

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

12 June 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Exxon Corporation for CASE
an unorthodox gas well location, and 8913
a nonstandard gas proration unit,
Eddy County, New Mexico.

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

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I N D E X

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JIM BARTEL

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Direct Examination by Mr. Bruce 3

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JOHNNY W. JORDAN

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E X H I B I T S

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Exxon Exhibit One, Base Map 4

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Exxon Exhibit Two, Base Map 5

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Exxon Exhibit Three, Cross Section A-A' 5

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Exxon Exhibit Four, Structure Map 7

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Exxon Exhibit Five, Isopach 7

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Exxon Exhibit Six, Isopach 7

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Exxon Exhibit Seven, Notices 10

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Exxon Exhibit Eight, Return Receipts 10

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Exxon Exhibit Nine, Economics 10

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MR. CATANACH: Call next Case 8913.

MR. ROYBAL: Case 8913. Application of Exxon Corporation for an unorthodox gas well location and a nonstandard gas proration unit, Eddy County, New Mexico.

MR. CATANACH: Are there appearances in this case.

MR. BRUCE: Mr. Examiner, my name is Jim Bruce from the Hinkle Law Firm in Santa Fe, representing Exxon Corporation, and I have two witnesses to be sworn.

(Witnesses sworn.)

JIM BARTEL,
being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BRUCE:

Q Mr. Bartel, would you please state your full name, city of residence, occupation, and employer?

A My name is James Bartel. I live in An-

1 draws, Texas. I'm a geologist and I'm employed by Exxon
2 Corporation.

3 Q Have you previously testified before the
4 OCD as a geologist and had your credentials made a matter of
5 record?

6 A Yes, sir.

7 Q And are you familiar with the application
8 in Case 8913 and the geological matters concerned in this
9 case?

10 MR. BRUCE: Is the witness con-
11 sidered qualified, Mr. Examiner?

12 MR. CATANACH: Mr. Bartel is
13 considered qualified.

14 Q Mr. Bartel, would you briefly state what
15 Exxon seeks by this application?

16 A (Not clearly audible) includes two lots
17 which contain less than 40 acres. As a result, the north
18 half of Section 7 does not -- does not contain 320 acres and
19 the unit does not meet the acreage requirements of OCD
20 rules; therefore a nonstandard unit is necessary.

21 Q Now, would you please refer to Exhibit
22 Number One and explain the geological facts when made Exxon
23 seek the nonstandard -- the unorthodox well location?

24 A Exhibit One is a base map of the north
25 end of the South Empire Morrow trend. The proposed unortho-

1 dox location for the PPC State Federal Com No. 1, along with
2 the north half Section 7 proration unit, are highlighted in
3 color.

4 Also shown are mineral owners, mineral
5 lease owners, and Morrow completions.

6 Please refer to Exhibit Two.

7 Exhibit Two is a base map annotated with
8 the latest available production data. The closest offset
9 well to the southeast of the proposed well, the Phillips
10 Green B No. 11, has accumulated 1.3 billion cubic feet of
11 gas and 20,000 barrels of condensate since its completion in
12 July, 1981.

13 Please note, also, the dry hole to the
14 north, the Amoco MT No. 1, and the dry hole to the east, the
15 Harvey E. Yates ARCO 8 State No. 1.

16 Please refer to Exhibit Three.

17 Exhibit Three is a southwest to northeast
18 stratigraphic cross section across the extreme north end of
19 the South Empire Morrow trend.

20 Also projected onto the line of cross
21 section is the PPC State Federal Com No. 1.

22 On the logs sand is identified by gamma
23 ray response of less than 60 API and by gas effect crossover
24 on the density neutron curves. The low gamma ray intervals
25 are colored yellow and density neutron gas effect crossover

1 is colored red.

2 The sands are correlated between wells
3 and are colored yellow.

4 Several Morrow depositional characteris-
5 tics are illustrated on this cross section. First, indivi-
6 dual sand lenses are relatively thin and discontinuous.

