Township 18 South, Range 30 East, North Benson Queen-Grayburg Pool, Eddy County, New Mexico.

Upon application of H&S Oil Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 5722: Application of Gene Snow for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earthen pits, produced salt water from his Elk Well No. 1, located in Unit L of Section 32, Township 18 South, Range 30 East, North Benson Queen-Grayburg Pool, Eddy County, New Mexico.

Upon application of Gene Snow, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 5723: Application of Marbob Energy Corporation for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earthen pits, produced salt water from its Elliott Well No. 1 located in Unit E of Section 28, and its Elliott Wells Nos. 2 and 3 located in Units H and G, respectively, of Section 29, all in Township 18 South, Range 30 East, North Benson Queen-Grayburg Pool, Eddy County, New Mexico.

Upon application of Marbob Energy Corporation, this case will be heard De Novo pursuant to the provisions of Rule 1220.

Dockets Nos. 34-76 and 1-77 are tentatively set for hearing on December 15, 1976 and January 5, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 23, 1976

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 5810: Application of Yates Petroleum Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Stonewall "EP" Com Well No. 1, located in Unit F of Section 30, Township 20 South, Range 28 East, Eddy County, New Mexico, to produce gas from the North Burton Flat-Wolfcamp Gas Pool and an undesignated Morrow gas pool.

CASE 5811: Application of Coquina Oil Corporation for an offset allowable reduction, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a restricted allowable for the Monsanto Company Cerf Federal Com Well No. 2 for the Strawn and Morrow zones in said well, a dual completion located in Unit F of Section 10, Township 21 South, Range 27 East, Burton Flat Field, Eddy County, New Mexico, on the grounds that a dry hole in both of said zones was previously drilled on the acreage assigned to the subject well.

CASE 5812: Application of Petroleum Development Corporation for an exception to Order No. R-3221, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, into earthen pits, produced salt water from its CleveRock-Pedco State Well No. 1, located in Unit I of Section 16, Township 19 South, Range 32 East, East Lusk-Bone Spring Field, Lea County, New Mexico.

CASE 5813: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the adoption of General Rules and Regulations governing all associated oil and gas pools of Southeast and Northwest New Mexico. Also to be considered will be the adoption of special rules for certain associated pools, including well location and acreage dedication requirements, classification of oil wells and gas wells, gas-oil ratio limitations, gas allocation, and well testing.

CASE 5814: Southeastern New Mexico nomenclature case calling for the creation and extension of certain pools in Lea and Eddy Counties, New Mexico:

a) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Delaware production and designated as the Cedar Canyon-Delaware Pool. The discovery well is the Skelly Oil Company Cedar Canyon Well No. 1 located in Unit P of Section 9, Township 24 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM
Section 9: SE/4

b) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Delaware production and designated as the West Corbin-Delaware Pool. The discovery well is the Aztec Oil and Gas Company West Corbin Well No. 2 located in Unit H of Section 18, Township 18 South, Range 33 East, NMPM. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 33 EAST, NMPM
Section 18: NE/4

c) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Delaware production and designated as the Elbow Canyon-Delaware Pool. The discovery well is the C & K Petroleum, Inc. Allied Chemical Federal Well No. 1 located in Unit E of Section 4, Township 24 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM
Section 4: NW/4

d) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the North Grayburg-Atoka Gas Pool. The discovery well is the Depco Inc. Conoco State Com Well No. 1 located in Unit K of Section 15, Township 17 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 15: W/2

e) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Cisco production and designated as the Vacuum-Cisco Pool. The discovery well is the Southern Union Supply Company Pennzoil State Well No. 1 located in Unit H of Section 18, Township 17 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
Section 18: NE/4

f) EXTEND the Atoka-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 22: SE/4
Section 27: N/2 NW/4
Section 28: S/2 NE/4

g) EXTEND the North Bagley-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 32 EAST, NMPM
Section 1: SE/4

h) EXTEND the Baum-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 13 SOUTH, RANGE 33 EAST, NMPM
Section 19: SW/4
Section 30: NW/4

i) EXTEND the South Carlsbad-Cherry Canyon Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM
Section 20: NE/4 SW/4

j) EXTEND the Eagle Creek-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
Section 14: N/2 NE/4
Section 27: S/2 NE/4

k) EXTEND the Garrett-Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 38 EAST, NMPM
Section 20: SE/4

l) EXTEND the South Empire-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM
Section 1: N/2

m) EXTEND the Indian Flats-Delaware Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 28 EAST, NMPM
Section 35: NW/4 SW/4

n) EXTEND the Malaga-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 28 EAST, NMPM
Section 11: W/2

o) CONTRACT the vertical limits of the Kemnitz-Pennsylvanian Pool in Lea County, New Mexico, to the Cisco formation only, redesignating said pool the Kemnitz-Cisco Pool and redefining said pool to comprise:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM
Section 13: N/2 and SE/4

p) EXTEND the vertical limits of the North Vacuum-Morrow Gas Pool in Lea County, New Mexico, to include the Atoka formation, redesignating said pool the North Vacuum-Atoka-Morrow Gas Pool. Also, extend said North Vacuum-Atoka-Morrow Gas Pool to include therein:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 7: E/2
Section 8: W/2

q) EXTEND the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM
Section 35: All

Case 5313
Proposed Revision of Associated Pool Rules

I. GENERAL RULES AND REGULATIONS FOR THE ASSOCIATED POOLS OF SOUTHEASTERN AND NORTHWESTERN NEW MEXICO (PROPOSED)

(See Special Pool Rules in each pool for orders applicable to those pools only. Special Pool Rules will be found in the same classification order as in the General Section, and, unless the special rules conflict with the general rule, the general rule is also applicable.)

A. WELL LOCATION AND ACREAGE REQUIREMENTS

RULE 1: Any well drilled to the producing formation of an associated pool regulated by this order and within said pool or within one mile outside the boundary of that pool, and not nearer to nor within the boundaries of another designated pool producing the same formation, shall be spaced, drilled, operated, and prorated in accordance with the regulations in effect in that pool.

RULE 2: After the effective date of this order each well drilled or recompleted on a standard proration unit within an associated pool regulated by this order shall be located as provided below:

OIL WELLS - SOUTHEAST NEW MEXICO

Standard Proration Unit	Location-Requirements
40 Acres	Not closer than 330 feet to the boundary of the tract
80 and 160 acres	Must be located within 150 feet of the center of the quarter-quarter section wherein located

GAS WELLS - SOUTHEAST NEW MEXICO

Standard Proration Unit	Location Requirements
160 acres	Must be located within 150 feet of the center of the quarter-quarter section wherein located.
320 acres	Not closer than 660 feet to the nearest side boundary nor closer than 1980 feet to the nearest end boundary of the spacing unit.

ALL WELLS - NORTHWEST NEW MEXICO

Standard Proration Unit	Location Requirements
40 Acres	Not closer than 330 feet to the boundary of the tract
80, 160 and 320 acres	Not closer than 790 feet to any quarter section line nor closer than 330 feet to any quarter-quarter section line.

RULE 3: (a) Each gas well shall be located on a standard unit containing 160 acres or 320 acres, more or less, as provided in the special pool rules therefor.

(b) Each oil well shall be located on a standard unit containing 40 acres, 80 acres or 160 acres, more or less, as provided in the special pool rules therefor.

RULE 4: (a) The District Supervisor of the appropriate district office of the Commission shall have the authority to approve a non-standard unit as an exception to Rule 3(a) or 3(b) without notice and hearing when the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the U. S. Public Land Surveys and the non-standard unit is not less than 75% nor more than 125% of a standard unit.

The District Supervisor of the appropriate district office of the Commission may approve the non-standard unit by:

(1) Accepting a plat showing the proposed non-standard unit and the acreage to be dedicated to the non-standard unit, and

(2) Assigning an allowable to the non-standard unit.

(b) The Secretary-Director of the Commission may grant an exception to the requirements of Rule 3(a) or Rule 3(b), when the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the U. S. Public Land Surveys and the non-standard unit is less than 75% or more than 125% of a standard unit, or where the following facts exist and the following provisions are complied with:

(1) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(2) The non-standard unit lies wholly within a governmental subdivision or subdivisions which would be a standard unit for the well (half quarter section, quarter section, or half section) but contains less acreage than a standard unit.

(3) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the half quarter section, quarter section or half section (for 80-acre, 160-acre, and 320-acre standard dedications respectively.) in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(4) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the foresaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

B. WELL CLASSIFICATION AND GAS-OIL RATIO LIMITATION

RULE 5: A well shall be classified as a gas well if it has a gas-liquid ratio of 30,000 or more cubic feet of gas per barrel of liquid hydrocarbons. A well shall be classified as an oil well if it has a gas-liquid ratio of less than 30,000 cubic feet of gas per barrel of liquid hydrocarbons. The simultaneous dedication of any acreage to an oil well and a gas well is prohibited.

RULE 6: That the limiting gas-oil ratio shall be 2,000 cubic feet of gas for each barrel of oil produced.

RULE 7: An oil well shall be permitted to produce only that amount of gas determined by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool. In the event there is more than one oil well on an oil proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

A gas well shall be permitted to produce that amount of gas obtained by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool and by a fraction, the numerator of which is the number of acres dedicated to the particular gas well and the denominator of which is a number equal to the number of acres in a standard oil proration unit in such pool. In the event there is more than one gas well on a gas proration unit, the operator may produce the amount of gas assigned to the unit from the wells on the unit in any proportion.

C. WELL TESTING

RULE 8: The operator of each newly completed well shall cause a gas-liquid ratio test to be taken on the well upon recovery of all load oil from the well, provided however, that in no event shall the test be commenced later than 30 days from the date of first production unless the well is connected to a gas-gathering facility and is producing under

a temporary gas allowable assigned in accordance with Rule 11. Any well which is shut-in shall be exempted from the gas-liquid ratio test requirement so long as it remains shut-in. The initial gas-liquid ratio test shall be taken in the manner prescribed by Rule 9. If the gas-liquid ratio is 30,000 cubic feet of gas per barrel of liquid hydrocarbons, or more, the operator shall not produce the well until beneficial use can be made of the gas.

RULE 9: Semi-annual gas-liquid ratio tests shall be taken on all wells during each year in accordance with a test schedule prepared by the district office of the Commission. The initial gas-liquid ratio test shall suffice as the first semi-annual test. Tests shall be 24-hour tests, being the final 24 hours of a 72-hour period during which the well shall be produced at a constant normal rate of production. Results of such tests shall be filed on Commission Form C-116 on or before the 10th day of the following month. At least 72 hours prior to commencement of any such gas-liquid ratio tests, each operator shall file with the appropriate district office of the Commission a test schedule for its wells specifying the time each of its wells is to be tested. Copies of the test schedule shall also be furnished to all offset operators. The supervisor of the appropriate district office of the Commission may grant an exception to the above test requirements where it is demonstrated that the well produces no liquids.

Special tests shall also be taken at the request of the Secretary-Director and may also be taken at the option of the operator. Such special tests shall be taken in accordance with the procedures outlined hereinabove, including notification to the Commission and offset operators.

RULE 10: An initial shut-in pressure test shall be taken on each gas well and shall be reported to the Commission on Form C-125.

D. ASSIGNMENT OF ALLOWABLE

RULE 11: Any well completed after the effective date of these rules shall receive an allowable only upon receipt by the appropriate Commission district office of Commission Forms C-102, C-104, C-116, and, in the case of a gas well, a transporter's notice of gas connection, properly executed. The District Supervisor of the Commission's district office is hereby authorized to assign a temporary gas allowable to wells connected to a gas transportation facility during the recovery of load oil, which allowable shall not exceed the number of cubic feet of gas obtained by multiplying the daily top unit allowable for the pool by the limiting gas-liquid ratio for the pool.

E. GAS PRORATIONING

RULE 12: The associated gas proration period shall be the proration month which shall begin at 7 a.m. on the first day of the month and shall end at 7 a.m. on the first day of the next succeeding month.

RULE 13: No associated gas underproduction may be carried forward into any proration month. (See ALTERNATIVE PROPOSED RULE 13 following Rule 21)

RULE 14: Any associated gas well which has an overproduced status at the end of any associated gas proration period shall carry such overproduction into subsequent periods. If at any time a well is overproduced an amount equalling three times its current monthly allowable, it shall be shut in during that month and each succeeding month until the well is overproduced less than three times its current monthly allowable.

RULE 15: The allowable assigned to a well during any one month of an associated gas proration period in excess of the production for the same month shall be applied against the overproduction carried into such period in determining the amount of overproduction, if any, which has not been compensated for.

RULE 16: The Commission may allow overproduction to be compensated for at a lesser rate than would be the case if the well were completely shut in upon a showing after notice and hearing that complete shut in of the well would result in material damage to the well or reservoir.

F. REPORTING OF PRODUCTION

RULE 17: The monthly gas production from each gas well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 24th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the produced gas.

RULE 18: Each purchaser or taker of gas shall submit a report to the Commission so as to reach the Commission on or before the 15th day of the month next succeeding the month in which the gas was purchased or taken. Such report shall be filed on Form C-111 with the wells being listed in the same order as they are listed on the appropriate proration schedule.

G. GENERAL PROVISIONS

RULE 19: Failure to comply with any provision of these rules shall result in the immediate cancellation of allowable assigned to the affected well. No further allowable shall be assigned until all rules and regulations have been complied with. The Secretary-Director shall notify the operator of the well and purchaser in writing of the date of allowable cancellation and the reason therefor.

RULE 20: All transporters or users of gas shall file gas well connection notices with the Commission as soon as possible after the date of connection.

RULE 21: Allowables to wells whose classification has changed from oil to gas or from gas to oil as the result of a gas-liquid ratio test shall commence on the first day of the month following the month in which such test was reported, provided that a plat (Form C-102) showing the acreage dedicated to the well and the location of all wells on the dedicated acreage has been filed.

Alternative Proposed Rule 13

RULE 13: (a) Any associated gas well which has an underproduced status at the end of any associated gas proration period, shall carry such underproduction into subsequent periods.

(b) Underproduction in excess of three times the current monthly allowable shall not be carried forward. For purposes of this Rule, the monthly allowable shall be the full monthly allowable which would be assigned an associated gas well with the same acreage dedication in the same pool.

(c) Overproduction during any month shall be applied to a well's cumulative underproduction, if any, calculated in accordance with paragraphs (a) and (b) above.

Please note, alternatives of 1, 2, and 3 times the current monthly allowable will be considered with Alternative Proposed Rule 13(b). Comments by interested operators or transporters are solicited.

It will be proposed to reclassify the Jennings-Delaware and the North Paduca-Delaware Pools from associated pools to oil pools.

It will further be proposed to reclassify the Northwest Todd-San Andres Pool from an associated pool to an oil pool; however, special pool rules providing for 80-acre oil well spacing will be retained.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Case 5811

Hearing Date NOVEMBER 23, 1976 TIME: 9:00 A.M.

NAME	REPRESENTING	LOCATION
Clarence E. Hinkle	Monsanto	Roswell
STEVEN TIPTON	MONSANTO	MIDLAND
ED Scholl	Monsanto	Midland
Jim Cobb	Monsanto	Midland
JACK STANLEY	Monsanto	Midland
JOHN BIGELOW	PEDCO	Midland
J. E. Echelmann Jr.	E. P. N. G.	Santa Fe
TOM KELLAHIN	KELLAHIN & FOX	Santa Fe
Duane Ralphe	Coquina Oil Corp.	Midland, Tx
James L. Harben	Coquina Oil Corp.	Midland, Tx
J. Ferrell Davis	Coquina Oil Corp	Midland, Tx
Charles W. Sanders	Petroleum Development Corp.	Albuquerque
Hugh Hanagan	Hanagan Petroleum	Roswell

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 23, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Coquina Oil Corporation for an offset allowable reduction, Eddy County, New Mexico.

CASE 5811

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
Santa Fe, New Mexico

For Monsanto Company: Clarence E. Hinkle, Esq.
HINKLE, BONDURANT, COX & EATON
Attorneys at Law
Hinkle Building
Roswell, New Mexico

I N D E X

EXHIBIT INDEX

MR. NUTTER: We will go on to Case Number 5811.

MS. TESCHENDORF: Case 5811, application of Coquina Oil Corporation for an offset allowable reduction, Eddy County, New Mexico.

MR. KELLAHIN: Tom Kellahin, Kellahin and Fox, appearing on behalf of Coquina Oil Corporation and I have one witness to be sworn.

MR. NUTTER: Are there other appearances in this case?

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, Cox and Eaton, Roswell, appearing for Monsanto Company.

MR. NUTTER: Do you have any witnesses, Mr. Hinkle?

MR. HINKLE: Yes, we have two.

MR. HINKLE: Will the witnesses all stand and be sworn at the same time, please?

(THEREUPON, the witnesses were duly sworn.)

JAMES L. HARBEN

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name, occupation and by whom you are employed?

A. James L. Harben, I'm an Exploration Geologist with

Coquina Oil Corporation.

Q. Mr. Harben, have you previously testified before the Oil Conservation Commission of New Mexico and had your qualifications as an expert geologist accepted and made a matter of record?

A. Yes, sir.

Q. Have you made a study of and are you familiar with the facts surrounding this particular case?

A. Yes, I am.

MR. KELLAHIN: If the Examiner please, are the witnesses qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Kellahin continuing.) Mr. Harben, would you locate for us, beginning with Coquina Exhibit Number One, what that plat purports to show and what the subject matter of the case before the Commission is this morning?

A. This is closure number one which is mapped on the base of the Morrow pay zone as seen in the Coquina Yates State here.

Q. What is the area outlined in yellow?

A. That is the Coquina acreage, the south half of Section 10, with our producing well being located nineteen, eighty from the south and nineteen, eighty from the west.

Q. What is the name of that Coquina well?

A. The No. 1 Yates State.

Q. The acreage in the north half of that section has what appears to be two wells on it, would you identify those wells, beginning with the northernmost well?

A. The northernmost well was drilled and completed prior to the Coquina Yates State completion. We were drilling when they were completing their well to the north here. It was dually completed from the Strawn and from the Morrow sands but it was not a good well and subsequently was abandoned and just recently Monsanto came in and drilled a legal location, nineteen, eighty from the north and west lines of Section 10 and it is Coquina's contention that field rules in the Burton Flat Fields call for three hundred and twenty acre proration units and we feel with an abandoned well in the north half portion of the north half of Section 10 it has been condemned as being non-productive and we think that the drainage area of the Cerf Federal drilled by Monsanto will not include all of the north half of 10 and therefore a full allowable should not be granted to the Monsanto well.

Q. Begin with your Morrow structure map here and identify for us, beginning with the Gulf well in the north half of the north half of that section, what information is contained on that with regard to the Gulf Oil?

A. Well, the Morrow map here has adequate control in the case that we are allowing on the axis of a slightly northeast and southwest trending anticline feature.

The Gulf well is high on the feature compared to the Monsanto Cerf well and the Coquina Yates State.

Now, this map, as I said, was prepared on the base of the Morrow pay which is this section here.

Now, the Gulf well, we will just talk about the Morrow right now and not the Strawn.

MR. NUTTER: Mr. Harben, when you mentioned on the basis of this pay here, you meant the pay that is indicated as the lowermost Morrow pay on your Exhibit Number Three, is that correct?

A. Yes, sir, that is correct.

Now, if we look at the Gulf well, we see the perforations in the upper part of this basin massive sand here and it is important to notice that this lower sand was never perforated or tested and we can see why when we look at the logs because there is no indication of gas effect or porosity or permeability and this is one of the perforated sands in the Coquina Yates State.

The Gulf well was abandoned in December of 1974 after having made fifty-seven million, nine hundred thousand cubic feet of gas out of Morrow perforations, through these intervals up here and this was perforated and tested and swabbed dry, so it would seem that they have no permeability in this massive sand here and as we come south to the Monsanto well we find pretty good indications of porosity and permeability

in this very basal sand here and it is also developed in this sand section here which as we correlated to the Coquina well appears to be in the same zones here that we had perforated and we cannot see these zones here updip and present in the Gulf well.

MR. NUTTER: Mr. Harben, you are going to have to identify a little more specifically what you mean when you say, this zone here, because when we read the transcript later we won't know exactly where you mean so if you will identify what you mean when you say, this sand here or that sand there.

A. All right, I'll call this the basal sand.

MR. NUTTER: That's the lowermost sand?

A. Yes, sir, the lowermost sand and in this sand would be the base of the massive sand.

MR. NUTTER: Okay, now, when you said that the second well on the north half, that is the Monsanto well, had a well developed sand, you meant the perforated interval where the exhibit shows that that there is a calculated absolute open flow of some --

A. Two million, six hundred thousand cubic feet per day.

MR. NUTTER: That's not twenty-two million, six hundred thousand?

A. No, sir, it's two million, six hundred and ninety-seven thousand cubic feet per day.

MR. NUTTER: You meant the sand where the calculated open flow of two million, six hundred and ninety-seven thousand MCF per day was?

A. Yes, sir.

MR. NUTTER: And you compared that with the sand that is perforated in the Coquina well where it shows an absolute open flow of seventeen million, six hundred and twenty-one thousand, is that correct?

A. Yes, sir.

MR. NUTTER: You are comparing those two sands?

A. Yes, sir, I say those are the same sands here.

MR. NUTTER: And you contend that that sand is not present in the orginal Gulf Cerf well, is that it?

A. Yes, sir.

MR. NUTTER: But the original perforations in the Gulf Cerf well were above that, were they?