7 Second, the Lower Morrow interval thins
8 to the southwest and thins nearly to zero thickness to the
9 northeast.

10 Third, Middle Morrow sand lenses were
11 deposited nearly in the same trend as the Lower Morrow
12 deposition. This results in vertical stacking of the sand
13 lenses and defines a sand trend.

14 Fourth, the thickest and best developed
15 of the individual sand lenses are located nearer the center
16 of a sand lens.

17 The best completions in the area are from
18 the thicker sands. Completion attempts in the thin sands
19 simply result in uneconomic wells or dry holes.

20 The depositional characteristics illus-
21 trated on this cross section were used to construct sand
22 trend maps for the Middle Morrow and Lower Morrow intervals.
23 The top of the Atoka lime is the best stratigraphic marker
24 in the area and was picked as a marker for mapping
25 structure.

1 for the Lower Morrow. This sand trend is oriented nearly
2 the same as the Middle Morrow Sands but is more restricted
3 in width.

4 As with the Middle Morrow Sands, to move
5 the location to an orthodox location would increase the
6 likelihood of encountering only thin, poorly developed sand
7 lenses, thereby increasing the dry hole risk.

8 Q Mr. Bartel, does Exxon request that no
9 penalty be assessed against the well?

10 A Yes.

11 Q Were Exhibits One through Six prepared by
12 you or under your supervision?

13 A Yes.

14 Q In your opinion will the granting of this
15 application be in the interest of conservation, the
16 prevention of waste, and the protection of correlative
17 rights?

18 A Yes.

19 MR. BRUCE: Mr. Examiner, at
20 this time I move the admission of Exhibits One through Six.

21 MR. CATANACH: Exhibits One
22 through Six will be admitted into evidence.

23 MR. BRUCE: I have no further
24 questions of the witness at this time.

25

1 CROSS EXAMINATION

2 BY MR. CATANACH:

3 Q Mr. Bartel, the target zone is the Middle
4 and the Lower Morrow, both?

5 A Yes, sir.

6 MR. CATANACH: I have no fur-
7 ther questions of this witness.

8 A Thank you.

9
10 JOHNNY W. JORDAN,
11 being called as a witness and being duly sworn upon his
12 oath, testified as follows, to-wit:13
14 DIRECT EXAMINATION

15 BY MR. BRUCE:

16 Q Mr. Jordan, would you please state your
17 full name, city of residence, employer, and occupation?18 A My name is Johnny W. Jordan. I live in
19 Andrews, Texas, and I work as a reservoir engineer for Exxon
20 Corporation.21 Q And have you previously testified before
22 the OCD as an engineer and had your credentials accepted as
23 a matter of record?

24 A Yes, I have.

25 Q And are you familiar with Case 8913 and

1 the engineering factors involved in that case?

2 A Yes, I am.

3 MR. BRUCE: Mr. Examiner, is
4 the witness considered qualified?

5 MR. CATANACH: Mr. Jordan is
6 considered qualified.

7 Q First, Mr. Jordan, have all offset
8 operators been notified by certified mail of this
9 application?

10 A Yes.

11 Q Do any offset operators oppose this
12 application?

13 A No. Copies of the waivers, the waivers
14 executed by all offset operators except Santa Fe Energy
15 Corporation and Felmont Oil Company, Conoco, and ARCO,
16 Incorporated, are submitted to the OCD as Exhibit Number
17 Seven.

18 Copies of the certified receipts for
19 Santa Fe and the others are submitted to the OCD as Exhibit
20 Number Eight.

21 Q Would you please refer now to Exhibit
22 Number Nine and explain its contents for the examiner?

23 A Exhibit Number Nine shows the investment,
24 gross reserves probability assigned to each case, and net
25 risk reserves that was used in my economic evaluations.

1 This table shows three cases that were
2 used in this evaluation and at this time I'd like to go
3 through those two tables, the two table here.

4 The proposed location is my first table,
5 you know, and as I said, I have three cases, and Case One is
6 my high side case. The investment would be \$960,000. The
7 gross reserves that I assigned to that case would be 2 BCF
8 and 42 MBO. These numbers are based on statistical averages
9 in the area.