A. Yes, sir, they were.

MR. NUTTER: Okay, now, would you identify where on the log of that well where the orginal perforations were?

A. In the Gulf well?

MR. NUTTER: Yes, sir.

A. Yes, sir, they are in the upper portion of the massive sand from eleven, thirty-two to sixty-one, that would be the overall interval that was perforated and swabbed dry.

MR. NUTTER: That's the upper portion of the massive

sand that the other two wells produced from, is that correct?

A. No, sir, these wells do not produce from the upper portion of the massive sand.

MR. NUTTER: Of the massive sands?

A. Right. They produce from the lower portion of the massive sand, plus the basal sand.

MR. NUTTER: And the Gulf well produced from the upper portion of the massive sand only?

A. Well, it did not produce from that. It was perforated and swabbed dry.

MR. NUTTER: I see. Then where did the well produce from?

A. It produced up at -- it's eleven, two, two, seventy, eighty and from eleven, two, oh, approximately twenty.

MR. NUTTER: On Exhibit Three would you identify where the original perforations in the Gulf well were in the Morrow formation with the green pen that I have handed you, please?

A. The original perforations, yes, sir.

MR. NUTTER: Make an "X" across the area where the original perforations were. Now, with this orange pen would you identify where they recompleted them and produced later?

A. Yes, sir.

MR. NUTTER: Okay, thank you.

A. Based on the correlation of the basal sand and the

base of the massive sand, we can see the sands pinch out as we come up on the structure. The porosity and permeability is poor as we come west off the structure. It is well developed to the east but it is wet and water bearing after you get down to the minus datum of eighty-three, fifty, approximately. That's based on the Coquina Des Moines JM State which flowed gas and water out of the basal sand section.

MR. NUTTER: What's the location of that well?

A. It's nineteen, eighty from the south and nineteen, eighty from the west of Section 11 and based on correlations on our cross section we have outlined an approximate reservoir of these basal Morrow sands, the basal sand and the base of the massive Morrow and in our opinion it would cover an area somewhat like this.

Q. (Mr. Kellahin continuing.) Outiined by what color?

A. Outlined by the green penciled color.

MR. NUTTER: On Exhibit Number One?

A. On Exhibit Number One, yes, sir, which is the Morrow map.

Q. (Mr. Kellahin continuing.) On Exhibit Number One would you outline again for me the wells involved in the cross section, Exhibit Number Three?

A. All right. It starts on the west with the Cities Service CP State, it goes north to the Hammond Federal, neither well of which had the basal sands developed for production.

Then we come to the northeast, up to the Gulf Cerf Federal which exhibits the tightness, non-productive interval of these basal sands and we come down to the Monsanto Cerf Federal, the Coquina Yates State, over to the Coquina JM State and then north to the Monsanto Wilderspin, which is in Section 11, nineteen, eighty from the north and west lines.

Q. In regards to Morrow production in the north half of this section, Mr. Harben, in your opinion what portion of the north half of this section is non-productive in the Morrow?

A. In our opinion we would say approximately the north half of the section. We feel that the porosity and permeability of these sands is affected by coming updip from your structural feature so that the porosity and permeability lays across the south end of our structural feature and drapes over to the east and to the west.

Q. You meant the north half of the north half of this section, did you not?

A. Yes, the north half of the north half of Section 10.

Q. In your opinion what percentage of the north half of Section 10 is non-productive in the Morrow?

A. I would say at least fifty percent.

Q. Would you go now to Exhibit Number Two and identify it?

A. Exhibit Number Two is our map on top of the Strawn pay, which as we see on the cross section is the clean Strawn

limestone, the first very clean lime that develops within this area and it shows us approximately the same thing as the Morrow map does on a northeast-southwest trending anticlinal feature and again the Gulf well, the No. 1 Cerf, was completed from the Strawn limestone and it made a cumulative production of approximately seventy-four million cubic feet of gas before it was abandoned and we look on the logs, on the cross section, and we see that the Gulf Cerf Federal was losing porosity. It had a slight streak in the very top, perforated from ten, two, seventeen through sixty-nine and it had a calculated absolute open flow of one million, six hundred and thirty-two thousand cubic feet per day and as I said, it produced seventy-four million, six hundred and seventy-six thousand cubic feet of gas, plus three thousand, four hundred and twenty-four barrels of condensate and was abandoned in December of 1974.

It is our feeling that the best development of your Strawn limestone is seen on the axis of the structural feature. Each well colored in blue on this Strawn map has been productive or does produce from a Strawn limestone.

As we come north from the Coquina Yates State, which has been a very good producer from the Strawn limestone, to the Monsanto Cerf Federal, we see another good development of porosity within the Strawn limestone in the Monsanto well. From there it goes to poor development in the Gulf Cerf Federal and then there is fair development to the north in the Monsanto

No. 3 Burton Flat Unit and then it pinches out to a very poor section to the north so that it would appear that the best development of porosity and permeability is on a structural axis here. Now, we have good development to the east, but if you get too low, again the Coquina JM State produced for awhile from the Strawn limestone but went to water, so that is probably right on a gas-water contact.

The Monsanto Wilderspin produces a small amount of gas from the Strawn and as we come to the west we get structurally low again and lose the good development of the porosity and permeability as we come off the structural feature. It would seem there is a north-south alignment with the low reentry coming in from the west, which may be the influencing factor in the poorer porosity and permeability development in the Strawn limestone in the Gulf Cerf Federal No. 1.

MR. NUTTER: I think your reentry is coming in from the east, is it not?

A. Yes, sir, from the east. Did I say west? Excuse me.

Q. (Mr. Kellahin continuing.) What is indicated by the green line on Exhibit Number Two?

A. Again the green line is indicating, in our opinion, the areal extent of the Strawn limestone reservoir. By swinging up around this producer on the north end here and following the structural configuration downdip to our gas-water contact and across this nose it develops towards the east and

up the south side of the reentry and around the Gulf Cerf Federal, which in effect again would wipe out the major portion of the north half of the north half of Section 10 as being productive acreage.

Q. Which well, the Gulf well or the Monsanto well is structurally better in the Strawn?

A. The Monsanto Cerf Federal is the highest well structurally on top of the Strawn limestone in this area here. It is six feet high to the Coquina Yates and it is two feet high to the Gulf Cerf Federal.

Q. From a structural opinion, Mr. Harben, would it have been better to drill the first well in the north half of the north half of this section or the south half of the north half of this section?

A. It would have been better to come into the south half of the south half to get away from the reentry that we see that comes through here.

Q. Would you begin with the cross section, Exhibit Number Three, and identify the information with regards to the Strawn production?

A. All right, this again is our east-west cross section which as I pointed out, starts with the Monsanto Wilderspin on the east and goes to the Coquina JM Federal, over to the Coquina Yates State, Monsanto Cerf Federal, the Gulf Cerf Federal and over to the Hammond No. 1 Federal and to the

Cities Service No. 1 CP. As we start on the east side, the blue section here is our clean Stawn limestone. The Wilderspin had a well developed section of porosity and permeability within the Strawn limestone and we come over to the Coquina Yates State, I'm sorry, the JM State, it has a well developed section and it had a calculated absolute open flow of two million, eight hundred thousand cubic feet per day. It soon went to water and was abandoned.

In moving to the west we come updip to the Coquina Yates State which had a very well developed section of Strawn porosity and permeability and was completed from perforations at ten, two, sixty, two to two, ninety-seven for a calculated absolute open flow of three million, ninety-five thousand cubic feet of gas per day.

Going north we come to the Monsanto Cerf Federal which also has a very well developed section of porosity and permeability in the Strawn limestone. It was perforated from ten, two, twenty-four to two, fifty-four. It had a calculated absolute open flow of forty-four million, eight hundred and sixty-three thousand cubic feet per day.

And moving north into the north half of Section 10, the north half of the north half, we come to the Gulf Cerf Federal No. 1 which had a thin section of porosity developed in the Strawn limestone indicating that between the Monsanto Cerf Federal and the Gulf Cerf Federal we have lost the

porosity and permeability. That well was abandoned in December of '74, the last production reported, after having made seventy-four million, six hundred and seventy-six thousand cubic feet of gas, plus three thousand, four hundred and twenty-four barrels of condensate out of the Strawn.

Moving off to the west we come downdip and find that the change in the Strawn limestone, a big shale break in between there, the porosity and permeability is slightly developed and I think it was probably wet and over to the Cities Service well we have a good development of Strawn porosity but again it is low and down flank of the structural feature.

MR. NUTTER: Do you know of any tests that either Hammond or Cities Service ran on those two wells?

A. No, sir, but I can check.

MR. NUTTER: At any rate they were not perforated in the Strawn?

A. No, sir, they were not perforated and not producing from the Strawn. The entire Strawn production of any consequence lies on the axis of our anticlinal feature.

Q. (Mr. Kellahin continuing.) In your opinion has the Gulf well in the north half of the north half of this Section completely drained the Strawn production?

A. I would say that it has completely drained what is available to it there through that portion of the section which

appears to be tight and impermeable throughout that area.

Q. Did the Gulf well produce from the same formation as the Monsanto and Coquina well?

A. Yes.

Q. Is there any structural explanation for the poor quality of the Gulf well, do you see any evidence of faulting, that kind of thing?

A. No, I see no evidence. I think it was just a lack of development of the porosity and permeability, perhaps influenced by what I contour in as a low here, which could have prevented your better porosity development in here. It's not low enough to really feel confident of that explanation but that's the only thing I can think of.

Q. Please identify Exhibit Four?

A. Exhibit Number Four is a north-south cross section which on our map, again --

Q. Exhibit Number One?

A. Yes, Exhibit Number One. It begins with the Perry Bass well to the south end of the feature, goes to the Coquina Yates State and the Monsanto Cerf Federal, the Gulf Cerf Federal, the Monsanto No. 3 Burton Flats Unit and then north to the Monsanto No. 1 Burton Flats Unit.

And we see basically the same things happen on this cross section as on our east-west cross section and that is, as we come north we have the well developed basal sand

and the base of the massive sand perforated on the south end of the structural feature in the Bass well, up to the Coquina Yates State and the Monsanto Cerf Federal and then we apparently lose that section moving north updip in the Gulf No. 1 Cerf Federal. It is not perforated to the north in the Burton Flat Unit No. 3 but it is in the upper part of the massive sand. And then farther north in the No. 1 we find it again present with porosity and permeability and good clean sand, the basal sand, and it is perforated and productive in that well, which is a distance of about three-quarters of a mile.

Now, on these basal sand correlations, it's just a matter of interpretation, but it's entirely possible as you look at the north-south correlation, to say that the perforated sand, being the basal sand, and the base of the massive sand, are not even present in the Gulf Cerf Federal because by this correlation you can say that this massive sand is thinning to the south and our base of the massive and our basal sand are pinching out to the north and not even present in the Gulf Cerf Federal, so we could be working in two entirely different sands that do not appear in the north half of Section 10.

In the Stawn we see much the same thing happen. We have a perforated well, the Bass well, on the south end of the structural feature with a good clean Strawn section. The porosity is not as well developed as we find it updip in the

Coquina Yates State and the Monsanto Cerf Federal and again we see the porosity pinch out to the north and it picks up again in this well here, which is the Monsanto No. 3 Burton Flats Unit and then it thins to a very poor zone to the north in the Burton Flat Unit No. 1.

MR. NUTTER: And that well is not perforated in the Strawn?

A. No, sir, it's not perforated in the Strawn, so our only Strawn producers are these wells which are colored in blue on Exhibit Number Two.

Q. (Mr. Kellahin continuing.) Mr. Harben, you gave us an opinion awhile ago with regards to what portion of the north half of this section was non-productive from the Morrow. Do you have an opinion with regards to what portion of the north half of Section 10 is not productive from the Strawn?

A. I would have to say that again, half of it, approximately the north half of the north half of Section 10 and that portion of the southeast of the northeast of Section 10.

Q. It is your recommendation, I gather, that the Monsanto well have a restricted allowable of fifty percent with regards to both the Morrow and the Strawn?

A. Yes, that would be my recommendation.

Q. Do you have anything else you would like to add at this time?

A. No, I think not. I think that's all.

MR. KELLAHIN: Your witness, Mr. Hinkle.

CROSS EXAMINATION

BY MR. HINKLE:

Q. Referring to your Exhibit Number One, Mr. Harben, on what information was that structural map drawn?

A. From points picked of all of the wells in the area.

Q. All subsurface?

A. Yes, sir, all subsurface.

Q. Have you done any geophysical work in the area?

A. No, sir, I have not.

Q. Do you find any evidence whatsoever of any fault in the area?

A. No, sir, not on subsurface work.

Q. I guess that is true also of your Number Three, is it not?

A. Yes, sir.

Q. Now, several times you mentioned that the Gulf Cerf No. 1 had been abandoned?

A. Yes, sir.

Q. Has that been plugged?

A. To the best of my knowledge, yes, sir. If not plugged, it's temporarily abandoned.

Q. Have you looked at the records, the Oil Conservation records, to see if the well has been plugged?

A. No, sir, I went by the books, the Oil Commission books that come out monthly, plus your cumulative production books, which state the last production was December of '74 for both zones.

Q. That doesn't mean it has been plugged and abandoned?

A. No, sir, but it has been non-productive.

Q. You just implied from that?

A. Yes, sir, I implied from that. Of course, I couldn't see Monsanto drilling a second well in three hundred and twenty acres with a producer on it at that time.

Q. Well, now, the Gulf Cerf No. 1, was it located at a standard or orthodox location?

A. Yes, sir, it was.

Q. Now, the Monsanto Cerf No. 2, is it located at a standard or orthodox location?

A. Yes, sir, it is.

Q. Now, are you familiar with the Oil Conservation Rules that the Pennsylvania formation you can dedicate three hundred and twenty acres to a standard location?

A. Yes, sir.

Q. Now, I may have misunderstood you but I thought you said in the beginning that in your opinion the whole north half of Section 10 was non-productive?

A. No, sir. I meant to say the north half of the north half of Section 10.

Q. And that's the reason why you want to cut the allowable fifty percent to the Monsanto well?

A. Yes, sir.

Q. When was your well in the south half of 10 completed?

A. I would have to look on my card to see.

Q. Well, that's important, I want the date.

A. All right. I don't have that exact date with me. November of '73.

Q. Your answer then is that it was completed in November of '73, is that right?

A. I would have to say that I think that is approximately right, that's the first sale.

(THEREUPON, a discussion was held off the record.)

A. I would agree to the August '73 completion.

Q. (Mr. Hinkle continuing.) Was the well potentialed at that time?

A. Well, yes, sir.

Q. What did it potential for?

A. The Strawn potentialed for three million, ninety-five thousand cubic feet per day. The Morrow potentialed for seventeen million, six hundred and twenty-one thousand cubic feet per day.

Q. Now, when was the Monsanto Cerf No. 2 well, which is just to the north of your well, completed?

A. Well, just recently. I don't have the date on that.
Q. Within the last month?
A. Yes, sir, just in the last month.
Q. Is it on the line yet?
A. I would not think so since we are having this meeting to determine what the allowable would be.
Q. And you have been producing your well since August of 1973?
A. Yes, sir.
Q. In your opinion have you drained any gas from the south half of the north half of the section?
A. Yes, sir.
Q. And considerable?
A. Yes, sir.
Q. And yet you want to cut the allowable of their well fifty percent?
A. Yes, sir.
Q. After all this draining from 1973 to the present time?
A. Yes, sir.
Q. Mr. Harben, on your Exhibit Number One, which is the Morrow structure, you show production all the way up the crest of the structure, do you not?
A. Yes, sir.
Q. And on Exhibit Number Three which is the Strawn --

MR. NUTTER: Exhibit Number Two.

Q. (Mr. Hinkle continuing.) Number Two, yes, sir, all the way up on the crest of the structure?

A. Yes, sir.

MR. HINKLE: I think that's all. Just a minute, one more.

Q. (Mr. Hinkle continuing.) I believe that at the request of the Examiner you marked on Exhibit Number Three, your perforations in the Gulf Cerf No. 1?

A. Yes, sir.

Q. All right, did you mark the perforations from eleven thousand and thirteen to seventeen?

A. Eleven thousand what, sir?

Q. Eleven thousand, thirteen to eleven thousand and seventeen?

A. Yes, sir, approximately.

Q. And did you mark from eleven thousand and forty-one to forty-five?

A. No, sir, I did not.

Q. Well, do you know, does that indicate that it was perforated there?

A. Yes, I have it here but I didn't see it on there when I gave my testimony.

Q. Now, did you indicate on that exhibit that there were also perforations from eleven thousand, one hundred and

forty-eight to fifty-eight?

A. I have them marked on here but I did not indicate in my testimony.

Q. Okay. Did you indicate from eleven thousand, two hundred and sixteen to twenty?

A. Yes, sir, I've got those marked.

Q. From eleven thousand, three hundred and thirty-two to thirty-six?

A. Yes, sir.

Q. From eleven thousand, three hundred and thirty-nine to forty-four?

A. Yes, sir.

Q. From eleven thousand, three hundred and fifty-two to sixty-one?

A. Yes, sir.

Q. Are you familiar with the fact that the well was perforated four different time, some of them along the same intervals but at other areas?

A. No. I'm sure that happened. The main perforations, I think, that are concerned in this testimony are the ones in the massive sands because that is the whole crux of the matter as to who is draining what. These upper perforations, many are producing in the Morrow zone but they are all up above the massive zone. The wells that are going to be affected are the ones that are perforated in this massive and are basal

sands.

MR. HINKLE: Okay, that's all we have.

MR. NUTTER: Are there any other questions of this witness? He may be excused.

(THEREUPON, the witness was excused.)

MR. NUTTER: Do you have any other witnesses, Mr. Kellahin?

MR. KELLAHIN: No, sir.

MR. NUTTER: Mr. Hinkle?

MR. HINKLE: We would like to call Mr. Scholl.

ED SCHOLL

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q. State your name, your residence and by whom you are employed?

A. My name is Ed Scholl, I'm Regional Production Manager for Monsanto Company in Midland. I reside at 2605 Dengar in Midland, Texas.

Q. Are you an engineer by profession?

A. Yes, sir, I am.

Q. What is your position with Monsanto?

A. I'm Regional Production Manager.

Q. Have you previously testified before the Oil Conservation Commission?

A. Yes, I have, several times.

Q. And are your qualifications as a petroleum engineer a matter of record before the Commission?

A. Yes, sir.

Q. Have you made a study of the Burton Flats area?

A. Yes, I have, sir.

MR. HINKLE: Are his qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Hinkle continuing.) Mr. Scholl, have you prepared or has there been prepared under your direction certain exhibits for introduction in this case?

A. Yes.

Q. Are they the ones that have been marked Exhibits One through Four?

A. Yes, sir.

Q. Refer to Exhibit Number One and explain what this is and what it shows?

A. Essentially Exhibit One is a small plat of the Burton Flat area which we can kind of orient ourselves as to the well in question.

It shows the Burton Flat wells in the general area. It color codes the zones or formations that they are completed

in or have been completed in and I would like to draw your attention to Section 10 which indicates the Gulf Cerf No. 1 which is six, sixty from the north line and nineteen, eighty from the west line as has been previously testified.

The replacement well is the Cerf Federal No. 2 which is nineteen, eighty from the north and nineteen, eighty from the west.

It also shows the Burton Flat Unit outlined and north of the Cerf No. 1 is the Monsanto Burton Flat Unit No. 3 which is a dual Strawn and Morrow. It also shows in the south half of Section 10 the Coquina Yates State No. 1. Essentially this map is just to orient us as to the location on the small map.

I would like also at this point to give you a little background into the drilling of the Cerf No. 1 by Gulf Oil Corporation. Monsanto is about a forty-eight percent interest holder in that well and Gulf is the majority owner. This well was drilled and reached TD the fifth month of '73 and after a prolonged completion attempt was completed August 31st of 1973. After a lot of mechanical difficulties and work the Morrow's calculated absolute open flow was one point four million cubic feet, approximately. The Strawn calculated absolute open flow was one point six million cubic feet. Sales started in December of 1973 and remained for a short period of time or over the next year. It was produced several months and the cumulative

as he testifed to was fifty-eight million cumulative out of the Morrow and seventy-five million cubic feet out of the Strawn.

I would like to now present Exhibit Number Two which is a month-by-month --

Q Please refer to Exhibit Number two?

A. Which is a month-by-month accumulation showing you the production history of the Morrow and the Strawn in the Cerf No. 1. You can see that it produced approximately fifty-eight million and seventy-five, respectively.

At this point I would like to explain my feelings on the Cerf No. 1. I have some more exhibits which will show you log calculations and gas effect. However, we went through a lot of haranguing about the Cerf No. 1 on completion techniques. In my own mind I have a feeling of the susceptibility of the Morrow as being highly damagable. It is notorious to being susceptible to being fluid damaged.

One of the things this well was drilled with was a salt mud with a soda ash weighting material that may or may not have damaged the formation. Since that time we have changed our mud program where we use a very low water loss material and as light as we can and damage a very thin section of what we call the invaded zone and then we come in and perforate beyond that zone and this is my opinion of a most feasible way to treat the Morrow.

Needless to say, in examining the Cerf No. 1 we took a lot of pressure data in the well prior to disconnecting the well. In other words, there were no sales, the well has been taken off the books as a producer, I mean as a sales well. It has not been plugged and abandoned and you are right, it has been temporarily abandoned, with a disconnect with no connection to any sales line at the wellhead.