10 The probability that I've assigned to
11 this would be 20 percent. That works out to a net risk
12 reserves of 300-million cubic feet of gas and 6.1-million
13 barrels of oil.

14 The way you arrive at those net risk re-
15 serve numbers is just taking your probability and multi-
16 plying it times your gross reserves.

17 Also, in coming up on your -- to calcu-
18 late your aggregate risk -- your aggregate investment,
19 would, you'd take the probabilities and also multiply those
20 times your investments and the sum of all those numbers
21 would be it.

22 Case Two is my median case. I assigned
23 1-1/2 BCF and 30,000 barrels of oil to that case. I gave
24 that a 50 percent probability and that gives you a net risk
25 reserves of 550-million cubic feet of gas and 11.2-thousand

1 barrels of oil.

2 Case Three is my dry hole case. The dry
3 hole investment would be \$811,000 and the probability of a
4 dry hole in the proposed location would be 30 percent.

5 An aggregate -- the aggregate results of
6 this would be an investment of \$915,300; 1.2 BCF of gas;
7 23.4 MBO, and that gives you a net reserves of 850-million
8 cubic feet of gas and 17.3-thousand barrels of oil.

9 This aggregate case meets our economic
10 limit and was approved by Exxon's management.

11 The next case I'd like to show you is
12 what would be run for the economics I ran for a well drilled
13 in the orthodox location.

14 Instead of going through the entire tab-
15 le I'd just like to point out the difference. The only dif-
16 ference is the probabilities I'd assessed to each case and
17 the high case went from 20 to 5 percent. The median case
18 went from 50 to 45 percent, and the dry case went from 30 to
19 50 percent.

20 These risks, you know, the risks have in-
21 creased in the orthodox location due to the increased geolo-
22 gical risk, higher completion risk due to the fewer feet of
23 sand, and drainage from the Phillips Green B-11 in the south
24 half of Section 7 would be much greater in an orthodox loca-
25 tion.

1 That well has currently produced 1.3 BCF
2 of gas.

3 This aggregate case does not meet Exxon's
4 economic guidelines. These economics reflect that the pro-
5 posed location is the best possible chance to make an econo-
6 mic well.

7 Q Thank you. Does Exxon request the exped-
8 ited entry of an order in this case?

9 A Yes. Exxon owns a farmout which expires
10 on July the 1st, 1986, and thus needs to commence a well on
11 this before this date. Therefore, Exxon requests entry of
12 an order by June 20th, 1986.

13 Q Were Exhibits Seven through Nine prepared
14 or compiled by you or under your supervision?

15 A Yes, they were.

16 Q In your opinion will the granting of this
17 application be in the interests of conservation, the preven-
18 tion of waste, and the protection of correlative rights?

19 A Yes.

20 MR. BRUCE: At this time, Mr.
21 Examiner, I move the admission of Exhibits Seven through
22 Nine.

23 MR. CATANACH: Exhibits Seven
24 through Nine will be admitted into evidence.

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1 CROSS EXAMINATION

2 BY MR. CATANACH:

3 Q Mr. Jordan, has Exxon heard from Santa Fe
4 Energy at all concerning the matter?5 A Yes, we talked to them verbally. Our
6 lawyers have talked to them. Our land people talked to
7 them. And, you know, they told us before we came that they
8 would not oppose such an application and, in fact, I think
9 we're trying to work a deal and drill a well, you know, hav-
10 ing a farmout option on their acreage.11 MR. CATANACH: I have no
12 further questions of this witness.13 MR. BRUCE: I have nothing
14 further in this case.15 MR. CATANACH: If there isn't
16 anything further in Case 8913, it will be taken under
17 advisement.18
19 (Hearing concluded.)
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C E R T I F I C A T E

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I, SALLY W. BOYD, C.S.R., DO HEREBY
CERTIFY the foregoing Transcript of Hearing before the Oil
Conservation Division (Commission) was reported by me; that
the said transcript is a full, true, and correct record of
the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 8913,
heard by me on June 13, 1986.
David R. Catanach, Examiner
Oil Conservation Division