The first well in the field was the Burton Flat No. 1 which Monsanto drilled in 1972, the Burton Flat Unit No. 1 and from the data we gathered from that well in the Morrow we feel that the pressure was in the order of thirty-seven hundred pounds, shut in wellhead pressure. We calculated the bottom at something like forty-six, seventy-two, bottom-hole pressure.

When the Cerf Federal No. 1 was drilled in 1973 the bottom-hole pressure of the Morrow was -- rather the wellhead shut-in pressure was three thousand and sixty-eight pounds. The calculated bottom was thirty-nine, oh, six.

The Coquina well from reported pressures on the wellhead in August of '73 or in a period when first sales started was in the order of thirty-seven hundred and sixty-four pounds with a calculated bottom-hole pressure of forty-seven, forty-five. The last report we have on the well is that the shut-in pressure in August of '75 was in the order of twenty-five hundred pounds, so we can see some idea of the

depletion in the wellhead shut-in pressures in the Morrow.

When we drilled the Cerf No. 2, the reported shut-in pressure or the shut-in pressure of the Morrow was twenty-seven hundred pounds, which is down from the original pressure which indicated that it had been in the reservoir and has been subjected to drainage.

And as I mentioned before, we did a lot of engineering work on the Gulf and Monsanto did on the No. 1 well and at the time of abandonment in 1975, early '75, we took a bottom-hole pressure in the Morrow of the zones that are open in the Morrow and it yielded a bottom-hole of twenty-one, ninety-nine. Now, these pressures, in my opinion, indicate that we are connected to a pressure system, whether the well be damaged or whether something is wrong with the well, it just really never had the productivity, but we have all testified here that it has hydrocarbons in the well. It certainly shows it from the production that it had and there is still pressure there, some semblance of pressure in the wellbore.

If I may, skipping around a little bit, we did the same thing with the Strawn. The original pressure, I think in the Strawn, was in the order of thirty-six hundred and forty-five pounds wellhead shut-in pressure which calculates to bottom at forty-seven, forty-seven.

The Cerf No. 1 when it was drilled in '73 indicated thirty-four hundred and fifteen pounds wellhead shut-in

pressure. Similarly, the Coquina 1 was thirty-seven, sixty-one and is now seventeen, oh, two. And the Cerf 2 was twenty-seven, fifty.

We did the same things in the Strawn of the Gulf No. 1 which indicated a pressure of thirty-four hundred bottom-hole which in my opinion also indicates that we still are in the pressure system and something is the matter with the well. We did have hydrocarbons in the Strawn and I feel that all that is necessary to prove once you have sales in the area then you have proven hydrocarbons that are existent in the entire three hundred and twenty acres.

We have two more exhibits that are blown-up logs of the Cerf No. 1 and the Cerf No. 2 in the Morrow and in the Strawn. I would like to present them in the order of the Morrow.

Q. Do you want to put them on the board?

(THEREUPON, a discussion was held off the record.)

A. Exhibit Number Three is a blown-up CNL density log on the Cerf No. 1 and the Cerf No. 2. The zones colored in yellow are what we call gas effect, which is a separation between the density log and the neutron log. These are one of the prime indicators of gas located in the wellbore.

I would like to also point out that shown next to the yellow coloring of the gas effect are the log calculations

of porosity and water saturation. If I may, I will read from the bottom to the top of the Cerf No. 1, eight percent porosity, thirty-eight percent water saturation; eight, point, five porosity, thirty-four percent water saturation; six percent porosity, twenty-eight percent water saturation; six, point, five, thirty-five percent; nine percent, sixteen percent; seven percent, thirty-five percent; ten percent, eleven percent; five percent and thirty percent.

These log calculations are well within the realm of critical saturations for hydrocarbons.

If I may, also shown is the, in red, in the center track of the Cerf No. 1, are the perforations that have been done throughout the life of the Cerf Federal No. 1.

Similarly I would like to talk about the Cerf Federal No. 2. The zones in yellow again show gas effect and to the right of the yellow shaded gas effect are shown the log calculations. In the center track are the perforations of the Cerf No. 2.

If I may, the brief chronological history of the initial completion and the workover of the Cerf Federal No. 1 is shown on the right-hand margin of this. Briefly, the well was perforated from eleven, oh, one, three to oh, one, seven; eleven, oh, four, one to oh, four, five, and then acidized with a thousand gallons of acid and then it was re-acidized and it flowed seventy-seven MCF a day. Now, then, in July the

well was re-perforated from eleven, one, forty-eight to one, fifty-six; eleven, two, sixteen to two, twenty; eleven, two, seventy-six to two, eighty; eleven, three, thirty-two to three, thirty-six; eleven, three, thirty-nine to thirty-four; and eleven, three, fifty-two to three, sixty-one and over night the shut-in pressure was four hundred and fifty pounds.

Then the perforations from eleven, three, fifty-two to sixty-two were acidized and then all the perfs were acidized with five thousand gallons.

Now, we may have been destined at that point to have so many zones open and trying to get each zone acidized, in the experience that I have had in the Morrow is that we learn as we drill these wells, I feel that it is more engineering-wise to perforate one at a time and try and acidize one at a time or not such an overall section. In my opinion this is one of the basic problems of the well and I think, Clarence, that's about all I would like to say about it.

Q. (Mr. Hinkle continuing.) Would you refer to Exhibit Number Four?

A. Yes, sir, the same thing. I would like to show the Strawn blown up. The Strawn does have problems in that it -- again Exhibit Four is a blown up CNL density on each of the two wells in question, which is the Cerf No. 1 and the Cerf No. 2. The yellow is the gas effect in the Strawn,

the center track, red, is the perforations and there is an explanation of the detail of the completion attempt on the Strawn in the Cerf No. 1 and also the Cerf No. 2.

The log calculation of the Strawn in the upper portion of the Strawn at about eleven, two, eighteen to twenty-two is shaded in yellow and calculates three, point, five percent porosity, thirty-three percent water. This is a relatively low porosity but be mindful of the fact that the Strawn is a limestone which has a very low critical porosity or that you might consider productive. We did have a calculated absolute open flow in this zone of one, point, six million cubic feet a day and it did produce gas and condensate and it has also been reworked. I think I did mention too that when we left this well it had a pressure of thirty-four hundred, plus, pounds. We have spent something like seventy thousand dollars prior to drilling the No. 2 well to repair whatever damage might have been done to this well.

I think I might also say that the Cerf No. 2 is capable of about two million a day and two thousand pounds flowing pressure into the Transwestern lines.

MR. NUTTER: Now, that's from the Morrow or the Strawn?

A. The Strawn. As we all know, the calculated absolute open flow may not be meaningful as far as the true judge of the well.

The Morrow is less capable than the Strawn at about less than a million a day. Right now the well has, in test to the line, at about nine hundred MCF a day and has stabilized at fifteen hundred pounds flowing tubing pressure. We think that also this is in a process of cleaning up and we anticipate that it will probably be around about a million or million and a half, somewhere in there.

MR. NUTTER: So the well does have a physical connection to the pipeline from both zones?

A. Yes, Mr. Nutter. The first sales have started on the well on the twelfth, last Friday.

MR. NUTTER: Then what is the line pressure in there?

A. The line pressure is about five hundred and fifty pounds.

MR. NUTTER: So even with that calculated absolute open flow of forty-four million, that thing will only make about nine hundred thousand right now from the Morrow?

A. Well, yes, sir, the calculated open flow in the Strawn was forty-four million and it is making about two million a day with two thousand pounds back pressure.

MR. NUTTER: The forty-four was in the Strawn?

A. You're right there and the Morrow was about two, point, eight, I believe, is the -- and it is doing about less than a million with fifteen hundred pounds on it.

Now, again, you know, we've had a lot of experience with the Morrow and I think most of us can vouch that they are highly susceptible of even being shut in. Some people may argue, some wells don't, a lot of our wells do. We have lost production by shutting them in which -- the reason I'm saying this is that it is very highly susceptible to being damaged by its own fluid. I think, anyway.

And I guess, Clarence, that's about all I have to say.

Q. (Mr. Hinkle continuing.) In your opinion is all of the north half of ten productive?

A. Yes, I think it is productive.

Q. In both the Strawn and the Morrow formations?

A. Yes, I think it is productive.

Q. This is between the No. 2, your No. 2 well, and the south half of the north half and the Coquina well in the north half of the south half is how much?

A. About thirteen hundred.

Q. Thirteen hundred and twenty?

A. Yes.

Q. Each of the six, sixty locations from the line?

A. Yes, sir.

Q. Now, I believe you testified that there was quite a differential in pressure between your Monsanto Cerf No. 2 and the Coquina well? What is that differential?

A. Well, these are wellhead pressures in the Strawn. We have an indication, I guess, from reports that the shut-in tubing pressure on the Coquina in 1975 was seventeen hundred and two pounds. Our shut-in pressure after completion was twenty-seven, fifty and this is related to a pressure, say, in the Coquina.

Q. This is initial pressure, isn't it?

A. No, these are what I would call drain pressures. The original pressure in the Strawn was something in the order of thirty-seven or thirty-eight hundred pounds shut-in tubing pressure.

In the Morrow the Coquina well from my information is that is about twenty-five hundred pounds shut-in wellhead pressure and the Cerf No. 2 is a little higher at twenty-seven hundred pounds but lower than the original of thirty-seven hundred pounds. So it is in a reservoir, there is no doubt that the Cerf No. 2 is in a pressure system that is being produced, in my opinion.

Q. What does this differential in pressure, initial pressure, between the two wells show, indicate?

A. It shows that the Coquina well is, with the amount of production, I think from the Coquina well in general terms is something like two billion out of the Strawn and close to five billion out of the Morrow has established a drainage area which is north and south and into our lease.

Q. Is it a fact that considerable gas has already been drained from the north half?

A. Right.

Q. Did you give the date of the completion of your No. 2 well?

A. Eleven, seventy-six, November, and it went on stream on the twelfth of November.

Q. Do you have anything else that you would like to explain to the Commission?

A. I don't think I have anymore.

MR. HINKLE: That's all of the direct.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Scholl, I missed your qualifications, I'm sorry, are you a geologist?

A. No, I'm a petroleum engineer.

Q. A petroleum engineer?

A. Yes, I'm sorry.

Q. You will have to bear with me, Mr. Scholl, I'm a lawyer and not an engineer. I'm interested in Exhibit Number Three, it would appear to me that both the Cerf Federal No. 1 and the No. 2 wells have been perforated in the same sand bodies, have they not, both for the Morrow and for the Strawn?

A. Yes, the Morrow and the Strawn, yes.

Q. And both wells have been perforated in the same sand body in both the Morrow and the Strawn, there is no difference in that?

A. No, not in the Morrow generally.

Q. All right. Now, with regard to the Cerf Federal No. 2 and the Coquina well, those wells are perforated in the same sand bodies, both the Strawn and the Morrow?

A. Would you repeat the question, did you say the Cerf 1 and the 2?

Q. The Cerf 1 and 2, are they perforated in the same sand bodies?

A. Yes, in the Morrow.

Q. In the Morrow, all right.

A. The general term of the Morrow.

Q. All right, on the Cerf 1 and 2 they are both perforated in the Morrow sand bodies?

A. That's right.

Q. With regards to the 1 and 2 are they both perforated in the Strawn sand bodies?

A. Yes.

Q. With regards to the Coquina well and the Cerf Federal No. 2 well, in the Morrow both wells are perforated in the Morrow sand body?

A. They are perforated in the Morrow.

Q. All right, and in regards to the Strawn, they are

both perforated in the Strawn sand body?

A. Yes.

Q. All right. With regards to this Cerf Federal No. 1, now, I believe I understood you to say that that should have made a pretty good well from looking at the logs here but they encountered mechanical difficulty with the completion, is that a fair statement?

A. That's a fair statement.

Q. All right. You expressed a little reluctance as to whether it was mechanical difficulties or not and I think you wanted to say it was mechanical difficulties. Tell me specifically what mechanical difficulties were encountered with the Cerf Federal No. 1?

A. Oh, mechanical difficulties, I have said that it was mechanically not reasonable to expect that you could get acid, good acid work and good fracture work with the entire number of perforations that were open. In other words, in general the history of the completion was such that they had some zones that were broken down with acid work and then we were trying to work on some more zones and then we tried to work on all of them together and there is just so much that you can do to treatment, there are methods that you can try to do it and that's what I would call mechanical.

If I may, one other point that I tried to make was that fluids may damage the Morrow. In other words, they are

highly susceptible to damage, in my opinion, so until recently we have just developed some fluids that are less prone to damage the Morrow.

Q. The Cerf Federal No. 1 did in fact produce from the Strawn for a short period of time?

A. Yes.

Q. And you did not get any production from the Morrow, you tested the Morrow in the Cerf Federal No. 1?

A. Excuse me, we have production from both.

Q. You've got production from both of them?

A. From both the Strawn and the Morrow.

Q. And you believe there is still production available in the north half of the north half of this section in both the Strawn and in the Morrow?

A. Yes.

Q. And the Cerf Federal No. 1 would have drained the north half of the section but for its mechanical difficulties?

A. The Cerf No. 1 is connected to a pressure system but some how or another we don't -- it is damaged or beyond that we can't get anything out of it. We still have pressure is what I'm saying.

Q. All three of these wells, the Cerf 1 and 2 and the Coquina well are all in the same Morrow reservoir?

A. Yes.

Q. Do you know why the Cerf Federal No. 1 well was

located where it was initially, why that particular site was chosen to drill?

A. I think it was based on geology. You see, chronologically the history was, first we drilled the Burton Flat No. 1, which is two removed, then we came on some sophisticated methods of dip meter analysis, we drilled the No. 2 well to the northeast of No. 1. It's shown on this plat. And then we came down across this trend you are talking about and then came to the Burton Flat No. 3. Now, in orderly development Gulf Oil Company selected the location and we approved the Cerf No. 1 because this is offset acreage to the Burton Flat Unit. So this was the most feasible location at the time.

Q. Excuse me, was the Cerf Federal No. 1 drilled before the Coquina well?

A. Yes.

Q. The Coquina well came next in time?

A. I think they might have been simultaneous.

Q. Reasonably close together?

A. Reasonably close together, I believe that's right.

Q. And the Cerf Federal No. 2 is the last well of the three drilled?

A. Of the three, yes.

Q. Okay. If the Cerf Federal No. 1 well was certainly your first choice as to location and would have been a good

well except for mechanical difficulties, why did you not simply offset this and drill a twin replacement well for the No. 1 instead of moving to the south closer to the Coquina well to drill the Cerf Federal No. 2?

A. Well, it's possible that anywhere on that location would have -- on the north half of the three hundred and twenty acres -- would have been feasible. This is a legal location and we had no reason to doubt that there was anything wrong with drilling a well nineteen, eighty from the west and six, sixty from the center line.

Q. Well, there is no argument with any of these wells, they are all on legal locations?

A. Yes.

Q. My question is, if the north half of the north half of the section wasn't either condemned by being dry or drained, then because it is structurally your best location, would you not offset that well, and apparently you did not.

A. Well, apparently, though --

MR. HINKLE: If the Examiner please, that is argumentive.

A. The geological testimony that you presented, it is higher structurally and the feasibility is that you would drill where your structure map says to get high to drain your three hundred and twenty.

Q. (Mr. Kellahin continuing.) The Cerf Federal No. 1

well is structurally higher than the others, is it not?

A. I really can't testify as to the structure, I would have to let the geologist testify as to the structure. I thought that they are all within, you know. I think I heard you mention that eight foot high and two foot high or something like that.

Q. Did you make any calculations to show how large a drainage pattern the Cerf Federal No. 1 drained for its production?

A. No, I haven't but just generally it is very small.

Q. And the only explanation you have for its inability to drain from the Strawn and the Morrow is the apparent mechanical difficulty?

A. Yes.

MR. KELLAHIN: Thank you, that's all I have.

MR. HINKLE: I have just one or two more questions.

REDIRECT EXAMINATION

BY MR. HINKLE:

Q. At the time the Cerf Gulf, Cerf No. 1, was drilled, Gulf was the operator of that well, was it not?

A. That's right, Gulf was.

Q. And later on they turned over the operation to Monsanto?

A. That's right.

Q. And Monsanto is the one that drilled the No. 2 well?
A. That's right.
Q. And you are the operator of that at the present time?
A. That's right.
Q. I believe you indicated that Monsanto has had a lot of experience in drilling and completing Morrow and Strawn wells, is that right?
A. Yes, sir.
Q. And with the experience that you have gained and the general knowledge of the Morrow and Strawn formations, it is real easy, is it not, to mess up a completion?
A. Yes, sir, we have our share of them.
Q. So this is not an unusual situation?
A. No, sir.
Q. And you take the position here that this well could have been completed as a good paying well if it had been handled correctly?
A. It could have been an economical well.
Q. Do you have anything further?
A. I believe that's all.
MR. HINKLE: Okay, that's all.
MR. NUTTER: You're going to have another witness?
MR. HINKLE: Yes.
MR. NUTTER: We will take a fifteen minute recess first.

(THEREUPON, the hearing was in recess.)

MR. NUTTER: The hearing will come to order, please.

Mr. Hinkle, would you call your second witness, please?

JAMES D. COBB, JR.

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q. State your name, residence and by whom you are employed?

A. James D. Cobb, Junior, Route One, 82 Perry Lane, Midland, Texas. I'm employed by Monsanto Company.

Q. What is your position with Monsanto?

A. Regional Geologist.

Q. Have you previously testified before the Oil Conservation Commission?

A. Yes, sir, I have.

Q. And your qualifications as a petroleum geologist are a matter of record with the Commission?

A. Yes, sir.

Q. Have you made a study of the Burton Flats area?

A. Yes, sir, I have.

Q. And all of the wells that have been drilled in the area?

A. Yes, sir.

MR. HINKLE: Are his qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Hinkle continuing.) Have you prepared or has there been prepared under your direction certain exhibits for introduction in this case?

A. Yes, sir, there have been.

Q. And they are the ones that have been marked Five through Eight?

A. Right.

Q. Refer to Exhibit Number Five and explain what this is and what it shows?

A. Number Five is a structure map on top of the Strawn, using the correlations that have been established in the OCCS correlations and this map shows also the wells colored with a symbol in blue, showing the Strawn producing wells, which are essentially the same wells as shown on the prior exhibits.

Q. Are you referring to Applicant's Exhibits One and Two?

A. Right.

Q. Okay.

A. Also it is the same base as our Exhibit Number One. I would like to refer back to our Exhibit Number One if I might.

Q. Okay.

A. This exhibit is color coded showing the Strawn wells that are producing in the area and we maintain that the areal extent of the Strawn reservoir has been established by these wells and we see no reason for curtailing any of the area around or circumventing any of the wells. We have established that there is reservoir continuity by production and by pressures in all of the wells shown in blue.

Q. Do you have any further comments with respect to Exhibit Five?

A. No, sir, I don't.

Q. Refer to Exhibit Number Six and explain that?

A. All right, Exhibit Number Six is a structural map contoured on top of what we refer to as the Morrow clastics, which would be the first clastic zones within the Morrow sands or within the Morrow units.

Again, I would like to refer back to Exhibit One and, again, we are maintaining that the area or the Gulf Coquina No. 1 is located in the center of an area that is established Morrow production and in reference to the Morrow as to the lower part of the Morrow, all of the wells within the Township 21, 27, which are colored orange, are producing

from this Lower Morrow zone with the exception of the four wells on the immediate west side of the field which, and if you look to the Morrow plat, structural plat, Exhibit Number Six, these four wells we feel are low and across the fault. These wells are producing out of the Middle Morrow. All of the wells to the east of the fault, with the exception of the Yates well in Section 15, and the Allied Chemical or Huber Allied State Well in Section 14 are producing from the Lower Morrow sands.

Q. On what information do you base the fault on as shown on Exhibit Six?

A. This fault has been shown in publications by Butler and Dave Miller and has been previously mapped. We feel that the wells support it and we agree that it is subject to interpretation.

Q. Do you have any further comments with respect to Exhibit Six?

A. No, sir, except that we feel that the structure and the extent of the producing wells around this establish that the area is productive from the Lower Morrow sand.

Q. Now, refer to Exhibit Seven and explain what it is and what it shows?

A. Okay, sir, our Exhibit Number Seven is a north-south cross section essentially through the same wells as previously exhibited by their Number Four Exhibit with the

exception --

Q. Is it Three or Four?

MR. NUTTER: The Number Four.

A. Number Four is the one on top.

MR. NUTTER: The north-south?

A. Right.

Q. (Mr. Hinkle continuing.) Okay.

A. And again, we feel that this cross section substantiates the extent of the reservoir in the lower part of the Morrow in that it shows the Coquina well and then to the north of that the Cerf No. 2 and to the north of that the Cerf No. 1 and the Burton Flat No. 3 to the north of that and our Burton Flat No. 1 Well to the north of that.

And I would like to point out that there are perforations open and producing in the Cerf No. 3 and -- excuse me, I mean the Burton Flat No. 3 and the Burton Flat No. 1, below the basal sand correlations on Exhibit Number Four.

Again, the purpose of this cross section was to show the correlations north-south through the area and to show that we do have wells which are producing in this reservoir north-south and in the Cerf No. 1.

Q. What do you conclude from this cross section?

A. I conclude from this cross section that the reservoir does extend along the axis of the structure and that it is continuous through on out to the north of the field here.

Q. Okay, do you have any further comments with respect to this exhibit?

A. No, I believe not at this time.

Q. Refer to Exhibit Number Eight and explain what this is?

A. Exhibit Number Eight is an east-west cross section from the Monsanto No. 1 Wilderspin to the Gulf No. 1 Cerf to the Hammond Miller Federal in Section 9. This is directly east-west and, again, I think this section shows the continuity of the Lower Morrow sand, it also shows the structural aspect of the Gulf Cerf well being higher than the Wilderspin well and it also shows the structural aspect in relation to the Wilderspin well and we are indicating the fault on the west side, which we think is the trapping factor on the west side of the field here.

Q. Do you have any further comments with respect to this exhibit?

A. No, sir, I don't believe so.

Q. What is our conclusion from this exhibit?

A. The conclusion from this exhibit, it once again shows the continuity of the correlations in the Lower Morrow and the correlations in the Strawn section.

Q. And that it is productive clear to the east and west?

A. Right. Again, I think we are showing the exact same correlations in the Wilderspin in the Strawn as we have in our Cerf No. 1.

Q. Have you had considerable experience in the completion of Stawn and Morrow wells?

A. I have not been actively involved in the physical completion but I have in the recommendation of zones to complete and am very familiar with the practices in completing.

Q. Are you familiar with the fact that they do have a good deal of trouble sometimes in completing in the Strawn and the Morrow formations, do they not?

A. Yes, sir, I think that's correct. I think as has been pointed out, the Morrow is susceptible to damage and the completion techniques are very important in the Morrow.

Q. Have you formed any opinion about the completion of the Gulf Cerf No. 1 well in Section 10?

A. Yes, sir, I think we made several mistakes in completing this well. Number one was, I do not believe so many zones should have been opened prior to treatment. One thing I do think that has not been pointed out is that after the frac job the lower sand, lower perforations were covered with sand and the bottom part of the hole was sanded up and the lower section was not even accessible.

Q. Do you think of anything else that you would like to mention to the Commission?

A. Well, I think considerable reference has been made as to the location of our Cerf No. 2. Our Cerf No. 2 is a legal location. The No. 1 Cerf was started approximately

twenty-six days before Coquina spudded their No. 1, the length of time to the original completion was some twenty-two days after Coquina had completed their well. Coquina started production of their well in November, I believe it was, of '73, and have produced it continuously since then and we were being drained on our section because of the proximity of their well and I feel that because of the low deliverability of our well, the No. 1 Cerf, and I think the low deliverability was mainly due to the fact that we did have mechanical problems. I think that we have a definitely established reservoir continuity by the pressures and by the fact that we have produced hydrocarbons in the north half.

Q. Are you familiar with the holdings of the Commission that wells in the Morrow formation where it is a unit that is dedicated to a well is considered as in communication vertically and horizontally?

A. Yes, sir, I think so.

Q. And in your opinion is all of the north half of 10, Section 10, productive in both the Morrow and the Strawn?

A. Yes, sir, it is productive from both the Morrow and the Strawn. I feel like a location anywhere within that section could establish production in the Morrow or the Strawn.

Q. Do you know of any case cited by the Commission where they have segregated a unit into two different reservoirs

in the Morrow or the Strawn?

A. No, sir, I do not.

MR. HINKLE: That's all of the direct. I would like to offer Exhibits One through Eight.

MR. NUTTER: Monsanto Exhibits One through Eight will be admitted into evidence.

(THEREUPON, Monsanto's Exhibits One through Eight were admitted into evidence.)

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Cobb, C-o-b-b?

A. Right.

Q. You've referred again, Mr. Cobb, to the mechanical problems encountered in the Cerf Federal No. 1 Well. Were those mechanical problems the same for both the Strawn and the Morrow?

A. No, I couldn't say that they were the same for the Strawn and the Morrow.

Q. You had mechanical problems with the Morrow completion?

A. Yes, sir.

Q. Did you have mechanical problems with the Strawn completion?

A. Well, I think just the fact that to work on the

Morrow you had to have the Strawn open and you were subjecting it to damage all of the time you were working in the Morrow.

Q. In your opinion has the Strawn also been damaged in that well?

A. Right.

MR. NUTTER: The Strawn perforations then had been made when they were working on this Morrow zone for six weeks or whatever it was?

A. The Morrow original perforations were made 6-11-73 and the Strawn perforations were 6-19-73, some eight days later.

MR. NUTTER: And then they worked on the --

A. They worked on the Morrow for over two months.

MR. NUTTER: I see. Excuse me, Mr. Kellahin.

MR. KELLAHIN: All right.

Q. (Mr. Kellahin continuing.) In Exhibit Number Six, Mr. Cobb, you made reference to the wells, including the Cerf Federal 1 and 2 and then the Coquina well as all being producing from the same Lower Morrow sands and then you drew the conclusion that from that that the Morrow reservoir extended and included the entire north half of Section 10? I believe that is approximately what you said?

A. Yes, I did, that's right.

Q. And then you went on to talk about Exhibit Number Seven and you said your structure contours in the Morrow were based upon the log correlations here on the cross section of

Number Seven?

A. That's right.

Q. I'm curious as to why the Cerf Federal No. 1 well was never perforated in the Lower Morrow sands. You will note on the cross section that both the Cerf Federal No. 2 and the Coquina well the perforations in the Lower Morrow correspond rather closely but when you come over to the Cerf Federal No. 1 you failed to perforate the Lower Morrow in here, do you have any explanation for that?

A. Well, as far as we are concerned the Lower Morrow was perforated and we recognize zones, what we call "C" in the base of the sands. There is apparently a matter of interpretations as to where the base of the sands are between your Exhibit Four and our Exhibit Number Seven.

Q. You didn't feel it would be prudent to go ahead and perforate those Lower Morrow sands?

A. No, or we would have perforated them. There is a difference of correlations. We do not go beyond zoning the Morrow and the individual sand lenses. We think it is practically impossible. I think the literature will bear us out that we use Zone "A", "B" and "C" as we have shown on our correlations and we have not broken them down into minute sand lenses. I do think that the last two logs on the right of your Exhibit Number Four show perforations and show sand below where you have called the basal sand.

Q. Let me ask you, if you will tell me the correlation between these three wells, the Cerf No. 1 and 2 and the Coquina well, with regards to structural position? It would appear to me that the Cerf Federal No. 1 well is structurally higher than the Coquina well, both in the Morrow and in the Strawn?

A. That's right. That is if you are talking about a few feet, about thirty feet on the top of the Morrow clastics and I think on the Strawn it's within just a few feet of each other.

Q. Let me ask you the same question I asked the previous witness with regards to the well location on the Cerf Federal No. 2. If you had encountered mechanical difficulty with the Cerf Federal No. 1, would it have not been better from a structural position to have drilled an offset immediate to the Cerf Federal No. 1 as opposed to going down structure and closer to the Coquina well?

A. I think in answer to your question, as you have shown on your own Exhibit Number Two, there is a slight structural advantage in the southern part of the north half. I think any prudent operator drills at the highest point of it and where he can drain an area and water out less quickly and I think we could have drilled anywhere on the north half of Section 10 and we could have made a producing well but I think the prudent location was a legal location, it was as high structurally as we could get.

Q. Did you know where the Cerf Federal No. 2 would have been structurally before you drilled it, did you take any seismic data or that sort of thing?

A. We didn't take any seismic, we had subsurface control to have an idea that we would be in there approximately flat. At this point in this area I don't think structure is very significant.

Q. You have indicated that you thought that the Strawn sands may have been damaged by a result of work on the Morrow formation. What caused, in your opinion, the mechanical damage in this particular well?

A. Well, to begin with the Strawn is not a sand, it is a limestone.

Q. I understand.

A. And as far as I'm concerned any time any formation is open to water and to other fluids, foreign fluids, you stand a chance of damaging it.

Q. How was the Morrow sand damaged in this well?

A. How were they damaged?

Q. Yes, sir.

A. I think they were damaged from long exposure to drilling fluids and the type of drilling fluids that they used and also in the treatment and the waters that were used.

Q. What type of drilling fluids were used?

A. I will have to go back to our engineer but it was a

salt base, I think, that it was drilled in.

Q. Will a salt base drilling fluid like that damage the Morrow?

A. Yes.

Q. Will the same kind of fluid damage the Strawn lime?

A. I'm not particularly qualified to say what kind of damage you could get but I do think it would damage it.

MR. KELLAHIN: I have no further questions.

MR. NUTTER: Do you have anything further, Mr. Hinkle?

MR. HINKLE: No, unless, do you have anything else?

THE WITNESS: I don't believe so.

MR. HINKLE: That's all.

MR. NUTTER: If there are no further questions of Mr. Cobb he may be excused.

(THEREUPON, the witness was excused.)

(THEREUPON, a discussion was held off the record.)

MR. NUTTER: Anything further?

MR. KELLAHIN: No, sir. I would like to move for the introduction of Coquina's Exhibits One through Four.

MR. NUTTER: Coquina's Exhibits One through Four will be admitted into evidence.

(THEREUPON, Coquina's Exhibits One through Four were admitted into evidence.)

MR. KELLAHIN: That concludes our case.

MR. NUTTER: Are there any closing statements? Mr. Hinkle?

MR. HINKLE: I might make a very brief one.

This is, in my opinion, a very unusual case and it would be a landmark decision if the Commission decided to penalize anybody that had a standard or orthodox location and dedicated three hundred and twenty acres to that well in the Pennsylanian formation under our rules. I think that if the Commission did decide that they would penalize in a case like this that I don't know how many cases there would be. I think that you would find many, many of them that would come up to the Commission and want the same thing because I believe that you would find that there are a lot of cases where three hundred and twenty acres have been dedicated in the Morrow and in the Strawn to producing wells and there has been another well drilled on that three hundred and twenty acres, which is not a well in the same quantity, you might say, due to various things, improperly completed or what not, but I think it would just set loose a chain reaction here before the Commission that would cause the Commission and the operators a lot of trouble.

I think in this particular case it is extremely inequitable to cut the allowable of Monsanto due to the fact that for two years and two or three months the offsetting

well of Coquina has produced large quantities of gas from both formations and their own testimony shows that it is draining the north half of 10 and undoubtedly due to this drainage the depletion of both the No. 1 and No. 2 wells was cut down with this potential in this other well so I think they have already been damaged to a great extent by the Coquina wells and I think that under the circumstances the application should be denied.

MR. NUTTER: Mr. Kellahin.

MR. KELLAHIN: If the Examiner please, the question of whether there is drainage and counter-drainage from orthodox or standard locations between adjoining units is totally irrelevant. The Commission has long recognized the practice of drainage and counter-drainage so long as both wells are at standard approved locations. The fact that the Coquina well may or may not be draining the north half of Section 10 makes no difference at all.

There is nothing unique or unusual about this particular case. The Commission often restricts allowables or penalizes wells when they are at unorthodox locations. The standard to apply as to whether there is drainage is reasonably the same as when we have acreage within a proration unit that is non-productive. We are simply contending that the rules of the Commission require that this well be dedicated to a three hundred and twenty acre unit that is

reasonably productive.

The fact that they have a previous well on the north half of the north half of this section is substantial evidence that a portion of the north half is either dry or has been drained by production from that well and if there is no reason that the allowable for the Cerf Federal No. 2 Well should not be restricted in some reasonable fashion and that's all we are asking.

MR. NUTTER: Thank you, gentlemen. Does anyone have anything they wish to offer in Case Number 5811? Ms. Teschendorf?

MS. TESCHENDORF: The Commission has received two telegrams, one from Gulf Oil Corporation dated November 22nd and received by the Commission on the same day.

I will read it into the record: (Reading.) Gulf Oil Corporation disagrees with Coquina Oil Corporation's contention that the allowable on the subject well should be restricted in both the Strawn and Morrow zones on the grounds that a well drilled on acreage now dedicated to this well was dry in both zones.

Gulf Cerf Federal Well No. 1 located in Unit C of Section 10, Township 21 South, Range 27 East produced some fifty-seven thousand, nine hundred and three MCF of gas from the Morrow and some seventy-four thousand, six hundred and seventy-six MCF of gas from the Strawn through December of

1974.

In 1975 a workover on both zones was attempted to improve production. The work resulted in low production rates and below delivery pressures and both zones were closed on September 24, 1975, pending FPC approval.

It is our contention that the entire north half of Section 10 was and still is productive of gas in the Strawn and Morrow zones and may be dedicated to Monsanto's Cerf Federal Com Well No. 2. (End of reading.)

The other is a Mailgram from Harvey E. Yates Company, dated November 22nd, 1976 and received by the Commission on November 23rd and it states: (Reading.) Harvey E. Yates Company fully supports the position of Coquina Oil Corporation in Case 5811. We trust that the Commission will assign a reduced allowable to the Cerf Federal No. 2 because part of the acreage dedicated to the Cerf Federal No. 2 has been proved dry by previous drilling. (End of reading.)

MR. NUTTER: If there is nothing further in Case Number 5811 we will take the case under advisement.

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5811, heard by me on 11/23, 1976.

, Examiner
New Mexico Oil Conservation Commission

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SANTA FE NM 87501

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Santa Fe

IGNORE FIRST MAILGRAM WORDS WERE WRONG THIS MAILGRAM IS CORRECT COPY

RE OFFSET WELL ALLOWABLE RESTRICTION (CASE 5811) ATTENTION MR DAN NUTTER

HARVEY E YATES COMPANY FULLY SUPPORTS THE POSITION OF COQUINA OIL CORPORATION IN CASE 5811. WE TRUST THAT THE COMMISSION WILL ASSIGN A REDUCED ALLOWABLE TO THE CERF FEDERAL NUMBER TWO BECAUSE PART OF THE ACREAGE DEDICATED TO THE CERF FEDERAL NUMBER TWO HAS BEEN PROVED DRY BY PREVIOUS DRILLING

HARVEY E YATES COMPANY
BY GEORGE YATES, VICE PRESIDENT
SECURITY NATIONAL BANK BLDG
SUITE 1000
ROSWELL NM 88201

1845 EST

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1-011659C327 11/22/76
TWX GULF MIDL
092 MIDLAND, TEXAS NOVEMBER 22, 1976
PMS NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
RE: EXAMINER HEARING NOVEMBER 23, 1976
CASE 5811
MONSANTO COMPANY NO. 2 CERF
FEDERAL COM., UNIT F
SECTION 10, T-21-S, R-27-E
BURTON FLAT (STRAWN) & (MORROW)
POOLS, EDDY COUNTY, NEW MEXICO

1976 NOV 22 AM 10:43

RECEIVED
NOV 22 1975
OIL CONSERVATION COMMISSION

GULF OIL CORPORATION DISAGREES WITH COQUINA OIL CORPORATION'S CONTENTION THAT THE ALLOWABLE ON THE SUBJECT WELL SHOULD BE RESTRICTED IN BOTH THE STRAWN AND MORROW ZONES ON THE GROUNDS THAT A WELL DRILLED ON ACREAGE NOW DEDICATED TO THIS WELL WAS DRY IN BOTH ZONES. GULF'S CERF FEDERAL WELL NO. 1, LOCATED IN UNIT C OF SECTION 10, T-21-S, R-27-E, PRODUCED SOME 57,903 MCF OF GAS FROM THE MORROW AND SOME 74,676 MCF OF GAS FROM THE STRAWN THROUGH DECEMBER, 1974. IN 1975 A WORK-OVER ON BOTH ZONES WAS ATTEMPTED TO IMPROVE PRODUCTION. THE WORK RESULTED IN LOW PRODUCTION RATES AND LOW DELIVERY PRESSURES. BOTH ZONES WERE CLOSED IN SEPTEMBER 24, 1975, PENDING FPC APPROVAL. IT IS OUR CONTENTION THAT THE ENTIRE NORTH HALF OF SECTION 10, T-21-S, R-27-E, EDDY COUNTY WAS AND STILL IS PRODUCTIVE OF GAS IN THE STRAWN AND MORROW ZONES, AND MAY BE DEDICATED TO MONSANTO'S CERF FEDERAL COM. WELL NO. 2.
J. M. THACKER
GULF OIL CORPORATION
MIDLAND, TEXAS
TWX NO. 9108955306

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Telegram western union

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1-911659C327 11/22/76
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002 MIDLAND, TEXAS NOVEMBER 22, 1976
PMS NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
RE: EXAMINER HEARING NOVEMBER 23, 1976
CASE 5811
MONSANTO COMPANY NO. 2 CERF
FEDERAL COM., UNIT F
SECTION 10, T-21-S, R-27-E
BURTON FLAT (STRAWN) & (MORROW)
POOLS, EDDY COUNTY, NEW MEXICO

1976 NOV 22 AM 10:43

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NOV 22 1976
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J. M. THACKER
GULF OIL CORPORATION
MIDLAND, TEXAS
TWX NO. 9108955306

1241 EST

IPMFEKA SANA

DRAFT

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 5311

Order No. R-5360

APPLICATION OF COQUINA OIL CORPORATION FOR AN OFFSET ALLOWABLE REDUCTION, EDDY COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 23, 1976, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of January, 1977, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant herein, Coquina Oil Corporation, is the owner and operator of the Yates Federal Well No. 1, located 1980 feet from the South line and 1980 feet from the West line of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat Field, Eddy County, New Mexico.

(3) That said well is dually completed and produces gas and condensate from the Strawn formation and from the Morrow formation, the S/2 of said Section 10 being dedicated to said well for ~~both~~ each of said formations.

sfet

(4) That Monsanto Company is the owner and operator of the Cerf Federal Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat Field, Eddy County, New Mexico.
(5) That said well is dually completed and produces gas and condensate from the Strawn formation and from the Morrow formation, the N/2 of said Section 10 being dedicated to said well for both of said formations.
(6) That the applicant herein, Coquina Oil Corporation, seeks the reduction of the gas allowance assigned to the aforesaid Monsanto Cerf Federal Well No. 2, alleging that a portion of the acreage dedicated to said well is non-productive of gas from the Burton Flat - Strawn Gas Pool and the Burton Flat - Morrow Gas Pool.
(7) That the applicant bases its claim that a portion of the N/2 of the aforesaid Section 10 which is dedicated to the Cerf Federal Well No 2 is nonproductive "....upon the fact that a Strawn - Morrow dry hole was drilled in the acreage assigned to this well."
(8) That there was drilled in the ~~SE~~ N/2 of said Section 10 the Cerf Federal Well No. 1, a dual completion in the Strawn and Morrow formations, located 660 feet from the North line and 1980 feet from the West line of said Section 10, to which well the N/2 of said Section 10 was originally dedicated.
(9) That said well was completed in August, 1973, with a calculated absolute open flow

potential of 1,600,000 cubic feet of gas per day from the Strawn formation and 1,400,000 cubic feet of gas per day from the Morrow formation.

(10) That said Cerf Federal Well No. 1 was ~~taken off production and the pipe line~~ in December, 1974, and put on a temporarily abandoned status after having produced a cumulative total of 74,676,000 cubic feet of gas and 3424 barrels of condensate ~~and~~ from the Strawn formation and 57,903,000 cubic feet of gas and 3828 barrels of condensate from the Morrow formation.

(11) That an analysis of the logs of the said Cerf Federal Well No. 1 as well as the pressure data available from both the Strawn and Morrow formations in said well indicate the presence of hydrocarbons around the wellbore.

(12) That said well ~~was determined~~ proved difficult to complete when it was originally drilled, and the evidence indicates that the well may have sustained reservoir damage during drilling and completion operations, or that mechanical problems exist which render the well incapable of sustaining commercial production despite the presence of hydrocarbons in the vicinity of the wellbore.

~~(13) That the replacement well in the spacing and proration unit originally dedicated to the aforesaid Cerf Federal Well No. 1, being~~

(13) That the Cerf Federal ~~Well~~ Well No. 2, being the replacement well for the ~~aforesaid~~ Cerf Federal Well No. 1 on the N/2 of said Section 10, was of necessity drilled to enable Monsanto Company to recover the hydrocarbons underlying said N/2 of Section 10, and was drilled at a standard location on said spacing and proration unit.

(14) That to impose a reduction of allowance on said Cerf Federal Well No 2, and to ~~require permit~~ it to produce at a lesser rate than the rate at which offsetting wells are permitted to produce, would impair Monsanto Company's correlative rights by depriving it of the opportunity to produce its just and equitable share of the gas in the subject pools.

(15) That the protection of correlative rights is a necessary adjunct to the prevention of waste.

(16) That in order to protect correlative rights and to prevent waste, the application of Coquina Oil Corporation for a reduction in the allowance of the Monsanto Company Cerf Federal Well No. 2 should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Coquina Oil Corporation for a reduction in the allowable of the Monsanto Company Cerf Federal Well No. 2, located in Unit F of Section 10, Township 21 South, Range 27 East, NMPM, Burton Flat-Strawn and Burton Flat-Morrow Gas Pools, Eddy County, New Mexico, be and the same is hereby denied.

(2) Jurisdiction.

Case 584 Eddy Co.

Application of Cayuma Oil Corporation for an unorthodox location Eddy County, New Mexico.

Applicant, in the above-styled cause, seeks a restricted allowable for the Monsanto Company Carl Federal Com Well No. 2 for ~~the Strawn and Morrow zones in~~ the Strawn and Morrow zones in said well, a dual completion located in Unit I of Section 10, Township 21 South, Range 27 East, Burton Flats Field, Eddy County, New Mexico, on the grounds that a dry hole in both of said zones was previously drilled on the acreage assigned to the subject well.